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A Premier Farnell™ Company

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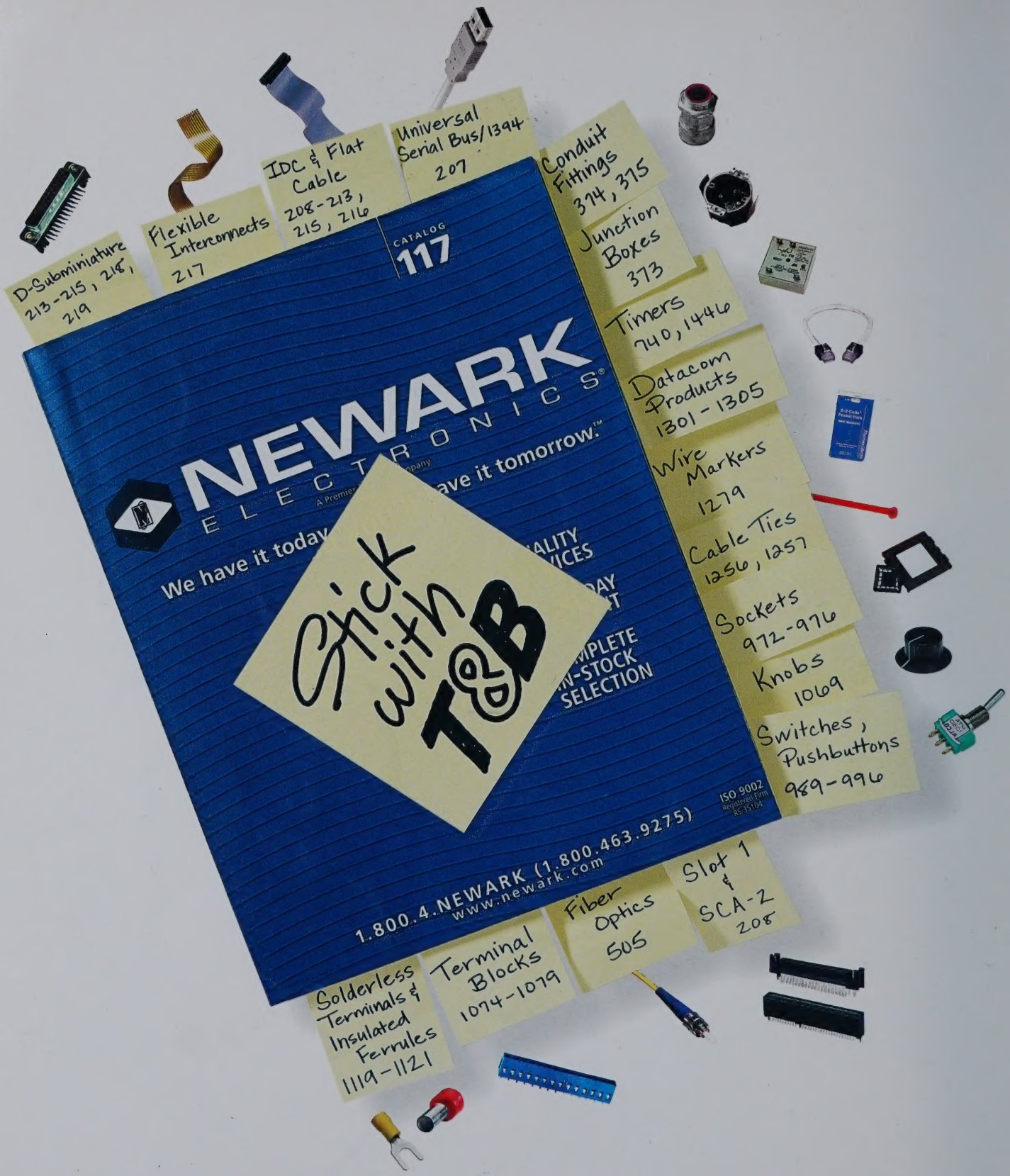

There are a number of reasons to stick with T&B. More Products... More options... More from T&B Now... Thomas & Betts has developed one of the industry's most comprehensive product lines including electronic connectors, terminal blocks, sockets, switches, timers and cable ties. But, the number one reason is T&B's quality and you can get it all from Newark.

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Welcome to Newark's Catalog 117

This new edition features the most comprehensive collection of electronic products anywhere in the world. If you don't see the product you need, don't worry. We add products daily and can special order many others. Just call us at **1-800-4-NEWARK** (1-800-463-9275). Our friendly Newark sales representatives really care about your business needs and will do everything possible to get you the components you need, when you need them.

Fast Find To Find Available Products

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Military-Qualified Products	→	Military-Qualified Index: Section 29
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ISO 9002 Certified — The ISO 9002 certification, rated standards, and procedures reflect a company's commitment to quality service and processes.

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Product Index
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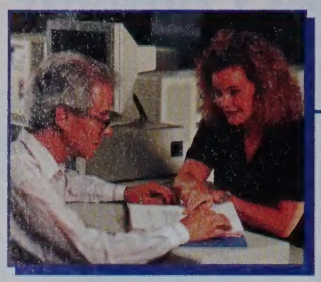

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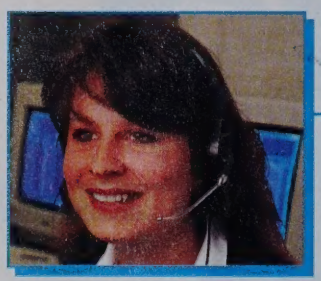
Service and Selection

At Newark, you'll find the quality you need, from the people you trust. We have a huge product selection–Newark is the largest electronics catalog distributor in North America.



Ordering

Eight Fast Ways to Order

It couldn't be easier!

1) Phone
2) Fax
3) Internet
4) Intranet
5) CD-ROM
6) Newark CONNECT™
7) EDI
8) Mail

Shipping

Get It When You Need It

Just call your order in to us by 5:00 p.m. C.S.T. and we'll ship in-stock items out the same day. Overnight shipment is also available anywhere, anytime. And, you can order 24 hours a day on the Internet.

Payment

Four Payment Methods

We make it easy to get what you need.

1) Purchase order
2) Major credit cards accepted
3) Corporate purchasing cards
4) C.O.D.

All with no minimum order*

*Any order under $25.00 is subject to a $5.00 service charge.

Newark CONNECT™ Stockroom & Order Management Software

Automatically tracks and reorders stock, so you save time, paperwork, and problems.

Newark CONNECT™

Newark CONNECT™ takes care of your inventory, so you can take care of business.

Our new stockroom and order management software, **Newark CONNECT™**, is a powerful tool that makes sure you have the components you need, when you need them. Just enter your inventory information, including the minimum and maximum levels needed, then tell **Newark CONNECT™** when you want to reorder parts and what the quantity should be. The rest is up to **Newark CONNECT™**. When the stock of any item reaches the minimum reorder level, **Newark CONNECT™** will automatically consolidate your requirements into one convenient purchase order, and transmit that order to Newark. Then Newark's fast, same-day shipping of in-stock products refills your stock within 24 hours in most cases. For more information, call 1-800-4-NEWARK (1-800-463-9275) or visit www.newark.com.

No One Stocks More Than Newark!

At right is a broad overview of the kinds of products we carry, together with the number of products stocked and the number of manufacturers represented in each category. Please note that our manufacturers may be listed in multiple categories. For a more detailed listing of our products, please see the Product Index at the back of this catalog. For help in locating products, call 1-800-4-NEWARK (1-800-463-9275).

Special Order Items

Don't see what you need? If you need something we don't stock, we can special order virtually any product from nearly all name-brand electronic component manufacturers, and ship it to you directly and quickly.

Newark Electronics® is Preparing for the Year 2000

At Newark, we're looking forward to the new century. We've been preparing for it for some time. We began to address this issue in the fall of 1996. We formed a systems team of dedicated personnel led by our CIO, and we received full support and funding from our CEO and the Board of Directors. In 1998, we formed over 20 teams of people to support each major function of our business. These committees are responsible for identifying century date risks and developing solutions. We anticipate that our systems will be compliant so that all our customers will continue to receive the superior service they expect from Newark Electronics®. We expect to accomplish our Year 2000 objectives before the end of 1999, so that our customers will experience a smooth transition to the new century.

For more details on Newark's Year 2000 plans: See **page 1662** of this catalog for our Year 2000 Readiness Disclosure.
See the Y2K section of our Web site, **www.newark.com**, for more information and FAQs.

Overview of our inventory, by product group:

Product Type	Manufacturers Carried	Part Numbers Stocked
Audio	7	700
Batteries	12	1,000
Cabinets	12	4,500
Capacitors	19	9,000
Chemicals	8	500
Circuit Protection	16	3,000
Connectors	64	26,000
Displays	15	100
Electrical Tools & Soldering Equipment	15	1,500
Fans	9	750
Fiber Optics	13	500
Hand Tools	30	2,500
Hardware	24	3,000
Inductors/Filters	9	1,500
Lamps/Indicators/Tubes	21	4,000
Panel Instruments	11	1,500
PC Boards	6	300
Power Conditioners	13	1,000
Power Supplies	9	1,500
Publications	20	150
Relays	31	6,000
Resistors & Potentiometers	17	14,000
Semiconductors	35	23,000
Sensors	29	2,000
Static Control Products	10	300
Switches	46	8,000
Telephone Products	22	500
Test Instruments	32	1,500
Timers/Counters	21	700
Transformers	10	2,000
Wire & Cable	25	7,000
Wiring Accessories	20	7,500

Three Great Ways to Order: Catalog, Web, or CD

Visit Newark on the Net
www.newark.com

Use our Web site to choose from over 150,000 products from over 300 top manufacturers. It's fast and friendly! You'll find datasheets, diagrams, and photos to help you select the right product the first time. Order with your Newark account or a credit card and don't forget to look for monthly values and discounts.

www.newark.com

Our complete Catalog 117 is available on Newark's CD 3.0, and it interfaces directly to our Internet site. Don't have Internet access? Just use the Internet Service Provider on the CD. This is the easy way to check product availability, place orders, and receive product updates. Our user-friendly CD puts the largest inventory in electronics right at your fingertips. To order just call.

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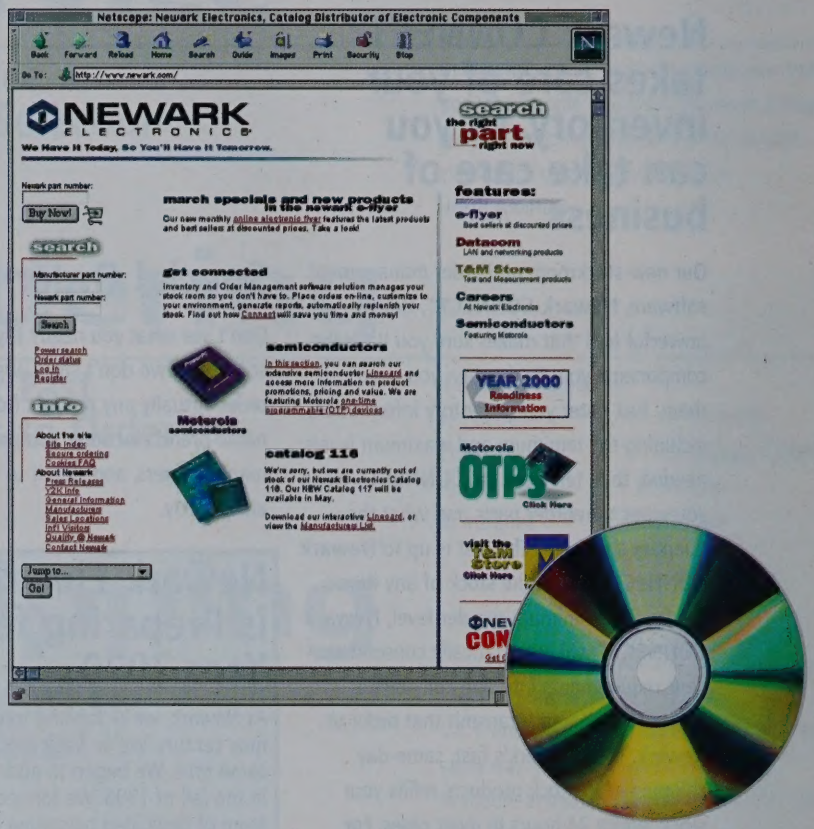
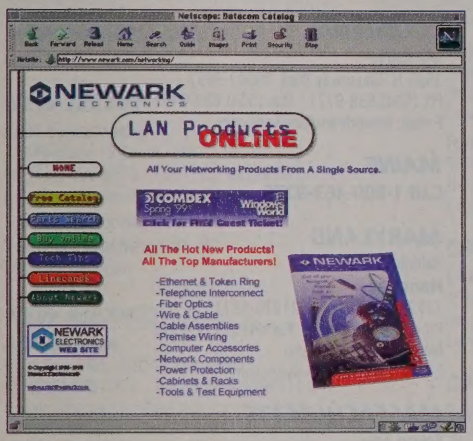


Value-Added Services

Technical Help Line	**1-800-NEWARK-T (1-800-639-2758)** Have questions about Newark's Internet site, the CD catalog or the **Newark CONNECT™** program?
Custom Cut Cable	We'll cut Belden® and Olflex® flexible cable to your specifications.
Bagging & Tagging	Individual parts can be placed in bags and labeled to your specifications.
Kitting	Groups of parts will be supplied in convenient manufacturing or engineering kits.
Assembly	We'll perform basic assembly of compatible components.
Tape-On-Reel	Surface mount and through-hole passive components and semiconductors are available in less-than-reel quantities.



Datacom Catalog and Web Site

Our Datacom Catalog features thousands of products for networking, telephones, premise wiring, and power protection. You'll also find computer accessories, cable assemblies, and fiber optics and cable. Visit our LAN Web site for the latest news, product search, and tech tips.

www.newark.com/networking

Farnell Catalog and Web Site

Our U.S. Farnell catalog has a huge selection of European electronic components, as well as thousands of new products. Ask your Newark sales rep for your copy today. And visit the Farnell Web site at **www.farnell.com** for more information on the company and products.

Scheduled Orders	We'll schedule your orders for future shipments when you need them.
Blanket Orders	Reduce administrative costs and paperwork by placing a blanket order against which your staff can order products as needed.
JIT Programs	We can arrange "just-in-time" shipments for your inventory needs.
Part Numbers and Special Information	We can add your part numbers and special receiving information about the products in your order to your shipping/packing slip.
Bar-coded Shipments	Do you use bar coding to track items? We can add it to the products in your order.

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E-mail: huntsville@newark.com

Southern Alabama–see Norcross, GA

ALASKA

Kirkland, Washington
12015 115th Ave. N.E., 98034-6925
Ph: (425) 814-6230 Fax: (425) 814-9190
E-mail: seattle@newark.com

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Tempe
1600 W. Broadway Rd., 85282-1136
Ph: (602) 966-6340 Fax: (602) 966-8146
E-mail: phoenix@newark.com

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Little Rock
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Ph: (501) 225-8130 Fax: (501) 228-9931
E-mail: littlerock@newark.com

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Los Angeles Area
Rancho Cucamonga
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9444 Waples St., 92121-2939
Ph: (619) 453-8211 Fax: (619) 535-9883
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San Francisco Area
Palo Alto
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Ph: (650) 812-6300 Fax: (650) 812-6333
E-mail: sanfran@newark.com
(Also serving Hawaii)

Sacramento
2020 Hurley Way, 95825-3214
Ph: (916) 565-1760 Fax: (916) 565-1279
E-mail: sacramento@newark.com
(Also serving Nevada)

Ventura County Area
Thousand Oaks
325 E. Hillcrest Dr., 91360-5828
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E-mail: thousandoaks@newark.com

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Denver
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(Also serving Wyoming)
E-mail: denver@newark.com

CONNECTICUT

Bloomfield
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E-mail: bloomfield@newark.com

DELAWARE

Call 1-800-463-9275

DISTRICT OF COLUMBIA

Herndon, Virginia
131 Elden St., 20170-4810
Ph: (703) 707-9010 Fax: (703) 707-9203
E-mail: washingtondc@newark.com

FLORIDA

Ft. Lauderdale
3230 W. Commercial Blvd., 33309-3400
Ph: (954) 486-1151 Fax: (954) 486-9929
(Also serving Puerto Rico)
E-mail: ftlauderdale@newark.com

Orlando
1080 Woodcock Rd., 32803-3514
Ph: (407) 896-8350 Fax: (407) 896-7348
E-mail: orlando@newark.com

Tampa
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Ph: (813) 287-1578 Fax: (813) 286-2572
E-mail: tampa@newark.com

Florida Panhandle Area
Jacksonville
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E-mail: rockford@newark.com

Springfield
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Ph: (217) 787-9972 Fax: (217) 787-7740
E-mail: springfield@newark.com

Chicago
1919 S. Highland Ave. Lombard, IL 60148-6119
Ph: (630) 317-1000 Fax: (630) 424-8048
E-mail:chicago@newark.com

INDIANA

Fort Wayne
4410 Executive Blvd., 46808-1135
Ph: (219) 484-0766 Fax: (219) 482-4751
E-mail: ftwayne@newark.com

Indianapolis
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Ph: (317) 844-0047 Fax: (317) 844-0165
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IOWA

Quad Cities Area
Bettendorf
2550 Middle Rd., 52722-3291
Ph: (319) 359-3711 Fax: (319) 359-5638
E-mail: bettendorf@newark.com

KANSAS

Kansas City Area
Overland Park
6811 W. 63rd St., 66202-4080
Ph: (913) 677-0727 Fax: (913) 677-2725
E-mail: kansascity@newark.com

KENTUCKY

Louisville
3600 Chamberlain Lane, 40241-1954
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E-mail: louisville@newark.com

LOUISIANA

Metairie
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Ph: (504) 838-9771 Fax: (504) 833-9461
E-mail: neworleans@newark.com

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Baltimore Area
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(Also serving Delaware)
E-mail: baltimore@newark.com

MASSACHUSETTS

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Marlborough
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E-mail: marlborough@newark.com

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Ph: (978) 551-4300 Fax: (978) 551-4329
E-mail: boston@newark.com

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See Bloomfield, CT

MICHIGAN

Grand Rapids
900 E. Paris Ave., S.E., 49546-3676
Ph: (616) 954-6700 Fax: (616) 954-6713
E-mail: grandrapids@newark.com

Saginaw
4600 Fashion Square Blvd., 48604-2686
Ph: (517) 799-0480 Fax: (517) 799-7722
E-mail: saginaw@newark.com

Detroit Area
Troy
550 Stephenson Hwy., 48083-1109
Ph: (248) 583-2899 Fax: (248) 583-1092
E-mail: detroit@newark.com

MINNESOTA

Minneapolis
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Ph: (612) 331-6350 Fax: (612) 331-1504
E-mail: minneapolis@newark.com

MISSISSIPPI

Jackson Area
Ridgeland
759 Woodlands Parkway, 39157-5217
Ph: (601) 956-3834 Fax: (601) 957-1240
E-mail: jackson@newark.com

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Newark Sales Offices

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See Salt Lake City, UT

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E-mail: albuquerque@newark.com

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Albany
3 Marcus Blvd. 12205-1129
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E-mail: albany@newark.com

Bronx, Manhattan, Staten Island Areas
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Brooklyn, Queens, Long Island Area
Bohemia
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Ph: (516) 567-4200 Fax: (516) 567-4235
E-mail: bohemia@newark.com

Buffalo Area
Williamsville
5500 Main St., 14221-6737
Ph: (716) 631-2311 Fax: (716) 631-4049
E-mail: buffalo@newark.com

Poughkeepsie Area
Wappingers Falls
15 Meyers Corners Rd., 12590-4117
Ph: (914) 298-2810 Fax: (914) 298-2823
E-mail: poughkeepsie@newark.com

Rochester Area
Pittsford
1151 Pittsford-Victor Rd., 14534-3800
Ph: (716) 381-4244 Fax: (716) 381-2632
E-mail: rochester@newark.com

Syracuse Area
Liverpool
7449 Morgan Rd., 13090-3901
Ph: (315) 457-4873 Fax: (315) 457-6096
E-mail: syracuse@newark.com

NORTH CAROLINA
Charlotte
5501 Executive Center Dr., 28212-3721
Ph: (704) 535-5650 Fax: (704) 537-3914
E-mail: charlotte@newark.com

Greensboro
1701 Pinecroft Rd., 27407-3855
Ph: (336) 292-7240 Fax: (336) 292-9575
E-mail: greensboro@newark.com

NORTH DAKOTA
See Omaha, NE

OHIO
Cincinnati
497 Circle Freeway Dr., 45246-1241
Ph: (513) 942-8700 Fax: (513) 942-8770
E-mail: cincinnati@newark.com

Cleveland
4614 Prospect Ave., 44103-3780
Ph: (216) 391-9330 Fax: (216) 391-2811
E-mail: cleveland@newark.com

Columbus
5025 Arlington Centre Rd., 43220-2959
Ph: (614) 326-0352 Fax: (614) 326-0231
E-mail: columbus@newark.com

Dayton
3033 Kettering Blvd., 45439-1948
Ph: (937) 294-8980 Fax: (937) 294-2517
E-mail: dayton@newark.com

Toledo
5660 Southwyck Blvd., 43614-1596
Ph: (419) 866-0404 Fax: (419) 866-9204
E-mail: toledo@newark.com

OKLAHOMA
Oklahoma City
3524 NW 56th St., 73112-4547
Ph: (405) 943-3700 Fax: (405) 943-6403
E-mail: oklahomacity@newark.com

OREGON
Portland
4850 S.W. Scholls Ferry Rd., 97225-1692
Ph: (503) 297-1984 Fax: (503) 297-1925
E-mail: portland@newark.com

PENNSYLVANIA
Allentown
1503 N. Cedar Crest Blvd., 18104-2310
Ph: (610) 434-7171 Fax: (610) 432-3390
E-mail: allentown@newark.com

Philadelphia Area
Ft. Washington
501 Office Center Dr., 19034-3211
Ph: (215) 654-1434 Fax: (215) 654-1460
E-mail: philadelphia@newark.com

Pittsburgh
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E-mail: pittsburgh@newark.com

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E-mail: knoxville@newark.com

Memphis
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Ph: (901) 396-7970 Fax: (901) 396-7955
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TEXAS
Austin
3737 Executive Center Dr., 78731-1632
Ph: (512) 338-0287 Fax: (512) 345-2702
E-mail: austin@newark.com

Dallas
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Ph: (972) 458-2528 Fax: (972) 458-2530
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El Paso
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Ph: (915) 772-6367 Fax: (915) 772-3192
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Houston
8203 Willow Place South, 77070-5616
Ph: (281) 894-9334 Fax: (281) 894-7919
E-mail: houston@newark.com

UTAH
Salt Lake City
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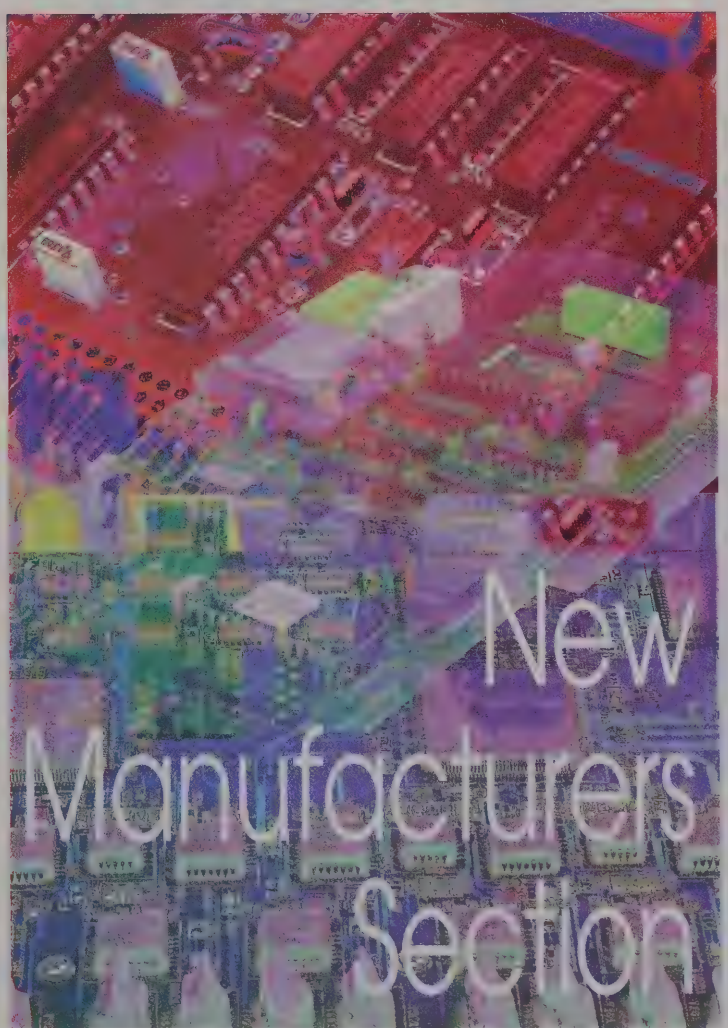

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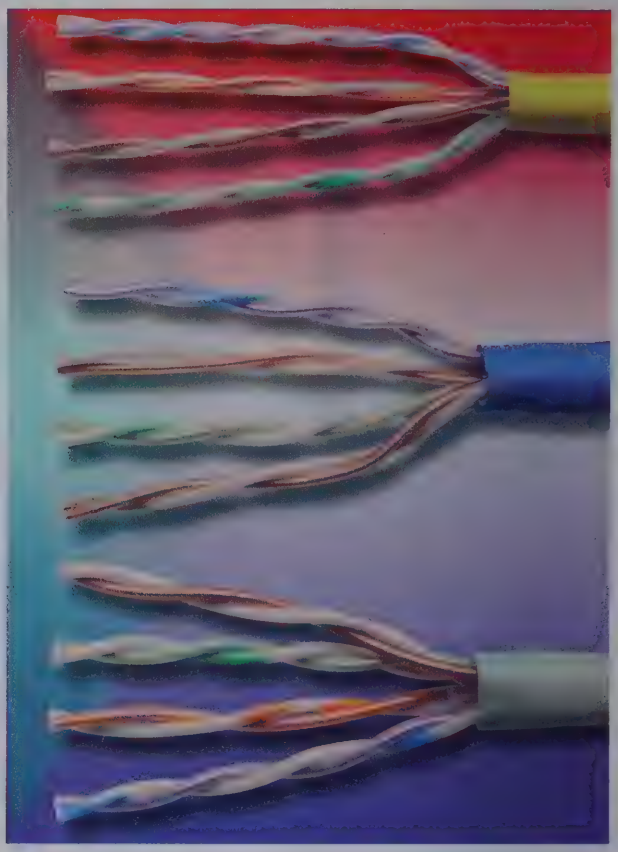
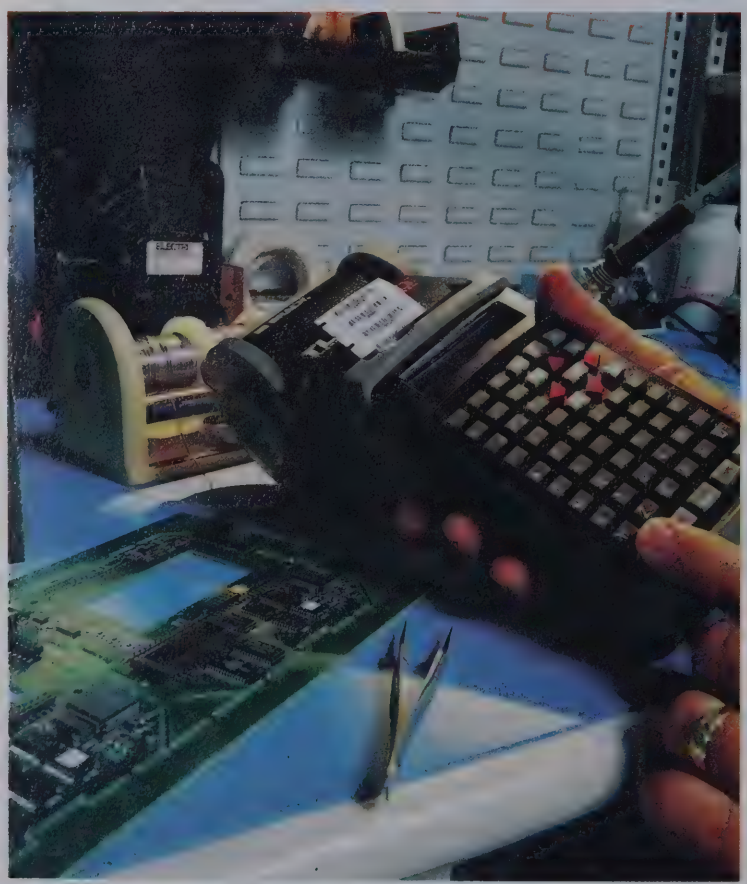
See page 1214.





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Brady® is an international manufacturer and marketer of identification, safety, materials, and graphics solutions. Products include high-performance labels, signs, tapes, and printers. Brady® products are ideal for use in markets like manufacturing, electronics, telecommunications, transportation, education, government, and commercial graphics. Newark features Brady® ID printers, labels, and marker books and cards.

See pages 1519–1521.

BULGIN

Electrical + Electronic Components

Bulgin Components offers a unique line of switches that are vandal-resistant, making them superior choices for all security applications. Bulgin also features the Buccaneer® range of sealed connectors for use in harsh environments where water, dust, salt spray, and chemicals can render other connectors useless. Bulgin Components is ISO-9002 certified.

See pages 287 and 997.

ELNA®

ELNA® America, Inc. offers a broad line of aluminum electrolytic, tantalum, and double-layer capacitors. These high-quality products are manufactured at its ISO-9001 or QS-9000 certified factories. ELNA® America, Inc. is your source for capacitors, including general-purpose, radial, low-ESR, surface mount, long-life, high-temperature, 100-farad, and more.

See pages 82 and 83.

NEWARK ELECTRONICS

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Industrial Electrical/Electronic Controls & Systems.

The name Klockner Moeller stands for excellence in the fields of motor control and electronic automation products. Since 1899, Klockner Moeller has been supplying a complete range of industrial electrical controls. Products include relays, contactors, motor protectors, circuit breakers, starters, PLCs, pushbuttons, and custom motor control systems.

See pages 1435, 1493, and 1502.

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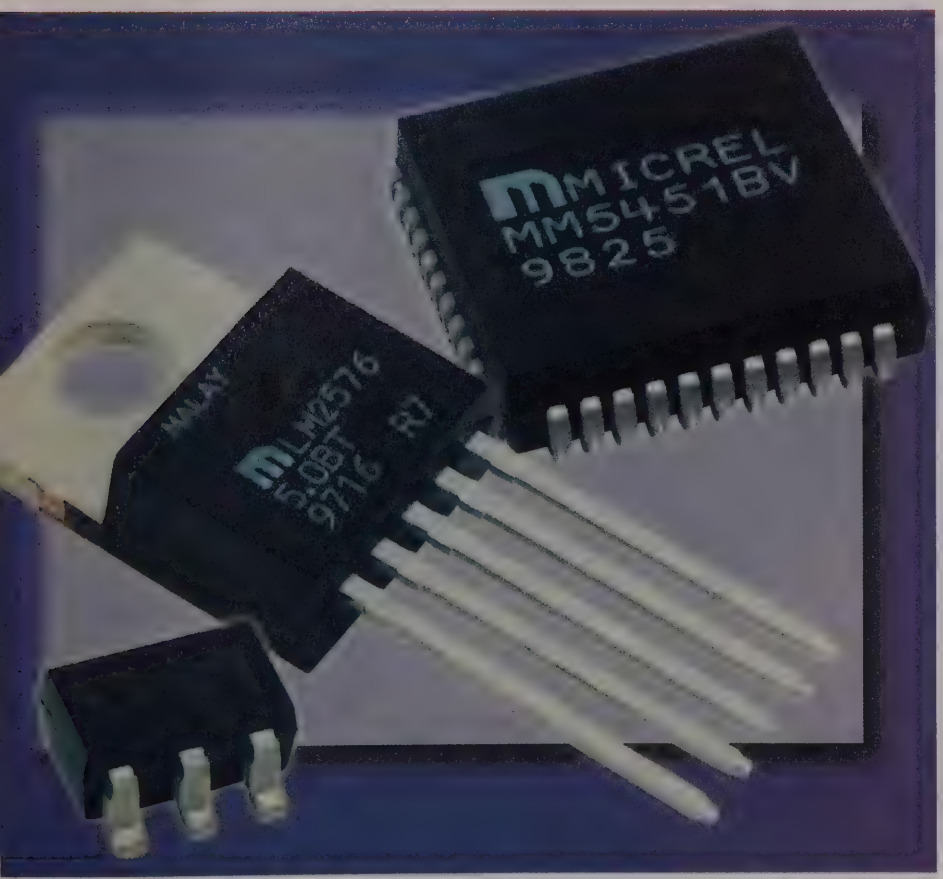
See page 270.

MGE

UPS SYSTEMS

MGE UPS Systems is one of the world's largest manufacturers of power protection equipment, delivering uninterruptible power supplies (UPSs) and large commercial inverters. These units provide protection for computers, workstations, networks, mainframes, plant floors, broadcasting equipment, and virtually every other enterprise requiring clean, constant electric power.

See pages 657 and 658.



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Micrel Semiconductor designs, develops, and manufactures high-performance analog power integrated circuits. Micrel Semiconductor products are used in computers, peripherals, electric vehicles, ABS systems, industrial power tools, battery backup systems, cellular phones, and more. Products include low drop-out regulators, PCMCIA interface switches, MOSFET drivers, and PWM controllers.

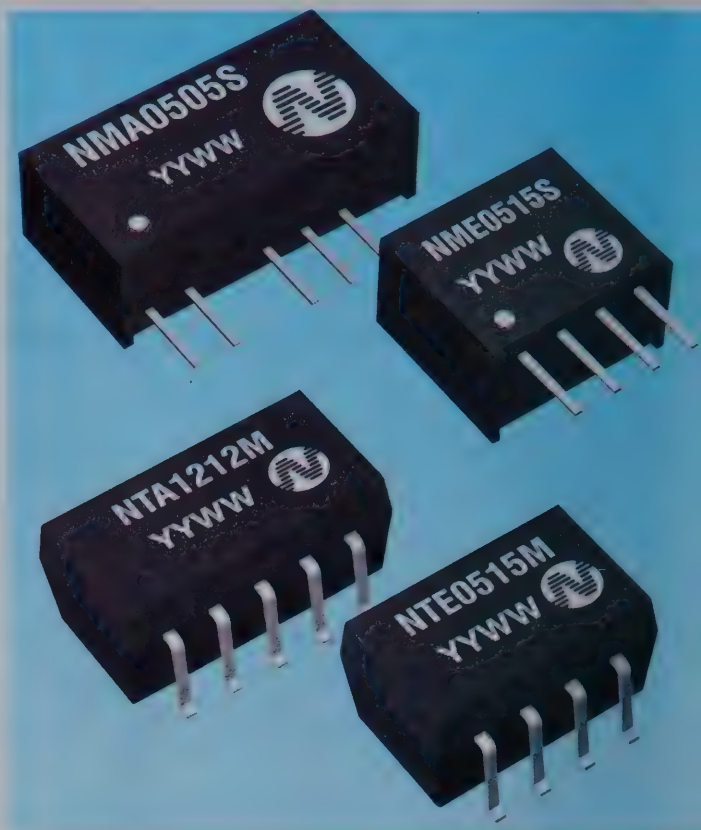
See pages 918–920.

NEWARK ELECTRONICS

newport components

Newport Components offers a comprehensive range of DC-to-DC converters. Products are designed for optimum thermal stability and high-power efficiency and are available with power ratings from 0.25W to 25W. Miniature surface mount converters are complemented by a series of thru-hole mount devices. Newport Components is a division of Newport Technology Group.

See page 631.



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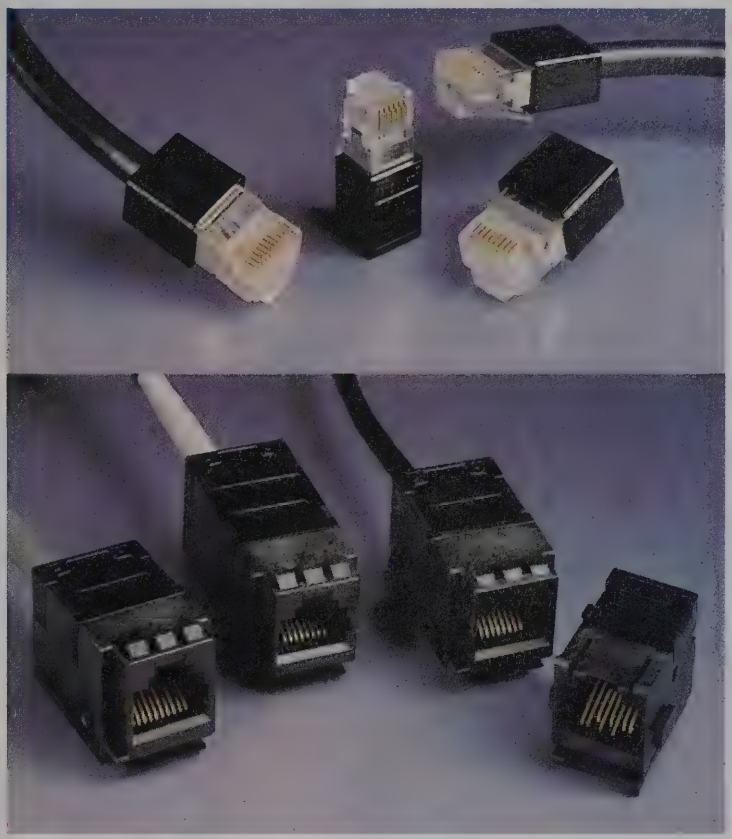
Semikron International is a leader in innovation in today's semiconductor industry. Products include thyristors, varistors, power chips, rectifiers, Semipack® fast diode modules, and SKiiP® (**S**EMI**K**RON **I**ntegrated **I**ntelligent **P**ower) and MiniSKiiP® modules. Original equipment manufacturers (OEMs), semiconductor module manufacturers, and system manufacturers use Semikron International products.

See pages 934 and 935.

Stewart Connector



Stewart Connector, an ISO-9001 certified manufacturer, is well-known for a tradition of design firsts, including pioneering the development of a fully-shielded modular jack. The company also introduced jacks with enhanced shields for single-row and double-row harmonica jack designs, Category 5 plugs, and low-profile space-saving connectors such as the MagJack single- and multiport line connectors with integrated magnetics.

See pages 337 and 1313.

SURE SEAL CONNECTIONS

Manufacturer of high quality environmental connectors & accessories

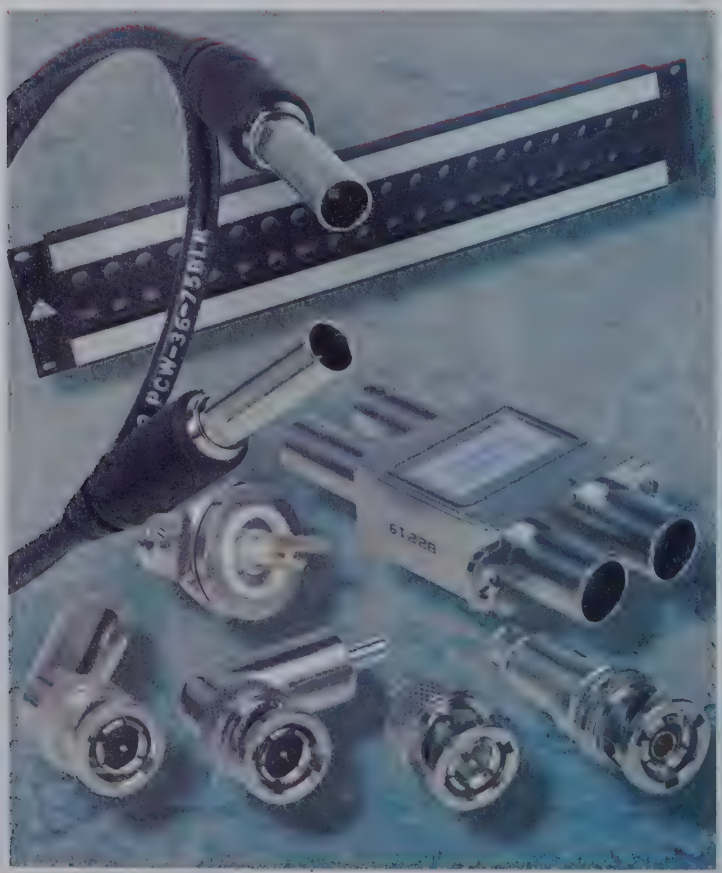
Each Sure Seal® connector has a simple one-piece molded body that mates with multiple resilient seals which are seamlessly integrated into the body. Connectors can withstand complete submersion in up to 3 feet of a 5% water/saline solution. They meet the requirements of IP67 and DIN400 50 and are used in a broad range of environmental applications.

See page 283.

TECH SPRAY™

Tech Spray is a leading producer of chemical cleaners and antistatic solutions, including solvent, static control, desoldering, swab, and lubricant products. The desoldering line includes two innovative braid products. One braid is based on Type R flux, and the other leaves an inert and nonconductive residue, eliminating the need for board rinsing.

See page 110.



TROMPETER® ELECTRONICS, INC.

Trompeter Electronics manufactures high-value wireline coaxial, triaxial, and twinaxial transmission line connectors, patch panels, and cable assemblies. Trompeter's complete line of 75-ohm BNC connectors supports the growing industry demand for higher frequencies. Products are primarily used in telecommunications, broadcasting, military, and aerospace applications.

See pages 310 and 311.

Batteries & Accessories

Pages 2—17

1

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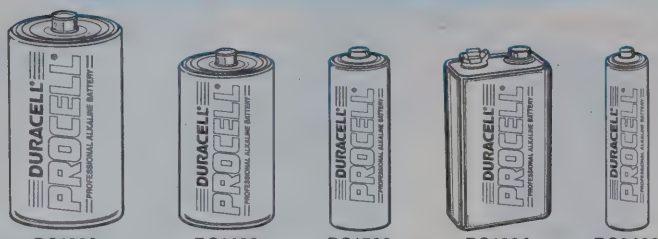
DURACELL®

BATTERIES

PROCELL® INDUSTRIAL ALKALINE BATTERIES

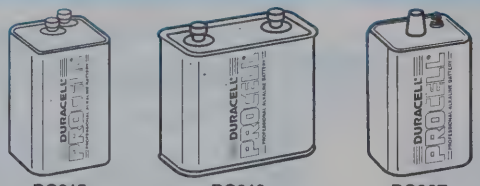


PC1300 PC1400 PC1500 PC1604 PC2400

Stock No.	Type	Size/Volts	mAH	1-4	5-12	13-24
46F5931	PC1300	D, 1.5V	13,000	1.29	1.16	1.14
46F5932	PC1400	C, 1.5V	71,000	1.22	1.11	1.08
46F5933	PC1500	AA, 1.5V	2,450	0.70	0.63	0.62
46F5934	PC1604	9V	565	2.26	2.05	2.00
87F5215	PC2400	AAA, 1.5V	1,120	0.76	0.69	0.68

(6975) (ne01818)

PROCELL® INDUSTRIAL ALKALINE LANTERN BATTERIES

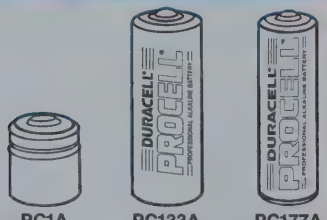


PC915 PC918 PC907

Stock No.	Type	Volts	mAH	1-9	10-24	25-49
46F5925	PC903	7.5	40,000	28.19	27.12	25.26
46F5926	PC908	6.0	13,000	6.73	6.49	6.36
46F5927	PC915	6.0	13,000	7.32	7.05	6.78
46F5928	PC918	6.0	30,000	15.19	14.62	14.05

(6880) (de01819)

PROCELL® SPECIAL APPLICATION BATTERIES



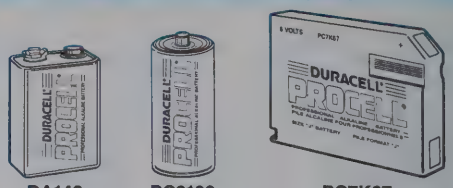
PC1A PC133A PC177A

Environmental substitutes for mercury special application batteries. **Note: † denotes package of 2; †† package of 4.**

Stock No.	Type	Volts	mAh	Dia. x H	1-9	10-24
95F4748	PC1A††	1.5	650	.625x.645″	13.37	12.86
95F4749	PC12A†	1.5	2200	.626x1.963″	19.38	18.64
95F4750	PC132A†	3.0	650	.673x1.315″	16.35	15.73
95F4751	PC133A†	4.5	650	.673x1.965″	21.16	20.36
95F4752	PC134A†	6.0	650	.673x2.620″	25.62	24.64
95F4753	PC135A†	7.5	650	.673x3.276″	28.96	27.86
95F4754	PC136A†	9.0	650	.673x3.929″	31.19	30.00
95F4755	PC164A	6.0	325	.673x1.767″	9.53	9.18
95F4757	PC175	7.5	110	.500x1.031″	7.26	7.00
95F4758	PC177A	10.5	110	.510x1.856″	10.33	9.95
95F4759	PC640A†	1.5	325	.625x.440″	5.68	5.47
50F2660	DA630B4††	1.4	1000	.613x.245″	5.16	4.98

(6889) (de02391)

PROCELL® MEDICAL/ELECTRONIC BATTERIES



DA146 PC9100 PC7K67

"DA" prefix denotes zinc air batteries; "PC" denotes alkaline.

Stock No.	Type	Volts	mAh	Size	1-24	25-49
46F5917	DA146	8.4	1500	0.662x1.04x.1.75″	8.11	7.82
95F4746	PC7K67	6.0	550	0.360x1.900x1.40″	3.57	3.23
95F4747	PC9100	1.5	800	0.472x1.189″	1.22	1.11

(6890) (de02392)

DURACELL® ZINC AIR HEARING AID BATTERIES

1.4-VOLT BATTERIES – SOLD IN PACKAGES OF 4

Stock No.	Type	Dia. x Height	Replaces	Per Pkg. 1-24	Per Pkg. 25-49
95F4760	DA13H4	0.307 x 0.210″	AC13E	6.99	6.74
95F4761	DA230H4	0.230 x 0.140″	AC20E	7.90	7.61
95F4762	DA312H4	0.307 x 0.210″	AC312E	6.99	6.74
95F4763	DA675H4	0.455 x 0.210″	AC675E	6.99	6.74

(6893) (de02396)

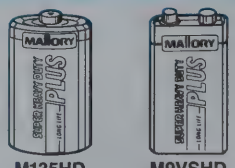
DURACELL® WATCH/CALCULATOR BATTERIES

1.5-VOLT SILVER-OXIDE BATTERIES

Stock No.	Type	NEDA	Diameter x Height	1-24	25-49
46F7156	D357B	1131SO	0.455 x 0.210″	1.82	1.75
46F5908	D386B	1133SO	0.455 x 0.165″	1.59	1.53
46F5909	D390	1138SO	0.455 x 0.110″	1.14	1.10
46F5910	D391B	1160SO	0.455 x 0.081″	1.25	1.21
46F5902	D392B	1135SO	0.305 x 0.143″	0.97	0.93

(6891) (de02393)

MALLORY™ SUPER HEAVY-DUTY PLUS™ BATTERIES



M135HD M9VSHD

Stock No.	Type	NEDA	Volts	Size	1-4	5-12
87F2777	M13SHD	13D	1.5	D	0.70	0.63
87F2768	M9VSHD	1604D	9.0	9V	1.53	1.38

(6881) (de01824)

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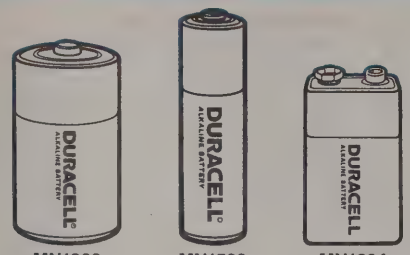
DURACELL®

BATTERIES

DURACELL® "COPPERTOP" ALKALINE BATTERIES



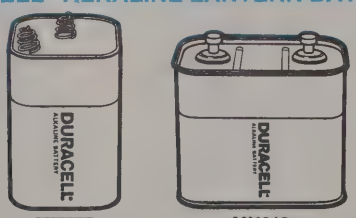
MN1300 MN1500 MN1604

Stock No.	Type	Size/Volts	1-4	5-12	13-24
03F7116	MN1300	D/1.5 Volt	2.17	2.05	2.05
95F4743	MN1300P4*	D/1.5 Volt	8.07	7.64	7.62
03F7114	MN1400	C/1.5 Volt	2.17	2.05	2.05
95F4744	MN1400P4*	C/1.5 Volt	8.07	7.64	7.62
03F7110	MN1500	AA/1.5 Volt	1.51	1.34	1.32
92F4513	MN1500B4	AA/1.5 Volt	5.11	4.54	4.47
95F4745	MN1500P8‡	AA/1.5 Volt	9.55	8.49	8.35
49F1175	MN1604	9 Volt	4.31	4.08	4.07
92F4514	MN1604B2†	9 Volt	8.07	7.64	7.62
03F7112	MN2400	AAA/1.5 Volt	1.51	1.34	1.32
92F4515	MN2400B8‡	AAA/1.5 Volt	9.55	8.49	8.35

†2-Pack; *4-Pack; ‡8-Pack

(6878) (de01815)

DURACELL® ALKALINE LANTERN BATTERIES

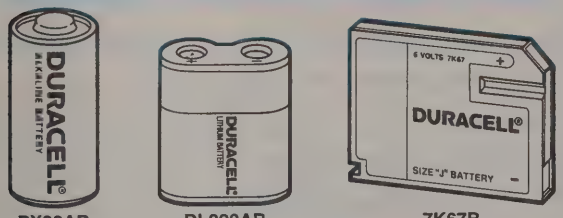


MN908 MN918

Stock No.	Type	Volts	mAH	Replaces	1-4	5-9
81F151	MN908	6V	13,000	529	13.31	12.80
81F152	MN918	6V	40,000	521	28.35	27.27

(6908) (de03528)

DURACELL® PHOTO/ELECTRONIC BATTERIES



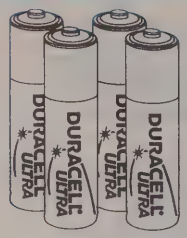
PX28AB DL223AB 7K67B

LITHIUM BATTERIES

Stock No.	Type	Volts	Size	1-24	25-49
81F139	DL⅙NB	3.0	0.457 x 0.425″	5.28	5.09
90F1384	DL123AB	3.0	0.665 x 1.358″	9.76	9.40
90F1385	DL223AB	6.0	0.768 x 1.417″	17.60	16.93
90F1386	DL245B	6.0	0.669 x 1.772″	17.60	16.93
50F2664	DL1616B	3.0	0.630 x 0.063″	3.35	3.23
46F5945	DL1620B	3.0	0.630 x 0.079″	1.93	1.86
81F140	DL2016B	3.0	0.787 x 0.063″	1.93	1.86
81F143	DL2025B	3.0	0.787 x 0.098″	1.93	1.86
81F141	DL2032B	3.0	0.787 x 0.126″	1.93	1.86
81F142	DL2430B	3.0	0.965 x 0.118″	1.93	1.86
50F2665	DL2450B	3.0	0.965 x 0.197″	3.63	3.50
			ALKALINE BATTERIES		
50F2659	MN21B	12.0	1.122 x 0.406″	1.71	1.64
03F7108	MN9100	1.5	0.472 x 1.189″	1.71	1.64
87F4254	PX28AB	6.0	0.510 x 0.990″	4.94	4.76
95F4765	PX76A675AB	1.5	0.455 x 0.210″	1.27	1.23
95F4766	PX625AB	1.5	0.612 x 0.233″	2.77	2.67
			SILVER-OXIDE BATTERIES		
49F413	MS76B	1.5	0.455 x 0.210″	3.92	3.77
49F416	7K67B	6.0	1.90 x 1.40 x 0.360″	4.83	4.65

(6892) (de02394)

DURACELL® ULTRA BATTERIES



- Special Carbon Can-Coating Improves Conductivity Delivering Higher Power
- Additional Electrolyte Facilitates Current Flow to Ease Power Delivery
- Finer Graphite Increases Conductivity in the Cathode Improving Cell Efficiency
- New, Thinner Separator Material Increases Current Delivered to High-Drain Devices

High performance alkaline batteries designed to meet today's (and tomorrow's) most demanding high-drain devices. AA available in 8 pack or bulk; AAA available in 4 pack or bulk.

BLISTER PACKS

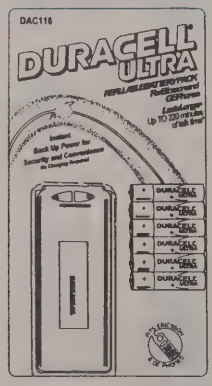
Stock No.	Type	Size/Volts	Qty	Each
48F993	MX1500B8	AA/1.5V	8	14.57
48F995	MX2400B4	AAA/1.5V	4	7.90

BULK

Stock No.	Type	Size/Volts	1-5	6-24	30-144
48F992	MX1500	AA/1.5V	1.89	1.69	1.39
48F994	MX2400	AAA/1.5V	1.89	1.69	1.39

(34870) (ne34870)

REFILLABLE CELL PHONE BATTERY PACKS



Duracell® refillable battery packs provide convenient power for cell phones. Instantly ready to use, no charging required. Duracell ULTRA alkaline batteries included. Affordable back up power source for convenience and security. Ideal for light users.

Stock No.	Type	Description	Max. Talk Time	Each
48F3049	DAC1AALG	Motorola MicroTAC Series, Light Gray	850 Min.	25.83
48F3050	DAC2AALG	Motorola MicroTAC Series, Dark Gray	850 Min.	25.83
48F3051	DAC3AAB	Motorola MicroTAC Series, Black	850 Min.	25.83
48F3052	DAC105AA	Nokia 2100 Series	160 Min.	25.83
48F3053	DAC116AA	Ericsson 200 & 300 Series	220 Min.	25.83

(34871) (ne34871)

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EVEREADY.

BATTERIES

Energizer

ENERGIZER® ALKALINE BATTERIES

Packaging Options: BP Suffix = Blister pack; SP = Sleeve pack; NO = Bulk pack.

Stock No.	Type	NEDA	(V)	Size or Dimensions (mm) L x W x H	1-4	5-12	13-24
03F7107	E90	910A	1.5	N	1.73	1.64	1.64
90F3321	E91	15A	1.5	AA	1.73	1.53	1.51
50F116	E91BP-2*	15A	1.5	AA	3.29	2.92	2.88
50F2594	E91SP-12**	15A	1.5	AA	17.17	15.54	15.18
03F7111	E92	24A	1.5	AAA	1.73	1.53	1.51
50F117	E92BP-2*	24A	1.5	AAA	3.29	2.92	2.88
98F6050	E96BP-2*	25A	1.5	AAAA	3.29	2.92	2.88
90F3322	E93	14A	1.5	C	2.46	2.33	2.33
50F118	E93BP-2*	14A	1.5	C	4.92	4.66	4.65
50F2595	E93SP-8*	14A	1.5	C	16.17	15.32	15.27
90F3323	E95	13A	1.5	D	2.46	2.33	2.33
50F119	E95BP-2*	13A	1.5	D	4.92	4.66	4.65
50F2596	E95SP-8‡	13A	1.5	D	16.17	15.32	15.27
44F966	521	918A	6	136.5 x 73.0 x 125.4	36.80	35.32	34.52
48F917	522	1604A	9	26.2 x 17.5 x 49.2	4.92	4.66	4.65
50F120	522BP	1604A	9	26.2 x 17.5 x 49.2	4.57	4.33	4.31

*Pkg. of 2. **Pkg. of 12. ‡ Pkg. of 8.

ENERGIZER® INDUSTRIAL ALKALINE BATTERIES

87F4417	EN92	24AC	1.5	AAA	1.35	1.22	1.19
81F158	EN91	15AC	1.5	AA	1.35	1.22	1.19
81F159	EN93	14AC	1.5	C	2.07	1.87	1.83
48F915	EN95	13AC	1.5	D	2.29	2.07	2.02
81F157	EN22	1604AC	9.0	26.2 x 17.5 x 49.2	4.05	3.66	3.58
95F7738	EN529	908AC	6.0	66.7 x 66.7 x 115.0	14.57	13.18	12.87
87F4418	EN715	903AC	7.5	184.2 x 103.2 x 97.0	48.95	44.29	43.26

*Pkg. of 8.

ENERGIZER® PHOTO ELECTRONIC BATTERIES

95F7739	A23BP-2*	1811A	12	10.3 Dia. x 28.5	3.94	3.80	3.72
95F7740	EL123APBP	5018LC	3	17.1 Dia. x 33.4 (Lithium)	11.35	10.92	10.70
95F7741	L91BP-2*	15LF	1.5	AA (Lithium)	9.71	9.34	9.16
81F172	A544BP	1414A	6	12.95 Dia. x 25.15	5.66	5.44	5.34
49F1139	497	741	510	76.2 x 40.5 x 143.0	67.24	64.52	63.06
49F1215	544BP	1406SOP	6	13.0 Dia. x 25.15	8.45	8.12	8.04
49F1214	539BP	1412AP	6	35.6 x 9.02 x 48.2	3.24	3.12	3.06
49F1163	EPX76BP	1107SOP	1.5	11.6 Dia. x 5.35	4.59	4.42	4.33
90F3354	2L76BP	5008LC	3	11.6 Dia. x 10.8 (Lithium)	3.57	3.43	3.36
16F1010	EL1CR/BP	...	3	15.60 Dia. x 27.0	11.35	10.92	10.70
90F3355	EL2CR5BP	5032LC	6	34.1 x 17.1 x 45.1 (Lithium)	20.45	19.66	19.45
90F3356	EL223APBP	5024LB	6	33.9 x 19.5 x 36.0 (Lithium)	20.45	19.66	19.45

*Pkg. of 2.

EVEREADY® INDUSTRIAL HEAVY-DUTY BATTERIES

90F3327	EV115	15CD	1.5	AA	0.64	0.62	0.60
90F3329	EV135	14CD	1.5	C	0.80	0.77	0.75
48F916	EV150	13CD	1.5	D	0.84	0.81	0.80
90F3328	EV122	1604CD	9	26.2 x 17.4 x 49.2	2.01	1.94	1.90

EVEREADY® SUPER HEAVY-DUTY BATTERIES

50F121	1212BP-4‡‡	24D	1.5	AAA	3.60	3.46	3.39
50F122	1215BP-2*	15D	1.5	AA	2.08	2.00	1.96
49F1222	1209	908D	6	66.7 x 66.7 x 112.0	7.11	6.84	6.70
44F968	1231	918D	6	136.5 x 73.0 x 125.4	16.94	16.29	16.11

*Pkg. of 2. **Pkg. of 12. ‡ Pkg. of 8. ‡‡ Pkg. of 4.

EVEREADY® INDUSTRIAL GENERAL PURPOSE BATTERIES

48F912	EV15	15C	1.5	AA	0.53	0.51	0.50
48F913	EV35	14C	1.5	C	0.68	0.66	0.65
48F914	EV50	13C	1.5	D	0.75	0.72	0.71
03F7083	510S	915C	6	66.7 x 66.7 x 109.5	6.21	5.97	5.85
03F7102	731	1604C	9	26.2 x 16.7 x 48.4	13.10	12.59	...
87F4416	EV31	918C	6	136.5 x 73 x 125.4	12.83	12.34	12.20
49F1223	EV90	908C	6	66.7 x 66.7 x 112.0	4.48	4.31	4.22

ENERGIZER® HEARING AID BATTERIES

Stock No.	Type	NEDA	Volts	Dimensions (mm)	1-4	5-12	13-24
94F7580	AC13E-4	7000Z	1.4	7.80 Diameter x 5.35	7.47	7.18	7.03
50F2608	AC675E-4	700322D	1.4	11.6 Diameter x 5.35	7.47	7.18	7.03

(7053) (de51100)

OVERNIGHT SHIPMENT IS AVAILABLE WHEN YOU NEED IT.
CONTACT YOUR LOCAL NEWARK SALES OFFICE.

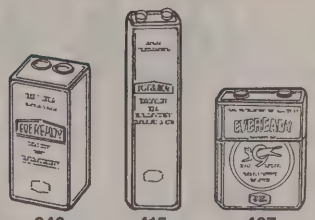
BATTERIES AND ACCESSORIES

ENERGIZER® ELECTRONIC AND SPECIAL APPLICATION BATTERIES

Stock No.	Type	NEDA	Volts	Dimensions (mm)	1-9	10-24
50F7541	EN6/EV6	905	1½	66.8 Diameter x 170.7	14.87	14.29
50F7542	AC146X	7004Z	8.4	26.5 x 16.6 x 44.5	8.27	7.95
03F7061	246	1602	9	35.7 x 37.3 x 69.9	8.29	7.97
03F7062	276	1603	9	65.1 x 51.6 x 80.2	12.09	11.62
03F7084	411	208	15	26.2 x 15.9 x 36.9	7.28	7.00
03F7086	412	215	22½	26.2 x 15.9 x 50.8	5.82	5.60
03F7089	413	210	30	26.2 x 15.9 x 65.1	8.37	8.05
03F7048	415	213	45	26.2 x 15.9 x 93.6	12.39	11.91
03F7054	416	217	67½	33.7 x 25 x 88.9	16.02	15.39
03F7095	455	201	45	67.5 x 25.4 x 93.6	17.53	16.85
03F7049	467	200	67½	71.4 x 34.9 x 94.1	24.21	23.27
03F7104	489	728	225	110.3 x 68.2 x 106.3	66.29	63.61
03F7093	493	722	300	68.3 x 56.4 x 96.8	63.62	61.05
03F7085	504	220	15	15.9 x 15.1 x 34.9	4.71	4.54
03F7087	505	221	22½	15.9 x 15.1 x 50.2	5.85	5.63
03F7080	711	700	1½	66.7 x 33.3 x 102.4	12.07	11.60
03F7088	763	710	22½	92.1 x 51.6 x 77.8	21.62	20.78

(6883) (de02014)

Energizer



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EVEREADY® WATCH/CALCULATOR BATTERIES

MANGANESE-DIOXIDE FOR CALCULATORS

Stock No.	Type	NEDA	Volts	Dimensions (mm)	1-24	25-49	50-99
81F171	A76BP	1166A	1.5	11.6 Dia. x 5.40	1.58	1.52	1.49
81F168	186BP	1167A	1.5	11.6 Dia. x 4.20	1.34	1.29	1.27
81F169	189BP	1168A	1.5	11.6 Dia. x 3.05	1.34	1.29	1.27
				SILVER-OXIDE			
49F1204	303BP	1130SO	1.5	11.6 Dia. x 5.60	2.08	2.00	1.96
49F1207	357BP	1131SO	1.5	11.6 Dia. x 5.35	1.96	1.93	1.89
81F165	364BP	1175SO	1.5	6.80 Dia. x 2.15	1.09	1.05	1.03
90F3351	371BP	1171SO	1.5	9.50 Dia. x 2.10	1.25	1.21	1.18
89F5062	377BP	1176SO	1.5	6.80 Dia. x 2.60	1.38	1.33	1.30
90F3352	379BP	1191SO	1.5	5.80 Dia. x 2.15	2.15	2.07	2.03
49F1067	386BP	1133SO	1.5	11.6 Dia. x 4.20	1.55	1.49	1.46
49F1254	389BP	1138SO	1.5	11.6 Dia. x 3.00	1.25	1.21	1.18
44F922	391BP	1160SO	1.5	11.6 Dia. x 2.05	1.27	1.23	1.20
49F1208	392BP	1135SO	1.5	7.90 Dia. x 3.60	0.89	0.86	0.84
49F1209	393BP	1137SO	1.5	7.90 Dia. x 5.35	1.38	1.33	1.30
46F4494	395BP	1162SO	1.5	9.50 Dia. x 2.70	1.25	1.21	1.18
81F166	396BP	1163SO	1.5	7.90 Dia. x 2.70	1.25	1.21	1.18
				LITHIUM			
92F1655	ECR1025	...	3	12.5 Dia. x 1.60	1.37	1.32	1.29
44F969	ECR2016BP	5000L	3	20.0 Dia. x 1.60	2.15	2.07	2.03
44F970	ECR2025BP	5003L	3	20.0 Dia. x 2.50	2.15	2.07	2.03
44F971	ECR2032BP	...	3	20.0 Dia. x 3.20	2.15	2.07	2.03

(6944) (de51937a)

Energizer

Watch/Calculator Batteries

RECHARGEABLE NICKEL-CADMIUM BATTERIES AND CHARGERS

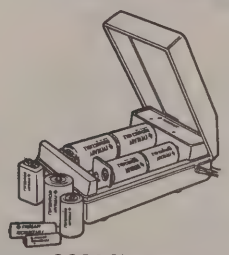
NiCad batteries recharge quickly using battery chargers; *order separately below.* **CH series** standard charge rate: 3.5 hours. **CF series** fast charge: less than 3 hours.

Stock No.	Type	Size	Volts	Capacity	1-4	5-12	13-24
90F3339	CH12BP-2*	AAA	1.2	180 mAh	12.02	10.88	10.63
03F7105	CH15	AA	1.2	500 mAh	6.00	5.43	5.31
49F1181	CH35	C	1.2	1.2 Ah	7.19	6.83	6.67
49F1182	CH50	D	1.2	1.2 Ah	7.55	6.83	6.67
03F7106	CH4	D	1.2	4 Ah	21.59	19.53	19.08
49F1232	CH22	**	7.2	80 mAh	15.11	13.67	13.35

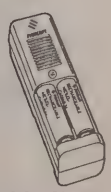
***Sold in packages of 2.** **For 9V applications. +Solder tabs.

89F5059 Type FCC-2 Charges 4 AA,AAA cells. **Each** **17.03**
89F5060 Type QCC4 Charges 8 AA, AAA; 4 C; 2 9V cells. **Each** **28.80**
89F5061 Type FCC-8 Charges 8 AA, AAA,C,D; 4 9V cells. **Each** **31.14**
16F1011 Type CH2AABP Charges 2 AA batteries (2 AA batteries included). **Each** **25.55**
(6882) (de02013)

Energizer



QCC4 Charger



FCC2 Charger

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(1-800-463-9275)

BATTERIES

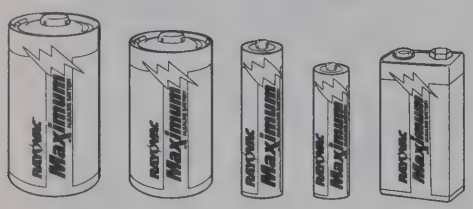
RENEWAL® RECHARGEABLE ALKALINE BATTERIES & POWER STATIONS

Renewal® alkaline batteries are rechargeable 25 times or more. Use **type PS1** or **PS3** Renewal® power station to charge Renewal® batteries. Power stations monitor and charge each Renewal® battery individually to maximize performance on each charge. **Type PS1** charges up to four AA or AAA batteries. **Type PS3** charges up to eight AA, AAA, C or 4 D batteries.

Stock No.	Type	Description	1-4	5-12	13-24	25-49
96F5286	724-4	AAA Size, Package of 4	8.08	7.67	7.35	7.07
96F5285	715-4	AA Size, Package of 4	8.08	7.67	7.35	7.07
96F5284	714-2	C Size, Package of 2	7.46	7.08	6.79	6.52
96F5283	713-2	D Size, Package of 2	7.46	7.08	6.79	6.52

96F5287 Type PS1. **Each** **16.06**
96F5288 Type PS2. **Each** **32.13**
(7052) (ne90571)

ALKALINE MAXIMUM™ BATTERIES

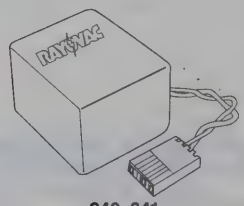


Alkaline Maximum™ batteries provide long life and superior performance for all high-drain devices.

Stock No.	Type	Description	1-12	13-24	25-49	50-99
66F7676	815 Bulk	AA Size Bulk Packaging	0.84	0.79	0.72	0.65
66F7677	824 Bulk	AAA Size Bulk Packaging	0.84	0.79	0.72	0.65
66F7674	813 Bulk	D Size Bulk Packaging	1.17	1.11	1.01	0.91
66F7675	814 Bulk	C Size Bulk Packaging	1.17	1.11	1.01	0.91
66F7678	A1604 BK240	9-Volt Size	2.25	2.15	1.83	1.57

(7003) (ne06243)

COMPUTER CLOCK BATTERIES



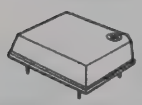
840, 841

- **Replacements for IBM® PC-AT 286/386/486 & PS/2 & Clones with 4-Pin Connector**

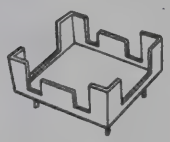
Stock No.	Type	Description	Nominal Capacity	1-9	10-24	25-49	50-99
16F005	840-B	4.5-Volt Alkaline	600	20.36	19.96	16.29	14.26
87F3485	844-1	4.5-Volt Alkaline	1200	21.21	20.80	16.64	14.57

(7017) (ne07034)

LIFEX™ FB SERIES LITHIUM BATTERIES & BATTERY SOCKET



FB1225H2, FB2325H2



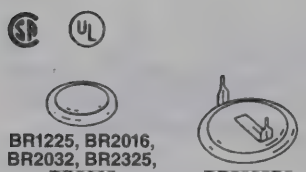
RH23H2

- **Allow Series or Parallel Interconnection Between Cells**
- **Withstand Harsh Manufacturing & User Environments**
- **Ideal for Automated Placement**

Stock No.	Type	Nominal Voltage		Capacity (mAh)		Maximum Pulse (mA)		1-24	25-49
		Series	Parallel	Series	Parallel	Series	Parallel		
87F3484	FB-1225H2-B	3.0	6.0	100	50	16	8	12.23	9.73
87F3483	FB-2325H2-1	3.0	6.0	360	180	20	10	10.43	8.30
90F7362	RH-23H2-B	RELEX™ PC-Mount Battery Socket						5.41	4.30

(7018) (ne07035)

LIFEX™ 3-VOLT LITHIUM COIN-CELL BATTERIES



BR1225, BR2016, BR2032, BR2325, BR2335

BR2325P2

BR2335T3L

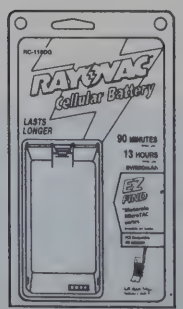
BR1225T2

- **High-Energy Density & Voltage**
- **Operating Temperature Range: –40° C to +85° C**
- **Lithium System Offers Chemical & Thermal Stability**
- **UL Recognized**

Stock No.	Type	Capacity (mAh)	Maximum Pulse (mA)	Tab Configuration	1-24	25-49	50-99	100-499
44F6692	BR1225	39	8	None	1.95	1.56	1.44	1.33
90F7363	BR-1225T2-1	39	8	2 Tabs	1.69	1.60	1.46	1.31
44F6679	BR2016	70	10	None	2.08	1.66	1.57	1.44
95F4791	BR2032-1W	195	10	None	2.50	2.00	1.89	1.73
44F6686	BR2325	180	10	None	2.34	1.87	1.77	1.62
44F6687	BR2325P2-B	180	10	2 Pins	3.58	2.86	2.70	2.48
44F6688	BR-2325T2-1	180	10	2 Tabs	2.89	2.32	2.18	2.01
90F7365	BR2335	300	10	None	2.63	2.11	1.99	1.83
52F003	BR2335T3L-1	300	10	3 Tabs	2.35	2.22	2.07	1.93

(7019) (ne07036)

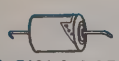
CELL PHONE BATTERIES



Stock No.	Type	Description	Each
48F1007	RC-519	Ericsson AH237 Series NiMH - Slim	59.50
48F1008	RC-520	Ericsson AH237 Series - Slim	48.28
48F1009	RC-523	Ericsson AH237 Series - Extended	32.77
48F1010	RC-525	Ericsson AH237 Series NiMH - Extended	48.28
48F1011	RC-541	Ericsson AH600/618/620/628/630 Series NiMH - Extended	48.28
48F1012	RC-110DG	Motorola Microtac "Flip Phone" NiCad Extended - Dark Grey	51.73
48F1013	RC-110SG	Motorola Microtac "Flip Phone" NiCad Extended - Slate Grey	51.73
48F1014	RC-130DG	Motorola Microtac "Flip Phone" Lithium Ion Dark Grey	102.59
48F1015	RC-130SG	Motorola Microtac "Flip Phone" Lithium Ion Slate Grey	102.59
48F1016	RC-151DG	Motorola StarTac NiMH Slim Dark Grey	36.21
48F1017	RC-151SG	Motorola StarTac NiMH Slim Slate Grey	36.21
48F1018	RC-152DG	Motorola StarTac NiMH Extended Dark Grey	36.21
48F1019	RC-152SG	Motorola StarTac NiMH Extended Slate Grey	36.21
48F1020	RC-154	Motorola StarTac Lithium Ion Slim	102.59
48F1021	RC-155	Motorola StarTac Lithium Ion Extended	102.59

(32984) (ne32984)

3.6-VOLT MEMORY BACK-UP BATTERIES

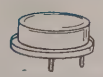

TL-5101 Axial Pin

TL-5101 Solder Tab

TL-5104 Axial Pin

TL-5104 Solder Tab

TL-5134
TL-5135
3-Pin

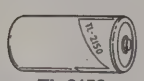

TL-5186 2-Pin

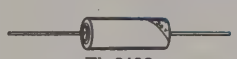
- CMOS Memory Back-Up
- Industrial Control Equipment
- Utility Meters
- Medical Components
- Consumer Electronics

Stock No.	Type	Size	Capacity	D x H	Terminals	1-24	25-49	50-99	100-499
87F6401	TL-5101/SBP	½AA	950mAh	0.58 x 1.00" (14.73 x 25.40)	Pressure Contact	6.08	5.82	5.72	4.11
87F6409	TL-5101/TBP	½AA	950mAh	0.58 x 1.00" (14.73 x 25.40)	Solder Tab	6.46	6.19	6.07	4.44
87F6410	TL-5101/PBP	½AA	950mAh	0.58 x 1.00" (14.73 x 25.40)	Axial Pin	6.33	6.06	5.96	4.33
92F2486	TL-5155/TBP	⅔AA	1450mAh	0.58 x 1.28" (14.73 x 32.51)	Solder Tab	7.35	7.03	6.91	5.95
92F2487	TL-5155/PBP	⅔AA	1450mAh	0.58 x 1.28" (14.73 x 32.51)	Axial Pin	7.47	7.15	7.03	6.06
87F6411	TL-5104/SBP	AA	2100mAh	0.58 x 2.00" (14.73 x 50.80)	Pressure Contact	7.22	6.91	6.79	4.98
87F6412	TL-5104/TBP	AA	2100mAh	0.58 x 2.00" (14.73 x 50.80)	Solder Tab	7.60	7.28	7.15	5.20
87F6413	TL-5104/PBP	AA	2100mAh	0.58 x 2.00" (14.73 x 50.80)	Axial Pin	7.47	7.15	7.03	5.09
87F6418	TL-5135/PBP	Coin	1700mAh	1.30 x 0.39" (33.02 x 9.91)	3 Pin	7.60	7.28	7.15	5.20
87F6417	TL-5134/PBP	Coin	1000mAh	1.30 x 0.26" (33.02 x 6.60)	3 Pin	7.09	6.79	6.67	4.87
87F6414	TL-5186/PBP	Coin	400mAh	0.89 x 0.26" (22.61 x 6.60)	2 Pin	5.07	4.85	4.77	3.47

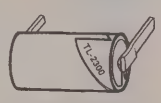
(6866) (de01314)

XTRA™ 3.6-VOLT CELLS


TL-2150
TL-5902 Pressure Contact


TL-2100
TL-5903 Axial Pin

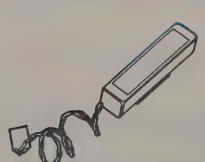
TL-2200 Solder Tab


TL-2300 Solder Tab

Stock No.	Type	Size	Capacity	D x H	Terminals	1-24	25-49	50-99	100-499
87F6402	TL-2150/SBP	½AA	950mAh	0.58 x 1.00" (14.73 x 25.40)	Pressure Contact	6.33	6.06	5.96	4.33
87F6403	TL-2150/TBP	½AA	950mAh	0.58 x 1.00" (14.73 x 25.40)	Solder Tab	6.71	6.43	6.31	4.55
87F6404	TL-2150/PBP	½AA	950mAh	0.58 x 1.00" (14.73 x 25.40)	Axial Pin	6.59	6.31	6.19	4.55
92F2488	TL-2155/SBP	⅔AA	1450mAh	0.58 x 1.28" (14.73 x 32.51)	Pressure Contact	6.84	6.55	6.43	5.52
92F2489	TL-2155/TBP	⅔AA	1450mAh	0.58 x 1.28" (14.73 x 32.51)	Solder Tap	7.47	7.15	7.03	6.06
92F2490	TL-2155/PBP	⅔AA	1450mAh	0.58 x 1.28" (14.73 x 32.51)	Axial Pin	6.97	6.67	6.55	5.63
87F6405	TL-2100/SBP	AA	2100mAh	0.58 x 2.00" (14.73 x 50.80)	Pressure Contact	7.73	7.40	7.26	5.30
87F6406	TL-2100/TBP	AA	2100mAh	0.58 x 2.00" (14.73 x 50.80)	Solder Tab	8.10	7.76	7.62	5.52
87F6407	TL-2100/PBP	AA	2100mAh	0.58 x 2.00" (14.73 x 50.80)	Axial Pin	7.98	7.64	7.50	5.41
00Z1076	TL-2200/SBP	C	7200mAh	1.02 x 1.98" (25.91 x 50.29)	Pressure Contact	14.68	14.30	13.16	12.77
00Z1072	TL-2200/TBP	C	7200mAh	1.02 x 1.98" (25.91 x 50.29)	Solder Tab	15.06	14.67	13.49	13.09
00Z1073	TL-2200/PBP	C	7200mAh	1.00 x 2.00" (25.40 x 50.80)	Axial Pin	14.93	14.55	13.38	12.98
00Z1074	TL-2300/SBP	D	16500mAh	1.30 x 2.43" (33.02 x 61.72)	Pressure Contact	19.66	19.15	17.62	17.09
00Z1075	TL-2300/TBP	D	16500mAh	1.30 x 2.43" (33.02 x 61.72)	Solder Tab	20.03	19.52	17.95	17.42
				XTRA™ 3.6-VOLT HIGH CAPACITY CELLS					
50F1555	TL-5902/SBP	½AA	1200mAh	0.58 x 1.00" (14.73 x 25.40)	Pressure Contact	7.28	6.97	6.85	4.98
50F1556	TL-5902/TBP	½AA	1200mAh	0.58 x 1.00" (14.73 x 25.40)	Solder Tab	7.73	7.40	7.26	5.23
50F1557	TL-5902/PBP	½AA	1200mAh	0.58 x 1.00" (14.73 x 25.40)	Axial Pin	7.57	7.25	7.12	5.23
92F2492	TL-5955/TBP	⅔AA	1650mAh	0.58 x 1.28" (14.73 x 32.51)	Solder Tab	7.85	7.52	7.38	6.38
92F2493	TL-5955/PBP	⅔AA	1650mAh	0.58 x 1.28" (14.73 x 32.51)	Axial Pin	7.85	7.52	7.38	6.38
50F1558	TL-5903/SBP	AA	2400mAh	0.58 x 2.00" (14.73 x 50.80)	Pressure Contact	8.86	8.49	8.34	6.11
50F1559	TL-5903/TBP	AA	2400mAh	0.58 x 2.00" (14.73 x 50.80)	Solder Tab	9.32	8.92	8.76	6.38
50F1613	TL-5903/PBP	AA	2400mAh	0.58 x 2.00" (14.73 x 50.80)	Axial Pin	9.18	8.79	8.63	6.22

BP = Blister Pack
(6867) (de01315)

COMPUTER CLOCK & UTILITY METER BATTERIES


TL-5242

TL-5253
TL-5293
TL-5280

TL-5276

Designed to back up Real Time Clocks (RTC) in personal computers. **Type TL-5276/W** utility meter battery for "Time of Day" meters.

3.6-VOLT SINGLE CELL BATTERY PACKS

Stock No.	Type	Dimensions	Primary US Usage	1-24	25-49	50-99	100-499
87F6423	TL-5242	0.7 x 0.6 x 2.4" (17.78 x 15.24 x 60.96)	AT&T 3B Series, 3 Pin Connector	10.76	10.31	10.12	7.36
87F6425	TL-5242/W	0.7 x 0.6 x 2.4" (17.78 x 15.24 x 60.96)	Acer, Hyundai, Wise & Most Clones, 4 Pin Connector	10.76	10.31	10.12	7.36
95F5073	TL-5276/W	0.7 x 1.0 x 1.13" (17.78 x 25.40 x 28.70)	Utility Meter, 2 Pin Method Connector	11.65	11.15	10.95	7.96
			2 CELL BATTERY PACKS				
50F1560	TL-5293/W	0.8 x 1.5 x 2.3" (20.32 x 38.10 x 58.42)	Universal Replacement, 6 Volt, 4 Pin	12.44	12.12	11.15	10.82
87F6416	TL-5280/T	0.8 x 1.5 x 2.3" (20.32 x 38.10 x 58.42)	Compaq Deskpro Series, 7.2 Volt	19.91	19.40	17.84	17.31

(6868) (de01316)

RECHARGEABLE AND PRIMARY BATTERIES

NICKEL-CADMIUM BATTERIES

Nickel-Cadmium batteries may be used in cyclic, trickle or float charge use.

Stock No.	Type	Size	Capacity mAh	Diameter × Height in ± .02 (mm ± .05)	1-5	6-10	11-20	21-49
51F2693	P-11AAH	⅓AA	110	0.55 (14.0) × 0.65 (16.5)	3.15	2.99	2.87	2.76
51F2694	P-15N	N	150	0.45 (11.5) × 1.16 (29.5)	4.67	4.43	4.03	3.75
51F2696	P-18AAA	AAA	180	0.39 (10.0) × 1.73 (44.0)	3.75	3.56	3.41	3.28
51F2697	P-30AAR	⅔AA	250	0.55 (14.0) × 1.09 (27.7)	4.78	4.53	4.13	3.84
51F2698	P-50AA	AA Button Top	500	0.55 (14.0) × 1.95 (49.5)	3.36	3.19	3.06	2.94
51F2699	P-50AA/FT	AA Flat Top	500	0.55 (14.0) × 1.88 (47.8)	3.36	3.19	3.06	2.94
51F2700	P-50AA/FT-1	AA Flat w/Tabs	500	0.55 (14.0) × 1.89 (48.8)	3.77	3.58	3.43	3.30
98F6216	P-60AAR	AA Rapid Flat Top	600	0.55 (14.0) × 1.95 (49.5)	3.56	3.39	3.24	3.12
51F2704	P-130SCR	Sub C Rapid	1300	0.89 (22.5) × 1.67 (42.5)	4.89	4.64	4.45	4.28
95F7753	P-140SCR	Sub C Rapid	1400	0.89 (22.5) × 1.67 (42.5)	4.95	4.70	4.51	4.33
95F7754	P-170SCR	Sub C Rapid	1700	0.89 (22.5) × 1.67 (42.5)	8.39	7.97	7.63	7.34
51F2706	P-220C	C	2200	1.00 (25.3) × 1.94 (49.3)	8.80	8.36	8.01	7.70
51F2707	P-400D†	D	4000	1.27 (32.3) × 2.36 (59.9)	14.27	13.55	12.98	12.48
51F2708	P-440DE†	D High Capacity	4400	1.27 (32.3) × 2.36 (59.9)	17.64	16.76	16.05	15.44

† Diameter ± 0.03in (± 0.7mm), Height ± 0.04 in (± 1.0mm)

(6885) (de02380)

BR-⅔A BR-C

CYLINDRICAL LITHIUM BATTERIES

Leak-proof 3V batteries offer high energy density, long shelf life, stable operation and wide operating temperatures.

Stock No.	Type	Chemistry	Size	Capacity (mAh)	Terminals	1-5	6-10	11-20	21-49
51F2663	BR-CSSP	(CF)n/Li	C	5000	Pressure Contacts	22.65	20.76	18.86	17.86
51F2664	BR-CT2SP	(CF)n/Li	C	5000	Solder Tabs	22.65	20.76	18.86	17.86
51F2665	BR-⅔ASSP	(CF)n/Li	⅔A	1200	Pressure Contacts	9.73	9.07	8.64	7.79
51F2666	BR-⅔AST2SP	(CF)n/Li	⅔A	1200	Solder Tabs	10.10	9.41	8.97	8.08
51F2667	BR-⅔AE2SP	(CF)n/Li	⅔A	1200	3 PC Pins	10.10	9.41	8.97	8.08
51F2668	BR-⅔AE5SP	(CF)n/Li	⅔A	1200	2 PC Pins	10.10	9.41	8.97	8.08
92F8864	BR-A	(CF)n/Li	A	1800	Pressure Contacts	14.22	13.03	11.84	11.21

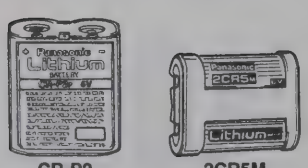
(6886) (de02381)

COIN CELL LITHIUM BATTERIES

Coin cell lithium batteries are 3V high energy, high reliability batteries. Additional sizes and pin configurations are available. *Contact your local Newark sales office.*

Stock No.	Type	Chemistry	Capacity (mAh)	Description	1-5	6-10	11-20	21-49
51F2679	BR-2016	CFn/Li	70	Pressure Contacts	3.36	3.18	2.90	2.70
51F2680	BR-2032	CFn/Li	180	Pressure Contacts	3.55	3.37	3.07	2.86
51F2681	BR-2325	CFn/Li	165	Pressure Contacts	3.50	3.32	3.02	2.81
51F2687	CR-2032	MnO_2/Li	190	Pressure Contacts	2.38	2.26	2.05	1.91
51F2688	CR-2354	MnO_2/Li	500	Pressure Contacts	4.36	4.14	3.77	3.51
51F2682	BR-2325-1HC	CFn/Li	165	2 PC Pins Horizontal	4.36	4.14	3.77	3.51
51F2683	BR-2325-1VG	CFn/Li	165	3 PC Pins Vertical	4.36	4.14	3.77	3.51

(6887) (de02382)



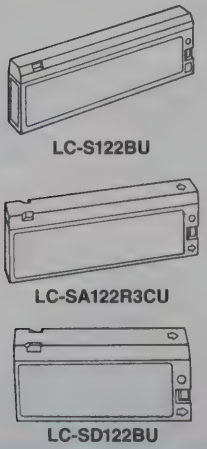
CR-P2 2CR5M

LITHIUM USER-REPLACEABLE BATTERY PACKS

Uses include cameras, memory backup and more. Batteries may be easily replaced by the user.

Stock No.	Type	Chemistry	Voltage	Capacity (mAh)	Description	1-5	6-10	11-20	21-49
51F2672	CR-P2	MnO_2/Li	6	1300	2 Cell Pack w/PTC	19.51	17.33	15.61	13.04
51F2671	2CR5M	MnO_2/Li	6	1300	2 Cell Pack w/PTC	16.78	15.37	13.97	13.23
51F2670	CR-123A	MnO_2/Li	3	1300	Single Cell w/PTC	11.33	10.38	9.43	8.93
51F2674	BR-E3C3BCA	(CFn)/Li	6	1200	PC/AT Type w/Tabs	23.66	21.68	19.70	18.66

(6888) (de02383)



RECHARGEABLE SEALED LEAD-ACID BATTERIES

Maintenance-free lead acid batteries are designed as an absorbed electrolyte system, have exceptional leak resistance, and may be used in any position. Applications: video, cellular phone, UPS and emergency lighting. Other 6V and 12V Panasonic batteries are available. *Contact your local Newark sales office for details.*

Stock No.	Type	Rated Capacity 10 Hr Rate (Ah)	Rated Capacity 20 Hr Rate (Ah)	Dimensions Length (in)	Dimensions Width (in)	Dimensions Height (in)	Dimensions Total Ht (incl term) (in)	Weight Approx. (lbs)	1-5	6-10	11-20	21-49
50F3379	LC-S122BU	2.0	2.0	7.9	0.98	4.42	2.43	1.54	86.56	79.31	72.07	68.26
50F3378	LC-SA122R3CU	2.3	2.34	7.17	0.94	2.42	2.43	1.4	51.57	47.26	42.94	40.67
50F3380	LC-SD122BU	1.95	1.95	5.65	0.94	2.55	2.56	1.3	59.68	54.69	49.69	47.06

(6884) (de02379)

CONTACT NEWARK FOR LARGE-QUANTITY PRICING.

SEALED NICKEL CADMIUM RECHARGEABLE BATTERIES

Nickel cadmium cells have a normal voltage of 1.2V. Standard and Gemax™ cells have a temperature range of up to +50°C; Goldtop® cells are up to +70°C. Brief excursions to temperatures higher than specified may be tolerated. Cell life is decreased by heat from overcharging or ambient sources. Battery cells vent no acid or acid vapor, which eliminates corrosion of the terminals. All cells are sealed. Life in float applications is typically 8 to 10 years at 23°C. Sizes shown in tables below are maximum overall bare cell dimensions.

VALUMAX™ NICKEL CADMIUM CELLS

Standard construction nickel cadmium cells.

Stock No.	Type	Fig.	Case Size	Capacity	Height	Diameter	1-9	10-24	25-49	50-99
51F1302	E550AA	1	AA	650mAH	1.93″	0.56″	**3.98**	**3.58**	**3.24**	**2.43**
51F1305	E1200CS	3	⅘Cs	1200mAH	1.31″	0.87″	**5.31**	**4.78**	**4.33**	**3.25**
51F1309	GH2300D	5	½D	2300mAH	1.41″	1.27″	**12.78**	**11.51**	**10.43**	**7.82**
51F1310	EF4300D	6	D	4300mAH	2.30″	1.27″	**16.34**	**14.71**	**13.33**	**10.00**

ULTRAMAX™ FAST-CHARGE NICKEL CADMIUM CELLS

Long run times for demanding applications.

95F8120	ECF1200A	2	A	1200mAH	1.94″	0.65″	**7.06**	**6.36**	**5.76**	**4.32**

FAST CHARGE VALUMAX™ NICKEL CADMIUM CELLS

Standard cells with fast charge capability.

51F1314	EF6500AA	1	AA	650mAH	1.93″	0.56″	**4.11**	**3.70**	**3.35**	**2.51**
51F1317	EF1200CS	3	⅘Cs	1200mAH	1.31″	0.87″	**5.83**	**5.25**	**4.76**	**3.57**

GEMAX™ NICKEL CADMIUM CELLS

Cells with higher power delivery for more demanding applications.

51F1321	EP1000CS	3	⅘Cs	1100mAH	1.31″	0.87″	**6.54**	**5.88**	**5.33**	**4.00**

GEMAX™ FAST CHARGE NICKEL CADMIUM CELLS

Fast charge cells with one-hour charge capability.

51F1323	EPF1100CS	3	⅘Cs	1100mAH	1.31″	0.87″	**5.41**	**4.87**	**4.42**	**3.31**

GOLDTOP® NICKEL CADMIUM CELLS

Cells have excellent life at elevated temperature.

51F1328	ET4300D	6	D	4300mAH	2.30″	1.27″	**18.66**	**16.80**	**15.23**	**11.42**

GOLDTOP® PLUS NICKEL CADMIUM CELLS

Cells have excellent high-temperature life, charge acceptance, and capacity.

51F1332	ETL4000D	6	D	4000mAH	2.30″	1.27″	**19.87**	**17.88**	**16.21**	**12.16**

(6931) (de50900)

Fig. 1

Fig. 2

Fig. 3

Fig.4

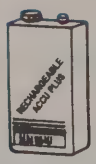
Fig. 5

Fig. 6

Fig. 7

RECHARGEABLE NICKEL METAL HYDRIDE BATTERIES

VARTA



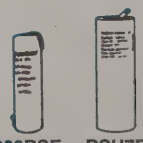
Rechargeable battery cells use Nickel Metal Hydride Technology which is more environmentally acceptable than the Nickel Cadmium system.

Stock No.	Type	Voltage	Capacity	1-9	10-24	25-99	100-499
06WX2732	V7/8H	8.4V	0.11Ah	**7.96**	**7.17**	**6.98**	**6.60**

(36773) (ne36773)

RECHARGEABLE NI-CAD WITH SOLDER TABS

VARTA


600RSE RSH7F

All cells are fitted with solder tabs to permit the manufacture of battery packs.

Stock No.	Type	Voltage	Capacity	1-9	10-24	25-99	100-499
06WX2760	600RSE	1.2V	0.60Ah	**2.64**	**2.51**	**2.37**	**1.89**
06WX2719	RSH7F	1.2V	7.0Ah	**16.89**	**15.34**	**13.60**	**12.67**

(34981) (ne34981)

3-VOLT LITHIUM MANGANESE WITH AXIAL LEAD

VARTA

CR1/2AACD

Non-rechargeable system is ideal for memory back-up applications.

Stock No.	Type	Voltage	Capacity	1-9	10-99	100-999
06WX2704	CR1/2AACD	3V	0.950Ah	**6.02**	**5.60**	**5.12**
06WX2702	CRAACD	3V	2.0Ah	**8.51**	**7.92**	**7.24**

(36772) (ne36772)

PCB NICKEL METAL HYDRIDE BATTERIES

VARTA

2/V60H

3/V110H

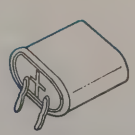
Suitable in most applications as a drop-in replacement for existing nickel cadmium batteries of equivalent size.

Stock No.	Type	Voltage	Capacity	1-9	10-99	100-499	500-999
06WX2737	2/V60H	2.4V	0.06Ah	**3.06**	**2.75**	**2.59**	**2.44**
06WX2748	3/V110H	3.6V	0.11Ah	**5.84**	**5.26**	**4.97**	**4.67**
06WX2749	3/V60H	3.6V	0.06Ah	**4.57**	**4.11**	**3.92**	**3.68**

(36771) (ne36771)

PCB MOUNT NI-CAD BATTERIES

VARTA


3/V110R

5/V280R

A range of PCB, nickel cadmium batteries suitable for CMOS and NMOS support systems requiring a battery back-up of a few mA.

Stock No.	Type	Voltage	Capacity	1-9	10-99	100-499	500-999
06WX2747	3/V110R	3.6V	0.1Ah	**4.59**	**4.17**	**3.95**	**3.73**
06WX2757	4/V110R	4.8V	0.1Ah	**7.98**	**7.13**	**6.24**	**5.65**
06WX2759	5/V280R	6.0V	0.28Ah	**7.99**	**7.29**	**6.93**	**6.58**

(34979) (ne34979)

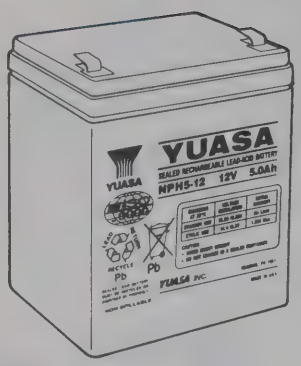
YUASA

RECHARGEABLE LEAD-ACID BATTERIES

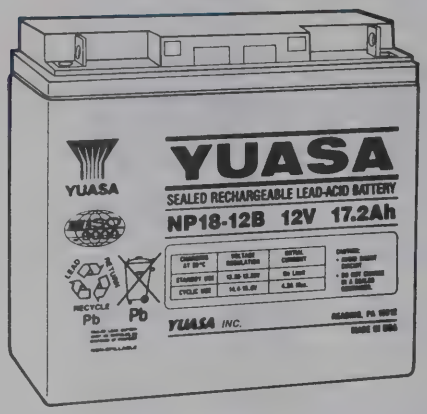
SEALED RECHARGEABLE LEAD-ACID BATTERIES

MADE IN USA

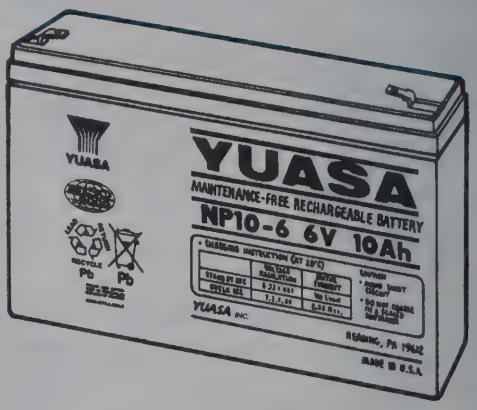
ISO 9000



NPH5-12



NP18-12B



NP10-6

NP Applications:

- UPS
- Security
- Electric Mobility
- Telecommunications
- Panels
- Emergency Lights
- Computers
- Medical
- Backup Power Applications

Features:

- Non-Spillable, Use in any Position
- Use in Float or Cyclic Applications
- Long Life, 5-Year Float Design Life
- UL94-V0 Flame-Retardant Case Available on Most Models

Yuasa Inc., a leader in backup energy, offers a complete line of rechargeable batteries for a wide variety of applications. Use as a supply of backup energy, or as a portable power source. The **NP series** can be stored, charged, or operated in any position without leakage. Qualified to non-spillable UN2800 standards. Standard housing is ABS resin. A flame-retardant version (to UL94-VO) is also available. *Contact your local Newark sales office for details.*

NPH SERIES DESIGNED FOR HIGH-RATE DISCHARGE

Stock No.	Type	Voltage	Nom. Cap. @ 10 hr. Rate (Ah)	H x L x W	Weight (lbs.)	Terminals	1-9	10-24
92F2432	NPH3.2-12	12V	3.2	2.52 x 5.28 x 2.64″	3.09	Faston Tab 0.187″	34.29	31.46
84F1014	NPH5-12	12V	5.0	4.17 x 3.54 x 2.75″	4.41	Faston Tab 0.250″	27.32	25.07

NP SERIES — GENERAL PURPOSE FLOAT AND CYCLIC BATTERIES

Stock No.	Type	Voltage	Nom. Cap. @ 20 hr. Rate (Ah)	H x L x W	Weight (lbs.)	Terminals	1-9	10-24
44F7558	NP3-4	4V	3.0	2.52 x 3.56 x 1.34″	0.94	Faston Tab 0.187″	16.07	14.75
87F632	NP4.2-4H	4V	4.2	4.68 x 1.89 x 1.40″	1.23	Side pressure contact	18.61	17.08
87F633	NP10-4	4V	10.0	3.86 x 4.02 x 1.97″	2.97	Faston Tab 0.250″	18.80	17.25
44F7559	NP1-6	6V	1.0	2.15 x 2.00 x 1.67″	0.55	Faston Tab 0.187″	13.11	12.03
44F7560	NP1.2-6	6V	1.2	2.15 x 3.82 x 0.98″	0.66	Faston Tab 0.187″	8.01	7.35
44F7561	NP2.6-6	6V	2.6	2.52 x 5.28 x 1.33″	1.23	Faston Tab 0.187″	16.24	14.90
87F634	NP3-6	6V	3.0	2.52 x 5.28 x 1.33″	1.43	Faston Tab 0.187″	15.54	14.26
44F7562	NP4-6	6V	4.0	4.15 x 2.76 x 1.85″	1.87	Faston Tab 0.187″	8.93	8.20
44F7563	NP4-6W	6V	4.0	4.04 x 2.76 x 1.85″	1.87	AMP 1-430818-0	16.51	15.15
98F2387	NP4.2-6H	6V	4.2	4.68 x 1.88 x 2.03″	1.76	Side pressure contact	22.72	20.85
44F7564	NP7-6	6V	7.0	3.84 x 5.95 x 1.33″	2.98	Faston Tab 0.187″, 0.250″ opt.	13.15	12.07
44F7566	NP10-6	6V	10.0	3.84 x 5.95 x 1.97″	4.41	Faston Tab 0.187″, 0.250″ opt.	14 96	13.73
87F636	NP0.8-12	12V	0.8	2.42 x 3.78 x 0.98″	0.77	JST VHR-2N	26.00	23.86
44F7567	NP1.2-12	12V	1.2	2.15 x 3.82 x 1.89″	1.25	Faston Tab 0.187″	15.64	14.35
84F1012	NP2-12	12V	2.0	3.50 x 5.91 x 0.79″	1.54	Faston Tab 0.187″	24.02	22.04
84F1013	NP2.3-12	12V	2.3	2.52 x 7.01 x 1.34″	2.05	Faston Tab 0.187″	23.36	21.44
44F7569	NP2.6-12	12V	2.6	2.52 x 5.28 x 2.64″	2.47	Faston Tab 0.187″	26.85	24.63
44F7570	NP4-12	12V	4.0	4.17 x 3.54 x 2.76″	3.74	Faston Tab 0.187″	18.46	16.94
87F637	NP7-12	12V	7.0	3.84 x 5.94 x 2.56″	5.84	Faston Tab 0.187″, 0.250″ opt.	19.69	18.07
50F032	NP18-12B	12V	17.2	6.57 x 7.13 x 2.99″	13.67	0.216″ Bolt terminal	46.15	42.35
87F638	NP12-12	12V	12.0	3.86 x 5.94 x 3.86″	8.82	Faston Tab 0.250″	43.33	39.76
44F7552	NP24-12T	12V	24.0	4.92 x 6.54 x 6.89″	19.10	Faston Tab 0.250″	67.82	62.23
44F7553	NP24-12B	12V	24.0	4.92 x 6.54 x 6.89″	19.10	0.216″ Bolt terminal	67.82	62.23
95F7325	NP26-12	12V	26.0	6.89 x 6.54 x 4.92″	20.50	Bolt fastened or receptacle	84.77	77.78
44F7554	NP38-12	12V	38.0	6.89 x 7.74 x 6.50″	30.40	0.260″ Bolt terminal	101.97	93.56
44F7555	NP65-12	12V	65.0	6.85 x 13.78 x 6.53″	50.20	0.270″ Bolt terminal	269.37	247.17

* With wire leads and connector

DM SERIES DESIGNED FOR UPS APPLICATIONS

Stock No.	Type	Voltage	Nom. Cap. @ 20 hr. Rate (Ah)	H x L x W	Weight (lbs.)	Terminals	1-9	10-24
95F7326	DM55-12	12V	57	8.82 x 10.16 x 6.73″	39.7	0.270″ Lug terminal	200.09	183.60
95F7327	DM80-12FR	12V	73	8.98 x 11.97 x 6.73″	46.6	0.270″ Lug terminal	221.53	203.27

(7049) (ne53130)

DYNASTY® SEALED, MAINTENANCE-FREE RECHARGEABLE BATTERIES

JOHNSON CONTROLS

Compact rechargeable batteries feature AGM mats in the **UPS** and **TEL Series** or gelled electrolyte in the **GC Series**. Maintenance-free. Operate, store or charge in any position. 500+ charge/discharge cycles. Self-discharge 2-3% per month. Protective self-sealing relief valves prevent excess cell pressure buildup. Not affected by memory or previous use history. Charged operating temperature: –76° to +140°F. Batteries rated at 77°F. Capacities slightly increase above 77°F and decrease below 77°F. **UPS Series** are ideal for lighting, security and supervisory backup power systems and portable equipment. **TEL Series** are designed for telecom applications. Low-profile, low-maintenance threaded terminals. 10-year life. FR = Flame Retardant.

T.S. Code	Terminal Style	T.S. Code	Terminal Style
1	Automotive-Style Post	3	Threaded
2	L Terminal	4	Flag Terminal

LARGE SEALED GENERAL PURPOSE BATTERIES

Stock No.	Type	Term. Style	Nom. Volt.	Cap. (Ah) @ 20hr. Rate	Discharge Current(Ah) @ 20hr. Rate	L x W x H (inches)	Wt. (lbs.)	1-9	10-24
99F1807	U1-31A/B	2	12	31.0	1550	7.78 x 5.22 x 7.25	24	**67.69**	**61.46**
96F992	U1-33	2	12	33.0	1650	7.78 x 5.22 x 7.25	26	**67.69**	**61.46**
50F3186	GC 12V100A/B	2	12	90.0	4500	13.02 x 6.84 x 9.48	68	**162.96**	**147.96**

LARGE SEALED HIGH RATE BATTERIES

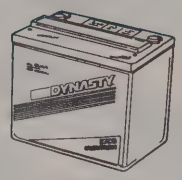
96F993	UPS12-140FR	2	12	32.0	1600	7.78 x 5.22 x 7.26	27	**101.93**	**92.55**
96F994	UPS12-170FR	4	12	50.0	2500	8.99 x 5.47 x 8.74	40	**124.41**	**112.96**
01F094	UPS12-200FR	2	12	54.0	2700	8.99 x 5.47 x 8.84	40	**128.15**	**116.36**
96F995	UPS12-270FR	2	12	75.0	3750	10.30 x 6.83 x 8.74	57	**151.96**	**137.97**
96F996	UPS12-310FR	4	12	88.0	4400	12.08 x 6.87 x 9.51	66	**149.16**	**135.43**
96F997	UPS12-370FR	2	12	100.0	5000	13.51 x 6.76 x 9.48	75	**204.76**	**185.92**
96F999	UPS6-620FR	4	6	200.0	10000	2.65 x 7.00 x 10.2	72	**207.97**	**188.83**

LARGE SEALED LONG-DURATION TELECOMMUNICATION BATTERIES

96F1000	TEL 12-30	3	12	30.0*	3810*	7.78 x 5.22 x 6.73	27	**135.86**	**123.36**
96F1003	TEL12-90	3	12	90.0*	11000*	13.51 x 6.76 x 8.51	72	**208.51**	**189.32**
96F1004	TEL12-125	3	12	125.0*	15900*	13.57 x 6.76 x 10.9	105	**362.99**	**329.59**

* Based on 8hr. discharge rate.

(6894) (de02492)



TEL12-30

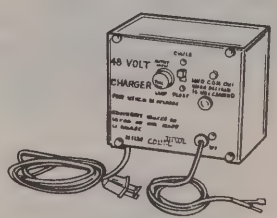
POWERSCAN® BATTERY CHARGERS

Powerscan®

Universal dual voltage chargers for use with sealed lead-acid batteries. **M** and **CDM Series** have switchable "fast" or "float" charging. In "fast" mode, fully discharged batteries recharge in 12 to 16 hours. In "float" mode, charging takes up to 36 hours. Connection reversal annunciation. All models voltage regulated except **FX-6** and **FX-12**. Short-circuit and reverse polarity protection. Operating temperature: –4° to +122°F.

Stock No.	Type	Nom. Volt.	Nominal Output	L x W x H (inches)	Wt. (lbs.)	1-9	10-24
50F3194	FX-6	6	0.5	2.25 x 2.10 x 2.00	0.88	**23.93**	**21.96**
50F7286	FX-12	12	0.5	2.25 x 2.10 x 2.00	0.88	**23.93**	**21.96**
50F3195	RR6250 CDF	6	0.25	4.00 x 2.94 x 2.00	0.9	**55.38**	**50.82**
98F2051	RR12250 CDF	12	0.25	4.00 x 2.94 x 2.00	0.9	**55.38**	**50.82**
50F3200	RR6600 M	6	0.60	6.25 x 3.75 x 2.50	1.75	**97.39**	**89.36**
99F1820	RR12350 M	12	0.35	6.25 x 3.75 x 2.50	1.75	**97.39**	**89.36**
99F1821	RR12600 M	12	0.60	6.25 x 3.75 x 2.50	1.75	**108.69**	**99.74**
98F1582	RR62000 CDM	6	2.0	7.25 x 6.38 x 2.75	3.8	**154.09**	**141.39**
50F7287	RR122000 CDM	12	2.0	7.25 x 6.38 x 2.75	3.8	**154.09**	**141.39**
98F6001	RR24250CDF	24	0.25	4.00 x 2.94 x 2.00	0.9	**60.28**	**55.31**
70B9958	RR242000CDM	24	2.0	7.25 x 6.38 x 2.75	3.8	**154.09**	**141.39**

(6895) (de02493)



RR 62000 CDM

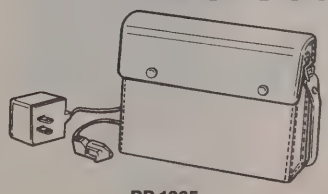
POWERSCAN® RECHARGEABLE BATTERY PACKS

Powerscan®

Self-contained packs provide power for radios, TVs, depth finders, boat lights, emergency lights, communications and test equipment. Operate by connecting appliance via standard automobile cigarette lighter appliance plug. Battery pack uses self-contained charger which plugs into standard wall outlet. Charging time for 12V pack: 16-20 hours. Operating temperature: –76° to +140°F. Includes carrying case and charger.

Stock No.	Type	Nom. Volt.	Amp-Hrs 20 hr rating	L x W x H (inches)	Wt. (lbs.)	1-4	5-9
90F5704	PP 6100	6	10.0	6.25 x 2.25 x 7.50	5.8	**66.72**	**65.41**
99F1811	PP 1265	12	6.5	8.25 x 2.88 x 6.50	7.0	**73.82**	**72.36**
99F1812	PP 12100	12	10.0	6.25 x 4.44 x 6.50	10.0	**91.74**	**89.94**
99F1822	PP 12130	12	13.0	9.13 x 3.25 x 8.75	13.0	**98.64**	**96.70**

(6896) (de02494)



PP 1265

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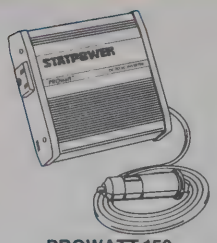
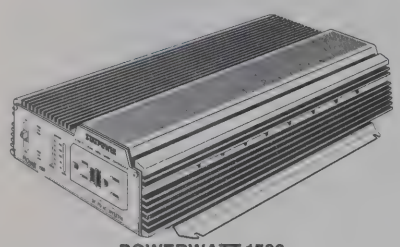
CONTACT YOUR LOCAL NEWARK SALES OFFICE.

INVERTERS AND BATTERY CHARGERS



PROWATT 150



POWERWATT 1500

DC-TO-AC POWER INVERTERS

PROWATT® series power inverters plug in for instant portable AC power to run laptops, printers, or fax machines. Convert battery power to standard AC power. Provide extra-long battery running time without recharging. Inverters can be plugged into cigarette lighter or any 12-volt battery pack for portable AC power. Compatible with AC adapter/charger found on computers. Surge to power levels far beyond their continuous ratings for short periods of time. Ideal for running loads with high start-up requirements. Internal circuits protect equipment from spikes and voltage fluctuations. Automatically shut down if overloaded or overheated. *Order inverter accessory products separately on this page.*

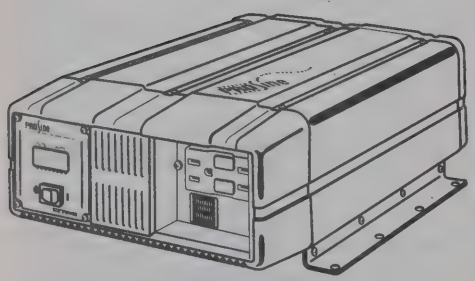
10-15VDC INPUT

Stock No.	Type	Surge	Output Power (Continuous)	L x W x H	1-4	5-9
01F268	NOTEPOWER 50	75W	50W	3.5 x 2.5 x 1.25″	41.35	38.87
01F269	NOTEPOWER 75	150W	70W	4.8 x 3.2 x 1.6″	72.40	68.06
01F270	PROWATT 150	400W	150W	4.9 x 4.5 x 1.5″	82.75	77.79
01F271	PROWATT 250	500W	225W	6 x 4.5 x 1.5″	134.50	126.43
01F272	PROWATT 800	½ hp	800W	10 x 9 x 3″	548.50	510.11
01F273	PROWATT 1500	¾ hp	1500W	16 x 6 x 3″	776.20	721.87
01F274	PROWATT 2500	1 hp	2300W	20 x 9 x 6.5″	1034.95	962.51
48F1703	PORTAWATT600	1000W	550W	11 x 6.25 x 2.5″	169.95	159.76

20-30VDC INPUT VOLTAGE

Stock No.	Type	Surge	Output Power (Continuous)	L x W x H	1-4	5-9
01F275	PROWATT 250/24	500W	225W	6 x 4.5 x 1.5″	206.95	194.54
01F276	PROWATT 800/24	½ hp	800W	10 x 9 x 3″	776.20	721.87
01F277	PROWATT 1500/24	¾ hp	1500W	16 x 6 x 3″	1066.00	991.38

(12237) (ne10325)

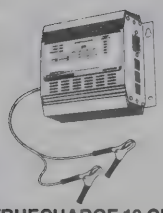


PROSINE™ INVERTERS AND INVERTER/CHARGER

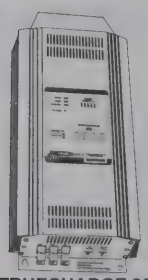
PROsine™ Inverters deliver true sine wave AC output; a clean, reliable electric power, often times better than grid power supplied by local electric companies. PROsine inverters include the following protection features: automatic overload, short circuit, over temp., reverse polarity fuses and AC backfeed and over/under voltage protection. PROsine 1000s and 1800s dimensions: 4.5H x 11.0W x 15.4″D. PROsine 2.5 dimensions: 5.5H x 15.0W x 20.0″D. Approvals: CE (230V models), CSA NRTL/C (120V models), UL458, UL1741 CSA 107.1, designed to meet KKK-A-1822D.

Stock No.	Type	Surge	Output Power	Description	1-4	5-9
83F6846	PROSINE1000W/GFCI	1300W	1000W	GFCI AC Outlet	949.95	883.46
83F6847	PROSINE1000HARDWR	1300W	1000W	AC Hard Wire	859.95	799.76
83F6848	PROSINE1000HD&SW	1300W	1000W	AC Hard Wire and Transfer Switch	909.95	846.26
83F6849	PROSINE1800W/GFCI	2300W	1800W	GFCI AC Outlet	1249.95	1162.46
83F6850	PROSINE1800HARDWR	2300W	1800W	AC Hard Wire	1249.95	1162.46
83F6851	PROSINE1800HD&SW	2300W	1800W	AC Hard Wire and Transfer Switch	1299.95	1208.96
01F285	PROSINE 2.5	4000W	2500W	True Sine Wave Inverter/Charger	2690.95	2502.59

(30872) (ne30872)



TRUECHARGE 10 CLI



TRUECHARGE 20

TRUECHARGE™ SERIES BATTERY CHARGERS

Truecharge™ series battery chargers provide a fast, accurate charge for any marine, industrial, or RV deep-cycle battery. Microprocessor-controlled to maintain correct charging voltage. Quick setup for different battery types and charging conditions. No line "buzz" common to some chargers. Built-in surge protectors keep the charger and the DC circuits safe from surges and spikes on the AC power line. **Type Truecharge 10HW** offers 10-amp continuous duty, multistage battery charging. Multistage charging (bulk charge, absorption charge, float charge) provides the fastest recharge times and properly delivers the correct current and voltage given the battery's condition. Features battery-type selector switch, dual battery charging, and battery status LED indicators. *Order* **Truecharge™ series** *accessory items below.* **Type Truecharge Temp S** temperature sensor automatically adjusts charger output according to the temperature of the battery electrolyte. **Types Truecharge 20 REM** and **Truecharge 40 REM** remote display panels feature LED voltage indicators and plug into "remote panel" jack on DC output side of **type Truecharge 20** and **type Truecharge 40** battery chargers.

BATTERY CHARGERS

Stock No.	Type	Output Current	Battery Connections	L x W x H	1-4	5-9
01F279	TRUECHARGE 10 CLI	10A	Alligator Clip Leads	7.5 x 6.75 x 2.75″	279.40	262.64
01F280	TRUECHARGE 20	20A	Triple-Output Terminals	15 x 6.75 x 2.75″	445.00	418.30
01F281	TRUECHARGE 40	40A	Triple-Output Terminals	15 x 6.75 x 2.75″	600.25	558.23
01F278	TRUECHARGE 10HW	10A	Triple-Output Terminals	9 x 6.5 x 2.75″	196.60	184.81

ACCESSORIES

Stock No.	Type	Description	1-4	5-9
01F282	TRUECHARGE TEMP S	Temperature Sensor	41.35	38.87
01F283	TRUECHARGE 20 REM	**Truecharge 20** Remote Display Panel	41.35	38.87
01F284	TRUECHARGE 40 REM	**Truecharge 40** Remote Display Panel	41.35	38.87

(12236) (ne10326)

CALCULATING WATTAGE TO DETERMINE INVERTER SIZE.

To determine the correct inverter first determine the wattage draw of the electrical product being operated. Often times the wattage draw is stamped on the back panel of the product. Otherwise calculate the wattage amount by multiplying volts by amps. Statpower has a variety of units, if you don't see what you need here; *contact your local Newark sales office.*

(30873) (ne30873)

WHAT IS A POWER INVERTER?

Inverters are electronic devices that convert battery power (12-volt DC) to standard electric power (115-volt AC). It allows you to run business and household electrical items when a conventional electrical source is not available. Statpower incorporates cutting edge technology to create an advanced line of inverters that are smaller, lighter and easier to use.

(39970) (ne39970)

INVERTERS

TYPE PV PEAK POWER FREQUENCY-CONTROLLED INVERTERS

- **Handle up to Twice Rated Load for Short Periods to Start Motors, Refrigerators, Power Tools**
- **Pulse Width Modulation Output**
- **Frequency Control Maintains a Constant 60Hz (+ or – ½ Hz)**
- **Perfect for Frequency-Sensitive Equipment: VCRs, CD and Tape Players, etc.**
- **Fuse Overload and Short-Circuit Protection**
- **Inverters Allow You to Power AC Appliances with a DC Power Source**

Inverters allow you to power AC appliances with a DC power source.

Stock No.	Type	Cont. Output	Peak Output	Typical Applications	Each
97F9168	PV400FC	400W	800W	Finishing Sander, 5″ Bench Grinder	**248.39**
96F1460	PV750FC	750W	1500W	5″ Planer, 10 Gal. Wet/Dry Shop Vac	**365.08**
13F9800	PV1200FC	1200W	2400W	Microwave, Hair Dryer, Disc Sander	**494.94**
96F1461	PV1800FC/24*	1800W	3000W	1800W, 24V Truck Applications	**675.14**

*Operates from 24VDC source.

(13238) (ne09819)

HIGH-FREQUENCY INVERTERS

- **Wave Form: Modified Sine Wave**
- **Low-Battery Alarm**
- **Low-Battery Shutdown**
- **Electronic Circuit Protection**
- **Cigarette-Lighter Plug-In Cord**
- **Illuminated On/Off Switch**
- **Metal Housing**

Type PV 140 contains one 20A fuse and AC outlet. Dimensions: 1.75H x 3W x 6″L. **Type PV 300** contains one 30A fuse, built-in high-speed cooling fan, and two AC outlets. Dimensions: 1.8H x 4.2W x 6″L.

Stock No.	Type	Cont. Output	Peak Output	Typical Applications	Each
83F2324	PV 140	140W	200W	Laptop Computers, Test Equipment,	**55.43**
83F2325	PV 300	300W	500W	Emergency Lights, Battery Chargers (**PV 300** Only)	**83.35**

(30871) (ne30871)

PV 140

PV 300

12VDC TO 117VAC INVERTERS

- **Supplies Household Current from Any 12-Volt Battery Source**
- **No Need for Noisy, Hazardous Gas-Powered Generators**
- **Use for Business Applications to Power Fax Machines, Computers, Test Equipment, Power Tools, and Rechargers of All Kinds of Battery Packs**
- **RV and Auto Users: TVs, VCRs, Video Games, Refrigerators, Microwaves, Fans, and Other Small Appliances**
- **All Solid-State for Long Life, No Moving Parts Wear Out**
- **Type PV125 Cigarette Lighter Plug-in Cord, 1 AC Outlet, 125 Watts**
- **Matches Wattage Requirements on Equipment Nameplate(s) to Size of Inverter**
- **Inverters Allow You to Power AC Appliances in Your Vehicle**

Inverters allow you to power AC appliances in your vehicle.

Stock No.	Type	Cont. Output	Peak Output	Typical Applications	Each
50F4192	PV125	125W	175W	Laptop Computer, Fax Machine, 14″ Color VGA, Battery Rechargers	**62.52**
87F5330	PV200	200W	300W	19″ Color TV, Typewriter	**86.69**
13F5000	PV400	400W	600W	25″ Color TV, VCP/VCR, ¼″ Drill	**125.03**
96F1459	PV400/24	400W	600W	24-Volt Truck Applications	**178.37**
13F5001	PV550	500W	800W	14″ Monochrome, ⅜″ Drill	**191.71**

(3862) (de51965)

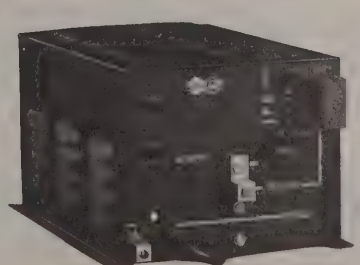
PV125

UPS INVERTERS WITH AUTO TRANSFER

APS series feature automatic switchover and charger. Automatically sense and switch AC output between AC power and DC battery power. Electronic overload shutdown and input polarity protection. Perfect for mobile lab needs where power source other than vehicle's batteries are used. Also ideal for use as a mobile power system or stationary UPS/Emergency power supply. A fully regulated battery charger is available; *contact your local Newark sales office.* Add additional batteries for virtually unlimited run times, *contact your local Newark sales office.* **APS series** can be used as a mobile battery power source. All models are peak power rated and frequency controlled.

Stock No.	Type	Outlets	Input (VDC)	Max. Output Watts (Std./Peak)	H x W x D	Weight	Each
97F9170	APS 400	2	12	400/800	7 x 7 x 10″	16 lbs.	**286.79**
97F9171	APS 750	2	12	750/1500	7 x 7 x 10″	20 lbs.	**470.83**
97F9172	APS 1250	2	12	1250/2500	6½ x 8½ x 12″	39 lbs.	**748.42**

(3917) (ne08415)



SURFACE MOUNT COIN CELL BATTERY HOLDERS

1061 1062

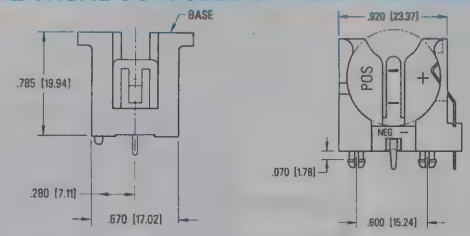
SMT single and dual holders for 20mm diameter, 3-volt lithium coin cell batteries, designed to meet the stringent needs of surface mount applications. Operating temperature range: –60°F to +540°F.

Stock No.	Type	Fits Cell Size	Cells	1-49
95F3287	1061	20mm Coin Cells	1	1.26
95F3288	1062	20mm Coin Cells	2	1.26

(6940) (de51497)

VERTICAL COIN CELL BATTERY HOLDERS

NEW



Compact Slimline

Space-saving vertical design features a rugged, lightweight structure that mounts securely on PC boards. Reliable spring tension assures low contact resistance. Install 20mm batteries from the top. **Type 1067** has molded notch to prevent insertion of 2032 size batteries. Contact material: **type 1067** is 0.012 spring steel, tin over nickel plate; **type 1065** is 0.016 spring steel, tin over nickel plate.

Stock No.	Type	Description	1-49
83F7208	1067	Compact	1.09
83F7207	1065	Slimline	1.09

(31473) (ne31473)

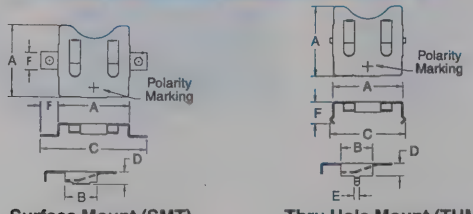
COIN CELL LITHIUM "PC" HOLDERS

Accommodate lithium coin cell batteries 12-24mm diameter, 1.6-3.2mm height, and provide long-term power for 3 volt memory backup applications. Mount directly to PC board. Made of UL approved Noryl 190, holders are impervious to most solvents. Temperature range: –50°C to +145°C.

Stock No.	Type	Fits These Batteries	Cells	1-49
16F424	103	20mm Coin Cells	1	0.94
16F425	104	23mm Coin Cells	1	0.94
46F857	105	24mm Coin Cells	1	0.94
87F3816	1025	24mm Coin Cells	2	1.03
46F858	106	20mm Coin Cells	1	0.94
87F3817	1026	20mm Coin Cells	2	1.03
46F859	107	23mm Coin Cells	1	0.94
87F3818	1027	23mm Coin Cells	2	1.03
95F3284	500	12mm Coin Cells	1	1.51
95F3285	501	12mm Coin Cells	2	1.67
95F3286	502	16mm Coin Cells	1	1.51

(6939) (de51496)

COIN CELL RETAINER CONTACTS



Surface Mount (SMT) Thru Hole Mount (THM)

3000 series contacts retain cell securely and withstand shock and vibration. Designed for quick and easy battery installation and replacement. Suitable for memory backup applications, soldering and reflow operations. Balanced and lightweight with stable thru mount legs. Solder tail design for joint strength. Polarity is clearly marked. Surface and thru hole mount retainer contacts are available for 12mm to 24mm lithium coin cell batteries.

Stock No.	Type	Dimensions (inches) A	B	C	D	E	Cell Dia.	1-49
66F5622	3000	0.520	0.281	0.770	0.118	0.125	12mm*	0.28
66F5623	3001	0.520	0.281	0.585	0.118	0.062	12mm†	0.28
66F5625	3003	0.821	0.371	0.886	0.145	0.062	20mm†	0.29
66F5627	3005	0.939	0.371	1.004	0.145	0.062	23mm†	0.30

* Surface Mount † Thru Hole Mount

(7008) (ne06494)

9-VOLT BATTERY STRAPS

2241 85-4 2238 83-4

Rigid construction. Nickel-plated, male and female contacts. Wires have tinned copper conductors, PVC insulation and are stripped for easy connections. All straps insulated except **types 72, 72-4** and **72-8**. Wire leads soldered for increased reliability.

Stock No.	Type	Material	Lead Length	Style	1-49
52F3319	235	Vinyl	4.00″	T	0.33
16F433	2238	Rigid Vinyl	4.00″	I	0.46
16F434	2239	Rigid Vinyl	6.00″	I	0.47
16F435	2240	Rigid Vinyl	8.00″	I	0.49
16F436	2241	Rigid Vinyl	4.00″	T	0.49
16F437	2242	Rigid Vinyl	6.00″	T	0.50
16F438	2243	Rigid Vinyl	8.00″	T	0.52
38F1305	68	0.062 ″Fibre	None	...	0.25
16F440	72	0.062″ Fibre	6.50″	...	0.73
16F441	72-8	0.062″ Fibre	8.00″	...	0.74
16F427	83-4	Fibre	4.00″	I	1.00
16F428	83	Fibre	6.50″	I	1.01
16F429	83-8	Fibre	8.00″	I	1.03
16F430	85-4	Fibre	4.00″	T	1.05
16F432	85-8	Fibre	8.00″	T	1.08

(7034) (ne08378)

PC BOARD 9V BATTERY SNAP-ONS

Eliminate wiring. Tin-plated steel frame; nickel-plated steel contacts.

Stock No.	Type	Contact	Mount	1-49
38F1268	635	Male	Off-board	0.25
38F1269	636	Female	Off-board	0.30
95F3282	593	Male	On-board	0.25
95F3283	594	Female	On-board	0.30

(6903) (de02986)

BATTERY SNAP-ON CLIPS

228 204, 209 202, 210

Self-anchoring clips fit over panels 0.060″ to 0.070″ thick. External solder ear simplifies soldering. Nickel-plated tempered steel spring.

Stock No.	Type	Battery Size	Height	Width	1-49
16F423	202	AAAA, AAA, N	0.358″	0.660″	0.29
95F3293	204	AAAA, AAA, N	0.312″	0.250″	0.17
95F3294	209	AA, A	0.437″	0.312″	0.17
95F3295	228	AA	0.450″	0.312″	0.13
95F3296	210	Dual AA	0.437″	0.820″	0.29

(6905) (de02988)

A, AA, AAA, & N SIZE PC BATTERY CLIPS

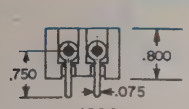
Low-profile battery clips securely hold any length batteries with diameters from: **type 82** 0.375″ (9.53) to 0.460″ (11.68) and **type 92** 0.531″ (13.49) to 0.665″ (16.89). Resistant to severe shock and vibration. Tamper-proof construction.

Stock No.	Description	1-49
95F3281	AAA, N	0.23
50F4684	AA, A	0.23

(6942) (de51499)

BATTERY HOLDERS

9V BATTERY HOLDERS



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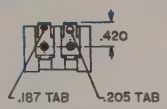

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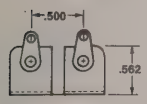

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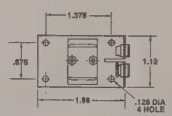
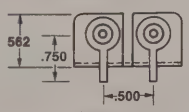




1291

Male-female snap-in tin-plated brass terminals. Nickel-plated contacts, nylon body.

UNIVERSAL

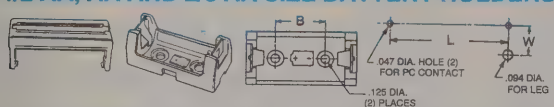
Stock No.	Type	Description	1-49
50F4687	1294	PC Terminals	1.05
50F4688	1295	Quick Disconnect Solder Lug	1.01

SNAP-IN ALUMINUM FRAME

38F1271	1290	Solder Lugs	1.61
38F1270	1291	PC Lugs	1.66

(6904) (de02987)

1/2 AA, AA AND 2/3 AA SIZE BATTERY HOLDERS



Snap-in PC contact design holds in position for wave solderability. Duplex nickel-plated PC contacts. Polarity marked for orientation.

Stock No.	Type	Fits Cell Size and Type	Mounting B	Mounting L	Mounting W	1-49
50F4685	108	1/2AA (Holder)	0.610″	1.160″	0.279″	0.80
50F4686	108C	1/2AA (Cover)	0.610″	1.160″	0.279″	0.43
95F3289	1028	AA (Holder)	1.610″	2.160″	0.279″	0.80
95F3290	1028C	AA (Cover)	1.610″	2.160″	0.279″	0.49
95F3291	1029	2/3AA (Holder)	0.950″	1.500″	0.320″	0.80
95F3292	1029C	2/3AA (Cover)	0.950″	1.500″	0.320″	0.47

(6941) (de51498)

ALUMINUM BATTERY HOLDERS

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

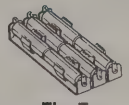


Fig. 7

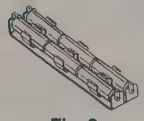


Fig. 8

Ideal for alkaline, carbon, zinc, mercury, NI-Cad and lithium cells. Tin-plated brass terminal lugs. Moisture-proof fiber insulating washers. Frame and clip 2024-ST4 aluminum, per QQ-A-362. Nickel-plated brass contact eyelets.

"AA" CELL HOLDERS

Stock No.	Type	Fits These Batteries	Fig.	1-49
35F1589	139	**Eveready** E9, EV15, EN91, CH15, E133,	1	0.96
35F1590	140	E133N, E177, 505, 523, 1015, 1215	2	1.86
35F1591	171	**Duracell** ZM9, RM12R, NC15AA, M15F,	3	2.96
35F1592	182	M15AA, TR133R, TR177, M505, MN1500,	4	4.24
35F1595	192	PC1500, **Ray-O-Vac** 5AA, 615, 815, 7AA,	6	2.87
35F1596	193	**NEDA** 15, 15A, 15C, 15D, 15F, 15M, 15NC, 221, 1101M, 1113M, 1306M, 1314M, 1606M	7	4.81

"C" CELL HOLDERS

35F1597	173	**Eveready** CH35, E93, 935, 1235, EV35,	1	1.13
35F1598	174	EN93, **Duracell** M14F, M14HD, NC14C,	2	2.00
35F1599	187	TR286, MN1400, PC1400, **Ray-O-Vac** 1C,	3	4.13
35F1602	196	614, 814, **NEDA** 14A, 14C, 14D, 14F,	6	3.23
35F1603	197	14NC, 1600M	7	5.39

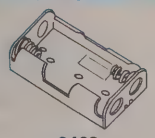
"D" CELL HOLDERS

35F1604	175		1	1.30
35F1605	176	**Eveready** CH50, E95, 950, 1250, EV50, E95,	2	2.35
35F1607	186	**Duracell** M13F, NC13D, S42, M13HD,	5	2.00
35F1606	190	TR289, MN1300, PC1300, **Ray-O-Vac** 2D,	3	5.12
35F1609	200	6D, 613, 813, **NEDA** 13A, 13C, 13D, 13F,	6	3.61
35F1610	201	13NC, 1115M, 1810M	7	5.80
35F1611	205		8	5.10

(6936) (de51493)

PLASTIC BATTERY HOLDERS

2460
2461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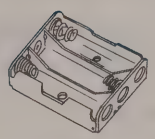
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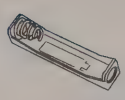
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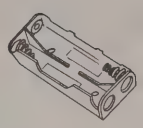
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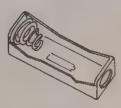
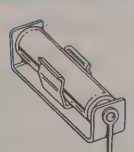

2471

Hold batteries securely in place to provide a positive connection and maintain low contact resistance. Available with PC terminals or wire leads. Choice of solder lugs or male/female snap fasteners. Contact springs self-adjust to variations in battery length. Able to withstand shock and vibration. Holder material: polypropylene. Springs: spring steel, nickel-plated. PC pins: 0.031 brass, nickel-plated.

Stock No.	Type	Description	1-49
16F1089	2460	1 AA, PC Mount	0.77
16F1090	2461	1 AA, 6″ Wire Leads	0.77
16F1091	2462	2 AA, PC Mount	0.80
16F1092	2463	2 AA, 6″ Wire Leads	0.80
16F1093	2464	3 AA, PC Mount	1.07
16F1094	2465	3 AA, 6″ Wire Leads	1.07
16F1096	2467	1 AAA, 6″ Wire Leads	0.77
16F1098	2469	2 AAA, 6″ Wire Leads	0.80
16F1100	2471	1 N, 6″ Wire Leads	0.77

(7027) (ne08205)

ALUMINUM BATTERY HOLDERS WITH PC LUGS



Eliminate extra wiring.

Stock No.	Type	Fits These Batteries	Cells	1-49
38F1306	2222	Accept AA cells.	1	1.26
38F1307	2223		2	2.00

(6937) (de51494)

NICKEL-PLATED STEEL BATTERY HOLDERS

2139

2171

2198

Corrosion-resistant holders with fully-insulated, stainless steel contacts recommended for shock or severe vibration environment. NI-cad, alkaline, mercury, carbon zinc or lithium cells held under tension to assure low contact resistance. Resin-impregnated, fiber-insulating washers are moisture proof.

"AA" CELL HOLDERS

Stock No.	Type	Fits These Batteries	Cell	1-49
35F1550	2139	**Eveready** E9, EV15, EN91, CH15, E133,	1	1.28
35F1551	2140*	E133N, E177, 505, 523, 1015, 1215,	2	2.39
35F1552	2171*	**Duracell** ZM9, RM12R, NC15AA, M15F,	3	3.56
35F1553	2182*	M15AA, TR133R, TR177, M505, MN1500, PC1500, **Ray-O-Vac** 5AA, 615, 815, 7AA, **NEDA** 15, 15A, 15C, 15D, 15F, 15M, 15NC, 221, 1101M, 1113M, 1306M, 1341M, 1606M	4	4.52

"C" CELL HOLDERS

35F1557	2173	**Eveready** CH35, E93, 935, 1235, EV35,	1	1.56
35F1558	2174*	EN93, **Duracell** M14F, M14HD, NC14C,	2	3.15
35F1563	2198†	TR286, MN1400, PC1400, **Ray-O-Vac** 1C, 614, 814, **NEDA** 14A, 14C, 14D, 14F, 14NC, 1600M	4	2.75

"D" CELL HOLDERS

35F1564	2175	**Eveready** CH35, E93, 1235, EV35,	1	1.90
35F1565	2176*	EV93, **Duracell** M13F, NC13D, S42, M13HD,	2	3.58
35F1566	2190*	TR289, MN1300, PC1300, **Ray-O-Vac** 2D,	3	5.16
35F1567	2192*	6D, 613, 814, **NEDA** 13A, 13C, 13D, 13F, 13NC, 1115M, 1801M	4	7.39

*Clips mounted on 0.062″ thick phenolic. †End-to-end model.

(6938) (de51495)

BATTERY HOLDERS AND HEAT SHRINK TUBING

SURFACE MOUNT COIN CELL BATTERY HOLDERS

SMD

2309

Surface mount single holder for 20mm diameter, 3-volt lithium coin cell batteries, designed to meet the stringent needs of surface mount applications. Operating temperature: –60°F to +540°F.

Stock No.	Type	Fits Cell Size	Cells	1-99	100-499
92N4354	2309	20mm Coin Cell	1 Cell	0.93	0.79

(16929) (ne10668)

COIN CELL LITHIUM "PC" HOLDERS

Accommodate lithium coin cell batteries 12, 20, 23, 24mm diameter, 1.6–3.2mm height, and provide long-term power for 3-volt memory backup applications. Mount directly to PC board. Made of Noryl 190, holders are impervious to most solvents. Temperature range: –50°F to +145°F.

Stock No.	Type	Fits These Batteries	Cells	1-99	100-499
92N4355	2310	20mm Coin Cells	1 Cell	0.68	0.58
92N4356	2311	23mm Coin Cell	1 Cell	0.68	0.58
92N4357	2312	24mm Coin Cell	1 Cell	0.88	0.75
92N4358	2313	12mm Coin Cell	1 Cell	1.19	1.02

(16930) (ne10669)

9-VOLT BATTERY STRAPS

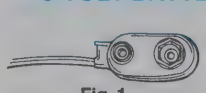


Fig. 1

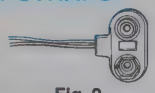


Fig. 2

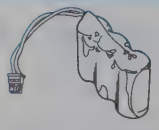
Brass contacts, nickel plated with vinyl covering. Tinned copper conductors, PVC insulation. Wire 26 AWG, 7/34.

Stock No.	Type	Fig.	Lead Length*	Each 1-499	Each 500-999
92N4381	2336	1	4.00″	0.31	0.27
16N941	8459-0673	1	4.00″	0.35	0.30
16N942	8459-0674	1	6.00″	0.36	0.31
16N943	8459-0675	1	8.00″	0.37	0.32
92N4384	2339	1	12.00″	0.39	0.33
16N944	8459-0676	2	4.00″	0.38	0.33
16N945	8459-0677	2	6.00″	0.39	0.34
16N946	8459-0678	2	8.00″	0.39	0.34

* Tolerance on lead length +/- 0.250″

(9397) (ne08375)

LAYFLAT PVC HEAT-SHRINK TUBING



Layflat PVC heat-shrink tubing is a thin-wall, low-cost material offering good electrical mechanical characteristics. When exposed to heat in excess of 275°F for a few seconds, the specially formulated polyvinyl chloride material will shrink rapidly and uniformly, conforming to the shape of the object to be covered. Available in diameters from 19mm to 72mm. Applications include: insulating and jacketing batteries, capacitors and similar objects; protective covering of precision machine parts and cutting tools; wire and cable identification; industrial equipment production, toys, sporting goods, electronics, medical and consumer products. A heat gun can be used for shrinking most applications. Shrink ratio: up to 50%. Dielectric strength (0.004) 2400 volts/mil. Operating temperature: 100°C to –20°C. Color: white. **Sold in spools of 100′.**

Stock No.	Type	Flat Width	Use on O.D. Sizes	Each
92N3687	1693	0.75″ (19)	0.437″	28.97
92N3688	1694	0.91″ (23)	0.562″	29.28
92N3689	1695	1.30″ (33)	0.750″	29.59
92N3690	1696	1.42″ (36)	0.875″	30.01
92N3691	1697	1.65″ (42)	1.000″	30.53
92N3692	1698	1.89″ (48)	1.125″	31.04
92N3693	1699	2.13″ (54)	1.250″	33.63
92N3694	1700	2.28″ (58)	1.375″	35.18
92N3695	1701	2.60″ (66)	1.500″	38.29
92N3696	1702	2.83″ (72)	1.750″	43.46

(16935) (ne10674)

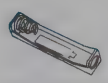
ALL PRODUCTS LISTED ARE STOCKED.

PLASTIC BATTERY HOLDERS

2322, 2323

2324, 2325

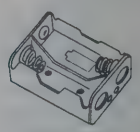
2326, 2327



2328, 2329

2330, 2331

2332, 2333



2334, 2335

Hold batteries securely in place providing a positive connection and maintaining low contact resistance. Available with PC pins or wire leads. Choice of solder lugs or male/female snap fasteners. Contact springs self-adjust to variations in battery length. Withstand shock and vibration. Holder material: polypropylene. Springs: spring steel, nickel-plated, PC pins: 0.031 brass, nickel-plated.

Stock No.	Type	Description	Each
92N4367	2322	1 AA PC Mount	0.63
92N4368	2323	1 AA, 6″ Wire Leads	0.57
92N4369	2324	2 AA PC Mount	0.68
92N4370	2325	2 AA, 6″ Wire Leads	0.66
92N4371	2326	3 AA PC Mount	0.99
92N4372	2327	3 AA, 6″ Wire Leads	0.94
92N4373	2328	1 AAA PC Mount	0.57
92N4374	2329	1 AAA, 6″ Wire Leads	0.49
92N4375	2330	2 AAA PC Mount	0.63
92N4376	2331	2 AAA, 6″ Wire Leads	0.66
92N4377	2332	1 N PC Mount	0.66
92N4378	2333	1 N, 6″ Wire Leads	0.57
92N4379	2334	2 N PC Mount	0.63
92N4380	2335	2 N, 6″ Wire Leads	0.66

(16933) (ne10672)

PLASTIC BATTERY HOLDERS

Fig. 1

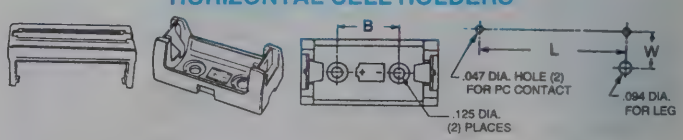
Fig. 2

Ideal for alkaline, carbon, zinc, mercury, NiCad, and lithium cells. Tin-plated brass terminal lugs. Moisture proof fiber insulating washers. Frame and clip 2024-ST4 aluminum; meets military standard QQ-A-362. Nickel-plated brass contact eyelets.

Stock No.	Type	Fits These Batteries	Fig.	1-99	100-499
"A" CELL HOLDERS					
92N4361	2316	Eveready E9, EV15, EN91, CH15, E133	1	0.68	0.58
92N4362	2317	E133N, E177, 505, 523, 1015, 1215	2	0.73	0.62
"C" CELL HOLDERS					
92N4363	2318	Eveready CH35, E93, 935, 1235, EV35, EN93	1	0.82	0.70
92N4364	2319	Duracell M14F, M14HD, NC14C	2	1.50	1.28
"D" CELL HOLDERS					
92N4365	2320	Eveready CH50, E95, 950, 1250, EV50, E95	1	0.88	0.75
92N4366	2321	Eveready CH50, E95, 950, 1250, EV50, E95	2	1.76	1.50

(16932) (ne10671)

HORIZONTAL CELL HOLDERS



Snap-in PC contact design holds in position for wave solderability. Duplex nickel-plated PC contacts. Polarity marking and orientation.

Stock No.	Type	Fits Cell Size and Style	Each
92N4385	2340	"C" Cell Fast-On Tab	2.64
92N4386	2341	2/3 A Fast-On Tab	2.02
92N4387	2342	1/2 AA Fast-On Tab	2.02

(16934) (ne10673)

9V BATTERY HOLDER

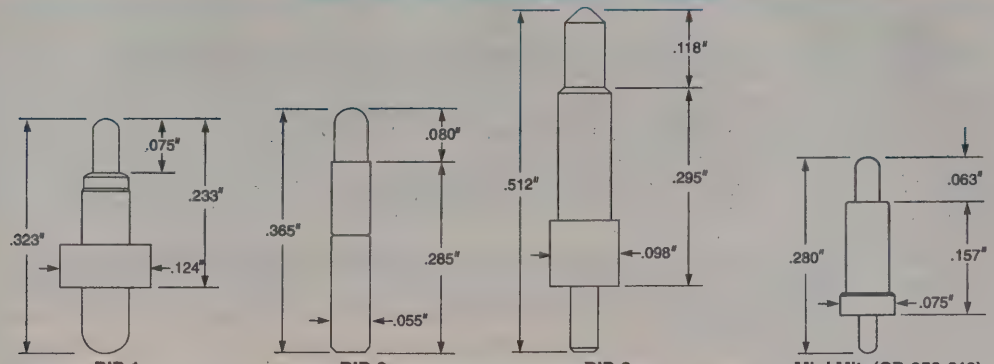
Secures all 9V type cells. Printed circuit board mounting. Holder can be mounted in any position and is designed to keep the battery in place at all times. Made of high impact, textured ABS. Accepts standard 2-56 machine screws. Color: black. Operating temperature: -40°C to 85°C.

Stock No.	Type	Description	Each
50N100	SPC5129	Printed Circuit Pins	1.29

(39871) (ne39871)

BATTERY CHARGER POGO® CONTACTS

BATTERY INTERCONNECT PROBES



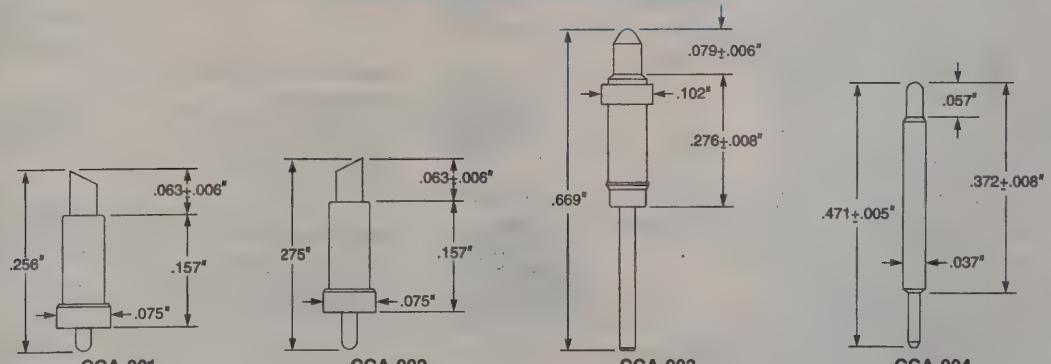
BIP-1 BIP-2 BIP-3 Mini Mite(CP-059-013)

Spring-loaded interconnect probes for use in applications such as battery charger or electronic device applications, including camcorders, circuit board-to-board docking stations, cellular and cordless phones, 2-way radios, computer docking stations, chargers, ink-jet printers, notebook and laptop computers and AC/DC power supplies. Probes offer low resistance (average 16 milliohms) and better contact than nickel-plated strip contacts, are less susceptible to damage, can accommodate up to 0.025", and have significantly longer life than conventional interconnects. Plunger finish for all battery interconnect probes is gold-plated; barrel finish: (*) Brass, (+) Nickel Silver. Spring finish: (†) Silver-plated, (‡) Music wire. Electrical: static conditions; 5 amps DC maximum. Mini-Mite high current probe, **type CP-059-013**, plunger, barrel, and spring finish are all gold-plated. Electrical: static conditions; 10 amps.

Stock No.	Type	Current Rating	Spring Force			1-9	10-24
			Rec. Travel	Pre-Load	Rec. Travel		
91F7160	BIP-1*†	5 amps	0.05	1.39	3.50	**2.24**	**2.14**
91F7161	BIP-2+†	5 amps	0.05	1.46	4.20	**1.03**	**0.99**
91F7162	BIP-3 STANDARD*†	5 amps	0.06	0.40	1.14	**2.48**	**2.37**
91F7163	BIP-3 ALTERNATE*‡	5 amps	0.06	1.00	3.00	**2.48**	**2.37**
91F7168	CP-059-013	10 amps	0.04	1.63	4.50@0.040	**4.59**	**4.39**

(17229) (ne10818)

BATTERY INTERFACE PROBES



CCA-001 CCA-002 CCA-003 CCA-004

Plunger finish, barrel finish and spring finish all gold-plated. Electrical: static conditions; continuous 5 amps.

Stock No.	Type	Current Rating	Spring Force			1-9	10-24
			Rec. Travel	Pre-Load	Rec. Travel		
91F7164	CCA-001	5 amps	0.04	0.853	3.93	**2.15**	**2.06**
91F7165	CCA-002	5 amps	0.04	0.853	3.93	**2.17**	**2.07**
91F7166	CCA-003	5 amps	0.04	1.27	2.59	**2.43**	**2.33**
91F7167	CCA-004	5 amps	0.04	0.83	2.85	**2.20**	**2.11**

(17230) (ne10819)

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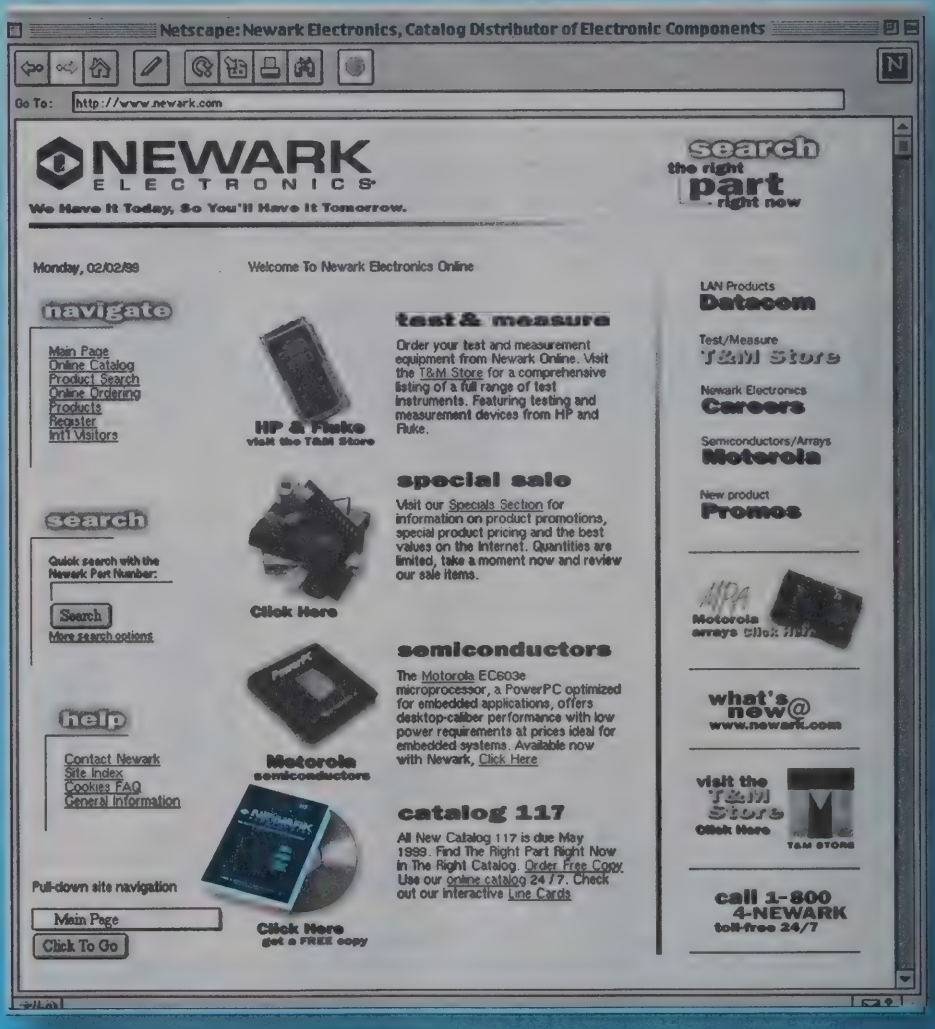
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2

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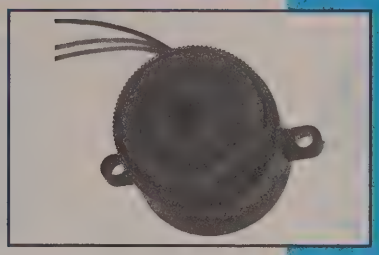

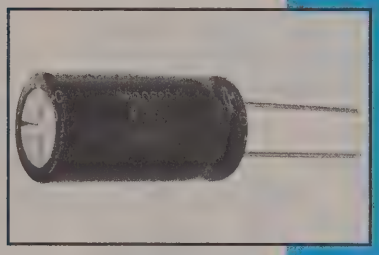

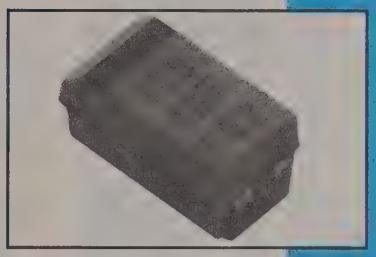

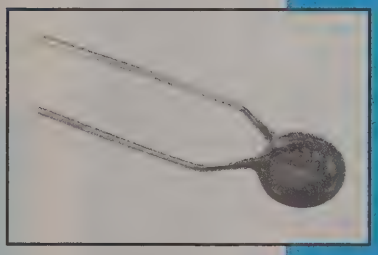

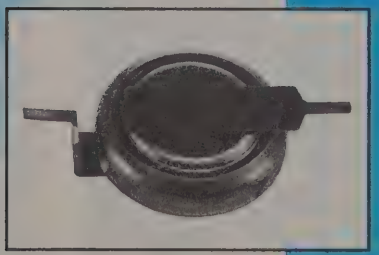

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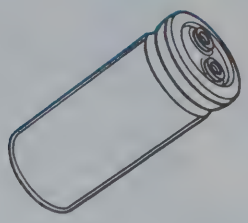
36DX SERIES POWERLYTIC® ALUMINUM ELECTROLYTIC CAPACITORS



Improved version of Sprague **36D series** with up to 50% more capacitance in a given case size. Designed for operating life in excess of ten years in standard applications. Outer plastic film insulation, low screw-insert terminals. Operating temperature: –40°C to +85°C. Pressure safety vent. Tolerance: 10 to 100WVDC: –10%, +75%; 200-450 WVDC: –10%, +50%. *Order terminal bushings separately on this page or contact your local Newark sales office.*

36DX SERIES SIZE CODE

Size Code	Dia. x L	Size Code	Dia. x L	Size Code	Dia. x L
AA	1.453 x 2.25″	BB	2.078 x 3.25″	CF	2.578 x 5.75″
AB	1.453 x 3.25″	BC	2.078 x 4.25″	DC	3.078 x 4.25″
AC	1.453 x 4.25″	BF	2.078 x 5.75″	DF	3.078 x 5.75″
AF	1.453 x 5.75″	CC	2.578 x 4.25″	DJ	3.078 x 8.75″

Stock No.	Type	Cap. µF	WV DC	Size Code	1-49	50-99
47F1970	36DX752G015AA2A	7,500	15	AA	4.77	4.15
47F1971	36DX153G015AB2A	15,000	15	AB	5.37	4.67
47F1974	36DX503G015BC2A	50,000	15	BC	9.63	8.37
47F1976	36DX833G015CC2A	83,000	15	CC	14.59	12.69
47F1981	36DX452G025AA2A	4,500	25	AA	4.97	4.32
47F1983	36DX133G025AC2A	13,000	25	AC	6.18	5.38
47F1984	36DX203G025AF2A	20,000	25	AF	6.89	5.99
47F1985	36DX303G025BC2A	30,000	25	BC	9.12	7.93
47F1987	36DX503G025CC2A	50,000	25	CC	12.36	10.75
47F2030	36DX402G030AA2A	4,000	30	AA	4.77	4.15
47F2031	36DX802G030AB2A	8,000	30	AB	5.37	4.67
47F2033	36DX183G030AF2A	18,000	30	AF	7.09	6.17
47F2034	36DX263G030BC2A	26,000	30	BC	12.95	11.26
47F2051	36DX582G040AB2A	5,800	40	AB	6.16	5.36
47F2054	36DX203G040BC2A	20,000	40	BC	10.01	8.71
47F2056	36DX343G040CC2A	34,000	40	CC	13.38	11.63
47F2057	36DX513G040CF2A	51,000	40	CF	26.44	23.00
47F2059	36DX763G040DF2A	76,000	40	DF	34.95	30.40
47F2060	36DX124G040DJ2A	120,000	40	DJ	53.96	46.93
47F2061	36DX242G050AA2A	2,400	50	AA	4.87	4.23
47F2062	36DX482G050AB2A	4,800	50	AB	5.57	4.85
47F2063	36DX722G050AC2A	7,200	50	AC	8.37	7.28
47F2065	36DX163G050BC2A	16,000	50	BC	10.03	8.73
47F2066	36DX243G050BF2A	24,000	50	BF	13.09	11.39
47F2067	36DX273G050CC2A	27,000	50	CC	19.41	16.89
47F2068	36DX403G050CF2A	40,000	50	CF	17.83	15.51
47F2069	36DX413G050DC2A	41,000	50	DC	23.50	20.45
47F2071	36DX104G050DJ2A	100,000	50	DJ	59.69	51.92
27F452	36DX142G075AA2A	1,400	75	AA	4.97	4.32
27F473	36DX282G075AB2A	2,800	75	AB	8.31	7.23
27F484	36DX422G075AC2A	4,200	75	AC	6.59	5.73
27F446	36DX103G075BC2A	10,000	75	BC	11.15	9.70
27F454	36DX153G075BF2A	15,000	75	BF	17.89	15.56
27F460	36DX173G075CC2A	17,000	75	CC	15.73	13.68
27F472	36DX253G075DC2A	25,000	75	DC	26.00	22.61
27F487	36DX373G075DF2A	37,000	75	DF	34.24	29.79
27F494	36DX603G075DJ2A	60,000	75	DJ	59.57	51.81
27F469	36DX262G100AC2A	2,600	100	AC	7.92	6.89
27F508	36DX982G100CC2A	9,800	100	CC	22.13	19.25
27F501	36DX851F200AC2A	850	200	AC	7.20	6.26
27F462	36DX202F200BC2A	2,000	200	BC	12.18	10.59
89F2138	36DX282F200BC2A	2,800	200	BC	14.69	12.78
27F477	36DX342F200CC2A	3,400	200	CC	17.63	15.33
27F493	36DX492F200CF2A	4,900	200	CF	27.72	24.11
27F503	36DX742F200DF2A	7,400	200	DF	31.31	27.23
27F447	36DX123F200DJ2A	12,000	200	DJ	64.73	56.31
27F467	36DX251F250AA2A	250	250	AA	5.45	4.74
27F488	36DX501F250AB2A	500	250	AB	6.34	5.52
27F563	36DX122F250BB2A	1,200	250	BB	12.81	11.14
27F478	36DX292F250CC2A	2,900	250	CC	24.42	21.24
27F486	36DX422F250CF2A	4,200	250	CF	31.99	27.83
27F445	36DX103F250DJ2A	10,000	250	DJ	63.26	55.02
89F2137	36DX261F350AB2A	260	350	AB	6.79	5.91
27F482	36DX381F350AC2A	380	350	AC	8.33	7.25

CONTINUED

36DX SERIES POWERLYTIC® ALUMINUM ELECTROLYTIC CAPACITORS (CONT.)

Stock No.	Type	Cap. µF	WV DC	Size Code	1-49	50-99
27F476	36DX332F350DF2A	3,300	350	DF	41.74	36.31
89F2140	36DX372F350DF2A	3,700	350	DF	44.47	38.68
27F497	36DX512F350DJ2A	5,100	350	DJ	71.12	61.86
89F2136	36DX231F450AC2A	230	450	AC	8.39	7.30
27F483	36DX381F450BB2A	380	450	BB	12.91	11.23
27F489	36DX541F450BC2A	540	450	BC	15.58	13.55
27F463	36DX202F450DF2A	2,000	450	DF	42.96	37.36
27F479	36DX312F450DJ2A	3,100	450	DJ	66.32	57.68
89F2139	36DX352F450DJ2A	3,500	450	DJ	78.41	68.20

(7094) (de03156)

36D SERIES POWERLYTIC® ALUMINUM ELECTROLYTIC CAPACITORS

Used in power supply filters and other high-energy applications. High ripple current capability and excellent load life. Low ESR, low leakage current. Have a pressure relief vent in the case cover, outer-plastic insulation and low screw inserts. Operating temperature: –40°C to +85°C. Capacitance tolerance: 10 to 100WVDC is +75%, –10%; 200 to 450 WVDC is +50%, –10%. Equivalent series resistance at 25°C: 0.012 to 2.8 ohms maximum at 120Hz, depending on capacitance and voltage. Ripple current at 85°C: 0.53 - 19.87 amps at 120Hz, depending on capacitance and voltage. Load life capability: 100 hrs. at +85°C. Operational life in excess of ten years in normal circuit conditions. *Order terminal bushings separately on this page.*

36D SERIES DIMENSIONS

Size Code	Dia. x L	Size Code	Dia. x L	Size Code	Dia. x L
AA	1.453 x 2.25″	BB	2.078 x 3.25″	CE	2.578 x 5.25″
AB	1.453 x 3.25″	BC	2.078 x 4.25″	CF	2.578 x 5.75″
AC	1.453 x 4.25″	BD	2.078 x 4.75″	DC	3.078 x 4.25″
AD	1.453 x 4.75″	CC	2.578 x 4.25″	DE	3.078 x 5.25″
AE	1.453 x 5.25″	CD	2.578 x 4.75″	DF	3.078 x 5.75″

Stock No.	Type	Cap. µF	WV DC	Size Code	1-49	50-99
27F511	36D104G015DE2A	100,000	15	DE	23.81	20.71
18F2453	36D272G025AA2A	2,700	25	AA	4.58	3.99
18F2455	36D822G025AC2A	8,200	25	AC	8.07	7.02
18F2456	36D183G025BC2A	18,000	25	BC	12.12	10.54
18F2463	36D552G040AC2A	5,500	40	AC	5.98	5.20
18F2464	36D842G040BB2A	8,400	40	BB	7.66	6.66
18F2465	36D123G040BC2A	12,000	40	BC	9.26	8.06
18F2466	36D213G040CC2A	21,000	40	CC	17.63	15.33
18F2467	36D253G040CD2A	25,000	40	CD	21.01	18.28
18F2468	36D132G050AA2A	1,300	50	AA	4.66	4.06
18F2469	36D262G050AB2A	2,600	50	AB	5.35	4.66
18F2470	36D392G050AC2A	3,900	50	AC	5.90	5.13
18F2471	36D602G050BB2A	6,000	50	BB	7.40	6.43
18F2472	36D902G050BC2A	9,000	50	BC	8.86	7.70
18F2473	36D153G050CC2A	15,000	50	CC	11.55	10.05
18F2476	36D392G075BB2A	3,900	75	BB	7.90	6.88
27F510	36D103G075CC2A	10,000	75	CC	12.16	10.58
18F2480	36D223G075DF2A	22,000	75	DF	34.24	29.79
18F2490	36D362F150CC2A	3,600	150	CC	27.60	24.00
18F2492	36D782F150DF2A	7,800	150	DF	53.57	46.60

(7096) (de03158)

TERMINAL BUSHINGS FOR POWER SUPPLY ELECTROLYTIC CAPACITORS

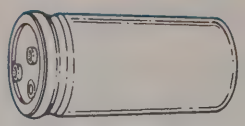
Converts low screw insert terminals to high screw insert terminals on **36D** and **36DX series** aluminum electrolytic capacitors. Aluminum construction. The additional 0.188″ (4.78) length on the terminals is often required for bus board applications. **Sold in multiples of 10.**

Stock No.	Type	1-24	25-49	50-99	100-249
81F1111	75-327	1.04	1.00	0.72	0.65

(7095) (de03157)

ALUMINUM ELECTROLYTIC CAPACITORS

36DE SERIES POWERLYTIC® ALUMINUM ELECTROLYTIC CAPACITORS



Computer designed, large, cylindrical case, low voltage aluminum capacitors. Feature a pressure relief vent in the case cover, outer plastic-film insulation and low screw inserts. Operating temperature: –40°C to +95°C. Equivalent series resistance at +25°C; 0.004 to 0.1415 ohms maximum at 120Hz; 0.0036 to 0.0646 ohms maximum at 20-40Hz depending on capacitance and voltage.

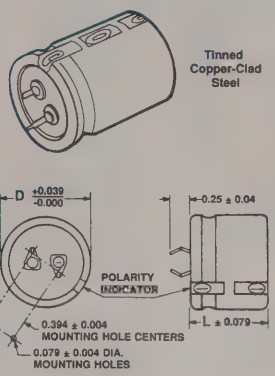
36DE SERIES SIZE CODE

Size Code	Diameter (In.)	Length (In.)	Size Code	Diameter (In.)	Length (In.)
AA	1.453 (36.91)	2.250 (57.15)	BB	2.078 (52.78)	3.250 (82.55)

Stock No.	Type	Cap. µF	WV DC	Size Code	1-49	50-99
89F2723	36DE233G010AA2A	23,000	10	AA	5.33	4.64
89F2726	36DE623G015BB2A	62,000	15	BB	13.66	11.88
89F2725	36DE403G025BB2A	40,000	25	BB	10.03	8.73
89F2724	36DE243G040BB2A	24,000	40	BB	10.07	8.76

(7101) (de03163)

80D SERIES SNAP MOUNT ALUMINUM ELECTROLYTIC CAPACITORS



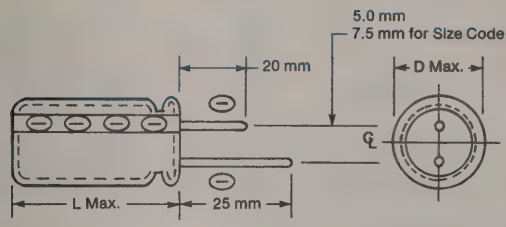
Snap-mount capacitors are suited for use as input and output filter capacitors in switching power supplies and other industrial/commercial applications. Snap-lock terminals lock into PC boards for economical solder assembly. High frequency characteristics and parametric stability thru 100kHz. Metal encased, with thermoplastic outer insulating sleeve end polymer seal. Operating temperature: –40°C to +85°C. Tolerance –10%, +30%. Life validation test: 2000 hours at +85°C.

16WVDC, 20VDC SURGE

Stock No.	Type	Cap. µF	Dia. x L	1-49	50-99	100-249	250-499
89F2787	80D103P016JC5D	10k	1.00 x 1.38″	2.65	2.47	2.30	1.79
89F2801	80D153P016JE5D	15k	1.00 x 2.00″	3.14	2.92	2.73	2.12
25WVDC, 30VDC SURGE							
44F2231	80D682P025KB5D	6800	1.18 x 1.18″	2.94	2.73	2.55	1.98
89F2785	80D103P025JE5D	10k	1.00 x 2.00″	3.16	2.94	2.74	2.14
44F2209	80D153P025KE5D	15k	1.18 x 2.00″	4.01	3.73	3.48	2.71
35WVDC, 44VDC SURGE							
89F2803	80D272P035JA5D	2700	1.00 x 1.00″	2.43	2.26	2.11	1.64
44F2217	80D332P035KA5D	3300	1.18 x 1.00″	3.52	3.27	3.05	2.38
44F2226	80D472P035KB5D	4700	1.18 x 1.18″	2.89	2.69	2.51	1.95
44F2232	80D682P035JE5D	6800	1.00 x 2.00″	3.18	2.96	2.76	2.15
44F2207	80D103P035KE5D	10k	1.18 x 2.00″	3.96	3.69	3.44	2.68
89F2795	80D103P035MC5D	10k	1.38 x 1.38″	4.30	4.00	3.73	2.90
89F2797	80D123P035KE5D	12k	1.18 x 2.00″	5.30	4.93	4.60	3.58
50WVDC, 63VDC SURGE							
89F2789	80D332P050JD5D	3300	1.00 x 1.57″	2.87	2.67	2.49	1.94
89F2804	80D332P050KB5D	3300	1.18 x 1.18″	2.96	2.76	2.57	2.00
89F2807	80D472P050JE5D	4700	1.00 x 2.00″	3.41	3.17	2.96	2.30
89F2793	80D682P050KE5D	6800	1.18 x 2.00″	4.01	3.73	3.48	2.71
63WVDC, 79VDC SURGE							
44F2213	80D222P063KB5D	2200	1.18 x 1.18″	3.85	3.58	3.34	2.60
44F2218	80D332P063MB5D	3300	1.38 x 1.18″	3.87	3.60	3.36	2.62
89F2790	80D472P063KE5D	4700	1.18 x 2.00″	4.32	4.02	3.75	2.92
80WVDC, 100VDC SURGE							
89F2792	80D392P080KE5D	3900	1.18 x 2.00″	5.30	4.93	4.60	3.58
100WVDC, 125VDC SURGE							
89F2798	80D222P100KE5D	2200	1.18 x 2.00″	5.01	4.66	4.35	3.38
200WVDC, 250VDC SURGE							
89F2800	80D151P200JA5D	150	1.00 x 1.00″	2.89	2.69	2.51	1.95
44F2210	80D221P200KA5D	220	1.18 x 1.00″	3.25	3.02	2.82	2.20
44F2221	80D471P200KD5D	470	1.18 x 1.57″	3.72	3.46	3.23	2.51
44F2222	80D471P200MB5D	470	1.38 x 1.18″	4.41	4.10	3.83	2.98
89F2794	80D561P200KE5D	560	1.18 x 2.00″	4.81	4.47	4.17	3.25
44F2233	80D821P200ME5D	820	1.38 x 2.00″	5.27	4.91	4.58	3.56
89F5824	80D102P200MD5D	1000	1.38 x 1.57″	5.56	5.18	4.83	3.76
44F2205	80D102P200ME5D	1000	1.38 x 2.00″	6.76	6.29	5.87	4.57
89F2791	80D122P200ME5D	1200	1.38 x 2.00″	6.36	5.92	5.53	4.30
250WVDC, 300VDC SURGE							
89F2806	80D101P250JA5D	100	1.00 x 1.00″	2.34	2.18	2.03	1.58
44F2211	80D221P250JD5D	220	1.00 x 1.57″	2.49	2.32	2.17	1.68
89F2805	80D331P250JE5D	330	1.00 x 2.00″	4.41	4.10	3.83	2.98
44F2229	80D681P250ME5D	680	1.38 x 2.00″	5.96	5.55	5.18	4.03

(7057) (de00770)

678D SERIES ALUMINUM ELECTROLYTIC CAPACITORS



678D series are ultra-low ESR miniature radial-leaded aluminum electrolytic capacitors that offer exceptional CV efficiency. High ripple current capability, stable performance and high reliability. Life validation test: 3000 hours at +105°C (Size code CC, CD, CG); 4000 hours at +105°C (Size code DG, DM, DS, EK, FV). PVC sleeve with resin seal. Terminal: 2 leads standard. Capacitance tolerance: ±20%. Operating temperature range: –55°C to +105°C.

DIMENSIONS

Size Code	D max. In. (mm)	L max. In. (mm)	Lead Diameter Nom.	Lead Diameter AWG
CC	0.413 (10.5)	0.630 (16.0)	0.63″	22
CD	0.413 (10.5)	0.740 (18.8)	0.63″	22
CG	0.413 (10.5)	0.906 (23.0)	0.63″	22
DG	0.512 (13.0)	0.906 (23.0)	0.81″	20
DM	0.512 (13.0)	1.161 (29.5)	0.81″	20
DS	0.512 (13.0)	1.791 (45.5)	0.81″	20
EK	0.650 (16.5)	1.098 (27.9)	0.81″	20
FV	0.728 (18.5)	1.693 (43.0)	0.81″	20

Stock No.	Type	Size Code	Cap. µF	VDC	1-49	50-99	100-249	250-499
90F7551	678D108M010DM3D	DM	1000	10	3.55	3.24	3.08	2.88
90F7553	678D227M016CC3D	CC	220	16	2.46	2.25	2.13	2.00
90F7555	678D108M016DM3D	DM	1000	16	3.55	3.24	3.08	2.88
90F7543	678D227M025CG3D	CG	220	25	2.84	2.59	2.46	2.31
90F7544	678D337M025DG3D	DG	330	25	3.06	2.79	2.65	2.48
90F7545	678D477M025DM3D	DM	470	25	3.68	3.37	3.19	2.99
90F7546	678D108M025DS3D	DS	1000	25	4.31	3.94	3.74	3.50
90F7547	678D228M025FV3D	FV	2200	25	7.69	7.03	6.67	6.25
90F7548	678D107M040CD3D	CD	100	40	2.40	2.20	2.08	1.95
90F7556	678D337M040DM3D	DM	330	40	3.16	2.89	2.75	2.57
90F7557	678D477M040EK3D	EK	470	40	4.58	4.19	3.97	3.72
90F7559	678D107M050CG3D	CG	100	50	2.73	2.50	2.37	2.22
90F7560	678D227M050DM3D	DM	220	50	3.55	3.24	3.08	2.88
90F7561	678D108M050FV3D	FV	1000	50	7.36	6.73	6.39	5.98
90F7562	678D476M063CD3D	CD	47	63	2.62	2.40	2.27	2.13
90F7564	678D227M063EK3D	EK	220	63	4.58	4.19	3.97	3.72

(7165) (de53036)

39D SERIES AXIAL LEAD COMPUTER-GRADE ALUMINUM ELECTROLYTIC CAPACITORS

Computer grade capacitors have welds at all critical anode and cathode terminals. Outer plastic-film insulation. Operating range: –20°C to +85°C.

SERIES 39D SIZE CODE (INCLUDES INSULATION)

Code	Dia. × Length	Code	Dia. × Length	Code	Dia. × Length
FL	0.687 × 2.25″	HE	0.937 × 1.25″	JP	1.062 × 2.75″
FJ	0.687 × 1.75″	HL	0.937 × 2.25″	JS	1.062 × 3.25″
GJ	0.812 × 1.75″	HP	0.937 × 2.75″	JT	1.062 × 3.75″
GL	0.812 × 2.25″	JE	1.062 × 1.25″	...	...
GP	0.812 × 2.75″	JL	1.062 × 2.25″	...	...

15 WVDC, 18 VDC SURGE

Stock No.	Type	Cap. µF	Size Code	1-49	50-99	100-249	250-499
18F2632	39D128G015FL4	1,200	FL	2.78	2.59	1.98	1.88
18F2634	39D408G015JL4	4,000	JL	4.12	3.83	2.92	2.78
18F2635	39D808G015JT4	8,000	JT	4.47	4.16	3.18	3.02

25 WVDC, 30 VDC SURGE

18F2637	39D507G025HE4	500	HE	3.07	2.86	2.18	2.08
18F2638	39D108G025GL6	1,000	GL	2.83	2.63	2.01	1.91
18F2639	39D228G025HP4	2,200	HP	3.43	3.19	2.43	2.32
18F2640	39D408G025JS4	4,000	JS	3.98	3.71	2.83	2.69
89F2754	39D478G025JT4	4,700	JT	4.19	3.89	2.97	2.83

30 WVDC, 40 VDC SURGE

18F2644	39D507G030FL4	500	FL	2.69	2.51	1.91	1.82
18F031	39D308G030JS4	3,000	JS	3.96	3.69	2.81	2.68

40 WVDC, 50 VDC SURGE

89F2755	39D507G040GJ4	500	GJ	2.83	2.63	2.01	1.91

50 WVDC, 65 VDC SURGE

18F2650	39D257G050HE4	250	HE	3.01	2.80	2.13	2.03
18F2651	39D507G050GL4	500	GL	2.94	2.73	2.09	1.98
18F2652	39D118G050HP4	1,100	HP	3.50	3.25	2.48	2.36
18F2653	39D238G050JT4	2,300	JT	4.21	3.91	2.99	2.84

75 WVDC, 95 VDC SURGE

89F2744	39D157G075FJ4	150	FJ	2.61	2.42	1.85	1.76
89F2750	39D257G075JE4	250	JE	3.34	3.11	2.37	2.26
89F2741	39D108G075JP4	1,000	JP	3.92	3.65	2.78	2.65

250 WVDC, 300 VDC SURGE

18F2660	39D506F250JE4	50	JE	3.45	3.21	2.45	2.33
18F2661	39D107F250HL4	100	HL	3.54	3.29	2.51	2.39
89F2743	39D157F250JL4	150	JL	4.12	3.83	2.92	2.78
18F2662	39D207F250JP4	200	JP	4.43	4.12	3.14	2.99
18F2663	39D307F250JT4	300	JT	5.01	4.66	3.55	3.38

450 WVDC, 525 VDC SURGE

18F2671	39D106F450FL4	10	FL	3.25	3.02	2.31	2.20
18F2672	39D206F450GL4	20	GL	3.56	3.31	2.53	2.41

(7107) (de03289)

515D SERIES RADIAL LEAD ALUMINUM ELECTROLYTIC CAPACITORS

Operating temperature: –40°C to +85°C. Capacitance tolerance: ±20%.

TYPE 515D SIZE CODE (INCLUDES INSULATION)

Code	Dia. × Length	Code	Dia. × Length	Code	Dia. × Length
AA	0.25 × 0.43″	CD	0.39 × 0.63″	EK	0.63 × 0.98″
AW	0.25 × 0.28″	CG	0.39 × 0.79″	HW	0.16 × 0.28″
BB	0.31 × 0.45″	DG	0.39 × 0.79″	JA	0.20 × 0.43″
CC	0.39 × 0.49″	DK	0.49 × 0.98″	JW	0.20 × 0.28″

10 WVDC, 13 VDC SURGE

Stock No.	Type	Cap. µF	Size Code	1-99	100-249	250-499	500-999
50F065	515D108M010CD6A	1000	CD	0.50	0.36	0.34	0.21

16 WVDC, 20 VDC SURGE

51F2922	515D476M016AW6A	47	AW	0.25	0.18	0.17	0.10
51F2914	515D227M016BB6A	220	BB	0.23	0.17	0.16	0.10
51F2917	515D477M016CC6A	470	CC	0.40	0.29	0.27	0.17
50F067	515D108M016CG6A	1000	CG	0.67	0.48	0.45	0.28

25 WVDC, 32 VDC SURGE

51F2904	515D226M025JA6A	22	JA	0.17	0.13	0.12	0.07
51F2907	515D476M025JA6A	47	JA	0.20	0.15	0.14	0.09
51F2912	515D107M025AA6A	100	AA	0.23	0.17	0.16	0.10
51F2915	515D227M025BB6A	220	BB	0.32	0.23	0.22	0.13
50F068	515D337M025CC6A	330	CC	0.40	0.29	0.27	0.17

35 WVDC, 44 VDC SURGE

51F2920	515D106M035JW6A	10	JW	0.22	0.22	0.20	0.14
50F069	515D336M035JA6A	33	JA	0.20	0.15	0.14	0.09
50F070	515D107M035BB6A	100	BB	0.29	0.21	0.19	0.12
50F071	515D227M035CC6A	220	CC	0.40	0.29	0.27	0.17

CONTINUED

515D SERIES RADIAL LEAD ALUMINUM ELECTROLYTIC CAPACITORS (CONT.)

35 WVDC, 44 VDC SURGE (CONT.)

Stock No.	Type	Cap. µF	Size Code	1-99	100-249	250-499	500-999
50F072	515D477M035CG6A	470	CG	0.67	0.48	0.45	0.28
51F2918	515D108M035DK6A	1000	DK	1.37	0.99	0.92	0.57

50 WVDC, 63 VDC SURGE

51F2898	515D105M050JA6A	1	JA	0.15	0.11	0.10	0.06
51F2902	515D106M050JA6A	10	JA	0.17	0.17	0.15	0.11
51F2905	515D226M050JA6A	22	JA	0.20	0.15	0.14	0.09
51F2908	515D476M050AA6A	47	AA	0.23	0.17	0.16	0.10
51F2913	515D107M050BB6A	100	BB	0.40	0.29	0.27	0.17
50F073	515D337M050CG6A	330	CG	0.69	0.50	0.46	0.29
50F062	515D108M050EK6A	1000	EK	1.58	1.14	1.07	0.66

63 WVDC, 79 VDC SURGE

51F2901	515D475M063JA6A	4.7	JA	0.15	0.11	0.10	0.06
51F2903	515D106M063JA6A	10	JA	0.17	0.17	0.15	0.11
51F2909	515D476M063BB6A	47	BB	0.29	0.21	0.19	0.12
50F063	515D107M063CC6A	100	CC	0.40	0.29	0.27	0.16
51F2916	515D227M063CG6A	220	CG	0.69	0.50	0.46	0.29
50F064	515D477M063DK6A	470	DK	1.31	0.95	0.88	0.54

100 WVDC, 125 VDC SURGE

51F2899	515D105M100JA6A	1	JA	0.15	0.14	0.14	0.10
51F2900	515D225M100JA6A	2.2	JA	0.15	0.11	0.10	0.06

(7106) (de03288)

516D SERIES AXIAL LEAD ALUMINUM ELECTROLYTIC CAPACITORS

Solvent resistant construction. Tolerance: ±20%. Operating temp.: –40°C to +85°C.

TYPE 516D SIZE CODE (INCLUDES INSULATION)

Code	Dia. × Length	Code	Dia. × Length	Code	Dia. × Length
JL	0.20 × 0.47″	MN	0.31 × 0.79″	PS	0.51 × 1.24″
LL	0.25 × 0.47″	NP	0.39 × 0.83″	QS	0.63 × 1.24″
LM	0.25 × 0.63″	NR	0.39 × 1.02″	...	...
MM	0.31 × 0.63″	PR	0.51 × 1.02″	...	...

6.3 WVDC

Stock No.	Type	Cap. µF	Size Code	1-99	100-249	250-499	500-999
50F6896	516D107M6R3JL6A	100	JL	0.36	0.26	0.24	0.14

10 WVDC

50F6897	516D107M010LL6A	100	LL	0.36	0.26	0.24	0.15
50F6899	516D477M010MM6A	470	MM	0.49	0.35	0.33	0.20
50F6900	516D108M010NP6A	1000	NP	0.68	0.49	0.46	0.28

16 WVDC

51F2933	516D227M016MM6A	220	MM	0.42	0.31	0.29	0.18
50F6901	516D337M016MM6A	330	MM	0.56	0.40	0.38	0.23
50F6902	516D477M016MN6A	470	MN	0.56	0.40	0.38	0.23

25 WVDC

50F6903	516D336M025JL6A	33	JL	0.36	0.26	0.24	0.15
51F2930	516D476M025LL6A	47	LL	0.36	0.26	0.24	0.15
51F2931	516D107M025LM6A	100	LM	0.42	0.31	0.29	0.18
50F6904	516D227M025MM6A	220	MM	0.49	0.35	0.33	0.20
50F6905	516D337M025MN6A	330	MN	0.57	0.41	0.38	0.24
50F6906	516D477M025NR6A	470	NR	0.80	0.58	0.54	0.33
51F2935	516D108M025PR6A	1000	PR	1.24	0.90	0.84	0.52

35 WVDC

51F2928	516D226M035JL6A	22	JL	0.36	0.25	0.24	0.15
50F6907	516D336M035LL6A	33	LL	0.36	0.26	0.24	0.15
50F6908	516D227M035MN6A	220	MN	0.57	0.41	0.38	0.24
50F6909	516D337M035NP6A	330	NP	0.68	0.49	0.46	0.28
50F6910	516D108M035PS6A	1000	PS	1.44	1.04	0.97	0.60

50 WVDC

50F6911	516D105M050JL6A	1	JL	0.29	0.21	0.20	0.12
50F6912	516D106M050JL6A	10	JL	0.36	0.26	0.24	0.15
50F6913	516D226M050LL6A	22	LL	0.36	0.26	0.24	0.15
50F6914	516D107M050MM6A	100	MM	0.56	0.40	0.38	0.23
50F053	516D227M050NP6A	220	NP	0.68	0.49	0.46	0.28
51F2934	516D477M050PR6A	470	PR	1.24	0.90	0.84	0.52
50F054	516D108M050QS6A	1000	QS	2.30	1.63	1.55	0.95

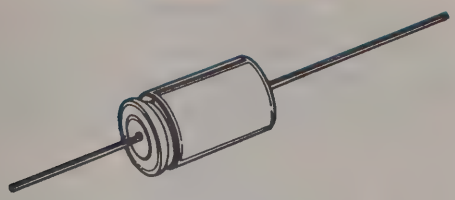
63 WVDC

50F6915	516D335M063JL6A	3.3	JL	0.29	0.20	0.20	0.12
51F2924	516D475M063JL6A	4.7	JL	0.29	0.21	0.20	0.12
51F2926	516D106M063JL6A	10	JL	0.36	0.26	0.24	0.15
50F055	516D226M063LL6A	22	LL	0.37	0.26	0.25	0.15
50F056	516D336M063LM6A	33	LM	0.42	0.31	0.29	0.18
50F057	516D476M063MM6A	47	MM	0.42	0.31	0.29	0.18
51F2932	516D107M063MN6A	100	MN	0.57	0.41	0.38	0.24
50F058	516D227M063NR6A	220	NR	0.96	0.69	0.65	0.40
50F059	516D337M063PR6A	330	PR	1.24	0.90	0.84	0.52
50F060	516D477M063PS6A	470	PS	1.63	1.17	1.10	0.67

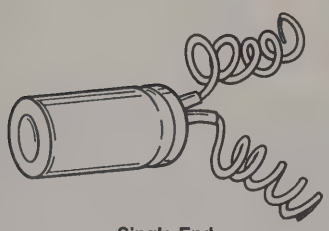
(7105) (de03287)

ALUMINUM ELECTROLYTIC CAPACITORS

TVA SERIES ATOM® ALUMINUM ELECTROLYTIC CAPACITORS



Double-End



Single-End

Standard tubular axial lead capacitors are ideal for many consumer electronics applications. Case is metal construction with thermoplastic outer sleeve. Ideal for speaker crossover networks. Capacitors rated at 100WVDC or less operate at –40° to +85°C; above 100 WVDC –20°C to +85°C. **Type TVA1720** is single-end, flexible 8″ leads. Operating temperature for 16V to 100V is –40°C to +85°C. Operating temperature for 150V to 600V is –20°C to +85°C.

DIMENSIONS

Size Code	Dia.	Length	Size Code	Dia.	Length	Size Code	Dia.	Length
BA	0.250″	0.500″	FH	0.485″	1.500″	JJ	1.000″	1.625″
BB	0.250″	0.687″	FK	0.485″	1.750″	JK	1.000″	1.875″
CB	0.312″	0.687″	GH	0.625″	1.500″	JL	1.000″	2.125″
CC	0.312″	0.812″	GK	0.625″	1.750″	JN	1.000″	2.375″
DC	0.375″	0.812″	GJ	0.750″	1.625″	JP	1.000″	2.625″
DD	0.375″	0.937″	HG	0.875″	1.375″	JR	1.000″	2.875″
DF	0.375″	1.250″	HJ	0.875″	1.625″	JW	1.000″	3.875″
DH	0.375″	1.500″	HK	0.875″	1.875″	KP	1.125″	2.625″
EF	0.438″	1.250″	HL	0.875″	2.125″	LS	1.250″	3.125″
EH	0.438″	1.500″	JB	1.000″	3.375″	MT	1.375″	3.625″

16 WVDC

Stock No.	Type	Cap. µF	Size Code	1-49	50-99	100-249	250-499
18F964	TVA1160	100	CB	2.56	2.35	2.23	2.09
18F965	TVA1161	250	DC	2.78	2.54	2.41	2.26
18F966	TVA1162	500	DD	2.95	2.70	2.56	2.40
18F228	TVA1163	1000	DH	3.33	3.04	2.89	2.71
18F2132	TVA1170	2000	FK	4.96	4.54	4.31	4.03

25 WVDC

Stock No.	Type	Cap. µF	Size Code	1-49	50-99	100-249	250-499
18F154	TVA1204	10	BA	2.51	2.30	2.18	2.04
18F2133	TVA1204.5	20	BA	2.51	2.30	2.18	2.04
18F155	TVA1205	25	BA	2.51	2.30	2.18	2.04
18F156	TVA1206	50	BB	2.51	2.30	2.18	2.04
18F157	TVA1207	100	CC	2.56	2.35	2.23	2.09
18F2905	TVA1207.5	150	DC	2.78	2.54	2.41	2.26
18F969	TVA1208	250	DD	2.95	2.70	2.56	2.40
18F159	TVA1209	500	EF	3.82	3.49	3.31	3.10
18F2134	TVA1211	1000	FH	4.42	4.04	3.83	3.59
90F1430	TVA1213	2000	GK	6.05	5.54	5.25	4.92

50 WVDC

Stock No.	Type	Cap. µF	Size Code	1-49	50-99	100-249	250-499
18F970	TVA1300	1	BA	2.51	2.30	2.18	2.04
18F971	TVA1301	2	BA	2.51	2.30	2.18	2.04
18F972	TVA1303	5	BA	2.51	2.30	2.18	2.04
18F163	TVA1304	10	BA	2.51	2.30	2.18	2.04
89F611	TVAN1304.1	10	CB	3.22	2.94	2.79	2.62
18F2136	TVA1305	15	BB	2.51	2.30	2.18	2.04
18F973	TVA1305.5	20	BB	2.51	2.30	2.18	2.04
18F164	TVA1306	25	BB	2.51	2.30	2.18	2.04
18F165	TVA1308	50	CC	2.56	2.35	2.23	2.09
18F166	TVA1310	100	DC	2.78	2.54	2.41	2.26
18F974	TVA1311	150	DD	2.95	2.70	2.56	2.40
90F1426	TVA1311.5	200	DF	3.11	2.84	2.70	2.53
18F229	TVA1312	250	DH	3.33	3.04	2.89	2.71
18F975	TVA1315	500	FH	4.42	4.04	3.83	3.59
18F2966	TVA1316	1000	GK	6.05	5.54	5.25	4.92
18F2967	TVA1318	1500	HL	8.50	7.78	7.38	6.91
89F609	TVA1318.2	2000	KL	10.58	9.67	9.17	8.60
90F1433	TVA1318.3	2500	KP	11.17	10.22	9.69	9.09

100 WVDC

Stock No.	Type	Cap. µF	Size Code	1-49	50-99	100-249	250-499
90F1428	TVA1346	100	EH	4.15	3.79	3.60	3.37

CONTINUED

TVA SERIES ATOM® ALUMINUM ELECTROLYTIC CAPACITORS (CONT.)

150 WVDC

Stock No.	Type	Cap. µF	Size Code	1-49	50-99	100-249	250-499
18F2137	TVA1400	1	BA	2.51	2.30	2.18	2.04
18F976	TVA1402	4	CC	2.56	2.35	2.23	2.09
18F977	TVA1403	5	CC	2.56	2.35	2.23	2.09
18F978	TVA1405	8	DC	2.78	2.54	2.41	2.26
18F222	TVA1406	10	DC	2.78	2.54	2.41	2.26
18F175	TVA1410	20	DF	3.11	2.84	2.70	2.53
18F981	TVA1411	25	DF	3.11	2.84	2.70	2.53
18F167	TVA1412	30	EF	3.82	3.49	3.31	3.10
18F176	TVA1413	40	EH	4.15	3.79	3.60	3.37
18F230	TVA1414	50	EH	4.15	3.79	3.60	3.37
18F168	TVA1418	80	GK	6.05	5.54	5.25	4.92
18F231	TVA1420	100	GK	6.05	5.54	5.25	4.92
18F982	TVA1423	200	JL	9.05	8.28	7.85	7.36
18F983	TVA1425	300	KP	10.79	9.87	9.36	8.77

250 WVDC

Stock No.	Type	Cap. µF	Size Code	1-49	50-99	100-249	250-499
18F986	TVA1501	4	DC	2.78	2.54	2.41	2.26
18F987	TVA1503	8	DF	3.11	2.84	2.70	2.53
18F232	TVA1504	10	DF	3.11	2.84	2.70	2.53
18F988	TVA1505	12	EF	3.82	3.49	3.31	3.10
90F1427	TVA1508	20	EH	4.15	3.79	3.60	3.37
18F990	TVA1510	30	GH	5.51	5.04	4.78	4.48
18F234	TVA1511	40	GK	6.05	5.54	5.25	4.92
18F991	TVA1512	50	HG	7.91	7.23	6.86	6.43
18F2139	TVA1522	100	JK	9.27	8.48	8.04	7.53

350 WVDC

Stock No.	Type	Cap. µF	Size Code	1-49	50-99	100-249	250-499
18F994	TVA1601	4	DF	3.11	2.84	2.70	2.53
18F995	TVA1603	8	EH	4.15	3.79	3.60	3.37
18F996	TVA1604	10	EH	4.15	3.79	3.60	3.37
18F998	TVA1607	16	FK	4.96	4.54	4.31	4.03
18F999	TVA1608	20	GK	6.05	5.54	5.25	4.92
18F1531	TVA1613	60	HL	8.83	8.08	7.66	7.18
18F2144	TVA1620	100	JP	11.99	10.97	10.40	9.75

450 WVDC

Stock No.	Type	Cap. µF	Size Code	1-49	50-99	100-249	250-499
18F1533	TVA1700	1	DC	2.78	2.54	2.41	2.26
18F1534	TVA1701	2	DF	3.11	2.84	2.70	2.53
18F1535	TVA1702	4	EH	4.15	3.79	3.60	3.37
18F2146	TVA1703	5	EH	4.15	3.79	3.60	3.37
18F225	TVA1704	8	FK	4.96	4.54	4.31	4.03
18F169	TVA1705	10	GK	6.05	5.54	5.25	4.92
18F1536	TVA1706	12	GK	6.05	5.54	5.25	4.92
18F170	TVA1709	20	HJ	8.01	7.33	6.95	6.52
18F171	TVA1711	30	HK	10.08	9.22	8.75	8.20
18F172	TVA1712	40	HL	9.21	8.43	7.99	7.49
18F235	TVA1716	80	JP	11.94	10.92	10.36	9.71
18F1537	TVA1718	100	LS	15.42	14.11	13.38	12.54
18F2912	TVA1720	200	MD	23.71	21.68	20.57	19.27

500 WVDC

Stock No.	Type	Cap. µF	Size Code	1-49	50-99	100-249	250-499
18F238	TVA1906	20	HL	8.56	7.83	7.42	6.96
90F1429	TVA1907	30	JJ	9.32	8.53	8.09	7.58
18F2147	TVA1908	40	JN	10.79	9.87	9.36	8.77

600 WVDC

Stock No.	Type	Cap. µF	Size Code	1-49	50-99	100-249	250-499
18F241	TVA1963	10	JR	26.49	24.22	22.98	21.53
18F243	TVA1966	20	JW	19.51	17.84	16.93	15.86

(7092) (de02855)

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1-800-4-NEWARK
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TE SERIES ALUMINUM ELECTROLYTIC CAPACITORS

Exact replacement of **type 30D.** Metal-encased, plastic outer insulating sleeve. Axial lead. Operating temperature range: –40° to +105°C. Terminal connections are welded. Tolerance: 100V to 150WVDC: +50%, –10%, 6V to 50V: +75%, –10%.

CASE DIMENSIONS

Code	Dia. x L	Code	Dia. x L	Code	Dia. x L
BA	0.260 x 0.536″	CC	0.322 x 0.848″	DD	0.385 x 0.973″
BB	0.260 x 0.723″	...	...	DF	0.385 x 1.286″
CB	0.322 x 0.723″	DC	0.385 x 0.848″	DH	0.385 x 1.536″

Stock No.	Type	Cap. µF	WV DC	Size Code	1-49	50-99	100-249	250-499
18F811	TE1104	200	6	DC	2.78	2.54	2.41	2.26
18F829	TE1135	100	12	CC	2.56	2.35	2.23	2.09
18F521	TE1155	10	16	BA	2.51	2.30	2.18	2.04
18F522	TE1157	20	16	BB	2.51	2.30	2.18	2.04
18F842	TE1160	50	16	CB	2.56	2.35	2.23	2.09
18F844	TE1162	100	16	DC	2.78	2.54	2.41	2.26
18F845	TE1163	150	16	DD	2.95	2.70	2.56	2.40
18F846	TE1164	200	16	DF	3.11	2.84	2.70	2.53
17F1906	TE1164.5	250	16	DF	3.11	2.84	2.70	2.53
18F020	TE1166	350	16	DH	3.33	3.04	2.89	2.71
18F524	TE1202	5	25	BA	2.51	2.30	2.18	2.04
18F526	TE1204	10	25	BB	2.51	2.30	2.18	2.04
18F527	TE1205	15	25	BB	2.51	2.30	2.18	2.04
17F1907	TE1206	20	25	CB	2.56	2.35	2.23	2.09
18F852	TE1207	25	25	CB	2.56	2.35	2.23	2.09
18F854	TE1209	50	25	CC	2.56	2.35	2.23	2.09
18F855	TE1210	75	25	DC	2.78	2.54	2.41	2.26
18F856	TE1211	100	25	DD	2.95	2.70	2.56	2.40
18F022	TE1212	150	25	DF	3.11	2.84	2.70	2.53
18F023	TE1213	200	25	DH	3.33	3.04	2.89	2.71
18F857	TE1300	1	50	BA	2.51	2.30	2.18	2.04
18F858	TE1301	2	50	BA	2.51	2.30	2.18	2.04
18F859	TE1302	3	50	BA	2.51	2.30	2.18	2.04
18F860	TE1302.1	4	50	BA	2.51	2.30	2.18	2.04
18F529	TE1303	5	50	BB	2.51	2.30	2.18	2.04
18F862	TE1303.3	8	50	BB	2.51	2.30	2.18	2.04
18F530	TE1304	10	50	CB	2.56	2.35	2.23	2.09
18F863	TE1304.2	15	50	CB	2.56	2.35	2.23	2.09
18F531	TE1305	20	50	CC	2.56	2.35	2.23	2.09
18F024	TE1305.5	25	50	CC	2.56	2.35	2.23	2.09
18F864	TE1306	35	50	DC	2.78	2.54	2.41	2.26
18F865	TE1307	50	50	DD	2.95	2.70	2.56	2.40
18F025	TE1308	75	50	DF	3.11	2.84	2.70	2.53
18F026	TE1309	100	50	DH	3.33	3.04	2.89	2.71
18F866	TE1400	1	100	BA	2.51	2.30	2.18	2.04
18F867	TE1401	2	100	BB	2.51	2.30	2.18	2.04
18F868	TE1402	3	100	CB	2.56	2.35	2.23	2.09
18F870	TE1404	5	100	CC	2.56	2.35	2.23	2.09
18F873	TE1407	10	100	DC	2.78	2.54	2.41	2.26
18F874	TE1408	15	100	DD	2.95	2.70	2.56	2.40
18F875	TE1409	20	100	DF	3.11	2.84	2.70	2.53
18F027	TE1410	25	100	DH	3.33	3.04	2.89	2.71
18F028	TE1411	30	100	DH	3.33	3.04	2.89	2.71
18F876	TE1500	1	150	BA	2.51	2.30	2.18	2.04
18F877	TE1501	2	150	BB	2.51	2.30	2.18	2.04
18F879	TE1503	4	150	CC	2.56	2.35	2.23	2.09
18F880	TE1504	5	150	CC	2.56	2.35	2.23	2.09
18F882	TE1506	8	150	DC	2.78	2.54	2.41	2.26
18F883	TE1507	10	150	DD	2.95	2.70	2.56	2.40
18F2936	TE1508.1	15	150	DF	3.11	2.84	2.70	2.53
18F030	TE1509	20	150	DH	3.33	3.04	2.89	2.71

(7063) (de00834)

53D SERIES POWERLYTIC® ALUMINUM ELECTROLYTIC CAPACITORS

Aluminum electrolytic capacitors recommended for new equipment designs. Replace **series 39D.** Feature tinned copper leads and maximum volumetric efficiency. Service life ten years or more in normal circuit applications. PVC sleeve. Operating temperature range: –40°C to +85°C. Capacitance tolerance:16 to 63WVDC, –10%, +75%; 200 and 400WVDC, –10%,+50%.

CASE DIMENSIONS

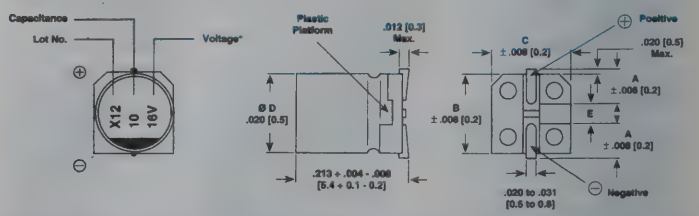
Code	Dia.	L	Code	Dia.	L
GE	0.760″	1.141″	JL	1.010″	2.141″
GJ	0.760″	1.641″	JP	1.010″	2.641″
HJ	0.885″	1.641″	JS	1.010″	3.141″
HL	0.885″	2.141″	KT	1.135″	3.641″

Stock No.	Type	Cap. µF	WV DC	Case Code	1-49	50-99	100-249	250-499
44F2343	53D462G016GJ6	4,600	16	GJ	3.61	3.35	2.56	2.44
44F2321	53D103G016HL6	10,000	16	HL	3.96	3.69	2.81	2.68
44F2335	53D282G025GJ6	2,800	25	GJ	3.16	2.94	2.24	2.14
44F2341	53D432G025HJ6	4,300	25	HJ	3.69	3.44	2.62	2.50
44F2349	53D622G025HL6	6,200	25	HL	4.41	4.10	3.13	2.98
44F2326	53D113G025JP6	11,000	25	JP	5.36	4.99	3.81	3.62
44F2330	53D212G035GJ6	2,100	35	GJ	3.41	3.17	2.42	2.30
44F2345	53D472G035HL6	4,700	35	HL	4.07	3.79	2.89	2.75
89F2739	53D832G035JP6	8,300	35	JP	5.67	5.28	4.03	3.83
89F2729	53D102G050GE6	1,000	50	GE	2.96	2.76	2.10	2.00
89F2735	53D192G050HJ6	1,900	50	HJ	3.78	3.52	2.69	2.56
44F2336	53D282G050HL6	2,800	50	HL	3.90	3.62	2.77	2.63
44F2348	53D502G050JP6	5,000	50	JP	4.90	4.56	3.48	3.31
44F2320	53D102G063GJ6	1,000	63	GJ	3.29	3.07	2.34	2.23
44F2332	53D222G063HL6	2,200	63	HL	4.12	3.83	2.92	2.78
44F2340	53D402G063JP6	4,000	63	JP	5.92	5.51	4.20	4.00
44F2338	53D351F200JL6	350	200	JL	4.56	4.25	3.24	3.08
44F2342	53D461F200JP6	460	200	JP	5.34	4.97	3.79	3.61
89F2728	53D101F400JL6	100	400	JL	5.23	4.87	3.71	3.53
89F2734	53D151F400JS6	150	400	JS	5.90	5.49	4.19	3.98
44F2344	53D470F400HJ6	47	400	HJ	3.90	3.62	2.77	2.63

(7100) (de03162)

518D SERIES ALUMINUM ELECTROLYTIC CHIP CAPACITORS

SMD



518D series capacitors are ideal for surface mounting on high-density PC boards. Chip-type capacitors have 0.217″ (5.5mm) height and are applicable to automatic insertion machine using carrier tape. Operating temperature: –40°C to +85°C. Load life of 2000 hours at +85°C.

DIMENSIONS IN INCHES (mm)

Ø D	A	B	C	E
0.157 (4.0)	0.071 (1.8)	0.169 (4.3)	0.169 (4.3)	0.039 (1.0)
0.197 (5.0)	0.083 (2.1)	0.209 (5.3)	0.209 (5.3)	0.051 (1.3)
0.248 (6.3)	0.094 (2.4)	0.260 (6.6)	0.260 (6.6)	0.087 (2.2)

Sold individually. Also available in full reel quantities; *contact your local Newark sales office.*

Stock No.	Type	Cap. µF	Rated Voltage	1-499	500-999	1000-2999	3000-9999
66F4264	518D107M6R3AX7S	100.0	6.3	0.61	0.37	0.28	0.27
66F4262	518D476M010AX7S	47.0	10	0.61	0.37	0.28	0.27
66F4254	518D106M016HX7S	10.0	16	0.52	0.31	0.24	0.23
66F4263	518D476M016AX7S	47.0	16	0.61	0.37	0.28	0.27
66F4265	518D107M016AX7S	100.0	16	0.61	0.37	0.28	0.27
66F4252	518D475M025HX7S	4.7	25	0.52	0.31	0.24	0.23
66F4260	518D336M025AX7S	33.0	25	0.61	0.37	0.28	0.27
66F4253	518D475M035HX7S	4.7	35	0.52	0.31	0.24	0.23
66F4250	518D105M050HX7S	1.0	50	0.52	0.31	0.24	0.23
66F4251	518D225M050HX7S	2.2	50	0.52	0.31	0.24	0.23

(7204) (ne06402)

AT NEWARK, THERE'S ALWAYS MORE THAN MEETS THE EYE!
CONTACT US FOR PRODUCTS NOT LISTED IN THIS CATALOG.

173D SERIES TANTALUM CAPACITORS

Solid tantalum capacitors are designed for auto, industrial and consumer electronic equipment. Made of precision-molded thermosetting flame-retardant epoxy resin. Supplied lead taped. Operating temperature: –55° to +85°C. Capacitance tolerance: ±10%. Leakage current: Type suffix **U**, 0.5µA; type suffix **V**, 0.7 to 1µA; type suffix **W**, 1.4 to 2µA; type suffix **X**, 2.4 to 5µA. Dissipation factor: (A+ 25°C) 6 through 20 WVDC capacitors, 4 to 6%; 25 through 50 WVDC capacitors, 3 to 4%.

6WVDC, 8VDC SURGE

Stock No.	Type	Cap. µF	Dia. x Length	1-24	25-49	50-99
81F1805	173D686X9006X	68	0.180 x 0.420″	0.81	0.77	0.72

10WVDC, 13VDC SURGE

81F1807	173D106X9010V	10	0.110 x 0.290″	0.39	0.37	0.35
81F1808	173D226X9010W	22	0.180 x 0.345″	0.68	0.65	0.60
81F1809	173D476X9010X	47	0.180 x 0.420″	0.81	0.77	0.72

15WVDC, 20VDC SURGE

81F1810	173D225X9015U	2.2	0.095 x 0.260″	0.38	0.36	0.33
81F1811	173D685X9015V	6.8	0.110 x 0.290″	0.41	0.39	0.36
81F1814	173D336X9015X	33	0.180 x 0.420″	0.81	0.77	0.72

20WVDC, 25VDC SURGE

81F1816	173D475X9020V	4.7	0.110 x 0.290″	0.41	0.39	0.36
81F1818	173D226X9020X	22	0.180 x 0.420″	0.81	0.77	0.72

CONTINUED

173D SERIES TANTÁLUM CAPACITORS (CONT.)

25WVDC, 32VDC SURGE

Stock No.	Type	Cap. µF	Dia. x Length	1-24	25-49	50-99
81F1820	173D105X9025U	1.0	0.095 x 0.260″	0.38	0.36	0.33
81F1821	173D225X9025V	2.2	0.110 x 0.290″	0.41	0.39	0.36
81F1822	173D335X9025V	3.3	0.110 x 0.290″	0.41	0.39	0.36
81F1823	173D685X9025W	6.8	0.180 x 0.345″	0.68	0.65	0.60
81F1824	173D106X9025W	10	0.180 x 0.345″	0.68	0.65	0.60
81F1826	173D156X9025X	15	0.180 x 0.420″	0.81	0.77	0.72

35WVDC, 46VDC SURGE

81F1827	173D104X9035U	0.10	0.095 x 0.260″	0.38	0.36	0.33
81F1830	173D334X9035U	0.33	0.095 x 0.260″	0.38	0.36	0.33
81F1831	173D474X9035U	0.47	0.095 x 0.260″	0.38	0.36	0.33
81F1833	173D105X9035V	1.0	0.110 x 0.290″	0.39	0.37	0.35
81F5408	173D225X9035W	2.2	0.180 x 0.345″	0.68	0.65	0.60
81F1835	173D475X9035W	4.7	0.180 x 0.345″	0.68	0.65	0.60
81F1836	173D685X9035X	6.8	0.180 x 0.420″	0.76	0.72	0.67
81F1838	173D106X9035X	10	0.180 x 0.420″	0.81	0.77	0.72

50WVDC, 65VDC SURGE

81F1839	173D104X9050U	0.10	0.095 x 0.260″	0.44	0.42	0.39
81F1845	173D105X9050V	1.0	0.110 x 0.290″	0.52	0.49	0.46
81F1847	173D225X9050W	2.2	0.180 x 0.345″	0.78	0.74	0.68
81F1849	173D475X9050X	4.7	0.180 x 0.420″	0.87	0.82	0.76

(7056) (de00769)

94SM SERIES OS-CON® SURFACE MOUNT SOLID ALUMINUM CAPACITORS

94SM series OS-CON® organic semiconductor electrolyte capacitors can be soldered by reflow and mounted by carrier taping. Ideal for use in products such as switching power supplies, VCRs, and other products in which surface mount designs are necessary. **Sold in bags of 50, reels of 200, and 13″ reels.**

CASE DIMENSIONS

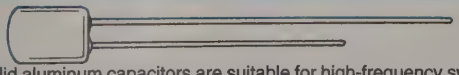
Case Code	13″ Reel Quantity	Length	Width	Height	Lead Spacing	Case Code	13″ Reel Quantity	Length	Width	Height	Lead Spacing
A	1500	0.287″ (7.3)	0.181″ (4.6)	0.181″ (4.6)	0.142″ (3.6)	D	1000	0.472″ (12.0)	0.276″ (7.0)	0.276″ (7.0)	0.217″ (5.5)
B	1300	0.287″ (7.3)	0.220″ (5.6)	0.220″ (5.6)	0.173″ (4.4)	E	500	0.512″ (13.0)	0.346″ (8.8)	0.346″ (8.8)	0.276″ (7.0)
C	1000	0.354″ (9.0)	0.276″ (7.0)	0.276″ (7.0)	0.217″ (5.5)	...	...	...	...	...	...

Cap. µF	WV DC	Case Code	Bag of 50				Reel of 200*				13″ Reel			
			Stock No.	Type	1-4	5-9	Stock No.	Type	1-2	3-4	Stock No.	Type	1-4	5-9
33	6.3	C	16F9578	94SM336X06R3CB	124.10	115.08	16F9551	94SM336X06R3CM	463.17	407.59	16F3750	94SM336X06R3C	1713.50	1127.39
4.7	10	A	16F9565	94SM475X0010AB	75.15	69.68	16F9538	94SM475X0010AM	279.45	245.92	16F3743	94SM475X0010A	1447.09	953.52
10	10	B	16F9571	94SM106X0010BB	88.81	82.35	16F9544	94SM106X0010BM	327.32	288.04	16F3746	94SM106X0010B	1467.19	966.03
22	10	C	16F9577	94SM226X0010CB	124.10	115.08	16F9550	94SM226X0010CM	463.17	407.59	16F3749	94SM226X0010C	1592.40	1047.65
47	10	D	16F9583	94SM476X0010DB	175.33	162.58	16F9556	94SM476X0010DM	654.64	576.09	16F3753	94SM476X0010D	2242.68	1476.23
100	10	E	16F9587	94SM107X0010EB	291.46	270.26	16F9560	94SM107X0010EM	539.50	474.76	16F3756	94SM107X0010E	2177.90	1659.52
4.7	16	B	16F9569	94SM475X0016BB	88.81	82.35	16F9542	94SM475X0016BM	327.32	288.04	16F3745	94SM475X0016B	1364.87	898.37
1.0	20	A	16F9562	94SM105X0020AB	75.15	69.68	16F9535	94SM105X0020AM	279.45	245.92	16F3742	94SM105X0020A	1320.54	868.80
2.2	20	B	16F9567	94SM225X0020BB	88.81	82.35	16F9540	94SM225X0020BM	327.32	288.04	16F3744	94SM225X0020B	1467.19	966.03
4.7	20	C	16F9573	94SM475X0020CB	124.10	115.08	16F9546	94SM475X0020CM	463.17	407.59	16F3747	94SM475X0020C	1386.54	912.54
10	20	C	16F9575	94SM106X0020CB	124.10	115.08	16F9548	94SM106X0020CM	463.17	407.59	16F3748	94SM106X0020C	1671.12	1099.70
22	20	D	16F9581	94SM226X0020DB	175.33	162.58	16F9554	94SM226X0020DM	654.64	576.09	16F3751	94SM226X0020D	2119.17	1395.39
33	20	D	16F9582	94SM336X0020DB	175.33	162.58	16F9555	94SM336X0020DM	654.64	576.09	16F3752	94SM336X0020D	2651.98	1745.35
47	20	E	16F9585	94SM476X0020EB	291.46	270.26	16F9558	94SM476X0020EM	539.50	474.76	16F3754	94SM476X0020E	2177.90	1659.52
68	20	E	16F9586	94SM686X0020EB	291.46	270.26	16F9559	94SM686X0020EM	539.50	474.76	16F3755	94SM686X0020E	2374.07	1809.02

*Case code E is a reel of 100 pieces.

(16940) (ne08784)

OS-CON® TYPE 94 SOLID ALUMINUM CAPACITORS



Type 94SA solid aluminum capacitors are suitable for high-frequency switching power supplies. **Type 94SC** capacitors can be used in bypass and filtering application and switching power supplies. **Type 94SL** capacitors are ideal for use in VCRs, car stereos, and other products in which a compact design is important.

TYPE 94SA

Stock No.	Type	Cap. µF	Volts (V)	Dia. x L (in.)	1-49	50-99	100-249	250-499
16F3766	94SA337X06R3FBP	330.0	6.3	0.394 x 0.413	2.17	1.99	1.88	1.75
16F3765	94SA227X0010FBP	220.0	10.0	0.394 x 0.413	2.03	1.85	1.76	1.63
16F3758	94SA226X0016CBP	22.0	16.0	0.248 x 0.268	0.78	0.71	0.68	0.62
16F3759	94SA336X0016CBP	33.0	16.0	0.248 x 0.268	0.85	0.78	0.74	0.69
16F3760	94SA476X0016DBP	47.0	16.0	0.248 x 0.386	1.06	0.97	0.92	0.85
16F3763	94SA107X0016EBP	100.0	16.0	0.315 x 0.413	1.64	1.50	1.42	1.32
16F3757	94SA156X0020CBP	15.0	20.0	0.248 x 0.268	0.78	0.71	0.68	0.62
16F3761	94SA476X0020EBP	47.0	20.0	0.315 x 0.413	1.46	1.33	1.26	1.18
16F3762	94SA686X0020EBP	68.0	20.0	0.315 x 0.413	1.64	1.50	1.42	1.32
16F3764	94SA107X0020FBP	100.0	20.0	0.394 x 0.413	1.64	1.50	1.42	1.32

TYPE 94SC

16F3772	94SC475X0010ABP	4.7	10.0	0.157 x 0.268	0.31	0.28	0.27	0.25
16F3776	94SC106X0010BBP	10.0	10.0	0.197 x 0.268	0.39	0.36	0.34	0.32
16F3779	94SC226X0010CBP	22.0	10.0	0.248 x 0.268	0.67	0.61	0.58	0.55
16F3780	94SC476X0010DBP	47.0	10.0	0.248 x 0.386	0.85	0.78	0.74	0.69
16F3771	94SC225X0016ABP	2.2	16.0	0.157 x 0.268	0.31	0.28	0.27	0.25
16F3774	94SC475X0016BBP	4.7	16.0	0.197 x 0.268	0.35	0.32	0.31	0.29
16F3775	94SC685X0016BBP	6.8	16.0	0.197 x 0.268	0.39	0.36	0.34	0.32
16F3778	94SC156X0016CBP	15.0	16.0	0.248 x 0.268	0.67	0.61	0.58	0.55

CONTINUED

OS-CON® TYPE 94 SOLID ALUMINUM CAPACITORS (CONT.)

TYPE 94SC (CONT.)

Stock No.	Type	Cap. µF	Volts (V)	Dia. x L (in.)	1-49	50-99	100-249	250-499
16F3767	94SC104X0025ABP	0.10	25.0	0.157 x 0.268	0.31	0.28	0.27	0.25
16F3768	94SC224X0025ABP	0.22	25.0	0.157 x 0.268	0.31	0.28	0.27	0.25
16F3769	94SC474X0025ABP	0.47	25.0	0.157 x 0.268	0.31	0.28	0.27	0.25
16F3770	94SC105X0025ABP	1.0	25.0	0.157 x 0.268	0.31	0.28	0.27	0.25
16F3773	94SC225X0025BBP	2.2	25.0	0.197 x 0.268	0.34	0.31	0.30	0.28
16F3777	94SC475X0025CBP	4.7	25.0	0.248 x 0.268	0.52	0.48	0.46	0.42
16F3782	94SC106X0025CBP	10.0	25.0	0.248 x 0.268	0.78	0.71	0.68	0.62
16F3781	94SC476X0025FBP	47.0	25.0	0.394 x 0.413	2.38	2.17	2.06	1.92

TYPE 94SL

16F3793	94SL156X06R3BBP	15.0	6.3	0.197 x 0.197	0.49	0.45	0.42	0.39
16F3797	94SL226X06R3CBP	22.0	6.3	0.248 x 0.197	0.71	0.65	0.61	0.57
16F3798	94SL476X06R3CBP	47.0	6.3	0.248 x 0.197	1.01	0.92	0.88	0.82
16F3788	94SL475X0010ABP	4.7	10.0	0.157 x 0.197	0.35	0.32	0.31	0.28
16F3792	94SL106X0010BBP	10.0	10.0	0.197 x 0.197	0.54	0.49	0.47	0.44
16F3796	94SL226X0010CBP	22.0	10.0	0.248 x 0.197	0.85	0.78	0.74	0.68
16F3787	94SL225X0016ABP	2.2	16.0	0.157 x 0.197	0.35	0.32	0.31	0.28
16F3790	94SL475X0016BBP	4.7	16.0	0.197 x 0.197	0.48	0.44	0.41	0.39
16F3791	94SL685X0016BBP	6.8	16.0	0.197 x 0.197	0.54	0.49	0.47	0.44
16F3795	94SL106X0016CBP	10.0	16.0	0.248 x 0.197	0.68	0.62	0.59	0.55
16F3783	94SL104X0025ABP	0.1	25.0	0.157 x 0.197	0.39	0.36	0.34	0.32
16F3784	94SL224X0025ABP	0.22	25.0	0.157 x 0.197	0.35	0.32	0.31	0.28
16F3785	94SL474X0025ABP	0.47	25.0	0.157 x 0.197	0.35	0.32	0.31	0.28
16F3786	94SL105X0025ABP	1.0	25.0	0.157 x 0.197	0.35	0.32	0.31	0.28
16F3789	94SL225X0025BBP	2.2	25.0	0.197 x 0.197	0.44	0.40	0.38	0.36
16F3794	94SL475X0025CBP	4.7	25.0	0.248 x 0.197	0.69	0.63	0.60	0.56

(7216) (ne08274)

595D SERIES TANTALUM ELECTROLYTIC CHIP CAPACITORS

595D series surface mount tantalum chip capacitors have case size compatible with EIA 535BAAC standard molded chip. Terminals: tin plate over copper flash conformal. Operating temperature: –55°C to +85°C. **Sold individually or in full reel quantities.**

CASE DIMENSIONS

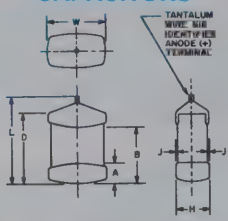
Case Code	L	W	H	D
A	0.146″ (3.7)	0.071″(1.8)	0.055″ (1.4)	0.114″ (2.9)
B	0.157″ (4.0)	0.102″ (2.6)	0.063″ (1.6)	0.126″ (3.2)
C	0.280″ (7.1)	0.126″ (3.2)	0.984″ (2.5)	0.236″ (6.0)
D	0.295″ (7.5)	0.169″ (4.3)	0.110″ (2.8)	0.252″ (6.4)
R	0.283″ (7.2)	0.236″ (6.0)	0.138″ (3.5)	0.244″(6.2)
T	0.079″ (2.0)	0.045″ (1.1)	0.045″ (1.1)	0.071″ (1.8)

Stock No.	Type	WV DC	Cap. µF	Case Code	Tol.	1-999	1000+
95F9977	595D107X06R3C2T	6.3	100	C	±20%	1.85	0.99
95F9978	595D227X06R3D2T	6.3	220	D	±20%	2.61	1.40
95F9980	595D225X0010T2T	10	2.2	T	±20%	1.80	0.96
95F9981	595D106X0010A2T	10	10	A	±20%	0.79	0.42
95F9982	595D157X0010D2T	10	150	D	±20%	2.39	1.28
95F9984	595D337X0010R2T	10	330	R	±20%	4.70	2.51
95F9986	595D686X0016D2T	16	68	D	±20%	2.61	1.40
95F9987	595D107X0016D2T	16	100	D	±20%	2.68	1.43
95F9988	595D157X0016R2T	16	150	R	±20%	4.70	2.51
95F9990	595D475X0020B2T	20	4.7	B	±20%	1.13	0.61
95F9838	595D107X0020R2T	20	100	R	±20%	4.70	2.51
95F9840	595D336X0025D2T	25	33	D	±20%	2.68	1.43
95F9841	595D686X0025R2T	25	68	R	±20%	4.70	2.51
95F9842	595D106X0035D2T	35	10	D	±20%	2.61	1.40
95F9843	595D156X0035D2T	35	15	D	±20%	2.61	1.40
95F9844	595D226X0035R2T	35	22	R	±20%	4.70	2.51
95F9845	595D336X0035R2T	35	33	R	±20%	4.70	2.51
96F2172	595D106X9010A2T	10	10	A	±10%	0.98	0.52
48F4430	595D686X9010C2T	10	68	C	±10%	1.47	0.79
95F9815	595D157X9010D2T	10	150	D	±10%	2.81	1.51
95F9817	595D337X9010R2T	10	330	R	±10%	4.92	2.63
48F4431	595D106X9016B2T	16	10	B	±10%	0.97	0.52
95F9820	595D107X9016D2T	16	100	D	±10%	2.81	1.51
95F9821	595D157X9016R2T	16	150	R	±10%	4.92	2.63
95F9799	595D155X9025A2T	25	1.5	A	±10%	0.74	0.40
48F4432	595D226X9025D2T	25	22	D	±10%	2.44	1.31
95F9800	595D336X9025D2T	25	33	D	±10%	2.81	1.51
95F9805	595D336X9035R2T	35	33	R	±10%	4.92	2.63

(17034) (ne10760)

592D SERIES TANTALUM ELECTROLYTIC CHIP CAPACITORS

SMD



592D series are low-profile 0.047″ height. Case size compatible with EIA 535BAAC and CECC 30801 standard molded chips. Terminals: 60/40 tin lead (2) standard. Operating temperature: –55°C to +85°C. Dimension "J" : 0.004″. Other values and sizes available; *contact your local Newark sales office.*

DIMENSIONS IN INCHES

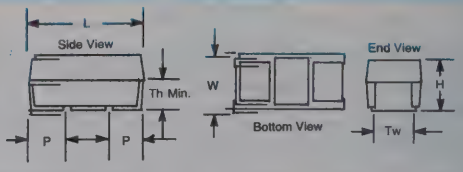
Case Code	H	L	W	A Max.	B Max.	D Ref.
B	0.047 ± 0.012	0.150 ± 0.008	0.104 ± 0.010	0.033	0.112	0.137
C	0.047 ± 0.012	0.273 ± 0.008	0.126 ± 0.010	0.055	0.225	0.253
D	0.047 ± 0.012	0.283 ± 0.010	0.170 ± 0.010	0.065	0.225	0.263
R	0.047 ± 0.012	0.273 ± 0.010	0.235 ± 0.010	0.065	0.215	0.253

Stock No.	Type	WV DC	Cap. µF	Tol.	Case Code	1-99	100+
52F8072	592D226X9004B2T	4	22.0	± 10%	B	0.84	0.73
52F8078	592D476X96R3D2T	6.3	47.0	± 10%	D	1.53	1.33
52F8081	592D106X9010B2T	10	10.0	± 10%	B	0.84	0.73
52F8083	592D336X9010D2T	10	33.0	± 10%	D	1.53	1.33
52F8086	592D685X9016B2T	16	6.8	± 10%	B	0.84	0.73
52F8087	592D106X9016C2T	16	10.0	± 10%	C	1.08	0.94
52F8089	592D226X9016D2T	16	22.0	± 10%	D	1.53	1.33
52F8090	592D336X9016R2T	16	33.0	± 10%	R	2.59	2.25
52F8092	592D685X9020C2T	20	6.8	± 10%	C	1.08	0.94
52F8093	592D106X9020D2T	20	10.0	± 10%	D	1.53	1.33
52F8094	592D156X9020R2T	20	15.0	± 10%	R	2.59	2.25
52F8095	592D226X9020R2T	20	22.0	± 10%	R	2.59	2.25
52F8101	592D105X9035B2T	35	1.0	± 10%	B	0.84	0.73

(7215) (ne08273)

593D SERIES SOLID TANTALUM CHIP CAPACITORS

SMD



Commerical-grade solid tantalum chip capacitors are ideal for switch mode power supplies and converters. Low ESR, DF, DCL. High ripple current capability. Compatible with popular "high volume" automatic pick-and-place equipment. Operating temperature: –55°C to +85°C. Tolerance: ±10%. $T_{H(Min.)}$: 0.039″ (1.0). **Case code D sold in reels of 500; case code E sold in reels of 400.**

CASE DIMENSIONS

Case Code	EIA Size	L	W	H	P	T_W
D	7373	0.287″(7.3)	0.170″(4.3)	0.110″(2.8)	0.051″(1.3)	0.095″ (2.4)
E	7373H	0.287″(7.3)	0.170″(4.3)	0.158″(4.0)	0.051″(1.3)	0.095″ (2.4)

Stock No.	Type	WV DC	Cap. µF	Case Code	1-2	3-4	5-9
01F1389	593D477X9004E2T	4	470	E	539.03	485.13	431.23
01F1390	593D107X96R3D2T	6.3	100	D	398.48	358.63	318.78
01F1391	593D107X96R3E2T	6.3	100	E	481.90	433.71	385.52
01F1392	593D157X96R3E2T	6.3	150	E	529.92	476.93	423.94
01F1393	593D227X96R3E2T	6.3	220	E	539.03	485.13	431.23
01F1395	593D476X9010D2T	10	47	D	370.53	333.48	296.43
01F1396	593D686X9010D2T	10	68	D	407.79	367.02	326.24
01F1398	593D157X9010E2T	10	150	E	529.92	476.93	423.94
01F1401	593D476X9016D2T	16	47	D	441.95	397.75	353.56
01F1402	593D686X9016D2T	16	68	D	407.79	367.02	326.24
01F1403	593D686X9016E2T	16	68	E	481.90	433.71	385.52
01F1457	593D226X9020D2T	20	22	D	370.53	333.48	296.43
01F1458	593D336X9020D2T	20	33	D	441.95	397.75	353.56
01F1460	593D686X9020E2T	20	68	E	529.92	476.93	423.94
01F1464	593D336X9025E2T	25	33	E	529.92	476.93	423.94
01F1465	593D685X9035D2T	35	6.8	D	398.48	358.63	318.78
01F1466	593D106X9035D2T	35	10	D	370.53	333.48	296.43
01F1467	593D156X9035E2T	35	15	E	529.92	476.93	423.94
01F1469	593D225X9050D2T	50	2.2	D	398.48	358.63	318.78

(17033) (ne10759)

293D SERIES SOLID TANTALUM CHIP CAPACITORS

SMD

Surface mount molded cases compatible with all popular high-volume automatic pick-and-place equipment. Case size compatible with EIA 535BAAC and QC300801/US0001. Optical character recognition qualified. 60/40 SnPb compliant terminals. Operating temperature: –55°C to +85°C. Tolerance: ±10%. Additional sizes and values available; *contact your local Newark sales office.*

CASE CODE DIMENSIONS (mm)

Case Code	EIA Size	L x W	H	Case Code	EIA Size	L x W	H
A	3216	3.2 x 1.6	1.6	D	7343	7.3 x 4.3	2.8
B	3528	3.5 x 2.8	1.9	E	7343H	7.3 x 4.3	4.0
C	6032	6.0 x 3.2	2.5	...	...	...	...

Stock No.	Type	WV DC	Cap. µF	Case Code	1-999	1000-1999	2000-3999
48F4513	293D475X9010A2T	10	4.7	A	0.31	0.17	0.12
48F4514	293D685X9010A2T	10	6.8	A	0.34	0.18	0.14
93F2718	293D106X9010C2T	10	10.0	C	0.55	0.29	0.22
93F2705	293D336X9010D2T	10	33.0	D	0.74	0.40	0.30
93F2698	293D476X9010D2T	10	47.0	D	0.74	0.40	0.30
48F4515	293D107X9010D2T	10	100	D	0.79	0.42	0.32
48F4516	293D227X9010E2T	10	220	E	2.36	1.26	0.94
48F4517	293D475X9016A2T	16	4.7	A	0.34	0.18	0.14
48F4518	293D106X9016B2T	16	10.0	B	0.39	0.21	0.16
93F2691	293D106X9016C2T	16	10.0	C	0.55	0.29	0.22
48F4519	293D156X9016C2T	16	15.0	C	0.53	0.28	0.21
93F2692	293D226X9016D2T	16	22.0	D	0.74	0.40	0.30
48F4520	293D225X9020A2T	20	2.2	A	0.20	0.16	0.14
48F4521	293D475X9020B2T	20	4.7	B	0.39	0.21	0.16
93F2696	293D226X9020D2T	20	22.0	D	0.74	0.40	0.30
48F4522	293D336X9020D2T	20	33.0	D	0.79	0.42	0.32
93F2701	293D475X9025C2T	25	4.7	C	0.55	0.29	0.22
93F2699	293D106X9025D2T	25	10.0	D	0.74	0.40	0.30
93F2709	293D105X9050C2T	50	1.0	C	0.68	0.37	0.27
93F2715	293D475X9050D2T	50	4.7	D	0.93	0.50	0.37
93F2700	293D475X9010B2T	10	4.7	B	0.36	0.20	0.15
93F2694	293D105X9016A2T	16	1.0	A	0.32	0.17	0.13
93F2717	293D105X9020A2T	20	1.0	A	0.32	0.17	0.13
93F2707	293D104X9035A2T	35	0.1	A	0.32	0.17	0.13
93F2695	293D105X9035B2T	35	1.0	B	0.36	0.20	0.15

(7192) (ne02814)

TANTALUM ELECTROLYTIC CAPACITORS

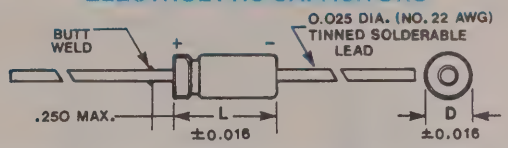
150D SERIES COMMERCIAL-GRADE TANTALUM ELECTROLYTIC CAPACITORS

Subminiature axial-lead tubular solid tantalum electrolyte capacitors. Plastic film insulating sleeve. ±10% tolerance. Hermetically sealed. Withstand test of 2000 hours at 85°C at rated DC voltage.

Stock No.	Type	Cap. µF	Dia. × Length	1-24	25-49	50-99	100-499
6WVDC @ +85°C, 4WVDC +125°C							
65F2320	150D685X9006A2	6.8	0.135 × 0.286″	0.69	0.58	0.51	0.46
65F2321	150D476X9006B2	47	0.185 × 0.474″	1.14	0.97	0.85	0.76
65F2325	150D337X9006S2	330	0.351 × 0.786″	4.76	4.04	3.52	3.17
10WVDC +85°C, 7WVDC +125°C							
18F1359	150D475X9010A2	4.7	0.135 × 0.286″	1.14	0.97	0.85	0.76
65F2327	150D336X9010B2	33	0.185 × 0.474″	1.14	0.97	0.85	0.76
65F2328	150D396X9010B2	39	0.185 × 0.474″	1.14	0.97	0.85	0.76
65F2330	150D107X9010R2	100	0.289 × 0.686″	2.20	1.87	1.62	1.46
65F2331	150D127X9010R2	120	0.289 × 0.686″	2.20	1.87	1.62	1.46
65F2333	150D227X9010S2	220	0.351 × 0.786″	4.76	4.04	3.52	3.17
15WVDC +85°C, 10WVDC +125°C							
65F2334	150D335X9015A2	3.3	0.135 × 0.286″	0.69	0.58	0.51	0.46
65F2336	150D226X9015B2	22	0.185 × 0.474″	1.14	0.97	0.85	0.76
65F2338	150D686X9015R2	68	0.289 × 0.686″	2.20	1.87	1.62	1.46
65F2339	150D157X9015S2	150	0.351 × 0.786″	4.76	4.04	3.52	3.17
20WVDC +85°C, 13WVDC +125°C							
65F2340	150D125X9020A2	1.2	0.135 × 0.286″	0.75	0.64	0.55	0.50
65F2386	150D225X9020A2	2.2	0.135 × 0.286″	0.69	0.58	0.51	0.46
65F2343	150D106X9020B2	10	0.185 × 0.474″	1.14	0.97	0.85	0.76
65F2345	150D156X9020B2	15	0.185 × 0.474″	1.14	0.97	0.85	0.76
65F2347	150D336X9020R2	33	0.289 × 0.686″	2.20	1.87	1.62	1.46
65F2349	150D476X9020R2	47	0.289 × 0.686″	2.20	1.87	1.62	1.46
65F2351	150D686X9020S2	68	0.351 × 0.786″	4.76	4.04	3.52	3.17
65F2353	150D107X9020S2	100	0.351 × 0.786″	4.76	4.04	3.52	3.17
35WVDC +85°C, 23WVDC +125°C							
18F1387	150D104X9035A2	0.100	0.135 × 0.286″	0.69	0.58	0.51	0.46
18F1391	150D224X9035A2	0.220	0.135 × 0.286″	0.69	0.58	0.51	0.46
18F1393	150D334X9035A2	0.330	0.135 × 0.286″	0.69	0.58	0.51	0.46
65F2354	150D474X9035A2	0.470	0.135 × 0.286″	0.69	0.58	0.51	0.46
65F2358	150D105X9035A2	1.000	0.135 × 0.286″	0.69	0.58	0.51	0.46
65F2360	150D155X9035B2	1.5	0.185 × 0.474″	1.14	0.97	0.85	0.76
65F2362	150D225X9035B2	2.2	0.185 × 0.474″	1.14	0.97	0.85	0.76
65F2363	150D275X9035B2	2.7	0.185 × 0.474″	1.14	0.97	0.85	0.76
65F2366	150D685X9035B2	6.8	0.185 × 0.474″	1.14	0.97	0.85	0.76
65F2368	150D106X9035R2	10	0.289 × 0.686″	2.20	1.87	1.62	1.46
65F2370	150D156X9035R2	15	0.289 × 0.686″	2.20	1.87	1.62	1.46
65F2372	150D226X9035R2	22	0.289 × 0.686″	2.20	1.87	1.62	1.46
65F2373	150D336X9035S2	33	0.351 × 0.786″	4.76	4.04	3.52	3.17
65F2375	150D476X9035S2	47	0.351 × 0.786″	4.76	4.04	3.52	3.17
50WVDC +85°C, 33WVDC +125°C							
65F2376	150D104X9050A2	0.1	0.135 × 0.286″	0.69	0.58	0.51	0.46
65F2377	150D474X9050A2	0.47	0.135 × 0.286″	0.72	0.61	0.53	0.48
65F2378	150D105X9050A2	1.0	0.135 × 0.286″	0.72	0.61	0.53	0.48
65F2379	150D225X9050B2	2.2	0.185 × 0.474″	1.20	1.02	0.89	0.80
65F2380	150D335X9050B2	3.3	0.185 × 0.474″	1.20	1.02	0.89	0.80
65F2381	150D475X9050B2	4.7	0.185 × 0.474″	1.20	1.02	0.89	0.80
65F2382	150D106X9050R2	10	0.289 × 0.686″	2.25	1.91	1.67	1.50
65F2383	150D156X9050R2	15	0.289 × 0.686″	2.25	1.91	1.67	1.50
65F2385	150D226X9050S2	22	0.351 × 0.786″	4.81	4.09	3.56	3.20

(7058) (de00788)

109D SERIES SINTERED-ANODE TANTALEX® TANTALUM ELECTROLYTIC CAPACITORS



109D series tantalum electrolytic capacitors fill the basic requirements for applications in the industrial, automotive, and telecommunications fields. Meet MIL-C-39006, Style CLR65 (E Seal). Tolerance: ±10%. Outer plastic film insulaton. Lead length: **suffix C2** = 1.50″; **suffix F2, K2,** and **T2** = 2.25″.

Stock No.	Type	Cap. µF	Dia. x L	1-24	25-49	50-99	100-249
10WVDC @ +85°C; 7WVDC @ +125°C							
81F3405	109D477X9010F2	470	0.269 x 0.703″	12.01	10.77	9.89	9.69
81F3407	109D108X9010T2	1000	0.390 x 0.828″	17.55	15.74	14.74	10.69
15WVDC @ +85°C; 10WVDC @ +125°C							
81F3412	109D337X9015F2	330	0.296 x 0.703″	12.01	10.77	9.89	9.69
25WVDC @ +85°C; 15WVDC @ +125°C							
81F3417	109D686X9025C2	68	0.203 x 0.515″	9.03	8.10	7.44	7.29
81F3418	109D277X9025F2	270	0.296 x 0.703″	12.01	10.77	9.89	9.69
81F3419	109D567X9025T2	560	0.390 x 0.828″	17.55	15.74	14.74	10.69
50WVDC @ +85°C; 30WVDC @ +125°C							
81F3421	109D336X9050C2	33	0.203 x 0.515″	9.03	8.10	7.44	7.29
81F3422	109D127X9050F2	120	0.296 x 0.703″	12.01	10.77	9.89	9.69
81F3423	109D277X9050T2	270	0.390 x 0.828″	17.55	17.03	14.74	10.69
75WVDC @ +85°C; 50WVDC @ +125°C							
81F3425	109D126X9075C2	12	0.203 x 0.515″	9.03	8.10	7.44	7.29
81F3426	109D156X9075C2	15	0.203 x 0.515″	9.03	8.10	7.44	7.29
81F3427	109D226X9075C2	22	0.203 x 0.515″	8.25	7.40	6.79	6.65
81F3428	109D476X9075F2	47	0.296 x 0.703″	12.01	10.77	9.89	9.69
81F3429	109D566X9075F2	56	0.296 x 0.703″	12.01	10.77	9.89	9.69
81F3430	109D826X9075F2	82	0.296 x 0.703″	12.01	10.77	9.89	9.69
81F3431	109D187X9075T2	180	0.390 x 0.828″	17.55	17.03	14.74	10.69
81F3432	109D227X9075K2	220	0.390 x 1.125″	27.97	25.10	23.04	20.57
100WVDC @ +85°C; 70WVDC @ +125°C							
81F3434	109D106X9100C2	10	0.203 x 0.515″	9.87	8.85	8.13	7.96
81F3438	109D686X9100T2	68	0.390 x 0.828″	18.43	16.53	15.47	11.23
150WVDC @ +85°C; 100WVDC @ +125°C							
81F3445	109D226X9150F2	22	0.296 x 0.703″	19.30	18.74	17.66	11.76

(16938) (de00789)

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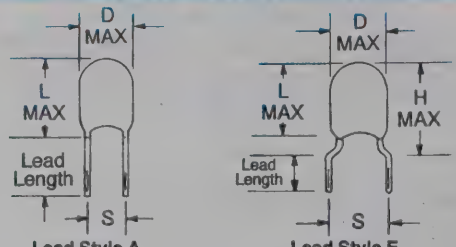
SERIES 199D TANTALUM ELECTROLYTIC CAPACITORS



Ideal for use in entertainment and commercial equipment. Flame-retardant, moisture-resistant epoxy encapsulant will not chip or crack under temperature extremes. Last two digits of type numbers indicate lead style/spacing code. Operating temperature: –55°C to +125°C. Other lead spacings available on special order; *contact your local Newark sales office for information.*

Size			Leads	
Size Code	D	H	Style/Space Code	Lead Space S±0.030″
A	0.177″	0.340″	A1	0.100″
B	0.196″	0.360″	A2	0.125″
C	0.216″	0.420″	E2	0.200″
D	0.236″	0.460″	...	...
E	0.340″	0.552″	...	...
F	0.380″	0.710″	...	...

*Lead space tolerance for case sizes E and F is ±0.050″.

±20% TOLERANCE

6.3WVDC, 8VDC SURGE

Stock No.	Type	Cap. µF	Size Code	1-24	25-49	50-99
17F2014	199D106X06R3BA1	10.0	B	0.28	0.27	0.25
17F2017	199D476X06R3DA1	47.0	D	0.55	0.53	0.49
17F2018	199D107X06R3DA1	100.0	D	1.36	1.30	1.20
17F2020	199D227X06R3EE2	220.0	E	4.23	4.02	3.72
17F2021	199D337X06R3FE2	330.0	F	4.60	4.37	4.05
		10WVDC, 12VDC SURGE				
17F2022	199D475X0010AA1	4.7	A	0.23	0.22	0.21
17F2023	199D106X0010BA1	10.0	B	0.28	0.27	0.25
17F2025	199D226X0010CA1	22.0	C	0.41	0.39	0.36
17F2026	199D336X0010DA1	33.0	D	0.47	0.45	0.42
17F2027	199D476X0010DA1	47.0	D	0.98	0.93	0.86
17F2028	199D686X0010DA1	68.0	D	1.18	1.12	1.04
17F2029	199D107X0010EE2	100.0	E	1.40	1.33	1.23
17F2031	199D227X0010FE2	220.0	F	4.60	4.37	4.05
		16WVDC, 19VDC SURGE				
17F2032	199D106X0016CA1	10.0	C	0.29	0.27	0.25
17F2033	199D156X0016CA1	15.0	C	0.43	0.40	0.37
17F2034	199D226X0016DA1	22.0	D	0.46	0.44	0.41
17F2035	199D336X0016DA1	33.0	D	0.94	0.89	0.83
17F2036	199D476X0016EE2	47.0	E	1.18	1.12	1.04
17F2037	199D686X0016EE2	68.0	E	1.51	1.44	1.33
17F2038	199D107X0016FE2	100.0	F	2.65	2.52	2.33
17F2039	199D157X0016FE2	150.0	F	4.60	4.37	4.05
		25WVDC, 30VDC SURGE				
17F2040	199D105X0025AA1	1.0	A	0.23	0.22	0.20
17F2041	199D225X0025AA1	2.2	A	0.25	0.23	0.22
17F2042	199D106X0025CA1	10.0	C	0.43	0.40	0.37
17F2043	199D156X0025DA1	15.0	D	1.11	1.05	0.97
17F2044	199D226X0025DA1	22.0	D	1.18	1.12	1.04
17F2045	199D336X0025EE2	33.0	E	1.40	1.33	1.23
17F2046	199D476X0025EE2	47.0	E	2.14	2.03	1.88
17F2047	199D686X0025FE2	68.0	F	4.60	4.37	4.05
		35WVDC, 42VDC SURGE				
17F2048	199D224X0035AA1	0.22	A	0.23	0.22	0.20
17F2049	199D474X0035AA1	0.47	A	0.23	0.22	0.20
17F2051	199D105X0035AA1	1.0	A	0.23	0.22	0.20
17F2052	199D225X0035BA1	2.2	B	0.30	0.28	0.26
17F2053	199D335X0035BA1	3.3	B	0.39	0.37	0.34
17F2054	199D475X0035CA1	4.7	C	0.41	0.39	0.36
17F2055	199D685X0035DA1	6.8	D	0.46	0.44	0.41
17F2056	199D106X0035DA1	10.0	D	0.65	0.61	0.57
17F2057	199D156X0035EE2	15.0	E	1.25	1.19	1.10
17F2058	199D226X0035EE2	22.0	E	1.33	1.26	1.17
17F2059	199D336X0035FE2	33.0	F	2.87	2.73	2.53
17F2060	199D476X0035FE2	47.0	F	4.60	4.37	4.05
		50WVDC, 60VDC SURGE				
17F2061	199D104X0050AA1	0.10	A	0.28	0.26	0.25
17F2064	199D334X0050AA1	0.33	A	0.28	0.26	0.25
17F2067	199D105X0050BA1	1.0	B	0.30	0.28	0.26
17F2069	199D225X0050CA1	2.2	C	0.55	0.53	0.49
17F2070	199D335X0050DA1	3.3	D	0.63	0.60	0.55
17F2071	199D475X0050DA1	4.7	D	0.76	0.72	0.67

CONTINUED

SERIES 199D TANTALUM ELECTROLYTIC CAPACITORS (CONT.)

50WVDC, 60VDC SURGE (CONT.)

Stock No.	Type	Cap. µF	Size Code	1-24	25-49	50-99
17F2072	199D685X0050FE2	6.8	F	1.77	1.68	1.56
17F2073	199D106X0050FE2	10.0	F	1.99	1.89	1.75
		±10% TOLERANCE				
		6.3 WVDC, 8VDC SURGE				
95F4218	199D106X96R3BA1	10.0	B	0.28	0.27	0.25
95F4220	199D476X96R3DA1	47.0	D	0.55	0.53	0.49
95F4221	199D686X96R3DA1	68.0	D	0.68	0.65	0.60
95F4222	199D107X96R3DA1	100.0	D	1.36	1.30	1.20
		10 WVDC, 13 VDC SURGE				
95F4227	199D107X9010EE2	100.0	E	1.40	1.33	1.23
		16 WVDC, 20 VDC SURGE				
95F4229	199D156X9016CA1	15.0	C	0.43	0.40	0.37
95F4230	199D686X9016EE2	68.0	E	1.51	1.44	1.33
		20 WVDC, 26 VDC SURGE				
89F515	199D156X9020DA2	15.0	D	0.59	0.56	0.52
		25 WVDC, 33 VDC SURGE				
95F4231	199D685X9025CA1	6.8	C	0.36	0.35	0.32
95F4232	199D336X9025EE2	33.0	E	1.40	1.33	1.23
95F4233	199D686X9025FE2	68.0	F	4.60	4.37	4.05
		35 WVDC, 42 VDC SURGE				
95F4235	199D224X9035AA1	0.22	A	0.23	0.22	0.20
95F4236	199D334X9035AA1	0.33	A	0.23	0.22	0.20
95F4238	199D155X9035AA1	1.5	A	0.25	0.24	0.22
95F4239	199D225X9035BA1	2.2	B	0.30	0.28	0.26
95F4240	199D335X9035BA1	3.3	B	0.39	0.37	0.34
47F369	199D475X9035CA1	4.7	C	0.41	0.39	0.36
95F4241	199D156X9035EE2	15.0	E	1.25	1.19	1.10
		50 WVDC, 60 VDC SURGE				
95F4242	199D104X9050AA1	0.1	A	0.28	0.26	0.25
95F4243	199D224X9050AA1	0.22	A	0.28	0.26	0.25
95F4244	199D334X9050AA1	0.33	A	0.28	0.26	0.25
95F4245	199D474X9050AA1	0.47	A	0.28	0.26	0.25
95F4246	199D105X9050BA1	1.0	B	0.30	0.28	0.26
95F4247	199D225X9050CA1	2.2	C	0.55	0.53	0.49

(7102) (de03204)

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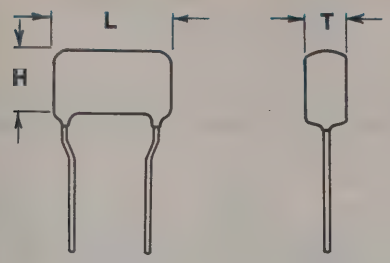
ORANGE DROP® FILM CAPACITORS

225P SERIES ORANGE DROP® METALIZED POLYESTER FILM CAPACITORS

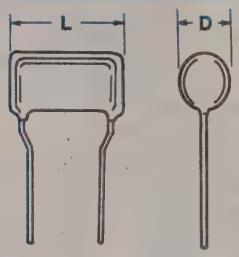


Wound from polyester film and thin-gauge foil, these capacitors have a epoxy conformal coating to protect against moisture. Radial leads facilitate PC board insertion. Operating temperature: –55°C to +85°C. Tolerance: ±10%. Leads are 20 AWG tinned copper-clad steel. Lead diameter: 0.032″ (0.813).

Stock No.	Type	L x T x H Max.	Cap. µF	1-99	100-249	250-499
100 VOLTS DC						
18F2561	225P10291WD3	0.70 x 0.25 x 0.35″	0.001	0.72	0.27	0.26
18F2563	225P15291WD3	0.70 x 0.25 x 0.35″	0.0015	0.72	0.27	0.26
18F2565	225P22291WD3	0.70 x 0.25 x 0.35″	0.0022	0.72	0.27	0.26
18F2567	225P33291WD3	0.70 x 0.25 x 0.35″	0.0033	0.72	0.27	0.26
18F2569	225P47291WD3	0.70 x 0.25 x 0.35″	0.0047	0.72	0.27	0.26
18F2570	225P56291WD3	0.70 x 0.25 x 0.35″	0.0056	0.72	0.27	0.26
18F2571	225P68291WD3	0.70 x 0.25 x 0.35″	0.0068	0.72	0.27	0.26
18F2573	225P10391WD3	0.70 x 0.25 x 0.35″	0.01	0.72	0.27	0.26
18F2575	225P15391WD3	0.70 x 0.25 x 0.35″	0.015	0.72	0.27	0.26
18F2577	225P22391WD3	0.70 x 0.25 x 0.35″	0.022	0.72	0.27	0.26
18F2579	225P33391WD3	0.70 x 0.27 x 0.37″	0.033	0.85	0.31	0.30
18F2581	225P47391WD3	0.70 x 0.30 x 0.42″	0.047	0.80	0.29	0.28
18F2582	225P56391WD3	0.70 x 0.34 x 0.49″	0.056	0.85	0.31	0.30
18F2583	225P68391WD3	0.70 x 0.34 x 0.49″	0.068	0.85	0.31	0.30
18F2584	225P82391WD3	0.70 x 0.40 x 0.55″	0.082	0.85	0.31	0.30
18F2585	225P10491WD3	0.70 x 0.40 x 0.55″	0.1	0.85	0.31	0.30
47F2001	225P15491XD3	0.80 x 0.40 x 0.62″	0.15	1.13	0.42	0.40
47F2002	225P18491XD3	0.80 x 0.43 x 0.66″	0.18	1.33	0.49	0.47
47F2003	225P22491XD3	0.80 x 0.46 x 0.70″	0.22	1.33	0.49	0.47
47F2005	225P33491XD3	0.80 x 0.52 x 0.77″	0.33	1.60	0.59	0.57
47F2007	225P47491XD3	0.80 x 0.60 x 0.86″	0.47	2.30	0.85	0.81
47F152	225P56491YD3	1.25 x 0.55 x 0.88″	0.56	2.81	1.03	0.99
47F155	225P10591YD3	1.25 x 0.72 x 0.98″	1.0	3.49	1.29	1.23
200 VOLTS DC						
47F162	225P10392XD3	0.80 x 0.25 x 0.58″	0.01	0.85	0.31	0.30
47F164	225P22392XD3	0.80 x 0.25 x 0.58″	0.022	0.96	0.36	0.34
47F166	225P47392XD3	0.80 x 0.28 x 0.61″	0.047	1.04	0.39	0.37
47F168	225P10492XD3	0.80 x 0.37 x 0.71″	0.1	1.04	0.39	0.37
47F170	225P22492XD3	0.80 x 0.48 x 0.77″	0.22	1.34	0.49	0.47
47F171	225P33492YD3	1.25 x 0.41 x 0.71″	0.33	1.60	0.59	0.57
47F133	225P47492YD3	1.25 x 0.50 x 0.83″	0.47	2.32	0.85	0.82
47F134	225P68492YD3	1.25 x 0.84 x 1.14″	0.68	3.27	1.20	1.16
400 VOLTS DC						
47F135	225P10294XD3	0.80 x 0.25 x 0.55″	0.001	0.85	0.31	0.30
47F139	225P47294XD3	0.80 x 0.25 x 0.55″	0.0047	0.85	0.31	0.30
47F141	225P10394XD3	0.80 x 0.25 x 0.58″	0.01	0.85	0.31	0.30
47F142	225P15394XD3	0.80 x 0.28 x 0.58″	0.015	0.90	0.33	0.32
47F143	225P22394XD3	0.80 x 0.31 x 0.58″	0.022	0.90	0.33	0.32
47F144	225P33394XD3	0.80 x 0.34 x 0.65″	0.033	1.04	0.39	0.37
47F145	225P47394XD3	0.80 x 0.41 x 0.65″	0.047	1.04	0.39	0.37
47F147	225P10494XD3	0.80 x 0.52 x 0.84″	0.1	1.33	0.49	0.47
47F148	225P15494YD3	1.25 x 0.47 x 0.80″	0.15	1.60	0.59	0.57
47F149	225P22494YD3	1.25 x 0.56 x 0.89″	0.22	2.32	0.85	0.82
47F150	225P33494YD3	1.25 x 0.72 x 0.99″	0.33	3.27	1.20	1.16
47F151	225P47494YD3	1.25 x 0.84 x 1.14″	0.47	6.32	2.32	2.23

(7119) (de50205)

TYPE 715P ORANGE DROP® POLYPROPYLENE FILM CAPACITORS



High AC current-carrying polypropylene film capacitors feature extremely low dissipation factor. Ideal for applications such as snubbers, CRT deflection for RF generators, pulse-forming networks. Epoxy conformal coating protects against moisture. Temperature coefficient is negative and virtually linear at 180ppm/°C. Operating temperature: +25°C to +105°C. Leads are 20 AWG tinned copper-clad steel. Lead diameter: 0.032″ (0.81).

Stock No.	Type	L x D Max.	Cap. µF	1-99	100-249	250-499
200 WVDC						
89F3468	715P15352JD3	0.70 x 0.28″	0.015	0.86	0.30	0.29
89F3470	715P22352JD3	0.70 x 0.31″	0.022	0.86	0.30	0.29
89F3472	715P33352JD3	0.70 x 0.36″	0.033	0.98	0.35	0.33
89F3474	715P47352KD3	0.90 x 0.34″	0.047	1.09	0.39	0.37
89F3476	715P68352KD3	0.90 x 0.39″	0.068	1.09	0.39	0.37
89F3466	715P10452LD3	1.25 x 0.38″	0.1	1.25	0.44	0.42
89F3469	715P15452LD3	1.25 x 0.44″	0.15	1.44	0.51	0.48
89F3471	715P22452LD3	1.25 x 0.51″	0.22	1.74	0.61	0.58
89F3473	715P33452MD3	1.65 x 0.53″	0.33	2.27	0.80	0.76
89F3475	715P47452MD3	1.65 x 0.60″	0.47	2.78	0.98	0.93
400 WVDC						
17F2202	715P10354JD3	0.70 x 0.30″	0.01	0.86	0.30	0.29
17F2204	715P33354KD3	0.90 x 0.38″	0.033	1.09	0.39	0.37
17F2205	715P15454LD3	1.25 x 0.56″	0.15	1.72	0.61	0.57
17F2206	715P22454MD3	1.65 x 0.58″	0.22	2.31	0.81	0.77
17F2207	715P33454MD3	1.65 x 0.70″	0.33	2.40	0.84	0.80
17F2208	715P47454MD3	1.65 x 0.82″	0.47	3.30	1.16	1.10
600 WVDC						
15F2700	715P10256JD3	0.70 x 0.35″	0.001	0.77	0.27	0.26
15F2701	715P15256JD3	0.70 x 0.32″	0.0015	1.25	0.44	0.42
15F2702	715P22256JD3	0.70 x 0.33″	0.0022	0.77	0.27	0.26
15F2703	715P33256JD3	0.70 x 0.32″	0.0033	0.77	0.27	0.26
15F2704	715P47256JD3	0.70 x 0.34″	0.0047	0.77	0.27	0.26
15F2706	715P10356KD3	0.90 x 0.36″	0.01	0.95	0.34	0.32
15F2707	715P15356KD3	0.90 x 0.42″	0.015	0.98	0.35	0.33
15F2708	715P22356KD3	0.90 x 0.48″	0.022	0.97	0.34	0.32
15F2709	715P47356LD3	1.25 x 0.52″	0.047	1.25	0.44	0.42
15F2710	715P68356LD3	1.25 x 0.60″	0.068	1.52	0.54	0.51
15F2711	715P10456LD3	1.25 x 0.71″	0.1	1.97	0.70	0.66
15F2712	715P15456MD3	1.65 x 0.71″	0.15	2.39	0.84	0.79
15F2713	715P22456MD3	1.65 x 0.83″	0.22	3.30	1.16	1.10
800 WVDC						
17F2209	715P15358LD3	1.25 x 0.38″	0.015	1.25	0.44	0.42
89F3477	715P22358LD3	1.25 x 0.44″	0.022	1.53	0.54	0.51
17F2212	715P68358MD3	1.65 x 0.58″	0.068	2.78	0.98	0.93
17F2213	715P10458MD3	1.65 x 0.67″	0.1	3.30	1.16	1.10
1200 WVDC						
89F3467	715P153512LD3	1.25 x 0.55″	0.015	1.97	0.70	0.66
17F2215	715P473512MD3	1.65 x 0.74″	0.047	3.27	1.15	1.09
1600 WVDC						
15F2714	715P222516LD3	1.25 x 0.35″	0.0022	1.25	0.44	0.42
15F2715	715P332516LD3	1.25 x 0.40″	0.0033	1.44	0.51	0.48
15F2716	715P472516LD3	1.25 x 0.46″	0.0047	1.44	0.51	0.48
15F2717	715P682516LD3	1.25 x 0.52″	0.0068	1.62	0.57	0.54
15F2718	715P103516LD3	1.25 x 0.61″	0.01	2.16	0.76	0.72
15F2719	715P153516MD3	1.65 x 0.59″	0.015	2.50	0.88	0.83
15F2720	715P223516MD3	1.65 x 0.69″	0.022	3.27	1.15	1.09
15F2721	715P333516MD3	1.65 x 0.81″	0.033	3.96	1.39	1.32

(7120) (de50206)

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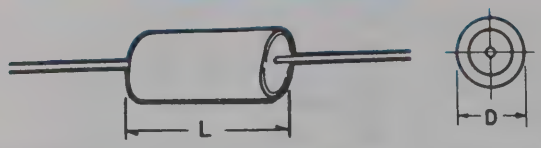
430P SERIES WRAP-AND-FILL METALIZED POLYESTER FILM CAPACITORS



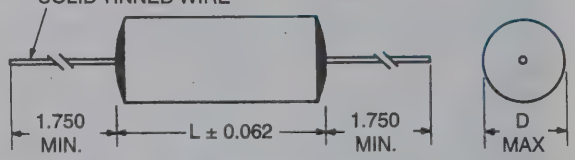
Operating temperature: –55°C to +85°C. Dissipation factor: 1% maximum. Life test: 250 hours at 125% of noted voltage @ 85°C. Tolerance: ± 10%.

Stock No.	Type	Cap. µF	Dia. x L	1-49	50-99	100-249	250-499
100 VOLTS DC							
50F2580	430P334X9100	0.33	0.264 x 0.750″	4.12	3.77	1.58	1.07
50F2557	430P105X9100	1.0	0.286 x 1.250″	4.48	4.10	1.72	1.16
50F2568	430P205X9100	2.0	0.393 x 1.250″	6.12	5.60	2.35	1.58
200 VOLTS DC							
50F2554	430P104X9200	0.1	0.221 x 0.750″	3.88	3.55	1.49	1.00
50F2573	430P224X9200	0.22	0.295 x 0.750″	3.94	3.60	1.51	1.02
50F2585	430P474X9200	0.47	0.321 x 1.000″	4.12	3.77	1.58	1.07
50F2590	430P684X9200	0.68	0.375 x 1.000″	5.09	4.66	1.95	1.32
50F2558	430P105X9200	1.0	0.380 x 1.250″	5.39	4.93	2.07	1.40
50F2569	430P205X9200	2.0	0.469 x 1.500″	7.33	6.70	2.81	1.90
50F2582	430P405X9200	4.0	0.580 x 1.750″	6.00	5.49	2.30	1.55
400 VOLTS DC							
50F2555	430P104X9400	0.1	0.310 x 0.750″	4.00	3.66	1.53	1.04
600 VOLTS DC							
50F2556	430P104X9600	0.1	0.365 x 1.00″	5.03	4.60	1.93	1.30
50F2587	430P474X9600	0.47	0.497 x 1.750″	7.69	7.04	2.95	1.99

(7060) (de00803)

730P SERIES METALIZED-POLYPROPYLENE FILM CAPACITORS

0.032 NOMINAL DIA. (NO. 20 AWG) SOLID TINNED WIRE

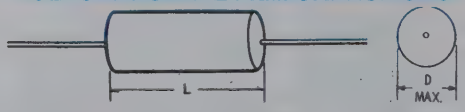


Capacitance tolerance: ±10%. Operating temperature: –55°C to +85°C.

Stock No.	Type	Cap. µF	VDC	Dimensions D max.	Dimensions L	1-49	50-99	100-249
90F7534	730P474X9100	0.47	100	0.376″	0.75″	4.47	4.27	1.79
90F7536	730P105X9100	1.00	100	0.421″	1.00″	4.87	4.66	1.95
90F7532	730P104X9250	0.10	250	0.279″	0.75″	4.24	4.05	1.70
90F7537	730P224X9250	0.22	250	0.306″	1.00″	4.47	4.27	1.79
90F7535	730P474X9250	0.47	250	0.422″	1.00″	4.70	4.49	1.88
90F7531	730P205X9250	2.00	250	0.700″	1.25″	6.26	5.98	2.51
90F7538	730P104X9400	0.10	400	0.348″	0.75″	4.18	3.99	1.67
90F7533	730P474X9400	0.47	400	0.545″	1.00″	4.99	4.77	2.00
90F7530	730P205X9400	2.00	400	0.752″	1.75″	6.44	6.15	2.58
90F7539	730P105X9630	1.00	630	0.794″	1.75″	7.65	7.31	3.06

(7166) (de53037)

632P SERIES WRAP-AND-FILL METALIZED POLYCARBONATE FILM CAPACITORS

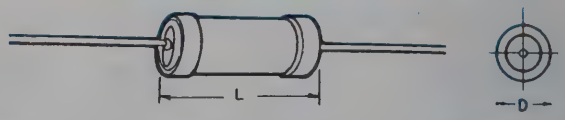


Feature high capacitance stability, long life. Operating temperature:–55°C to +125°C. Capacitance tolerance: ± 5%. All units 50VDC. Lead length: 1.625″ min.

Stock No.	Type	Cap. µF	Dia. x L	1-49	50-99	100-249
44F2234	632P103X5050	0.01	0.170 x 0.440″	7.27	6.92	2.96
44F2236	632P223X5050	0.022	0.170 x 0.440″	7.27	6.92	2.96
44F2237	632P333X5050	0.033	0.170 x 0.440″	7.59	7.22	3.09
44F2238	632P473X5050	0.047	0.170 x 0.440″	7.59	7.22	3.09
44F2240	632P104X5050	0.10	0.190 x 0.560″	8.40	7.99	3.42
44F2241	632P154X5050	0.15	0.230 x 0.440″	8.72	8.30	3.55
44F2242	632P224X5050	0.22	0.230 x 0.560″	9.93	9.45	4.05
44F2243	632P334X5050	0.33	0.250 x 0.560″	10.34	9.83	4.21
44F2244	632P474X5050	0.47	0.310 x 0.560″	10.58	10.06	4.31
44F2245	632P684X5050	0.68	0.310 x 0.560″	12.11	11.52	4.93
44F2246	632P105X5050	1.0	0.350 x 0.750″	13.97	13.29	5.69
44F2248	632P205X5050	2.0	0.400 x 0.750″	17.93	17.05	7.30
44F2249	632P225X5050	2.2	0.400 x 0.750″	20.03	19.05	8.16

(7062) (de00806)

192P SERIES WRAP-AND-FILL METALIZED POLYESTER FILM/FOIL CAPACITORS

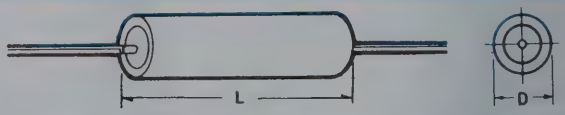


High-frequency performance capacitors wound with ultra-thin polyester film, dielectric and thin gauge foil; have rugged outer sleeve with epoxy endfill. Controlled dimensions allow automated installation on PC boards. Operating temperature: –55°C to +85°C. Capacitance tolerance: ±10%.

Stock No.	Type	Cap. µF	Dia. x L	1-49	50-99	100-499
80 VOLTS DC						
18F2520	192P222X9080	0.0022	0.153 x 0.437″	1.09	0.44	0.28
18F2528	192P103X9080	0.01	0.185 x 0.500″	1.09	0.44	0.28
18F2532	192P223X9080	0.022	0.185 x 0.625″	1.22	0.49	0.31
18F2534	192P333X9080	0.033	0.229 x 0.562″	1.37	0.55	0.35
18F2536	192P473X9080	0.047	0.229 x 0.687″	1.32	0.53	0.34
18F2540	192P104X9080	0.1	0.315 x 0.645″	1.52	0.61	0.39
18F2544	192P224X9080	0.22	0.343 x 0.770″	2.32	0.93	0.59
18F2546	192P334X9080	0.33	0.343 x 1.332″	3.20	1.28	0.82
200 VOLTS DC						
18F2252	192P332X9200	0.0033	0.185 x 0.437″	0.95	0.38	0.24
18F2226	192P103X9200	0.01	0.185 x 0.625″	0.97	0.39	0.25
18F2230	192P223X9200	0.022	0.229 x 0.687″	1.16	0.47	0.30
18F2234	192P473X9200	0.047	0.315 x 0.645″	1.29	0.52	0.33
18F2236	192P683X9200	0.068	0.315 x 0.770″	1.40	0.56	0.36
18F2238	192P104X9200	0.1	0.343 x 0.770″	1.46	0.59	0.37

(7413) (de00805)

131P SERIES PAPER-POLYESTER FOIL CAPACITORS

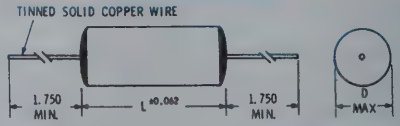


Snubber capacitors feature metal case and extended foil electrodes. Operating temperature: –65°C to +125°C. Capacitance tolerance: ±10%. Dissipation factor: 1.0% max. Life test: 140% of rated voltage for 250 hours at +125°C. 1000WVDC/500VAC except **type 131P104X9600S04**: 600WVDC/370VAC.

Stock No.	Type	Cap. µF	Dia. x L	1-99	100-249	250-499
97F9250	131P104X9600S04	0.10	0.312 x 0.875″	22.33	14.30	14.08
97F9252	131P103X91K0S04	0.010	0.400 x 0.875″	18.75	15.00	12.49
97F9253	131P473X91K0S04	0.047	0.562 x 1.375″	23.38	14.97	14.74
97F9254	131P104X91K0S04	0.10	0.670 x 1.625″	24.95	15.98	15.74
97F9255	131P224X91K0S04	0.22	0.750 x 2.125″	28.11	18.00	17.72
66F6789	131P474X91K0S04	0.47	1.000 x 2.375″	20.82	17.38	13.88

(7114) (de03617)

735P SERIES METALIZED POLYPROPYLENE FILM CAPACITORS



Operating temperature: –55°C to +105°C. Capacitance tolerance: ±10%. Wire terminals. High ripple to 30A. Low inductance and ESR. High stability.

Code	Dia.	Length	Code	Dia.	Length
A	0.531″	0.750″	F	0.713″	1.500″
B	0.898″	1.500″	G	0.895″	1.750″
C	0.512″	1.250″	H	1.066″	1.750″
D	0.862″	1.750″	I	1.192″	2.250″
E	1.030″	2.250″	J	1.668″	2.250″

Stock No.	Type	Cap. µF	WVDC	Size Code	1-99	100-249	250-499
81F3476	735P105X9100L	1	100	A	8.77	3.51	2.37
81F3480	735P106X9100L	10	100	B	16.01	6.40	4.32
81F3483	735P105X9200L	1	200	C	6.38	2.55	1.72
81F3486	735P505X9200L	5	200	D	10.07	4.03	2.72
81F3487	735P106X9200L	10	200	E	15.58	6.23	4.21
81F3489	735P105X9400L	1	400	F	8.83	3.53	2.39
81F3490	735P205X9400L	2	400	G	10.03	4.02	2.71
81F3491	735P305X9400L	3	400	H	14.73	5.90	3.98
81F3492	735P505X9400L	5	400	I	15.72	6.29	4.25
81F3493	735P106X9400L	10	400	J	20.53	8.21	5.55

(7064) (de00835)

HYPERCON® HIGH CAPACITANCE CERAMIC DISC CAPACITORS

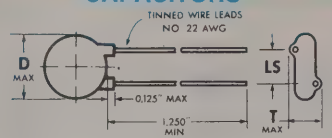


Fig. 1

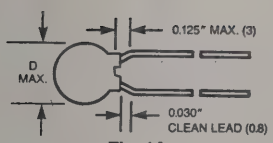


Fig. 1A

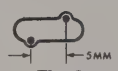


Fig. 2

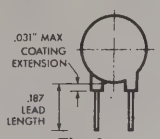


Fig. 3

HYPERCON® construction forms dielectric barrier layer at each electrode surface and connects layers through titanate substrate, using conductive property of material. Thin dielectric layer produces high capacitance, temperature stability. Industry standard EIA 198C Class IV, Y5R and Y5S.

SIZE CODE

Size Code	Max. Dia.	Max. Thickness	Std. Lead Spacing	Size Code	Max. Dia.	Max. Thickness	Std. Lead Spacing
C†	0.250″	0.156″	0.250″	J	0.560″	0.156″	0.375″
E†	0.290″	0.156″	0.250″	K	0.630″	0.156″	0.375″
F†	0.370″	0.156″	0.250″	L	0.680″	0.156″	0.375″
G†	0.440″	0.156″	0.250″	M	0.760″	0.156″	0.375″
H†	0.490″	0.156″	0.250″	P	0.890″	0.156″	0.375″
H[3]	0.490″	0.156″	0.375″	Y	0.900″	0.220″	0.375″

† Also available, 5mm (0.197″) lead spacing, tape and reel per EIA RS468; *contact your local Newark sales office.*

12WVDC +50%, –20%

Stock No.	Type	Fig.	Cap. µF	Size Code	1-99	100-249	250-499	500-999
87F2199	HY105	1	0.05	E	0.30	0.22	0.20	0.19

12WVDC ± 20%

46F5346	HY110	1	0.10	G	0.37	0.28	0.25	0.23
46F5347	HY122	1	0.22	J	0.53	0.40	0.36	0.33
46F5348	HY147	1	0.47	P	0.92	0.69	0.62	0.57

25WVDC +50%,–20%

13F3602	HY735	1	0.047	F	0.31	0.24	0.21	0.20
13F3604	HY750	1	0.10	H	0.40	0.30	0.27	0.25

25WVDC ± 20%

13F3609	HY820	1	0.01	C	0.24	0.18	0.16	0.15
13F3610	HY825	1	0.022	E	0.29	0.22	0.19	0.18
13F3612	HY835	1	0.047	F	0.35	0.26	0.23	0.22
87F2202	HY838	1	0.05	F	0.34	0.26	0.23	0.21
13F3614	HY850	1	0.10	H	0.42	0.32	0.29	0.26
87F2203	HY855	1	0.10	H[3]	0.43	0.32	0.29	0.27

25WVDC +80%,–20%

18F1987	HY520	1	0.01	C	0.24	0.18	0.16	0.15
18F1991	HY550	1	0.10	H	0.41	0.31	0.28	0.26
14F3001	HY570	1	0.20	L	0.74	0.56	0.50	0.46

50WVDC ± 20%

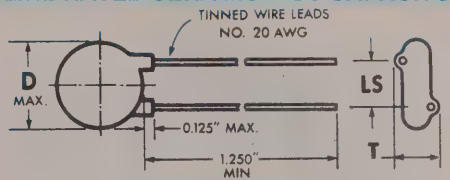
46F5350	HY925	1	0.022	F	0.36	0.27	0.24	0.22
46F5351	HY935	1	0.047	G	0.37	0.28	0.25	0.23

100WVDC ± 20%

87F2185	HMMD22	2	0.0022	C*	0.29	0.22	0.20	0.18
87F2186	HMMD47	2	0.0047	C*	0.29	0.22	0.20	0.18
87F2187	HMMS10	1A	0.01	E	0.27	0.20	0.18	0.17
87F2189	HMMXS10	3	0.01	E**	0.28	0.21	0.19	0.18
87F2190	HMMP10	1	0.1	L	0.69	0.52	0.46	0.43

* 5mm lead spacing (tape and reel only). ** 0.031″ maximum coating extension, 0.187″ lead length.
(7237) (de03040)

AC LINE RATED CERAMIC DISC CAPACITORS



PERFORMANCE DATA

Specifications	125L Series	440L Series
Continuous Voltage Rating	300VAC, 2000VDC	500VAC, 3500VDC
Transient Voltage (Dielectric Strength)	1250VAC, 5000VDC	2000VAC, 7000VDC
Insulation Resistance Min.	50,000MΩ; 500ΩF	150,000MΩ; 750ΩF
Case Breakdown/Flammability Rating	1500VAC/94VO	2500VAC/94VO
Application Service	IEC 161 Class X	IEC Class Y or X

DIMENSIONS

Size Code	D Max.	Lead Spacing	Size Code	D Max.	Lead Spacing
F	0.400″	0.250″	L	0.720″	0.375″
G	0.460″	0.250″	M	0.790″	0.375″
G[3]	0.460″	0.375″	P	0.900″	0.375″
H	0.530″	0.250″	W	0.740″	0.375″
H[3]	0.530″	0.375″	X	0.830″	0.375″
J	0.620″	0.375″	Y	0.940″	0.375″

125L SERIES

Continuous voltage rating 250AC, 2KV, DC. Dielectric strength 1500AC. Maximum service temperature: 105°C. Typical EIA characteristic: Z5U/Y5U. UL recognized, CSA certified, VDE approved.

Stock No.	Type	Cap. µF	Size Code	1-99	100-249	250-499	500-999
90F7504	125LD33	0.0033	G	0.67	0.50	0.45	0.41
90F7505	125LSD47	0.0047	G	0.64	0.48	0.44	0.40
90F7506	125LSS10	0.0100	J	0.90	0.68	0.61	0.56
90F7522	125LS50	0.0500	Y*	3.47	2.61	2.34	2.16

* T = 0.240″ max.

125L SERIES X TYPE 300 VAC, 2000VDC T = 0.187″ MAX.

46F5219	125LD10	0.001	F	0.43	0.33	0.29	0.27
46F5220	125LD47	0.0047	H	0.77	0.58	0.52	0.48
46F5221	125LD50	0.005	H[3]	0.78	0.59	0.53	0.49
46F5222	125LS10	0.01	L	1.08	0.81	0.73	0.67
46F5223	125LS20	0.02	W*	2.48	1.86	1.67	1.54
46F5224	125LS22	0.022	P*	1.54	1.16	1.04	0.96
46F5225	125LS30	0.03	X*	2.83	2.12	1.91	1.76

* T = 0.240″ max.

440L SERIES

Continuous voltage rating of 500AC, 3.5KV, DC. Dielectric strength: 4000AC. Dissipation factor @25°C: 2.0%. Maximum service temperature: 125°C. Typical EIA characteristic: Z5U/Y5V. UL recognized, CSA certified, VDE approved Y1.

Stock No.	Type	Cap. µF	Size Code	1-99	100-249	250-499	500-999
90F7507	440LSS10	0.01	M**	1.62	1.21	1.09	1.00

440L SERIES Y TYPE 500VAC, 3500VDC

46F5226	440LT33	330pF	F	0.61	0.46	0.41	0.38
46F5227	440LT68	680pF	F	0.61	0.46	0.41	0.38
46F5228	440LD10	0.001	G[3]	0.68	0.51	0.46	0.42
46F5229	440LD22	0.0022	G[3]	0.84	0.63	0.57	0.53
46F5231	440LD33	0.0033	J**	0.97	0.73	0.66	0.60
46F5232	440LD47	0.0047	L**	1.37	1.03	0.92	0.85
46F5235	440LS10	0.01	P**	1.99	1.49	1.34	1.24

** Lead spacing is 5mm in tape and reel versions.

20VL SERIES

Continuous voltage rating: 250AC, 1.4KV DC. Dielectric strength: 1000 AC. Dissipation factor: 1.5%. Maximum service temperature: 85°C. Typical EIA characteristic: Y5V. VDE approved.

Stock No.	Type	Cap. µF	Size Code	1-99	100-249	250-499	500-999
90F7525	20VLSS10	0.01	H	0.63	0.48	0.43	0.40
90F7526	20VLS20	0.02	L	1.02	0.76	0.69	0.63
90F7527	20VLP10	0.1	Y**	2.87	2.15	1.93	1.78

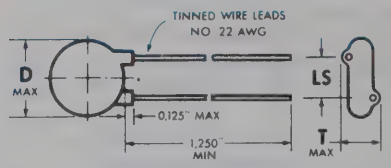
** Lead spacing is 5mm in tape and reel versions.
(7093) (de03041)

NEW PRODUCTS ARE CONTINUALLY ADDED.

CALL NEWARK FOR CURRENT SELECTION.

CONTACT NEWARK FOR LARGE-QUANTITY PRICING.

562C SERIES CERAMIC DISC CAPACITORS



General purpose capacitors designed for telephones and lighting ballasts to withstand transient voltage and energy surges in accord with FCC and IEEE standards. **Type 10TS** capacitors are temperature and voltage stabilized.

SIZE CODE (22 AWG TINNED WIRE LEADS)

Size Code	Max. Dia.	Max. Thick.	Lead Spacing	Size Code	Max. Dia.	Max. Thick.	Lead Spacing
C†	0.250	0.156	0.250	M	0.760	0.156	0.375
E†	0.295	0.156	0.250	P	0.890	0.156	0.375
F†	0.375	0.156	0.250	R	0.510	0.220	0.250
G†	0.440	0.156	0.250	S	0.360	0.220	0.250
H†	0.490	0.156	0.250	W	0.700	0.220	0.375
J	0.560	0.156	0.375	X	0.770	0.185	0.375
K	0.630	0.156	0.375	Y	0.900	0.220	0.375
L	0.680	0.156	0.375	...	...	...	...

†Also available with 5mm (0.197) lead spacing in tape and reel packaging per EIA RS468; *contact your local Newark sales office.*

100 VOLT MINIATURIZED CAPACITORS ± 5% TOLERANCE

Stock No.	Type	Cap.	Size Code	1-99	100-249	250-499	500-999
87F2191	TCXQ10	10pF	C	0.33	0.25	0.22	0.21
87F2192	TCXQ22	22pF	C	0.30	0.23	0.20	0.19
		TEMPERATURE STABLE ± 10% TOLERANCE					
87F2193	TCXQ47	47pF	C	0.31	0.24	0.21	0.20
87F2194	TST10	100pF	C	0.28	0.21	0.19	0.17
87F2195	TST22	220pF	C	0.28	0.21	0.19	0.18
87F5396	TST47	470pF	C	0.28	0.21	0.19	0.18
		GENERAL PURPOSE ± 20% TOLERANCE					
87F2196	TSD10	0.001µF	C	0.23	0.20	0.17	0.16
87F2197	TSXD10	0.001µF	C	0.27	0.20	0.18	0.17
18F932	TGD50	0.005µF	E	0.26	0.19	0.17	0.16
18F933	TGS10	0.01µF	F	0.20	0.17	0.15	0.14
18F934	TGS20	0.02µF	G	0.29	0.25	0.22	0.20
18F937	TGS50	0.05µF	R	0.98	0.83	0.72	0.65
18F938	TGP10	0.10µF	W	1.42	1.20	1.05	0.94
		500 VOLT CAPACITORS TEMPERATURE STABLE ± 10% TOLERANCE					
87F2207	5TSD10	0.001µF	E	0.30	0.22	0.20	0.19
87F2209	5TSD33	0.0033µF	G	0.38	0.29	0.26	0.24
87F2210	5TSD47	0.0047µF	H	0.47	0.35	0.31	0.29
		500V GENERAL PURPOSE ± 20% TOLERANCE					
87F2211	5TSSD10	0.001µF	C	0.27	0.20	0.18	0.17
87F2212	5TSS10	0.01µF	K	0.53	0.40	0.36	0.33
		GENERAL-PURPOSE					
46F5592	5GASS10	0.01µF	G	0.31	0.26	0.23	0.21
46F5333	5GASS20	0.02µF	J	0.41	0.35	0.31	0.28
18F2732	5GAS50	0.05µF	P	0.86	0.73	0.64	0.57
18F2733	5GAP10	0.10µF	Y	1.92	1.64	1.42	1.28
		GENERAL-PURPOSE +80%, –20% TOLERANCE					
81F2067	5HKSS10	0.01µF	G	0.30	0.26	0.23	0.20
18F1592	5HKS50	0.05µF	W	1.45	1.23	1.07	0.96
81F2071	5HKP10	0.10µF	Y	1.86	1.58	1.38	1.24
		1000 VOLT CAPACITORS ± 20% CAPACITANCE TOLERANCE					
18F2677	5GAQ10	10pF	E	0.25	0.22	0.19	0.17
18F2680	5GAQ20	20pF	E	0.28	0.24	0.21	0.19
18F2685	5GAQ33	33pF	E	0.28	0.24	0.21	0.19
18F2687	5GAQ47	47pF	E	0.28	0.24	0.21	0.19
18F2693	5GAT10	100pF	C	0.22	0.19	0.16	0.15
18F2695	5GAT15	150pF	C	0.26	0.22	0.19	0.17
18F2697	5GAT20	200pF	E	0.26	0.22	0.19	0.17
18F2698	5GAT22	220pF	E	0.23	0.19	0.17	0.15
18F2702	5GAT33	330pF	E	0.25	0.21	0.18	0.16
18F2705	5GAT47	470pF	E	0.25	0.21	0.18	0.16
18F2706	5GAT50	500pF	E	0.27	0.23	0.20	0.18
18F2711	5GAD10	1,000pF	E	0.21	0.18	0.16	0.14
18F2714	5GAD15	1,500pF	E	0.26	0.22	0.19	0.17
18F2716	5GAD20	2,000pF	E	0.25	0.22	0.19	0.17
18F2717	5GAD22	2,200pF	E	0.25	0.22	0.19	0.17
18F2720	5GAD30	3,000pF	E	0.28	0.24	0.21	0.19
18F2721	5GAD33	3,300pF	F	0.28	0.24	0.21	0.19

CONTINUED

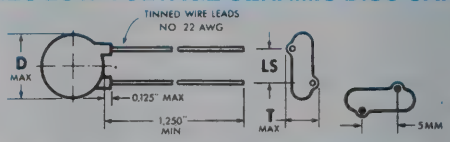
562C SERIES CERAMIC DISC CAPACITORS (CONT.)

1000 VOLT CAPACITORS ± 20% CAPACITANCE TOLERANCE (CONT.)

Stock No.	Type	Cap.	Size Code	1-99	100-249	250-499	500-999
18F2725	5GAD47	4,700pF	F	0.28	0.24	0.21	0.19
18F2726	5GAD50	5,000pF	F	0.26	0.22	0.20	0.18
87F2215	5GAD68	6,800pF	G	0.35	0.30	0.26	0.24
87F2216	5GAD82	8,200pF	H	0.43	0.37	0.32	0.29
18F2727	5GAS10	10,000pF	J	0.40	0.34	0.30	0.27
18F2728	5GAS15	15,000pF	K	0.51	0.43	0.38	0.34
18F2729	5GAS20	20,000F	L	0.55	0.46	0.40	0.36
87F2217	10GAP10	100,000pF	Y	2.13	1.81	1.57	1.42
		+80%, –20% CAPACITANCE TOLERANCE					
87F2218	5HKZS10	0.010µF	H	0.39	0.33	0.29	0.26
87F2206	10HKS50	0.050µF	X	1.69	1.44	1.25	1.13
		1kV TEMPERATURE AND VOLTAGE STABILIZED ±10% TOLERANCE					
46F5303	10TST33	330pF	E	0.61	0.46	0.41	0.25
46F5304	10TST39	390pF	E	0.31	0.23	0.21	0.13
46F5305	10TST47	470pF	E	0.30	0.23	0.20	0.13
46F5307	10TST56	560pF	E	0.30	0.23	0.20	0.13
46F5308	10TST68	680pF	E	0.31	0.23	0.21	0.13
46F5310	10TST82	820pF	F	0.33	0.25	0.22	0.14
46F5311	10TSD10	1,000pF	F	0.31	0.23	0.21	0.13

(7103) (de03215)

561C SERIES LOW-VOLTAGE CERAMIC DISC CAPACITORS



Type 10TC are NPO precision disc capacitors. These capacitors are temperature frequency and voltage stabilized.

SIZE CODE (22 AWG TINNED WIRE LEADS)

Size Code	Max. Dia.	Max. Thck.	Standard Lead Spacing	Size Code	Max. Dia.	Max. Thck.	Standard Lead Spacing
...	...	...	...	J	0.560	0.156	0.375
E†	0.295	0.156	0.250	K	0.630	0.156	0.375
F†	0.375	0.156	0.250	L	0.680	0.156	0.375
G†	0.440	0.156	0.250	M	0.760	0.156	0.375
H†	0.490	0.156	0.250	S	0.360	0.220	0.250

1000VDC/300VAC RMS ± 5% TOLERANCE

Stock No.	Type	Fig.	Cap. pF	Size Code	Max. Dia.	1-99	100-249	250-499	500-999
46F5345	10TCCQ10	2	10	E	.295	0.27	0.23	0.20	0.18
46F5312	10TCCQ12	1	12	E	.295	0.32	0.27	0.24	0.21
46F5313	10TCCQ15	1	15	E	.295	0.28	0.24	0.21	0.19
46F5314	10TCCQ18	1	18	E	.295	0.32	0.27	0.24	0.21
46F5315	10TCCQ20	1	20	E	.295	0.28	0.24	0.21	0.19
46F5316	10TCCQ22	1	22	E	.295	0.28	0.24	0.21	0.19
46F5317	10TCCQ25	1	25	E	.295	0.32	0.27	0.24	0.21
46F5318	10TCCQ27	1	27	F	.375	0.35	0.29	0.26	0.23
46F5319	10TCCQ30	1	30	F	.375	0.35	0.29	0.26	0.23
46F5320	10TCCQ33	1	33	F	.375	0.33	0.28	0.25	0.22
46F5321	10TCCQ39	1	39	F	.375	0.35	0.29	0.26	0.23
46F5322	10TCCQ47	1	47	G	.440	0.33	0.28	0.25	0.22
46F5593	10TCCQ50	1	50	G	.440	0.35	0.29	0.26	0.23
46F5323	10TCCQ56	1	56	G	.440	0.38	0.32	0.28	0.26
46F5324	10TCCQ68	1	68	H	.490	0.40	0.34	0.30	0.27
46F5325	10TCCQ82	1	82	J	.560	0.50	0.43	0.37	0.34
46F5326	10TCCT10	1	100	J	.560	0.50	0.43	0.37	0.34
46F5327	10TCCT12	1	120	K	.630	0.59	0.50	0.43	0.39
46F5328	10TCCT15	1	150	K	.630	0.59	0.50	0.43	0.39
46F5329	10TCCT18	1	180	L	.680	0.83	0.70	0.61	0.55
46F5330	10TCCT22	1	220	M	.760	0.94	0.80	0.70	0.63
46F5334	10TCCV10	1	1.0	S	.360	0.35	0.30	0.26	0.24
46F5335	10TCCV22	1	2.2	E	.295	0.30	0.26	0.23	0.20
46F5336	10TCCV27	1	2.7	E	.295	0.32	0.27	0.24	0.21
46F5340	10TCCV47	1	4.7	E	.295	0.28	0.24	0.21	0.19
46F5341	10TCCV50	1	5.0	E	.295	0.28	0.24	0.21	0.19
46F5343	10TCCV68	1	6.8	E	.295	0.32	0.27	0.24	0.21

(7104) (de03217)

TYPE 1C, 2C, 3C MONOLYTHIC® CERAMIC CAPACITORS

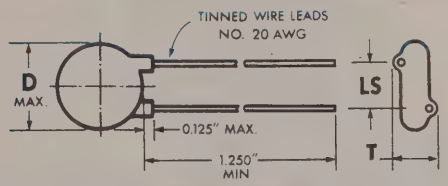
Available in three EIA temperature characteristics: Z5U (for bypass and filtering), X7R (for bypass and decoupling in radio and TV receivers, computers and servo systems), and C0G (for precision timing circuits and RF oscillators). Tolerance: Z5U, ±20%; X7R, ±10%; C0G, ±5%. Operating temperature: Z5U, +10°C to +85°C; X7R and C0G, –55°C to +125°C. Voltage coded as last three numbers.

GENERAL-APPLICATION TYPE Z5U

Stock No.	Type	Cap µF	Lead Space	1-99	100-249	250-499	500-999
81F2060	1C10Z5U103M050B	0.01	0.100″	0.17	0.15	0.13	0.12
81F2061	1C10Z5U104M050B	0.1	0.100″	0.15	0.13	0.11	0.10
95F7160	1C10Z5U224M050B	0.22	0.100″	0.33	0.28	0.25	0.22
95F7163	1C10Z5U333M050B	0.033	0.100″	0.20	0.17	0.15	0.14
95F7158	1C10Z5U334M050B	0.33	0.100″	0.41	0.35	0.30	0.27
81F2062	1C20Z5U103M050B	0.01	0.200″	0.17	0.15	0.13	0.12
17F2165	1C20Z5U104M050B	0.1	0.200″	0.15	0.13	0.11	0.10
81F2063	1C20Z5U224M050B	0.22	0.200″	0.35	0.29	0.26	0.23
81F2064	1C20Z5U334M050B	0.33	0.200″	0.41	0.35	0.30	0.27
29F010	1C25Z5U103M050B	0.01	0.250″	0.21	0.18	0.16	0.14
29F011	1C25Z5U223M050B	0.022	0.250″	0.22	0.19	0.16	0.15
29F012	1C25Z5U333M050B	0.033	0.250″	0.24	0.20	0.18	0.16
29F013	1C25Z5U473M050B	0.047	0.250″	0.24	0.21	0.18	0.16
29F014	1C25Z5U104M050B	0.1	0.250″	0.19	0.16	0.14	0.13
29F016	1C25Z5U224M050B	0.22	0.250″	0.33	0.28	0.25	0.22
29F017	1C25Z5U334M050B	0.33	0.250″	0.41	0.35	0.30	0.27
95F7171	1C10Z5U473M050B	0.047	0.250″	0.20	0.17	0.15	0.14
90F1907	2C20Z5U105M050B	1.0	0.200″	0.70	0.60	0.52	0.47
95F7181	2C25Z5U105M050B	1.0	0.250″	0.77	0.66	0.57	0.52
29F021	2C37Z5U224M050B	0.22	0.370″	0.33	0.28	0.25	0.22
29F022	2C37Z5U334M050B	0.33	0.370″	0.41	0.35	0.31	0.28
29F023	2C37Z5U474M050B	0.47	0.370″	0.52	0.44	0.38	0.34
29F025	2C37Z5U105M050B	1.0	0.370″	0.92	0.78	0.68	0.61
29F027	3C37Z5U225M050B	2.2	0.370″	3.59	3.05	2.65	2.39
	TEMPERATURE-STABLE TYPE X7R						
89F3219	1C10X7R102K050B	0.001	0.100″	0.18	0.15	0.13	0.12
89F3212	1C10X7R104K050B	0.1	0.100″	0.25	0.21	0.19	0.17
95F7162	1C10X7R104K100B	0.1	0.100″	0.31	0.26	0.23	0.21
95F7178	1C10X7R473K050B	0.047	0.100″	0.26	0.22	0.19	0.17
89F3213	1C20X7R102K050B	0.001	0.200″	0.23	0.20	0.17	0.16
95F7177	1C20X7R102K100B	0.001	0.200″	0.26	0.22	0.19	0.17
89F3215	1C20X7R104K050B	0.1	0.200″	0.23	0.20	0.17	0.16
95F7179	1C20X7R222K050B	0.0022	0.200″	0.23	0.20	0.17	0.16
95F7176	1C20X7R332K100B	0.0033	0.200″	0.23	0.20	0.17	0.16
95F7167	1C25X7R103K050B	0.01	0.250″	0.24	0.21	0.18	0.16
95F7173	1C25X7R104K100B	0.1	0.250″	0.33	0.28	0.25	0.22
95F7172	1C30X7R103K050B	0.01	0.300″	0.24	0.21	0.18	0.16
	TEMPERATURE-COMPENSATING TYPE C0G						
95F7174	1C10C0G100J050B	10pF	0.100″	0.28	0.24	0.21	0.19
89F3216	1C10C0G101J050B	100pF	0.100″	0.28	0.24	0.21	0.19
89F3217	1C10C0G102J050B	1000pF	0.100″	0.28	0.24	0.21	0.19
95F7175	1C10C0G220J050B	22pF	0.100″	0.28	0.24	0.21	0.19
95F7168	1C10C0G330J050B	33pF	0.100″	0.28	0.24	0.21	0.19
89F3218	1C10C0G331J050B	330pF	0.100″	0.28	0.24	0.21	0.19
95F7165	1C10C0G470J050B	47pF	0.100″	0.28	0.24	0.21	0.19
89F3207	1C10C0G471J050B	470pF	0.100″	0.28	0.24	0.21	0.19
89F3208	1C20C0G101J050B	100pF	0.200″	0.28	0.24	0.21	0.19
89F3209	1C20C0G102J050B	1000pF	0.200″	0.26	0.23	0.20	0.18
95F7170	1C20C0G220J050B	22pF	0.200″	0.28	0.24	0.21	0.19
95F7164	1C20C0G222J050B	2200pF	0.200″	0.38	0.33	0.28	0.26
89F3210	1C20C0G331J050B	330pF	0.200″	0.28	0.24	0.21	0.19
89F3211	1C20C0G471J050B	470pF	0.200″	0.28	0.24	0.21	0.19

(7163) (de53034)

564C AND 615C SERIES CERAMIC DISC CAPACITORS



564C SERIES

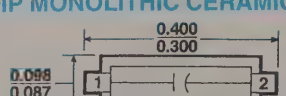
Type 30GA are 3000VDC/1000VAC RMS. **Type 60GA** are 6000VDC/1000VAC RMS. Tolerance: ±20% except Z5U: +80%, –20%. Thickness (T): **type 30GA**, 0.187″ max.; **type 60GA**, 0.280″ max. Operating temperature: –25°C to +85°C.

SIZE CODE (20 AWG TINNED WIRE LEADS)

Size Code	D Max.	Lead Spacing	Size Code	D Max.	Lead Spacing
E	0.330	0.250	K	0.680	0.375
F	0.400	0.250	L	0.720	0.375
G	0.460	0.250	M	0.790	0.375
H	0.530	0.250	P	0.900	0.375
J	0.620	0.375	W	0.740	0.375
...	...	...	X	0.830	0.375

Stock No.	Type	Cap. pF	Size Code	Temp. Coeff.	1-99	100-249	250-499	500-999
46F5260	30GAQ10	10	E	U2J	0.42	0.36	0.31	0.28
46F5262	30GAQ15	15	E	U2J	0.42	0.36	0.31	0.28
46F5263	30GAQ22	22	E	R3L	0.42	0.36	0.31	0.28
46F5265	30GAQ33	33	E	R3L	0.42	0.36	0.31	0.28
46F5266	30GAQ47	47	E	X5F	0.42	0.36	0.31	0.28
46F5267	30GAQ56	56	E	X5F	0.42	0.36	0.31	0.28
46F5268	30GAQ68	68	E	X5F	0.42	0.36	0.31	0.28
46F5269	30GAT10	100	E	X5F	0.42	0.36	0.31	0.28
46F5270	30GAT15	150	E	X5F	0.42	0.36	0.31	0.28
46F5271	30GAT22	220	E	X5F	0.42	0.36	0.31	0.28
46F5272	30GAT27	270	E	X5F	0.42	0.36	0.31	0.28
46F5273	30GAT33	330	E	X5R	0.42	0.36	0.31	0.28
46F5274	30GAT39	390	E	X5R	0.42	0.36	0.31	0.28
46F5275	30GAT47	470	E	X5S	0.42	0.36	0.31	0.28
46F5276	30GAT68	680	E	Y5V	0.42	0.36	0.31	0.28
46F5277	30GAD10	1k	E	Z5U	0.41	0.35	0.31	0.28
46F5278	30GAD15	1.5k	F	Z5U	0.47	0.40	0.35	0.32
46F5279	30GAD22	2.2k	G	Z5U	0.53	0.45	0.39	0.35
46F5280	30GAD27	2.7k	H	Z5U	0.60	0.51	0.45	0.40
46F5281	30GAD33	3.3k	H	Z5U	0.65	0.55	0.48	0.43
46F5282	30GAD39	3.9k	J	Z5U	0.75	0.63	0.55	0.50
46F5283	30GAD47	4.7k	J	Z5U	0.83	0.70	0.61	0.55
46F5284	30GAD68	6.8k	L	Z5U	0.98	0.83	0.72	0.65
46F5285	30GAD82	8.2k	M	Z5U	1.20	1.02	0.89	0.80
46F5588	30GAS10	10k	P	Z5U	1.39	1.18	1.03	0.93
46F5286	30GASS10	10k	M	Y5V	1.03	0.88	0.76	0.69
46F5236	60GAQ10	10	F	NPO	0.85	0.73	0.63	0.57
46F5237	60GAQ22	22	F	U2J	0.85	0.73	0.63	0.57
46F5238	60GAQ33	33	F	R3L	0.85	0.73	0.63	0.57
46F5239	60GAQ47	47	F	R3L	0.85	0.73	0.63	0.57
46F5240	60GAT10	100	F	X5F	0.85	0.73	0.63	0.57
46F5241	60GAT22	220	F	X5F	0.85	0.73	0.63	0.57
46F5243	60GAT47	470	F	Y5U	0.85	0.73	0.63	0.57
46F5244	60GAT56	560	F	Y5U	0.85	0.73	0.63	0.57
46F5245	60GAD10	1k	F	Z5U	0.85	0.73	0.63	0.57
46F5246	60GAD22	2.2k	H	Z5U	1.05	0.89	0.77	0.70
46F5247	60GAD33	3.3k	K	Z5U	1.83	1.55	1.35	1.22
46F5248	60GAD47	4.7k	M	Z5U	2.56	2.18	1.89	1.70

923C SERIES DIP MONOLITHIC CERAMIC CAPACITORS



Using eleventh digit in type number, **K** indicates capacitance tolerance ±10%; if **M** indicates ±20%. Consists of 1 section with two pins. Length: 0.095″ (2.41).

Stock No.	Type	Cap. µF	1-99	100-249	250-499	500-999
65F925	923CX7R102K050B	0.001	0.69	0.46	0.41	0.38
65F926	923CX7R103K050B	0.01	0.51	0.34	0.30	0.28
65F928	923CX7R104K050B	0.1	0.69	0.46	0.41	0.38
65F929	923CZ5U103M050B	0.01	0.37	0.25	0.22	0.21
65F931	923CZ5U104M050B	0.1	0.43	0.29	0.26	0.24
65F932	923CZ5U224M050B	0.22	0.65	0.43	0.39	0.36

(7164) (de53035)

615C SERIES

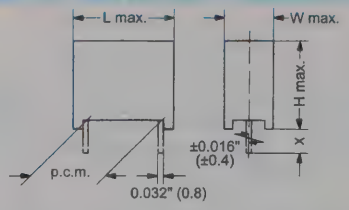
615C series 60Hz. Tolerance: ±20% for X5F and YSR, +80%, –20% for Y5U and Z5U. **Type 100GA** are 10,000VDC/3000VAC RMS. **Type 150GA** are 15,000VDC/4500VAC RMS. Thickness (T): **type 100GA**, 0.350″ max; **type 150GA**, 0.500″ max. Lead spacing (LS): **type 100GA**, 0.500″; **type 150GA**, 0.750″.

Stock No.	Type	Cap. pF	D Max.	Temp. Coeff.	1-99	100-249	250-499	500-999
46F5251	100GAT50	500	0.67	X5F	3.17	2.69	2.34	2.11
46F5252	100GAD10	1000	0.75	Y5R	3.55	3.02	2.63	2.36
46F5253	100GAD25	2500	0.81	Z5U	3.91	3.32	2.89	2.60
46F5254	100GAD47	4700	0.98	Z5U	5.65	4.80	4.18	3.76
46F5255	150GAT10	100	0.67	X5F	4.01	3.41	2.96	2.67
46F5256	150GAT25	250	0.67	X5F	4.01	3.41	2.96	2.67
46F5257	150GAT50	500	0.75	Y5U	4.44	3.77	3.28	2.95
46F5258	150GAD10	1000	0.81	Y5U	5.74	4.88	4.24	3.82
46F5259	150GAD25	2500	0.98	Z5U	6.65	5.66	4.92	4.43

(7173) (de53075)

AC SUPPRESSION AND DC FILM CAPACITORS

F1710 POLYESTER FILM AC SUPPRESSION CAPACITORS

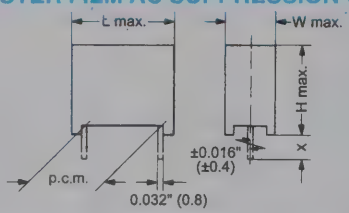


Class "Y" interference suppressor AC capacitors for across-the-line, antenna coupling, and line bypass components. 250VAC, 50/60Hz. Radial, tinned copper wire leads. Plastic can, epoxy resin sealed, flame-retardant coating, 20% tolerance. Approvals: VDE, SEV, DEMKO, SEMKO, NEMKO, SETI, UL recognized, IMQ, OVE.

Stock No.	Type	Cap. µF	Dimensions W x H x L (Max.)	Lead Spacing (mm)	1-99	100-499
95F9062	F1710210-1000	0.001	0.217 x 0.413 x 0.709"	5	1.29	1.07
95F9065	F1710247-1000	0.0047	0.217 x 0.413 x 0.709"	5	1.28	1.06
95F9066	F1710310-1000	0.01	0.256 x 0.492 x 0.709"	15	1.52	1.26
95F9068	F1710347-1000	0.047	0.335 x 0.650 x 1.04"	22.5	2.89	2.40
95F9069	F1710410-1000	0.10	0.453 x 0.807 x 1.24"	27.5	4.35	3.60

(7304) (de02769)

F1772 POLYESTER FILM AC SUPPRESSION CAPACITORS

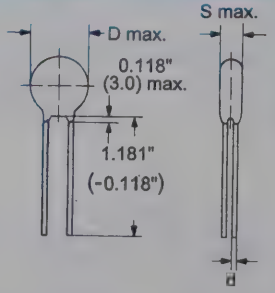


Class "X" AC capacitors for across-the-line components. 250VAC, 50/60Hz. Plastic can epoxy resin sealed, flame-retardant coating. Radial, tinned copper wire leads. Tolerance: ≤0.1µF ±20%; UL recognized; CSA approved; also, VDE, DEMKO, SEMKO, NEMKO, SETI, IMQ, OVE, and all but **F1772522-2000** are SEV approved.

Stock No.	Type	Cap. µF	Dimensions W x H x L (Max.)	Lead Spacing (mm)	1-99	100-499
95F9070	F1772410-2000	0.10	.335 x .689 x .709"	15	1.70	1.41
95F9071	F1772422-2000	0.22	.335 x .650 x 1.04"	22.5	2.26	1.87
95F9072	F1772433-2000	0.33	.413 x .728 x 1.04"	22.5	3.03	2.51
95F9073	F1772447-2000	0.47	.453 x .807 x 1.24"	27.5	3.66	3.03
95F9074	F1772468-2000	0.68	.531 x .925 x 1.24"	27.5	4.69	3.89
95F9075	F1772510-2000	1.0	.591 x .965 x 1.24"	27.5	6.07	5.04
95F9077	F1772522-2000	2.2	.709 x 1.30 x 1.63"	37.5	11.10	9.21

(7305) (de02770)

WKO CERAMIC DISC AC SUPPRESSION CAPACITORS

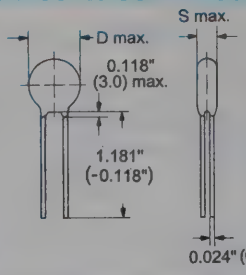


Class "Y" line-to-ground AC capacitors are epoxy resin dipped, insulated type, 20% tolerance. 400VAC, 50/60Hz. Operating temperature: –40° to +85°C. All are 0.295" (7.5mm) lead spacing except **WKO472MCPEJOK** is 0.492" (12.5mm). Lead diameter (d) = 0.024" (0.6) on all except **WKO472MCPEJOK**, which is 0.031" (0.8). Approvals: UL recognized, VDE, BSI, SEV, SEMKO, NEMKO, SETI, CSA certified.

Stock No.	Type	Cap. pF	Dimensions D x S (max.)	1-99	100-499
95F9078	WKO102MCPCJ0K	1000	0.394 x 0.197" (10.0 x 5.0)	0.86	0.71
95F9079	WKO222MCPCJ0K	2200	0.472 x 0.197" (12.0 x 5.0)	1.08	0.90
95F9081	WKO472MCPEJ0K	4700	0.630 x 0.197" (16.0 x 5.0)	1.72	1.43

(7306) (de02771)

WYO CERAMIC DISC AC SUPPRESSION CAPACITORS

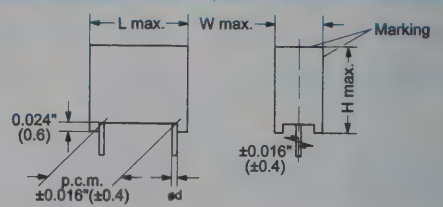


Class "Y" AC capacitors for radio interference suppression. 250VAC, 50/60Hz. Epoxy resin dipped and flame retardant. Lead spacing 5.0mm except **types WYO472MCMCFOK** and **WYO502MCMCFOK** are 7.5mm. Approvals: VDE, UL recognized, IMQ, BSI, SEV, SETI, NEMKO.

Stock No.	Type	Cap. pF	Dimensions D x S (Max.)	1-99	100-499
95F9082	WY0102MCMBF0K	1000	0.256 x 0.177"	0.51	0.43
95F9084	WY0222MCMBF0K	2200	0.354 x 0.177"	0.69	0.57
95F9085	WY0472MCMCF0K	4700	0.472 x 0.177"	1.22	1.01
95F9086	WY0502MCMCF0K	5000	0.472 x 0.177"	1.22	1.01
91F3085	WYO103MCMCF0K	10000	0.827 x 0.177"	2.95	2.44

(7307) (de02772)

MKP1841 METALIZED POLYPROPYLENE FILM CAPACITORS

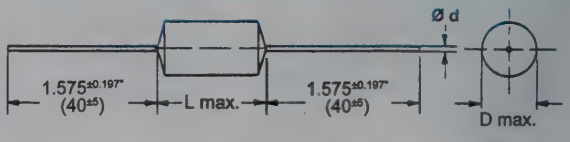


Radial lead capacitors for high voltage, high current, and high pulse operations. Internal series construction. Tinned wire leads. Operating temperature: –55°C to +85°C, with voltage derating 1.25% per °C. 5% tolerance. Voltages: 2000 for type suffix x **-204**; 1600 for **-134**; 630 for **-634**; and 250 for **-254**. Related document: IEC 384-17.

Stock No.	Type	Cap. µF	Dimensions W x H x L (in.)	Lead Space	Ød (in.)	1-99	100-499
96F3274	841247204	0.0047	0.256 x 0.571 x 1.043	0.866"	0.0315	1.86	1.54
96F3279	841310634	0.01	0.217 x 0.413 x 0.709	0.591"	0.0315	1.14	0.95
96F3275	841410204	0.1	0.630 x 1.122 x 1.634	1.476"	0.0394	10.12	8.39
96F3278	841422134	0.22	0.709 x 1.280 x 1.634	1.476"	0.0394	11.80	9.79

(7308) (de02773)

MKP1845 SERIES METALIZED POLYPROPYLENE FILM CAPACITORS



Axial lead. Blue flame-retardant tape wrap with epoxy endseals. Tinned wire leads.Operating temperature: –55°C to +85°C, to 100°C with voltage derating of 1.25% per °C. Tolerance: 5%. Voltage: 2000 for type suffix **-204**; 1600 for **-134**; 630 for **-634**; 160 for **-164**.

Stock No.	Type	Cap. µF	Dimensions D x L	Lead Dia.	1-99	100-499
96F3284	845210204	0.001	0.256 x 1.142"	0.0276"	2.90	2.40
96F3289	845310634	0.01	0.276 x 0.866"	0.0276"	2.95	2.44
96F3292	845322254	0.022	0.236 x 0.669"	0.0276"	2.62	2.17
96F3286	845410204	0.1	0.827 x 1.732"	0.0394"	9.66	8.01
96F3288	845422134	0.22	0.866 x 1.732"	0.0394"	11.27	9.34
96F3290	845447634	0.47	0.827 x 1.732"	0.0394"	12.47	10.34

(7309) (de02774)

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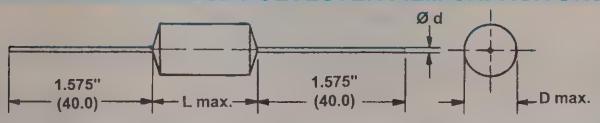
POLYESTER FILM CAPACITORS

MKT1813 METALIZED POLYESTER FILM CAPACITORS

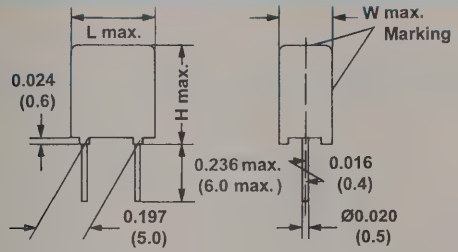


Used in blocking, bypassing, filtering, timing, coupling and low pulse operations. Dielectric: polyester film. Plastic-wrapped, epoxy resin sealed. Tinned wire leads. Operating temperature: –55°C to +100°C. Capacitance tolerance: 5%.

Stock No.	Type	Cap. µF	Volt VDC	Dimensions D x L	1-99	100-499	500-999
95F8745	813310404	0.01	400	0.197 x 0.433″	0.95	0.79	0.63
95F8746	813322254	0.022	250	0.197 x 0.433″	0.96	0.79	0.63
95F8748	813410014	0.1	100	0.197 x 0.433″	1.03	0.86	0.69
95F8749	813410254	0.1	250	0.236 x 0.551″	1.07	0.88	0.71
95F8751	813447064	0.47	63	0.276 x 0.551″	1.65	1.37	1.09
95F8752	813510014	1.0	100	0.335 x 0.748″	2.21	1.83	1.46
95F8753	813522064	2.2	63	0.335 x 1.044″	4.30	3.56	2.85
95F8792	813533064	3.3	63	0.394 x 1.044″	5.72	4.75	3.79

(7292) (de02368)

MKT1817 METALIZED POLYESTER FILM CAPACITORS

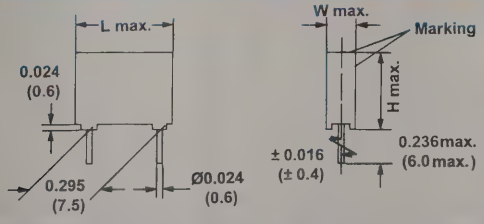


Utilized in high frequency coupling and decoupling for fast digital and analog ICs. Dielectric: polyester film. Flame retardant green plastic case, epoxy resin sealed. Tinned wire leads. Lead space: 0.197″ (5mm). Operating temperature: –55°C to +100°C. Capacitance tolerance: 5%. Length: 0.296″.

Stock No.	Type	Cap. µF	Volt VDC	Dimensions W x H	1-99	100-499	500-999
95F8793	817310254	0.01	250	0.099 x 0.236″	0.50	0.41	0.33
95F8795	817322014	0.022	100	0.099 x 0.236″	0.38	0.32	0.26
95F8796	817347014	0.047	100	0.099 x 0.236″	0.38	0.32	0.26
95F8797	817368014	0.068	100	0.099 x 0.236″	0.42	0.35	0.28
95F8798	817410064	0.1	63	0.099 x 0.236″	0.43	0.35	0.28
95F8799	817422064	0.22	63	0.138 x 0.335″	0.55	0.46	0.37
95F8800	817447064	0.47	63	0.197 x 0.393″	0.86	0.71	0.57
95F8801	817510064	1.0	63	0.217 x 0.453″	1.33	1.10	0.88

(7293) (de02369)

MKT1818 METALIZED POLYESTER FILM CAPACITORS

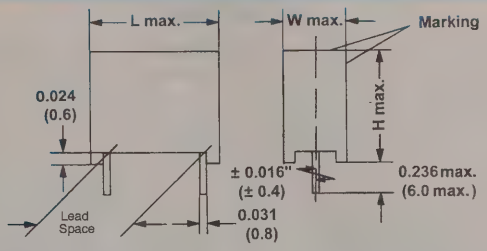


Employed in interference suppression in low voltage applications. Dielectric: polyester film. Flame retardant green plastic case, epoxy resin filled. Tinned wire leads. Voltage: 63VDC. Lead space: 0.295″ (7.5mm). Operating temperature: –55°C to +100°C. Capacitance tolerance: 5%.

Stock No.	Type	Cap. µF	Dimensions W x H x L	1-99	100-499	500-999	1000-1999
95F8813	818447064	0.47	0.177 x 0.374 x 0.394″	0.79	0.65	0.52	0.39
95F8814	818510064	1.00	0.224 x 0.453 x 0.406″	1.24	1.03	0.82	0.62

(7294) (de02370)

MKT1822 METALIZED POLYESTER FILM CAPACITORS



Applications include blocking, bypassing, filtering and timing devices. Dielectric: polyester film. Flame retardant green plastic case, epoxy resin sealed. Tinned wire leads Operating temperature: –55°C to +100°C. Capacitance tolerance: 5%.

100VDC

Stock No.	Type	Cap. µF	Dimensions W x H x L	Lead Space	1-99	100-499	500-999	1000-1999
95F8818	822410014	0.1	0.157x0.354x0.512″	0.394″	0.70	0.58	0.46	0.35

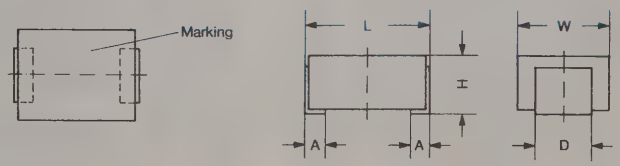
63VDC

95F8822	822510064	1.0	0.217x0.413x0.709″	0.590″	1.95	1.62	1.30	0.97
95F8823	822522064	2.2	0.295x0.532x0.709″	0.590″	3.59	2.98	2.38	1.78

(7295) (de02371)

MKT1824 SURFACE MOUNT METALIZED POLYESTER FILM CAPACITORS

SMD

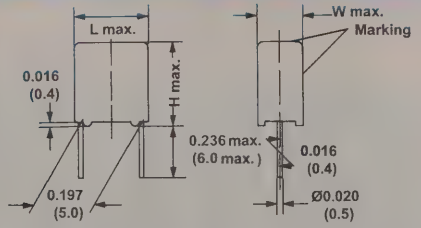


Used in high frequency coupling and decoupling for fast digital and analog ICs and interference suppression in low voltage applications. Dielectric: polyester film. Flame retardant molded black plastic case. Contacts: tinned nickel silver tape. Dimension "A" = 0.039±0.012″. Dimension "D" = 0.118±0.008″. Dimensions: 0.267W x 0.157H x 0.283″L. Operating temperature: –55°C to +100°C. Capacitance tolerance: 5%.

Stock No.	Type	Cap. µF	VDC	1-99	100-499	500-999
95F8744	824510044	1.0	40V	13.18	9.41	8.00

(7296) (de02372)

MKT1826 METALIZED POLYESTER FILM CAPACITOR



Used in blocking, bypassing, filtering, timing, coupling and low pulse operations. Rated voltage 50VDC. Dielectric: polyester film. Green plastic case, epoxy resin filled. Tinned wire leads. Lead space: 0.197″ (5mm). Operating temperature: –55°C to +100°C. Capacitance tolerance: 5%. Working voltage: 50VDC.

Stock No.	Type	Cap. µF	Dimensions W x H x L	1-99	100-499	500-999	1000-1999
95F8803	826522054	2.2	0.283 x 0.512 x 0.283″	5.79	4.80	3.84	2.87
95F8804	826533054	3.3	0.283 x 0.512 x 0.283″	8.90	7.38	5.90	4.42

(7297) (de02373)

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25 WVDC CAPACITORS

Tolerance: ± 10% (X7R); ± 20% (Z5U).

Stock No.	Type	Cap. µF	Temp. Diel.	EIA Case Style	Reel of 3000 1-4	Reel of 3000 5-9
16F7817	VJ0805Y471KXXMT	470pF	X7R	0805	179.22	146.13
16F7818	VJ0805Y104KXXMT	0.10	X7R	0805	344.66	281.01
16F7820	VJ1206Y102KXXMT	1000pF	X7R	1206	172.33	140.51
16F7821	VJ1206Y224KXXMT	0.22	X7R	1206	551.45	449.61
16F7822	VJ1812Y223KXXMT	0.022	X7R	1812	199.90	162.99
16F7823	VJ1812Y105KXXMT	1.0	X7R	1812	597.41	487.08
16F7831	VJ0603U104MXXMT	0.10	Z5U	0603	275.73	224.81
16F7824	VJ0805U103MXXMT	0.010	Z5U	0805	151.65	123.65
16F7826	VJ1210U274MXXMT	0.27	Z5U	1210	413.59	337.21
16F7827	VJ1210U105MXXMT	1.0	Z5U	1210	792.71	646.31

HIGH-VOLTAGE CAPACITORS

NPO temperature dielectric. Tolerance: ± 10%.

Stock No.	Type	Voltage (VDC)	Cap. pF	EIA Case Style	Reel of 3000 1-4	Reel of 3000 5-9
16F7828	VJ0603A100KXCMT	200	10	0603	459.54	374.67
16F7829	VJ0805A271KXCMT	200	270	0805	344.66	281.01
16F7833	VJ0805A101KXCMT	200	100	0805	344.66	281.01
16F7834	VJ0805A821KXCMT	200	820	0805	344.66	281.01
16F7836	VJ0805A101KXEMT	500	100	0805	379.12	309.11
16F7837	VJ0805A391KXEMT	500	390	0805	379.12	309.11
16F7839	VJ1206A101KXCMT	200	100	1206	344.66	281.01
16F7840	VJ1206A102KXCMT	200	1000	1206	344.66	281.01
16F7841	VJ1206A100KXEMT	500	10	1206	379.12	309.11
16F7843	VJ1206A821KXEMT	500	820	1206	379.12	309.11

X7R temperature dielectric. Sold in reels of 3000.

16F7844	VJ0805Y331KXCMT	200	.330	0805	358.45	292.25
16F7846	VJ0805Y223KXCMT	200	0.022µF	0805	351.55	286.63
16F7847	VJ1206Y102KXCMT	200	1000	1206	482.52	393.41
16F7848	VJ1206Y222KXCMT	200	2200	1206	482.52	393.41
16F7849	VJ1206Y103KXCMT	200	0.010µF	1206	344.66	281.01
16F7850	VJ1206Y473KXCMT	200	0.047µF	1206	461.84	376.55
16F7852	VJ1206Y103KXEMT	500	0.010µF	1206	696.21	567.63
16F7853	VJ1812Y103KXCMT	200	0.010µF	1812	344.66	281.01
16F7854	VJ1812Y104KXCMT	200	0.10µF	1812	494.01	402.77
16F7863	VJ1812Y392KXEMT	500	3900	1812	229.77	187.34
16F7865	VJ1812Y104KXEMT	500	0.10µF	1812	700.80	571.38
16F7866	VJ1812Y122KXGMT	1000	1200	1812	723.78	590.11
16F7868	VJ1812Y223KXGMT	1000	0.022µF	1812	953.55	777.44

VERY THIN OUTLINE PACKAGE (VTOP) CAPACITORS

Equivalent to EIA package types as indicated, except for lower height as specified. Temperature dielectric: Z5U. Voltage: 50VDC. Tolerance: ± 20%.

Stock No.	Type	Cap. µF	Thickness Max.	EIA Case Style	Reel of 4000 1-4	Reel of 4000 5-9
16F7871	VJ7518U103MXAMT	0.010	0.018"	0603	459.54	374.67
16F7872	VJ7518U183MXAMT	0.018	0.018"	0603	459.54	374.67
16F7874	VJ7522U273MXAMT	0.027	0.022"	0603	367.64	299.74
16F7875	VJ7526U103MXAMT	0.010	0.026"	0603	413.59	337.21
16F7876	VJ7526U183MXAMT	0.018	0.026"	0603	413.59	337.21
16F7877	VJ7526U333MXAMT	0.033	0.026"	0603	459.54	374.67
16F7878	VJ7618U103MXAMT	0.010	0.018"	0805	344.66	281.01
16F7855	VJ7618U333MXAMT	0.033	0.018"	0805	275.73	224.81
16F7856	VJ7622U103MXAMT	0.010	0.022"	0805	275.73	224.81
16F7857	VJ7622U273MXAMT	0.027	0.022"	0805	275.73	224.81
16F7858	VJ7622U473MXAMT	0.047	0.022"	0805	310.19	252.91
16F7859	VJ7626U103MXAMT	0.010	0.026"	0805	310.19	252.91
16F7861	VJ7626U683MXAMT	0.068	0.026"	0805	310.19	252.91
16F7862	VJ7718U223MXAMT	0.022	0.018"	1206	413.59	337.21
16F7879	VJ7718U104MXAMT	0.100	0.018"	1206	413.59	337.21
16F7880	VJ7722U223MXAMT	0.022	0.022"	1206	344.66	281.01
16F7881	VJ7722U104MXAMT	0.100	0.022"	1206	344.66	281.01
16F7882	VJ7722U151MXAMT	0.150	0.022"	1206	344.66	281.01
16F7883	VJ7726U223MXAMT	0.022	0.026"	1206	379.12	309.11
16F7884	VJ7726U823MXAMT	0.082	0.026"	1206	379.12	309.11
16F7886	VJ7918U333MXAMT	0.033	0.018"	1210	516.99	421.51
16F7887	VJ7918U104MXAMT	0.100	0.018"	1210	516.99	421.51
16F7895	VJ7922U333MXAMT	0.033	0.022"	1210	448.06	365.31
16F7896	VJ7922U104MXAMT	0.100	0.022"	1210	448.06	365.31
16F7897	VJ7922U224MXAMT	0.220	0.022"	1210	448.06	365.31
16F7898	VJ7926U333MXAMT	0.033	0.026"	1210	482.52	393.41
16F7899	VJ7926U104MXAMT	0.100	0.026"	1210	482.52	393.41
16F7900	VJ7926U334MXAMT	0.330	0.026"	1210	482.52	393.41

CONTINUED

MONOLITHIC SURFACE MOUNT CERAMIC CHIP CAPACITORS (CONT.)

TIP 'N RING™ CAPACITORS

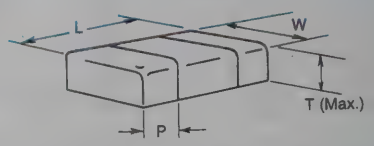
Ideal for telephone line filtering. Replace high-voltage leaded film capacitors. Temperature dielectric: X7R. Voltage: 250V. Tolerance: ± 10%.

Stock No.	Type	Capacitance µF	EIA Case Style	Reel of 1000 1-4	Reel of 1000 5-9
16F7869	VJ9427Y104KXPMT	0.10	1812	482.52	393.41
16F7870	VJ9427Y224KXPMT	0.22	1812	505.50	412.14
16F7889	VJ9174Y224KXPMT	0.22	1825	505.50	412.14
16F7891	VJ9174Y474KXPMT	0.47	1825	459.54	374.67
16F7892	VJ9253Y884KXPMT	0.68	2225	896.11	730.61
16F7893	VJ9253Y824KXPMT	0.82	2225	1010.99	824.28
16F7894	VJ9253Y105KXPMT	1.0	2225	1033.97	843.01

(7217) (ne08275)

VJ0603 SERIES MONOLITHIC CERAMIC CHIP CAPACITORS

SMD



Proprietary "wet fabrication" process for manufacturing ceramic chip capacitors results in maximum capacitance per unit area. Standard EIA 0603 chip size. 50 V. Dimensions: 0.063 x 0.031 x 0.033" (1.60 x 0.80 x 0.84). Term. (P): 0.015" (0.38). Operating temperature: NPO and X7R types: –55° to +125°C; Z5U type: +10°C to +85°C. Meet MIL-C-56681 and MIL-STD-202. **Sold in reels of 4000.**

NPO/COG 50V

Stock No.	Type	Cap. pF	Tol.	1-2	3-4
48F4824	VJ0603A1R0DXAMT	1.0	±0.5pF	444.00	362.00
48F4825	VJ0603A1R2DXAMT	1.2	±0.5pF	444.00	362.00
48F4826	VJ0603A1R5DXAMT	1.5	±0.5pF	444.00	362.00
48F4827	VJ0603A2R2DXAMT	2.2	±0.5pF	444.00	362.00
48F4828	VJ0603A2R7DXAMT	2.7	±0.5pF	444.00	362.00
48F4829	VJ0603A3R3DXAMT	3.3	±0.5pF	444.00	362.00
48F4830	VJ0603A3R9DXAMT	3.9	±0.5pF	444.00	362.00
48F4831	VJ0603A5R6DXAMT	5.6	±0.5pF	444.00	362.00
48F4832	VJ0603A6R8DXAMT	6.8	±0.5pF	444.00	362.00
48F4833	VJ0603A8R2DXAMT	8.2	±0.5pF	444.00	362.00
48F4834	VJ0603A150JXAMT	15	±5%	204.24	166.52
48F4835	VJ0603A220JXAMT	22	±5%	204.24	166.52
48F4836	VJ0603A270JXAMT	27	±5%	204.24	166.52
48F4837	VJ0603A330JXAMT	33	±5%	204.24	166.52
48F4838	VJ0603A390JXAMT	39	±5%	204.24	166.52
48F4839	VJ0603A470JXAMT	47	±5%	204.24	166.52
48F4840	VJ0603A560JXAMT	56	±5%	204.24	166.52
48F4841	VJ0603A680JXAMT	68	±5%	204.24	166.52
48F4842	VJ0603A820JXAMT	82	±5%	204.24	166.52
48F4843	VJ0603A101JXAMT	100	±5%	168.72	137.56
48F4844	VJ0603A181JXAMT	180	±5%	230.88	188.24
48F4845	VJ0603A271JXAMT	270	±5%	230.88	188.24
48F4846	VJ0603A391JXAMT	390	±5%	239.76	195.48
48F4847	VJ0603A471JXAMT	470	±5%	239.76	195.48

X7R 50V

48F4848	VJ0603Y471KXAMT	470	±10%	213.12	173.76
48F4849	VJ0603Y681KXAMT	680	±10%	213.12	173.76
48F4850	VJ0603Y821KXAMT	820	±10%	222.00	181.00
48F4851	VJ0603Y122KXAMT	1200	±10%	222.00	181.00
48F4852	VJ0603Y152KXAMT	1500	±10%	204.24	166.52
48F4853	VJ0603Y182KXAMT	1800	±10%	204.24	166.52
48F4854	VJ0603Y272KXAMT	2700	±10%	230.88	188.24
48F4855	VJ0603Y332KXAMT	3300	±10%	230.88	188.24
48F4856	VJ0603Y392KXAMT	3900	±10%	230.88	188.24
48F4857	VJ0603Y562KXAMT	5600	±10%	239.76	195.48
48F4858	VJ0603Y682KXAMT	6800	±10%	239.76	195.48
48F4859	VJ0603Y822KXAMT	8200	±10%	230.88	188.24

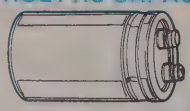
X7R 25V

48F4860	VJ0603Y223KXXMT	0.022µF	±10%	248.64	202.72

(14935) (ne10109)

ALUMINUM ELECTROLYTIC CAPACITORS

CGS SERIES COMPUTER-GRADE CYLINDRICAL ALUMINUM ELECTROLYTIC CAPACITORS



CGS Series are plastic-sleeved units. Expected operating life in excess of 10 years. Pressure safety vent; 0.219″ (5.56) high terminal posts with 10-32 screws. Tolerance: 16-150WVDC, –10%, +75%; 200WVDC and up, –10%, +50%. Operating temperature: –40° to +85°C. *Mounting hardware available separately on page 44 or contact your local Newark sales office.*

Stock No.	Type	Cap. µF	WV DC	Dia. × L (in.)	1-24	25-49	50-99
44F1190	CGS892U016R2C	8.9k	16	1.375 × 2.125	7.38	6.79	6.05
60F3670	CGS103U016R2C	10k	16	1.375 × 3.125	7.54	6.94	6.18
60F3671	CGS153U016R2L	15k	16	1.375 × 2.625	9.74	8.96	7.98
44F1191	CGS173U016R3C	17k	16	1.375 × 3.125	8.85	8.14	7.25
17F1793	CGS233U016V3C	23k	16	2.000 × 3.125	11.37	10.46	9.31
44F1192	CGS253U016R4C	25k	16	1.375 × 4.125	9.89	9.10	8.10
44F1193	CGS383U016V3C	38k	16	2.000 × 3.125	14.05	12.92	11.50
60F3673	CGS503U016V3C	50k	16	2.000 × 3.125	14.59	13.42	11.95
44F1194	CGS553U016V3L	55k	16	2.000 × 3.625	14.51	13.35	11.88
98F035	CGS663U016V4C	66k	16	2.000 × 4.125	18.54	17.06	15.18
60F3674	CGS803U016X4C	80k	16	3.000 × 4.125	26.94	24.79	22.06
44F1196	CGS114U016W4C	110k	16	2.500 × 4.125	24.28	22.34	19.88
44F1197	CGS124U016X3L	120k	16	3.000 × 3.625	31.40	28.89	25.71
46F2158	CGS214U016X5R	210k	16	3.000 × 5.875	40.17	38.97	36.23
60F3677	CGS562U025R3C	5.6k	25	1.375 × 3.125	7.86	7.23	6.44
44F1200	CGS892U025R3C	8.9k	25	1.375 × 3.125	8.21	7.56	6.73
44F1201	CGS103U025R3C	10k	25	1.375 × 3.125	8.50	7.82	6.96
17F1794	CGS123U025V3C	12k	25	2.000 × 3.125	10.73	9.87	8.79
60F3679	CGS183U025R4C	18k	25	1.375 × 4.125	10.97	10.09	8.98
44F1202	CGS203U025V3C	20k	25	2.000 × 3.125	11.96	11.00	9.79
44F1203	CGS293U025V4C	29k	25	2.000 × 4.125	13.23	12.18	10.84
48F4669	CGS413U025V4C	41k	25	2.000 × 4.125	15.84	14.57	12.97
60F3681	CGS433U025X4C	43k	25	2.000 × 4.125	35.12	32.31	28.76
48F4667	CGS473U025V4C	47k	25	2.000 × 4.125	17.30	15.92	14.17
44F1204	CGS452U030R2C	4.5k	30	1.375 × 2.125	7.62	7.01	6.24
50F6803	CGS802U030R3C	8k	30	1.375 × 3.125	8.18	7.53	6.70
48F4666	CGS123U035R4C	12k	35	1.375 × 4.125	9.32	8.58	7.63
17F1795	CGS222U040R2C	2.2k	40	1.375 × 2.125	7.89	7.26	6.46
44F1205	CGS272U040R2C	2.7k	40	1.375 × 2.125	7.38	6.79	6.05
50F6805	CGS352U040R2C	3.5k	40	1.375 × 2.125	7.58	6.97	6.20
17F1796	CGS422U040R3C	4.2k	40	1.375 × 3.125	9.77	8.99	8.00
44F1206	CGS512U040R3C	5.1k	40	1.375 × 3.125	8.29	7.63	6.79
48F4672	CGS602U040R3C	6k	40	1.375 × 3.125	9.09	8.36	7.44
17F1797	CGS622U040R4C	6.2k	40	1.375 × 4.125	10.36	9.54	8.49
44F1207	CGS902U040R4C	9k	40	1.375 × 4.125	10.57	9.73	8.66
17F1798	CGS932U040V3C	9.3k	40	2.000 × 3.125	13.28	12.22	10.88
44F1208	CGS113U040V3C	11k	40	2.000 × 3.125	11.72	10.78	9.60
17F1799	CGS133U040V4C	13k	40	2.000 × 4.125	13.95	12.84	11.42
90F1676	CGS173U040V4C	17k	40	2.000 × 4.125	14.08	12.95	11.53
17F1800	CGS203U040V5L	20k	40	2.000 × 5.625	15.75	14.49	12.90
90F1678	CGS233U040V4C	23k	40	2.000 × 4.125	15.91	14.64	13.03
90F1684	CGS403U040W4C	40k	40	2.500 × 4.125	23.32	21.46	19.10
17F1802	CGS433U040X5C	43k	40	3.000 × 5.125	41.41	40.18	37.35
95F2911	CGS683U040X4C	68k	40	3.000 × 4.125	34.96	33.91	31.53
60F3683	CGS162U050R2C	1.6k	50	1.375 × 2.125	7.22	6.65	5.92
60F3684	CGS292U050R3C	2.9k	50	1.375 × 3.125	8.50	7.82	6.96
44F1209	CGS412U050R3C	4.1k	50	1.375 × 3.125	10.24	9.42	8.38
60F3685	CGS432U050R4C	4.3k	50	1.375 × 4.125	11.62	10.69	9.52
60F3686	CGS652U050V3C	6.5k	50	2.000 × 3.125	11.16	10.27	9.14
48F4670	CGS682U050R3C	6.8k	50	1.375 × 3.125	9.32	8.58	7.63
60F3687	CGS962U050V4C	9.6k	50	2.000 × 4.125	13.07	12.03	10.71
90F1671	CGS103U050R4C	10k	50	1.375 × 4.125	10.60	9.76	8.68
90F1672	CGS133U050V3C	13k	50	2.000 × 3.125	13.68	12.59	11.20
94F3720	CGS153U050V4C	15k	50	2.000 × 4.125	14.59	13.42	11.95
90F1677	CGS203U050V4C	20k	50	2.000 × 4.125	17.38	15.99	14.23
98F1799	CGS253U050W4C	25k	50	2.500 × 4.125	20.53	18.89	16.81
99F7538	CGS563U050X3L	56k	50	3.000 × 3.625	36.66	35.57	33.07
60F3692	CGS152U075R3C	1.5k	75	1.375 × 3.125	8.10	7.45	6.63
48F4671	CGS222U075R2C	2.2k	75	1.375 × 2.125	7.98	7.34	6.54
60F3693	CGS232U075R4C	2.3k	75	1.375 × 4.125	9.06	8.33	7.42
50F6806	CGS292U075R3C	2.9k	75	1.375 × 3.125	9.09	8.36	7.44
94F3723	CGS422U075R4C	4.2k	75	1.375 × 4.125	11.21	10.31	9.18
46F2159	CGS632U075R5L	6.3k	75	1.375 × 5.625	11.77	10.83	9.64
60F3696	CGS752U075V5L	7.5k	75	2.000 × 5.625	15.67	14.42	12.83
46F2160	CGS103U075V3C	10k	75	2.000 × 4.125	17.14	15.77	14.03
94F221	CGS153U075V5L	15k	75	2.000 × 5.625	22.40	20.61	18.34
90F1679	CGS373U075X5L	37k	75	3.000 × 3.625	41.84	40.59	37.74
60F3700	CGS122U100R3C	1.2k	100	1.375 × 3.125	8.50	7.82	6.96
46F2161	CGS242U100R4C	2.4k	100	1.375 × 4.125	11.32	10.42	9.27
60F3703	CGS402U100V4C	4k	100	2.000 × 4.125	15.51	14.27	12.70
95F1175	CGS103U100W4C	10k	100	2.500 × 4.125	21.81	20.07	17.86
90F1674	CGS153U100X4C	15k	100	3.000 × 4.125	32.09	29.53	26.28
60F3707	CGS401U150R2C	400	150	1.375 × 2.125	8.91	8.20	7.30
60F3708	CGS112U150R4C	1.1k	150	1.375 × 4.125	10.84	9.98	8.88

CONTINUED

CGS SERIES COMPUTER-GRADE CYLINDRICAL ALUMINUM ELECTROLYTIC CAPACITORS (CONT.)

Stock No.	Type	Cap. µF	WV DC	Dia. × L (in.)	1-24	25-49	50-99
95F2912	CGS242U150V3C	2.4k	150	2.000 × 3.125	19.34	17.79	15.83
60F3711	CGS352U150V5L	3.5k	150	2.000 × 5.625	18.09	16.65	14.82
13F3554	CGS872U150X5R	8.7k	150	3.000 × 5.875	41.25	40.02	37.21
50F6807	CGS102T200R4C	1k	200	1.375 × 4.125	12.44	11.44	10.18
90F1675	CGS162T200V3C	1.6k	200	2.000 × 3.125	16.55	15.23	13.55
44F1210	CGS202T200V4C	2k	200	2.000 × 4.125	20.52	18.88	16.80
94F1719	CGS742T200X5L	7.4k	200	3.000 × 5.625	50.82	49.30	45.83
60F3714	CGS201T250R2C	200	250	1.375 × 2.125	8.42	7.75	6.90
48F4668	CGS251T250R2C	250	250	1.375 × 2.125	9.29	8.55	7.61
60F3716	CGS551T250R4C	550	250	1.375 × 4.125	11.13	10.24	9.11
60F3718	CGS122T250V3C	1.2k	250	2.000 × 3.125	16.02	14.74	13.12
90F1685	CGS252T250V5L	2.5k	250	2.000 × 5.625	27.10	24.94	22.19
90F1681	CGS602T250X5L	6k	250	3.000 × 5.625	54.20	52.58	48.88
90F1686	CGS222T350W5L	2.2k	350	2.500 × 5.625	50.50	48.99	45.55
95F2914	CGS302T350X5R	3k	350	3.000 × 5.875	58.10	56.37	52.41
44F1211	CGS332T350X5L	3.3k	350	3.000 × 5.625	52.84	51.26	47.66
50F6813	CGS342T350X5L	3.4k	350	3.000 × 5.625	63.33	61.44	57.12
60F3722	CGS750T450R2C	75	450	1.375 × 2.125	8.29	7.63	6.79
50F6808	CGS101T450R2C	100	450	1.375 × 2.125	8.53	7.85	6.99
60F3723	CGS141T450R3C	140	450	1.375 × 3.125	9.93	9.14	8.13
50F6809	CGS171T450R3C	170	450	1.375 × 3.125	11.53	10.61	9.44
92F5684	CGS211T450R4C	210	450	1.375 × 4.125	12.60	11.59	10.31
94F3721	CGS251T450R4C	250	450	1.375 × 4.125	12.68	11.66	10.38
60F3724	CGS321T450V3C	320	450	2.000 × 3.125	16.10	14.82	13.19
50F6810	CGS401T450R5L	400	450	1.375 × 5.625	18.92	17.41	15.50
92F5682	CGS451T450V3C	450	450	2.000 × 3.125	19.21	17.68	15.73
90F1682	CGS651T450V4C	650	450	2.000 × 4.125	26.11	24.03	21.38
90F1688	CGS801T450V4L	800	450	2.000 × 4.625	26.91	24.76	22.03
90F1670	CGS102T450W4C	1k	450	2.500 × 4.125	32.17	31.21	29.02
95F1177	CGS112T450X4C	1.1k	450	3.000 × 4.125	45.19	43.84	40.76
90F1673	CGS142T450W5C	1.4k	450	2.500 × 5.125	41.05	39.82	37.02
95F1176	CGS152T450X4C	1.5k	450	3.000 × 4.125	49.02	47.55	44.21
13F3555	CGS152T450X5C	1.5k	450	3.000 × 5.125	46.78	45.39	42.20
50F6811	CGS182T450X5R	1.8k	450	3.000 × 5.875	52.12	50.57	47.01
44F1212	CGS202T450X5C	2k	450	3.000 × 5.125	56.71	55.02	51.15
92F5680	CGS222T450X4C	2.2k	450	3.000 × 4.125	71.78	69.63	64.74
44F1213	CGS242T450X5L	2.4k	450	3.000 × 5.625	64.37	62.44	58.05
92F5679	CGS332T450X5L	3.3k	450	3.000 × 5.625	82.73	80.26	74.62

(7141) (de52586)

CGR SERIES COMPUTER-GRADE CYLINDRICAL ALUMINUM ELECTROLYTIC CAPACITORS

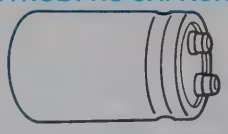
Used as an output capacitor in high-frequency switching regulator power supplies. Ripple capability to 37.5A at 20kHz at +105°C. Operating temperature: –55°C to +85°C. Tolerance: –10% to +75% (7.5 to 50WVDC); –10% to +50% (75 and 100WVDC). Come with 0.219″ (5.56) high post terminals. *Mounting hardware available separately on page 44.*

Stock No.	Type	Cap. µF	WV DC	Dia. × L (in.)	1-24	25-49	50-99
81F4127	CGR113U016R2L	11k	16	1.375 × 2.625	19.90	18.31	16.29
13F3692	CGR203U016R4C	20k	16	1.375 × 4.125	22.84	21.02	18.71
13F3693	CGR303U016V3C	30k	16	2.000 × 3.125	29.49	27.14	24.15
13F3694	CGR423U016V4C	42k	16	2.000 × 4.125	33.87	31.17	27.74
81F4130	CGR462U020R2C	4.6k	20	1.375 × 2.125	18.06	16.62	14.79
13F3717	CGR742U040R5C	7.4k	40	1.375 × 3.625	24.41	22.46	19.98
81F4131	CGR153U030V3L	15k	30	2.000 × 3.625	29.33	26.99	24.02
81F4132	CGR212U040R2C	2.1k	40	1.375 × 2.125	17.86	16.43	14.62
81F4133	CGR392U040R3C	3.9k	40	1.375 × 3.125	19.26	17.72	15.77
13F3718	CGR962U040V3L	9.6k	40	2.000 × 3.625	14.99	13.79	12.27
81F4135	CGR152U050R2C	1.5k	50	1.375 × 2.125	17.90	16.47	14.66
46F2225	CGR292U050R3C	2.9k	50	1.375 × 3.125	19.53	17.97	15.99
13F3726	CGR762U050V3C	7.6k	50	2.000 × 3.125	18.94	17.43	15.51
81F4136	CGR103U050V4C	10k	50	2.000 × 4.125	16.31	15.01	13.36
13F3727	CGR163U050V5L	16k	50	2.000 × 5.625	44.44	43.11	40.08
13F3728	CGR213U050W4L	21k	50	2.500 × 4.625	45.67	44.31	41.19
13F3729	CGR273U050W5L	27k	50	2.500 × 5.625	53.21	51.62	47.99
81F4137	CGR373U050X5L	37k	50	3.000 × 5.625	65.91	63.94	59.45

(7142) (de52587)

ALUMINUM ELECTROLYTIC CAPACITORS

CGH SERIES COMPUTER-GRADE ALUMINUM ELECTROLYTIC CAPACITORS

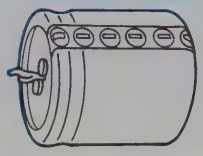


CGH series high capacitance, high ripple, high reliability capacitors suitable for most drive and ups applications. Operating temperature: –40°C to +85°C.

Stock No.	Type	Cap. µF	Dia. x L	1-24	25-49	50-99
250 WVDC						
95F3373	CGH172T250V2L	1700	2.000 x 2.625″	26.67	24.54	21.84
95F3374	CGH292T250V3L	2900	2.000 x 3.625″	28.66	27.81	25.85
95F3375	CGH412T250V4L	4100	2.000 x 4.625″	37.67	36.54	33.97
95F3383	CGH223T250X8L	22000	3.000 x 8.625″	262.20	254.37	236.49
350 WVDC						
95F3384	CGH102T350V2L	1000	2.000 x 2.625″	29.62	27.25	24.25
450 WVDC						
95F3394	CGH621T450V2L	620	2.000 x 2.625″	32.49	29.89	26.60
95F3395	CGH102T450V3L	1000	2.000 x 3.625″	41.09	39.87	37.07
95F3396	CGH142T450V4L	1400	2.000 x 4.625″	48.22	46.78	43.49
95F3400	CGH312T450W5L	3100	2.500 x 5.625″	78.18	75.85	70.52
95F3403	CGH462T450X5L	4600	3.000 x 5.625″	147.65	143.24	133.17
95F3404	CGH772T450X8L	7700	3.000 x 8.625″	221.36	214.75	199.66

(7161) (de52700)

LPX SERIES RADIAL SNAP-IN ALUMINUM ELECTROLYTIC CAPACITORS

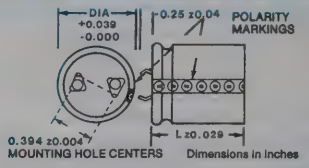


LPX series high capacitance, snap-in capacitors. Ideal as input filter in switch mode power supplies. Tolerance: ± 20% at +20°C 120 Hz. Operating temperature: –40° C to +85°C. The snap-in 10mm lead spacing allows for fast and easy mounting onto PC boards.

Stock No.	Type	Cap. µF	Dia. x L	1-99	100-499	500-999
200 WVDC						
95F3432	LPX471M200A5P3	470	0.87 x 1.38″	5.44	4.66	3.57
95F3434	LPX471M200C3P3	470	1.00 x 1.18″	5.66	4.85	3.72
95F3435	LPX561M200C5P3	560	1.00 x 1.38″	6.49	5.56	4.27
95F3436	LPX681M200C7P3	680	1.00 x 1.57″	7.50	6.43	4.93
95F3424	LPX152M200H7P3	1500	1.38 x 1.57″	12.43	10.65	8.17
95F3425	LPX222M200H9P3	2200	1.38 x 2.00″	19.75	16.93	12.98
250 WVDC						
95F3426	LPX331M250A5P3	330	0.87 x 1.38″	6.05	5.19	3.98
95F3427	LPX331M250C3P3	330	1.00 x 1.18″	6.31	5.41	4.15
95F3429	LPX471M250E3P3	470	1.18 x 1.18″	8.84	7.58	5.81
95F3417	LPX152M250H9P3	1500	1.38 x 2.00″	22.35	19.16	14.69
350 WVDC						
95F3405	LPX681M350H4P3	680	1.38 x 1.77″	21.56	18.48	14.17
400 WVDC						
95F3406	LPX101M400A3P3	100	0.87 x 1.18″	4.93	4.23	3.24
95F3407	LPX221M400C7P3	220	1.00 x 1.57″	7.50	6.43	4.93
95F3408	LPX331M400E7P3	330	1.18 x 1.57″	11.02	9.44	7.24
95F3410	LPX681M400H9P3	680	1.38 x 2.00″	18.66	15.99	12.26
450 WVDC						
95F3412	LPX101M450C3P3	100	1.00 x 1.18″	5.40	4.63	3.55
95F3441	LPX221M450E7P3	220	1.18 x 1.57″	11.92	10.22	7.84
95F3442	LPX271M450E4P3	270	1.18 x 1.77″	13.62	11.68	8.95
95F3446	LPX471M450H9P3	470	1.38 x 2.00″	17.83	15.28	11.72

(7162) (de52701)

LP SERIES SNAP MOUNT ALUMINUM ELECTROLYTIC



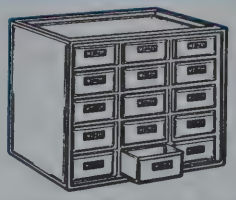
Designed for quick snap-in insertion in PC board power supplies. Standard CV ratings are available in small diameter, low profile configurations that meet height and PC board space restrictions. Designed specifically for switching power supply applications. Can be used in other applications that require high CV in minimum size. Offers low ESR, high ripple capability over a temperature range of –40°C to +105°C. Tolerance: ± 20%.

Case Code	Dia.	Length	Case Code	Dia.	Length	Case Code	Dia.	Length
A1	0.867″	0.984″	E3	1.181″	1.181″	H5	0.867″	1.181″
C1	0.984″	0.984″	E9	1.181″	1.969″	H7	1.378″	1.575″
E1	1.181″	0.984″	H3	1.378″	1.181″	H9	1.378″	1.969″

Stock No.	Type	Cap. µF	WV DC	Case Code	1-99	100-499
44F1589	LP472M016A1P3	4700	16	A1	2.87	2.46
44F1592	LP123M016E3P3	12000	16	E3	4.50	3.85
44F1593	LP153M016H3P3	15000	16	H3	6.49	5.56
44F1595	LP333M016H9P3	33000	16	H9	10.29	8.82
44F1597	LP332M025C1P3	3300	25	C1	4.06	3.48
44F1600	LP103M025H3P3	10000	25	H3	5.94	5.10
44F1602	LP223M025H9P3	22000	25	H9	10.26	8.79
44F1604	LP272M035C1P3	2700	35	C1	3.12	2.67
44F1608	LP822M035H3P3	8200	35	H3	6.52	5.59
48F4687	LP123M035H7P3	12000	35	H7	6.93	5.94
44F1612	LP153M035H9P3	15000	35	H9	10.40	8.92
44F1610	LP122M050A1P3	1200	50	A1	2.87	2.46
44F1613	LP222M050E1P3	2200	50	E1	5.62	4.82
44F1614	LP332M050E3P3	3300	50	E3	4.68	4.01
44F1616	LP472M050H3P3	4700	50	H3	6.42	5.50
44F1617	LP682M050E9P3	6800	50	E9	7.65	6.56
44F1620	LP122M063C1P3	1200	63	C1	4.39	3.76
44F1621	LP182M063E1P3	1800	63	E1	6.09	5.22
44F1622	LP222M063E3P3	2200	63	E3	5.98	5.13
44F1623	LP332M063H3P3	3300	63	H5	6.71	5.75
44F1624	LP472M063E9P3	4700	63	E9	8.44	7.24
44F1625	LP682M063H9P3	6800	63	H9	7.54	6.46
44F1626	LP151M200C1P3	150	200	C1	4.17	3.57
44F1628	LP221M200E1P3	220	200	E1	5.04	4.32
44F1630	LP331M200E3P3	330	200	E3	6.13	5.25
44F1632	LP471M200H3P3	470	200	H3	6.78	5.81
44F1636	LP102M200H9P3	1000	200	H9	12.28	10.53

(7159) (de52698)

ALUMINUM ELECTROLYTIC CAPACITOR ASSORTMENTS



Type TCG151 contains 30 tubular computer-grade aluminum electrolytics 10µF to 10,000µF. Voltages from 10 to 450 WVDC. Housed in a Mallobin® 15-drawer stackable cabinet.

81F9280 Type TCG151 KIT. **Each** **187.34**

Type SK151 is a 135-pc. selection of radial lead aluminum electrolytic capacitors with voltages to 100WVDC. Values 1µF to 6800µF. Housed in a Mallobin® 15-drawer stackable cabinet.

60F2296 Type SK151-KIT. **Each** **86.75**

TC151A. Assorted **type TC** axial leaded aluminum electrolytics to 450WVDC. Values 20µF to 5000µF. Housed in a Mallobin® 15-drawer stackable cabinet.

81F9282 Type TC151A KIT. **Each** **124.20**

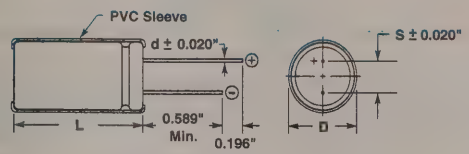
VPR151 Assortment of vertical-mount aluminum electrolytics. 100WVDC. Capacitances 130-5900µF. Housed in a Mallobin® 15-drawer stackable cabinet.

81F9279 Type VPR151 KIT. **Each** **155.25**

(7144) (de52590)

ALUMINUM ELECTROLYTIC CAPACITORS

SK/SKR SERIES ALUMINUM ELECTROLYTIC CAPACITORS

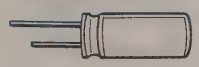


Miniaturized aluminum electrolytic single-ended capacitor. Offers maximum capacitance in low profile case sizes at operating voltages to 100WVDC. Low leakage, low ESR. Polarity encoded leads. Operating temperature: –40°C to +85°C. Tol.: ±20%.

Stock No.	Type	Cap. µF	WV DC	Lead Space	Dia. x L (Inches)	1-99	100-499	500-999
95F2401	SKR101M1AD11	100	10	0.078″	0.197 x 0.433	0.09	0.08	0.06
48F4676	SK221M010ST	220	10	0.098″	0.248 x 0.433	0.13	0.11	0.08
91F6270	SK471M010ST	470	10	0.138″	0.315 x 0.433	0.18	0.15	0.12
48F4677	SK220M016ST	22	16	0.078″	0.197 x 0.433	0.08	0.07	0.05
91F6273	SK471M016ST	470	16	0.197″	0.394 x 0.512	0.26	0.22	0.17
83F2070	SK222M016ST	2200	16	0.197″	0.512 x 0.827	0.64	0.55	0.43
91F6274	SK220M025ST	22	25	0.078″	0.197 x 0.433	0.09	0.08	0.06
91F6275	SK470M025ST	47	25	0.078″	0.197 x 0.433	0.08	0.07	0.06
91F6276	SK101M025ST	100	25	0.098″	0.248 x 0.433	0.13	0.11	0.08
91F6277	SK221M025ST	220	25	0.138″	0.315 x 0.433	0.17	0.15	0.11
91F6278	SK331M025ST	330	25	0.197″	0.394 x 0.512	0.26	0.22	0.17
91F6279	SK471M025ST	470	25	0.197″	0.394 x 0.630	0.35	0.30	0.23
83F2943	SK102M025ST	1000	25	0.197″	0.512 x 0.827	0.52	0.44	0.34
91F6280	SK222M025ST	2200	25	0.197″	0.512 x 1.024	0.76	0.66	0.50
91F6271	SK4R7M050ST	4.7	35	0.078″	0.197 x 0.433	0.08	0.07	0.06
91F6282	SK100M035ST	10	35	0.078″	0.197 x 0.433	0.09	0.08	0.06
91F6283	SK220M035ST	22	35	0.078″	0.197 x 0.433	0.09	0.08	0.06
91F6284	SK470M035ST	47	35	0.098″	0.248 x 0.433	0.11	0.10	0.08
91F6285	SK101M035ST	100	35	0.138″	0.315 x 0.433	0.16	0.14	0.11
91F6286	SK221M035ST	220	35	0.197″	0.394 x 0.512	0.25	0.21	0.16
83F2079	SK331M035ST	330	35	0.197″	0.394 x 0.630	0.35	0.31	0.23
91F6287	SK471M035ST	470	35	0.197″	0.394 x 0.827	0.40	0.34	0.26
91F6288	SK102M035ST	1000	35	0.197″	0.512 x 0.827	0.69	0.59	0.45
91F6289	SK222M035ST	2200	35	0.295″	0.630 x 1.260	1.40	1.20	0.92
83F2069	SK010M050ST	1	50	0.078″	0.197 x 0.433	0.09	0.08	0.06
91F6290	SK2R2M050ST	2.2	50	0.078″	0.197 x 0.433	0.09	0.08	0.06
48F4678	SK3R3M050ST	3.3	50	0.078″	0.197 x 0.433	0.08	0.07	0.06
83F2944	SK100M050ST	10	50	0.078″	0.197 x 0.433	0.08	0.07	0.06
95F2437	SKR330M1HE11V	33	50	0.098″	0.248 x 0.433	0.12	0.10	0.08
83F2076	SK470M050ST	47	50	0.098″	0.248 x 0.433	0.12	0.10	0.08
83F2078	SK101M050ST	100	50	0.138″	0.315 x 0.433	0.19	0.16	0.12
91F6291	SK221M050ST	220	50	0.197″	0.394 x 0.630	0.36	0.31	0.24
91F6292	SK471M050ST	470	50	0.197″	0.512 x 0.827	0.55	0.47	0.36
48F4679	SK100M063ST	10	63	0.078″	0.197 x 0.433	0.08	0.07	0.06
91F6293	SK220M063ST	22	63	0.098″	0.248 x 0.433	0.13	0.12	0.09
91F6294	SK470M063ST	47	63	0.138″	0.315 x 0.433	0.20	0.17	0.13
83F2081	SK010M100ST	1	100	0.078″	0.197 x 0.433	0.09	0.08	0.06
91F6295	SK4R7M100ST	4.7	100	0.078″	0.197 x 0.433	0.10	0.09	0.07
83F2075	SK100M100ST	10	100	0.098″	0.248 x 0.433	0.14	0.12	0.09
48F4680	SK330M100ST	33	100	0.197″	0.394 x 0.512	0.25	0.22	0.17

(7158) (de52697)

SEK/TKR SERIES ALUMINUM ELECTROLYTIC CAPACITORS



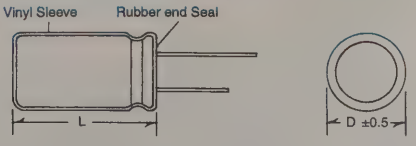
For applications requiring 105°C. Operating temperature: –40°C to +105°C. Tol.: ±20%.

Stock No.	Type	Cap. µF	WV DC	Lead Space	Dia. x L (Inches)	1-99	100-499	500-999
91F6296	SEK101M016ST	100	16	0.098″	0.248 x 0.433	0.13	0.11	0.09
91F6297	SEK221M016ST	220	16	0.138″	0.315 x 0.433	0.20	0.17	0.13
84F541	SEK331M016ST	330	16	0.138″	0.315 x 0.433	0.22	0.19	0.15
48F4681	SEK471M016ST	470	16	0.197″	0.394 x 0.512	0.27	0.24	0.18
91F6298	SEK102M016ST	1000	16	0.197″	0.394 x 0.827	0.40	0.35	0.27
48F4682	SEK222M016ST	2200	16	0.197″	0.512 x 0.827	0.72	0.62	0.48
83F2068	SEK332M016ST	3300	16	0.197″	0.512 x 1.023	1.00	0.86	0.66
83F2083	SEK472M016ST	4700	16	0.295″	0.630 x 1.260	1.68	1.44	1.10
91F6300	SEK220M025ST	22	25	0.078″	0.197 x 0.433	0.10	0.09	0.07
83F2072	SEK470M025ST	47	25	0.078″	0.197 x 0.433	0.12	0.10	0.08
91F6301	SEK221M025ST	220	25	0.138″	0.315 x 0.433	0.20	0.17	0.13
83F2877	SEK331M025ST	330	25	0.197″	0.394 x 0.512	0.31	0.27	0.21
91F6302	SEK471M025ST	470	25	0.197″	0.394 x 0.630	0.38	0.32	0.25
83F2071	SEK102M025ST	1000	25	0.197″	0.512 x 0.827	0.55	0.47	0.36
83F2074	SEK222M025ST	2200	25	0.197″	0.512 x 1.023	0.84	0.72	0.56
48F4683	SEK332M025ST	3300	25	0.295″	0.630 x 1.260	1.31	1.12	0.86
91F6303	SEK472M025ST	4700	25	0.295″	0.708 x 1.380	2.24	1.92	1.47
83F2077	SEK470M035ST	47	35	0.098″	0.248 x 0.433	0.14	0.13	0.10
91F6304	SEK101M035ST	100	35	0.138″	0.315 x 0.433	0.16	0.14	0.11
91F6305	SEK221M035ST	220	35	0.197″	0.394 x 0.512	0.26	0.22	0.17
95F2366	TKR331M1VG16V	330	35	0.197″	0.394 x 0.630	0.38	0.33	0.25
83F2877	SEK331M025ST	330	35	0.197″	0.394 x 0.630	0.31	0.27	0.21
83F2080	SEK471M035ST	470	35	0.197″	0.394 x 0.827	0.41	0.35	0.27
91F6306	SEK102M035ST	1000	35	0.197″	0.512 x 0.827	0.75	0.65	0.50
91F6307	SEK222M035ST	2200	35	0.295″	0.630 x 1.260	1.61	1.38	1.06
84F542	SEK332M035ST	3300	35	0.295″	0.708 x 1.380	2.45	2.10	1.61
91F6308	SEK010M050ST	1	50	0.078″	0.197 x 0.433	0.10	0.08	0.07
91F6309	SEK2R2M050ST	2.2	50	0.078″	0.197 x 0.433	0.11	0.09	0.07
91F6310	SEK100M050ST	10	50	0.078″	0.197 x 0.433	0.10	0.08	0.07
91F6311	SEK220M050ST	22	50	0.078″	0.197 x 0.433	0.09	0.08	0.06
84F543	SEK470M050ST	47	50	0.098″	0.248 x 0.433	0.18	0.15	0.12
91F6313	SEK221M050ST	220	50	0.197″	0.394 x 0.630	0.34	0.29	0.22
48F4684	SEK331M050ST	330	50	0.197″	0.394 x 0.827	0.42	0.36	0.28
91F6314	SEK471M050ST	470	50	0.197″	0.512 x 0.827	0.57	0.49	0.38
91F6315	SEK102M050ST	1000	50	0.295″	0.630 x 0.984	1.31	1.12	0.86
91F6316	SEK222M050ST	2200	50	0.295″	0.708 x 1.378	2.16	1.85	1.42
48F4685	SEK010M100ST	1	100	0.078″	0.197 x 0.433	0.10	0.09	0.07
48F4686	SEK4R7M100ST	4.7	100	0.078″	0.197 x 0.433	0.11	0.09	0.07
91F6317	SEK100M100ST	10	100	0.098″	0.248 x 0.433	0.14	0.13	0.10
91F6318	SEK101M100ST	100	100	0.197″	0.512 x 0.827	0.54	0.47	0.36
91F6319	SEK221M100ST	220	100	0.295″	0.630 x 0.984	1.02	0.87	0.67

(7160) (de52699)

IF YOU DON'T SEE THE PRODUCT YOU NEED LISTED HERE - CALL!
1-800-4-NEWARK
(1-800-463-9275)

SN SERIES RADIAL LEAD ALUMINUM ELECTROLYTIC CAPACITORS



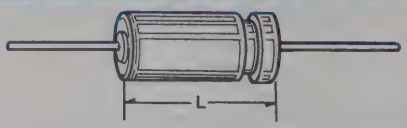
Non-polar, general-purpose miniature capacitors for use in reversing polarity of DC voltage circuits. Operating temperature: –40°C to +85°C. Tolerance: ±20%.

Stock No.	Type	Cap. µF	WV DC	Dia. X L. (mm)	1-24	25-49	50-99	100-249
91F5144	SN100M016ST	10	16	5 x 11	0.69	0.65	0.61	0.53
91F5145	SN100M025ST	10	25	6.3 x 11	0.69	0.65	0.61	0.53
91F5146	SN010M050ST	1	50	5 x 11	0.47	0.44	0.42	0.36
91F5147	SN2R2M050ST	2.2	50	5 x 11	0.53	0.50	0.47	0.41
91F5148	SN4R7M050ST	4.7	50	6.3 x 11	0.68	0.63	0.60	0.52
91F5149	SN100M050ST	10	50	8 x 11	0.79	0.75	0.71	0.61
91F5150	SN470M050ST	47	50	10 x 21	1.78	1.67	1.59	1.37
91F5151	SN010M100ST	1	100	5 x 11	0.53	0.50	0.47	0.41
91F5152	SN2R2M100ST	2.2	100	6.3 x 11	0.70	0.65	0.62	0.53

(14827) (ne10100)

ALUMINUM AND TANTALUM CAPACITORS

SKA SERIES ALUMINUM ELECTROLYTIC CAPACITORS

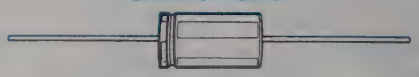


SKA series is an axial leaded aluminum electrolytic capacitor protected by an insulating sleeve. Tolerance: ± 20%. Operating temperature: –40°C to +85°C.

Stock No.	Type	WV DC	Cap. µF	Dia. x L	1-99	100-499	500-999
16F2303	SKA010M025	25	1	0.196 x 0.492″	0.25	0.22	0.17
16F2304	SKA2R2M025	25	2.2	0.196 x 0.492″	0.25	0.22	0.17
16F2305	SKA4R7M025	25	4.7	0.196 x 0.492″	0.25	0.22	0.17
16F2306	SKA100M025	25	10	0.196 x 0.492″	0.24	0.21	0.16
16F2307	SKA150M025	25	15	0.196 x 0.492″	0.24	0.21	0.16
16F2308	SKA220M025	25	22	0.236 x 0.492″	0.24	0.21	0.16
16F2309	SKA330M025	25	33	0.236 x 0.492″	0.26	0.22	0.17
16F2292	SKA470M025	25	47	0.236 x 0.492″	0.28	0.24	0.19
16F2293	SKA221M025	25	220	0.315 x 0.787″	0.39	0.34	0.26
16F2294	SKA102M025	25	1000	0.512 x 0.984″	4.16	3.70	3.24
16F2295	SKA222M025	25	2200	0.630 x 1.181″	9.06	7.77	6.07
16F2274	SKA100M035	35	10	0.196 x 0.492″	0.24	0.21	0.16
16F2275	SKA220M035	35	22	0.236 x 0.492″	0.26	0.22	0.17
16F2301	SKA330M035	35	33	0.236 x 0.630″	0.26	0.23	0.17
16F2302	SKA470M035	35	47	0.236 x 0.630″	0.29	0.25	0.19
16F2277	SKA101M035	35	100	0.315 x 0.620″	0.34	0.29	0.22
16F2276	SKA151M035	35	150	0.315 x 0.787″	0.40	0.34	0.26
16F2279	SKA221M035	35	220	0.394 x 0.630″	0.45	0.38	0.29
16F2278	SKA471M035	35	470	0.394 x 0.984″	0.62	0.53	0.41
16F2296	SKA102M035	35	1000	0.512 x 1.181″	1.02	0.87	0.67
16F2280	SKA152M035	35	1500	0.630 x 1.181″	1.32	1.13	0.87
16F2281	SKA222M035	35	2200	0.630 x 1.575″	1.82	1.56	1.20
16F2297	SKA010M050	50	1	0.197 x 0.492″	0.25	0.22	0.17
16F2298	SKA2R2M050	50	2.2	0.197 x 0.492″	0.25	0.22	0.17
16F2299	SKA4R7M050	50	4.7	0.197 x 0.492″	0.24	0.21	0.16
16F2300	SKA100M050	50	10	0.236 x 0.492″	0.25	0.21	0.16
16F2283	SKA330M050	50	33	0.236 x 0.630″	0.29	0.25	0.19
16F2284	SKA470M050	50	47	0.315 x 0.620″	0.33	0.29	0.22
16F2285	SKA101M050	50	100	0.315 x 0.787″	0.40	0.34	0.26
16F2286	SKA221M050	50	220	0.394 x 0.787″	0.54	0.46	0.35
16F2287	SKA331M050	50	330	0.394 x 0.984″	0.63	0.54	0.41
16F2288	SKA471M050	50	470	0.512 x 0.984″	0.84	0.72	0.55
16F2289	SKA101M063	63	100	0.394 x 0.630″	0.45	0.38	0.29
16F2290	SKA220M100	100	22	0.315 x 0.620″	0.36	0.31	0.24
16F2291	SKA470M100	100	47	0.394 x 0.787″	0.62	0.53	0.42
16F2282	SKA100M160	160	10	0.315 x 0.787″	0.46	0.40	0.30

(7156) (de52693)

TC SERIES TUBULAR ALUMINUM ELECTROLYTIC CAPACITORS



Industrial-grade capacitors are single section, metal tubulars with plastic insulating sleeves. Etched cathode construction. Leads 1.25″ (31.75) min. Temperature range: –40°C to +85°C. Tolerance: 16-350 WVDC: –10%, +75%; 450 WVDC: –10%, +50%.

Stock No.	Type	Cap. µF	WVDC	Dia. x L	1-49	50-99
14F364	TC1540	4000	16	0.875 x 1.875″	9.41	7.72
16F1696	TC2515	1500	25	0.750 x 2.125″	7.32	6.45
16F1697	TC2520	2000	25	0.875 x 1.875″	9.23	7.57
81F4083	TC50100	1000	50	0.875 x 2.625″	9.29	7.62
81F4084	TC50200	2000	50	1.00 x 2.625″	10.67	9.41
14F371	TC50300	3000	50	1.00 x 3.625″	13.75	12.12
14F373	TC75101	100	75	0.625 x 1.375″	7.49	6.15
14F374	TC75251	250	75	0.750 x 1.625″	7.33	6.02
14F375	TC75501	500	75	0.875 x 2.125″	8.26	6.78
14F376	TC10101	100	100	0.750 x 1.375″	7.55	6.20
14F377	TC10151	150	100	0.750 x 1.625″	7.33	6.02
14F378	TC10251	250	100	0.875 x 1.875″	8.60	7.06
14F379	TC10501	500	100	1.00 x 2.625″	10.51	9.27
14F380	TC10102	1000	100	1.00 x 3.875″	11.23	9.90
16F1704	TC493	100	150	0.750 x 1.625″	7.79	6.40
81F4085	TC496	200	150	0.875 x 2.125″	8.26	6.78
16F1708	TC52	10	250	0.625 x 1.125″	7.49	6.15
16F1709	TC55	20	250	0.750 x 1.125″	9.57	7.85
14F383	TC57	30	250	0.750 x 1.375″	9.07	7.44
16F1710	TC58	40	250	0.750 x 1.625″	9.23	7.57
16F1711	TC59	50	250	0.750 x 1.625″	9.11	7.47
16F1712	TC1265	100	250	0.875 x 2.625″	10.56	8.66
14F385	TC1267	225	250	1.00 x 3.125″	13.69	12.07
16F1714	TC62	10	350	0.625 x 1.375″	9.47	7.77
14F392	TC67	40	350	0.875 x 1.625″	10.62	8.71
26F991	TC68	60	350	0.875 x 2.125″	9.87	8.10
67F3000	TC69	100	350	0.875 x 2.625″	11.00	9.70
67F3001	TC697	4	450	0.625 x 1.125″	10.62	8.71
14F176	TC70	5	450	0.750 x 1.125″	10.22	8.38
14F178	TC72	10	450	0.875 x 1.375″	9.97	8.18
14F396	TC74	16	450	0.750 x 1.625″	10.16	8.33
14F180	TC75	20	450	0.875 x 1.625″	8.42	6.91
14F397	TC77	30	450	1.00 x 1.625″	11.77	9.66
14F182	TC78	40	450	1.00 x 2.125″	11.73	10.34
14F183	TC79	50	450	1.00 x 2.125″	10.46	9.22
67F3003	TC807	100	450	1.00 x 3.125″	18.39	17.59

(7143) (de52589)

TKA SERIES AXIAL LEAD ALUMINUM ELECTROLYTIC CAPACITORS

Compact capacitors with 1000-hour endurance rating. Low leakage current. Operating temperature: –40°C to +105°C. Tolerance: ±20%. Lead dia.: 0.6mm (except 200WVDC, 0.8mm lead dia.).

Stock No.	Type	Cap. µF	WV DC	Dia. x L (mm)	1-24	25-49	50-99	100-249
91F5160	TKA221M025ST	220	25	8 x 20	1.64	1.54	1.46	1.26
91F5162	TKA331M025ST	330	25	10 x 16	1.82	1.71	1.62	1.40
91F5157	TKA102M025ST	1000	25	13 x 25	3.32	3.12	2.96	2.55
91F5161	TKA222M025ST	2200	25	16 x 30	5.85	5.49	5.21	4.49
91F5158	TKA102M035ST	1000	35	13 x 30	4.24	3.98	3.78	3.25
91F5153	TKA100M050ST	10	50	6 x 12.5	1.02	0.96	0.91	0.78
91F5159	TKA220M050ST	22	50	6 x 16	1.13	1.06	1.01	0.87
91F5155	TKA101M050ST	100	50	8 x 20	1.66	1.56	1.48	1.27
91F5156	TKA101M200ST	100	200	16 x 30	6.72	6.32	5.99	5.16
91F5154	TKA100M400ST	10	400	10 x 25	3.34	3.14	2.98	2.56

(14728) (ne10101)

NPA SERIES AXIAL LEAD ALUMINUM ELECTROLYTIC CAPACITORS

Compact, non-polar axial lead capacitors ideal for audio coupling, crossover networks. Operating temperature: –40°C to +85°C. Tolerance: ±20%. Lead dia.: 0.06mm.

Stock No.	Type	Cap. µF	WV DC	Dia. x L (mm)	1-24	25-49	50-99	100-249
91F5138	NPA2R2M035ST	2.2	35	6 x 16	1.25	1.17	1.11	0.96
91F5137	NPA100M035ST	10	35	6 x 16	1.43	1.34	1.27	1.10
91F5142	NPA4R7M035ST	4.7	35	6 x 16	1.29	1.21	1.15	0.99
91F5139	NPA220M016ST	22	16	6 x 16	1.82	1.71	1.62	1.40
91F5140	NPA220M035ST	22	35	6 x 16	2.14	2.02	1.91	1.65
91F5143	NPA470M025ST	47	25	8 x 20	2.26	2.12	2.01	1.74
91F5141	NPA221M035ST	220	35	10 x 30	8.15	7.66	7.26	6.26

(14826) (ne10099)

T491 SERIES TANTALUM SURFACE MOUNT CAPACITORS

Precision molded surface-mount chip capacitors. Suitable for filtering, bypassing, coupling, blocking, and RC timing circuit applications. Low DF. Low DC leakage. ± 10% tolerance. Operating temperature: –55°C to +125°C.

DIMENSIONS

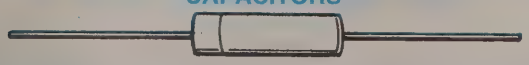
Case Size	EIA/IECQ	L	W	H
A	3216	0.126″ ± 0.008″ (3.2 ± 0.2)	0.063″ ± 0.008″ (1.6 ± 0.2)	0.063″ ± 0.008″ (1.6 ± 0.2)
B	3528	0.138″ ± 0.008″ (3.5 ± 0.2)	0.110″ ± 0.008″ (2.8±0.2)	0.079″ ± 0.008″ (1.9±0.2)
C	6032	0.236″ ± 0.012″ (6.0 ±0.3)	0.126″ ± 0.012″ (3.2 ± 0.3)	0.098″ ± 0.012″ (2.5 ± 0.3)
D	7343	0.287″ ± 0.012″ (7.3 ± 0.3)	0.169″ ± 0.012″ (4.3 ± 0.3)	0.110″ ± 0.012″ (2.8 ± 0.3)

Stock No.	Type	WV DC	Case Size	Cap. µF	1-999	1000-1999	2000-3999
92F5761	T491D686K006AS	6	D	68	1.11	0.59	0.38
92F5769	T491A105K010AS	10	A	1.0	0.37	0.20	0.15
92F5771	T491B106K010AS	10	B	10	0.52	0.28	0.22
92F5762	T491D336K010AS	10	D	33	1.11	0.59	0.38
92F5763	T491D476K010AS	10	D	47	0.94	0.50	0.37
92F5772	T491A105K016AS	16	A	1.0	0.37	0.20	0.15
92F5773	T491A225K016AS	16	A	2.2	0.37	0.20	0.15
92F5774	T491B475K016AS	16	B	4.7	0.41	0.22	0.17
92F5775	T491A105K020AS	20	A	1.0	0.37	0.20	0.15
92F5767	T491C106K020AS	20	C	10	0.62	0.33	0.25
92F5751	T491D226K020AS	20	D	22	0.94	0.50	0.37
92F5753	T491C475K025AS	25	C	4.7	0.62	0.33	0.25
92F5754	T491D106K025AS	25	D	10	0.94	0.50	0.37
92F5779	T491B105K035AS	35	B	1.0	0.41	0.22	0.17
92F5756	T491C225K035AS	35	C	2.2	0.62	0.33	0.25
89F5030	T491D685K035AS	35	D	6.8	0.32	0.27	0.24

(7118) (de04122)

TANTALUM ELECTROLYTIC CAPACITORS

MTP SERIES WET SLUG TANTALUM ELECTROLYTIC CAPACITORS



Higher capacity-voltage per unit volume than conventional wet slug, foil or solid tantalum electrolytic capacitors. Sealed in silver case. Desirable for applications with thin film, micro-electronic circuits. Low and stable DCL characteristic. Operating temperature: –55°C to +85°C. Tolerance: ±20%.

CASE CODE FOR MTP SERIES

Code	Diameter x Length	Code	Diameter x Length
A	0.115″ x 0.403″ (2.92 x 10.24)	C	0.225″ x 0.778″ (5.72 x 19.76)
B	0.145″ x 0.600″ (3.68 x 15.24)	D	0.115″ x 0.300″ (2.92 x 7.62)

Stock No.	Type	Cap. µF	WV DC	Case Code	1-24	25-49	50-99	100-249
60F2264	MTP107M010P1B	100	10	B	14.28	13.41	12.71	8.19
13F316	MTP127M010P1B	120	10	B	14.28	13.41	12.71	8.19
60F2265	MTP337M010P1C	330	10	C	18.61	17.47	16.56	10.68
13F318	MTP806M015P1B	80	15	B	14.28	13.41	12.71	8.19
60F2138	MTP227M015P1C	220	15	C	18.61	17.47	16.56	10.68
60F2268	MTP685M020P1D	6.8	20	D	10.64	10.00	9.55	6.06
60F2270	MTP476M020P1B	47	20	B	12.79	12.03	11.48	7.29
60F2271	MTP157M020P1C	150	20	C	18.61	17.47	16.56	10.68
13F322	MTP106M030P1A	10	30	A	9.50	8.93	8.52	5.41
13F323	MTP456M030P1B	45	30	B	12.22	11.47	10.87	7.00
13F324	MTP127M030P1C	120	30	C	16.21	15.22	14.43	9.30
60F2272	MTP475M035P1D	4.7	35	D	9.06	8.52	7.40	5.78
60F2139	MTP106M035P1A	10	35	A	9.50	8.93	8.52	5.41
60F2140	MTP107M035P1C	100	35	C	16.21	15.22	14.43	9.30
13F327	MTP306M050P1B	30	50	B	12.22	11.47	10.87	7.00
60F2141	MTP336M050P1B	33	50	B	10.94	10.28	9.82	6.23
60F2274	MTP335M060P1D	3.3	60	D	10.26	9.65	9.21	5.85
60F2142	MTP226M060P1B	22	60	B	12.22	11.47	10.87	7.00
60F2144	MTP476M060P1C	47	60	C	17.15	16.10	15.26	9.84

(7135) (de52524)

TLS SERIES WET SLUG TANTALUM ELECTROLYTIC CAPACITORS

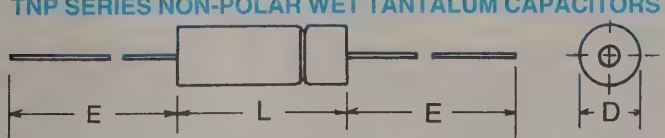
Commercial version of MIL-C-3965/4. Can be used as replacement for applications in field where cancelled mil-spec CL64/65 was used in original equipment. Low DCL. Mylar-insulated sleeves. Tolerance: ±10%.

Stock No.	Type	Cap. µF	WVDC +85°C	WVDC +125°C	Dia. x L.
46F2786	TLS107K025C1B	100	25	15	0.312 x 0.796″
46F2790	TLS157K030C1C	150	30	20	0.406 x 0.921″
46F2792	TLS476K050C1B	47	50	30	0.312 x 0.796″
46F2793	TLS826K050C1C	82	50	30	0.406 x 0.921″

Stock No.	Type	1-24	25-49	50-99	100-249
46F2786	TLS107K025C1B	14.30	13.73	12.77	7.82
46F2790	TLS157K030C1C	21.14	20.30	18.88	11.58
46F2792	TLS476K050C1B	14.30	13.73	12.77	7.82
46F2793	TLS826K050C1C	21.14	20.30	18.88	11.58

(7137) (de52526)

TNP SERIES NON-POLAR WET TANTALUM CAPACITORS



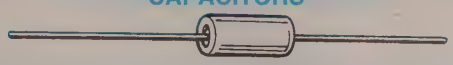
Hermetically sealed capacitors ideal for high ripple voltage bypass, phase splitting for low voltage motors, crossover networks. Miniature size. Non-polar operation. Low DCL, ESR. Mylar sleeve. Operating temperature: –55°C to +105°C. Tolerance: ±20%.

Case Code	Length (L)	Diameter (D)	Lead Length (E) ±0.250″ (6.35)
A	0.608″ (15.45)	0.219″ (5.56)	1.500″ (38.10)
B	0.796″ (20.22)	0.312″ (7.92)	2.250″ (57.15)
F	1.217″ (30.91)	0.406″ (10.31)	2.250″ (57.15)

Stock No.	Type	Cap. µF	WV DC	Case Code	1-24	25-49	50-99	100-249
91F5164	TNP505M050N1A	5	50	A	49.81	46.74	43.99	38.35
91F5168	TNP605M100N1B	6	100	B	62.04	58.22	54.79	47.77
91F5166	TNP805M075N1B	8	75	B	62.04	58.22	54.79	47.77
91F5167	TNP106M025N1A	10	25	A	49.81	46.74	43.99	38.35
91F5165	TNP506M050N1F	50	50	F	96.71	90.76	85.42	74.47
91F5163	TNP906M030N1F	90	30	F	96.71	90.76	85.42	74.47

(15030) (ne10098)

CSR13 SERIES SOLID TANTALUM ELECTROLYTIC CAPACITORS



Meets MIL-C-39003/01. Hermetic sealed metal case, insulating sleeve, solder coated nickel leads. Tolerance: ±10%. Operating temperature: –55°C to +85°C.

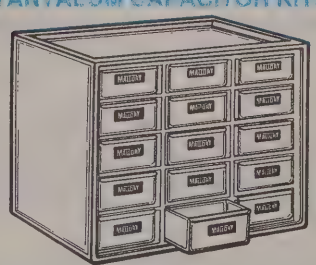
CASE CODE FOR CSR13 SERIES

Code	Diameter x Length	Code	Diameter x Length
A	0.135″ x 0.286″ (3.43 x 7.26)	C	0.289″ x 0.686″ (7.34 x 17.42)
B	0.185″ x 0.474″ (4.70 x 12.04)	D	0.351″ x 0.786″ (8.92 x 19.96)

Stock No.	Type	Cap. µF	WV DC	Case Code	1-49	50-99	100-249	250-499
17F1683	CSR132254	4.7	10	A	1.11	1.07	0.80	0.71
47F759	CSR132271	22	15	B	1.76	1.69	1.27	1.13
17F1691	CSR132283	2.2	20	A	1.11	1.07	1.00	0.71
17F1692	CSR132286	10	20	B	1.90	1.83	1.24	1.13
17F1695	CSR132295	47	20	C	6.11	5.88	2.91	2.38
47F772	CSR132303	5.6	35	B	1.76	1.69	1.27	1.13
17F1698	CSR132304	6.8	35	B	3.22	3.10	1.54	1.26
17F1699	CSR132306	22	35	C	6.11	5.88	2.91	2.38
17F1655	CSR132309	33	35	D	12.16	11.08	10.32	...
17F1656	CSR132312	47	35	D	12.16	11.08	10.32	...
17F1663	CSR132338	0.1	50	A	2.13	2.05	1.02	0.83
17F1669	CSR132356	1.0	50	A	2.13	2.05	1.02	0.83
17F1671	CSR132362	2.2	50	B	3.43	3.30	1.66	1.37
17F1673	CSR132368	4.7	50	B	3.43	3.30	1.66	1.37
17F1675	CSR132374	10	50	C	6.23	5.99	2.98	2.43
17F1677	CSR132380	22	50	D	13.36	12.82	7.17	5.92

(7138) (de52527)

TANTALUM CAPACITOR KITS



Type TDC151A kit has a selection of popular value epoxy dipped, radial lead solid tantalum capacitors. Packaged in a Mallobin® stackable, 15 drawer plastic cabinet to keep parts neatly organized and fully identified. Contents include 5 each of the following: 10V-220µF; 15V-150µF; 20V-100µF; 25V-10.0µF; 22.0µF; 35V-2.2µF, 4.7µF, 47.0µF; 50V-.10µF, .33µF, .47µF, .68µF, 1.0µF, 10.0µF, and 22.0µF.

81F9276 Type TDC151A KIT. **Each** **165.60**

Type T491KIT kit has an assortment of surface mount tantalum chip capacitors. 14 ratings, 280 capacitors. Includes Mallobin® 15-drawer stackable cabinet. Contents include 20 each of the following: 6V-68.0µF; 10V-33.0µF; 16V-1.0µF; 10.0µF, 22.0µF, 33.0µF, 20V-22.0µF; 25V-.47µF, 4.7µF, 10.0µF, 15.0µF, 35V-1.0µF, 2.2µF, 4.7µF.

92F5677 Type T491KIT. **Each** **257.26**

81F9278 Type TAC151A. **Each** **199.52**

Type TAC151 kit has an assortment of 21 different molded, axial lead solid tantalum capacitors with values from 0.1µF to 47µF. Voltages from 10WVDC. Two Mallobin® 15-drawer stackable cabinets included.

(7157) (de52695)

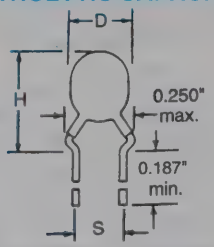
CONVERSION TABLE

Metric to U.S.	U.S. to metric
1 centimeter = 0.39 inch	1 inch = 2.54 centimeters
1 millimeter = 0.039 inch	1 inch = 25.4 millimeters
1 meter = 3.28 feet	1 foot = 0.305 meter
1 gram = 0.035 ounce	1 ounce = 28.35 grams
1 kilogram = 2.2 pounds	1 pound = 454 grams
1 milliliter = 0.034 fl. ounce	1 pound = 0.45 kilogram
1 liter = 0.264 gallon	1 fl. ounce = 29.57 milliliters
	1 gallon = 3.79 liters

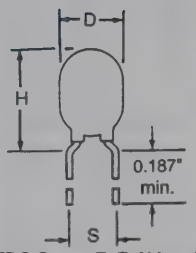
(38573) (Filler02)

TANTALUM ELECTROLYTIC CAPACITORS

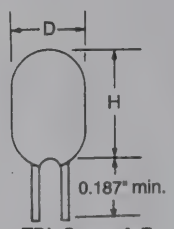
TDC AND TDL SERIES EPOXY-DIPPED SOLID TANTALUM ELECTROLYTIC CAPACITORS



TDC Cases E, F, G; W Lead



TDC Cases E, F; N Lead



TDL Cases A-E

TDC and **TDL series** capacitors, used for bypass, coupling, timing and filter circuits in consumer and industrial electronic equipment. Tolerance: **M** in type number = ±20%; **K** in type number = ±10%. Tough epoxy coating provides uniform lead spacing and protection against mechanical damage and moisture. Operating temperature: –55°C to +125°C (with proper derating). **TDC** offers high CV product in 4 mini-case sizes with radial stand-off lead spacing of 0.125″ and 0.250″. Replaces **196D, T350,** and **DNS series. TDL** in 6 low height case sizes with radial straight lead spacing of 0.100″ (2.54) and 0.200″ (5.08).

TDC SERIES DIMENSIONS

Case			Lead			
Size Code	Diameter Max.	Height Max.	Code	Space(s)	Diameter	AWG
E	0.175″ (4.45)	0.350″ (8.89)	N	0.125″ (3.18)	0.020″ (0.508)	24
F	0.250″ (6.35)	0.500″ (12.70)	N	0.125″ (3.18)	0.020″ (0.508)	24
G	0.350″ (8.89)	0.650″ (16.51)	W	0.250″ (6.35)	0.020″ (0.508)	22

TDC SERIES

Stock No.	Type	Cap. µF	WV DC	Case Code	1-49	50-99	100-249	250-499
81F4032	TDC476K006NSF	47	6.0	F	0.97	0.93	0.78	0.52
81F4034	TDC336K010NSF	33	10	F	1.01	0.97	0.81	0.54
81F4035	TDC107K010WSG	100	10	G	3.00	2.88	2.42	1.60
81F4036	TDC227K010WSG	220	10	G	6.10	5.87	4.92	3.25
81F4038	TDC226K015NSF	22	15	F	1.04	1.00	0.84	0.55
81F4039	TDC686K015WSG	68	15	G	3.03	2.92	2.45	1.62
81F4040	TDC157K015WSG	150	15	G	6.10	5.87	4.92	3.25
60F3868	TDC107M020WSG	100	20	G	6.00	5.78	4.85	3.20
81F4041	TDC225K020NSE	2.2	20	E	0.47	0.45	0.38	0.25
50F6818	TDC475K015NSE	4.7	20	E	0.64	0.62	0.52	0.34
50F6819	TDC106K020NSF	10	20	F	0.84	0.81	0.68	0.45
81F4042	TDC156K020NSF	15	20	F	1.01	0.97	0.81	0.54
81F4043	TDC336K020WSG	33	20	G	2.38	2.29	1.92	1.27
81F4044	TDC476K020WSG	47	20	G	2.81	2.70	2.26	1.50
81F4046	TDC107K020WSG	100	20	G	6.10	5.87	4.92	3.25
60F3870	TDC106M025NSF	10	25	F	0.88	0.84	0.71	0.47
81F4047	TDC685K025NSF	6.8	25	F	0.86	0.83	0.70	0.46
81F4048	TDC106K025NSF	10	25	F	0.88	0.84	0.71	0.47
60F3871	TDC226M025NSF	22	25	F	2.25	2.17	1.82	1.20
81F4049	TDC226K025NSF	22	25	F	2.30	2.21	1.85	1.23
50F6820	TDC476K025WSG	47	25	G	4.74	4.56	3.82	2.52
81F4050	TDC686K025WSG	68	25	G	6.10	5.87	4.92	3.25
81F4051	TDC105K035NSE	1.0	35	E	0.42	0.40	0.34	0.23
81F4052	TDC155K035NSE	1.5	35	E	0.57	0.55	0.46	0.31
81F4053	TDC225K035NSE	2.2	35	E	0.63	0.61	0.51	0.34
81F4054	TDC335K035NSF	3.3	35	F	0.73	0.70	0.59	0.39
81F4055	TDC475K035NSF	4.7	35	F	0.77	0.75	0.63	0.41
81F4056	TDC685K035NSF	6.8	35	F	0.91	0.87	0.73	0.48
81F4057	TDC106K035NSF	10	35	F	1.24	1.20	1.00	0.66
60F3874	TDC105M035NSE	1.0	35	E	0.38	0.37	0.31	0.20
60F3880	TDC106M035NSF	10	35	F	1.23	1.19	1.00	0.66
60F3878	TDC475M035NSF	4.7	35	F	0.75	0.72	0.60	0.40
81F4058	TDC156K035WSG	15	35	G	2.55	2.46	2.06	1.36
81F4059	TDC226K035WSG	22	35	G	2.81	2.70	2.26	1.50
81F4060	TDC336K035WSG	33	35	G	5.03	4.84	4.06	2.68
81F4061	TDC476K035WSG	47	35	G	6.10	5.87	4.92	3.25
81F4062	TDC104K050NSE	0.10	50	E	0.44	0.42	0.36	0.24
81F4065	TDC474K050NSE	0.47	50	E	0.53	0.51	0.43	0.28

CONTINUED

TDC AND TDL SERIES EPOXY-DIPPED SOLID TANTALUM ELECTROLYTIC CAPACITORS (CONT.)

TDC SERIES (CONT.)

Stock No.	Type	Cap. µF	WV DC	Case Code	1-49	50-99	100-249	250-499
81F4067	TDC105K050NSE	1.0	50	E	0.55	0.53	0.44	0.29
81F4068	TDC225K050NSF	2.2	50	F	0.83	0.80	0.67	0.44
46F2434	TDC475K050NSF	4.7	50	F	1.12	1.08	0.91	0.60
81F4069	TDC106K050WSG	10	50	G	3.17	3.05	2.56	1.69
81F4071	TDC226K050WSG	22	50	G	7.07	6.80	5.71	3.77

TDL SERIES DIMENSIONS

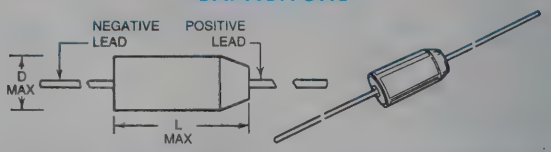
Case			Lead			
Size Code	Diameter	Height	Code	Space(s)	Diameter	AWG
A	0.18″ (4.57)	0.28″ (7.11)	S1	0.100″ (2.54)	0.020″ (0.508)	24
B	0.20″ (5.08)	0.30″ (7.62)	S1	0.100″ (2.54)	0.020″ (0.508)	24
C	0.26″ (6.60)	0.36″ (9.14)	S1	0.100″ (2.54)	0.020″ (0.508)	24
D	0.34″ (8.64)	0.40″ (10.16)	S1	0.100″ (2.54)	0.020″ (0.508)	24
E	0.40″ (10.16)	0.56″ (14.22)	M1	0.200″ (5.08)	0.020″ (0.508)	24

TDL SERIES

Stock No.	Type	Cap. µF	WV DC	Case Code	1-49	50-99	100-249	250-499
44F1174	TDL225K016S1A	2.2	16	A	0.42	0.40	0.34	0.23
44F1175	TDL475K016S1B	4.7	16	B	0.64	0.62	0.52	0.34
44F1179	TDL106K025S1C	10.0	25	C	0.94	0.91	0.76	0.50
44F1180	TDL226K025S1D	22.0	25	D	2.38	2.29	1.92	1.27
44F1181	TDL336K025M1E	33.0	25	E	2.90	2.79	2.34	1.55
44F1184	TDL105K035S1B	1.0	35	B	0.42	0.40	0.34	0.23
44F1185	TDL225K035S1C	2.2	35	C	0.63	0.61	0.51	0.34
44F1186	TDL475K035S1D	4.7	35	D	0.77	0.75	0.63	0.41
44F1187	TDL106K035S1D	10.0	35	D	1.31	1.26	1.06	0.70
44F1189	TDL104K050S1A	0.10	50	A	0.44	0.42	0.36	0.24

(7140) (de52564)

TAC SERIES MOLDED SOLID TANTALUM ELECTROLYTIC CAPACITORS



Same dry electrolyte sintered tantalum anode as in high reliability military type capacitors. Fully molded in high impact resistant epoxy cases specifically designed for automatic insertion devices. Cases tapered at positive end for polarity identification. Lead wires high purity nickel with solder coating. Operating temperature: –55°C to +125°C (with proper derating).

CASE CODES

Case Code	Dia. x Length	Case Code	Dia. x Length
1	0.095″ x 0.260″	5	0.180″ x 0.345″
2	0.110″ x 0.290″	6	0.180″ x 0.420″

Stock No.	Type	Cap. µF	WV DC	Case Code	1-49	50-99	100-249	250-499
60F3658	TAC336K010P06	33	10	6	1.33	1.28	1.07	0.71
50F6797	TAC106K010P02	10	10	2	0.69	0.66	0.56	0.37
60F3596	TAC106K015P05	10	15	5	1.26	1.21	1.01	0.67
60F3653	TAC226K015P06	22	15	6	1.33	1.28	1.07	0.71
46F7310	TAC105K020P01	1.0	20	1	0.69	0.66	0.56	0.37
17F1617	TAC225K020P02	2.2	20	2	0.69	0.66	0.56	0.37
46F1901	TAC475K020P02	4.7	20	2	0.77	0.75	0.63	0.41
60F3595	TAC106K020P05	10	20	5	1.18	1.13	0.95	0.63
60F3646	TAC156K020P06	15	20	6	1.29	1.24	1.04	0.69
46F1902	TAC226K020P06	22	20	6	1.36	1.31	1.10	0.73
60F3562	TAC225K025P02	2.2	25	2	0.77	0.75	0.63	0.41
60F3594	TAC106K025P05	10	25	5	1.18	1.13	0.95	0.63
46F1903	TAC474K035P01	0.47	35	1	0.69	0.66	0.56	0.37
46F1904	TAC105K035P02	1.0	35	2	0.69	0.66	0.56	0.37
60F3577	TAC475K035P05	4.7	35	5	1.18	1.13	0.95	0.63
60F3585	TAC685K035P06	6.8	35	6	1.33	1.28	1.07	0.71
50F6798	TAC106K035P06	10	35	6	1.36	1.31	1.10	0.73
46F7312	TAC104K050P01	0.1	50	1	0.76	0.73	0.61	0.41
46F7314	TAC224K050P01	0.22	50	1	0.76	0.73	0.61	0.41
60F3553	TAC105K050P02	1.0	50	2	0.85	0.82	0.69	0.45
60F3561	TAC225K050P05	2.2	50	5	1.33	1.28	1.07	0.71

(7139) (de52563)

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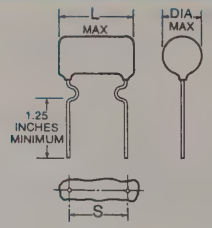
FILM CAPACITORS

TYPE PVC POLYPROPYLENE FILM/FOIL CAPACITORS



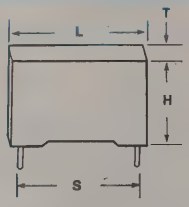
Conformally coated with flame-resistant epoxy. Outside foil identified by black stripe. Suitable for bypass and coupling applications. Tolerance: ±10%. Temperature range: –55°C to +125°C (100V-1kV); –55°C to +105°C (1600V).

200 WVDC

Stock No.	Type	Cap. µF	L Max.	D Max.	S ±0.030″	1-49	50-99	100-249
50F6831	PVC211	0.01	0.70″	0.33″	0.500″	1.22	0.66	0.46
50F6832	PVC201	0.10	1.20″	0.40″	0.969″	1.74	0.94	0.66
400 WVDC								
50F6834	PVC401	0.10	1.20″	0.53″	0.969″	1.96	1.06	0.75
600 WVDC								
50F6844	PVC611	0.010	0.90″	0.40″	0.688″	1.35	0.72	0.51
50F6845	PVC6147	0.047	1.20″	0.56″	0.969″	2.12	1.14	0.81
98F1798	PVC601	0.1	1.2″	0.65″	0.969″	2.48	1.34	0.95
50F6848	PVC6022	0.22	1.60″	0.80″	1.344″	4.51	2.42	1.72
1000 WVDC								
94F3943	PVC10010	0.10	1.60″	0.85″	1.344″	4.40	2.36	1.67
1600 WVDC								
50F6850	PVC1611	0.010	1.25″	0.53″	0.969″	1.92	1.03	0.73
94F3764	PVC16147	0.047	1.65″	0.80″	1.344″	4.23	2.27	1.61

(7149) (de52610)

160 SERIES METALIZED POLYESTER FILM CAPACITORS



Molded flame retardant case with epoxy fill. Lead length: 0.217″. Temperature range: –55°C to +125°C with voltage derating over 85°C. Tolerance: ±10%.

100 WVDC

Stock No.	Type	Cap. µF	L Max.	T Max.	H Max.	S ±0.015″	1-49	50-99	100-249
46F3650	160104K100C	0.10	.512″	.157″	.374″	.394″	0.35	0.33	0.32
46F3651	160154K100C	0.15	.512″	.157″	.374″	.394″	0.36	0.35	0.33
46F3652	160224K100D	0.22	.512″	.197″	.433″	.394″	0.41	0.39	0.37
46F3653	160334K100E	0.33	.512″	.236″	.472″	.394″″	0.47	0.45	0.43
46F3654	160474K100F	0.47	.709″	.197″	.433″	.591″	0.58	0.55	0.52
46F3655	160105K100H	1.00	.709″	.295″	.531″	.591″	0.93	0.89	0.84
250 WVDC									
46F3657	160473K250C	0.047	.512″	.157″	.374″	.394″	0.33	0.32	0.30
46F3658	160683K250C	0.068	.512″	.157″	.374″	.394″	0.35	0.33	0.32
46F3659	160104K250D	0.10	.512″	.197″	.433″	.394″	0.33	0.32	0.30
46F3660	160105K250N	1.00	1.04″	.335″	.669″	.886″	1.15	1.11	1.04
400 WVDC									
46F3663	160223K400C	0.022	.512″	.157″	.374″	.394″	0.34	0.33	0.31
630 WVDC									
46F3665	160103K630C	0.010	.512″	.157″	.374″	.394″	0.35	0.33	0.32
1000 WVDC									
46F3666	160103K1000F	0.010	.709″	.197″	.433″	.591″	0.47	0.45	0.43

(7151) (de52612)

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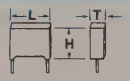
167 SERIES METALIZED POLYESTER FILM CAPACITORS



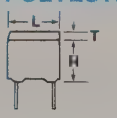
Molded flame-retardant case with epoxy fill. Lead spacing: 0.295±.015″. Lead length: 0.217±.039″. Temperature range: –55°C to +125°C with voltage derating over 85°C. Tolerance: ±5%.

63 WVDC

Stock No.	Type	Cap. µF	L Max.	T Max.	H Max.	1-49	50-99	100-249
46F3670	167104J63A	0.10	0.413″	0.138″	0.276″	0.35	0.33	0.31
46F3672	167474J63B	0.47	0.413″	0.157″	0.354″	0.65	0.63	0.59
100 WVDC								
46F3673	167104J100A	0.10	0.413″	0.138″	0.276″	0.36	0.34	0.32
46F3674	167154J100B	0.15	0.413″	0.157″	0.354″	0.43	0.41	0.39
46F3675	167224J100C	0.22	0.413″	0.197″	0.433″	0.50	0.48	0.46
250 WVDC								
46F3676	167103J250A	0.01	0.413″	0.138″	0.276″	0.31	0.29	0.28
46F3677	167223J250A	0.022	0.413″	0.138″	0.276″	0.32	0.30	0.29
46F3679	167473J250B	0.047	0.413″	0.157″	0.354″	0.36	0.34	0.32
400 WVDC								
46F3680	167103J400A	0.01	0.413″	0.138″	0.276″	0.33	0.32	0.30
630 WVDC								
46F3681	167102J630B	0.001	0.413″	0.157″	0.354″	0.44	0.42	0.32

(7150) (de52611)

168 SERIES METALIZED POLYESTER FILM CAPACITORS



Molded flame retardant case with epoxy fill. Lead spacing: 0.197″. Lead Length: 0.217″. Temperature range: –55°C to +125°C with proper voltage derating over 85°C. Tolerance: ±5%.

50 WVDC

Stock No.	Type	Cap. µF	L Max.	T Max.	H Max.	1-49	50-99	100-249
89F1689	168104J50A	0.10	0.283″	0.098″	0.256″	0.26	0.25	0.24
89F1690	168474J50H	0.47	0.283″	0.177″	0.335″	0.61	0.58	0.55
89F1691	168684J50F	0.68	0.283″	0.236″	0.433″	0.80	0.77	0.72
89F1692	168105J50G	1.0	0.283″	0.236″	0.433″	0.99	0.95	0.90
63 WVDC								
46F3684	168473J63A	0.047	0.283″	0.098″	0.256″	0.26	0.25	0.23
46F3685	168104J63A	0.10	0.283″	0.098″	0.256″	0.26	0.25	0.24
46F3686	168334J63H	0.33	0.283″	0.177″	0.335″	0.48	0.46	0.44
89F1694	168474J63H	0.47	0.283″	0.177″	0.335″	0.61	0.58	0.55
100 WVDC								
46F3687	168102J100A	0.001	0.283″	0.098″	0.256″	0.29	0.28	0.26
46F3688	168332J100A	0.0033	0.283″	0.098″	0.256″	0.29	0.28	0.26
46F3689	168103J100A	0.01	0.283″	0.098″	0.256″	0.26	0.25	0.23
46F3690	168333J100C	0.033	0.283″	0.138″	0.295″	0.26	0.25	0.23

(7152) (de52613)

158X SERIES METALIZED POLYESTER SUPPRESSION CAPACITORS

Used in applications where damage to the capacitor will not lead to the danger of electrical shock. 275/250VAC. Tolerance ±20% only. Housed in flame retardant UL 94V-0 plastic. Holds UL-1414, 1283, CSA C22.2, No. 8-M1986, VDE0565-1, SEMKO SS443-04-01, SEV1055, EI 384/14-82, DEMKO Section 21 and IEC384-14 and NEMKO132/85 approvals.

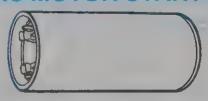
Stock No.	Type	Cap. µF	Dimensions (in.) L	T	H	S
95F2848	158X105	1.0	1.201	0.630	1.102	1.083
87F1192	158X224	0.22	0.984	0.315	0.689	0.886
95F2849	158X225	2.2	1.614	0.689	1.280	1.476
87F1195	158X474	0.47	1.181	0.433	0.866	1.083
87F1189	158X473	0.047	0.669	0.217	0.492	0.591

Stock No.	Type	1-49	50-99	100-249	250-499
95F2848	158X105	3.83	3.67	2.60	2.47
87F1192	158X224	1.43	1.37	0.97	0.92
95F2849	158X225	7.66	7.35	5.21	4.94
87F1195	158X474	2.09	2.01	1.42	1.35
87F1189	158X473	0.85	0.81	0.58	0.55

(7091) (de02622)

AC CAPACITORS AND BLEEDER RESISTORS

PSU SERIES AC MOTOR START CAPACITORS

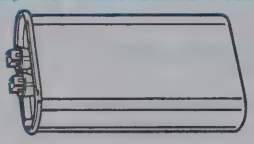


Provide torque to start AC motors, other intermittent AC applications. Moisture, oil resistant molded plastic cases. With two quick disconnect terminals. Replacement motor start capacitors designed in accordance with EIA RS-463, Type 2. Mount using **PL** plastic end cap and **HB** metal snap-in bracket or **VR** clamp bracket *(order separately on this page)*. Operating freq. 50/60Hz. Power factor: 10%. Temp. range: –40°C to +65°C.

Stock No.	Type	Cap. µF	Dia. x L	1-99	100-249
110/125 VOLTS					
87F1261	PSU8815	88-106	1.4375 x 2.750″	4.37	3.93
87F1262	PSU10815	108-130	1.4375 x 2.750″	4.49	4.05
90F1665	PSU12415	124-149	1.4375 x 2.750″	4.58	4.13
87F1263	PSU13015	130-156	1.4375 x 2.750″	4.62	4.16
87F1264	PSU14515	145-174	1.4375 x 2.750″	4.69	4.22
87F1265	PSU16115	161-193	1.4375 x 2.750″	4.83	4.35
87F1266	PSU18915A	189-227	1.4375 x 2.750″	5.07	4.56
87F1267	PSU21615	216-259	1.4375 x 3.375″	5.56	5.01
87F1268	PSU23315A	233-280	1.4375 x 3.375″	5.70	5.14
87F1269	PSU24315A	243-292	1.4375 x 3.375″	5.79	5.22
87F1270	PSU27015A	270-324	1.4375 x 3.375″	6.01	5.43
87F1271	PSU34015	340-408	1.8125 x 3.375″	6.95	6.26
87F1273	PSU40015	400-480	1.8125 x 3.375″	7.46	6.73
87F1274	PSU43015A	430-516	1.8125 x 3.375″	7.71	6.95
87F1275	PSU46015A	460-552	1.8125 x 3.375″	7.97	7.17
87F1276	PSU54015B	540-648	1.8125 x 4.375″	9.47	8.54
87F1277	PSU59015A	590-708	1.8125 x 4.375″	9.95	8.97
87F1278	PSU70815	708-850	1.8125 x 4.375″	10.94	9.87
87F1279	PSU80015	800-960	1.8125 x 4.375″	11.71	10.56
87F1280	PSU100015A	1000-1200	2.0625 x 4.375″	14.38	12.97
220/250 VOLTS					
87F1282	PSU6435	64-77	1.4375 x 3.375″	7.20	6.50
87F1283	PSU8835	88-106	1.8125 x 3.375″	8.19	7.38
87F1284	PSU10835A	108-130	1.8125 x 3.375″	8.87	7.99
87F1286	PSU13035	130-156	1.8125 x 4.375″	10.34	9.32
87F1287	PSU14535	145-174	1.8125 x 4.375″	10.99	9.90
87F1288	PSU16135A	161-193	2.0625 x 4.375″	13.57	12.23
87F1289	PSU21635A	216-259	2.0625 x 4.375″	15.95	11.51
87F1290	PSU23335A	233-280	2.0625 x 4.375″	16.11	14.52
330 VOLTS					
90F1667	PSU2530	25-30	1.4375 x 3.375″	6.88	6.20
90F1668	PSU3030	30-36	1.4375 x 3.375″	7.22	6.50
90F1669	PSU3630	36-43	1.4375 x 3.375″	7.64	6.89
87F1292	PSU5330B	53-64	1.8125 x 3.375″	8.66	7.80
87F1293	PSU6430	64-77	1.8125 x 3.375″	9.35	8.43
87F1294	PSU7230B	72-86	1.8125 x 4.375″	9.47	8.54
87F1295	PSU8830A	88-106	1.8125 x 4.375″	10.42	9.39
90F1666	PSU21630	216-259	2.5625 x 4.375″	16.47	16.03

(7153) (de52677)

MPF/MSF SERIES AC METALIZED FILM CAPACITORS



MPF Series are motor run capacitors and are metalized polypropylene. **MSF series** are power supply capacitors and are metalized paper-polypropylene. **MPF** are 370 VAC and 440 VAC. **MSF** are 660 VAC. Operating temperature: –40°C to +70°C. 50 to 60 Hz. Tolerance: ±10%, except flat oval/660V, which is ±6%. UL recognized. *Order mounting hardware separately on this page.*

Stock No.	Type	Cap. µF	Base Style	Height (In.)	1-24	25-49
MPF SERIES – 370VAC (FLAT OVAL CONTAINER)						
95F3447	32FD3703	3.0	32	2.13	11.21	7.12
95F3448	32FD3704	4.0	32	2.13	11.61	7.37
95F3449	32FD3705	5.0	32	2.38	9.69	6.18
95F3450	32FD3706	6.0	32	2.38	10.01	6.38
95F3451	32FD37075	7.5	32	2.38	10.34	6.58
95F3452	32FD3710	10.0	32	2.88	11.63	7.40
94F3950	37FD37125	12.5	37	2.88	14.54	9.25
MPF SERIES – 370VAC (ROUND CONTAINER)						
95F3453	21FD3715	15.0	21	2.63	13.89	8.84
95F3454	21FD37175	17.5	21	2.63	14.86	9.46
98F3208	21FD3720	20.0	21	2.63	15.96	10.16
95F3455	21FD3725	25.0	21	3.00	16.60	16.06
95F3456	21FD3730	30.0	21	3.00	18.06	17.47
95F3457	21FD3735	35.0	21	3.75	19.01	18.39
95F3460	23FD3750	50.0	23	3.75	25.34	24.51
95F3462	24FD3760	60.0	24	3.00	26.89	26.01
95F3464	24FD3770	70.0	24	3.75	31.64	30.61

CONTINUED

MPF/MSF SERIES AC METALIZED FILM CAPACITORS (CONT.)

Stock No.	Type	Cap. µF	Base Style	Height (In.)	1-24	25-49
MPF SERIES – 440VAC (FLAT OVAL CONTAINER)						
95F3470	37FB4410	10.0	37	2.88	13.89	8.84
MPF SERIES – 440VAC (ROUND CONTAINER)						
95F3476	23FB4440	40.0	23	4.75	23.76	22.98
95F3478	24FB4450	50.0	24	3.75	27.73	26.43
MSF SERIES – 660VAC (FLAT OVAL CONTAINER)						
95F3481	32KB6601	1.0	32	2.00	15.50	9.87
95F3482	32KC6602	2.0	32	2.00	16.80	10.69
95F3483	32KE6603	3.0	32	2.00	18.09	11.51
95F3484	32KE6604	4.0	32	2.25	19.64	12.51
95F3485	32KE6605	5.0	32	2.50	21.19	13.48
95F3486	32KE6606	6.0	32	2.75	22.41	14.26
95F3487	32KD6607	7.0	32	3.50	23.76	22.98
95F3488	32KD6608	8.0	32	3.50	27.49	26.60
95F3489	37KD6610	10.0	37	3.00	31.64	30.61
95F3490	37KD6612	12.0	37	3.00	32.43	31.37
95F3491	37KD6615	15.0	37	3.50	32.70	31.64
95F3492	38KC6620	20.0	38	3.63	38.42	36.61
95F3493	38KC6625	25.0	38	4.13	45.14	43.02
95F3494	38KD6630	30.0	38	4.63	46.99	44.79

(7154) (de52678)

CAPACITOR MOUNTING HARDWARE

MOUNTING CLIPS

Stock No.	Type	Nominal Component Dia.	1-49	50-99	100-249
14F416	TH17	0.625″	1.81	1.73	1.69
14F419	TH23	1.000″	2.19	2.09	2.00
14F420	TH25	1.375″	1.22	1.17	1.14
TYPE PL PLASTIC END CAPS					
87F1301	PLA3	1.4375″ Dia.	1.20	1.14	1.12
87F1302	PLA6	1.8125″ Dia.	1.19	1.13	1.10
87F1303	PLA8	2.0625″ Dia.	1.40	1.34	1.31
TYPE HB METAL SNAP-IN BRACKETS					
87F1304	HB2	3.375″ L	3.17	3.02	2.95
87F1305	HB4	4.01563″ L	2.78	2.65	2.59
87F1306	HB8	5.01563″ L	3.19	3.04	2.97
TYPE VR MOUNTING CLAMP BRACKETS					
14F409	VR1A	1.000-1.0625″ Dia.	1.17	1.12	1.09
14F410	VR3A	1.375-1.4375″ Dia.	0.89	0.84	0.82
14F411	VR4A	1.500-1.5625″ Dia.	1.37	1.31	1.27
14F412	VR6A	1.750-1.8125″ Dia.	1.43	1.37	1.33
14F413	VR8A	2.000-2.0625″ Dia.	1.31	1.25	1.22
60F2292	VR10A	2.500-2.5625″ Dia.	1.45	1.38	1.35
60F2113	VR12A	3.000-3.1250″ Dia.	1.58	1.51	1.47

TYPE OB OVAL MOUNTING CLAMPS

Stock No.	Type	Size	1-49	50-99	100-249
94F3941	OB2	1.313 x 2.156″	1.34	1.28	1.25
95F2825	OB4	1.968 x 2.906″	1.38	1.31	1.28
95F2826	OB3	1.968 x 3.656″	1.43	1.37	1.34

TYPE RB CYLINDRICAL MOUNTING CLAMPS

Stock No.	Type	Nominal Diameter	1-49	50-99	100-249
95F2820	RB175	1.750″	1.49	1.42	1.38
95F2821	RB200	2.000″	1.32	1.26	1.22
95F2822	RB250	2.500″	1.43	1.37	1.33

(7155) (de52679)

ACR SERIES BLEEDER RESISTORS

Bleeder resistors for AC motor start applications. Saves relay switch contacts and capacitor, particularly in capacitor start-run applications. Feature ¼″ quick-connect female flag terminals for rapid installation onto capacitor.

Stock No.	Type	Ohms	Power	1-24	25-49	50-99
91F6320	ACR15KT	15,000	2 watt	13.75	13.16	12.57
91F6321	ACR220KT	220,000	1 watt	13.75	13.16	12.57

(12536) (ne10091)

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FILM/FOIL AND CERAMIC CAPACITORS

DMF SERIES METALLIZED POLYESTER FILM CAPACITORS

DMF series radial lead capacitors are suitable for general purpose applications such as bypass, decoupling and arc suppression. Non-polar, noninductively wound. Tinned, copper-clad steel leads. Flame-retardant epoxy powder coating. Operating temperature: -40°C to +100°C with voltage derating above 85°C. Lead length: 35mm. Lead dia.: 0.6±0.02mm.

Stock No.	Type	Cap. µF	Lead Spacing	Tol.	1-99	100-499	500-999
50V							
83F5107	DMF474J063A	0.47	0.295	5%	0.56	0.54	0.50
83F5092	DMF105J063B	1.0	0.314	5%	0.84	0.80	0.74
100V							
83F5086	DMF104J100A	0.1	0.295	5%	0.29	0.28	0.26
83F5099	DMF224J100B	0.22	0.394	5%	0.41	0.39	0.36
83F5104	DMF334J100B	0.33	0.591	5%	0.42	0.41	0.38
83F5108	DMF474J100C	0.47	0.591	5%	0.44	0.42	0.39
83F5111	DMF684J100C	0.68	0.591	5%	0.56	0.54	0.50
83F5093	DMF105J100C	1.0	0.591	5%	0.64	0.61	0.57
250V							
83F5106	DMF473J250A	0.047	0.295	5%	0.30	0.29	0.27
83F5110	DMF683J250A	0.068	0.295	5%	0.31	0.29	0.27
83F5090	DMF104K250B	0.1	0.394	10%	0.30	0.29	0.27
83F5100	DMF224J250C	0.22	0.591	5%	0.41	0.39	0.36
83F5105	DMF334K250C	0.33	0.591	10%	0.47	0.45	0.42
83F5094	DMF105J250D	1.0	0.787	5%	0.66	0.64	0.59
83F5103	DMF225J250E	2.2	1.083	5%	1.46	1.40	1.29
400V							
83F5097	DMF223J400B	0.022	0.394	5%	0.31	0.30	0.28
83F5088	DMF104J400C	0.1	0.591	5%	0.43	0.41	0.38
630V							
83F5084	DMF103J630B	0.01	0.394	5%	0.33	0.32	0.29
83F5098	DMF223J630B	0.022	0.394	5%	0.36	0.35	0.32

(28978) (ne28978)

150 SERIES METALLIZED POLYESTER FILM CAPACITORS

Axial lead capacitors ideal for blocking, bypass, decoupling, smoothing, timing and tuning applications. Epoxy resin fill. Lead length: 1.58″ ±0.2″. Operating temperature: –55°C to +125°C, with proper voltage derating over 85°C. Tolerance: 5%.

Stock No.	Type	Cap. µF	Dia. x L Max.	1-49	50-99	100-249
100 WVDC						
46F3637	150104J100AA	0.1	0.197 x 0.433″	0.51	0.49	0.46
46F3638	150224J100CB	0.22	0.256 x 0.650″	0.61	0.59	0.56
46F3639	150334J100EB	0.33	0.315 x 0.650″	0.65	0.62	0.59
50F6828	150105J100IC	1.0	0.394 x 0.807″	1.13	1.08	1.02
250 WVDC						
46F3641	150473J250AA	0.047	0.197 x 0.433″	0.48	0.46	0.43
46F3642	150104J250CB	0.1	0.256 x 0.650″	0.58	0.56	0.53
46F3643	150474J250HC	0.47	0.374 x 0.807″	0.82	0.79	0.75
46F3644	150105J250JE	1.0	0.413 x 1.102″	1.09	1.04	0.98
400 WVDC						
46F3645	150103J400AA	0.01	0.197 x 0.433″	0.46	0.44	0.41
630 WVDC						
46F3646	150102J630AA	0.001	0.197 x 0.433″	0.45	0.43	0.41

(7235) (ne52608)

MPR SERIES MULTILAYER PORCELAIN CHIP CAPACITORS

NEW

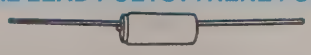
High performance surface mount capacitors. Silver-palladium metalized, barrier-plated solder coated pellet termination. Temperature coefficient: +90±20ppm/°C. Operating temperature: -55°C to +200°C. Size 1: 0.55"(1.40) L x W x H. Size 2: 0.110"(2.79) x 0.110"(2.79) x 0.102"(2.59). **Sold in Packages of 100.**

Stock No.	Type	Cap.	Tolerance	1-24	25-49	50-99
SIZE 1-WVDC 50V						
92F771	MPR11P1R0BR-P	1.0pF	±0.1pF	156.29	150.08	127.31
92F772	MPR11P2R2BR-P	2.2pF	±0.1pF	168.79	162.09	137.49
92F774	MPR11P3R3CR-P	3.3pF	±0.25pF	131.28	126.07	106.94
92F775	MPR11P4R7CR-P	4.7pF	±0.25pF	156.29	150.08	127.31
92F777	MPR11P6R8CR-P	6.8pF	±0.25pF	156.29	150.08	127.31
92F779	MPR11P100JR-P	10pF	±5%	125.03	120.06	101.85
92F780	MPR11P150JR-P	15pF	±5%	125.03	120.06	101.85
92F782	MPR11P220JR-P	22pF	±5%	125.03	120.06	101.85
92F784	MPR11P470JR-P	47pF	±5%	125.03	120.06	101.85
92F785	MPR11P101JR-P	100pF	±5%	125.03	120.06	101.85

Stock No.	Type	Cap. pF	Tolerance	WVDC	1-24	25-49	50-99
SIZE 2							
92F788	MPR12P1R0C	1.0	±0.25pF	500V	131.28	126.07	106.94
92F787	MPR12P471J	470	±5%	200V	150.04	144.08	122.22

(28326) (ne28326)

SX SERIES AXIAL LEAD POLYSTYRENE FOIL CAPACITORS

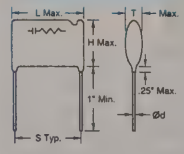


Ideally suited for precision circuits such as sample and hold, dual slope integration, and temeperature compensation. Feature temperature stability and humidity protection. Operating temperature: –40°C to +70°C.

Stock No.	Type	Cap. pF	Tol.	Dia. x L Max.	1-49	50-99	100-249	250-499
33 WVDC								
16F5009	SXK310A	100	±5%	0.217 x 0.472″	2.31	1.97	0.77	0.73
16F5010	SXK322A	220	±5%	0.217 x 0.472″	2.31	1.97	0.77	0.73
16F5011	SXK333A	330	±5%	0.217 x 0.472″	2.42	2.08	0.81	0.77
16F5012	SXK347A	470	±2.5%	0.217 x 0.472″	2.42	2.08	0.81	0.77
16F5014	SXK368A	680	±2.5%	0.217 x 0.472″	2.42	2.08	0.81	0.77
16F5015	SXK210A	1000	±2.5%	0.236 x 0.472″	2.67	2.29	0.90	0.85
16F5016	SXK215A	1500	±2.5%	0.236 x 0.472″	3.81	3.26	1.28	1.21
16F5018	SXK222A	2200	±2.5%	0.236 x 0.472″	3.39	2.91	1.14	1.08
16F5019	SXK233A	3300	±2.5%	0.236 x 0.472″	3.58	3.06	1.20	1.14
16F5020	SXK239A	3900	±2.5%	0.236 x 0.472″	3.22	2.76	1.08	1.03
16F5021	SXK247A	4700	±2.5%	0.236 x 0.472″	3.22	2.76	1.08	1.03
16F5023	SXK110A	10k	±2.5%	0.236 x 0.472″	4.07	3.48	1.36	1.29
63 WVDC								
16F5024	SXL310A	100	±5%	0.217 x 0.472″	2.89	2.47	0.97	0.92
16F5027	SXL210A	220	±5%	0.217 x 0.472″	2.69	2.30	0.90	0.86
16F5027	SXL210A	1000	±2.5%	0.236 x 0.472″	2.69	2.30	0.90	0.86
16F5028	SXL282A	8200	±2.5%	0.374 x 0.472″	1.16	0.99	0.85	0.81
16F5029	SXL110A	10k	±2.5%	0.394 x 0.472″	3.66	3.13	1.23	1.17
160 WVDC								
16F5031	SXM447A	47	±10%	0.236 x 0.472″	3.30	2.83	1.11	1.05
16F5032	SXM310A	100	±5%	0.217 x 0.472″	2.81	2.41	0.94	0.90
16F5033	SXM315A	150	±5%	0.217 x 0.472″	2.06	1.76	0.69	0.66
16F5037	SXM350A	500	±2.5%	0.217 x 0.472″	2.06	1.76	0.69	0.66
16F5039	SXM220A	2000	±2.5%	0.276 x 0.669″	2.77	2.37	0.93	0.88
16F5042	SXM110A	10k	±2.5%	0.413 x 0.866″	5.14	4.40	1.72	1.64
630 WVDC								
16F5043	SX447A	47	±10%	0.394 x 0.472″	6.20	5.31	2.08	1.97
16F5045	SX318A	180	±5%	0.236 x 0.472″	1.19	1.02	0.88	0.83
16F5046	SX333A	330	±5%	0.256 x 0.472″	2.92	2.50	0.98	0.93
16F5047	SX210A	1000	±2.5%	0.276 x 0.669″	3.49	2.98	1.17	1.11

(7234) (ne52607)

Q/QRL SERIES QUENCHARC® METALLIZED POLYESTER FILM CAPACITOR ARC SUPPRESSOR/SNUBBER NETWORKS



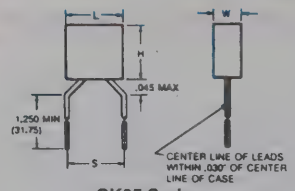
Quencharc® is a metallized polyester film capacitor in series with a carbon composition resistor. Applications include noise and arc suppression, RC snubber network, relay contact protection, controller/driver noise reduction, and EMI/RFI reduction. Operating temperature: –55°C to 85°C at full rated voltage. Capacitance tolerance: ±20%. Resistance tolerance: ±10%. Resistor power rating: 1/2 watts. Dielectric withstand voltage: 1.6 times the DC voltage rating. Dimension "L": 1.080″ (except **type 105M02QB47**, 1.450″). Lead diameter: 0.032″. **Type QRL** is UL recognized, CSA approved.

Stock No.	Type	Cap. µF	Resist. Ω	Dimensions T	H	S
200VDC/125VAC						
16F3697	504M02QA100	0.50	100	0.370″	0.640″	0.820″
16F3698	504M02QA220	0.50	220	0.370″	0.640″	0.820″
16F3699	105M02QB47	1.00	47	0.390″	0.660″	1.200″
600VDC/250VAC						
16F3700	104M06QC22	0.10	22	0.390″	0.660″	0.820″
16F3701	104M06QC47	0.10	47	0.390″	0.660″	0.820″
16F3702	104M06QC100	0.10	100	0.390″	0.660″	0.820″
16F3703	104M06QC150	0.10	150	0.390″	0.660″	0.820″
125 VAC						
16F3704	104MACQRL150	0.10	150	0.440″	0.660″	0.820″

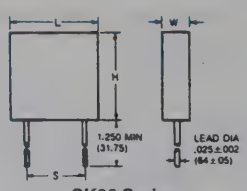
Stock No.	Type	1-49	50-99	100-249	250-499
16F3697	504M02QA100	4.57	4.39	3.22	3.06
16F3698	504M02QA220	4.57	4.39	3.22	3.06
16F3699	105M02QB47	5.04	4.84	3.55	3.37
16F3700	104M06QC22	4.16	3.99	2.94	2.79
16F3701	104M06QC47	4.16	3.99	2.94	2.79
16F3702	104M06QC100	4.16	3.99	2.94	2.79
16F3703	104M06QC150	4.75	4.55	3.35	3.18
16F3704	104MACQRL150	5.04	4.84	3.55	3.37

(7224) (ne08806)

CK05 AND CK06 SERIES GENERAL PURPOSE MOLDED CERAMIC CAPACITORS



CK05 Series



CK06 Series

For general purpose bypass and coupling applications in telecommunications and instrumentation equipment. All tests per MIL-C-11015. Tolerance: type **suffix K** = ±10%, **suffix M** = ±20%. Dielectric strength: 250% of rated working voltage with 50mA maximum charging current. EIA X7R temperature characteristic. Operating temperature: –55°C to +125°C.

Dim.	CK05	CK06
H	0.190″ ±0.010″ (4.83 ±0.25)	0.290″ ±0.010″ (7.37 ±0.25)
L	0.190″ ±0.010″ (4.83 ±0.25)	0.290″ ±0.010″ (7.37 ±0.25)
W	0.090″ ±0.010″ (2.29 ±0.25)	0.090″ ±0.010″ (2.29 ±0.25)
S	0.200″ ±0.015″ (5.08 ±0.38)	0.200″ ±0.015″ (5.08 ±0.38)

CK05 SERIES–50WVDC

Stock No.	Type	Cap. pF	1-24	25-49	50-99	100-249
65F640	CK05BX123K	12k	0.63	0.40	0.32	0.19
65F641	CK05BX153K	15k	0.63	0.40	0.32	0.19
65F642	CK05BX183K	18k	0.63	0.40	0.32	0.19
65F643	CK05BX223K	22k	0.75	0.48	0.38	0.23
65F644	CK05BX273K	27k	0.63	0.40	0.32	0.19
65F645	CK05BX333K	33k	0.72	0.46	0.36	0.22
65F646	CK05BX393K	39k	0.72	0.46	0.36	0.22
65F647	CK05BX473K	47k	0.83	0.52	0.42	0.26
65F648	CK05BX563K	56k	0.77	0.48	0.39	0.24
65F649	CK05BX683K	68k	0.77	0.48	0.39	0.24
65F650	CK05BX823K	82k	0.68	0.43	0.34	0.21
65F651	CK05BX104K	100k	0.83	0.52	0.42	0.26
46F2431	CK05BX104M	100k	0.66	0.42	0.33	0.20
CK05 SERIES–100WVDC						
65F628	CK05BX122K	1.2k	0.55	0.35	0.28	0.17
65F629	CK05BX152K	1.5k	0.55	0.35	0.28	0.17
65F630	CK05BX182K	1.8k	0.55	0.35	0.28	0.17
65F631	CK05BX222K	2.2k	0.58	0.37	0.29	0.18
65F632	CK05BX272K	2.7k	0.55	0.35	0.28	0.17
65F633	CK05BX332K	3.3k	0.55	0.35	0.28	0.17
65F634	CK05BX392K	3.9k	0.55	0.35	0.28	0.17
65F635	CK05BX472K	4.7k	0.53	0.33	0.27	0.16
65F636	CK05BX562K	5.6k	0.55	0.35	0.28	0.17
65F637	CK05BX682K	6.8k	0.58	0.37	0.29	0.18
65F638	CK05BX822K	8.2k	0.58	0.37	0.29	0.18
65F639	CK05BX103K	10k	0.63	0.40	0.32	0.20
CK05 SERIES–200WVDC						
65F603	CK05BX100K	10	0.55	0.35	0.28	0.17
65F604	CK05BX120K	12	0.55	0.35	0.28	0.17
65F605	CK05BX150K	15	0.55	0.35	0.28	0.17
65F606	CK05BX180K	18	0.55	0.35	0.28	0.17
65F607	CK05BX220K	22	0.53	0.33	0.27	0.16
65F608	CK05BX270K	27	0.55	0.35	0.28	0.17
65F609	CK05BX330K	33	0.55	0.35	0.28	0.17
65F610	CK05BX390K	39	0.55	0.35	0.28	0.17
65F611	CK05BX470K	47	0.55	0.35	0.28	0.17
65F612	CK05BX560K	56	0.55	0.35	0.28	0.17
65F613	CK05BX680K	68	0.55	0.35	0.28	0.17
65F614	CK05BX820K	82	0.55	0.35	0.28	0.17
65F615	CK05BX101K	100	0.54	0.34	0.28	0.17
65F616	CK05BX121K	120	0.55	0.35	0.28	0.17
65F617	CK05BX151K	150	0.55	0.35	0.28	0.17
65F618	CK05BX181K	180	0.55	0.35	0.28	0.17
65F619	CK05BX221K	220	0.58	0.37	0.29	0.18
65F620	CK05BX271K	270	0.55	0.35	0.28	0.17
65F621	CK05BX331K	330	0.55	0.35	0.28	0.17
65F622	CK05BX391K	390	0.54	0.34	0.28	0.17
65F623	CK05BX471K	470	0.53	0.33	0.27	0.16
65F624	CK05BX561K	560	0.54	0.34	0.28	0.17
65F625	CK05BX681K	680	0.55	0.35	0.28	0.17
65F626	CK05BX821K	820	0.54	0.34	0.28	0.17
65F627	CK05BX102K	1k	0.53	0.33	0.27	0.16
CK06 SERIES–50WVDC						
65F676	CK06BX124K	120k	1.62	1.03	0.76	0.47
65F677	CK06BX154K	150k	1.62	1.03	0.76	0.47
65F678	CK06BX184K	180k	1.80	1.13	0.84	0.52
65F679	CK06BX224K	220k	1.80	1.13	0.84	0.52
65F681	CK06BX334K	330k	2.56	1.62	1.19	0.75
65F682	CK06BX394K	390k	3.15	1.99	1.46	0.92

CONTINUED

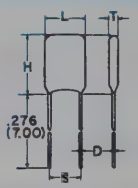
CK05 AND CK06 SERIES GENERAL PURPOSE MOLDED CERAMIC CAPACITORS (CONT.)

CK06 SERIES–50WVDC (CONT.)

Stock No.	Type	Cap. pF	1-24	25-49	50-99	100-249
65F683	CK06BX474K	470k	3.15	1.99	1.46	0.92
65F684	CK06BX564K	560k	4.54	2.87	2.11	1.32
65F685	CK06BX684K	680k	4.54	2.87	2.11	1.32
65F686	CK06BX824K	820k	4.73	2.98	2.20	1.38
65F687	CK06BX105K	1M	2.07	2.07	2.07	1.97
CK06 SERIES–100WVDC						
65F667	CK06BX223K	22k	0.77	0.49	0.36	0.23
65F669	CK06BX333K	33k	0.84	0.53	0.39	0.25
65F671	CK06BX473K	47k	0.84	0.53	0.39	0.25
65F673	CK06BX683K	68k	0.84	0.53	0.39	0.25
65F675	CK06BX104K	100k	0.33	0.33	0.33	0.31
CK06 SERIES–200WVDC						
65F655	CK06BX222K	2.2k	0.62	0.39	0.29	0.18
65F657	CK06BX332K	3.3k	0.62	0.39	0.29	0.18
65F659	CK06BX472K	4.7k	0.62	0.39	0.29	0.18
65F663	CK06BX103K	10K	0.29	0.29	0.29	0.27

(7097) (de03159)

M SERIES MULTI-LAYER CERAMIC CAPACITORS



Stable-dipped ceramic capacitors are conformally coated. Uniform dielectric thickness, excellent electrode integrity, and electrode-to-termination continuity assured. Encapsulation consists of a multi-layer moisture and shock resistant coating. Meet UL Standard 94 flame test requirement. Tolerances: type number **suffix K** = ±10%; **suffix M** = ±20%. Type numbers whose 4th digit is "**G**" are EIA C0G (NP0) temperature characteristic; "**R**" are EIA X7R temperature characteristic; those with "**U**" are EIA Z5U temperature characteristic. The first three digits of type number denotes the case code dimensions (see table).

DIMENSIONS

Case Code	L	H	T	S	D	AWG
M15	0.150″	0.210″	0.100″	0.100″	0.020″	26
M20	0.200″	0.260″	0.125″	0.100″	0.020″	24
M22	0.200″	0.260″	0.125″	0.200″	0.020″	24
M30	0.300″	0.360″	0.150″	0.200″	0.020″	24
M40	0.400″	0.460″	0.150″	0.200″	0.020″	24

Type	L	H	T	S	D	AWG
M60U1M25	0.197″	0.177″	0.138″	0.197″	0.020″	...
M60U10M25	0.394″	0.394″	0.197″	0.197″	0.020″	...
M60UR47M250	0.394″	0.394″	0.197″	0.197″	0.020″	...
M60U1M250	0.500″	0.472″	0.197″	0.394″	0.024″	...
M60U6R8M50	0.394″	0.394″	0.197″	0.197″	0.020″	...
M60U4R7M100	0.500″	0.472″	0.197″	0.394″	0.024″	...

Stock No.	Type	Cap. µF	WVDC	1-49	50-99	100-249	250-499
16F3710	M60U1M25	1.0	25	1.82	1.64	1.23	0.83
16F3711	M60U10M25	10	25	7.57	6.82	5.10	3.47
50F6858	M15U103M5	0.01	50	0.39	0.20	0.13	0.12
44F8627	M20R104K5	0.1	50	0.37	0.33	0.28	0.27
50F6860	M20R104M5	0.1	50	0.21	0.19	0.16	0.16
44F8628	M20U154M5	0.15	50	0.26	0.23	0.20	0.19
50F6861	M22U104M5	0.1	50	0.15	0.14	0.12	0.11
50F6862	M22R104M5	0.1	50	0.39	0.34	0.30	0.28
44F8629	M30U474M5	0.47	50	0.49	0.43	0.37	0.36
16F3706	M30R105K5	1.0	50	1.35	1.22	1.22	1.03
44F8630	M30U105M5	1.0	50	0.60	0.53	0.46	0.44
44F8631	M40U155M5	1.5	50	5.15	2.53	1.56	1.48
44F8632	M40U225M5	2.2	50	5.06	2.48	1.53	1.46
44F8626	M20U473M5	0.047	50	0.34	0.17	0.11	0.10
48F4673	M15G331J1	0.00033	100	0.65	0.58	0.49	0.47
50F6856	M15R102K1	0.001	100	0.15	0.14	0.12	0.11
50F6859	M20R103K1	0.01	100	0.18	0.16	0.14	0.14
16F3708	M30R104K1	0.1	100	0.44	0.39	0.39	0.33
44F8634	M30U104M1	0.1	100	0.39	0.35	0.30	0.29
44F8635	M30U334M1	0.33	100	0.64	0.56	0.49	0.47
44F8636	M40U474M1	0.47	100	4.00	1.96	1.21	1.15
16F3707	M40R105K1	1.0	100	7.33	6.61	6.59	5.60
48F4674	M22G102J2	0.001	200	0.87	0.78	0.76	0.65
44F8638	M40R104M2	0.1	200	5.33	3.78	2.37	1.53
16F3709	M30R104M2	0.1	200	1.13	1.02	1.01	0.86

(7098) (de03160)

CERAMIC CAPACITORS AND KITS

P SERIES AXIAL LEAD MONOLITHIC CERAMIC CAPACITORS

High-capacitance case, conformally coated in moisture and shock resistant epoxy encapsulant. Tolerance: ±10% (Z5U); ±20% (X7R). Laser markings.

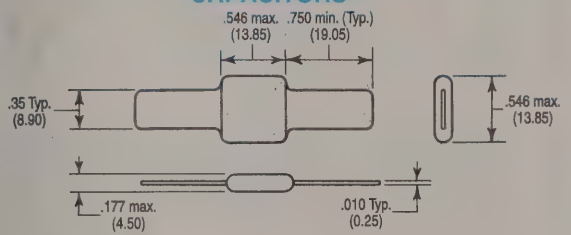
50 WVDC

Stock No.	Type	Cap. µF	Dielectric	Dia. x L Max.	1-49	50-99	100-249
89F4025	P10R103K5	0.01	X7R	0.100 x 0.170″	0.34	0.17	0.11
89F4027	P10R333K5	0.033	X7R	0.100 x 0.170″	0.38	0.28	0.17
89F4028	P10R473K5	0.047	X7R	0.100 x 0.170″	0.38	0.19	0.12
50F6823	P10U104M5	0.1	Z5U	0.100 x 0.170″	0.38	0.19	0.12
89F4038	P20R104K5	0.1	X7R	0.100 x 0.260″	0.53	0.26	0.16
16F9529	P40U105M5	1.0	Z5U	0.150 x 0.400″	0.72	0.64	0.54
				100 WVDC			
89F4031	P10R471K1	470pF	X7R	0.100 x 0.170″	0.31	0.25	0.16
89F4033	P10R102K1	0.001	X7R	0.100 x 0.170″	0.31	0.16	0.10
89F4024	P10R103K1	0.01	X7R	0.100 x 0.170″	0.35	0.17	0.11
89F4034	P10R152K1	0.0015	X7R	0.100 x 0.170″	0.31	0.23	0.15
89F4042	P40R104K1	0.1	X7R	0.150 x 0.400″	1.09	0.53	0.33

(7233) (ne52606)

MHP SERIES HIGH FREQUENCY POWER CERAMIC CAPACITORS

SMD



Designed specifically for high voltage and high RF current applications, these ceramic capacitors are glass-encapsulated for protection against corona, contaminants and humidity. Wide, fine silver terminations brazed to monolithic element for minimum inductance and high RF current (12A rms) rating. Operating temperature: -55°C to +125°C. Tolerance: ±5%.

Stock No.	Type	Cap.	WVDC	1-24	25-49	50-99	100-249
92F789	MHP1100J	10pF	3600	14.59	13.42	11.95	9.08
92F790	MHP1120J	12pF	3600	14.59	13.42	11.95	9.08
92F791	MHP1150J	15pF	3600	14.59	13.42	11.95	9.08
92F792	MHP1180J	18pF	3600	14.59	13.42	11.95	9.08
92F793	MHP1220J	22pF	3600	14.59	13.42	11.95	9.08
92F794	MHP1270J	27pF	3600	14.59	13.42	11.95	9.08
92F795	MHP1330J	33pF	3600	14.59	13.42	11.95	9.08
92F796	MHP1390J	39pF	3600	14.59	13.42	11.95	9.08
92F797	MHP1470J	47pF	3600	14.59	13.42	11.95	9.08
92F798	MHP1560J	56pF	3600	14.59	13.42	11.95	9.08

(28226) (ne28226)

MULTILAYER CERAMIC CHIP CAPACITOR KIT

SMD

700-piece surface mount design engineering/maintenance kit. Contains 25 each of the most popular capacitances and tolerances (in C0G, X7R, and Z5U temperature coefficients) listed in the table below.

C0G TEMPERATURE COEFFICIENT, 100 VOLTS

Type	Capacitance	Type	Capacitance
C0805C100J1GACB	10pF	C1206C271K1GACB	220pF
C0805C101J1GACB	100pF	C1206C471J1GACB	470pF
C0805C181J1GACB	180pF	C0805C470J1GACB	47pF
C1206C101J1GACB	100pF	C1206C100J1GACB	10pF
C1206C102J1GACB	1000pF	C0805C220J1GACB	22pF
X7R TEMPERATURE COEFFICIENT, 50 VOLTS & 100 VOLTS			
C0805C102K1RACB	1000pF	C1206C103K1RACB	0.01µF
C0805C102K5RACB	1000pF	C1206C103K5RACB	0.01µF
C0805C103K5RACB	0.01µF	C1206C104K5RACB	0.1µF
C0805C104K5RACB	0.1µF	C1206C473K5RACB	0.047µF
C0805C471J5RACB	470pF	C1206C683K5RACB	0.068µF
C0805C471K5RACB	470pF	C1210C104K5RACB	0.1µF
C1206C102K5RACB	1000pF	...	...
Z5U TEMPERATURE COEFFICIENT, 50 VOLTS			
C0805C104M5UACB	0.1µF	C1210C104M5UACB	0.1µF
C1206C104M5UACB	0.1µF	C1210C224M5UACB	0.22µF

87F3690 Type SMTCER KIT. **Each**..... **207.39**
(7218) (ne08279)

SURFACE MOUNT CERAMIC CHIP CAPACITORS

Surface mount capacitors in C0G(NPO), X7R, and Z5U dielectric formulations. Standard EIA case sizes: 0805, 1206, 1210. Feature Tin-plated nickel barrier solder terminations. **Sold individually or in reels of 4000. * indicates 2,500 pieces for reels.**

100 VOLTS, ±5% TOLERANCE

COG(NPO) offer lower dielectric loss, stable electrical characteristics in precision applications. Temperature range –55°C to +125°C.

Stock No.	Type	Cap. pF	1-3999	Each per Reel of 4000
92F5695	C0805C100J1GAC	10	0.03	0.03
92F5696	C0805C150J1GAC	15	0.03	0.03
92F5697	C0805C220J1GAC	22	0.21	0.06
92F5698	C0805C330J1GAC	33	0.03	0.03
92F5699	C0805C390J1GAC	39	0.21	0.06
92F5700	C0805C470J1GAC	47	0.03	0.03
92F5701	C0805C680J1GAC	68	0.03	0.03
92F5702	C0805C820J1GAC	82	0.03	0.03
92F5703	C0805C101J1GAC	100	0.03	0.03
92F5687	C0805C151J1GAC	150	0.03	0.03
92F5688	C0805C221J1GAC	220	0.04	0.04
92F5689	C0805C331J1GAC	330	0.04	0.04
92F5690	C0805C471J1GAC	470	0.04	0.04
92F5691	C0805C681J1GAC	680	0.05	0.05
92F5717	C0805C102J1GAC	1000	0.05	0.05
92F5692	C1206C100J1GAC	10	0.30	0.08
92F5693	C1206C220J1GAC	22	0.04	0.04
92F5694	C1206C330J1GAC	33	0.30	0.08
92F5704	C1206C470J1GAC	47	0.04	0.04
92F5708	C1206C101J1GAC	100	0.30	0.08
92F5709	C1206C331J1GAC	330	0.05	0.05
92F5710	C1206C471J1GAC	470	0.05	0.05
92F5712	C1206C681J1GAC	680	0.35	0.09
92F5713	C1206C102J1GAC	1000	0.05	0.05
92F5714	C1206C152J1GAC	1500	0.07	0.07
92F5715	C1206C182J1GAC	1800	0.08	0.08
92F5716	C1206C222J1GAC	2200	0.08	0.08
92F5719	C1210C472J1GAC	4700	0.25	0.25

50 VOLTS, ±10% TOLERANCE

X7R offers stable dielectric, higher capacitance. Temperature range –55°C to +125°C.

Stock No.	Type	Cap. pF	1-3999	Each per Reel of 4000
92F5738	C0805C102K5RAC	1000	0.20	0.06
92F5720	C0805C152K5RAC	1500	0.03	0.03
92F5721	C0805C222K5RAC	2200	0.20	0.06
92F5722	C0805C332K5RAC	3300	0.20	0.06
92F5723	C0805C472K5RAC	4700	0.21	0.06
92F5726	C0805C103K5RAC	0.010µF	0.21	0.06
92F5739	C0805C223K5RAC	0.022µF	0.04	0.04
92F5740	C0805C333K5RAC	0.033µF	0.05	0.05
92F5741	C0805C473K5RAC	0.047µF	0.04	0.04
92F5728	C1206C102K5RAC	1000	0.30	0.08
92F5732	C1206C103K5RAC	0.010µF	0.31	0.08
92F5735	C1206C333K5RAC	0.033µF	0.05	0.05
92F5736	C1206C473K5RAC	0.047µF	0.04	0.04
92F5742	C1206C683K5RAC	0.068	0.06	0.06
92F5743	C1206C104K5RAC	0.100	0.37	0.09
92F5744	C1210C104K5RAC	0.100	0.08	0.08

50 VOLTS, ±20% TOLERANCE

Z5U offers high capacitance density. Temperature range: +10°C to +85°C.

Stock No.	Type	Cap. µF	1-3999	Each, per Reel of 4000
92F5745	C0805C103M5UAC	0.010	0.19	0.05
92F5747	C0805C104M5UAC	0.100	0.25	0.07
92F5746	C1206C104M5UAC	0.100	0.30	0.08
92F5750	C1206C224M5UAC	0.220	0.07	0.07
92F5748	C1210C104M5UAC	0.100	0.11	0.11
92F5749	C1210C224M5UAC	0.220	0.13	0.13

(7116) (de04120)

MONOLITHIC CERAMIC CAPACITOR ASSORTMENT

Contains 30 different monolithic ceramic capacitors. Values from 100pF to 1µF. Voltages to 200WVDC. Capacity tolerances: ±5%, ±10% and ±20%. Housed in a Mallobin® 15-drawer cabinet. Cabinet size: 7.500H x 9.125W x 6.500″D.

81F9283 Type MONO 151A KIT. **Each**..... **191.48**
(7099) (de03161)

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AUDIBLE SIGNALS

PIEZOELECTRIC INDICATORS

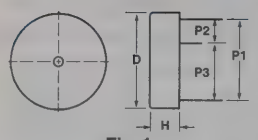

Fig. 1

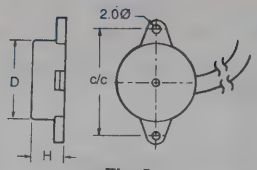

Fig. 2

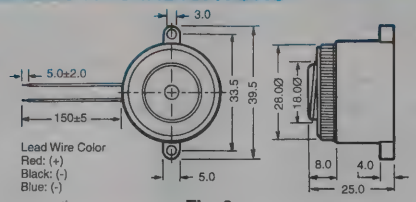

Fig. 3

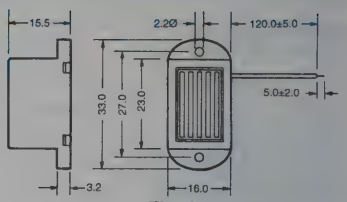

Fig. 4

Indicators have internal drive circuitry built in and require only DC source voltage for operation. Feature low current consumption and high sound output. Have extremely clear and penetrating sound. Small and lightweight. No EMI or RFI. Applications include computer, office and communications equipment, home appliances, alarms, and vehicles. Types **PK-21A31P, PF-21A31P,** and **PL-20A35EW** are sealed units.

PC BOARD MOUNT

Stock No.	Type	Tone	Voltage	Resonant Frequency KHz ± 0.5	dB @ 30cm	D x H (mm)	Fig.	Notes	1-9	10-24
52F8501	PK-12N40P	Constant	3-15	4.1	83	13.0 x 7.5	1	2-pin, P1=7.6mm	7.36	5.99
52F8503	PK-20A38P	Constant	3-20	3.8	95	23.4 x 18.0	1	2-pin, P1=15mm	7.46	6.06
52F8505	PK-21A31P	Constant	3-24	3.5	90	24.0 x 13.5	1	2-pin, P1=15mm	8.36	6.80
52F8506	PK-21N30P	Constant	1.5-30	3.0	80	24.0 x 9.5	1	2-pin, P1=15mm	6.03	4.90
52F8508	PK-27N26PS	Constant	3-28	2.5	90	30.0 x 10.0	1	2-pin, P1=15mm	7.24	5.89
52F8509	PFD-27N36P	Constant & Fast Pulse	3-28	3.5	90	30.0 x 10.0	1	3-pin, P2=7mm, P3=11mm	11.18	9.10
52F8511	PLD-21N30P	Constant & Slow Pulse	4-28	3.0	80	24.0 x 9.5	1	3-pin, P2, P3=7.5mm	11.18	9.10
52F8513	PF-21A31P	Fast Pulse	3-24	3.0	90	24.0 x 13.5	1	2-pin, P1=15mm	13.60	11.07
52F8515	PF-27N36PS	Fast Pulse	3-28	3.5	90	30.0 x 10.0	1	2-pin, P1=15mm	8.23	6.70
52F8520	PL-21A31P	Slow Pulse	3-24	3.0	90	24.0 x 13.5	1	2-pin, P1=15mm	13.60	11.07
52F8522	PL-27N36PS	Slow Pulse	3-28	3.5	90	30.0 x 10.0	1	2-pin, P1=15mm	8.23	6.70
52F8525	PL-27A35PS	Slow Pulse	3-20	3.5	95	30.0 x 16.0	1	2-pin	9.44	7.68

PANEL OR FLANGE MOUNT

52F8526	PK-20A35EW	Constant	3-28	3.5	95	See Figure	3	(33.5.0 c/c), 2 wire	7.80	6.34
52F8527	PFD-20A35EW	Constant & Fast Pulse	3-28	3.5	95	See Figure	3	(33.5.0 c/c), 2 wire	12.52	10.18
52F8528	PLD-20A35EW	Constant & Slow Pulse	3-28	3.5	95	See Figure	3	(33.5.0 c/c), 2 wire	12.52	10.18
52F8529	PF-20A35EW	Fast Pulse	3-28	3.5	95	See Figure	3	(33.5.0 c/c), 2 wire	11.40	9.27
52F8530	PL-20A35EW	Slow Pulse	3-28	3.5	95	See Figure	3	(33.5.0 c/c), 2 wire	11.40	9.27

FLANGE MOUNT

52F8531	PK-20N38W	Constant	3-28	3.8	85	23.4 x 18.0	2	(29.0 c/c), 2 wire	6.37	5.18
52F8532	PK-20A25W	Constant	3-20	2.5	95	23.4 x 18.0	2	(29.0 c/c), 2 wire	7.89	6.42
52F8534	PK-27N36W	Constant	3-28	3.5	90	30.0 x 10.0	2	(39.0 c/c), 2 wire	5.72	4.65
52F8535	PK-27N26W	Constant	3-28	2.5	90	30.0 x 10.0	2	(39.0 c/c), 2 wire	7.24	5.89
52F8536	PK-27N25W	Constant	3-28	2.5	90	30.0 x 16.0	2	(39.0 c/c), 2 wire	6.80	5.53
52F8537	PK-35N29W	Constant	3-28	2.9	90	42.0 x 16.0	2	(50.0 c/c), 2 wire	8.36	6.80
52F8538	PK-35A29W	Constant	3-20	2.9	95	42.0 x 16.0	2	(50.0 c/c), 2 wire	9.44	7.68
52F8539	PK-27N35W	Constant	3-28	3.5	90	30.0 x 16.0	2	(39.0 c/c), 2 wire	4.91	3.99
52F8540	PFD-21A29W	Constant & Fast Pulse	3-24	3.0	90	24.0 x 13.5	2	(29.0 c/c), 2 wire	12.83	10.43
52F8541	PFD-21N30W	Constant & Fast Pulse	4-28	3.0	80	24.0 x 9.5	2	(29.0 c/c), 2 wire	11.18	9.10
52F8542	PFD-27N36W	Constant & Fast Pulse	3-28	3.5	90	30.0 x 10.0	2	(39.0 c/c), 2 wire	10.87	8.84
52F8544	PLD-21A29W	Constant & Slow Pulse	3-24	3.0	90	24.0 x 13.5	2	(29.0 c/c), 2 wire	12.83	10.43
52F8545	PLD-21N30W	Constant & Slow Pulse	4-28	3.0	80	24.0 x 9.5	2	(29.0 c/c), 2 wire	11.18	9.10
52F8546	PLD-27N36W	Constant & Slow Pulse	3-28	3.5	90	30.0 x 10.0	2	(39.0 c/c), 2 wire	11.18	9.10
52F8550	PF-21A29W	Fast Pulse	3-24	3.0	90	24.0 x 13.5	2	(29.0 c/c), 2 wire	9.44	7.68
52F8551	PF-21N30W	Fast Pulse	4-28	3.0	80	24.0 x 9.5	2	(29.0 c/c), 2 wire	10.96	8.92
52F8553	PF-27N26W	Fast Pulse	3-28	2.5	90	30.0 x 10.0	2	(39.0 c/c), 2 wire	10.96	8.92
52F8556	PF-35N29W	Fast Pulse	3-28	2.9	90	42.0 x 16.0	2	(50.0 c/c), 2 wire	11.52	9.37
52F8557	PF-35A29W	Fast Pulse	3-20	2.9	95	42.0 x 16.0	2	(50.0 c/c), 2 wire	13.17	10.71
52F8558	PL-21A29W	Slow Pulse	3-24	3.0	90	24.0 x 13.5	2	(29.0 c/c), 2 wire	9.44	7.68
52F8560	PL-27N26W	Slow Pulse	3-28	2.5	90	30.0 x 10.0	2	(39.0 c/c), 2 wire	10.96	8.92
52F8563	PL-35N29W	Slow Pulse	3-28	2.9	90	42.0 x 16.0	2	(50.0 c/c), 2 wire	11.52	9.37
52F8564	PL-35A29W	Slow Pulse	3-20	2.9	95	42.0 x 16.0	2	(50.0 c/c), 2 wire	13.17	10.71

ELECTRO-MAGNETIC INDICATORS & BUZZERS

52F8565	PK-16N04W-03	Constant	3	400	82	See Figure	4	Buzzer	11.18	9.10
52F8567	PK-16N04W-12	Constant	12	400	85	See Figure	4	Buzzer	8.85	7.20
52F8568	PK-16N04W-24	Constant	24	400	85	See Figure	4	Buzzer	9.35	7.61
52F8569	PB-12N23P-01	Constant	1	2,300	80	12.0 x 9.5	1	Indicator*, 2-pin, sealed	7.46	6.06
52F8570	PB-12N23P-03	Constant	3	2,300	85	12.0 x 9.5	1	Indicator*, 2-pin, sealed	5.72	4.65
52F8571	PB-12N23P-05	Constant	5	2,300	85	12.0 x 9.5	1	Indicator*, 2-pin, sealed	5.72	4.65
52F8572	PB-12N23P-12	Constant	12	2,300	85	12.0 x 9.5	1	Indicator*, 2-pin, sealed	5.72	4.65

*For figure 1, P1=15mm
(7388)

(ne07351)

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AUDIBLE SIGNALS

PIEZOELECTRIC TRANSDUCERS

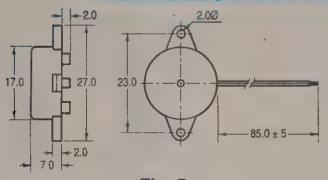


Fig. 5

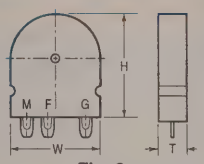


Fig. 6

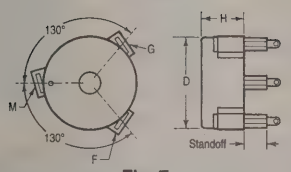


Fig. 7

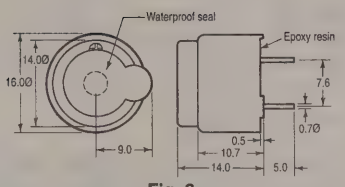
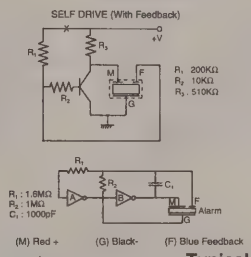
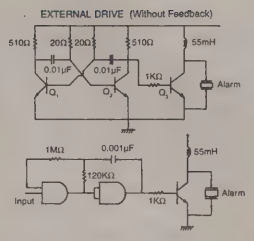


Fig. 8





Typical Drive Circuits

Piezoelectric transducers have no internal drive circuitry and must be driven by typical drive circuits (illustrated above). Feature low current consumption and high sound output. Have extremely clear and penetrating sound. Small and lightweight. No electronic generated EMI or RFI. Applications include computer and office equipment, communications equipment, home appliances, alarms and vehicles.

NO FEEDBACK

Stock No.	Type	Operating Voltage	Resonant Frequency (KHz ± 0.5)	(dB)	D x H (W x H x T*) (mm)	Fig.	Notes	1-9	10-24	25-49	50-99
52F8452	PT-2020P	25 (p-p)	2.0	80	22.0 x 26.5 x 7.0*	6	Edgemount, 2 blade	2.86	2.33	1.95	1.30
52F687	PT-2060W	30 (p-p)	6.0	95	24.0 x 5.0	2	Flange mount (29.0 c/c), 2 wire	2.15	1.75	1.46	0.97
52F8456	PT-2038W	30 (p-p)	3.8	95	24.0 x 5.0	2	Flange mount (29.0 c/c), 2 wire	2.15	1.75	1.46	0.97
52F8458	PT-2725W	30 (p-p)	2.5	90	30.0 x 10.0	2	Flange mount (35.0 c/c), 2 wire	3.08	2.50	2.09	1.39
52F8459	PT-2745W	30 (p-p)	4.5	90	30.0 x 5.5	2	Flange mount (35.0 c/c), 2 wire	2.24	1.82	1.52	1.02
52F8460	PT-2736W	30 (p-p)	3.5	90	30.0 x 10.0	2	Flange mount (39.0 c/c), 2 wire	2.52	2.05	1.71	1.45
52F8463	PT-1240P	20 (p-p)	4.1	80	13.0 x 7.5	1	PC Board, 2 pin (7.6mm c/c)	5.07	4.12	3.45	2.29
52F685	PT-1540P	25 (p-p)	4.0	80	17.0 x 7.0	1	PC Board, 2 pin (10.0mm c/c)	2.21	1.80	1.50	1.00
52F686	PT-2040P	30 (p-p)	4.0	90	22.0 x 7.0	1	PC Board, 2 pin (10.0mm c/c)	1.99	1.62	1.35	0.90
52F8464	PT-2060P	30 (p-p)	6.0	80	24.0 x 5.5	1	PC Board, 2 pin (10.0mm c/c)	2.08	1.70	1.42	1.20
52F8465	PT-2130P	25 (p-p)	3.0	90	24.0 x 9.5	1	PC Board, 2 pin (15.0mm c/c)	2.46	2.00	1.67	1.41
52F8466	PT-2736P	30 (p-p)	3.5	90	30.0 x 10.0	1	PC Board, 2 pin (17.5mm c/c)	2.52	2.05	1.71	1.45
52F8467	PT-2726P	30 (p-p)	2.5	90	30.0 x 10.0	1	PC Board, 2 pin (15.0mm c/c)	3.64	2.96	2.47	1.64
52F8469	PT-1250W	25 (p-p)	4.8	80	13.8 x 4.0	1	2 wire	3.30	2.68	2.24	1.50
52F8470	PT-1550W	25 (p-p)	5.0	80	16.8 x 4.0	1	2 wire	2.30	1.87	1.57	1.06

WITH FEEDBACK

Stock No.	Type	Operating Voltage	Resonant Frequency (KHz ± 0.5)	(dB)	D x H (W x H x T*) (mm)	Fig.	Notes	1-9	10-24	25-49	50-99
52F8453	PT-2728FP	3-28 VDC	2.8	85	30.5 x 33.2 x 8.3*	6	Edgemount, 3 blade	3.73	3.03	2.54	1.70
52F688	PT-2065FW	3-28VDC	6.5	85	24.0 x 5.0	2	Flange Mount (29.0 c/c), 3 wire	2.52	2.05	1.71	1.14
52F8473	PT-2038FW	3-28VDC	3.8	85	24.0 x 5.0	2	Flange Mount (29.0 c/c), 3 wire	2.52	2.05	1.71	1.14
52F8474	PT-2745FW	3-28VDC	4.5	85	30.0 x 5.5	2	Flange Mount (35.0 c/c), 3 wire	2.43	1.97	1.65	1.09
52F8475	PT-2742FW	3-28VDC	4.2	90	30.0 x 10.0	2	Flange Mount (39.0 c/c), 3 wire	2.52	2.05	1.71	1.45
52F8476	PT-2736FW	3-28VDC	3.5	90	30.0 x 10.0	2	Flange Mount (39.0 c/c), 3 wire	2.52	2.05	1.71	1.45
52F8478	PT-3529FW	3-28VDC	2.9	90	42.0 x 16.0	2	Flange Mount (50.0 c/c), 3 wire	3.95	3.21	2.68	1.79
52F8479	PT-2130FP	1.5-30VDC	3.0	80	24.0 x 9.5	1	3 pin, P2=9mm, P3=4mm	3.64	2.96	2.47	1.64
52F8480	PT-2726FP	3-28VDC	2.6	90	30.0 x 10.0	1	3 pin, P2=9mm, P3=5mm	2.61	2.12	1.78	1.50
52F8482	PT-2736FP	3-28VDC	2.5	90	30.0 x 10.0	1	3 pin, P2=9mm, P3=5mm	2.61	2.12	1.78	1.50
52F8484	PT-3529FP	3-28VDC	2.9	90	42.0 x 16.0	1	3 pin, P2=10.5mm, P3=8mm	4.51	3.67	3.07	2.04
01F534	PT-3534FP	4.5-18VDC	3.4	105	39.9 x 20.0	1	3 pin, P2=10.5mm, P3=8mm	4.60	3.74	3.13	2.09
52F8485	PT-2036FP	3-28VDC	3.5	86	23.4 x 11.0	7	3 pin, 3.0mm standoff	2.46	2.00	1.67	1.41
52F8486	PT-2036FPL	3-28VDC	3.5	86	23.4 x 11.0	7	3 pin, 6.0mm standoff	3.64	2.96	2.47	1.64
52F8489	PT-2725FP	3-28VDC	2.5	85	30.0 x 10.0	7	3 pin, 3.0mm standoff	3.64	2.96	2.47	1.64
52F8490	PT-2725FPL	3-28VDC	2.5	85	30.0 x 10.0	7	3 pin, 6.0mm standoff	3.64	2.96	2.47	1.64
52F8491	PT-2735FP	3-28VDC	3.5	88	30.0 x 10.0	7	3 pin, 3.0mm standoff	2.95	2.40	1.84	1.41
52F8492	PT-2735FPL	3-28VDC	3.5	88	30.0 x 10.0	7	3 pin, 6.0mm standoff	3.64	2.96	2.47	1.64

*Sealed unit
(7206)

(ne07348)

ELECTROMAGNETIC TRANSDUCERS

Stock No.	Type	Operating Voltage	Resonant Frequency Hz	dB @ 10cm	D x H (mm)	Fig.	Notes	1-9	10-24
52F8493	PB-1221P	1.5	2048	80	12.0 x 8.5	1	2-Pin, 6.5mm c/c	2.21	1.80
52F8495	PB-1220P	1.5	2048	85	12.0 x 8.5	1	2-Pin, 6.5mm c/c	2.21	1.80
52F8496	PB-1620P	1.5	2048	80	16.0 x 14.0	8	2-Pin, 6.5mm c/c	4.38	3.56
52F8497	PB-1621P	5	2048	85	16.0 x 14.0	8	2-Pin, 7.6mm c/c	4.38	3.56
52F8498	PB-1622P	12	2048	85	16.0 x 14.0	8	2-Pin, 7.6mm c/c	4.38	3.56
52F8499	PB-1221W	1.5	2048	80	12.0 x 8.5	1	2-Wire	1.93	1.57
52F8500	PB-1220W	1.5	2048	85	12.0 x 8.5	1	2-Wire	2.33	1.90

(7207)

(ne07349)

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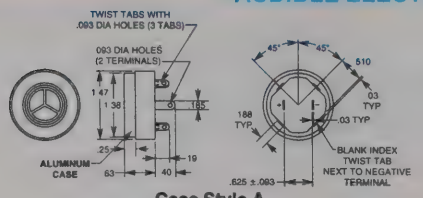
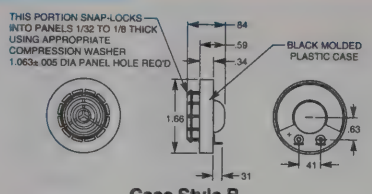
SONALERT® SOLID-STATE SIGNALS

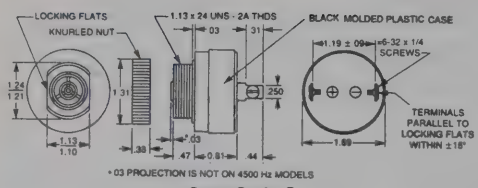
AUDIBLE ELECTRONIC SIGNALS



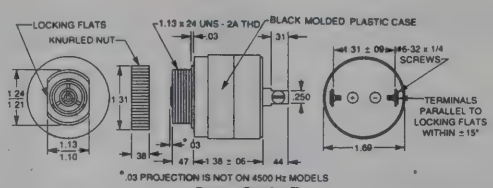
Case Style A


THIS PORTION SNAP-LOCKS INTO PANELS 1/32 TO 1/8 THICK USING APPROPRIATE COMPRESSION WASHER
1.063± .005 DIA PANEL HOLE REQ'D
BLACK MOLDED PLASTIC CASE

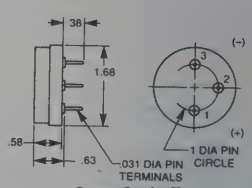
Case Style B


LOCKING FLATS
KNURLED NUT
1.13 x 24 UNS - 2A THDS
BLACK MOLDED PLASTIC CASE
6-32 x 1/4 SCREWS
TERMINALS PARALLEL TO LOCKING FLATS WITHIN ± 18°
* .03 PROJECTION IS NOT ON 4500 Hz MODELS

Case Style C


LOCKING FLATS
KNURLED NUT
1.13 x 24 UNS - 2A THD
BLACK MOLDED PLASTIC CASE
6-32 x 1/4 SCREWS
TERMINALS PARALLEL TO LOCKING FLATS WITHIN ± 15°
* .03 PROJECTION IS NOT ON 4500 Hz MODELS

Case Style D



Case Style F

Signals produce an audible tone when voltage from 1 to 250V is applied (depending on model). A piezoelectric transducer, operating substantially at resonance in a solid-state oscillator, converts electrical power to sound. Can be powered by many electrical sources, ranging from single-cell battery to industrial power lines. Because of low power requirements, they can be turned on or off with a transistor, SCR, or integrated circuit. No mechanical wear. Salt spray resistant. Operating temperature: –30°C to +65°C. Some units sound at voltages lower than minimum specified. Continuous tone.

PANEL MOUNT

Stock No.	Type	Case Style	Loud-ness	DC Voltage Min.	DC Voltage Max.	Operating Current (mA)	Freq. ± 500Hz	Output @ 2 ft. (dB)	1-24	25-49
64F274	SC110E	D	Soft	30	120*	3 to 14	1900	55 to 65	35.92	34.21
64F287	SC628E	C	Soft	6	28	3 to 8	1900	55 to 68	23.14	20.41
64F279	SC250F	D	Soft	60	250*	1 to 4	2900	55 to 65	37.72	33.26
64F285	SC628AF	D	Soft	6	28*	1 to 4	2900	50 to 65	31.67	30.16
64F288	SC628F	C	Soft	6	28	0.5 to 3	2900	55 to 70	20.27	17.88
50F6851	SC105	C	Med.	1	5	3 to 16	2900	60 to 75	20.26	17.86
64F273	SC110D**	D	Med.	30	120*	6 to 21	1900	60 to 75	40.35	38.43
64F277	SC250D	D	Med.	60	250*	4 to 16	1900	60 to 72	42.78	37.72
64F283	SC628AD	D	Med.	6	28*	4 to 16	1900	60 to 75	34.63	32.98
64F286	SC628D**	C	Med.	6	28	6 to 23	1900	60 to 75	23.28	20.52
64F289	SC648AD**	D	Med.	10	48*	4 to 16	1900	60 to 75	39.35	34.70
64F290	SC648D	C	Med.	10	48	3 to 17	1900	60 to 75	23.84	21.02
64F303	SC110**	D	Med.	30	120*	6 to 21	2900	68 to 80	37.40	35.62
64F307	SC250	D	Med.	60	250*	4 to 16	2900	68 to 80	38.93	34.32
64F300	SC628**	C	Med.	6	28	3 to 18	2900	68 to 80	17.53	16.12
64F302	SC628A**	D	Med.	6	28*	6 to 23	2900	68 to 80	30.56	28.10
64F306	SC648**	C	Med.	10	48	5 to 22	2900	68 to 80	21.10	18.61
64F271	SC648A	D	Med.	10	48*	4 to 16	2900	68 to 80	35.54	31.34
64F316	SC110H**	D	Med.	30	120*	6 to 21	4500	68 to 80	40.63	38.69
64F313	SC628AH	D	Med.	6	28*	4 to 16	4500	68 to 80	34.89	33.23
64F301	SC628H**	C	Med.	6	28	6 to 23	4500	68 to 80	25.76	22.72
64F270	SC648H	C	Med.	10	48	3 to 14	4500	68 to 80	24.72	21.80
89F276	SC628MN	C	Loud	6	28	4 to 16	2900	80 to 90	48.20	46.03
64F276	SC110N**	D	Loud	30	120*	6 to 24	2900	80 to 95	50.80	48.11
50F6852	SC307N	C	Loud	3	7	3 to 8	2900	80 to 90	28.44	25.07
64F282	SC616N	C	Loud	6	16	4 to 16	2900	80 to 95	22.90	21.81
87F676	SC628AN	D	Loud	6	28*	8 to 28	2900	80 to 95	41.19	39.01

TWIST TAB MOUNT

64F324	SC24	A	Soft	20	30	16 @ 24V	3500	70 @ 24V	20.68	18.23

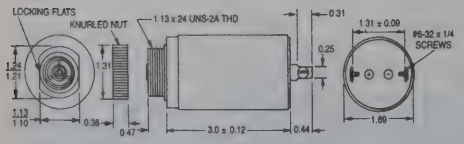
PC BOARD MOUNT

42F968	SBM2**	F	Med.	1	5	3 to 16	2900	55 to 68	22.08	19.47
42F969	SBM428**	F	Med.	4	28	3 to 16	2900	64 to 78	22.08	19.47

SNAP-IN PANEL MOUNT

64F378	SNP428**	B	Med.	4	28	3 to 18	2900	64 to 76	20.22	19.00

*AC/DC non-polarized, all others DC only. **Denotes UL recognized, Guide UCST2, yellow card S1290.
(7255) (de01117)



SONALERT CROSSWALK AUDIBLE SIGNAL DEVICES

Type VSB110-1 features a cuckoo sound for North-South crossings, and repeats approximately every 1.5 seconds. **Type VSB110-2** features a chirp sound for East-West crossings, and repeats approximately every 1 second. Rated voltage: 110/120VAC @ 60Hz. Current: 30mA max. @ 120VAC. Operating and storage temperature: –40°C to 85°C. Black molded plastic case covered with 0.015" thick PVC plastic sleeve.

Stock No.	Type	Tone	Resonant Freq.	1-4	5-9	10-24
16F9530	VSB110-1	Cuckoo	800/1,200Hz	189.35	175.15	158.10
16F9531	VSB110-2	Chirp	2,000Hz	189.35	175.15	158.10

(18827) (ne10980)

PERSONALIZED SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

SONALERT® SOLID STATE SIGNALS

INTERMITTENT TONE SONALERT® SOLID-STATE SIGNALS

All devices are panel-mounted except **types SBM616P** and **SBM616PU** which are PC board mount.

Stock No.	Type	Case Style	Loud-ness	Mounting Style	DC Voltage Min.	DC Voltage Max.	Operating Current (mA)	Freq. ±500Hz	Output @ 2 Ft. (dB)	1-9	10-24
FAST PULSE											
64F326	SC110EP	E	Soft	Panel	30	120*	3 to 14	1900	55 to 65	48.82	46.63
64F337	SC628AEP	E	Soft	Panel	6	28*	3 to 14	1900	55 to 65	47.02	44.91
64F341	SC628DP	D	Med.	Panel	6	28	3 to 14	1900	60 to 75	37.56	33.12
64F336	SC628ADP	E	Med.	Panel	6	28*	4 to 16	1900	60 to 75	48.81	46.61
64F325	SC110DP	E	Med.	Panel	30	120*	4 to 16	1900	60 to 75	53.87	51.45
64F317	SC110P*	E	Med.	Panel	30	120*	6 to 21	2900	68 to 80	51.72	49.39
64F334	SC250P	E	Med.	Panel	60	250*	4 to 16	2900	68 to 78	49.54	47.32
64F340	SC628AP	E	Med.	Panel	6	28*	4 to 16	2900	68 to 80	44.03	41.70
64F304	SC628P	D	Med.	Panel	6	28*	6 to 22	2900	68 to 80	34.25	30.20
64F318	SC110HP	E	Med.	Panel	30	120*	4 to 16	4500	68 to 80	55.27	52.78
64F332	SC250HP	E	Med.	Panel	60	250*	4 to 16	4500	68 to 80	53.08	50.70
64F312	SC628HP	D	Med.	Panel	6	28	3 to 14	4500	68 to 80	37.85	33.37
64F328	SC110NP	D	Loud	Panel	30	120*	8 to 28	2900	80 to 95	51.47	48.74
64F335	SC616NP	C	Loud	Panel	6	16	4 to 16	2900	80 to 95	29.36	27.96
87F675	SC628ANP	D	Loud	Panel	6	28*	8 to 28	2900	80 to 95	45.68	43.26
SLOW PULSE											
64F348	SC110EJ	E	Soft	Panel	30	120*	3 to 14	1900	55 to 65	48.92	46.72
64F366	SC628EJ	D	Soft	Panel	6	28	3 to 8	1900	50 to 65	37.54	33.10
64F347	SC110DJ	E	Med.	Panel	30	120*	4 to 16	1900	60 to 75	54.02	51.59
64F369	SC648ADJ	E	Med.	Panel	10	48*	4 to 16	1900	60 to 75	49.01	46.81
64F351	SC110J	E	Med.	Panel	30	120*	6 to 21	2900	68 to 80	51.86	49.53
64F357	SC250J	E	Med.	Panel	60	250*	4 to 16	2900	68 to 78	49.62	47.39
64F364	SC628AJ	E	Med.	Panel	6	28*	4 to 16	2900	68 to 80	46.25	44.17
64F368	SC628J	D	Med.	Panel	6	28*	6 to 22	2900	68 to 80	34.39	30.32
64F371	SC648AJ	E	Med.	Panel	10	48*	4 to 16	2900	68 to 80	46.43	44.34
89F275	SC628ANJ	D	Loud	Panel	6	28*	8 to 28	2900	80 to 95	47.70	45.56
64F352	SC110NJ	D	Loud	Panel	30	120*	8 to 28	2900	80 to 95	51.47	48.74
64F359	SC616NJ	C	Loud	Panel	6	16	4 to 16	2900	80 to 95	29.36	27.96
DUAL-MODE OPERATION--CONTINUOUS OR FAST PULSE											
46F1939	SC616NPU	D-1	Loud	Panel	6	16	4 to 16	2900	80 to 90	46.44	44.23
SHORT PULSE											
64F292	SC110K	E	Med.	Panel	30	120*	6 to 22	2900	68 to 80	51.83	49.50
64F298	SC628K	D	Med.	Panel	6	28	3 to 14	2900	68 to 80	34.31	30.25
FAST WARBLE											
64F319	SC628W†	D-1	Med.	Panel	6	28	3 to 16	2900	68 to 80	36.75	32.41
SLOW WARBLE											
64F373	SC628FJW‡	D-1	Soft	Panel	6	28	3 to 14	2900	55 to 70	35.75	31.52
64F374	SC628JW†	D-1	Med.	Panel	6	28	3 to 16	2900	68 to 80	35.75	31.52
CHIME TONE											
81F453	SC616CP	D	Med.	Panel	6	16	3 to 8	2900	68 to 78	39.76	35.06
CHIRP TONE											
81F454	SC110Q	C	Med.	Panel	30**	120**	6 to 22	2900	68 to 80	27.22	24.00
81F455	SC616Q	C-1	Med.	Panel	6	16	1 to 4	2900	68 to 78	22.98	21.88

* AC-DC non-polarized, all others DC only; **AC only; † Use with **SC628D**; ‡ Use with **SC628E**; UL Recognized, Guide Number UCST2, yellow card number S1290

(7256) (de01119)

MULTI-TONE SONALERTS®

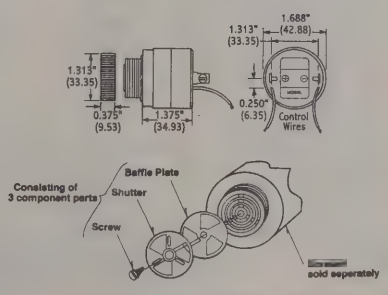
Type SC616WY tone patterns are pulsate-high-frequency, pulsate-low-frequency, and warble. **Type SC616WXY** has two additional tones, continuous high and low frequency. Operating modes determined by connection of two control wires. Both employ solid state circuitry. Listed tone frequency is ±300Hz.

Stock No.	Type	Voltage Min.	Voltage Max.	Current @ Min. V	Current @ Max. V	Tone Frequency High	Tone Frequency Low	1-9	10-24
44F3218	SC616WY	6	16	2mA	18mA	3000	1750	70.73	67.55
44F3219	SC616WXY	6	16	2mA	18mA	3000	1750	68.46	65.39

Volume control fits all classic Sonalert® Screwneck models c, d and e. Consists of 3 component parts supplied in plastic bag with assembly diagram. Pulse rate/sec. (50% duty cycle) 0.5-1.20. Sound output at 2′ 60″ to 72dB.

96F6511 Type SCVC. Volume Control. **1-24** **2.02**

(7257) (de01120)



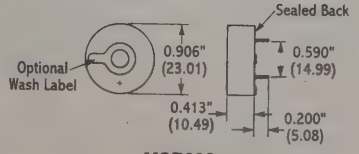
SCVC

SONALERT II™ AUDIBLE SIGNALS

Piezoelectric audible signal with built-in oscillator circuit. Low power consumption. Suitable for fire alarm, call buzzer, car alarm, clocks, and cash register applications. **Type MSR516NP** 2-10 pulse/sec., **M5R516NJ**, 0.5 to 2 pulse/sec.

Stock No.	Type	Frequency	Sound Pressure dB/100cm @ 2 Ft.	Input Voltage	Current @12VDC	1-24	25-49
93F4908	MSR320	3.4 ± 0.4kHz	75dB Min. @ 12VDC	3-20VDC	12mA	3.50	3.35
16F3716	MSR516N	3.4 ± 0.4kHz	85dB Min. @ 12VDC	5-16VDC	10mA	5.43	5.19
16F3717	MSR516NP	3.4 ± 0.4kHz	85dB Min. @ 12VDC	5-16VDC	16mA	6.37	6.08

(7258) (de01121)



MSR320

TANTALUM AND CERAMIC CHIP CAPACITOR ENGINEERING KITS

SMD

Surface mount chip capacitor engineering kits meet design needs. These kits contain 20 pieces of each value listed. Carrier tape mounted. Tapes are clearly labeled with Kemet part number, human readable and bar coded. All kits include a catalog with outline drawings, dimensions, marking format, recommended mounting pad dimensions, and ordering information.

T495 LOW ESR TANTALUM CHIP KIT

Type	EIA Size Code	Capacitance µF	Voltage
T495V107K006AS	7343L	100.0	6
T495X337K006AS	7343H	330.0	6
T495D107K010AS	7343	100.0	10
T495X227K010AS	7343H	220.0	10
T495D476K016AS	7343	47.0	16
T495X107K016AS	7343H	100.0	16
T495X476K020AS	7343H	47.0	20
T495X336K025AS	7343H	33.0	25
T495X106K035AS	7343H	10.0	35
T495X475K050AS	7343H	4.7	50

91F3138 Type TAN ENG KIT 04. Low ESR Engineering Kit. **Each** **309.47**

T491 EXTENDED RANGE TANTALUM CHIP KIT

Type	EIA Size Code	Capacitance µF	Voltage
T491B336K006AS	3528	33.0	6
T491X337K006AS	7343H	330.0	6
T491A106K010AS	3216	10.0	10
T491B226K010AS	3528	22.0	10
T491C476K010AS	6032	47.0	10
T491D107K010AS	7343	100.0	10
T491X227K010AS	7343H	220.0	10
T491A475K016AS	3216	4.7	16
T491C336K016AS	6032	33.0	16
T491X107K016AS	7343H	100.0	16
T491A335K020AS	3216	3.3	20
T491B106K020AS	3528	10.0	20
T491C226K020AS	6032	22.0	20
T491B225K025AS	3528	2.2	25
T491C106K025AS	6032	10.0	25
T491D226K025AS	7343	22.0	25
T491X336K025AS	7343H	33.0	25
T491A474K035AS	3216	0.47	35
T491D106K035AS	7343	10.0	35
T491X226K035AS	7343H	22.0	35

91F3139 Type TAN ENG KIT 05. **Each** **309.47**

T491 STANDARD RANGE TANTALUM CHIP KIT

Type	EIA Size Code	Capacitance µF	Voltage
T491A475K006AS	3216	4.7	6
T491B106K006AS	3528	10.0	6
T491D107K006AS	7343	100.0	6
T491A225K010AS	3216	2.2	10
T491B475K010AS	3528	4.7	10
T491C226K010AS	6032	22.0	10
T491D476K010AS	7343	47.0	10
T491A105K016AS	3216	1.0	16
T491B335K016AS	3528	3.3	16
T491C106K016AS	6032	10.0	16
T491D336K016AS	7343	33.0	16
T491B225K020AS	3528	2.2	20
T491C685K020AS	6032	6.8	20
T491D226K020AS	7343	22.0	20
T491A474K025AS	3216	0.47	25
T491C475K025AS	6032	4.7	25
T491D156K025AS	7343	15.0	25
T491B105K035AS	3528	1.0	35
T491D475K035AS	7343	4.7	35
T491C105K050AS	6032	1.0	50

91F3140 Type TAN ENG KIT 06. Standard Range Engineering Kit. **Each** ... **309.47**

EIA SIZE 0402 CERAMIC CHIP KIT

Type	Cap. pF	Tolerance	Voltage	Dielectric
C0402C109C5GAC	1.0	0.25pF	50	NP0
C0402C229C5GAC	2.2	0.25pF	50	NP0
C0402C339C5GAC	3.3	0.25pF	50	NP0
C0402C479C5GAC	4.7	0.25pF	50	NP0
C0402C689C5GAC	6.8	0.25pF	50	NP0
C0402C829C5GAC	8.2	0.25pF	50	NP0
C0402C100C5GAC	10	0.25pF	50	NP0
C0402C220C5GAC	22	0.25pF	50	NP0
C0402C330C5GAC	33	5%	50	NP0
C0402C470C5GAC	47	5%	50	NP0
C0402C680C5GAC	68	5%	50	NP0
C0402C101C5GAC	100	5%	25	NP0

CONTINUED

TANTALUM AND CERAMIC CHIP CAPACITOR ENGINEERING KITS (CONT.)

EIA SIZE 0402 CERAMIC CHIP KIT (CONT.)

Type	Cap. pF	Tolerance	Voltage	Dielectric
C0402C221K5RAC	220	10%	50	X7R
C0402C331K5RAC	330	10%	50	X7R
C0402C471K5RAC	470	10%	50	X7R
C0402C681K5RAC	680	10%	50	X7R
C0402C102K5RAC	1000	10%	50	X7R
C0402C222K3RAC	2200	10%	25	X7R
C0402C332K3RAC	3300	10%	25	X7R
C0402C472K3RAC	4700	10%	25	X7R

83F6839 Type CER ENG KIT 06. Ceramic Chip Engineering Kit. **Each** **299.00**

EIA SIZE 0603 CERAMIC CHIP KIT

Type	Cap. pF	Tolerance	Voltage	Temperature Dielectric
C0603C508C5GAC	0.5	0.25pF	50	NP0
C0603C109C5GAC	1.0	0.25pF	50	NP0
C0603C100J5GAC	10	5%	50	NP0
C0603C220J5GAC	22	5%	50	NP0
C0603C470J5GAC	47	5%	50	NP0
C0603C101J5GAC	100	5%	50	NP0
C0603C181J5GAC	180	5%	50	NP0
C0603C221J5GAC	220	5%	50	NP0
C0603C331J5GAC	330	5%	50	NP0
C0603C471J5GAC	470	5%	50	NP0
C0603C102K5RAC	1000	10%	50	X7R
C0603C222K5RAC	2200	10%	50	X7R
C0603C472K5RAC	4700	10%	50	X7R
C0603C103K5RAC	10,000	10%	50	X7R
C0603C223K5RAC	22,000	10%	50	X7R
C0603C223Z3VAC	22,000	+80 –20%	25	Y5V
C0603C473K4RAC	47,000	10%	16	X7R
C0603C473Z3VAC	47,000	+80 –20%	25	Y5V
C0603C104K4RAC	100,000	10%	16	X7R
C0603C104Z3VAC	100,000	+80 –20%	25	Y5V

91F3141 Type CER ENG KIT 03. Ceramic Chip Engineering Kit. **Each** **309.47**

EIA SIZE 0805 CERAMIC CHIP KIT

Type	Cap. pF	Tolerance	Voltage	Temperature Dielectric
C0805C100J1GAC	10	5%	100	NP0
C0805C150J1GAC	15	5%	100	NP0
C0805C220J1GAC	22	5%	100	NP0
C0805C330J1GAC	33	5%	100	NP0
C0805C470J1GAC	47	5%	100	NP0
C0805C101J1GAC	100	5%	100	NP0
C0805C221J1GAC	220	5%	100	NP0
C0805C471J1GAC	470	5%	100	NP0
C0805C102J5GAC	1000	5%	50	NP0
C0805C102K1RAC	1000	10%	100	X7R
C0805C222K1RAC	2200	10%	100	X7R
C0805C472K5RAC	4700	10%	50	X7R
C0805C103K5RAC	10,000	10%	50	X7R
C0805C223K5RAC	22,000	10%	50	X7R
C0805C473K5RAC	47,000	10%	50	X7R
C0805C104K5RAC	100,000	10%	50	X7R
C0805C104M5UAC	100,000	20%	50	Z5U
C0805C224Z4VAC	220,000	+80 –20%	16	Y5V
C0805C334Z4VAC	330,000	+80 –20%	16	Y5V
C0805C474Z4VAC	470,000	+80 –20%	16	Y5V

91F3142 Type CER ENG KIT 04. Ceramic Chip Engineering Kit. **Each** **309.47**

EIA SIZE 1206 CERAMIC CHIP KIT

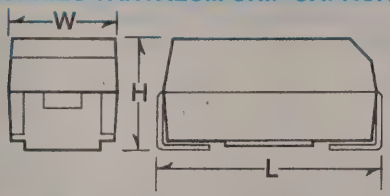
Type	Cap. pF	Tolerance	Voltage	Temperature Dielectric
C1206C100J1GAC	10	5%	100	NP0
C1206C220J2GAC	22	5%	200	NP0
C1206C101J1GAC	100	5%	100	NP0
C1206C221J1GAC	220	5%	100	NP0
C1206C102J1GAC	1000	5%	100	NP0
C1206C222J1GAC	2200	5%	100	NP0
C1206C472J5GAC	4700	5%	50	NP0
C1206C102K1RAC	1000	10%	100	X7R
C1206C222K1RAC	2200	10%	100	X7R
C1206C103K1RAC	10,000	10%	100	X7R
C1206C223K5RAC	22,000	10%	50	X7R
C1206C473K5RAC	47,000	10%	50	X7R
C1206C683K5RAC	68,000	10%	50	X7R
C1206C104K5RAC	100,000	10%	50	X7R
C1206C224K5RAC	220,000	10%	50	X7R
C1206C104M5UAC	100,000	20%	50	Z5U
C1206C224M5UAC	220,000	20%	50	Z5U
C1206C684Z4VAC	680,000	+80 –20%	16	Y5V
C1206C105Z4VAC	1,000,000	+80 –20%	16	Y5V
C1206C225Z4VAC	2,200,000	+80 –20%	16	Y5V

91F3143 Type CER ENG KIT 05. Ceramic Chip Engineering Kit. **Each** **309.47**
(14231) (ne10095)

SURFACE MOUNT CAPACITORS

T491 SERIES TANTALUM CHIP CAPACITORS

SMD



T491 series are industrial-grade surface mount molded tantalum chip capacitors. Feature the anode permanently attached to the solder-coated lead frame. Suitable for filtering, bypassing, coupling, blocking, and RC timing circuit applications. Capacitance tolerance: ±10%. Packaged in 8mm and 12mm plastic tape on 7″ (177.80) reels in accordance with EIA RS-481A. Case codes A & B are packaged in 8mm tape on a 7″ reel of 2000. Case codes C, D, and X are packaged in 12mm tape on a 7″ reel of 500. Case sizes listed are per EIA/IECQ code. **Also available in tape and reel quantities. Minimums may apply.**

DIMENSIONS IN INCHES (MILLIMETERS)

Case Size	EIA/IECQ	L	W	H
A	3216	0.126″ (3.20)	0.063″ (1.60)	0.063″ (1.60)
B	3528	0.138″ (3.50)	0.110″ (2.80)	0.075″ (1.90)
C	6032	0.236″ (6.00)	0.126″ (3.20)	0.098″ (2.50)
D	7343	0.287″ (7.30)	0.169″ (4.29)	0.110″ (2.80)
X	7343H	0.287″ (7.30)	0.169″ (4.29)	0.157″ (4.00)

6WVDC @ +85°C

Stock No.	Type	Cap. µF	Case Size	1-1999	2000-3999	4000-9999	10000-49999
89F5033	T491D686K006AS	68.0	D	0.32	0.27	0.24	0.22

10WVDC @ +85°C

89F5036	T491A225K010AS	2.2	A	0.14	0.12	0.10	0.09
89F5041	T491B475K010AS	4.7	B	0.16	0.13	0.12	0.11
89F5039	T491B685K010AS	6.8	B	0.16	0.13	0.12	0.11
89F5044	T491C156K010AS	15.0	C	0.24	0.20	0.18	0.16
89F5032	T491D476K010AS	47.0	D	0.32	0.27	0.24	0.22
92F1849	T491X227K010AS	220.0	X	1.25	1.04	0.94	0.84

16WVDC @ +85°C

89F5035	T491A105K016AS	1.0	A	0.14	0.12	0.10	0.09
98F4656	T491B475K016AS	4.7	B	0.16	0.13	0.12	0.11
89F5043	T491C106K016AS	10.0	C	0.24	0.20	0.18	0.16
89F5029	T491D336K016AS	33.0	D	0.32	0.27	0.24	0.22
92F1850	T491X107K016AS	100.0	X	0.95	0.80	0.72	0.64

20WVDC @ +85°C

89F5038	T491B225K020AS	2.2	B	0.16	0.13	0.12	0.11
89F5046	T491C685K020AS	6.8	C	0.24	0.20	0.18	0.16
89F5048	T491D226K020AS	22.0	D	0.32	0.27	0.24	0.22
92F1851	T491X686K020AS	68.0	X	0.95	0.80	0.72	0.64

25WVDC @ +85°C

93F2423	T491A474K025AS	0.47	A	0.14	0.12	0.10	0.09
89F5042	T491B155K025AS	1.5	B	0.16	0.13	0.12	0.11
93F2424	T491C475K025AS	4.7	C	0.24	0.20	0.18	0.16
89F5047	T491D106K025AS	10.0	D	0.32	0.27	0.24	0.22
89F5031	T491D156K025AS	15.0	D	0.32	0.27	0.24	0.22
92F1852	T491X336K025AS	33.0	X	0.95	0.80	0.72	0.64

35WVDC @ +85°C

89F5037	T491B105K035AS	1.0	B	0.16	0.13	0.12	0.11
93F2975	T491D106K035AS	10.0	D	0.37	0.31	0.28	0.25
89F5028	T491D475K035AS	4.7	D	0.32	0.27	0.24	0.22
92F1853	T491X226K035AS	22.0	X	0.95	0.80	0.72	0.64

50WVDC @ +85°C

92F1845	T491C105K050AS	1.0	C	0.31	0.26	0.23	0.21

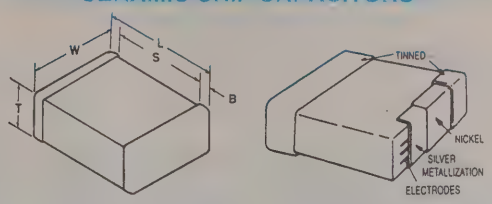
(7387) (ne07340)

ALSO AVAILABLE FROM KEMET IN SURFACE MOUNT TANTALUM CAPACITORS:
T494 SERIES—LOW ESR, INDUSTRIAL GRADE
T495 SERIES—LOW ESR, SURGE ROBUST
T496 SERIES—FAIL-SAFE FUSED CHIP
T492/CWR11—MILITARY GRADE CHIP
NEW T510 SERIES—ULTRA-LOW ESR 30<MΩ
CONTACT YOUR LOCAL NEWARK SALES OFFICE

(15129) (kemet02)

CERAMIC CHIP CAPACITORS

SMD



Feature a unique barrier layer of nickel in end metalization. Available with COG (NPO), X7R, Z5U and Y5V temperature characteristics and a variety of tolerances. 0603, 0805, 1206, 1210, 1812, 1825, and 2225 case sizes. **Sold individually or in full reel quantities.** Additional types not listed are available; *contact your local Newark sales office.* **Minimums apply.**

DIMENSIONS IN INCHES (MILLIMETERS)

Size Code	L	W	T (Max.)	B	S (Min.)
0603	0.063 ± 0.006″ (1.60 ± 0.2)	0.032 ± 0.006″ (0.80 ± 0.2)	0.035″ (0.90)	0.140 ± 0.006″ (0.350 ± .15)	0.028″ (0.700)
0805	0.078 ± 0.008″ (1.98 ± 0.2)	0.049 ± 0.008″ (1.25 ± 0.2)	0.055″ (1.39)	0.017 ± 0.010″ (0.431 ± .25)	0.024″ (0.609)
1206	0.126 ± 0.008″ (3.20 ± 0.2)	0.063 ± 0.008″ (1.60 ± 0.2)	0.059″ (1.50)	0.025 ± 0.015″ (0.635 ± .38)	0.040″ (1.02)
1210	0.126 ± 0.008″ (3.20 ± 0.2)	0.098 ± 0.008″ (2.49 ± 0.2)	0.067″ (1.70)	0.025 ± 0.015″ (0.635 ± .38)	0.040″ (1.02)
1812	0.177 ± 0.012″ (4.5 ± 0.3)	0.126 ± 0.012″ (3.2 ± 0.3)	0.067″ (1.70)	0.024 ± 0.014″ (0.6 ± .35)	N/A N/A

±5% TOLERANCE

COG (NPO) for lower dielectric loss in precision applications. Temperature characteristics: 0 ± 30ppm/°C. Operating temperature: –55 to +125°C.

Stock No.	Type	Cap. pF	VDC	1-3999	4000-7999	8000-19999	20000-49999
93F2404	C0805C101J5GACTR	100	50	0.07	0.05	0.04	0.02
93F2333	C0805C471J5GACTR	470	50	0.10	0.07	0.05	0.04
93F2346	C1206C100J5GACTR	10	50	0.09	0.06	0.05	0.03
93F2371	C1206C470J5GACTR	47	50	0.09	0.06	0.05	0.03
93F2375	C1206C101J5GACTR	100	50	0.09	0.06	0.05	0.03
93F2376	C1206C151J5GACTR	150	50	0.09	0.06	0.05	0.03
93F2377	C1206C181J5GACTR	180	50	0.08	0.08	0.06	0.06
93F2378	C1206C221J5GACTR	220	50	0.09	0.06	0.05	0.03
93F2379	C1206C271J5GACTR	270	50	0.08	0.08	0.06	0.06
93F2362	C1206C331J5GACTR	330	50	0.09	0.06	0.05	0.03
93F2364	C1206C471J5GACTR	470	50	0.09	0.06	0.05	0.03
93F2365	C1206C561J5GACTR	560	50	0.09	0.08	0.07	0.06
93F2368	C1206C102J5GACTR	1,000	50	0.11	0.07	0.06	0.04
93F2409	C1206C152J5GACTR	1,500	50	0.12	0.10	0.09	0.08
93F2411	C1206C222J5GACTR	2,200	50	0.13	0.12	0.10	0.08
93F2358	C1210C332J5GACTR	3,300	50	0.23	0.20	0.17	0.15
93F2360	C1210C472J5GACTR	4,700	50	0.29	0.26	0.22	0.19

±10% TOLERANCE

X7R feature higher capacitance than COG (NPO) types. Temperature characteristics: ± 15%. Operating temperature: –55°C to +125°C. Some values also available in 100V.

83F6840	C0603C104K4RACTR	100,000	16	0.03	0.03	0.03	0.02
93F2383	C0805C102K5RACTR	1,000	50	0.05	0.03	0.03	0.02
93F2323	C0805C222K5RACTR	2,200	50	0.06	0.05	0.04	0.04
93F2330	C0805C103K5RACTR	10,000	50	0.05	0.04	0.03	0.02
96F8740	C0805C104K5RACTR	100,000	50	0.10	0.07	0.05	0.04
93F2347	C1206C102K5RACTR	1,000	50	0.06	0.04	0.03	0.02
93F2372	C1206C472K5RACTR	4,700	50	0.09	0.06	0.05	0.03
93F2412	C1206C103K5RACTR	10,000	50	0.07	0.05	0.04	0.02
93F2392	C1206C223K5RACTR	22,000	50	0.10	0.07	0.05	0.04
93F2422	C1206C473K5RACTR	47,000	50	0.12	0.08	0.06	0.04
92F6061	C1206C104K5RACTR	100,000	50	0.10	0.07	0.05	0.04
83F6841	C1206C105K4RACTR	1µF	16	0.24	0.22	0.18	0.16
93F2380	C1210C473K5RACTR	47,000	50	0.14	0.13	0.11	0.09
89F5969	C1210C104K5RACTR	100,000	50	0.24	0.16	0.12	0.08
89F5970	C1210C154K5RACTR	150,000	50	0.18	0.16	0.14	0.12
99F6389	C1812C224K5RAC	220,000	50	0.40	0.35	0.29	0.27
83F6842	C1812C105K5RACTR	1µF	50	0.52	0.47	0.39	0.34
99F5488	C2225C105K5RAC	1µF	50	1.74	1.51	1.26	1.16

±20% TOLERANCE

Z5U have higher capacitance density. Temperature characteristics: +22%, -56%. Operating temperature: +10°C to +85°C.

93F2416	C0805C103M5UACTR	10,000	50	0.06	0.04	0.03	0.02
92F6079	C0805C104M5UACTR	100,000	50	0.06	0.04	0.03	0.02
89F5966	C1206C104M5UACTR	100,000	50	0.07	0.05	0.04	0.03
89F5971	C1210C104M5UACTR	100,000	50	0.14	0.13	0.11	0.09
89F5973	C1210C224M5UACTR	220,000	50	0.17	0.15	0.13	0.11
93F2415	C1210C274M5UACTR	270,000	50	0.19	0.17	0.14	0.12
99F3410	C1825C105M5UAC	1µF	50	0.85	0.74	0.61	0.57

Y5V. Temperature characteristics: +22%, -82%. Operating temperature: -30°C to +85°C.

83F6844	C0805C105M4VACTR	1µF	16	0.09	0.08	0.07	0.06
83F6843	C0603C104M3VACTR	100,000	25	0.02	0.02	0.02	0.01
83F6845	C1206C105M3VACTR	1µF	25	0.12	0.11	0.09	0.08

(7411) (ne53599)

T322 SERIES MOLDED SOLID TANTALUM ELECTROLYTIC CAPACITORS

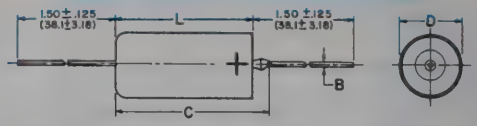
T322 series offers a complete line of extended range molded solid tantalum capacitors designed for high-speed automatic-insertion applications. Offers an extremely high capacitance-to-volume ratio while maintaining excellent performance characteristics. Low impedance at high frequencies makes this especially suitable for decoupling required by high-speed computers. Tolerance: ±10%. Operating temperature:-55°C to +85°C.

Case Size	D(max.)	L(max.)	W
A	0.095″	0.260″	0.020″
B	0.110″	0.290″	0.020″
C	0.180″	0.345″	0.020″
D	0.180″	0.420″	0.020″
E	0.280″	0.530″	0.025″
F	0.300″	0.710″	0.025″

Stock No.	Type	Cap. µF	Volt.	Case	1-24	25-49	50-99
87F4980	T322B475K010AS	4.7	10	B	0.41	0.36	0.31
87F4982	T322B106K010AS	10.0	10	B	0.41	0.36	0.31
87F5002	T322C226K010AS	22.0	10	C	0.77	0.67	0.57
87F5018	T322D476K010AS	47.0	10	D	0.90	0.78	0.66
87F5032	T322E107K010AS	100.0	10	E	1.80	1.56	1.32
87F5050	T322F227K010AS	220.0	10	F	4.85	4.21	3.57
87F5003	T322C106K015AS	10.0	15	C	0.77	0.67	0.57
87F5019	T322D226K015AS	22.0	15	D	0.84	0.73	0.62
87F5020	T322D336K015AS	33.0	15	D	0.90	0.78	0.66
87F4964	T322A105K020AS	1.0	20	A	0.40	0.35	0.29
87F4986	T322B225K020AS	2.2	20	B	0.41	0.36	0.31
87F4988	T322B475K020AS	4.7	20	B	0.46	0.40	0.34
87F5006	T322C106K020AS	10.0	20	C	0.77	0.67	0.57
87F5021	T322D156K020AS	15.0	20	D	0.84	0.73	0.62
87F5022	T322D226K020AS	22.0	20	D	0.90	0.78	0.66
87F5039	T322E476K020AS	47.0	20	E	1.80	1.56	1.32
87F5052	T322F107K020AS	100.0	20	F	4.85	4.21	3.57
87F4968	T322A105K025AS	1.0	25	A	0.40	0.35	0.29
87F4990	T322B225K025AS	2.2	25	B	0.46	0.40	0.34
87F5007	T322C106K025AS	10.0	25	C	0.77	0.67	0.57
87F5023	T322D156K025AS	15.0	25	D	0.90	0.78	0.66
87F5043	T322E476K025AS	47.0	25	E	2.82	2.45	2.08
87F4969	T322A104K035AS	0.1	35	A	0.40	0.35	0.29
87F4972	T322A334K035AS	0.33	35	A	0.40	0.35	0.29
87F4993	T322B105K035AS	1.0	35	B	0.41	0.36	0.31
87F5010	T322C225K035AS	2.2	35	C	0.77	0.67	0.57
87F5011	T322C335K035AS	3.3	35	C	0.77	0.67	0.57
87F5012	T322C475K035AS	4.7	35	C	0.77	0.67	0.57
87F5024	T322D685K035AS	6.8	35	D	0.84	0.73	0.62
87F5025	T322D106K035AS	10.0	35	D	0.90	0.78	0.66
87F5045	T322E226K035AS	22.0	35	E	1.80	1.56	1.32
87F5046	T322E336K035AS	33.0	35	E	2.82	2.45	2.08
87F5054	T322F476K035AS	47.0	35	F	4.85	4.21	3.57
87F4998	T322B105K050AS	1.0	50	B	0.52	0.45	0.39
87F5027	T322D475K050AS	4.7	50	D	1.07	0.93	0.79
87F5048	T322E106K050AS	10.0	50	E	2.00	1.74	1.48
87F5056	T322F226K050AS	22.0	50	F	5.05	4.39	3.72

(7370) (ne01630)

T110 SERIES HERMETICALLY SEALED TANTALUM ELECTROLYTIC CAPACITORS



Designed for miniaturized circuitry. Suited for coupling, bypass, filtering, and R-C timing circuit applications. Excellent stability, extremely low DC leakage current and impedance over wide temperature, frequency range. Tolerance: ±10%.

Case Size	D ±0.010″ (0.254)	L ±0.031″ (0.787)	B ±0.001″ (0.025)	C Max.
A	0.135″ (3.42)	0.286″ (7.26)	0.020″ (0.50)	0.422″ (10.71)
B	0.185″ (4.69)	0.474″ (12.03)	0.020″ (0.50)	0.610″ (15.49)
C	0.289″ (7.34)	0.686″ (17.42)	0.025″ (0.63)	0.822″ (20.87)
D	0.351″ (8.91)	0.786″ (19.96)	0.025″ (0.63)	0.922″ (23.41)

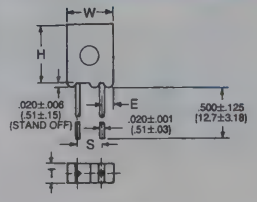
Stock No.	Type	Cap. µF	Volt	Case Size	1-24	25-49	50-99
87F4939	T110B226K015AS	22.0	15	B	1.39	1.21	1.02
87F4953	T110D157K015AS	150.0	15	D	6.96	6.04	5.13
87F4924	T110A225K020AS	2.2	20	A	0.85	0.74	0.63
87F4940	T110B106K020AS	10.0	20	B	1.39	1.21	1.02
87F4941	T110B156K020AS	15.0	20	B	1.39	1.21	1.02
87F4949	T110C476K020AS	47.0	20	C	2.80	2.44	2.07
87F4954	T110D107K020AS	100.0	20	D	6.96	6.04	5.13
87F4929	T110A105K035AS	1.0	35	A	0.85	0.74	0.63
87F4942	T110B335K035AS	3.3	35	B	1.39	1.21	1.02
87F4943	T110B475K035AS	4.7	35	B	1.39	1.21	1.02
87F4944	T110B685K035AS	6.8	35	B	1.39	1.21	1.02
87F4951	T110C226K035AS	22.0	35	C	2.80	2.44	2.07
87F4930	T110A474K050AS	0.47	50	A	0.88	0.77	0.65
87F4932	T110A105K050AS	1.0	50	A	0.88	0.77	0.65

MIL-C-39003/01 VERSION OF T110 SERIES CAPACITORS

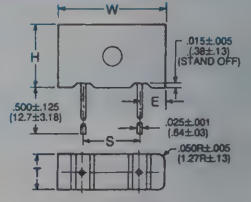
Stock No.	Type	MIL-C-39003/01	Cap. µF	Voltage	Case Size	1-99	100-249	250-499
87F4906	CSR13E106KM	2286	10.0	20	B	1.33	1.15	0.96
87F4913	CSR13F226KM	2396	22.0	35	C	4.39	3.79	3.16
87F4899	CSR13G105KM	2356	1.0	50	A	1.15	1.00	0.83

(7242) (de00731)

T330 SERIES MOLDED TANTALUM ELECTROLYTIC CAPACITORS



A Case



C Case

T330 series polar-type, radial-lead rectangular precision-molded tantalum (PMT) capacitors are primarily designed for applications that demand full use of the premium space available in printed circuitry and high density packaging. **T330 series** capacitors are highly reliable and exhibit performance characteristics typical of military test standards. They feature exceptionally low DC leakage and dissipation factor characteristics. They are ideal for bypass, coupling, and timing applications in computers, military ordinance, industrial, entertainment, and consumer electronic equipment. Tolerance: ±10%.

Case Size	H	W	T	E	S
A	.345 ± .008	.230 ± .005	.105 ± .005	.050 ± .010	.125 ± .005
C	.325 ± .015	.325 ± .015	.170 ± .015	.062 ± .010	.200 ± .005

Stock No.	Type	Cap. µF	Volts	Case	1-24	25-49	50-99
87F5058	T330A106K010AS	10.0	10	A	1.32	1.15	0.98
87F5060	T330A475K025AS	4.7	25	A	1.51	1.32	1.12
87F5061	T330A105K035AS	1.0	35	A	1.23	1.07	0.91

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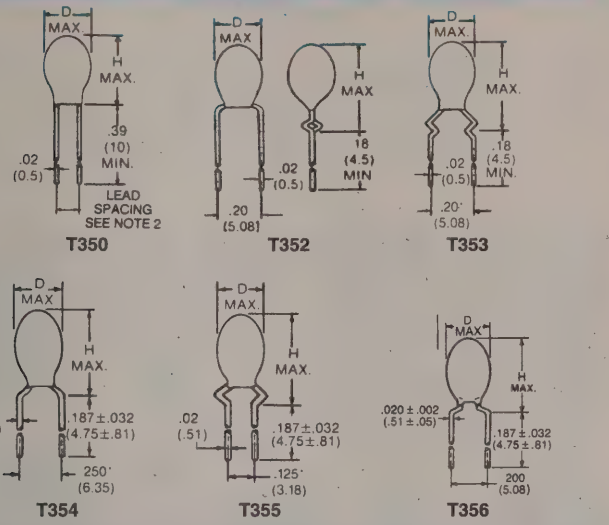
TANTALUM ELECTROLYTIC CAPACITORS

T35X SERIES TANTALUM ELECTROLYTIC CAPACITORS



T350, T353, T354, T355 and **T356 series** are miniature, dipped, solid tantalum capacitors. They provide compactness plus low leakage and low DF performance characteristics for filtering, bypassing, coupling, blocking, and RC timing circuit applications. Self-insulating cases are resistant to shock and vibration. Low DCL, ESR, and impedance. Excellent temperature stability. Operating temperature: -55°C to +125°C. Tolerance: ±10%. Additional types available; *contact your local Newark sales office.*

Case Size	All Diameter (D)	T350 Height (H)	T352 Height (H)	T353 Height (H)	T354 Height (H)	T355 Height (H)	T356 Height (H)
A	0.175″	0.280″	0.400″	0.400″	0.340″	0.340″	0.340″
B	0.175″	0.300″	0.410″	0.410″	0.350″	0.350″	0.350″
C	0.196″	0.330″	0.440″	0.440″	0.380″	0.380″	0.390″
D	0.186″	0.340″	0.450″	0.450″	0.390″	0.390″	0.390″
E	0.216″	0.350″	0.460″	0.460″	0.400″	0.400″	0.400″
F	0.236″	0.390″	0.500″	0.500″	0.440″	0.440″	0.440″
G	0.250″	0.400″	0.510″	0.510″	0.450″	0.450″	0.450″
H	0.300″	0.400″	0.520″	0.520″	0.470″	0.470″	0.470″
J*	0.330″	0.500″	...	0.580″	0.550″	...	0.550″
K*	0.350″	0.530″	...	0.630″	0.610″	...	0.610″
L*	0.350″	0.630″	...	0.730″	0.710″	...	0.710″
M*	0.400″	0.670″	...	0.760″	0.740″	...	0.740″

*** T350 series** case sizes A-H have 0.100″ lead-spacing; case sizes J-M have 0.200″ lead spacing.

Stock No.	Type	Cap µF	WV DC	Case Size	1-24	25-49	50-99
87F5085	T350A475K010AS	4.7	10	A	0.33	0.29	0.25
87F5126	T350F336K010AS	33.0	10	F	0.66	0.58	0.49
87F5146	T350J107K010AS	100.0	10	J	1.88	1.63	1.38
87F5087	T350A225K016AS	2.2	16	A	0.27	0.24	0.20
87F5102	T350B475K016AS	4.7	16	B	0.40	0.35	0.29
87F5118	T350E106K016AS	10.0	16	E	0.46	0.40	0.34
87F5127	T350F226K016AS	22.0	16	F	0.60	0.52	0.44
87F5147	T350J476K016AS	47.0	16	J	1.56	1.36	1.15
87F5154	T350K686K016AS	68.0	16	K	1.88	1.63	1.38
87F5170	T350L107K016AS	100.0	16	L	3.78	3.28	2.79
95F4818	T350E106K020AS	10.0	20	E	0.57	0.50	0.42
98F3916	T350G226K020AS	22.0	20	G	1.07	0.93	0.79
95F4832	T350K476K020AS	47.0	20	K	1.77	1.53	1.30
87F5174	T350M107K020AS	100.0	20	M	4.33	3.76	3.19
87F5088	T350A105K025AS	1.0	25	A	0.27	0.24	0.20
95F4819	T350E106K025AS	10.0	25	E	0.60	0.52	0.44
87F5142	T350H226K025AS	22.0	25	H	1.56	1.36	1.15
87F5155	T350K476K025AS	47.0	25	K	2.85	2.48	2.10
95F4805	T350A104K035AS	0.1	35	A	0.27	0.24	0.20
87F5089	T350A105K035AS	1.0	35	A	0.27	0.24	0.20
87F5114	T350C225K035AS	2.2	35	C	0.40	0.35	0.29
98F5744	T350D335K035AS	3.3	35	D	0.48	0.41	0.35
87F5119	T350E475K035AS	4.7	35	E	0.51	0.44	0.37
87F5128	T350F685K035AS	6.8	35	F	0.57	0.50	0.42
87F5138	T350G106K035AS	10.0	35	G	0.90	0.78	0.66
87F5156	T350K226K035AS	22.0	35	K	1.77	1.53	1.30
87F5175	T350M476K035AS	47.0	35	M	4.33	3.76	3.19
87F5104	T350B105K050AS	1.0	50	B	0.33	0.29	0.25
87F5157	T350K106K050AS	10.0	50	K	2.21	1.92	1.63
87F5129	T352F336K010AS	33.0	10	F	0.66	0.58	0.49
87F5120	T352E106K016AS	10.0	18	E	0.46	0.40	0.34
87F5131	T352F226K016AS	22.0	18	F	0.60	0.52	0.44
95F4821	T352E106K025AS	10.0	25	E	0.60	0.52	0.44
87F5143	T352H226K025AS	22.0	25	H	1.56	1.36	1.15
87F5093	T352A105K035AS	1.0	35	A	0.27	0.24	0.20

CONTINUED

T35X SERIES TANTALUM ELECTROLYTIC CAPACITORS (CONT.)

Stock No.	Type	Cap µF	WV DC	Case Size	1-24	25-49	50-99
87F5115	T352C225K035AS	2.2	35	C	0.40	0.35	0.29
87F5121	T352E475K035AS	4.7	35	E	0.51	0.44	0.37
87F5130	T352F685K035AS	6.8	35	F	0.57	0.50	0.42
87F5176	T353M107K020AS	100.0	20	M	4.33	3.76	3.19
95F4823	T353E106K025AS	10.0	25	E	0.60	0.52	0.44
95F4817	T353E475K035AS	4.7	35	E	0.51	0.44	0.37
95F4830	T353G106K035AS	10.0	35	G	0.90	0.78	0.66
87F5160	T353K226K035AS	22.0	35	K	1.77	1.53	1.30
87F5177	T353M476K035AS	47.0	35	M	4.33	3.76	3.19
87F5161	T353K106K050AS	10.0	50	K	2.21	1.92	1.63
87F5122	T354E106K016AS	10.0	16	E	0.46	0.40	0.34
87F5133	T354F226K016AS	22.0	16	F	0.60	0.52	0.44
95F4834	T354K476K020AS	47.0	20	K	1.77	1.53	1.30
87F5178	T354M107K020AS	100.0	20	M	4.33	3.76	3.19
95F4825	T354E106K025AS	10.0	25	E	0.60	0.52	0.44
87F5097	T354A105K035AS	1.0	35	A	0.27	0.24	0.20
87F5123	T354E475K035AS	4.7	35	E	0.51	0.44	0.37
87F5140	T354G106K035AS	10.0	35	G	0.90	0.78	0.66
87F5164	T354K226K035AS	22.0	35	K	1.77	1.53	1.30
87F5179	T354M476K035AS	47.0	35	M	4.33	3.76	3.19
87F5165	T354K106K050AS	10.0	50	K	2.21	1.92	1.63
95F4827	T355E106K025AS	10.0	25	E	0.60	0.52	0.44
87F5101	T355A105K035AS	1.0	35	A	0.27	0.24	0.20
87F5141	T355G106K035AS	10.0	35	G	0.90	0.78	0.66
96F8845	T356A105K035AS	1.0	35	A	0.27	0.24	0.20
52F7832	T356C225K035AS	2.2	35	C	0.40	0.35	0.29
52F7833	T356D335K035AS	3.3	35	D	0.48	0.41	0.35
52F7835	T356K226K035AS	2.2	35	K	1.77	1.53	1.30
52F7834	T356G475K050AS	4.7	50	G	0.77	0.67	0.57

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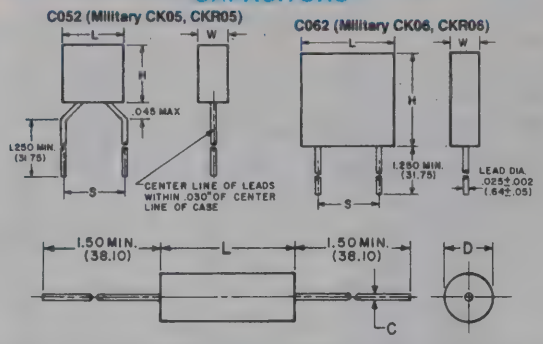
CERAMIC MOLDED / MIL-C-11015 & MIL-C-39014 CAPACITORS



Type CK = MIL-C-11015; **Type CKR** = MIL-C-39014. Failure rate: 0.01%/1000 hours. 10% tolerance. X7R temperature characteristic. Operating temperature: –55°C to +125°C.

RADIAL LEAD DIMENSIONS

Case Size	Military Equivalent Styles	H	L	W	S
C052	CK05, CKR05	0.190±0.010″	0.190±0.010″	0.090±0.010″	0.200±0.015″
C062	CK06, CKR06	0.290±0.010″	0.290±0.010″	0.090±0.010″	0.200±0.015″

Stock No.	Type	Cap. µF	V	MIL-C-39014	1-99	100-249	250-499
87F4669	CK05BX101K	0.0001	200	...	0.28	0.24	0.20
87F4670	CK05BX471K	0.00047	200	...	0.22	0.19	0.16
87F4671	CK05BX102K	0.001	200	...	0.28	0.24	0.20
87F4672	CK05BX472K	0.0047	100	...	0.22	0.19	0.16
87F4673	CK05BX103K	0.010	100	...	0.23	0.20	0.17
87F4674	CK05BX223K	0.022	50	...	0.28	0.24	0.20
87F4675	CK05BX473K	0.047	50	...	0.31	0.26	0.22
87F4662	CK05BX104K	0.100	50	...	0.31	0.26	0.22
87F4676	CK06BX103K	0.010	200	...	0.25	0.22	0.18
87F4677	CK06BX104K	0.100	100	...	0.32	0.28	0.23
87F4678	CK06BX224K	0.22	50	...	0.74	0.64	0.53
87F4679	CK06BX474K	0.47	50	...	1.37	1.18	0.99
87F4680	CK06BX105K	1.000	50	...	1.82	1.57	1.31
87F4664	CKR05BX102KR	0.001	200	1317	1.37	1.18	0.99
87F4666	CKR05BX103KR	0.010	100	1535	1.59	1.37	1.26
87F4668	CKR05BX104KR	0.100	50	1553	1.59	1.37	1.14
87F4681	CKR06BX103KR	0.010	200	1298	0.58	0.50	0.42
87F4683	CKR06BX104KR	0.100	100	1310	1.57	1.36	1.13
87F4684	CKR06BX474KR	0.470	50	1320	1.51	1.31	1.09
87F4685	CKR06BX105KR	1.00	50	1415	1.95	1.68	1.40

AXIAL LEAD DIMENSIONS

Case Size	Military Equivalent Styles	L	D	C
C114	CK12, CKR11	0.160±0.010″	0.090±0.010″	0.020,+0.000,–0.003″
C124	CK13, CKR12	0.250±0.010″	0.090±0.010″	0.020,+0.000,–0.003″
C192	CK14, CKR14	0.390±0.010″	0.140±0.010″	0.025,+0.002,–0.002″

Stock No.	Type	Cap. µF	V	1-99	100-249	250-499
87F4688	CK12BX102K	0.001	100	0.22	0.19	0.16
87F4690	CK12BX103K	0.010	50	0.22	0.19	0.16
87F4695	CK13BX103K	0.010	100	0.22	0.19	0.16
87F4700	CK14BR104K	0.100	100	0.45	0.39	0.32
87F4697	CKR12BX103KR	0.01	100	1.20	0.96	0.80
87F4702	CKR14BX104KR	0.1	50	1.83	1.46	1.22

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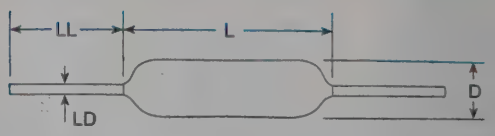
C4XX SERIES CONFORMALLY COATED/CERAMIC CAPACITORS



Axial line maximum range capacitors in three dielectrics—COG ultra-stable; X7R and Z5U general purpose. Encapsulated in moisture- and shock-resistant epoxy conformal coating that meets flame requirements of UL94V-0. Type numbers with 9th digit **K** are ±10% tolerance; **M** are ±20% tolerance. Popular values available on tape and reel.

Type	L Max	D Max	LD+0.001″,–0.003″	LL Min
C410	0.170″	0.100″	0.020″	1.0″
C412	0.170″	0.120″	0.020″	1.0″
C420	0.260″	0.100″	0.020″	1.0″
C430	0.290″	0.150″	0.020″	1.0″
C440	0.400″	0.150″	0.020″	1.0″

Stock No.	Type	Cap. µF	V	Temp. Diel. V	1-99	100-249	250-499	500-999
95F4845	C410C330J1G5CA	0.000033	100	C0G	0.16	0.14	0.12	0.11
95F4849	C410C470J1G5CA	0.000047	100	C0G	0.16	0.14	0.12	0.11
95F4863	C410C151J1G5CA	0.00015	100	C0G	0.16	0.14	0.12	0.11
95F4865	C410C331J1G5CA	0.00033	100	C0G	0.16	0.14	0.12	0.11
95F4866	C410C471J1G5CA	0.00047	100	C0G	0.16	0.14	0.12	0.11
95F4867	C410C681J1G5CA	0.00068	100	C0G	0.16	0.14	0.12	0.11
95F4868	C410C102J1G5CA	0.001	100	C0G	0.15	0.13	0.11	0.10
92F1718	C420C222J1G5CA	0.0022	100	C0G	0.25	0.21	0.18	0.16
95F4854	C430C472J1G5CA	0.0047	100	C0G	0.40	0.35	0.29	0.27
95F4873	C440C103J1G5CA	0.010	100	C0G	0.62	0.54	0.45	0.41
87F4826	C410C102K1R5CA	0.001	100	X7R	0.12	0.10	0.09	0.08
87F4827	C410C222K1R5CA	0.0022	100	X7R	0.13	0.11	0.09	0.09
95F4877	C410C332K1R5CA	0.0033	100	X7R	0.13	0.11	0.09	0.09
95F4838	C410C472K1R5CA	0.0047	100	X7R	0.13	0.11	0.09	0.09
87F4828	C410C103K1R5CA	0.010	100	X7R	0.10	0.09	0.07	0.07
92F1719	C412C223K1R5CA	0.022	100	X7R	0.19	0.16	0.14	0.13
95F4848	C430C104K1R5CA	0.100	100	X7R	0.29	0.25	0.21	0.19
95F4852	C410C102K5R5CA	0.001	50	X7R	0.12	0.10	0.09	0.08
87F4829	C410C103K5R5CA	0.010	50	X7R	0.10	0.08	0.07	0.07
87F4830	C410C223K5R5CA	0.022	50	X7R	0.16	0.14	0.12	0.11
87F4831	C410C473K5R5CA	0.047	50	X7R	0.18	0.15	0.13	0.12
87F4832	C412C104K5R5CA	0.100	50	X7R	0.11	0.10	0.08	0.08
87F4833	C420C104K5R5CA	0.100	50	X7R	0.11	0.10	0.08	0.08
95F4839	C430C224K5R5CA	0.220	50	X7R	0.53	0.46	0.38	0.35
98F8141	C440C224M1U5CA	0.220	100	Z5U	0.32	0.28	0.23	0.21
95F4851	C410C103M5U5CA	0.010	50	Z5U	0.08	0.07	0.06	0.05
87F4837	C410C473M5U5CA	0.047	50	Z5U	0.10	0.09	0.07	0.07
87F4838	C410C104M5U5CA	0.100	50	Z5U	0.07	0.06	0.05	0.05
98F4321	C410C104Z5U5CA	0.100	50	Z5U	0.07	0.06	0.05	0.05
95F4844	C410C224M5U5CA	0.220	50	Z5U	0.15	0.13	0.11	0.10
87F4839	C412C334M5U5CA	0.330	50	Z5U	0.23	0.19	0.16	0.15
98F4050	C430C474M5U5CA	0.470	50	Z5U	0.36	0.31	0.26	0.24
95F4847	C440C105M5U5CA	1.0	50	Z5U	0.46	0.40	0.34	0.31

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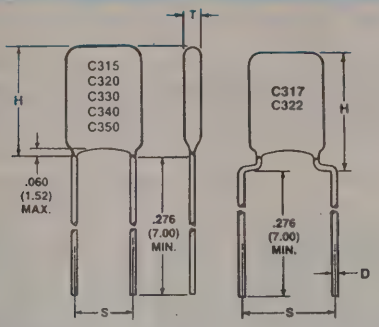
CONFORMALLY COATED CERAMIC CAPACITORS

C3XX SERIES CERAMIC DIPPED RADIAL CAPACITORS



Conformal-coated capacitors in three dielectrics: C0G (NP0) ultra-stable (**G** in type number), X7R stable (**R** in type number), and Z5U general purpose (**U** in type number). Meets flame requirements of UL94V-0. Tolerances are as follows: **J** in the 9th digit, ±5%; **K**, ±10%; **M**, ±20%; **Z** –20, +80%. Operating temperature: –55°C to +85°C. Additional capacitance values available. *Contact your local Newark sales office.*

DIMENSIONS

Case Size	L Max.	H Max.	T Max.	S* ±0.030	D +0.004–0.001
C315	0.150″	0.210″	0.100″	0.100″	0.020″
C317	0.150″	0.230″	0.100″	0.200″	0.020″
C320	0.200″	0.260″	0.125″	0.100″	0.020″
C322	0.200″	0.260″	0.125″	0.200″	0.020″
C330	0.300″	0.360″	0.150″	0.200″	0.020″
C340	0.400″	0.460″	0.150″	0.200″	0.020″
C350	0.500″	0.560″	0.200″	0.400″	0.025″

* Measured at seating plane

200WVDC

Stock No.	Type	Cap. µF	Dielectric	1-99	100-249	250-499
95F4897	C315C100J2G5CA	10pF	C0G	0.15	0.13	0.11
95F4898	C315C150J2G5CA	15pF	C0G	0.16	0.14	0.12
92F1694	C315C220J2G5CA	22pF	C0G	0.16	0.14	0.12
87F4845	C315C220K2G5CA	22pF	C0G	0.14	0.12	0.10
92F1696	C317C220J2G5CA	22pF	C0G	0.16	0.14	0.12
95F4900	C315C330J2G5CA	33pF	C0G	0.16	0.14	0.12
95F4921	C317C330J2G5CA	33pF	C0G	0.16	0.14	0.12
87F4847	C315C330K2G5CA	33pF	C0G	0.14	0.12	0.10
95F4901	C315C470J2G5CA	47pF	C0G	0.16	0.14	0.12
95F4931	C317C470J2G5CA	47pF	C0G	0.16	0.14	0.12
95F4902	C315C680J2G5CA	68pF	C0G	0.17	0.14	0.12
95F4932	C317C680J2G5CA	68pF	C0G	0.17	0.14	0.12
95F4964	C315C101J2G5CA	100pF	C0G	0.16	0.14	0.12
87F4853	C315C101K2G5CA	100pF	C0G	0.14	0.12	0.10
95F4959	C317C101J2G5CA	100pF	C0G	0.16	0.14	0.12
95F4903	C315C151J2G5CA	150pF	C0G	0.18	0.15	0.13
95F4933	C317C151J2G5CA	150pF	C0G	0.18	0.15	0.13
92F1695	C315C221J2G5CA	220pF	C0G	0.18	0.15	0.13
92F1697	C317C221J2G5CA	220pF	C0G	0.18	0.15	0.13
95F4914	C315C331J2G5CA	330pF	C0G	0.21	0.18	0.15
95F4935	C317C331J2G5CA	330pF	C0G	0.21	0.18	0.15
95F4915	C315C471J2G5CA	470pF	C0G	0.21	0.18	0.15
95F4936	C317C471J2G5CA	470pF	C0G	0.21	0.18	0.15
95F4916	C315C681J1G5CA	680pF	C0G	0.21	0.18	0.15
95F4937	C317C681J1G5CA	680pF	C0G	0.21	0.18	0.15
95F4944	C320C102J2G5CA	0.001	C0G	0.22	0.19	0.16
95F4948	C320C102J2G5CA	0.001	C0G	0.22	0.19	0.16
95F4941	C320C152J2G5CA	0.0015	C0G	0.24	0.21	0.17
92F1691	C315C222K2R5CA	0.0022	C0G	0.14	0.12	0.10
92F1698	C320C222J2G5CA	0.0022	C0G	0.24	0.21	0.17
92F1699	C322C222J2G5CA	0.0022	C0G	0.24	0.21	0.17
95F4943	C320C332J2G5CA	0.0033	C0G	0.29	0.25	0.21
95F4947	C322C332J2G5CA	0.0033	C0G	0.29	0.25	0.21
95F4977	C330C682J2G5CA	0.0068	C0G	0.70	0.61	0.51
95F4978	C330C103J2G5CA	0.010	C0G	0.67	0.58	0.48
95F4979	C330C153J2G5CA	0.015	C0G	1.31	1.13	0.95
98F532	C340C473J2G5CA	0.047	C0G	2.86	2.47	2.06
87F4719	C315C102K2R5CA	0.001	X7R	0.12	0.11	0.09
92F1700	C320C223K2R5CA	0.022	X7R	0.17	0.14	0.12
92F1702	C322C223K2R5CA	0.022	X7R	0.17	0.14	0.12
95F4950	C320C103K2R5CA	0.010	X7R	0.14	0.12	0.10
95F4967	C322C103K2R5CA	0.010	X7R	0.14	0.12	0.10
95F4993	C330C333K2R5CA	0.033	X7R	0.25	0.22	0.18
95F4994	C330C473K2R5CA	0.047	X7R	0.25	0.22	0.18
95F4961	C330C104K2R5CA	0.100	X7R	0.51	0.44	0.37
92F1687	C340C224K2R5CA	0.220	X7R	2.34	2.02	1.69
95F4987	C350C474K2R5CA	0.470	X7R	5.04	4.35	3.63

100WVDC

95F4938	C317C102J1G5CA	0.001	C0G	0.17	0.15	0.12
95F4992	C350C104J1G5CA	0.100	C0G	4.23	3.66	3.05
87F4704	C315C102K1R5CA	0.001	X7R	0.10	0.09	0.07
95F4895	C317C102K1R5CA	0.001	X7R	0.10	0.09	0.07
87F4724	C322C103K1R5CA	0.001	X7R	0.11	0.09	0.08

CONTINUED

C3XX SERIES CERAMIC DIPPED RADIAL CAPACITORS (CONT.)

100WVDC (CONT.)

Stock No.	Type	Cap. µF	Dielectric	1-99	100-249	250-499
87F4706	C315C152K1R5CA	0.0015	X7R	0.11	0.09	0.08
87F4708	C315C222K1R5CA	0.0022	X7R	0.11	0.09	0.08
92F1706	C317C222K1R5CA	0.0022	X7R	0.11	0.09	0.08
87F4710	C315C332K1R5CA	0.0033	X7R	0.11	0.09	0.08
95F4924	C317C332K1R5CA	0.0033	X7R	0.11	0.09	0.08
87F4712	C315C472K1R5CA	0.0047	X7R	0.12	0.10	0.09
95F4925	C317C472K1R5CA	0.0047	X7R	0.12	0.10	0.09
87F4721	C315C103K1R5CA	0.010	X7R	0.11	0.09	0.08
95F4927	C317C103K1R5CA	0.010	X7R	0.11	0.09	0.08
95F4958	C320C103K1R5CA	0.010	X7R	0.11	0.09	0.08
95F4953	C320C473K1R5CA	0.047	X7R	0.19	0.16	0.13
87F4729	C322C473K1R5CA	0.047	X7R	0.19	0.16	0.13
95F4954	C320C683K1R5CA	0.068	X7R	0.19	0.16	0.13
95F4970	C322C683K1R5CA	0.068	X7R	0.19	0.16	0.13
95F4960	C320C104K1R5CA	0.100	X7R	0.19	0.16	0.13
87F4730	C322C104K1R5CA	0.100	X7R	0.19	0.16	0.13
87F4741	C330C104K1R5CA	0.100	X7R	0.22	0.19	0.16
87F4742	C330C154K1R5CA	0.150	X7R	0.34	0.29	0.24
92F1686	C330C224K1R5CA	0.220	X7R	0.35	0.30	0.25
87F4755	C340C474K1R5CA	0.470	X7R	0.94	0.81	0.68
95F4984	C340C105K1R5CA	1.0	X7R	2.34	2.02	1.69
87F4770	C315C103M1U5CA	0.010	Z5U	0.09	0.08	0.07
92F1703	C330C223J1G5CA	0.022	Z5U	1.11	0.96	0.80
87F4780	C322C223M1U5CA	0.022	Z5U	0.11	0.10	0.08
96F8769	C320C104M1U5CA	0.100	Z5U	0.11	0.10	0.08
87F4787	C322C104M1U5CA	0.100	Z5U	0.11	0.10	0.08
87F4798	C330C104M1U5CA	0.100	Z5U	0.22	0.19	0.16
87F4802	C330C224M1U5CA	0.220	Z5U	0.29	0.25	0.21
87F4805	C330C474M1U5CA	0.470	Z5U	0.35	0.30	0.25
87F4817	C340C105M1U5CA	1.0	Z5U	1.66	1.43	1.19

50WVDC

87F6001	C315C103K5R5CA	0.010	X7R	0.10	0.09	0.07
87F4718	C315C153K5R5CA	0.015	X7R	0.12	0.10	0.09
95F4908	C315C333K5R5CA	0.033	X7R	0.13	0.11	0.09
95F4930	C317C333K5R5CA	0.033	X7R	0.13	0.11	0.09
87F4735	C322C473K5R5CA	0.047	X7R	0.14	0.13	0.11
98F3985	C320C104K5R5CA	0.100	X7R	0.12	0.10	0.09
96F8770	C320C104M5R5CA	0.100	X7R	0.11	0.09	0.08
87F4739	C322C104K5R5CA	0.100	X7R	0.12	0.10	0.09
95F4955	C320C154K5R5CA	0.150	X7R	0.20	0.17	0.15
95F4971	C322C154K5R5CA	0.150	X7R	0.20	0.17	0.15
92F1701	C320C224K5R5CA	0.220	X7R	0.29	0.25	0.21
95F4965	C322C224K5R5CA	0.220	X7R	0.29	0.25	0.21
87F4745	C330C224K5R5CA	0.220	X7R	0.31	0.27	0.22
87F4747	C330C334K5R5CA	0.330	X7R	0.45	0.39	0.33
87F4749	C330C474K5R5CA	0.470	X7R	0.45	0.39	0.33
87F4751	C330C684K5R5CA	0.680	X7R	0.94	0.81	0.68
87F4752	C330C105K5R5CA	1.0	X7R	0.76	0.66	0.55
95F4985	C340C155K5R5CA	1.5	X7R	1.87	1.62	1.35
95F4988	C350C335K5R5CA	3.3	X7R	5.35	4.62	3.85
87F4771	C315C103M5U5CA	0.010	Z5U	0.09	0.08	0.07
87F4775	C315C223M5U5CA	0.022	Z5U	0.10	0.09	0.07
92F1689	C315C473M5U5CA	0.047	Z5U	0.10	0.09	0.07
96F8766	C315C104M5U5CA	0.100	Z5U	0.09	0.08	0.07
98F3561	C320C104M5U5CA	0.100	Z5U	0.09	0.08	0.07
87F4792	C322C104M5U5CA	0.100	Z5U	0.09	0.08	0.07
95F4896	C322C104Z5U5CA	0.100	Z5U	0.09	0.08	0.06
95F4957	C320C224M5U5CA	0.220	Z5U	0.17	0.15	0.12
87F4796	C322C224M5U5CA	0.220	Z5U	0.17	0.15	0.12
95F4974	C320C334M5U5CA	0.330	Z5U	0.17	0.15	0.12
87F4797	C322C334M5U5CA	0.330	Z5U	0.17	0.15	0.12
95F4975	C320C474M5U5CA	0.470	Z5U	0.21	0.19	0.16
95F4963	C322C474M5U5CA	0.470	Z5U	0.21	0.19	0.16
87F4812	C330C105M5U5CA	1.0	Z5U	0.35	0.30	0.25
87F4813	C330C155M5U5CA	1.5	Z5U	0.56	0.49	0.41
95F4962	C340C225M5U5CA	2.2	Z5U	1.67	1.44	1.20
95F4999	C340C335M5U5CA	3.3	Z5U	2.09	1.80	1.50
95F5000	C340C475M5U5CA	4.7	Z5U	2.52	2.18	1.82
95F5002	C350C685M5U5CA	6.8	Z5U	5.53	4.77	3.98

(7416) (de01636)

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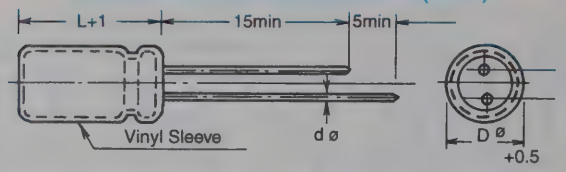
ALUMINUM ELECTROLYTIC CAPACITORS

GENERAL-PURPOSE RADIAL LEAD ALUMINUM ELECTROLYTIC CAPACITORS (85°C)



General-purpose aluminum electrolytic capacitors suitable for many consumer and industrial electronics applications. Operating temperature: –40°C to +85°C. Capacitance tolerance: ±20%. Lead diameter is 0.5mm for 5-8mm dia. capacitors, 0.6mm for 10-13mm dia. capacitors, and 0.8mm for 16mm dia. capacitors. Load life: 2000 hours @ 85°C.

Stock No.	Type	Cap µF	WV DC	Dia. x L (mm)	1-99	100-249	250-499	500-999
92N4977	MCR16V106M5X11	10	16	5 x 11	0.06	0.06	0.05	0.05
92N4978	MCR16V226M5X11	22	16	5 x 11	0.06	0.06	0.05	0.05
92N4979	MCR16V336M5X11	33	16	5 x 11	0.07	0.06	0.06	0.05
92N4980	MCR16V476M5X11	47	16	5 x 11	0.07	0.06	0.06	0.05
92N4981	MCR16V107M6.3X11	100	16	6.3 x 11	0.09	0.08	0.07	0.07
92N4982	MCR16V227M6.3X11	220	16	6.3 x 11	0.11	0.10	0.09	0.08
92N4983	MCR16V337M8X11	330	16	8 x 11	0.15	0.13	0.12	0.11
92N4984	MCR16V477MX811	470	16	8 x 11	0.19	0.17	0.15	0.13
92N4985	MCR16V108M10X16	1000	16	10 x 16	0.30	0.26	0.23	0.21
92N4986	MCR16V228M13X21	2200	16	13 x 21	0.45	0.39	0.35	0.31
92N4987	MCR16V478M16X26	4700	16	16 x 26	0.86	0.74	0.66	0.60
92N4988	MCR25V106M5X11	10	25	5 x 11	0.06	0.06	0.05	0.05
92N4989	MCR25V226M5X11	22	25	5 x 11	0.07	0.06	0.06	0.05
92N4990	MCR25V476M5X11	47	25	5 x 11	0.08	0.07	0.07	0.06
92N4991	MCR25V107M6.3X11	100	25	6.3 x 11	0.11	0.10	0.09	0.08
92N4992	MCR25V227M8X11	220	25	8 x 11	0.16	0.14	0.13	0.11
92N4993	MCR25V477M10X15	470	25	10 x 16	0.30	0.26	0.23	0.21
92N4994	MCR25V108M10X21	1000	25	10 x 21	0.51	0.44	0.39	0.36
92N4995	MCR35V475M5X11	4.7	35	5 x 11	0.06	0.06	0.05	0.05
92N4996	MCR35V336M5X11	10	35	5 x 11	0.06	0.06	0.05	0.05
92N4997	MCR35V226M5X11	22	35	5 x 11	0.07	0.06	0.06	0.05
92N4998	MCR35V336M5X11	33	35	5 x 11	0.09	0.08	0.07	0.07
92N4999	MCR35V476M6.3X11	47	35	6.3 x 11	0.09	0.08	0.07	0.07
92N5000	MCR35V107M8X11	100	35	8 x 11	0.14	0.12	0.11	0.10
92N5001	MCR35V227M10X13	220	35	10 x 13	0.27	0.23	0.21	0.19
92N5002	MCR35V337M10X16	330	35	10 x 16	0.33	0.28	0.26	0.23
92N5003	MCR35V477M10X21	470	35	10 x 21	0.40	0.34	0.31	0.28
92N5004	MCR35V108M13X21	1000	35	13 x 21	0.54	0.46	0.42	0.38
92N5005	MCR35V228M16X32	2200	35	16 x 32	1.04	0.89	0.80	0.72
92N5006	MCR50V474M5X11	0.47	50	5 x 11	0.06	0.06	0.05	0.05
92N5007	MCR50V105M5X11	1.0	50	5 x 11	0.06	0.06	0.05	0.05
92N5008	MCR50V225M5X11	2.2	50	5 x 11	0.06	0.06	0.05	0.05
92N5009	MCR50V475M5X11	4.7	50	5 x 11	0.06	0.06	0.05	0.05
92N5010	MCR50V106M5X11	10	50	5 x 11	0.07	0.06	0.06	0.05
92N5011	MCR50V226M5X11	22	50	5 x 11	0.08	0.07	0.07	0.06
92N5012	MCR50V476M6.3X11	47	50	6.3 x 11	0.14	0.12	0.11	0.10
92N5013	MCR50V107M8X11	100	50	8 x 11	0.17	0.15	0.13	0.12
92N5014	MCR50V227M10X16	220	50	10 x 16	0.33	0.28	0.26	0.23
92N5015	MCR50V477M13X21	470	50	13 x 21	0.48	0.41	0.37	0.33
92N5016	MCR50V108M16X26	1000	50	16 x 26	0.85	0.73	0.65	0.59
92N5017	MCR63V105M5X11	1.0	63	5 x 11	0.07	0.06	0.06	0.05
92N5018	MCR63V225M5X11	2.2	63	5 x 11	0.07	0.06	0.06	0.05
92N5019	MCR63V475M5X11	4.7	63	5 x 11	0.07	0.06	0.06	0.05
92N5020	MCR63V106M5X11	10	63	5 x 11	0.07	0.06	0.06	0.05
92N5021	MCR36V226M6.3X11	22	63	6.3 x 11	0.17	0.15	0.13	0.12
92N5022	MCR63V476M8X11	47	63	8 x 11	0.21	0.18	0.16	0.15
92N5023	MCR63V107M10X13	100	63	10 x 13	0.38	0.33	0.29	0.27
92N5024	MCR63V22MX10X21	220	63	10 x 21	0.55	0.47	0.42	0.38
92N5025	MCR63V477M13X26	470	63	13 x 26	0.76	0.65	0.59	0.53
92N5026	MCR63V108M16X32	1000	63	16 x 32	1.43	1.22	1.10	0.99
92N5027	MCR100V105M5X11	1.0	100	5 x 11	0.07	0.06	0.06	0.05
92N5028	MCR100V225M5X11	2.2	100	5 x 11	0.07	0.06	0.06	0.05
92N5029	MCR100V475M5X11	4.7	100	5 x 11	0.07	0.06	0.06	0.05
92N5030	MCR100V106M6.3X11	10	100	6.3 x 11	0.11	0.10	0.09	0.08
92N5031	MCR100V226M8X11	22	100	8 x 11	0.22	0.19	0.17	0.16
92N5032	MCR100V476M10X16	47	100	10 x 16	0.31	0.27	0.24	0.22
92N5033	MCR100V107M13X21	100	100	13 x 21	0.56	0.48	0.43	0.39
92N5034	MCR100V227M16X26	220	100	16 x 26	0.78	0.67	0.60	0.54
92N5035	MCR100V477M16X32	470	100	16 x 32	1.30	1.11	1.00	0.90

(16832) (ne10737)

GENERAL-PURPOSE RADIAL LEAD ALUMINUM ELECTROLYTIC CAPACITORS (105°C)

High-temperature aluminum electrolytic capacitors suitable for many consumer and industrial electronics applications. Operating temperature: –40°C to +105°C. Tolerance: ±20%. Lead diameter: 0.5mm for 5-6mm dia. capacitors, 0.6mm for 8-13mm dia. capacitors, and 0.8mm for 16-18mm dia. capacitors. Load life: 1000 hrs. @ 105°C.

Stock No.	Type	Cap. µF	WV DC	Dia. x L (mm)	1-99	100-249	250-499	500-999
92N5036	MCRH10V226M5X11	22	10	5 x 11	0.07	0.06	0.06	0.05
92N5037	MCRH10V336M5X11	33	10	5 x 11	0.07	0.06	0.06	0.05
92N5038	MCRH10V476M5X11	47	10	5 x 11	0.07	0.06	0.06	0.05
92N5039	MCRH10V107M5X11	100	10	5 x 11	0.08	0.07	0.07	0.06
92N5040	MCRH10V227M6.3X11	220	10	6.3 x 11	0.11	0.10	0.09	0.08
92N5041	MCRH10V337M8X11	330	10	8 x 12	0.15	0.13	0.12	0.11
92N5042	MCRH10V477M8X11	470	10	8 x 12	0.15	0.13	0.12	0.11
92N5043	MCRH10V108M10X16	1000	10	10 x 16	0.28	0.24	0.22	0.20
92N5044	MCRH10V228M13X21	2200	10	13 x 21	0.57	0.49	0.44	0.40
92N5045	MCRH10V338M13X21	3300	10	16 x 21	0.55	0.47	0.42	0.38
92N5046	MCRH10V478M16X26	4700	10	16 x 26	0.89	0.76	0.68	0.62
92N5047	MCRH16V106M5X11	10	16	5 x 11	0.07	0.06	0.06	0.05
92N5048	MCRH16V226M5X11	22	16	5 x 11	0.07	0.06	0.06	0.05
92N5049	MCRH16V336M5X11	33	16	5 x 11	0.07	0.06	0.06	0.05
92N5050	MCRH16V476M5X11	47	16	5 x 11	0.08	0.07	0.07	0.06
92N5051	MCRH16V107M6.3X11	100	16	6.3 x 11	0.10	0.09	0.08	0.07
92N5052	MCRH16V227M8X11	220	16	8 x 11	0.13	0.11	0.10	0.09
92N5053	MCRH16337M8X11	330	16	8 x 11	0.17	0.15	0.13	0.12
92N5054	MCR16V477M10X13	470	16	10 x 13	0.21	0.18	0.16	0.15
92N5055	MCRH16V108M10X21	1000	16	16 x 21	0.33	0.28	0.26	0.23
92N5056	MCRH16V228M13X21	2200	16	13 x 21	0.55	0.47	0.42	0.38
92N5057	MCRH16V338M13X26	3300	16	13 x 26	0.83	0.71	0.64	0.58
92N5058	MCRH16V478M16X32	4700	16	16 x 32	0.94	0.80	0.72	0.65
92N5059	MCRH25V336M5X11	33	25	5 x 11	0.08	0.07	0.07	0.06
92N5060	MCRH25V476M5X11	47	25	5 x 11	0.08	0.07	0.07	0.06
92N5061	MCRH25V107M6.3X11	100	25	6.3 x 11	0.13	0.11	0.10	0.09
92N5062	MCRH25V227M8X11	220	25	8 x 11	0.28	0.24	0.22	0.20
92N5063	MCRH25V337M10X13	330	25	10 x 13	0.32	0.28	0.25	0.22
92N5064	MCRH25V477M10X16	470	25	10 x 16	0.33	0.28	0.26	0.23
92N5065	MCRH25V108M13X21	1000	25	13 x 21	0.56	0.48	0.43	0.39
92N5066	MCRH25V22813X26	2200	25	13 x 26	0.78	0.67	0.60	0.54
92N5067	MCRH25V338M16X32	3300	25	16 x 32	1.08	0.92	0.83	0.75
92N5068	MCRH35V475M5X11	4.7	35	5 x 11	0.07	0.06	0.06	0.05
92N5069	MCRH35V106M5X11	10	35	5 x 11	0.07	0.06	0.06	0.05
92N5070	MCRH35V226M5X11	22	35	5 x 11	0.08	0.07	0.07	0.06
92N5071	MCRH235V336M5X11	33	35	5 x 11	0.10	0.09	0.08	0.07
92N5072	MCRH35V476M6.3X11	47	35	6.3 x 11	0.10	0.09	0.08	0.07
92N5073	MCRH35V107M8X11	100	35	8 x 11	0.15	0.13	0.12	0.11
92N5074	MCRH35V227M10X13	220	35	10 x 13	0.30	0.26	0.23	0.21
92N5075	MCRH35V337M10X16	330	35	10 x 16	0.37	0.32	0.29	0.26
92N5076	MCRH35V477M10X21	470	35	10 x 21	0.44	0.38	0.34	0.31
92N5077	MCRH35V108M13X21	1000	35	13 x 21	0.65	0.56	0.50	0.45
92N5078	MCRH35V228M16X32	2200	35	16 x 32	1.14	0.97	0.88	0.79
92N5079	MCRH50V474M5X11	0.47	50	5 x 11	0.08	0.07	0.07	0.06
92N5080	MCRH50V105M5X11	1.0	50	5 x 11	0.08	0.07	0.07	0.06
92N5081	MCRH50V225M5X11	2.2	50	5 x 11	0.08	0.07	0.07	0.06
92N5082	MCRH50V475M5X11	4.7	50	5 x 11	0.08	0.07	0.07	0.06
92N5083	MCRH50V106M5X11	10	50	5 x 11	0.09	0.08	0.07	0.07
92N5084	MCRH50V226M5X11	22	50	5 x 11	0.10	0.09	0.08	0.07
92N5085	MCRH50V476M6.3X11	47	50	6.3 x 11	0.16	0.14	0.13	0.11
92N5086	MCRH50V107M8X11	100	50	8 x 11	0.27	0.23	0.21	0.19
92N5087	MCRH50V27M10X16	220	50	10 x 20	0.45	0.39	0.35	0.31
92N5088	MCRH50V477M13X21	470	50	13 x 21	0.66	0.57	0.51	0.46
92N5089	MCRH50V108M16X26	1000	50	16 x 26	1.35	1.15	1.04	0.93
92N5090	MCRH63V105M5X11	1.0	63	5 x 11	0.07	0.06	0.06	0.05
92N5091	MCRH63V225M5X11	2.2	63	5 x 11	0.07	0.06	0.06	0.05
92N5092	MCRH63V335M5X11	3.3	63	5 x 11	0.07	0.06	0.06	0.05
92N5093	MCRH63V475M5X11	4.7	63	5 x 11	0.07	0.06	0.06	0.05
92N5094	MCRH63VU06M5X11	10	63	5 x 11	0.08	0.07	0.07	0.06
92N5095	MCRH63V226M6.3X11	22	63	6.3 x 11	0.18	0.16	0.14	0.13
92N5096	MCRH63V336M6.3X11	33	63	6.3 x 11	0.22	0.19	0.17	0.16
92N5097	MCRH63V476M8X11	47	63	8 x 11	0.23	0.20	0.18	0.16
92N5098	MCRH63V227M10X21	220	63	10 x 21	0.61	0.52	0.47	0.42
92N5099	MCRH63V337M13X21	330	63	13 x 21	0.77	0.66	0.59	0.53
92N5100	MCRH63V477M13X26	470	63	13 x 26	0.84	0.72	0.65	0.58
92N5101	MCRH63V108M16X32	1000	63	16 x 32	1.57	1.34	1.21	1.09
92N5102	MCVRH100V474M5X11	0.47	100	5 x 11	0.08	0.07	0.07	0.06
92N5103	MCRH100V105M5X11	1.0	100	5 x 11	0.08	0.07	0.07	0.06
92N5104	MCRH100V225M5X11	2.2	100	5 x 11	0.08	0.07	0.07	0.06
92N5105	MCRH100V335M5X11	3.3	100	5 x 11	0.08	0.07	0.07	0.06
92N5106	MCRH100V475M5X11	4.7	100	5 x 11	0.08	0.07	0.07	0.06
92N5107	MCRH100V106M6.3X1	10	100	6.3 x 11	0.10	0.09	0.08	0.07
92N5108	MCRH100V226M8X11	22	100	8 x 12	0.17	0.15	0.13	0.12
92N5109	MCRH100V336M10X15	33	100	10 x 13	0.31	0.27	0.24	0.22
92N5110	MCRH100V476M10X16	47	100	10 x 16	0.31	0.27	0.24	0.22
92N5111	MCR100V107M13X21	100	100	13 x 21	0.56	0.48	0.43	0.39
92N5112	MCRH100V227M16X26	220	100	16 x 26	0.86	0.74	0.66	0.60
92N5113	MCRH100V337M16X26	330	100	16 x 26	1.17	1.00	0.90	0.81

(16833) (ne10738)

ORDER PRODUCTS 24 HOURS A DAY AT
http://www.newark.com

CAPACITOR ASSORTMENT

GENERAL-PURPOSE CAPACITOR KITS

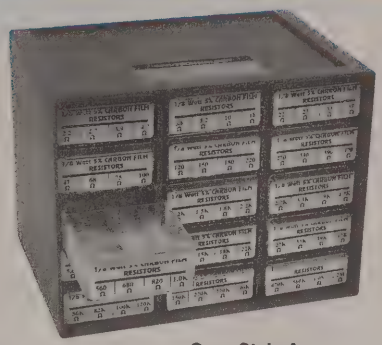
Capacitor kits come fully assembled with lid label showing type, capacitance and voltage range. Tolerance: ±20%. If a quantity in the Qty. per Value colum is not shown, they vary from 3 to 30 pieces. *Contact your local Newark sales office for exact value ranges.*

CAPACITOR TYPES IN KIT

Type 1–Aluminum electrolytic-axial Lead	Type 3–Ceramic disc	Type 5–Polyester film
Type2–Aluminum electrolytic-radial lead	Type 4–Metalized film	Type 6–Tantalum electrolytic-radial lead

Stock No.	Type	Case Style	Cap. Type	Capacitance Range	WVDC Range	No. of Values	Qty. per Value	Kit Quantity	Each
81N9240	SAC-462	A	1	1µF to 470µF	16V to 50V	17	...	71	
			2	1µF to 3300µF	16V to 50V	16	...	75	
			3	200pF to 0.1µF	50V	10	10	100	
			4	0.1µF to 0.47µF	250V to 630V	7	...	50	
			5	0.001µF to 0.47µF	100V	9	...	80	**189.99**
95N3712	SAC-462A	D	1	1µF to 4700µF	16V to 50V	12	...	51	**59.99**
95N3713	SAC-462B	D	2	1µF to 3300µF	25V to 50V	12	...	59	**49.99**
95N3714	SAC-1512	D	6	1µF to 4700µF	16V to 35V	12	5	50	**99.95**
95N3715	SAC-462C	D	4	0.22µF to 0.47µF	250V to 630V	12	...	85	**64.99**
95N3716	SAC-462D	D	5	0.001µF to 0.47µF	100V	12	...	105	**59.99**
95N3717	SAC-462E	D	3	220pF to 0.1µF	50	12	10	120	**49.99**
95N3718	SAC-462F	D	3	10pF to 10,000pF	500	12	10	120	**49.99**

(7274) (de01854)



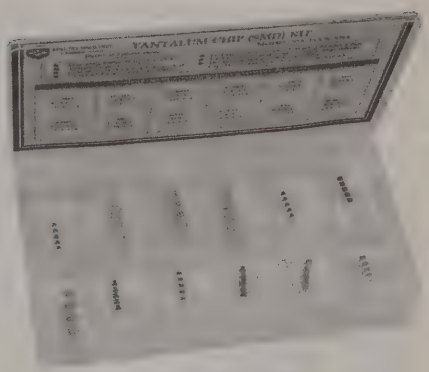
Case Style A

ALUMINUM ELECTROLYTIC CAPACITOR ASSORTMENTS

Aluminum electrolytic capacitor kits come fully assembled with lid label showing type, capacitance and voltage range. Kit includes radial-lead capacitors in reduced sizes: miniature, ±10% tolerance (1), super miniature, ±20% tolerance (2) and super miniature, ±20% tolerance, with very low leakage current (0.1CV and 0.002CV)(3). PVC-insulated sleeving, tinned copper-ply wire leads. Operating temperature: –40°C to +85°C. *Contact your local Newark sales office for exact value ranges.*

Stock No.	Type	Case Style	Cap. Size	Capacitance Range	WVDC Range	No. of Values	Qty. per Value	Kit Quantity	Each
46N7791	AECK-4110	A	1	0.1µF to 100µF	10V to 50V	27	10	270	
			2,3	1.0µF to 4.7µF	16V to 50V	8	10	80	**149.99**
95N3719	AECK-4110A	D	1	10V to 50V	10V to 50V	12	10	120	**72.40**

(7275) (de01855)



Case Style D

TANTALUM ELECTROLYTIC CAPACITOR ASSORTMENTS

Tantalum electrolytic capacitor kits come fully assembled with lid label showing type, capacitance and voltage range. Low leakage current limited to 0.007CV/0.005µA. Humidity proof, resistant to heat shocks and flame retardant. Pin spacing: 0.098". *Contact your local Newark sales office for exact value ranges.*

Stock No.	Type	Case Style	Capacitance Range	WVDC Range	No. of Values	Qty. per Value	Kit Quantity	Each
95N3714	SAC-1512	D	0.1µF to 47µF	16V to 35V	12	5	60	**99.95**
44N6423	SAC-1530	A	0.1µF to 47µF	10V to 35V	27	5	135	**199.99**
44N6424	SAC-3030	A	0.1µF to 47µF	10V to 35V	27	10	270	**403.60**

(7276) (de01856)

SMD

Case Style C

SURFACE MOUNT CAPACITOR KITS

Capacitor kits comes fully assembled with lid label showing type, capacitance and voltage range. Ultra-small sizes. High soldering heat resistance. Excellent reliability. Operating temperature: –55°C to +125°C. Ceramic chip kits have NPO, X7R and Z5U temperature dielectrics. **Type SAC-5410-8A** is EIA size 0805. **Type SAC-5410-12A** is EIA size 1206. Tolerance: ±5% (NPO); ±10% (X7R); +80%, –20% (Z5U). Dielectric withstanding voltage: 100V. Tantalum electrolytic capacitor kits have tolerance of ±20%. *Contact your local Newark sales office for exact value ranges.*

Stock No.	Type	Case Style	Capacitor Type	WVDC Range	No. of Values	Qty. per Value	Kit. Qty.	Each
95N3710	SAC-5410-8A	D	Ceramic	10pF to 0.1µF	18	5	90	**71.94**
95N3709	SAC-5410-12A	D	Ceramic	10pF to 0.1µF	18	5	90	**71.94**
46N7715	TCCK-305	D	Tantalum	0.1µF to 68µF	27	5	135	**238.00**
95N3711	TCCK-305A	D	Tantalum	0.45µF to 68µF	12	5	60	**97.81**

(7380) (ne02960)

CERAMIC CHIP CAPACITOR ASSORTMENTS

Kits are fully assembled with lid lable showing type, capacitance and voltage range. **Type SAC5410-12** is EIA size 1206; **type SAC5410-8** is EIA size 0805. Operating temperature: –55°C to +125°C (NPO and X7R); –10°C to 85°C (Z5U). NPO, X7R, and Z5U temperature dielectrics. Working voltage: 50V. Dielectric withstanding voltage: 100V. *Contact your local Newark sales office for exact value ranges.*

Stock No.	Type	Case Style	EIA Size	Capacitance Range	No. of Values	Qty. per Value	Kit Quantity	Each
46N7716	SAC-5410-8	C	0805	10pF to 0.1µF	30	10	300	**199.99**
46N7717	SAC-5410-12	C	1206	10pF to 0.1µF	30	10	300	**199.99**

(7378) (ne02958)

SMD

Combination Kit

COMBINATION RESISTOR AND CAPACITOR KIT

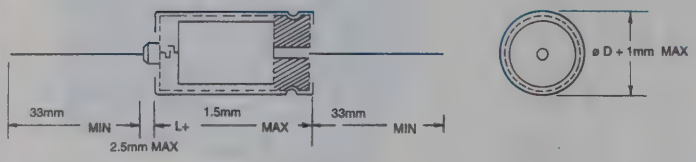
This 756-piece general kit is ideal for R & D labs, schools, and maintenance needs. Kit contains 630 carbon film resistors ranging from 0.5 to 4.7MΩ (42 each in ⅛W, ¼W, ½W), 5% tolerance and 126 capacitors in 42 values. Kit has 3 of each type: polyester film, metallized film, ceramic, radial and axial lead tantalum electrolytic capacitors. *Contact your local Newark sales office for exact value ranges.*

92N4512 Type 3329. **Each** **388.13**

(16035) (ne10110)

AXIAL ALUMINUM ELECTROLYTIC CAPACITORS

HIGH-TEMPERATURE AXIAL LEAD ALUMINUM ELECTROLYTIC CAPACITORS



General-purpose aluminum electrolytic capacitors suitable for high-temperature industrial equipment applications. Operating temperature: –40°C to +105°C. Capacitance tolerance: ±20%. Lead dia. 0.6mm for 5-13mm dia. capacitors, 0.8mm for 16-25mm dia. capacitors.

Stock No.	Type	Cap. µF	WV DC	Dia. x L (mm)	1-49	50-99	100-249	250-499
92N5430	MCHT470M1AB	47	10	5 x 13	0.24	0.21	0.19	0.17
92N5431	MCHT101M1AB	100	10	6 x 13	0.25	0.22	0.20	0.18
92N5432	MCHT221M1AB	220	10	8 x 13	0.38	0.33	0.29	0.27
92N5433	MCHT471M1AB	470	10	8 x 16	0.42	0.36	0.33	0.29
92N5434	MCHT102M1AB	1000	10	10 x 17	0.62	0.53	0.48	0.43
92N5435	MCHT222M1AB	2200	10	13 x 22	0.92	0.79	0.71	0.64
92N5436	MCHT470M1CB	47	16	6 x 13	0.26	0.23	0.20	0.18
92N5437	MCHT101M1CB	100	16	6.3 x 14	0.27	0.23	0.21	0.19
92N5438	MCHT221M1CB	220	16	8 x 13	0.39	0.34	0.30	0.27
92N5439	MCHT471M1CB	470	16	8 x 16	0.50	0.43	0.39	0.35
92N5440	MCHT102M1CB	1000	16	10 x 21	0.66	0.57	0.51	0.46
92N5441	MCHT222M1CB	2200	16	13 x 24	1.03	0.88	0.79	0.71
92N5442	MCHT472M1CB	4700	16	16 x 33	1.72	1.47	1.32	1.19
92N5443	MCHT100M1EB	10	25	5 x 13	0.24	0.21	0.19	0.17
92N5444	MCHT220M1EB	22	25	5 x 13	0.24	0.21	0.19	0.17
92N5445	MCHT470M1EB	47	25	6 x 13	0.30	0.26	0.23	0.21
92N5446	MCHT101M1EB	100	25	8 x 13	0.34	0.29	0.26	0.24
92N5447	MCHT221M1EB	220	25	8 x 16	0.43	0.37	0.33	0.30
92N5448	MCHT471M1EB	470	25	10 x 21	0.65	0.56	0.50	0.45
92N5449	MCHT102M1EB	1000	25	13 x 22	0.99	0.85	0.76	0.69
92N5450	MCHT222M1EB	2200	25	16 x 28	1.49	1.27	1.14	1.03
92N5451	MCHT472M1EB	4700	25	18 x 36	2.64	2.25	2.02	1.82
92N5452	MCHT100M1VB	10	35	5 x 13	0.24	0.21	0.19	0.17
92N5453	MCHT220M1VB	22	35	5 x 13	0.27	0.23	0.21	0.19
92N5454	MCHT470M1VB	47	35	6.3 x 14	3.37	2.87	2.58	2.33
92N5455	MCHT101M1VB	100	35	8 x 16	3.65	3.11	2.80	2.52
92N5456	MCHT221M1VB	220	35	10 x 17	0.59	0.51	0.46	0.41
92N5457	MCHT471M1VB	470	35	13 x 22	0.88	0.75	0.68	0.61
92N5458	MCHT102M1VB	1000	35	13 x 27	1.18	1.01	0.91	0.82
92N5459	MCHT222M1VB	2200	35	16 x 36	2.08	1.77	1.60	1.44
92N5460	MCHT472M1VB	4700	35	22 x 42	4.49	3.82	3.44	3.10
92N5462	MCHT010M1HB	1	50	5 x 13	0.24	0.21	0.19	0.17
92N5463	MCHT2R2M1HB	2.2	50	5 x 13	0.24	0.21	0.19	0.17
92N5464	MCHT3R3M1HB	3.3	50	5 x 13	0.24	0.21	0.19	0.17
92N5461	MCHT4R7M1HB	4.7	50	5 x 13	0.24	0.21	0.19	0.17
92N5465	MCHT100M1HB	10	50	6 x 13	0.25	0.22	0.20	0.18
92N5466	MCHT220M1HB	22	50	6 x 13	0.27	0.23	0.21	0.19
92N5467	MCHT470M1HB	47	50	8 x 13	0.35	0.30	0.27	0.25
92N5468	MCHT101M1HB	100	50	10 x 17	0.43	0.37	0.33	0.30
92N5469	MCHT221M1HB	220	50	10 x 21	0.64	0.55	0.49	0.44
92N5470	MCHT331M1HB	330	50	13 x 22	0.85	0.73	0.65	0.59
92N5471	MCHT471M1HB	470	50	12 x 22	0.91	0.78	0.70	0.63
92N5472	MCHT102M1HB	1000	50	16 x 33	1.68	1.43	1.29	1.16
92N5473	MCHT100M1JB	10	63	6 x 13	0.29	0.25	0.23	0.20
92N5474	MCHT220M1JB	22	63	6.3 x 14	0.34	0.29	0.26	0.24
92N5475	MCHT470M1JB	47	63	8 x 16	0.42	0.36	0.33	0.29
92N5476	MCHT101M1JB	100	63	10 x 17	0.64	0.55	0.49	0.44
92N5477	MCHT221M1JB	220	63	13 x 22	0.99	0.85	0.76	0.69
92N5478	MCHT471M1JB	470	63	13 x 27	1.27	1.08	0.98	0.88
92N5479	MCHT102M1JB	1000	63	16 x 33	2.48	2.11	1.90	1.71
92N5480	MCHT222M1JB	2200	63	20 x 42	5.54	4.71	4.24	3.82
92N5481	MCHT1010M2AB	1	100	5 x 13	0.24	0.21	0.19	0.17
92N5482	MCHT2R2M2AB	2.2	100	5 x 13	0.24	0.21	0.19	0.17
92N5483	MCHT4R7M2AB	4.7	100	6 x 13	0.28	0.24	0.22	0.20
92N5484	MCHT100M2AB	10	100	6.3 x 14	0.34	0.29	0.26	0.24
92N5485	MCHT220M2AB	22	100	8 x 16	0.44	0.38	0.34	0.31
92N5486	MCHT470M2AB	47	100	10 x 21	0.70	0.60	0.54	0.49
92N5487	MCHT101M2AB	100	100	13 x 22	1.00	0.85	0.77	0.69

(15835) (ne10123)

GENERAL-PURPOSE AXIAL LEAD ALUMINUM ELECTROLYTIC CAPACITORS

General-purpose aluminum electrolytic capacitors offer very high performance and compact size. Operating temperature: –40°C to +85°C. Capacitance tolerance: ±20%. Lead dia. 0.6mm for 5-13mm dia. capacitors, 0.8mm for 16-25mm dia. capacitors.

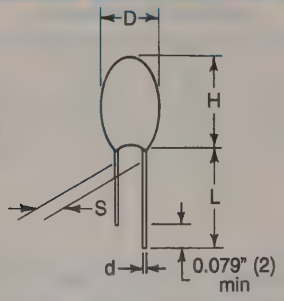
Stock No.	Type	Cap. µF	WV DC	Dia. x L (mm)	1-49	50-99	100-249	250-499
92N5488	MCLV470M1AB	47	10	5 x 13	0.21	0.18	0.16	0.15
92N5489	MCLV101M1AB	100	10	6 x 13	0.23	0.20	0.18	0.16
92N5490	MCLV221M1AB	220	10	8 x 13	0.34	0.29	0.26	0.24
92N5491	MCLV471M1AB	470	10	8 x 16	0.37	0.32	0.29	0.26
92N5492	MCLV102M1AB	1000	10	10 x 17	0.55	0.47	0.42	0.38
92N5493	MCLV222M1AB	2200	10	13 x 22	0.84	0.72	0.65	0.58
92N5494	MCLV472M1AB	4700	10	16 x 28	1.08	0.92	0.83	0.75
92N5495	MCLV220M1CB	22	16	5 x 13	0.21	0.18	0.16	0.15
92N5496	MCLV470M1CB	47	16	6 x 13	0.24	0.21	0.19	0.17
92N5497	MCLV101M1CB	100	16	6.3 x 14	0.24	0.21	0.19	0.17
92N5498	MCLV221M1CB	220	16	8 x 13	0.35	0.30	0.27	0.25
92N5499	MCLV471M1CB	470	16	8 x 16	0.46	0.40	0.36	0.32
92N5500	MCLV102M1CB	1000	16	10 x 21	0.60	0.51	0.46	0.42
92N5501	MCLV222M1CB	2200	16	13 x 24	0.94	0.80	0.72	0.65
92N5502	MCLV472M1CB	4700	16	16 x 33	1.56	1.33	1.20	1.08
92N5503	MCLV100M1EB	10	25	5 x 13	0.21	0.18	0.16	0.15
92N5504	MCLV220M1EB	22	25	5 x 13	0.22	0.19	0.17	0.16
92N5505	MCLV470M1EB	47	25	6 x 13	0.28	0.24	0.22	0.20
92N5506	MCLV101M1EB	100	25	8 x 13	0.32	0.28	0.25	0.22
92N5507	MCLV221M1EB	220	25	8 x 16	0.40	0.34	0.31	0.28
92N5508	MCLV471M1EB	470	25	10 x 21	0.59	0.51	0.46	0.41
92N5509	MCLV102M1EB	1000	25	13 x 22	0.90	0.77	0.69	0.62
92N5510	MCLV222M1EB	2200	25	16 x 28	1.36	1.16	1.04	0.94
92N5511	MCLV472M1EB	4700	25	18 x 36	2.40	2.04	1.84	1.66
92N5512	MCLV100M1VB	10	35	5 x 13	0.22	0.19	0.17	0.16
92N5513	MCLV220M1VB	22	35	6 x 13	0.25	0.22	0.20	0.18
92N5514	MCLV470M1VB	47	35	6.3 x 14	0.31	0.27	0.24	0.22
92N5515	MCLV101M1VB	100	35	8 x 16	0.34	0.29	0.26	0.24
92N5516	MCLV221M1VB	220	35	10 x 17	0.55	0.47	0.42	0.38
92N5517	MCLV471M1VB	470	35	13 x 22	0.80	0.68	0.62	0.56
92N5518	MCLV102M1VB	1000	35	13 x 27	1.07	0.91	0.82	0.74
92N5519	MCLV222M1VB	2200	35	16 x 36	1.89	1.61	1.45	1.31
92N5520	MCLV472M1VB	4700	35	22 x 43	4.08	3.47	3.13	2.82
92N5521	MCLVR47M1HB	0.47	50	5 x 13	0.21	0.18	0.16	0.15
92N5522	MCLV010M1HB	1	50	5 x 13	0.21	0.18	0.16	0.15
92N5523	MCLV2R2M1HB	2.2	50	5 x 13	0.21	0.18	0.16	0.15
92N5524	MCLV3R3M1HB	3.3	50	5 x 13	0.21	0.18	0.16	0.15
92N5525	MCLV4R7M1HB	4.7	50	5 x 13	0.21	0.18	0.16	0.15
92N5526	MCLV100M1HB	10	50	6 x 13	0.23	0.20	0.18	0.16
92N5527	MCLV220M1HB	22	50	6 x 13	0.24	0.21	0.19	0.17
92N5528	MCLV470M1HB	47	50	8 x 13	0.32	0.28	0.25	0.22
92N5529	MCLV101M1HB	100	50	10 x 17	0.39	0.34	0.30	0.27
92N5530	MCLV221M1HB	220	50	10 x 21	0.58	0.50	0.45	0.40
92N5531	MCLV331M1HB	330	50	13 x 22	0.77	0.66	0.59	0.53
92N5532	MCLV471M1HB	470	50	13 x 22	0.87	0.74	0.67	0.60
92N5533	MCLV102M1HB	1000	50	16 x 33	1.52	1.30	1.17	1.05
92N5534	MCLV222M1HB	2200	50	18 x 36	3.08	2.62	2.36	2.13
92N5535	MCLV100M1JB	10	63	6 x 13	0.26	0.23	0.20	0.18
92N5536	MCLV220M1JB	22	63	6.3 x 14	0.31	0.27	0.24	0.22
92N5537	MCLV470M1JB	47	63	8 x 16	0.38	0.33	0.29	0.27
92N5538	MCLV101M1JB	100	63	10 x 17	0.58	0.50	0.45	0.40
92N5539	MCLV221M1JB	220	63	13 x 22	0.90	0.77	0.69	0.62
92N5540	MCLV471M1JB	470	63	13 x 27	1.16	0.99	0.89	0.80
92N5541	MCLV102M1JB	1000	63	16 x 33	2.26	1.93	1.73	1.56
92N5542	MCLV222M1JB	2200	63	20 x 42	5.04	4.29	3.86	3.48
92N5543	MCLV472M1JB	4700	63	25 x 52	0.86	0.74	0.66	0.60
92N5544	MCLV010M2AB	1	100	5 x 13	0.22	0.19	0.17	0.16
92N5545	MCLV2R2M2AB	2.2	100	5 x 13	0.22	0.19	0.17	0.16
92N5546	MCLV4R7M2AB	4.7	100	6 x 13	0.25	0.22	0.20	0.18
92N5547	MCLV100M2AB	10	100	6.3 x 14	0.31	0.27	0.24	0.22
92N5548	MCLV220M2AB	22	100	8 x 16	0.41	0.35	0.32	0.29
92N5549	MCLV470M2AB	47	100	10 x 21	0.65	0.56	0.50	0.45
92N5550	MCLV101M2AB	100	100	13 x 22	0.93	0.79	0.72	0.64
92N5551	MCHV010M2EB	1	250	6 x 16	0.63	0.54	0.49	0.44
92N5552	MCHV2R2M2EB	2.2	250	8 x 16	0.69	0.59	0.53	0.48
92N5553	MCHV4R7M2EB	4.7	250	8 x 20	0.76	0.65	0.59	0.53
92N5554	MCHV100M2EB	10	250	10 x 21	0.91	0.78	0.70	0.63
92N5555	MCHV220M2EB	22	250	13 x 26	1.54	1.31	1.18	1.07
92N5556	MCHV470M2EB	47	250	16 x 32	2.08	1.77	1.60	1.44
92N5557	MCHV101M2EB	100	250	16 x 40	3.09	2.63	2.37	2.13
92N5558	MCHV010M2WB	1	450	8 x 16	0.70	0.60	0.54	0.49
92N5559	MCHV2R2M2WB	2.2	450	10 x 21	0.83	0.71	0.64	0.58
92N5560	MCHV4R7M2WB	4.7	450	10 x 26	1.01	0.86	0.78	0.70
92N5561	MCHV100M2WB	10	450	13 x 26	1.56	1.33	1.20	1.08
92N5562	MCHV220M2WB	22	450	16 x 32	2.29	1.95	1.76	1.58
92N5563	MCHV470M2WB	47	450	22 x 40	4.70	4.00	3.60	3.24
92N5564	MCHV101M2WB	100	450	25 x 50	7.62	6.48	5.83	5.25

(15834) (ne10736)

NEW

TANTALUM ELECTROLYTIC CAPACITORS

DIPPED TANTALUM ELECTROLYTIC CAPACITORS



Economical, general-purpose tantalum electrolytic capacitors. Reliability: 1% per 1000 hours at 85°C with 0.1Ω/V series impedance, 60% confidence level. Operating temperature: –55°C to +125°C. **Sold in multiples of 25.**

Rated Voltage-DC	6.3V	10V	16V	20V	25V	35V	50V
Surge Voltage	8V	13V	20V	26V	33V	46V	65V

CASE DIMENSIONS

Case Code	H (mm)	D (mm)	L (mm)	S (mm)	d (mm)
A	0.28″ (7.0)	0.18″ (4.5)	0.630″ ±0.160″ (16 ±4)	0.100″ ±0.020″ (2.5 ±0.5)	0.020″ ±0.002″ (0.55 ±0.05)
B	0.30″ (7.5)	0.18″ (4.5)	0.630″ ±0.160″ (16 ±4)	0.100″ ±0.020″ (2.5 ±0.5)	0.020″ ±0.002″ (0.55 ±0.05)
C	0.33″ (8.5)	0.20″ (5.0)	0.630″ ±0.160″ (16 ±4)	0.100″ ±0.020″ (2.5 ±0.5)	0.020″ ±0.002″ (0.55 ±0.05)
D	0.35″ (9.0)	0.20″ (5.0)	0.630″ ±0.160″ (16 ±4)	0.100″ ±0.020″ (2.5 ±0.5)	0.020″ ±0.002″ (0.55 ±0.05)
E	0.35″ (9.0)	0.22″ (5.5)	0.630″ ±0.160″ (16 ±4)	0.100″ ±0.020″ (2.5 ±0.5)	0.020″ ±0.002″ (0.55 ±0.05)
F	0.39″ (10.0)	0.24″ (6.0)	0.630″ ±0.160″ (16 ±4)	0.100″ ±0.020″ (2.5 ±0.5)	0.020″ ±0.002″ (0.55 ±0.05)
G	0.39″ (10.0)	0.26″ (6.5)	0.630″ ±0.160″ (16 ±4)	0.100″ ±0.020″ (2.5 ±0.5)	0.020″ ±0.002″ (0.55 ±0.05)
H	0.41″ (10.5)	0.28″ (7.0)	0.630″ ±0.160″ (16 ±4)	0.100″ ±0.020″ (2.5 ±0.5)	0.020″ ±0.002″ (0.55 ±0.05)
J	0.51″ (13.0)	0.31″ (8.0)	0.630″ ±0.160″ (16 ±4)	0.100″ ±0.020″ (2.5 ±0.5)	0.020″ ±0.002″ (0.55 ±0.05)
K	0.55″ (14.0)	0.33″ (8.5)	0.630″ ±0.160″ (16 ±4)	0.100″ ±0.020″ (2.5 ±0.5)	0.020″ ±0.002″ (0.55 ±0.05)
L	0.55″ (14.0)	0.35″ (9.0)	0.630″ ±0.160″ (16 ±4)	0.100″ ±0.020″ (2.5 ±0.5)	0.020″ ±0.002″ (0.55 ±0.05)
M	0.57″ (14.5)	0.35″ (9.0)	0.630″ ±0.160″ (16 ±4)	0.100″ ±0.020″ (2.5 ±0.5)	0.020″ ±0.002″ (0.55 ±0.05)
N	0.63″ (10.5)	0.35″ (9.0)	0.630″ ±0.160″ (16 ±4)	0.100″ ±0.020″ (2.5 ±0.5)	0.020″ ±0.002″ (0.55 ±0.05)
P	0.67″ (10.5)	0.39″ (9.0)	0.630″ ±0.160″ (16 ±4)	0.100″ ±0.020″ (2.5 ±0.5)	0.020″ ±0.002″ (0.55 ±0.05)

Stock No.	Type	Cap.	WVDC	Tol.	Case	25-99	100-499	500-999
50N854	DT4R7K6R3-1	4.7µF	6.3	1%	A	0.23	0.20	0.18
50N855	DT6R8K6R3-1	6.8µF	6.3	1%	A	0.25	0.22	0.20
50N856	DT10K6R3-1	10µF	6.3	1%	B	0.29	0.25	0.23
50N858	DT22K6R3-1	22µF	6.3	1%	D	0.39	0.34	0.30
50N859	DT33K6R3-1	33µF	6.3	1%	E	0.45	0.39	0.35
50N860	DT47M6R3-1	47µF	6.3	20%	F	0.65	0.56	0.50
50N861	DT68M6R3-1	68µF	6.3	20%	G	0.88	0.75	0.68
50N862	DT100M6R3-1	100µF	6.3	20%	H	1.39	1.19	1.07
50N863	DT150M6R3-2	150µF	6.3	20%	K*	3.09	2.63	2.37
50N864	DT330M6R3-2	330µF	6.3	20%	P*	9.29	7.90	7.11
50N865	DT2R2K10-1	2.2µF	10	1%	A	0.19	0.17	0.15
50N866	DT3R3K10-1	3.3µF	10	1%	A	0.22	0.19	0.17
50N867	DT4R7K10-1	4.7µF	10	1%	A	0.25	0.22	0.20
50N868	DT6R8K10-1	6.8µF	10	1%	B	0.27	0.23	0.21
50N869	DT10K10-1	10µF	10	1%	C	0.37	0.32	0.29
50N870	DT15K10-1	15µF	10	1%	D	0.37	0.32	0.29
50N871	DT22K10-1	22µF	10	1%	E	0.55	0.47	0.42
50N872	DT33K10-1	33µF	10	1%	F	0.68	0.58	0.52
50N873	DT47K10-1	47µF	10	1%	G	0.88	0.75	0.68
50N874	DT68M10-1	68µF	10	20%	H	1.35	1.15	1.04
50N875	DT100M10-2	100µF	10	20%	K*	2.99	2.55	2.29
50N876	DT150M10-2	150µF	10	20%	N*	6.50	5.53	4.98
50N877	DT1K16-1	1.0µF	16	1%	A	0.21	0.18	0.16
50N878	DT1R5K16-1	1.5µF	16	1%	A	0.21	0.18	0.16
50N879	DT2R2K16-1	2.2µF	16	1%	A	0.25	0.22	0.20
50N880	DT3R3K16-1	3.3µF	16	1%	A	0.25	0.22	0.20
50N881	DT4R7K16-1	4.7µF	16	1%	B	0.29	0.25	0.23
50N882	DT6R8K16-1	6.8µF	16	1%	C	0.33	0.28	0.26
50N883	DT10K16-1	10µF	16	1%	D	0.45	0.39	0.35

CONTINUED

DIPPED TANTALUM ELECTROLYTIC CAPACITORS (CONT.)

Stock No.	Type	Cap.	WVDC	Tol.	Case	25-99	100-499	500-999
50N857	DT15K16-1	15µF	16	1%	E	0.32	0.28	0.25
50N884	DT22K16-1	22µF	16	1%	F	0.68	0.58	0.52
50N885	DT33K16-1	33µF	16	1%	F	0.89	0.76	0.68
50N886	DT47M16-1	47µF	16	1%	J	1.39	1.19	1.07
50N887	DT68M16-2	68µF	16	20%	L*	2.99	2.55	2.29
50N888	DT1R5K25-1	1.5µF	25	20%	A	0.22	0.19	0.17
50N889	DT2R2K25-1	2.2µF	25	1%	A	0.27	0.23	0.21
50N890	DT3R3K25-1	3.3µF	25	1%	B	0.33	0.28	0.26
50N891	DT4R7K25-1	4.7µF	25	1%	C	0.42	0.36	0.33
50N892	DT6R8K25-1	6.8µF	25	1%	D	0.47	0.40	0.36
50N893	DT10K25-1	10µF	25	1%	E	0.85	0.73	0.65
50N894	DT15K25-1	15µF	25	1%	F	0.93	0.79	0.72
50N895	DT22M25-1	22µF	25	20%	H	1.42	1.21	1.09
50N896	DT33M25-2	33µF	25	20%	J*	1.96	1.67	1.50
50N897	DT47M25-2	47µF	25	20%	M*	3.60	3.06	2.76
50N898	DT68M25-2	68µF	25	20%	N*	7.99	6.80	6.12
50N899	DTR10M35-1	0.1µF	35	20%	A	0.19	0.17	0.15
50N900	DTR15M35-1	0.15µF	35	20%	A	0.19	0.17	0.15
50N901	DTR22M35-1	0.22µF	35	20%	A	0.18	0.16	0.14
50N902	DTR33M35-1	0.33µF	35	20%	A	0.18	0.16	0.14
50N903	DTR47M35-1	0.47µF	35	20%	A	0.18	0.16	0.14
50N904	DTR68M35-1	0.68µF	35	20%	A	0.18	0.16	0.14
50N905	DT1K35-1	1.0µF	35	1%	A	0.23	0.20	0.18
50N906	DT1R5K35-1	1.5µF	35	1%	A	0.23	0.20	0.18
50N907	DT2R2K35-1	2.2µF	35	1%	B	0.33	0.28	0.26
50N908	DT3R3K35-1	3.3µF	35	1%	C	0.39	0.34	0.30
50N909	DT4R7K35-1	4.7µF	35	1%	E	0.50	0.43	0.39
50N910	DT6R8K35-1	6.8µF	35	1%	F	0.80	0.68	0.62
50N911	DT10K35-1	10µF	35	1%	F	0.99	0.85	0.76
50N912	DT15M35-1	15µF	35	20%	H	1.35	1.15	1.04
50N913	DT22M35-2	22µF	35	20%	K*	1.85	1.58	1.42
50N914	DT33M35-2	33µF	35	20%	M*	3.99	3.40	3.06
50N915	DTR10M50-1	0.10µF	50	20%	A	0.19	0.17	0.15
50N916	DTR15M50-1	0.15µF	50	20%	A	0.19	0.17	0.15
50N917	DTR22M50-1	0.22µF	50	20%	A	0.19	0.17	0.15
50N918	DTR33M50-1	0.33µF	50	20%	A	0.19	0.17	0.15
50N919	DTR47M50-1	0.47µF	50	20%	A	0.23	0.20	0.18
50N920	DTR68M50-1	0.68µF	50	20%	B	0.29	0.25	0.23
50N921	DT1K50-1	1.0µF	50	1%	C	0.39	0.34	0.30
50N922	DT1R5K50-1	1.5µF	50	1%	D	0.62	0.53	0.48
50N923	DT2R2K50-1	2.2µF	50	1%	E	0.79	0.68	0.61
50N924	DT3R3K50-1	3.3µF	50	1%	F	1.04	0.89	0.80
50N925	DT4R7K50-1	4.7µF	50	1%	G	1.39	1.19	1.07
50N926	DT6R8M50-2	6.8µF	50	20%	H*	3.29	2.80	2.52
50N927	DT10M50-2	10µF	50	20%	J*	4.29	3.65	3.29

*Lead space: 0.200″ ±0.020″ (5.0 ±1.0)

(35770) (ne35770)

Electronic Terms and Measurements

Resistance
Opposition to current flow. Basic unit is the ohm (Ω).

1 kilohm – kΩ	1,000 or $1x10^3$ ohms
1 Megohm – MΩ	1,000,000 or $1x10^6$ ohms

Voltage
Electromotive force. Basic unit is the volt (V).

1 millivolt – mV	1/1,000 or $1x10^{-3}$ volt
1 microvolt – µV	1/1,000,000 or $1x10^{-6}$ volts

Current
Movement of electricity. Basic unit is the ampere (A).

1 milliampere – mA	1/1,000 or $1x10^{-3}$ ampere
1 microampere – µA	1/1,000,000 or $1x10^{-6}$ ampere

Frequency
Number of cycles per second. Basic unit is the hertz (Hz).

1 kilohertz – kHz	1,000 or $1x10^3$ hertz
1 Megahertz – MHz	1,000,000 or $1x10^6$ hertz
1 Gigahertz – GHz	1,000,000,000 or $1x10^9$ hertz

Time
Basic unit is the second (s).

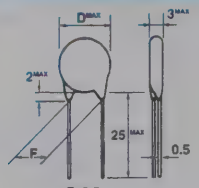
1 millisecond – ms	1/1,000 or $1x10^{-3}$ second
1 microsecond – µs	1/1,000,000 or $1x10^{-6}$ second
1 nanosecond – ns	1/1,000,000,000 or $1x10^{-9}$ second

(38570) (Filler01)

NEW

CERAMIC DISC CAPACITORS

CLASS I TEMPERATURE COMPENSATION CAPACITORS



Class I, NPO ceramic disc capacitors feature linear temperature coefficent of capacitance, high stability, and low loss at wide range of frequency. Insulation resistance: 10,000 MΩ min. Test voltage: 3X rated voltage. Operating temperature :-25°C to +85°C. **Sold in multiples of 10.**

50 VOLTS, ±5% TOLERANCE

Stock No.	Type	Cap. pF	D x F (mm)	10-99	100-499	500-999	1000+
50N998	C1C100J1HS5L	10	5 x 2.5/5.0	0.03	0.03	0.02	0.02
50N999	C1C120J1HS5L	12	5 x 2.5/5.0	0.03	0.03	0.02	0.02
50N1000	C1C150J1HS5L	15	5 x 2.5/5.0	0.03	0.03	0.02	0.02
50N1001	C1C180J1HS5L	18	5 x 2.5/5.0	0.03	0.03	0.02	0.02
50N1002	C1C220J1HS5L	22	5 x 2.5/5.0	0.03	0.03	0.02	0.02
50N1003	C1C270J1HS5L	27	5 x 2.5/5.0	0.05	0.05	0.03	0.03
50N1004	C1C330J1HS5L	33	5 x 2.5/5.0	0.05	0.05	0.03	0.03
50N1005	C1C390J1HS5L	39	5 x 2.5/5.0	0.05	0.05	0.03	0.03
50N1006	C1C470J1HS5L	47	5 x 2.5/5.0	0.05	0.05	0.03	0.03
50N1007	C1C680J1HS5L	68	6 x 2.5/5.0	0.06	0.05	0.04	0.03
50N1008	C1C820J1HS5L	82	7.5 x 2.5/5.0	0.06	0.05	0.04	0.03
50N1009	C1C101J1HS5L	100	7.5 x 2.5/5.0	0.07	0.06	0.05	0.04
50N1010	C1C121J1HS5L	120	8.5 x 2.5/5.0	0.07	0.06	0.05	0.04
50N1011	C1C151J1HS5L	150	8.5 x 2.5/5.0	0.08	0.07	0.05	0.04
50N1012	C1C181J1HS5L	180	9.5 x 2.5/5.0	0.08	0.07	0.05	0.04
50N1013	C1C221J1HS5L	220	10.5 x 2.5/5.0	0.09	0.08	0.06	0.05
50N1014	C1C271J1HS5L	270	10.5 x 2.5/5.0	0.11	0.09	0.07	0.06
50N1015	C1C331J1HS5L	330	10.5 x 2.5/5.0	0.13	0.11	0.08	0.07
50N1016	C1C391J1HS5L	390	8.5 x 2.5/5.0	0.16	0.14	0.10	0.08
50N1017	C1C471J1HS5L	470	8.5 x 2.5/5.0	0.22	0.19	0.14	0.11
50N1018	SPC5388	560	9.5 x 5.0	7.50	6.38	5.63	4.88
50N1019	C1C681J1HS5L	680	9.5 x 5.0	0.06	0.05	0.04	0.03
50N1020	C1C821J1HS5L	820	10.5 x 5.0	0.06	0.05	0.04	0.03
50N1021	C1C102J1HS5L	1000	10.5 x 5.0	0.06	0.05	0.04	0.03
100 VOLTS, ±5% TOLERANCE							
50N1022	C1C100J2AS5L	10	5 x 2.5/5.0	0.06	0.05	0.04	0.03
50N1023	C1C120J2AS5L	12	5 x 2.5/5.0	0.06	0.05	0.04	0.03
50N1024	C1C150J2AS5L	15	5 x 2.5/5.0	0.06	0.05	0.04	0.03
50N1025	C1C180J2AS5L	18	5 x 2.5/5.0	0.06	0.05	0.04	0.03
50N1026	C1C220J2AS5L	22	5 x 2.5/5.0	0.06	0.05	0.04	0.03
50N1027	C1C270J2AS5L	27	5 x 2.5/5.0	0.06	0.05	0.04	0.03
50N1028	C1C330J2AS5L	33	5 x 2.5/5.0	0.06	0.05	0.04	0.03
50N1029	C1C390J2AS5L	39	5 x 2.5/5.0	0.06	0.05	0.04	0.03
50N1030	C1C470J2AS5L	47	5 x 2.5/5.0	0.06	0.05	0.04	0.03
50N1031	C1C560J2AS5L	56	6 x 2.5/5.0	0.07	0.06	0.05	0.04
50N1032	C1C680J2AS5L	68	6 x 2.5/5.0	0.07	0.06	0.05	0.04
50N1033	C1C820J2AS5L	82	7.5 x 2.5/5.0	0.07	0.06	0.05	0.04
50N1034	C1C101J2AS5L	100	7.5 x 2.5/5.0	0.07	0.06	0.05	0.04
50N1035	C1C121J2AS5L	120	8.5 x 2.5/5.0	0.09	0.08	0.06	0.05
50N1036	C1C151J2AS5L	150	8.5 x 2.5/5.0	0.09	0.08	0.06	0.05
50N1037	C1C181J2AS5L	180	9.5 x 5.0	0.11	0.09	0.07	0.06
50N1038	C1C221J2AS5L	220	10.5 x 5.0	0.11	0.09	0.07	0.06
50N1039	C1C271J2AS5L	270	10.5 x 5.0	0.14	0.12	0.09	0.07
500 VOLTS, ±5% TOLERANCE							
50N1040	C1C100J2HS5L	10	5 x 2.5/5.0	0.04	0.04	0.03	0.02
50N1041	C1C120J2HS5L	12	5 x 2.5/5.0	0.05	0.05	0.03	0.03
50N1042	C1C150J2HS5L	15	5 x 2.5/5.0	0.05	0.05	0.03	0.03
50N1043	C1C180J2HS5L	18	6 x 2.5/5.0	0.05	0.05	0.03	0.03
50N1044	C1C220J2HS5L	22	6 x 2.5/5.0	0.05	0.05	0.03	0.03
50N1045	C1C270J2HS5L	27	6 x 2.5/5.0	0.05	0.05	0.03	0.03
50N1046	C1C330J2HS5L	33	6 x 2.5/5.0	0.07	0.06	0.05	0.04
50N1047	C1C390J2HS5L	39	7.5 x 2.5/5.0	0.07	0.06	0.05	0.04
50N1048	C1C470J2HS5L	47	7.5 x 2.5/5.0	0.07	0.06	0.05	0.04
50N1049	C1C680J2HS5L	68	7.5 x 2.5/5.0	0.09	0.08	0.06	0.05
50N1050	C1C820J2HS5L	82	7.5 x 2.5/5.0	0.12	0.10	0.08	0.06
1000 VOLTS, ±5% TOLERANCE							
50N1051	C1C100J3AS6L	10	5 x 2.5/5.0	0.07	0.06	0.05	0.04
50N1052	C1C120J3AS6L	12	5 x 2.5/5.0	0.07	0.06	0.05	0.04
50N1053	C1C150J3AS6L	15	5 x 2.5/5.0	0.07	0.06	0.05	0.04
50N1054	C1C180J3AS6L	18	5 x 2.5/5.0	0.07	0.06	0.05	0.04
50N1055	C1C220J3AS6L	22	5 x 2.5/5.0	0.07	0.06	0.05	0.04
50N1056	C1C270J3AS6L	27	5 x 2.5/5.0	0.07	0.06	0.05	0.04
50N1057	C1C330J3AS6L	33	5 x 2.5/5.0	0.09	0.08	0.06	0.05
50N1058	C1C390J3AS6L	39	5 x 2.5/5.0	0.09	0.08	0.06	0.05
50N1059	C1C470J3AS6L	47	5 x 2.5/5.0	0.13	0.11	0.08	0.07
50N1060	C1C560J3AS6L	56	6 x 2.5/5.0	0.13	0.11	0.08	0.07
50N1061	C1C680J3AS6L	68	6 x 2.5/5.0	0.13	0.11	0.08	0.07
50N1062	C1C820J3AS6L	82	7.5 x 2.5/5.0	0.14	0.12	0.09	0.07
50N1063	C1C101J3AS6L	100	8.5 x 2.5/5.0	0.17	0.14	0.11	0.09
50N1064	C1C121J3AS6L	120	8.5 x 2.5/5.0	0.17	0.14	0.11	0.09

CONTINUED

CLASS I TEMPERATURE COMPENSATION CAPACITORS (CONT.)

1000 VOLTS, ±5% TOLERANCE (CONT.)

Stock No.	Type	Cap. pF	D x F (mm)	10-99	100-499	500-999	1000+
50N1065	C1C151J3AS6L	150	8.5 x 2.5/5.0	0.20	0.17	0.13	0.10
50N1066	C1C181J3AS6L	180	9.5 x 5.0	0.22	0.19	0.14	0.11
50N1067	C1C221J3AS6L	220	10.5 x 5.0	0.26	0.22	0.16	0.13

(39171) (ne39171)

CLASS II HIGH-DIELECTRIC CONSTANT CAPACITORS

Ceramic disc capacitors feature large capacitance values in small sizes. Nonlinear temperature coefficent of capacitance. Tested at 2.5X rated voltage. Insulation resistance: 10,000MΩ or 200MΩμF, whichever is smaller. Operating temperature: -25°C to +85°C. **Sold in multiples of 10.**

100 VOLTS, ±10% TOLERANCE

Stock No.	Type	Cap. pF	D x F (mm)	10-99	100-499	500-999	1000+
50N1068	C11B101K2AS5L	100	5 x 2.5/5.0	0.05	0.05	0.03	0.03
50N1069	C11B121K2AS5L	120	5 x 2.5/5.0	0.05	0.05	0.03	0.03
50N1070	C11B151K2AS5L	150	5 x 2.5/5.0	0.05	0.05	0.03	0.03
50N1071	C11B181K2AS5L	180	5 x 2.5/5.0	0.05	0.05	0.03	0.03
50N1072	C11B221K2AS5L	220	5 x 2.5/5.0	0.05	0.05	0.03	0.03
50N1073	C11B271K2AS5L	270	5 x 2.5/5.0	0.05	0.05	0.03	0.03
50N1074	C11B331K2AS5L	330	5 x 2.5/5.0	0.05	0.05	0.03	0.03
50N1075	C11B391K2AS5L	390	5 x 2.5/5.0	0.05	0.05	0.03	0.03
50N1076	C11B471K2AS5L	470	5 x 2.5/5.0	0.05	0.05	0.03	0.03
50N1077	C11B561K2AS5L	560	5 x 2.5/5.0	0.05	0.05	0.03	0.03
50N1078	C11B681K2AS5L	680	5 x 2.5/5.0	0.05	0.05	0.03	0.03
50N1079	C11B821K2AS5L	820	5 x 2.5/5.0	0.05	0.05	0.03	0.03
50N1080	C11B102K2AS5L	1000	5 x 2.5/5.0	0.05	0.05	0.03	0.03
50N1081	C11B122K2AS5L	1200	5 x 2.5/5.0	0.05	0.05	0.03	0.03
50N1082	C11B152K2AS5L	1500	5 x 2.5/5.0	0.05	0.05	0.03	0.03
50N1083	C11B182K2AS5L	1800	5 x 2.5/5.0	0.05	0.05	0.03	0.03
50N1084	C11B222K2AS5L	2200	5 x 2.5/5.0	0.05	0.05	0.03	0.03
50N1085	C11B272K2AS5L	2700	6 x 2.5/5.0	0.07	0.06	0.05	0.04
50N1086	C11B332K2AS5L	3300	7.5 x 2.5/5.0	0.07	0.06	0.05	0.04
50N1087	C11B392K2AS5L	3900	7.5 x 2.5/5.0	0.07	0.06	0.05	0.04
50N1088	C11B472K2AS5L	4700	8.5 x 2.5/5.0	0.07	0.06	0.05	0.04
50N1089	C11B562K2AS5L	5600	8.5 x 2.5/5.0	0.08	0.07	0.05	0.04
50N1090	C11B682K2AS5L	6800	9.5 x 5.0	0.08	0.07	0.05	0.04
500 VOLTS, ±10% TOLERANCE							
50N1091	C11B102K2HS5L	1000	6 x 2.5/5.0	0.07	0.06	0.05	0.04
50N1092	C11B152K2HS5L	1500	7.5 x 2.5/5.0	0.08	0.07	0.05	0.04
50N1093	C11B222K2HS5L	2200	8.5 x 2.5/5.0	0.10	0.09	0.07	0.05
50N1094	C11B332K2HS5L	3300	9.5 x 5.0	0.12	0.10	0.08	0.06
50N1095	C11B472K2HS5L	4700	9.5 x 5.0	0.13	0.11	0.08	0.07
50N1096	C11B682K2HS5L	6800	9.5 x 5.0	0.18	0.15	0.11	0.09
50N1097	C11B103K2HS5L	0.01μF	16.5 x 9.6	0.21	0.18	0.13	0.11

(39270) (ne39270)

HIGH-VOLTAGE CERAMIC DISC CAPACITORS

Capacitors are rated 1000WVDC. Test voltage: 2.5X rated voltage. Insulation resistance: 10,000MΩ or 200MΩμF, whichever is smaller. **Sold in multiples of 10.**

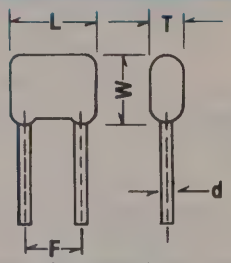
Stock No.	Type	Cap. pF	D x F (mm)	10-99	100-499	500-999	1000+
50N1098	C11B101K3AS6L	100	6.5 x 6.35	0.06	0.05	0.04	0.03
50N1099	C11B121K3AS6L	120	6.5 x 6.35	0.06	0.05	0.04	0.03
50N1100	C11B151K3AS6L	150	6.5 x 6.35	0.06	0.05	0.04	0.03
50N1101	C11B181K3AS6L	180	6.5 x 6.35	0.06	0.05	0.04	0.03
50N1102	C11B221K3AS6L	220	6.5 x 6.35	0.06	0.05	0.04	0.03
50N1103	C11B271K3AS6L	270	6.5 x 6.35	0.06	0.05	0.04	0.03
50N1104	C11B331K3AS6L	330	6.5 x 6.35	0.06	0.05	0.04	0.03
50N1105	C11B391K3AS6L	390	6.5 x 6.35	0.06	0.05	0.04	0.03
50N1106	C11B471K3AS6L	470	6.5 x 6.35	0.06	0.05	0.04	0.03
50N1107	C11B561K3AS6L	560	6.5 x 6.35	0.08	0.07	0.05	0.04
50N1108	C11B681K3AS6L	680	6.5 x 6.35	0.08	0.07	0.05	0.04
50N1109	C11B821K3AS6L	820	6.5 x 6.35	0.08	0.07	0.05	0.04
50N1110	C11B102K3AS6L	1000	6.5 x 6.35	0.08	0.07	0.05	0.04
50N1111	C11B152K3AS6L	1500	8.5 x 6.35	0.09	0.08	0.06	0.05
50N1112	C11B182K3AS6L	1800	8.5 x 6.35	0.11	0.09	0.07	0.06
50N1113	C11B222K3AS6L	2200	9.5 x 6.35	0.14	0.12	0.09	0.07
50N1114	C11B272K3AS6L	2700	11 x 6.35	0.18	0.15	0.11	0.09
50N1115	C11B332K3AS6L	3300	11 x 6.35	0.21	0.18	0.13	0.11
50N1116	C11B392K3AS6L	3900	14 x 9.52	0.21	0.18	0.13	0.11
50N1117	C11B472K3AS6L	4700	14 x 9.52	0.21	0.18	0.13	0.11
50N1118	C11B562K3AS6L	5600	15 x 9.52	0.30	0.25	0.19	0.15
50N1119	C11B682K3AS6L	6800	17 x 9.52	0.30	0.25	0.19	0.15
50N1120	C11B822K3AS6L	8200	17 x 9.52	0.39	0.33	0.24	0.20
50N1121	C11B103K3AS6L	0.01μF	19 x 9.52	0.39	0.33	0.24	0.20

(39272) (ne39272)

NEW

MULTILAYER CERAMIC CAPACITORS

RADIAL LEAD MULTILAYER CERAMIC CAPACITORS



Compact capacitors ideal for use where space is at a premium. Internal electrodes are resin sealed for reliabilty. Ceramic properties make these capacitors suitable for high-frequency applications. Epoxy powder coating resists solder build-up, solvents, and humidity. Nonpolar. Lead dia.(d): 0.020″ (0.508). **Sold in multiples of 25.**

DIMENSIONS (MM)

Size	L	W	T	F
R15	0.150″ (3.81)	0.150″ (3.81)	0.100″ (2.54)	0.100″ (2.54)
R15*	0.200″ (5.08)	0.200″ (5.08)	0.125″ (3.175)	0.100″ (2.54)
R20	0.200″ (5.08)	0.200″ (5.08)	0.160″ (4.06)	0.250″ (6.35)
R25	0.260″ (6.604)	0.250″ (6.35)	0.160″ (4.06)	0.300″ (7.62)
R30	0.300″ (7.62)	0.300″ (7.62)	0.150″ (3.81)	0.200″ (5.08)

NPO (1MHz, 1V RMS), ±5% TOLERANCE

Stock No.	Type	Cap.	VDC	Case Size	25-99	100-499	500-999
50N750	R15N101J1HL2L	100pF	50	R15	0.12	0.11	0.10
50N751	R15N121J1HL2L	120pF	50	R15	0.12	0.11	0.10
50N752	R15N151J1HL2L	150pF	50	R15	0.12	0.11	0.10
50N753	R15N181J1HL2L	180pF	50	R15	0.12	0.11	0.10
50N754	R15N221J1HL2L	220pF	50	R15	0.12	0.11	0.10
50N755	R15N271J1HL2L	270pF	50	R15	0.12	0.11	0.10
50N756	R15N331J1HL2L	330pF	50	R15	0.12	0.11	0.10
50N757	R15N391J1HL2L	390pF	50	R15	0.14	0.13	0.11
50N758	R15N471J1HL2L	470pF	50	R15	0.14	0.13	0.11
50N759	R15N561J1HL2L	560pF	50	R15	0.14	0.13	0.11
50N760	R20N681J1HL5L	680pF	50	R20	0.14	0.13	0.11
50N761	R20N821J1HL5L	820pF	50	R20	0.14	0.13	0.11
50N762	R20N102J1HL5L	1000pF	50	R20	0.14	0.13	0.11
50N763	R20N122J1HL5L	1200pF	50	R20	0.14	0.13	0.11
50N764	R20N152J1HL5L	1500pF	50	R20	0.14	0.13	0.11
50N765	R20N182J1HL5L	1800pF	50	R20	0.14	0.13	0.11
50N766	R20N222J1HL5L	2200pF	50	R20	0.14	0.13	0.11
50N767	R20N272J1HL5L	2700pF	50	R20	0.14	0.13	0.11
50N768	R20N332J1HL5L	3300pF	50	R20	0.14	0.13	0.11
50N769	R20N472J1HL5L	4700pF	50	R20	0.14	0.13	0.11
50N770	R25N682J1HL5L	6800pF	50	R25	0.14	0.13	0.11
50N771	R30N822J1HL5L	8200pF	50	R30	0.14	0.13	0.11
50N772	R30N103J1HL5L	0.01µF	50	R30	0.14	0.13	0.11
50N773	R15N151J1JL2L	150pF	63	R15	0.14	0.13	0.11
50N774	R15N181J1JL2L	180pF	63	R15	0.14	0.13	0.11
50N775	R15N391J1JL2L	390pF	63	R15	0.14	0.13	0.11
50N776	R15N471J1JL2L	470pF	63	R15	0.14	0.13	0.11
50N777	R20N102J1JL5L	1000pF	63	R20	0.14	0.13	0.11
50N778	R20N562J1JL5L	5600pF	63	R20	0.14	0.13	0.11
50N779	R30N183J1JA5L	0.018µF	63	R30	0.14	0.13	0.11
50N780	R15N100J2AL2L	10pF	100	R15	0.12	0.11	0.10
50N781	R15N120J2AL2L	12pF	100	R15	0.12	0.11	0.10
50N782	R15N150J2AL2L	15pF	100	R15	0.12	0.11	0.10
50N783	R15N180J2AL2L	18pF	100	R15	0.12	0.11	0.10
50N784	R15N220J2AL2L	22pF	100	R15	0.12	0.11	0.10
50N785	R15N270J2AL2L	27pF	100	R15	0.12	0.11	0.10
50N786	R15N330J2AL2L	33pF	100	R15	0.12	0.11	0.10
50N787	R15N390J2AL2L	39pF	100	R15	0.12	0.11	0.10
50N788	R15N470J2AL2L	47pF	100	R15	0.12	0.11	0.10
50N789	R15N560J2AL2L	56pF	100	R15	0.12	0.11	0.10
50N790	R15N680J2AL2L	68pF	100	R15	0.12	0.11	0.10
50N791	R15N820J2AL2L	82pF	100	R15	0.12	0.11	0.10
50N792	R15N101J2AL2L	100pF	100	R15	0.12	0.11	0.10
50N793	R15N121J2AL2L	120pF	100	R15	0.12	0.11	0.10
50N794	R15N151J2AL2L	150pF	100	R15	0.12	0.11	0.10
50N795	R15N181J2AL2L	180pF	100	R15	0.12	0.11	0.10
50N796	R20N221J2AL5L	220pF	100	R20	0.12	0.11	0.10
50N797	R20N271J2AL5L	270pF	100	R20	0.13	0.12	0.11
50N798	R20N331J2AL5L	330pF	100	R20	0.13	0.12	0.11
50N799	R20N391J2AL5L	390pF	100	R20	0.13	0.12	0.11
50N800	R20N471J2AL5L	470pF	100	R20	0.13	0.12	0.11
50N801	R20N561J2AL5L	560pF	100	R20	0.13	0.12	0.11
50N802	R20N681J2AL5L	680pF	100	R20	0.13	0.12	0.11
50N803	R20N821J2AL5L	820pF	100	R20	0.13	0.12	0.11
50N804	R20N102J2AL5L	1000pF	100	R20	0.13	0.12	0.11
50N805	R20N122J2AL5L	1200pF	100	R20	0.13	0.12	0.11
50N806	R20N152J2AL5L	1500pF	100	R20	0.13	0.12	0.11
50N807	R20N182J2AL5L	1800pF	100	R20	0.13	0.12	0.11
50N808	R20N222J2AL5L	2200pF	100	R20	0.13	0.12	0.11
50N809	R20N272J2AL5L	2700pF	100	R20	0.13	0.12	0.11
50N810	R30N123J2AL5L	0.012µF	100	R30	0.13	0.12	0.11

CONTINUED

RADIAL LEAD MULTILAYER CERAMIC CAPACITORS (CONT.)

Stock No.	Type	Cap.	VDC	Case Size	25-99	100-499	500-999
50N811	R30N183J2AL5L	0.018µF	100	R30	0.13	0.12	0.11

X7R (1KHz, 1V RMS), ±10% TOLERANCE

Stock No.	Type	Cap.	VDC	Case Size	25-99	100-499	500-999
50N812	R15W332K1HL2L	3300pF	50	R15	0.14	0.12	0.11
50N813	R15W472K1HL2L	4700pF	50	R15	0.14	0.12	0.11
50N814	R15W682K1HL2L	6800pF	50	R15	0.14	0.12	0.11
50N815	R15W103K1HL2L	0.01µF	50	R15*	0.14	0.12	0.11
50N816	R15W153K1HL2L	0.015µF	50	R15*	0.14	0.12	0.11
50N817	R15W223K1HL2L	0.022µF	50	R15*	0.14	0.12	0.11
50N818	R20W333K1HL5L	0.033µF	50	R20	0.15	0.13	0.12
50N819	R20W473K1HL5L	0.047µF	50	R20	0.17	0.15	0.13
50N820	R20W683K1HL5L	0.068µF	50	R20	0.22	0.19	0.17
50N821	R20W104K1HL5L	0.1µF	50	R20	0.24	0.21	0.19
50N822	R20W154K1HL5L	0.15µF	50	R20	0.28	0.24	0.22
50N823	R30W224K1HL5L	0.22µF	50	R30	0.55	0.47	0.42
50N824	R30W334K1HL5L	0.33µF	50	R30	0.65	0.56	0.50
50N825	R30W474K1HL5L	0.47µF	50	R30	0.72	0.62	0.55
50N826	R30W684K1HL5L	0.68µF	50	R30	0.72	0.62	0.55
50N827	R30W105K1HL5L	1µF	50	R30	0.75	0.64	0.58
50N828	R30W154K1JL5L	0.15µF	63	R30	0.75	0.64	0.58
50N829	R15W471K2AL2L	470pF	100	R15	0.75	0.64	0.58
50N830	R15W681K2AL2L	680pF	100	R15	0.75	0.64	0.58
50N831	R15W102K2AL2L	1000pF	100	R15	0.13	0.11	0.10
50N832	R15W152K2AL2L	1500pF	100	R15	0.13	0.11	0.10
50N833	R15W222K2AL2L	2200pF	100	R15	0.13	0.11	0.10
50N834	R15W332K2AL2L	3300pF	100	R15	0.13	0.11	0.10
50N835	R15W472K2AL2L	4700pF	100	R15	0.13	0.11	0.10
50N836	R15W682J2AL2L	6800pF	100	R15	0.16	0.14	0.13
50N837	R15W103K2AL2L	0.01µF	100	R15*	0.16	0.14	0.13
50N838	R15W153K2AL2L	0.015µF	100	R15*	0.16	0.14	0.13
50N839	R15W223K2AL2L	0.022µF	100	R15*	0.16	0.14	0.13
50N840	R15W333K2AL2L	0.033µF	100	R15*	0.17	0.15	0.13
50N841	R15W473K2AL2L	0.047µF	100	R15*	0.17	0.15	0.13
50N842	R15W683K2AL2L	0.068µF	100	R15*	0.28	0.24	0.22
50N843	R30W104K2AL2L	0.1µF	100	R30	0.17	0.15	0.13
50N844	R30W154K2AL5L	0.15µF	100	R30	0.28	0.24	0.22

Z5U (1KHz, 0.5V RMS), ±20% TOLERANCE

Stock No.	Type	Cap.	VDC	Case Size	25-99	100-499	500-999
50N845	R15Z103M1HL2L	0.01µF	50	R15*	0.13	0.11	0.10
50N846	R15Z223M1HL2L	0.022µF	50	R15*	0.13	0.11	0.10
50N847	R15Z473M1HL2L	0.047µF	50	R15*	0.13	0.11	0.10
50N848	R15Z104M1HL2L	0.1µF	50	R15*	0.13	0.11	0.10
50N849	R20Z224M1HL5L	0.22µF	50	R20	0.17	0.15	0.13
50N850	R30Z474M1HL5L	0.47µF	50	R30	0.32	0.28	0.25
50N851	R30Z105M1HL5L	1µF	50	R30	0.39	0.34	0.30
50N852	R30Z225M1HL5L	2.2µF	50	R30	0.39	0.34	0.30
50N853	R20Z223M1JL5L	0.022µF	63	R20	0.12	0.11	0.10

(35883) (ne35883)

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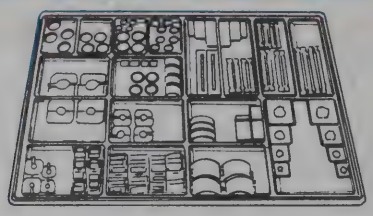
EMI SUPPRESSION ENGINEERING DESIGN KIT

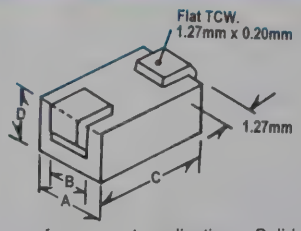


Kit is designed to allow engineers and laboratories to select the right ferrite. Ideally suited for design work, prototyping, and parts testing. Kit contains 90 parts in 35 different sizes.

50N673 Type SPC5307 Engineering Kit. **Each** **399.99**
(35673) (ne35673)

SURFACE MOUNT FERRITE BEAD INDUCTORS

SMD



Chip beads are ideal for surface mount applications. Solid, flat, oxygen-free tinned copper conductor. **Sold in reels of 500.**

Stock No.	Type	Dimensions (mm) A	B	C	D	RDC (MΩ)	Impedance 25MHz	100MHz	Reel of 500
50N670	SPC5304	3.00	1.45	4.00	2.55	0.60	20Ω	35Ω	**69.99**
50N667	SPC5301	3.00	1.45	8.50	2.55	0.90	50Ω	85Ω	**69.99**

(35525) (ne35525)

SPLIT SLEEVE EMI SUPPRESSION CORES WITH PLASTIC CASE

Suppression cores for round cables attenuate any form of EMI emission. Nylon case for easy assembly. Ideal for use in equipment where retrofit and test are a necessity. Impedance values based on single-turn measurements.

Type	Dimensions (mm) A	B	C	D	Impedance 25MHz	100MHz	Cable Diameter (mm) From	To
SPC5302	19.80	6.50	19.20	32.70	133Ω	308Ω	5.5	6.5
SPC5300	30.50	13.05	30.30	32.70	137Ω	268Ω	12.0	13.0

Stock No.	Type	1-49	50-99	100-249	250-499
50N668	SPC5302	**1.95**	**1.66**	**1.50**	**1.35**
50N666	SPC5300	**5.65**	**4.81**	**4.33**	**3.90**

(35535) (ne35535)

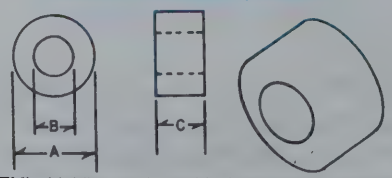
WOUND EMI SHIELD BEADS

6-hole beads are wound with tinned, oxygen-free, high-conductivity copper wire. Type A6 material. Size: 10.00L x 6.00mm dia. Lead dia.: 0.85mm. **Sold in packages of 500.**

Stock No.	Type	Turns	Impedance 25MHz	100MHz	Per Pkg.
50N669	SPC5303	2.5	620Ω	600Ω	**99.99**

(35536) (ne35536)

FERRITE BEAD CORES



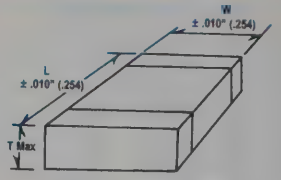
Bead cores offer EMI shielding and provide impedance specification over a wide frequency range. Ideal for use on wire assemblies and MATV/CATV industries.

Stock No.	Type	Impedance @100MHz	Dimensions (mm) A	B	C	1-49	50-99	100-249
50N671	SPC5305	218Ω	14.20	6.35	28.50	**0.59**	**0.51**	**0.46**
50N672	SPC5306	178Ω	17.50	8.76	28.50	**0.59**	**0.51**	**0.46**

(35537) (ne35537)

CERAMIC SURFACE MOUNT CHIP CAPACITORS

SMD



Chip capacitors available in standard EIA sizes. NPO (COG), X7R, Z5U temperature coefficients, 50V. NPO, Class I, offer stable capacitor dielectric. Typical capacitance change with life less than ±0.1%. Temperature coefficient: 0 ±30ppm/°C from –55°C to +125°C. X7R, Class II, are the most temperature stable. Suitable for bypass and decoupling applications, filtering, frequency discrimination, DC blocking, and voltage suppression. Temperature coefficient: ±15% Δ°C from –55°C to +125°C. Z5U, Class III, are useful in bypass and decoupling. Temperature coefficient: +22% to –56% Δ°C max. from +10°C to +85°C. **Sold in multiples of 25.**

DIMENSIONS

EIA Size	Length	Width	Thickness (max.)	Endband (min.)
0603	0.060″ (1.50)	0.030″ (0.75)	0.035″ (0.90)	0.010″ (0.25)
0805	0.080″ (2.03)	0.050″ (1.27)	0.050″ (1.27)	0.020″ (0.508)
1206	0.125″ (3.18)	0.062″ (1.58)	0.050″ (1.27)	0.020″ (0.508)
1210	0.125″ (3.18)	0.095″ (2.41)	0.065″ (1.65)	0.020″ (0.508)
1812	0.175″ (4.45)	0.125″ (3.18)	0.065″ (1.65)	0.020″ (0.508)
1825	0.175″ (4.45)	0.250″ (6.30)	0.065″ (1.65)	0.020″ (0.508)
2225	0.220″ (5.60)	0.250″ (6.30)	0.080″ (2.03)	0.020″ (0.508)

NPO ±5% TOLERANCE

Stock No.	Type	Cap. (pF)	EIA Size	25-99	100-499	500-999	1000-4999
50N710	S0603N221J1HRN-P4	220	0603	**0.04**	**0.04**	**0.03**	**0.02**
50N711	S0805N101J1HRN-P4	100	0805	**0.04**	**0.04**	**0.03**	**0.02**
50N712	S0805N471J1HRN-P4	470	0805	**0.07**	**0.06**	**0.05**	**0.04**
50N713	S1206N100J1HRN-P4	10	1206	**0.06**	**0.06**	**0.04**	**0.03**
50N714	S1206N470J1HRN-P4	47	1206	**0.06**	**0.06**	**0.04**	**0.03**
50N715	S1206N101J1HRN-P4	100	1206	**0.06**	**0.06**	**0.04**	**0.03**
50N716	S1206N151J1HRN-P4	150	1206	**0.07**	**0.06**	**0.05**	**0.04**
50N717	S1206N181J1HRN-P4	180	1206	**0.07**	**0.06**	**0.05**	**0.04**
50N718	S1206N221J1HRN-P4	220	1206	**0.07**	**0.06**	**0.05**	**0.04**
50N719	S1206N271J1HRN-P4	270	1206	**0.07**	**0.06**	**0.05**	**0.04**
50N720	S1206N561J1HRN-P4	560	1206	**0.07**	**0.06**	**0.05**	**0.04**
50N721	S1206N102J1HRN-P4	1000	1206	**0.07**	**0.06**	**0.05**	**0.04**
50N722	S1206N152J1HRN-P4	1500	1206	**0.07**	**0.06**	**0.05**	**0.04**
50N723	S1206N222J1HRN-P4	2200	1206	**0.07**	**0.06**	**0.05**	**0.04**
50N724	S1210N102J1HRN-P4	1000	1210	**0.07**	**0.06**	**0.05**	**0.04**
50N725	S1210N332J1HRN-P4	3300	1210	**0.07**	**0.06**	**0.05**	**0.04**
50N726	S1210N472J1HRN-P4	4700	1210	**0.07**	**0.06**	**0.05**	**0.04**

X7R, ±10% TOLERANCE

50N727	S0805W471K1HRN-P4	470	0805	**0.07**	**0.06**	**0.05**	**0.04**
50N728	S0805W102K1HRN-P4	1000	0805	**0.07**	**0.06**	**0.05**	**0.04**
50N729	S0805W222K1HRN-P4	2200	0805	**0.07**	**0.06**	**0.05**	**0.04**
50N730	S0805W103K1HRN-P4	10000	0805	**0.07**	**0.06**	**0.05**	**0.04**
50N731	S0805W104K1HRN-P4	100000	0805	**0.07**	**0.06**	**0.05**	**0.04**
50N732	S1206W102K1HRN-P4	1000	1206	**0.07**	**0.06**	**0.05**	**0.04**
50N733	S1206W472K1HRN-P4	4700	1206	**0.07**	**0.06**	**0.05**	**0.04**
50N734	S1206W103K1HRN-P4	10000	1206	**0.07**	**0.06**	**0.05**	**0.04**
50N735	S1206W223K1HRN-P4	22000	1206	**0.07**	**0.06**	**0.05**	**0.04**
50N736	S1206W473K1HRN-P4	47000	1206	**0.07**	**0.06**	**0.05**	**0.04**
50N737	S1206W104K1HRN-P4	100000	1206	**0.07**	**0.06**	**0.05**	**0.04**
50N738	S1210W473K1HRN-P4	47000	1210	**0.07**	**0.06**	**0.05**	**0.04**
50N739	S1210W104K1HRN-P4	100000	1210	**0.07**	**0.06**	**0.05**	**0.04**
50N740	S1210W154K1HRN-P4	150000	1210	**0.07**	**0.06**	**0.05**	**0.04**
50N741	S1812W224K1HRN-P3	220000	1812	**0.07**	**0.06**	**0.05**	**0.04**
50N742	S2225W105K1HRN-P2	1M	2225	**0.07**	**0.06**	**0.05**	**0.04**

Z5U, ±20% TOLERANCE

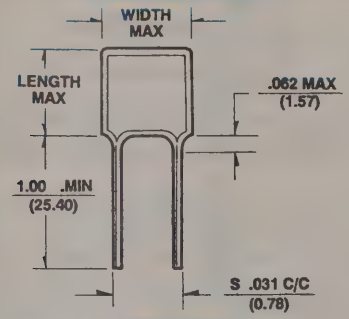
50N743	S0805Z103M1HRN-P4	10000	0805	**0.07**	**0.06**	**0.05**	**0.04**
50N744	S0805Z104M1HRN-P4	100000	0805	**0.07**	**0.06**	**0.05**	**0.04**
50N745	S1206Z104M1HRN-P4	100000	1206	**0.07**	**0.06**	**0.05**	**0.04**
50N746	S1210Z104M1HRN-P4	100000	1210	**0.07**	**0.06**	**0.05**	**0.04**
50N747	S1210Z224M1HRN-P4	220000	1210	**0.07**	**0.06**	**0.05**	**0.04**
50N748	S1210Z274M1HRN-P4	270000	1210	**0.07**	**0.06**	**0.05**	**0.04**
50N749	S1825Z105M1HRN-P3	1M	1825	**0.07**	**0.06**	**0.05**	**0.04**

(35674) (ne35674)

ALL PRODUCTS LISTED ARE STOCKED.

CERAMIC CAPACITORS

RADIAL LEAD EPOXY COATED MONOLITHIC CERAMIC CAPACITORS



SIZE CODE

Code	Maximum Dimensions				
				Lead	
	Length	Width	Thick	Spacing	Dia.
A	0.150″	0.150″	0.100″	0.100″	0.020″
B	0.200″	0.200″	0.125″	0.100″	0.020″
C	0.300″	0.300″	0.150″	0.200″	0.020″
D	0.400″	0.400″	0.150″	0.200″	0.020″

CN SERIES ULTRA-STABLE

COG (NPO) temperature characteristic. 0±30ppm/°C max. change from +25°C over range +25°C to +125°C. Working voltage: 50VDC. **J suffix** = ±5% tolerance; **K suffix** = ±10%. **Sold in multiples of 25.**

Stock No.	Type	Cap. pF	Size Code	25-49	50-99	100-249	250-499
20F1410	CN15A100K	10	A	0.10	0.09	0.08	0.08
20F1411	CN15A150K	15	A	0.10	0.09	0.08	0.08
20F1412	CN15A220K	22	A	0.10	0.09	0.08	0.08
20F1413	CN15A330K	33	A	0.10	0.09	0.08	0.08
20F1414	CN15A470K	47	A	0.10	0.09	0.08	0.08
20F1415	CN15A680K	68	A	0.10	0.09	0.08	0.08
20F1416	CN15A101K	100	A	0.10	0.09	0.08	0.08
20F1417	CN15A151K	150	A	0.11	0.10	0.09	0.08
20F1418	CN15A221K	220	A	0.12	0.10	0.10	0.09
20F1419	CN-15A331K	330	A	0.12	0.11	0.10	0.09
20F1420	CN20A471K	470	A	0.12	0.11	0.10	0.09
20F1421	CN20A681K	680	A	0.16	0.14	0.13	0.12
20F1422	CN20A102K	0.001μF	B	0.15	0.13	0.12	0.11
57F8003	CN20A102J	0.001μF	B	0.93	0.82	0.77	0.71
20F1423	CN20A152K	0.0015μF	B	0.19	0.16	0.15	0.14
20F1424	CN30A222K	0.0022μF	B	0.27	0.24	0.22	0.21
20F1425	CN30A332K*	0.0033μF	B	0.31	0.27	0.26	0.24
20F1426	CN30A472J*	0.0047μF	B	0.73	0.64	0.60	0.56
89F274	CN30C103J*	0.01μF	C	0.68	0.60	0.56	0.52
20F1428	CN-30A103K	0.01μF	C	0.51	0.45	0.42	0.39

*50 WVDC

CY SERIES GENERAL PURPOSE

Offer epoxy coating, high capacitance, miniature size. Ideal for PC board installations in noncritical bypass, coupling and filtering applications. Working voltage: 50VDC. Y5V temperature characteristic (+22 to –82% max. capacitance change over range of –30°C to +85°C). Tolerance ±20%, except **P suffix** +100, 0% (GMV). Lead spacing 0.1″ (2.54), except * 0.2″ (5.08). **Sold in multiples of 25.**

Stock No.	Type	Cap. μF	Size Code	25-49	50-99	100-249	250-499
20F1437	CY15C103M	0.01	A	0.08	0.07	0.07	0.06
20F1440	CY15C223M	0.022	A	0.08	0.08	0.07	0.07
20F1444	CY20C104M	0.1	A	0.09	0.08	0.07	0.07
20F1446	CY20C154M	0.15	B	0.10	0.08	0.08	0.07
20F1451	CY30C105M*	1.0	C	0.33	0.29	0.27	0.25

CW SERIES TEMPERATURE STABLE

X7R temperature characteristic. ±15% max. capacitance change from +25°C over range –55°C to +125°C. Tolerance ±10% except types with **suffix M** ±20%. Working voltage: 50VDC. All lead spacing 0.1″ (2.54) except **suffix VC** 0.2″ (5.08) spacing. **Sold in multiples of 25.**

Stock No.	Type	Cap. pF	Size Code	25-49	50-99	100-249	250-499
31F1236	CW15C221K	220	A	0.09	0.08	0.07	0.07
31F1277	CW15C331K	330	A	0.09	0.08	0.07	0.07
31F1275	CW15C471K	470	A	0.09	0.08	0.07	0.07
31F1278	CW15C681K	680	A	0.09	0.08	0.07	0.07
31F1227	CW15C821M	820	A	0.09	0.08	0.07	0.07
31F1272	CW15C102K	0.001μF	A	0.11	0.10	0.09	0.08
31F1258	CW15C102M	0.001μF	A	0.11	0.09	0.09	0.08
31F1234	CW15C122K	0.0012μF	A	0.09	0.08	0.07	0.07
31F1274	CW15C152K	0.0015μF	A	0.09	0.08	0.07	0.07
31F1270	CW15C222K	0.0022μF	A	0.09	0.08	0.07	0.07

CONTINUED

RADIAL LEAD EPOXY COATED MONOLITHIC CERAMIC CAPACITORS (CONT.)

Stock No.	Type	Cap. pF	Size Code	25-49	50-99	100-249	250-499
31F1220	CW15C332K	0.0033μF	A	0.10	0.09	0.08	0.08
31F1245	CW15C392K	0.0039μF	A	0.10	0.09	0.08	0.08
31F1257	CW15C472K	0.0047μF	A	0.10	0.09	0.08	0.08
31F1271	CW15C682K	0.0068μF	A	0.10	0.09	0.08	0.07
31F1260	CW15C822K	0.0082μF	A	0.10	0.09	0.08	0.08
31F1251	CW15C103K	0.01μF	A	0.11	0.10	0.09	0.08
31F1269	CW15C103M	0.01μF	A	0.10	0.09	0.08	0.08
31F1254	CW15C153K	0.015μF	A	0.11	0.09	0.09	0.08
31F1212	CW20C223K	0.022μF	A	0.13	0.11	0.11	0.10
31F1226	CW20C273K	0.027μF	A	0.13	0.12	0.11	0.10
31F1248	CW20C333K	0.033μF	A	0.15	0.13	0.12	0.11
31F1233	CW20C473K	0.047μF	B	0.15	0.13	0.13	0.12
31F1273	CW20C563K	0.056μF	B	0.17	0.15	0.14	0.13
31F1239	CW20C683K	0.068μF	B	0.18	0.16	0.15	0.14
14F3097	CW20C104K	0.1μF	B	0.14	0.13	0.12	0.11
81F9082	CW-20C104KVC	0.1μF	B	0.14	0.13	0.12	0.11
14F3098	CW20C104M	0.1μF	B	0.14	0.12	0.11	0.11
31F1224	CW30C154K	0.15μF	B	0.38	0.34	0.32	0.29
31F1217	CW30C224K	0.22μF	B	0.58	0.51	0.48	0.44
31F1256	CW15A102K*	0.001μF	A	0.11	0.10	0.10	0.09

*100WVDC

CZ SERIES GENERAL PURPOSE

Z5U temperature characteristic. +22% –56% max. capacitance change from +25°C over range +10°C to 85°C. Working voltage: 50VDC (except where noted). Lead spacing 0.1″ (2.54), except suffix **VC** 0.2″ (5.08). **Sold in multiples of 25.**

Stock No.	Type	Cap. μF	Size Code	25-49	50-99	100-249	250-499
14F3059	CZ15C102M	0.001	A	0.07	0.07	0.06	0.06
14F3060	CZ15C222M	0.0022	A	0.08	0.07	0.06	0.06
14F3064	CZ15C103M	0.01	A	0.09	0.08	0.07	0.07
14F3065	CZ15C223M	0.022	A	0.09	0.08	0.08	0.07
14F3067	CZ20C473M	0.047	A	0.10	0.08	0.08	0.07
14F3068	CZ20C683M	0.068	A	0.10	0.09	0.09	0.08
14F3069	CZ20C104M	0.1	A	0.09	0.08	0.07	0.07
81F9091	CZ20C104MVC	0.1	A	0.62	0.55	0.51	0.47
14F3070	CZ20C224M	0.22	B	0.14	0.13	0.12	0.11
14F3071	CZ30C334M	0.33	B	0.16	0.14	0.13	0.12
14F3072	CZ30C474M	0.47	C	0.20	0.18	0.17	0.15
14F3073	CZ30C684M	0.68	C	0.26	0.23	0.21	0.20
14F3074	CZ30C105M	1	C	0.34	0.30	0.28	0.26
14F3076	K225M40Z5UFVCXF	2.2	D	2.05	1.85	1.64	1.44
14F3080	CZ15A103M*	0.01	A	0.10	0.08	0.08	0.07
14F3086	CZ20A104M*	0.1	B	0.13	0.11	0.10	0.10
14F3088	CZ30A224M*	0.22	C	0.32	0.28	0.27	0.25
14F3090	CZ30A474M*	0.47	C	0.44	0.39	0.36	0.34

*100WVDC
(7353)

(de52495)

ALL PRODUCTS LISTED ARE STOCKED.

UK SERIES LOW-VOLTAGE CERAMIC DISC CAPACITORS

• Semiconductor Design

These reduced titanite devices provide 50 to 100 times greater capacitance than standard ceramic discs. Excellent for bypass and coupling applications in power supply, audio, IF and other low voltage circuits. Phenolic coated. Operating temperature: –30°C to +85°C. Lead length 1.0″(25.40) min. Capacitance characteristics @ +25°C. **Sold in multiples of 25.**

TEMPERATURE CHARACTERISTIC

First Digit is Lower Temperature	Second Digit is Highest Temperature	Third Digit is Percent Change Allowed
Y –30°C	5 +85°C	P ±10%
Z +10°C		S ±22%
		U +22/–56%
		V +22/–82%

SIZE CODES FOR UK SERIES CAPACITORS

Size Code	Max. Dia.	Max. Thick.	Lead Space	Size Code	Max. Dia.	Max. Thick.	Lead Space
A	0.197″	0.157″	0.250″	E	0.394″	0.157″	0.375″
B	0.256″	0.157″	0.250″	F	0.490″	0.157″	0.375″
C	0.290″	0.157″	0.250″	G	0.590″	0.157″	0.375″
D	0.310″	0.157″	0.375″	...	...	...	...

Stock No.	Type	Cap. µF	WV DC	Size Code	Temp. Coeff.	25-49	50-99	100-249
67F5001	UK12-503*	0.05	12	B	Y5S	0.23	0.20	0.17
67F5002	UK12-104*	0.1	12	D	Y5S	0.19	0.16	0.14
19F1267	UK16-103	0.01	16	A	Y5S	0.13	0.11	0.10
19F1268	UK16-223	0.022	16	A	Y5S	0.23	0.19	0.17
19F1270	UK16-104	0.1	16	D	Y5S	0.24	0.21	0.18
19F1271	UK25-103*	0.01	25	A	Y5P	0.13	0.11	0.10
19F1272	UK25-223	0.022	25	B	Y5P	0.23	0.19	0.17
19F1273	UK25-503*	0.05	25	C	Y5P	0.18	0.15	0.13
19F1274	UK25-104	0.1	25	F	Y5P	0.25	0.22	0.19
19F400	UK50-103*	0.01	50	A	Y5P	0.15	0.13	0.11
19F403	UK50-503	0.05	50	E	Y5P	0.38	0.33	0.29
19F404	UK50-104	0.1	50	G	Y5P	0.49	0.42	0.37

*Also available on tape and reel in 2000-piece increments; *contact your local Newark sales office.*
(7348) (de52476)

DDA SERIES LOW-VOLTAGE GENERAL PURPOSE CERAMIC DISC CAPACITORS

Designed to fulfill most solid-state circuitry demands including non-critical bypass and coupling. Operating temperature range: +10°C to +85°C. Durez coated. Tinned wire leads. 1.0″(25.40) min. length. Dielectric Strength: 250% of rated working voltage. **Sold in multiples of 25.**

SIZE CODES

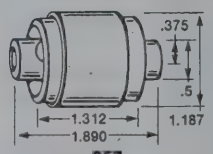
Size Code	Max. Dia.	Max. Thick.	Lead Space	Size Code	Max. Dia.	Max. Thick.	Lead Space
D	0.310″	0.157″	0.250″	H	0.590″	0.157″	0.375″
F	0.690″	0.157″	0.375″	K	0.930″	0.177″	0.375″
G	0.720″	0.171″	0.375″	...	...	...	...

Stock No.	Type	Cap. µF	WV DC	Size Code	Temp. Coeff.	25-49	50-99
67F5006	DC-103†	0.01	100	D	Z5V	0.16	0.13
67F5010	DC-503	0.05	100	F	Z5V	0.34	0.29
67F5011	DC-104	0.1	100	G	Z5V	1.36	1.16
67F5012	DD6-103	0.01	600	H	Z5U	0.19	0.17
19F340	DD-203	0.02	600	H	Z5U	0.31	0.26
19F539	DD-503	0.05	600	K	Z5U	1.57	1.34
67F5018	DD-104	0.1	600	K	Z5U	2.05	1.74

† Also available on tape and reel in 2000-piece increments; *contact your local Newark sales office.*
(7350) (de52478)

TRANSMITTING CERAMIC CAPACITORS

850S/858S



857

8530/8540/8550

Types 850S, 858S threaded terminals. 7500 working VDC except (*) 5000VDC. **857 series** threaded terminals. 15,000VDC except (*) 7,500VDC. **Types 8540 and 8550** wire leads. Rated 5,000VDC.

THREADED TERMINALS

Stock No.	Type	Temp. Char.	Cap. pF	Tol.	1-4	5-9	10-24
19F248	850S-25Z	NPO	25	±10%	31.80	27.82	23.85
19F254	850S-50Z	NPO	50	±10%	31.80	27.82	23.85
19F251	850S-75N	N750	75	±10%	28.12	24.61	21.09
19F252	850S-100N*	N750	100	±10%	28.12	24.61	21.09
19F253	858S-500*	X5T	500	±20%	26.61	23.29	19.96
19F249	858S-1000*	X5U	10k	±20%	26.61	23.29	19.96
19F454	857-25Z	NPO	25	±10%	73.86	64.63	55.40
19F455	857-50Z	NPO	50	±10%	85.85	75.12	64.39
19F456	857-100N	N750	100	±10%	73.86	64.63	55.40
19F457	857-200N*	N750	200	±10%	73.86	64.63	55.40

AXIAL LEADED

Stock No.	Type	Temp. Char.	Cap. pF	Tol.	L x Dia.	1-4	5-9	10-24
19F270	854-10Z	NPO	10	±10%	0.375 x 0.375″	27.87	24.39	20.91
19F268	855-3Z	NPO	3	±10%	0.437 x 0.500″	31.80	27.82	23.85

(7352) (de52494)

CK SERIES LOW-VOLTAGE GENERAL PURPOSE CERAMIC DISC CAPACITORS

Designed for high capacity low voltage demands of transistor circuitry. #22 tinned leads. 1.0″ (25.40) minimum length. Power factor: 3% max. Insulation: phenolic vacuum. Operating temperature: +10°C to +80°C. Working voltage: 50VDC. Tolerance: +80%, –20%. Temperature coefficient: Z5V. **Sold in multiples of 25.**

SIZE CODES FOR CK SERIES CAPACITORS

Size Code	Max. Dia.	Max. Thick.	Lead Space	Size Code	Max. Dia.	Max. Thick.	Lead Space
A	0.197″	0.157″	0.250″	F	0.590″	0.218″	0.375″
B	0.256″	0.157″	0.250″	...	...	...	...

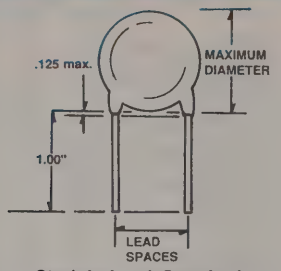
Stock No.	Type	Cap. µF	Size Code	25-49	50-99	100-249
19F1223	CK-502	0.005	A	0.14	0.12	0.10
19F1224	CK-103†	0.01	B	0.14	0.12	0.11
19F1229	CK-104	0.1	F	1.14	0.97	0.85

† Also available on tape and reel in 2000-piece increments; *contact your local Newark sales office.*
(7349) (de52477)

CONTACT NEWARK FOR LARGE-QUANTITY PRICING.

CERAMIC DISC AND FILM CAPACITORS

DD SERIES 1000WVDC CERAMIC DISC



Straight Lead, Standard

Use in non-critical coupling, bypass, and filter applications. High dielectric units offer small size, tight tolerance, humidity-resistant coating. Operating temperature: –55°C to +85°C. Tolerance: ±10% unless noted. **Sold in multiples of 25.**

DIMENSIONS

Code	Max. Dia.	Max. Thickness	Lead Spacing
A	0.197″	0.177″	0.250″
B	0.256″	0.177″	0.250″
C	0.290″	0.177″	0.250″
D	0.310″	0.177″	0.250″
E	0.394″	0.177″	0.250″
F	0.472″	0.177″	0.250″
G	0.590″	0.177″	0.375″
H	0.960″	0.236″	0.375″

Stock No.	Type	Cap. pF	Size	25-99	100-249	250-499	500-999
19F300	DD-3R3	3.3±0.5pF	A	0.12	0.11	0.09	0.08
19F301	DD-050	5	A	0.12	0.11	0.09	0.08
19F302	DD-6R8	6.8	A	0.12	0.11	0.09	0.08
19F303	DD-100	10	B	0.12	0.11	0.09	0.08
19F344	DD-120	12	B	0.12	0.11	0.09	0.08
19F304	DD-150	15	B	0.12	0.11	0.09	0.08
19F305	DD200	20	C	0.12	0.11	0.09	0.08
19F346	DD-220	22	C	0.12	0.11	0.09	0.08
19F306	DD-250	25	C	0.12	0.11	0.09	0.08
19F348	DD270	27	D	0.12	0.11	0.09	0.08
19F349	DD-300	30	D	0.12	0.11	0.09	0.08
19F307	DD-330	33	E	0.12	0.11	0.09	0.08
19F309	DD-470	47	E	0.12	0.11	0.09	0.08
19F310	DD-500	50	B	0.12	0.11	0.09	0.08
19F311	DD-560	56	B	0.12	0.11	0.09	0.08
19F312	DD-680	68	B	0.12	0.11	0.09	0.08
19F313	DD-750	75	B	0.12	0.11	0.09	0.08
19F358	DD-820	82	B	0.12	0.11	0.09	0.08
19F314	DD-101	100	C	0.12	0.11	0.09	0.08
19F315	DD-121	120	C	0.12	0.11	0.09	0.08
19F316	DD-151	150	D	0.12	0.11	0.09	0.08
19F318	DD201	200	E	0.12	0.11	0.09	0.08
19F319	DD-221	220	B	0.12	0.11	0.09	0.08
19F320	DD-251	250	B	0.12	0.11	0.09	0.08
19F321	DD-271	270	B	0.12	0.11	0.09	0.08
19F323	DD-331	330	B	0.12	0.11	0.09	0.08
19F324	DD-391	390	B	0.12	0.11	0.09	0.08
19F325	DD-471	470	B	0.12	0.11	0.09	0.08
19F326	DD-501	500	C	0.12	0.11	0.09	0.08
19F327	DD-561	560	D	0.12	0.11	0.09	0.08
19F328	DD-681	680	C	0.12	0.11	0.09	0.08
19F380	DD821	820	C	0.12	0.11	0.09	0.08
19F331	DD-102	0.001µF	C	0.14	0.12	0.10	0.09
19F532	DD-102G	0.001µF	B	0.15	0.13	0.11	0.10
19F332	DD-152	0.0015µF	E	0.14	0.12	0.10	0.09
19F333	DD-202	0.002µF*	C	0.14	0.12	0.10	0.09
19F385	DD-222	0.0022*	C	0.14	0.12	0.10	0.09
19F334	DD-302	0.003µF*	D	0.14	0.12	0.10	0.09
19F388	DD-332	0.0033µF*	E	0.14	0.12	0.10	0.09
19F335	DD-472	0.0047µF*	E	0.19	0.16	0.14	0.12
19F337	DD-502	0.005µF#	F	0.22	0.19	0.17	0.15
19F339	DD103	0.010µF#	G	0.30	0.26	0.23	0.20
19F338	DD-1032	0.010µF*	G	0.34	0.29	0.26	0.22

* ±20% tolerance; # GMV:+100%-0%. **GMV tolerance; 600V dual capacitance.

(7410) (ne52480)

METALIZED POLYESTER FILM GENERAL PURPOSE CAPACITOR KIT

Series 370/371/372 general purpose capacitor kit contains approximately 300 pieces. Metalized polyester film capacitors for coupling/decoupling. Pitches 5, 7.5 and 10mm. Rated capacitance range 1 to 2200nF. Tolerance: ±10%, ±5%. Rated voltage (DC): 63V, 100V, 250V, 400V. Rated temperature: 85°C.

95F3701 Type 8204-110-64211. **Each** **79.99**

(7303) (de02598)

DD30/60 SERIES CERAMIC DISC CAPACITORS

High-voltage capacitors for filtering, blocking, voltage-multiplier applications. **Type DD30** are 3000VDC; **type DD60** are 6000VDC. Tolerance: 20%. Operating temp: –55°C to +125°C. **Sold in multiples of 25.**

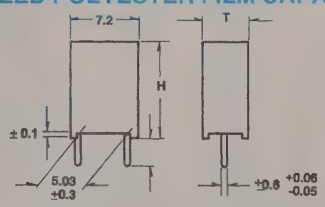
DIMENSIONS

Code	Max. Dia	Max. Thickness	Lead Spacing
A	0.350″	0.236″	0.250″
B	0.430″	0.236″	0.250″
C	0.630″	0.203″	0.375″
D	0.630″	0.236″	0.375″
E	0.660″	0.313″	0.375″
F	0.730″	0.236″	0.375″
G	0.760″	0.313″	0.375″
H	0.960″	0.236″	0.375″

Stock No.	Type	Cap. pF	Size Code	25-49	50-99	100-249
19F203	DD30-100	10	A	0.41	0.34	0.31
19F217	DD30-101	100	A	0.58	0.49	0.44
19F230	DD30-501	500	A	0.35	0.30	0.26
19F234	DD30-102	0.001µF	B	0.58	0.49	0.44
19F238	DD30-222	0.002µF	C	0.97	0.82	0.73
19F241	DD30-302	0.003µF	D	0.94	0.80	0.71
19F242	DD30-502	0.005µF	F	0.83	0.71	0.63
46F8192	DD30-103	0.010µF	H	1.33	1.13	1.00
19F495	DD60-102	0.001µF	E	1.11	0.94	0.83
19F498	DD60-202	0.002µF	G	1.70	1.44	1.27

(7351) (de52482)

METALIZED POLYESTER FILM CAPACITORS



Capacitance tolerance ±10%. Operating temperature: –55 to 85°C. Molded, 5mm pitch.

63 VOLTS

Stock No.	Type	Cap. (µF)	Dimensions T (max.)	Dimensions H (max.)	1-49
95F3680	2222 370 11105	1	0.236″ (6.00)	0.433″ (11.00)	0.54
100 VOLTS					
89F5284	2222 370 21104	0.10	0.138″ (3.50)	0.315″ (8.00)	0.21
95F3687	2222 370 21224	0.22	0.177″ (4.50)	0.354″ (9.00)	0.29
95F3688	2222 370 21334	0.33	0.197″ (5.00)	0.393″ (10.00)	0.35
250 VOLTS					
89F5282	2222 370 41103	0.01	0.098″ (2.50)	0.256″ (6.50)	0.13
95F3692	2222 370 41223	0.022	0.138″ (3.50)	0.315″ (8.00)	0.15
95F3693	2222 370 41333	0.033	0.138″ (3.50)	0.315″ (8.00)	0.17
95F3694	2222 370 41473	0.047	0.177″ (4.50)	0.354″ (9.00)	0.20
95F3696	2222 370 41104	0.1	0.236″ (6.00)	0.433″ (11.00)	0.27

(7302) (de02597)

POLYPROPYLENE FILM CAPACITOR KIT

Series 460 to 464 Polypropylene film capacitors. Precision capacitors for filtering, tuning and timing. Rated capacitance range: 47 to 62000pF. Tolerance: 2% (1% also available; *contact your local Newark sales office*). Rated voltage: 63 V, 160 V, 250 V, 400 V, 630 V. Rated temperature: 85°C.

95F3702 Type 8204-110-64201. **Each** **82.97**

(7310) (de02834)

INTERFERENCE SUPPRESSION FILM CAPACITOR KIT

NEW

Kit has **MKP336 series** polypropylene film capacitors with rated voltages of 63V to 630V. Tolerance: ±20%. Rated capacitance range: 1nF to 1µF. Rated temperature: 100°C.

48F4889 Type 8204-110-64431. **Each** **72.00**

(34779) (ne34779)

NEWARK: YOUR ONE-STOP SHOP.

ALUMINUM ELECTROLYTIC CAPACITORS

36DA SERIES LARGE CAN ALUMINUM CAPACITORS

36DA Series large can aluminum capacitors are ideal for high wattage power supplies and energy storage applications. Operating temperature:–40°C to +95°C @ 6.3-100VDC;–40°C to +85°C @ 125-500VDC. PVC insulating sleeve.

Case Code	Dia. D ± 0.032	Length L ± 0.063	Case Code	Dia. D ± 0.032	Length L ± 0.063
AA	1.375″	2.125″	BF	2.000″	5.625″
AB	1.375″	3.125″	BL	2.000″	3.625″
AC	1.375″	4.125″	BM	2.000″	2.625″
AD	1.375″	4.625″	BN	2.000″	1.625″
AE	1.375″	5.125″	BY	2.000″	1.875″
AL	1.375″	3.625″	CB	2.500″	3.125″
AM	1.375″	2.625″	CC	2.500″	4.125″
AN	1.375″	1.625″	CD	2.500″	4.625″
BA	2.000″	2.125″	DC	3.000″	4.125″
BB	2.000″	3.125″	DD	3.000″	4.625″
BC	2.000″	4.125″	DJ	3.000″	8.625″
BD	2.000″	4.625″	DL	3.000″	3.625″
BE	2.000″	5.125″	...	...	...

Stock No.	Type	Cap. µF	WV DC	Size	1-49	50-99
95F4429	36DA124F6R3AB2A	120,000	6.3	AB	9.34	6.52
95F4432	36DA333F016AA2A	33,000	16	AA	7.43	5.19
95F4433	36DA473F016AM2A	47,000	16	AM	8.13	5.67
95F4434	36DA563F016BA2A	56,000	16	BA	11.04	7.70
95F4435	36DA823F016BM2A	82,000	16	BM	12.87	8.99
95F4436	36DA104F016AD2A	100,000	16	AD	13.37	9.33
95F4437	36DA124F016BB2A	120,000	16	BB	15.44	10.78
95F4441	36DA223F025BA2A	22,000	25	BA	9.19	6.41
95F4442	36DA273F025AB2A	27,000	25	AB	7.99	5.58
95F4443	36DA393F025BM2A	39,000	25	BM	10.99	7.67
95F4444	36DA473F025BB2A	47,000	25	BB	11.82	8.28
95F4445	36DA683F025BL2A	68,000	25	BL	14.28	9.97
95F4447	36DA103F035AA2A	10,000	35	AA	6.52	4.55
95F4449	36DA183F035AB2A	18,000	35	AB	8.35	5.83
95F4450	36DA273F035BM2A	27,000	35	BM	10.91	7.62
95F4451	36DA104F035CC2A	100,000	35	CC	28.56	19.94
95F4452	36DA392F050AN2A	3,900	50	AN	5.23	3.65
95F4453	36DA682F050AA2A	6,800	50	AA	6.44	4.50
95F4454	36DA822F050BY2A	8,200	50	BY	8.38	5.85
95F4455	36DA103F050AM2A	10,000	50	AM	7.65	5.34
95F4456	36DA123F050AB2A	12,000	50	AB	8.01	5.59
95F4457	36DA153F050AL2A	15,000	50	AL	9.15	6.38
95F4458	36DA183F050BM2A	18,000	50	BM	11.52	8.05
95F4459	36DA223F050AD2A	22,000	50	AD	10.99	7.67
95F4460	36DA273F050BB2A	27,000	50	BB	13.98	9.76
95F4462	36DA473F050CB2A	47,000	50	CB	20.80	14.52
95F4463	36DA563F050BF2A	56,000	50	BF	21.60	15.08
95F4464	36DA823F050CD2A	82,000	50	CD	34.46	24.05
95F4465	36DA104F050DC2A	100,000	50	DC	36.06	25.17
95F4467	36DA472F063AA2A	4,700	63	AA	7.03	4.91
95F4468	36DA122F100AN2A	1,200	100	AN	5.14	3.59
95F4469	36DA222F100AA2A	2,200	100	AA	6.28	4.38
95F4471	36DA332F100AM2A	3,300	100	AM	7.10	4.96
95F4473	36DA472F100AL2A	4,700	100	AL	10.08	7.04
95F4474	36DA562F100BM2A	5,600	100	BM	12.08	8.43
95F4475	36DA682F100AD2A	6,800	100	AD	10.89	7.60
95F4476	36DA103F100BL2A	10,000	100	BL	16.35	11.41
95F4477	36DA153F100BD2A	15,000	100	BD	21.25	14.83
95F4478	36DA183F100CC2A	18,000	100	CC	25.65	17.90
95F4479	36DA223F100CD2A	22,000	100	CD	29.65	20.70
95F4480	36DA273F100DL2A	27,000	100	DL	34.19	23.86
95F4481	36DA393F100DD2A	39,000	100	DD	47.31	33.02
95F4482	36DA683F100DJ2A	68,000	100	DJ	78.31	54.66
95F4484	36DA822F160BE2A	8,200	160	BE	28.03	19.57

CONTINUED

36DA SERIES LARGE CAN ALUMINUM CAPACITORS (CONT.)

Stock No.	Type	Cap. µF	WV DC	Size	1-49	50-99
95F4485	36DA102F200AM2A	1,000	200	AM	8.32	5.81
95F4487	36DA152F200AB2A	1,500	200	AB	9.82	6.85
95F4488	36DA222F200BM2A	2,200	200	BM	13.87	9.69
95F4489	36DA272F200BB2A	2,700	200	BB	15.58	10.88
95F4490	36DA332F200BL2A	3,300	200	BL	17.91	12.50
95F4493	36DA472F200CB2A	4,700	200	CB	25.03	17.47
95F4494	36DA562F200BE2A	5,600	200	BE	26.57	18.55
95F4496	36DA822F200CD2A	8,200	200	CD	34.26	23.91
95F4497	36DA123F200DD2A	12,000	200	DD	52.51	36.65
95F4498	36DA331F250AN2A	330	250	AN	5.81	4.05
95F4499	36DA561F250AA2A	560	250	AA	8.26	5.76
95F4500	36DA122F250AL2A	1,200	250	AL	10.81	7.55
95F4501	36DA332F250BC2A	3,300	250	BC	24.11	16.83
95F4503	36DA103F250DD2A	10,000	250	DD	63.60	44.39
95F4507	36DA681F350AL2A	680	350	AL	11.43	7.98
95F4508	36DA152F350BL2A	1,500	350	BL	22.06	15.40
95F4509	36DA332F350CD2A	3,300	350	CD	43.23	30.17
95F4510	36DA392F350DL2A	3,900	350	DL	53.05	37.03
95F4511	36DA562F350DD2A	5,600	350	DD	66.09	46.13
95F4512	36DA121F450AN2A	120	450	AN	6.99	4.88
95F4513	36DA221F450AA2A	220	450	AA	7.85	5.48
95F4515	36DA391F450BA2A	390	450	BA	12.82	8.95
95F4516	36DA561F450AC2A	560	450	AC	14.02	9.78
95F4517	36DA821F450BB2A	820	450	BB	19.70	13.75
95F4518	36DA102F450BL2A	1,000	450	BL	23.69	16.54
95F4519	36DA222F450CC2A	2,200	450	CC	44.89	31.33

(7355) (de53178)

LXF SERIES ALUMINUM ELECTROLYTIC CAPACITORS

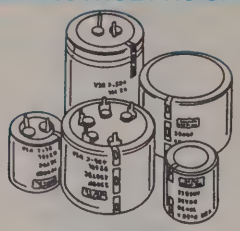
Low impedance and ESR at high frequency. Operating temperature: –55°C to +105°C. Load Life: 2000 to 15,000 hrs @ 105°C. Capacitance tolerance: ±20%. VDC range: 10-63. Capacitance range: 10µF to 8200µF. Lead spacing: 5mm = 2.00, 6.3mm = 2.5, 8mm = 3.5, 10mm = 5.0, 12.5 = 5.0, 16 = 7.5. For information about the **LVX series** *contact your local Newark sales office.*

Stock No.	Type	Cap. µF	WV DC	Dia. x L (mm)	1-49	50-99	100-249
95F4714	LXF10VB221M6X15LL	220	10	6.3 x 15	0.50	0.46	0.45
95F4715	LXF10VB471M8X15LL	470	10	8 x 15	0.57	0.52	0.50
95F4681	LXF10VB102M10X20L	1000	10	10 x 20	1.41	1.29	1.25
95F4682	LXF10VB182M12X20L	1800	10	12.5 x 20	1.63	1.49	1.44
95F4683	LXF10VB222M12X25L	2200	10	12.5 x 25	1.79	1.64	1.58
95F4687	LXF16VB102M10X30L	1000	16	10 x 20	1.37	1.25	1.18
95F4688	LXF16VB222M12X30L	2200	16	12.5 x 30	2.17	1.98	1.92
95F4690	LXF16VB332M12X40L	3300	16	12.5 x 40	2.76	2.53	2.44
95F4691	LXF16VB472M16X35L	4700	16	16 x 35	3.80	3.47	3.36
95F4693	LXF25VB471M10X20L	470	25	10 x 20	1.20	1.09	1.06
95F4694	LXF25VB102M12X25L	1000	25	12.5 x 25	1.79	1.63	1.55
95F4695	LXF25VB152M12X30L	1500	25	12.5 x 30	2.01	1.84	1.78
95F4696	LXF25VB222M12X40L	2200	25	12.5 x 40	2.79	2.56	2.47
95F4698	LXF25VB332M16X35L	3300	25	16 x 35	3.80	3.47	3.36
95F4701	LXF35VB121M8X12LL	120	35	8 x 12	0.60	0.55	0.53
95F4702	LXF35VB221M8X20LL	220	35	8 x 20	0.72	0.66	0.64
95F4703	LXF35VB561M10X30L	560	35	12.5 x 20	2.23	2.04	1.97
95F4704	LXF35VB681M12X25L	680	35	12.5 x 25	1.85	1.69	1.64
95F4705	LXF35VB102M12X30L	1000	35	12.5 x 30	2.23	2.04	1.97
95F4708	LXF35VB222M16X35L	2200	35	16 x 35	3.92	3.59	3.47
95F4712	LXF50VB56RM6X15LL	56	50	6.3 x 15	0.50	0.46	0.45
95F4713	LXF50VB121M8X20LL	120	50	8 x 20	0.72	0.66	0.64
95F4716	LXF50VB221M10X25L	220	50	10 x 25	1.45	1.32	1.28
95F4717	LXF50VB331M10X30L	330	50	10 x 30	1.82	1.67	1.61
95F4718	LXF50VB471M12X25L	470	50	12.5 x 25	1.85	1.69	1.64
95F4719	LXF50VB561M12X30L	560	50	12.5 x 30	2.23	2.04	1.97
95F4720	LXF50VB821M12X40L	820	50	12.5 x 40	2.89	2.64	2.55
95F4721	LXF50VB102M16X30L	1000	50	16 x 30	3.42	3.13	3.03
95F4722	LXF50VB152M16X40L	1500	50	16 x 40	4.52	4.13	3.99
95F4723	LXF63VB47RM8X12LL	47	63	8 x 12	0.54	0.49	0.48
95F4724	LXF63VB121M10X20L	120	63	10 x 20	1.20	1.09	1.06
95F4725	LXF63VB331M16X20L	330	63	16 x 20	2.98	2.72	2.63
95F4726	LXF63VB391M12X30L	390	63	12.5 x 30	2.23	2.04	1.97
95F4727	LXF63VB471M12X35L	470	63	12.5 x 35	2.54	2.33	2.25
95F4728	LXF63VB102M16X40L	1000	63	16 x 40	4.52	4.13	3.99

(7356) (de53180)

ALUMINUM ELECTROLYTIC CAPACITORS

82DA SERIES SNAP-MOUNT ALUMINUM ELECTROLYTIC CAPACITORS



Type 82DA snap-mount aluminum electrolytic capacitors feature a frequency range of –55Hz and maximum acceleration of 10g. Operating temperature: –40°C to +85°C. General purpose design. Wide voltage range, Maximum CV. Capacitance tolerance: ±20%. Capacitance: 47µF - 120,000µF. Case size: 0.87″D x 1.00″L to 1.58″D x 3.18″L.

DIMENSION CODES

Case Code	Dia. D ± 0.04	Length L ± 0.08	Case Code	Dia. D ± 0.04	Length L ± 0.08
HA	0.87″	1.00″	KD	1.18″	1.57″
HB	0.87″	1.18″	KE	1.18″	2.00″
HD	0.87″	1.57″	MC	1.38″	1.38″
JA	1.00″	1.00″	MD	1.38″	1.57″
JB	1.00″	1.18″	ME	1.38″	2.00″
JC	1.00″	1.38″	MF	1.38″	2.50″
JD	1.00″	1.57″	MG	1.38″	3.18″
KA	1.18″	1.00″	NF	1.58″	2.50″
KB	1.18″	1.18″	NG	1.58″	3.18″
KC	1.18″	1.38″	...	...	...

Stock No.	Type	Cap. µF	WV DC	Case Size	1-49	50-99	100-249
95F4355	82DA153M016JC2D	15,000	16	JC	3.85	3.58	3.41
95F4356	82DA223M016KB2D	22,000	16	KB	4.32	4.02	3.82
95F4369	82DA104M016MG2D	100,000	16	MG	13.30	12.38	11.78
95F4371	82DA682M025HB2D	6,800	25	HB	2.74	2.55	2.42
95F4373	82DA103M025HD2D	10,000	25	HD	3.54	3.29	3.13
95F4360	82DA223M025KD2D	22,000	25	KD	5.30	4.93	4.69
95F4363	82DA473M025MF2D	47,000	25	MF	9.50	8.84	8.41
95F4365	82DA332M035HA2D	3,300	35	HA	2.67	2.49	2.37
95F4366	82DA472M035HB2D	4,700	35	HB	2.92	2.71	2.58
95F4378	82DA103M035KB2D	10,000	35	KB	4.30	4.00	3.80
95F4380	82DA222M050HA2D	2,200	50	HA	2.58	2.40	2.29
95F4381	82DA332M050HB2D	3,300	50	HB	2.83	2.63	2.50
95F4383	82DA472M050HD2D	4,700	50	HD	3.27	3.04	2.90
95F4385	82DA682M050JD2D	6,800	50	JD	4.16	3.87	3.69
95F4387	82DA103M050KD2D	10,000	50	KD	5.72	5.32	5.06
95F4388	82DA123M050MD2D	12,000	50	MD	6.68	6.21	5.91
95F4389	82DA332M063JC2D	3,300	63	JC	3.38	3.15	3.00
95F4390	82DA472M063KC2D	4,700	63	KC	4.19	3.89	3.71
95F4392	82DA222M100KC2D	2,200	100	KC	6.79	6.31	6.01
95F4394	82DA332M100MD2D	3,300	100	MD	6.81	6.33	6.03
95F4395	82DA472M100ME2D	4,700	100	ME	8.86	8.24	7.84
95F4397	82DA561M200JD2D	560	200	JD	3.67	3.42	3.25
95F4399	82DA821M200KD2D	820	200	KD	4.81	4.48	4.26
95F4400	82DA102M200MC2D	1,000	200	MC	6.29	5.85	5.57
95F4402	82DA152M200ME2D	1,500	200	ME	7.87	7.32	6.97
95F4403	82DA222M200MF2D	2,200	200	MF	10.72	9.98	9.49
95F4406	82DA331M250JC2D	330	250	JC	3.34	3.11	2.96
95F4407	82DA561M250KD2D	560	250	KD	4.82	4.49	4.27
95F4409	82DA221M350JC2D	220	350	JC	4.12	3.83	3.65
95F4415	82DA221M400JD2D	220	400	JD	4.55	4.23	4.03
95F4416	82DA271M400KC2D	270	400	KC	5.32	4.95	4.71
95F4418	82DA561M400ME2D	560	400	ME	9.39	8.73	8.31
95F4420	82DA101M450JB2D	100	450	JB	3.61	3.35	3.19
95F4421	82DA221M450KC2D	220	450	KC	5.32	4.95	4.71
95F4422	82DA471M450ME2D	470	450	ME	10.14	9.44	8.98
95F4424	82DA101M500JD2D	100	500	JD	4.48	4.17	3.97
95F4425	82DA221M500KE2D	220	500	KE	7.80	7.26	6.91
95F4426	82DA271M500ME2D	270	500	ME	10.03	9.33	8.88
95F4427	82DA391M500MF2D	390	500	MF	13.58	12.64	12.02
95F4428	82DA471M500MG2D	470	500	MG	15.63	14.54	13.84

(7354) (de53177)

KMH SERIES SNAP-MOUNT ALUMINUM ELECTROLYTIC CAPACITORS

KMH series high-temperature capacitors feature snap-in terminal. Load life guaranteed with the rated ripple current applied. Not solventproof. Operating temperature: –25°C to +105°C. Case size (Dia. x L in mm) indicated in type number just before **suffix T2**.

200 VOLTS – 250 VOLTS SURGE

Stock No.	Type	Cap. µF	Max. ESR† (Ω)	Max. Ripple Current* (A rms)	1-24	25-49	50-99
95F4729	KMH200VN271M22X25	270	0.614	0.87	1.59	1.47	1.37
95F4730	KMH200VN331M22X30	330	0.502	1.21	1.78	1.64	1.54
95F4731	KMH200VN471M25X30	470	0.353	1.5	2.20	2.03	1.90
95F4732	KMH200VN681M25X40	680	0.244	1.74	2.76	2.54	2.38

CONTINUED

KMH SERIES SNAP-MOUNT ALUMINUM ELECTROLYTIC CAPACITORS (CONT.)

250 VOLTS – 300 VOLTS SURGE

Stock No.	Type	Cap. µF	Max. ESR† (Ω)	Max. Ripple Current* (A rms)	1-24	25-49	50-99
95F4734	KMH250VN221M22X30	220	0.753	0.95	1.71	1.57	1.47
95F4736	KMH250VN471M30X30	470	0.353	1.57	2.83	2.62	2.45
95F4737	KMH250VN681M25X50	680	0.244	2.0	3.47	3.20	2.99

400 VOLTS – 450 VOLTS SURGE

Stock No.	Type	Cap. µF	Max. ESR† (Ω)	Max. Ripple Current* (A rms)	1-24	25-49	50-99
95F4739	KMH400VN121M22X35	120	2.072	0.72	2.18	2.02	1.88
95F4740	KMH400VN331M30X45	330	0.753	1.35	4.75	4.38	4.10

450 VOLTS – 500 VOLTS SURGE

Stock No.	Type	Cap. µF	Max. ESR† (Ω)	Max. Ripple Current* (A rms)	1-24	25-49	50-99
95F4741	KMH450VN471M35X50	470	0.529	1.72	10.14	9.36	8.75

†@+20°C, 120Hz *@+105°C, 120Hz

(7319) (de03185)

SMH SERIES SNAP-MOUNT ALUMINUM ELECTROLYTIC CAPACITORS

Very high ripple current capabilities make these ideal for use in power supply filter circuits. Load life is 2000 hours at 85°C with ripple current applied. Not recommended when halogenated cleaning solvents are used. Case size (Dia. x L in mm) indicated in type number just before **suffix T2**.

200 VOLTS – 250 VOLTS SURGE

Stock No.	Type	Cap. µF	Max. ESR† (Ω)	Max. Ripple Current* (A rms)	1-99	100-249	250-499
66F9635	SMH200VN331M22X30	330	0.502	1.45	4.47	3.22	3.07
66F9637	SMH200VN471M22X35	470	0.353	1.78	5.31	3.83	3.65
66F9639	SMH200VN681M25X40	680	0.244	2.3	6.79	4.89	4.66
66F9640	SMH200VN821M30X35	820	0.202	2.59	8.10	5.84	5.56
66F9641	SMH200VN102M30X40	1000	0.166	2.95	9.26	6.67	6.35

250 VOLTS – 300 VOLTS SURGE

Stock No.	Type	Cap. µF	Max. ESR† (Ω)	Max. Ripple Current* (A rms)	1-99	100-249	250-499
66F9643	SMH250VN331M25X30	330	0.502	1.51	5.73	4.13	3.94
66F9645	SMH250VN561M25X40	560	0.296	2.09	7.89	5.69	5.42
66F9646	SMH250VN681M30X40	680	0.244	2.43	9.63	6.94	6.61
66F9647	SMH250VN821M35X35	820	0.303	2.77	13.88	10.00	9.53

400 VOLTS – 450 VOLTS SURGE

Stock No.	Type	Cap. µF	Max. ESR† (Ω)	Max. Ripple Current* (A rms)	1-99	100-249	250-499
66F9651	SMH400VN221M35X25	220	1.13	1.47	11.94	8.60	8.19
52F2066	SMH400VN331M35X30	330	0.753	1.87	13.88	10.00	9.53
66F9654	SMH400VN561M35X45	560	0.444	2.69	19.77	14.25	13.57

450 VOLTS – 500 VOLTS SURGE

Stock No.	Type	Cap. µF	Max. ESR† (Ω)	Max. Ripple Current* (A rms)	1-99	100-249	250-499
66F9655	SMH450VN121M25X30	120	2.072	1.02	9.36	6.75	6.43
66F9658	SMH450VN331M35X40	330	0.753	2.0	16.93	12.20	11.62
66F9659	SMH450VN391M35X45	390	0.638	2.24	19.09	13.75	13.10
66F9660	SMH450VN471M35X50	470	0.529	2.53	21.30	15.35	14.62

†@+20°C, 120Hz *@+85°C, 120Hz

(7386) (ne06420)

CEAUF/CEAWF/CECWP SERIES ALUMINUM ELECTROLYTIC CAPACITORS

CEAUF series are snap-mount. For switching power supplies. Operating temperature: –25°C to +105°C. Tolerance: ±20%. **CEAWF series** are snap mount. For power supplies. Operating temperature: –25°C to +85°C. Tolerance: ±20%. **CECWP series** are screw terminal. Computer grade. Operating temperature: –25°C to +85°C. Tol: ±20%.

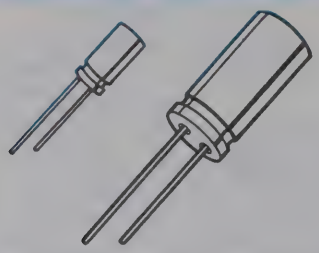
Stock No.	Type	Cap. (µF)	Rated Volt. (VDC)	Size Nom. Dia. x L (mm)	E.S.R Max.* (Ω)	Ripple Current Max.** (A)	1-24
16F104	CEAUF2W471M40	470	450	35 x 50	0.706	1.76	9.90
16F105	CEAUF2W471M50	470	450	40 x 40	0.706	1.71	10.27
16F106	CEAUF2W681M40	680	450	35 x 70	0.488	2.28	10.64
16F113	CEAWF2W471M40	470	450	35 x 50	0.706	2.50	8.22
16F114	CEAWF2W471M50	470	450	40 x 40	0.706	2.44	8.95
16F115	CEAWF2W102M50	1,000	450	40 x 70	0.332	4.12	9.51
16F107	CECWP2G562M4-L22	5,600	400	76 x 130	0.0444	15.2	89.99
16F108	CECWP2G682M5-L22	6,800	400	89 x 120	0.0366	16.7	109.73
16F109	CECWP2G103M5-L22	10,000	400	89 x 150	0.0249	21.1	143.64
16F110	CECWP2W222M3-L22	2,200	450	63.5 x 90	0.113	7.8	57.01
16F111	CECWP2W562M4-L22	5,600	450	76 x 150	0.0444	16.0	115.51
16F112	CECWP2W822M5-L22	8,200	450	89 x 150	0.0303	19.6	161.53

* @ 120Hz, 20°C. ** CEAUF @ 120Hz, 105°C; CEAWF/CECWP @ 120Hz, 85°C.

(7393) (ne08268)

ALUMINUM AND CERAMIC CAPACITORS

SME SERIES MINIATURE LEADED CAPACITORS



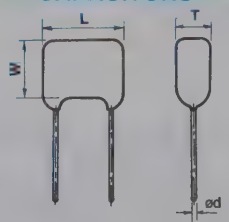
Miniaturized **SME series** aluminum electrolytic capacitors for 85°C maximum operating temperature. Small case sizes. Operating temperature: –40°C to +85°C. Load Life: 2000 hrs. at 85°C. Capacitance tolerance: ±20%. Dimensions, in millimeters, are indicated at end of type number. Suffix **"VB"** in type number indicates radial leads.

RADIAL LEAD

Stock No.	Type	Cap. µF	VDC	1-99	100-249	250-499	500-999
95F4524	SME6.3VB331M6X11L	330	6.3	0.29	0.21	0.20	0.13
95F4530	SME10VB221M6X11LL	220	10	0.29	0.21	0.20	0.13
95F4533	SME10VB47RM5X11LL	47	10	0.21	0.16	0.15	0.09
95F4538	SME16VB33RM5X11LL	33	16	0.21	0.16	0.15	0.09
95F4540	SME16VB471M10X12L	470	16	0.58	0.42	0.40	0.25
95F4541	SME25VB101M6X11LL	100	25	0.29	0.21	0.20	0.13
95F4542	SME25VB102M12X20L	1000	25	1.06	0.76	0.73	0.45
95F4543	SME25VB22RM5X11LL	22	25	0.21	0.16	0.15	0.09
95F4545	SME25VB222M16X25L	2200	25	1.84	1.33	1.27	0.78
95F4546	SME25VB33RM5X11LL	33	25	0.21	0.16	0.15	0.09
95F4548	SME25VB332M16X31L	3300	25	2.47	1.78	1.70	1.05
95F4549	SME25VB47RM5X11LL	47	25	0.21	0.16	0.15	0.09
95F4550	SME25VB471M10X16L	470	25	0.63	0.46	0.44	0.27
95F4551	SME35VB101M8X11LL	100	35	0.37	0.27	0.26	0.16
95F4552	SME35VB102M12X25L	1000	35	1.27	0.91	0.87	0.54
95F4553	SME35VB221M10X12L	220	35	0.58	0.42	0.40	0.25
95F4554	SME35VB222M16X31L	2200	35	2.47	1.78	1.70	1.05
95F4557	SME35VB471M10X20L	470	35	0.79	0.57	0.54	0.34
95F4558	SME50VB1R0M5X11LL	1	50	0.21	0.16	0.15	0.09
95F4559	SME50VB10RM5X11LL	10	50	0.21	0.16	0.15	0.09
95F4560	SME50VB101M8X11LL	100	50	0.37	0.27	0.26	0.16
95F4561	SME50VB102M16X25L	1000	50	1.84	1.33	1.27	0.78
95F4562	SME50VB22RM5X11LL	22	50	0.21	0.16	0.15	0.09
95F4563	SME50VB221M10X16L	220	50	0.63	0.46	0.44	0.27
95F4564	SME50VB33RM6X11LL	33	50	0.29	0.21	0.20	0.13
95F4565	SME50VB331M10X20L	330	50	0.79	0.57	0.54	0.34
95F4566	SME50VB47RM6X11LL	47	50	0.29	0.21	0.20	0.13
95F4567	SME50VB471M12X20L	470	50	1.06	0.76	0.73	0.45
95F4575	SME63VB221M10X20L	220	63	0.79	0.57	0.54	0.34
95F4577	SME63VB331M12X20L	330	63	1.06	0.76	0.73	0.45
95F4578	SME63VB47RM8X11LL	47	63	0.37	0.27	0.26	0.16
95F4579	SME63VB471M12X25L	470	63	1.27	0.91	0.87	0.54

(7414) (de53176)

TCD SERIES RADIAL LEAD MULTILAYER CERAMIC CAPACITORS



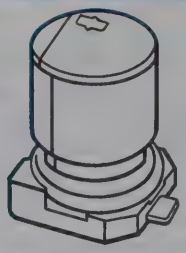
Resin dipped. Tolerance: ±20%. Operating temperature: –55°C to +125°C. Lead spacing: 0.197″. Lead diameter: 0.0197″.

Stock No.	Type	VDC	Cap. µF	Ripple Current Max. (Arms)	Dimensions (Inches) L	T	W	1-24	25-99
16F047	TCD31E1E475	25	4.7	1.0	0.295	0.354	0.157	1.39	1.24
16F048	TCD41E1E685M	25	6.8	1.5	0.394	0.453	0.197	2.04	1.81
16F049	TCD41E1E106M	25	10	1.5	0.394	0.453	0.197	2.37	2.11
16F050	TCD51E1E226M	25	22	2.0	0.531	0.591	0.217	5.57	4.95
16F052	TCD61E1E107M	25	100	1.0	1.122	0.787	0.335	32.51	28.90
16F053	TCD31E1H225M	50	2.2	1.0	0.295	0.354	0.157	1.10	0.98
16F054	TCD31E1H335M	50	3.3	1.0	0.295	0.354	0.157	1.28	1.14
16F056	TCD51E1H106M	50	10	2.0	0.531	0.591	0.217	3.83	3.40
16F057	TCD61E1H476M	50	47	4.0	1.122	0.787	0.335	24.62	21.88
16F059	TCD31E2A105M	100	1	1.0	0.295	0.354	0.157	0.96	0.86
16F062	TCD61E2A336M	100	33	4.0	1.122	0.787	0.335	25.53	22.70
16F063	TCD51E2E105M	250	1	2.0	0.531	0.591	0.217	3.11	2.77

(7394) (ne08269)

MV/MVK SERIES SURFACE MOUNT ALUMINUM ELECTROLYTIC CAPACITORS

SMD



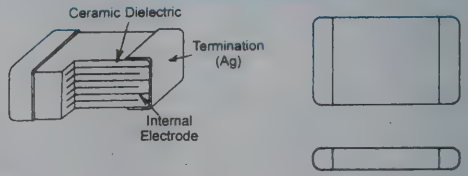
Slender profile chip type capacitors for reflow soldering. Solvent-proof type. Solder pad on PC board recommended. Diameter: 0.24″ (6.3). Max. height: 0.21″ (5.25). Tolerance: ±20%. Operating temperature: –40° to +85° C (**MV series**): –40° to +105° C (**MVK series**).

Stock No.	Type	Cap. µF	Volts (DC)	1-99	100-499	500-999
95F4658	MV4VC221MF55TP	220	4	0.33	0.28	0.23
95F4659	MV6.3101MF55TP	100	6.3	0.33	0.28	0.23
91F3471	MV16VC22RME55TP	22	16	0.25	0.23	0.21
95F4660	MV16VC47RMF55TP	47	16	0.33	0.28	0.23
95F4661	MV25VC33RM6X5TP	33	25	0.39	0.34	0.31
95F4662	MV35VC22RM6X5TP	22	35	0.39	0.34	0.31
95F4663	MV50VC10RMF55TP	10	50	0.39	0.34	0.31
91F3472	MVK16VC47RMF55TP	47	16	0.30	0.27	0.25
91F3473	MVK35VC10RME55TP	10	35	0.26	0.24	0.22
16F9826	MVK35VC22RMF55TP	22	35	0.35	0.30	0.25
16F9832	MVK50VC1R0MD55TP	1	50	0.29	0.25	0.17

(7316) (de03183)

TCCR/THCR SERIES MULTILAYER CERAMIC CHIP CAPACITORS

SMD



Tolerance: +80%, –20% (**THCR**); ±20% (**TCCR**). Operating temperature: –55°C to +125°C.

Stock No.	Type	VDC	Cap. µF	Ripple Current Max. (A rms)	EIA Case Size	1-24	25-99
16F091	THCR20E1E684ZT	25	0.68	0.2	0805	0.36	0.32
16F092	THCR30E1E225ZT	25	2.2	0.3	1206	0.67	0.60
16F093	THCR40E1E475ZT	25	4.7	0.5	1210	1.21	1.08
16F094	THCR50E1E106ZT	25	10	1.0	1812	2.40	2.13
16F095	THCR60E1E226ZT	25	22	1.5	2220	3.74	3.32
16F096	THCR70E1E336ZT	25	33	2.0	3025*	5.41	4.81
16F097	THCR50E1H225ZT	50	2.2	1.0	1812	1.08	0.96
16F098	THCR60E1H106ZT	50	10	1.5	2220	2.98	2.65
16F099	THCR70E1H226ZT	50	22	2.0	3025*	5.15	4.57
16F100	THCR50E2A105ZT	100	1.0	1.0	1812	0.99	0.88
16F101	THCR60E2A335ZT	100	3.3	1.5	2220	2.02	1.79
16F102	TCCR60E2D474M	200	0.47	1.0	2220	0.96	0.86
16F103	TCCR70E2D105M	200	1.0	1.5	3025*	1.90	1.69

* 7.5 x 6.3 x 2.5mm (length x width x thickness). For nickel barrier end-termination, use **THCS series**, *contact your local Newark sales office.*

(7395) (ne08270)

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ALUMINUM ELECTROLYTIC CAPACITORS

KME SERIES MINIATURE RADIAL LEAD CAPACITORS

General-purpose aluminum electrolytic capacitors have a rated lifetime of 1,000 hours @ +105°C. Operating temperature: –55°C to +105°C for 6.3V to 100V types; –40°C to +105°C for 160V to 400V types. Tolerance: ±20%. Solvent-proof design, except 350V and 400V types, withstand HCFC cleaning agents for 5 minutes by ultrasonic, vapor or immersion.

Case Size	Dia. x L (mm)	Case Size	Dia. x L (mm)	Case Size	Dia. x L (mm)	Case Size	Dia. x L (mm)
A	5 x 11	E	10 x 16	I	12.5 x 25	M	18 x 31.5
B	6.3 x 11	F	10 x 20	J	16 x 25	N	18 x 35.5
C	8 x 11.5	G	10 x 25	K	16 x 31.5	O	18 x 40
D	10 x 12.5	H	12.5 x 20	L	16 x 35.5	P	16 x 20

6.3 VOLTS

Stock No.	Type	Case Size	Cap. µF	1-49	50-99	100-249	250-499
91F3229	KME6.3VB33RM5X11L	A	33	0.13	0.12	0.11	0.10
91F3230	KME6.3VB47RM5X11L	A	47	0.13	0.12	0.11	0.10
91F3231	KME6.3VB101M5X11L	A	100	0.13	0.12	0.11	0.10
91F3233	KME6.3VB331M6X11L	B	330	0.15	0.14	0.13	0.12
91F3234	KME6.3VB471M8X11L	C	470	0.20	0.18	0.17	0.16
91F3235	KME6.3VB102M10X12	D	1000	0.28	0.25	0.23	0.22
91F3236	KME6.3VB222M12X20	H	2200	0.45	0.41	0.38	0.36
91F3237	KME6.3VB332M12X20	H	3300	0.50	0.45	0.42	0.40
91F3238	KME6.3VB472M16X25	J	4700	1.00	0.90	0.83	0.79
91F3239	KME6.3VB682M16X25	J	6800	1.12	1.01	0.94	0.88
91F3240	KME6.3VB103M16X31	K	10,000	1.25	1.12	1.04	0.98
91F3241	KME6.3VB153M18X35	M	15,000	1.74	1.57	1.45	1.37

10 VOLTS

91F3242	KME10VB22RM5X11LL	A	22	0.13	0.12	0.11	0.10
91F3243	KME10VB33RM5X11LL	A	33	0.13	0.12	0.11	0.10
91F3244	KME10VB47RM5X11LL	A	47	0.13	0.12	0.11	0.10
91F3245	KME10VB101M5X11LL	A	100	0.13	0.12	0.11	0.10
91F3247	KME10VB331M8X11LL	C	330	0.20	0.18	0.17	0.16
91F3248	KME10VB471M8X11LL	C	470	0.20	0.18	0.17	0.16
91F3249	KME10VB102M10X16L	E	1000	0.33	0.29	0.27	0.26
91F3250	KME10VB222M12X20L	H	2200	0.50	0.45	0.42	0.40
91F3251	KME10VB332M12X25L	I	3300	0.65	0.58	0.54	0.51
91F3252	KME10VB472M16X25L	J	4700	1.00	0.90	0.83	0.79
91F3253	KME10VB682M16X31L	K	6800	1.25	1.12	1.04	0.98
91F3254	KME10VB103M18X35L	M	10,000	1.74	1.57	1.45	1.37

16 VOLTS

91F3255	KME16VB10RM5X11LL	A	10	0.13	0.12	0.11	0.10
91F3256	KME16VB22RM5X11LL	A	22	0.13	0.12	0.11	0.10
91F3257	KME16VB33RM5X11LL	A	33	0.13	0.12	0.11	0.10
91F3258	KME16VB47RM5X11LL	A	47	0.13	0.12	0.11	0.10
91F3259	KME16VB101M6X11LL	B	100	0.15	0.14	0.13	0.12
91F3261	KME16VB331M8X11LL	C	330	0.20	0.18	0.17	0.16
91F3262	KME16VB471M10X12L	D	470	0.28	0.25	0.23	0.22
91F3263	KME16VB102M10X20L	E	1000	0.38	0.34	0.31	0.30
91F3264	KME16VB222M12X25L	I	2200	0.65	0.58	0.54	0.51
91F3265	KME16VB332M16X25L	J	3300	1.00	0.90	0.83	0.79
91F3266	KME16VB472M16X31L	K	4700	1.25	1.12	1.04	0.98
91F3267	KME16VB682M18X35L	N	6800	1.74	1.57	1.45	1.37

25 VOLTS

91F3268	KME25VB4R7M5X11LL	A	4.7	0.13	0.12	0.11	0.10
91F3269	KME25VB10RM5X11LL	A	10	0.13	0.12	0.11	0.10
91F3270	KME25VB22RM5X11LL	A	22	0.13	0.12	0.11	0.10
91F3271	KME25VB33RM5X11LL	A	33	0.13	0.12	0.11	0.10
91F3272	KME25VB47RM5X11LL	A	47	0.13	0.12	0.11	0.10
91F3273	KME25VB101M6X11LL	B	100	0.15	0.14	0.13	0.12
91F3275	KME25VB331M10X12L	D	330	0.28	0.25	0.23	0.22
91F3276	KME25VB471M10X16L	E	470	0.33	0.29	0.27	0.26
91F3277	KME25VB102M12X20L	H	1000	0.50	0.45	0.42	0.40
91F3278	KME25VB222M16X25L	J	2200	1.00	0.90	0.83	0.79
91F3279	KME25VB332M16X31L	K	3300	1.25	1.12	1.04	0.98
91F3280	KME25VB472M18X35L	N	4700	1.74	1.57	1.45	1.37

35 VOLTS

91F3281	KME35VB4R7M5X11LL	A	4.7	0.13	0.12	0.11	0.10
91F3282	KME35VB10RM5X11LL	A	10	0.13	0.12	0.11	0.10
91F3283	KME35VB22RM5X11LL	A	22	0.13	0.12	0.11	0.10
91F3284	KME35VB33RM5X11LL	A	33	0.13	0.12	0.11	0.10
91F3285	KME35VB47RM6X11LL	A	47	0.15	0.14	0.13	0.12
91F3286	KME35VB101M8X11LL	C	100	0.20	0.18	0.17	0.16
91F3288	KME35VB331M10X16L	E	330	0.33	0.29	0.27	0.26
91F3289	KME35VB471M10X20L	F	470	0.38	0.34	0.31	0.30
91F3290	KME35VB102M12X25L	I	1000	0.65	0.58	0.54	0.51
91F3291	KME35VB222M16X31L	K	2200	1.25	1.12	1.04	0.98
91F3292	KME35VB332M18X35L	N	3300	1.74	1.57	1.45	1.37

50 VOLTS

91F3293	KME50VBR10M5X11LL	A	0.1	0.13	0.12	0.11	0.10
91F3294	KME50VBR22M5X11LL	A	0.22	0.13	0.12	0.11	0.10
91F3295	KME50VBR33M5X11LL	A	0.33	0.13	0.12	0.11	0.10
91F3296	KME50VBR47M5X11LL	A	0.47	0.13	0.12	0.11	0.10
91F3297	KME50VB1R0M5X11LL	A	1.0	0.13	0.12	0.11	0.10
91F3298	KME50VB2R2M5X11LL	A	2.2	0.13	0.12	0.11	0.10
91F3299	KME50VB3R3M5X11LL	A	3.3	0.13	0.12	0.11	0.10

CONTINUED

KME SERIES MINIATURE RADIAL LEAD CAPACITORS (CONT.)

50 VOLTS (CONT.)

Stock No.	Type	Case Size	Cap. µF	1-49	50-99	100-249	250-499
91F3300	KME50VB4R7M5X11LL	A	4.7	0.13	0.12	0.11	0.10
91F3301	KME50VB10RM5X11LL	A	10	0.13	0.12	0.11	0.10
91F3302	KME50VB22RM5X11LL	A	22	0.13	0.12	0.11	0.10
91F3303	KME50VB33RM6X11LL	B	33	0.15	0.14	0.13	0.12
91F3304	KME50VB47RM6X11LL	B	47	0.15	0.14	0.13	0.12
91F3305	KME50VB101M8X11LL	C	100	0.20	0.18	0.17	0.16
91F3307	KME50VB331M10X20L	F	330	0.38	0.34	0.31	0.30
91F3308	KME50VB471M12X20L	H	470	0.50	0.45	0.42	0.40
91F3309	KME50VB102M16X25L	J	1000	1.12	1.01	0.94	0.88
91F3310	KME50VB222M18X35L	N	2200	1.89	1.70	1.58	1.49

63 VOLTS

91F3344	KME63VB4R7M5X11L	A	4.7	0.13	0.12	0.11	0.10
91F3345	KME63VB10RM5X11L	A	10	0.13	0.12	0.11	0.10
91F3346	KME63VB22RM6X11LL	B	22	0.15	0.14	0.13	0.12
91F3347	KME63VB33RM6X11LL	B	33	0.15	0.14	0.13	0.12
91F3348	KME63VB47RM8X11LL	C	47	0.20	0.18	0.17	0.16
91F3350	KME63VB331M12X20L	F	330	0.50	0.45	0.42	0.40
91F3351	KME63VB471M12X25L	I	470	0.65	0.58	0.54	0.51
91F3352	KME63VB102M16X31L	K	1000	1.49	1.35	1.25	1.18

100 VOLTS

91F3353	KME100VBR10M5X11L	A	0.1	0.13	0.12	0.11	0.10
91F3354	KME100VBR22M5X11L	A	0.22	0.13	0.12	0.11	0.10
91F3355	KME100VBR33M5X11L	A	0.33	0.13	0.12	0.11	0.10
91F3356	KME100VBR47M5X11L	A	0.47	0.13	0.12	0.11	0.10
91F3357	KME100VB1R0M5X11L	A	1.0	0.13	0.12	0.11	0.10
91F3358	KME100VB2R2M5X11L	A	2.2	0.13	0.12	0.11	0.10
91F3359	KME100VB3R3M5X11L	A	3.3	0.13	0.12	0.11	0.10
91F3360	KME100VB4R7M5X11L	A	4.7	0.13	0.12	0.11	0.10
91F3361	KME100VB10RM6X11L	B	10	0.15	0.14	0.13	0.12
91F3363	KME100VB33RM10X12	D	33	0.28	0.25	0.23	0.22
91F3364	KME100VB47RM10X16	E	47	0.33	0.29	0.27	0.26
91F3365	KME100VB101M12X20	H	100	0.50	0.45	0.42	0.40
91F3367	KME100VB331M16X25	J	220	1.37	1.23	1.14	1.08
91F3368	KME100VB471M16X31	K	220	1.49	1.35	1.25	1.18

160 VOLTS

91F3369	KME160VBR47M6X11L	B	0.47	0.15	0.14	0.13	0.12
91F3370	KME160VB1R0M6X11L	B	1.0	0.15	0.14	0.13	0.12
91F3371	KME160VB2R2M6X11L	B	2.2	0.15	0.14	0.13	0.12
91F3372	KME160VB3R3M8X11L	C	3.3	0.20	0.18	0.17	0.16
91F3373	KME160VB4R7M8X11L	C	4.7	0.20	0.18	0.17	0.16
91F3374	KME160VB10RM10X16	E	10	0.40	0.36	0.34	0.32
91F3376	KME160VB33RM12X20	H	33	0.58	0.52	0.48	0.45
91F3377	KME160VB47RM12X25	I	47	0.65	0.58	0.54	0.51
91F3378	KME160VB101M16X25	J	100	1.12	1.01	0.94	0.88

200 VOLTS

91F3380	KME200VBR47M6X11L	B	0.47	0.15	0.14	0.13	0.12
91F3381	KME200VB1R0M6X11L	B	1.0	0.15	0.14	0.13	0.12
91F3382	KME200VB2R2M6X11L	B	2.2	0.15	0.14	0.13	0.12
91F3383	KME200VB3R3M8X11L	C	3.3	0.20	0.18	0.17	0.16
91F3384	KME200VB4R7M10X12	D	4.7	0.33	0.29	0.27	0.26
91F3385	KME200VB10RM10X16	E	10	0.40	0.36	0.34	0.32
91F3387	KME200VB33RM12X25	I	33	0.65	0.58	0.54	0.51
91F3388	KME200VB47RM12X25	I	47	0.70	0.63	0.58	0.55
91F3389	KME200VB101M16X31	K	100	1.25	1.12	1.04	0.98

250 VOLTS

91F3391	KME250VBR47M6X11L	B	0.47	0.15	0.14	0.13	0.12
91F3392	KME250VB1R0M6X11L	B	1.0	0.15	0.14	0.13	0.12
91F3393	KME250VB2R2M8X11L	C	2.2	0.20	0.18	0.17	0.16
91F3394	KME250VB3R3M10X12	D	3.3	0.33	0.29	0.27	0.26
91F3395	KME250VB4R7M10X12	D	4.7	0.33	0.29	0.27	0.26
91F3396	KME250VB10RM10X20	F	10	0.48	0.43	0.40	0.38
91F3398	KME250VB33RM12X25	I	33	0.70	0.63	0.58	0.55
91F3399	KME250VB47RM16X25	J	47	1.00	0.90	0.83	0.79

350 VOLTS

91F3400	KME250VB101M18X35	M	100	1.89	1.70	1.58	1.49
91F3401	KME350VBR47M8X11L	C	0.47	0.30	0.27	0.25	0.24
91F3402	KME350VB1R0M10X12	D	1.0	0.45	0.41	0.38	0.36
91F3403	KME350VB2R2M10X16	E	2.2	0.55	0.50	0.46	0.43
91F3404	KME350VB3R3M10X16	E	3.3	0.55	0.50	0.46	0.43
91F3405	KME350VB4R7M10X20	E	4.7	0.72	0.65	0.60	0.57
91F3406	KME350VB10RM12X20	H	10	0.80	0.72	0.67	0.63
91F3408	KME350VB33RM16X25	J	33	1.37	1.23	1.14	1.08
91F3409	KME350VB47RM16X35	L	47	1.87	1.68	1.56	1.47
91F3410	KME350VB101M18X40	O	100	2.61	2.35	2.18	2.06

400 VOLTS

91F3411	KME400VB1R0M10X12	D	1.0	0.45	0.41	0.38	0.36
91F3412	KME400VB2R2M10X16	E	2.2	0.55	0.50	0.46	0.43
91F3413	KME400VB3R3M10X20	F	3.3	0.72	0.65	0.60	0.57
91F3414	KME400VB4R7M10X25	G	4.7	0.80	0.72	0.67	0.63
91F3415	KME400VB10RM12X20	H	10	0.80	0.72	0.67	0.63
91F3416	KME400VB33RM16X31	K	33	1.74	1.57	1.45	1.37
91F3417	KME400VB47RM18X31	M	47	2.12	1.90	1.76	1.67

(14326) (ne10096)

ALUMINUM ELECTROLYTIC CAPACITORS

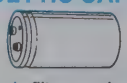
DCMX SERIES COMPUTER GRADE ALUMINUM ELECTROLYTIC CAPACITORS

High capacitance, computer grade capacitor. Operating temperature: –40°C to +85°C. Tolerance: –10%, +75% (**T** in type number), –10%, +50% (**U** in type number). Additional values available, *contact your local Newark sales office.*

Stock No.	Type	Cap. µF	Dia. x L	1-4	5-9	10-24
16VDC-20VDC SURGE						
95F9141	DCMX313U016AA2B	31k	1.375 x 2.125″	13.16	11.19	9.74
95F9144	DCMX184U016BC2B	180k	2.000 x 4.125″	37.23	31.65	27.53
25VDC-30VDC SURGE						
95F9150	DCMX213U025AA2B	21k	1.375 x 2.125″	13.50	11.48	9.99
95F9151	DCMX393U025AB2B	39k	1.375 x 3.125″	17.62	14.98	13.03
95F9152	DCMX573U025AC2B	57k	1.375 x 4.125″	22.00	18.70	16.27
95F9153	DCMX124U025BC2B	120k	2.000 x 4.125″	38.73	32.92	28.64
95F9155	DCMX204U025CC2B	200k	2.500 x 4.125″	138.17	117.44	102.17
95F9156	DCMX294U025DC2B	290k	3.000 x 4.125″	80.70	68.59	59.67
95F9157	DCMX314U025CF2B	310k	2.500 x 5.625″	85.68	72.83	63.36
40VDC-50VDC SURGE						
96F4577	DCMX123U040AA2B	12k	1.375 x 2.125″	12.77	10.86	9.44
96F4578	DCMX223U040AB2B	22k	1.375 x 3.125″	16.20	13.77	11.98
96F4579	DCMX323U040AC2B	32k	1.375 x 4.125″	19.93	16.94	14.74
96F4580	DCMX693U040BC2B	69k	2.000 x 4.125″	34.87	29.64	25.79
96F4581	DCMX104U040BF2B	100k	2.000 x 5.625″	43.34	36.84	32.05
96F4582	DCMX114U040CC2B	110k	2.500 x 4.125″	50.00	42.50	36.97
50VDC-65VDC SURGE						
96F4586	DCMX832U050AA2B	8300	1.375 x 2.125″	12.88	10.94	9.52
96F4587	DCMX163U050AB2B	16k	1.375 x 3.125″	16.76	14.24	12.39
96F4588	DCMX233U050AC2B	23k	1.375 x 4.125″	20.58	17.50	15.22
96F4589	DCMX493U050BC2B	49k	1.375 x 4.125″	36.03	30.62	26.64
75VDC-90VDC SURGE						
95F9163	DCMX372U075AA2B	3700	1.375 x 2.125″	12.46	10.59	9.21
95F9164	DCMX692U075AB2B	6900	1.375 x 3.125″	15.71	13.35	11.62
95F9165	DCMX103U075AC2B	10k	1.375 x 4.125″	19.12	16.25	14.14
95F9166	DCMX223U075BC2B	22k	2.000 x 4.125″	33.56	28.53	24.82
95F9167	DCMX333U075BF2B	33k	2.000 x 5.625″	44.73	38.02	33.08
95F9168	DCMX363U075CC2B	36k	2.500 x 4.125″	48.77	41.45	36.06
95F9169	DCMX543U075DC2B	54k	3.000 x 4.125″	68.95	58.61	50.99
100VDC-125VDC SURGE						
95F9172	DCMX252U100AA2B	2500	1.375 x 2.125″	7.21	6.13	5.33
95F9173	DCMX472U100AB2B	4700	1.375 x 3.125″	17.12	14.56	12.66
95F9175	DCMX153U100BC2B	15k	2.000 x 4.125″	38.12	32.40	28.19
95F9176	DCMX223U100BF2B	22k	2.000 x 5.625″	50.73	43.12	37.51
95F9178	DCMX363U100DC2B	36k	3.000 x 4.125″	78.81	66.99	58.28
95F9180	DCMX553U100DF2B	55k	3.000 x 5.625″	111.95	95.15	82.78
200VDC-250VDC SURGE						
95F9181	DCMX611T200AA2B	610	1.375 x 2.125″	12.33	10.48	9.12
95F9183	DCMX182T200AC2B	1800	1.375 x 4.125″	19.74	16.78	14.60
95F9184	DCMX392T200BC2B	3900	2.000 x 4.125″	34.58	29.40	25.57
95F9186	DCMX642T200CC2B	6400	2.500 x 4.125″	50.58	42.99	37.40
250VDC-300VDC SURGE						
95F9192	DCMX142T250AC2B	1400	1.375 x 4.125″	19.77	16.81	14.62
450VDC-500VDC SURGE						
95F9209	DCMX391T450AB2B	390	1.375 x 3.125″	18.96	16.11	14.02
95F9211	DCMX132T450BC2B	1300	2.000 x 4.125″	45.44	38.62	33.60

(7290) (de02042)

DCM SERIES COMPUTER GRADE ALUMINUM ELECTROLYTIC CAPACITORS

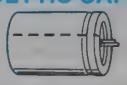


Screw-terminal can. For power supply filters and energy storage applications such as welding equipment and computer hold-up power where high capacitance, low ESR and the ability to handle large ripple currents are required. Tolerance: –10%, +75% (**T** in type number); –10%, +50% (**U** in type number). Operating temperature: –40°C to +85°C.

Stock No.	Type	VDC	Cap. µF	Dia. x L	1-9	10-24	25-49
66F3978	DCM242T450DF2B	450	2400	3.000 x 5.625″	78.52	66.74	58.06
66F3981	DCM202T450DE2B	450	2000	3.000 x 5.125″	68.19	57.96	50.43
66F3986	DCM182T450DP2B	450	1800	3.000 x 5.875″	63.34	53.84	46.84
66F3979	DCM103U050AC2B	50	10k	1.375 x 4.125″	14.32	12.17	10.59
66F3980	DCM292U050AB2B	50	2900	1.375 x 3.125″	10.44	8.87	7.72
66F3982	DCM102T200AC2B	200	1000	1.375 x 4.125″	15.18	12.91	11.23
66F3983	DCM153U016AH2B	16	15k	1.375 x 2.625″	11.20	9.52	8.28
66F3984	DCM103U025AB2B	25	10k	1.375 x 3.125″	11.22	9.54	8.30
66F3985	DCM551T250AC2B	250	550	1.375 x 4.125″	13.53	11.50	10.01
66F3987	DCM122U100AB2B	100	1200	1.375 x 3.125″	11.09	9.43	8.20

(7385) (ne06286)

381LX SERIES SNAP-MOUNT CAN ALUMINUM ELECTROLYTIC CAPACITORS

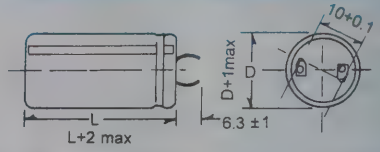


381LX series provides 105°C capability and long life. Ideal for really high-ripple applications. Terminal spacing: 10mm. Fit 2mm dia. holes. Welded connections. Operating temperature: –40°C to +105°C. Additional values available, *contact your local Newark sales office.*

Stock No.	Type	Cap. µF	D x L (mm)	1-4	5-9	10-24
200VDC-250VDC SURGE						
96F4566	381LX101M200H202	100	22 x 20	2.49	2.12	1.84
96F4567	381LX221M200H012	220	22 x 25	2.70	2.30	2.00
96F4571	381LX471M200J032	470	25 x 35	3.84	3.26	2.84
96F4575	381LX102M200K452	1000	30 x 45	6.71	5.71	4.97
16F7814	381LX122M200K052	1200	30 x 50	7.60	6.46	5.62
250VDC-300VDC SURGE						
95F9129	381LX331M250K012	330	30 x 25	4.22	3.59	3.12
450VDC-500VDC SURGE						
95F9135	381LX680M450J022	68	25 x 30	3.52	3.00	2.61
95F9136	381LX101M450K022	100	30 x 30	4.73	4.02	3.50
16F7815	381LX151M450K022	150	30 x 30	5.95	5.06	4.40
95F9138	381LX221M450A042	220	35 x 40	8.54	7.26	6.32
16F7816	381LX331M450A042	330	35 x 40	11.21	9.53	8.29
16F7778	381LX471M450A052	470	35 x 50	14.80	12.58	10.95

(7291) (de02043)

380LX SERIES SNAP-MOUNT CAN ALUMINUM ELECTROLYTIC CAPACITORS



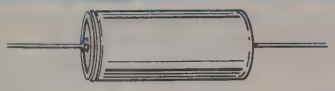
Low ESR. Operating temperature: –40°C to +85°C. 10mm terminal spacing. Ripple current: 3.9A (100µF/200VDC @ +85°C). Ripple life: 1000 hrs. @ +85°C. Additional values available, *contact your local Newark sales office.*

Stock No.	Type	Cap. µF	D x L (mm)	1-4	5-9	10-24	25-49
25 VDC							
16F7932	380LX682M025H022	6800	22 x 30	2.74	2.33	2.03	1.76
16F7928	380LX103M025H032	10k	22 x 35	3.16	2.69	2.34	2.03
16F7929	380LX223M025J052	22k	25 x 50	5.04	4.28	3.73	3.24
16F7930	380LX333M025K052	33k	30 x 50	7.14	6.07	5.28	4.60
16F7931	380LX473M025A052	47k	35 x 50	9.46	8.04	6.99	6.08
35 VDC							
16F7933	380LX153M035J052	15k	25 x 50	5.10	4.34	3.77	3.28
16F7936	380LX562M035H022	5600	22 x 30	2.95	2.50	2.18	1.89
16F7934	380LX223M035A042	22k	35 x 40	7.46	6.34	5.52	4.80
16F7935	380LX333M035A052	33k	35 x 50	9.78	8.32	7.23	6.29
50 VDC							
16F7939	380LX472M050H032	4700	22 x 35	3.48	2.96	2.58	2.24
16F7940	380LX562M050J032	5600	25 x 35	3.91	3.33	2.89	2.52
16F7941	380LX682M050K022	6800	30 x 30	4.64	3.95	3.44	2.99
16F7937	380LX123M050K452	12k	30 x 45	6.90	5.87	5.11	4.44
16F7938	380LX153M050K052	15k	30 x 50	8.03	6.83	5.94	5.17
200 VDC							
16F7942	380LX182M200A452	1800	35 x 45	9.60	8.16	7.10	6.17
16F7943	380LX222M200A052	2200	35 x 50	11.14	9.47	8.24	7.16
16F7944	380LX331M200H022	3300	22 x 30	3.02	2.57	2.23	1.94
250 VDC							
16F7952	380LX471M250J042	470	25 x 40	4.30	3.66	3.18	2.77
16F7945	380LX152M250A052	1500	35 x 50	10.69	9.09	7.91	6.88
400 VDC							
16F7947	380LX391M400K452	390	30 x 45	8.28	7.04	6.12	5.33
16F7948	380LX471M400A042	470	35 x 40	9.83	8.36	7.27	6.32
450 VDC							
16F7949	380LX101M450J022	100	25 x 30	3.74	3.18	2.77	2.41
16F7950	380LX331M450A042	330	35 x 40	9.37	7.96	6.93	6.02
16F7951	380LX471M450A052	470	35 x 50	12.17	10.34	9.00	7.83

(7399) (ne08788)

ALUMINUM ELECTROLYTIC CAPACITORS

WBR SERIES ALUMINUM ELECTROLYTIC CAPACITORS



Compact size, rugged all-welded construction, extended capacitance range and operating voltages to 500VDC. Ideal selection for most industrial applications.

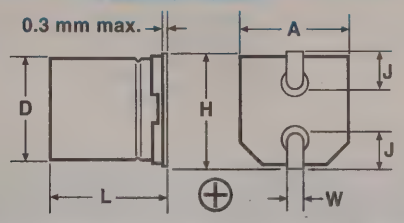
16VDC RATED — 20VDC SURGE, TOLERANCE: –10%, +150%

Stock No.	Type	Cap. µF	D x L	1-4	5-9	10-24	25-49
52F4766	WBR1000-16	1000	0.67 x 1.79″	8.86	7.54	6.56	5.70
16F7793	WBR2000-16	2000	0.79 x 2.10″	10.92	9.28	8.08	7.02
25VDC RATED — 30VDC SURGE, TOLERANCE: –10%, +100%							
52F4764	WBR100-25	100	0.42 x 0.87″	5.99	5.09	4.43	3.85
15F162	WBR250-25A	250	0.40 x 1.00″	7.09	6.03	5.25	4.56
52F4760	WBR500-25	500	0.67 x 1.54″	9.20	7.82	6.81	5.92
35VDC RATED — 40VDC SURGE, TOLERANCE: –10%, +50%							
67F2303	WBR100-35A	100	0.40 x 0.88″	5.99	5.09	4.43	3.85
16F7795	WBR500-35	500	0.67 x 1.54″	9.20	7.82	6.81	5.92
52F4767	WBR1000-35	1000	0.79 x 1.79″	15.19	12.91	11.24	9.77
50VDC RATED — 65VDC SURGE, TOLERANCE: –10%, +150%							
15F326	WBR10-50A	10	0.28 x 0.57″	4.36	3.70	3.22	2.80
52F4759	WBR50-50	50	0.42 x 1.54″	5.99	5.09	4.43	3.85
52F4770	WBR150-50	150	0.67 x 1.12″	7.37	6.27	5.45	4.74
52F4774	WBR250-50	250	0.67 x 1.54″	7.94	6.75	5.87	5.11
52F4761	WBR500-50	500	0.79 x 1.79″	9.75	8.29	7.21	6.27
52F4768	WBR1000-50	1000	0.92 x 2.10″	16.02	13.61	11.84	10.30
150VDC RATED — 175VDC SURGE, TOLERANCE: –10%, +100%							
52F4763	WBR100-150	100	0.79 x 1.79″	9.65	8.20	7.13	6.20
52F4769	WBR150-150	150	0.92 x 1.79″	11.40	9.69	8.43	7.33
250VDC RATED — 300VDC SURGE, TOLERANCE: –10%, +100%							
52F4775	WBR4-250	4	0.54 x 1.12″	6.23	5.30	4.61	4.01
52F4778	WBR50-250	50	0.79 x 1.79″	10.37	8.82	7.67	6.67
15F119	WBR100-250	100	0.92 x 2.10″	12.73	10.82	9.41	8.19
350VDC RATED — 400VDC SURGE, TOLERANCE: –10%, +100%							
52F4773	WBR20-350	20	0.79 x 1.54″	12.89	10.96	9.54	8.29
15F896	WBR100-350	100	1.04 x 2.10″	21.20	18.02	15.68	13.64
450VDC RATED — 525VDC SURGE, TOLERANCE: –10%, +50%							
15F104	WBR4-450A	4	0.67 x 1.12″	11.59	9.85	8.57	7.45
52F4762	WBR10-450	10	0.79 x 1.12″	12.77	10.86	9.45	8.22
15F111	WBR40-450	40	0.92 x 2.10″	16.86	14.33	12.47	10.85
15F148	WBR80-450	80	1.04 x 2.60″	21.04	17.89	15.56	13.54
15F169	WBR100-450	100	1.04 x 3.66″	24.28	20.64	17.96	15.62

(7338) (de51491)

AVS SERIES SURFACE MOUNT ALUMINUM ELECTROLYTIC CAPACITORS

NEW SMD



AVS series capacitors are packaged in a vertical, cylindrical style to facilitate automatic mounting and reflow soldering. Tolerance: ±20%. Rated life: 2000 hours @ +85°C. Operating temperature: –40°C to +85°C. Case code size found in type number. **Sold in reel quantities**. Additional values are available, *contact your local Newark sales office.*

DIMENSIONS (mm)

Case Code	L	H (Max.)	A	D	W	J (Ref)
B	5.4 +0.1/-0.2	5.5	4.3 ±0.2	4.0 ±0.5	0.65 ±0.1	1.8
C	5.4 +0.1/-0.2	6.5	5.3 ±0.2	5.0 ±0.5	0.65 ±0.1	2.2
D	5.4 +0.1/-0.2	7.8	6.6 ±0.2	6.3 ±0.5	0.65 ±0.1	2.4
F	10.2 ±0.3	10.0	8.3 ±0.2	8.0 ±0.5	0.90 ±0.2	3.4
G	10.2 ±0.3	13.0	10.3 ±0.2	10.0 ±0.5	0.90 ±0.2	3.5

Case Code	B	C	D	F	G
Qty. per Reel	2,000	1,000	1,000	500	500

Stock No.	Type	Cap. (µF)	Dissipation Factor*	Max. ESR* (Ω)	Max. Ripple Current†	1-4	5-9
10VDC							
48F1516	AVS108M10G24T	1000	0.26	0.43	580mA	194.00	174.60
16VAC							
48F1517	AVS106M16B12T	10	0.16	26.5	28mA	232.00	208.80
48F1518	AVS226M16B12T	22	0.26	19.6	28mA	128.00	115.20
48F1519	AVS336M16C12T	33	0.16	8.0	35mA	148.00	133.20
48F1520	AVS476M16C12T	47	0.16	5.7	70mA	148.00	133.20
48F1521	AVS107M16D16T	100	0.26	4.3	70mA	192.00	172.80
48F1522	AVS227M16F24T	220	0.20	1.5	280mA	153.00	137.70
48F1523	AVS337M16F24T	330	0.20	1.0	320mA	153.00	137.70
48F1524	AVS477M16G24T	470	0.20	0.71	420mA	194.00	174.60
50VAC							
48F1525	AVS104M50B12T	0.10	0.12	1990	1.0mA	232.00	208.80
48F1526	AVS224M50B12T	0.22	0.12	905	2.0mA	232.00	208.80
48F1527	AVS334M50B12T	0.33	0.12	603	3.0mA	232.00	208.80
48F1528	AVS474M50B12T	0.47	0.12	424	5.0mA	232.00	208.80
48F1529	AVS105M50B12T	1.0	0.12	199	10mA	232.00	208.80
48F1530	AVS225M50B12T	2.2	0.12	90.5	16mA	232.00	208.80
48F1531	AVS335M50B12T	3.3	0.12	60.3	16mA	232.00	208.80
48F4382	AVS475M50C12T	4.7	0.12	42.4	23mA	138.00	124.20

*@120Hz, +85°C †rms @120Hz, +85°C

AVS SERIES ALUMINUM ELECTROLYTIC CAPACITOR KIT

AVS series kit contains 170 capacitors in the most popular values. Ideal for engineering and design.

48F1532 Type AVS-KIT 1. **Each** **51.30**

(33796) (ne33796)

NEWARK MAKES IT EASY.
MORE PAYMENT OPTIONS! USE YOUR MAJOR CREDIT CARD, CORPORATE PURCHASING CARD, PUT IT ON YOUR ACCOUNT, OR PLACE A C.O.D. ORDER.

OPERATING LIFE FOR CAPACITORS

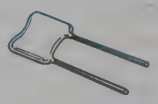
Where operating life is given at a certain temperature, for every drop of 10°C life expectancy will double.

- If life expectancy is 1,000 hours at 105°C this would double to 2,000 hours at 95°C and double again to 4,000 hours at 85°C

(38575) (Filler04)

MICA AND FILM CAPACITORS

STANDARD DIPPED MICA CAPACITORS



Feature coating to meet rigid humidity requirements. Conform to EIA specs. Classes 203.01, 203.02. Tinned copperweld leads. Meet 10-2000 cycle vibration tests. Temperature range: –55°C to +125°C. Tolerance denoted in type no: **J**: ±5%; **G**: ±2%; **F**: ±1%; **D**: ±½pF. 500 WVDC except (*) 300V and (**) 100V. Other ratings available; *contact your local Newark sales office.* MIL-C-5 equivalents also available as indicated; *contact your local Newark sales office.*

TYPE CD10

Stock No.	Type	MIL Type CM04-	Cap. pF	1-49	50-99	100-249	250-499
15F1338	CD10CD050D03	CD050D03	5	0.90	0.77	0.69	0.62
15F1339	CD10CD100D03	CD100D03	10	0.90	0.77	0.69	0.62
15F2600	CD10CD100J03	...	10	0.90	0.77	0.69	0.62
15F1341	CD10CD150J03	CD150J03	15	0.90	0.77	0.69	0.62
15F863	CD10ED200J03	CD200J03	20	0.69	0.59	0.53	0.48
15F1344	CD10ED220J03	ED220J03	22	0.69	0.59	0.53	0.48
15F1346	CD10ED270J03	ED270J03	27	0.69	0.59	0.53	0.48
15F1347	CD10ED300J03	ED300J03	30	0.69	0.59	0.53	0.48
15F1348	CD10ED330J03	ED330J03	33	0.69	0.59	0.53	0.48
15F1352	CD10ED470J03	ED470J03	47	0.81	0.69	0.62	0.56
15F1354	CD10ED560J03	ED560J03	56	0.81	0.69	0.62	0.56
15F1356	CD10ED680J03	ED680J03	68	0.81	0.69	0.62	0.56
15F1360	CD10FD101J03	FD101J03	100	0.84	0.71	0.64	0.58
15F1364	CD10FD151J03	ED151J03	150	0.87	0.74	0.66	0.60
15F1367	CD10FD201J03	FD201J03	200	1.13	0.96	0.87	0.78
15F1368	CD10FD221J03	FD221J03	220	1.18	1.00	0.90	0.81
81F1106	CD10FC301J03*	FC301J03	300	1.30	1.10	0.99	0.89
15F2240	CD10FA331J03**	FA331J03	330	1.28	1.09	0.98	0.88

TYPE CD15

Stock No.	Type	MIL Type CM05-	Cap. pF	1-49	50-99	100-249	250-499
15F884	CD15CD010D03	CD010D03	1	0.58	0.50	0.45	0.40
15F1203	CD15CD050D03	CD050D03	5	0.58	0.50	0.45	0.40
15F1204	CD15CD100D03	CD100D03	10	0.58	0.50	0.45	0.40
15F2602	CD15CD150J03	CD150J03	15	0.55	0.47	0.43	0.38
15F1207	CD15CD180J03	CD180D03	18	0.55	0.47	0.43	0.38
15F2603	CD15ED200J03	ED200J03	20	0.55	0.47	0.43	0.38
15F1209	CD15ED220J03	ED220J03	22	0.58	0.49	0.44	0.40
15F1212	CD15ED300J03	ED300J03	30	0.58	0.49	0.44	0.40
15F1213	CD15ED330J03	ED330J03	33	0.58	0.49	0.44	0.40
15F1217	CD15ED470J03	ED470J03	47	0.56	0.48	0.43	0.39
15F1222	CD15ED680J03	CD680J03	68	0.59	0.50	0.45	0.41
15F1226	CD15FD101J03	FD101J03	100	0.59	0.50	0.45	0.41
15F1230	CD15FD151J03	FD151J03	150	0.68	0.58	0.52	0.47
15F1234	CD15FD221J03	FD221J03	220	0.81	0.69	0.62	0.56
15F1237	CD15FD271J03	FD271J03	270	0.95	0.80	0.72	0.65
15F1239	CD15FD331J03	FD331J03	330	1.10	0.94	0.84	0.76
15F969	CD15FC621J03*	...	620	1.58	1.34	1.21	1.09
15F2608	CD15FC681J03*	...	680	1.78	1.51	1.36	1.22
15F2609	CD15FC821J03*	...	820	2.05	1.74	1.57	1.41
15F2610	CD15FA102J03**	...	1000	1.93	1.64	1.48	1.33
15F1240	CD15FD361J03	CD361J03	360	1.19	1.01	0.91	0.82
15F1241	CD15FD391J03	FD391J03	390	1.19	1.01	0.91	0.82
15F2605	CD15FD471J03	...	470	1.39	1.18	1.06	0.96
15F2606	CD15FD501J03	...	500	1.42	1.21	1.09	0.98
15F2607	CD15FD511J03	...	510	1.48	1.26	1.13	1.02
15F864	CD15FC561J03*	...	560	1.47	1.25	1.13	1.02

TYPE CD19

Stock No.	Type	MIL Type CM06-	Cap. pF	1-49	50-99	100-249	250-499
15F1243	CD19FD471J03	FD471J03	470	1.18	1.01	0.91	0.82
15F1245	CD19FD511J03	FD511J03	510	1.18	1.01	0.91	0.82
15F1248	CD19FD681J03	FD681J03	680	1.38	1.18	1.06	0.95
15F1250	CD19FD821J03	FD821J03	820	1.38	1.17	1.05	0.95
15F1252	CD19FD102J03	FD102J03	1000	1.47	1.25	1.13	1.02
15F1254	CD19FD122J03	FD122J03	1200	1.64	1.40	1.26	1.13
15F1256	CD19FD152J03	FD152J03	1500	1.90	1.62	1.46	1.31
15F1258	CD19FD182J03	FD182J03	1800	2.32	1.97	1.77	1.60
15F1259	CD19FD202J03	FD202J03	2000	2.42	2.05	1.85	1.66
15F1260	CD19FD222J03	FD222J03	2200	2.43	2.06	1.86	1.67
15F1264	CD19FD302J03	FD302J03	3000	2.87	2.44	2.20	1.98
15F1265	CD19FD332J03	FD332J03	3300	3.03	2.58	2.32	2.09
15F1267	CD19FD392J03	FD392J03	3900	3.60	3.06	2.75	2.48
15F1269	CD19FD472J03	FD472J03	4700	4.04	3.43	3.09	2.78

TYPE CD30

Stock No.	Type	MIL Type CM07-	Cap. pF	1-49	50-99	100-249	250-499
15F1272	CD30FD562J03	FD562J03	5600	7.07	6.01	5.41	4.87
15F1278	CD30FD103J03	FD103J03	10000	8.97	7.62	6.86	6.17

(7337) (de51216)

TYPE CDV19 RADIAL LEAD MICA CAPACITORS

Mica dipped. Impart high moisture, humidity resistance. Meet EIA specs. Tolerance: ±5%. 1000V DCW. Operating temperature: –55° to +125°C.

Stock No.	Type	Cap. pF	Dimensions (in.) L	W	T	1-49	50-99	100-249	250-499
95F7790	CDV19FF681J03	680	0.660	0.520	0.220	2.42	2.06	1.85	1.67
95F7807	CDV19FF472J03	4700	0.760	0.630	0.460	6.84	5.81	5.23	4.71

(7288) (de02016)

MC06 SERIES MICA CHIP CAPACITORS

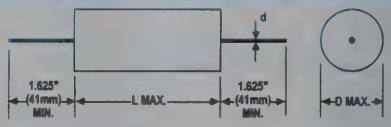
MC06 series mica capacitors are designed for surface mount applications and offer the inherent stability of dipped styles. Voltage: 50 VDC. EIA case style: 0603. Dimensions (H x W x L): 0.063 x 0.039 x 0.031". Also available in tape & reel; *contact your local Newark sales office.* **Sold in packages of 100.**

Stock No.	Type	Cap. pF	Tol.	Temp. Coeff. (ppm/°C)	1-4	5-9	10-24
16F7779	MC06CY010D	1	±0.5pF	±100	76.34	64.89	58.41
16F7782	MC06CY040D	4	±0.5pF	±100	76.34	64.89	58.41
16F7785	MC06CY070D	7	±0.5pF	±100	138.69	117.89	106.13
16F7787	MC06CY090D	9	±0.5pF	±100	138.69	117.89	106.13
16F7789	MC06EY120J	12	±5%	±50	121.88	103.59	93.26
16F7790	MC06EY150J	15	±5%	±50	121.88	103.59	93.26

(7400) (ne08791)

940C SERIES AXIAL LEAD FILM CAPACITORS

NEW



Type 940C round, axial lead film capacitors use polypropylene film and dual metallized electrodes for both self-healing properties and high peak current carrying capability (dV/dt). Tolerance: ±10%. Operating temperature: –55°C to +105°C. Most popular values listed. Other values available, *contact your local Newark sales office.*

Stock No.	Type	Cap. µF	Dimensions (in.) D (max.)	L (max.)	d (max.)	1-49	50-99
1200VDC							
48F3929	940C12P47K	0.47	0.906	1.811	0.047	3.08	2.78
48F3930	940C12P68K	0.68	1.063	1.811	0.047	3.98	3.59
48F3931	940C12W1K	1.00	1.299	1.811	0.047	5.42	4.88
1600VDC							
48F3932	940C16P1K	0.1	0.709	1.339	0.040	1.72	1.55
48F3933	940C16P22K	0.22	1.004	1.339	0.047	2.68	2.42
48F3934	940C16P33K	0.33	0.925	1.811	0.047	3.02	2.72
48F3935	940C16P47K	0.47	1.083	1.811	0.047	3.84	3.46
48F3936	940C16P68K	0.68	1.28	1.811	0.047	5.16	4.65
48F3937	940C16W1K	1.00	1.535	1.811	0.047	7.02	6.32
2000VDC							
48F3943	940C20P22K	0.022	0.453	1.339	0.040	2.60	2.34
48F3939	940C20S33K	0.033	0.531	1.339	0.040	1.18	1.07
48F3940	940C20S47K	0.047	0.591	1.339	0.040	1.32	1.19
48F3941	940C20S68K	0.068	0.689	1.339	0.040	1.50	1.35
48F3942	940C20P1K	0.1	0.827	1.339	0.040	1.90	1.71
48F3943	940C20P22K	0.22	0.866	1.811	0.040	2.60	2.34
48F3944	940C20P33K	0.33	1.063	1.811	0.047	3.52	3.17
48F3945	940C20P47K	0.47	1.26	1.811	0.047	4.66	4.20
48F3946	940C20P68K	0.68	1.339	2.126	0.047	5.88	5.30
48F3947	940C20W1K	1.00	1.614	2.126	0.047	8.06	7.26
3000VDC							
48F3948	940C30S1K	0.01	0.453	1.339	0.040	1.06	0.96
48F3949	940C30S22K	0.022	0.610	1.339	0.040	1.30	1.17
48F3950	940C30S33K	0.033	0.709	1.339	0.040	1.46	1.32
48F3951	940C30S47K	0.047	0.650	1.811	0.040	1.54	1.39
48F3952	940C30S68K	0.068	0.748	1.811	0.040	1.94	1.75
48F3953	940C30P1K	0.1	0.886	1.811	0.047	2.40	2.16

(34990) (ne34990)

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FILM CAPACITORS

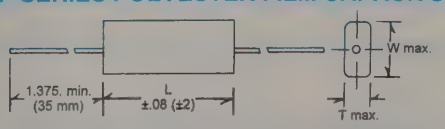
WMF SERIES POLYESTER FILM CAPACITORS

Axial leaded polyester film/foil capacitors, extended foil non-inductive: wound section. Epoxy end sealed and sealed outer wrapper. Tolerance: ±10%. Temperature range: –55°C to +85°C full rated voltage, up to 125°C with 50% voltage derating. Other ratings available; *contact your local Newark sales office.*

Stock No.	Type	Cap. µF	Dia. x L	1-24	25-49	50-99	100-249
			50WVDC				
15F2104	WMF05P1K	0.10	0.280 x 0.812″	1.61	1.45	1.29	1.21
15F2108	WMF05P22K	0.22	0.360 x 0.812″	1.75	1.57	1.40	1.31
15F2112	WMF05P47K	0.47	0.407 x 1.062″	3.03	2.73	2.42	2.27
15F2117	WMF05W1K	1.00	0.562 x 1.375″	4.35	3.92	3.48	3.26
			100WVDC				
15F1450	WMF1D1K	0.0010	0.188 x 0.562″	1.28	1.15	1.03	0.96
15F1452	WMF1D22K	0.0022	0.188 x 0.562″	1.28	1.15	1.03	0.96
15F1454	WMF1D47K	0.0047	0.188 x 0.562″	1.28	1.15	1.03	0.96
15F1456	WMF1S1K	0.01	0.200 x 0.562″	1.28	1.15	1.03	0.96
15F1457	WMF1S15K	0.015	0.245 x 0.562″	1.28	1.15	1.03	0.96
15F1458	WMF1S22K	0.022	0.220 x 0.687″	1.28	1.15	1.03	0.96
15F1459	WMF1S33K	0.033	0.250 x 0.687″	1.28	1.15	1.03	0.96
15F1460	WMF1S47K	0.047	0.255 x 0.812″	1.31	1.18	1.05	0.98
15F1462	WMF1P1K	0.1	0.295 x 0.937″	1.46	1.32	1.17	1.10
15F1464	WMF1P22K	0.22	0.370 x 1.062″	1.57	1.42	1.26	1.18
15F1465	WMF1P33K	0.33	0.405 x 1.187″	2.07	1.86	1.66	1.55
15F1466	WMF1P47K	0.47	0.450 x 1.250″	2.74	2.46	2.19	2.05
15F1468	WMF1W1K	1.0	0.585 x 1.500″	3.97	3.58	3.18	2.98
			200WVDC				
15F1484	WMF2P1K	0.1	0.320 x 0.937″	1.70	1.53	1.36	1.28
15F1486	WMF2P22K	0.22	0.385 x 1.187″	2.39	2.15	1.91	1.79
15F1493	WMF2W2K	2.0	0.965 x 1.875″	8.86	7.98	7.09	6.65
			400WVDC				
15F1500	WMF4S1K	0.01	0.330 x 0.687″	1.43	1.29	1.14	1.07
15F1504	WMF4S47K	0.047	0.432 x 0.875″	1.67	1.50	1.34	1.25
15F1506	WMF4P1K	0.1	0.490 x 1.062″	2.46	2.22	1.97	1.85
15F1508	WMF4P22K	0.22	0.595 x 1.375″	3.45	3.11	2.76	2.59
15F1510	WMF4P47K	0.47	0.730 x 1.625″	4.91	4.42	3.93	3.69
15F1511	WMF4P68K	0.68	0.820 x 1.750″	6.24	5.62	4.99	4.68
15F1512	WMF4W1K	1.0	0.895 x 2.000″	7.92	7.13	6.34	5.94
			600WVDC				
15F1522	WMF6S1K	0.01	0.290 x 0.812″	1.75	1.57	1.40	1.31
15F1524	WMF6S22K	0.022	0.335 x 0.937″	2.64	2.38	2.11	1.98
15F1526	WMF6S47K	0.047	0.430 x 1.000″	3.45	3.11	2.76	2.59
15F1528	WMF6P1K	0.1	0.580 x 1.375″	4.09	3.68	3.28	3.07
15F1530	WMF6P22K	0.22	0.722 x 1.625″	5.16	4.65	4.13	3.87
15F1936	WMF6P47K	0.47	0.885 x 2.000″	7.87	7.08	6.30	5.90
15F1931	WMF6W1K	1.0	1.185 x 2.562″	11.78	10.60	9.43	8.84

(7369) (ne01060)

MMP SERIES POLYESTER FILM CAPACITORS



Low profile, flat, oval, axial lead configuration. Non-inductive winding and self healing capabilities. Tolerance: ±10%. Temperature range: –55°C to +85°C (derate 50% at 125°C). Working voltage: **MMP2** = 250VDC; **MMP4** = 400VDC, **MMP6** = 630VDC.

Stock No.	Type	Cap. µF	Dimensions (in.) Thick.	Width	Length	1-24	25-49	50-99	100-249
95F7856	MMP2P1K	0.10	0.22	0.33	0.59	0.99	0.89	0.79	0.74
95F7860	MMP2P47K	0.47	0.28	0.43	0.83	1.13	1.01	0.90	0.85
95F7862	MMP2W1K	1.0	0.30	0.53	1.0	1.38	1.24	1.10	1.03
95F7864	MMP2W2P2K	2.2	0.37	0.71	1.3	2.64	2.38	2.11	1.98
95F7866	MMP2W4P7K	4.7	0.63	0.98	1.30	4.50	4.05	3.60	3.37
95F7868	MMP2W10K	10.0	0.63	0.98	1.85	8.04	7.23	6.43	6.03
95F7879	MMP4P47K	0.47	0.35	0.61	0.98	1.54	1.39	1.24	1.16
95F7883	MMP4W2P2K	2.2	0.55	0.91	1.50	4.05	3.64	3.24	3.04
95F7886	MMP6S1K	0.01	0.20	0.35	0.59	0.70	0.63	0.56	0.52
95F7892	MMP6P1K	0.10	0.31	0.51	0.83	1.31	1.18	1.05	0.98
95F7894	MMP6P22K	0.22	0.33	0.57	0.98	1.83	1.64	1.46	1.37
95F7895	MMP6P33K	0.33	0.39	0.67	0.98	2.00	1.80	1.60	1.50
95F7896	MMP6P47K	0.47	0.35	0.69	1.30	2.44	2.20	1.95	1.83
95F7898	MMP6W1K	1.0	0.51	0.87	1.46	2.89	2.60	2.31	2.17
95F7900	MMP6W2P2K	2.2	0.75	1.10	1.85	6.13	5.52	4.90	4.60

(7254) (de01062)

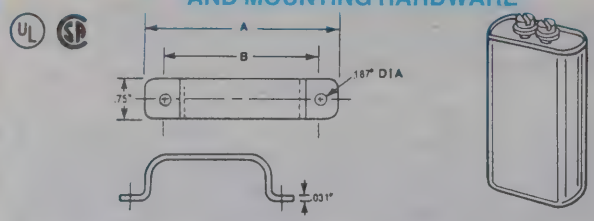
DME SERIES RADIAL LEAD POLYESTER FILM CAPACITORS

Tolerance: ±10%. Working voltage: **DME2** = 250VDC (160VAC); **DME4** = 400VDC (200VAC); **DME6** = 630VDC (250VAC). Full rated voltage at +85°C, derate linearly to 50% rated voltage at +125°C. Operating temperature: –55°C to +125°C. Additional values available, *contact your local Newark sales office.*

Stock No.	Type	Cap. µF	Dimensions Thick. x Ht. x Lth.	Lead Space	1-49	50-99	100-249
16F7796	DME2S1K	0.01	0.169 x 0.291 x 0.406″	0.295″	0.22	0.19	0.17
16F7797	DME2S12K	0.012	0.173 x 0.295 x 0.406″	0.295″	0.22	0.19	0.17
16F7798	DME2S15K	0.015	0.173 x 0.295 x 0.406″	0.295″	0.22	0.19	0.17
16F7799	DME2S18K	0.018	0.173 x 0.295 x 0.406″	0.295″	0.22	0.19	0.17
16F7800	DME2S22K	0.022	0.173 x 0.295 x 0.406″	0.295″	0.22	0.19	0.17
16F7801	DME2S27K	0.027	0.173 x 0.295 x 0.406″	0.295″	0.22	0.19	0.17
16F7803	DME2S39K	0.039	0.177 x 0.295 x 0.406″	0.295″	0.22	0.19	0.17
16F7804	DME2S47K	0.047	0.177 x 0.295 x 0.406″	0.295″	0.22	0.19	0.17
16F8022	DME2S56K	0.056	0.189 x 0.311 x 0.406″	0.295″	0.23	0.20	0.18
16F8024	DME2S82K	0.082	0.193 x 0.315 x 0.406″	0.295″	0.25	0.21	0.19
16F8025	DME2P1K	0.1	0.228 x 0.331 x 0.406″	0.295″	0.26	0.22	0.20
16F8026	DME2P12K	0.12	0.236 x 0.354 x 0.406″	0.295″	0.29	0.25	0.22
16F8027	DME2P15K	0.15	0.236 x 0.425 x 0.406″	0.295″	0.29	0.25	0.23
16F8029	DME2P22K	0.22	0.217 x 0.413 x 0.492″	0.394″	0.31	0.26	0.24
16F8030	DME2P27K	0.27	0.236 x 0.453 x 0.492″	0.394″	0.33	0.28	0.25
16F8031	DME2P33K	0.33	0.256 x 0.472 x 0.492″	0.394″	0.35	0.30	0.27
16F8032	DME2P39K	0.39	0.193 x 0.472 x 0.728″	0.591″	0.38	0.33	0.29
16F8033	DME2P47K	0.47	0.209 x 0.492 x 0.728″	0.591″	0.41	0.35	0.32
16F8034	DME2P56K	0.56	0.217 x 0.512 x 0.728″	0.591″	0.45	0.38	0.34
16F8035	DME2P68K	0.68	0.236 x 0.531 x 0.728″	0.591″	0.50	0.42	0.38
16F8036	DME2P82K	0.82	0.256 x 0.571 x 0.728″	0.591″	0.55	0.47	0.42
16F8037	DME2W1K	1.0	0.291 x 0.591 x 0.728″	0.591″	0.58	0.49	0.44
16F8038	DME2W1P2K	1.2	0.315 x 0.626 x 0.728″	0.591″	0.65	0.55	0.50
16F8013	DME2W1P8K	1.8	0.295 x 0.61 x 1.024″	0.886″	0.89	0.76	0.68
16F8014	DME2W2P2K	2.2	0.335 x 0.642 x 1.024″	0.886″	0.97	0.83	0.75
16F8015	DME2W2P7K	2.7	0.37 x 0.669 x 1.024″	0.886″	1.10	0.93	0.84
16F8016	DME2W3P3K	3.3	0.406 x 0.709 x 1.024″	0.886″	1.34	1.14	1.03
16F8017	DME2W3P9K	3.9	0.433 x 0.807 x 1.024″	0.886″	2.16	1.83	1.65
16F8019	DME2W4P7K	4.7	0.472 x 0.846 x 1.024″	0.886″	2.40	2.04	1.84
16F8018	DME2W5P6K	5.6	0.465 x 0.827 x 1.22″	1.083″	3.03	2.58	2.32
16F8020	DME2W6P8K	6.8	0.512 x 0.882 x 1.22″	1.083″	3.30	2.81	2.53
16F8021	DME2W8P2K	8.2	0.563 x 0.925 x 1.22″	1.083″	3.93	3.34	3.01
16F7995	DME2W10K	10.0	0.626 x 1.016 x 1.22″	1.083″	4.56	3.87	3.49
16F7996	DME4S1K	0.01	0.169 x 0.291 x 0.406″	0.295″	0.29	0.25	0.22
16F7998	DME4S15K	0.015	0.173 x 0.295 x 0.406″	0.295″	0.29	0.25	0.23
16F7999	DME4S18K	0.018	0.173 x 0.295 x 0.406″	0.295″	0.29	0.25	0.23
16F8000	DME4S22K	0.022	0.189 x 0.311 x 0.406″	0.295″	0.30	0.25	0.23
16F8001	DME4S27K	0.027	0.217 x 0.315 x 0.406″	0.295″	0.32	0.27	0.25
16F8002	DME4S33K	0.033	0.236 x 0.354 x 0.406″	0.295″	0.34	0.29	0.26
16F8003	DME4S39K	0.039	0.193 x 0.315 x 0.492″	0.394″	0.34	0.29	0.26
16F7986	DME4S47K	0.047	0.197 x 0.327 x 0.492″	0.394″	0.32	0.27	0.25
16F7988	DME4S68K	0.068	0.213 x 0.413 x 0.492″	0.394″	1.54	1.39	1.25
16F7990	DME4P1K	0.1	0.248 x 0.472 x 0.472″	0.394″	0.35	0.30	0.27
16F7991	DME4P12K	0.12	0.197 x 0.394 x 0.728″	0.591″	0.39	0.33	0.30
16F7992	DME4P15K	0.15	0.197 x 0.488 x 0.728″	0.728″	0.44	0.37	0.34
16F7993	DME4P18K	0.18	0.213 x 0.492 x 0.728″	0.591″	2.82	2.54	2.29
16F7977	DME4P27K	0.27	0.256 x 0.562 x 0.728″	0.591″	0.54	0.46	0.41
16F7978	DME4P33K	0.33	0.276 x 0.587 x 0.728″	0.591″	0.59	0.50	0.45
16F7979	DME4P39K	0.39	0.295 x 0.606 x 0.728″	0.591″	0.64	0.54	0.49
16F7980	DME4P47K	0.47	0.307 x 0.669 x 0.728″	0.591″	0.68	0.58	0.52
16F7981	DME4P56K	0.56	0.256 x 0.63 x 1.024″	0.886″	0.74	0.63	0.57
16F7982	DME4P68K	0.68	0.276 x 0.65 x 1.024″	0.886″	3.39	3.05	2.75
16F7983	DME4P82K	0.82	0.311 x 0.681 x 1.024″	0.886″	0.90	0.77	0.69
16F7984	DME4W1K	1.0	0.335 x 0.709 x 1.024″	0.886″	0.99	0.84	0.76
16F7985	DME4W1P2K	1.2	0.374 x 0.744 x 1.024″	0.886″	1.38	1.17	1.06
16F7968	DME4W1P5K	1.5	0.374 x 0.748 x 1.22″	1.083″	1.50	1.28	1.15
16F7969	DME4W1P8K	1.8	0.433 x 0.807 x 1.22″	1.083″	1.79	1.52	1.37
16F7970	DME4W2P2K	2.2	0.433 x 0.866 x 1.22″	1.083″	2.02	1.72	1.55
16F7971	DME6S1K	0.01	0.177 x 0.295 x 0.472″	0.394″	0.26	0.23	0.20
16F7972	DME6S12K	0.012	0.177 x 0.307 x 0.472″	0.394″	0.28	0.24	0.21
16F7974	DME6S18K	0.018	0.193 x 0.394 x 0.472″	0.394″	0.30	0.25	0.23
16F7975	DME6S22K	0.022	0.209 x 0.413 x 0.472″	0.394″	0.31	0.26	0.23
16F7959	DME6S33K	0.033	0.236 x 0.469 x 0.472″	0.394″	0.33	0.28	0.25
16F7960	DME6S39K	0.039	0.236 x 0.528 x 0.472″	0.394″	0.34	0.29	0.26
16F7962	DME6S56K	0.056	0.213 x 0.413 x 0.728″	0.591″	0.37	0.31	0.28
16F7963	DME6S68K	0.068	0.228 x 0.433 x 0.728″	0.591″	0.40	0.34	0.30
16F7964	DME6S82K	0.082	0.256 x 0.472 x 0.728″	0.591″	0.42	0.36	0.32
16F7965	DME6P1K	0.1	0.248 x 0.551 x 0.728″	0.591″	0.45	0.39	0.35
16F7966	DME6P12K	0.12	0.248 x 0.571 x 0.728″	0.591″	0.50	0.42	0.38
16F7967	DME6P15K	0.15	0.295 x 0.606 x 0.728″	0.591″	0.56	0.47	0.43
16F8004	DME6P18K	0.18	0.315 x 0.63 x 0.728″	0.591″	0.60	0.51	0.46
16F8005	DME6P22K	0.22	0.354 x 0.65 x 0.728″	0.591″	0.65	0.55	0.50
16F8006	DME6P27K	0.27	0.276 x 0.65 x 1.024″	0.886″	0.74	0.63	0.57
16F8007	DME6P33K	0.33	0.307 x 0.669 x 1.024″	0.886″	0.83	0.70	0.63
16F8008	DME6P39K	0.39	0.335 x 0.705 x 1.024″	0.886″	0.90	0.77	0.69
16F8009	DME6P47K	0.47	0.366 x 0.728 x 1.024″	0.886″	0.96	0.82	0.74
16F8010	DME6P56K	0.56	0.394 x 0.728 x 1.024″	0.886″	1.14	0.97	0.87
16F8012	DME6P82K	0.82	0.455 x 0.807 x 1.22″	1.083″	1.62	1.38	1.24
16F8040	DME6W1K	1.0	0.492 x 0.862 x 1.22″	1.083″	1.97	1.67	1.50
16F8041	DME6W1P2K	1.2	0.531 x 0.906 x 1.22″	1.083″	2.07	1.76	1.59
16F8042	DME6W1P5K	1.5	0.602 x 0.972 x 1.22″	1.083″	2.52	2.14	1.93
16F8043	DME6W1P8K	1.8	0.661 x 1.063 x 1.22″	1.083″	2.83	2.41	2.17
16F8044	DME6W2P2K	2.2	0.768 x 1.142 x 1.22″	1.083″	3.30	2.81	2.53

(7397) (ne08290)

K SERIES METALIZED POLYPROPYLENE AC CAPACITORS AND MOUNTING HARDWARE



Type SM are oval-cased capacitors designed for motor-run and similar applications. Polypropylene dielectric AC capacitors have metalized electrodes that are vacuum deposited on both sides of a paper substrate. They are smaller, lighter, and perform better than conventional paper-dielectric oil metalized film types. Ratings at 70° case temperature. UL listed, file E56959, CSA certified, file LRO75387. *Other ratings available; contact your local Newark sales office.*

370 VAC

Stock No.	Type	Cap. µF	H x W x D	1-24	25-49
16F7808	KKSM37U505M23	5.0	2.19 x 2.16 x 1.31″	12.32	11.09
16F7809	KKSM37U755M23	7.5	2.19 x 2.16 x 1.31″	13.36	12.02
16F7810	KKSM37U106M2B	10.0	2.69 x 2.16 x 1.31″	14.33	12.90
16F7811	KKSM37U156M3E	15.0	3.38 x 2.16 x 1.31″	21.14	19.03
		440 VAC			
16F7812	KKSM44U505M23	5.0	2.19 x 2.16 x 1.31″	14.29	12.86
16F7813	KKSM44U755M32	7.5	3.13 x 2.16 x 1.31″	16.92	15.22
		660 VAC			
87F2061	KKSM66U205M23	2.0	2.1875 x 2.16 x1.31″	13.42	12.08
87F2063	KKSM66U405M2B	4.0	2.6875 x 2.16 x 1.31″	15.86	14.27
87F2071	KBSM66U206M3E	20.0	3.875 x 3.66 x 1.97″	49.68	44.72
87F2072	KBSM66U256M3E	25.0	3.875 x 3.66 x 1.97″	52.93	47.64
87F2073	KBSM66U306M3E	30.0	3.875 x 3.66 x 1.97″	55.79	50.21

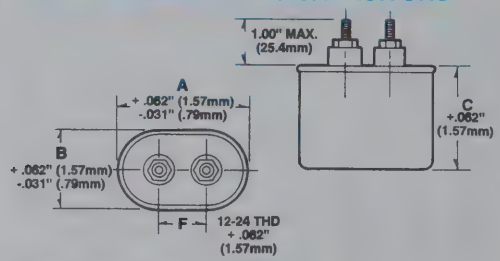
(7250) (de01042)

MOUNTING HARDWARE FOR K SERIES CAPACITORS

Stock No.	Type	Base Size	Dimensions A	Dimensions B	1-24	25-49
87F6852	30393-5	KK	3.046″	2.546″	0.54	0.49

(7250) (de01042)

SCR COMMUTATING CAPACITORS



- **For Power Semi Applications**
- **Meet EIA RS-401**

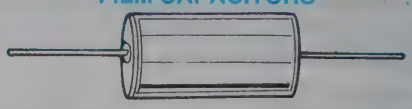
Suited for fast rise times and high pulse repetition rates, SCR capacitors are made of a non-PCB paper/film dielectric to provide a thermal balance with the operating environment. Internal connections are made with heavy tinned-copper braid conductors soldered between extended aluminum foil and internal studs. Rated for case temperature operation at +80°C. Rated for minimum of 95% survival after 40,000 hours operation at maximum rating conditions of voltage, current, case temperature, voltamperes.Other ratings available; *contact your local Newark sales office.*

600 Volts

Stock No.	Type	Cap. µF	Dimensions A	B	C	F	1-4	5-9	10-24
87F1942	SCRN222R	5.0	2.16″	1.31″	4¼″	0.81″	45.54	40.99	36.44
		1000 Volt							
87F1948	SCRN233R	1.0	2.16″	1.31″	2⅛″	0.81″	40.82	36.74	32.66
87F2834	SCRN234R	2.0	2.16″	1.31″	3⅛″	0.81″	44.05	39.65	35.24
87F1949	SCRN236R	5.0	2.69″	1.56″	4¼″	1.25″	53.08	47.77	42.46
50F8299	SCRN239R	20.0	2.91″	1.91″	5⅛″	2.00″	134.97	121.47	107.98
		1500 Volt							
87F1951	SCRN240R	0.5	2.16″	1.31″	2⅛″	0.81″	38.67	34.80	30.94
87F1952	SCRN241R	1.0	2.16″	1.31″	2⅞″	0.81″	46.99	42.29	37.60
		2000 Volt							
98F1200	SCRN246R	0.25	2.16″	1.31″	2⅛″	0.81″	45.88	41.29	36.70
95F7808	SCRN247R	0.5	2.16″	1.31″	2⅝″	0.81″	39.83	35.85	31.87
98F1400	SCRN248R	1.0	2.16″	1.31″	3⅛″	0.81″	42.40	38.16	33.92

(7251) (de01043)

935 SERIES METALIZED POLYPROPYLENE FILM CAPACITORS



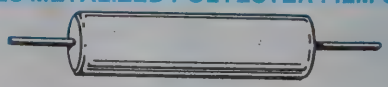
Designed for 20-100kHz switching power supply input filtering, DC blocking, and output filter applications where high current, high capacitance, and low ESR values are important. Metalized polypropylene dielectric has ability to heal if transient high voltage causes dielectric breakdown. Units sealed with flame retardant outer wrap and epoxy end seals. Temperature range: –55°C to +105°C with voltage derating. Tolerance: ±10% . UL approved for construction only.

100 VDC

Stock No.	Type	Cap. µF	Dia. x L	1-24	25-49	50-99
46F2562	935C1W2K	2	0.534 x 0.938″	5.53	4.97	4.42
46F2563	935C1W3K	3	0.624 x 0.938″	5.86	5.27	4.69
46F2564	935C1W5K	5	0.640 x 1.250″	6.17	5.55	4.93
46F2565	935C1W10K	10	0.805 x 1.500″	13.36	12.02	10.69
		200 VDC				
46F2454	935C2W1K	1	0.450 x 1.250″	3.84	3.45	3.07
46F2555	935C2W2K	2	0.605 x 1.250″	4.73	4.26	3.78
46F2556	935C2W3K	3	0.654 x 1.500″	5.17	4.66	4.14
46F2557	935C2W5K	5	0.769 x 1.750″	6.04	5.43	4.83
		400 VDC				
46F2560	935C4W1K	1	0.620 x 1.500″	5.31	4.78	4.25
46F2568	935C4W2K	2	0.802 x 1.750″	5.99	5.40	4.80
46F2570	935C4W5K	5	1.067 x 2.250″	9.42	8.48	7.53
46F2571	935C4W10K	10	1.543 x 2.250″	12.33	11.10	9.86

(7252) (de01044)

MMWA SERIES METALIZED POLYESTER FILM CAPACITORS



Type MMWA axial-leaded metalized polyester film capacitors incorporate compact, non-inductive extended foil windings with epoxy end seals to offer excellent moisture resistance and capacitance stability over the operating temperature range. Metallized polyester provides self-healing characteristics that help prevent permanent shorting due to high voltage transient. Operating temperature: –55°C to +85°C. Tolerance: ±10% (except **type MMWA05W5M**, ±20%).

50 WVDC

Stock No.	Type	Cap. µF	D x L	1-24	25-49	50-99
67F2155	MMWA05P47K	0.47	0.320 x 0.687″	3.53	3.18	2.83
67F2157	MMWA05W1K	1.0	0.335 x 1.000″	3.83	3.44	3.06
		200 WVDC				
67F2133	MMWA2P1K	0.1	0.240 x 0.687″	2.27	2.04	1.82
67F2164	MMWA2P47K	0.47	0.320 x 1.000″	3.17	2.86	2.54
67F2166	MMWA2W1K	1.0	0.430 x 1.062″	3.83	3.44	3.06
		400 WVDC				
67F2142	MMWA4P1K	0.1	0.320 x 0.687″	2.53	2.28	2.02
67F2170	MMWA4P47K	0.47	0.415 x 1.187″	4.08	3.67	3.26
67F2172	MMWA4W1K	1.0	0.470 x 1.750″	5.80	5.22	4.64
67F2174	MMWA4W2K	2.0	0.650 x 1.750″	8.79	7.91	7.03
		600 WVDC				
67F2151	MMWA6P1K	0.1	0.340 x 1.000″	2.89	2.60	2.31
67F2153	MMWA6P22K	0.22	0.430 x 1.250″	3.79	3.41	3.03
67F2176	MMWA6P47K	0.47	0.470 x 1.750″	5.69	5.12	4.55
67F2178	MMWA6W1K	1.0	0.685 x 1.750″	9.13	8.21	7.30

(7253) (de01045)

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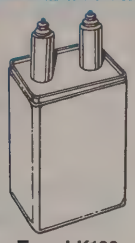
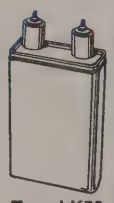
CAPACITORS AND DC POWER PACKS

LK SERIES MYLAR PAPER FILTER CAPACITORS


Type LK100


Type LK50

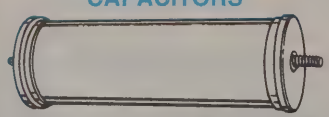
Oil-impregnated, oil-filled capacitors feature exceptional electrical characteristics in small size. Specifically designed for filter, bypass and coupling applications in the low frequency range. Operate in any position. Feature twice the life of MIL-C-25C capacitors. Impregnant is a highly-refined, purified and inhibited mineral oil. Threaded stud terminal is supplied with nut and solder lug. Hermetically sealed. Tolerance: ±10%. Operating temperature: –55°C to +85°C. Include foot brackets. **LK-ND series** for energy storage discharge also available; *contact your local Newark sales office.*

2k VDC

Stock No.	Cap. µF	L x W x H	1-2	3-4	5-9
18F2985	1.0	1.75 x 1.00 x 3.25″	180.23	135.56	91.11
18F2986	2	2.50 x 1.18 x 3.50″	183.95	141.07	97.30
		5kVDC			
18F2991	0.25	1.75 x 1.00 x 3.00″	91.84	90.40	87.50
18F2992	0.50	1.75 x 1.00 x 4.75″	98.21	96.66	93.57
18F2993	1.0	2.50 x 1.18 x 5.00″	103.15	101.52	98.28

(7239) (de00020)

OF SERIES 85°C GLASS CAP PLASTIC FILM DC FILTER CAPACITORS



Plastic dielectric capacitors are impregnated with a highly purified and inhibited mineral oil. Designed to pass tests and exceed requirements of MIL-C-25D (Characteristic E) except for high altitude flashover. Mount in any position. **Types OF20-OF60** are extended foil, non-inductively wound for energy storage. Operating temperature: –55°C to +85°C. Terminals are 8-32 x ⅜″ long. Tolerance: ±10%.

2kVDC

Stock No.	Type	Cap. µF	L x Dia.	1-4	5-9	10-14
19F702	OF20-104	0.1	2.25 x 0.75″	60.20	53.41	44.29
19F703	OF20-254	0.25	2.75 x 0.90″	66.85	59.31	40.27
16F1816	OF20-504	0.5	2.25 x 1.375″	74.56	73.39	71.04
			3kVDC			
19F1290	OF30-254	0.25	2.00 x 1.37″	77.09	68.40	48.09
19F1291	OF30-504	0.5	2.75 x 1.62″	79.80	78.55	76.03
			5kVDC			
19F711	OF50-104	0.1	2.25 x 1.37″	75.01	73.83	71.46
19F1294	OF50-254	0.25	3.00 x 1.62″	81.54	80.25	77.69
			10kVDC			
19F714	OF100-103	0.01	2.25 x 0.90″	69.20	61.40	48.79
19F715	OF100-203	0.02	2.75 x 1.12″	70.52	62.57	49.40
16F1817	OF100-104	0.1	5.00 x 1.625″	92.13	90.68	87.78

(7240) (de00021)

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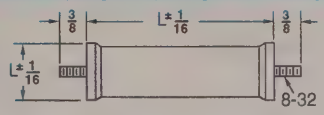
OFN SERIES PLASTIC FILM DC FILTER CAPACITORS



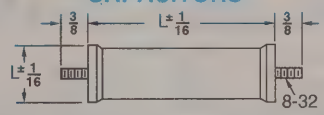
Designed for energy storage and discharge applications of high current discharge at low repetition rates, generally 30 shots per minute or less. Impregnated with highly purified and inhibited mineral oil.

8kVDC

Stock No.	Type	Cap. µF	L x Dia.	1-4	5-9	10-14
16F1826	OFN80-103	0.01	2.5 x 0.906″	74.32	65.94	51.11
16F1827	OFN80-503	0.05	3.125 x 1.375″	79.72	78.47	75.96
			10kVDC			
16F1829	OFN100-202	0.002	1.875 x 0.75″	76.37	67.76	51.89
16F1831	OFN100-103	0.01	2 x 1.125″	79.58	70.61	56.12
			30kVDC			
16F1835	OFN300-102	0.001	6.25 x 3.25″	85.53	84.19	81.49
			50kVDC			
16F1838	OFN500-102	0.001	9.375 x 0.906″	107.57	105.87	102.48
16F1839	OFN500-202	0.002	10.625 x 1.625″	119.85	117.97	114.19

(7409) (ne09038)

HG SERIES PLASTIC FILM PULSE-FORMING NETWORK CAPACITORS



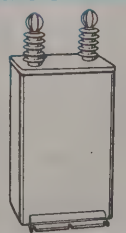
Type HG capacitors are radio frequency current and pulse-forming network capacitors. Silicone fluid filled and impregnated. All items in this series are low inductance. Polypropylene film dielectric.

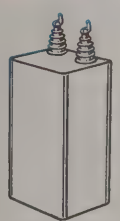
2.5kVDC

Stock No.	Type	Cap. µF	Volts Pulse	L x Dia.	1-2	3-4	5-9
16F1810	HG25-103	0.01	1.5K	1 x 1.125″	108.52	106.82	68.93
16F1811	HG25-203	0.02	1.5K	1.5 x 1.125″	109.21	107.49	69.37
16F1812	HG25-503	0.05	1.5K	2 x 1.375″	118.22	116.36	75.09
16F1813	HG25-104	0.1	1.5K	2.5 x 1.625″	126.44	124.45	80.32
			7kVDC				
16F1808	HG70-502	0.005	5K	2 x 1.625″	136.51	134.36	86.70
			14kVDC				
16F1814	HG140-502	0.005	10K	8 x 1.125″	180.88	160.93	123.49

(7392) (ne08265)

HV SERIES COMPACT DC POWER PACKS


HV500-502M


HV200-502M

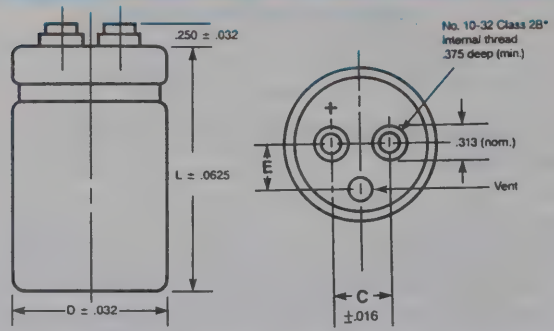
Small size power packs mount in any position and feature long-life silicon rectifiers. Low ripple characteristics. Withstand vibration and shock. Output voltage set by adjusting input voltage. To assure a true hermetic seal, units have solder seal terminals. Either the positive or negative terminal may be grounded. Steel containers are lacquer-coated. Standard line input voltage is 0-120VAC at frequencies of 50-500Hz. Output current (max.): **HVxx-103M**, 10.0µA; **HVxx-502M**, 5.0mA. Operating temperature: –55°C to +85°C. Other ratings available: 1.5, 5, 10, 15mA up to 100KVDC; center-tap (dual output); 220, 230, 240VAC input versions for Europe; *contact your local Newark sales office.*

Stock No.	Type	KVDC	Regulation Volts/ Mil*	L x W x H	1-2	3-4
19F3677	HV25-103M	0-2.5	76	3.75 x 2.25 x 3.75″	469.23	394.28
19F1286	HV50-502M	0-5	280	3.75 x 2.25 x 3.75″	422.71	388.52

*Approximate.
(7241) (de00022)

DC CAPACITORS

23A AND 23M SERIES DC POWER CAPACITORS



23A and **23M series** DC power, aluminum electrolytic capacitors feature standard high post, 10-32 screw terminals. Include standard 0.008″ (0.203) PVC sleeve. Tolerance: +50%,–10%. Operating temperature: –40°C to +85°C.

DIMENSIONS

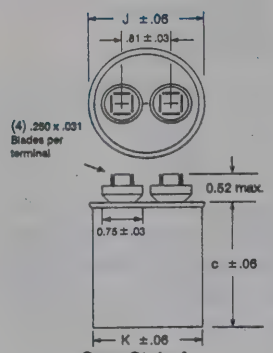
Case Style	D	L	C	E
A	1.375″ (34.93)	2.125″ (53.98)	0.500″ (12.70)	0.391″ (9.93)
B	1.375″ (34.93)	3.125″ (79.38)	0.500″ (12.70)	0.391″ (9.93)
C	2.000″ (50.80)	2.125″ (53.98)	0.875″ (22.23)	0.500″ (12.70)
D	2.000″ (50.80)	3.125″ (79.38)	0.875″ (22.23)	0.500″ (12.70)
E	2.000″ (50.80)	4.125″ (104.78)	0.875″ (22.23)	0.500″ (12.70)
F	2.500″ (63.50)	4.125″ (104.78)	1.125″ (28.58)	0.625″ (15.88)
G	2.500″ (63.50)	4.625″ (117.48)	1.125″ (28.58)	0.625″ (15.88)
H	3.000″ (76.20)	4.125″ (104.78)	1.250″ (31.75)	0.750″ (19.05)
I	3.000″ (76.20)	5.625″ (142.88)	1.250″ (31.75)	0.750″ (19.05)
K	3.000″ (76.20)	5.125″ (130.18)	1.250″ (31.75)	0.750″ (19.05)

Stock No.	Type	Cap. µF	A rms	Case Style	1-4	5-9	10-24
50WVDC							
93F8648	23A-153-F050BD1H1	15k	6.9	B	30.00	27.60	23.73
93F8649	23A-183-F050DB1H1	18k	7.7	C	32.72	30.10	25.88
75WVDC							
93F8659	23A-213-F075DD1H1	21k	10.7	D	46.53	42.81	36.80
100WVDC							
93F8665	23A-252-F100BB1H1	2.5k	3.4	A	24.31	22.36	19.23
93F8672	23A-383-F100FF1H1	38k	16.0	H	109.12	100.39	86.32
150WVDC							
200WVDC							
93F8684	23M-142-F200BD1H1	1.4k	3.2	B	56.26	51.76	44.50
250WVDC							
93F8694	23M-501-F250BB1H1	0.5k	2.5	A	35.29	32.46	27.91
93F8695	23M-102-F250BD1H1	1.0k	3.4	B	46.31	42.60	36.63
350WVDC							
93F8718	23M-192-F350DF1H1	1.9k	5.9	E	83.97	77.26	66.42
400WVDC							
93F8725	23M-501-F400DB1H1	0.5k	3.3	C	59.64	54.87	47.18
93F8726	23M-102-F400DD1H1	1.0k	4.2	D	71.25	65.55	56.36
93F8727	23M-142-F400DF1H1	1.4k	4.3	E	82.48	75.88	65.24
93F8729	23M-272-F400EG1H1	2.7k	6.7	G	117.39	108.00	92.86
93F8730	23M-322-F400FF1H1	3.2k	8.8	H	141.84	130.49	112.20
450WVDC							
93F8733	23M-301-F450BD1H1	0.3k	2.1	B	49.51	45.55	39.16
93F8736	23M-102-F450DF1H1	1.0k	4.3	E	80.23	73.81	63.46
93F8737	23M-162-F450EF1H1	1.6k	5.6	F	98.50	90.62	77.92
93F8741	23M-242-F450FF1H1	2.4k	8.1	H	130.17	119.75	102.96
93F8742	23M-322-F450FH1H1	3.2k	8.4	K	156.49	143.97	123.78
93F8744	23M-362-F450FI1H1	3.6k	8.7	I	171.63	157.90	135.76

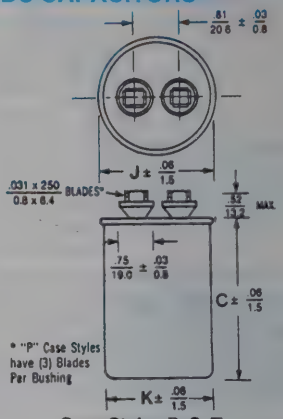
(11626) (ne09957)

CAN'T LOCATE A PARTICULAR PRODUCT?
NEWARK STOCKS THOUSANDS OF ITEMS NOT LISTED IN THIS CATALOG. CALL US TODAY!

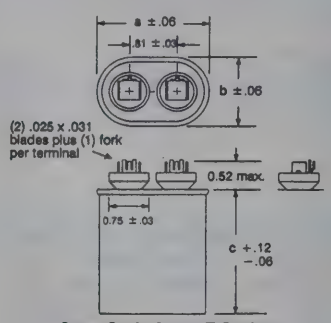
GENERAL PURPOSE DC CAPACITORS



Case Style A



Case Styles P, S, T



Case Style for 26F Series

General purpose DC capacitors are used in DC filter circuits for voltages, frequencies, or life greater than the capabilities of electrolytic style capacitors. Operating life: 60,000 hours with 94% survival. **97F5000/9000 series** are designed for use in motor-run applications. Dual-rated 440VAC, 1000VDC. **97F** capacitors feature tolerance ±6% and operating temperature –30°C to +70°C. **26F series** capacitors feature tolerance ±10% and operating temperature –30°C to +70°C. *Order mounting brackets for these capacitors separately on page 81.*

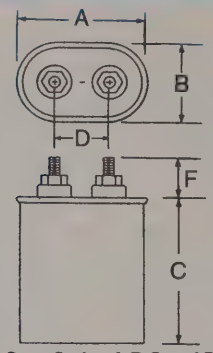
CASE DIMENSIONS

Case Style	A	B	Case Style	J	K
A	2.16″	1.31″	P	1.88″	1.75″
B	2.69″	1.56″	S	2.12″	2.00″
C	2.91″	1.91″	T	2.62″	2.50″

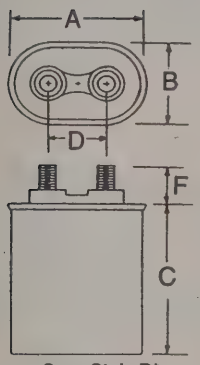
Stock No.	Type	Cap. µF	Case Style	Dim. C	1-4	5-9	10-24
440VAC, DUAL-RATED 1000VDC							
46F1242	97F5437S	3	A	2.12″	12.47	11.34	10.20
46F1243	97F5337S	4	A	2.88″	13.48	12.26	11.03
46F1244	97F5339S	5	A	2.88″	14.05	12.78	11.50
46F1245	97F5436S	6	A	2.88″	14.61	13.28	11.96
46F1246	97F9036	7.5	A	3.88″	16.30	14.81	13.33
46F3403	97F5300S	10	A	3.88″	17.65	16.05	14.44
46F3411	97F5001S	12.5	P	2.88″	19.34	17.58	15.82
46F3412	97F9037S	15	P	2.88″	20.79	18.90	17.01
46F3414	97F9039S	20	P	3.88″	23.94	21.76	19.58
46F3415	97F9040S	25	P	4.75″	27.65	25.13	22.62
46F3416	97F5023S	30	P	4.75″	30.45	27.68	24.91
46F3417	97F9041S	35	S	4.75″	34.39	31.26	28.14
46F3418	97F5116S	40	S	4.75″	37.20	33.82	30.44
46F3419	97F5209S	45	T	3.88″	42.60	38.72	34.85
89F2545	97F5211S	50	T	3.88″	45.41	41.28	37.15
1500VDC							
65F2160	26F7500	1.0	A	2.12″	26.66	24.23	21.81
96F7534	26F7501	2.0	A	3.12″	32.64	29.68	26.71
96F7535	26F7503	5.0	C	3.88″	58.23	52.93	47.64
96F7536	26F7504	6.0	C	4.25″	66.52	60.47	54.42
2500VDC							
65F2162	26F7515	0.10	A	2.12″	24.08	21.89	19.71
65F2163	26F7516	0.25	A	2.12″	27.29	24.81	22.33
65F2164	26F7517	0.50	A	2.12″	24.52	22.29	20.06
89F2495	26F7576	1.00	A	3.12″	28.52	25.93	23.34
89F2496	26F7519	2.00	A	4.25″	36.13	32.84	29.56
89F2497	26F7520	4.00	C	4.25″	56.35	51.23	46.10

(7333) (de50247)

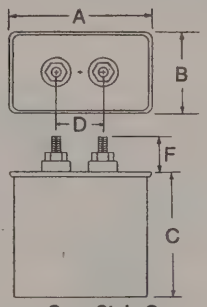
97F7500/A97F8600 SERIES SCR COMMUTATION CAPACITORS



Case Styles A,B,C and D



Case Style D*



Case Style G

For SCR commutation, snubbers for SCR's and other power semiconductors. Also for any other circuits where combination of frequency and voltage results in high RMS currents. **97F7500 series** special purpose line designed for applications where large µF value at low voltage is required in small sizes. **A97F8600 series** have all-film dielectric. Terminal length: 0.72″ (case D*); 0.58″ (all others). Case material, styles A through D, aluminum; style G, steel. All units are unpainted case and cover. *Order brackets for capacitors separately on page 81.*

CASE DIMENSIONS FOR A97F7500/A97F8600

Case Style	A	B	D	F
A	2.16″	1.31″	0.81″	1.18″
B	2.69″	1.56″	0.81″	1.12″
C	2.91″	1.91″	1.38″	1.12″
D	3.66″	1.97″	1.38″	1.12″
D*	3.66″	1.97″	1.25″	0.91″
G	4.56″	2.84″	2.00″	1.12″

250 VOLTS PEAK

Stock No.	Type	Cap. µF	Case Style	Dim. C	1-4	5-9	10-24
~~98F506~~	97F7514	100.0	D	3.50″	130.19	118.36	106.52
51F1830	97F7512	150.0	D	4.75″	163.48	148.62	133.76

600 VOLTS PEAK

16F1274	A97F8672	10.0	C	4.25″	136.45	124.05	111.64
16F1276	A97F8674	30.0	D	7.25″	197.61	179.65	161.68
16F1277	A97F8676	50.0	G	6.25″	341.02	310.02	279.02

1000 VOLTS PEAK

16F1286	A97F8618	10.0	D	6.25″	154.27	140.25	126.22

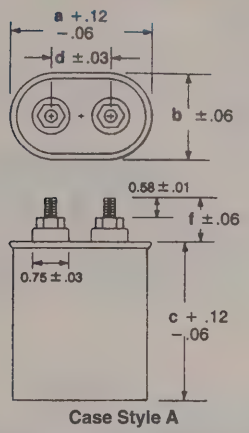
1500 VOLTS PEAK

16F1287	A97F8620	1.0	A	3.88″	92.58	84.16	75.74
16F1288	A97F8621	2.0	C	3.88″	114.41	104.01	93.61
16F1291	A97F8625	10.0	G	5.18″	249.26	226.60	203.94

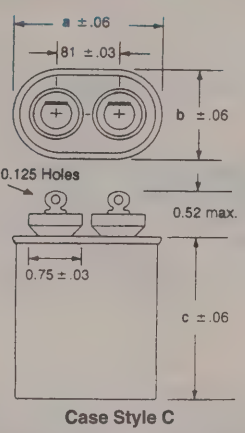
*100 amp terminals

(7358) (de53315)

28F5000 SERIES SNUBBER CAPACITORS



Case Style A



Case Style C

For power semiconductor circuits to protect semiconductors by limiting rate of voltage rise. Dielectric system polypropylene, paper with foil electrodes. Dimensions for case style A: A = 2.16″; B = 1.31″. Dimensions for case style C: A = 2.91″; B = 1.91″. *Order mounting accessories separately on page 81.*

1000 VOLTS PEAK

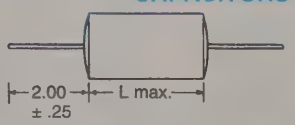
Stock No.	Type	Cap. µF	Case Style	Dim. C	1-4	5-9	10-24
46F7174	28F5502	0.5	A	2.12″	38.16	34.69	31.22
46F1262	28F5503	1.0	A	2.12″	38.96	35.42	31.88
46F1263	28F5504	2.0	A	2.88″	41.21	37.46	33.71

2000 VOLTS PEAK

16F1292	A28F5600	0.05	A	2.12″	37.08	33.71	30.34
16F1293	A28F5601	0.10	A	2.12″	36.93	33.57	30.21
16F1294	A28F5602	0.25	A	2.12″	38.00	34.54	31.09
16F1295	A28F5603	0.50	A	2.88″	40.14	36.49	32.84
16F1296	A28F5604	1.00	A	4.50″	46.45	42.23	38.01
16F1297	A28F5688	2.00	C	4.25″	158.61	144.19	129.77

(7357) (de53314)

40L SERIES SNUBBER AND HIGH-CURRENT DC CAPACITORS



Extended electrode, metal spray and contacts. Electroplated solid copper leads welded to contacts. Units wrapped in flame-retardant tape and end-potted with polyurethane. Operating temperature: –55°C to +105°C. Tolerance: ±10%. Dissipation factor: 0.1% max. at 25°, 1kHz. 400VDC and 600VDC units available. Lead size: 20AWG except (*) are 18AWG. *Order mounting accessories separately on page 81.*

400VDC

Stock No.	Type	Cap. µF	Dimensions T	W	L	ESR mΩ	Amps ARMS	1-4	5-9	10-24
46F1220	40L3472	0.47	0.28″	0.47″	1.25″	21.0	4.0	3.16	2.77	2.47
46F1222	40L3101	1.00	0.39″	0.59″	1.25″	11.0	9.0	4.43	3.89	3.47
46F1224	40L3221	2.20	0.56″	0.83″	1.25″	8.0	11.0	6.94	6.10	5.43
46F1225	40L3331	3.30	0.69″	0.93″	1.25″	7.0	15.0	9.45	8.30	7.40
46F1226	40L3471*	4.70	0.64″	0.88″	1.75″	7.0	17.0	10.80	9.48	8.45
46F1227	40L3681*	6.80	0.67″	0.90″	2.25″	7.0	17.0	13.20	11.60	10.33

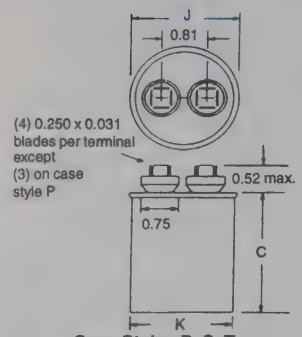
600VDC

46F1228	40L6472	0.47	0.46″	0.69″	1.25″	13.0	4.0	5.29	4.64	4.14
46F1230	40L6101	1.00	0.67″	0.91″	1.25″	8.0	9.0	8.59	7.54	6.72
46F1231	40L6151	1.50	0.73″	0.97″	1.50″	7.0	11.0	10.66	9.36	8.34
46F1232	40L6221*	2.20	0.64″	0.88″	2.25″	10.0	13.0	12.00	10.54	9.39

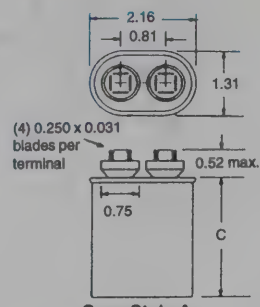
(7334) (de50248)

NEW PRODUCTS ARE BEING ADDED TO OUR INVENTORY EVERY DAY.
CALL NEWARK FOR INFORMATION ON WHAT'S CURRENTLY IN STOCK.

97F GEM SERIES AC POWER SUPPLY AND MOTOR RUN CAPACITORS



Case Styles P, S, T



Case Style A

97F8000 series metalized capacitors designed for AC power supplies and filtering applications offer low dielectric loss, inherent self-healing property, and increased microfarad per volume. Tolerance: ±10%. Leakage current: 30µA max. Frequency: 60Hz nominal. Operating temperature: –40° to +70°C. Operating life: 60,000 hours with 95% survival. Dissipation factor: 0.1% max. UL recognized pressure sensitive interrupter. *Order mounting brackets separately on page 81.* **97F5000/9000 series** same except for motor run applications and ±6% tolerance. *Order mounting brackets separately on page 81.*

CASE STYLE DIMENSIONS

Case Style	K	J	Case Style	A	B
P	1.75″ (44.45)	1.88″ (47.75)	A	2.16″ (54.86)	1.31″ (33.27)
S	2.00″ (50.80)	2.12″ (53.84)	...	...	...
T	2.50″ (63.50)	2.62″ (66.55)	...	...	...

240VAC

Stock No.	Type	Cap. µF	Case Style	Dim. C	1-4	5-9	10-24
89F2044	97F8036S	15	P	2.88″	20.46	18.60	16.74
89F2045	97F8037S	25	P	2.88″	25.85	23.50	21.15
89F2046	97F8038S	30	P	3.88″	28.55	25.95	23.36
89F2047	97F8039S	35	P	3.88″	31.13	28.30	25.47
89F2049	97F8041	45	P	4.75″	36.30	33.00	29.70
89F2059	97F8052S	100	T	4.75″	69.57	63.24	56.92
50F2637	97F8053S	120	T	4.75″	79.45	72.23	65.00

370VAC

Stock No.	Type	Cap. µF	Case Style	Dim. C	1-4	5-9	10-24
89F2060	97F8054S	3	A	2.12″	13.04	11.85	10.67
89F2061	97F8055S	4	A	2.12″	13.60	12.36	11.13
89F2062	97F8056S	5	A	2.88″	14.51	13.19	11.87
89F2063	97F8057S	6	A	2.88″	15.07	13.70	12.33
89F2064	97F8058S	7.5	A	2.88″	15.97	14.51	13.06
89F2065	97F8059	10	A	3.88″	15.07	13.70	12.33
89F2066	97F8060S	12.5	A	2.88″	19.56	17.79	16.01
89F2067	97F8061S	15	P	2.88″	21.12	19.20	17.28
89F2069	97F8063S	20	P	3.88″	24.28	22.07	19.86
89F2070	97F8064S	25	P	3.88″	27.08	24.62	22.16
89F2071	97F8065S	30	P	3.88″	29.79	27.08	24.37
89F2073	97F8067S	40	P	4.75″	35.63	32.39	29.15
89F2075	97F8069S	50	S	4.75″	42.60	38.72	34.85
89F2077	97F8071S	60	T	3.88″	51.24	46.58	41.92
46F1233	97F5503S	3	A	2.12″	12.37	11.24	10.12
46F1234	97F5704S	4	A	2.12″	12.70	11.54	10.39
46F1235	97F5705S	5	A	2.12″	13.15	11.96	10.76
46F1237	97F9001S	7.5	A	2.88″	14.51	13.19	11.87
46F1238	97F9002S	10	A	2.88″	15.74	14.31	12.88
46F1239	97F9003S	12.5	A	3.88″	17.65	16.05	14.44
46F3407	97F9004S	15	A	3.88″	18.65	16.96	15.26
46F3409	97F9005	20	P	3.88″	22.81	20.74	18.66
46F3410	97F9006	25	P	3.88″	25.29	22.99	20.69
46F3397	97F5054	30	P	3.88″	27.87	25.34	22.81
46F3399	97F5056	40	P	4.75″	33.38	30.35	27.32
46F3401	97F9009	50	S	4.75″	39.78	36.17	32.55

CONTINUED

97F GEM SERIES AC POWER SUPPLY AND MOTOR RUN CAPACITORS (CONT.)

370VAC (CONT.)

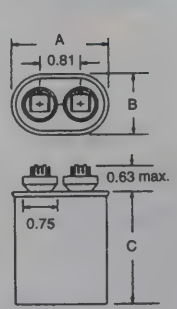
Stock No.	Type	Cap. µF	Case Style	Dim. C	1-4	5-9	10-24
46F3402	97F5276S	60	T	3.88″	47.87	43.52	39.16

440VAC. DUAL-RATED 1000VAC

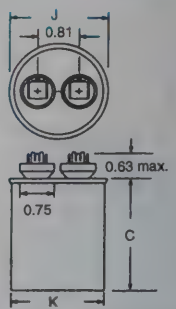
Stock No.	Type	Cap. µF	Case Style	Dim. C	1-4	5-9	10-24
46F1242	97F5437S	3	A	2.12″	12.47	11.34	10.20
46F1243	97F5337S	4	A	2.88″	13.48	12.26	11.03
46F1244	97F5339S	5	A	2.88″	14.05	12.78	11.50
46F1245	97F5436S	6	A	2.88″	14.61	13.28	11.96
46F1246	97F9036	7.5	A	3.88″	16.30	14.81	13.33
46F3403	97F5300S	10	A	3.88″	17.65	16.05	14.44
46F3411	97F5001S	12.5	P	2.88″	19.34	17.58	15.82
46F3412	97F9037S	15	P	2.88″	20.79	18.90	17.01
46F3413	97F9038	17.5	P	3.88″	22.48	20.43	18.39
46F3414	97F9039S	20	P	3.88″	23.94	21.76	19.58
46F3415	97F9040S	25	P	4.75″	27.65	25.13	22.62
46F3416	97F5023S	30	P	4.75″	30.45	27.68	24.91
46F3417	97F9041S	35	S	4.75″	34.39	31.26	28.14
46F3418	97F5116S	40	S	4.75″	37.20	33.82	30.44
89F2545	97F5211S	50	T	3.88″	45.41	41.28	37.15
89F2547	97F9043S	60	T	4.75″	50.68	46.07	41.47
89F2549	97F5251S	70	T	4.75″	55.96	50.87	45.79

(7248) (de01027)

HID LIGHTING CAPACITORS



Case Styles A, B, C, D



Case Style P

For HID lighting applications with capacitors part of ballast circuit for mercury, vapor, metal halide or high-pressure sodium lamps. Two 0.250 x 0.031″ blades and fork per terminal. Tolerance: ±3%. 50/60Hz. Operating tenperature: –40°C to +90°C. UL recognized. *Mounting accessories sold separately on page 81.*

Case Style	A	B	Case Style	K	J
A	2.16″	1.31″	D	3.66″	1.97″
B	2.69″	1.56″	P	1.75″	1.88″
C	2.91″	1.91″	...	...	...

400 VAC

Stock No.	Type	Cap. µF	Case Style	Dim. C	1-24	25-49	50-99
50F1888	97F6601	10	A	3.88″	17.98	16.35	14.71
94F6140	97F6606S	10	B	2.88″	18.88	17.16	15.45
50F1892	97F6602	15	B	3.88″	22.71	20.64	18.58
98F2610	97F6621S	15	C	2.88″	22.93	20.85	18.76
94F6141	97F6622S	24	C	3.88″	29.67	26.98	24.28
50F1884	97F6535S	24	P	3.88″	26.86	24.42	21.98

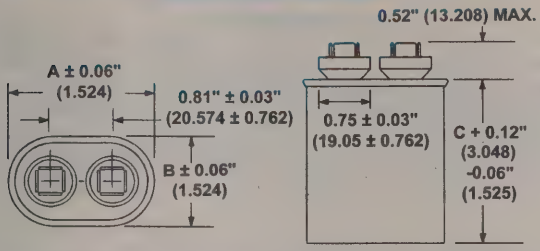
480 VAC

Stock No.	Type	Cap. µF	Case Style	Dim. C	1-24	25-49	50-99
50F1894	97F6694	20	C	3.88″	30.23	27.48	24.74
50F1896	97F6680S	24	C	3.88″	34.84	31.68	28.51

(7249) (de01028)

AT NEWARK, YOUR ORDER IS OUR FIRST PRIORITY.

97F8200 SERIES METALIZED POLYPROPYLENE FILM AC CAPACITORS



580 volt capacitors are specially designed for general purpose AC applications in power supplies and power conversion equipment. Operating temperature: –40°C to +70°C. Tolerance: ±6%. Dissipation factor: 0.1% maximum. Operating life: 60,000 hours with 94% survival. Four 0.250 x 0.031″ (6.35 x 0.787) blades per terminal. *Order mounting brackets separately on this page.*

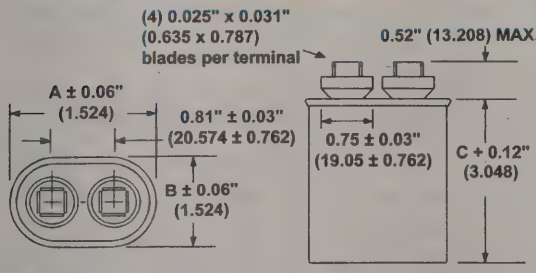
Case Style	Dimension A	Dimension B
A	2.16″ (54.86)	1.31″ (33.27)
B	2.69″ (68.33)	1.56″ (39.62)
C	2.91″ (73.91)	1.91″ (48.51)
D	3.66″ (92.96)	1.97″ (50.04)

CASE STYLE A

Stock No.	Type	Cap. µF	Dimension C	1-4	5-9	10-24
50F1885	97F8240S	1.5	2.12″ (53.84)	11.91	10.83	9.75
50F1886	97F8241S	2.0	2.12″ (53.84)	12.47	11.34	10.20
50F1870	97F8242	2.5	2.88″ (73.15)	13.15	11.96	10.76
50F1871	97F8243	3.0	2.88″ (73.15)	13.60	12.36	11.13
50F1872	97F8244	4.0	2.88″ (73.15)	14.38	13.08	11.77
50F1873	97F8245S	5.0	3.88″ (98.55)	15.97	14.51	13.06
50F1874	97F8246	6.0	3.88″ (98.55)	16.75	15.23	13.71
50F1876	97F8248S	8.0	4.75″ (120.65)	18.88	17.16	15.45
CASE STYLE B						
50F1877	97F8249S	10.0	3.88″ (98.55)	23.26	21.15	19.03
50F1861	97F8251S	15.0	3.88″ (98.55)	27.87	25.34	22.81
50F1863	97F8253	20.0	4.75″ (120.65)	32.49	29.53	26.58
CASE STYLE C						
50F1864	97F8254S	25.0	4.75″ (120.65)	40.45	36.78	33.10
CASE STYLE D						
50F1867	97F8257S	40.0	4.75″ (102.65)	59.33	53.94	48.54

(7259) (de01349)

27L6000 SERIES METALIZED POLYPROPYLENE FILM AC CAPACITORS



Metalized film capacitors are designed for general purpose AC applications in power supplies, UPS and power conversion equipment. These capacitors may be used in AC applications where the voltage waveform is non-sinusoidal. Tolerance: ±6%. Rated 660VAC. Operating Temperature: –40°C to +70°C. Operating life: 60,000 hours with 94% survival. *Mounting accessories sold separately on this page.*

CASE DIMENSIONS

Case Style	A	B
A	2.16″	1.31″
B	2.69″	1.56″
D	3.66″	1.97″

27L6000 SERIES METALIZED FILM AC CAPACITORS
CASE STYLE A

Stock No.	Type	Cap. µF	Dim. C	1-4	5-9	10-24
97F7846	27L6007S	1.0	2.12″	8.84	7.76	6.92
97F7847	27L6008S	1.5	2.12″	9.54	8.38	7.47
97F7848	27L6009S	2.0	2.88″	10.16	8.92	7.95
97F7849	27L6010S	2.5	2.88″	10.76	9.45	8.42
97F7850	27L6011S	3.0	2.88″	13.82	12.14	10.82
97F7851	27L6012S	4.0	3.88″	14.00	12.30	10.96
97F7852	27L6013S	5.0	3.88″	16.19	14.22	12.67

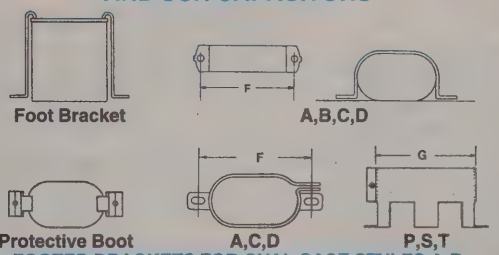
CONTINUED

27L6000 SERIES METALIZED POLYPROPYLENE FILM AC CAPACITORS (CONT.)

Stock No.	Type	Cap. µF	Dim. C	1-4	5-9	10-24
97F7853	27L6014S	6.0	4.75″	17.76	15.60	13.90
97F7854	27L6015S	7.0	4.75″	18.81	16.52	14.72
97F7855	27L6016S	8.0	4.75″	19.77	17.37	15.48
CASE STYLE B						
97F7856	27L6017S	10.0	3.88″	23.53	20.67	18.42
97F7857	27L6018S	12.0	4.75″	26.25	23.05	20.54
97F7858	27L6019S	15.0	5.75″	30.71	26.97	24.04
97F7859	27L6020S	18.0	5.75″	35.78	31.43	28.00
CASE STYLE D						
97F7861	27L6022S	25.0	4.75″	43.40	38.12	33.97
97F7862	27L6023S	30.0	4.75″	48.47	42.57	37.93

(7327) (de03517)

BRACKETS AND ACCESSORIES FOR AC/DC AND SCR CAPACITORS



FOOTED BRACKETS FOR OVAL CASE STYLES A-D

Stock No.	Type	Case Height	1-24	25-49	50-99	100-249
62F3618	302C920P210	2.12″	1.56	1.40	1.25	1.12
62F3619	302C920P200	2.62″	1.56	1.40	1.25	1.12
62F3620	302C920P113	2.88″	1.56	1.40	1.25	1.12
62F3621	302C920P179	3.12″	1.56	1.40	1.25	1.12
62F3623	302C920P115	3.88″	1.56	1.40	1.25	1.12
62F3624	302C920P122	4.25″	1.56	1.40	1.25	1.12
81F3201	302C920P211	4.50″	1.56	1.40	1.25	1.12
81F3202	302C920P116	4.75″	1.27	1.14	1.02	0.92
81F3204	302C920P152	6.25″	1.56	1.40	1.25	1.12

PROTECTIVE BOOT FOR CUP BUSHINGS

Stock No.	Type	1-24	25-49	50-99	100-249
62F3616	614A527P21	0.91	0.82	0.73	0.66
62F3617	115A1552P23	0.73	0.66	0.58	0.53

WRAP-AROUND BRACKETS

Stock No.	Type	Case Style	Dim. F	1-24	25-49	50-99	100-249
62F3613	K9827065P21	A	2.56″	0.73	0.66	0.58	0.53
50F2636	K9827065P31	B	3.06″	0.91	0.82	0.73	0.66
62F3614	614A301P61	C	3.31″	0.88	0.80	0.71	0.64
62F3615	614A301P51	D	4.06″	0.88	0.80	0.71	0.64

UNIVERSAL WRAP-AROUND BRACKETS

Stock No.	Type	Case Style	Mtg. Dim. F	Mtg. Dim. G	1-24	25-49	50-99	100-249
62F3630	128A2244ACP21	A	2.69″	...	2.64	2.38	2.12	1.90
62F3631	128A2244ABP22	C	3.44″	...	2.64	2.38	2.12	1.90
62F3632	128A2244ABP23	D	4.19″	...	2.64	2.38	2.12	1.90
81F3216	295A6016P31	P	...	1.75″	2.18	1.96	1.74	1.57
81F3217	295A6016P32	S	...	2.00″	1.97	1.77	1.58	1.42
81F3218	295A6016P33	T	...	1.03″	2.33	2.10	1.87	1.68

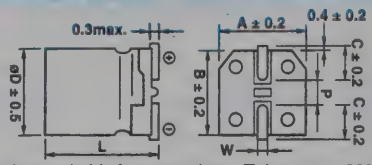
(7359) (de53316)

NEWARK PROVIDES OPTIMUM SERVICE.
SAME-DAY SHIPMENT WHEN YOU PLACE YOUR ORDER BY 5:00 PM C.S.T.

SURFACE MOUNT ALUMINUM ELECTROLYTIC CAPACITORS

VERTICAL CHIP ALUMINUM ELECTROLYTIC CAPACITORS

NEW SMD LESS THAN REEL



Surface mount electrolytic capacitors suitable for general use. Tolerance: ±20%. Carrier taping supplied. **Sold in multiples of 10.**

Series	Operating Temperature
RV2	–40°C to +85°C
RVS	–40°C to +105°C
RVK	–40°C to +125°C

DIMENSIONS-MM

Dia.	L	A	B	C	W	P
3	5.3 ± 0.2	3.3	3.3	1.5	0.45 to 0.75	0.8
4	5.3 ± 0.2	4.3	4.3	2.0	0.5 to 0.8	1.0
5	5.3 ± 0.2	5.3	5.3	2.3	0.5 to 0.8	1.5
6.3	5.3 ± 0.2	6.6	6.6	2.7	0.5 to 0.8	2.0
10	10 ± 0.5	10.4	10.4	3.3	0.7 to 1.1	4.7

RV2 SERIES

Stock No.	Type	Cap. (µF)	Volts	Dia. x L (mm)	10-90	100-490	500-990	1000-1990
83F5184	RV2-4V220MB55-R	22	4	3 x 5.3	0.25	0.17	0.12	0.10
83F5185	RV2-4V330M-R	33	4	4 x 5.3	0.23	0.15	0.11	0.09
83F5186	RV2-4V470M-R	47	4	4 x 5.3	0.23	0.15	0.11	0.09
83F5187	RV2-4V101M-R	100	4	5 x 5.3	0.27	0.18	0.13	0.11
83F5188	RV2-4V221M-R	220	4	6.3 x 5.3	0.30	0.20	0.14	0.12
83F5189	RV2-6V220M-R	22	6.3	4 x 5.3	0.23	0.15	0.11	0.09
83F5190	RV2-10V100M-R	10	10	4 x 5.3	0.23	0.15	0.11	0.09
83F5191	RV2-10V220M-R	22	10	5 x 5.3	0.27	0.18	0.13	0.11
83F5192	RV2-10V330M-R	33	10	5 x 5.3	0.27	0.18	0.13	0.11
83F5193	RV2-10V101M-R	100	10	6.3 x 5.3	0.30	0.20	0.14	0.12
83F5194	RV2-16V330M-R	33	16	6.3 x 5.3	0.30	0.20	0.14	0.12
83F5195	RV2-25V100M-R	10	25	5 x 5.3	0.27	0.18	0.13	0.11
83F5196	RV2-35V3R3MB55-R	3.3	35	3 x 5.3	0.25	0.17	0.12	0.10
83F5197	RV2-50VR10MB55-R	0.1	50	3 x 5.3	0.25	0.17	0.12	0.10
83F5198	RV2-50VR10M-R	0.1	50	4 x 5.3	0.23	0.15	0.11	0.09
83F5199	RV2-50VR22MB55-R	0.22	50	3 x 5.3	0.25	0.17	0.12	0.10
83F5200	RV2-50VR22M-R	0.22	50	4 x 5.3	0.23	0.15	0.11	0.09
83F5201	RV2-50VR33MB55-R	0.33	50	3 x 5.3	0.25	0.17	0.12	0.10
83F5202	RV2-50VR33M-R	0.33	50	4 x 5.3	0.23	0.15	0.11	0.09
83F5203	RV2-50VR47MB55-R	0.47	50	3 x 5.3	0.25	0.17	0.12	0.10
83F5204	RV2-50VR47M-R	0.47	50	4 x 5.3	0.23	0.15	0.11	0.09
83F5205	RV2-50V3R3M-R	3.3	50	4 x 5.3	0.23	0.15	0.11	0.09

RVS SERIES

Stock No.	Type	Cap. (µF)	Volts	Dia. x L (mm)	10-90	100-490	500-990	1000-1990
83F5219	RVS-6V220M-R	22	6.3	4 x 5.3	0.24	0.16	0.11	0.09
83F5220	RVS-6V330M-R	33	6.3	5 x 5.3	0.29	0.20	0.14	0.11
83F5221	RVS-6V470M-R	47	6.3	5 x 5.3	0.29	0.20	0.14	0.11
83F5222	RVS-6V101M-R	100	6.3	6.3 x 5.3	0.32	0.22	0.15	0.13
83F5223	RVS-10V100M-R	10	10	4 x 5.3	0.24	0.16	0.11	0.09
83F5224	RVS-10V330M-R	33	10	5 x 5.3	0.29	0.20	0.14	0.11
83F5225	RVS-10V470M-R	47	10	6.3 x 5.3	0.32	0.22	0.15	0.13
83F5226	RVS-16V220M-R	22	16	5 x 5.3	0.29	0.20	0.14	0.11
83F5227	RVS-25V100M-R	10	25	5 x 5.3	0.29	0.20	0.14	0.11
83F5228	RVS-25V220M-R	22	25	6.3 x 5.3	0.32	0.22	0.15	0.13
83F5229	RVS-25V330M-R	33	25	6.3 x 5.3	0.32	0.22	0.15	0.13
83F5230	RVS-35V4R7M-R	4.7	35	4 x 5.3	0.24	0.16	0.11	0.09
83F5231	RVS-50VR10M-R	0.1	50	4 x 5.3	0.24	0.16	0.11	0.09
83F5232	RVS-50VR22M-R	0.22	50	4 x 5.3	0.24	0.16	0.11	0.09
83F5233	RVS-50VR33M-R	0.33	50	4 x 5.3	0.24	0.16	0.11	0.09
83F5234	RVS-50VR47M-R	0.47	50	4 x 5.3	0.24	0.16	0.11	0.09
83F5235	RVS-50V2R2M-R	2.2	50	4 x 5.3	0.24	0.16	0.11	0.09
83F5236	RVS-50V3R3M-R	3.3	50	4 x 5.3	0.24	0.16	0.11	0.09
83F5237	RVS-50V4R7M-R	4.7	50	5 x 5.3	0.29	0.20	0.14	0.11
83F5238	RVS-50V100M-R	10	50	6.3 x 5.3	0.32	0.22	0.15	0.13

RVK SERIES

Stock No.	Type	Cap. (µF)	Volts	Dia. x L (mm)	10-90	100-490	500-990	1000-1990
83F5171	RVK-10V221MH10-R	220	10	10 x 10	0.98	0.66	0.46	0.38
83F5172	RVK-10V331MH10-R	330	10	10 x 10	0.98	0.66	0.46	0.38
83F5173	RVK-16V101MH10-R	100	16	10 x 10	0.98	0.66	0.46	0.38
83F5174	RVK-16V221MH10-R	220	16	10 x 10	0.98	0.66	0.46	0.38
83F5175	RVK-25V470MH10-R	47	25	10 x 10	0.98	0.66	0.46	0.38
83F5176	RVK-25V101MH10-R	100	25	10 x 10	0.98	0.66	0.46	0.38
83F5177	RVK-35V220MH10-R	22	35	10 x 10	0.98	0.66	0.46	0.38
83F5178	RVK-35V330MH10-R	33	35	10 x 10	0.98	0.66	0.46	0.38

CONTINUED

VERTICAL CHIP ALUMINUM ELECTROLYTIC CAPACITORS (CONT.)

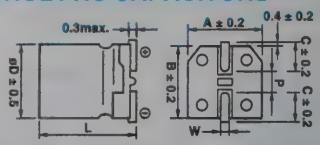
RVK SERIES (CONT.)

Stock No.	Type	Cap. (µF)	Volts	Dia. x L (mm)	10-90	100-490	500-990	1000-1990
83F5179	RVK-35V470MH10-R	47	35	10 x 10	0.98	0.66	0.46	0.38
83F5180	RVK-35V101MH10-R	100	35	10 x 10	0.98	0.66	0.46	0.38
83F5181	RVK-50V220MH10-R	22	50	10 x 10	0.98	0.66	0.46	0.38
83F5182	RVK-50V330MH10-R	33	50	10 x 10	0.98	0.66	0.46	0.38
83F5183	RVK-63V220MH10-R	22	63	10 x 10	0.98	0.66	0.46	0.38

(29076) (ne29076)

HIGH-CAPACITY VERTICAL CHIP ALUMINUM ELECTROLYTIC CAPACITORS

NEW SMD LESS THAN REEL



High-capacity surface mount capacitors. Tolerance: ±20%. Carrier taping supplied. **Sold in multiples of 10.**

Series	Operating Temperature
RV	–40°C to +85°C
RVJ	–55°C to +105°C

DIMENSIONS-MM

Dia.	L	A	B	C	W	P
8	6 ± 0.5	8.4	8.4	3.4	0.5 to 0.8	2.3
8	10 ± 0.5	8.4	8.4	3.0	0.7 to 1.1	3.1
10	10 ± 0.5	10.4	10.4	3.3	0.7 to 1.1	4.7

RV SERIES

Stock No.	Type	Cap. (µF)	Volts	Dia. x L (mm)	10-90	100-490	500-990	1000-1990
83F5206	RV-6V331MG68-R	330	6.3	8 x 6.5	0.47	0.32	0.22	0.19
83F5207	RV-6V471MG10-R	470	6.3	8 x 10	0.64	0.43	0.30	0.25
83F5208	RV-10V221MG68-R	220	10	8 x 6.5	0.47	0.32	0.22	0.19
83F5209	RV-16V331MG10-R	330	16	8 x 10	0.64	0.43	0.30	0.25
83F5210	RV-16V471MH10-R	470	16	10 x 10	0.83	0.56	0.39	0.33
83F5211	RV-25V470MG68-R	47	25	8 x 6.5	0.47	0.32	0.22	0.19
83F5212	RV-25V221MG10-R	220	25	8 x 10	0.64	0.43	0.30	0.25
83F5213	RV-25V331MH10-R	330	25	10 x 10	0.83	0.56	0.39	0.33
83F5214	RV-35V101MG10-R	100	35	8 x 10	0.64	0.43	0.30	0.25
83F5215	RV-50V220MG68-R	22	50	8 x 6.5	0.47	0.32	0.22	0.19
83F5216	RV-50V330MG68-R	33	50	8 x 6.5	0.47	0.32	0.22	0.19
83F5217	RV-50V470MG10-R	47	50	8 x 10	0.64	0.43	0.30	0.25
83F5218	RV-50V101MH10-R	100	50	10 x 10	0.83	0.56	0.39	0.33
48F2212	RV-63V220MG10-R	22	63	8 x 10	0.77	0.52	0.36	0.30
48F2213	RV-63V330MG10-R	33	63	10 x 10	0.77	0.52	0.36	0.30
48F2214	RV-63V470MH10-R	47	63	10 x 10	1.07	0.72	0.50	0.42
48F2215	RV-63V680MH10-R	68	63	10 x 10	1.07	0.72	0.50	0.42
48F2216	RV-100V100MG10-R	10	100	8 x 10	0.81	0.55	0.38	0.32
48F2217	RV-100V220MH10-R	22	100	10 x 10	1.07	0.72	0.50	0.42
48F2218	RV-100V330MH10-R	33	100	10 x 10	1.07	0.72	0.50	0.42

RVJ SERIES

Stock No.	Type	Cap. (µF)	Volts	Dia. x L (mm)	10-90	100-490	500-990	1000-1990
83F5239	RVJ-6V221MG10-R	220	6.3	8 x 10	0.72	0.49	0.34	0.28
83F5240	RVJ-6V331MG10-R	330	6.3	8 x 10	0.72	0.49	0.34	0.28
83F5241	RVJ-6V471MH10-R	470	6.3	10 x 10	0.88	0.59	0.41	0.34
83F5242	RVJ-10V221MG10-R	220	10	8 x 10	0.72	0.49	0.34	0.28
83F5243	RVJ-10V471MH10-R	470	10	10 x 10	0.94	0.64	0.44	0.37
83F5244	RVJ-16V101MG68-R	100	16	8 x 6.5	0.50	0.34	0.24	0.20
83F5245	RVJ-16V221MG10-R	220	16	8 x 10	0.72	0.49	0.34	0.28
83F5246	RVJ-16V331MH10-R	330	16	10 x 10	0.88	0.59	0.41	0.34
83F5247	RVJ-25V470MG68-R	47	25	8 x 6.5	0.94	0.64	0.44	0.37
83F5248	RVJ-25V221MH10-R	220	25	10 x 10	0.88	0.59	0.41	0.34
83F5249	RVJ-35V330MG68-R	33	35	8 x 6.5	0.50	0.34	0.24	0.20
83F5250	RVJ-35V101MH10-R	100	35	10 x 10	0.88	0.59	0.41	0.34
83F5251	RVJ-50V220MG68-R	22	50	8 x 6.5	0.50	0.34	0.24	0.20
83F5252	RVJ-50V330MG10-R	33	50	8 x 10	0.72	0.49	0.34	0.28
83F5253	RVJ-50V470MG10-R	47	50	8 x 10	0.72	0.49	0.34	0.28
48F2207	RVJ-63V220MG10-R	22	63	8 x 10	0.77	0.52	0.36	0.30
48F2208	RVJ-63V330MH10-R	33	63	10 x 10	0.94	0.64	0.44	0.37
48F2209	RVJ-63V470MH10-R	47	63	10 x 10	0.94	0.64	0.44	0.37
48F2210	RVJ-100V100MG10-R	10	100	8 x 10	0.81	0.55	0.38	0.32
48F2211	RVJ-100V220MH10-R	22	100	10 x 10	1.07	0.72	0.50	0.42

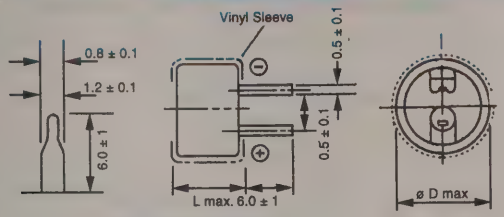
(29070) (ne29070)

VISIT NEWARK'S WEB SITE AT www.newark.com

DOUBLE LAYER ELECTROLYTIC CAPACITORS

DYNACAP™ DOUBLE-LAYER ALUMINUM ELECTROLYTIC CAPACITORS

NEW



DynaCap™ **DB, DK,** and **DH series** double-layer capacitors are ideal for a wide range of applications and devices. Electric double layer formed between high-density solid electrodes and liquid (nonaqueous) electrolyte allows rapid charging and discharging at high currents. Flat spring technology enhances reliability of coin cells. Plated lead terminals. Tolerance: –20% to +80%. Operating temperature: –25°C to +70°C. **DH series** operating temperature: –25°C to +85°C.

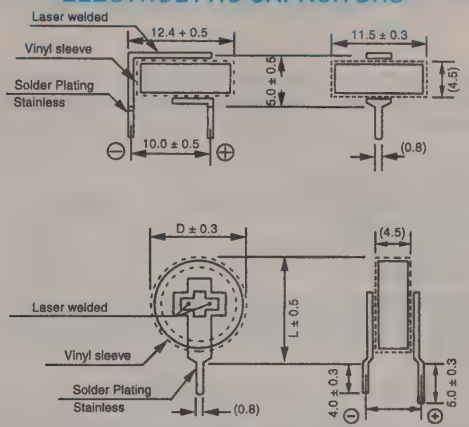
DB SERIES - TWO COIN CELLS

Stock	Type	Cap. (F)	Volts	Dia. x L (mm)	1-24	25-49	50-99	100-249
83F5263	DB-5R5D473	0.047	5.5	13.5 x 7.5	2.20	1.85	1.54	1.39
83F5264	DB-5R5D104	0.1	5.5	13.5 x 7.5	2.20	1.85	1.54	1.39
83F5265	DB-5R5D224	0.22	5.5	13.5 x 7.5	2.20	1.85	1.54	1.39
83F5266	DB-5R5D334	0.33	5.5	13.5 x 7.5	2.20	1.85	1.54	1.39
83F5267	DB-5R5D474	0.47	5.5	21.5 x 8.0	5.36	4.49	3.76	3.40
83F5268	DB-5R5D105	1.0	5.5	21.5 x 8.0	5.36	4.49	3.76	3.40
DK SERIES - THREE COIN CELLS								
83F5269	DK-6R3D473	0.047	6.3	13.5 x 9.5	2.43	2.15	2.00	1.77
83F5270	DK-6R3D104	0.1	6.3	13.5 x 9.5	2.43	2.15	2.00	1.77
83F5271	DK-6R3D474	0.47	6.3	21.5 x 9.5	5.32	4.69	4.38	3.87
83F5272	DK-6R3D105	1.0	6.3	21.5 x 9.5	5.32	4.69	4.38	3.87
DH SERIES - THREE COIN CELLS								
83F5273	DH-5R5D333	0.033	5.5	13.5 x 9.5	2.43	2.15	2.00	1.77
83F5274	DH-5R5D473	0.047	5.5	13.5 x 9.5	2.43	2.15	2.00	1.77
83F5275	DH-5R5D104	0.1	5.5	13.5 x 9.5	2.43	2.15	2.00	1.77
83F5276	DH-5R5D474	0.47	5.5	21.5 x 9.5	5.32	4.69	4.38	3.87
83F5277	DH-5R5D105	1.0	5.5	21.5 x 9.5	5.32	4.69	4.38	3.87

(29071) (ne29071)

DYNACAP™ DX SERIES DOUBLE-LAYER ALUMINUM ELECTROLYTIC CAPACITORS

NEW



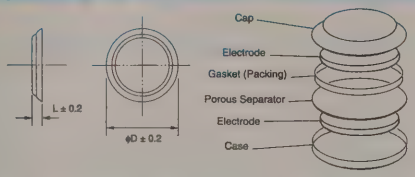
DynaCap™ **DX series** double-layer radial lead capacitors are specifically designed for backing up IC memories and related devices. Electric double layer formed between high-density solid electrodes and liquid (nonaqueous) electrolyte allows rapid charging and discharging at high currents. Combines two coin cells for a rated voltage of 5.5V. Plated lead terminals. Available in horizontal or vertical terminal styles. Tolerance: –20% to +80%. Operating temperature: –25°C to +70°C. Dimensions: 11.5 dia. x 15.5mmL. **Type DX-5R5V105** is 19.0 dia. x 20.5mmL.

Stock No.	Type	Cap. (F)	Volts	Terminal Style	1-24	25-49	50-99	100-249
83F5254	DX-5R5H473	0.047	5.5	Horizontal	2.20	1.85	1.54	1.39
83F5255	DX-5R5V473	0.047	5.5	Vertical	2.20	1.85	1.54	1.39
83F5256	DX-5R5H104	0.1	5.5	Horizontal	2.20	1.85	1.54	1.39
83F5257	DX-5R5V104	0.1	5.5	Vertical	2.20	1.85	1.54	1.39
83F5258	DX-5R5H224	0.22	5.5	Horizontal	2.20	1.85	1.54	1.39
83F5259	DX-5R5V224	0.22	5.5	Vertical	2.20	1.85	1.54	1.39
83F5260	DX-5R5H334	0.33	5.5	Horizontal	2.20	1.85	1.54	1.39
83F5261	DX-5R5V334	0.33	5.5	Vertical	2.20	1.85	1.54	1.39
83F5262	DX-5R5V105	1.0	5.5	Vertical	5.36	4.49	3.76	3.40

(29073) (ne29073)

DYNACAP™ DC AND DCK SERIES DOUBLE-LAYER ALUMINUM ELECTROLYTIC CAPACITORS

NEW



DynaCap™ **DC** and **DCK series** double-layer, coin-shaped memory back-up capacitors are ideal for low-profile miniature and subminiature applications. Electric double layer formed between high-density solid electrodes and liquid (nonaqueous) electrolyte allows rapid charging and discharging. Tolerance: –20% to +80%. **DC series** operating temperature: –25°C to +70°C. **DCK series** operating temperature: –10°C to +60°C.

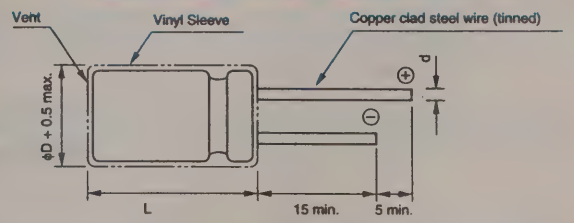
DC SERIES

Stock No.	Type	Cap. (F)	Volts	Dia. x L (mm)	1-24	25-49	50-99
83F5278	DC-2R5D184	0.18	2.5	6.8 x 2.1	1.70	1.43	1.19
83F5279	DC-2R4D334	0.33	2.4	11.0 x 1.6	1.12	0.94	0.79
83F5280	DC-2R4D225	2.2	2.4	18.3 x 2.0	1.87	1.57	1.31
DCK SERIES							
83F5281	DCK-3R3D224	0.22	3.3	6.8 x 2.1	2.16	1.81	1.52
83F5282	DCK-3R3E224	0.22	3.3	6.8 x 2.2	2.16	1.81	1.52
83F5283	DCK-3R3W224	0.22	3.3	6.8 x 2.3	2.16	1.81	1.52

(29072) (ne29072)

DYNACAP™ DZ SERIES DOUBLE-LAYER ALUMINUM ELECTROLYTIC CAPACITORS

NEW



DynaCap™ **DZ series** high-current radial lead capacitors have extremely low internal resistance. Ideal for use as a CMOS backup or power supply. Tolerance: –20% to +80%. Operating temperature: –40°C to +70°C. Lead dia.(d): 0.6mm. Type **DZ-2R5D106** has lead dia.of 0.8mm. Types **DZ-2R5D506** and **DZ-2R5D107** have PC board lug terminals.

Stock No.	Type	Cap. (F)	Volts	Dia. x L (mm)	1-24	25-49	50-99	100-249
83F5284	DZ-2R5D334	0.33	2.5	6.3 x 21.0	2.79	2.46	2.29	2.02
83F5285	DZ-2R5D105	1.0	2.5	8.0 x 22.0	2.97	2.62	2.45	2.16
83F5286	DZ-2R5D335	3.3	2.5	12.5 x 23.0	3.95	3.48	3.25	2.87
83F5287	DZ-2R5D475	4.7	2.5	12.5 x 31.5	4.59	4.05	3.78	3.34
83F5288	DZ-2R5D106	10	2.5	18.0 x 35.0	6.59	5.81	5.42	4.79
83F6436	DZ-2R5D506	50	2.5	25.0 x 40.0	24.30	21.42	19.98	17.64
83F6437	DZ-2R5D107	100	2.5	35.0 x 50.0	48.60	42.84	39.96	35.28

(29074) (ne29074)

NEW PRODUCTS ARE BEING ADDED TO OUR INVENTORY EVERY DAY.
CALL NEWARK FOR INFORMATION ON WHAT'S CURRENTLY IN STOCK.

CAPACITOR REFERENCE PAGE

CAPACITOR REFERENCE PAGE

CHOOSING A CAPACITOR

It can be difficult to select the proper capacitor to fill your needs. If you can provide the following specifications, Newark can help you select the right capacitor:

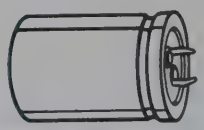
- Nominal Voltage
- Case Size or Dimensions
- Required Capacitance in picofarads (pF) or microfarads (μF)
- Dielectric or Material
- Leaded or Surface Mount Package
- Tolerance Range

In most applications a higher voltage capacitor can be substituted for one with the same capacitance. This may result in a slightly larger case size, but usually offers better performance.

COMMON CAPACITOR MOUNTINGS

Axial Lead

Radial Lead



Snap Mount Terminals

Screw Mount Terminals

CAPACITANCE CONVERSION CHART

microfarads (μF) $1\mu F = 10^{-6}$ farads		nanofarads (nF) $1nF = 10^{-9}$ farads		picofarads (pF) $1pF = 10^{-12}$ farads
0.000001μF	=	0.001nF	=	1pF
0.00001μF	=	0.01nF	=	10pF
0.0001μF	=	0.1nF	=	100pF
0.001μF	=	1nF	=	1000pF
0.01μF	=	10nF	=	10,000pF
0.1μF	=	100nF	=	100,000pF
1μF	=	1000nF	=	1,000,000pF
10μF	=	10,000nF	=	10,000,000pF
100μF	=	100,000nF	=	100,000,000pF

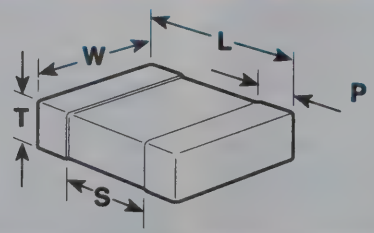
EIA CAPACITANCE TOLERANCE CODES

B =	±0.1pF	J =	±5%
C =	±0.25pF	K =	±10%
D =	±0.5pF	M =	±20%
F =	±1%	Z =	+80%,-20%
G =	±2%		

AMERICAN WIRE GAUGE

AWG	Nominal Dia. (inches)	Nominal Dia. (mm)
18	0.040	1.02
20	0.032	0.81
22	0.025	0.64
24	0.020	0.051

EIA STANDARD CHIP DIMENSIONS



EIA Size Code	Metric Size Code	L Length	W Width	T (Max.) Thickness	P Termination	S (Min.) Separation
0402	1005	0.04±0.002" (1.0±0.05)	0.02±0.02" (0.5±0.05)	0.022" (0.55)	0.008±0.016" (0.20±0.40)	0.012" (0.3)
0603	1608	0.063±0.006" (1.6±0.15)	0.032±0.006" (0.8±0.15)	0.035" (0.9)	0.014±0.006" (0.35±0.15)	0.028" (0.7)
0805	2012	0.079±0.008" (2.0±0.2)	0.049±0.008" (1.25±0.2)	0.051" (1.3)	0.02±0.010" (0.5±0.25)	0.030" (0.75)
1005	2520	0.098±0.008" (2.5±0.2)	0.049±0.008" (1.25±0.2)	0.059" (1.5)	0.02±0.010" (0.5±0.25)	...
1206	3216	0.126±0.008" (3.2±0.2)	0.063±0.008" (1.6±0.2)	0.059" (1.5)	0.02±0.010" (0.5±0.25)	...
1210	3225	0.126±0.008" (3.2±0.2)	0.098±0.008" (2.5±0.2)	0.067" (1.7)	0.02±0.010" (0.5±0.25)	...
1805	4512	0.177±0.012" (4.5±0.3)	0.049±0.012" (1.25±0.3)	0.067" (1.7)	0.024±0.014" (0.6±0.35)	...
1808	4520	0.177±0.012" (4.5±0.3)	0.079±0.012" (2.0±0.3)	0.067" (1.7)	0.024±0.014" (0.6±0.35)	...
1812	4532	0.177±0.012" (4.5±0.3)	0.126±0.012" (3.2±0.3)	0.067" (1.7)	0.024±0.014" (0.6±0.35)	...
1825	4564	0.177±0.012" (4.5±0.3)	0.252±0.016" (6.4±0.4)	0.067" (1.7)	0.024±0.014" (0.6±0.35)	...
2220	5650	0.220±0.016" (5.6±0.4)	0.197±0.016" (5.0±0.4)	0.071" (1.8)	0.024±0.014" (0.6±0.35)	...
2225	5664	0.220±0.016" (5.6±0.4)	0.248±0.016" (6.3±0.4)	0.079" (2.0)	0.024±0.014" (0.6±0.35)	...

(31777)

(ne31777)

HIGH VOLTAGE SMD CHIP CAPACITORS

JOHANSON DIELECTRICS

Multi-layer ceramic capacitors feature rated working voltages from 250 to 2000 volts DC in compact SMD chip configureations. Nickel barrier terminations. **Sold individually or on 8mm embossed tape in reels.**

Stock No.	Type	Capacitance	1-999	Reel Qty.	Each per Reel
500 VOLT, Size 1206, NPO					
96F3518	501R18N101JV4E	100pF, ±5%	0.18	3000	0.08
96F3520	501R18N471JV4E	470pF, ±5%	0.23	3000	0.10
500 VOLT, Size 1206, X7R					
96F3521	501R18W102KV4E	1000pF, ±10%	0.15	3000	0.07
96F3522	501R18W272KV4E	2700pF, ±10%	0.15	3000	0.07
96F3524	501R18W103KV4E	0.010mF, ±10%	0.20	3000	0.09
500 VOLT, Size 1812, X7R					
48F4896	501S43W472KV4E	4700pF, ±10%	0.54	3000	0.24
96F3527	501S43W473KV4E	0.047mF, ±10%	0.67	1000	0.30
1000 VOLT, Size 1206, NPO					
48F4897	102R18N101JV4E	100pF, ±5%	0.13	3000	0.06
1000 VOLT, Size 1206, NPO					
48F4898	102R18W102KV4E	1000pF, ±10%	0.10	3000	0.07
48F4899	102R18W472KV4E	4700pF, ±10%	0.16	3000	0.07
1000 VOLT, Size 1808, NPO					
96F3528	102R29N101KV4E	100pF, ±5%	0.72	3000	0.32
1000 VOLT, Size 1808, X7R					
48F4900	102R29W102KV4E	1000pF, ±10%	0.30	3000	0.13
96F3539	102R29W472KV4E	4700pF, ±10%	0.69	3000	0.31
48F4901	102R29W103KV4E	0.01µF, ±10%	0.36	3000	0.16
1000 VOLT, Size 1812, X7R					
96F3545	102S43W103KV4E	0.010µF, ±10%	1.05	3000	0.47
2000 VOLT, Size 1206, X7R					
48F4902	202R18W221KV4E	220µF, ±10%	0.12	3000	0.06
48F4903	202R18W471KV4E	470µF, ±10%	0.16	3000	0.07
2000 VOLT, Size 1812, X7R, ±10%					
96F3534	202S43W471KV4E	470µF	1.15	3000	0.51
96F3535	202S43W102KV4E	1000pF	1.15	3000	0.51

(7314) (de02920)

ENGINEERING PROTOTYPE CHIP CAPACITOR KITS

JOHANSON DIELECTRICS

Each kit contains a popular selection of standard surface mount chips individually packaged in labeled vials housed in a handy vinyl binder for convenient storage and access. Kits have 50 each of key values plus 25 each of the common values from the indicated capacitance range of each kit in NPO, X7R, Z5U and Y5V dielectrics (standard voltage and tolerance). All chips have nickel-barrier terminations.

SIZE 0603 SURFACE MOUNT CHIP CAPACITOR KIT

850 piece kit contains 10 each of key values plus 14 each of common values between 1.0pF and 0.1µF in NPO, X7R, Z5U, and Y5V dielectrics.

48F4894 Type S603A EIA 0603. **Each** **138.65**

SIZE 0805 SURFACE MOUNT CHIP CAPACITOR KIT

1050 piece kit has 14 key values plus 14 common values between 1.0pF to 0.10µF in NPO, X7R and Z5U dielectrics.

48F4895 Type S805A EIA 0805. **Each** **121.10**

(7315) (de02922)

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HIGH-FREQUENCY CERAMIC CHIP CAPACITORS

JOHANSON TECHNOLOGY

NEW

Developed for high-volume RF wireless applications. Surface mount capacitors exhibit low ESR and high Q at frequencies to 6GHz. Ideal for use in cellular, CATV, wireless LAN, and similar applications. EIA sizes. Barrier terminations.

Stock No.	Type	Cap. (pF)	Tol.	VDC	1-999	1000-2999	3000-5999
EIA SIZE 0402							
48F4904	500R07C1R0BV4E	1.0	±0.1	50	0.30	0.20	0.13
48F4905	500R07C2R2BV4E	2.2	±0.1	50	0.30	0.20	0.13
48F4906	500R07C100JV4E	10	±5%	50	0.30	0.20	0.13
EIA SIZE 0504							
48F4907	500R11C1R0BV4E	1.0	±0.1	200	0.30	0.20	0.13
48F4908	500R11C100JV4E	10	±5%	200	0.30	0.20	0.13
48F4909	101R11C220JV4E	22	±5%	100	0.30	0.20	0.13
EIA SIZE 0603							
48F4910	500R14C1R0BV4E	1.0	±0.1	200	0.23	0.15	0.10
48F4911	500R14C100JV4E	10	±5%	200	0.23	0.15	0.10
48F4912	101R14C220JV4E	22	±5%	100	0.23	0.15	0.10
48F4913	101R14C470JV4E	47	±5%	100	0.23	0.15	0.10
EIA SIZE 0805							
48F4914	201R15C1R0BV4E	1.0	±0.1	200	0.21	0.14	0.09
48F4915	201R15C100JV4E	10	±5%	200	0.21	0.14	0.09
48F4916	201R15C101JV4E	100	±5%	200	0.21	0.14	0.09
48F4917	101R15C151JV4E	150	±5%	100	0.21	0.14	0.09

(35373) (ne35373)

HIGH-FREQUENCY CERAMIC CHIP INDUCTORS

JOHANSON TECHNOLOGY

NEW

Multilayer ceramic chip (SMD) inductors for use in many high-frequency applications. Exhibit good RF characteristics at frequencies up to 6.0GHz. Barrier terminations.

Stock No.	Type	Inductance (nH)	Tol.	SRF (MHz)	1-999	1000-2999	3000-5999
EIA SIZE 0603							
48F4918	L-C14 1N5ST	1.5	±0.3nH	8000	0.30	0.20	0.13
48F4919	L-C14 2N2ST	2.2	±0.3nH	6000	0.30	0.20	0.13
48F4920	L-C14 10NJT	10	±5%	2650	0.39	0.26	0.17
EIA SIZE 0805							
48F4921	L-C15 1N8ST	1.8	±0.3nH	6000	0.26	0.18	0.12
48F4922	L-C15 10NJT	10	±5%	2500	0.33	0.22	0.15
48F4923	L-C15 82NJT	82	±5%	850	0.37	0.25	0.16

SRF = Self-resonant Frequency

(35375) (ne35375)

HIGH-FREQUENCY CHIP INDUCTOR KITS

JOHANSON TECHNOLOGY

NEW

EIA SIZE 0603 INDUCTOR KIT

Type L603 SMD kit has 200 pieces: 20 each of popular values between 1.5nH and 27nH.

48F4890 Type L603 EIA Size 0603. **Each**..... **96.53**

EIA SIZE 0805 INDUCTOR KIT

Type L805 SMD kit has 200 pieces: 20 each of popular values between 1.8nH and 47nH.

48F4891 Type L805 EIA Size 0805. **Each**..... **96.53**

(35376) (ne35376)

HIGH-FREQUENCY CHIP CAPACITOR KITS

JOHANSON TECHNOLOGY

NEW

EIA SIZE 0603 CAPACITOR KIT

Type C603 SMD kit has 200 pieces: 20 each of 10 popular values between 0.5pF and 47pF.

48F4892 Type C603 EIA Size 0603. **Each** **96.53**

EIA SIZE 0504 CAPACITOR KIT

Type C504 SMD kit has 300 pieces: 20 each of 15 popular values between 1.8pF and 47pF.

48F4893 Type C504 EIA Size 0504. **Each** **108.81**

(35377) (ne35377)

Johanson

VARIABLE CAPACITORS AND TOOLS

AIR DIELECTRIC VARIABLE CAPACITORS

Fig. 2 P.C.

Fig. 3 Turret

Fig. 4 P.C.

Fig. 6 Vertical

Fig. 8 Vertical

250VDC, MIL-C-14409 qualified capacitors feature 1-piece, self-locking constant-torque drive mechanism to assure uniform torque, high Q, low dynamic tuning noise. Standard models are for RF applications and VHF thru microwave. Miniature models are size-reduced versions of standard. Temperature range: –65°C to +125°C. *Order tuning tools* **types 8764, 8766, 8777** *separately on this page.*

STANDARD AIR DIELECTRIC VARIABLE CAPACITORS

Stock No.	Type	Fig.	Min. Q @ 100MHz	Capacitance Range (pF)	L x D	1-24	25-49
17F154	5201	2	5000	0.8 - 10.0	.510 x .285″	9.46	7.57
17F160	5401	2	3000	1.0 - 14.0	.510 x .285″	11.04	8.83
11F463	5501	2	1500	1.0 - 20.0	.740 x .285″	12.09	9.67
19F002	5601	4	800	1.0 - 30.0	.920 x .285″	13.66	10.93
17F155	5202	3	5000	0.8 - 10.0	.500 x .285″	9.46	7.57

VERTICAL MOUNT DIELECTRIC VARIABLE AIR CAPACITORS

44F3351	8052	6	5000	1.0 - 10.0	.460 x .285″	10.25	8.20
44F3356	8092	8	2000	1.5 - 14.0	.460 x .285″	14.06	11.24

(7243) (de00852)

27000 SERIES GHz VARIABLE CAPACITORS

Fig. 1

Fig. 2

Fig. 3

500VDC MIL-C-14409 trimmers for fine tuning RF and microwave applications offer fixed length, higher Q, essentially zero tuning noise and reduced solder flux intrusion. Withstand soldering heat and excessive tuning. High breakdown voltage. Temperature range: –65°C to +125°C. Self-lock constant torque drive mechanism. *Order tuning tool* **types 8766, 8777** *separately on this page.*

Stock No.	Type	Fig.	Min. Q @ 250MHz	Capacitance Range (pF)	L x D	1-24	25-49
44F3358	27271SL	1	3000	0.6-4.5	.31 x .14″	12.74	10.19
44F3360	27291SL	1	3000*	0.8-8.0	.48 x .14″	13.48	10.78
44F3362	27271PC	2	3000	0.6-4.5	.31 x .14″	22.99	20.83
44F3363	27281PC	2	4000	0.4-2.5	.23 x .14″	22.67	18.14
44F3364	27291PC	2	3000*	0.8-8.0	.48 x .14″	27.98	22.38
44F3366	27273PC	3	3000	0.6-4.5	.31 x .14″	22.99	18.39
44F3367	27283PC	3	4000	0.4-2.5	.23 x .14″	22.67	18.14
44F3368	27293PC	3	3000*	0.8-8.0	.48 x .14″	27.98	22.38

* @ 100MHz

(7244) (de00853)

SEAL-TRIM® VARIABLE CERAMIC CAPACITORS

Square drive tuning mechanism eliminates backlash problems of screwdriver type adjustment slots. Moisture-proof housing resists dirt, dust, solder flux, cleaning agents. 250VDC. MIL-C-81. High Q–ideal for higher frequencies. Temperature range: –20°C to +85°C. *Order tuning tool* **type 4192** *for* **9620 series; type 4193** *for* **9610 series**; *and* **type 2190** *for* **9690 series** *separately on this page.*

Stock No.	Type	Min. Q @ 100MHz	Capacitance Range (pF)	Temp. Coeff. ppm/°C	1-49	50-99	100-499
44F3373	9620CV	1000	0.6-2.5	100±150	6.94	6.31	5.79
44F3374	9621CV	1000	1.0-5.0	0±400	6.94	6.31	5.79
44F3375	9622CV	1000	2.5-10.0	100±600	6.94	6.31	5.79
44F3376	9626CV	300	6.0-25.0	–1500±900	6.94	6.31	5.79
13F5050	9610CV	1000	1.0-4.5	50±150	6.36	5.78	5.31
13F5051	9611CV	1000	2.5-10.0	–100±500	6.36	5.78	5.31
13F5052	9612CV	700	4.0-18.0	–300±800	6.36	5.78	5.31
44F3379	9616CV	200	8.0-50.0	–1500±900	6.36	5.78	5.31

(7245) (de00854)

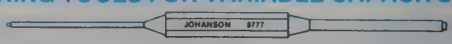
2320 SERIES CERAMIC TRIMMER CAPACITORS

Resist penetration of solder fluxes and cleaning solvents. 250VDC. MIL-C-81. Operating temperature: –55°C to +125°C. Dimensions: 0.165″L x 0.180″W x 0.10″H. *Order tuning tool* **type 4192** *separately on this page.*

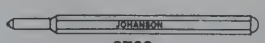
Stock No.	Type	Min. Q @ 100 MHz	Capacitance Range (pF)	Temp. Coeff. ppm/°C	1-24	25-49	50-99
90F6583	2320-0	3000	0.6 to 2.5	100±200	2.29	1.83	1.67
90F6584	2320-1	1000	1 to 5	100±200	2.29	1.83	1.67
90F6585	2320-2	1000	2.5 to 10	100±200	2.29	1.83	1.67
90F6586	2320-3	500	5 to 18	–450±300	2.29	1.83	1.67

(7246) (de00855)

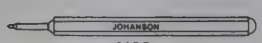
TUNING TOOLS FOR VARIABLE CAPACITORS



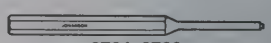
8777



8762



4193


8764, 8766

Stock No.	Type	Fits Series	1-24	25-49
81F4903	8777	5200, 5400, 5500, 5600, 5700, 5800, 27000	5.34	4.27
95F9897	8766	27270, 27280, 27290, 37270, 37280, 37290, 47270, 5800	2.89	2.31
95F9898	8764	5200, 5300, 5400, 5500, 5600, 5700, 9300	3.01	2.41
44F4100	8762	27260	2.76	2.21
13F5056	4193	9610, 9410	2.21	1.77
44F3380	4192	9620, 2320, 9401, 9402	2.21	1.77
90F6582	2190	9692, 9694, 9910	3.23	2.59

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VARIABLE AND TRIMMER CAPACITORS

9341 AND 9349 SERIES VARIABLE CAPACITORS

The **9341** and **9349 series** are among the smallest variable capacitors available. Their unique design offers a wide range of capacitance values, high Q and excellent temperature coefficients. Both series are ideal for applications where extremely small size is a design criterion. The **9341 series** have a diameter of 0.118″ and a height of 0.080″ and incorporate silver ribbon leads. The **9349 series** have a diameter of 0.090″ and a height of 0.047″ and incorporate gold ribbon leads. Q = 200 @ 1MHz. **9349 series** available, *contact your local Newark sales office.*

Stock No.	Type	Capacitance Range (pF)	Temp. Coeff. ppm/°C	1-49	50-99	100-499
95F9899	9341-1SL	1.0 to 3.0	N400±300	1.76	1.60	1.47
95F9900	9341-2SL	1.5 to 5.0	NPO±300	1.76	1.60	1.47
95F9901	9341-3SL	1.5 to 10.0	NPO±300	1.76	1.60	1.47
95F9902	9341-4SL	2.5 to 10.0	NPO±500	1.76	1.60	1.47
95F9903	9341-5SL	5.0 to 20.0	N750±500	1.76	1.60	1.47
95F9904	9341-6SL	5.0 to 25.0	N750±500	1.76	1.60	1.47
95F9906	9341-8SL	5.0 to 35.0	N750±500	1.53	1.39	1.28
95F9907	9341-9SL	6.0 to 40.0	N750±500	2.60	2.37	2.17

(7300) (de02412)

9343 SERIES VARIABLE CAPACITORS

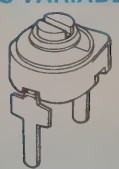
SMD

The **9343 series** offers a wide range of capacitance values in an extremely small size. Unique design allows them to be used in applications where reflow soldering is part of the manufacturing procedure. Size: 0.177″L x 0.125″W x 0.118″H. Q = 300 @ 1 ± 0.1MHz. Also available in tape & reel; *contact your local Newark sales office.*

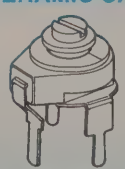
Stock No.	Type	Capacitance Range (pF)	Temp. Coeff. ppm/°C	1-99	100-249	250-499
95F9920	9343-4R9	1.5 to 10.0	N400±500	0.92	0.79	0.67
95F9922	9343-7R9	5.0 to 20.0	N750±500	0.92	0.79	0.67
95F9923	9343-8R9	5.0 to 30.0	N750±500	0.92	0.79	0.67
95F9924	9343-9R9	5.0 to 40.0	N750±500	0.92	0.79	0.67

(7301) (de02414)

9300 SERIES VARIABLE CERAMIC CAPACITORS



9371-9376



9301-9328

Designed for broadband applications, from audio to 500MHz. Economical and ideal for wide variety of applications, including test equipment, CATV amplifiers, crystal oscillators, impedance matching and LC filters. **Types 9301 thru 9328** have three legs and 0.410D x 0.315″H (10.41 x 8.00). **Types 9371 thru 9376** are two-legged and 0.200D x 0.240″H (5.08 x 6.10). *Order tuning tool* **type 8777** *separately on page 86.*

Stock No.	Type	Capacitance Range (pF)	Temp. Coeff. ppm/°C	1-49	50-99	100-499
		Q MIN. = 300 @ 10MHz				
98F342	9301	2.0 to 12.0	NPO±200	0.97	0.89	0.81
50F3945	9302	2.5 to 23.0	–450±200	1.00	0.91	0.83
50F3914	9372	3.0 to 10.0	–600±300	0.77	0.70	0.64
50F3915	9373	3.5 to 18.0	–800±300	0.77	0.70	0.64
		Q MIN. = 200 @ 10MHz*				
17F199	9304	5.5 to 45.0	–1400±800	1.07	0.97	0.89
94F7411	9305	6.0 to 55.0	–1400±800	1.07	0.97	0.89
50F3948	9315	6.0 to 70.0	–1400±800	1.11	1.01	0.93
50F3949	9328	12.0 to 100.0	–1400±800	1.16	1.05	0.97
50F3916	9374	5.0 to 25.0	–1500±500	0.77	0.70	0.64
94F7413	9376	9.0 to 50.0	–1500±500	0.77	0.70	0.64

*Except **types 9328** and **9376**, Q @ 1MHz.
(7320) (de03371)

9385 SERIES CERAMIC TRIMMER CAPACITORS

9385-PC

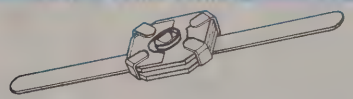
9385-SL

High-frequency operation, miniature size and rugged construction. Two mounting styles: **SL suffix** for stripline mounting and **PC suffix** for printed circuit. 0.200D x 0.130″H (5.08 x 3.30). *Order tuning tool* **type 8777** *separately on page 86.*

Stock No.	Type	Capacitance Range (pF)	Temp. Coeff. ppm/°C	1-49	50-99	100-499
		Q MIN. > 500 @ 10MHz				
50F3936	9385-1SL	1.2 to 3.0	–100±250	1.07	0.97	0.89
50F3937	9385-2SL	1.4 to 5.0	–250±250	1.07	0.97	0.89
		Q MIN. > 300 @ 10MHz				
50F3938	9385-3SL	1.8 to 9.0	–550±300	1.07	0.97	0.89
50F3939	9385-4SL	2.8 to 18.0	–550±300	1.07	0.97	0.89
50F3943	9385-3PC	1.8 to 9.0	–550±300	1.07	0.97	0.89
		Q MIN. > 200 @ 10MHz				
50F3940	9385-5SL	4.0 to 28.0	–1200±500	1.07	0.97	0.89
50F3928	9385-5PC	4.0 to 28.0	–1200±500	1.07	0.97	0.89

(7321) (de03372)

9400 SERIES THIN-TRIM CAPACITORS



Incorporate square drive tuning mechanism to insure non-slip, tamper-proof adjustments and are not subject to backlash problems associated with screwdriver adjustment slots. **9401 series** are 0.140 x 0.125 x 0.040″H (3.56 x 3.18 x 1.02) max. **9402 series** are 0.125 x 0.125 x 0.040″H (3.18 x 3.18 x 1.02) max. **9410 series** are 0.200 x 0.200 x 0.060″H (5.08 x 5.08 x 1.52) max. **9910 series** are 0.300 x 0.300 x 0.080″H (7.62 x 7.62 x 2.03) max. Temperature range: –20°C to +85°C. Voltage: all types are 250VDC except **type 9917** which is 400VDC. *Order tuning tools* **types 2190, 4192,** *and* **4193** *separately on page 86* or *contact your local Newark sales office.*

Stock No.	Type	Capacitance Range (pF)	Temp. Coeff. ppm/°C	1-49	50-99	100-499
		Q = 3000 @ 10MHz				
50F3920	9402-0	0.60 to 2.5	100±100	2.14	1.95	1.79
		Q = 1000 @ 10MHz*				
50F3917	9401-0	0.25 to 0.7	50±50	2.14	1.95	1.79
50F3918	9401-1	0.50 to 1.3	NPO±100	2.14	1.95	1.79
50F3921	9402-1	1.00 to 5.0	100±200	2.14	1.95	1.79
50F3922	9402-2	2.50 to 10.0	–50±100	2.14	1.95	1.79
50F3925	9410-1	2.50 to 10.0	–100±20	2.43	2.21	2.03
94F7414	9917	20.00 to 100.00	–1500±700	9.79	7.83	7.15
		Q = 300 @ 10MHz				
50F3924	9402-6	6.00 to 25.0	–1100±300	2.14	1.95	1.79
		Q = 200 @ 10MHz				
50F3926	9410-5	8.00 to 50.0	–1500±500	2.08	1.89	1.74

*Except **type 9917**, Q @ 1MHz.
(7322) (de03373)

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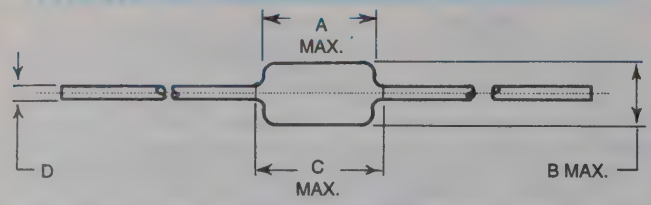
TYPE IR EPOXY CONFORMAL COATED INDUCTORS



Uniform roll coated. Tinned copper leads. Insulation resistance: 1000MΩ minimum per MIL-STD-202, method 302, test condition B. Dielectric strength: 1000VAC per MIL-STD-202, method 301. Tolerance at end of type number. Temperature (**IR-2**): –55°C to +105°C (below 1.0µH, 55°C to +125°C); (**IR-4**): –55°C to +125°C (from 5.6 to 240µH, –55°C to +125°C). Core (**IR-2**): for 0.10 to 1.0µH, phenolic; for 1.2 to 27.0µH, iron; for 33.0 to 1000.0µH, ferrite. Core (**IR-4**): for 0.15 to 4.7µH, phenolic; for 5.6 to 1800.0µH, iron. Additonal inductance values available; *contact your local Newark sales office.*

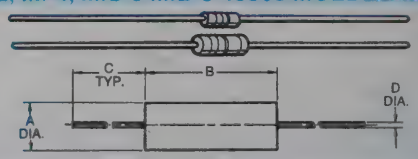
DIMENSIONS

Type	A max.	B max.	C max.	D
IR-2	0.260″ (6.60)	0.120″ (3.05)	0.330″ (8.38)	0.200 ± 0.0015″ (0.508 ± 0.038)
IR-4	0.385″ (9.78)	0.180″ (4.57)	0.440″ (11.18)	0.025 ± 0.002″ (0.635 ± 0.051)

Stock No.	Type	Induct. (µH)	DC Current (mA)	1-49	50-99	100-249	250-499
16F3803	IR-2 .22UH 10%	0.22	1025	1.79	1.10	0.51	0.36
16F3804	IR-2 .27UH 10%	0.27	960	1.79	1.10	0.51	0.36
16F3806	IR-2 .39UH 10%	0.39	700	1.79	1.10	0.51	0.36
16F3807	IR-2 .47UH 10%	0.47	650	1.79	1.10	0.51	0.36
16F3811	IR-2 1.0UH 10%	1.0	385	1.79	1.10	0.51	0.36
16F3815	IR-2 2.2UH 10%	2.2	395	2.23	1.36	0.63	0.45
16F3819	IR-2 4.7UH 10%	4.7	230	2.23	1.36	0.63	0.45
16F3823	IR-2 10.0UH 10%	10.0	130	2.23	1.36	0.63	0.45
16F3827	IR-2 22.0UH 10%	22.0	140	2.23	1.36	0.63	0.45
16F3834	IR-2 82.0UH 10%	82.0	88	2.59	1.58	0.74	0.52
16F3835	IR-2 100.0UH 10%	100.0	84	2.59	1.58	0.74	0.52
16F3840	IR-2 270.0UH 10%	270.0	47	2.97	1.81	0.85	0.61
16F3848	IR-2-1000.0UH 10%	1000.0	28	3.52	2.15	0.99	0.72
16F3850	IR-4.22UH 20%	0.22	1810	2.07	1.27	0.59	0.42
16F3851	IR-4 .33UH 20%	0.33	1400	2.07	1.27	0.59	0.42
16F3852	IR-4 .47UH 20%	0.47	1225	2.07	1.27	0.59	0.42
16F3853	IR-4 .56UH 10%	0.56	1150	2.07	1.27	0.59	0.42
16F3859	IR-4 1.8UH 10%	1.8	525	1.79	1.10	0.51	0.36
16F3860	IR-4 2.2UH 10%	2.2	435	1.79	1.10	0.51	0.36
16F3866	IR-4 6.8UH 10%	6.8	395	2.07	1.27	0.59	0.42
16F3871	IR-4 18.0UH 10%	18.0	185	2.07	1.27	0.59	0.42
16F3873	IR-4 27.0UH 10%	27.0	170	2.07	1.27	0.59	0.42
16F3877	IR-4 43.0UH 5%	43.0	172	2.35	1.44	0.66	0.48
16F3913	IR-4 1300.0UH 5%	1300	61	3.52	2.15	0.99	0.72

(7396) (ne08289)

TYPES IM-2, IM-4, IMS-5 MIL-C-15305 MOLDED INDUCTORS



Sturdy epoxy-molded inductors. Tolerance: ±10%. Operating temperature: —55°C to +105°C. Flame-retardant coating. **Type IMS-5** offers electromagnetic shielding.

DIMENSIONS

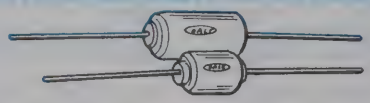
Type	A	B	C	D
IM-2	0.105 (2.67)	0.260 (6.60)	1.626 (41.30)	0.0215 (0.546)
IM-2	0.085 (2.16)	0.240 (6.10)	1.250 (31.75)	0.0185 (0.470)
IM-4	0.165 (4.19)	0.385 (9.78)	1.625 (41.28)	0.027 (0.686)
IM-4	0.145 (3.68)	0.365 (9.27)	1.250 (31.75)	0.023 (0.584)
IMS-5	0.162 ± 0.010	0.410 ± 0.020	1.438 ± 0.1881	0.025 ± 0.002

Stock No.	Type	Induct. (µH)	Rated DC Current (mA)	1-9	10-24	25-49	50-99
44F4222	IM-2-.1	0.1	1350	2.21	2.03	1.92	1.25
44F4223	IM-2-.15	0.15	1200	2.21	2.03	1.92	1.25
44F4224	IM-2-.22	0.22	1025	2.21	2.03	1.92	1.25
44F4225	IM-2-.33	0.33	815	2.21	2.03	1.92	1.25
44F4226	IM-2-.47	0.47	650	2.21	2.03	1.92	1.25
90F6036	IM-2-.56	0.56	545	2.21	2.03	1.92	1.25
90F6041	IM-2-.68	0.68	495	2.21	2.03	1.92	1.25
44F4227	IM-2-1.0	1.0	385	2.68	2.46	2.32	1.52
44F4228	IM-2-1.2	1.2	590	2.68	2.46	2.32	1.52
44F4229	IM-2-1.5	1.5	535	2.68	2.46	2.32	1.52
90F6038	IM-2-1.8	1.8	455	2.68	2.46	2.32	1.52
44F4230	IM-2-2.2	2.2	395	2.68	2.46	2.32	1.52
44F4231	IM-2-2.7	2.7	355	2.68	2.46	2.32	1.52
44F4232	IM-2-3.3	3.3	270	2.68	2.46	2.32	1.52
44F4233	IM-2-4.7	4.7	230	2.68	2.46	2.32	1.52
44F4234	IM-2-5.6	5.6	185	2.68	2.46	2.32	1.52
44F4235	IM-2-6.8	6.8	175	2.68	2.46	2.32	1.52
90F6043	IM-2-8.2	8.2	155	2.68	2.46	2.32	1.52
44F4236	IM-2-10.0	10.0	130	2.68	2.46	2.32	1.52
44F4238	IM-2-15.0	15.0	150	2.68	2.46	2.32	1.52
44F4239	IM-2-18.0	18.0	145	2.68	2.46	2.32	1.52
44F4240	IM-2-22.0	22.0	140	2.68	2.46	2.32	1.52
44F4241	IM-2-33.0	33.0	130	2.89	2.65	2.50	1.65
44F4242	IM-2-39.0	39.0	125	2.89	2.65	2.50	1.65
44F4243	IM-2-47.0	47.0	110	2.89	2.65	2.50	1.65
90F6034	IM-2-56	56.0	100	2.89	2.65	2.50	1.65
44F4244	IM-2-100	100	84	3.37	3.09	2.92	1.91
44F4245	IM-2-220	220	52	3.37	3.09	2.92	1.91
44F4246	IM-2-330	330	45	3.66	3.35	3.17	2.07
44F4247	IM-2-470	470	36	3.66	3.35	3.17	2.07
44F4248	IM-2-1000	1000	28	3.91	3.59	3.39	2.22
44F4251	IM-4-10.0	10.0	290	2.51	2.30	2.17	1.42
44F4257	IM-4-100	100.0*	133	2.68	2.46	2.32	1.52
44F4268	IMS-5-15.0	15.0	315	4.59	3.77	1.69	1.58
44F4271	IMS-5-27.0	27.0	260	4.07	3.25	1.04	0.87
95F9999	IMS-5 1000	1000	70	4.82	3.97	1.77	1.65

* ±5% tolerance

(7299) (de02401)

TYPE IHA HIGH-CURRENT FILTER INDUCTORS



Pre-tinned PC mounting axial leads designed for use with switching power supplies. Protected by polyolefin sleeve. Inductance measured at 1kHz with no DC current. Operating temperature: –55°C to +125°C. Tolerance: ±10%.

DIMENSIONS

Type	Body Width A (max)	Body Length B (max)	Lead dia. C±0.002 (.050)
IHA-101	0.475 (12.07)	0.800 (20.32)	0.032 (0.813)
IHA-102	0.475 (12.07)	0.800 (20.32)	0.032 (0.813)
IHA-103	0.475 (12.07)	1.05 (26.67)	0.032 (0.813)
IHA-104	0.550 (13.97)	1.05 (26.67)	0.032 (0.813)
IHA-105	0.550 (13.97)	1.175 (29.85)	0.032 (0.813)
IHA-202	0.500 (12.70)	0.800 (20.32)	0.032 (0.813)
IHA-203	0.500 (12.70)	0.920 (23.37)	0.032 (0.813)
IHA-303	0.550 (13.97)	0.800 (20.32)	0.032 (0.813)

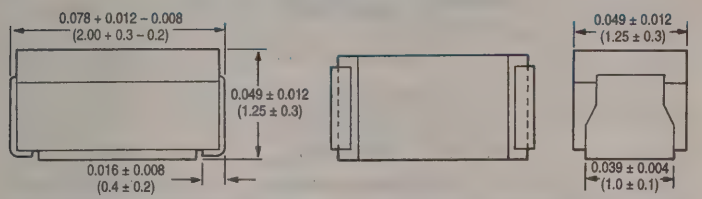
Stock No.	Type	Induct. (µH)	Current (A)	1-49	50-99	100-249	250-499
90F6024	IHA-101	50	2.5	7.59	3.48	1.91	1.48
90F6025	IHA-102	100	2.1	7.76	3.55	1.95	1.51
90F6026	IHA-103	250	1.8	8.48	3.89	2.13	1.66
90F6027	IHA-104	500	1.6	8.75	4.01	2.20	1.70
90F6028	IHA-105	1000	1.4	9.92	4.54	2.49	1.94
90F6029	IHA-202	50	3.1	7.82	3.58	1.96	1.52
90F6030	IHA-203	100	2.7	8.45	3.86	2.12	1.65
90F6032	IHA-303	27	4.8	8.00	3.66	2.01	1.56

(7298) (de02400)

OVERNIGHT SHIPMENT IS AVAILABLE WHEN YOU NEED IT.
CONTACT YOUR LOCAL NEWARK SALES OFFICE.

IMC-0805 SERIES HIGH-FREQUENCY MOLDED INDUCTORS

SMD



IMC-0805 series inductors feature high self-resonant frequency values and high Q values at higher frequencies. Wirewound, molded construction for superior strength and moisture resistance. Inductance tolerance: ±20% for 3.9-8.2nH; ±10% for 6.8-1000nH; ±5% for 33-1000nH. Operating temperature: –40°C to +85°C at full rated current. Compatible with vapor phase and reflow soldering. Non-magnetic core. Inductance value (nH) is indicated in type number. **Sold in reels of 3000.**

Stock No.	Type	Self-Resonant Freqency (MHz)	DCR Max. (Ω)	Rated DC Current (mA)	1-2	3-4
91F5762	IMC-0805 4.7 NH 2	6000	0.08	540	794.39	639.63
91F5763	IMC-0805 5.6NH 20	5500	0.10	540	794.39	639.63
91F5764	IMC-0805 6.8NH 10	5500	0.12	540	794.39	639.63
91F5765	IMC-0805 8.2NH 10	4700	0.13	540	794.39	639.63
91F5766	IMC-0805 10.0NH 1	3300	0.14	540	794.39	639.63
91F5767	IMC-0805 12.0NH 1	3300	0.18	535	794.39	639.63
91F5768	IMC-0805 15.0NH 1	3000	0.18	520	794.39	639.63
91F5769	IMC-0805 18.0NH 1	3000	0.22	480	794.39	639.63
91F5770	IMC-0805 22.0NH 1	2600	0.22	465	794.39	639.63
91F5771	IMC-0805 27.0NH 1	2500	0.26	455	794.39	639.63
91F5772	IMC-0805 33.0NH 5	2050	0.30	395	794.39	639.63
91F5773	IMC-0805 39.0NH 5	2000	0.31	390	794.39	639.63
91F5774	IMC-0805 47.0NH 5	1650	0.35	385	794.39	639.63
91F5775	IMC-0805 56.0NH 5	1550	0.39	360	794.39	639.63
91F5776	IMC-0805 68.0NH 5	1450	0.44	340	794.39	639.63
91F5777	IMC-0805 82.0NH 5	1100	0.48	330	794.39	639.63
91F5778	IMC-0805 100.0NH	800	0.66	285	794.39	639.63
91F5779	IMC-0805 120.0NH	600	0.76	275	794.39	639.63
91F5780	IMC-0805 150.0NH	600	1.13	230	794.39	639.63
91F5781	IMC-0805 180.0NH	600	1.24	195	794.39	639.63
91F5782	IMC-0805 220.0NH	500	1.41	170	794.39	639.63
91F5783	IMC-0805 270.0NH	300	1.50	165	794.39	639.63
91F5784	IMC-0805 330.0NH	200	1.66	160	794.39	639.63
91F5785	IMC-0805 390.0NH	150	1.82	150	794.39	639.63
91F5786	IMC-0805 470.0NH	150	1.97	145	794.39	639.63
91F5787	IMC-0805 560.0NH	100	2.07	140	794.39	639.63
91F5788	IMC-0805 680.0NH	100	2.32	130	794.39	639.63
91F5789	IMC-0805 820.0NH	80	2.60	125	794.39	639.63
91F5790	IMC-0805 1000.0NH	80	2.98	120	794.39	639.63

(16942) (ne10758)

MOLDED CHIP INDUCTOR KITS

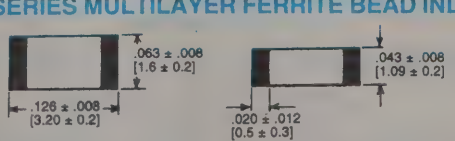
Type IMC/ISC impact-resistant clear polystyrene parts case. Fully assembled with 18 inductance values per kit. 5 pieces per value (90 inductors per kit). Case size: 10.03L × 7.32W × 1.65"D. Individual values available separately and for replacements; *contact your local Newark sales office.*

Stock No.	Type	Inductance Values (µH)	Each
96F906	KD-IMC1812-KIT	0.33, 0.47, 1.0, 4.7, 6.8, 8.2, 10, 12, 15, 18, 22, 33, 47, 56, 100, 150, 180, 220	155.33
96F907	KD-ISC1812	0.33, 0.47, 0.82, 1.0, 1.2, 1.5, 1.8, 2.7, 3.3, 4.7, 5.6, 6.8, 8.2, 10, 22, 47, 56, 100	157.35
96F908	KD-IMC1210-KIT	0.033, 0.1, 0.33, 0.47, 1.0, 1.2, 1.5, 2.2, 2.7, 3.3, 3.9, 4.7, 10, 12, 15, 22, 47, 100	155.33
96F909	KD-ISC1210-KIT	0.1, 0.33, 0.47, 0.82, 1.0, 1.2, 1.5, 1.8, 2.7, 3.3, 4.7, 5.6, 6.8, 8.2, 10, 22, 47, 56, 100	157.35

(7396) (ne08781)

ILB-1206 SERIES MULTILAYER FERRITE BEAD INDUCTORS

SMD



ILB-1206 series ferrite bead inductors are used to clean up spikes which cause noise on digital and analog keyboards. Tolerance: ±25%. Temperature range: –55°C to +125°C. Thermal shock: 50 cycles, –55°C to +125°C. Humidity: 90% RH @ –40°C with 200mA DC current, 500 hrs. Load life: +90°C @ full rated current for 2000 hrs. Solderability: 95% coverage after 5 second dip in +230°C solder following a 60-second pre-heat @ +120°C and unactivated flux dip. Resistance to solder heat: 10 seconds in +260°C solder after pre-heat and flux dip. **Sold in bulk packs of 100, and in reels of 2500.**

CONTINUED

ILB-1206 SERIES MULTILAYER FERRITE BEAD INDUCTORS (CONT.)

REEL OF 2500

Stock No.	Type	Imped. (Ohms)	DCR Max. (Ohms)	Rated DC Current (mA)	1-2	3-4
01F924	ILB1206 190 RE4	19	0.05	500	78.45	65.83
01F925	ILB1206 260 RE4	26	0.05	500	78.45	65.83
01F926	ILB1206 310 RE4	31	0.05	500	78.45	65.83
01F927	ILB1206 500 RE4	50	0.10	350	78.45	65.83
01F928	ILB1206 700 RE4	70	0.15	250	78.45	65.83
01F929	ILB1206 121 RE4	120	0.20	250	103.61	86.94
01F930	ILB1206 151 RE4	150	0.20	250	103.61	86.94
01F931	ILB1206 301 RE4	300	0.30	250	116.93	98.12
01F932	ILB1206 501 RE4	500	0.50	200	116.93	98.12
01F933	ILB1206 601 RE4	600	0.50	200	116.93	98.12

PKG. OF 100

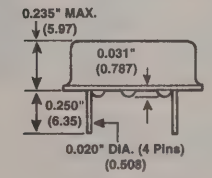
Stock No.	Type	Imped. (Ohms)	DCR Max. (Ohms)	Rated DC Current (mA)	1-9	10-24
01F934	ILB1206 190 B25	19	0.05	500	33.64	28.66
01F935	ILB1206 260 B25	26	0.05	500	33.64	28.66
01F936	ILB1206 310 B25	31	0.05	500	33.64	28.66
01F937	ILB1206 500 B25	50	0.10	350	33.64	28.66
01F938	ILB1206 700 B25	70	0.15	250	33.64	28.66
01F939	ILB1206 121 B25	120	0.20	250	45.29	38.58
01F940	ILB1206 151 B25	150	0.20	250	45.29	38.58
01F941	ILB1206 301 B25	300	0.30	250	50.46	42.99
01F943	ILB1206 601 B25	600	0.50	200	50.46	42.99

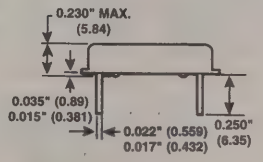
(7389) (ne07373)

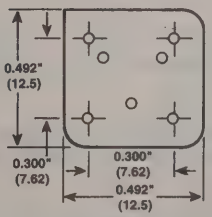
XO SERIES CLOCK OSCILLATORS

PIN	CONNECTION
1	N. C. or E/D
4	Circuit Case/Ground
5	Output
8	+5 VDC

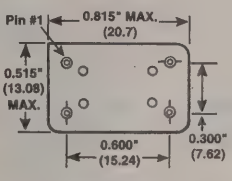
PIN	CONNECTION
1	N. C. or E/D
7	Ground
8	Output
14	+5 VDC







XO-52



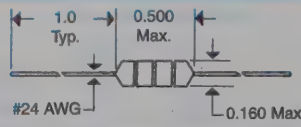
XO-43/XO-54

Hybrid crystal clock oscillators are HCMOS, CMOS, NMOS, TTL, LS-TTL, S-TTL compatible. 0.01% frequency accuracy. 60/40 symmetry. Resistant to isopropyl alcohol, trichloroethane and Freon TMC. Operating temperature: 0°C to +70°C. Input voltage (V_{DD}): +5.0 ±0.5 VDC. Input current: 5 to 50mA. Minimum enable input voltage: 3.5V. Maximum enable input current: 10µA. Frequency accuracy: 0.01%. Enable/disable: #1 pin open. Symmetry: Standard 60/40 except those marked (*) which are 55/45. Terminal solderability: Per MIL-STD-202, Method 208C.

Stock No.	Type	Frequency (MHz)	1-24	25-49	50-99	100-249
95F8824	XO-52B-1.8432MHZ	1.8432	2.23	2.11	2.04	2.01
95F8825	XO-52B-3.6864MHZ	3.6864	2.23	2.11	2.04	1.98
95F8827	XO-52B-16.OMHZ	16.0	2.23	2.11	2.04	2.01
95F8829	XO-52B-32.OMHZ	32.0	2.23	2.11	2.04	2.01
95F8736	XO-54B-40.0MHZ	40.0	2.23	2.11	2.04	2.01
44F4203	XO-43B-4.0	4.0	6.63	6.27	6.07	5.62
44F4205	XO-43B-5.0	5.0	6.63	6.27	6.07	5.62
44F4208	XO-43B-8.0	8.0	6.63	6.27	6.07	5.62
44F4209	XO-43B-10.0	10.0	6.63	6.27	6.07	5.62
44F4211	XO-43B-16.0	16.0	6.63	6.27	6.07	5.62
44F4212	XO-43B-16.384	16.384	6.63	6.27	6.07	5.62
44F4214	XO-43B-19.6608	19.6608	6.63	6.27	6.07	5.62
44F4216	XO-43B-24.0	24.0	6.63	6.27	6.07	5.62
44F4219	XO-43B-32.0	32.0	7.29	6.89	6.67	5.91

(7312) (de02842)

5300 SERIES MINIATURE HIGH-CURRENT RF CHOKES

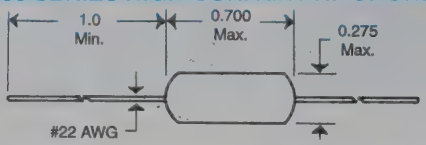


Used to filter DC, 60Hz and 400Hz lines from conducted and radiated RF. For EMI filter and switching power supply applications. Epoxy conformal coating. Operating temperature: –55°C to +105°C.

Stock No.	Type	Inductance L ± 10% (µH)	Resistance Max. (Ω)	Current Max. (mA)	1-24	25-49
16F2106	5300-03	1.5	0.020	3100	2.50	2.18
16F2107	5300-10	5.6	0.074	1600	2.35	2.06
16F2108	5300-13	10	0.095	1500	2.35	2.06
16F2109	5300-17	22	0.19	1000	2.35	2.06
16F2110	5300-19	33	0.24	910	2.35	2.06
16F2111	5300-25	100	0.67	550	2.42	2.12
16F2112	5300-27	150	1.2	410	2.42	2.12
16F2113	5300-33	470	3.4	240	2.58	2.26
16F2114	5300-46	5600	50	63	4.69	4.11

(7405) (ne08800)

5800 SERIES HIGH-CURRENT RF CHOKES



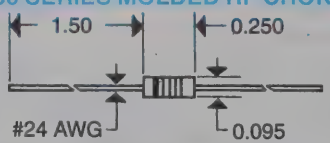
Used to filter DC, 60Hz and 400Hz lines from conducted and radiated RF. For EMI filter and switching power supply applications. Operating temperature: –55°C to +105°C.

Stock No.	Type	Induct. L ± 10% (µH)	Resist. Max. (Ω)	Saturation Current* (A dc)	Suggested Rated Current (A ac)	1-24	25-49
16F2095	5800-100	10	0.033	4.1	1.28	2.76	2.41
16F2096	5800-220	22	0.050	2.7	1.28	2.76	2.41
16F2097	5800-470	47	0.109	1.8	0.804	2.76	2.41
16F2098	5800-101	100	0.208	1.2	0.632	2.76	2.41
16F2100	5800-151	150	0.340	1.0	0.508	2.76	2.41
16F2102	5800-221	220	0.430	0.86	0.508	2.76	2.41
16F2103	5800-331	330	0.665	0.70	0.400	2.76	2.41
16F2104	5800-471	470	1.15	0.59	0.315	2.76	2.41
16F2105	5800-102	1000	2.30	0.40	0.200	2.76	2.41

* Saturation current lowers inductance 10%.

(7406) (ne08801)

9230 SERIES MOLDED RF CHOKES



Used to attenuate, phase shift, and detect high-frequency, low-power signals. Meet MIL-C-15305, MS75083, MS75084, MS75085. Also available with iron core material; *contact your local Newark sales office.*

PHENOLIC CORE

Stock No.	Type	Induct. L ± 10% (µH)	Q @ Freq. Min.	Resist. Max. (Ω)	Current Max. (mA)	1-24	25-49
93F9199	9230-00	0.15	38 @ 25MHz	0.1	1100	1.56	1.36

FERRITE CORE

93F9211	9230-64	68	50 @ 2.5MHz	6.7	135	2.58	2.26
93F7898	9230-68	100	50 @ 2.5MHz	8	125	2.58	2.26

(7365) (ne00269)

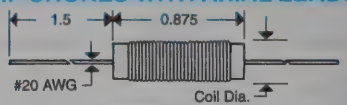
70F SERIES SUBMINIATURE RF CHOKES

Designed for demand of high-reliability ultraminiature components. Coils impregnated with moisture-resistant lacquer. Specification "Q" denotes quality factor. Core material indicated by type number suffix: **I** = iron; **F** = ferrite. Lead length: 1.25" min.

Stock No.	Type	Impec. L ± 5% (µH)	Q @ Freq. Min. (MHz)	Resist. (Ω)	Coil Dia. Max.	1-24	25-49
59F236	70 F 104 AI	100	25 @ 2.5	7.68	0.165"	2.42	2.12
59F243	70 F 103 AI	1,000	30 @ 0.79	24	0.225"	2.55	2.23
59F058	70F252AF	25,000	59 @ 0.079	115	0.34"	5.70	4.94
94F7198	70F101AF	100,000	48 @ 0.079	278	0.446"	4.51	3.90

(7364) (ne00204)

RF CHOKES WITH AXIAL LEADS



Solenoid Wound

3-PI Universal Wound

Solenoid or 3-pi universal windings. Impregnated with moisture- and fungus-resistant varnish. Operation up to UHF. Lead length: 1.5".

IRON CORE SOLENOID WOUND

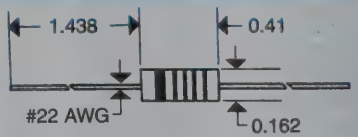
Stock No.	Type	Inductance L ± 5% (µH)	Resistance Max. (Ω)	Rated Current (mA)	Coil Dia. Max.	1-24	25-49
59F282	4622	10	0.11	1,500	0.29"	1.98	1.73
59F283	4624	15	0.17	1,000	0.29"	1.98	1.73
59F286	4629	55	1.0	500	0.29"	1.98	1.73
59F289	4632	100	3.0	400	0.29"	2.01	1.76

FERRITE CORE 3-PI UNIVERSAL WOUND

59F312	6302	2,500	9	160	0.47"	3.93	3.40
59F313	6304	5,000	14	160	0.53"	4.41	3.82
59F314	6306	10,000	31	100	0.53"	4.55	3.94
59F315	6308	25,000	82	65	0.53"	4.72	4.08
59F316	6310	50,000	127	65	0.53"	4.72	4.08

(7363) (ne00200)

9250 SERIES MOLDED SHIELDED RF CHOKES



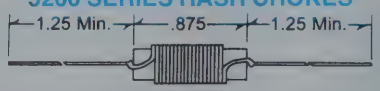
Electromagnetic shielding limits coupling to less than ±3% when two units placed side-by-side. Power rating: 0.25W max. @ 90°C.

Stock No.	Type	Mil-Spec	Induct. L ± 10% (µH)	Q @ Freq. Min.	Core	1-24	25-49
81F3040	9250-331	75087-7	0.33	46 @ 25MHz	Phenolic	4.02	3.48
81F3043	9250-561	75087-10	0.56	43 @ 25MHz	Phenolic	4.02	3.48
81F3046	9250-102	75088-1	1.0	44 @ 25MHz	Iron	4.21	3.64
81F3053	9250-472	75088-9	4.7	44 @ 7.9MHz	Iron	4.21	3.64
81F3057	9250-103	75088-13	10	50 @ 7.9MHz	Iron	4.21	3.64
81F3063	9250-333	75089-5	33	45 @ 2.5MHz	Ferrite	4.63	4.01
81F3069	9250-104	75089-11	100	50 @ 2.5MHz	Ferrite	5.06	4.38
81F3081	9250-105	75089-23	1,000	60 @ 0.79MHz	Ferrite	5.06	4.38
81F3085	9250-225	75089-27	2,200	45 @ 0.25MHz	Ferrite	5.79	5.01
81F3089	9250-475	75089-31	4,700	45 @ 0.25MHz	Ferrite	6.24	5.40
81F3093	9250-106	75089-35	10k	40 @ 0.25MHz	Ferrite	6.24	5.40
81F3097	9250-226	75089-39	22k	27 @ 0.079MHz	Ferrite	6.93	5.99
81F3105	9250-107	75089-47	100k	18 @ 0.079MHz	Ferrite	8.07	7.43

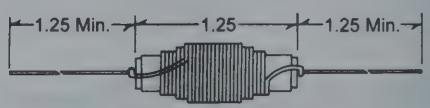
(7366) (ne00270)

5200 SERIES HASH CHOKES

NEW



5230, 5240



5248, 5252, 5254, 5256

5200 series RF choke coils have ferrite cores and 20 AWG lead wires. Body length: 1.25", except **type 5230**: 0.875".

Stock No.	Type	Inductance L ±20% (µH)	Coil Dia. Max.	Resistance Max. (Ω)	1-24	25-49
15F2253	5230	4	0.38"	0.012	3.51	3.07
15F2254	5240	40	0.31"	0.082	3.51	3.07
15F2255	5248	68	0.56"	0.054	4.19	3.63
15F2256	5250	100	0.38"	0.216	4.19	3.63
15F2257	5252	125	0.50"	0.08	4.63	4.01
15F2258	5254	250	0.44"	0.17	4.63	4.01
15F2259	5256	500	0.56"	0.26	4.63	4.01

(33798) (ne33798)

FERRITE EMI SUPPRESSORS

EMI SUPPRESSION EVALUATION KITS

Expanded Cable and Connector EMI Suppressor Kit. Specifically designed to attenuate EMI in all types of cable-connected systems. Features 82 components, including a variety of shield beads, one- and two-piece cable suppressor cores and multi-hole suppressor plates for connectors. Made of "Type 43" material, which provides high impedance over a wide frequency range. Includes nylon cases and steel clips for assembly of split cable suppressor cores.

95F755 Type 0199000005. **Each**..... **126.07**

Suppressor Retro Kit. 40-component kit contains ten different split cable suppression cores in "Type 43" material. For application in systems using round or flat cable. Includes nylon cases.

95F756 Type 0199000008. **Each**..... **126.07**

Expanded Bead-on-Lead Kit. 140-component kit contains 24 wired beads in three basic design configurations. For use in designs that require automatic component insertion in PC boards. Includes three different suppressor materials, "Type 73" , "Type 43", and "Type 61".

95F757 Type 0199000010. **Each**..... **126.07**

Bead, Balun and Broadband Kit II. 276-component kit has assortment of small shield beads and multi-aperture cores in three different materials (Types 73, 43, 61 and 65) for balun and broadband transformer designs.

95F758 Type 0199000011. **Each**..... **126.07**

Surface Mount Bead Suppression Core Kit. Contains an assortment of ten surface mount beads and two common mode beads in appropriate materials to provide maximum attenuation over a wide frequency range.

16F001 Type 0199000014. **Each**..... **84.05**

Chip Beads Kit. Surface mount beads in 4 EIA standard package sizes. Assorted current chip beads are suitable for wave and reflow solder processes. Ideal for suppressing EMI in computers, cellular phones, digital communications, pagers, TV and VCRs. 100% controlled impedance and DCR.

83F7366 Type 0199000018. **Each**..... **81.20**

(7340) (de51996)

EMI SUPPRESSION CORES WITH CASES

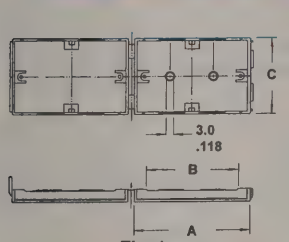


Fig. 1

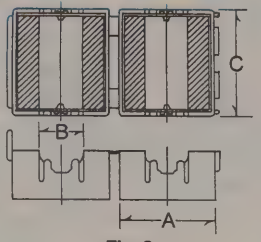


Fig. 2

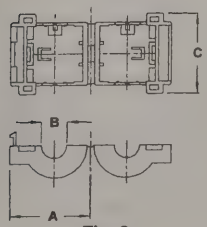


Fig. 3

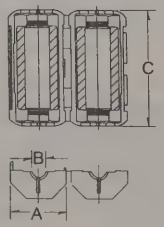


Fig. 4

Attenuate EMI from ribbon and round cable with cores that accommodate a range of sizes and conductors. Flat cases have serrated teeth to grip and center cable. Feature combination case and two ferrite parts. "Type 43" or "Type 44" materials, polypropylene. Flammability: UL 94-V0. **Sold in packages of 2.**

FLAT CABLE CORES WITH CASES

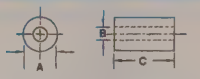
Stock No.	Type	Fig.	Z @ 100MHz	Dimensions A	B	C	1-49	50-99
91F6474	0443166651B	1	225Ω	1.950″	1.350″	1.270″	**7.74**	**6.45**
91F6472	0443163951B	1	235Ω	2.670″	2.050″	1.270″	**11.18**	**9.31**
91F6473	0443164051B	1	215Ω	3.180″	2.570″	1.270″	**12.61**	**10.50**

ROUND CABLE CORES WITH CASES

91F6476	0443164251B	2	275Ω	0.705″	0.200″	1.272″	**4.29**	**3.57**
91F6477	0443167251B	2	225Ω	0.870″	0.400″	1.272″	**5.38**	**4.48**
91F6475	0443164151B	2	250Ω	1.142″	0.500″	1.280″	**7.90**	**6.58**
91F6478	0443625006B	3	113Ω	0.972″	0.300″	0.898″	**3.73**	**3.10**
91F6479	0443665806B	3	88Ω	1.035″	0.375″	0.843″	**3.37**	**2.80**
91F6480	0443800506B	3	75Ω	1.169″	0.500″	0.811″	**3.61**	**3.01**
91F6481	0443806406B	3	90Ω	1.350″	0.600″	0.835″	**4.19**	**3.49**
16F002	0444164951B	4	235Ω	0.680″	0.200″	1.424″	**1.86**	**1.55**

(7341) (de51997)

EMI SHIELD BEADS



Attenuates unwanted high frequency signals. Nickel-zinc "Type 43" material is medium permeability for suppression of signals between 25–200 MHz. Last digit "1" in type = unburnished; last digit "2" = burnishing to break sharp edges. Impedance (Z) tol: ±20%.

Stock No.	Type	Impedance @ 100MHz	Dimensions A	B	C	Pkg. of	1-49
95F769	2643000101	40Ω	0.138″	0.051″	0.128″	1000	**46.23**
83F7364	2673000101	35Ω*	0.138″	0.051″	0.128″	1†	**0.04**
83F7365	2673000301	62Ω	0.138″	0.051″	0.236″	1†	**0.04**
95F770	2643000301	60Ω	0.138″	0.051″	0.236″	1000	**48.33**
95F771	2643000801	92Ω	0.296″	0.094″	0.295″	500	**53.58**
95F772	2643002402	43Ω	0.380″	0.197″	0.190″	500	**50.43**
91F6483	2643540002B	250Ω	0.562″	0.250″	1.125″	2	**1.78**
91F6484	2643665702B	200Ω	0.687″	0.375″	1.125″	2	**2.07**
91F6482	2643102002B	235Ω	1.020″	0.505″	1.125″	2	**3.62**
95F776	2643801002A	45Ω	1.142″	0.748″	0.295″	2	**0.75**
91F6488	2643804502B	100Ω	1.225″	0.750″	0.627″	2	**2.97**
91F6486	2643802702B	80Ω	1.400″	0.900″	0.500″	2	**2.75**
91F6487	2643803802B	108Ω	2.400″	1.400″	0.500″	2	**6.49**

*@25MHz †Sold Individually

(7342) (de51998)

EMI SHIELD BEADS ON LEADS

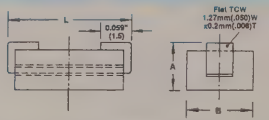
Shield beads are assembled on high-conductivity 22AWG tinned copper wire with a 95/5 tin/lead coating to aid automated circuit assembly. "Type 43" material. For all, dim. A = 0.138″ (3.5); dim. B = 2.44″ (62.0). **Sold in packages of 500 and reels of 4500.**

Type	Impedance @ 100MHz	Dim. "C"	Pkg. of 500 Stock No.	Each	Reel of 4500 Stock No.	Each
2743001112-TR	68Ω	0.175″	**95F780**	**51.48**	**95F791**	**463.29**
2743003112-TR	100Ω	0.263″	**95F782**	**51.48**	**...**	**...**
2743002112-TR	133Ω	0.350″	**95F781**	**51.48**	**95F792**	**463.29**
2743009112-TR	220Ω	0.545″	**95F784**	**76.69**	**95F795**	**690.20**

(7343) (de51999)

SURFACE MOUNT EMI SHIELD BEADS

SMD



Solid flat copper conductor with 95/5 tin/lead coating reduces DC resistance and increases current-carrying capacity compared to plated beads. "Type 43" material. Dim. A = 0.112″ (2.9); dim. B = 0.120″ (3.1). **Sold in packages of 500 and reels of 2800.**

Type	Impedance @ 100MHz	Length	Pkg. of 500 Stock No.	Each	Reel of 2800 Stock No.	Each
2743019447	47Ω	0.184″	**95F786**	**161.78**	**95F797**	**688.31**
2743021447	95Ω	0.359″	**95F787**	**169.14**	**95F798**	**729.49**

(7344) (de52000)

WOUND EMI SHIELD BEADS

Fig. 1

Fig. 2

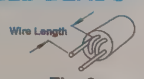


Fig. 3

Impedance is increased by adding turns; max. impedance reached at lower frequency due to additional capacitive effects. Med. permeability "Type 44" material, suppress signals between 25–200 MHz. Six-holes, wound with oxygen-free, high-conductivity tinned copper wire, 24 AWG (0.53mm). Wire length: 1.500″ (38.10). **Sold in pkg. of 250.**

Stock No.	Type	Impedance Min. @ 50MHz	@ 100MHz	Fig.	Turns	Each
95F789	2944666661	320Ω	375Ω	1	1½	**101.38**
95F790	2944666671	680Ω	580Ω	2	2½	**103.48**
95F788	2944666631	800Ω	550Ω	3	3	**105.06**

(7345) (de52001)

MULTILAYER SURFACE MOUNT FERRITE CHIP BEADS

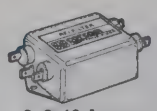
Surface mount ferrite chip beads in standard EIA sizes. Suitable for wave and flow soldering processes. Ideal for EMI suppression. 100% controlled impedance and DCR.

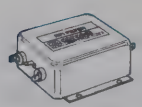
Stock No.	Type	Size	Z @ 100 MHz	Max. Current	1-49	50-99	100-249
83F7368	2506031017Y0	0603	100Ω	150mA	**0.19**	**0.16**	**0.14**
83F7369	2508053017Y0	0805	300Ω	300mA	**0.17**	**0.14**	**0.13**
83F7370	2512066017Y0	1206	200Ω	200mA	**535.92***	**...**	**...**
83F7367	2518065007Y6	1806	50Ω	6000mA	**0.34**	**0.29**	**0.25**
83F7371	2518061517Y0	1806	150Ω	400mA	**0.20**	**0.17**	**0.15**

*Package of 3000

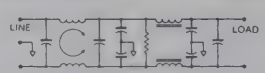
(31685) (ne31685)

S, V, W SERIES RFI FILTERS


3, 6, 10 Amps


20 Amps

V Series



W Series

S Series

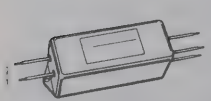
These RFI filter series combine line-to-ground interference rejection filters with additional circuitry designed to reduce low frequency line-to-line noise and add a balance N = 3 ("PI") line-to-line filter with high rejection at low frequency to the N = 2 ("L") and N = 3 ("T") sections to eliminate line-to-ground. Particularly effective when applied in equipment using switching type power supplies. SCR and TTL circuits. Maximum leakage current, line-to-ground at 120VAC/60Hz, 0.5mA; at 250VAC/50Hz, 1.0mA. UL recognized, CSA certified, VDE approved.

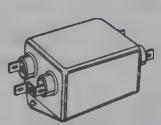
Stock No.	Type	H x W x D	Amps	1-24	25-49	50-99	100-249
46F4385	3VS1	1.16 x 1.82 x 3.36"	3	28.95	20.27	18.24	16.68
46F4384	6VS1	1.53 x 2.08 x 3.86"	6	28.95	20.27	18.24	16.68
46F4383	10VS1	1.53 x 2.08 x 3.86"	10	34.07	23.85	21.46	19.62
46F4396	20VS1	1.53 x 4.20 x 5.23"	20	75.35	52.75	47.47	43.40
46F4386	3VV1	1.28 x 1.82 x 3.36"	3	32.71	22.90	20.61	18.84
46F4387	6VV1	1.53 x 2.08 x 3.86"	6	32.71	22.90	20.61	18.84
46F4397	10VV1	1.53 x 2.08 x 3.86"	10	36.91	25.84	23.26	21.26
46F4398	20VV1	1.53 x 4.20 x 5.23"	20	78.81	55.17	49.65	45.39
46F4388	3VW1	1.28 x 1.82 x 3.36"	3	34.45	24.12	21.70	19.84
46F4389	6W1	1.53 x 2.08 x 3.86"	6	34.45	24.12	21.70	19.84
46F4399	10VW1	1.53 x 2.08 x 3.86"	10	39.54	27.68	24.91	22.78
46F4400	20VW1	1.53 x 4.20 x 5.23"	20	80.55	56.38	50.75	46.40

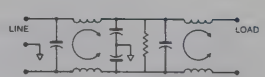
(7374) (ne01890)

EP SERIES RFI FILTERS

EP7


EP3


EP1



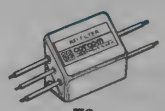
Reduce conducted noise to acceptable limits for equipment to comply with VDE 0871 requirements and FCC specifications. Filters provide high insertion losses for line-to-ground and line-to-line emissions throughout frequency range. 120/250V, 50/60Hz AC. UL recognized, CSA certified, VDE and SEV approved.

Stock No.	Type	D x H x W	Amps	1-24	25-49	50-99
81F4560	3EP1	3.85 x 1.78 x 2.07"	3	31.64	22.15	19.94
20F637	3EP3	3.35 x 1.78 x 2.07"	3	31.64	22.15	19.94
81F4561	3EP7	3.21 x 1.78 x 2.25"	3	35.51	24.86	22.38
81F9311	6EP1	6.62 x 2.28 x 2.07"	6	58.28	40.80	36.72
22F1147	6EP3	6.03 x 2.28 x 2.07"	6	58.28	40.80	36.72
81F4562	10EP1	6.62 x 2.78 x 2.07"	10	71.66	50.16	45.14
22F1148	10EP3	6.03 x 2.78 x 2.07"	10	71.66	50.16	45.14
83F4468	20EP6	5.09 x 2.25 x 1.78"	20	59.68	41.78	37.60

(7261) (de01352)

T SERIES RFI FILTERS

T1


T3

T6

15T1

3ET & 6ET

15ET & 15VT

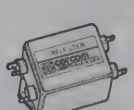
T series ET and **VT models** provide superior common-mode and differential-mode attenuation in a small package. These filters are effective for very noisy equipment that must meet the emission limits of FCC Parts 15 and 18, or VDE 0871 A-level. In some instances, these filters can help bring equipment into compliance with VDE 0871 B-level. Meets the low leakage current requirements of SEV, VDE portable equipment, and (120 volt) UL544 non-patient medical equipment. Maximum leakage current line-to-ground for **ET models** at 120VAC/60Hz is 0.30mA; at 250VAC/50Hz is 0.50mA. For **VT models** at 120VAC/60Hz is 0.75mA (10A) and 1.25mA (15A); at 250VAC/50Hz is 1.25mA (10A) and 2.10mA (15A). Use for both line-to-ground (2250VDC hipot rating) and line-to-line (1450VDC hipot rating) application. UL recognized, CSA certified, VDE approved and SEV approved except all 15A models and style T7, and VT models. Medical version available. *Contact your local Newark sales office.*

Stock No.	Type	D x H x W	Amps	1-24	25-49	50-99
44F3963	3ET1	3.56 x 1.81 x 2.15"	3	48.82	34.18	30.76
44F3964	6ET1	3.56 x 1.81 x 2.15"	6	44.45	31.11	28.00
46F4401	10ET1	4.69 x 1.80 x 2.27"	10	64.21	44.94	40.45
46F4393	10ET3	4.47 x 1.80 x 2.27"	10	64.21	44.94	40.45
46F7173	15ET1	5.45 x 2.18 x 3.96"	15	84.45	59.12	53.20
46F4402	15ET6	5.95 x 2.18 x 3.96"	15	88.72	62.11	55.90
46F4403	10VT1	4.69 x 1.80 x 2.27"	10	64.21	44.94	40.45
46F4394	15VT1	5.45 x 2.18 x 3.96"	15	84.45	59.12	53.20

(7281) (de01892)

Q SERIES FILTERS

3VQ/3EQ Models, 3 amps


Q1

Q3

6EQ Models, 6 amps

Q8 6 amp

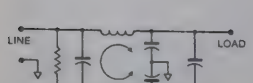
Q8 3 amp

Developed specifically for switching power supplies and to be all the power line filtering required to control conducted emissions down to 10kHz. High attenuation provided for both common mode and differential mode interference throughout the frequency range, with no degradation of performance due to the large peak current drawn by switching power supplies. Maximum leakage current, line-to-ground for **VQ models** at 120VAC/60Hz is 1mA; at 250VAC/50Hz is 1.25mA. For **EQ models** at 120VAC/60Hz is 0.30mA; at 250VAC/50Hz is .50mA. Hipot rating line-to-ground, 2250VDC; line-to-line, 1450VDC. UL recognized, CSA certified, VDE approved, and only **EQ types** are SEV approved. Medical version available; *contact your local Newark sales office.*

Stock No.	Type	D x H x W	Amps	1-24	25-49	50-99
44F3394	3VQ1	3.85 x 1.78 x 2.07"	3	48.08	33.66	30.29
44F3395	3VQ3	2.56 x 1.78 x 2.07"	3	48.08	33.66	30.29
44F3397	3EQ1	3.85 x 1.78 x 2.07"	3	48.08	33.66	30.29
44F3399	3EQ8	3.07 x 1.78 x 2.25"	3	52.46	36.72	33.05
46F4405	6EQ1	4.98 x 1.80 x 2.27"	6	71.47	50.03	45.03
46F4406	6EQ3	3.69 x 1.80 x 2.27"	6	71.47	50.03	45.03
83F2873	20EQ1	6.66 x 2.07 x 2.28"	20	91.09	63.77	57.39

(7282) (de01893)

X AND Z SERIES PC BOARD-MOUNTABLE RFI FILTERS



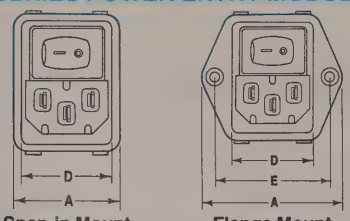
3EX1, 3EZ1

Compact components designed to consume minimal board space. **X, Z series** are ideal for emission-control applications and are designed to bring switching power supplies into compliance with FCC Part 15J conducted emission limits. **Z series** also enable compliance with VDE 0871, Level A requirements. Max. leakage current for **X, Z series,** line to ground at 120VAC/60Hz, 0.30mA; at 250VAC/50Hz, 0.50MA. UL recognized, CSA certified. VDE approved.

Stock No.	Type	D x H x W	Amps	1-24	25-49	50-99
46F775	1EZP	2.61 x 1.13 x 1.62"	1	24.81	17.37	15.63
50F8813	3EX1	3.01 x 1.16 x 1.84"	3	26.15	18.30	16.47
46F772	3EXP	2.61 x 1.13 x 1.62"	3	20.47	14.33	12.89

(7280) (de01891)

C SERIES POWER ENTRY MODULES



C series 2-function power entry modules combine a double-insulated DPST switch and IEC 320 power line connector. Compact size for smaller panel cutout. Faston terminals. Filtered models have maximum leakage current, line-to-ground: 0.25mA @ 120VAC, 0.40mA @ 250VAC. Hipot rating (1 minute): 2250VAC line-to-ground; 1450VDC line-to-line. Rated current: 10A @ 120VAC; 10A @ 250VAC. Rated voltage: 120/250VAC. UL recognized, CSA certified.

DIMENSIONS (mm)

Type	A	B	C	D +0.08" (+0.203)	E +0.006" (+0.152)
CS	1.23" (31.24)	0.97" (24.64)	1.62" (41.17)	1.06" (26.92)	
CE	1.74" (44.20)	0.97" (24.64)	1.62" (41.17)	1.06" (26.92)	1.417" (36.00)
CFS	1.23" (31.24)	2.53" (64.26)	1.62" (41.17)	1.12" (28.5)	
CFE	1.74" (44.20)	2.53" (64.26)	1.62" (41.17)	1.12" (28.5)	1.417" (36.00)

SNAP-IN MOUNT

Stock No.	Type	Current	Style	1-24	25-49	50-99	100-249
83F4466	10CS1	10A	Unfiltered	7.13	5.00	4.50	4.11
83F5803	1CFS1	1A	Filtered	19.95	13.97	12.57	11.50
83F5805	3CFS1	3A	Filtered	18.00	12.60	11.34	10.37
83F5807	6CFS1	6A	Filtered	17.27	12.09	10.88	9.95
83F5809	10CFS1	10A	Filtered	16.95	11.87	10.68	9.77

SNAP-IN MOUNT WITH EXTENDER

Stock No.	Type	Current	Style	1-24	25-49	50-99	100-249
83F5802	10CKS1	10A	Unfiltered	7.70	5.39	4.86	4.44
83F5804	1CKFS1	1A	Filtered	20.15	14.11	12.70	11.61
83F5806	3CKFS1	3A	Filtered	18.20	12.74	11.47	10.49
83F5808	6CKFS1	6A	Filtered	17.47	12.23	11.01	10.07
83F5810	10CKFS1	10A	Filtered	17.15	12.01	10.81	9.88

FLANGE MOUNT

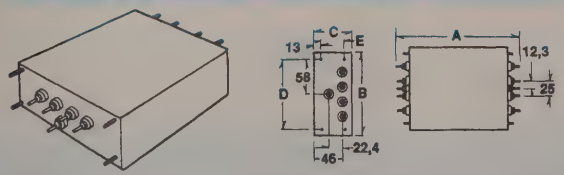
Stock No.	Type	Current	Style	1-24	25-49	50-99	100-249
83F5811	10CE1	10A	Unfiltered	7.13	5.00	4.50	4.11
83F5813	1CFE1	1A	Filtered	19.95	13.97	12.57	11.50
83F5815	3CFE1	3A	Filtered	18.00	12.60	11.34	10.37
83F5817	6CFE1	6A	Filtered	17.27	12.09	10.88	9.95
83F5819	10CFE1	10A	Filtered	16.95	11.87	10.68	9.77

FLANGE MOUNT WITH EXTENDER

Stock No.	Type	Current	Style	1-24	25-49	50-99	100-249
83F5812	10CKE1	10A	Unfiltered	7.70	5.39	4.86	4.44
83F5814	1CKFE1	1A	Filtered	20.15	14.11	12.70	11.61
83F5816	3CKFE1	3A	Filtered	18.20	12.74	11.47	10.49
83F5818	6CKFE1	6A	Filtered	17.47	12.23	11.01	10.07
83F5820	10CKFE1	10A	Filtered	17.15	12.01	10.81	9.88

(29270) (ne29270)

SERIES A 3-PHASE RFI POWER LINE FILTERS

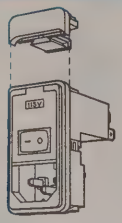


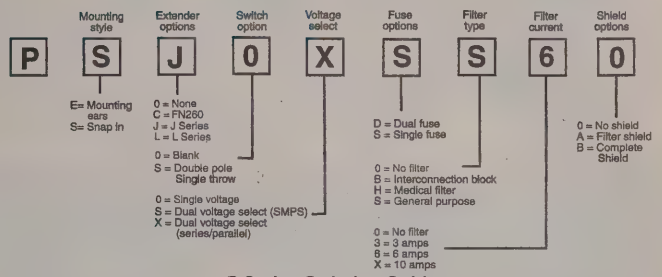
High attenuation in WYE/Delta applications for switching power supplies. Maximum operating voltage 440V, with a suppression range from 50Hz. Maximum leakage current line/ground: 3.4mA at 250VAC, 50Hz.

Stock No.	Type	A	Dimensions (mm) A	B	C	D	E	1-24	25-49
94F9464	20AYP6C	20	224.0	141.5	65.0	117.2	38.1	213.90	149.73
94F9467	30AYP6C	30	224.0	141.5	65.0	117.2	38.1	219.53	153.67
93F4571	60AYP6C	60	239.5	175.8	122.4	151.1	95.3	298.33	208.83
93F4572	60AYT6C	60	351.3	175.8	122.4	151.1	95.3	379.57	265.70

(7286) (de01915)

P SERIES CHAMELEON ADAPTABLE POWER ENTRY MODULES





P Series Ordering Guide

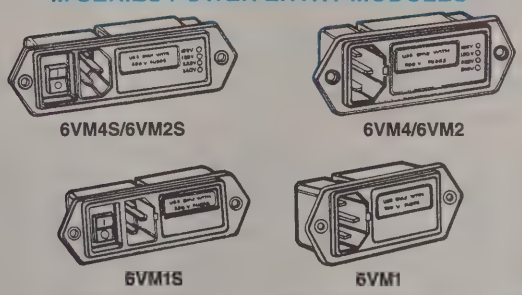
Lets user select power entry features without altering panel cut-out. With adapters, *sold separately,* unit will fit any standard panel cut-out. IEC power line connector, North American and European fusing capabilities, optional DPST on/off switch. 50/60 Hz. Two voltage selection: rated, 120/250VAC; operating, 115/230VAC. Rated current: 10A @ 120VAC, 10A @ 250VAC. Dimensions: 1.93L x 1.24W x 2.31" H *except* **type PSJ:** 2.72" H. Shields **(suffix A)** expand width of panel cutout for snap-in versions. Filtered versions also available in 3, 6 and 10 amps; *contact your local Newark sales office.*

Stock No.	Type	Switch	Voltage	Fusing	1-24	25-49
95F8109	PS00SS000	none	dual	single	12.87	9.01
95F8113	PS0SSS000	DPST	dual	single	16.12	11.28
95F8116	PS0SXD000	DPST	dual	dual	16.26	11.39
16F9275	PS000SS6A	none	single	single	21.44	15.01
16F9276	PE00XSS60	none	dual	single	20.26	14.18
16F9278	PS0SXSH60	DPST	dual	single	22.18	15.53
91F6455	PS0S0SBX0	DPST	dual	single	19.22	13.46

ADAPTER

15F2481 Type GA400. **Each**..... 7.55
(7375) (ne01916)

M SERIES POWER ENTRY MODULES



One component provides capability of interfacing multi-voltage power supply to any common voltage or fusing scheme in the world, without modification. IEC connector. Selectable fuse holder allows use of either single or dual European fuses, or a single North American fuse. DPST on/off switch, available on **types 6VM4S, 6VM2S** and **6VM1S,** breaks both sides of the line and is labeled with international I/O markings. Voltage selector, available on **types 6VM4S, 6VM2S, 6VM4** and **6VM2,** permits changing transformer primary connections; **"2"** or **"4" suffix** denotes optional voltage configuration. **Type ZM** is filtered, ideal for digital equipment. Rated 6 amps at 120V. UL recognized, CSA certified, VDE approved.

Stock No.	Type	Module Style	D x W x H	1-24	25-49	50-99
44F3393	6VM1	Unfiltered	1.45 x 3.39 x 1.14"	15.85	11.10	9.99
44F3391	6VM4	Unfiltered	1.45 x 3.88 x 1.14"	19.16	13.41	12.07
44F3390	6VM1S	Unfiltered	1.45 x 4.17 x 1.14"	19.99	13.99	12.59
44F3389	6VM2S	Unfiltered	1.45 x 4.65 x 1.14"	23.30	16.31	14.68
44F3388	6VM4S	Unfiltered	1.45 x 4.65 x 1.14"	23.30	16.31	14.68
46F4413	3EZM4S	Filtered	1.72 x 4.65 x 1.14"	51.90	36.33	32.70

(7335) (de51187)

K & SK SERIES RFI FILTERS AND B SERIES GENERAL PURPOSE FILTERS

Fig. 1

Fig. 2

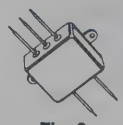


Fig. 3

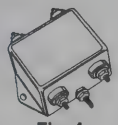


Fig. 4

Fig. 5

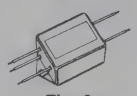
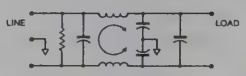


Fig. 6

Fig. 7



K series general purpose, common- and differential-mode filters effectively control line-to-line and line-to-ground RFI interference. Ideal for uses where pulsed, continuous, and/or intermittent RFI interference is present. Maximum leakage: **K** Series: 0.5mA @ 120VAC/60Hz; 1.0mA @ 250VAC/50Hz; **EK** Series: 0.25mA @ 120VAC/60Hz; 0.40mA @ 250VAC/50Hz. **SK series** high-performance, power line filters significantly outperform **K models**. Ideal for equipment with high line-to-ground and line-to-line conducted emissions. **SK Series** maximum leakage: for 3, 6 and 10 amp units, 0.5mA @ 120 VAC, 60 Hz; 1.0mA @ 250 VAC, 50 Hz; for 20 and 30 amp units, 0.3mA @ 120 VAC, 60 Hz; 0.5mA @ 250 VAC, 50 Hz. Both **K** and **SK series** are UL recognized, CSA certified, and VDE approved.

GENERAL PURPOSE RFI FILTERS

Stock No.	Type	Fig.	D x H x W	Amp	1-24	25-49	50-99
81F4526	1VK1	2	3.10 x 0.91 x 2.81″	1	17.84	12.49	11.24
81F4527	2VK1	2	3.10 x 0.91 x 2.81″	2	15.32	10.73	9.65
81F4528	2VK3	3	1.81 x 0.91 x 2.81″	2	16.53	11.57	10.42
81F4542	3VK1	2	3.10 x 1.16 x 2.81″	3	18.22	12.76	11.48
81F4529	3VK3	3	1.81 x 1.16 x 2.81″	3	18.81	13.17	11.85
81F4549	5VK1	2	1.81 x 1.16 x 2.81″	5	15.59	10.91	9.82
81F4530	5VK3	3	1.81 x 1.16 x 2.81″	5	17.57	12.30	11.07
81F4550	10VK1	2	3.35 x 1.16 x 2.81″	10	16.44	11.51	10.36
81F4544	10VK3	3	2.07 x 1.16 x 2.81″	10	17.30	12.11	10.90
87F1801	10VK6	4	3.46 x 1.16 x 2.81″	10	19.43	13.60	12.24
81F4545	10VK7	1	3.71 x 1.28 x 2.25″	10	20.74	14.52	13.06
81F4546	20VK1	2	3.35 x 1.53 x 3.35″	20	24.80	17.36	15.63
94F9414	20EK1	2	3.35 x 1.53 x 3.35″	20	24.80	17.36	15.63
87F1802	20VK6	4	3.46 x 1.53 x 3.35″	20	28.68	20.08	18.07
87F1803	30VK6	4	5.34 x 1.53 x 4.20″	30	53.72	37.61	33.85

HIGH PERFORMANCE RFI POWER LINE FILTERS

81F4582	3VSK1	5	3.85 x 1.16 x 2.07″	3	33.30	23.31	20.98
81F4583	6VSK1	5	4.34 x 1.28 x 2.25″	6	39.00	27.30	24.57
81F4579	10VSK1	5	4.97 x 1.78 x 2.25″	10	45.48	31.84	28.65
81F4581	10VSK7	1	4.33 x 1.78 x 2.25″	10	50.04	35.03	31.52
50F8836	20VSK6	7	5.09 x 1.78 x 2.25″	20	54.83	38.38	34.54
50F8837	30VSK6	4	4.92 x 2.75 x 3.12″	30	65.94	46.16	41.55
50F8838	30VSK6C	4	4.92 x 2.75 x 3.12″	30	83.39	58.38	52.54

B SERIES GENERAL PURPOSE FILTERS

B series compact, common-mode filters economically provide effective RFI control of line-to-ground noise. Maximum leakage current: 0.5mA @ 120VAC/60Hz; 1.0mA @ 250VAC/50Hz. Hipot rating: 2250VDC line-to-ground; 1450VDC line-to-line; UL recognized, CSA certified, VDE approved.

81F4520	1VB1	2	2.25 x 0.66 x 2.53″	1	13.31	9.32	8.39
81F4521	1VB3	3	0.96 x 0.66 x 2.53″	1	14.19	9.94	8.94
81F4548	2VB1	2	2.25 x 0.66 x 2.53″	2	11.98	8.39	7.55
81F4522	2VB3	3	0.96 x 0.66 x 2.53″	2	12.93	9.05	8.15
81F4523	3VB1	2	2.61 x 0.78 x 2.53″	3	13.84	9.69	8.72
81F4537	3VB3	3	1.32 x 0.78 x 2.53″	3	14.76	10.34	9.30
81F4524	5VB1	2	2.61 x 0.78 x 2.53″	5	12.84	8.99	8.09
81F4538	5VB3	3	1.32 x 0.78 x 2.53″	5	13.57	9.50	8.55
81F4525	10VB1	2	2.61 x 1.16 x 2.53″	10	14.32	10.02	9.02
81F4539	10VB3	3	1.32 x 1.16 x 2.53″	10	14.99	10.49	9.45
87F1804	10VB6	4	2.72 x 1.16 x 2.53″	10	17.95	12.57	11.31
81F4540	20VB1	2	3.36 x 1.16 x 2.81″	20	22.18	15.53	13.98
87F1799	20VB6	4	3.46 x 1.16 x 2.81″	20	26.15	18.30	16.47
87F1800	30VB6	4	5.34 x 1.53 x 4.20″	30	49.91	34.94	31.45

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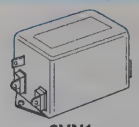
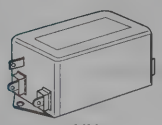
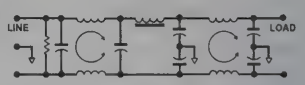
N SERIES RFI FILTERS FOR SWITCHING POWER SUPPLY


6VN1


10VN1



N series high-performance, common-mode, and differential-mode filters are ideal for digital equipment. Max. line-to-ground leakage @ 120VAC/60Hz: 1.25mA; @ 250VAC/50Hz: 2.10mA. Complies with emission limits of VDE0871 Level B and FCC Part 15J, Class B requirements. UL recognized. CSA certified. VDE approved.

Stock No.	Type	H x W x D	Amps	1-24	25-59	50-99
50F8811	6VN1	1.81 x 2.15 x 3.56″	6	47.34	33.14	29.83
50F8812	10VN1	1.80 x 2.27 x 4.69″	10	77.86	54.50	49.05

(33078) (ne33078)

R SERIES DUAL T SECTION RFI POWER LINE FILTERS

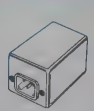


Fig. 1

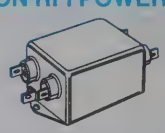


Fig. 2

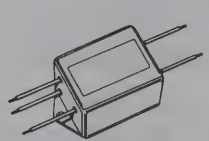


Fig. 3

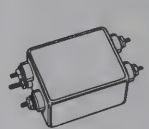
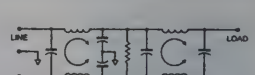


Fig. 4

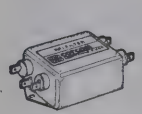


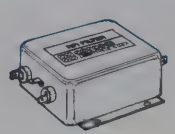
Well-suited for low impedance loads where noisy RFI environments are present. Units control pulsed, continuous and/or intermittent interference, assuring protection of equipment from power line noise while also protecting the line from equipment noise. In addition, these filters provide low leakage current without deterioration of insertion loss characteristics. 120/250V, 50/60Hz AC. All are UL recognized, CSA certified; VDE approved.

Stock No.	Type	Fig.	D x H x W	Amp	1-24	25-49	50-99
81F4553	1VR1	2	3.35 x 1.16 x 1.81″	1	24.32	17.02	15.32
81F4586	1VR3	3	2.07 x 1.16 x 1.81″	1	25.67	17.97	16.17
81F4554	2VR1	2	3.35 x 1.16 x 1.81″	2	22.03	15.42	13.88
81F4567	2VR3	3	2.07 x 1.16 x 1.81″	2	24.36	17.05	15.35
81F4555	3VR1	2	3.85 x 1.16 x 2.07″	3	23.63	16.54	14.89
81F4557	5VR1	2	3.85 x 1.16 x 2.07″	5	22.22	15.55	14.00
81F4569	5VR3	3	2.56 x 1.16 x 2.07″	5	24.54	17.18	15.46
81F4570	5VR7	1	4.33 x 1.28 x 2.25″	5	25.73	18.02	16.21
81F4558	10VR1	2	3.85 x 1.53 x 2.07″	10	23.31	16.32	14.69
81F4571	10VR3	3	2.56 x 1.53 x 2.07″	10	24.13	16.89	15.20
89F3054	10VR6	4	3.96 x 1.53 x 2.07″	10	27.65	19.36	17.42
81F4572	10VR7	1	4.33 x 1.53 x 2.25″	10	27.68	19.38	17.44
81F4559	20VR1	2	5.23 x 1.53 x 4.20″	20	56.58	39.61	35.64
89F3055	20VR6	4	5.34 x 1.53 x 4.20″	20	58.05	40.63	36.57

(7262) (de01353)

MV SERIES POWER LINE FILTER FOR MEDICAL EQUIPMENT


3, 6, 10 Amps

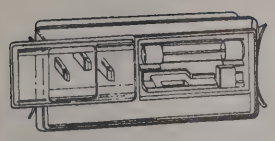

20 Amps

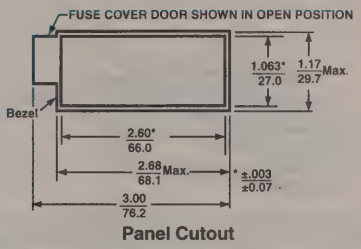
MV series filters aid compliance with requirements of UL2601, which limits leakage current for patient care equipment. **MV series** filters take advantage of the changed standard for leakage current and offers improved line-to-ground performance. Higher line-to-line performance is achieved through additional differential mode rod inductors. Maximum leakage current (line-to-ground): @ 120VAC/60Hz, 0.07mA; @ 250VAC/50Hz, 0.15mA. UL recognized. CSA certified, VDE approved.

Stock No.	Type	Amps	H x W x D	1-24	25-49	50-99
16F9369	3MV1	3	1.28 x 1.82 x 3.36″	32.53	22.78	20.50
16F9371	10MV1	10	1.53 x 2.08 x 3.86″	38.44	26.91	24.22
16F9372	20MV1	20	1.53 x 3.38 x 5.23″	77.63	54.34	48.91

(7404) (ne08799)

J SERIES VOLTAGE SELECTING AND FUSED CONNECTORS





Panel Cutout

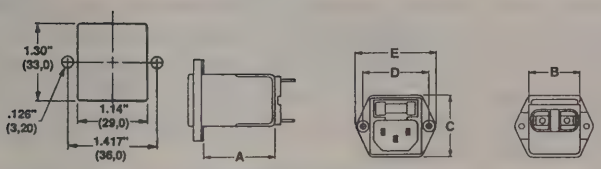
Enable equipment to operate anyplace in the world without modification when installed. Includes internationally approved connector, fuseholder and voltage selector card. 6 amps, AC max. current: 50/60Hz. 100, 120, 220, 240VAC operating voltages. Accepts ¼" x 1¼" fuses *(not included, see product index)*. All models UL recognized. **Types 6VJ1, 6J4** CSA certified. **4 suffix** on type number denote available voltage selection for **J** models. All connectors are filtered except **type 6VJ1.**

Stock No.	Type	W x H x D	1-24	25-49	50-99	100-249
15F2482	6VJ1	2.68 x 1.17 x 1.52"	15.44	10.81	9.73	8.89
15F2483	6J4	2.75 x 1.17 x 1.87"	24.93	17.45	15.70	14.36

(7284) (de01913)

GG SERIES POWER ENTRY MODULES

GG1 Series



Filtered power entry modules combine general purpose RFI filter with IEC 320 power cord connector and single or dual metric fusing. 50/60 Hz. 0.250" (6.35) fast-ons (**GG1** in type number) for load side terminations. Models with ground choke to isolate equipment chassis from external ground at RF frequencies and wire lead models (**GG8** in type number) are available. *Contact your local Newark sales office.* UL recognized, CSA certified, VDE approved. Accept 5x20mm fuse(s) *(not included, see product index).*

CASE CODE DIMENSIONS

Code	A (maximum)	B (maximum)	C (maximum)	D	E (maximum)
1	1.66" (51.10)	1.13" (28.70)	1.29" (32.77)	1.41" (33.3)	1.76" (44.70)
2	1.66" (51.10)	1.13" (28.70)	1.29" (32.77)	1.41" (33.3)	1.76" (44.70)

SINGLE FUSING

Stock No.	Type	Amps	Code	1-24	25-49	50-99
93F4603	6EGG1-1	6	1	14.79	10.36	9.32

DUAL FUSING

93F4593	1EGG1-2	1	2	19.81	13.87	12.48
93F4597	6EGG1-2	6	2	17.60	12.32	11.09

(7285) (de01914)

L AND LA SERIES RFI FILTERED POWER ENTRY MODULES

EDL1S

EDL4C

EFLA/EZLA

L series can be specified with North American or European (**"M"** suffix) fusing capabilities; **LA series** has selectable North American and European fusing capabilities. Features IEC connector. DPST on/off switch (**"S"** suffix) is available. Voltage selector is available; **"2"** suffix denotes 120/240V, while **"4"** suffix denotes 100/120/220/240V. Numerical prefix (**"2"** through **"6"**) denotes amps rating at 120V. Flange mounting standard; **"C"** suffix denotes snap-in mounting. All units are UL recognized, CSA certified, VDE and SEV approved. All units (except unfiltered **EL series**) have RFI power line filters. All **EDL** have general-purpose RFI filters for controlling line-to-line and line-to-ground noise. All **EHL** have medical filters. **EFLA** has general-purpose filter for susceptibility applications. **ZLA** has premium performance filter designed to bring most digital equipment into compliance with VDE 0871, Level B (as well as FCC Part 15J, Class B) conducted emissions limits. **EL** are unfiltered.

TYPES EDL AND EHL

Stock No.	Type	D x H x W	1-24	25-49	50-99
46F4416	2EDL1S	2.01 x 2.30 x 1.98"	39.27	27.49	24.74
46F4417	4EDL1S	2.01 x 2.30 x 1.98"	39.27	27.49	24.74
94F9416	4EDL1SC	2.01 x 2.30 x 1.28"	39.54	27.68	24.91
46F4418	6EDL1S	2.01 x 2.30 x 1.98"	39.27	27.49	24.74
50F8886	6EHL1SC	2.01 x 2.30 x 1.28"	39.54	27.68	24.91
46F4392	6EDL4	2.01 x 2.30 x 1.98"	39.27	27.49	24.74
98F3003	6EDL4C	2.01 x 2.30 x 1.28"	39.54	27.68	24.91
TYPE LA					
46F4390	5EFLA2S	3.16 x 2.59 x 1.99"	50.24	35.17	31.65
46F4415	3EZLA2S	4.16 x 2.59 x 1.99"	65.88	46.12	41.51
TYPE EL (UNFILTERED)					
50F8896	6EL1S	1.66 x 2.30 x 1.98"	22.01	15.41	13.87
METRIC					
96F3655	AVW401-R	2.01 x 2.30 x 1.28"	52.98	49.86	47.10
93F2023	6EDL1SCM	2.01 x 2.30 x 1.28"	40.85	28.59	25.73

(7323) (de03455)

SR SERIES AC CONNECTORS

6ESRM-P

6ESRF-3

6ESRFC3

6ESRM-3

6ESRMC2

AC receptacles available in flange mounted, snap-in or PC mounted models. Insulator material is thermoplastic UL-V-2 flame class. Prongs are solid brass, nickel-plated. Terminals are tin-plated brass. Rated 6 amps/250V. UL recognized, CSA certified. VDE and SEV approved. SEMKO approved except **types 6ESRF-3** and **6ESRFC-3.** **"M" suffix** indicates male connector, **"F"** denotes female connector and **"C"** indicates 0.059" (1.50) panel, snap-in mount. Models with **"P"** suffix in type number have PC terminals, *contact your local Newark sales office.*

Stock No.	Type	W x H x D	1-24	25-49	50-99
87F1822	6ESRF-3	1.97 x 1.10 x 1.20"	2.59	1.82	1.63
87F1823	6ESRFC3	1.39 x 1.11 x 1.41"	2.59	1.82	1.63
87F1824	6ESRM-3	1.98 x 0.90 x 1.22"	2.17	1.52	1.37
87F1825	6ESRMC2	1.20 x 0.89 x 1.20"	2.29	1.61	1.44

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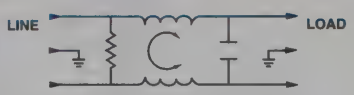
H SERIES RFI FILTERS

6EH1



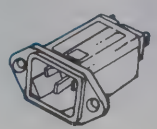
Meets UL 544 specifications for patient care equipment. Also CSA certified, plus VDE and all except 10A models are SEV approved. **Type 10EH4C** implements a separate ground circuit inductor to isolate equipment chassis from power line ground at RF frequencies. *Contact your local Newark Sales office.*

120/250 VOLTS, 50/60 Hz AC

Stock No.	Type	D x H x W	Amps	1-24	25-49	50-99
81F4534	6EH1	2.25 x 0.66 x 2.53″	6	13.08	9.15	8.24
81F4535	6EH4	2.20 x 0.81 x 1.98″	6	15.67	10.97	9.88

(7420) (de01895)

EEA SERIES RFI FILTERS


EEA1

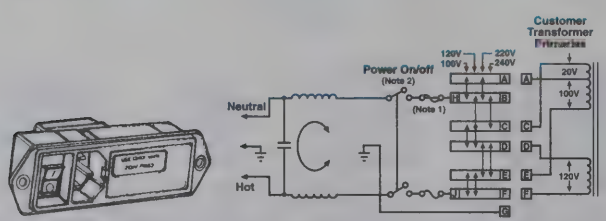
Compact, cost-effective RFI filters have IEC socket package. All units maintain maximum line-to-ground leakage current of 0.25mA @ 120VAC/60Hz. At 250VAC/50Hz **EEA** units are capable of 0.42mA. UL recognized. CSA certified and VDE approved.

120/250 VAC, 50/60 Hz AC

Stock No.	Type	D x H x W	Amps	1-24	25-49	50-99
50F1360	3EEA1	2.15 x 0.81 x 1.98″	3	10.05	7.04	6.34
50F1361	6EEA1	2.15 x 0.81 x 1.98″	6	9.38	6.57	5.91
50F1362	10EEA1	2.15 x 0.81 x 1.98″	10	10.21	7.15	6.43

(7421) (de01896)

MODULES FOR HEALTH CARE EQUIPMENT



EHM types combine fully configured **M series** of power entry modules with RFI power line filter to allow equipment to meet UL544 specs for patient and nonpatient care equipment. Leakage current of 2μA at 120VAC, 60Hz. Rated 5A @ 120V. All have IEC connector, selectable fuse holder, RFI filter and are available with DPST on/off switch and/or voltage selector. UL recognized, CSA certified, VDE approved **"S"suffix** denotes DPST on/off switch; **"4"** indicates 4V selector.

Stock No.	Type	D x W x H	1-24	25-49	50-99
87F1812	5EHM1	2.19″ x 3.39″ x 1.14″	25.47	17.83	16.04
87F1811	5EHM1S	2.19″ x 4.17″ x 1.14″	29.64	20.75	18.67
87F1814	5EHM4	2.19″ x 3.88″ x 1.14″	28.78	20.15	18.13
87F1813	5EHM4S	2.19″ x 4.65″ x 1.14″	32.95	23.06	20.76

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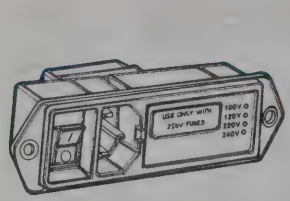
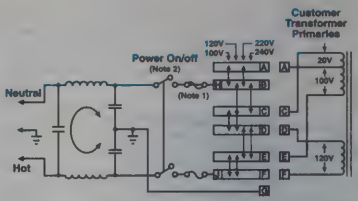
M SERIES RFI POWER ENTRY MODULES





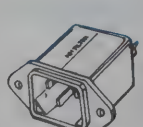
Combine **M series** power entry modules with RFI filtering capability. Feature general RFI filters designed for susceptibility applications, providing RFI control of line-to-ground noise. Have IEC connector, selectable fuse. 5 amp rating at 120V. **S suffix** denotes DPST on/off switch; **4 suffix** indicates 4V selector. UL recognized, CSA certified, VDE approved.

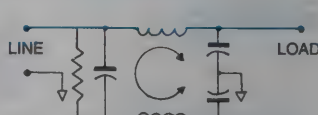
Stock No.	Type	H x W x D	1-24	25-49	50-99
46F781	5EFM1	1.14 x 3.39 x 2.19″	24.99	17.49	15.74
46F779	5EFM1S	1.14 x 4.17 x 2.19″	29.13	20.39	18.35
46F780	5EFM4	1.14 x 3.88 x 2.19″	28.30	19.81	17.83
46F778	5EFM4S	1.14 x 4.65 x 2.19″	32.47	22.73	20.46

(7962) (ne51168)

ED/EF SERIES RFI POWER LINE FILTERS

ED1, EF1F


EF1



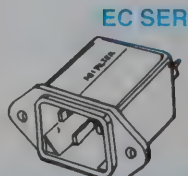
ED series are high performance filters for use where line-to-line and low frequency line-to-ground noise must be controlled. Incorporate an IEC (International Electrotechnical Commission) connector and feature very low leakage current. Have 0.250″ faston terminals on load side. **ED2 series** have right angle faston terminals. UL recognized, CSA certified, VDE approved and SEV approved (all but 10A model). **EF series** meet low leakage requirements and have IEC power line connector. For RFI control of line-to-ground noise. Solder terminals on load side which can be soldered or crimp terminated. Types ending with **F** suffix have 0.250″ fastons and are SEMKO approved. UL recognized, CSA certified, VDE approved.

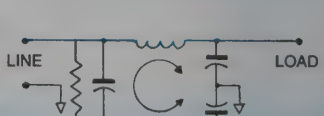
120/250 VOLTS, 50/60 Hz AC

Stock No.	Type	H x W x D	Amps	1-24	25-49	50-99
81F4563	3ED1	0.81 x 1.98 x 2.21″	3	15.80	11.06	9.95
15F2457	3EF1	0.81 x 1.98 x 1.99″	3	15.02	10.52	9.46
15F2458	6EF1	0.81 x 1.98 x 1.99″	6	15.02	10.52	9.46
81F4565	6ED1	0.81 x 1.98 x 2.21″	6	15.80	11.06	9.95
81F4575	6ED2	0.85 x 1.98 x 1.55″	6	15.80	11.06	9.95
50F8834	10ED1	0.81 x 1.98 x 2.62″	10	16.26	11.39	10.25
81F4551	3EF1F	0.81 x 1.98 x 2.20″	3	13.16	9.21	8.29
81F4552	6EF1F	0.81 x 1.98 x 2.20″	6	13.16	9.21	8.29
50F8820	10EF1F	0.81 x 1.98 x 2.62″	10	13.49	9.44	8.50

(7537) (ne01894)

EC SERIES RFI FILTERS


EC1



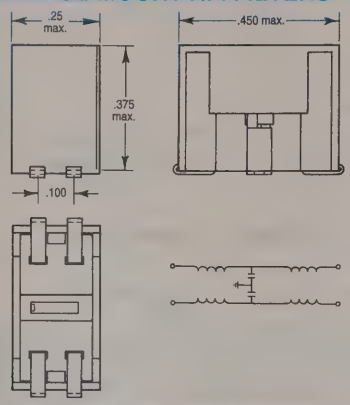
Provide highest attenuation for any standard filter available in a small package size. Combine high common mode inductance with high differential-mode capacitance and minimal parasitic elements, for effective attenuation of line-to-ground and line-to-line noise across the frequency range. VDE and CSA approved, and all but 10A model are SEV approved. UL recognized.

120/250 VOLTS, 50/60 Hz AC

Stock No.	Type	D x H x W	Amps	1-24	25-49	50-99
44F3383	3EC1	2.62 x 0.81 x 1.98″	3	21.43	15.00	13.50
44F3384	6EC1	2.62 x 0.81 x 1.98″	6	21.43	15.00	13.50
50F8825	10EC1	2.62 x 0.81 x 1.98″	10	22.60	15.82	14.24

(7422) (de01897)

BLF SERIES SURFACE MOUNT RFI FILTERS

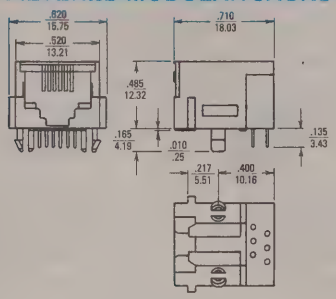


BLF series RFI filters eliminate noise on the signal line. Filter design features a U-shaped, high-resistivity nickel-zinc ceramic ferrite. Parallel first and second leg is surrounded by a grounding/shorting strap and a monolithic ceramic chip capacitor for each line. Board level filter attenuate signal line noise at the frequency range of 10 to 1000MHz. Max. attenuation: 40MHz to 400MHz. Withstands dielectric voltage of 1000VAC for 60 seconds. Inductance: 2µH. Tolerance: ±20%. UL recognized. CSA approved.

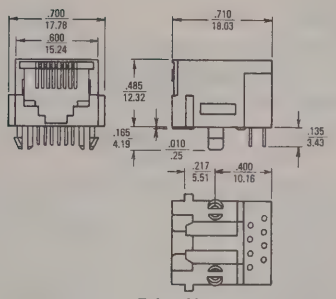
Stock No.	Type	Cap.	1-24	25-49	50-99
83F4461	BLF820	820pF	**1.50**	**1.20**	**1.08**
83F4462	BLF082	82pF	**1.50**	**1.20**	**1.08**

(28870) (ne28870)

FILTERED MODULAR JACKS



RJ11 N



RJ45 N

Cost-effective, space-saving solutions to the problems of RFI on signal lines. "Signal Sentry" filtered modular jacks are ideal for telecommunications equipment, computers, terminals and peripherals. Inductive and optional capacitive elements effectively remove common-mode noise from incoming signals and limits unwanted signal line emissions. **N series** offer inductance and optional shielding plus a lower profile for board stacking applications. Type numbers with **S suffix** incorporate sleeve ferrites for handling crosstalk problems, while type numbers with **B suffix** incorporate block ferrites for higher performance. UL recognized and CSA certified.

N SERIES LOW-PROFILE FILTERED MODULAR JACKS

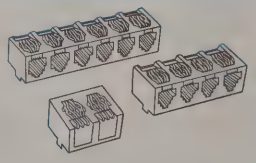
Stock No.	Type	Inductors Ferrite	Shield*	Terminals Loaded	1-24	25-49	50-99
52F7837	RJ11-6N-S	Sleeve	...	6	**2.81**	**1.97**	**1.77**
52F7836	RJ11-6N-B	Block	...	6	**2.63**	**1.84**	**1.66**
52F7839	RJ11-6N3-S	Sleeve	3	6	**3.25**	**2.28**	**2.05**
52F7838	RJ11-6N3-B	Block	3	6	**3.11**	**2.18**	**1.96**
52F7841	RJ11-6N4-S	Sleeve	4	6	**3.25**	**2.28**	**2.05**
52F7840	RJ11-6N4-B	Block	4	6	**3.11**	**2.18**	**1.96**
52F7843	RJ45-8N-S	Sleeve	...	8	**3.02**	**2.11**	**1.90**
52F7842	RJ45-8N-B	Block	...	8	**2.63**	**1.84**	**1.66**
52F7845	RJ45-8N3-S	Sleeve	...	6	**3.55**	**2.49**	**2.24**
52F7844	RJ45-8N3-B	Block	3	8	**3.11**	**2.18**	**1.96**
52F7847	RJ45-8N4-S	Sleeve	4	8	**3.55**	**2.49**	**2.24**
52F7846	RJ45-8N4-B	Block	4	8	**3.11**	**2.18**	**1.96**

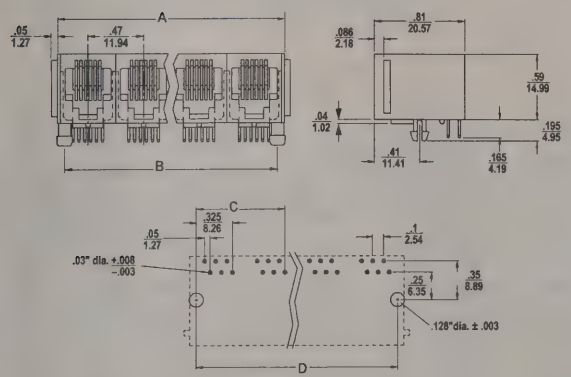
*Shield: 1=Panel and board-grounded, 2=Board grounded only, 3=Panel-board and cable-grounded, 4=Board and cable ground only.

(16827) (ne10745)

L SERIES FILTERED MODULAR GANG JACKS

NEW





Modular jacks combine capacitance with inductance for optimum filtering performance. High resistivity nickel-zinc ceramic ferrite block inductor. Phosphor bronze contacts with gold plating. PC board terminals. Glass-filled polyester housing. Dielectric withstanding voltage: 1000VAC for 60 sec.

DIMENSIONS

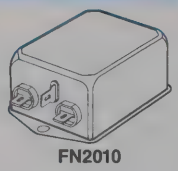
Ports	A	B	C	D
2	0.990″ (25.15)	0.870″ (22.10)	0.795″ (20.19)	0.870″ (22.10)
3	1.46″ (37.08)	1.34″ (34.04)	1.265″ (32.13)	1.34″ (34.04)
4	1.930″ (49.02)	1.810″ (45.97)	1.735″ (44.07)	1.810″ (45.97)
5	2.40″ (60.96)	2.28″ (57.91)	2.205″ (56.01)	2.28″ (57.91)
6	2.870″ (72.90)	2.750″ (69.85)	2.675″ (67.95)	2.750″ (69.85)

Stock No.	Type	Ports	Inductors Ferrite	1-24	25-49	50-99
48F3954	2RJ11-6L-B	2	Block	**3.11**	**2.18**	**1.96**
48F3955	3RJ11-6L-B	3	Block	**4.67**	**3.27**	**2.95**
48F3956	4RJ11-6L-B	4	Block	**5.85**	**4.10**	**3.69**
48F3957	5RJ11-6L-B	5	Block	**7.33**	**5.14**	**4.62**
48F3958	6RJ11-6L-B	6	Block	**8.70**	**6.09**	**5.49**

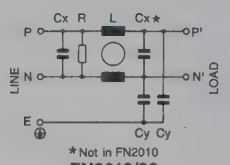
(33797) (ne33797)

CHECK NEWARK'S WEB SITE FOR PRODUCT NEWS AND INFORMATION.
http://www.newark.com

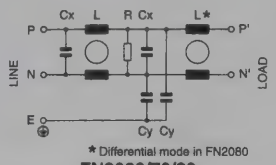
FN2000 SERIES COMPACT SINGLE-PHASE FILTERS


FN2010

FN2060



* Not in FN2010
FN2010/20



* Differential mode in FN2080
FN2060/70/80

For general-purpose filtering requirements. Compact form factor for applications in which space is at a premium including precision instrumentation, switched-mode power supplies and motor drives. All are provided in chassis-mount metal housings. **Type -06** has industry-standard size fast-on connection. UL recognized, CSA certified, VDE approved.

COMPACT SINGLE X-CAPACITOR FILTER

Stock No.	Type	Amps	L (mH)	Cx (µF)	Cy (nF)	1-9
66F8733	FN2010-1-06	1	12	0.1	4.7	13.21
66F8734	FN2010-3-06	3	2.5	0.1	4.7	13.75
66F8735	FN2010-6-06	6	1	0.1	4.7	12.77
66F8736	FN2010-10-06	10	0.8	0.1	4.7	14.21
66F8737	FN2010-12-06	12	0.7	0.1	4.7	14.21
66F8738	FN2010-16-06	16	0.65	0.1	4.7	22.09
66F8739	FN2010-20-06	20	0.6	0.1	4.7	22.09

COMPACT DUAL X-CAPACITOR FILTER

Stock No.	Type	Amps	L (mH)	2*Cx (µF)	Cy (nF)	1-9
66F8742	FN2020-3-06	3	2.5	0.1	4.7	18.10

COMPACT DUAL X-CAPACITOR 2 INDUCTOR FILTER

Stock No.	Type	Amps	2*L (mH)	2*Cx (µF)	Cy (nF)	1-9
66F8750	FN2060-3-06	3	2.5	0.22	4.7	23.31
66F8751	FN2060-6-06	6	0.97	0.22	4.7	22.14
66F8752	FN2060-10-06	10	0.8	0.22	4.7	22.98
66F8753	FN2060-12-06	12	0.58	0.22	4.7	22.98
66F8754	FN2060-16-06	16	0.65	0.22	4.7	55.42
66F8755	FN2060-20-06	20	0.6	1	4.7	55.17

HIGH-PERFORMANCE DUAL X-CAPACITOR 2 INDUCTOR FILTER

Stock No.	Type	Amps	2*L (mH)	2*Cx (µF)	Cy (nF)	1-9
66F8758	FN2070-3-06	3	9.8	0.47	4.7	28.82
66F8759	FN2070-6-06	6	7.8	1.00	4.7	38.86
66F8760	FN2070-10-06	10	4.5	1.00	4.7	65.50
66F8761	FN2070-12-06	12	3.2	1.00	4.7	56.26
66F8762	FN2070-16-06	16	2.8	1.00	4.7	89.95

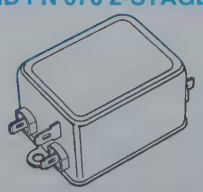
MULTISTAGE FILTER WITH DIFFERENTIAL INDUCTOR

Stock No.	Type	Amps	L (mH)	L1 (mH)	Cx (µF)	Cy (nF)	1-9
66F8764	FN2080-3-06	3	9.8	0.16	0.47	4.7	32.95
66F8767	FN2080-6-06	6	7.8	0.11	1	4.7	36.24
66F8765	FN2080-10-06	10	4.5	0.06	1	4.7	41.59

(7562) (ne06356)

FN 660 AND FN 670 2-STAGE FILTERS

NEW

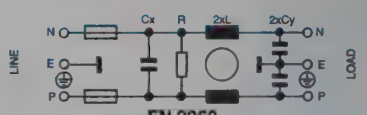


High-performance filters for tough EMI problems. **FN 660 series** is rated to 20A for large systems. Maximum leakage current is 0.5mA @ 220VAC/50Hz. **Type FN 670** has higher component values for high frequency common and differential mode attenuation. Industry-standard mounting with 0.250" faston I/O. UL listed, CSA certified, VDE approved.

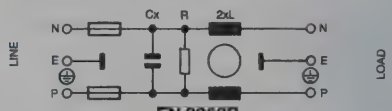
Stock No.	Type	Amps	L (mH)	Cx(µF)2	Cy (pF)	1-4	5-49
97F8227	FN660-3/06	3	2.0	0.15	2200	23.81	20.95
97F8228	FN660-6/06	6	0.75	0.15	2200	17.43	15.34
97F8230	FN660-16/06	16	0.44	0.15	2200	38.82	34.16
92F5368	FN670-6/06	6	10.4	0.47	2200	31.99	28.15

(28130) (ne28130)

FN9260 DUAL FUSE IEC INLET FILTERS



FN 9260



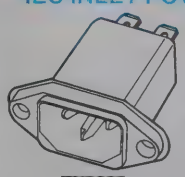
FN 9260B

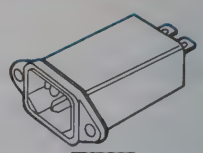
Compact IEC inlet filter with two 5 x 20mm fuse holders to meet requirements of IEC 950. Current rating to 6A. Operating voltage: 250 VAC. **Type FN9260B** is low-leakage version for medical applications. UL recognized, CSA certified, VDE approved.

Stock No	Type	Amps	L (mH)	Cx (µF)	Cy (nF)	1-24	25-49
92F5358	FN9260-1/06	1	5.3	0.1	2.2	17.76	15.63
92F5359	FN9260-2/06	2	2.7	0.1	2.2	17.76	15.63
52F9094	FN9260-4/06	4	1	0.1	2.2	13.85	12.19
52F9095	FN9260-6/06	6	0.3	0.1	2.2	13.85	12.19
92F5362	FN9260B-1/06	1	5.3	0.1	...	17.76	15.63
92F5363	FN9260B-2/06	2	2.7	0.1	...	13.85	12.19
92F5364	FN9260B-4/06	4	1	0.1	...	17.76	15.63
92F5365	FN9260B-6/06	6	0.3	0.1	...	17.76	15.63

(7848) (ne08792)

IEC INLET POWER LINE FILTERS


FN9223


FN9222

IEC inlet filters meet IEC 950 requirements. Output through 0.250" (6.3) faston/solder lug connectors. The **FN9223** is a compact moderate performance filter, 1.9" (8mm) deep. The **FN9222** is a higher performance filter rated to 15A. **FN9222-15/06** has IEC320 "HOT" inlet connector. **E Suffix** has standard IEC inlet connector. **B Suffix** are low leakage current for medical applications. **S suffix** are snap-in quick assembly. **FN9222** –10 Amp 2.0" (51mm) deep, 12A and 15A are 2.4" (60mm) deep. All ratings at 125/25VAC, 50/60 Hz.

Stock No.	Type	Amps	L (mH)	Cx (µF)	Cy (pF)	1-24	25-49
97F8253	FN9222-1/06	1	12	0.1	2200	11.33	9.97
97F8254	FN9222-3/06	3	2.5	0.1	2200	11.33	9.97
97F8255	FN9222-6/06	6	0.8	0.1	2200	11.33	9.97
97F8256	FN9222-10/06	10	0.2	0.1	2200	11.33	9.97
91F4422	FN9222-15/05E	15	0.08	0.1	2200	12.47	9.37
97F8258	FN9222-15/06	15	0.08	0.1	2200	11.78	10.37
91F4425	FN9222S-3/06	3	2.5	0.1	2200	13.32	10.02
91F4426	FN9222S-6/06	6	0.8	0.1	2200	13.00	9.77
91F4428	FN9222S-12/05E	12	0.1	0.1	2200	14.06	10.57
97F8247	FN9223-1/06	1	2.8	0.047	2200	11.06	9.73
97F8248	FN9223-3/06	3	0.7	0.047	2200	8.68	7.64
97F8179	FN9223-10/06	10	0.13	0.047	2200	9.37	8.25
97F8252	FN9223B-6/06	6	0.3	0.047	...	8.53	7.51
91F4418	FN9223S-1/06	1	2.8	0.047	2200	10.51	7.90
91F4419	FN9223S-3/06	3	0.7	0.047	2200	10.51	7.90
91F4420	FN9223S-6/06	6	0.3	0.047	2200	10.36	7.79
91F4421	FN9223S-10/06	10	...	0.047	2200	10.22	7.68

(7470) (de03865)

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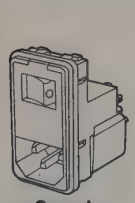
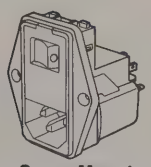
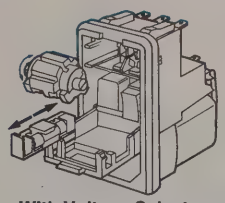
FILTERS

FUSED INLET FILTERS WITH SWITCH OR VOLTAGE SELECTOR


Snap-In


Screw Mount

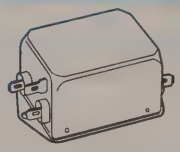

With Voltage Selector

Flexible package combines an IEC 320 inlet, dual fuse holders, DPST switch or voltage selector, with moderate and higher performance filter. **FN37x** products have 4-position voltage selector. Units supplied with U.S. style 3 AG fuse holders. The fuse holder is for metric 5 x 20mm applications. **B** in type number indicates low-leakage medical version. Depth is 2.2″ (57mm) for moderate performance **FN372**, **FN378** and **FN388** products. **FN379** and **FN389** are 2.6″ (66.5) deep.

Stock No.	Type	I (A)	L (mH)	Cx (µF)	Cy (pF)	1-9	10-24	25-49
97F8260	FN372-2/22	2	0.7	0.047	2200	**33.22**	**29.23**	**23.39**
97F8172	FN372-6/22	6	0.2	0.047	2200	**33.22**	**29.23**	**23.39**
97F8261	FN382-4/22	4	0.3	0.047	2200	**32.81**	**28.88**	**23.10**
97F8264	FN388-6/22	6	0.2	0.047	2200	**32.98**	**29.02**	**23.22**
97F8174	FN389B-6/22	6	0.5	0.047	...	**35.84**	**31.54**	**25.23**

(7472) (de03869)

SINGLE-PHASE EMC LINE FILTER



EMC line filter has an operating voltage of 250VAC, 400Hz @ 40°C. Frequency: DC to 400Hz @ 40°C. Operating temperature: -25°C to +85°C (DIN 40040 H, P). Flammability rating: UL94V-0.

Stock No.	Type	Amps	L (mH)	Cx (µF)	Cy (pF)	1-9	10-24
97F8236	FN9675-3/06	3	18	1.4	2200	**45.38**	**39.93**

(31171) (ne31171)

FN405 PC MOUNT FILTERS

FN405-1/02

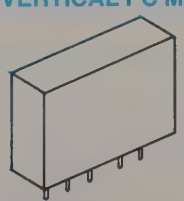
FN405-0.5/02

Horizontal PC mount filters for smaller systems. 250 VAC rated with maximum leakage current of 0.5 mA @ 220 VAC 50Hz. General purpose filter for situations where space is critical. The **FN405 series** attenuates common mode and differential mode noise in the 150kHz to 30MHz range.

Stock No.	Type	I (A)	L (mH)	Cx (µF)	Cy (pF)	1-9	10-24	25-49
97F8233	FN405-1/02	1	10	0.015	2200	**11.08**	**9.75**	**7.80**
97F8234	FN405-3/02	3	2	0.015	2200	**11.08**	**9.75**	**7.80**
97F8235	FN405-6/02	6	0.8	0.015	2200	**11.08**	**9.75**	**7.80**

(7468) (de03862)

FN406 SERIES VERTICAL PC MOUNT FILTERS

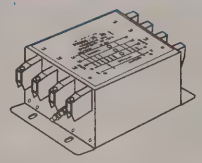


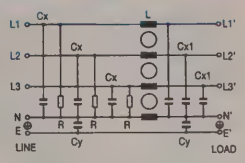
Vertical PC mount, single stage filters for situations where space is critical. General-purpose filter for small systems. Dimensions: 1.8 W x 1.1 H x 0.6″ D. 250VAC rating with maximum leakage current of 0.5mA. Attentuates 150kHz to 30MHz.

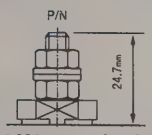
Stock No.	Type	I (A)	Cx (µF)	Cy (nF)	1-9	10-24	25-49
92F5326	FN406-0.5/02	0.5	0.1	2.2	**11.00**	**9.68**	**7.74**
92F5327	FN406-1/02	1	0.1	2.2	**11.00**	**9.68**	**7.74**

(7575) (ne08266)

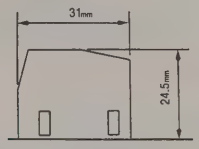
HIGH-CURRENT FILTERS







Type /24 M6 screw lead through



Type /33 safety terminal block for 10mm² or AWG6 cables

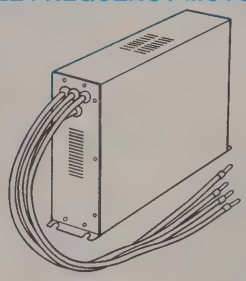
FN 356 series filters for high-current applications. Fully compliant with IEC 950, ideal for mainframe computer systems. Single-stage LCR circuit for each phase, neutral line provides high attenuation of symmetrical and asymmetrical interference. Max. voltage: 440VAC @ 40°C. Operating frequency: DC to 60Hz @ 40°C. UL recognized, CSA certified, VDE approved, SEV approved.

Stock No.	Type	Amps	Power Loss	L (mH)	Cx (µF)	Cy (pF)	1-4	5-9	10-24
88F4516	FN356-36-33	36	30W	0.95	2	2	**364.08**	**334.95**	**307.64**
83F5419	FN356-50-24	50	13W	0.55	2	2	**411.02**	**402.94**	**382.73**

(31173) (ne31173)

3-PHASE VARIABLE FREQUENCY MOTOR DRIVE FILTERS

NEW

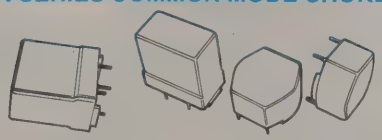


3-phase filter designed for variable frequency motor drives. 480VAC rated two-stage design is optimized for drives with output cable lengths to 150′ (50m). Current ratings range from 7 to 180A. Use in applications to bring systems with variable frequency motor drives into compliance with EN55011 and EN55014.

Stock No.	Type	I (A)	Power Loss	L (mH)	Cx (µF)	Cy (µF)	1-4	5-9	10-24
52F6185	FN258-7/07	7	4.5W	4.5	4.0	1.5	**263.00**	**257.83**	**244.90**
52F6186	FN258-16/07	16	9W	3.0	5.9	1.5	**269.05**	**263.76**	**250.53**
52F6187	FN258-30/07	30	14W	2.0	6.6	2.2	**277.59**	**272.13**	**258.49**
83F5422	FN258-30/33	30	14W	2.0	6.6	2.2	**280.41**	**274.90**	**261.11**
52F6188	FN258-42/07	42	19W	1.5	6.6	2.3	**282.51**	**276.95**	**263.06**
52F6189	FN258-55/07	55	20W	1.1	6.6	2.3	**295.90**	**290.08**	**275.53**
83F5421	FN258-75-34	75	20W	0.9	6.6	2.3	**426.66**	**418.27**	**397.29**

(7563) (ne07054)

RN SERIES COMMON MODE CHOKES

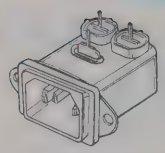


PC mount common mode chokes for low level EMI problems or as part of a larger filter with capacitors. Highest attenuation at resonant frequency (F res). **RN112** is a horizontal mount package, 0.67 x 0.67 x 0.5″ (17 x 17 x 13) high. **RN212** is a vertical mount with a 0.35 x 0.7″ (9 x 18) footprint and 0.53″ (13.5) height. **RN122** is a horizontal mount, 1.1 x 1.1 x 0.65″ (28 x 28 x 16.5mm). **RN222** is a vertical mount, 0.71 x 1.22″ (18 x 31) footprint and 1.2″ (29.3) height. UL recognized and VDE approved.

Stock No.	Type	I (A)	L (mH)	F res (kHz)	R (Ω)	1-9	10-24	25-49
97F8181	RN102-2/02	2	1.1	2400	0.07	**2.82**	**2.48**	**1.98**
97F8265	RN112-1.5/02	1.5	4.3	800	0.15	**2.82**	**2.48**	**1.98**
97F8184	RN112-4/02	4	0.7	3000	0.03	**2.82**	**2.48**	**1.98**
97F8188	RN114-2/02	2	4.2	1300	0.12	**3.04**	**2.67**	**2.14**
97F8189	RN114-4/02	4	1.5	2300	0.02	**3.04**	**2.67**	**2.14**
97F8198	RN122-4/02	4	3.3	700	0.06	**3.26**	**2.87**	**2.30**
97F8182	RN202-1/02	1	3	1400	0.2	**2.54**	**2.24**	**1.79**
97F8183	RN202-2/02	2	1.1	2400	0.07	**2.54**	**2.24**	**1.79**
97F8191	RN214-2/02	2	4.2	1300	0.12	**3.04**	**2.67**	**2.14**
97F8196	RN222-1/02	1	18	200	0.7	**3.26**	**2.87**	**2.30**

(7469) (de03863)

FN9226 SERIES IEC INLET FILTERS



FN9226 FN9226B

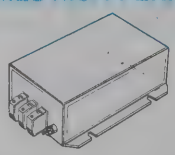
Compact inlet filters offer right-angle PC board mounting utilizing only 1.1 x 1.4″ of PC board space. Moderate performance filter above 1MHz in common and differential modes. Metal tab mounting ears help secure a solid chassis ground and minimizes board space. Rated 250VAC, 50/60 Hz. **Type FN9226B** is a version for medical applications.

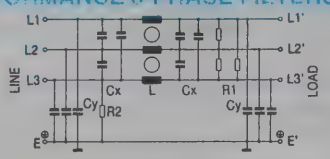
Stock No.	Type	Amps	L (mH)	Cx (µF)	Cy (pF)	1-24
91F4410	FN9226-1/02	1	4.65	0.047	2200	10.56
91F4411	FN9226-3/02	3	1.24	0.047	2200	8.18
91F4412	FN9226-6/02	6	0.52	0.047	2200	7.64
91F4413	FN9226-10/02	10	0.27	0.047	2200	8.26
91F4414	FN9226B-1/02	1	4.65	0.047	...	13.95
91F4415	FN9226B-3/02	3	1.24	0.047	...	10.82
91F4416	FN9226B-6/02	6	0.52	0.047	...	10.07
91F4417	FN9226B-10/02	10	0.27	0.047	...	10.82

(15634) (ne10103)

FN351 SERIES HIGH-PERFORMANCE 3-PHASE FILTERS

NEW



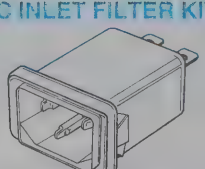


Ideal for variable frequency inverters and motor drives, these 3-wire filters feature high differential and common mode attenuation. Fully insulated safety contacts for blind installations. High leakage current to ground. Must be installed in a wired ground industrial environment. Rated 440VAC, 50/60Hz. UL recognized.

Stock No.	Type	Amps	L (mH)	Cx (µF)	Cy (pF)	1-4
91F4404	FN351-8/29	8	7.6	1.6	0.17	256.13
91F4405	FN351-16/29	16	5.2	3.4	0.17	260.78
91F4406	FN351-25/33	25	2.2	4.4	1.8	268.54
52F4551	FN351H-25-33	25	2.2	3	1.7	324.45
91F4407	FN351-36/33	36	1.3	4.4	1.8	271.65
91F4408	FN351-50/33	50	0.8	4.4	2	287.17
83F5424	FN351H-50/33	50	0.8	3	1.7	231.84
91F4409	FN351-80/34	80	0.85	6.7	2.2	567.74
83F5417	FN351-110/35	110	0.5	6.1	2.2	617.36

(15635) (ne10104)

IEC INLET FILTER KITS



FN9223 FILTER

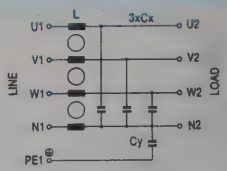
Design kits are ideal for test labs and prototype departments. Kits contain **types FN9222, FN9223** and **FN9260** IEC inlet filters. Kit 1 has all current ratings of **types FN9222** and **FN9223** filters in screw mount and snap-in versions. Kit 2 has all **type FN9222** and **FN9223** and **FN9260** in screw mount versions. Kit 3 has the medical versions of the popular inlet filter families.

Stock No.	Type	Description	1-9
91F4378	KIT1(9222 & 9223	FN 9222 & 9223 Screw and Snap Mount	82.75
91F4379	KIT2(9222 ,9223 A	FN 9222, 9223, 9260 Screw Mount	136.79
91F4380	KIT3 (MEDICAL GR	Medical Grade Inlet Kit	103.45

(15633) (ne10105)

NEWARK HAS WHAT YOU NEED.
WITH SO MUCH IN STOCK, YOU HAVE THE COMPONENTS YOU NEED AT YOUR FINGERTIPS.

FN355 SERIES LOW-CURRENT 3-PHASE FILTERS

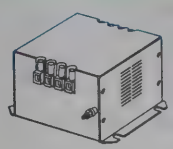


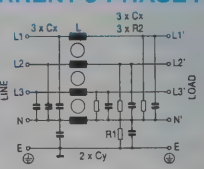
Low current 3-phase filters for 4-wire applications to 440VAC. Filters have 3 phases plus neutral. Compact size unit is only 3.4 x 2.1 x 1.6″. Low leakage current to ground.

Stock No.	Type	Amps	L (mH)	Cx (µF)	Cy (pF)	1-9
91F4401	FN355-3/05	3	1	0.1	4700	87.58
91F4402	FN355-6/05	6	0.45	0.1	4700	87.58
52F4553	FN355-10/05	10	0.2	0.1	4700	87.58
91F4403	FN355-20/03	20	0.12	0.1	4700	106.53

(15632) (ne10106)

FN256 SERIES HIGH-CURRENT 3-PHASE FILTERS



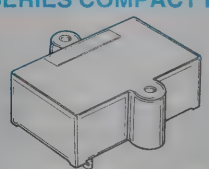


Designed for unbalanced loads, these 3-phase 4-wire filters have over 40dB of common mode and differential mode attenuation from 150kHz to 10MHz. Fully insulated screw clamp terminals for safe installation. Lightweight package for easy mounting on panels. Rated 440VAC, 50/60Hz.

Stock No.	Type	Amps	L (mH)	Cx (µF)	Cy (pF)	1-24
91F4396	FN256-8/46	8	1.78	2.2	0.19	159.00
91F4397	FN256-16/46	16	1.14	2.2	0.19	161.21
91F4398	FN256-25/47	25	1.57	4.4	0.19	227.46
91F4399	FN256-36/47	36	1.1	4.4	0.19	247.33
91F4400	FN256-64/52	64	1.0	4.4	0.19	346.70

(15631) (ne10107)

FN402 SERIES COMPACT FILTERS



FN402 FN402B

Space-saving PC board or chasis mount filter package is only 1.8 x 1.1 x 0.65″. **Suffix /02** in type number indicates PC board mount. **Type FN402-16** use 0.110″ mini-solder/faston connector. **Type 402B** are medical-grade versions with low leakage current.

Stock No.	Type	Amps	L (mH)	Cx (µF)	Cy (pF)	1-9
91F4381	FN402-0.5/02	0.5	40	0.1	2200	8.78
91F4382	FN402-1/02	1	10	0.1	2200	8.78
91F4383	FN402-2.5/02	2.5	2	0.1	2200	9.83
91F4384	FN402-4/02	4	1	0.1	2200	9.83
91F4385	FN402-6.5/02	6.5	1	0.1	2200	9.19
91F4386	FN402-0.5/16	0.5	40	0.1	2200	9.58
91F4387	FN402-1/16	1	10	0.1	2200	9.58
91F4388	FN402-2.5/16	2.5	2	0.1	2200	10.47
91F4389	FN402-4/16	4	1	0.1	2200	10.47
91F4390	FN402-6.5/16	6.5	1	0.1	2200	10.47
91F4391	FN402B-0.5/02	0.5	40	0.1	...	9.44
91F4392	FN402B-1/02	1	10	0.1	...	9.44
91F4393	FN402B-2.5/02	2.5	2	0.1	...	10.32
91F4394	FN402B-4/02	4	1	0.1	...	10.32
91F4395	FN402B-6.5/02	6.5	1	0.1	...	10.32

(15630) (ne10108)

COAXIAL CERAMIC BANDPASS FILTERS

BP series surface mount filters are constructed using highly stable coaxial ceramic dielectric resonators for a high in-circuit Q which results in low in-band insertion loss. Operating temperature: –30°C to +85°C.

Resonator Size	Width 2-Pole	Width 3-Pole	Height
3mm	0.300″ (7.63)	0.425″ (10.81)	0.155″ (3.94)

2-POLE

Stock No.	Type	Center Frequency (MHz)	Band-width (MHz)	Attenuation (dB) (MHz)	1-24	25-49
83F6393	BPC2-2442-084S	915.50	26 ±13	18 ±77.5	9.73	9.23
83F6395	BPC2-0915-026S	902.50	25 ±12.5	12 ±32.5	9.73	9.23
83F6396	BPC2-0902-025S	947.50	25 ±12.5	12 ±32.5	9.73	9.23
83F6397	BPC2-0947-025S	1575.42	2 ±1.0	16 ±140	9.73	9.23

3-POLE

83F6391	BPC3-0836-025S	2442.00	84 ±42	15 ±250	14.68	13.93
83F6392	BPC3-0881-025S	836.50	25 ±12.5	12 ±32.5	14.68	13.93
83F6394	BPC3-2442-084S	881.50	25 ±12.5	12 ±32.5	14.68	13.93
83F6398	BPC3-1880-060S	2442.00	84 ±42	10 ±80	14.68	13.93
83F6399	BPC3-1960-060S	1880.00	60 ±30	15 ±100	14.68	13.93

(29374) (ne29374)

RESIN-SEALED/SOLDER-IN FILTERS AND CAPACITORS

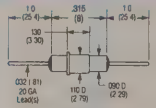


Fig. 1

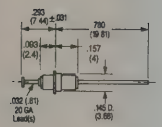


Fig. 2

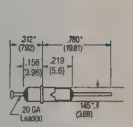


Fig. 4

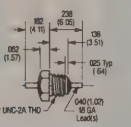


Fig. 5

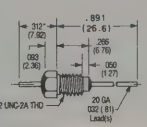


Fig. 6

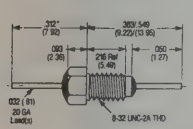


Fig. 7

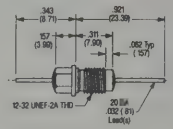


Fig. 8

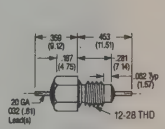


Fig. 9

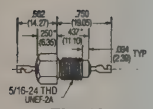


Fig. 10

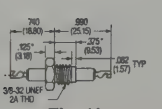


Fig. 11

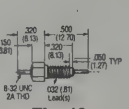


Fig. 12

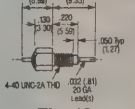


Fig. 13

High-temperature solder prevents solder reflow during installation. Silver-plated eyelet assures mounted perpendicularity.

PI SECTION SOLDER-IN MOUNT

Stock No.	Type	Fig.	Min. Cap. (pF)	VDC (85°C)	Min. Ins. Loss @ 25°C 10 MHz	1 GHz	1-4	5-9
90F2247	1251-001	1	1500	350	5	70	2.92	2.77
19F687	1214-001	2	1750	250	5	70	2.10	1.99
90F2244	1233-000	4	22K	100	35	70	4.18	3.97

PI SECTION BUSHING MOUNT

90F2250	1250-059	5	1500	250	5	60	4.43	4.20
19F3061	1250-003	6	3000	200	5	65	3.74	3.55
90F2243	1293-001	12	28K	100	75	75	8.18	7.77
90F2249	1250-054	7	5000	100	20	70	4.31	4.09
90F2246	1270-025	8	5000	200	20	70	3.69	3.50
19F2456	1270-016	8	5000	200	20	70	3.69	3.50
10F8145	1201-066	9	5500	200	20	70	3.58	3.40
10F8148	1202-005	10	2000	1000	5	65	6.20	5.88
19F689	1280-060	11	1500	2500	5	50	12.83	12.17

C SECTION BUSHING MOUNT

90F2268	9900-381-6004	13	5000	70	45	55	4.32	4.10
90F2269	9900-381-6020	13	100	300	20	28	4.22	4.01

(7446) (de03053)

3-TERMINAL CERAMIC EMI FILTER CHIPS

SF series surface mount filter chips are well suited for EMI suppression in digital circuitry. Nickel barrier terminated for solder heat resistance. Non-polar. Temperature coefficient: X7R. Tolerance: +50/–20%. Operating temperature: –55°C to +125°C. Standard EIA sizes. **Sold in multiples of 10 or in reels of 4000. Type SF1806 sold in reels of 2000.**

SF0805 – 50VDC

Stock No.	Type	Cap. (pF)	Current (ADC)	10-40	50-90	100-240
83F6383	SF0805X471SBNCB	470	0.4	0.32	0.30	0.28
83F6384	SF0805X102SBNCB	1000	0.4	0.32	0.30	0.28
83F6385	SF0805X222SBNCB	2200	0.4	0.32	0.30	0.28
83F6386	SF0805X223SBNDB	22000	0.4	0.32	0.30	0.28

SF1205 – 50VDC

83F6389	SF1205X471SBNBB	470	0.3	0.34	0.32	0.29
83F6388	SF1205X102SBNBB	1000	0.3	0.34	0.32	0.29
83F6387	SF1205X222SBNBB	2200	0.3	0.34	0.32	0.29

SF1806 – 100VDC

83F6390	SF1806X103SDNBB	10000	0.3	0.34	0.32	0.29

SF0805 – 50VDC (REEL OF 4000)

Stock No.	Type	Cap. (pF)	Current (ADC)	Per Reel
83F6375	SF0805X471SBNCT	470	0.4	1096.00
83F6376	SF0805X102SBNCT	1000	0.4	1096.00
83F6377	SF0805X222SBNCT	2200	0.4	1096.00
83F6378	SF0805X223SBNCT	22,000	0.4	1096.00

SF1205 – 50VDC (REEL OF 4000)

83F6381	SF1205X471SBNBT	470	0.3	1150.80
83F6380	SF1205X102SBNBT	1000	0.3	1150.80
83F6379	SF1205X222SBNBT	2200	0.3	1150.80

SF1806 – 100VDC (REEL OF 2000)

83F6382	SF1806X103SDNBT	10000	0.3	602.80

(29373) (ne29373)

COAXIAL HERMETIC STYLE BUSHING MOUNT EMI FILTERS

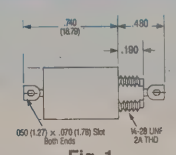


Fig. 1

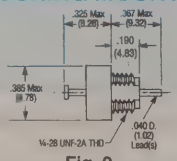


Fig. 2

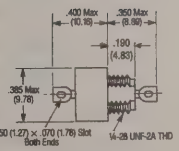


Fig. 3

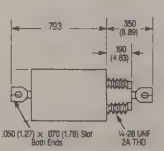


Fig. 4

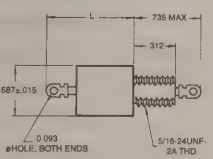


Fig. 5

L SECTION

Stock No.	Type	Fig.	VDC (85°C)	Rated Current (A)	Min. Ins. Loss @ 25°C 300 kHz	10 MHz	1-4	5-9
87F1351	9200-300-0025	1	80	10	33	60	20.46	19.41
93F2010	9050-100-0000	2	80	15	21	50	14.03	13.32
93F2012	9053-100-0001	3	80	15	34	60	27.12	25.73

PI SECTION

Stock No.	Type	Fig.	VDC (85°C)	Rated Current (A)	Min. Ins. Loss (–55°C to +125°C) 1 MHz	10 MHz	1 GHz	1-4	5-9
10F8142	9001-100-1010	4	150	0.5	80	80	80	40.43	38.37
19F681	9001-100-1017	4	150	5.0	80	80	80	36.86	34.97
19F683	9001-100-1025	4	250	5.0	43	80	80	37.47	35.56
16F9385	51-322-009	5	300	15	36	60	70	57.45	54.51

(7447) (de03054)

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Electronic Terms and Measurements

Resistance

Opposition to current flow. Basic unit is the ohm (Ω).

1 kilohm — kΩ	1,000 or $1x10^3$ ohms
1 Megohm — MΩ	1,000,000 or $1x10^6$ ohms

Voltage

Electromotive force. Basic unit is the volt (V).

1 millivolt — mV	1/1,000 or $1x10^{-3}$ volt
1microvolt — µV	1/1,000,000 or $1x10^{-6}$ volt

Current

Movement of electricity. Basic unit is the ampere (A).

1 milliampere — mA	1/1,000 or $1x10^{-3}$ ampere
1 microampere — µA	1/1,000,000 or $1x10^{-6}$ ampere

Frequency

Number of cycles per second. Basic unit is the hertz (Hz).

1 kilohertz — kHz	1,000 or $1x10^3$ hertz
1 Megahertz — MHz	1,000,000 or $1x10^6$ hertz
1 Gigahertz — GHz	1,000,000,000 or $1x10^9$ hertz

Time

Basic unit is the second (s).

1 millisecond — ms	1/1,000 or $1x10^{-3}$ second
1 microsecond — µs	1/1,000,000 or $1x10^{-6}$ second
1 nanosecond — ns	1/1,000,000,000 or $1x10^{-9}$ second

Temperature Conversion

°C	°F
100	212
80	175
60	140
40	105
35	95
30	85
25	75
20	70
15	60
10	50
5	40
0	32

Conversion Table

Metric to U.S.	U. S. to metric
1 centimeter = 0.39 inch	1 inch = 2.54 centimeters
1 millimeter = 0.039 inch	1 inch = 25.4 millimeters
1 meter = 3.28 feet	1 foot = 0.305 meter
1 gram = 0.035 ounce	1 ounce = 28.35 grams
1 kilogram = 2.2 pounds	1 pound = 454 grams
1 milliliter = 0.034 fl. ounce	1 pound = 0.45 kilogram
1 liter = 0.264 gallon	1 fl. ounce = 29.57 milliliters
	1 gallon = 3.79 liters

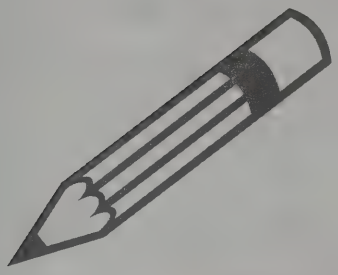
Operating Life for Capacitors

Where operating life is given at a certain temperature, for every drop of 10°C life expectancy will double.

If life expectancy is 1,000 hours at 105°C
this would double to 2,000 hours at 95°C
and double again to 4,000 hours at 85°C

NEWARK ELECTRONICS®

NOTES



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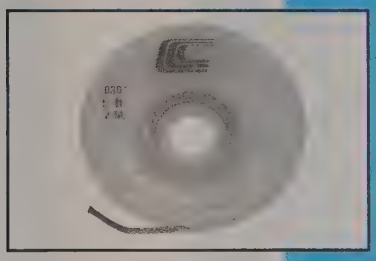
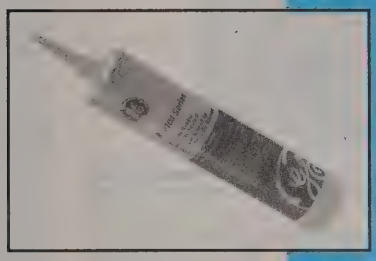
Chemicals

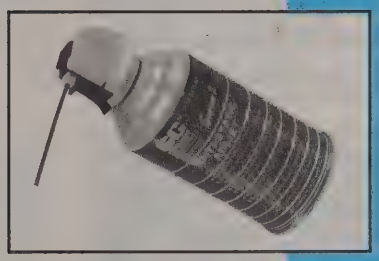
Pages 106—114

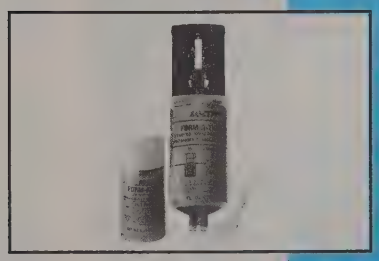
3

- Chemtronics
- GC Thorsen/GC Electronics
- General Electric
- Loctite
- 3M
- Tech Spray







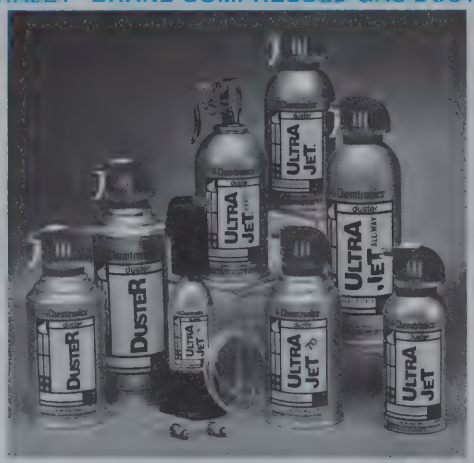


Products include...

- Adhesives
- Cleaners
- Coatings
- Lubricants
- Primers
- Silicones
- Swabs
- Wipes/Pads

DUSTERS, DEGREASERS AND CLEANERS

ULTRAJET® BRAND COMPRESSED GAS DUSTERS



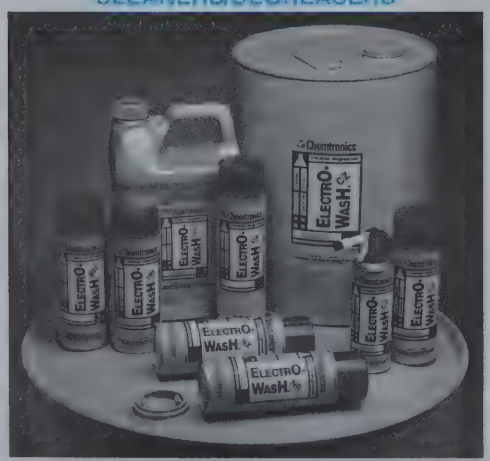
Ultrajet® brand dusters are the most powerful dusters on the market. Nonflammable dusters remove dry contaminants from many kinds of surfaces. Dusters are safe on plastics and leave no residue.

Type ES1020, the Ultrajet® Duster, provides the biggest blast to clean anything fast. 100% ultra-pure HFC-134a.
TypeES1620, the Ultrajet® All-Way Duster, provides the same power as **type ES1020** but it also sprays in any direction without the risk of dispensing a liquid spray that can freeze and damage sensitive surfaces. 100% ultra-pure HFC-134a.
Type ES1015, the Ultrajet® 70 Duster, provides a powerful cleaning blast at an economic price. 100% ultra-pure HFC-134a.
Type ES1020K, the Ultrajet® Duster System, has a precision surgical-grade chrome trigger for pinpoint control. The system sprays in any direction with a 36″ flex-extension tube. 100% ultra-pure HFC-134a.
Type ES1217, Duster, provides regular strength cleaning at an economical price. Nonflammable. Made with HFC-134a.

Stock No.	Type	Description	Size	Blasting Power	Each
00Z1209	ES1020	Ultrajet® Biggest Blast	10 oz.	Xtra Xtra	**13.36**
00Z1817	ES-1620	Ultrajet® All-Way Biggest Blast	8 oz.	Xtra Xtra	**11.68**
00Z1305	ES1015	Ultrajet® Big Blast	10 oz.	Xtra	**9.57**
00Z1211	ES1020K	Ultrajet® System	10 oz.	Regular	**35.52**
00Z1210	ES1020R	Ultrajet® System Refill	10 oz.	Regular	**12.83**
00Z1818	ES1217	Duster	8 oz.	Regular	**7.10**
00Z1079	ES270	Ultrajet® CO_2 System	2.4 oz.	Xtra Xtra	**131.23**
00Z1080	ES275	Ultrajet® CO_2 Refill	2.4 oz.	Xtra Xtra	**19.19**

(36777) (ne36777)

CLEANERS/DEGREASERS



These general purpose electronics and electrical cleaners remove a wide variety of contaminants including oil, grease, oxides, handling soils, plus flux and coatings from PC boards, cable splices, control systems, office equipment, and motors. All aerosol/BrushClean™ products feature the All-Way spray valve.

Type ES7100, Electro-Wash® CZ, is the non-ozone depleting, nonflammable cleaner safe for use on plastics. Contains CIROZANE™ CFC replacement chemistry based on HFE technology from 3M. Also available in 1, 5, and 55 gallon quantities, *contact your local Newark sales office for details.*

Type ES1675, Electro-Wash® PN, is a nonflammable cleaner/degreaser safe for use on plastics. Contains HCFCs.

CONTINUED

CLEANERS/DEGREASERS (CONT.)

Type ES1210, Electro-Wash® PX, is an extra strength universal cleaner/degreaser safe for use on plastics. Its flammable and ozone safe. Formerly CFC Free Electo-Wash 2000. Also available in 1, 5, and 55 gallon quantities, *contact your local Newark sales office for details.*

Type ES1603, Electro-Wash® PR, is a regular strength cleaner safe for use on plastics. Its flammable and ozone safe. Formerly Cleaner Degreaser, **type CV2116**.

Type ES1601, Electro-Wash® NX, is an extra strength nonflammable cleaner/degreaser. Test on plastics. Contains HCFCs. Formerly Electronics Cleaner Degreaser 2000.

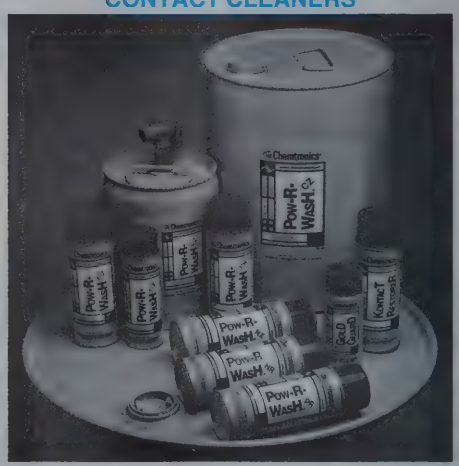
Type ES1607, Electro-Wash® NXO, is an ozone safe, nonflammable, extra strength universal cleaner/degreaser. Test on plastics. Also available in 1, 5, and 55 gallon quantities, *contact your local Newark sales office for details.*

Type ES1604, Electro-Wash® NR, is a regular strength, nonflammable, cleaner/degreaser. Test on plastics. Contains HCFCs. Formerly No Flash Cleaner Degreaser, **type CV2216**.

Stock No.	Type	Description	Size	Each
00Z1585	ES7100	Electro-Wash® CZ	12 oz.	**35.59**
00Z1808	ES1675	Electro-Wash® PN	12 oz.	**23.87**
00Z1138	ES1210	Electro-Wash® PX	12.5 oz.	**17.77**
00Z1535	ES1603	Electro-Wash® PR	10 oz.	**10.39**
00Z1941	ES1607	Electro-Wash® NXO	12 oz.	**34.73**
00Z1215	ES1601	Electro-Wash® NX	14.5 oz.	**17.54**
00Z1194	ES2201	Electro-Wash® NX	18 oz.	**20.42**
00Z1536	CV2216	Electro-Wash® NR	12 oz.	**11.96**

(7428) (de02625)

CONTACT CLEANERS



Contact cleaners remove oily carbon soils, greases, and oxides from contact surfaces. Use in all phases of electronics and electrical contact maintenance including metal contacts, plastic embedded contacts, relays, breakers, and controls. All aerosol/Brush-Clean™ products feature the All-Way spray valve.

Type ES7300, Pow-R-Wash™ CZ, is an ozone safe, nonflammable cleaner safe for use on powered-up contacts and surrounding plastics. Contains CIROZAINE™ CFC replacement chemistry based on HFE technology from 3M. Also available in 1, 5, and 55 gallon quantities, *contact your local Newark sales office for details.*

Type ES1674, Pow-R-Wash™ PN, is an nonflammable cleaner safe for use on powered-up contacts and surrounding plastics. Contains HCFCs.

Type ES2202, Pow-R-Wash™ NX, is an extra-strength, nonflammable contact cleaner that quickly removes soils from metal-to-metal contacts. Contains HCFCs. Test on plastics. Formerly Contact Clean 2000.

Type ES1606, Pow-R-Wash™ NR, is a regular strength, nonflammable contact cleaner. Contains HCFCs. Test on plastics. Formerly No Flash Contact Clean, **type CV1116**.

Type ES1605, Pow-R-Wash™ PR, is a regular strength, flammable contact cleaner safe for use on plastics. Ozone safe. Formerly Contact Cleaner, **type CV1016**.

Type ES1628, Kontact Restorer®, is a one step contact cleaner and lubricant. Prevents degradation of electrical signal. Contains HCFCs. Test on plastics.

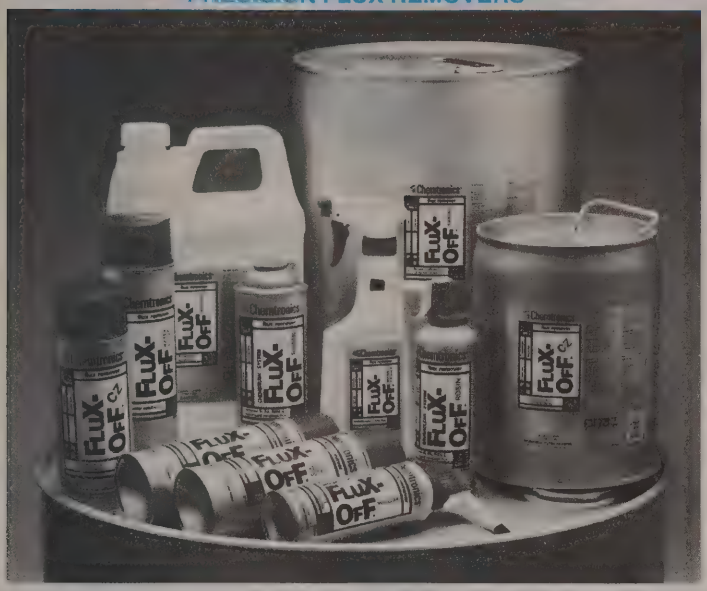
Type ES601,Gold Guard™, is the cleaner lubricant for gold and other noble metal contacts and connectors.

Stock No.	Type	Description	Size	Each
00Z1589	ES7300	Pow-R-Wash™ CZ	12 oz.	**36.78**
00Z1590	ES7308	Pow-R-Wash™ CZ	5 oz.	**17.32**
00Z1597	ES1674	Pow-R-Wash™ PN	12 oz.	**25.57**
00Z1145	ES1602	Pow-R-Wash™ NX	14.5 oz.	**18.07**
00Z1136	ES2202	Pow-R-Wash™ NX	18 oz.	**20.91**
00Z1539	ES1606	Pow-R-Wash™ NR	12 oz.	**14.13**
00Z1538	ES1605	Pow-R-Wash™ PR	10 oz.	**10.70**
00Z1309	ES1628	Kontact Restorer® Cleaner Lubricant	16 oz.	**18.67**
00Z1310	ES601	Gold Guard™ Cleaner Lubricant	14.5 oz.	**10.22**

(7590) (ne08485)

FLUX REMOVERS, CLEANERS AND FREEZE SPRAYS

PRECISION FLUX REMOVERS



Flux Removers are formulated to remove all types of rosin (type R, RA, and RMA), no-clean (both rosin and synthetic, type SA), and water soluble (type OA) flux. Removers available in aerosol, BrushClean™ System and liquid form for benchtop dispensor, vapor degreaser, ultrasonic, and dip tank applications. All aerosol/BrushClean™ products feature the All-Way spray valve.

Type ES7200,Flux-Off® CZ, is an ozone safe, nonflammable flux remover safe for use on plastics. Washes away types R, RMA, RA, SA, and OA fluxes.

Stock No.	Type	Description	Size	Each
00Z1593	ES7200	Flux-Off® CZ	12 oz.	37.01
00Z1594	ES7208B	Flux-Off® CZ BrushClean™	5 oz.	19.25

Type ES1035,Flux-Off® Rosin is an ozone safe flux remover safe for use on plastics. Washes away rosin and rosin-based no-clean fluxes. Formerly CFC Free Flux-Of 2000.

Stock No.	Type	Description	Size	Each
00Z1137	ES1035	Flux-Off® Rosin	10 oz.	16.23
00Z1197	ES1694T	Flux-Off® Rosin BrushClean™	5 oz.	13.70

Type ES1692, Flux-Off No Clean, is nonflammable. Test on plastics. Removes No Clean flux. Formerly Heavy Duty Flux-Off 2000.

Stock No.	Type	Description	Size	Each
00Z1199	ES1692	Flux-Off® No Clean	14.5 oz.	18.07

Type ES1530, Flux-Off® Water Soluble, is an ozone safe flux remover for cleaning water soluble flux from boards with water sensitive components. Safe to use on plastics. Formerly Flux-Off II and Flux-Off NR 2000.

Stock No.	Type	Description	Size	Each
00Z1083	ES1530	Flux-Off® Water Soluble	13.5 oz.	13.51
00Z1473	ES830B	Flux-Off® Water Soluble BrushClean™	6 oz.	9.78

Type ES1631, Flux-Off® Heavy Duty, removes encrusted rosin and synthetic-based (type SA), non-flammable, no-clean flux and rosin flux. Test on plastics. Can also be used to remove uncured epoxy from misprinted boards.

Stock No.	Type	Description	Size	Each
00Z1883	ES1631	Flux-Off® Heavy Duty	12 oz.	33.05

(7429) (de02627)

AUDIO/VIDEO CLEANERS

ES820L ES2400

These cleaners clean and protect optical, magnetic tape, and disk heads. Cleans most A/V equipment including: TVs, VCRs, movie cameras and projectors. Also cleans PC boards, contacts, switches, connectors, and scanner equipment.

Type ES820L, Head Cleaner™ II, effectively removes soils from magnetic and optical heads and disk drives. Safe for use on plastic. Flammable and ozone safe. Apply to head surfaces with Chamois Tips™ Swab sold separately.

Type ES2400,Tun-O-Wash® Cleaner, is the original fast drying cleaner for electro-mechanical and electronic tuners. Safe for use on plastic. Flammable and ozone safe.

Stock No.	Type	Description	Size	Each
00Z1420	ES820L	Head Cleaner™ II	8 oz. Liquid	10.22
00Z1193	ES2400	Tun-O-Wash®	12.5 oz. Aerosol	18.51

(7423) (de02390)

FREEZE SPRAYS

Freez-It® freeze sprays are circuit refrigerants used to locate malfunctioning components on PC boards. Sprays are extremely effective and easy to use plus they provide heat sink protection for sensitive components during soldering and desoldering. Ozone safe.

Type ES1050, Freez-It®, is a high-performance, pinpoint accurate freeze spray for isolating individual thermal intermittant/failed components on PC boards.

Stock No.	Type	Description	Size	Each
00Z1135	ES1050	Freez-It®	10 oz.	13.41
00Z1212	ES1550	Freez-It®	15 oz.	18.24

Type ES1551, Freez-It® Antistat, is a high-performance, pinpoint accurate freeze spray that safely cools individual static-sensitive components. Static dissipative. Ozone safe.

Stock No.	Type	Description	Size	Each
00Z1214	ES1551	Freez-It® Antistat	15 oz.	18.45

(7539) (ne02634)

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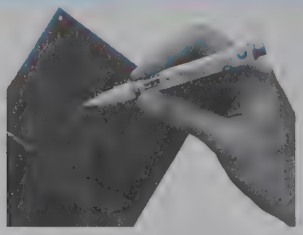
CircuitWorks® brand's comprehensive line of conveniently packaged and precision dispensing rework and repair products make PC board repair and prototyping faster, easier, and more accurate. All are packaged in unique delivery systems to provide superior performance and pinpoint accuracy. The full range of products meets technicians needs for electronics rework and prototyping - repairing, cleaning, protecting, lubricating, bonding, and restoring electrical conductivity to PC boards and components.
(29681) (ne29681)

CIRCUITWORKS® CONDUCTIVE PEN



- **Quickly Creates Conductive Silver Traces on Most Surfaces**
- **Valved Pen Tip for Easy Application**
- **Can be Soldered at Low Temperatures**
- **Dries in Minutes at Room Temperature**
- **Choice of Microtip for Fine Lines or Standard Tip for Wider Lines**

Pen dispenser draws highly conductive silver traces jumpers and shielding with precision and control.

00Z1497 Type CW2200STP Standard Tip. **Each** **20.54**
00Z1498 Type CW2200MTP Microtip. **Each** **20.54**
(29682) (ne29682)

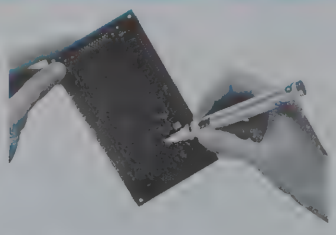
CIRCUITWORKS® OVERCOAT PEN

- **Protects Conductive Pen Traces**
- **Repairs Permanent Solder Mask**
- **Protects Against Shorting, Arcing, Abrasion and Moisture**
- **Dries in Minutes at Room Temperature**
- **Choice of Clear or Green Coating**

Pen dispenser provides precise application of a tough protective acrylic conformal coating.

00Z1543 Type CW3300C Clear. **Each** **18.00**
00Z1868 Type CW3300G Green. **Each** **18.00**
(29683) (ne29683)

CIRCUITWORKS® CONFORMAL COATING REMOVER PEN



- **Removes Most Types of Coatings in Seconds**
- **Spot Cleans Tight Tolerance Areas on Circuit Boards**
- **Marker Dispenser Provides Controlled and Exact Application**
- **Evaporates Quickly**
- **Provides Low Surface Tension for Superior Wetting**

Pen precisely removes silicone, acrylic and urethane coatings for PCBs.

00Z1869 Type CW3500. **Each** **12.91**
(29684) (ne29684)

CIRCUITWORKS® FLUX DISPENSING PENS

Common Features:
- **Chisel-Tip Marker Provides Exact Delivery of Flux to Surface**
- **Easily removed with Appropriate Flux Remover Pen or Flux-Off® Flux Remover**

No-Clean Flux Dispensing Pen:
- **Applies a Patented Noncorrosive, Halide Free, Organic No-Clean Flux**
- **Flux Meets Bellcore TR-NWT-000078 and IPC SF-818 for Surface Insulation Resistance**

Rosin Flux Dispensing Pen:
- **Applies a Noncorrosive Type R Flux**
- **Flux Meets MIL-F-14256 E+F Type R and RMA**

Pen applies flux with precision and control.

00Z1870 Type CW8100 No-Clean Pen. **Each** **7.25**
00Z1871 Type CW8200 Rosin Pen. **Each** **7.02**
(29685) (ne29685)

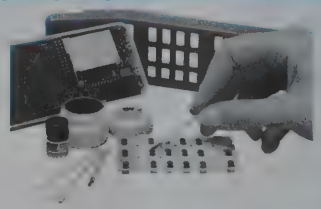
CIRCUITWORKS® FLUX REMOVER PEN

- **Completely Removes Flux in Seconds**
- **Spot Cleans Tight Tolerance Areas on Circuit Boards**
- **Marker Dispenser Provides Controlled and Exact Application**
- **Dries Fast**

Pen percisely removes flux from printed circuit boards.

00Z1872 Type CW9100 No-Clean Flux Remover Pen. **Each** **10.03**
00Z1873 Type CW9200 Rosin Flux Remover Pen. **Each** **9.60**
00Z1874 Type CW9300 Water Soluble Flux Remover Pen. **Each** **9.60**
(29686) (ne29686)

CIRCUITWORKS® RUBBER KEYPAD REPAIR KITS



- **Restores Electrical Conductivity to Worn Carbon Contacts**
- **Forms a Tough, Flexible, Wear-Resistant Surface**
- **Repairs Tested to 500,000 Keystrokes**

Choose from 2 conveniently-sized kits for permanent repair of rubber keypads. **Type CW2605** can be used for over 50 rubber button contact repairs. **Type CW2610** can be used for over 200 rubber button contact repairs.

00Z1875 Type CW2605 Single Pack. **Each** **14.52**
00Z1876 Type CW2610 Twin Pack. **Each** **36.43**
(29687) (ne29687)

CIRCUITWORKS® GOLD GUARD™ PEN

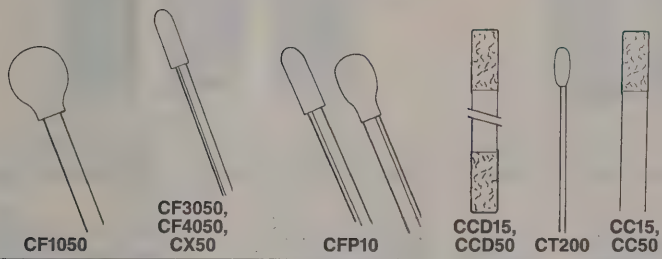
- **Cleans and Leaves Protective Lubricant in One Step**
- **Extends the Life of Noble Metal Contacts**
- **Chisel Tip Marker for Exact Delivery of Solvent to Surface**
- **Safe on Most Plastics**

Pen cleans and lubricates gold and other noble metal contacts and connectors.

00Z1879 Type CW7400. **Each** **12.05**
(29688) (ne29688)

SWABS, PADS AND ENCAPSULANTS

SWABS



Stock No.	Type	Description	Package	Per Pkg.
50F9489	CF4050	2¼″ Mini-swab w/Polypropylene Handle, Rigid Head	50	14.28
50F9490	CF2050	Rectangular Full-Size Swab, 5″ Polypropylene Handle	50	18.11
96F7727	CF15	Foam Over Cotton Bud Swab, 6″ Wooden Handle	15	6.21
50F9475	CF3050	Rigid Head, Elongated Swab, 6″ Polypropylene Handle	50	15.92
50F9477	CFP10	Double-ended Swab w/2 Cleaning Surfaces, 6″ Polypropylene Handle	10	7.72
50F9478	CF1050	Circular Swab, 5″ Polypropylene Handle	50	17.40
50F9476	CX50	Flexible Foam Head Swab for Sensitive Surfaces, 4″ Handle	50	22.14
50F9487	CT200	Phamaceutical Grade Bleached White Cotton with Twin Buds, 6″ White Birtch Handle	100	3.48
50F9488 97F7567	CC15 CCD50	Double Tipped Chamois Swab on a Flexible 6″ ABS Handle.	15 50	11.19 54.16
50F9486 97F7566	CC15 CC50	Single Tipped Chamois Swab on a 3″ Handle	15 50	11.19 30.13

(7504) (de52040)

PRESATURATED PADS

Pads are premoistened with high-purity cleaning solutions for convenience. **Type CSP20** are a 2-part, cleaning and static control system for CRT screens. Cleans and controls static. **Sold in boxes of 25.**

Stock No.	Type	Description	Each
00Z1516	CSP20	Screen Prep™	25.14

Type CP410 are premoistened lens-grade tissue for cleaning/polishing CRT screens and large optical surfaces. **Sold in boxes of 50.**

Stock No.	Type	Description	Each
00Z1512	CP410	Optic Prep™	23.38

Type CP400 are lint-free, nonabrasive pads presaturated with IPA for cleaning magnetic heads, defluxing PCBs and general-purpose precision cleaning. **Sold in boxes of 50.**

Stock No.	Type	Description	Each
00Z1513	CP400	Chempad™	23.38

CONTINUED

PRESATURATED PADS (CONT.)

Stock No.	Type	Description	Each

Type CP420E are presaturated pads for cleaning and lubircating gold-silver, platinum, and other noble metal contacts. Protects, cleans, and lubricates in one step. **Sold in boxes of 50.**

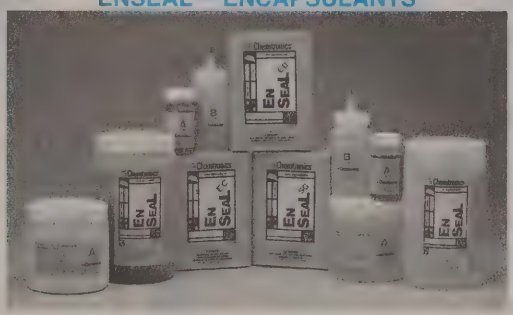
Stock No.	Type	Description	Each
00Z1514	CP420E	Gold Guard™	41.00

Type CS25 are lint-free urethane foam swabs presaturated with IPA. Contains 1 **type CF2050** foam tip. **Sold in boxes of 25.**

Stock No.	Type	Description	Each
00Z1515	CS25	Chemswab™	29.41

(7807) (ne52042)

ENSEAL™ ENCAPSULANTS



Enseal™ Encapsulants seal and protect electronic components and printed circuit boards. Enseal™ products are offered in convenient packaging for precision applications. Products are available in 4 oz. squeeze bottles and 32 oz. jar kits. The Enseal™ product line consists of two part 1:1 mix ratio silicones and epoxies for hiding, sealing, and protecting electronics.

ENSEAL™ RTVG AND RTVC

Conveniently packaged silicone RTV encapsulant for protecting stress-sensitive electronic components. Reversion resistant. **G** in type number indicates gray color, **C** indicates clear color.

Stock No.	Type	Description	Size	Each
00Z2001 00Z2002	EN104G EN1032G	• **Thermally Conductive** • **Conceals Components Completely**	4 oz. Kit 32 oz. Kit	29.26 71.64
00Z2003 00Z2004	EN104C EN1032C	• **High Optical Transparency** • **Flowable**	4 oz. Kit 32 oz. Kit	34.65 114.72

ENSEAL™ EB & EC

Conveniently packaged epoxy encapsulant for sealing and protecting electronics. Provides abrasion resistant hard coating. High strength epoxy. **B** in type number indicates black color, **C** indicates clear color.

Stock No.	Type	Description	Size	Each
00Z2005 00Z2006	EN204B EN2032B	• **Flame Retardant - Meets UL94V-0** • **Conceals Components Completely**	4 oz. Kit 32 oz. Kit	26.27 55.74
00Z2007 00Z2008	EN204C EN2032C	• **Transparent Epoxy** • **Excellent Insulation Properties**	4 oz. Kit 32 oz. Kit	28.51 67.46

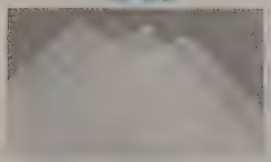
ENSEAL™ SG

Conveniently packaged silicone gel for maximum protection against vibration and thermal stress. Easy to rework and repair. Color: transparent green.

Stock No.	Type	Description	Size	Each
00Z2009 00Z2010	EN304 EN3032	• **Transparent Green Gel** • **Extremely Soft and Flexible**	4 oz. Kit 32 oz. Kit	32.04 93.86

(36974) (ne36974)

WIPES



Types C600, C900,Twillwipes™, are textured cotton wipes that trap contaminates and particulates. Highly absorbent.

Stock No.	Type	Size	Package	Each
50F9484 50F9483	C600 C900	6 x 6″ 9 x 9″	300 150	60.17 60.66

Type C920, Opticwipes™, are soft, nonabrasive wipes for cleaning optical grade surfaces, laboratory equipment and computer components. Packaged in a Class 100 cleanroom. 100% lint-free cellulose.

Stock No.	Type	Size	Package	Each
50F9485	C910	9 x 9″	150	27.32

Type C910, Controlwipes™, are 100% lint-free cellulose polyester blend for maximum contamination control. Packaged in a Class 100 cleanroom.

Stock No.	Type	Size	Package	Each
50F9486	C920	9 x 9″	500	31.84

(7505) (de52041)

NEW CLEANERS AND COATINGS

ECOLINE CLEANERS

Hydrocarbon cleaners that are safe on plastics and evaporate quickly. **Type 1620** degreaser. **Type 1621** defluxer. **Type 1622** contact cleaner.

00Z1963 Type 1620-10S 10 oz. **Each** **10.52**
00Z1964 Type 1621-10S 10 oz. **Each** **10.72**
00Z1965 Type 1622-10S 10 oz. **Each** **10.06**
(34287) (ne34287)

CLEANER

Excellent cleaning ability, rapid evaporation, nonflammable, and are great for benchtop applications. **Type 1674** contact cleaner. **Type 1676** defluxer. **Type 1677** degreaser.

00Z2023 Type 1674-22S 22 oz. **Each** **19.09**
00Z1969 Type 1676-12S 12 oz. **Each** **12.29**
00Z1970 Type 1676-22S 22 oz. **Each** **17.93**
00Z1971 Type 1677-12S 12 oz. **Each** **11.98**
00Z1972 Type 1677-22S 22 oz. **Each** **18.82**
(34286) (ne34286)

CLEANERS

Solvent for the high-performance user. Nonflammable, safe on most plastics, rapid evaporation, and good solvency. **Type 1667** Blue Shower© II cleaner/degreaser. **Type 1665** defluxer. **Type 1668** contact cleaner.

00Z1976 Type 1665-8S 8 oz. **Each**..... **16.29**
00Z1977 Type 1667-8S 8 oz. **Each**..... **15.45**
00Z1978 Type 1667-18S 18 oz. **Each** **29.02**
00Z1979 Type 1668-8S 8 oz. **Each**..... **16.88**
(34294) (ne34294)

RUBBER REJUVENATOR/LABEL REMOVER

RUBBER REJUVENATOR

Cleans and revitalizes rubber, rollers, and plattens.

00Z1958 1612-2SQ 2 oz. Bottle. **Each** **6.73**

LABEL AND ADHESIVE REMOVER

Safely removes labies and adhesive gums.

00Z1959 1613-2SQ 2 oz. Bottle. **Each** **6.73**
00Z1960 1613-N 10 ml Pen. **Each**..... **6.31**
00Z2014 1613-6S 6 oz. Aerosol. **Each**..... **10.55**
(34291) (ne34291)

ENVI-RO-TECH™ DUSTER/FREEZERS

Formatted with HFC-134a, these duster/freezers are nonflammable, moisture free, and non-ozone depleting. **Type 1671** Duster. **Type 1672** Freezer. **Type 1747** Anti-static freezer.

00Z1980 Type 1671-10S 10 oz. **Each**..... **7.11**
00Z1981 Type 1671-15S 15 oz. **Each**..... **9.79**
00Z1982 Type 1672-10S 10 oz. **Each**..... **7.12**
00Z1983 Type 1747-10S 10 oz. **Each**..... **6.23**
(34293) (ne34293)

ISOPROPYL ALCOHOL CLEANER/ DEGREASERS

99% pure, anhydrous isopropanol for general-purpose cleaning. Also suitable as a thinner for flux. **Type 1610-50PK** 50 wipes individually packaged. **Type 1610-DSP** 48 wipes in a convenient pop-up dispenser.

00Z1955 Type 1610-DSP. **Each**..... **14.30**
00Z1956 Type 1610-50PK. **Each** **19.73**
00Z1957 Type 1610-P 1pt. **Each** **9.08**
00Z2015 Type 1610-N 10 ml Pen. **Each** **5.74**
(34292) (ne34292)

HEAT SINK COMPOUNDS

Products for use with power transistors and other devices that generate heat. **Type 1976** blue high voltage putty. **Type 1977** transistor silicone grease. **Type 1978** silicone free heat sink compound.

48F2292 Type 1976-DP 2 oz. **Each** **6.36**
48F2293 Type 1977-DP 2 oz. **Each** **6.06**
48F2294 Type 1978-DP 2 oz. **Each** **9.69**
(34290) (ne34290)

CLEANERS AND LUBRICANTS

Sprays that lubricate, penetrate, clean and protect electronic parts and equipment. **Type 2409** Zap-It universal lubricant. **Type 2410** cleaner/lubricant. **Type 2411** Blue Stuff tuner cleaner.

00Z1993 Type 2409-10S 10 oz. **Each**..... **9.96**
00Z2016 Type 2410-12S 12 oz. **Each**..... **11.64**
00Z1995 Type 2411-12S 12 oz. **Each** **11.64**
(34288) (ne34288)

CONFORMAL COATING

Formulations for any production process where a conformal coating is needed. **Type 2102** silicone. **Type 2103** acrylic. **Type 2104** urethane.

00Z2017 Type 2102-12S 12 oz. **Each** **17.71**
00Z2018 Type 2103-12S 12 oz. **Each** **15.00**
00Z1989 Type 2104-12S 12 oz. **Each** **16.33**
(34289) (ne34289)

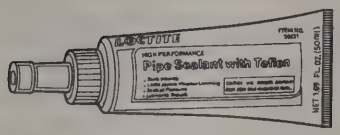
VISIT NEWARK'S WEB SITE AT www.newark.com

LOCTITE®

ADHESIVE PRODUCTS

ANAEROBIC ADHESIVES

272



Single-component adhesives cure only when confined between metal parts. Solvent resistant, low toxicity, non-flammable. For threadlocking, threadsealing, gasketing, retaining, bonding.

THREADLOCKERS

Lock nuts, bolts and studs to prevent vibration. Seal out moisture that causes corrosion. Seal against fluid leakage and prevent wear.

Small Screw Threadlocker 222 for fasteners under ¼". Low strength.

Stock No.	Type	Size	Each
00Z781	22221	10ml	27.80
00Z782	22231	50ml	58.04

Removable Threadlocker 242® for fasteners ¼" and larger. Removable with hand tools.

Stock No.	Type	Size	Each
00Z783	24221	10ml	27.80
00Z784	24231	50ml	58.04

Permanent Threadlocker 271™ for fasteners (studs) 1" and larger, severe applications or permanent assemblies. Heat required for removal.

Stock No.	Type	Size	Each
00Z785	27121	10ml	27.80
00Z786	27131	50ml	58.04

Hi-Temp/Hi-Strength Threadlocker 272™ for bolts ⅝" to 1" in diameter. Fast cure on most surfaces, including "as received" fasteners. Suited for temperatures up to 450°F. Heat and hand tools are needed to separate parts.

Stock No.	Type	Size	Each
00Z1830	27200	10ml Bottle	15.88

Threadlocker Adhesive Sealant 290 for use on preassembled parts. Ideal for adjustment screws, set screws or maintenance threadlocking. High strength.

Stock No.	Type	Size	Each
00Z787	29021	10ml	14.55
00Z788	29031	50ml	58.04

RETAINING COMPOUNDS

Bond cylindrical metal parts such as bearings, bushings, pulleys and keyways. Restore fit to slightly worn parts. Seal to prevent corrosion. **Type 60921** retaining compound is for filling gaps to 0.005" diametrical. 3000 psi sheer on steel.

Stock No.	Type	Size	Each
00Z803	60921	10ml	27.80

(7517) (de52832)

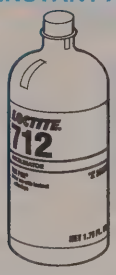
PRISM® THERMAL RESISTANT INSTANT ADHESIVES

Available in low viscosity, high viscosity, and gel formulations. Single-component product toughened with elastomers for high-impact/high-peel strength and improved resistance to heat, humidity, or damp environments. Maintain strength at elevated temperatures. Withstand temperatures up to 250°F.

Stock No.	Type	Size	Each
00Z1275	19757	3g	12.84

(7474) (de04081)

TAK PAK® INSTANT ADHESIVES



20420 TAK PAK® 382 ODC-Free Ultra Performance Tak Pak 382® Adhesive kit. High-temperature performance up to 223°F. Aerosol accelerator.

38240 ULTRA PERFORMANCE TAK PAK® is a high-temperature (to 223°F, intermittent to 250°F), high-viscosity, instant adhesive that withstands thermal cycling. Ideal for wire tacking and component-mounting applications.

18637 TAK PAK® 7452 ACCELERATOR Tak Pak® Accelerator 7452 ODC-Free for bond level applications (acetone). (Acetone may adversely affect some thermal plastic substrates). We recommend Tak Pak® Accelerator 712 for these materials.

TAK-PAK® 712 ODC-Free, with Isopropyl Alcohol (IPA) solvent carrier. Improves cure speed of Loctite cyanoacrylate adhesives. Used where an instant surface cure of cyanoacrylate is desired. Recommended for applications involving printed circuit board wire tacking, and tamper-proofing of adjustable components.

Stock No.	Type	Size	Each
00Z1272	20420	Kit	59.58
00Z789	38240	20ml	46.18
00Z1278	18637	0.7oz.	27.57
00Z1828	18636	0.7oz. Aerosol Can	27.57
00Z1829	20352	1.75 fl.oz. Bottle	16.77

(7518) (de52833)

THREAD AND FLANGE SEALANT

PST® Pipe Sealant with Teflon® seals threaded metal fittings instantly. Replaces Teflon tape. Will not shred and allows adjustment of parts up to 12 hours. Temperature range: –65° to +300°F. Solvent resistant.

Stock No.	Type	Size	Each
00Z802	59231	1.69 fl. oz.	30.61

SHADOWCURE™ CONFORMAL COATING

Shadowcure™ conformal coating coats electronic components and assemblies fast. Can be applied directly over most acrylic and urethane conformal coatings. No harmful CFCs.

Stock No.	Type	Size	Each
00Z1240	18893	12 oz.	23.47

(7516) (de52831)

ACCESS THE LARGEST PARTS DATABASE IN THE INDUSTRY!
VISIT OUR WEB SITE AT
http://www.newark.com

INSTANT ADHESIVES

404

Single-component, fast-setting adhesives for bonding a wide variety of substrates. They contain no solvents and have low toxicity and are non-flammable.

Quick Set™ 404 is a clear instant adhesive specially suited for bonding rubber. Applications: bond belts, bumpers, cushions, and o-rings.

Stock No.	Type	Size	Each
00Z1831	46548	4 fl.oz. Bottle	203.85

Locquic® Primer T 7471 ODC-Free improves cure speed and bond strength of Loctite adhesives. Speeds cure on active surfaces. Provides cure on inactive surfaces. Cleans bonding surfaces. Promotes cure at low temperatures.

Stock No.	Type	Size	Each
00Z1832	22477	4.5 oz. Aerosol Can	61.21
00Z1833	19267	1.75 fl. oz. Bottle	25.33

Retaining Compound 680 medium viscosity, fast-curing liquid. Fixtures in 10 minutes. Provides a shear strength of 4000 psi on steel. Seals and secures cylindrical assemblies up to 0.015" clearance. Authorized by U.S.D.A. Certified by NSF International to ANSI/NSF Standard 61.

Stock No.	Type	Size	Each
00Z1834	68015	10ml Bottle	33.44

(7519) (de52834)

DL® PERMATEX® FAST ORANGE® CLEANERS

23116
25116

Type 23116 smooth lotion hand cleaner and **type 25116** fine pumice lotion hand cleaner deep clean the toughest dirt. Biodegradable, waterless, petroleum solvent-free hand cleaner that contains no harsh chemicals, mineral oils or ammonia that can sting cuts and abrasions. Pure, fresh-smelling natural citrus power does the cleaning. With aloe, lanolin, jojoba and Corn Huskers Lotion® for added skin conditioning and protection. Smooth formula gently deep cleans the toughest dirt. Works on laundry stains, greasy stoves, pet odors and other household cleaning needs.

Stock No.	Description	Each
00Z1835	15 fl. oz. Squeeze Bottle Smooth Lotion Hand Cleaner	10.73
00Z1836	15 fl. oz. Squeeze Bottle Fine Pumice Lotion Hand Cleaner	10.73

(13167) (ne09886)

IN CHARGE CORROSION INHIBITOR

Types 24106 and **24108** inhibit corrosion in enclosed areas. Absorb damaging moisture. Extend useful life of enclosures up to 2-3 times. UL listed. **Type 24106** protects enclosures up to 5 cu. ft. **Type 24108** protects enclosures up to 11 cu. ft. 2 inhibitors per package.

00Z1580 Type 24106. **Each** **26.05**
00Z1581 Type 24108. **Each** **50.25**

(7595) (ne08507)

SPECIAL CHEMICALS

GC ELECTRONICS

10-8132

10-8109

10-8101

WATER SOLUBLE HEAT SINK

Easy clean-up, non-migrating. Eliminates use of solvents, is non-reactive, exhibits dielectric properties.

Stock No.	Type	Description	Each
00Z1552	10-8132	1 oz. avdp. Syringe	17.26

HEAT SINK HTC (HIGH THERMAL CONDUCTIVITY)

Higher thermal conductivity formula has all the same benefits of conventional heat sink greases, stable in high humidity applications. Available in silicone and non-silicone versions.

00Z1566	10-8130	Non-silicone 1 oz. avdp. Syringe	17.26
00Z1553	10-8135	Silicone 1 oz. avdp. Syringe	17.26

SILICONE HEAT SINK COMPOUND

Zinc oxide-filled silicone grease for transistors has outstanding heat-transfer properties. Will not dry out or harden.

00Z581	10-8109	1 oz.	10.77

TYPE 44 HEAT SINK COMPOUND

00Z762	10-8118	½ fl. oz.	11.48
00Z763	10-8120	1 fl. oz.	18.35
00Z764	10-8126	1 lb. Jar	70.95

SILICONE COMPOUND

Soft inert silicone grease (tube) with excellent dielectric properties. Also lubricant for rubber and plastics.

00Z579	10-8101	1 fl. oz.	9.86

SILICONE RUBBER ADHESIVE SEALANT

Excellent elastomer cures to a tough, rubbery solid. Resists weathering, vibration, and exposure to oil, moisture, ozone, and temperatures from sub-zero to 450°F. Cures in 24 hours, tack-free in 20 minutes. Clear

00Z486	10-150	3 fl. oz. Tube	7.43

ELECTRONIC GRADE SILICONE SEALANT/ADHESIVE

One-part non-corrosive, neutral cure electronic grad silicone sealant. Remains flexible from -70° to +300°F (-60° to +200°C). Works as an adhesive for many electrical and electronic applications where corrosion is a problem. Dielectric properties, high surface resistivity and resists electrical tracking. Meets the requirements MIL-A-46146A-Type 1; meets requirements of FDA status, FDA regulations #177.260.

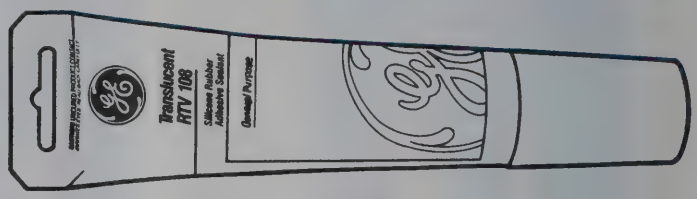
00Z1554	19-155	3 fl. oz	6.38

SPECIFICATIONS

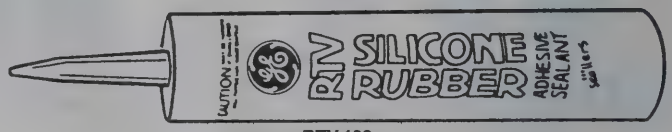
Tests	Test Methods	10-8109 Standard Silicone	10-8118 Standard Non-Silicone	10-8135 HTC Silicone	10-8130 HTC Non-Silicone	10-8132 Water-Soluble Non-Silicone
Thermal Conductivity CAL/SEC, CM°C BTU/HR/FT²/°F/IN.	Hot Wire Method per MIL-C-47113	18.5×10^{-4} 5.4	16.7×10^{-4} 4.80	43.5×10^{-4} 12.64	40.3×10^{-4} 11.70	28.2×10^{-4} 8.20

(7522) (de52868)

ONE-PART SILICONE SYSTEMS



RTV 108



RTV 102

One and two component rubber adhesives for an unlimited number of industrial applications. Packaged in collapsible plastic tubes and standard caulking cartridges. Cures to tough resilient rubber at room temperature. Will withstand temperatures from –70°F to 500°F. Resists moisture aging, ozone weathering. Will bond to most substrates without primer. Ideal for instant insulation. Available in 2.8 oz tube or 10.1 oz caulker as indicated below.

GENERAL PURPOSE PASTE, UL, FDA & NSF LISTED

Stock No.	Type	Description	1-11	12-144
00Z1574	IS 802-2.8 Oz.	White General Purpose Paste	4.98	3.96
00Z1577	IS 802-10.1 Oz.	White General Purpose Paste	7.96	6.33
00Z1575	IS 803-2.8 Oz.	Black General Purpose Paste	4.98	3.96
00Z1578	IS 803-10.1 Oz.	Black General Purpose Paste	7.96	6.33
00Z1576	IS 808-2.8 Oz.	Clear General Purpose Paste	4.98	3.96
00Z1579	IS 808-10.1 Oz.	Clear General Purpose Paste	7.96	6.33

PREMIUM PERFORMANCE PASTE

Product available in either 2.8 oz tube, 10.3 oz tube or 10.1 oz caulker as indicated below.

00Z643	RTV 102-2.8 Oz.**	White Premium Paste	6.17	4.91
00Z652	RTV 102-10.3 Oz.**	White Premium Paste	28.02	22.10
00Z659	RTV 102-10.1 Oz.**	White Premium Paste	10.10	8.04
00Z644	RTV 103-2.8 Oz.**	Black Premium Paste	6.17	4.91
00Z661	RTV 103-10.1 Oz.**	Black Premium Paste	10.10	8.04
00Z645	RTV 108-2.8 Oz.**	Clear Premium Paste	6.17	4.91
00Z654	RTV 108-10.3 Oz.**	Clear Premium Paste	28.02	22.10
00Z660	RTV 108-10.1 Oz.**	Clear Premium Paste	10.10	8.04
00Z646	RTV 106-2.8 Oz.**	Red High Temperature Paste	22.49	17.73
00Z655	RTV 106-10.3 Oz.**	Red High Temperature Paste	60.02	46.55
00Z1134	RTV 106-10.1 Oz.**	Red High Temperature Paste	60.02	46.55
00Z649	RTV 157-2.8 Oz.	Grey Ultra High Strength Paste	28.34	22.35
00Z650	RTV 159-2.8 Oz.	Red Ultra High Strength And High Temperature Paste	28.34	22.35
00Z1316	RTV 133-2.8 Oz.*	Black Flame Retardant Paste, Non-Corrosive (UL-94V-0 Rating)	63.66	50.68

* denotes UL listed ** denotes UL, FDA and NSF listed

FLOWABLE SILICONES, UL, FDA, NSF LISTED

Product is available in 2.8 oz tube and 10.3 oz tube as indicated below.

00Z648	RTV 112-2.8 Oz.	White Premium Grade, Flowable	22.37	17.64
00Z656	RTV 112-10.3 Oz.	White Premium Grade, Flowable	59.35	46.03
00Z647	RTV 118-2.8 Oz.	Clear Premium Grade, Flowable	22.37	17.64
00Z658	RTV 118-10.3 Oz.	Clear Premium Grade, Flowable	59.35	46.03
00Z657	RTV 116-10.3 Oz.	Red High Temperature Grade, Flowable	59.35	46.03

LOW ODOR NEUTRAL CURE ADHESIVES, UL LISTED

Product is available in 2.8 oz tube and 10.1 oz caulker as indicated below.

00Z1313	RTV 160-10.1 Oz.	White Electronic Grade, Non-Corrosive, Flowable	51.16	39.68
00Z651	RTV 162-2.8 Oz.	White Electronic Grade, Non-Corrosive Paste	16.41	12.94
00Z662	RTV 162-10.1 Oz.	White Electronic Grade, Non-Corrosive Paste	32.57	25.26
00Z1571	RTV 122-10.1 Oz.	White General Purpose Paste	14.21	11.31
00Z1572	RTV 123-10.1 Oz.	Black General Purpose Paste	14.21	11.31
00Z1573	RTV 128-10.1 Oz.	Clear General Purpose Paste	14.21	11.31
00Z1264	RTV 6708-10.1 Oz.	Clear Paste	11.29	8.99

(7481) (de50298)

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CLEANERS, LUBRICANTS AND ADHESIVES

ISOPROPYL ALCOHOL (ANHYDROUS)

Extremely pure alcohol cleans tape heads, disc drives, etc. Dissolves and removes oxides from recording heads, also is an excellent degreaser. Leaves no residue. Not an aerosol. Suggested for use with swabs, clean cloth, or by immersion or trigger sprayer.

Stock No.	Type	Description	Each
00Z1010	10-1507	Non-Aerosol Isopropyl Alcohol	6.81

(7569) (ne07178)

HF CONTACT CLEANER/DEGREASER

GC HF Electric is a petroleum/terpene-based cleaner with a flash point over 140°F. An alternative to chlorofluorocarbons in precision cleaning applications in which a higher flash point is desired. Effectively cleans grease, tar, varnish, oil, filling gels, silicones, fluxes, adhesives, and waxes. Non-residue, non-corrosive, non-conductive, non-freezing. Dielectric strength: 38,000V. Not for use on energized equipment. Authorized by USDA for use in federally inspected meat and poultry plants.

Stock No.	Type	Description	1-11	12-144
00Z1562	19-2007	10ml Pen Label Remover	4.48	4.14

(7573) (ne08124)

HYDROCARBON CLEANERS

Jiffy Bath is a contact cleaner/degreaser with silicone lubricant. NOTE: Hydrocarbon cleaners are flammable, use with caution. Safe for most plastics. Check for compatibility before using.

Stock No.	Type	Description	1-4	5-12
00Z1411	19-638	4 oz. Jiffy Bath	4.10	3.80

(7476) (de04249)

LUBRICANTS

GC COMPU-LUBE MOLY/PTFE LUBRICANT

Super low friction, low wear, low viscosity lubricant for the micro computer age. Effective from –60°F to +500°F. Applications: computers, CD and VCR units, printers and all high-speed mechanisms.

Stock No.	Type	Description	Each
00Z1530	19-832	0.5 fl. oz. Squeeze Tube	5.00

GC LUBIT HANDY OILER

Moly/PTFE lubricant super low friction, low viscosity lubricant for the home, work or hobby. Effective from –60°F to +500°F. Cleans, lubricates and prevents rust. Applications: industrial equipment, power tools, sewing machines, computers, CD and VCR units, printers and all high-speed mechanisms.

00Z1531	19-834	0.5 fl. oz. Squeeze Tube	5.00

GC 70 RUST PENETRANT AND LUBRICANT

Cleans most surfaces of grease, tar and grime. Contains a long-lasting lubricant. Use on dies and molds, tools, vending equipment, windows, doors, locks, rusted bolts or fittings, linkages, cables, cranks, electronics gear and battery terminals.

00Z1528	19-070	10 oz. Aerosol	3.46

REACH-ALL PEN OILER

High quality, nongumming instrument oil. Tube extends and retracts.

00Z026	10-984	½ fl. oz.	5.73

SILICONE COMPOUND

Soft inert silicone grease (tube) with excellent dielectric properties. Also lubricant for rubber and plastics.

00Z579	10-8101	1 fl. oz.	9.86

(7521) (de52867)

NEW PRODUCTS ARE BEING ADDED TO OUR INVENTORY EVERY DAY.

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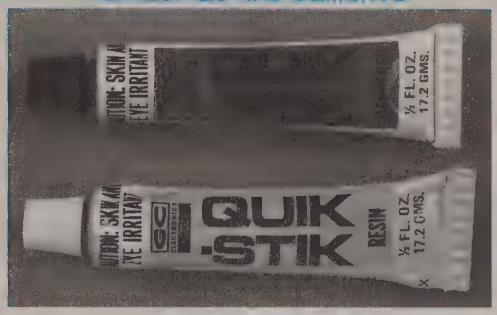
ADHESIVES AND CEMENTS



5-MINUTE EPOXY CEMENT

Clear, fast-curing two-part Epoxy. Handle in 8-12 minutes.

Stock No.	Type	Description	Each
00Z416	10-114	Two ½ oz. Tubes	5.73

5 HOUR SET EPOXY GLUE

Exceptionally hard and strong bond for use in Aerospace applications. Gray white in color.

00Z577	10-347	Two 2 oz. Tubes	17.92

MIRACLE ADHESIVE KIT

Kit contains Cyano-Prep for surface preparation before using adhesive, GR-R-RIP World Famous Super Adhesive and Cyano-Solv for releasing bonds or clean-up.

00Z1550	19-235	1 fl. oz. Cyano-Prep bottle 1 fl. oz Cyano-Solv Bottle 0.10 fl. oz. Gelwald tube 0.075 fl. oz. GR-R-RIP	11.71

CONDUCTIVE EPOXY

Electrically conductive two-part for attaching electrical components. Mix ratio: 1/3. Pot life: 40 minutes. Cure: 24 hours. Vol. res: 5.0 x 10-3 ohm-cm max.

00Z1551	19-2092	5 gm. Kit	21.18

GC POTTING EPOXY

Black opaque highly-filled epoxy is used for potting and encapsulating electronic circuits. Use to environmentally protect or conceal circuits. Working time: 1 hour. Temperature: –40° to +180°F. Volume resistivity: 10^{12} @ 300°F. Dielectric constant: 4.2 (10^4 CPS @ 77°F) Dissipation factor: 0.14 (10^4CPS @ 77°F)

00Z1392	19-823	9 oz. Net Weight	15.39

(7520) (de52866)

COATINGS

PRINT KOTE CONFORMAL COATING

For PC boards. Provides a protective shield to resist environmental contaminants.

Stock No.	Type	Description	Each
00Z442	22-203	2 fl. oz.	8.75
00Z452	22-245	11 oz. Aerosol	14.78

SILVER PRINT CONDUCTIVE PAINT

For PC repair or add-on circuit traces. Pure silver in lacquer-based carrier may be brushed on for either connectors or shielding.

00Z869	22-202	1 oz. Troy Bottle	58.58

NICKEL PRINT CONDUCTIVE PAINT

A quick-drying lacquer-based coating pigmented with powdered nickel.

00Z443	22-207	2 oz. Bottle	10.14

RED X CORONA DOPE

Thixotropic polyester-base red enamel is excellent insulator and corona- and spark-preventive coating. Moisture-proofs, too.

00Z311	10-5002	2 oz. Bottle	7.85

RED GLPT INSULATING VARNISH

Alkyd-base compound resists oils, water, most acids, and alkalis. Use for general insulation on coils, transformers, motors.

00Z012	10-9002	2 oz. Bottle	6.72

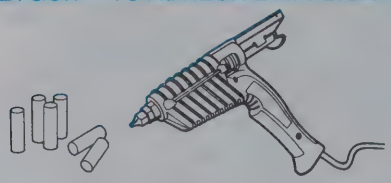
ACRYLIC PLASTIC

Transparent (glass-like) lacquer. Seals, protects, insulates, and tarnish-proofs any object. Coating has high dielectric strength and resists moisture, caustic solutions, and alcohols. Used to coat electronic component and connections as well as metal. Good for use on art objects to protect against tarnish and corrosion.

00Z495	10-8665	11 oz. Aerosol	6.72

(7523) (de52869)

POLYGUN™ TC ADHESIVE APPLICATOR



Hot-melt applicator has a convenient cartridge holder that speeds reloading and features "touch control" thumb-pressure feeding for precise, even flow. Glass-filled nylon body weighs 11 oz. 5-minute warm up, can be left on all day without burnout or backmelt. 390° operating temperature. 110-120VAC, 150W. Supplied with standard 0.090″ replaceable tip. One-year warranty. *Order glue sticks separately on this page.*

93F6941 Type POLYGUN TC. **Each** **87.17**
(7525) (de53289)

JET-MELT™ GLUE STICKS

Clear, high-performance adhesive is for use on many types of plastics, glass, and wood. Ideal for use on acrylic, polyolefins, polystyrene, polyester, and polycarbonate. Exhibits outstanding resistance to shock both at 72°F and 0°F (22.2°C and -18°C). **Sold in 1-lb. boxes.**

Stock No.	Type	1-4	5-9
00Z1909	3748TC	18.78	16.99
00Z1910	3762LMQ	12.22	11.05
00Z1911	3764Q	16.68	15.09
00Z1912	3764TC	16.89	15.28
00Z1913	3792LMQ	14.41	13.04
00Z1914	3792LMTC	14.61	13.22
00Z1915	3792Q	14.17	12.82
00Z1916	3792TC	14.07	12.73
00Z1917	3796TC	32.82	29.69
00Z1918	3762TC	12.03	10.88

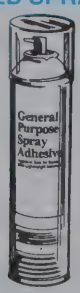
(33079) (ne33079)

AEROSOL SPRAY ADHESIVES

Aerosol spray adhesives contain no methylene chloride, 1,1,1-trichloroethane or chlorofluorocarbons. **Type Spray 77** fast-drying transparent adhesive has high-tack, low-misting high coverage. For permanently attaching foils, carpeting, foams, paper, cardboard, etc., to painted or unpainted base materials. **Type Spray 90** high-strength contact-type adhesive has the fast contact strength buildup needed for laminates, yet only needs 1 to 2 minutes of drying time. Excellent for decorative laminates, particle board, polyethylene, polypropylene, and SBR rubber. VOC content does not comply with the aerosol adhesive limits in the following California rules: SCAQMD Rule 1168, Ventura County Rule 74.20, and BAAQMD Rule 51. Consult other air quality provisions that may regulate product use. **Sold in 24-oz. can.**

00Z1147 Type SPRAY 77. **Each** **10.68**
00Z1151 Type SPRAY 90. **Each** **13.34**
(7959) (ne09300)

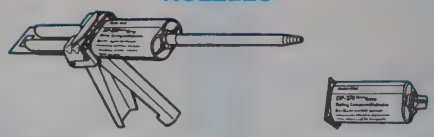
WATER-BASED SPRAY ADHESIVE



Type Spray 201 general-purpose spray adhesive provides bonding strength and heat resistance comparable to a solvent-based product. Reliably bonds a wide range of substrates including paper, fabric, plastics, wood, aluminum, etc. Complies with Southern California aerosol adhesive VOC limits. Nonflammable; stores at Level 1 Code for aerosols. VOC content: <25%. Temperature resistance: 71°C (160°F). Bonding range: 30 minutes (1 surface); 60 minutes (2 surfaces). **Sold in 16¼-oz. can.**

00Z1690 Type SPRAY201. **Each** **11.67**
(7960) (ne09301)

SCOTCH-WELD TYPE EPX ADHESIVE APPLICATOR AND NOZZLES



Scotch-Weld **type EPX** applicator simultaneously meters, mixes and applies 2-component adhesives and potting compounds. Duo-Pak cartridges, *order separately on this page*, snap into **type EPX** applicator. Squeezing trigger advances plunger, which forces the two components through patented nozzle that completely mixes them without introducing air. Sturdy metal construction. 90-day warranty.

93F6943 Type EPX APPLICATOR. **Each** **37.14**
93F6944 Type EPX NOZZLES. **Each** **1.01**
(7526) (de53296)

TYPE DP-100 CLEAR DUO-PAK EPOXY ADHESIVE

Fast-setting, room-temperature curing 2-part adhesive for bonding metals, ceramic wood, etc. Has 3-5 minute work life, develops handling strength in approximately 15 minutes. Low viscosity, ideal for filleting and potting. Meets corrosion requirements of MIL-S-46163. 1.7 oz. For use with **type EPX** applicator, *order separately on this page.*

00Z1161 Type DP-100 CLEAR. **Each** **7.54**
(7527) (de53298)

TYPE DP-190 GRAY DUO-PAK EPOXY ADHESIVE

Flexible 2-part adhesive cures at room temperature to bond rubber, metal, wood, most plastics, and masonry products with higher impact and shock resistance than traditional epoxy adhesives. 90-minute work life. 1.7 oz. For use with **type EPX** applicator, *order separately on this page.*

00Z1162 Type DP-190 GRAY. **Each** **9.12**
(7528) (de53299)

TYPE DP-270 ELECTRICAL GRADE DUO-PAK EPOXY ADHESIVE

Electrical-grade 2-part epoxy adhesive is designed for potting and bonding electronic components. Electrolytically non-corrosive to copper. Nonexothermic, high flow, with a 70-minute work life. Opaque black or clear. 1.7 oz. For use with **type EPX** applicator, *order separately on this page.*

00Z1164 Type DP-270 BLACK. **Each** **7.76**
00Z1163 Type DP-270 CLEAR. **Each** **7.76**
(7529) (de53300)

TYPE DP-605NS URETHANE DUO-PAK EPOXY ADHESIVE

Fast-setting, two-part urethane adhesive/sealant with non-sag properties to allow application to vertical surfaces. Excellent adhesion to wide variety of woods, plastics, primed metals. 5-minute work life. 1.7 ounces. For use with **type EPX** applicator, *order separately on this page.*

00Z1165 Type DP605NS OFF-WHITE. **Each** **9.12**
(7530) (de53301)

TYPE CA-4 "PRONTO" INSTANT ADHESIVE

One-component, high-strength, medium setting (5-40 seconds) cyanoacrylate adhesive. Cures at room temperature at very low pressure. Strong bonds to metals, plastics and rubber. Meets MIL-A-46050C. **Sold in 1-oz. bottle.**

00Z1166 Type CA-4. **Each** **12.47**

TYPE CA-8 "PRONTO" SHOCK-RESISTANT INSTANT ADHESIVE

Produces bonds with exceptional shock resistance when joining plastics, metal, rubber, etc. One-component, high strength, medium setting (5-40 seconds) cyanoacrylate adhesive. Meets MIL-A-46050C. **Sold in 1-oz. bottle.**

00Z1167 Type CA-8. **Each** **12.47**

TYPE CA-40H "PRONTO" HIGH-VISCOSITY INSTANT ADHESIVE

Bonds difficult-to-adhere materials such as aluminum, EPDM rubber, and flexible vinyl. Good resistance to soaps, isopropyl alcohol. One-component, medium setting (5-40 seconds) cyanoacrylate. **Sold in 1-oz. bottle.**

00Z1168 Type CA-40H. **Each** **12.47**

TYPE CA-50 "PRONTO" GEL INSTANT ADHESIVE

Surface-insensitive gel cyanoacrylate can be used in nonsag vertical applications and fills gaps up to 0.020″. Very slow cure rate (20-70 seconds) allows maximum time to reposition parts. **Sold in 0.7-oz. tube.**

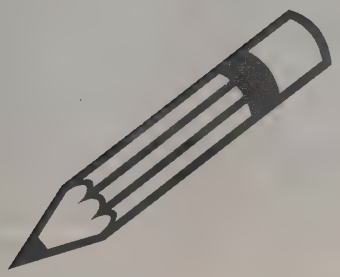
00Z1169 Type CA-50. **Each** **14.92**

TYPE CA-100 "PRONTO" HIGH-PEEL INSTANT ADHESIVE

Toughened cyanoacrylate material provides high T-peel and impact strength, thermal shock resistance, and excellent metal bonding. Relatively high viscosity provides gap-filling capability to 0.020″. Meets MIL-A-46050C, Type II. Class 3. **Sold in 1-oz. bottle.**

00Z1170 Type CA-100. **Each** **14.57**
(7524) (de53288)

NOTES



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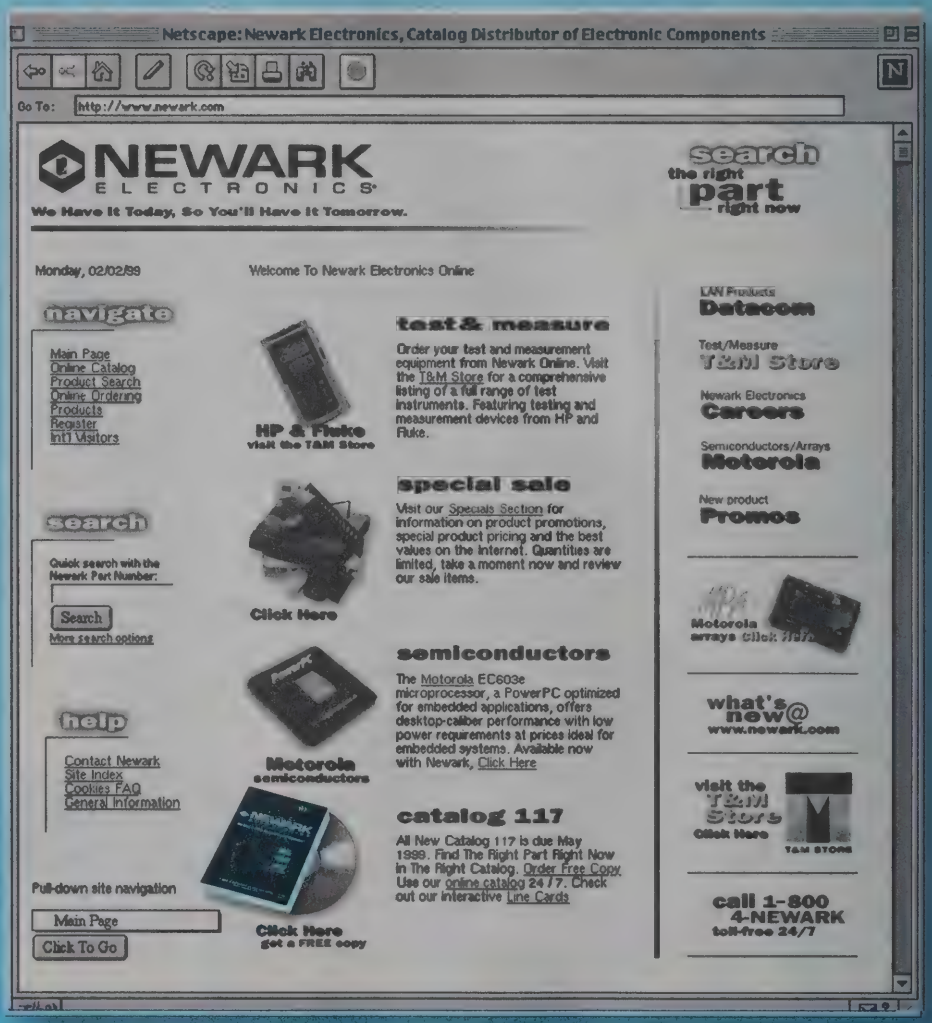
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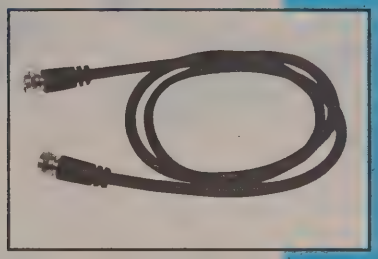
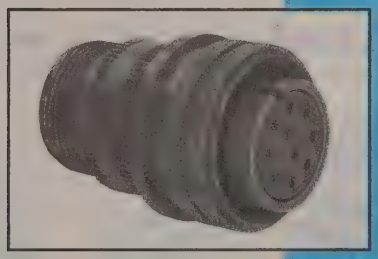
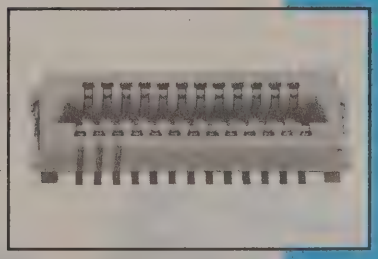
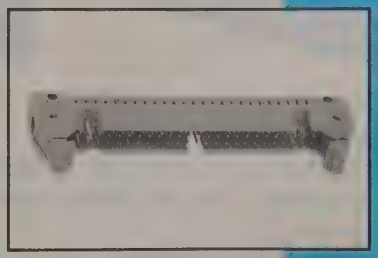
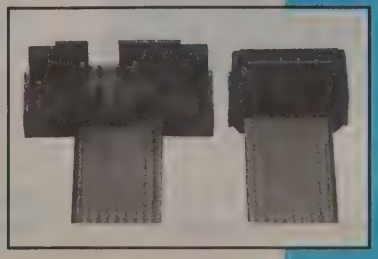
- WPI









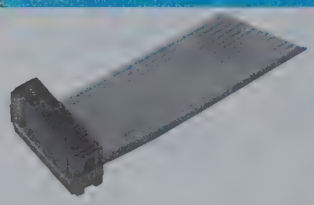


Products include...

- Cable Assemblies
- Circular Connectors
- Connector Tools
- D-Sub Connectors
- PC Board Connectors
- Rectangular I/O Connectors
- RF Coax Connectors
- Telephone Connector Devices
- Test Probes & Accessories

Product Selection Guide—Connectors

SECTION 4



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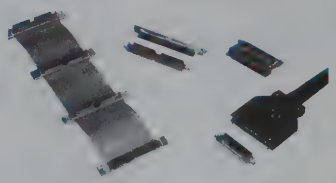

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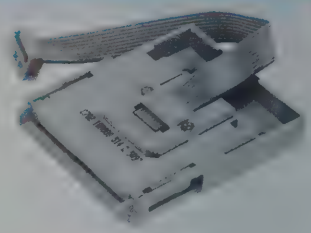

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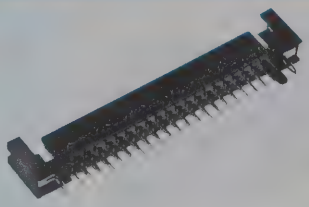

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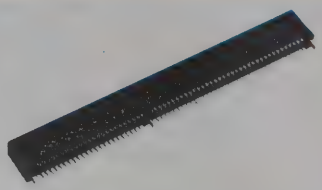

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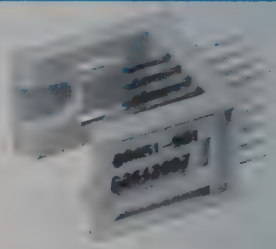

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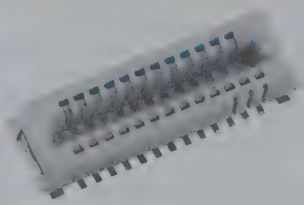

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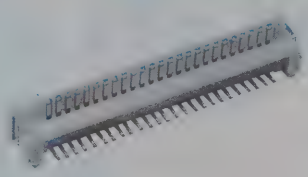

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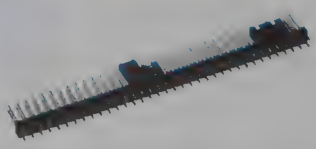

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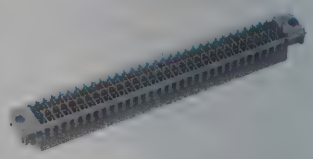

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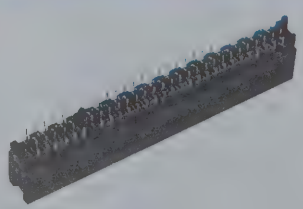

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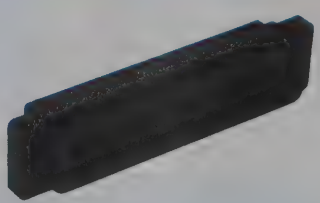

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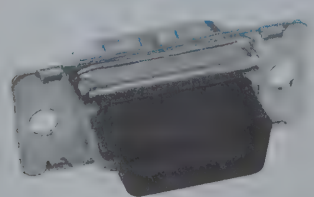

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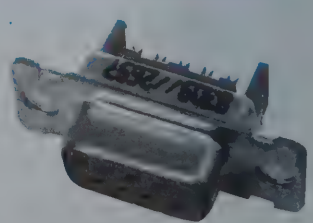

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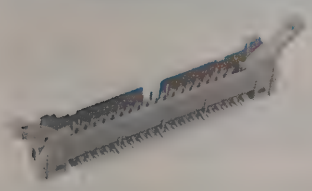

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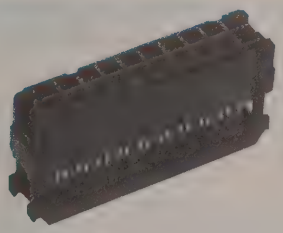

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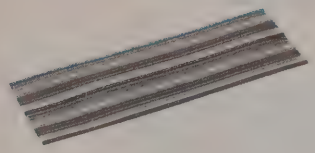

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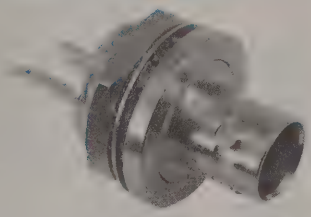

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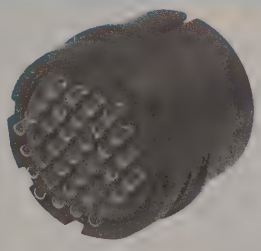

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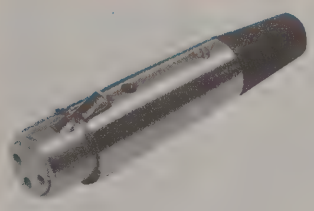

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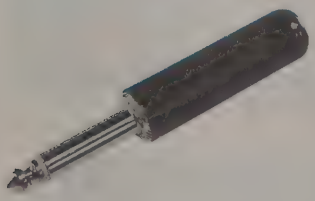

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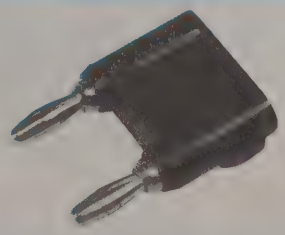

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CAN'T FIND IT HERE???

SEE THE PRODUCT INDEX FOR THE COMPLETE CONNECTOR PRODUCT LINE!

AMP-LATCH® IDC NOVO SOCKET CONNECTOR CABLE ASSEMBLIES

Socket Connector, Single-Ended

Socket Connector-to-Socket Connector

AMP-LATCH® cable assemblies available with Novo socket connector, single-ended or Novo socket connector-to-Novo socket connector configuration. Feature black thermoplastic housing and recessed cover, rated UL94V-0. Insulation displacement gold-plated phosphor bronze contacts on 0.100″ x 0.100″ (2.54 x 2.54) centers. Gray PVC insulated flat ribbon cable has 28 AWG tinned copper, 7/36 stranded conductors on 0.050″ (1.27) centers. UL recognized, CSA certified.

SOCKET CONNECTOR, SINGLE-ENDED

Stock No.	Type	Contacts	Length	1-9	10-99	100-249
52F8160	NE1410-36	10	36″	4.40	3.52	3.00
52F8161	NE1414-36	14	36″	5.20	4.16	3.55
52F8162	NE1416-36	16	36″	5.43	4.34	3.70
52F8163	NE1420-36	20	36″	5.60	4.48	3.82
52F8164	NE1426-36	26	36″	6.33	5.06	4.31
52F8165	NE1434-36	34	36″	7.00	5.60	4.77
52F8166	NE1440-36	40	36″	7.60	6.08	5.18
52F8167	NE1450-36	50	36″	7.15	5.72	4.87
52F8168	NE1460-36	60	36″	10.00	8.00	6.82

SOCKET CONNECTOR-TO-SOCKET CONNECTOR

Stock No.	Type	Contacts	Length	1-9	10-99	100-249
52F8178	NE1610-06	10	6″	6.73	5.38	4.59
52F8179	NE1610-18	10	18″	6.88	5.50	4.69
52F8181	NE1614-06	14	6″	8.03	6.42	5.47
52F8182	NE1614-18	14	18″	8.23	6.58	5.61
52F8184	NE1616-06	16	6″	8.30	6.64	5.66
52F8185	NE1616-18	16	18″	8.53	6.82	5.81
52F8187	NE1620-06	20	6″	8.50	6.80	5.79
52F8188	NE1620-18	20	18″	8.78	7.02	5.98
52F8190	NE1626-06	26	6″	9.48	7.58	6.46
52F8191	NE1626-18	26	18″	9.83	7.86	6.70
52F8193	NE1634-06	34	6″	11.03	8.82	7.51
52F8194	NE1634-18	34	18″	11.48	9.18	7.82

(8097) (ne07405)

WE OFFER AMP® CABLE ASSEMBLIES IN ADDITIONAL STYLES, LENGTHS, & PLATING FINISHES.

NEWARK TYPE NUMBER REFERENCE GUIDE

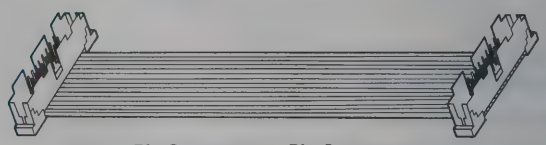
NE	10	10	–	06	G
Newark	Style	No. of Contacts		Length (Inches)	Contact Plating G = Gold T = Tin

CONTACT NEWARK FOR DETAILS.

(8101) (ne07409)

AMP-LATCH® UNIVERSAL I/O PIN CONNECTOR CABLE ASSEMBLIES

Pin Connector, Single-Ended



Pin Connector-to-Pin Connector

AMP-LATCH® cable assemblies available with universal I/O pin connector, single-ended or universal I/O pin connector-to-pin connector configuration. Feature black thermoplastic housing and recessed cover, rated UL94V-0. Gold-plated phosphor bronze contacts. Gray PVC insulated flat ribbon cable has 28 AWG tinned copper, 7/36 stranded conductors on 0.050″ (1.27) centers. UL recognized, CSA certified.

PIN CONNECTOR, SINGLE-ENDED

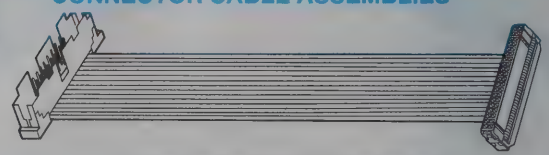
Stock No.	Type	Contacts	Length	1-9	10-99	100-249
52F8169	NE1510-36	10	36″	7.30	5.84	4.98
52F8170	NE1514-36	14	36″	9.23	7.38	6.29
52F8171	NE1516-36	16	36″	10.15	8.12	6.92
52F8172	NE1520-36	20	36″	11.38	9.10	7.75
52F8173	NE1526-36	26	36″	12.70	10.16	8.66
52F8174	NE1534-36	34	36″	14.58	11.66	9.93
52F8175	NE1540-36	40	36″	15.68	12.54	10.68
52F8176	NE1550-36	50	36″	17.75	14.20	12.10
52F8177	NE1560-36	60	36″	22.55	18.04	15.37

PIN CONNECTOR-TO-PIN CONNECTOR

Stock No.	Type	Contacts	Length	1-9	10-99	100-249
52F8196	NE1710-06	10	6″	12.58	10.06	8.57
52F8197	NE1710-18	10	18″	12.73	10.18	8.67
52F8199	NE1714-06	14	6″	16.10	12.88	10.97
52F8200	NE1714-18	14	18″	16.30	13.04	11.11
52F8202	NE1716-06	16	6″	17.78	14.22	12.11
52F8203	NE1716-18	16	18″	18.00	14.40	12.27
52F8205	NE1720-06	20	6″	20.10	16.08	13.70
52F8206	NE1720-18	20	18″	20.38	16.30	13.88
52F8208	NE1726-06	26	6″	22.30	17.84	15.19
52F8209	NE1726-18	26	18″	22.65	18.12	15.43
52F8211	NE1734-06	34	6″	25.48	20.38	17.36
52F8212	NE1734-18	34	18″	25.93	20.74	17.66

(8098) (ne07406)

AMP-LATCH® IDC SOCKET CONNECTOR-TO-PIN CONNECTOR CABLE ASSEMBLIES



Socket Connector-to-Pin Connector

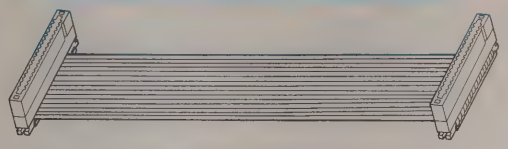
AMP-LATCH® cable assembly combines Novo socket connector with universal I/O pin connector. Both connectors feature black thermoplastic housing and recessed cover, rated UL94V-0. Gold-plated phosphor bronze contacts. Gray PVC insulated flat ribbon cable has 28 AWG tinned copper, 7/36 stranded conductors on 0.050″ (1.27) centers. UL recognized, CSA certified.

SOCKET CONNECTOR-TO-PIN CONNECTOR

Stock No.	Type	Contacts	Length	1-9	10-99	100-249
52F8106	NE1010-06	10	6″	9.08	7.26	6.19
52F8107	NE1010-18	10	18″	9.23	7.38	6.29
52F8109	NE1014-06	14	6″	11.93	9.54	8.13
52F8110	NE1014-18	14	18″	12.13	9.70	8.26
52F8112	NE1016-06	16	6″	12.28	9.82	8.37
52F8113	NE1016-18	16	18″	12.50	10.00	8.52
52F8115	NE1020-06	20	6″	13.40	10.72	9.13
52F8116	NE1020-18	20	18″	13.68	10.94	9.32
52F8118	NE1026-06	26	6″	14.85	11.88	10.12
52F8119	NE1026-18	26	18″	15.18	12.14	10.34
52F8121	NE1034-06	34	6″	16.68	13.34	11.36
52F8122	NE1034-18	34	18″	17.10	13.68	11.65

(8099) (ne07407)

AMP-LATCH® CARD EDGE-TO-CARD EDGE CONNECTOR CABLE ASSEMBLIES

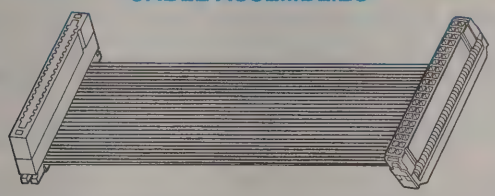


AMP-LATCH® card edge-to-card edge connector cable assemblies available in 6″ and 18″ lengths. Feature black thermoplastic housings, UL94V-0 rated. Split, single-beam phosphor bronze contacts gold-plated on PC board mating pin end, bright tin-lead on cable terminating end, with nickel-plating underall. Gray PVC insulated flat ribbon cable has 28 AWG tinned copper, 7/36 stranded conductors on 0.050″ (1.27) centers. UL recognized, CSA certified.

Stock No.	Type	Positions	Length	1-9	10-99	100-249
52F8124	NE1110-06	10	6″	17.48	13.98	11.91
52F8125	NE1110-18	10	18″	17.63	14.10	12.01
52F8127	NE1120-06	20	6″	14.88	11.90	10.14
52F8128	NE1120-18	20	18″	15.13	12.10	10.31
52F8130	NE1126-06	26	6″	20.95	16.76	14.28
52F8131	NE1126-18	26	18″	21.30	17.04	14.51
52F8133	NE1134-06	34	6″	17.65	14.12	12.03
52F8134	NE1134-18	34	18″	18.10	14.48	12.33

(6100) (ne07408)

AMP-LATCH® CARD EDGE-TO-SOCKET CONNECTOR CABLE ASSEMBLIES



AMP-LATCH® cable assemblies combine a card edge connector at one end with an IDC Novo socket connector at the other. Both connectors feature black thermoplastic housing, rated UL94V-0. Card edge connector has split, single-beam phosphor bronze contacts, gold-plated on PC board mating pin end, bright tin-lead on cable terminating end, with nickel-plating underall. Novo socket connector has recessed cover and insulation displacement gold-plated phosphor bronze contacts on 0.100″ x 0.100″ (2.54 x 2.54) centers. Gray PVC insulated flat ribbon cable has 28 AWG tinned copper, 7/36 stranded conductors on 0.050″ (1.27) centers. Available in 6″ and 18″ lengths. UL recognized, CSA certified.

Stock No.	Type	Positions	Length	1-9	10-99	100-249
52F8136	NE1210-06	10	6″	12.08	9.66	8.23
52F8137	NE1210-18	10	18″	12.23	9.78	8.33
52F8139	NE1220-06	20	6″	11.65	9.32	7.94
52F8140	NE1220-18	20	18″	11.93	9.54	8.13
52F8142	NE1226-06	26	6″	15.18	12.14	10.34
52F8143	NE1226-18	26	18″	15.53	12.42	10.58
52F8145	NE1234-06	34	6″	13.90	11.12	9.47
52F8146	NE1234-18	34	18″	14.35	11.48	9.78

(6102) (ne07445)

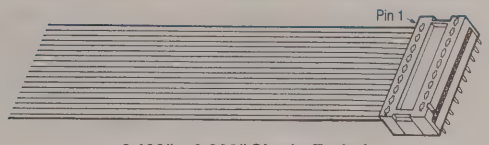
AMP-LATCH® CARD EDGE-TO-PIN CONNECTOR CABLE ASSEMBLIES

AMP-LATCH® cable assemblies combine a card edge connector at one end with a universal I/O pin connector at the other. Both connectors feature black thermoplastic housing, rated UL94V-0. Card edge connector has split, single-beam phosphor bronze contacts, gold-plated on PC board mating pin end, bright tin-lead on cable terminating end, with nickel-plating underall. Pin connector includes recessed cover and gold-plated phosphor bronze contacts. Gray PVC insulated flat ribbon cable has 28 AWG tinned copper, 7/36 stranded conductors on 0.050″ (1.27) centers. Available in 6″ and 18″ lengths. UL recognized, CSA certified.

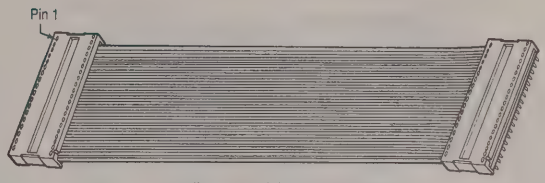
Stock No.	Type	Positions	Length	1-9	10-99	100-249
52F8148	NE1310-06	10	6″	13.95	11.16	9.51
52F8149	NE1310-18	10	18″	14.10	11.28	9.61
52F8151	NE1320-06	20	6″	15.83	12.66	10.78
52F8152	NE1320-18	20	18″	16.10	12.88	10.97
52F8154	NE1326-06	26	6″	16.48	13.18	11.23
52F8155	NE1326-18	26	18″	16.83	13.46	11.47
52F8157	NE1334-06	34	6″	18.43	14.74	12.56
52F8158	NE1334-18	34	18″	18.85	15.08	12.84

(6103) (ne07446)

AMP-LATCH® DIP PLUG CONNECTOR CABLE ASSEMBLIES



0.100″ x 0.300″ Single-Ended



0.100″ x 0.600″ Double-Ended

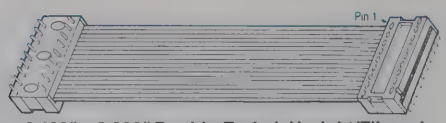
AMP-LATCH® DIP plug cable assemblies available single- and double-ended on 0.100″ x 0.300″ (2.54 x 7.62) or 0.100″ x 0.600″ (2.54 x 15.24) centers. Pin 1 designation at top of plug. Feature black thermoplastic housing assembly and cover, rated UL94V-0. Phosphor bronze contacts with choice of gold or bright tin-lead plating over nickel underplating. Gray PVC insulated flat ribbon cable has 28 AWG tinned copper, 7/36 stranded conductors on 0.050″ (1.27) centers. Available in 6″, 18″ and 36″ lengths. UL recognized, CSA certified.

DIP PLUGS, SINGLE-ENDED – 0.100″ x 0.300″ (2.54 x 7.62) CENTERS

Stock No.	Type	Positions	Plating	Length	1-9	10-99	100-249
52F8306	NE2614-06	14	Gold	6″	5.03	4.02	3.43
52F8307	NE2614-06	14	Tin	6″	4.68	3.74	3.19
52F8308	NE2614-18	14	Gold	18″	5.23	4.18	3.56
52F8309	NE2614-18	14	Tin	18″	4.88	3.90	3.32
52F8310	NE2614-36	14	Gold	36″	5.53	4.42	3.77
52F8329	NE2614-36	14	Tin	36″	5.20	4.16	3.55
52F8311	NE2616-06	16	Gold	6″	4.18	3.34	2.85
52F8312	NE2616-06	16	Tin	6″	4.83	3.86	3.29
52F8313	NE2616-18	16	Gold	18″	4.40	3.52	3.00
52F8314	NE2616-18	16	Tin	18″	5.08	4.06	3.46
52F8315	NE2616-36	16	Gold	36″	4.75	3.80	3.24
52F8316	NE2616-36	16	Tin	36″	5.40	4.32	3.68
DIP PLUGS, SINGLE-ENDED – 0.100″ x 0.600″ (2.54 x 15.24) CENTERS							
52F8317	NE2624-06	24	Gold	6″	6.30	5.04	4.30
52F8318	NE2624-06	24	Tin	6″	6.10	4.88	4.16
52F8319	NE2624-18	24	Gold	18″	6.63	5.30	4.52
52F8320	NE2624-18	24	Tin	18″	6.48	5.18	4.41
52F8321	NE2624-36	24	Gold	36″	7.15	5.72	4.87
52F8322	NE2624-36	24	Tin	36″	6.98	5.58	4.76
52F8323	NE2640-06	40	Gold	6″	7.93	6.34	5.40
52F8324	NE2640-06	40	Tin	6″	7.10	5.68	4.84
52F8325	NE2640-18	40	Gold	18″	8.45	6.76	5.76
52F8326	NE2640-18	40	Tin	18″	7.78	6.22	5.30
52F8327	NE2640-36	40	Gold	36″	9.23	7.38	6.29
52F8328	NE2640-36	40	Tin	36″	8.78	7.02	5.98
DIP PLUGS, DOUBLE-ENDED – 0.100″ x 0.300″ (2.54 x 7.62) CENTERS							
52F8214	NE1814-06	14	Gold	6″	7.00	5.60	4.77
52F8215	NE1814-06	14	Tin	6″	6.30	5.04	4.30
52F8216	NE1814-18	14	Gold	18″	7.20	5.76	4.91
52F8217	NE1814-18	14	Tin	18″	6.50	5.20	4.43
52F8218	NE1814-36	14	Gold	36″	7.50	6.00	5.11
52F8219	NE1814-36	14	Tin	36″	6.83	5.46	4.65
52F8220	NE1816-06	16	Gold	6″	5.28	4.22	3.60
52F8221	NE1816-06	16	Tin	6″	6.60	5.28	4.50
52F8222	NE1816-18	16	Gold	18″	5.53	4.42	3.77
52F8223	NE1816-18	16	Tin	18″	6.83	5.46	4.65
52F8224	NE1816-36	16	Gold	36″	5.85	4.68	3.99
52F8225	NE1816-36	16	Tin	36″	7.18	5.74	4.89
DIP PLUGS, DOUBLE-ENDED – 0.100″ x 0.600″ (2.54 x 15.24) CENTERS							
52F8226	NE1824-06	24	Gold	6″	9.45	7.56	6.44
52F8227	NE1824-06	24	Tin	6″	9.08	7.26	6.19
52F8228	NE1824-18	24	Gold	18″	9.80	7.84	6.68
52F8229	NE1824-18	24	Tin	18″	9.43	7.54	6.42
52F8230	NE1824-36	24	Gold	36″	10.33	8.26	7.04
52F8231	NE1824-36	24	Tin	36″	9.95	7.96	6.78
52F8232	NE1840-06	40	Gold	6″	12.63	10.10	8.60
52F8233	NE1840-06	40	Tin	6″	10.83	8.66	7.38
52F8234	NE1840-18	40	Gold	18″	13.15	10.52	8.96
52F8235	NE1840-18	40	Tin	18″	11.35	9.08	7.74
52F8236	NE1840-36	40	Gold	36″	13.93	11.14	9.49
52F8237	NE1840-36	40	Tin	36″	12.15	9.72	8.28

(8104) (ne07447)

AMP-LATCH® DIP PLUG CONNECTOR CABLE ASSEMBLIES



0.100″ x 0.300″ Double-Ended, Upright/Flipped

0.100″ x 0.600″ Double-Ended, Upright/Flipped

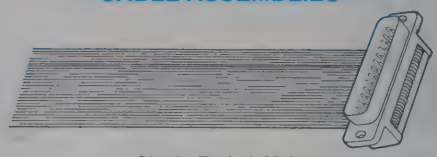
AMP-LATCH® DIP plug double-ended cable assemblies feature one plug in an upright position and the other plug flipped over. This unique design makes these assemblies ideal for various PC board orientations. Available on 0.100″ x 0.300″ (2.54 x 7.62) or 0.100″ x 0.600″ (2.54 x 15.24) centers. Choice of pin 1 designation at top or bottom of plug. Feature black thermoplastic housing assembly and cover, rated UL94V-0. Phosphor bronze contacts with choice of gold or bright tin-lead plating over nickel underplating. Gray PVC insulated flat ribbon cable has 28 AWG tinned copper, 7/36 stranded conductors on 0.050″ (1.27) centers. Available in 6″, 18″, and 36″ lengths. UL recognized, CSA certified.

DIP PLUG ASSEMBLIES – DOUBLE-ENDED, 1 UPRIGHT/1 FLIPPED

Stock No.	Type	Positions	Plating	Length	1-9	10-99	100-249
PIN 1 AT TOP - 0.100″ x 0.300″ (2.54 x 7.62) CENTERS							
52F8238	NE1914-06	14	Gold	6″	7.00	5.60	4.77
52F8239	NE1914-06	14	Tin	6″	6.30	5.04	4.30
52F8240	NE1914-18	14	Gold	18″	7.20	5.76	4.91
52F8241	NE1914-18	14	Tin	18″	6.50	5.20	4.43
52F8242	NE1914-36	14	Gold	36″	7.50	6.00	5.11
52F8243	NE1914-36	14	Tin	36″	6.83	5.46	4.65
52F8244	NE1916-06	16	Gold	6″	5.28	4.22	3.60
52F8245	NE1916-06	16	Tin	6″	6.60	5.28	4.50
52F8246	NE1916-18	16	Gold	18″	6.83	5.46	4.65
52F8247	NE1916-18	16	Tin	18″	6.83	5.46	4.65
52F8248	NE1916-36	16	Gold	36″	5.85	4.68	3.99
52F8249	NE1916-36	16	Tin	36″	7.18	5.74	4.89
PIN 1 AT TOP - 0.100″ x 0.600″ (2.54 x 15.24) CENTERS							
52F8250	NE1924-06	24	Gold	6″	9.45	7.56	6.44
52F8251	NE1924-06	24	Tin	6″	9.13	7.30	6.22
52F8252	NE1924-18	24	Gold	18″	9.80	7.84	6.68
52F8253	NE1924-18	24	Tin	18″	9.48	7.58	6.46
52F8254	NE1924-36	24	Gold	36″	10.33	8.26	7.04
52F8255	NE1924-36	24	Tin	36″	9.98	7.98	6.80
52F8256	NE1940-06	40	Gold	6″	12.63	10.10	8.60
52F8257	NE1940-06	40	Tin	6″	10.83	8.66	7.38
52F8258	NE1940-18	40	Gold	18″	13.15	10.52	8.96
52F8259	NE1940-18	40	Tin	18″	11.35	9.08	7.74
52F8260	NE1940-36	40	Gold	36″	13.93	11.14	9.49
52F8261	NE1940-36	40	Tin	36″	12.15	9.72	8.28
PIN 1 AT BOTTOM - 0.100″ x 0.300″ (2.54 x 7.62) CENTERS							
52F8262	NE2014-06	14	Gold	6″	7.00	5.60	4.77
52F8263	NE2014-06	14	Tin	6″	6.30	5.04	4.30
52F8264	NE2014-18	14	Gold	18″	7.20	5.76	4.91
52F8265	NE2014-18	14	Tin	18″	6.50	5.20	4.43
52F8266	NE2014-36	14	Gold	36″	7.50	6.00	5.11
52F8267	NE2014-36	14	Tin	36″	6.83	5.46	4.65
52F8268	NE2016-06	16	Gold	6″	5.28	4.22	3.60
52F8269	NE2016-06	16	Tin	6″	6.60	5.28	4.50
52F8270	NE2016-18	16	Gold	18″	5.53	4.42	3.77
52F8271	NE2016-18	16	Tin	18″	6.80	5.44	4.64
52F8272	NE2016-36	16	Gold	36″	5.85	4.68	3.99
52F8273	NE2016-36	16	Tin	36″	7.15	5.72	4.87
PIN 1 AT BOTTOM - 0.100″ x 0.600″ (2.54 x 15.24) CENTERS							
52F8274	NE2024-06	24	Gold	6″	9.45	7.56	6.44
52F8275	NE2024-06	24	Tin	6″	9.13	7.30	6.22
52F8276	NE2024-18	24	Gold	18″	9.80	7.84	6.68
52F8277	NF2024-18	24	Tin	18″	9.48	7.58	6.46
52F8278	NE2024-36	24	Gold	36″	10.33	8.26	7.04
52F8279	NF2024-36	24	Tin	36″	9.98	7.98	6.80
52F8280	NE2040-06	40	Gold	6″	12.63	10.10	8.60
52F8281	NE2040-06	40	Tin	6″	10.83	8.66	7.38
52F8282	NE2040-18	40	Gold	18″	13.15	10.52	8.96
52F8283	NE2040-18	40	Tin	18″	11.35	9.08	7.74
52F8284	NE2040-36	40	Gold	36″	13.93	11.14	9.49
52F8285	NE2040-36	40	Tin	36″	12.15	9.72	8.28

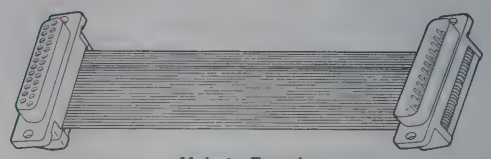
(8105) (ne07448)

AMP-LATCH® SUBMINIATURE D CONNECTOR CABLE ASSEMBLIES



Single-Ended, Male

Female-to-Female



Male-to-Female

AMP-LATCH® cable assemblies available with subminiature D plugs and receptacles (RS-232), in single-ended or double-ended configurations. Feature black thermoplastic housing and cover, rated UL94V-0. Standard mounting holes, 0.120″ (3.05) diameter. Phosphor bronze contacts are gold-plated on mating end, bright tin-lead on termination end, with nickel plating underall. Gray PVC insulated flat ribbon cable has 28 AWG tinned copper, 7/36 stranded conductors on 0.050″ (1.27) centers. 6″ length. UL recognized, CSA certified.

SUBMINIATURE D PLUG, SINGLE-ENDED – MALE

Stock No.	Type	Contacts	1-9	10-99	100-249
52F8286	NE2109-06	9	10.63	8.50	7.24
52F8287	NE2115-06	15	12.35	9.88	8.42
52F8288	NE2125-06	25	14.23	11.38	9.69
52F8289	NE2137-06	37	18.83	15.06	12.83

SUBMINIATURE D RECEPTACLE, SINGLE-ENDED – FEMALE

Stock No.	Type	Contacts	1-9	10-99	100-249
52F8290	NE2209-06	9	8.10	6.48	5.52
52F8291	NE2215-06	15	11.88	9.50	8.09
52F8292	NE2225-06	25	14.85	11.88	10.12
52F8293	NE2237-06	37	19.60	15.68	13.36

SUBMINIATURE D PLUG-TO-PLUG – MALE-TO-MALE

Stock No.	Type	Contacts	1-9	10-99	100-249
52F8294	NE2309-06	9	18.75	15.00	12.78
52F8295	NE2315-06	15	21.23	16.98	14.46
52F8296	NE2325-06	25	25.85	20.68	17.61
52F8297	NE2337-06	37	34.90	27.92	23.78

SUBMINIATURE D RECEPTACLE-TO-RECEPTACLE – FEMALE-TO-FEMALE

Stock No.	Type	Contacts	1-9	10-99	100-249
52F8298	NE2409-06	9	18.98	15.18	12.93
52F8299	NE2415-06	15	22.20	17.76	15.13
52F8300	NE2425-06	25	27.13	21.70	18.48
52F8301	NE2437-06	37	32.93	26.34	22.43

SUBMINIATURE D PLUG-TO-RECEPTACLE – MALE-TO-FEMALE

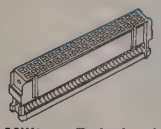
Stock No.	Type	Contacts	1-9	10-99	100-249
52F8302	NE2509-06	9	18.85	15.08	12.84
52F8303	NE2515-06	15	21.70	17.36	14.79
52F8304	NE2525-06	25	26.48	21.18	18.04
52F8305	NE2537-06	37	35.68	28.54	24.31

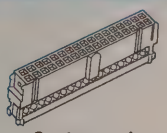
(8106) (ne07449)

NEWARK STOCKS MORE PRODUCTS THAN ANY OTHER ELECTRONICS DISTRIBUTOR!

AMP-LATCH® CONNECTOR SYSTEM

AMP-LATCH® NOVO RECEPTACLES


Military-Polarized


Center- and Military-Polarized

Preloaded insulation displacement contacts on 0.100 × 0.100″ centers for mass termination of 0.050″ centerline ribbon cable. Novo dual mating beam design offers higher forces: mating 12.0 oz. max./unmating 1.5 oz. min. Dual beam phosphor bronze contacts are duplex plated with 30µ″ gold on mating end, tin-lead on termination end, with nickel underplate. Accept wire size range 28-26 AWG, solid or stranded. Receptacle consists of housing and cover, constructed of black, UL94V-0 rated thermoplastic. Black, UL94V-0 rated thermoplastic strain reliefs, *ordered separately below.* Available in military-polarized, or center- and military-polarized configurations. Mate with 0.025″ square or round pins. Current rating: 1A per contact max. UL recognized, CSA certified.

MILITARY-POLARIZED RECEPTACLES

Stock No.	Type	Positions	Width	1-24	25-49	50-99	100-249
90F5179	746290-1	10	0.680″	0.71*	0.70*	0.67*	0.65*
90F5181	746290-3	16	0.980″	0.98*	0.95*	0.92*	0.89*
90F5182	746290-4	20	1.180″	1.02*	1.00*	0.96*	0.93*
90F5185	746290-6	26	1.480″	1.15*	1.12*	1.08*	1.05*
90F5186	746290-8	34	1.880″	1.46*	1.42*	1.37*	1.16*
90F5188	746290-9	40	2.180″	1.74*	1.69*	1.63*	1.38*
90F5189	1-746290-0	50	2.680″	3.00	2.70	2.43	2.19
90F5190	1-746290-1	60	3.180″	2.57*	2.50*	2.41*	2.05*

CENTER- AND MILITARY-POLARIZED RECEPTACLES

Stock No.	Type	Positions	Width	1-24	25-49	50-99	100-249
90F5193	746288-1	10	0.680″	0.71*	0.70*	0.67*	0.65*
90F5260	746288-3	16	0.980″	0.98*	0.95*	0.92*	0.89*
90F5262	746288-4	20	1.180″	1.02*	1.00*	0.96*	0.93*
90F5265	746288-6	26	1.480″	1.15*	1.12*	1.08*	1.05*
90F5250	746288-8	34	1.880″	1.46*	1.42*	1.37*	1.16*
90F5252	746288-9	40	2.180″	1.74*	1.69*	1.63*	1.38*
90F5253	1-746288-0	50	2.680″	2.09	2.00	1.90	1.66
90F5255	1-746288-1	60	3.180″	2.57*	2.50*	2.41*	2.05*

STRAIN RELIEFS

90F4184	499252-5	10	0.680″	0.19*	0.18*	0.18*	0.17*
90F4185	499252-9	14	0.880″	0.19*	0.18*	0.18*	0.17*
90F4186	499252-8	16	0.980″	0.19*	0.18*	0.18*	0.17*
90F4187	499252-2	20	1.180″	0.19*	0.18*	0.18*	0.17*
90F4188	1-499252-0	24	1.380″	0.44	0.35	0.28	0.25
90F4189	499252-3	26	1.480″	0.23*	0.22*	0.22*	0.21*
90F4190	1-499252-2	30	1.680″	0.23*	0.22*	0.22*	0.21*
90F4191	499252-6	34	1.880″	0.23*	0.22*	0.22*	0.21*
90F5292	499252-1	40	2.180″	0.26*	0.26*	0.25*	0.24*
90F5293	499252-4	50	2.680″	0.30*	0.29*	0.28*	0.27*
90F4177	499252-7	60	3.180″	0.34*	0.33*	0.32*	0.31*
90F4178	1-499252-3	64	3.380″	0.42*	0.41*	0.39*	0.38*

KEYING PLUG — SOLD IN PACKAGES OF 100

Stock No.	Type	Description	1-24	25-49	50-99	100-249
90F4183	499712-1	Keying Plug	22.82	19.22	17.78	16.34

*Price column quantities vary from above, *contact your local Newark sales office for details.*
(8166) (ne50161)

AMP-LATCH® CARD EDGE CONNECTORS

Split single-beam connectors have black, thermoplastic housing rated UL94V-0. Phosphor bronze contacts plated 30µ″ gold on PC board mating pin end, bright tin-lead on cable terminating end. Contacts mate with 0.025″ (0.64) square or round pins with 0.245″ (6.22) maximum and 0.195″ (4.95) minimum lengths. UL recognized, CSA certified. *Order* **type 88113-1** *keying plug separately below.*

Stock No.	Type	Positions	Width	1-24	25-49	50-99	100-249
90F7585	111109-6	20	1.460″	4.82	4.33	4.12	3.71
90F7586	111109-3	34	2.160″	6.08	5.47	5.19	4.67
90F7587	111109-2	40	2.460″	6.98	6.28	5.96	5.37
90F7588	111109-1	50	2.960″	7.72	6.95	6.25	5.94

Stock No.	Type	Description	Each
50F2059	88113-1	Keying Plug	0.19

(8169) (ne50164)

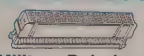
AMP-LATCH® DIP PLUGS

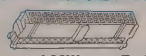
Wire-to-board DIP plugs mass terminate ribbon cable on 0.100 × 0.100″ (2.54 × 2.54) centers. Preassembled housing assembly with cover, rated UL94V-0. Feature straight legs. UL recognized, CSA certified.

Stock No.	Type	Positions	Width	1-24	25-49	50-99	100-249
90F5199	746610-1	10	0.680″	0.91	0.82	0.74	0.67
90F5200	746610-2	14	0.880″	1.43	1.28	1.22	1.10
90F5202	746610-4	20	1.180″	1.85	1.66	1.58	1.42
90F5204	746610-6	26	1.480″	1.66	1.49	1.35	1.21
90F5205	746610-8	34	1.880″	2.72	2.44	2.32	2.09
90F5206	746610-9	40	2.180″	3.05	2.74	2.60	2.34
50F2061	1-746610-3	44	2.380″	3.36	3.02	2.87	2.59
90F5207	1-746610-0	50	2.680″	3.54	3.19	3.03	2.72

(8171) (ne50166)

AMP-LATCH® ECONOLATCH™ RECEPTACLES


Military-Polarized


Center- and Military-Polarized

Preloaded insulation displacement contacts for mass termination of 0.050″(1.27) centerline ribbon cable. Single-mating beam design provides a high, normal force without high-mating forces. Offers uniform latching of contacts and housing with cover. Phosphor bronze contacts are duplex plated with 15µ″ gold on mating end, tin-lead on termination end, with nickel underplate. Accept wire size range 28-26 AWG, solid or stranded. Receptacle consists of housing and cover, constructed of black, UL94V-0 rated thermoplastic. The dual-recessed cover provides additional ribbon cable alignment during termination. Available in military-polarized or center- and military-polarized configurations. UL recognized, CSA certified. **Sold individually, except type 499997-1, which is sold in packages of 60.**

MILITARY-POLARIZED RECEPTACLES

Stock No.	Type	Positions	Width	1-24	25-49	50-99	100-249
90F5090	499997-1	10	0.680″	0.57*	0.56*	0.54*	0.52*
90F5091	499997-2	14	0.880″	0.85*	0.82*	0.79*	0.77*
95F2323	499997-3	16	0.980″	1.43*	1.39*	1.10*	1.07*
90F5092	499997-4	20	1.180″	0.94*	0.91*	0.88*	0.85*
66F3242	499997-5	24	1.380″	1.15*	1.12*	1.08*	1.05*
90F5093	499997-6	26	1.480″	1.15*	1.12*	1.08*	1.05*
01F2285	499997-7	30	1.680″	70.32*	61.44*	54.30*	51.36*
90F5094	499997-8	34	1.880″	1.29*	1.25*	1.21*	1.17*
90F5095	499997-9	40	2.180″	1.42*	1.38*	1.33*	1.29*
90F5177	1-499997-0	50	2.680″	3.61	3.24	2.99	2.78

CENTER- AND MILITARY-POLARIZED RECEPTACLES

90F5192	746285-1	10	0.680″	0.57*	0.56*	0.54*	0.52*
90F5194	746285-2	14	0.880″	0.85*	0.82*	0.79*	0.77*
90F5181	746290-3	16	0.980″	0.98	0.95	0.92	0.89
90F5261	746285-4	20	1.180″	0.94*	0.91*	0.88*	0.85*
95F2318	746285-5	24	1.380″	1.15*	1.12*	1.08*	1.05*
90F5264	746285-6	26	1.480″	1.15*	1.12*	1.08*	1.05*
95F2334	746285-7	30	1.680″	1.97*	1.92*	1.52*	1.48*
90F5249	746285-8	34	1.880″	1.29*	1.25*	1.21*	1.17*
90F5251	746285-9	40	2.180″	1.42*	1.38*	1.33*	1.29*
50F708	1-746285-0	50	2.680″	1.74	1.66	1.58	1.38

*Price column quantities vary from above, *contact your local Newark sales office for detaiils.*
(13031) (ne10124)

AMP-LATCH® EJECTION-STYLE PIN HEADERS

Straight-Thru

Right-Angle

Military center and dual-polarized universal ejection-style pin headers available with straight-thru or right-angle 0.025″ (0.64) square posts. 0.100 × 0.100″ (2.54 × 2.54) centers, 0.240″ (6.10) mating post length and 4-sided black thermoplastic housing, rated UL94V-0. Phosphor bronze contacts plated with 30µ″ gold on post/pin mating end, bright tin-lead on termination end. Contacts mate with 0.025″ (0.64) square or round pins with 0.245″ (6.22) maximum and 0.195″ (4.95) minimum lengths. Rated: 1 amp. Temperature range: –55°C to +105°C. UL recognized, CSA certified. *Order latches and polarizer separately below.* Mate with MOD IV center polarized double-row housings; *contact your local Newark sales office for details.*

STRAIGHT-THRU, 4-SIDED 0.025″ SQUARE/0.110″ LONG POSTS

Stock No.	Type	Positions	Width	1-24	25-49	50-99	100-249
90F7591	102154-1	10	1.260″	1.00*	0.97*	0.94*	0.91*
90F7592	102154-3	16	1.560″	1.58*	1.54*	1.48*	1.06*
90F7593	102154-4	20	1.760″	1.87*	1.82*	1.75*	1.26*
90F5232	102154-6	26	2.060″	2.29*	2.23*	2.14*	1.54*
90F7576	102154-8	34	2.460″	2.83*	2.75*	2.65*	1.90*
90F7577	102154-9	40	2.760″	3.25*	3.16*	3.04*	2.18*
90F7578	1-102154-0	50	3.260″	5.81	5.22	4.96	4.47
90F7579	1-102154-1	60	3.760″	4.44*	4.32*	4.16*	3.00*

RIGHT-ANGLE, 4-SIDED 0.025″ SQUARE/0.110″ LONG POSTS

90F7580	102160-1	10	1.260″	1.17*	1.13*	1.09*	1.06*
90F7581	102160-3	16	1.560″	1.96*	1.90*	1.83*	1.32*
90F4179	102160-4	20	1.760″	2.08*	2.02*	1.95*	1.40*
90F7582	102160-6	26	2.060″	2.50*	2.43*	2.34*	1.68*
90F4180	102160-8	34	2.460″	2.99*	2.91*	2.80*	2.02*
90F5248	102160-9	40	2.760″	3.45*	3.36*	3.23*	2.32*
90F7583	1-102160-0	50	3.260″	6.41	5.76	5.48	4.93
90F5286	1-102160-1	60	3.760″	4.65*	4.53*	4.36*	3.14*

ACCESSORIES FOR EJECTION-STYLE PIN HEADERS

Stock No.	Type	Description	1-24	25-49
90F5236	102312-1	Latch for Recessed Cover	0.23*	0.22*
90F5237	102320-1	Latch for Recessed Cover with Strain Relief	0.23*	0.22*
90F7584	499991-2	Military Polarizer (For Pin Connectors)	0.23	0.21

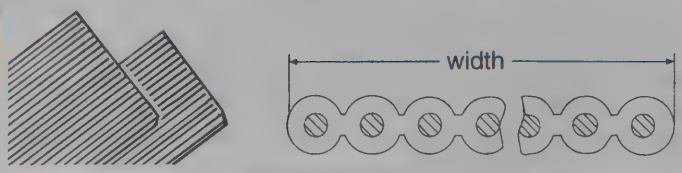
*Price column quantities vary from above, *contact your local Newark sales office for details.*
(8170) (ne50165)

AMP-LATCH® HAND TOOL KIT

Terminate AMP-LATCH® connectors up to 60 positions with contacts on 0.100 × 0.100″ centers to flat ribbon cable sizes 30 AWG solid, 28 and 26 AWG solid or stranded. Kit includes hand tool, bench mount clamp, locators for receptacles, card edge and HDF connectors, and storage case.

95F3003 Type 768340-1. **Each** 989.25
(8168) (ne50163)

PLANAR IDC RIBBON CABLE



Three centerlines available. Gray, flame-retardant PVC insulated jacket features red edge on conductor number 1 side. Voltage rating: 150 volts; impedance: 80 ohms, except 0.050″ center cable, which is rated 300 volts; 105 ohms. UL recognized, CSA certified.

0.025″ (0.63) CENTERLINE, 30 AWG SOLID BARE COPPER—SOLD IN 100′ REELS

Stock No.	Type	No. of Conductors	Width	Per 100′ Reel 1-2	3-4	5-9
97F8626	1-57013-3	20	0.500″ (12.70)	20.34	18.31	16.48
66F752	1-57013-4	24	0.600″ (15.24)	18.90	17.01	16.16
66F754	2-57013-6*	26	0.650″ (16.51)	69.03	62.13	55.91
66F6283	4-57013-6	28	0.700″ (18.20)	21.20	19.08	17.17
66F756	1-57013-5	30	0.750″ (19.50)	19.28	17.35	15.62
66F6284	4-57013-9	34	0.825″ (20.96)	25.60	23.04	20.74
66F758	1-57013-6	36	0.900″ (22.86)	18.69	16.82	15.98
97F8627	1-57013-7	40	1.000″ (25.40)	33.20	33.20	33.20
66F743	1-57013-8	44	1.100″ (27.94)	33.20	33.20	33.20
97F8628	1-57013-9	50	1.250″ (31.75)	37.80	34.02	30.62
66F746	2-57013-0	60	1.500″ (38.10)	40.86	36.77	33.10
97F8629	2-57013-1	68	1.700″ (43.18)	46.26	41.63	37.47
66F745	1-57013-8	72	1.800″ (45.72)	35.70	34.28	29.14
97F8633	2-57013-3	80	2.000″ (50.80)	54.54	49.09	44.18
97F8634	2-57013-4	100	2.500″ (63.50)	68.04	61.24	55.11

*Sold in 500′ reel.

0.039″ (1.00) CENTERLINE, 28 AWG 7/36 STRANDED TINNED COPPER—SOLD IN 100′ REELS

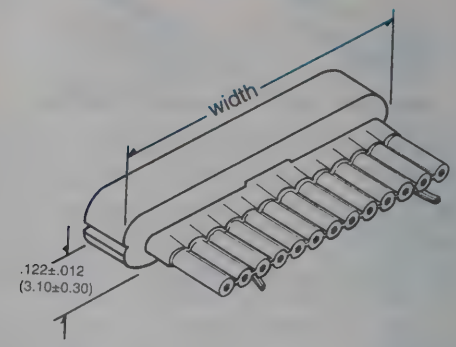
Stock No.	Type	No. of Conductors	Width	Per 100′ Reel 1-2	3-4	5-9
66F6269	1-57051-7	6	0.236″ (6)	14.70	13.23	12.57
66F6270	1-57051-8	8	0.315″ (8)	14.91	13.42	12.75
66F6271	1-57051-9	10	0.394″ (10)	18.48	16.63	15.80
66F6272	5-57051-2	12	0.472″ (12)	20.79	18.71	17.78
66F6273	2-57051-0	14	0.551″ (14)	22.40	20.16	18.14
66F6274	2-57051-1	16	0.630″ (16)	25.16	22.58	20.25
66F6275	2-57051-2	20	0.787″ (20)	26.20	23.58	21.22
66F6276	2-57051-3	24	0.945″ (24)	28.20	25.38	22.84
66F6277	2-57051-4	26	1.024″ (26)	31.40	28.26	25.43
66F6278	2-57051-5	30	1.181″ (30)	36.40	32.76	29.48
66F6279	2-57051-6	34	1.339″ (34)	38.30	34.47	31.02
97F8621	2-57051-7	40	1.575″ (40)	39.24	35.32	31.78
97F8622	2-57051-8	44	1.732″ (44)	61.00	58.56	49.78
97F8623	2-57051-9	50	1.969″ (50)	47.16	42.44	38.20
66F6280	3-57051-0	60	2.363″ (60)	53.64	48.28	43.45
66F6281	3-57051-1	64	2.519″ (64)	62.64	56.38	50.74
66F6282	3-57051-2	68	2.677″ (68)	81.08	73.16	65.49

0.050″ (1.27) CENTERLINE, 28 AWG 7/36 STRANDED TINNED COPPER—SOLD IN 100′ AND 500′ REELS

Con-ductors	Width	Per 100′ Reel Stock No.	Type	1-2	Per 500′ Reel Stock No.	Type	1-2
6	0.30″	...	...	...	66F6123	1-971111-9	37.00
8	0.40″	66F6649	2-57040-0	9.68	66F6124	2-971111-0	38.00
9	0.45″	97F8635	1-57040-2	9.90	66F6125	1-971111-2	30.96
10	0.50″	97F8636	1-57040-3	10.50	66F6126	1-971111-3	34.37
14	0.70″	97F8624	1-57040-4	14.91	66F6127	1-971111-4	54.00
15	0.75″	97F8637	1-57040-5	15.96	66F6128	1-971111-5	57.60
16	0.80″	97F8638	1-57040-6	17.01	66F6129	1-971111-6	61.20
18	0.90″	66F6650	2-57040-3	19.11	66F6130	2-971111-3	69.30
20	1.00″	97F8639	57040-1	19.53	66F6131	971111-1	71.10
24	1.20″	...	...	...	66F6309	1-971111-7	93.60
25	1.25″	97F8640	57040-2	25.40	66F6310	971111-2	97.20
26	1.30″	97F8641	57040-3	24.20	66F6311	971111-3	109.33
28	1.40″	...	...	...	66F6312	3-971111-3	105.30
30	1.50″	97F8625	2-57040-1	29.60	66F6313	2-971111-1	94.50
34	1.70″	97F8642	57040-4	31.60	66F6314	971111-4	100.50
36	1.80″	66F6651	2-57040-5	35.20	66F6315	2-971111-5	102.00
37	1.85″	97F8643	1-57040-8	38.80	66F6316	1-971111-8	123.75
40	2.00″	97F8630	57040-5	37.20	66F6317	971111-5	168.35
44	2.20″	66F6652	2-57040-4	42.66	66F6132	2-971111-4	146.45
50	2.50″	97F8631	57040-6	41.94	66F6133	971111-6	210.92
60	3.00″	97F8632	57040-7	50.40	66F6134	971111-7	172.55
64	3.20″	66F6653	2-57040-2	63.47	66F6135	2-971111-2	184.15

(8167) (ne50162)

SHIELDED/JACKETED 0.050″ (1.27) CENTERLINE PLANAR RIBBON CABLE

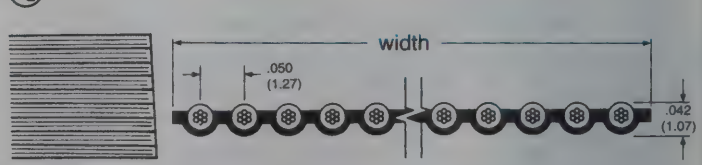


100% shielded/jacketed IDC cable meets FCC EMI/RFI requirements and provides shielding from external electrical interference. Crosstalk attenuation is reduced. Thin, flexible extruded, black PVC jacket increases routing flexibility and allows easier termination. Features 28 AWG 7/36 tinned copper conductors and two drain wires near each edge. Aluminum/polyester/aluminum shield. Gray internal PVC insulation with red polarity stripe. Voltage rating: 300V RMS. Current rating: 1A. Impedance: 45 ohms. Temperature rating: –20°C to +105°C. UL recognized, CSA certified. **Sold in 100′ reels.**

Stock No.	Type	No. of Conductors	Width	Per 100′ Reel 1-2	3-4	5-9
66F6254	57646-9	9	0.55″ (13.97)	65.70	59.13	53.22
66F6255	1-57646-0	10	0.60″ (15.24)	71.28	64.15	57.74
66F6256	1-57646-5	15	0.85″ (21.59)	75.78	68.20	61.38
66F6257	2-57646-0	20	1.10″ (27.94)	85.86	77.27	69.55
66F6258	2-57646-5	25	1.35″ (34.29)	95.94	86.35	77.71
66F6259	2-57646-6	26	1.40″ (35.56)	100.98	90.88	81.79
66F6260	3-57646-4	34	1.80″ (45.72)	97.80	92.91	88.26
66F6261	3-57646-6	36	1.90″ (48.26)	113.70	108.02	102.61
66F6262	3-57646-7	37	1.95″ (49.53)	117.93	112.03	106.43
66F6263	4-57646-0	40	2.10″ (53.34)	122.15	116.04	109.07
66F6264	5-57646-0	50	2.60″ (66.04)	152.69	145.05	136.35
66F6265	6-57646-0	50	3.10″ (78.74)	181.11	172.05	161.73
66F6266	6-57646-4	64	3.30″ (83.82)	203.07	192.92	181.34

(8087) (ne06044)

AMP® CODE 10® 0.050″ (1.27) CENTERLINE MULTICOLORED RIBBON CABLE

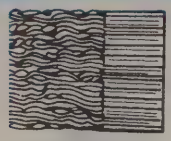


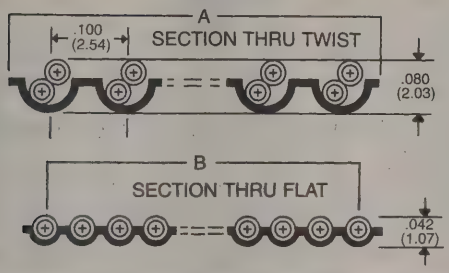
Color-coded, flat PVC insulated planar cable facilitates identification, circuit tracing and breakouts for circuit routing. 28 AWG 7/36 tinned copper conductor. Voltage rating: 300V rms. Current rating: 1A. Impedance: 105 ohms. Colors: brown, red, orange, yellow, green, blue, violet, grey, white, black, repeat. Temperature rating: –20°C to +105°C. UL listed. **Sold in 100′ reels.**

Stock No.	Type	No. of Conductors	Width	Per 100′ Reel 1-2	3-4	5-9
66F6285	1-57643-0	10	0.50″ (12.70)	35.10	31.59	28.43
66F6286	1-57643-4	14	0.70″ (17.78)	36.54	32.89	29.60
66F6287	1-57643-6	16	0.80″ (20.32)	39.06	35.15	31.64
66F6288	2-57643-0	20	1.00″ (25.40)	44.10	39.69	35.72
66F6289	2-57643-4	24	1.20″ (30.48)	48.60	43.74	39.37
66F6290	2-57643-5	25	1.25″ (31.75)	49.86	44.87	40.39
66F6291	2-57643-6	26	1.30″ (33.02)	51.66	46.49	41.84
66F6292	3-57643-4	34	1.70″ (43.18)	78.84	70.96	63.86
66F6293	3-57643-6	36	1.80″ (45.72)	80.82	72.74	65.46
66F6658	3-57643-7	37	1.85″ (46.99)	82.76	74.49	67.04
66F6659	4-57643-0	40	2.00″ (50.80)	86.40	77.76	69.98
66F6660	5-57643-0	50	2.50″ (63.50)	97.20	87.48	78.73
66F6661	6-57643-0	60	3.00″ (76.20)	93.15	88.49	84.07
66F6662	6-57643-4	64	3.20″ (81.28)	98.85	93.91	89.21

(8086) (ne06040)

AMP-TWIST® 0.050″ (1.27) CENTERLINE TWIST-TO-FLAT CABLE



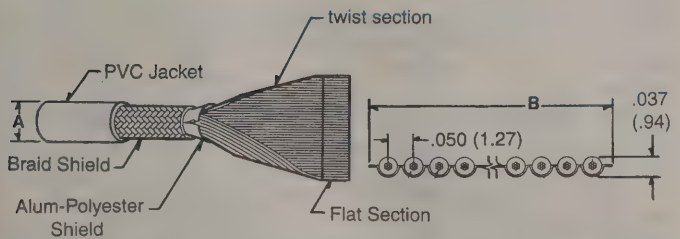


Color-coded twist-to-flat PVC insulated IDC ribbon cable features 18″ sections of twisted pairs followed by 2″ sections of flat cable. Twisted pair lengths reduce crosstalk; each adjacent pair is twisted in opposite direction. Flat sections allow mass termination. 28 AWG 7/36 tinned copper conductor. Voltage rating: 300Vrms. Current rating: 1A. Impedance: 115 ohms. 11-color repeat. Temperature rating: –20°C to +105° C. UL listed. **Sold in 100′ reels.**

Stock No.	Type	No. of Pairs	Dimensions A	Dimensions B	Per 100′ Reel 1-2	3-4	5-9	10-24
66F6298	57641-5	5	0.50″	0.45″	24.00	21.60	19.44	17.50
66F6299	57641-7	7	0.70″	0.65″	33.60	30.24	27.22	24.49
66F6300	57641-8	8	0.80″	0.75″	38.60	34.74	31.27	28.14
66F6301	1-57641-0	10	1.00″	0.95″	38.88	34.99	31.49	28.34
66F6302	1-57641-3	13	1.30″	1.25″	50.40	45.36	40.82	36.74
66F6303	1-57641-7	17	1.70″	1.65″	66.24	59.62	53.65	48.29
66F6304	1-57641-8	18	1.80″	1.75″	70.02	63.02	56.72	51.04
66F6305	2-57641-0	20	2.00″	1.95″	77.76	69.98	62.99	56.69
66F6308	2-57641-5	25	2.50″	2.45″	97.20	87.48	78.73	70.86
66F6306	3-57641-0	30	3.00″	2.95″	97.35	92.48	87.86	83.47
66F6307	3-57641-2	32	3.20″	3.15″	103.65	98.47	93.54	88.87

(6316) (ne06041)

AMP-TWIST® 0.050″ (1.27) CENTERLINE ROUND-TO-FLAT CABLE



Color-coded round-to-flat PVC insulated cable offered in shielded and unshielded configurations terminates easily while providing the flexibility and air flow advantage of round cable. Features 18″ non-laminated twist lengths followed by 2″ laminated flat sections. 28 AWG 7/36 tinned copper conductor. Voltage rating: 300Vrms. Current rating: 0.5A. Impedance (balanced): 125 ohms unshielded, 110 ohms shielded. 11-color repeat. Temperature rating: –20°C to +105° C. UL listed. **Sold in 100′ reels.**

UNSHIELDED

Stock No.	Type	No. of Pairs	Dimensions A	Dimensions B	Per 100′ Reel 1-2	3-4	5-9	10-24
66F6294	1-57648-3	13	0.350″	1.30″	107.55	102.17	97.06	92.21
66F6295	1-57648-7	17	0.385″	1.70″	114.60	108.87	103.43	98.26
66F6296	2-57648-0	20	0.415″	2.00″	125.40	119.13	113.17	107.51
66F6297	2-57648-5	25	0.455″	2.50″	149.25	141.79	134.70	127.96

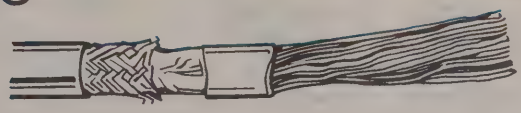
SHIELDED

Aluminum/polyester shield plus 65% coverage tinned copper braid.

Stock No.	Type	No. of Pairs	Dimensions A	Dimensions B	Per 100′ Reel 1-2	3-4
66F6654	2-57647-0	20	0.440″	2.00″	166.17	157.86
66F6655	2-57647-5	25	0.480″	2.50″	181.54	172.46
66F6656	3-57647-0	30	0.510″	3.00″	198.94	188.99
66F6657	3-57647-2	32	0.520″	3.20″	206.05	195.74

(6317) (ne06042)

HIGH PERFORMANCE MULTI-PAIR SCSI CABLE



57500-1, 57513-1

Provides the high signal performance necessary for the most complex I/O interface applications. SCSI (Small Computer System Interface) cable is offered in impedances ranging from 65-ohm single ended/105-ohm differential to 90-ohm single ended/144-ohm differential. Choose 25 or 34 color-coded, twisted pairs as well as 28 AWG 7/36 and 30 AWG 7/38 tinned copper sizes. Extra flexible configurations also available to increase routing flexibility in space-restrictive applications. Solid or foam polyolefin insulation buffer tape controls impedances for low crosstalk and reduced propagation delay delta (skew). Shield no.1: aluminum/polyester tape and shield no. 2: #36 tinned copper braid. Polyvinyl chloride jacket. UL recognized, CSA certified. **Sold in 500′ reels.**

Stock No.	Type	No. of Pairs	Impedance SE	Impedance DIFF	AWG	Insulation	Outer Diameter
66F6664	57501-1	34	65	105	28	Solid	0.410″
66F6665	57504-1	25	77	123	28	Solid	0.425″
66F6666	57505-1	34	77	123	28	Solid	0.490″
66F6667	57506-1	25	80	120	30	Foam	0.337″
66F6645	57507-1	25	85	130	28	Foam	0.425″
66F6721	57508-1	34	80	120	30	Foam	0.370″
66F6646	57509-1	34	85	130	28	Foam	0.490″
66F6647	57510-1	25	90	144	30	Foam	0.390″
66F6648	57511-1	34	90	144	30	Foam	0.445″
66F6723	57514-1+	34	65	105	28	Solid	0.410″
66F6724	57517-1+	25	77	123	28	Solid	0.425″
66F6725	57518-1+	34	77	123	28	Solid	0.490″
66F6944	57519-1+	25	85	130	28	Foam	0.425″
66F6945	57520-1+	34	85	130	28	Foam	0.490″
66F6948	57521-1+	25	80	130	30	Foam	0.350″
66F6949	57522-1+	34	80	130	30	Foam	0.370″
66F6946	57523-1+	25	90	144	30	Foam	0.390″
66F6947	57524-1+	34	90	144	30	Foam	0.445″

+ Extra Flexible

Stock No.	Type	Per 500′ Reel 1-2	3-4
66F6664	57501-1	692.75	668.11
66F6665	57504-1	405.00	384.75
66F6666	57505-1	945.00	765.00
66F6667	57506-1	546.75	519.41
66F6645	57507-1	405.00	384.75
66F6721	57508-1	637.50	...
66F6646	57509-1	513.00	487.35
66F6647	57510-1	425.25	403.99
66F6648	57511-1	553.50	525.83
66F6723	57514-1+	499.50	474.53
66F6724	57517-1+	411.75	391.16
66F6725	57518-1+	551.92	524.32
66F6944	57519-1+	840.27	798.25
66F6945	57520-1+	519.75	493.76
66F6948	57521-1+	560.25	532.24
66F6949	57522-1+	650.00	...
66F6946	57523-1+	432.00	410.40
66F6947	57524-1+	579.86	550.87

+ Extra Flexible
(6318) (ne06043)

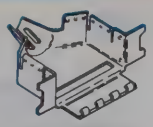
NEWARK ELECTRONICS® IS AN ISO 9002 COMPANY

CHAMP® IDC CONNECTORS

SHIELDED CABLE CONNECTOR KITS

Outside Shield

Bail- or Screw-Lock Assembly


Inside Shield

Kit includes 1 CHAMP® IDC plug (choice of screw- or bail-lock model), 1 outside shield, 1 inside shield. Preloaded contacts available in B-Slot for 24 AWG and 26 AWG solid or 24 AWG 7-strand wire; or E-slot for 26-28 AWG 7-strand wire.

SHIELDED PLUG KITS

Stock No.	Type	Positions	Lock	Slot	1-24	25-49	50-99	100-249
90F8363	554954-1	50	Screw	E	8.05†	7.83†	5.58†	4.17†
90F4154	554954-2	50	Screw	B	8.11†	7.89†	5.62†	4.19†
51F3500	554950-1	36	Bail	E	4.28	3.85	3.66	3.11
90F8364	554950-2	36	Bail	B	4.31	3.87	3.68	3.31
90F4155	554953-1*	50	Bail	E	5.82†	5.66†	4.04†	3.01†
90F8353	554953-2*	50	Bail	B	4.88	4.40	4.18	3.55

*SCSI compatible
†Price column quantities vary from above, *contact your local Newark sales office for details.*

SHIELDED RECEPTACLE KITS

Same as above except includes 1 CHAMP® IDC receptacle (50-position only). For mating with bail lock plugs, *order* **type 552561-6** *hardware kit separately; contact your local Newark sales office for details.*

Stock No.	Type	Positions	Lock	Slot	1-24	25-49	50-99	100-249
90F8354	554955-1	50	Screw/Bail	E	5.13	4.61	4.38	3.73
90F4156	554955-2	50	Screw/Bail	B	7.59	6.07	4.86	4.13

SHIELDED CABLE COVER KITS

Include 1 top and 1 bottom cover plus 1 strain relief insert. Requires two 4-40 x 0.265″ long captive pan head screws per kit. *Order screws and shielded cable inner ferrules separately below.*

Stock No.	Type	Positions	Cable	1-24	25-49	50-99	100-249
90F4139	554945-1	36	0.250-0.500″	2.70	2.43	2.30	1.96
90F4140	554946-1	50	0.350-0.500″	3.20†	3.11†	3.00†	2.16†
90F8356	554946-2	50	0.500-0.625″	2.92†	2.84†	2.73†	1.96†

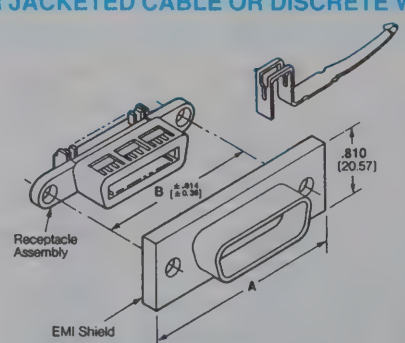
†Price column quantities vary fom above, *contact your local Newark sales office for details.*

HARDWARE

Stock No.	Type	Description	1-24	25-49	50-99	100-249
51F3502	554726-1	Pan Head Screw	0.19	0.15	0.12	0.11
90F4142	554725-3	0.35″ I.D. Ferrule	0.25	0.23	0.22	0.20
90F4143	554725-4	0.40″ I.D. Ferrule	0.25	0.23	0.22	0.20
51F3501	554725-5	0.45″ I.D. Ferrule	0.25	0.23	0.22	0.20
90F8358	554725-6	0.50″ I.D. Ferrule	0.25	0.23	0.22	0.20

(8026) (de50151)

SHIELDED PANEL-MOUNT CONNECTORS FOR JACKETED CABLE OR DISCRETE WIRE



Preloaded Contact

Include 1 receptacle assembly and 1 EMI shield. Preloaded contacts and slot designation same as shielded plug kits, *ordered separately on this page.* SCSI applicable with hardware kits, *ordered separately below.*

Stock No.	Type	Positions	Dimensions A	Dimensions B	Slot	1-24	25-49	50-99	100-249
90F8359	553034-1	24	2.380″	1.842″	E	6.91	6.22	5.60	5.32

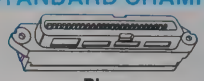
BAIL LOCK FRONT MOUNT HARDWARE KITS

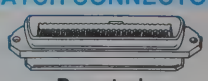
For use with 180° or 90° strain relief cover. *Order one per assembly.*

Stock No.	Type	Fits Cover	1-24	25-49	50-99	100-249
82F9847	552567-1	180°	2.49	2.24	2.01	1.81
46F1556	552567-2	90°	2.49	2.24	2.01	1.81

(8027) (de50152)

STANDARD CHAMP® LATCH CONNECTORS


Plug


Receptacle

Low profile. Fit 26 AWG solid, 28 AWG stranded, 28 or 30 AWG solid copper ribbon cable 0.032-0.045″ (0.813-1.14) thick.

Stock No.	Type	Positions	Lock	Connector	1-24	25-49	50-99	100-249
90F4993	554084-1	36	Bail	Plug	6.89	6.20	5.58	5.30
90F4997	554085-1	50	Bail	Plug	8.11	7.30	6.57	6.24
90F4147	553596-1	14	Screw	Plug	4.90	4.41	4.19	3.56
90F8349	553598-1	24	Screw	Plug	6.12	5.51	4.96	4.71
90F8350	553600-1	36	Screw	Plug	7.60	6.84	6.15	5.85
90F4998	553602-1	50	Screw	Plug	8.73◆	8.50◆	6.06◆	4.52◆
90F8351	553597-1	14	Screw	Recept.	4.90	4.41	4.19	3.56
90F4991	553599-1	24	Screw	Recept.	6.12	5.51	4.96	4.71
90F4994	553601-1	36	Screw	Recept.	7.60	6.84	6.15	5.85
90F4981	553603-1	50	Screw	Recept.	5.96	5.36	5.09	4.58
90F8352	554103-1	24	Panel	Plug	6.74	6.07	5.46	5.19
90F4995	554104-1	36	Panel	Plug	6.31	5.05	4.04	3.43
90F4982	554105-1	50	Panel	Plug	8.11	7.30	6.57	6.24
90F4992	554088-1	24	Panel	Recept.	6.24	5.62	5.05	4.80
90F4996	554089-1	36	Panel	Recept.	9.68◆	9.42◆	6.71◆	5.02◆
90F4983	554090-1	50	Panel	Recept.	7.28◆	7.08◆	5.05◆	3.76◆

◆Price column quantities vary from above, *contact your local Newark sales office for details.*

HARDWARE KITS

Order one kit per connector assembly except **type 229911-1**, *order two kits.*

Stock No.	Type	Description	1-24	25-49	50-99
87F6568	229911-1*	Standard Screw Lock	0.04	0.03	0.03
90F8369	552723-1*	36 & 50 Position, Latch	0.46◆	0.45◆	0.43◆
90F8360	552723-2*	14 & 24 Position, Latch	0.55	0.43	0.35
90F5681	552568-2+	Standard Screw Lock	3.93	3.53	3.18
90F5682	552567-3+	Bail Lock	2.77	2.49	2.25
90F4145	553636-2+	Metric Screw Lock, Front Panel Mount†	2.46	2.34	2.22
90F4146	553636-3+	Metric Screw Lock, Rear Panel Mount†	5.43	4.89	4.40
90F8348	553359-1+‡	36 & 50 Position, Latch	3.17	2.85	2.57

*Cable-to-cable; +Cable-to-panel; †For IEEE-488 application; ‡For 90° strain relief covers and standard CHAMP® connectors, use **type 552561-4** bent bail lock hardware kit.
◆Price column quantities vary from above, *contact your local Newark sales office for details.*
(8028) (de50153)

SHIELDED CHAMP® LATCH PANEL MOUNT CONNECTORS

Preassembled Connector

PREASSEMBLED CONNECTORS

Stock No.	Type	Positions	Lock	1-24	25-49	50-99	100-249
90F4985	554434-1	24	Screw	7.28	6.55	6.22	5.60
90F8367	554436-2†	50	Screw	14.14◆	10.19◆	7.53◆	6.05◆
90F4986	554346-2	36	Bail	7.92	7.13	6.42	6.09
90F4987	554347-2*	50	Bail	9.14	8.22	7.40	7.03
90F4989	554902-1*	50	Bail	7.70◆	7.49◆	5.34◆	3.98◆

LOOSE CONNECTORS WITHOUT HARDWARE

90F8365	554349-1	24	···	5.94	5.35	5.08	4.57
90F8366	554348-1	36	···	7.80	7.02	6.32	6.00
90F4988	554350-1	50	···	9.00	8.10	7.29	6.93

*Both types are SCSI applicable but **type 554902-1** does not have boss feature.
†SCSI with bail lock hardware kit **type 554818-2**; **Drawn metal shield
◆Price column quantities vary from above, *contact your local Newark sales office*

HARDWARE KITS FOR PREASSEMBLED SHIELDED CONNECTORS

Stock No.	Type	Description	1-24	25-49	50-99
90F8362	554272-1	Standard Screw Lock, Rear Panel Mt.	3.61	3.25	3.08
90F4984	554808-1	Metric Screw Lock, Rear Panel Mt.+	2.87*	2.79*	2.69*

HARDWARE KITS FOR LOOSE PIECE SHIELDED CONNECTORS

90F4145	553636-2	Metric Screw Lock, Front Panel Mt.++	2.46	2.34	2.22
90F4146	553636-3	Metric Screw Lock, Rear Panel Mt.++	5.43	4.89	4.40

+For 24-position; ++For IEEE-488 application
*Price column quantities vary from above, *contact your local Newark sales office for details.*
(8029) (de50154)

CHAMP® APPLICATION TOOLS

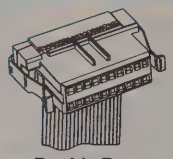
Palm-grip hand tool accepts **type 229621-1** 50-position connector-holding index slide, *ordered separately below,* that allows single wire insertion.

Stock No.	Type	Description	1-2	3-4
82F9860	229451-1	Hand Tool	110.70	99.56
82F9862	229621-1	Index Slide	18.12	17.21

(8032) (de50157)

RIBBON CABLE CONNECTORS

AMP-LATCH® SYSTEM 50 RIBBON CABLE-TO-BOARD CONNECTORS



Double Row Receptacle Connector

0.025″ (0.635) centerline spacing in high-density connectors for ribbon cable connections to printed circuit boards. Stainless steel latches. Contacts are copper alloy, plated gold over nickel with tin-lead in termination area. Current rating: 0.5A per contact. Insulation resistance: 5,000 megohms. Housing is black thermoplastic, UL94V-0 rated. UL recognized, CSA certified.

PADDLEBOARD CONNECTORS

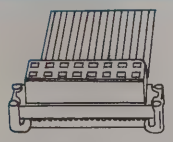
Stock No.	Type	Positions	Overall Length	1-24	25-49	50-99	100-249
95F742	111595-9	40	1.29″	7.72	7.23	6.15	5.90
95F743	1-111595-1	50	1.69″	8.75	7.87	7.09	6.38

RECEPTACLE CONNECTORS

95F745	111196-4	20	0.76″	4.18	3.76	3.39	3.05
95F746	111196-9	40	1.26″	8.57	7.72	6.94	6.60
95F747	1-111196-1	50	1.51″	14.68	13.76	11.70	11.23
95F748	1-111196-6	100	2.76″	14.85	12.62	11.99	10.79

(8001) (de02867)

AMP-LATCH® 2.0mm (0.079″) RIBBON CABLE RECEPTACLE CONNECTORS



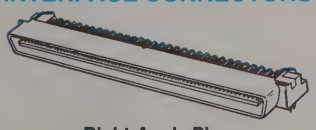
Feed-thru, non-polarized receptacles feature true hard metric 2.0 x 2.0mm (0.079 x 0.079″) mating grid for 1.0mm (0.039″) pitch ribbon cable. Insulation displacement (IDC) contacts of beryllium copper, duplex gold-plated on mating end, tin-lead on termination end. All nickel underplating. Operating temperature: –65°C to +105°C. Housing and termination cover of UL94V-0 rated thermoplastic. UL recognized, CSA certified.

Stock No.	Type	Positions	Description	Overall Length	1-24	25-49	50-99	100-249
95F749	111626-9	40	Receptacle	1.78″	2.23*	2.17*	2.09*	1.77*
95F750	111614-9	40	Strain Relief	1.70″	0.53	0.48	0.45	0.38
95F751	1-111626-0	44	Receptacle	1.94″	4.77	4.29	4.08	3.67
95F752	1-111614-0	44	Strain Relief	1.87″	0.54	0.49	0.44	0.40
95F753	1-111626-1	50	Receptacle	2.17″	2.78*	2.71*	2.61*	2.21*
95F754	1-111614-1	50	Strain Relief	2.09″	0.77	0.70	0.66	0.60

*Price column quantities vary from above, *contact your local Newark sales office for details.*
(8000) (de02866)

CHAMP® 0.050 I SERIES INTERFACE CONNECTORS

Vertical Plug



Right-Angle Plug

For VESA Advanced Feature Connector (VAFC) and VESA Media Channel (VMC) applications. Ideal for desk-top PC's, multimedia graphic adapters and video devices. VAFC transfers video pixel data up to 150 MB/sec. VMC transfers video streams vs raw pixels up to 132 MB/sec. All feature high temperature, black polyester (LCP) housing, rated UL94V-0. Phosphor bronze terminals with 30μ″ plating in contact area, tin-lead on terminating area and nickel underall. Voltage rate: 250V alternating current. Current rate: 1A max. for signal applications. Operating temperature: –55°C to +85°C. Use receptacle with 0.025 centerline ribbon cable for point-to-point or daisy chain connections; on 0.031″ to 0.063″ thick PC board, choose vertical or right-angle plug depending on application.

FOR VAFC APPLICATIONS: 80-POSITION

Stock No.	Type	Description	Width	1-24	25-49	50-99	100-249
97F8808	2-557102-1	0.050 Plug*	2.447″	6.66‡	6.47‡	4.61‡	3.44‡
97F8809	2-557100-1	0.050 Plug†	2.391″	8.51‡	8.28‡	5.89‡	4.40‡
97F8810	1-557089-3	0.025 Receptacle	2.447″	7.56	6.80	6.12	5.51

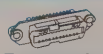
FOR VMC APPLICATIONS: 68-POSITION

97F8811	1-557102-7	0.050 Plug*	2.147″	7.39‡	7.19‡	5.12‡	3.82‡
97F8812	1-557100-7	0.050 Plug†	2.091″	7.69‡	7.48‡	5.34‡	3.98‡
97F8813	1-557089-2	0.025 Receptacle	2.147″	6.66‡	6.47‡	4.61‡	3.44‡

* Vertical with end board locks and keying post; † Right-Angle
‡Price column quantities vary from above, *contact your local Newark office for details.*
(8012) (de03769)

CHAMP® IDC CONNECTORS

Plug



Receptacle

Insulation displacement connectors terminate unstripped solid and 7-strand wire, multi-conductor cable, and ribbon and laminated cable. Accommodate wire with soft insulation types in diameters to 0.045″ (1.14). For cable-to-cable and cable-to-panel connector applications. Requires one bail or screw lock hardware kit per assembly; *order separately on this page.*

INSULATION DISPLACEMENT SCREW LOCK PLUGS

Stock No.	Type	Positions	AWG	Width	1-24	25-49	50-99	100-249
46F1592	552300-1	14	22	1.750″	3.55	3.20	2.88	2.59
46F1595	552301-1	24	22	2.175″	3.72	3.35	3.18	2.70
46F1599	552302-1	36	22	2.685″	4.85	4.37	4.15	3.53
46F1603	552173-1	50	22	3.280″	3.39*	3.30*	2.35*	1.76*
87F6575	552303-1	64	22	3.875″	5.65	4.52	3.62	3.08
46F1621	552282-1	14	24-26	1.750″	3.53	3.18	3.02	2.57
82F9842	552283-1	24	24-26	2.175″	3.95*	3.84*	3.70*	2.66*
46F1630	229974-1	50	24-26	3.280″	2.62*	2.55*	2.45*	1.76*
82F9844	552390-1	50	26-28	3.280″	3.34*	3.25*	2.32*	1.73*

INSULATION DISPLACEMENT BAIL LOCK PLUGS

46F1596	552317-1	24	22	2.175″	3.86	3.47	3.30	2.81
46F1604	552319-1	50	22	3.280″	6.72	6.05	5.44	5.17
46F1623	552272-1	24	24-26	2.175″	3.39*	3.30*	2.35*	1.76*
46F1627	552274-1	36	24-26	2.685″	3.95*	3.84*	3.70*	2.66*
46F1631	552032-1	50	24-26	3.280″	2.62*	2.55*	2.45*	1.76*
46F1638	552471-1	50	26-28	3.280″	3.69	3.32	2.98	2.69

THICK FLANGE STYLE RS RECEPTACLES

46F1597	552305-1	24	22	2.175″	4.91	4.42	4.19	3.57
46F1605	552064-1	50	22	3.280″	4.06	3.65	3.29	2.96
46F1622	552312-1	14	24-26	1.750″	3.15	2.83	2.69	2.29
46F1624	552313-1	24	24-26	2.175″	4.37*	4.25*	4.09*	2.94*
46F1628	552314-1	36	24-26	2.685″	3.93	3.53	3.36	2.85
46F1632	229975-1	50	24-26	3.280″	2.62*	2.55*	2.45*	1.76*
46F1639	552391-1	50	26-28	3.280″	3.61	3.25	2.92	2.63

THIN FLANGE STYLE RP RECEPTACLES

82F9845	2-552001-1	50	24-26	3.280″	3.08*	3.00*	2.88*	2.07*

*Price column quantities vary from above, *contact your local Newark sales office for details.*
(8030) (de50155)

IDC CONNECTOR FASTENING HARDWARE KITS

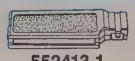
Order one lock kit per connector assembly except for **type 229911-1,** *order two kits per assembly.*

Stock No.	Type	Description	1-24	25-49	50-99	100-249
87F6568	229911-1	Screw Lock Kit*	0.04	0.03	0.03	0.03
82F9846	552561-3	Bail Lock Plug Kit*	2.04	1.83	1.65	1.48
82F9847	552567-1	Bail Lock Receptacle Kit†	2.49	2.24	2.01	1.81
82F9848	552568-1	Screw Lock Receptacle Kit†	2.68	2.42	2.17	1.96
46F1556	552567-2	Bent Bail Lock Kit‡	2.49	2.24	2.01	1.81

* Cable-to-Cable; † Cable-to-Panel; ‡ Cable-to-Panel, for use with 90° strain relief cover.
(8031) (de50156)

IDC CONNECTOR KITS AND STRAIN RELIEF COVERS

2-552079-1



552413-1

552560-1

Constructed of high-impact strength thermoplastic.

90° CABLE ENTRY SNAP-ON STRAIN RELIEF COVERS

Stock No.	Type	Positions	Cable O.D.	1-24	25-49	50-99
82F9850	552413-1	24	0.250-0.300″	0.71	0.64	0.61
46F1573	3-552414-1	36	0.330-0.380″	0.96	0.87	0.82
46F1575	552011-1	50	0.415-0.465″	0.43	0.39	0.37

180° CABLE ENTRY SNAP-ON STRAIN RELIEF COVERS

46F1558	2-552079-1	14	0.265-0.310″	1.53	1.38	1.31
46F1561	2-552076-1	24	0.320-0.380″	1.42	1.28	1.22
46F1563	552073-5	36	0.360-0.430″	1.35	1.22	1.16
46F1566	2-552008-1	50	0.380-0.430″	1.87*	1.82*	1.75*
46F1567	552008-1	50	0.430-0.490″	1.79*	1.74*	1.68*
46F1569	552082-1	64	0.480-0.540″	1.75	1.57	1.49

90° ENTRY TAPERED SLIDE-ON STRAIN RELIEF COVER KITS

82F9849	552560-1	50	0.350-0.425″	0.40	0.36	0.35
46F1579	552560-5	50	0.425-0.500″	0.44	0.40	0.38

*Price column quantities vary from above, *contact your local Newark sales office for details.*

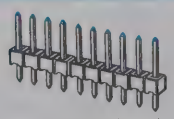
CHAMP® FIELD INSTALLATION 50-POSITION CONNECTOR KITS

Stock No	Type	Description	1-24	25-49	50-99
82F9857	229912-1	50 Position Cable-to-Cable Plug with Tapered Cover. 24/26 AWG Solid and 24/7 Stranded Wire. Cable Diameter: 0.350-0.425″	3.32*	3.23*	3.11*
82F9858	229913-1	Same as **type 229912-1** except Receptacle instead of Plug	3.32*	3.23*	3.11*

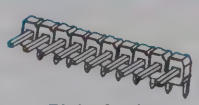
*Price column quantities vary from above, *contact your local Newark sales office for details.*
(8033) (de50158)

AMPMODU® CONNECTORS

UNSHROUDED BREAKAWAY HEADERS



Vertical



Right-Angle

Full-stick headers break to any size needed. Unshrouded vertical and right-angle versions available in 40-position single and 80-position double row configurations. All feature a flame-retardant, black thermoplastic housing, 94V-0 rated. Copper alloy, drawn wire 0.025″ (0.635) square posts. Choice of 3 platings on contact area: 30μ″ gold, 15μ″ gold or tin-lead. All posts feature tin-lead on solder area with nickel underall. Post lengths include 0.230″ (5.84) and 0.318″ (8.08) for connector mating; 0.110″ (2.79), 0.120″ (3.05) and 0.125″ (3.18) for PC board soldering 3.984″ (0.156) long.

VERTICAL – SINGLE ROW-40 POSITIONS, 0.100″ CENTERS

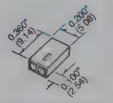
Stock No.	Type	Plating	Sq. Post Length Mating End × Tail	1-24	25-49	50-99	100-249
90F3988	4-103321-0	Tin	0.318 × 0.125″	1.34	1.21	1.09	0.98
90F3986	4-102976-0	Gold*	0.318 × 0.125″	2.64	2.38	2.14	1.92
90F7726	4-103327-0	Tin	0.230 × 0.120″	1.21	1.09	0.98	0.88
90F7725	4-103239-0	Gold*	0.230 × 0.120″	1.06	0.98	0.93	0.87
VERTICAL – DOUBLE ROW-80 POSITIONS, 0.100″ CENTERS							
90F4444	4-103322-0	Tin	0.318 × 0.125″	2.04	1.83	1.65	1.48
90F4443	4-102977-0	Gold*	0.318 × 0.125″	1.97	1.76	1.58	1.36
90F4442	4-103328-0	Tin	0.230 × 0.120″	1.73	1.55	1.40	1.26
90F4441	4-103186-0	Gold‡	0.230 × 0.120″	4.93	3.87	3.12	2.80
90F4440	4-103240-0	Gold*	0.230 × 0.120″	2.05	1.88	1.72	1.52
RIGHT-ANGLE – SINGLE ROW-40 POSITIONS, 0.100″ CENTERS							
90F7730	4-103323-0	Tin	0.318 × 0.110″	2.42	2.18	1.96	1.76
90F7729	4-102978-0	Gold*	0.318 × 0.110″	4.21	3.79	3.41	3.07
90F7728	4-103329-0	Tin	0.230 × 0.120″	2.20	1.98	1.88	1.60
90F7727	4-103148-0	Gold*	0.230 × 0.120″	3.99	3.59	3.23	2.91
RIGHT-ANGLE – DOUBLE ROW-80 POSITIONS, 0.100″ CENTERS							
90F7734	4-103324-0	Tin	0.318 × 0.110″	3.51	3.16	2.84	2.56
90F7733	4-102979-0	Gold*	0.318 × 0.110″	7.08	5.67	4.53	3.85
90F7732	4-103330-0	Tin	0.230 × 0.120″	3.06	2.75	2.48	2.23
93F7054	4-103326-0	Gold‡	0.230 × 0.120″	4.85	4.37	3.93	3.54
90F7731	4-103149-0	Gold*	0.230 × 0.120″	6.63	5.31	4.25	3.61

* 30μ″; ‡15μ″

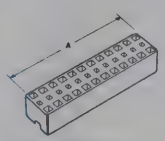
(8181) (ne50403)

POST SHUNTS

Low Profile



Tandem Spring



Multiposition

1-piece contact construction with high normal forces. 94V-0 rated housings. Stackable on 0.100″ centers. Mate any common pairs of 0.025″ square or round posts, or 0.22″ x 0.026″ formed posts. Current rating: 3A max. Dielectric withstanding voltage: 1000VAC min. UL recognized, CSA certified.

LOW PROFILE (0.250″ ABOVE PC BOARD) — FOR 0.200″ SHORT POSTS

Stock No.	Type	Plating	1-24	25-49	50-99	100-249
90F1805	531220-2	Gold+	0.19**	0.18**	0.18**	0.17**
90F1806	531220-3	Gold*	0.21**	0.20**	0.20**	0.19**
90F1807	531220-1	Tin	0.17	0.15	0.14	0.12

**Price column quantities vary from above, *contact your local Newark sales office for details.*

TANDEM SPRING — FOR 0.175″ SHORT POSTS

Stock No.	Type	Plating	Housing	1-24	25-49	50-99	100-249
50F2412	3-530153-2	Gold+	Black	0.40**	0.39**	0.37**	0.36**
50F2413	530153-1	Gold*	Natural	0.59	0.53	0.50	0.43
90F1808	530153-2	Gold*	Black	0.47**	0.46**	0.44**	0.43**
50F2414	530153-4	Gold*	Yellow	0.59	0.53	0.50	0.43
50F2415	530153-6	Gold*	Blue	0.59	0.53	0.48	0.43
90F1809	1-530153-2	Gold ‡	Black	0.73	0.66	0.62	0.53
90F1810	2-530153-2	Tin	Black	0.33**	0.32**	0.31**	0.30**

*30μ″; +15μ″; ‡50μ″

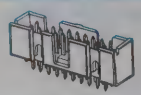
**Price column quantities vary from above, *contact your local Newark sales office for details.*

MULTIPOSITION — FOR 0.25″ SQUARE POSTS

Stock No.	Type	Size	Dim. A	1-24	25-49	50-99	100-249
97F8723	645517-2	2 x 4	.0.396″	1.90	1.71	1.63	1.38
97F8725	645517-4	2 x 6	0.596″	2.35	2.12	2.01	1.71
97F8726	645517-5	2 x 7	0.696″	2.75	2.48	2.35	2.00
97F8727	645517-6	2 x 8	0.796″	3.15	2.83	2.69	2.29
97F8728	1-645517-0	2 x 9	0.896″	3.52	3.17	3.01	2.56
97F8729	645517-7	2 x 11	1.096″	4.31	3.88	3.69	3.13
97F8730	645517-8	2 x 12	1.196″	4.70	4.23	4.02	3.41
97F8731	645517-9	2 x 14	1.396″	5.49	4.94	4.69	3.99

(7984) (de00794)

STANDARD AND LOW PROFILE SHROUDED HEADERS



Low-Profile Vertical

Low-Profile Right-Angle with Ejection Latch

Vertical and right-angle versions available in single- and double-row configurations. Flame-retardant, black thermoplastic housing, UL 94V-0 rated. Copper alloy contacts with 30μ″ or 15μ″ gold plating on mating area, tin-lead on solder area, with entire post underplated with nickel. Square 0.025″ (0.635) drawn wire posts. 0.100″ (2.54) centers. UL recognized, CSA certified.

STANDARD PROFILE – SINGLE ROW, 0.100″ CENTERS VERTICAL MOUNT WITH STANDOFFS

Stock No.	Type	Positions	Plating	Width	1-24	25-49	50-99	100-249
90F7752	103414-1	3	30μ″	0.420″	1.29	1.16	1.10	0.99
93F7017	3-102202-4	3	15μ″	0.420″	0.91	0.82	0.78	0.66
90F7753	103414-2	4	30μ″	0.520″	1.02	0.92	0.87	0.74
93F7032	102202-1	4	15μ″	0.520″	1.34	1.20	1.14	1.03
90F7754	103414-3	5	30μ″	0.620″	1.65	1.49	1.41	1.27
93F7047	102202-3	6	15μ″	0.720″	1.70	1.53	1.45	1.30
66F9156	102202-4	7	15μ″	0.820″	2.49	1.96	1.61	0.86
90F7756	103414-6	8	30μ″	0.920″	2.03	1.82	1.73	1.56
90F7757	103414-8	10	30μ″	1.120″	2.24	2.01	1.91	1.72
90F4862	102202-9	12	15μ″	1.320″	1.74	1.56	1.49	1.26
90F4863	1-102202-1	14	15μ″	1.520″	2.57	2.44	2.31	2.20
RIGHT-ANGLE MOUNT WITH STANDOFFS								
90F4864	103361-1	3	30μ″	0.420″	0.95	0.85	0.81	0.69
93F7039	3-102203-4	3	15μ″	0.420″	1.28	1.15	1.09	0.98
90F4865	103361-2	4	30μ″	0.520″	1.52	1.36	1.30	1.17
90F7758	103361-3	5	30μ″	0.620″	1.71	1.54	1.46	1.32
90F7759	103361-4	6	30μ″	0.720″	1.80	1.62	1.54	1.39
90F4868	102203-3	6	15μ″	0.720″	2.45	1.93	1.55	1.40
97F8609	102203-4	7	15μ″	0.820″	1.91	1.71	1.63	1.47
90F7760	103361-6	8	30μ″	0.920″	2.16	1.94	1.85	1.66
95F1814	102203-5	8	15μ″	0.920″	2.01	1.81	1.72	1.55
90F7751	103361-8	10	30μ″	1.120″	2.42	2.29	2.18	2.07

STANDARD PROFILE – DOUBLE ROW, 0.100 × 0.100″ CENTERS VERTICAL MOUNT, 0.066″ END DIMENSION AND DETENT WINDOWS

97F8613	103168-1	6	30μ″	0.412″	1.37	1.23	1.17	1.05
97F8614	103168-2	8	30μ″	0.512″	1.23	1.11	1.05	0.90
95F1805	103168-3	10	30μ″	0.612″	2.09	1.88	1.78	1.60
90F4551	102618-4	12	15μ″	0.712″	1.34	1.21	1.15	0.98
92F8357	102618-6	16	15μ″	0.912″	2.34	2.11	2.00	1.80
RIGHT-ANGLE MOUNT, 0.066″ END DIMENSION AND DETENT WINDOWS								
90F4858	103166-1	6	30μ″	0.412″	1.40	1.26	1.19	1.07
97F8701	102617-1	6	15μ″	0.412″	1.17	1.05	1.00	0.90
97F8702	102617-2	8	15μ″	0.512″	1.49	1.34	1.27	1.14
95F1821	103166-3	10	30μ″	0.612″	1.56	1.41	1.34	1.14

LOW PROFILE – DOUBLE ROW, 0.100 × 0.100″ CENTERS VERTICAL MOUNT WITH 0.150″ END DIMENSION

90F4236	103309-1	10	30μ″	0.800″	1.14*	1.11*	1.07*	0.73*
90F7742	103309-3	16	30μ″	1.100″	2.48	2.23	2.12	1.90
90F4237	103309-5	20	30μ″	1.300″	2.05*	1.99*	1.92*	1.86*
90F4238	103309-6	26	30μ″	1.600″	2.40*	2.33*	2.25*	2.18*
90F4239	103309-7	34	30μ″	2.000″	2.76*	2.69*	2.59*	2.51*
90F7743	103309-8	40	30μ″	2.300″	5.25	4.73	4.49	4.04
90F7744	1-103309-0	50	30μ″	2.800″	6.30	5.67	5.39	4.85
RIGHT-ANGLE MOUNT WITH 0.150″ END DIMENSION								
90F4117	103311-1	10	30μ″	0.800″	1.28	1.15	0.98	0.83
90F7745	103311-3	16	30μ″	1.100″	2.58	2.32	2.21	1.99
90F7746	103311-5	20	30μ″	1.300″	2.17*	2.11*	2.03*	1.97*
90F7747	103311-6	26	30μ″	1.600″	3.00*	2.92*	2.81*	2.73*
90F7748	103311-7	34	30μ″	2.000″	4.83	4.35	4.13	3.72
90F7749	103311-8	40	30μ″	2.300″	3.96*	3.85*	2.60*	1.80*
90F7750	1-103311-0	50	30μ″	2.800″	6.45	5.81	5.51	4.96
VERTICAL MOUNT, EJECTION LATCHES AND 0.150″ END DIMENSION								
50F2074	104313-1	10	30μ″	0.800″	2.90*	2.82*	2.01*	1.50*
50F2075	104313-2	14	30μ″	1.000″	5.88	5.29	5.03	4.52
50F2076	104313-3	16	30μ″	1.100″	4.51	4.06	3.45	2.93
50F2077	104313-4	20	30μ″	1.300″	4.85	4.37	3.71	3.15
50F2078	104313-5	26	30μ″	1.600″	5.39	4.85	4.12	3.50
50F2079	104313-6	34	30μ″	2.000″	7.47	6.72	6.05	5.74
50F2080	104313-7	40	30μ″	2.300″	8.03	7.23	6.51	6.18
50F2082	104313-9	50	30μ″	2.800″	7.22	6.49	5.84	4.97
50F2083	1-104313-0	60	30μ″	3.300″	10.30	9.27	8.34	7.93
RIGHT-ANGLE MOUNT, EJECTION LATCHES AND 0.150″ END DIMENSION								
50F2064	104130-1	10	30μ″	0.800″	3.04*	2.95*	2.10*	1.57*
50F2065	104130-2	14	30μ″	1.000″	5.99	5.39	5.12	4.61
50F2066	104130-3	16	30μ″	1.100″	6.26	5.63	5.35	4.81
50F2067	104130-4	20	30μ″	1.300″	6.78	6.10	5.80	5.22
50F2068	104130-5	26	30μ″	1.600″	4.22*	4.11*	2.93*	2.19*
50F2069	104130-6	34	30μ″	2.000″	7.65	6.89	6.20	5.89
50F2070	104130-7	40	30μ″	2.300″	6.70	6.03	5.43	4.61

*Price column quantities vary from above, *contact your local Newark sales office for details.*

(8180) (ne50402)

MOD. II AND MOD. IV PC BOARD MOUNT RECEPTACLE ASSEMBLIES

Vertical mount PC board receptable assemblies, single or double row, on 0.100″ centers. Black flame-retardant housings, rated UL94V-0. Phosphor bronze contacts plated 30μ″ gold on contact area, tin on solder area with full nickel underplate. UL recognized, CSA certified.

MOD. II VERTICAL MOUNT, CLOSED TOP ENTRY

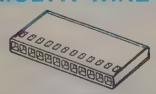
Stock No.	Type	No. of Rows	Positions	1-24	25-49	50-99	100-249
95F1770	534206-8	2	16	3.09	2.78	2.64	2.38
95F1772	1-534206-0	2	20	2.00	1.84	1.74	1.64
95F1753	1-534206-3	2	26	3.80	3.42	3.24	2.92
95F1812	2-534206-0	2	40	3.68	3.39	3.21	3.02

MOD. IV VERTICAL MOUNT, CLOSED TOP ENTRY, LOW PROFILE

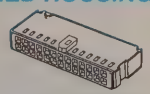
97F8704	1-535541-0	1	12	1.76	1.58	1.50	1.35
97F8705	2-535541-8	1	30	3.41	3.23	3.07	2.92
97F8692	534998-4	2	8	1.65	1.57	1.49	1.41
97F8693	534998-7	2	14	2.51	2.38	2.26	2.15
95F1786	1-534998-0	2	20	4.96	4.01	3.30	3.06
97F8694	1-534998-3	2	26	3.80	3.61	3.42	3.25
93F7031	2-534998-0	2	40	5.19	4.93	4.68	4.45
93F7013	3-534998-0	2	60	7.29	6.93	6.58	6.25

(8082) (ne04082)

MOD. IV WIRE-APPLIED HOUSINGS



Nonpolarized Single Row



Center Polarized Double Row

Single and double row housings of flame-retardant black thermoplastic; 0.100″ (2.54) centers. Accept crimp snap-in contacts, *ordered separately on this page.* Center polarized mate with AMP-LATCH® universal ejection headers.

SINGLE ROW NONPOLARIZED HOUSINGS

Stock No.	Type	Positions	Width	1-24	25-49	50-99	100-249
90F7735	87499-3	2	0.205″	0.57*	0.56*	0.54*	0.52*
90F7736	87499-5	3	0.305″	0.41*	0.40*	0.38*	0.37*
90F7737	87499-7	4	0.405″	0.35*	0.34*	0.33*	0.32*
90F7738	87499-9	5	0.505″	0.29*	0.28*	0.27*	0.26*
90F7739	1-87499-1	6	0.605″	0.35*	0.34*	0.33*	0.32*
90F7740	1-87499-3	8	0.805″	0.39*	0.37*	0.36*	0.35*
90F4895	1-87499-5	9	0.905″	0.49*	0.48*	0.46*	0.45*
90F4896	1-87499-7	10	1.005″	0.45*	0.44*	0.42*	0.41*
90F4897	2-87499-1	12	1.205″	0.47*	0.46*	0.44*	0.43*
90F4900	2-87499-9	16	1.605″	0.62*	0.60*	0.58*	0.56*
90F4901	3-87499-7	20	2.005″	0.74*	0.72*	0.69*	0.67*

SINGLE ROW POLARIZED HOUSINGS WITH DETENT LATCHING

90F4910	102241-1	3	0.300″	0.19*	0.18*	0.18*	0.17*
90F4911	102241-2	4	0.400″	0.21*	0.20*	0.20*	0.19*
90F4912	102241-3	5	0.500″	0.24*	0.24*	0.23*	0.22*
90F4869	102241-4	6	0.600″	0.26*	0.26*	0.25*	0.24*
90F4870	102241-5	7	0.700″	0.29*	0.28*	0.27	0.26
90F4871	102241-6	8	0.800″	0.31*	0.30*	0.29*	0.28*
90F4873	102241-8	10	1.000″	0.39*	0.37*	0.36*	0.35*
90F4874	1-102241-0	12	1.200″	0.59	0.53	0.51	0.43
90F4875	1-102241-2	14	1.400″	0.47*	0.46*	0.44*	0.43*

DOUBLE ROW NONPOLARIZED HOUSINGS

90F4124	87456-2	6	0.300″	0.71*	0.70*	0.67*	0.65*
90F4126	87456-6	10	0.500″	0.76*	0.74*	0.71*	0.69*
90F4128	1-87456-0	14	0.700″	1.10	0.99	0.94	0.80
90F4947	1-87456-6	20	1.000″	1.05*	1.02*	0.98*	0.83*
90F4949	2-87456-2	26	1.300″	1.23*	1.20*	1.15*	0.98*
90F4951	2-87456-6	30	1.500″	1.62*	1.57*	1.51*	1.28*
90F4952	3-87456-0	34	1.700″	1.95	1.75	1.66	1.41
90F4953	3-87456-6	40	2.000″	1.85*	1.80*	1.73*	1.47*
90F4937	4-87456-0	50	2.500″	2.67*	2.41*	2.29*	1.94*

DOUBLE ROW POLARIZED HOUSINGS WITH DETENT LATCHING

90F4382	87631-2	6	0.200″	0.69*	0.67*	0.65*	0.63*
90F4383	87631-4	8	0.300″	0.74*	0.72*	0.69*	0.67*
90F4384	87631-6	10	0.400″	0.78*	0.76*	0.73*	0.62*
90F4367	87631-8	12	0.500″	0.86*	0.83*	0.80*	0.68*
90F4368	1-87631-0	14	0.600″	1.75	1.38	1.11	1.00
90F4369	1-87631-2	16	0.700″	1.00*	0.97*	0.94*	0.79*
90F4371	1-87631-6	20	0.900″	1.17*	1.13*	1.09*	0.93*
92F1079	2-87631-6	30	1.400″	1.52*	1.48*	1.42*	1.21*
90F4375	3-87631-0	34	1.600″	2.90	2.75	2.61	2.48

DOUBLE ROW CENTER POLARIZED HOUSINGS

90F4757	102387-1	10	0.680″	0.80	0.78	0.75	0.64
90F4759	102387-3	16	0.980″	1.00*	0.97*	0.94*	0.79*
90F4760	102387-4	20	1.180″	1.14*	1.11*	1.07*	0.91*
90F4536	102387-6	26	1.480″	1.25*	1.22*	1.17*	1.00*
90F4537	102387-8	34	1.880″	1.60*	1.55*	1.49*	1.27*
90F4538	102387-9	40	2.180″	1.76*	1.71*	1.65*	1.40*
90F4539	1-102387-0	50	2.680″	2.75	2.48	2.35	2.00

*Price column quantities vary from above, *contact your local Newark sales office for details.*

(8078) (ne03386)

CRIMP SNAP-IN MOD. IV PIN AND RECEPTACLE CONTACTS

Hand tools listed in table below, *ordered separately.* 32-27 AWG contacts and crimp tool available; *contact your local Newark sales office for details.*

CRIMP SNAP-IN PINS WITH INSULATION SUPPORT

Stock No.	Type	AWG	Material*	Plating+	Length	Hand Tool	1-24	25-49
90F3868	102107-2	26-22	PhBz	2	0.815″	90418-1	0.34	0.31
90F3869	102107-3	26-22	PhBz	1	0.815″	90418-1	0.15	0.14

STANDARD PRESSURE RECEPTACLE CONTACTS

90F5084	87756-7	26-22	PhBz	1	0.455″	90418-1	0.14	0.12
90F5668	87667-3	26-22	BeCu	1	0.455″	90418-1	0.22	0.20
90F7741	87667-2	26-22	BeCu	2	0.455″	90418-1	0.34	0.31
90F5670	87523-6	24-20	PhBz	1	0.470″	90202-2	0.13	0.12
90F5675	86016-2	24-20	BeCu	2	0.470″	90202-2	0.34	0.31

INTERMEDIATE PRESSURE RECEPTACLE CONTACTS

Stock No.	Type	AWG	Material*	Plating+	Length	Hand Tool	1-24	25-49
92F1076	102548-6	26-22	BeCu	2	0.455″	90418-1	0.34	0.31
90F4130	87046-4	24-20	BeCu	1	0.470″	90202-2	0.26	0.24
90F4132	87046-3	24-20	BeCu	2	0.470″	90202-2	0.35	0.31

HIGH PRESSURE RECEPTACLE CONTACTS

90F4137	102128-2	26-22	PhBz	1	0.455″	90418-1	0.14	0.13
90F4138	102128-1	26-22	PhBz	2	0.455″	90418-1	0.27	0.24
90F3790	1-87309-3	24-20	PhBz	1	0.470″	90202-2	0.11	0.10
90F3791	1-87309-4	24-20	PhBz	2	0.470″	90202-2	0.21	0.20

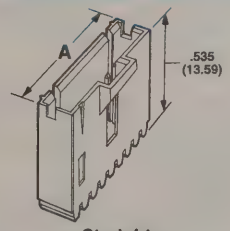
* Contact Material: PhBz = Copper-Tin-Phosphor Bronze, BeCu = Beryllium Copper; + Plating: 1 = Tin-lead over nickel, 2 = Gold Flash over nickel with extra 30μ″ gold on contact area

HAND TOOLS FOR CRIMP SNAP-IN CONTACTS

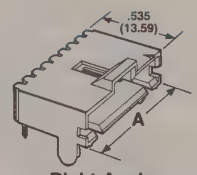
Stock No.	Type	Description	Each
51F1333	90418-1	CERTI-CRIMP® Hand Tool, 26-22 AWG	471.15
96F9725	90202-2	CERTI-CRIMP® Hand Tool, 24-20 AWG	523.50

(8079) (ne03387)

AMPMODU® MTE HEADER ASSEMBLIES



Straight



Right-Angle

Shrouded, polarized/latching header assemblies, single row 0.100″ (2.54) centers. Black thermoplastic housings with hold down, rated UL94V-0. Straight or right-angle copper alloy contacts plated 15μ″ gold on mating area, tin-lead on termination area, with full nickel underplate.

STRAIGHT — SQUARE 0.025″(0.64) POSTS

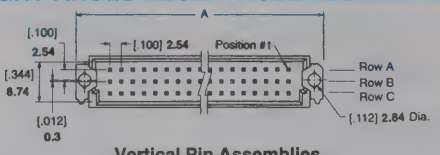
Stock No.	Type	Positions	Dim. A	1-24	25-49	50-99	100-249
50F477	103670-1	2	0.300″	0.43	0.34	0.27	0.25
95F1804	103670-2	3	0.400″	0.92	0.83	0.75	0.67
50F756	103670-3	4	0.500″	1.03	0.93	0.84	0.75
50F757	103670-4	5	0.600″	1.13	1.02	0.92	0.82
50F758	103670-5	6	0.700″	1.23	1.11	1.00	0.90
92F1254	103670-6	7	0.800″	1.33	1.19	1.07	0.97
50F759	103670-7	8	0.900″	1.42	1.28	1.15	1.04
92F1255	103670-8	9	1.000″	1.52	1.37	1.23	1.11
90F5072	103670-9	9	1.000″	1.63	1.47	1.32	1.19
92F1256	1-103670-0	11	1.200″	0.90	0.81	0.72	0.63
50F776	1-103670-1	12	1.300″	1.91	1.72	1.54	1.39

RIGHT-ANGLE — SQUARE 0.025″(0.64) POSTS

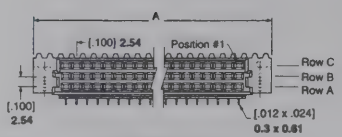
92F8388	103673-1	2	0.300″	0.81	0.73	0.66	0.59
92F1240	103673-2	3	0.400″	0.92	0.83	0.75	0.67
90F5073	103673-3	4	0.500″	1.03	0.93	0.84	0.75
92F1241	103673-4	5	0.600″	0.61	0.55	0.49	0.43
92F1242	103673-5	6	0.700″	1.23	1.11	1.00	0.90
92F1243	103673-6	7	0.800″	1.33	1.19	1.07	0.97
92F1244	103673-7	8	0.900″	1.42	1.28	1.15	1.04
92F1245	103673-8	9	1.000″	1.52	1.37	1.23	1.11
92F1229	103673-9	10	1.100″	1.63	1.47	1.32	1.19
92F1230	1-103673-0	11	1.200″	1.81	1.63	1.46	1.32
92F1231	1-103673-1	12	1.300″	0.95	0.85	0.76	0.66

(8014) (de04091)

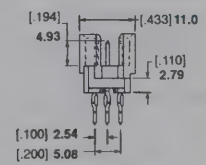
EUROCARD TYPE R VERTICAL PIN AND RIGHT-ANGLE RECEPTACLE ASSEMBLIES



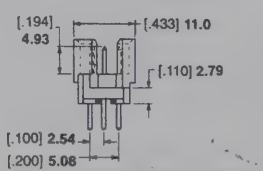
Vertical Pin Assemblies



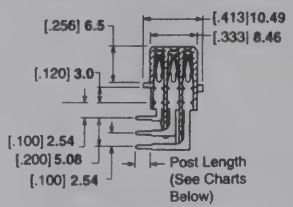
Right-Angle Receptacle Assemblies



Solder Posts



ACTION PIN®



Without Boardlocks

Two-piece 0.100″ x 0.100″ (2.54 x 2.54) pin and receptacle connector assemblies meet DIN 41612 (Level II) and IEC 603-2 requirements. **Type R** vertical pin assemblies feature brass solder posts or 0.025″ (0.64) square phosphor bronze ACTION PIN® solderless, press-fit posts for PC board thicknesses of 0.093″ (2.36) and above. Easily installed with seating tools, *order separately below.* **Type R** right-angle receptacle assemblies feature phosphor bronze solder posts. Flame retardant, gray polyester polarized housings, rated UL94V-0. Voltage rating: 250VAC. Dielectric rating: 1000VAC. Temperature rating: –55°C to +125°C. UL recognized, CSA certified. Intermateable with **type C** assemblies, *contact your local Newark sales office for details.*

VERTICAL PIN ASSEMBLIES, SOLDER POST
STANDARD DIN SIZE

Stock No.	Type	Posi-tions	Post Lgth.	Dim. A	1-24	25-49	50-99
93F5071	650908-5	96	0.13″	3.74″	3.25*	3.16*	3.04*
93F5073	650470-5	96	0.18″	3.74″	3.25*	3.16*	3.04*
			HALF DIN SIZE				
93F5075	650479-5	48	0.13″	2.140″	2.24*	2.18*	2.10*
93F5077	650477-5	48	0.18″	2.140″	2.57	2.32	2.20
93F5076	650935-5	32	0.13″	2.140″	2.26	2.03	1.93
93F5078	650936-5	32	0.18″	2.140″	3.08	2.77	2.63
			EXPANDED DIN SIZE				
93F5081	650910-5	120	0.18″	4.535″	4.59	4.13	3.72
93F5080	650922-5	150	0.13″	5.352″	5.48	4.93	4.68
93F5082	650911-5	150	0.18″	5.352″	5.48	4.93	4.68

VERTICAL PIN ASSEMBLIES, ACTION PIN®
STANDARD DIN SIZE

Stock No.	Type	Posi-tions	Post Lgth.	Dim. A	1-24	25-49	50-99
93F5098	650889-5	96	0.25″	3.74″	3.25*	3.16*	3.04*
93F5100	650909-5	96	0.52″	3.74″	4.27	3.84	3.65
93F5101	1-650909-4	96	0.52″	3.74″	5.82*	5.66*	4.04*
93F5099	650912-5	64	0.25″	3.74″	4.49	4.04	3.83
93F5102	650930-5	64	0.52″	3.74″	3.47	3.12	2.96
93F5103	1-650930-4	64	0.52″	3.74″	7.37	7.00	6.65
			HALF DIN SIZE				
93F5106	650917-5	48	0.52″	2.14″	4.05	3.85	3.66
93F5105	650931-5	32	0.25″	2.14″	3.42	3.25	3.09
93F5107	650932-5	32	0.52″	2.14″	3.62	3.43	3.26
			EXPANDED DIN SIZE				
93F5108	650921-5	120	0.25″	4.535″	4.84	4.36	4.14
93F5109	650924-5	150	0.25″	5.355″	12.08	10.87	9.78
93F5111	650923-5	150	0.52″	5.355″	12.66	11.39	10.25

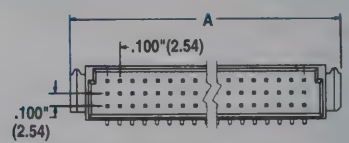
*Price column quantities vary from above, *contact your local Newark sales office for details.*

SEATING TOOLS FOR EUROCARD TYPE R CONNECTORS WITH ACTION PIN® POSTS

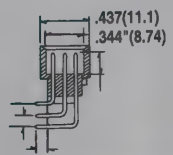
Stock No.	Type	Description	1-2
93F6287	768211-2	Pin Assembly Tool	524.38
93F6288	768211-1	Half Size Pin Assembly Tool	679.38
93F6289	768211-3	120 Position Pin Assembly Tool	550.64
93F6290	768211-4	150 Position Pin Assembly Tool	657.25

(8052) (de51968)

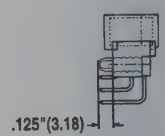
EUROCARD TYPE C RIGHT-ANGLE PIN AND VERTICAL RECEPTACLE ASSEMBLIES



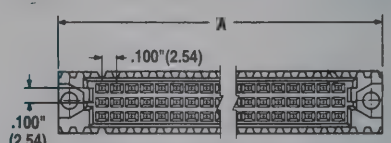
Right-Angle Pin Assemblies



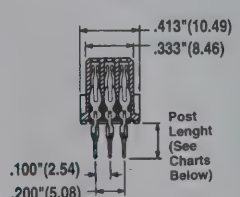
Without Boardlocks



With Boardlocks



Vertical Receptacle Assemblies



Action Pin™

Two-piece 0.100″ x 0.100″ (2.54 x 2.54) pin and receptacle connector assemblies meet DIN 41612 (Level II) and IEC 603-2 requirements. **Type C** right-angle pin assemblies feature brass solder posts with or without brass boardlocks. **Type C** vertical receptacle assemblies feature solderless, press-fit Action Pin™. Easily installed with seating tools, *ordered separately.* Flame retardant, gray polyester polarized housings, rated UL94V-0. Voltage rating: 250VAC. Dielectric rating: 1000VAC. Temperature rating: -55°C to +125°C. UL recognized, CSA certified. Intermateable with **type R** assemblies, *ordered separately on this page.*

STANDARD DIN SIZE
ANGLE PIN ASSEMBLIES, SOLDER POST

Stock No.	Type	Positions	Post Lgth.	Dim. A	1-24
93F5044	650473-5†	96	0.104″	3.7″	3.32‡
93F5045	650913-5*	96	0.104″	3.7″	3.66‡
93F5046	650947-5	96	0.130″	3.7″	3.32‡
93F5047	650945-5	64	0.104″	3.7″	2.78‡
93F5048	650951-5	64	0.130″	3.7″	2.78‡
		HALF DIN SIZE			
93F5049	650478-5	48	0.104″	2.1″	2.33‡
93F5050	650916-5*	48	0.104″	2.1″	4.43
93F5051	650948-5	32	0.130″	2.1″	2.79
93F5052	650946-5	32	0.104″	2.1″	3.32

VERTICAL RECEPTACLE ASSEMBLIES WITH 0.012" x 0.024" ACTION PIN™ FOR PC BOARD THICKNESSES 0.062" AND ABOVE

		STANDARD DIN SIZE			
93F5058	535032-4	96	0.190″	3.7″	3.99‡

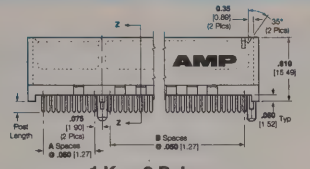
VERTICAL RECEPTACLE ASSEMBLIES WITH 0.025" SQUARE ACTION PIN™ FOR PC BOARD THICKNESSES 0.093" AND ABOVE

		STANDARD DIN SIZE			
93F5064	215912-4	96	0.512″	3.7″	12.99
93F5065	1-215912-4	96	0.512″	3.7″	13.25‡
93F5066	215614-4	96	0.669″	3.7″	8.57
93F5067	1-215614-4	96	0.669″	3.7″	15.56‡
93F5068	215781-4	64	0.669″	3.7″	12.43

* With Boardlocks. † Compatible with FUTUREBUS, VMEbus, Intel MULTIBUS (II), NUBUS applications.
‡Price column quantities vary from above, *contact your local Newark sales office for details.*

(8051) (de51964)

STANDARD EDGE 0.050″ SERIES CONNECTORS



1 Key-2 Pylons

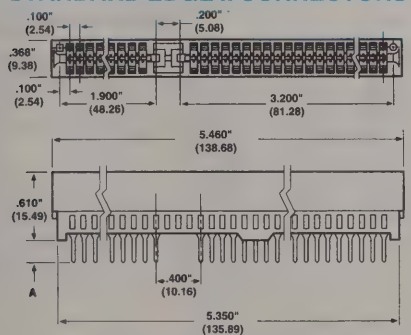
Ideal for high count daughterboard and data bus applications. High density 0.050″ (1.27) centerline spacing of dual row phosphor bronze contacts, plated 30μ″ gold over nickel in contact area; tin-lead over nickel on solder posts. White polyphenylene sulfide housing, rated UL94V-0. Accept 0.054″ (1.37) to 0.070″ (1.78) thick daughter boards. Polarizing web for positive board-to-connector registration. Current rating: 1A. Contact resistance: 30 milliohms. UL recognized. CSA certified.

MCA (MICRO-CHANNEL ARCHITECTURE) EXPANSION BUS

Stock No.	Type	Dual Positions	Pin Spaces A	B	C	Length	1-24	25-49	50-99
93F7882	650090-1+‡	56	10	44	...	3.140″	2.12*	2.07*	1.99*
93F7883	650092-1+	91	41	48	...	4.890″	2.09	1.88	1.79

+ 1 Key - 2 Pylons; ‡Also VESA Local Bus
*Price column quantities vary from above, *contact your local Newark sales office for details.*
(8065) (de53126)

STANDARD EDGE II CONNECTORS



Special 18/31 Dual Combination Vertical Solder Posts

Standard Edge II vertical and right-angle connectors without mounting ears accept 0.054″-0.070″ (1.27-1.78) thick double-side PC boards. Contact arrangements available on: 0.100″ (2.54) centerline with 0.200″ (5.08) row-to-row spacing or 0.125″ (3.18) centerline with 0.250″ (6.35) row-to-row spacing. 0.125″ (3.18) long vertical solder posts. Retention feature on special 18/31 dual combination version. Black, glass-filled polyester housing, rated UL94V-0. Phosphor bronze contacts plated with 30μ″ gold over nickel in contact area (except where noted below); tin over nickel on posts. Contact rating: 3 (UL)/2.5 (CSA) amps. Contact resistance: 10 milliohms maximum. Operating temperature: –55°C to +85°C. UL recognized, CSA certified.

0.100″ (2.54) CENTERLINE, SPECIAL 18/31 DUAL COMBINATION VERTICAL AND RIGHT-ANGLE SOLDER POSTS WITH RETENTION FEATURE

Stock No.	Type	Dual Positions	Contact Area Gold Plating	Board Retention Locations	1-24	25-49	50-99
90F3847	645169-2*	52	30μ″	3-6,41-42,51-52,93-96	1.08†	1.05†	1.01†
90F3848	645169-3*	52	30μ″	None	0.74†	0.72†	0.69†

*Vertical Solder Posts

INTERCONTACT KEYING PLUGS

Stock No.	Type	Centerline	1-24	25-49	50-99
90F3849	650025-2	0.100″	0.18	0.16	0.15

0.100″ (2.54) CENTERLINE, VERTICAL SOLDER POSTS

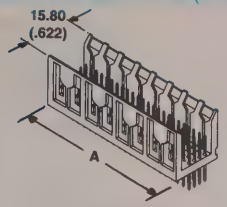
Stock No.	Type	Positions	Length	1-24	25-49	50-99	100-249
90F3831	530843-3	18	2.060″	0.79	0.71	0.68	0.58
89F4290	530843-4	22	2.460″	3.18	2.86	2.72	2.31
89F4279	530843-7	30	3.260″	4.25	3.82	3.63	3.09
89F4280	6-530843-5	31	3.360″	1.28†	1.24†	1.19†	1.16†
89F4281	530843-8	36	3.860″	4.95	4.46	3.79	3.22
89F4283	1-530843-1	50	5.260″	6.03†	5.86†	4.18†	3.12†

0.125″ (3.18) CENTERLINE, VERTICAL SOLDER POSTS

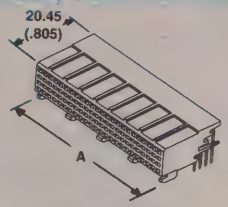
Stock No.	Type	Positions	Length	1-24	25-49	50-99	100-249
89F4276	1-530844-1	50	6.535″	16.60	14.95	13.43	12.76

†Price column quantities vary from above, *contact your local Newark sales office for details.*
(8066) (de53127)

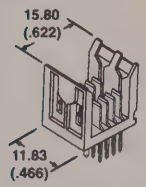
Z-PACK 2mm FB (FUTUREBUS+) CONNECTORS



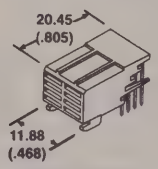
Single Module, Vertical Pin



Single Module, Angle Receptacle



Power Module, Vertical Pin



Power Module, Angle Receptacle

Two-piece module connector system for signal and power high-density connections; four-row, 2mm x 2mm (50.80 x 50.80″) circuit grid. Complies with Futurebus+, EIA IS 64 and IEC1076-4-OX(48B) specifications. Liquid crystal polymer housing. Choice of solder or solderless, compliant press-fit leads, both duplex plated gold flash over palladium-nickel mating surface, tin-lead on solder lead with nickel underall. Vertical pin assemblies feature phosphor bronze contacts. Right-angle receptacle assemblies feature copper alloy 18C contacts. Signal modules are end-to-end stackable. Current rating at 70°C in air: signal/3A power contacts.

VERTICAL PIN ASSEMBLIES (FIXED-BOARD)

SIGNAL MODULES, SOLDER LEADS

Stock No.	Type	Positions	Dim. A	1-24	25-49	50-99
97F8539	536501-1	24	0.47″	3.96	3.56	3.03
97F8540	536501-2	48	0.94″	6.60	5.94	5.35
97F8541	536501-3	96	1.89″	10.56	9.50	8.55
97F8542	536501-4	192	3.78″	21.12	14.78	11.83

SIGNAL MODULES, COMPLIANT PRESS-FIT LEADS

Stock No.	Type	Positions	Dim. A	1-24	25-49	50-99
97F8543	536504-1	24	0.47″	3.96	3.56	3.03
97F8544	536504-2	48	0.94″	6.60	5.94	5.35
97F8545	536504-3	96	1.89″	7.07*	6.88*	6.62*
97F8546	536504-4	192	3.78″	12.26*	11.93*	11.48*

POWER MODULES

Stock No.	Type	Positions	Lead Style	1-24	25-49	50-99
97F8616	536600-1	8	Solder	4.95	4.46	4.01
97F8617	536603-1	8	Press Fit	2.58	2.16	2.08
97F8618	536606-1	8	Press Fit	4.84	4.36	3.70

RIGHT-ANGLE RECEPTACLE ASSEMBLIES (FREE-BOARD)

SIGNAL MODULES, SOLDER LEADS

Stock No.	Type	Positions	Lead Lgth.	Dim. A	1-24	25-49	50-99
97F8457	536507-1	24	0.107″	0.47″	4.62	4.16	3.53
97F8458	536507-2	48	0.107″	0.94″	4.62*	4.49*	4.33*
97F8459	536507-3	96	0.107″	1.89″	7.69*	7.48*	7.20*
97F8460	536507-4	192	0.107″	3.78″	13.81*	13.43*	12.93*
97F8461	536510-1	24	0.139″	0.47″	2.92*	2.84*	2.73*
97F8462	536510-2	48	0.139″	0.94″	4.62*	4.49*	4.33*
97F8592	536510-3	96	0.139″	1.89″	7.69*	7.48*	7.20*
97F8593	536510-4	192	0.139″	3.78″	13.81*	13.43*	12.93*

SIGNAL MODULES, COMPLIANT PRESS-FIT LEADS

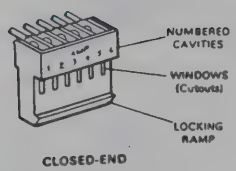
Stock No.	Type	Positions	Lead Lgth.	Dim. A	1-24	25-49	50-99
97F8594	536511-1	24	0.115″	0.47″	4.62	4.16	3.53
97F8595	536511-2	48	0.115″	0.94″	4.62*	4.49*	4.33*
97F8596	536511-3	96	0.115″	1.89″	7.69*	7.48*	7.20*
97F8597	536511-4	192	0.115″	3.78″	13.81*	13.43*	12.93*

POWER MODULES, SOLDER LEADS

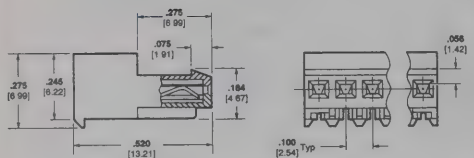
Stock No.	Type	Positions	Lead Lgth.	Dim. A	1-24	25-49	50-99
97F8619	536607-1	8	0.107″	...	2.54*	2.47*	2.38*
97F8620	536613-1	8	0.139″	...	5.28	4.75	4.04

*Price column quantities vary from above, *contact your local Newark sales office for details.*
(8010) (de03651)

AT NEWARK, YOUR ORDER IS OUR FIRST PRIORITY.



CLOSED-END



MTA-100 IDC RECEPTACLES—CLOSED END

Closed-end receptacles available with 0.100″ (2.54) centers. Accepts UL style 1007 and 1061 wire styles with PVC insulation, tin plated solid, fused stranded, concentric stranded 7, 10, 16, 19 strands. Accept wire outside diameter of 0.050″ (1.27) max, when mass terminating; current/voltage range: 250VAC at 4 amps max. Operating temperature range: -55°C to +105°C, thermoplastic housing, 94V-2 rated and color-coded with wire size for easy identification: 22 AWG red, 24 AWG natural, 26 AWG blue, and 28 AWG green. Tin-plated phosphor bronze contacts.

Circuits	Stock No.	Type	AWG	1-24	Stock No.	Type	AWG	1-24
2	90F4220	640440-2		0.06	90F4222	640441-2		0.06
3	90F4221	640440-3		0.08	90F4223	640441-3		0.49
4	90F4204	640440-4		0.12	90F4224	640441-4		0.08
5	90F4205	640440-5		0.15	90F4225	640441-5		0.82
6	90F4206	640440-6		0.17	90F4226	640441-6		0.17
7	90F4207	640440-7	22	0.20	90F4227	640441-7	24	0.20
8	90F4208	640440-8		0.22	90F4228	640441-8		1.19
9	90F4209	640440-9		1.34	90F4229	640441-9		0.99
10	90F4210	1-640440-0		0.85	93F7034	1-640441-0		1.29
12	90F4212	1-640440-2		0.35	90F4214	1-640441-2		1.23
14	90F4195	1-640440-4		1.94	90F4215	1-640441-4		1.43
2	90F4293	640442-2		0.19	90F4286	640443-2		0.19
3	90F4294	640442-3		0.42	90F4287	640443-3		0.42
4	90F4240	640442-4		0.22	90F4288	640443-4		0.40
5	90F4241	640442-5		0.70	51F1512	640443-5		0.76
6	90F4242	640442-6		0.17	90F4289	640443-6		0.73
7	90F4243	640442-7	26	0.66	90F4290	640443-7	28	0.66
8	90F4244	640442-8		1.01	90F4291	640443-8		1.01
9	90F4245	640442-9		1.93	51F1513	640443-9		0.93
10	90F4246	1-640442		0.85	51F1514	1-640443-0		0.85
12	90F4247	1-640442-2		1.12	48F1922	1-640443-2		0.98
14	90F4248	1-640442-4		1.31	48F1924	1-640443-4		1.14

(32987) (ne32987)

Straight Flat

Straight Polarized

Straight Friction Lock

Right Angle Friction Lock

MTA-100 HEADERS

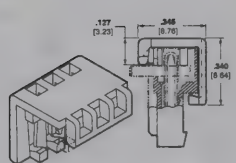
HEADERS—STRAIGHT POSTS

Circuits	Straight Flat Headers				Straight Polarized Headers			
	Stock No.	Type	1-24	25-49	Stock No.	Type	1-24	25-49
2	51F1397	640452-2	0.20	0.18	90F4274	640454-2	0.17	0.15
3	90F4270	640452-3	0.24	0.21	90F4275	640454-3	0.28	0.25
4	51F1398	640452-4	0.28	0.25	90F4276	640454-4	0.33	0.30
5	51F1399	640452-5	0.42	0.33	90F4277	640454-5	0.96	0.76
6	51F1400	640452-6	0.38	0.34	90F4278	640454-6	0.46	0.41
7	51F1542	640452-7	0.53	0.42	90F4279	640454-7	0.58	0.52
8	51F1543	640452-8	0.61	0.48	90F4280	640454-8	0.67	0.60
9	51F1544	640452-9	0.69	0.54	66F1594	640454-9	0.82	0.65
10	51F1582	1-640452-0	0.63	0.57	90F4281	1-640454-0	0.79	0.71
11	...	...	...	...	48F1932	1-640454-1	0.84	0.80
12	...	...	...	...	90F4282	1-640454-2	1.00	0.89
13	...	...	...	...	48F1933	1-640454-3	0.99	0.94
14	...	...	...	...	90F4283	1-640454-4	2.45	1.93

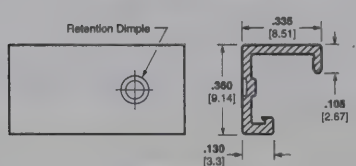
HEADERS—FRICTION LOCK

Circuits	Friction Lock Headers—Straight				Friction Lock Headers—Right Angle			
	Stock No.	Type	1-24	25-49	Stock No.	Type	1-24	25-49
2	90F4250	640456-2	0.04	0.04	90F5638	640457-2	0.22	0.22
3	90F4251	640456-3	0.06	0.05	90F5640	640457-3	0.28	0.28
4	90F5641	640456-4	0.08	0.07	90F5642	640457-4	0.45	0.45
5	90F5643	640456-5	0.10	0.10	90F5644	640457-5	0.47	0.47
6	90F5645	640456-6	0.10	0.10	90F5628	640457-6	0.61	0.61
7	90F5629	640456-7	0.11	0.11	90F5630	640457-7	0.75	0.75
8	90F5631	640456-8	0.12	0.12	90F5632	640457-8	0.86	0.86
9	90F5633	640456-9	1.02	0.80	90F5634	640457-9	0.97	0.97
10	90F5635	1-640456-0	0.70	0.63	90F5636	1-640457-0	1.02	1.02
11	90F5390	1-640456-1	0.92	0.72		...	...	...
12	90F5392	1-640456-2	0.22	0.21	51F1545	1-640457-2	1.29	1.29
13	90F5393	1-640456-3	1.09	0.86		...	...	...
14	90F5394	1-640456-4	1.58	1.24	51F1547	1-640457-4	1.50	1.50

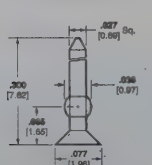
(32989) (ne32989)



Strain Relief Cover



Dust Cover



Keying Plug

MTA-100 CONNECTOR ACCESSORIES

CLOSED-END COVERS

Circuits	Strain Relief Covers				Dust Covers			
	Stock No.	Type	1-24	25-49	Stock No.	Type	1-24	25-49
2	90F4257	643075-2	0.18	0.17	66F3021	640550-2	34.76	17.57
3	90F4258	643075-3	0.99	0.88	90F4268	640550-3	0.14	0.13
4	90F4259	643075-4	0.20	0.19	90F4269	640550-4	0.17	0.16
5	90F4260	643075-5	0.99	0.89	90F5096	640550-5	0.19	0.15
6	90F4261	643075-6	0.20	0.19	90F5097	640550-6	0.22	0.18
7	90F4262	643075-7	0.93	0.83	90F4207	640440-7	0.20	0.19
8	90F4263	643075-8	1.00	0.90	90F5099	640550-8	0.31	0.24
9	66F3279	643075-9	1.02	0.80	90F5100	640550-9	0.38	0.30
10	90F4264	1-643075-0	1.11	0.99	90F5101	1-640550-0	0.42	0.33
11	48F1928	1-643075-1	0.46	0.43	48F1930	1-640550-1	0.17	0.16
12	90F4265	1-643075-2	0.94	0.84	90F5102	1-640550-2	0.38	0.30
13	48F1929	1-643075-3	0.46	0.44	48F1931	1-640550-3	0.20	0.19
14	66F3287	1-643075-4	1.04	0.82	90F5103	1-640550-4	0.56	0.44

KEYING PLUG

Stock No.	Type	Description	1-99
90F4267	641994-1	Keying Plug with Carrier Strip (10)	0.03

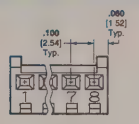
(32990) (ne32990)

MTA AND CST PC BOARD CONNECTORS

MTA-100 TOOLING

Stock No.	Type	Description	1-9
50F783	58074-1	Hand Tool	74.00
50F785	58246-1	MTA-100 Interchangeable Head	148.20
98F2821	59803-1	MTA-100 T-Handle MaintenanceTool	22.84
66F3117	58338-1	Air Bench Mount Tool (with Foot Switch)	444.14

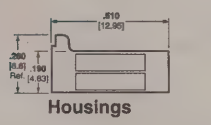
(32988) (ne32988)



CST-100 HOUSINGS, CONTACTS AND TOOLING

CRIMP HOUSINGS

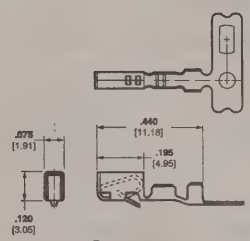
Circuits	Stock No.	Type	1-99	100-249
2	66F3283	770602-2	0.16	0.13
3	66F3096	770602-3	0.25	0.19
4	66F3280	770602-4	0.33	0.26
5	66F3025	770602-5	0.41	0.32
6	66F3026	770602-6	0.49	0.39
7	52F5147	770602-7	0.61	0.43
8	48F1945	770602-8	0.38	0.37
10	48F1940	1-770602-0	0.48	0.46
12	48F1941	1-770602-2	0.58	0.55
14	48F1942	1-770602-4	0.67	0.64



Housings

CRIMP CONTACTS

Stock No.	Type	AWG	Plating	1-99	100-249
66F3290	770666-1	26-22	Tin	0.07	0.06
88F4239	770666-2	26-22	Gold	1.01	0.72



Contacts

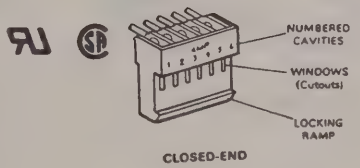
TOOLING

Stock No.	Type	Description	1-4
48F1943	58517-1	Pro-Crimper II Hand Tool with Die	135.00
48F1944	58517-2	Die Set Only	91.80

(32991) (ne32991)

MTA-156 IDC RECEPTACLES

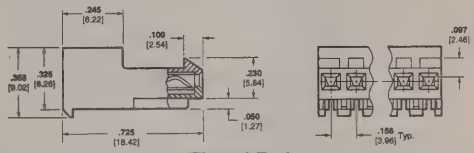
Closed-end receptacles available with 0.156″ (3.96) centers. Accepts UL style 1007 and 1061 wire styles with PVC insulation, tin plated solid, fused stranded, concentric stranded 7, 10, 16, 19 strands. Accept wire outside diameter of 0.070″ (1.78) max, when mass terminating; current/voltage range: 250VAC at 4 amps max. Operating temperature range: -55°C to +105°C, thermoplastic housing, 94V-2 rated and color-coded with wire size for easy identification: 18 AWG orange, 20 AWG yellow, 22 AWG red, and 24 AWG natural. Tin-plated phosphor bronze contacts.



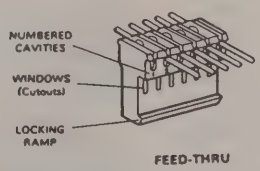
CLOSED-END

CLOSED-END RECEPTACLES

Circuits	Stock No.	Type	AWG	1-24	25-49	Stock No.	Type	AWG	1-24	25-49
2	90F5363	640426-2	18	0.22	0.20	90F3780	640427-2	20	0.22	0.20
3	90F5366	640426-3		0.09	0.09	90F5365	640427-3		0.57	0.40
4	90F5369	640426-4		0.15	0.15	90F5368	640427-4		0.44	0.39
5	90F5400	640426-5		0.89	0.70	90F5399	640427-5		0.66	0.52
6	90F5404	640426-6		0.20	0.19	90F5403	640427-6		0.60	0.54
7	90F5407	640426-7		0.84	0.66	90F5406	640427-7		0.84	0.66
8	90F5338	640426-8		1.29	1.02	90F5337	640427-8		0.96	0.75
9	90F5340	640426-9		1.08	0.85	48F1939	640426-9		1.08	0.85
10	90F5343	1-640426-0		1.00	0.90	90F5342	1-640427-0		1.00	0.90
12	90F5649	1-640426-2		1.43	1.13	90F5648	1-640427-2		1.43	1.13
2	90F3779	640428-2	22	0.22	0.20	90F3778	640429-2	24	0.22	0.20
3	90F5364	640428-3		0.57	0.40	51F1369	640429-3		0.83	0.65
4	90F5367	640428-4		0.44	0.39	51F1370	640429-4		0.44	0.39
5	90F5370	640428-5		0.89	0.70	51F1371	640429-5		0.66	0.52
6	90F5402	640428-6		0.63	0.56	90F5401	640429-6		1.50	1.18
8	90F5336	640428-8		1.29	1.02	51F1372	640429-8		0.96	0.75
9	90F5339	640428-9		1.08	0.85	51F1373	640429-9		1.08	0.85
10	90F5341	1-640428-0		1.00	0.90	...	...		...	...
12	90F5647	1-640428-2		1.94	1.52	51F1697	1-640429-2		1.43	1.13



Closed-End

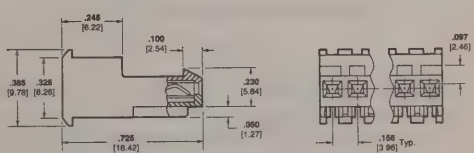


FEED-THRU

FEED-THRU RECEPTACLES

2	66F1537	640599-2	18	0.26	0.21	51F1427	640601-2	22	0.22	0.20
3	90F5379	640599-3		0.40	0.31	51F1428	640601-3		0.40	0.31
4	66F1590	640599-4		0.53	0.42	51F1429	640601-4		0.44	0.39
5	90F5380	640599-5		0.66	0.52	51F1430	640601-5		1.38	1.08
6	90F4047	640599-6		0.72	0.57	51F1431	640601-6		1.50	1.18
8	66F1543	640599-8		0.96	0.75	51F1422	640601-8		2.01	1.58
9	90F4048	640599-9		0.81	0.77	51F1423	640601-9		1.08	0.85
10	48F1936	1-640599-0		0.95	0.90	51F1424	1-640601-0		2.50	1.97
12	48F1937	1-640599-2		1.14	1.08	51F1426	1-640601-2		1.43	1.13

(32992) (ne32992)



Feed-Thru

MTA-156 HEADERS

FLAT HEADERS, SQUARE POSTS

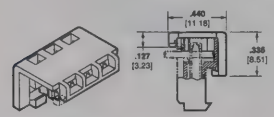
	Straight				Right Angle			
Circuits	Stock No.	Type	1-24	25-49	Stock No.	Type	1-24	25-49
2	90F5382	640383-2	0.21	0.19	51F1557	640385-2	0.17	0.16
3	51F1733	640383-3	0.50	0.40	51F1558	640385-3	0.32	0.25
4	90F5383	640383-4	0.26	0.24	51F1559	640385-4	0.42	0.33
5	51F1734	640383-5	0.83	0.65	90F4033	640385-5	0.53	0.42
6	90F5384	640383-6	0.36	0.32	51F1560	640385-6	0.58	0.45
7	90F5385	640383-7	0.54	0.38	51F1561	640385-7	0.67	0.53
8	51F1577	640383-8	0.58	0.45	51F1562	640385-8	0.77	0.60
9	90F5386	640383-9	0.70	0.49	48F1935	640383-9	0.70	0.49
10	90F5387	1-640383-0	0.60	0.54	51F3881	1-640385-0	0.80	0.72
12	90F5388	1-640383-2	0.86	0.68	51F1564	1-640385-2	1.15	0.90

Straight Flat

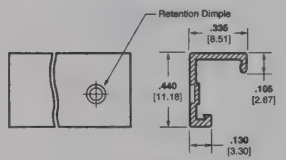
Right Angle Flat

CONTINUED

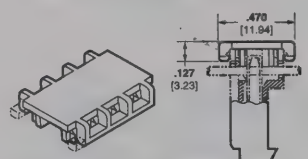
Straight Friction Lock | Right Angle Friction Lock (Front Bend) | Right Angle Friction Lock (Rear Bend)



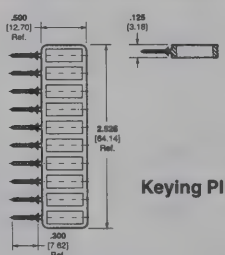
Strain Relief Cover—Closed End



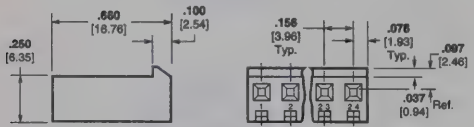
Dust Cover—Closed End



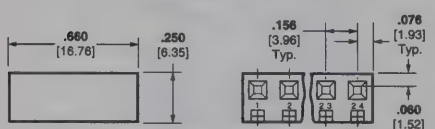
Strain Relief Cover—Feed-Thru



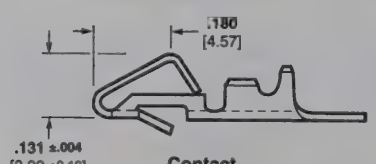
Keying Plugs



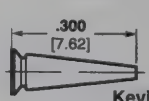
Housing—With Ramp



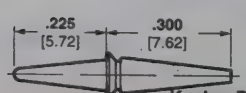
Housing—Without Ramp



Contact



Keying Plug



Keying Pin

MTA-156 HEADERS (CONT.)

FRICTION LOCK HEADERS

Circuits	Straight—Square Post Stock No.	Type	1-24	25-49	Straight—Round Post Stock No.	Type	1-24	25-49
2	90F4053	640445-2	0.04	0.04	90F5622	640388-2	0.17	0.16
3	90F4054	640445-3	0.06	0.05	90F5623	640388-3	0.46	0.32
4	90F4055	640445-4	0.09	0.09	90F5624	640388-4	0.35	0.31
5	90F5345	640445-5	0.11	0.11	90F5625	640388-5	1.10	0.87
6	90F5346	640445-6	0.12	0.12	90F5626	640388-6	0.48	0.43
7	90F5347	640445-7	0.56	0.55	90F5627	640388-7	0.72	0.50
8	90F5348	640445-8	0.18	0.17	90F5610	640388-8	0.77	0.60
9	90F5349	640445-9	0.93	0.65	90F5611	640388-9	0.93	0.65
10	90F5350	1-640445-0	0.20	0.19	90F5612	1-640388-0	0.80	0.72
12	90F5352	1-640445-2	0.23	0.22	90F5614	1-640388-2	2.41	1.89

Circuits	Right Angle—Front Bend Stock No.	Type	1-24	25-49	Right Angle—Rear Bend Stock No.	Type	1-24	25-49
2	90F5617	640389-2	0.26	0.24	51F1541	640387-2	0.32	0.25
3	90F5618	640389-3	0.51	0.36	51F1609	640387-3	0.47	0.37
4	90F5601	640389-4	0.53	0.47	90F3769	640387-4	0.19	0.19
5	90F5602	640389-5	0.85	0.59	51F1610	640387-5	0.79	0.62
6	90F5603	640389-6	0.72	0.65	51F1537	640387-6	0.72	0.65
7	90F5604	640389-7	1.08	0.75	51F1538	640387-7	1.00	0.79
8	90F5605	640389-8	1.23	0.86	90F3770	640387-8	1.15	0.90
9	90F5606	640389-9	1.39	0.97	51F1539	640387-9	1.29	1.02
10	90F5607	1-640389-0	1.19	1.08	51F1540	1-640387-0	1.19	1.08
12	90F5608	1-640389-2	1.85	1.29	51F1612	1-640387-2	1.72	1.35

(32995) (ne32995)

MTA-156 CONNECTOR ACCESSORIES

COVERS

Circuits	Strain Relief Covers—Closed End Stock No.	Type	1-24	25-49	Dust Covers—Closed End Stock No.	Type	1-24	Strain Relief Covers—Feed-Thru Stock No.	Type	1-24	25-49
3	90F4678	643067-3	1.07	0.84	90F4044	640551-3	0.16	48F1913	643071-3	0.47	0.45
4	90F4679	643067-4	1.07	0.84	90F4045	640551-4	0.25	48F1914	643071-4	0.48	0.45
5	90F4680	643067-5	1.08	0.85	90F4046	640551-5	0.29	52F5505	643071-5	1.16	0.81
6	90F4681	643067-6	1.08	0.85	90F5372	640551-6	0.26	90F4043	643071-6	1.08	0.85
9	66F1600	643067-9	1.09	0.86	90F5374	640551-9	0.35	48F1915	643071-9	0.48	0.46
10	66F1580	1-643067-0	1.09	0.86	90F5375	1-640551-0	0.38	48F1916	1-643071-0	0.49	0.46

KEYING PLUGS

Stock No.	Type	Description	1-99	100-249
90F4052	641623-1	Keying Plug (10 per strip)	0.15	0.10
90F4051	640629-1	Keying Plug (Flush) Used with Keyed Headers	0.14	0.11

(32994) (ne32994)

MTA-156 TOOLING

Stock No.	Type	Description	1-9
50F783	58074-1	Hand Tool	74.00
50F786	58247-1	MTA-156 Interchangeable Head	148.20
50F732	59804-1	MTA-156 T-Handle Maintenance Tool	24.00
66F3117	58338-1	Air Bench Mount Tool (With Foot Switch)	444.14

(32993) (ne32993)

SL-156 HOUSINGS, CONTACTS AND TOOLING

HOUSINGS

Circuits	With Ramp—No Tabs Stock No.	Type	1-24	25-49	Without Ramp—No Tabs Stock No.	Type	1-24	25-49
1	90F4294	640442-3	0.42	0.37	90F4308	640251-1	0.13	0.12
2	90F4295	640250-2	0.10	0.09	90F4309	640251-2	0.10	0.09
3	90F4296	640250-3	0.06	0.05	90F4310	640251-3	0.15	0.13
4	90F4297	640250-4	0.20	0.18	90F4311	640251-4	0.20	0.18
5	90F4298	640250-5	0.10	0.10	90F4312	640251-5	0.25	0.22
6	90F4299	640250-6	0.12	0.12	90F4313	640251-6	0.14	0.14
7	90F4300	640250-7	0.12	0.12	90F4314	640251-7	0.35	0.31
8	90F4301	640250-8	0.15	0.15	90F4315	640251-8	0.40	0.35
10	90F4303	1-640250-0	0.50	0.44	90F4317	1-640251-0	0.50	0.44
12	90F4305	1-640250-2	0.23	0.22	90F4319	1-640251-2	0.59	0.53

CRIMP CONTACTS

Stock No.	Type	Amps	Material and Finish	1-99	100-249
90F3993	640706-1	7	Brass, Bright Tin	0.24	0.24
66F3337	640706-2	7	Brass, Pre-Tin	0.19	0.15
90F3994	640707-1	7	Brass, Bright Tin	0.24	0.19
66F3009	770522-1	10	Phosphor Bronze, Bright Tin	0.24	0.19

KEYING PLUGS

Stock No.	Type	Description	1-99	100-249
90F4065	640254-1	Keying Plug	0.04	0.04
90F4066	640255-1	Keying Pin	0.10	0.08

TOOLING

Stock No.	Type	Description	Insulation Diameter	Each
82F9914	90123-2	Hand Tool	0.060-0.110″ (1.52-2.79)	342.90
82F9915	90123-5	Hand Tool	0.043-0.075″ (1.09-1.91)	398.40

(32996) (ne32996)

AMPLIMITE® D-SUB CONNECTORS

HD-20 METAL-SHELL POSTED CONNECTORS

Right-Angle Plug

Right-Angle Receptacle

Straight Plug

Board mount connectors available in right-angle or straight versions. Brass pin and phosphor bronze socket contacts are duplex plated on mating end with **"A"** 30µ" gold or **"B"** gold flash; both have tin-lead on termination end with nickel under all. Shells are tin-plated steel except type numbers with (+) are zinc-plated. Black thermoplastic housing, rated UL94V-0. PC board mounting: **"1"** has standard 0.120" (3.05) dia. holes; **"2"** has 4-40 zinc threaded inserts. PC board footprint: (●) 0.318"; (■) 0.590"; (◆) 0.545". (†) With boardlocks. (‡) With screwlocks. (*) Plugs with grounding indents. UL recognized, CSA certified.

FRONT METAL-SHELL RIGHT-ANGLE POSTED PLUGS—0.026" (0.66) DIAMETER POST

Stock No.	Type	Contacts No.	Contacts Plating	PCB Mtg./Footprint	Width	1-24	25-49	50-99
52F4844	747250-2*	9	B	1/●	1.213"	3.96	3.79	3.69
66F3311	747236-2*	15	B	1/●	1.541"	6.82	5.46	4.36
66F2984	747238-2*	25	B	1/●	2.088"	8.14	6.51	5.21
66F3071	747252-2*	37	B	1/●	2.729"	12.61	10.08	8.07
90F5478	747250-4	9	A	2/●	1.213"	2.50▲	2.43▲	2.34▲
90F3692	747847-4†	9	A	2/●	1.213"	6.60	6.42	4.57
95F2691	747840-6†‡	9	A	2/●	1.213"	2.31▲	2.25▲	2.16▲
90F5475	747236-4*	15	A	2/●	1.541"	7.26	6.53	5.88
90F3697	747841-4†	15	A	2/●	1.541"	2.11▲	2.05▲	1.98▲
90F5477	747238-4*	25	A	2/●	2.088"	4.43▲	4.31▲	4.15▲
93F7323	747842-4†	25	A	2/●	2.088"	3.70▲	3.60▲	3.46▲
90F5479	747252-4*	37	A	2/●	2.729"	13.27	10.61	8.49
66F3043	747843-4†	37	A	2/●	2.729"	4.62▲	4.49▲	3.20▲
66F3072	747832-4*	9	B	1/■	1.213"	3.32	2.82	2.51
66F3364	747834-4*	25	B	1/■	2.088"	14.65	12.45	10.58
97F9012	745990-4*	9	A	2/■	1.213"	17.22▲	11.22▲	7.76▲
90F5466	745986-4*	15	A	2/■	1.541"	13.99	12.59	11.96
97F9013	745994-4*	25	A	2/■	2.088"	15.60	10.92	8.73
RECEPTACLES—0.026" (0.66) DIAMETER POST								
90F5490	745781-2	9	B	1/●	1.213"	5.72	4.58	3.66
66F3065	745782-2	15	B	1/●	1.541"	6.71	5.37	4.29
66F2972	745783-2	25	B	1/●	2.088"	8.03	6.42	5.14
90F5495	745781-4	9	A	2/●	1.213"	2.17▲	2.11▲	2.03▲
90F3687	747844-4†	9	A	2/●	1.213"	1.93▲	1.87▲	1.80▲
90F5483	745782-4	15	A	2/●	1.541"	2.65▲	2.58▲	2.48▲
90F3689	747845-4†	15	A	2/●	1.541"	2.40▲	2.33▲	2.25▲
90F5485	745783-4	25	A	2/●	2.088"	3.13▲	3.05▲	2.94▲
90F3690	747846-4†	25	A	2/●	2.088"	2.93▲	2.85▲	2.74▲
90F5487	745784-4	37	A	2/●	2.729"	6.60▲	6.42▲	4.57▲
90F3692	747847-4†	37	A	2/●	2.729"	6.60▲	6.42▲	4.57▲
93F7332	747837-4	15	B	1/■	1.541"	2.65▲	2.58▲	2.48▲
90F3700	747838-4	25	B	1/■	2.088"	4.78▲	4.65▲	4.48▲
90F3698	745988-4	9	A	2/■	1.213"	12.83	10.90	10.36
66F1650	747836-4†	9	A	2/■	1.213"	6.55	5.24	4.19
90F5481	745984-4	15	A	2/■	1.541"	14.71	13.24	12.57
90F5468	745992-4	25	A	2/■	2.088"	16.98	15.29	14.52
97F9014	745996-4	37	A	2/■	2.729"	19.82	17.84	16.95

FULL METAL-SHELL RIGHT-ANGLE POSTED PLUGS—0.025" (0.64) SQUARE POST

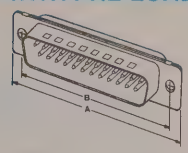
44F8731	205865-1+	9	B	1/◆	1.213"	9.52	8.57	7.71
44F8681	205857-1+	25	B	1/◆	2.088"	12.83	11.54	10.39
44F8673	205859-1+	37	B	1/◆	2.729"	12.44	11.20	10.64
RECEPTACLES—0.025" (0.64) SQUARE POST								
44F8684	205866-1+	9	B	1/◆	1.213"	10.29	9.26	8.33
44F8686	205868-1+	15	B	1/◆	1.541"	11.65	10.49	9.44
44F8688	205858-1+	25	B	1/◆	2.088"	11.29	10.16	9.65
44F8676	205860-1+	37	B	1/◆	2.729"	13.42	12.08	11.47
44F8678	205870-1+	50	B	1/◆	2.635"	16.99	15.30	14.53

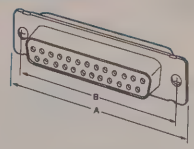
FRONT METAL-SHELL STRAIGHT POSTED PLUGS—0.026" (0.66) DIAMETER POST

93F7336	747871-8*	9	A	2	1.213"	5.32▲	5.18▲	4.99▲
97F9015	747872-8*	15	A	2	1.541"	4.75	4.28	4.06
93F7369	745968-8*	25	A	2	2.090"	7.17	6.45	5.81
97F9016	747375-8*	37	A	2	2.732"	10.58	9.53	8.57
RECEPTACLES—0.026" (0.66) DIAMETER POST								
95F2701	747150-8	9	A	2	1.213"	4.99▲	4.86▲	4.68▲
93F7335	747299-8	15	A	2	1.541"	6.24▲	6.07▲	4.33▲
90F5417	745967-8	25	A	2	2.090"	7.73▲	7.52▲	5.37▲
97F9017	747301-8	37	A	2	2.732"	11.25	10.12	9.11

▲Price column quantities vary from above, *contact your local Newark sales office for details.*
(8036) (da50178)

HDP-20 SOLDER CUP CONNECTORS WITH PRE-LOADED CONTACTS


Plug with Grounding Indents


Receptacle

Steel shells have either tin or zinc plating. Connector inserts are UL94V-0 rated black thermoplastic. Pre-loaded non-removable solder cup contacts are phosphor bronze with duplex plated gold flash on mating end; tin-lead on solder cup. Accept 20 AWG or smaller solid or stranded wire. Fit 0.062" (1.57) thick PC board. UL recognized file E28476, CSA certified.

TIN PLATED PLUGS WITH GROUNDING INDENTS

Stock No.	Type	Pins	Dimensions A	Dimensions B	1-24	25-49	50-99
46F1329	747904-2	9	1.213"	0.984"	1.66*	1.62*	1.56*
46F1333	747908-2	15	1.541"	1.312"	2.71*	2.63*	2.53*
46F1337	747912-2	25	2.088"	1.852"	3.16*	3.07*	2.96*
46F1341	747916-2	37	2.729"	2.500"	6.75	5.40	4.32
ZINC PLATED PLUGS							
46F1331	747904-4	9	1.213"	0.984"	2.32	2.09	1.88
46F1335	747908-4	15	1.541"	1.312"	3.22	2.90	2.61
46F1339	747912-4	25	2.088"	1.852"	4.52	4.07	3.46
46F1343	747916-4	37	2.729"	2.500"	6.64	5.32	4.25
TIN PLATED RECEPTACLES							
46F1330	747905-2	9	1.213"	0.984"	2.24*	2.18*	2.10*
46F1334	747909-2	15	1.541"	1.312"	4.32	3.89	3.50
46F1338	747913-2	25	2.088"	1.852"	3.95*	3.84*	3.70*
46F1342	747917-2	37	2.729"	2.500"	8.33	6.66	5.33
ZINC PLATED RECEPTACLES							
46F1332	747905-4	9	1.213"	0.984"	3.22	2.90	2.61
46F1340	747913-4	25	2.088"	1.852"	5.81	4.65	3.72

*Price column quantities vary from above, *contact your local Newark sales office for details.*
(7980) (de00764)

HDF-20 LOW PROFILE 0.050" (1.27) FLAT RIBBON CABLE CONNECTORS

Preassembled black thermoplastic housing and cover, rated 94V-0. 4-40 threaded brass inserts; phosphor bronze contacts with gold plating on mating end, tin-lead on termination end over nickel under plating. Tin-plated steel front shell on metal versions. UL recognized, CSA certified. Thermoplastic strain reliefs available; *contact your local Newark sales office for details.*

METAL-SHELL PLUGS

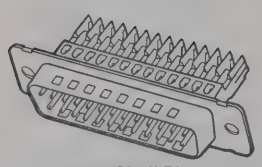
Stock No.	Type	Positions	Width	1-24	25-49	50-99	100-249
87F6615	747306-4	9	1.216"	3.49	3.39	3.27	2.76
44F8830	747306-3	15	1.541"	7.41	6.67	6.34	5.70
44F8831	747306-2	25	2.090"	4.94*	4.80*	4.62*	3.92*
44F8832	747306-1	37	2.732"	13.14	11.83	10.64	10.11
METAL-SHELL RECEPTACLES							
87F6616	747303-4	9	1.216"	4.46*	4.01*	3.81*	3.24*
44F8833	747303-3	15	1.541"	7.62	6.86	6.17	5.86
44F8841	747303-2	25	2.090"	8.00	7.20	6.48	6.16
44F8842	747303-1	37	2.732"	11.33	10.20	9.18	8.72
ALL-PLASTIC PLUGS							
87F6613	747321-4	9	1.216"	3.93	3.53	3.36	2.85
44F8803	747321-3	15	1.541"	4.60	4.14	3.93	3.34
44F8804	747321-2	25	2.090"	6.35	5.71	5.14	4.88
44F8805	747321-1	37	2.732"	11.27	10.14	9.12	8.67
ALL-PLASTIC RECEPTACLES							
87F6614	747318-4	9	1.216"	3.99	3.59	3.41	2.90
44F8827	747318-3	15	1.541"	6.63	5.97	5.67	5.10
44F8828	747318-2	25	2.090"	6.74	6.07	5.46	5.19
44F8829	747318-1	37	2.732"	9.46	8.51	7.66	7.28

CABLE STABILIZERS

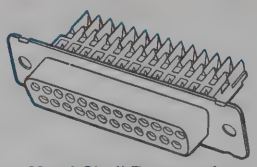
Stock No.	Type	Positions	Shell Size	1-99	100-249	250-499
92F5379	747275-4	9	1	1.17	0.92	0.75
50F685	747275-3	15	2	1.24	0.98	0.80
50F684	747275-2	25	3	0.92	0.73	0.59
97F9018	747275-1	37	4	0.62	...	...

*Price column quantities vary from above, *contact your local Newark sales office for details.*
(8177) (ne50180)

HDE-20 IDC CONNECTORS



Metal-Shell Plug



Metal-Shell Receptacle

Designed for terminating solid or up to 7-strand discrete wire and jacketed cable. Choice of tin-plated steel shell with thermoplastic insert or complete thermoplastic housing, both versions rated UL94V-0. Pre-loaded insulation displacement phosphor bronze crimp contacts finished with gold on mating end, tin-lead on termination end over nickel underplating. Wire size 26-22 AWG. UL recognized, CSA certified. *Order application tools separately on this page.*

ALL-PLASTIC PLUGS

Stock No.	Type	Contacts	Width	1-24	25-49	50-99	100-249
50F2032	745203-2	9	1.213″	2.83†	2.75†	2.65†	1.90†
50F2033	745207-2	15	1.541″	3.22	2.90	2.76	2.34
90F5577	745211-2	25	2.088″	4.43	3.99	3.79	3.22
90F5579	745211-5*	25	2.088″	5.94	5.68	5.53	3.04
50F2034	745215-2	37	2.729″	6.68	6.02	5.41	5.14

ALL-PLASTIC RECEPTACLES

90F5580	745201-2	9	1.213″	3.72	3.35	3.18	2.86
50F2035	745205-2	15	1.541″	4.83	4.35	4.13	3.72
90F5581	745209-2	25	2.088″	6.84	6.16	5.85	5.26
90F5582	745209-5*	25	2.088″	6.70	6.41	6.24	3.43
50F2036	745213-2	37	2.729″	9.53	8.57	7.72	7.33

METAL-SHELL PLUGS WITH GROUNDING INDENTS

90F5567	745492-2	9	1.213″	3.04†	2.95†	2.84†	2.04†
90F5565	745491-2*	9	1.213″	3.04†	2.95†	2.84†	2.04†
90F5569	745494-2	15	1.541″	4.16†	4.04†	3.89†	2.80†
90F5570	745494-5*	15	1.541″	4.16†	4.04†	3.89†	2.80†
90F5585	745496-2	25	2.088″	4.28†	4.16†	4.01†	2.88†
90F5586	745496-5*	25	2.088″	4.91†	4.77†	3.40†	2.54†
90F5573	745498-2	37	2.729″	6.66†	6.47†	4.61†	3.44†
90F5556	745498-5*	37	2.729″	9.92	9.49	9.24	5.06

METAL-SHELL RECEPTACLES

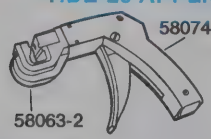
90F5565	745491-2	9	1.213″	3.04	2.95	2.84	2.04
90F5566	745491-5*	9	1.213″	4.42	4.23	4.12	2.29
90F5590	745493-2	15	1.541″	4.16†	4.04†	3.89†	2.80†
90F5591	745493-5*	15	1.541″	4.58†	4.45†	4.28†	3.08†
90F5589	745495-2	25	2.088″	6.66†	6.47†	4.61†	3.44†
90F5588	745495-5*	25	2.088″	6.66†	6.47†	4.61†	3.44†
90F5571	745497-2	37	2.729″	11.04	9.94	8.94	8.50
90F5572	745497-5*	37	2.729″	10.95	10.48	10.40	8.91

* With gold flash

†Price column quantities vary from above, *contact your local Newark sales office for details.*

(8161) (ne50136)

HDE-20 APPLICATION TOOLS



91287-1

Two-piece manual pistol-style hand tool consists of **type 58063-2** rotating modular head assembly and **type 58074-1** pistol-grip hand tool frame, *ordered separately*, to terminate one unstripped wire per cycle and index the connector to the next terminating position. **Type 91287-1** is a T-handle wire insertion tool.

Stock No.	Type	Description	1-9	10-24
50F2043	91287-1	Wire Insertion Tool	5.03	4.52
50F783	58074-1	Pistol-Grip Tool Frame	74.00	70.30
50F663	58063-2	Modular Head Assembly	198.00	184.80
66F3117	58338-1	Bench-Mount Pneumatic Power Assembly	444.14	373.00
50F618	91232-1	Extraction Tool	14.16	12.75

AMPLIMITE® D-SUB CONNECTOR CONVERSION CHART

Shell Size	HDP-20, HDF-20, HDE-20, HDM-20 Positions/Contacts	HDP-22, HD-22 Positions/Contacts
1	9	15
2	15	26
3	25	44
4	37	62
5	50*	78

* Not available in HDE

(de50137)

HDP-20 CRIMP SNAP-IN CONTACT CONNECTORS

Fig. 1

Fig. 2

Fig. 3

Steel shells have either tin or zinc plating. Connector inserts 94V-0 rated thermoplastic. Used for discrete wire terminations. UL recognized, file E28476; CSA certified, file R16455. *Order* **HDP-20** *snap-in contacts and tools separately on this page.*

TIN-PLATED PLUGS WITHOUT GROUNDING INDENTS (FIG. 1)

Stock No.	Type	Positions	Mounting Type	Dimensions A	Dimensions B	1-24	25-49	50-99
90F5538	205204-3	9	Standard	1.213″	0.984″	1.33*	1.29*	1.25*
93F3027	205206-2	15	Standard	1.541″	1.312″	1.66	1.31	1.07
90F5540	207464-1	25	Standard	2.088″	1.852″	1.10*	1.07*	1.03*
90F5539	205210-2	37	Standard	2.729″	2.500″	2.03	1.94	1.89
92F5899	205212-2	50	Standard	2.635″	2.406″	2.88	2.75	2.68

TIN-PLATED PLUGS WITH GROUNDING INDENTS (FIG. 2)

44F8690	205204-4	9	Standard	1.213″	0.984″	0.87*	0.85*	0.81*
66F3064	745906-2	9	Clinch Nut	1.213″	0.984″	4.07*	3.96*	3.81*
44F8692	205206-3	15	Standard	1.541″	1.312″	1.03*	1.01*	0.97*
44F8694	207464-2	25	Standard	2.088″	1.852″	0.91*	0.89*	0.85*
83F4519	745036-2	25	Clinch Nut	2.088″	1.852″	4.85	3.93	3.23
44F8696	205210-3	37	Standard	2.729″	2.500″	1.75*	1.70*	1.64*
44F8698	205212-3	50	Standard	2.635″	2.406″	1.87*	1.82*	1.75*

ZINC-PLATED PLUGS WITH GROUNDING INDENTS (FIG. 2)

44F8689	205204-1	9	Standard	1.213″	0.984″	1.00*	0.97*	0.94*
44F8691	205206-1	15	Standard	1.541″	1.312″	1.45*	1.41*	1.36*
44F8693	205208-1	25	Standard	2.088″	1.852″	1.29*	1.25*	1.21*
44F8695	205210-1	37	Standard	2.729″	2.500″	1.61	1.45	1.37
44F8697	205212-1	50	Standard	2.635″	2.406″	1.94	1.74	1.66

TIN-PLATED RECEPTACLES (FIG. 3)

44F8700	205203-3	9	Standard	1.213″	0.494″	0.84*	0.81*	0.78*
92F8455	745907-1	9	Clinch Nut	1.213″	0.494″	4.37*	4.25*	4.09*
44F8702	205205-2	15	Standard	1.541″	0.494″	0.91*	0.89*	0.85*
90F3683	745909-1	15	Clinch Nut	1.541″	0.494″	4.19	4.01	3.98
44F8704	207463-1	25	Standard	2.088″	0.494″	1.03*	1.01*	0.97*
90F3655	207516-3	25	Clinch Nut	2.088″	0.494″	4.20*	4.09*	2.91*
44F8706	205209-2	37	Standard	2.729″	0.494″	1.24*	1.21*	1.16*
44F8708	205211-2	50	Standard	2.635″	0.605″	1.94	1.74	1.66

ZINC-PLATED RECEPTACLES (FIG. 3)

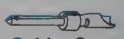
44F8699	205203-1	9	Standard	1.213″	0.984″	1.17*	1.13*	1.09*
44F8701	205205-1	15	Standard	1.541″	1.312″	1.29*	1.25*	1.21*
44F8703	205207-1	25	Standard	2.088″	1.852″	1.03*	1.01*	0.97*
44F8705	205209-1	37	Standard	2.729″	2.500″	1.61	1.45	1.37
44F8707	205211-1	50	Standard	2.635″	2.406″	1.94	1.74	1.66

*Price column quantities vary from above, *contact your local Newark sales office for details.*

(8067) (ne00765)

HDP-20 SNAP-IN CONTACTS

Crimp



Solder Cup

Available (*) Crimp or (+) Solder Cup. **Sold in packages of 100.**

BRASS PINS

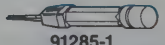
Stock No.	Type	Wire Size/Plating	1-24	25-49	50-99
46F1117	66507-9	28-24 AWG/Selective Gold *	21.00	17.69	16.36
89F317	1-66507-0	28-24 AWG/Gold Flash*	19.00	17.64	15.11
90F5533	745254-7	26-22 AWG/Gold Flash*	0.20	0.19	0.18
96F7902	6-66506-1	24-20 AWG/Selective Gold *	15.66	12.53	10.57
44F8725	1-66506-0	24-20 AWG/Gold Flash*	19.00	17.64	15.11
96F7924	66570-8	18 AWG Max./Gold Flash+	21.01	18.91	17.96

PHOSPHOR BRONZE SOCKETS

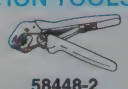
96F7923	6-66505-9	28-24 AWG/Selective Gold*	19.14	16.27	15.46
89F318	1-66505-0	28-24 AWG/Gold Flash*	21.08	19.57	16.77
99F3304	745253-7	26-22 AWG/Gold Flash*	177.91	98.21	87.60
96F7922	7-66504-0	24-20 AWG/Selective Gold*	19.14	16.27	15.46
44F8726	1-66504-0	24-20 AWG/Gold Flash*	21.08	19.57	16.77
92F5795	1-66569-0	18 AWG Max./Gold Flash+	16.39	14.75	14.01

(8069) (ne00767)

HDP-20 APPLICATION TOOLS



91285-1



58448-2

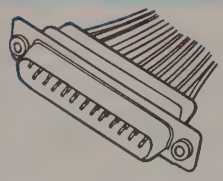
Stock No.	Type	Description	1-2	3-4
44F8729	91067-2	24-20 AWG Insertion/Extraction Tool	4.22	4.00
90F1401	91285-1	28-24 AWG Insertion/Extraction Tool	12.78	11.50
92F9096	90287-1	AMP® Service Tool	27.83	25.04
44F8730	58448-2	PRO-CRIMPER™ II Hand Tool	127.60	121.22
50F692	90302-1	CERTI-CRIMP® Hand Tool	403.65	383.47

(8070) (ne00768)

AMP

AMPLIMITE® D-SUB CONNECTORS

HDM-20 HIGH-DENSITY MIL.-QUALIFIED CONNECTORS



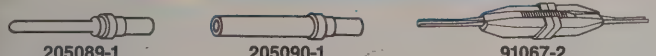
High-density D type connectors for military and ground support, computer peripheral equipment, modems and industrial instrumentation. Mount front or rear. Steel shell; Class G, cadium plated per QQ-P-416 with insert approved material per MIL-C-24308 and stainless steel retention springs. Contacts not included; *order* **type 205089-1** *pin contacts,* **type 205090-1** *socket contacts, and tools separately on this page.*

PLUGS

Stock No.	Type	MIL No. M24308/	Positions	Width	1-24	25-49	50-99	100-249
44F8711	205162-1	4-259	9	1.213″	7.60	6.84	6.15	5.54
44F8712	205164-1	4-260	15	1.541″	8.09	7.28	6.55	6.22
44F8713	205166-1	4-261	25	2.088″	8.38	6.71	5.36	4.56
44F8714	205168-1	4-262	37	2.729″	11.51	10.36	9.32	8.39
44F8715	205170-1	4-263	50	2.635″	13.65	11.60	11.02	9.92
RECEPTACLES								
44F8716	205161-1	2-281	9	1.213″	6.40	5.12	4.10	3.48
44F8717	205163-1	2-282	15	1.541″	7.41	5.93	4.74	4.03
44F8718	205165-1	2-283	25	2.088″	9.14	8.23	7.41	7.04
44F8719	205167-1	2-284	37	2.729″	10.55	8.44	6.75	5.74
44F8720	205169-1	2-285	50	2.635″	13.65	12.29	11.67	11.09

(8178) (ne50181)

HDM-20 CONTACTS AND TOOLS



205089-1 205090-1 91067-2

Stock No.	Type	Description	1-24	25-49	50-99
44F8721	205089-1	24-20 AWG Crimp Snap Pin Contacts (**Pkg. of 100**)	23.07	19.00	16.62
44F8722	205090-1	24-20 AWG Crimp Snap Socket Contacts (**Pkg. of 100**)	37.88	31.20	27.28
44F8729	91067-2	Insertion/Extraction Tool - 24-20 AWG	4.22	4.00	3.80
89F137	601966-1	Crimp Tool, Mil. Spec. M22520/2-01	401.25	374.50	...
92F8446	601966-5	Positioner, Mil. Spec. M22520/2-08	91.89	75.67	67.50

(8179) (ne50182)

D-SUB CONNECTOR INSTALLER KITS

Kits include connector housing, backshell with grommets, hardware and 24-20 AWG crimp snap-in or 26-22 AWG IDC contacts.

HDP-20 CRIMP SNAP-IN SHIELDED METAL BACKSHELL KITS

Stock No.	Type	Position	Connector	1-24	25-49	50-99	100-249
96F9820	749805-4	9	Plug	6.38	5.74	5.45	4.91
96F9821	749805-2	15	Plug	4.60	4.40	4.29	3.68
96F9822	749805-6	25	Plug	7.65	6.89	6.20	5.89
96F9823	749806-4	9	Receptacle	6.39	5.75	5.46	4.92
96F9824	749806-5	15	Receptacle	5.34	4.64	4.26	4.19
96F9825	749806-6	25	Receptacle	7.73	6.95	6.26	5.94
HDP-20 CRIMP SNAP-IN UNSHIELDED PLASTIC BACKSHELL KITS							
96F9826	749808-4	9	Plug	4.41	3.97	3.77	3.39
96F9827	749808-5	15	Plug	4.64	4.17	3.96	3.57
96F9828	749808-6	25	Plug	5.04	4.54	4.31	3.88
96F9829	749812-1	9	Receptacle	4.41	3.97	3.77	3.39
96F9830	749812-5	15	Receptacle	3.58	3.12	2.87	2.81
96F9831	749812-6	25	Receptacle	5.10	4.59	4.36	3.92
HDE-20 IDC SHIELDED METAL BACKSHELL KITS							
96F9832	749810-4	9	Plug	7.62	6.86	6.17	5.86
96F9833	749810-5	15	Plug	8.67	7.80	7.02	6.67
96F9834	749810-6	25	Plug	10.17	9.15	8.24	7.83
96F9835	749814-4	9	Receptacle	7.65	6.89	6.20	5.89
96F9836	749814-5	15	Receptacle	8.73	7.86	7.07	6.72
96F9837	749814-6	25	Receptacle	10.26	9.23	8.31	7.90

(8003) (de03452)

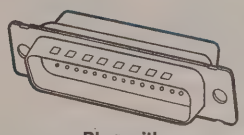
D-SUB HD-20 SNAP-IN CONTACT CONNECTOR KITS

25-position RS-232 repair kits contain 18 **type 207463-1** plugs, 6 **type 207464-1** receptacles, and 14 **type 749626-2** cable clamps. Multi-position kits contain 3 each: 9-, 15-, 25- and 37-position receptacles, 6 each: 9-, 15-, 25- and 37-position plugs and cable clamp. All kits include crimp snap-in contacts: 100 **type 66504-9** sockets, 100 **type 66506-9** pins, 1 insertion/extraction tool and 1 metal case. Type numbers with **suffix -2** also include 1 **type 90287-1** crimp tool.

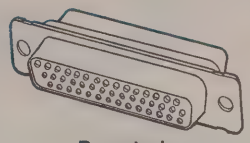
Stock No.	Type	Description	1-2
96F9817	787053-1	RS-232 Kit without Tool	108.01
96F9818	787053-2	RS-232 Kit with Tool	139.71
96F9815	787054-1	Multi Kit without Tool	155.15
96F9816	787054-2	Multi Kit with Tool	186.85

(8004) (de03453)

HDP-22 CRIMP SNAP-IN CONTACT CONNECTORS



Plug with Grounding Indents



Receptacle

Feature tin-plated steel shells with black thermoplastic insert, rated UL94V-0. Approximately 65% higher density than **HD-20** connectors. Accept high performance, precision-formed **HDP-22** crimp, snap-in contacts, *ordered separately on this page.* Mate with any size 22D subminiature connector dimensionally complying with MIL-C-24308. *Order application tools separately on this page.* UL recognized, CSA certified.

PLUGS WITH GROUNDING INDENTS

Stock No.	Type	Positions	Width	1-24	25-49	50-99	100-249
90F5574	748364-1	15	1.213″	2.50*	2.43*	2.34*	1.68*
50F2050	748365-1	26	1.541″	4.99	4.86	4.68	3.36
50F2051	748366-1	44	2.088″	5.61*	5.46*	3.89*	2.90*
90F5575	748367-1	62	2.729″	5.40*	5.25*	3.75*	2.80*
50F2050	748365-1	78	2.635″	4.99*	4.86*	4.68*	3.36*
RECEPTACLES							
50F2053	748565-1	15	1.213″	2.71*	2.63*	2.53*	1.82*
50F2054	748566-1	26	1.541″	5.61*	5.46*	3.89*	2.90*
50F2055	748567-1	44	2.088″	6.28	5.65	5.08	4.58
50F2056	748568-1	62	2.729″	6.90	6.21	5.59	5.03
50F2057	748569-1	78	2.635″	8.19	7.84	7.63	6.54

*Price column quantities vary from above; *contact your local Newark sales office for details.*
(8162) (ne50138)

HDP-22 CRIMP SNAP-IN CONTACTS

Precision-formed, size 22 DF crimp contacts fit **HDP-22** plugs and receptacles. Brass pin contacts and phosphor bronze socket contacts available in gold or gold flash finish on mating end, tin-lead on crimp barrel, with entire contact nickel underplated. 0.040″ insulation dia. max. Wire size: 22-28 AWG. *Order application tools separately on this page.*

PIN CONTACTS

Stock No.	Type	Finish	1-24	25-49	50-99	100-249
90F5583	748333-4	Gold	0.14*	0.14*	0.13*	0.13*
50F2058	748333-7	Gold Flash	0.09	0.08	0.08	0.07
SOCKET CONTACTS						
50F2041	748610-4	Gold	0.12	0.11	0.11	0.09
50F2042	748610-7	Gold Flash	0.14	0.12	0.12	0.10

*Price column quantities vary from above; *contact your local Newark sales office for details.*
(8165) (ne50141)

HDP-22 APPLICATION TOOLS

Stock No.	Type	Description	1-4	5-9
90F1401	91285-1	Insertion/Extraction Hand Tool with tips for size 22 and 20, 28-20 AWG crimp contacts and size 20 posted contacts	12.78	11.50
96F9838	90800-1	PRO-CRIMPER™ II Hand Tool*	135.00	128.25
50F693	90430-1	CERTI-CRIMP® Hand Tool*	480.00	448.00

*28-22 AWG
(8164) (ne50140)

HDP-20 SHIELDING HARDWARE KITS

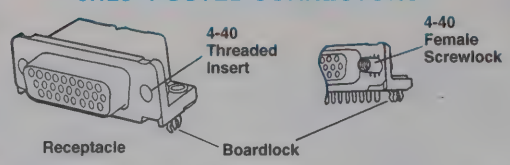
Kit contains: connector, inner and outer shield, enclosure, and 2 jack screws. Order contacts and ferrules separately; *contact your local Newark sales office for details..*

HDP-20, CRIMP SNAP-IN, SHIELDING HARDWARE KITS

Stock No.	Type	Positions	Shell Size	Connector	1-24	25-49	50-99
90F3648	747522-1	9	1	Plug	1.87*	1.82*	1.75*
90F3649	747538-1	15	2	Plug	1.99*	1.94*	1.86*
90F5548	747554-1	25	3	Plug	2.08*	2.02*	1.95*
90F3650	747570-1	37	4	Plug	3.32*	3.23*	3.11*
90F5550	747523-1	9	1	Receptacle	1.66*	1.62*	1.56*
90F3651	747539-1	15	2	Receptacle	2.09*	2.03*	1.96*
90F5549	747555-1	25	3	Receptacle	2.08*	2.02*	1.95*
83F4520	747571-1	37	4	Receptacle	5.65	4.58	3.77
HDP-20, CRIMP SNAP-IN, SHIELDING HARDWARE, ENCLOSURE KITS							
90F5553	747952-1	9	1	Plug	6.66*	6.47*	4.61*
90F5554	747954-1	15	2	Plug	6.66*	6.47*	4.61*
90F5555	747956-1	25	3	Plug	8.32*	8.09*	5.77*
93F7360	747958-1	37	4	Plug	10.56*	10.27*	7.31*
90F5552	747951-1	9	1	Receptacle	7.28*	7.08*	5.05*
95F2721	747953-1	15	2	Receptacle	7.26*	7.06*	5.03*
50F622	747955-1	25	3	Receptacle	8.94	8.70	6.20
95F2719	747957-1	37	4	Receptacle	12.47	11.93	11.84

*Price column quantities vary from above; *contact your local Newark sales office for details.*
(40671) (ne40671)

HD-22 METAL-SHELL RIGHT-ANGLE 0.125″ POSTED CONNECTORS



For robotic and high-temperature applications. Tin-plated steel front metal shell on black thermoplastic housing rated UL94V-0. Phosphor bronze posted contacts finished with gold on mating end, tin-lead on termination end, and nickel underplated overall. With 4-40 zinc-threaded inserts or zinc female screwlocks mating hardware. Boardlock mounting hardware; 0.350″ footprint. UL recognized, CSA certified.

4-40 THREADED INSERTS-PLUGS

Stock No.	Type	Contacts	Width	1-24	25-49	50-99	100-249
92F4859	749767-1	15	1.222″	2.71*	2.63*	2.53*	1.82*
66F3028	749769-1	26	1.550″	15.32	12.90	12.16	11.18
83F4521	749771-1	44	2.090″	22.36	20.76	17.77	16.07
99F3354	749639-1	62	2.738″	50.18	46.59	40.70	36.71

4-40 THREADED INSERTS—RECEPTACLES

Stock No.	Type	Contacts	Width	1-24	25-49	50-99	100-249
90F3673	748390-5	15	1.222″	1.50*	1.46*	1.40*	0.95*
50F2021	748481-5	26	1.550″	9.36*	9.11*	6.50*	4.85*
90F3584	748482-5	44	2.090″	5.52*	5.37*	3.83*	2.86*
50F2022	748394-5	62	2.738″	27.25	19.07	15.26	12.21

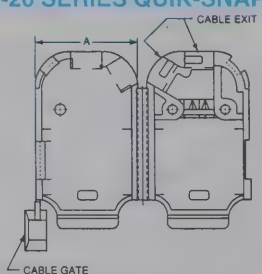
FEMALE SCREWLOCKS—RECEPTACLES

Stock No.	Type	Contacts	Width	1-24	25-49	50-99	100-249
50F2006	748390-6	15	1.222″	2.52*	2.45*	2.36*	2.29*
50F2008	748481-6	26	1.550″	13.15	11.83	11.24	10.68
50F2009	748482-6	44	2.090″	17.44	15.70	14.92	14.17
50F2010	748394-6	62	2.738″	27.25	19.07	15.26	12.21

*Price column quantities vary from above, *contact your local Newark sales office for details.*

(8163) (ne50139)

HDP-20 AND HDE-20 SERIES QUIK-SNAP BACKSHELL KIT



1-piece, all-plastic cable clamp kit for **HDP-20** and **HDE-20 series** D-Sub connectors. Ideal for jacketed cable. Quick assembly, no special tools required. Each kit has cable exit option of 180° or 120°, and includes 1 hinged clamp, 1 cable exit gate plug (used to close unused cable exit), 2 zinc-plated carbon steel screws, 1 stainless steel relief clip and 2 stainless steel retainer clips for metal-shell connector applications.

Stock No.	Type	Positions	Dim. A	1-24	25-49	50-99	100-249
50F2000	749914-2	9	0.785″	1.88	1.69	1.52	1.37
50F2001	749915-2	15	1.110″	1.86	1.67	1.51	1.36
50F2002	749626-2	25	1.650″	1.87	1.68	1.51	1.36
50F2003	749916-2	37	2.296″	2.06	1.85	1.67	1.50

(8068) (ne00766)

ALUMINUM SPLIT-RING FERRULES

For shielded cable clamps, *ordered separately on page 139.*

Stock No.	Type	Max. Cable Diameter/Positions	1-24	25-49	50-99
44F8825	745508-1	0.430″/15, 0.430″/25, 0.430″/37	0.28	0.25	0.24
44F8826	745508-3	0.240″/9, 0.225″/15	0.38	0.34	0.32
44F8781	745508-4	0.300″/15, 0.280″/25	0.28	0.25	0.24
44F8782	745508-5	0.350″/25, 0.350″/37	0.38	0.34	0.32
44F8783	745508-6	0.370″/9, 0.375″/15, 0.375″/50	0.28	0.25	0.24
44F8784	745508-7	0.450″/50	0.64	0.55	0.52

(8072) (ne00872)

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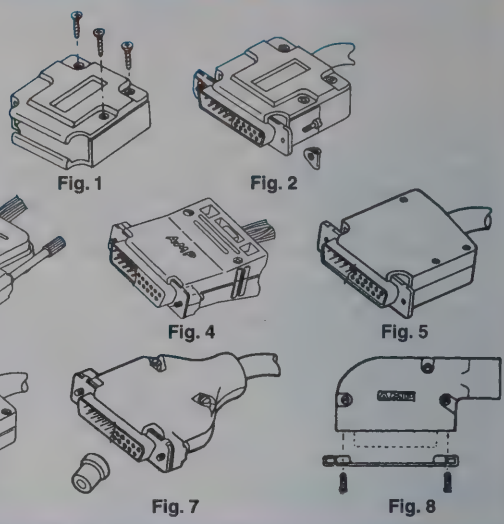
HDP-20 AND HDE-20 CABLE CLAMPS



For **HDP-20** or **HDE-20 series** metal shell connectors.

BOX AND LID STRAIGHT/90° EXIT UNSHIELDED CABLE CLAMPS–FIG. 1

Black thermoplastic housing, gates, zinc-plated steel screws.

Stock No.	Type	Positions	Cable O.D.	W × L	1-24	25-49	50-99
44F8740	207467-1	9	0.160″	0.755 × 1.700″	2.71†	2.63†	2.53†
44F8741	207470-1	15	0.320″	1.078 × 1.700″	3.32†	3.23†	3.11†
44F8742	207345-1	25	0.390″	1.620 × 1.700″	3.41†	3.32†	3.19†
44F8743	207473-1	37	0.640″*	2.268 × 1.700″	2.59	2.33	2.21
44F8734	207476-1	50	0.490″	2.178 × 1.700″	2.57	2.32	2.20

BOX AND LID STRAIGHT/90° EXIT UNSHIELDED CABLE CLAMPS WITH MALE SCREW RETAINERS–FIG. 2

Black thermoplastic housing, gates, zinc-plated steel flat head screws and zinc-plated yellow chromate male screws. Stainless steel retaining clip. .

90F5522	207908-1	9	0.160″	0.755 × 1.700″	3.11†	3.03†	2.91†
90F5524	207908-4	15	0.320″	1.078 × 1.700″	3.91†	3.80†	3.66†
90F5525	207908-7	25	0.390″	1.620 × 1.700″	3.53†	3.43†	3.31†
92F5374	1-207908-0	37	0.640″	2.268 × 1.700″	3.75	3.59	3.50

STRAIGHT EXIT DATAPHONE CABLE CLAMPS–FIG. 3

Black polyester housing. Cable outer diameter with gate 0.260″, 0.340″. Thread size:4-40. Hardware included.

44F8735	745122-2	15	0.400″	1.575 × 1.312″	8.51	7.66	6.89
44F8736	745121-2	25	0.500″	2.115 × 1.421″	8.86†	8.61†	6.14†

STRAIGHT/90° EXIT UNSHIELDED CABLE CLAMPS–FIG. 4

Gray thermoplastic housing. Hardware included.

44F8744	206471-1	15	0.350″	1.550 × 1.750″	3.75	3.38	3.21
44F8745	206472-1	25	0.335″	2.090 × 1.750″	2.75	2.48	2.35
44F8746	745134-1	25	0.460″	2.090 × 1.750″	3.80	3.42	3.24
44F8747	745081-1	37	0.675″	2.738 × 1.750″	3.93	3.54	3.36
44F8748	745082-1	50	0.775″	2.644 × 1.750″	3.10	2.79	2.65

CLAMSHELL STRAIGHT/45° EXIT UNSHIELDED CABLE CLAMPS–FIG. 5

Black thermoplastic housing. Hardware included.

44F8749	205729-1	9	0.256″	0.750 × 1.625″	2.50†	2.43†	2.34†
44F8750	205730-1	15	0.320″	1.073 × 1.625″	2.23†	2.01†	1.91†
44F8737	205718-1	25	0.420″	1.615 × 1.625″	2.29†	2.23†	2.14†
44F8738	205731-1	37	0.490″	2.263 × 1.625″	2.32	2.09	1.98
44F8739	205732-1	50	0.600″	2.168 × 1.625″	2.34	2.11	2.00

CLAMSHELL STRAIGHT/45° EXIT UNSHIELDED CABLE CLAMPS WITH MALE SCREW RETAINERS–FIG. 6

Black thermoplastic housing and gates. Steel, zinc-plated yellow chromate male screws. Stainless steel retaining clip.

90F5529	206478-1	9	0.256″	0.750 × 1.625″	2.57†	2.50†	2.41†
90F5516	206478-2	15	0.320″	1.073 × 1.625″	2.95	2.82	2.75
90F5517	206478-3	25	0.420″	1.615 × 1.625″	2.71†	2.63†	2.53†

HDP-20 AND HDE-20 SHIELDED CABLE CLAMPS WITH GROMMETS — FIG. 7

Straight exit RFI/EMI shields allow jacketed cable to be terminated to connector before shield is installed. For greater cable support, *order ferrules separately on this page and* **type 747784-3** *jack-screw kit separately below.*

Stock No.	Type	Description	1-24	25-49	50-99
50F492	747784-3	2-Piece, 4-40 Jackscrew Kit	2.71†	2.63†	2.53†

DIE CAST ZINC ALLOY SHIELD CABLE CLAMPS

Stock No.	Type	Positions	Cable O.D.	W × L	1-24	25-49	50-99
50F2004	748676-1	9	0.185-0.32″	1.215 × 1.91″	5.79†	5.63†	5.42†

CONTINUED

HDP-20 AND HDE-20 CABLE CLAMPS (CONT.)

DIE CAST ZINC ALLOY SHIELD CABLE CLAMPS (CONT.)

Stock No.	Type	Positions	Cable O.D.	W x L	1-24	25-49	50-99
50F1991	748676-2	15	0.185-0.32″	1.545 x 1.91″	5.79†	5.63†	5.42†
50F1992	748676-3	25	0.255-0.47″	2.090 x 1.92″	6.02†	5.85†	5.63†
50F1993	748676-4	37	0.255-0.47″	2.738 x 1.92″	8.68†	8.44†	6.03†
50F1994	748676-5	50	0.255-0.47″	2.644 x 1.92″	8.88	7.99	7.19

METAL-PLATED PLASTIC SHIELD CABLE CLAMPS

50F1995	748677-1	9	0.185-0.32″	1.215 x 1.91″	3.74†	3.64†	3.50†
50F1996	748677-2	15	0.185-0.32″	1.545 x 1.91″	5.93	5.33	5.07
50F1997	748677-3	25	0.255-0.47″	2.090 x 1.92″	3.95†	3.84†	3.70†
50F1998	748677-4	37	0.255-0.47″	2.738 x 1.92″	7.74	6.96	6.27
50F1999	748677-5	50	0.255-0.47″	2.644 x 1.92″	6.82	6.13	5.52

BLACK PLASTIC SHIELD CABLE CLAMPS

50F1984	748678-1	9	0.185-0.32″	1.215 x 1.91″	3.11†	3.03†	2.91†
50F1985	748678-2	15	0.185-0.32″	1.545 x 1.91″	6.23	5.60	5.32
50F1986	748678-3	25	0.255-0.47″	2.090 x 1.92″	3.32†	3.23†	3.11†
50F1987	748678-4	37	0.255-0.47″	2.738 x 1.92″	3.12	2.81	2.67
50F1988	748678-5	50	0.255-0.47″	2.644 x 1.92″	4.14	3.73	3.54

STRAIGHT EXIT RFI/EMI METAL-PLATED PLASTIC SHIELDED CABLE CLAMPS

Stock No.	Type	Positions	Cable O.D.	W x L	1-24	25-49	50-99
89F691	745854-5	9	0.200″	1.215 x 1.910″	4.37†	4.25†	4.09†
44F8776	745854-3	9	0.250″	1.215 x 1.910″	3.95†	3.84†	3.70†
89F693	745854-1	9	0.370″	1.215 x 1.910″	4.37†	4.25†	4.09†
89F695	747099-7	15	0.225″	1.545 x 1.910″	5.02	4.80	4.67
89F696	747099-5	15	0.300″	1.545 x 1.910″	5.02	4.80	4.67
44F8778	747099-3	15	0.375″	1.545 x 1.910″	5.02	4.80	4.67
89F698	747099-1	15	0.430″	1.545 x 1.910″	5.02	4.80	4.67
89F700	745833-9	25	0.280″	2.090 x 1.920″	3.95†	3.84†	3.70†
44F8837	745833-7	25	0.350″	2.090 x 1.920″	4.62	4.49	3.20
44F8835	745833-5	25	0.430″	2.090 x 1.920″	5.18	4.95	4.82
89F702	745833-3	25	0.480″	2.090 x 1.920″	6.64	5.36	4.42
89F704	745833-1	25	0.530″	2.090 x 1.920″	5.18	4.95	4.82
44F8820	747100-7	37	0.425″	2.738 x 1.920″	1.31	...	...
44F8839	747100-5	37	0.500″	2.738 x 1.920″	5.32	5.09	4.95

Stock No.	Type	Positions	Description	...	1-24	25-49	50-99
50F623	747973-1	25/37	Grommet Set	...	1.13	0.91	0.76

STRAIGHT EXIT RFI/EMI DIE CAST SHIELDED CABLE CLAMPS

Stock No.	Type	Positions	Cable O.D	W x L	1-24	25-49	50-99
89F690	745171-2	9/15	0.200″	1.215 x 1.910″	6.86†	6.68†	4.76†
44F8775	745171-1	9/15	0.250″	1.215 x 1.910″	6.03†	5.86†	5.64†
89F694	745172-3	15/26	0.225″	1.545 x 1.910″	7.00†	6.81†	6.55†
90F5503	745172-2	15/26	0.300″	1.545 x 1.910″	7.81†	7.60†	5.43†
44F8777	745172-1	15/26	0.375″	1.545 x 1.910″	6.66†	6.47†	6.23†
89F699	745173-5	25/44	0.280″	2.090 x 1.920″	8.22†	7.99†	5.71†
44F8836	745173-4	25/44	0.350″	2.090 x 1.920″	6.37†	6.20†	5.96†
44F8834	745173-3	25/44	0.430″	2.090 x 1.920″	6.37†	6.20†	5.96†
89F701	745173-2	25/44	0.480″	2.090 x 1.920″	7.69	7.35	7.16
89F705	745174-5	37/62	0.350″	2.738 x 1.920″	7.87	7.53	7.33
44F8840	745174-4	37/62	0.425″	2.738 x 1.920″	8.68†	8.44†	6.03†
44F8838	745174-3	37/62	0.500″	2.738 x 1.920″	7.87	7.53	7.33
44F8821	745175-5	50/78	0.450″	2.644 x 1.920″	9.02†	8.77†	6.25†
89F713	745175-4	50/78	0.525″	2.644 x 1.920″	8.86†	8.61†	6.15†
89F717	745175-1	50/78	0.750″	2.644 x 1.920″	8.08	7.73	7.52

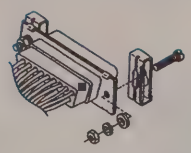
90° EXIT RFI/EMI METAL CABLE SHIELDS — FIG. 8

For jacketed cable. Nickel-over-copper plate zinc alloy shield. 1-pc. stainless steel slide latch.

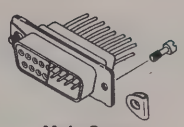
89F718	745652-3	15	0.300″	2.31 x 1.285″	11.89	11.04	9.84
44F8822	745652-2	15	0.375″	2.31 x 1.285″	10.94	9.85	8.86
89F719	745652-1	15	0.0.430″	2.31 x 1.285″	12.60	9.06	6.84
89F720	745653-5	15	0.780″	2.31 x 1.285″	14.68	14.04	13.67
44F8824	745653-4	25	0.355″	2.85 x 1.285″	11.92	10.73	10.20
44F8823	745653-3	25	0.430″	2.85 x 1.285″	15.92†	11.48†	8.50†

* 0.405″ for 90° exit
†Price column quantities vary from above, *contact your local Newark sales office for details.*
(8071) (ne00866)

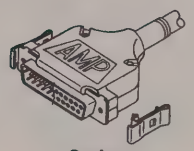
AMPLIMITE® D-SUBMINIATURE HARDWARE



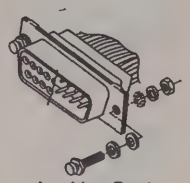
Slide Latch Assembly



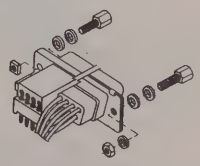
Male Screw Retainer Kit



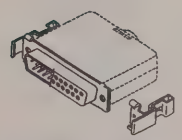
Spring Latch



Locking Post Assembly



Female Screwlock Kit



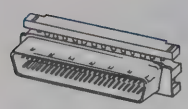
Spring Latch for Strain Reliefs

Female screwlock kits fit plastic or metal shell connector.

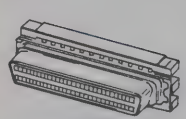
Stock No.	Type	Description	1-24	25-49	50-99
44F8770	205980-1	Male Screw Retainer (HDP-20) Kit* **	0.58††	0.57††	0.55††
90F5509	205980-4	Male Screw Retainer (HDP-20) Kit++	0.67	0.64	0.63
50F552	746881-1	Male Screw Retainer (HDF-20) Kit**	2.07	1.63	1.34
44F8771	745647-1	Male Screw Kit+ **	0.66	0.60	0.54
44F8772	207952-1	Short Female Screwlock Kit† **	1.54††	1.50††	1.44††
90F5515	207952-3	Short Female Screwlock Kit† ++	1.80	1.72	1.67
44F8774	205817-1	Standard Female Screwlock Kit† **	1.38††	1.34††	1.29††
90F5299	205817-3	Standard Female Screwlock Kit† ++	1.38††	1.34††	1.29††
44F8761	207719-1	Long Female Screwlock Kit† **	1.66††	1.62††	1.56††
90F5302	207719-3	Long Female Screwlock Kit† ++	1.58††	1.54††	1.48††
44F8762	206514-1	2 Locking Post Assemblies	2.50††	2.43††	2.34††
93F7379	206514-6	2 Locking Post Assemblies++	2.66††	2.59††	2.49††
44F8760	745255-2	2 Spring Latches	1.47	1.32	1.19
89F725	745563-1	Female Screwlock Kit‡ **	1.87††	1.82††	1.75††
50F553	201328-1	Female Screwlock Kit++	1.57	1.26	1.06
44F8751	745779-2	2 Spring Latches with Post Molded Strain Reliefs	1.66††	1.62††	1.56††
44F8763	745404-1	9-Position Slide Latch Kit	3.11	3.03	2.91
93F7363	745583-1	15-Position Slide Latch Kit Style II	4.12††	3.94††	3.84††
44F8764	745583-5	15-Position Slide Latch Kit	3.53††	3.43††	3.31††
44F8765	745584-3	25-Position Slide Latch Kit	4.16††	4.04††	3.89††
44F8766	745407-1	37-Position Slide Latch Kit	5.00	4.50	4.27
44F8767	745578-3	50-Position Slide Latch Kit	6.77	6.09	5.78
44F8754	206942-1	Slide Latch Clip Assembly†	2.25	2.03	1.92
44F8752	745403-8	9-37 Position Latching Block Kit†	0.92	0.83	0.79

*For metal shells; +For plastic shells; †2 per pkg.; ‡All plastic; **Yellow finish; ++Clear finish
††Price column quantities vary from above; *contact your local Newark sales office for details*
(8073) (ne00873)

CAN'T LOCATE A PARTICULAR PRODUCT?
NEWARK STOCKS THOUSANDS OF ITEMS NOT LISTED IN THIS CATALOG. CALL US TODAY!



749111, 749621
(Covers Assembled)



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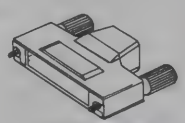
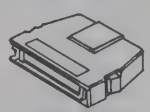
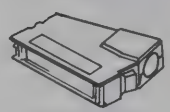


749080, 749081



749193, 749197



749202, 749206

AMPLIMITE® 0.050″ SERIES III CABLE CONNECTORS

Housing and covers: black thermoplastic, rated UL94V-0. Shell: Steel, plated tin-nickel alloy over nickel over copper (shielded only). Contacts: phophor bronze, gold-plated on mating end, tin-lead on termination end, all nickel underplated.

SHIELDED CABLE PLUG CONNECTORS WITH STANDARD TERMINATION COVERS (ASSEMBLED)

Stock No.	Type	Positions	1-9	10-24	25-49	50-99
93F7076	749111-4	50	4.97	4.29	3.89	3.44
52F6240	749111-6	68	7.32	7.00	6.82	5.84
95F1865	749111-7	80	15.55	14.26	12.51	11.42
93F7103	749111-8	100	19.17	17.58	15.42	14.08

SHIELDED CABLE PLUG CONNECTORS WITH STANDARD TERMINATION COVERS (UNASSEMBLED)

98F8024	749621-5	50	5.31*	5.17*	3.68*	2.75*
66F3331	749621-7	68	5.78*	5.62*	4.01*	2.99*
66F9176	749621-8	80	17.33*	12.48*	9.23*	7.43*
66F3344	749621-9	100	15.40*	11.09*	8.20*	6.60*

SHIELDED CABLE RECEPTACLE CONNECTORS WITH STANDARD TERMINATION COVERS (UNASSEMBLED)

52F6239	749699-5	50	8.45	8.08	7.87	6.74
52F6336	749699-7	68	7.70*	7.49*	5.34*	3.98*

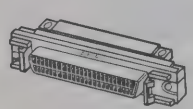
BACKSHELL KITS WITH JACKSCREWS

66F3027	749080-1	50	14.44*	10.39*	7.68*	6.19*
52F6337	749081-1	100	16.82	16.09	15.66	13.43

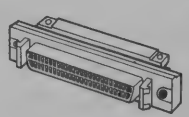
BACKSHELL KITS WITH SPRING LATCHES

Stock No.	Type	Positions	Description	1-9	10-24	25-49	50-99
92F8336	749193-2	50	Straight Style	5.86	5.70	4.07	3.03
66F1610	749202-2	50	Angled Latches	12.47*	8.99*	6.64*	5.34*
52F5862	749197-1	100	Straight Style	21.59	15.05	13.35	8.93
95F1845	749206-1	100	Angled Latches	15.70	14.40	12.63	11.53

*Price column quantities vary from above; *contact your local Newark sales office for details*
(40070) (ne40070)



749611



749656

AMPLIMITE® 0.050″ SERIES III PANEL MOUNT CONNECTORS

Black thermoplastic housing and termination covers, rated UL94V-0. Shell: steel, plated bright tin over copper. Bracket: zinc, plated nickel over copper. Contacts: phosphor bronze, plated 30µ″ min. gold on mating end; 50µ″ min. bright tin-lead on termination end; all 50µ″ min. nickel underplated.

RECEPTACLE ASSEMBLIES WITH RAILS AND LATCH BLOCKS

Stock No.	Type	Positions	1-9	10-24	25-49	50-99
95F1868	749611-5	50	12.34	11.32	9.93	9.07

RECEPTACLE ASSEMBLIES WITHOUT RAILS, WITH LATCH BLOCKS

95F1760	749656-5	50	8.86*	8.61*	6.14*	4.58*
52F5751	749656-7	68	16.10	15.40	15.00	11.22

*Price column quantities vary from above; *contact your Newark sales office for details*
(40973) (ne40973)

Fig. 1

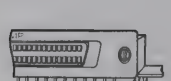


Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

AMPLIMITE® 0.050″ SERIES III HEADERS

Housing: black SMT-compatible thermoplastic, UL94V-0 rated. Shell: steel, plated 200µ″ min. bright tin over 50µ″ min. copper. Bracket: zinc, plated nickel over copper. Contacts: phosphor bronze, duplex plated 30µ″ min. gold on mating end; 120µ″ min. tin/lead on solder end; all underplated 50µ″ min. nickel.

RIGHT-ANGLE, WITH RAILS AND LATCH BLOCKS

Stock No.	Type	Fig.	Description	Positions	1-24	25-99	100-250
66F4326	787190-5	1	Without Boardlocks	50	7.08*	6.89*	4.91*
66F4321	787171-5	1	With Boardlocks	50	7.32*	7.12*	5.07*
66F4327	787190-7	1	Without Boardlocks	68	9.44*	9.18*	6.54*
66F4322	787171-7	1	With Boardlocks	68	8.09*	7.86*	5.60*

RIGHT-ANGLE, WITHOUT RAILS AND LATCH BLOCKS

66F4298	787169-5	2	Without Boardlocks, 0.100″ Tails	50	7.04*	6.85*	4.88*
66F4302	787170-5	2	With Boardlocks, 0.100″ Tails	50	7.70*	7.49*	5.34*
66F4305	787362-5	2	With Boardlocks, 0.120″ Tails	50	7.34	7.02	6.84
66F4299	787169-7	2	Without Boardlocks, 0.100″ Tails	68	6.70*	6.52*	4.65*
66F4303	787170-7	2	With Boardlocks, 0.100″ Tails	68	6.54*	6.37*	4.53*
66F4306	787362-7	2	With Boardlocks, 0.120″ Tails	68	10.01*	7.20*	5.33*
66F4300	787169-9	2	Without Boardlocks, 0.100″ Tails	100	14.37*	10.34*	7.64*
66F4304	787170-9	2	With Boardlocks, 0.100″ Tails	100	14.38	13.75	13.39
66F4307	787362-9	2	With Boardlocks, 0.120″ Tails	100	15.79*	11.36*	8.40*

RIGHT-ANGLE, WITHOUT RAILS, WITH LATCH BLOCKS

66F4310	787082-5	3	With Boardlocks, 0.100″ Tails	50	4.05*	3.94*	3.79*
66F4311	787082-7	3	With Boardlocks, 0.100″ Tails	68	6.47*	6.29*	4.48*

VERTICAL, WITH RAILS AND LATCH BLOCKS

66F3303	749069-5	4	0.125″ Tails	50	8.09*	7.86*	5.60*
83F4532	749069-7	4	0.125″ Tails	68	9.24*	8.99*	6.41*

VERTICAL, WITHOUT RAILS AND LATCH BLOCKS

52F5864	749070-5	5	0.125″ Tails	50	8.28*	8.06*	5.74*
66F3336	749070-7	5	0.125″ Tails	68	8.47*	8.24*	5.87*

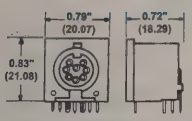
VERTICAL, WITHOUT RAILS, WITH LATCH BLOCKS

52F5784	749721-5	6	0.125″ Tails	50	9.24*	8.99*	6.41*
83F4533	749721-7	6	0.125″ Tails	68	7.13*	6.93*	4.93*

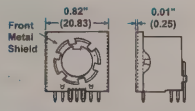
*Price column quantities vary from above; *contact your local Newark sales office for details*
(40971) (ne40971)

DIN CONNECTORS AND FILTERS

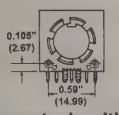
SHIELDED CIRCULAR DIN CONNECTORS



Standard Receptacle
(2 Mounting Holes)



Standard Receptacle
with Front Metal Shield



Receptacle with
Front Metal Shield
(2 Mounting Holes)

Plug Assembly

PC board receptacles available with or without tin-plated brass front shield. Feature black nylon housing, rated UL94V-0, 0.063″ diameter x 0.250″ deep mounting holes, and tin-plated brass contacts. Plugs are interchangeable/intermateable with other DIN standard connectors, and meet or exceed DIN specification 41524 for 5-position and 45322 for 6-position plug. A complete plug assembly requires: one black nylon plug housing with tin-plated brass shield, rated UL94V-0; tin-plated brass ferrule for reliable termination; black thermoplastic polymer cord guard; and 50µ″ tin-over-nickel plated copper alloy crimp, snap-in contacts, *all ordered separately below.* 100µ″ silver-over-copper plated pin contacts available; *contact your local Newark sales office for details.* Application tools, including ferrule tool to crimp ferrule to shield, *ordered separately below.* UL recognized, CSA certified.

STANDARD RECEPTACLES — 2 MOUNTING HOLES

Stock No.	Type	Positions	1-24	25-49	50-99
89F4285	211508-1	4	1.64*	1.59*	1.53*
89F4286	211450-1	5	1.79*	1.74*	1.68*
89F4287	211509-1	6	2.33	2.10	1.99
89F4288	211510-1	7	2.78	2.50	2.38
89F4289	211511-1	8	2.97	2.67	2.54

RECEPTACLES — FRONT METAL SHIELD, NO MOUNTING HOLES

89F4294	212044-1	5	2.25*	2.19*	2.11*
89F4295	212045-1	6	2.78*	2.71*	2.61*
89F4296	212046-1	7	2.57	2.32	2.20
89F4297	212047-1	8	3.00*	2.92*	2.47*

RECEPTACLES — FRONT METAL SHIELD, 2 MOUNTING HOLES

97F8578	212032-1	4	3.65	3.29	3.12
93F7315	520842-1	5	2.63	2.37	2.25
97F8580	212034-1	8	5.09	4.87	4.74

PLUG HOUSINGS WITH METAL SHIELD

89F4298	212437-2	4	3.50	3.25	3.00
89F4299	212437-3	5	1.67	1.50	1.43
89F4300	212437-4	6	1.67	1.50	1.43
89F4302	212437-6	8	1.83	1.64	1.56

TIN-PLATED BRASS FERRULES

Stock No.	Type	Cable Diameter	1-24	25-49	50-99
89F4303	212435-7	0.165-0.200″	0.86	0.77	0.69
89F4264	212435-8	0.200-0.250″	0.84	0.78	0.72
89F4265	212435-9	0.250-0.300″	0.62	0.55	0.50

PRE-MOLDED CORD GUARDS

89F4266	212800-1	0.165-0.250″	1.32	1.19	1.13
89F4267	212800-3	0.250-0.350″	2.25	2.03	1.92

CRIMP, SNAP-IN PIN CONTACTS

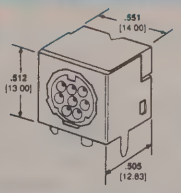
Stock No.	Type	AWG	1-24	25-49	50-99
89F4268	66728-5	28-22	0.28	0.25	0.24

APPLICATION TOOLS

Stock No.	Type	Description	Each
89F4310	91002-1	Pin Contact Insertion Hand Tool	14.04
92F9096	90287-1	AMP® Service Hand Tool	27.83
89F4269	90407-1	CERTI-CRIMP® Hand Tool, 28-22 AWG	545.00
89F4270	69710-1	Ferrule Crimp Hand Tool *(Order Interchangeable Die Set Separately Below)*	466.20
89F4304	58215-1	Die Set for 0.165-0.445″ Cable	673.65
89F4305	58215-2	Die Set for 0.175-0.200″ Cable	623.75
89F4306	58215-3	Die Set for 0.200-0.225″ Cable	1136.91
89F4307	58215-4	Die Set for 0.225-0.250″ Cable	707.50
89F4308	58215-5	Die Set for 0.250-0.275″ Cable	623.75
89F4309	58215-6	Die Set for 0.275-0.300″ Cable	673.65

*Price column quantities vary from above; *contact your local Newark sales office for details.*
(7993) (de00823)

SHIELDED MINIATURE CIRCULAR DIN RECEPTACLES

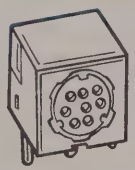


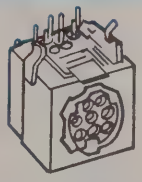
Right-angle units feature integral 1-piece tin-lead over nickel-plated copper alloy shield, built-in keying and polarization, registration notch controlled datum surfaces, and contact locations for robotic pick-up and placement. UL94V-0 rated black thermoplastic housing withstands rigors of reflow soldering. Phosphor bronze socket contacts are duplex plated with gold flash in mating area, tin-lead on solder tail, all over nickel underplating. Stand-off design prevents shield damage to PC board traces and enhances solder clean-up. PC board thickness: 0.062″ (1.57). UL recognized, CSA certified.

Stock No.	Type	Pins	1-24	25-49	50-99	100-249
90F7039	749283-1	3	2.75	2.47	2.35	2.11
90F7041	749263-1	4	2.08	1.87	1.68	1.52
90F7045	749265-1	6	2.01*	1.96*	1.88*	1.83*
90F7031	749268-1	8	3.15	2.84	2.69	2.42

*Price column quantities vary from above; *contact your local Newark sales office for details.*
(7994) (de00824)

FILTERED MINIATURE CIRCULAR DIN RECEPTACLES



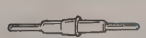


Quiet Line ferrite block, filtered, right-angle DIN receptacles eliminate unwanted EMI/RFI. Matched PCB footprints offer "drop-in" replacement of non-filtered connectors. Feature industry standard interface. Available in 6- and 8-position configurations with or without hold-downs. SMT compatible housing constructed of black thermoplastic, rated UL94V-0. Tin-over-copper plated steel shell. Brass eyelets plated tin-over-copper flash. Copper alloy boardlocks plated tin-lead over nickel. Zinc inserts with clear chromate plating. Phosphor bronze socket contacts are duplex plated 0.000120″ (0.00304) gold on mating end, tin-lead on solder end with nickel underplating. 4-40 threaded inserts. Operating voltage: 30VDC max. Dielectric withstanding voltage: 250VDC. Insulation resistance: 100 megohms, min. UL recognized, CSA certified.

Stock No.	Type	Pins	Description	1-24	25-49	50-99
92F8738	869508-1	6	With Hold-Down	3.57	3.39	3.22
92F8739	869504-1	6	Without Hold-Down	3.41	3.23	3.07
92F8693	869509-1	8	With Hold-Down	3.83	3.63	3.45
92F8694	869505-1	8	Without Hold-Down	3.96	3.76	3.57

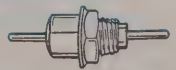
(8088) (ne06155)

QUIET LINE STANDARD LOOSE-PIECE FILTERS



Eyelet Style

#8-32 Bolt Style



#12-32 Bolt Style

Distributed element filters are suited to the requirements of commercial electronic equipment. Available in three styles and a wide range of capacitance. Eyelet style features gold-over-nickel plated copper alloy contact and eyelet with a ferrite and ceramic filter. The #8-32 and #12-32 bolt styles feature silver-over-nickel plated copper alloy contact and body with a ferrite and ceramic filter, and are supplied with lockwasher and nut except where noted with (†). The bolt-type filters are suited to physically demanding applications.

Stock No.	Type	Style*	C+ pF	Hole Size	1-24	25-49	50-99
92F8726	859614-1	E	1000-3000	#32 Drill	4.85	4.36	4.14
99F3417	859617-1†	A	1000-3000	UNC-2B	6.18	5.55	5.27
92F8727	859646-1	B	1000-3000	#1 Drill	8.00	7.20	6.48
92F8728	859616-1	E	3000-8000	#32 Drill	3.23	2.90	2.76
93F7370	859619-1	A	3000-8000	#16 Drill	4.73	4.25	4.04
92F8730	859615-1	E	2000-5000	#32 Drill	3.75	3.38	3.21
92F8731	859618-1	A	2000-5000	#16 Drill	7.49	6.74	6.40
92F8732	859645-1	B	2000-5000	#1 Drill	6.50	5.85	5.55
92F8733	859655-1	E	130-400	#32 Drill	7.73	6.95	6.26
92F8734	859658-1	A	130-400	#16 Drill	6.30	5.67	5.39
92F8735	859681-1	B	130-400	#1 Drill	12.23	11.00	9.90
92F8729	842493-1	E	600-1000	#32 Drill	3.35	3.01	2.86
92F8736	859656-1	E	50-175	#32 Drill	4.25	4.03	3.83
92F8737	859659-1†	A	50-175	UNC-2B	4.88	4.39	4.17

*Style: E = eyelet, A = #8-32 bolt, B = #12-32 bolt; + Capacitance
(6089) (ne06156)

CIRCULAR PLASTIC CONNECTORS

SERIES 1 CPC CONNECTORS

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

Series 1 lightweight, plastic connectors permit the use of multiple combinations of signal and coaxial circuits in the same housing by accepting Multimate contacts, *order separately on this page.* Ideal for standard density applications, these connectors are unsealed units constructed of heat-stabilized, fire-resistant, and self-extinguishing thermoplastic, rated UL94V-1. Maximum wire insulation diameter: 0.100″ (2.54) except for arrangement 23-24 which will accept 0.150″ (3.81) diameter. UL recognized, CSA certified. *Order cable clamps, tools and accessories separately on this page.*

STANDARD SEX SQUARE FLANGE RECEPTACLES—FIG. 1

Stock No.	Type	Contact Arrangement	1-9	10-24
44F8387	206061-1	11-4	1.92	1.82
44F8389	206705-1	13-9	1.99	1.89
44F8391	206036-1	17-16	2.13	2.02
46F322	206838-1	23-24	2.78	2.64
44F8393	206151-1	23-37	2.44	2.32
REVERSE SEX SQUARE FLANGE RECEPTACLES—FIG. 2				
46F313	206430-1	11-4	1.92	1.82
46F318	206043-1	17-14	2.13	2.02
46F326	206306-1	23-37	2.44	2.32
STANDARD SEX FREE-HANGING RECEPTACLES—FIG. 3				
46F314	206153-1	11-4	1.92	1.82
46F317	206705-2	13-9	2.05	1.94
46F321	206036-3	17-16	2.13	2.02
46F323	206838-2	23-24	3.60	3.42
46F325	206151-2	23-37	2.81	2.67
REVERSE SEX FREE-HANGING RECEPTACLES—FIG. 4				
46F315	206430-2	11-4	1.92	1.82
46F319	206043-3	17-14	2.83	2.69
46F327	206306-2	23-37	3.56	3.39
STANDARD SEX PLUGS—FIG. 5				
44F8386	206060-1	11-4	2.33	2.22
44F8388	206708-1	13-9	2.56	2.44
44F8390	206037-1	17-16	2.67	2.53
46F324	206837-1	23-24	3.56	3.39
44F8392	206150-1	23-37	3.16	3.00
REVERSE SEX PLUGS—FIG. 6				
46F316	206429-1	11-4	2.36	2.24
46F320	206044-1	17-14	2.67	2.53
46F328	206305-1	23-37	3.02	2.87

(8173) (ne50168)

SERIES 1 CPC CONNECTORS (VDE APPROVED)

NEW

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Meets test requirements of VDE. Maximum wire insulation diameter: 0.150″ (3.81). UL recognized, CSA certified, VDE approved.

STANDARD SEX SQUARE FLANGE RECEPTACLES—FIG. 1

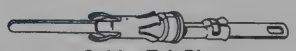
Stock No.	Type	Contact Arrangement	1-24	25-49
66F3295	211401-1	13-7	3.44	3.07
92F8448	211767-1	17-9	3.06	2.93
66F3349	211771-1	23-19	4.09	3.66
REVERSE SEX SQUARE FLANGE RECEPTACLES—FIG. 2				
98F5749	211398-1	13-7	2.99	2.67
98F6474	211769-1	17-9	6.40	5.17
99F3126	211773-1	23-19	6.38	5.15
STANDARD SEX PLUGS—FIG. 3				
92F4843	211399-1	13-7	3.02	2.89
92F8387	211766-1	17-9	4.12	3.68
66F3340	211770-2	23-19	5.01	4.48
REVERSE SEX PLUGS—FIG. 4				
50F519	211400-1	13-7	3.58	3.20
92F4844	211768-1	17-9	3.64	3.48
92F6110	211772-1	23-19	4.16	3.72

(32997) (ne32997)

SERIES 1 TYPE III MULTIMATE CONTACTS

Crimp Pin

Crimp Socket


Solder-Tab Pin

Solder-Tab Socket

Designed for Series 1 CPC connectors *ordered separately on this page.* Precision formed crimp and solder-tab types. Brass contact body with tin- or gold-over nickel-plating and stainless steel spring. Contact size: 16. Pin diameter: 0.062″ (1.57). Test current: 13 amps max. **Sold in packages of 100.**

TIN-OVER-NICKEL FINISH PINS

Stock No.	Type	Wire Size Range	Inside Diameter Range	1-9	10-24
96F8021	66107-9	26-24 AWG	0.035-0.055″	22.49	21.37
96F7934	1-66103-5	24-20 AWG	0.040-0.080″	20.64	18.58
96F7142	1-66361-0	14 AWG	0.080-0.110″	20.40	18.36
96F7929	202236-4	Solder-Tab	0.062″	40.80	36.72
TIN-OVER-NICKEL FINISH SOCKETS					
96F8022	1-66109-5	28-24 AWG	0.035-0.055″	40.82	38.78
96F7141	1-66105-6	24-20 AWG	0.040-0.080″	24.36	21.92
96F7139	1-66360-0	14 AWG	0.080-0.110″	24.00	21.60
96F7931	202237-4	Solder-Tab	0.062″	44.76	40.28
GOLD-OVER-NICKEL FINISH PINS					
96F7919	1-66107-0	28-24 AWG	0.035-0.055″	33.67	31.99
96F7935	1-66103-7	24-20 AWG	0.040-0.080″	31.20	28.08
96F7921	1-66361-1	14 AWG	0.080-0.110″	31.44	28.30
96F7928	202236-3*	Solder-Tab	0.062″	39.20	37.24
GOLD-OVER-NICKEL FINISH SOCKETS					
96F7920	1-66109-6	28-24 AWG	0.035-0.055″	40.30	38.29
96F7936	1-66105-8	24-20 AWG	0.040-0.055″	37.20	33.48
96F7140	1-66360-1	14 AWG	0.080-0.110″	46.56	41.90
96F7930	202237-3	Solder-Tab	0.062″	73.81	62.74

KEYING PLUG — SOLD IN PACKAGES OF 100

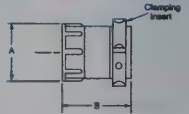
Stock No.	Type	Description	1-9	10-24
87F6183	200821-1	Keying Plug	15.06	13.98

* Sold in packages of 50.

(8174) (ne50169)

CPC CONNECTOR CABLE CLAMPS

Standard Size


Large Size

Prevent excessive strain on cable or wire. Black thermoplastic, heat-stabilized, fire-resistant, self-extinguishing, UL94V-1 rated.

STANDARD SIZE CABLE CLAMPS

Stock No.	Type	Shell Size	Dim. A	Dim. B	Cable O.D.	1-9	10-24
44F8394	206062-1	11	0.825″	1.250″	0.329″	3.06	2.90
44F8395	206966-1	13	0.950″	1.400″	0.453″	3.08	2.93
44F8396	206070-1	17	1.125″	1.400″	0.453″	3.08	2.93
44F8397	206138-1	23	1.600″	1.555″	0.703″	3.17	3.01
LARGE SIZE CABLE CLAMPS							
46F335	206358-1	11	0.850″	1.450″	0.453″	3.06	2.90
46F336	207008-1	13	1.131″	1.655″	0.703″	3.20	3.04
46F337	206322-1	17	1.131″	1.655″	0.703″	3.38	3.21
46F338	206512-1	23	1.600″	1.655″	1.125″	4.00	3.80
87F1718	207774-1	23	1.600″	1.663″	1.125″	4.63	4.40

*Self-centering

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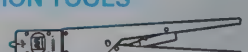
APPLICATION TOOLS

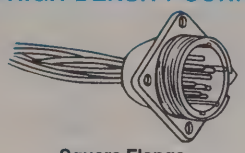
305183


90066, 90310

Stock No.	Type	Description	1-2
44F8408	305183	Contact Extraction Tool	21.00
92F9096	90287-1	AMP® Service Tool I	27.83
98F7365	90330-1	AMP® Service Tool II	57.49
44F8409	58495-1	PRO-CRIMPER™ II Hand Tool (28-24, 24-20 AWG)	127.60
48F1670	58495-2	PRO-CRIMPER™ II Die Set	89.40
96F9723	90066-7	Straight-Action Hand Tool with Die Set (26-24, 24-20 AWG)	376.65
93F7341	90067-4	Straight-Action Hand Tool with Die Set (18-16 AWG)	427.14
98F5758	90067-5	Straight-Action Hand Tool with Die Set (24-20 AWG)	538.20
51F1334	90310-3	Straight-Action Hand Tool with Die Set (18-14 AWG)	458.33
66F3051	90310-2	Straight-Action Hand Tool w/Die Set (Crimp Type F)	644.38
89F4310	91002-1	Contact Insertion Tool	14.04

(8172) (ne50167)

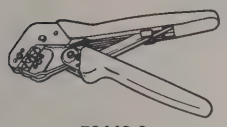
SERIES 2 HIGH-DENSITY CONNECTORS



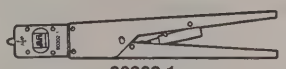
Square Flange Standard Sex Receptacle

Insertion/Extraction Tool

90287-1



58448-2



90302-1

Series 2 high-density, circular plastic shell plugs and receptacles are designed for normal commercial, unsealed applications such as automotive, aircraft, instrumentation, computer and peripheral equipment. Material is UL94V-1 rated, heat stabilized, fire resistant, self extinguishing black thermoplastic. Available in standard sex (receptacles accept pins, plugs accept sockets) and reverse sex (receptacles accept sockets, plugs accept pins). Accepts size 20 DM (screw-machined) and size 20DF (precision-formed) pin and socket contacts with 0.040″ (1.02) pin diameters. UL recognized, CSA certified. *Order contacts, tools, and accessories separately below.*

STANDARD SEX SQUARE FLANGE RECEPTACLES

Stock No.	Type	Contact Order	1-9	10-24	25-49	50-99
46F1119	205841-1	11-8	3.89	3.69	3.51	3.33
46F1125	206486-1	11-9	3.83	3.64	3.45	3.28
46F1128	205840-3	17-28	4.06	3.86	3.66	3.30
46F1137	205843-1	23-63	5.70	5.13	4.87	4.38

REVERSE SEX SQUARE FLANGE RECEPTACLES

46F1122	206433-1	11-8	3.78	3.59	3.41	3.07
46F1131	206038-1	17-28	4.12	3.91	3.71	3.53
46F1134	206438-1	23-57	5.96	5.37	5.10	4.59

STANDARD SEX FREE-HANGING RECEPTACLES

46F1120	205841-2	11-8	3.89	3.69	3.51	3.33
46F1126	206486-2	11-9	3.95	3.75	3.56	3.38
46F1129	206152-1	17-28	5.05	4.80	4.56	4.33
46F1138	205843-2	23-63	6.60	5.94	5.35	4.81

REVERSE SEX FREE-HANGING RECEPTACLES

46F1123	206433-2	11-8	3.95	3.75	3.56	3.38
46F1132	206038-2	17-28	5.09	4.83	4.59	4.36
46F1135	206438-2	23-57	8.65	8.68	8.25	7.42

STANDARD SEX PLUGS

Stock No.	Type	Contact Order	1-9	10-24	25-49	50-99
46F1121	205838-1	11-8	4.50	4.27	4.06	3.86
46F1127	206485-1	11-9	4.58	4.35	4.14	3.93
46F1130	205839-3	17-28	4.77	4.53	4.31	3.88
46F1139	205842-1	23-63	6.09	5.48	5.21	4.69

REVERSE SEX PLUGS

46F1124	206434-1	11-8	4.50	4.27	4.06	3.86
46F1133	206039-1	17-28	4.87	4.63	4.40	4.18
46F1136	206437-1	23-57	6.15	5.53	5.26	4.73

SERIES 2 GOLD SNAP-IN CONTACTS—SOLD IN PACKAGES OF 100

Stock No.	Type	Description	AWG	1-24	25-49
46F1117	66507-9	Crimp Pin	28-24	21.00	17.69
96F7923	6-66505-9	Crimp Socket	28-24	19.14	16.27
96F7902	6-66506-1	Crimp Pin	24-20	15.66	12.53
96F7922	7-66504-0	Crimp Socket	24-20	19.14	16.27
96F7924	66570-8	Solder Cup Pin	18 Max.	21.01	18.91
92F5795	1-66569-0	Solder Cup Socket	18 Max.	16.39	14.75

KEYING PLUG

Stock No.	Type	Description	1-9
87F6584	206509-1	Keying Plug	0.37

APPLICATION TOOLS

Stock No.	Type	Description	1-2
44F8729	91067-2	Insertion/Extraction Tool (24-20 AWG)	4.22
90F1401	91285-1	Insertion/Extraction Tool (28-24 AWG)	12.78
92F9096	90287-1	AMP® Service Tool	27.83
44F8730	58448-2	PRO-CRIMPER™ II Hand Tool	127.60
50F692	90302-1	CERTI-CRIMP® Hand Tool (28-24, 24-20 AWG)	403.65

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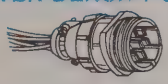
SERIES 3 POWER-DENSITY CONNECTORS



Series 3 power-density, circular plastic shell plugs and receptacles are designed for normal commercial, unsealed applications such as automotive, aircraft, instrumentation, computer and peripheral equipment. Material is UL94V-1 rated, heat stabilized, fire resistant, self extinguishing black thermoplastic. Available in standard sex (receptacles accept pins, plugs accept sockets) and reverse sex (receptacles accept sockets, plugs accept pins). Uses Type XII power contacts, which carry up to 35A and accepts 16 to 8 AWG wire. UL recognized, CSA certified. *Order contacts, tools, and accessories separately below and on page 144.*

STANDARD SEX SQUARE FLANGE RECEPTACLES

Stock No.	Type	Contact Order	1-9	10-24	25-49	50-99
46F1142	206036-2	17-3	2.51	2.38	2.26	2.15
46F1148	206137-1	23-7	3.86	3.67	3.49	3.31

REVERSE SEX SQUARE FLANGE RECEPTACLES

46F1145	206425-1	17-3	2.51	2.38	2.26	2.15
46F1151	206227-1	23-7	3.07	2.92	2.77	2.63

STANDARD SEX FREE-HANGING RECEPTACLES

46F1143	206207-1	17-3	2.51	2.38	2.26	2.15
46F1149	206137-2	23-7	4.02	3.82	3.63	3.45

REVERSE SEX FREE-HANGING RECEPTACLES

46F1146	206425-2	17-3	3.43	3.26	3.10	2.94
46F1152	206227-2	23-7	4.71	4.47	4.25	4.03

STANDARD SEX PLUGS

Stock No.	Type	Contact Order	1-9	10-24	25-49	50-99
46F1144	206037-2	17-3	3.22	3.06	2.90	2.76
46F1150	206136-1	23-7	3.54	3.36	3.19	3.04

REVERSE SEX PLUGS

46F1147	206426-1	17-3	4.56	4.33	4.12	3.91
46F1153	206226-1	23-7	3.61	3.43	3.26	3.10

SERIES 3 TYPE XII CONTACTS

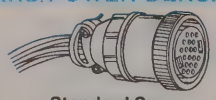
Stock No.	Type	Description	AWG	1-24	25-49
46F1154	66261-2	Male Gold Pin	16-12	2.94	2.79
92F4850	66261-1	Male Tin Pin	16-12	1.67	1.60
90F7240	66740-6	Female Gold Socket	16-12	2.91	2.77
95F2733	66740-8	Female Tin Socket	16-12	3.43	2.77
46F1156	66259-2	Male Gold Pin	10-8	2.40	2.28
52F087	66259-1	Male Tin Pin	10-8	2.55	2.18
51F3487	66741-6	Female Gold Socket	10-8	3.22	3.06
52F088	66741-8	Female Tin Socket	10-8	4.05	3.46
87F6191	206508-1	Keying Plug (Socket)**(Pkg. of 100)**	...	72.64	59.83
52F089	207597-1	Keying Plug (Pin Cavity) **(Each)**	...	2.89	2.48

APPLICATION TOOLS

Stock No.	Type	Description	1-2
46F1158	91124-1	Economy Extraction Tool	29.78
46F1159	91019-3	Extraction Tool	125.94
46F1160	90382-2	CERTI-CRIMP® Hand Tool, (16-12 AWG)	571.48
46F1161	90384-1	CERTI-CRIMP® Hand Tool, (10-8 AWG)	571.48

(7978) (de00540)

SERIES 4 STANDARD/POWER-DENSITY CONNECTORS



Standard Sex Plug

Series 4 standard sex, circular plastic shell plugs and receptacles are designed for normal commercial, unsealed applications such as automotive, aircraft, instrumentation, computer and peripheral equipment. Material is UL94V-1 rated, heat stabilized, fire resistant, self extinguishing black thermoplastic. Accepts size-16 and XII power contacts to combine signal with power circuit capabilities. Use Series 3 contacts and tooling *ordered separately on this page and on page 144.* UL recognized, CSA certified.

STANDARD SEX SQUARE FLANGE RECEPTACLES

Stock No.	Type	Contact Order	1-9	10-24	25-49	50-99
66F6172	211825-1	23-13M	4.38	3.91	3.80	3.61
46F1162	207486-1	23-16M	3.00	2.85	2.71	2.57
46F1165	206613-1	23-22M	2.92	2.77	2.63	2.50

STANDARD SEX FREE-HANGING RECEPTACLES

66F6173	211825-2	23-13M	3.22	2.88	2.80	2.66
46F1163	207486-2	23-16M	4.34	4.13	3.92	3.72
46F1166	206613-3	23-22M	3.95	3.75	3.56	3.38

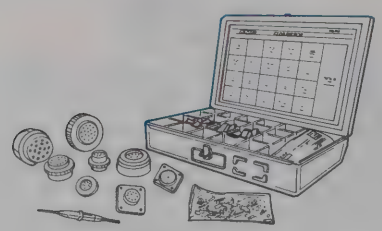
STANDARD SEX PLUGS

66F6174	211824-1	23-13M	4.63	4.14	4.02	3.82
46F1164	207485-1	23-16M	3.46	3.28	3.12	2.96
46F1167	206612-1	23-22M	4.16	3.96	3.76	3.57

(7979) (de00541)

CPC CONNECTOR KITS AND ACCESSORIES

CIRCULAR PLASTIC CONNECTOR KITS



Wide selection of CPC plugs, receptacles, contacts, cable clamps, and application tooling. Choice of 3 kits: Series 1 standard-density; Series 2 high-density, and Series 3, 4 combination standard/power-density.

Type	446-Piece Series 1 Connector Kit Contents	Quantity
	Shell Size 11/Arrangement 11-4/Sex Standard	
206060-1	Standard 4 Position plug	4
206061-1	Square Flange 4 Position Receptacle	2
206153-0	Free-Hanging 4 Position Receptacle	2
206062-1	Shell Size 11 Cable Clamp	4
	Shell Size 13/Arrangement 13-9/Sex Standard	
206708-1	Standard 9 Position Plug	4
206705-1	Square Flange 9 Position Receptacle	2
206705-2	Free-Hanging 9 Position Receptacle	2
206966-1	Shell Size 13 Cable Clamp	3
	Shell Size 17/Arrangement 17-16/Sex Standard	
206037-1	Standard 16 Position Plug	4
206036-1	Square Flange 16 Position Receptacle	2
206036-3	Free-Hanging 16 Position Receptacle	2
206070-1	Shell Size 17 Cable Clamp	3
	Shell Size 23/Arrangement 23-37/Sex Standard	
206150-1	Standard 37 Position Plug	4
206151-1	Square Flange 37 Position Receptacle	2
206151-2	Free-Hanging 37 Position Receptacle	2
206138-1	Shell Size 23 Cable Clamp	2
66361-1	14 Tin-Plated Pin	100
66360-4	18-14 Tin-Plated Socket	100
66103-2	24-20 Tin-Plated Pin	100
66105-2	24-20 Tin-Plated Socket	100
305183	Contact Extraction Tool (20-16 AWG)	1
90287-1	AMP® Service Hand Tool	1

87F4081 Type 608030-1. **Each** **214.35**

Type	544-Piece Series 2 Connector Kit Contents	Quantity
	Shell Size 11/Arrangement 11-8/Sex Standard	
206037-2	Standard 8 Position Plug	4
205841-1	Square Flange 8 Position Receptacle	2
205841-2	Free-Hanging 8 Position Receptacle	2
	Shell Size 11/Arrangement 11-9/Sex Standard	
206485-1	Standard 9 Position Plug	4
206486-1	Square Flange 9 Position Receptacle	2
206486-2	Free-Hanging 9 Position Receptacle	2
206062-1	Shell Size 11 Cable Clamp	5
	Shell Size 17/Arrangement 17-28/Sex Standard	
205839-3	Standard 28 Position Plug	4
205840-3	Square Flange 28 Position Receptacle	2
206152-1	Free-Hanging 28 Position Receptacle	2
206070-1	Shell Size 17 Cable Clamp	3
	Shell Size 23/Arrangement 23-63/Sex Standard	
205842-1	Standard 63 Position Plug	4
205843-1	Square Flange 63 Position Receptacle	2
205843-2	Free-Hanging 63 Position Receptacle	2
206138-1	Shell Size 23 Cable Clamp	2
66507-9	28-24 Gold Flashed Pin	100
66505-9	28-24 Gold Flashed Socket	100
66506-9	24-20 Gold Flashed Pin	100
66504-9	24-20 Gold Flashed Socket	100
206509-1	Keying Plug for Size 20DM, 20DF Contacts	100
91067-2	Contact Insertion/Extraction Tool	1
90287-1	AMP® Service Hand Tool	1

87F4083 Type 608030-2. **Each** **231.49**

Type	334-Piece Series 3 and 4 Connector Kit Contents	Quantity
	Shell Size 17/Arrangement 17-3/Sex Standard	
206037-2	Standard 3 Position Plug	4
206036-2	Square Flange 3 Position Receptacle	2
206207-1	Free-Hanging 3 Position Receptacle	2
206070-1	Shell Size 17 Cable Clamp	3
	Shell Size 23/Arrangement 23-7/Sex Standard	
206136-1	Standard 7 Position Plug	2
206137-1	Square Flange 7 Position Receptacle	2
206137-2	Free-Hanging 7 Position Receptacle	2

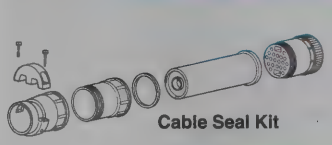
CONTINUED

CIRCULAR PLASTIC CONNECTOR KITS (CONT.)

Type	334-Piece Series 3 and 4 Connector Kit Contents	Quantity
	Shell Size 23/Arrangement 23-16M/Sex Standard	
207485-1	Standard 16 Position Plug	2
207486-1	Square Flange 16 Position Receptacle	2
207486-2	Free-Hanging 16 Position Receptacle	2
	Shell Size 23/Arrangement 23-22M/Sex Standard	
206612-1	Standard 22 Position Plug	2
206613-1	Square Flange 22 Position Receptacle	2
206613-3	Free-Hanging 22 Position Receptacle	2
206138-1	Shell Size 23 Cable Clamp	2
66361-4	14 Gold Flashed Pin	100
66360-4	18-14 Gold Flashed Socket	100
66261-2	Male 16-12 Gold Flashed Pin	25
66258-2	Female 16-12 Gold Flashed Socket	25
66259-2	Male 10-8 Gold Flashed Pin	25
66257-2	Female 10-8 Gold Flashed Socket	25
305183	Contact Extraction Tool (20-16 AWG)	1
91124-1	Economy Extraction Tool (16-8 AWG)	1
90287-1	AMP® Service Hand Tool	1

87F4075 Type 608030-3. **Each** **328.76**
(7995) (de01231)

ACCESSORIES FOR CPC CONNECTORS



JACKETED CABLE SEAL KITS

Includes: peripheral seal, collar, cable seal, backshell extender, clamp saddle.

Stock No.	Type	Description	Shell	Seals Diam.	1-9	10-24	25-49
87F4112	207052-1	Jacketed	23	0.30-0.450″	**15.96**	**15.17**	**12.89**
87F4113	207052-2	Cable	23	0.45-0.600″	**21.29**	**20.23**	**17.19**
87F4114	207052-3	Seal Kits	23	0.60-0.875″	**10.80**	**9.72**	**8.75**
98F5882	54010-1		11	0.26-0.600″	**6.84**	**6.16**	**5.54**
95F1798	54123-1	Cable Entry	13	0.30-0.725″	**7.34**	**6.61**	**5.95**
50F516	54011-1	Heat Shrink	17	0.40-0.875″	**7.24**	**6.51**	**5.86**
96F9689	54012-1	Sealing Boots	23	0.55-1.100″	**8.08**	**7.27**	**6.54**

Stock No.	Type	Description	Shell	Cable Range	1-9	10-24	25-49
87F4103	207489-1	Cable Boot	11	0.15-0.25″	**1.94**	**1.85**	**1.75**
87F4105	207241-1	Cable Boot	11	0.20-0.25″	**3.14**	**2.98**	**2.83**
87F4104	207490-1*	Cable Grip	17	0.15-0.25″	**2.10**	**2.00**	**1.90**
87F4106	207387-1*	Cable Grip	17	0.20-0.25″	**2.96**	**2.82**	**2.68**
87F4107	207387-2*	Cable Grip	17	0.25-0.35″	**2.86**	**2.71**	**2.58**

*For rigid jacket such as PVC

Stock No.	Type	Description	Shell Size	1-9	10-24	25-49
52F084	213810-1	Coupling	11	**0.83**	**0.79**	**0.75**
52F086	213813-1	Rings	13	**1.04**	**0.99**	**0.94**
52F083	213811-1	for	17	**0.74**	**0.70**	**0.67**
52F085	213812-1	Plugs	23	**1.33**	**1.26**	**1.20**
87F4100	207055-1	Backshell Extender	23	**3.14**	**2.98**	**2.83**
87F4101	206304-1	Rubber	11	**2.32**	**2.21**	**2.10**
87F4102	206398-1	Boots	17	**4.36**	**4.17**	**4.06**
87F4115	207299-1		11	**3.42**	**3.25**	**3.09**
87F4116	207299-2	Panel Mounting Flange for Plugs	13	**3.84**	**3.65**	**3.47**
93F2086	207299-3		17	**3.56**	**3.04**	**2.77**
87F4117	207299-4		23	**2.63**	**2.50**	**2.37**

SEALING CAPS FOR RECEPTACLES

Stock No.	Type	Shell Size	CPC Series	Style	1-9	10-24	25-49
87F4118	206903-1	11	1 and 2	Strap	**3.00**	**2.85**	**2.71**
87F4119	208800-1	11	1 and 2	Chain	**4.97**	**4.72**	**4.48**
87F4120	211870-1	13	1	Strap	**2.72**	**2.59**	**2.46**
66F6175	213485-1	13	1	Chain	**5.64**	**5.04**	**4.90**
87F4121	207445-1	17	1,2 and 3	Strap	**3.19**	**3.03**	**2.88**
87F4108	208652-1	17	1,2 and 3	Chain	**4.78**	**4.54**	**4.31**
87F4109	207446-1	23	1,3 and 4	Strap	**3.70**	**3.51**	**3.34**
87F4110	208680-1	23	1,3 and 4	Chain	**5.74**	**5.45**	**5.18**
87F4111	207446-2	23	2	Strap	**5.34**	**5.07**	**4.82**

PERIPHERAL SEALS FOR RECEPTACLES

Stock No.	Type	Shell Size	Dimensions A	Dimensions B	1-9	10-24
44F8398	206403-1	11	0.524″	0.041″	**0.53**	**0.50**
44F8399	206403-4	13	0.650″	0.050″	**0.79**	**0.75**
44F8400	206403-2	17	0.875″	0.050″	**0.60**	**0.57**
44F8401	206403-3	23	1.230″	0.050″	**1.10**	**1.05**

(7996) (de01232)

METAL SHELL CPC CONNECTORS

METAL SHELL CIRCULAR PLASTIC CONNECTORS

208719-1

208718-1

Black thermoplastic insert encased in zinc-plated aluminum alloy outer shell. Available in class A (round) plugs and square-flange receptacles. Available with standard sex (pin contacts in receptacle) or reverse sex loading except Series 4. UL recognized, CSA certified. *Order Series 1, 2 and 3 contacts and cable clamps separately on this page.*

SERIES 1 STANDARD-DENSITY SQUARE-FLANGE RECEPTACLES

Stock No.	Type	Contact Order	Numbering	1-9	10-24	25-49	50-99
87F6186	208719-1	14-5	Standard	18.58	16.72	14.21	12.79
87F6189	208715-1	14-7	Standard	18.35	16.51	14.04	12.63
87F6181	208489-1	22-16	Standard	24.11	21.70	18.44	16.60
87F6169	208459-1	28-24	Standard	27.61	24.85	21.12	19.01
87F6171	208471-1	28-37	Standard	27.59	24.83	21.10	18.99
87F6585	208721-1	14-5	Reverse	21.17	19.05	16.19	14.57
87F6177	208717-1	14-7	Reverse	18.35	16.51	14.04	12.63
87F6179	208487-1	22-14	Reverse	21.60	19.44	16.52	14.87
87F6173	208473-1	28-37	Reverse	27.59	24.83	21.10	18.99
			PLUGS				
87F6185	208718-1	14-5	Standard	42.19	37.97	32.28	29.05
87F6188	208714-1	14-7	Standard	29.27	26.34	22.39	20.15
87F6180	208488-1	22-16	Standard	27.29	24.56	20.88	18.79
87F6182	208457-1	28-24	Standard	34.87	31.38	26.68	24.01
87F6170	208470-1	28-37	Standard	34.87	31.38	26.68	24.01
87F6187	208720-1	14-5	Reverse	33.13	29.82	25.35	22.81
87F6176	208716-1	14-7	Reverse	28.64	25.78	21.91	19.72
87F6178	208486-1	22-14	Reverse	28.36	25.52	21.69	19.52
87F6172	208472-1	28-37	Reverse	33.42	30.08	25.57	23.01

MULTIMATE PIN CONTACTS (SOLD IN PACKAGES OF 100)

Stock No.	Type	AWG	Finish/Type III	1-9	10-24
96F7142	1-66361-0	14-2	Tin-Plated/Crimp	20.40	18.36
96F7934	1-66103-5	24-20	Tin Plated/Crimp	20.64	18.58
96F8021	66107-9	26-24	Tin-Plated/Crimp	22.49	21.37
96F7921	1-66361-1	14-2	Gold Flash/Crimp	31.44	28.30
96F7935	1-66103-7	24-20	Gold Flash/Crimp	31.20	28.08
96F7919	1-66107-0	26-24	Gold Flash/Crimp	33.67	31.99
96F7929	202236-4	18 Max.	Tin-Plated/Solder Tab	40.80	36.72
96F7928	202236-3*	18 Max.	Gold Flash/Solder Tab	39.20	37.24

*Sold in packages of 50

MULTIMATE SOCKET CONTACTS (SOLD IN PACKAGES OF 100)

96F7141	1-66105-6	24-20	Tin-Plated/Crimp	24.36	21.92
96F8022	1-66109-5	26-24	Tin-Plated/Crimp	40.82	38.78
96F7140	1-66360-1	14-2	Gold Flash/Crimp	46.56	41.90
96F7936	1-66105-8	24-20	Gold Flash/Crimp	37.20	33.48
96F7920	1-66109-6	26-24	Gold Flash/Crimp	40.30	38.29
96F7931	202237-4	18 Max.	Tin-Plated/Solder Tab	44.76	40.28
96F7930	202237-3	18 Max.	Gold Flash/Solder Tab	73.81	62.74

KEYING PLUG (SOLD IN PACKAGES OF 100)

87F6183	200821-1	...	Keying Plug	15.06	13.98

APPLICATION TOOLS

44F8408	305183	...	Extraction Tool	21.00	18.90
92F9096	90287-1	...	AMP® Service Tool	27.83	25.04
44F8409	58495-1	26-16	PRO-CRIMPER™ II Hand Tool	127.60	121.22
96F9723	90066-7	26-24/24-20	CERTI-CRIMP® Hand Tool	376.65	357.82
51F1334	90310-3	18-14	CERTI-CRIMP® Hand Tool	458.33	435.41

SERIES 2 HIGH-DENSITY SQUARE-FLANGE RECEPTACLES

Stock No.	Type	Contact Order	Numbering	1-9	10-24	25-49	50-99
87F6175	208491-1	22-28	Standard	21.17	19.05	16.19	14.57
87F6167	208477-1	28-63	Standard	31.13	28.02	23.81	21.43
87F6163	208493-1	22-28	Reverse	25.49	24.21	21.79	19.61
87F6165	208475-1	28-57	Reverse	38.91	36.96	33.27	29.94
			PLUGS				
87F6174	208490-1	22-28	Standard	54.42	46.26	41.63	37.47
87F6166	208476-1	28-63	Standard	87.50	74.38	66.94	60.25
87F6162	208492-1	22-28	Reverse	70.41	66.89	60.20	54.18
87F6164	208474-1	28-57	Reverse	89.71	76.26	68.63	61.77

CONTINUED

METAL SHELL CIRCULAR PLASTIC CONNECTORS (CONT.)

SNAP-IN PIN CONTACTS (SOLD IN PACKAGES OF 100)

Stock No.	Type	AWG	Finish/Type	1-24	25-49
46F1117	66507-9	28-24	Gold Flash/Crimp	21.00	17.69
96F7902	6-66506-1	24-20	Gold Flash/Crimp	15.66	12.53
96F7924	66570-8	18 Max.	Gold Flash/Solder Cup	21.01	18.91

SNAP-IN SOCKET CONTACTS (SOLD IN PACKAGES OF 100)

96F7923	6-66505-9	28-24	Gold Flash/Crimp	19.14	16.27
96F7922	7-66504-0	24-20	Gold Flash/Crimp	19.14	16.27
92F5795	1-66569-0	18 Max.	Gold Flash/Solder Cup	16.39	14.75
87F6584	206509-1	...	Keying Plug **(Each)**	0.37	0.35

APPLICATION TOOLS

44F8729	91067-2	...	Extraction Tool	4.22	4.00
90F1401	91285-1	28-24	Insertion/Extraction Tool	12.78	11.50
44F8730	58448-2	28-20	PRO-CRIMPER™ II Hand Tool	127.60	121.22
98F6693	169341-1	24-28	Crimp Hand Tool	258.40	243.20
50F692	90302-1	...	CERTI-CRIMP® Hand Tool	403.65	383.47

SERIES 3 POWER-DENSITY SQUARE-FLANGE RECEPTACLES

Stock No.	Type	Contact Order	Numbering	1-9	10-24	25-49	50-99
98F5287	208495-1	22-3	Standard	35.68	32.47	19.20	17.70
87F6155	208483-1	28-7	Standard	34.62	32.89	29.60	26.64
87F6157	208485-1	28-7	Reverse	24.61	22.15	18.83	16.95
			PLUGS				
66F6176	208494-1	22-3	Standard	49.24	44.81	29.81	27.48
87F6168	208482-1	28-7	Standard	38.77	34.89	29.66	26.69
87F6156	208484-1	28-7	Reverse	33.97	30.57	25.99	23.39

PIN CONTACTS

Stock No.	Type	AWG	Finish/Type XII	1-9	10-24
92F4850	66261-1	16-12	Tin/Male	1.67	1.60
46F1154	66261-2	16-12	Gold Flash/Male	2.94	2.79
52F087	66259-1	10-8	Tin/Male	2.55	2.18
46F1156	66259-2	10-8	Gold Flash/Male	2.40	2.28

SOCKET CONTACTS

95F2733	66740-8	16-12	Tin/Female	3.43	2.77
90F7240	66740-6	16-12	Gold Flash/Female	2.91	2.77
52F088	66741-8	10-8	Tin/Female	4.05	3.46
51F3487	66741-6	10-8	Gold Flash/Female	3.22	3.06

APPLICATION TOOLS

46F1158	91124-1	...	Extraction Tool	29.78	28.29
46F1159	91019-3	...	Extraction Tool	125.94	107.05
46F1160	90382-2	16-12	CERTI-CRIMP® Hand Tool	571.48	542.90
46F1161	90384-1	10-8	CERTI-CRIMP® Hand Tool	571.48	542.90

SERIES 4 STANDARD/POWER-DENSITY

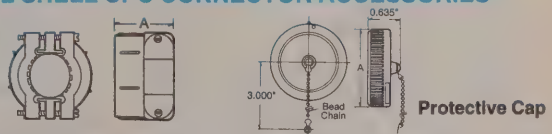
Series 4 connectors use Series 1 and Series 3 contacts and tools.

STANDARD SEX SQUARE-FLANGE RECEPTACLES

Stock No.	Type	Contact Order	Sex	1-9	10-24	25-49	50-99
87F6159	208479-1	28-16	Standard	28.40	25.56	21.73	19.56
98F9189	208481-1	28-22	Standard	39.98	36.39	24.19	22.30
			PLUGS				
87F6158	208478-1	28-16	Standard	48.50	46.07	41.46	37.32
98F9188	208480-1	28-22	Standard	55.18	50.22	33.38	30.78

(8074) (ne01203)

METAL SHELL CPC CONNECTOR ACCESSORIES



Cable Clamp — Protective Cap

For Series 1, 2, 3 and 4 metal shell CPC connectors. **Type 208945-X** cable clamps prevent excessive strain on cable/wire from being passed along to contacts inside connector housing. Zinc-plated aluminum alloy. Unassembled components include: body, 2 screws, 2 lock washers, 2 straps. Clamps thread directly onto metal shell plugs or receptacles. **Types 211903-1** and **211904-1** are nickel-plated zinc alloy protective caps for receptacles only.

Stock No.	Type	Shell Size	Cable O.D.	Dim. A	Thread Size	1-9	10-24	25-49
87F6160	208945-5	14	0.312-0.562"	0.938"	7/8-20	9.02	8.12	7.31
87F6161	208945-7	22	0.500-0.750"	0.938"	1 3/16-18	12.32	11.70	10.53
87F6190	208945-8	28	0.625-0.938"	1.031"	1 7/16-18	14.61	13.88	12.49
				PROTECTIVE CAPS				
96F9890	211903-1	22	...	1.75"	...	25.97	23.37	19.87
50F521	211904-1	28	...	2.17"	...	27.86	25.08	21.32

(8075) (ne01204)

COMMERCIAL MATE-N-LOK® SOFT-SHELL CONNECTORS

Fully polarized UL94V-2 nylon housings available in panel mount, free-hanging, and motor mount versions. Precision molded, soft-shell construction offers easy cavity identification. Built-in locking device, contact stabilization, and self-aligning features. UL recognized, CSA certified. *Order pin and socket contacts and application tools separately on pages 146-147.*

PANEL MOUNT PIN (CAP) HOUSINGS

Stock No.	Type	Fig.	Circuits	Dimensions A	Dimensions B	1-99	100-249	250-499	500-999
82F9866	1-480305-0	1	3*	0.810″	0.930″	0.41	0.37	0.34	0.30
82F9868	1-480426-0	1	4*	1.010″	0.930″	0.54	0.48	0.44	0.39
82F9870	1-480276-0	3	6†	0.665″	0.930″	0.63	0.57	0.51	0.46
82F9872	1-480277-0	3	9†	0.905″	0.930″	0.73	0.66	0.59	0.53
87F2942	1-480278-0	3	12†	1.145″	0.930″	0.85	0.77	0.69	0.62
87F2944	1-480324-0	3	15†	1.382″	0.930″	1.03	0.92	0.83	0.75

PANEL MOUNT SOCKET (PLUG) HOUSINGS

Stock No.	Type	Fig.	Circuits	Dimensions A	Dimensions B	1-99	100-249	250-499	500-999
82F9867	1-480304-0	2	3*	0.630″	0.850″	0.57	0.51	0.46	0.41
82F9869	1-480425-0	2	4*	0.830″	0.850″	0.53	0.47	0.43	0.38
82F9871	1-480273-0	4	6†	0.555″	0.850″	0.70	0.63	0.57	0.51
82F9873	1-480274-0	4	9†	0.795″	0.850″	0.80	0.72	0.65	0.58
87F2943	1-480275-0	4	12†	1.045″	0.850″	0.90	0.81	0.73	0.66
87F2945	1-480323-0	4	15†	1.280″	0.850″	1.30	1.22	1.15	1.05

FREE-HANGING PIN (CAP) HOUSINGS

Stock No.	Type	Fig.	Circuits	Dimensions A	Dimensions B	1-99	100-249	250-499	500-999
87F2954	1-480350-0	5	1+	0.300″	1.200″	0.26	0.25	0.24	0.23
82F9874	1-480351-0	5	1‡	0.300″	1.240″	0.25	0.24	0.23	0.22
82F9876	1-480319-0	7	2*	0.610″	0.930″	0.28	0.25	0.22	0.20
82F9866	1-480305-0	7	3*	0.810″	0.930″	0.41	0.37	0.34	0.30
82F9878	1-480340-0	10	6‡	0.705″	0.930″	0.51	0.46	0.41	0.37
87F2960	1-480345-0	11	8‡	0.900″	0.930″	0.55	0.50	0.45	0.40
82F9918	1-480339-0	11	10‡	1.095″	0.930″	0.80	0.77	0.75	0.70

FREE-HANGING SOCKET (PLUG) HOUSINGS

Stock No.	Type	Fig.	Circuits	Dimensions A	Dimensions B	1-99	100-249	250-499	500-999
82F9875	1-480349-0	6	1	0.260″	0.870″	0.09	0.08	0.08	0.08
82F9877	1-480318-0	8	2*	0.530″	0.860″	0.27	0.24	0.22	0.20
87F2955	1-480720-0	9	2‡	0.435″	0.850″	0.62	0.58	0.53	0.48
87F2956	1-480303-0	8	3*	0.825″	0.850″	0.36	0.32	0.29	0.26
87F2957	1-480721-0	9	3‡	0.630″	0.850″	0.65	0.58	0.53	0.47
87F2958	1-480424-0	8	4*	1.025″	0.850″	6.42	5.19	4.27	3.96
87F2959	1-480722-0	9	4‡	0.830″	0.850″	0.71	0.64	0.57	0.52
82F9879	1-480270-0	12	6‡	0.610″	0.850″	0.73	0.66	0.60	0.54
87F2948	1-480283-0	12	8‡	0.805″	0.850″	0.69	0.63	0.58	0.52
82F9880	1-480285-0	12	10‡	1.000″	0.850″	0.90	0.86	0.84	0.78

MOTOR MOUNT PIN (CAP) HOUSING

Stock No.	Type	Fig.	Circuits	Dimensions A	Dimensions B	1-99	100-249	250-499	500-999
87F2946	1-480271-0	13	6‡	0.705″	0.930″	0.76	0.73	0.72	0.67
87F2952	1-480439-0	13	16‡	1.680″	0.930″	1.54	1.21	0.97	0.88

MOTOR MOUNT SOCKET (PLUG) HOUSINGS

Stock No.	Type	Fig.	Circuits	Dimensions A	Dimensions B	1-99	100-249	250-499	500-999
82F9879	1-480270-0	12	6‡	0.610″	0.850″	0.73	0.66	0.60	0.54
87F2953	1-480438-0	12	16‡	1.585″	0.850″	1.46	1.40	1.36	1.27

*In-Line version; †Matrix version; ‡Positive lock housing; + Detent lock housing
(8330)

(ne51093)

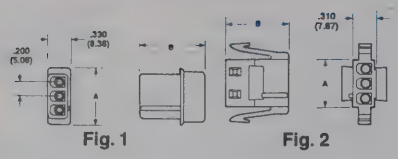


Fig. 1 Fig. 2

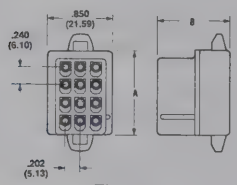


Fig. 3

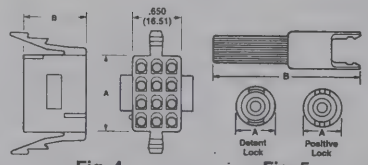


Fig. 4 Fig. 5

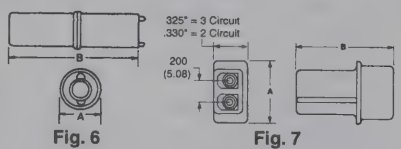


Fig. 6 Fig. 7

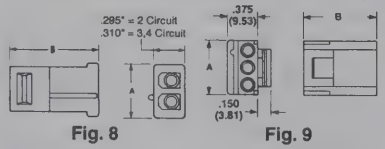


Fig. 8 Fig. 9

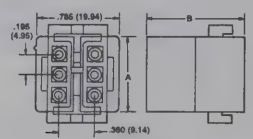


Fig. 10

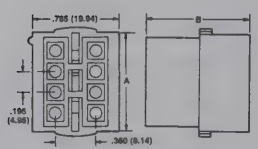


Fig. 11

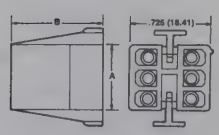


Fig. 12

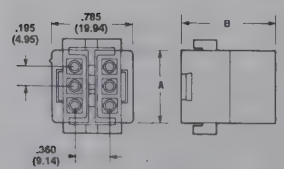


Fig. 13

CONTACTS FOR COMMERCIAL MATE-N-LOK® CONNECTORS

Brass pin and socket contacts available with gold or pre-tin plating. Designed with no sharp projections to impede insertion or damage housings, *ordered separately on this page.* Pin contacts 0.805″ long with 0.084″ diameter. Socket contacts 0.695″ long. Stock thickness 0.012″.

PRE-TIN PLATED CONTACTS (SOLD IN PACKAGES OF 100)

Stock No.	Type	Description	AWG	Ins. Dia. Range	1-4	5-9	10-24	25-49
82F9909	60618-1	Pin	24-18	0.060-0.100″	6.60*	6.42*	5.46*	4.70*
82F9911	60620-1	Pin	20-14	0.100-0.130″	12.28	11.40	9.77	8.81
82F9910	60617-1	Socket	24-18	0.060-0.100″	12.28	11.40	9.77	8.81
82F9912	60619-1	Socket	20-14	0.100-0.130″	12.28	11.40	9.77	8.81

GOLD PLATED CONTACTS (SOLD INDIVIDUALLY)

Stock No.	Type	Description	AWG	Ins. Dia. Range	1-99	100-249	250-499	500-999
90F3982	60618-5	Pin	24-18	0.060-0.100″	0.63*	0.61*	0.59*	0.57*
90F4593	60617-5	Pin	20-14	0.100-0.130″	0.63*	0.61*	0.59*	0.57*
90F4588	60620-5	Socket	24-18	0.060-0.100″	0.97	0.93	0.91	0.86
90F4057	60619-5	Socket	20-14	0.100-0.130″	0.63*	0.61*	0.59*	0.57*

*Price column quantities vary from above, *contact your local Newark sales office for details.*
(8331)

(ne51094)

COMMERCIAL MATE-N-LOK® CONNECTOR KIT

146-pc. general-purpose kit contains an assortment of 1, 2, 3, 6, and 9 circuit Commercial MATE-N-LOK® connectors and 20-14 AWG contacts plus **type 465644-1** contact extraction tool, **type 90287-1** AMP® service tool, and multi-compartment storage case.

92F8335 Type 314975-1. **Each** **92.25**
(8332) (ne52350)

COMMERCIAL MATE-N-LOK® PC BOARD VERTICAL PIN & SOCKET HEADERS

Feature natural color UL94V-2 rated nylon housing with pre-tin or duplex plated phospor bronze contacts. Duplex finish plated with 0.000030″(0.000762) min. gold in mating area, matte tin-lead on solder tail end over 0.000050″(0.00127) min. nickel underplate on entire contact. 0.175″ standard tail ideal for 0.062″(1.57) thick PC board. Mates with socket housings, *ordered separately above*. 0.225″ long tail for 0.125″ thick PC board also available; *contact your local Newark sales office.*

Stock No.	Type	Fig.	Circuits	Dim. A	Mates With	1-24	25-49	50-99	100-249
87F2962	350539-1	2	2*‡±	0.515	1-480720-0	0.35**	0.34**	0.33**	0.32**
90F4020	350539-2	3	2*‡o	0.515	1-480720-0	1.59	1.52	1.48	1.25
87F2963	350209-1	2	2*+±	0.515	1-480318-0	0.28**	0.27**	0.26**	0.25**
87F2965	350209-2	3	2*+o	0.515	1-480318-0	1.33	1.27	1.24	1.04
87F2966	350541-1	2	3*‡±	0.715	1-480721-0	1.18	1.13	1.10	0.93
87F2967	350210-1	2	3*+±	0.715	1-480303-0	0.43**	0.42**	0.40**	0.39**
87F2968	350210-2†	3	3*+o	0.715	1-480303-0	112.60	92.73	82.71	...
89F4469	350543-1	2	4*‡±	0.915	1-480722-0	0.99	0.94	0.92	0.88
50F2671	350543-2	3	4*‡o	0.915	1-480722-0	2.10	2.01	1.95	1.86
98F278	350211-1	2	4*+±	0.915	1-480424-0	0.71	...	...	...
87F2972	350211-2	3	4*+o	0.915	1-480424-0	2.87	2.75	2.68	2.26
90F4023	1-380999-0	1	6+‡±	0.705	1-480270-0	0.70	0.67	0.65	0.62
90F4024	2-380999-0	1	6+‡o	0.705	1-480270-0	2.34	2.23	2.18	2.07
50F052	350212-1	2	8+‡±	0.9	1-480283-0	0.64**	0.62**	0.60**	0.58**
87F2983	350212-2†	2	8+‡o	0.9	1-480283-0	219.04	180.38	162.46	...

*In-Line version ‡Positive lock housing +Detent lock housing oDuplex finish ±Duplex finish †**Sold in packages of 100**
** Price column quantities vary from above; *contact your local Newark sales office.*
(40773) (ne40773)

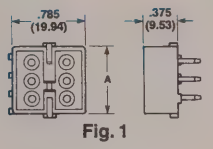


Fig. 1

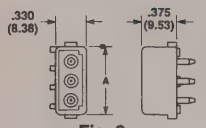


Fig. 2

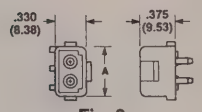


Fig. 3

COMMERCIAL MATE-N-LOK® TOOLS

Stock No.	Type	Description	1-9	10-24
46F2045	455830-1	Contact Insertion Tool	23.00	19.55
82F9913	465644-1	Contact Extraction Tool	15.75	14.96
92F9096	90287-1	AMP® Service Tool	27.83	25.04
96F9718	90574-1	PRO-CRIMPER™ II Hand Tool, 24-18 AWG	168.00	142.80
96F9719	90575-1	PRO-CRIMPER™ II Hand Tool, 20-14 AWG	168.00	142.80
82F9914	90123-2	CERTI-CRIMP® Hand Tool, 24-18 AWG	342.90	325.76
82F9916	90124-2	CERTI-CRIMP® Hand Tool, 20-14 AWG	406.40	355.60

(8333) (ne52912)

UNIVERSAL MATE-N-LOK® II SOFT-SHELL CONNECTOR HOUSING KITS

Soft-shell pin and socket connector housings available in 2 thru 4 in-line and 6 thru 15 matrix circuit sizes for free-hanging or panel-mount wire-to-wire connection. Kits consist of front and rear caps or plugs. Mate with standard Universal MATE-N-LOK® housings and PC board headers and use standard panel cutouts and strain reliefs. Polarized nylon housings, rated UL94V-0. Contacts, *ordered separately on page 148*, are on 0.250″ (6.35) centerline spacing. Pins and sockets can be intermixed in the same housing. Housing design provides for complete contact insertion and features 3-point stabilization to control contact alignment and minimize stubbing. Voltage rating: 600VAC or DC. Dielectric withstanding voltage: 5.0KVAC or 10KVDC between adjacent circuits. Insulation resistance: 1000 megohms minimum between adjacent circuits. UL recognized, CSA certified, VDE approved. *Order application tools separately on page 148.*

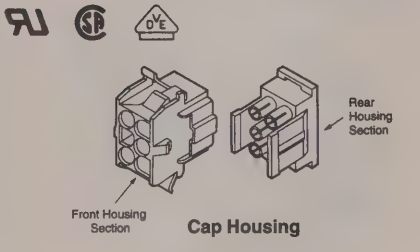
PLUG HOUSING KITS

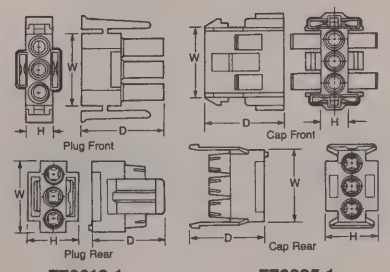
Stock No.	Type	Circuits	H x W x D Front Section	H x W x D Rear Section	1-24	25-49	50-99	100-249
92F9078	770017-1	2*	0.300 x 0.550 x 0.905″	0.580 x 0.550 x 0.845″	0.39‡	0.37‡	0.36‡	0.35‡
92F9079	770018-1	3*	0.300 x 0.800 x 0.905″	0.580 x 0.800 x 0.845″	0.42‡	0.41‡	0.39‡	0.38‡
92F9080	770019-1	4*	0.300 x 1.050 x 0.905″	0.580 x 1.050 x 0.845″	0.43‡	0.42‡	0.40‡	0.39‡
93F7343	770020-1	6†	0.550 x 0.800 x 0.905″	0.550 x 1.080 x 0.845″	0.53‡	0.51‡	0.49‡	0.48‡
92F9081	770021-1	9†	0.800 x 0.800 x 0.905″	0.800 x 1.080 x 0.845″	0.56‡	0.55‡	0.53‡	0.51‡
92F9082	770022-1	12†	1.050 x 0.800 x 0.905″	1.050 x 1.080 x 0.845″	1.23	1.11	1.06	0.95
90F3979	770023-1	15†	1.300 x 0.800 x 0.905″	1.300 x 1.080 x 0.845″	0.84‡	0.81‡	0.78‡	0.67‡

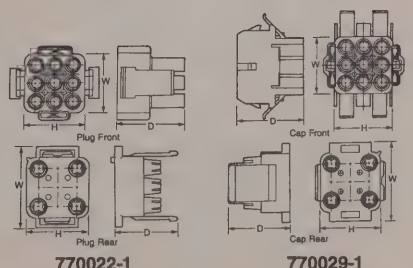
CAP HOUSING KITS

92F9083	770024-1	2*	0.300 x 0.550 x 0.905″	0.580 x 0.550 x 0.845″	0.40‡	0.39‡	0.37‡	0.36‡
92F9084	770025-1	3*	0.300 x 0.800 x 0.905″	0.580 x 0.800 x 0.845″	0.46‡	0.45‡	0.43‡	0.42‡
92F8875	770026-1	4*	0.300 x 1.050 x 0.905″	0.580 x 1.050 x 0.845″	0.48‡	0.47‡	0.45‡	0.44‡
92F8876	770027-1	6†	0.550 x 0.800 x 0.905″	0.550 x 1.080 x 0.845″	0.53‡	0.51‡	0.49‡	0.48‡
92F8877	770028-1	9†	0.800 x 0.800 x 0.905″	0.800 x 1.080 x 0.845″	0.57‡	0.56‡	0.54‡	0.52‡
92F8878	770029-1	12†	1.050 x 0.800 x 0.905″	1.050 x 1.080 x 0.845″	0.87	0.79	0.75	0.63
92F8879	770030-1	15†	1.300 x 0.800 x 0.905″	1.300 x 1.080 x 0.845″	0.80‡	0.78‡	0.75‡	0.64‡

*In-Line version; †Matrix version
‡Price column quantities vary from above, *contact your local Newark sales office for details.*
(8286) (ne06287)







CONTACTS FOR UNIVERSAL MATE-N-LOK® II CONNECTORS

Pin and socket "F" crimp contacts for use in Universal MATE-N-LOK® II plug and cap housings, *ordered separately on this page.* Pins and sockets can be intermixed in the same housing. Split pin 0.086″ (2.18) diameter. Stock thickness 0.012″ (0.305). Available in brass or phosphor bronze with pre-tin finish or plated with gold in mating area and tin-lead in crimp area over nickel underplate. Lanceless for tangle free handling. *Order application tools separately on page 148.*

PIN CONTACTS

Stock No.	Type	AWG	I.D. Range	Length	Finish*	1-99	100-249	250-499	500-999
92F8880	770252-1	24-18	0.040-0.100″	1.005″	1	0.16	0.12	0.10	0.09
92F8881	770252-2	24-18	(1.02-2.54)	(25.53)	2	0.72	0.57	0.46	0.42
92F8882	770250-1	20-14	0.060-0.130″	1.005″	1	0.16	0.12	0.10	0.09
92F8883	770250-2	20-14	(1.52-3.30)	(25.53)	2	0.72	0.56	0.46	0.42
92F8884	770248-1	20-14	0.130-0.200″ (3.30-5.08)	0.995″ (25.27)	1	0.21	0.16	0.13	0.12
92F8885	770246-3	12-10	0.200″ max.	1.005″	3	0.33	0.26	0.22	0.19
92F8886	770246-4	12-10	(5.08)	(25.53)	4	1.56	1.23	1.01	0.91

CONTINUED

CONTACTS FOR UNIVERSAL MATE-N-LOK® II CONNECTORS (CONT.)

SOCKET CONTACTS

Stock No.	Type	AWG	I.D. Range	Length	Finish*	1-99	100-249	250-499	500-999
92F8887	770253-3	24-18	0.040-0.100″	0.980″	3	0.18	0.14	0.12	0.11
90F3978	770253-4	24-18	(1.02-2.54)	(24.90)	4	0.84	0.80	0.78	0.74
92F8888	770251-3	20-14	0.060-0.130″	0.980″	3	0.19	0.15	0.12	0.11
92F8889	770251-4	20-14	(1.52-3.30)	(24.90)	4	1.18	0.93	0.76	0.68
92F8890	770249-3	20-14	0.130-0.200″ (3.30-5.08)	0.970″ (24.63)	3	0.25	0.20	0.16	0.15
92F8891	770247-3	12-10	0.200″ max.	0.980″	3	0.33	0.26	0.22	0.19
92F8892	770247-4	12-10	(5.08)	(24.90)	4	1.58	1.24	1.02	0.92

*Material/Finish: 1 = Brass/Pre-Tin, 2 = Brass/Gold, 3 = Phosphor Bronze/Pre-Tin, 4 = Phosphor Bronze/Gold

(8287) (ne06288)

UNIVERSAL MATE-N-LOK® PC BOARD VERTICAL PIN AND SOCKET HEADERS

Feature natural color nylon housings with pre-tin plated phosphor bronze contacts. 0.175″ (4.45) standard tail ideal for 0.062″ (1.57) thick PC board. Mate with plug housings, *ordered separately on page 149.* Rated 600VAC/VDC. UL recognized, CSA certified, VDE approved under test report 14397-1431-1003.

PC BOARD VERTICAL PIN HEADERS—UL94V-2

Stock No.	Type	Fig.	Circuits	Style	Dim. A	Mates With	1-24	25-49	50-99	100-249
46F2051	350428-1	1	2	In-Line	0.550″	1-480698-0	0.21†	0.20†	0.20†	0.19†
46F2052	350429-1	1	3	In-Line	0.800″	1-480700-0	0.28†	0.27†	0.26†	0.25†
46F2053	350430-1	1	4	In-Line	1.050″	1-480702-0	0.35†	0.34†	0.33†	0.32†
89F850	640466-1	1	5	In-Line	1.300″	1-480763-0	1.28	1.22	1.19	0.97
46F2054	350431-1	2	6	Matrix	0.550″	1-480704-0	0.34†	0.33†	0.32†	0.31†
46F2055	350432-1	2	9	Matrix	0.800″	1-480706-0	0.64†	0.62†	0.60†	0.58†
46F2043	350433-1	2	12	Matrix	1.050″	1-480708-0	0.77†	0.75†	0.72†	0.61†
46F2044	350434-1	2	15	Matrix	1.300″	1-480710-0	0.85†	0.82†	0.79†	0.67†

PC BOARD VERTICAL PIN HEADERS—UL94V-0

90F4618	350786-1	1	2	In-Line	0.550″	350777-1	0.35†	0.34†	0.33†	0.32†
90F4620	350789-1	1	3	In-Line	0.800″	350766-1	0.43†	0.42†	0.40†	0.39†
90F4386	350792-1	1	4	In-Line	1.050″	350779-1	0.51†	0.49†	0.47†	0.46†
90F4388	640900-1	1	5	In-Line	1.300″	350809-1	0.81†	0.79†	0.76†	0.64†
90F4392	641828-1	1	8	In-Line	2.050″	640582-1	2.09†	2.00†	1.95†	1.65†
90F4977	350711-1	2	6	Matrix	0.550″	350711-1	0.84†	0.81†	0.78†	0.66†
90F4979	350712-1	2	9	Matrix	0.800″	350720-1	0.78†	0.76†	0.73†	0.62†
90F4963	350713-1	2	12	Matrix	1.050″	350735-1	0.94†	0.91†	0.88†	0.75†
90F4964	350714-1	2	15	Matrix	1.300″	350736-1	1.18†	1.14†	1.10†	0.94†

PC BOARD VERTICAL SOCKET HEADERS—UL94V-2

87F5300	350759-4	1	2	In-Line	0.550″	1-480698-0	0.41	0.36	0.35	0.31
92F8424	350760-4	1	3	In-Line	0.800″	1-480700-0	0.84	0.66	0.54	0.43
92F8425	350761-4	1	4	In-Line	1.050″	1-480702-0	0.54	0.42	0.35	0.31
87F5303	640467-1	1	5	In-Line	1.300″	1-480763-0	1.04	0.94	0.89	0.80
92F8426	350762-4	2	6	Matrix	0.550″	1-480704-0	0.88	0.69	0.57	0.51
89F4470	350763-4	2	9	Matrix	0.800″	1-480706-0	1.50	1.43	1.40	1.17
87F5279	350764-4	2	12	Matrix	1.050″	1-480708-0	0.87†	0.85†	0.81†	0.69†
87F5280	350765-4	2	15	Matrix	1.300″	1-480710-0	1.83	1.65	1.57	1.41

PC BOARD VERTICAL SOCKET HEADERS—UL94V-0

90F5013	350825-1	1	3	In-Line	0.800″	350776-1	0.41†	0.40†	0.38†	0.37†
90F5015	350826-1	1	4	In-Line	1.050″	350779-1	0.55†	0.54†	0.51†	0.50†
90F4999	350827-1	2	6	Matrix	0.550″	350715-1	0.74†	0.72†	0.69†	0.59†
90F5001	350828-1	2	9	Matrix	0.800″	350720-1	0.83†	0.80†	0.77†	0.66†
90F5004	350829-1	2	12	Matrix	1.050″	350735-1	1.09†	1.06†	1.02†	0.88†
90F5007	350830-1	2	15	Matrix	1.300″	350736-1	1.33†	1.29†	1.25†	1.06†

†Price column quantities vary from above, *contact your local Newark sales office for details.*

(8321) (ne50232)

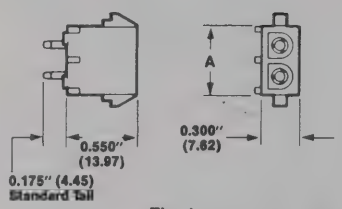


Fig. 1

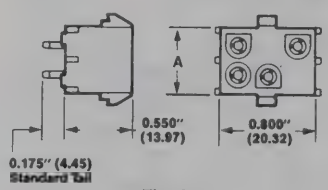


Fig. 2

UNIVERSAL MATE-N-LOK® II NYLON STRAIN RELIEFS–WHITE

Strain relief type number represents ½ of a strain relief. *Order 2 of a type number for each connector.* Requires 2 type B pan head sheet metal screws; not included. Insert comes attached to strain relief. It can be used to provide additional adjustment for small wire bundles or discarded. To be positioned as shown by dotted lines. Rated UL94V-0.

Stock No.	Type	Fig.	Circuits	Dim. A	Insert Supplied	1-24	25-49	50-99	100-249
90F4807	640713-1	1	2*	0.960	Yes	1.72	1.35	1.09	0.98
95F2717	640713-2	1	2*	0.960	No	1.30	1.02	0.84	0.75
90F4808	640714-1	1	3*	1.14	Yes	0.71‡	0.70‡	0.67‡	0.65‡
90F4809	641945-1	1	3*	1.14	No	0.63‡	0.61‡	0.59‡	0.57‡
90F4811	641776-1	1	4*	1.34	Yes	1.27	1.22	1.19	1.13
90F4812	641776-2	1	4*	1.34	No	1.19‡	1.16‡	1.11‡	1.08‡
90F4817	640715-1	2	6†	1.03	Yes	0.74‡	0.72‡	0.69‡	0.67‡
90F4818	640716-1	2	9†	1.03	Yes	0.77‡	0.75‡	0.72‡	0.61‡
90F4819	640717-1	2	12†	1.28	Yes	1.39	1.33	1.30	1.24
90F4820	640718-1	2	15†	1.53	Yes	0.86‡	0.83‡	0.80‡	0.68‡

*In-Line version; †Matrix version

‡Price column quantities vary from above; *contact your local Newark sales office for details.*

(40670) (ne40670)

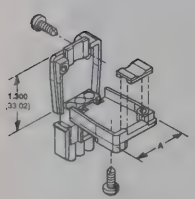


Fig. 1

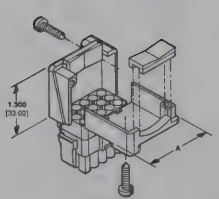


Fig. 2

UNIVERSAL MATE-N-LOK® II TOOLS

Stock No.	Type	Description	1-2	3-4
46F2045	455830-1	Contact Insertion Tool	23.00	19.55
83F3532	318851-1	Contact Extraction Tool	48.66	40.99
92F9096	90287-1	AMP® Service Tool	27.83	25.04
96F9716	90548-1	PRO-CRIMPER™ II Hand Tool (24-18 AWG)	192.00	163.20
96F9717	90546-1	PRO-CRIMPER™ II Hand Tool (20-14 AWG)	192.00	163.20
90F1283	90300-2	CERTI-CRIMP® Hand Tool (24-18 AWG)	409.73	389.24
90F7261	90296-2	CERTI-CRIMP® Hand Tool (20-14 AWG)	409.73	389.24

(8288) (ne06289)

UNIVERSAL MATE-N-LOK® CONNECTOR HOUSINGS

Positive locking plug and cap housings constructed of UL94V-2 flame retardant natural color nylon or UL94V-0 flame retardant white nylon. Available in in-line and matrix styles for free-hanging or panel-mount wire-to-wire connections. Feature positive polarization and rear-cavity identification. Uses standard Universal MATE-N-LOK® panel cutouts and strain reliefs, *ordered separately below.* Accepts removable, crimp snap-in pin-and-socket contacts, *ordered separately on page 150,* which can be intermixed in the same housing. Rated 600VAC/VDC. UL recognized, CSA certified, VDE approved under test report 14397-1431-1003. Cap housing requires two **type 641778-1** or **type 643182-2** adapters to attach strain relief.

UL94V-2 RATED NYLON PLUG HOUSINGS, NATURAL COLOR

Stock No.	Type	Fig.	Circuits	Style	Dim. A	1-24	25-49	50-99	100-249
46F2063	1-480698-0	1	2	In-Line	0.550″	0.23	0.21	0.20	0.17
46F2065	1-480700-0	1	3	In-Line	0.800″	0.13	0.12	0.12	0.11
46F2067	1-480702-0	1	4	In-Line	1.050″	0.14	0.13	0.13	0.12
87F5290	1-480763	1	5	In-Line	1.300″	0.28*	0.27*	0.26*	0.22*
90F4830	640585-1	1	6	In-Line	1.550″	0.36	0.35	0.34	0.33
46F2069	1-480704-0	5	6	Matrix	0.550″	0.16	0.16	0.15	0.15
46F2057	1-480706-0	5	9	Matrix	0.800″	0.19	0.18	0.17	0.17
46F2059	1-480708-0	5	12	Matrix	1.050″	0.39	0.37	0.36	0.28
46F2061	1-480710-0	5	15	Matrix	1.300″	0.31	0.29	0.29	0.28

UL94V-0 RATED NYLON PLUG HOUSINGS, WHITE

Stock No.	Type	Fig.	Circuits	Style	Dim. A	1-24	25-99	100-499	500-999
90F4824	350777-1	1	2	In-Line	0.550″	0.24*	0.24*	0.23*	0.22*
90F4825	350766-1	1	3	In-Line	0.800″	0.23*	0.22*	0.22*	0.21*
90F4826	350779-1	1	4	In-Line	1.050″	0.24*	0.24*	0.23*	0.22*
90F4827	350809-1	1	5	In-Line	1.300″	0.26*	0.26*	0.25*	0.24*
90F4828	640581-1	1	6	In-Line	1.550″	0.56*	0.55*	0.53*	0.51*
90F4829	350715-1	3	6	Matrix	0.550″	0.35*	0.34*	0.33*	0.32*
90F4837	640582-1	5	8	In-Line	2.050″	0.47*	0.46*	0.44*	0.43*
90F4838	350720-1	5	9	Matrix	0.800″	0.31*	0.30*	0.29*	0.28*
90F4840	350735-1	5	12	Matrix	1.050″	0.40*	0.39*	0.37*	0.36*
90F4574	350736-1	5	15	Matrix	1.300″	0.51*	0.49*	0.47*	0.46*

UL94V-2 RATED NYLON CAP HOUSINGS, NATURAL COLOR

Stock No.	Type	Fig.	Circuits	Style	Dim. A	1-24	25-49	50-99	100-249
46F2064	1-480699-0	2	2	In-Line	0.550″	0.12	0.12	0.11	0.11
46F2066	1-480701-0	2	3	In-Line	0.800″	0.13	0.13	0.12	0.12
46F2068	1-480703-0	2	4	In-Line	1.050″	0.14	0.13	0.12	0.12
87F5291	1-480764	2	5	In-Line	1.300″	0.26*	0.26*	0.25*	0.22*
92F8868	926307-1	2	6	In-Line	1.550″	2.27	1.78	1.46	1.32
46F2056	1-480705-0	6	6	Matrix	0.550″	0.16	0.15	0.14	0.14
46F2058	1-480707-0	6	9	Matrix	0.800″	0.17	0.16	0.15	0.15
46F2060	1-480709-0	6	12	Matrix	1.050″	0.19	0.18	0.18	0.17
46F2062	1-480711-0	6	15	Matrix	1.300″	0.28	0.26	0.26	0.25

UL94V-0 RATED NYLON CAP HOUSINGS, WHITE

Stock No.	Type	Fig.	Circuits	Style	Dim. A	1-99	100-249	250-499	500-999
90F4831	350778-1	2	2	In-Line	0.550″	0.28*	0.27*	0.26*	0.25*
90F4832	350767-1	2	3	In-Line	0.800″	0.29*	0.28*	0.27*	0.26*
90F4833	350780-1	2	4	In-Line	1.050″	0.31*	0.30*	0.29*	0.28*
90F4834	350810-1	2	5	In-Line	1.300″	0.32*	0.31*	0.30*	0.29*
92F8870	926307-3	2	6	In-Line	1.550″	3.26	2.57	2.10	1.67
90F4835	350781-1	4	6	Matrix	0.550″	0.31*	0.30*	0.29*	0.28*
92F8871	926308-3	6	8	In-Line	2.050″	3.47	2.73	2.24	1.75
90F4839	350782-1	6	9	Matrix	0.800″	0.37*	0.36*	0.35*	0.34*
90F4841	350783-1	6	12	Matrix	1.050″	0.46*	0.45*	0.43*	0.42*
90F4575	350784-1	6	15	Matrix	1.300″	1.36	1.30	1.27	1.04

*Price column quantities vary from above, *contact your local Newark sales office for details.*

(8322) (ne50233)

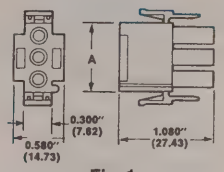


Fig. 1

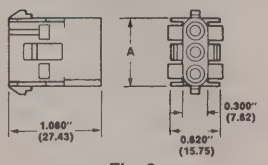
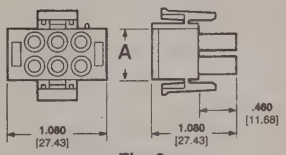


Fig. 2



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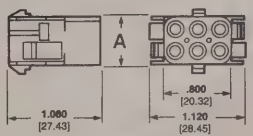


Fig.4

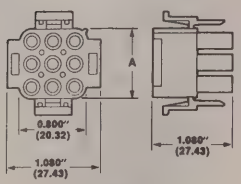


Fig. 5

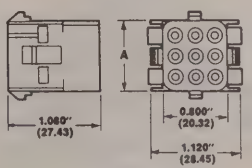


Fig. 6

CONTACTS FOR UNIVERSAL MATE-N-LOK® CONNECTORS

Pin and socket contacts for MATE-N-LOK® plug or cap housings, *ordered separately on this page.* Thickness: 0.012″ (0.305) except **types 350689-1** and **350689-2** , which are 0.010″ (0.254) thick . **Sold in packages of 100.**

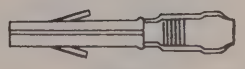
PIN CONTACTS

Stock No.	Type	Material/Finish	AWG	Insulation Diameter	Length	1-99	100-249	250-499	500-999
46F2042	350690-1	Brass/Pre-Tin	24-18	0.040-0.100″	0.790″	10.01	8.58	7.51	6.63
90F4796	350706-1	Brass/Tin Split Pin	24-18	0.040-0.100″	0.790″	0.09	0.08	0.08	0.08
90F3758	350690-2	Brass/Gold	24-18	0.040-0.100″	0.790″	0.48*	0.47*	0.45*	0.44*
90F4797	350706-2	Brass/Gold Split Pin	24-18	0.040-0.100″	0.790″	0.59	0.56	0.55	0.52
46F2039	350547-1	Brass/Pre-Tin	20-14	0.060-0.130″	0.790″	10.01	8.58	7.51	6.63
90F5655	350547-2	Brass/Gold	20-14	0.060-0.130″	0.790″	0.65	0.63	0.61	0.58
90F5662	350552-1	Brass/Pre-Tin	20-14	0.130-0.200″	0.810″	0.09	0.09	0.09	0.08
90F4799	350705-1	Brass/Pre-Tin Split Pin	20-14	0.060-0.130″	0.790″	0.08	0.08	0.08	0.07
90F4793	640309-3	Phos. Brz./Pre-Tin	12-10	0.200″ max.	0.810″	23.44	19.74	18.26	16.78
99F4824	640309-6	Phos. Brz./Gold	12-10	0.200″ max.	0.810″	0.90	0.86	0.84	0.80

SOCKET CONTACTS

46F2041	350689-1	Brass/Pre-Tin	24-18	0.040-0.100″	0.760″	10.01	8.58	7.51	6.63
90F3759	350689-2	Brass/Gold	24-18	0.040-0.100″	0.760″	0.49*	0.48*	0.46*	0.45*
46F2040	350550-1	Brass/Pre-Tin	20-14	0.060-0.130″	0.760″	10.01	8.58	7.51	6.63
90F5656	350550-2	Brass/Gold	20-14	0.060-0.130″	0.760″	0.67	0.64	0.62	0.59
90F5663	350551-1	Brass/Pre-Tin	20-14	0.060-0.130″	0.780″	0.11	0.10	0.10	0.09
90F4794	640310-3	Phos. Brz./Pre-Tin	12-10	0.020″ max.	0.810″	17.68	14.89	13.77	12.66
90F4795	640310-6	Phos. Brz. /Gold	12-10	0.200″ max.	0.780″	0.91	0.87	0.85	0.81

Pin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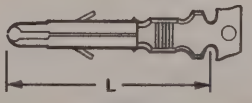
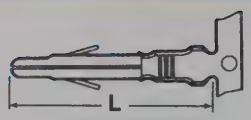
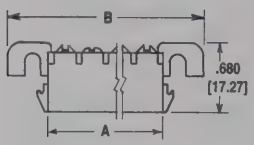


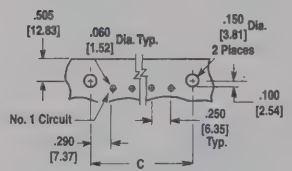
Split Pin

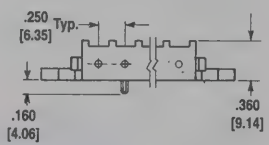
CONTINUED



Grounding Pin







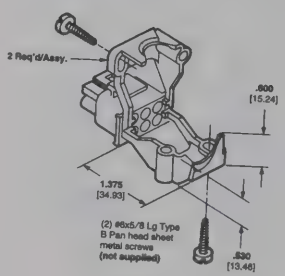


Fig. 1

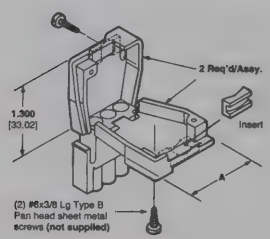


Fig. 2

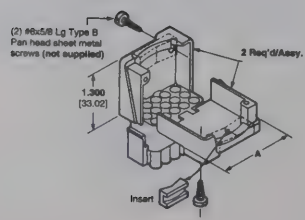
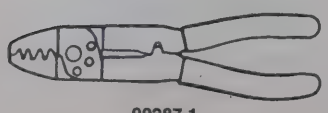


Fig. 3



90287-1

CONTACTS FOR UNIVERSAL MATE-N-LOK® CONNECTORS (CONT.)

KEYING PLUG

Type 1-640415-1 keying plug snaps into Universal Mate-N-Lok® plug or cap housing. Constructed of UL94V-2 flammability rate nylon. **Sold in packages of 100.**

Stock No.	Type	Color	Length	Pkg. of	1-24	25-49	50-99	100-249
87F5289	1-640415-1	Natural	0.770″	100	21.30	20.24	19.22	17.30

GROUNDING PIN

0.100″ longer than standard pin. Not for interrupting current.

Stock No.	Type	Material/ Finish	AWG	Insulation Diameter	Dim. L	1-99	100-249	250-499	500-999
90F7575	350669-1	Brass/Pre-Tin	20-14	0.060-0.130″	0.890″	0.11	0.10	0.10	0.09

*Price column quantities vary from above, *contact your local Newark sales office for details.*
(8324)

(ne50235)

UNIVERSAL MATE-N-LOC® PC BOARD RIGHT-ANGLE PIN HEADERS

In-line style headers feature nylon housing and phosphor bronze contacts with pre-tin finish.

Stock No.	Type	Circuits	Dimensions A	B	C	Mates With UMNL	1-24	25-49	50-99	100-249
94F4611	1-350942-0	2	0.550″	1.245″	0.830″	350777-1	2.34	1.83	1.51	1.13
94F4612	1-350943-0	3	0.800″	1.495″	1.080″	350766-1	1.49	1.19	1.00	0.92
94F4613	1-350944-0	4	1.050″	1.745″	1.330″	350779-1	1.38	1.10	0.93	0.86
94F4614	1-350945-0	5	1.300″	1.995″	1.580″	350809-1	2.58	2.47	2.40	2.06
90F4589	640583-1	6	1.550″	2.245″	1.830″	640581-1	1.67*	1.63*	1.57*	1.34*
93F7318	640584-1	8	2.050″	2.745″	2.330″	640582-1	1.79*	1.74*	1.68*	1.43*

*Price column quantities vary from above; *contact your local Newark sales office for details*
(41071)

(ne41071)

STRAIN RELIEFS FOR UNIVERSAL MATE-N-LOK® CONNECTORS

Strain relief stock number represents half of a strain relief; *order two strain reliefs per housing.* Requires 2 type B pan head sheet metal screws; not included.

UL-94V-2 RATED NYLON STRAIN RELIEFS, NATURAL

Stock No.	Type	Fig.	Circuits	Dim. A	Housing Style	Wire Diameter	1-99	100-249	250-499	500-999
90F4913	1-350590-0	1	6, 9, 12, 15	...	Matrix Plug Only	0.500″+	0.71	0.68	0.67	0.63
87F5281	1-640719-0*	2	2	0.960″	In-Line Plug or Cap	0.040-0.190″‡	0.88	0.84	0.82	0.78
52F2931	1-640719-1	2	2	0.960″	In-Line Plug or Cap	0.200-0.350″+	1.61	1.12	1.00	0.85
87F5282	1-640720-0*	2	3	1.140″	In-Line Plug or Cap	0.040-0.190″‡	1.14	1.09	1.06	1.01
87F5283	641763-1	2	3	1.140″	In-Line Plug or Cap	0.200-0.350″+	1.21†	1.18†	1.13†	1.10†
90F4810	641775-1*	2	4	1.325″	In-Line Plug or Cap	0.040-0.190″‡	1.15	1.10	1.07	1.02
87F5284	641775-2	2	4	1.325″	In-Line Plug or Cap	0.200-0.350″+	1.31†	1.27†	1.23†	1.19†
90F4814	643030-2	2	5	1.530″	In-Line Plug or Cap	0.200-0.350″+	1.16	1.11	1.08	1.03
87F5285	1-640721-0*	3	6	1.030″	Matrix Plug or Cap	0.120-0.650″+	0.92	0.88	0.86	0.82
87F5287	1-640723-0*	3	12	1.280″	Matrix Plug or Cap	0.150-0.750″+	1.26	1.20	1.17	1.11
51F3884	1-640724-0*	3	15	1.530″	Matrix Plug or Cap	0.200-0.850″+	1.55	1.24	1.05	0.96

UL94V-0 RATED NYLON STRAIN RELIEFS, WHITE

Strain relief stock number represents one half of a strain relief; *order two strain reliefs per housing.* Requires two Type B pan head sheet metal screws; not included.

Stock No.	Type	Fig.	Circuits	Dim. A	Housing Style	Wire Diameter	1-99	100-249	250-499	500-999
90F4823	350811-1	1	2,3,4,5,8	...	In-Line Plug Only	0.312″+	0.69	0.66	0.64	0.61
90F4914	350812-1	1	6,9,12,15	...	Matrix Plug Only	0.500″+	0.79	0.76	0.74	0.70
90F4817	640715-1	3	6	1.030″	Matrix Plug or Cap	0.120-0.650″+	0.74†	0.72†	0.69†	0.67†
90F4819	640717-1	3	12	1.280″	Matrix Plug or Cap	0.150-0.750″+	1.39	1.33	1.30	1.24
90F4830	640585-1	3	15	1.530″	Matrix Plug or Cap	0.200-0.850″+	0.36†	0.35†	0.34†	0.33†

*Cable clamping insert comes attached to strain relief. Use to provide additional adjustment for small wire bundles.
+Wire bundle diameter; ‡Single wire diameter
†Price column quantities vary from above, *contact your local Newark sales office for details.*
(41072)

(ne41072)

UNIVERSAL MATE-N-LOK® TOOLS

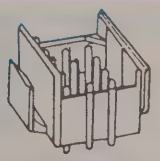
Stock No.	Type	Description	1-2	3-4
46F2045	455830-1	Contact Insertion Tool	23.00	19.55
83F3532	318851-1	Contact Extraction Tool	48.66	40.99
92F9096	90287-1	AMP® Service Tool	27.83	25.04
96F9716	90548-1	PRO-CRIMPER™ II Hand Tool (24-18 AWG)	192.00	163.20
96F9717	90546-1	PRO-CRIMPER™ II Hand Tool (20-14 AWG)	192.00	163.20
90F1283	90300-2	CERTI-CRIMP® Hand Tool (24-18 AWG)	409.73	389.24
90F7261	90296-2	CERTI-CRIMP® Hand Tool (20-14 AWG)	409.73	389.24
89F4270	69710-1	CERTI-CRIMP® Hand Tool (12-10 AWG)	466.20	388.50

(8323)

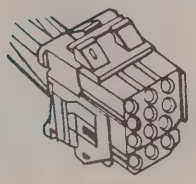
(ne50234)

MR SERIES MINIATURE RECTANGULAR CONNECTOR HOUSINGS

Free-hanging or panel mount, brick red UL94V-0 soft-shell nylon housings lock to prevent accidental disengagements. Pin or socket housing can be mounted in same panel cutout. Molded-in polarizing feature for proper mating and numbered cavities for easy circuit identification. Egg crate design socket housing half fully encloses socket contacts, *ordered separately below.* Molded skirt extension on pin housing protects pin contacts, *ordered separately below.* Strain relief, *ordered separately below,* is one-piece, black UL94V-2, molded nylon "clamshell" design. Use with flexible PVC adapting grommets, *ordered separately below,* to accommodate various wire bundle sizes and insulation diameters. UL recognized, CSA certified for 250V; 105°C operation.



Pin Housing



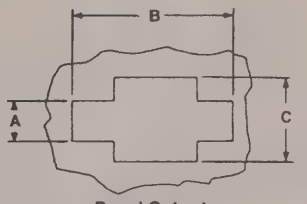
Socket Housing

PIN HOUSINGS

Stock No.	Type	Circuits	Panel Cutout A	Panel Cutout B	Panel Cutout C	1-24	25-49	50-99	100-249
89F2111	1-640507-0	2 In-Line	0.220″	0.785″	0.430″	0.34	0.30	0.29	0.24
89F2112	1-640508-0	3 In-Line	0.220″	0.950″	0.430″	0.50	0.45	0.43	0.36
89F2113	1-640509-0	4 Matrix	0.280″	0.785″	0.595″	0.54	0.48	0.46	0.39
89F2114	1-640510-0	6 Matrix	0.345″	0.785″	0.760″	0.61	0.55	0.52	0.44
89F2115	1-640511-0	9 Matrix	0.345″	0.950″	0.760″	0.65	0.58	0.55	0.47
89F2116	1-640512-0	12 Matrix	0.475″	0.950″	0.925″	0.72	0.65	0.62	0.53
89F2117	1-640513-0	15 Matrix	0.475″	0.950″	1.090″	0.80	0.72	0.68	0.58
89F2104	1-640514-0	20 Matrix	0.475″	1.115″	1.090″	1.26	1.13	1.07	0.91
89F2105	1-640515-0	24 Matrix	0.475″	1.115″	1.255″	1.34	1.20	1.14	0.97
89F2106	1-640516-0	36 Matrix	0.500″	1.100″	1.750″	1.45	1.31	1.24	1.06

SOCKET HOUSINGS

Stock No.	Type	Circuits	Panel Cutout A	Panel Cutout B	Panel Cutout C	1-24	25-49	50-99	100-249
89F2107	1-640517-0	2 In-Line	0.220″	0.785″	0.430″	0.33	0.29	0.28	0.24
89F2108	1-640518-0	3 In-Line	0.220″	0.950″	0.430″	0.49	0.44	0.42	0.35
89F2109	1-640519-0	4 Matrix	0.280″	0.785″	0.595″	0.52	0.47	0.44	0.38
89F2110	1-640520-0	6 Matrix	0.345″	0.785″	0.760″	0.58	0.52	0.50	0.42
89F2097	1-640521-0	9 Matrix	0.345″	0.950″	0.760″	0.65	0.58	0.55	0.47
89F2098	1-640522-0	12 Matrix	0.475″	0.950″	0.925″	0.72	0.65	0.62	0.52
89F5049	1-640523-0	15 Matrix	0.475″	0.950″	1.090″	0.77	0.69	0.66	0.56
89F2099	1-640524-0	20 Matrix	0.475″	1.115″	1.090″	1.26	1.13	1.08	0.91
89F2100	1-640525-0	24 Matrix	0.475″	1.115″	1.255″	1.34	1.21	1.15	0.97
89F2101	1-640526-0	36 Matrix	0.500″	1.100″	1.750″	1.39	1.25	1.19	1.01



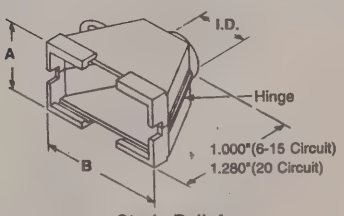
Panel Cutout
Panel Thickness: 0.068″ Maximum

1-PIECE CLAMSHELL STRAIN RELIEFS

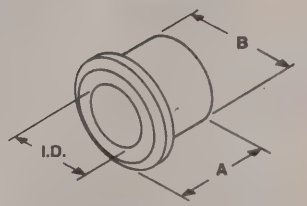
Stock No.	Type	Circuits	Inner Diam.	Dimensions A	Dimensions B	1-24	25-49	50-99	100-249
92F9097	350373-1	6	0.374″	0.634″	0.760″	1.11	0.87	0.71	0.64
92F9099	350374-1	12	0.420″	0.790″	0.925″	1.51	1.19	0.98	0.88
92F9100	350523-1	15	0.420″	0.790″	1.090″	2.30	1.81	1.48	1.34
92F9101	480634-1	20	0.560″	0.960″	1.090″	2.38	1.87	1.53	1.38
92F9102	350524-1	24	0.560″	0.900″	1.255″	2.43	1.91	1.57	1.41

ADAPTING GROMMETS FOR STRAIN RELIEFS (ABOVE)

Stock No.	Type	Circuits	A	B	C	1-24	25-49	50-99	100-249
89F5050	1-350377-0	6	0.156″	0.375″	0.375″	0.56	0.50	0.47	0.40
89F5016	1-350376-0	6	0.218″	0.375″	0.375″	0.50	0.45	0.42	0.36
89F5017	1-350375-0	6	0.296″	0.375″	0.375″	0.87	0.69	0.55	0.50
89F5018	1-350378-1	9, 12, 15	0.218″	0.375″	0.420″	0.54	0.49	0.46	0.39
89F5019	1-350379-1	9, 12, 15	0.250″	0.375″	0.420″	0.53	0.48	0.45	0.38
89F5020	1-350380-1	9, 12, 15	0.281″	0.375″	0.420″	0.54	0.48	0.46	0.39
89F5021	1-380935-0	20	0.437″	0.500″	0.562″	0.60	0.54	0.51	0.43
89F5022	1-380936-0	20	0.375″	0.500″	0.562″	0.57	0.51	0.49	0.42
89F5023	1-380937-0	20	0.312″	0.500″	0.562″	0.55	0.49	0.47	0.40



Strain Relief



Adapting Grommet

PIN AND SOCKET CONTACTS

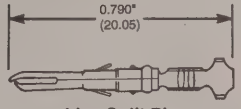
Constructed of 0.008″ thick phosphor bronze. Choice of pre-tin plating or select gold in contact area over nickel on entire contact. **Sold in packages of 100.**

LIVE SPLIT PIN CONTACTS

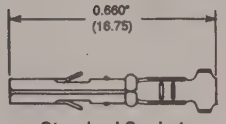
Stock No.	Type	AWG	Insulation Diameter	Finish	1-9	10-24	25-49	50-99
92F6019	640579-1	26-24	0.025-0.050″	Pre-Tin	13.67	12.69	10.87	9.80
89F2095	640545-1	26-18	0.050-0.115″	Pre-Tin	22.91	21.27	18.22	16.43
89F2121	640545-2	26-18	0.050-0.115″	Gold	80.03	65.91	57.64	...

STANDARD SOCKET CONTACTS

89F2096	641300-1	26-18	0.050-0.115″	Pre-Tin	21.57	20.03	17.15	15.47
92F6020	641300-2	26-18	0.050-0.115″	Gold	41.73	35.15	32.51	29.88
92F6021	794001-1-C	26-24	0.025-0.050″	Pre-Tin	13.21	12.26	10.51	9.47
92F6022	794001-2	26-24	0.025-0.050″	Gold	46.25	38.96	36.03	33.12



Live Split Pin



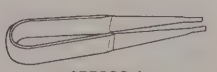
Standard Socket

KEYING PLUG

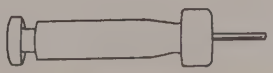
Stock No.	Type	Description	1-24	25-49	50-99	100-249
89F5025	350591-1	Nylon Keying Plug, rated UL94V-0	0.28	0.27	0.25	0.24

APPLICATION TOOLS

Stock No.	Type	Description	1-9	10-24
46F2045	455830-1	Contact Insertion Tool	23.00	19.55
50F677	455822-2	Contact Extraction Tool	23.00	19.55
92F9096	90287-1	AMP® Service Tool	27.83	25.04
96F9721	58514-1	PRO-CRIMPER™ II Hand Tool (26-18AWG)	189.00	160.65
96F9722	90871-1	PRO-CRIMPER™ II Hand Tool (20-14AWG)	168.00	142.80
96F9720	90326-1	CERTI-CRIMP® Hand Tool (26-24AWG)	623.75	...
89F2124	90325-1	CERTI-CRIMP® Hand Tool (26-18AWG)	542.40	474.60



455830-1



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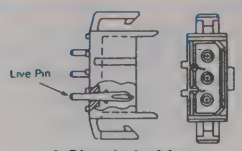
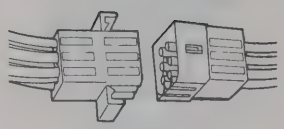
(8325) (ne50241)



3 Circuit, In-Line



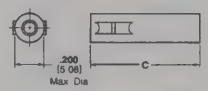


Fig. 1

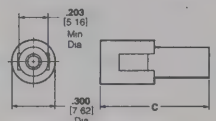


Fig. 2

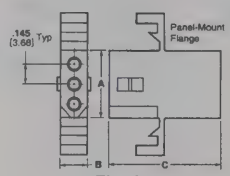


Fig. 3

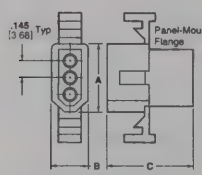


Fig. 4

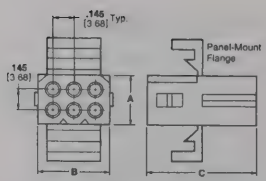


Fig. 5

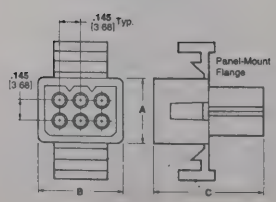


Fig. 6

MR SERIES MINIATURE RECTANGULAR PC BOARD PIN HEADERS

Permit cable connections to center of printed circuit board. Brick red UL94V-0 flammability rated nylon housing. Centerline spacing 0.165″(4.19). Phosphor bronze contacts available with tin or duplex finish. Duplex finish is plated with 30μ″ (0.762μm) min. gold in mating area, matte tin on solder tail end over 50μ″ (1.27μm) min. nickel underplate on entire contact. Solder tail diameter 0.040″(1.02). Mates with **MR series** socket housings listed in table below; *order separately on page 151.*

PC BOARD VERTICAL PIN HEADERS WITH TIN-FINISH CONTACTS

Stock No.	Type	Circuits	Style	PCB Thick.	Mates with Socket Housing	1-99	100-249	250-499	500-999
89F2125	640497-1	2	In-Line	0.062″	1-640517-0	0.44	0.39	0.37	0.34
92F9087	640497-3	2	In-Line	0.120″	1-640517-0	0.55	0.43	0.36	0.32
89F2126	640498-1	3	In-Line	0.062″	1-640518-0	0.66	0.59	0.56	0.51
92F9089	640498-3	3	In-Line	0.120″	1-640518-0	0.82	0.65	0.53	0.48
89F2127	640499-1	4	Matrix	0.062″	1-640519-0	0.88	0.79	0.75	0.68
92F9091	640499-3	4	Matrix	0.120″	1-640519-0	1.10	0.86	0.71	0.64
89F2128	640500-1	6	Matrix	0.062″	1-640520-0	1.21	1.09	1.03	0.93
89F2129	640501-1	9	Matrix	0.062″	1-640521-0	1.21	1.09	1.03	0.88
92F9104	640501-3	9	Matrix	0.120″	1-640521-0	1.95	1.53	1.26	1.13
89F2130	640502-1	12	Matrix	0.062″	1-640522-0	2.09	1.88	1.79	1.61
92F9106	640502-3	12	Matrix	0.120″	1-640522-0	2.50	1.97	1.61	1.45
89F5014	640503-1	15	Matrix	0.062″	1-640523-0	1.93	1.73	1.65	1.40
89F2118	640504-1	20	Matrix	0.062″	1-640524-0	2.50	2.25	2.14	1.82
89F2119	640505-1	24	Matrix	0.062″	1-640525-0	2.78	2.50	2.38	2.02

PC BOARD VERTICAL PIN HEADERS WITH GOLD DUPLEX-FINISH CONTACTS

92F9086	640497-2	2	Matrix	0.062″	1-640517-0	1.55	1.21	1.00	0.90
92F9088	640498-2	3	Matrix	0.062″	1-640518-0	2.29	1.80	1.48	1.33
92F9090	640498-4	3	In-Line	0.120″	1-640518-0	2.29	1.80	1.48	1.33
95F2697	640499-2	4	Matrix	0.062″	1-640519-0	2.66	2.10	1.78	1.62
92F9092	640499-4	4	Matrix	0.120″	1-640519-0	2.86	2.25	1.84	1.66
95F2689	640500-2	6	Matrix	0.062″	1-640520-0	2.94	2.81	2.74	2.35
93F7310	640501-2	9	Matrix	0.062″	1-640521-0	4.08	3.90	3.80	3.25
92F9105	640501-4	9	Matrix	0.120″	1-640521-0	5.13*	4.99*	4.80*	3.46*
93F7314	640502-2	12	Matrix	0.062″	1-640522-0	7.25*	7.05*	6.79*	4.88*
92F9107	640502-4	12	Matrix	0.120″	1-640522-0	6.55	5.29	4.44	4.12
93F7337	640503-2	15	Matrix	0.062″	1-640523-0	9.81*	9.54*	6.81*	5.08*
92F9108	640503-4	15	Matrix	0.120″	1-640523-0	6.44	5.52	4.93	4.35
95F2734	640504-2	20	Matrix	0.062″	1-640524-0	3.23	...	...	...
93F7368	640505-2	24	Matrix	0.062″	1-640525-0	9.38	8.97	8.91	7.63
92F9111	640506-2	36	Matrix	0.062″	1-640526-0	27.26*	19.65*	14.53*	11.64*

*Price column quantities vary from above, *contact your local Newark sales office for details.*

(8326) (ne50242)

0.062″ (1.57) SOFT-SHELL COMMERCIAL PIN AND SOCKET CONNECTORS

Economical, commercial-grade receptacle and plug connector housings available in 1 circuit, 2 thru 4 in-line circuit, and 4 thru 9 matrix circuit sizes for free-hanging wire-to-wire connection. Natural color nylon, polarized housings, rated UL94V-2, feature cavity identification, low contact-mating force, dual-locking lances and detent and positive locking. Compatible with other soft shell connectors. Accepts wires with insulation diameters up to 0.110″ (2.79). Wire range from 30 to 18 AWG. Pre-tin plated brass contacts, *order separately below,* can be used in either plug or receptacle. Feature 0.062″ (1.57) pin diameter and are on 0.145″ (3.68) centerline spacing. Voltage rating: 250VAC. Dielectric withstanding voltage: 1.0kVAC. Durability: 10 mating cycles. Insulation resistance: 1000 megohms minimum initial. UL recognized, CSA certified. *Order application tools separately below.*

FREE-HANGING RECEPTACLES

Stock No.	Type	Fig.	Circuits	Style	Dim. A	Dim. B	Dim. C	1-24	25-49	50-99	100-249
92F9046	770277-1	1	1	...	...	...	0.785″	0.12	0.10	0.09	0.08
92F9048	770342-1	3	2	In-Line	0.340″	0.199″	0.820″	0.08*	0.07*	0.07*	0.07*
92F9050	770333-1	3	3	In-Line	0.490″	0.199″	0.785″	0.25	0.22	0.20	0.18
92F9052	770274-1	3	4	In-Line	0.635″	0.199″	0.785″	0.38	0.30	0.24	0.22
66F6355	770442-1	5	4	Matrix	0.345″	0.345″	0.878″	0.38	0.34	0.32	0.27
92F9055	770356-1	5	6	Matrix	0.345″	0.495″	0.785″	0.36	0.33	0.29	0.26
92F9057	770429-1	5	9	Matrix	0.490″	0.495″	0.790″	0.29	0.26	0.25	0.21

FREE-HANGING PLUGS

92F9045	770278-1	2	1	...	...	...	0.750″	0.13	0.12	0.10	0.09
92F9047	770340-1	4	2	In-Line	0.440″	0.300″	0.780″	0.07*	0.06*	0.06*	0.06*
92F9049	770331-1	4	3	In-Line	0.590″	0.300″	0.750″	0.24	0.21	0.19	0.17
92F9051	770275-1	4	4	In-Line	0.733″	0.300″	0.750″	0.49	0.44	0.38	0.32
92F9053	770433-1	6	4	Matrix	0.445″	0.445″	0.868″	0.38	0.34	0.30	0.27
92F9054	770355-1	6	6	Matrix	0.445″	0.600″	0.750″	0.33	0.30	0.27	0.24
92F9056	770428-1	6	9	Matrix	0.590″	0.600″	0.750″	0.36	0.32	0.29	0.26

*Price column quantities vary from above, *contact your local Newark sales office for details*

PIN CONTACTS – SOLD IN PACKAGES OF 1000

Stock No.	Type	AWG	Insulation Diameter	1-9	10-24	25-49
92F9058	794018-1	30-24	0.060″	41.06	33.81	30.16
92F9061	794017-1	24-18	0.050-0.110″	41.06	33.81	30.16

SOCKET CONTACTS – SOLD IN PACKAGES OF 1000

92F9059	794019-1	30-24	0.060″	41.06	33.81	30.16
92F9060	794016-1	24-18	0.050-0.110″	41.06	33.81	30.16

APPLICATION TOOLS

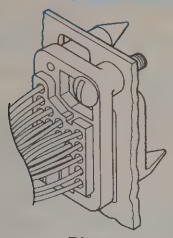
Stock No.	Type	Description	1-9	10-24	25-49
89F4310	91002-1	Contact Insertion Tool	14.04	12.64	11.37
92F9096	90287-1	AMP® Service Tool	27.83	25.04	22.54
92F9062	90870-1	PRO-CRIMPER™ II Hand Tool with Die Set (30-24 AWG)	164.22	135.24	120.63
92F9063	90870-2	Die Set Only (30-24 AWG)	105.57	86.94	77.55
99F3575	90869-1	PRO-CRIMPER™ II Hand Tool with Die Set (24-18 AWG)	123.00	108.86	90.77
92F9064	90869-2	Die Set Only (24-18 AWG)	105.57	86.94	77.55

(8289) (ne06297)

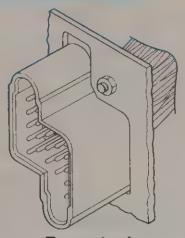
NEW

PIN AND SOCKET CONNECTORS

METRIMATE PIN AND SOCKET STANDARD DRAWER CONNECTOR HOUSINGS



Plug



Receptacle

Provides blind mating with up to 2.3 (0.090) misalignment in any direction. Guide pins molded into plug half. Plug and receptacle can be front- or rear-panel mounted. Material: glass-filled thermoplastic. Color: black. UL94V-0 rated.

Stock No.	Type	Circuits	Description	1-99
66F3004	212608-1	4	Plug	2.98
66F2991	212609-1	4	Receptacle	2.14
92F6632	211758-1	12	Plug	2.34
92F6622	211759-1	12	Receptacle	2.21
92F6620	208210-2	19	Plug	2.46
95F2700	208209-2	19	Receptacle	2.99
93F7309	211150-1	25	Plug	2.51
93F7339	211149-1	25	Receptacle	2.60

(40874) (ne40874)

TYPE III+ MULTIMATE CRIMP PIN AND SOCKET CONTACTS

Pin

Socket

Crimp snap-in contacts with stainless steel retention spring. Brass contact body with tin or gold plating options.

PIN CONTACTS

Stock No.	Type	AWG	Insulation Diameter	1-99
46F8627	66107-2*	26-24	0.89-1.4″(0.035-0.055)	23.60
46F8628	66107-4+	26-24	0.89-1.4″(0.035-0.055)	30.23
50F584	66400-1*	24-20	2.03-2.54″(0.080-0.100)	0.27
50F585	66400-4+	24-20	2.03-2.54″(0.080-0.100)	0.41
50F571	66099-2*	18-16	2.03-2.54″(0.080-0.100)	0.27
96F7932	1-66099-4+	18-16	2.03-2.54″(0.080-0.100)	32.62
96F7142	1-66361-0+	18-14	2.03-2.54″(0.080-0.100)	20.40
46F8624	66361-4+	18-14	2.03-2.54″(0.080-0.100)	30.43

SOCKET CONTACTS

Stock No.	Type	AWG	Insulation Diameter	1-99
89F2972	66109-2*	26-24	0.89-1.4″(0.035-0.055)	36.44
89F5162	66109-4+	26-24	0.89-1.4″(0.035-0.055)	35.77
50F581	66399-1*	24-20	2.03-2.54″(0.080-0.100)	0.32
93F7351	66399-4+	24-20	2.03-2.54″(0.080-0.100)	0.48
50F574	66101-2*	18-16	2.03-2.54″(0.080-0.100)	0.32
96F7933	1-66101-8+	18-16	2.03-2.54″(0.080-0.100)	38.80
89F2970	66360-2*	18-14	2.03-2.54″(0.080-0.100)	23.19
89F5163	66360-4+	18-14	2.03-2.54″(0.080-0.100)	45.06

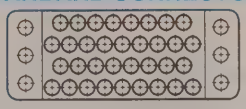
*Tin-lead plating; +Sel gold/nickel plating
(40877) (ne40877)

APPLICATION TOOLS

Stock No.	Type	Description	1-2	3-4
89F4310	91002-1	Contact Insertion Tool	12.64	12.64
96F9723	90066-7	CERTI-CRIMP® (30-20 AWG)	376.65	357.82
98F5758	90067-5	CERTI-CRIMP® (24-16 AWG)	538.20	448.50
93F7341	90067-4	CERTI-CRIMP® (18-16 AWG)	427.14	398.67
66F3051	90310-2	CERTI-CRIMP® (18-14 AWG)	644.38	541.17
51F1334	90310-3	CERTI-CRIMP® (18-14 AWG)	458.33	435.41
44F8409	58495-1	PRO-CRIMPER II™ Hand Tool w/die (28-16 AWG)	127.60	121.22
48F1670	58495-2	Die Set for PRO-CRIMPER II™ (28-16 AWG)	89.40	84.93
92F9096	90287-1	AMP Service Tool	27.83	25.04

(40970) (ne40970)

M SERIES STANDARD CONNECTOR HOUSINGS



Pins and/or sockets may be used in any housing. Housing material: phenolic. All housings accept Type II, Type III+, and subminiature COAXICON contacts, *ordered separately; contact your local Newark sales office.*

Stock No.	Type	Pos.	1-24	25-49	50-99
92F6621	201298-1	14	2.97	2.84	2.77
50F666	200277-2	50	7.35	6.34	5.74

(40972) (ne40972)

TYPE III+ MULTIMATE SOLDER PIN AND SOCKET CONTACTS

Pin

Socket

Solder contacts with stainless steel retention spring. Brass contact body. Finish: 0.000030″ (0.00076) gold in mating area over 0.000050″ (0.00127) nickel.

PIN CONTACTS

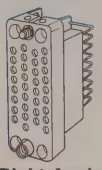
Stock No.	Type	AWG	1-99
95F2707	66182-1	26-20	0.64
95F2713	66180-1	18-16	0.64

SOCKET CONTACTS

50F579	66183-1	26-20	0.81
95F2726	66181-1	18-16	0.81

(40974) (ne40974)

V.35 PRINTED CIRCUIT CONNECTORS



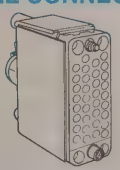
Right-Angle Receptacle

The 34-position V.35 connector is fully assembled and ready for placement on printed circuit boards. The connectors are also available in kit form for cable assembly *on this page*. Housing material: flame-retardant phenolic, except **type 213807-1** which is polyester. Housing color: black. Contacts are brass-plated 0.000030″ (0.00076) min. gold in mating area, 0.000050″ (0.00127) min. nickel underplate on entire contact. Contact spring is stainless steel; contact post is brass with tin-lead plating; boardlocks are copper alloy with tin-lead plating; jackscrews are stainless steel; nuts and lockwashers are steel with zinc plating.

Stock No.	Type	Mounting Bracket Material	Mounting Style	1-99
93F6995	212810-2	Brass, Nickel-Plated	Right-Angle	14.44*
48F5244	213574-2+	Zinc, Nickel-Plated	Right-Angle	32.59
48F5245	213807-1+	Zinc, Nickel-Plated	Right-Angle	16.74
48F5246	213524-1	Without	Vertical	26.56

*Price column quantities vary from above, *contact your local Newark sales office for details*; +Boardlocks
(40979) (ne40979)

V.35 CABLE CONNECTOR KITS

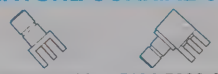


Plug and receptacle connector kits come partially assembled. Kit includes: housing, 1-piece shield, 1-piece turnable jack screws, strain relief clamp, and mounting screws. The housing is flame-retardant black phenolic; shield is anodized aluminum; jackscrews are stainless steel; screws are steel with zinc plating; and cable clamp is steel with nickel plating. All housings accept size 16, Type III+ contacts *order separately on this page.*

Stock No.	Type	Cable Range	Description	1-99
66F3345	213522-1	0.435-0.545″ (11.05-13.83)	Receptacle	12.33*
52F5459	213522-2	0.300-0.450″ (7.62-11.43)	Receptacle	27.75
66F1611	213300-1	0.435-0.545″ (7.62-11.43)	Plug	13.12*
99F5795	213300-2	0.300-0.450″ (7.62-11.43)	Plug	12.14*

*Price column quantities vary from above, *contact your local Newark sales office for details*
(40978) (ne40978)

SMB SUBMINIATURE COAXIAL CONNECTORS



5162-5013-09 5164-5003-09

Type **5162-5013-09** is a snap-on PCB straight jack receptacle, and **type 5164-5003-09** is a snap-on PCB right-angle jack receptacle. Finish: gold plated. Insulation resistance: 1000 megohms min. Dielectric withstanding voltage: 1000V. Temperature range: –65°C to +165°C.

Stock No.	Type	AMP No.	1-9	10-24	25-49	50-99
16F5535	5162-5013-09	1060455-1	5.49	4.67	4.20	3.78
16F5545	5164-5003-09	1060464-1	8.80	7.48	6.74	6.06

(8313) (ne09447)

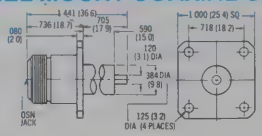
PCB RECEPTACLES

Subminiature snap-on straight jack PCB receptacles feature captured center contact. Finish: nickel plated. Insulation resistance: 10,000 megohms min. Dielectric withstanding voltage: 1000V rms. Impedance: 50 ohms nom. Temperature rating: –65°C to +165°C.

Stock No.	Type	AMP No.	1-24	25-49	50-99	100-249
16F5531	5862-5004-10	1060996-1	2.33	1.98	1.79	1.61

(8312) (ne09446)

TYPE N PANEL MOUNT COAXIAL CONNECTOR

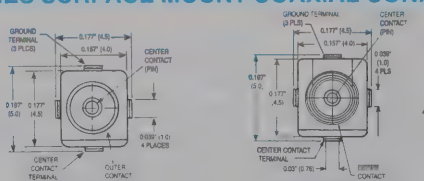


Flange mount jack receptacle features straight terminal and captured center contact. Finish: nickel-plated brass. Insulation resistance: 5000 megohms min.

Stock No.	Type	AMP No.	1-4	5-9	10-24	25-49
16F5546	3052-1201-10	1057290-1	16.19	13.77	12.39	11.15

(8317) (ne09451)

OSMT SERIES SURFACE MOUNT COAXIAL CONNECTORS



2367-0000-54 2367-5006-54

Straight PCB mount plug receptacles. **Type 2367-0000-54** features multidirectional cable entry with 360° rotation. For use in passive cable applications or with supplementary cable tie-downs. **Type 2367-5006-54** features slotted single direction cable entry, for use in applications where bending forces may be applied to the cable. Insulation resistance: 1000 megohms min. Dielectric withstanding voltage: 500V rms. Impedance: 50 ohms nom. Durability: 100 mating cycles.

Stock No.	Type	AMP No.	1-24	25-49	50-99	100-249
16F5529	2367-0000-54	1055687-1	1.74	1.48	1.33	1.20
16F5548	2367-5006-54	1055690-1	1.74	1.48	1.33	1.20

(8314) (ne09448)

SMA PANEL MOUNT JACK RECEPTACLES

2052-1201 2052-1352 2052-1618 2062-0000 2064-0000

Captured center contact. Straight terminal, except **type 2052-1618-02** with tab terminal. Insulation resistance: 10,000 megohms min. Dielectric withstanding voltage: 1000V rms.

Stock No.	Type	AMP No.	Finish	1-9	10-24	25-49	50-99
FLANGE MOUNT JACK RECEPTACLES							
16F5637	2052-1201-00	1052522-1	Gold	7.22	6.14	5.53	4.97
16F5528	2052-1201-02	1052523-1	Stainless Steel	5.18	4.40	3.96	3.57
16F5536	2052-1352-00	1052551-1	Gold	6.78	5.77	5.19	4.67
16F5530	2052-1352-02	1052552-1	Stainless Steel	6.01	5.11	4.60	4.14
16F5544	2052-1618-02	1052566-1	Stainless Steel	8.26	7.02	6.32	5.69
PCB STRAIGHT JACK							
16F5534	2062-0000-00	1053354-1	Gold	10.90	9.26	8.34	7.50
PCB RIGHT-ANGLE JACK							
16F5540	2064-0000-00	1053378-1	Gold	12.72	10.82	9.73	8.76

(8308) (ne09441)

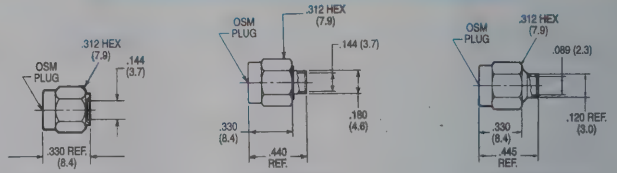
SPARK PLUG JACK RECEPTACLE

Hermetic panel feedthrough coaxial connectors feature a hermetic glass seal and a metal-to-metal hermetic seal between the connector and package. Commonly referred to as a spark plug because the connector is torqued into place in a manner similar to an automotive spark plug. Rigid stainless-steel gasket is recommended for hard metal packages (i.e., kovar and steel) or aluminum packages with a wall thickness of 0.080″ or greater. VSWR: 1.04 +.009fGHz. RF leakage: –(100-fGHz) dB.

Stock No.	Type	AMP No.	1-4	5-9	10-24
16F5549	2058-5119-00	1053226-1	13.00	11.05	9.95

(8316) (ne09450)

SMA STRAIGHT PLUGS FOR SEMI-RIGID COAXIAL CABLE WITH DIRECT SOLDER ATTACHMENT



2001-7941-02 2001-5003-02 2001-5032-00

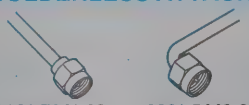
Miniature coaxial connectors have direct solder attachments that produce highly reliable high-performance cable assemblies, especially suited for microwave system applications. Cable dielectric: solid PTFE. Housing finish: gold plated. Insulation resistance: 10,000 megohms min.

Stock No.	Type	RG/U	Dia.	Contact	Coupling Nut
16F5533	2001-7941-02	RG 402/U	0.141″	Without Center Contact	Passivated Stainless Steel
16F5542	2001-5003-02	RG 402/U	0.141″	With Center Contact	Passivated Stainless Steel
16F5537	2001-5032-00	RG 405/U	0.085″	With Center Contact	Gold Plated

Stock No.	Type	AMP No.	1-9	10-24	25-49	50-99
16F5533	2001-7941-02	1050757-1	3.91	3.32	2.99	2.69
16F5542	2001-5003-02	1050525-1	6.16	5.24	4.72	4.24
16F5537	2001-5032-00	1050547-1	6.03	5.13	4.62	4.15

(8311) (ne09444)

SMA STRAIGHT PLUGS FOR SEMI-RIGID COAXIAL CABLE WITH SOLDERLESS ATTACHMENT



2001-7641-02 2001-5443-02

Solderless compression crimp connectors meet high-performance requirements for microwave and other applications. **Type 2001-5443-02** is supplied with a center contact supported by a PTFE dielectric. **Type 2001-7641-02** comes without a center contact. Finish: passivated stainless steel. Insulation resistance: 10,000 megohms min.

Stock No.	Type	AMP No.	RG/U	Dia.	1-9	10-24	25-49
16F5541	2001-7641-02	1050740-1	RG 402/U	0.141″	4.79	4.07	3.67
16F5538	2001-5443-02	1050611-1	RG 405/U	0.085″	10.12	8.60	7.74

(8310) (ne09443)

SMA RIGHT-ANGLE PLUG FOR FLEXIBLE COAXIAL CABLE

Miniature coaxial connector with solder attachment is designed for use on medium size flexible cable in areas where high cable flexibility is needed. Connector has solder-on center contacts. Features gold-plated housing and coupling nut. RG/U: RG 174/U, 188, 316. Dimension A: 0.440″ (11.2). Insulation resistance: 10,000 megohms min.

Stock No.	Type	AMP No.	1-4	5-9	10-24	25-49
16F5543	2037-5006-00	1052066-1	16.10	13.69	12.32	11.09

(8315) (ne09449)

RIGHT-ANGLE PLUGS FOR FLEXIBLE COAXIAL CABLE

Subminiature cable plugs with crimp attachment feature a captured center contact for use with RG-188/U, 316/U, RG-179/U, and RG-187/U. Finish: nickel plated. Insulation resistance: 10,000 megohms min. Dielectric withstanding voltage: 1000V rms. Impedance: 50 ohms nom. Temperature rating: –65°C to +165°C.

Stock No.	Type	AMP No.	1-9	10-24	25-49	50-99
16F5547	5837-5003-10	1060891-1	3.50	2.97	2.68	2.41

(8309) (ne09442)

SMA COAXIAL CONNECTORS

Feature Teflon® dielectric. Qualified to MIL-C-39012. *Order hand tools, listed in table below, separately on page 163.*

SMA PLUGS

Stock No.	Type	RG/U	Plating‡ Center Contact/ Body	Dim. L	Hand Tool	1-9	10-24	25-49	50-99
89F4356	225532-4*	174, 188, 188A, 316	G/S	0.950″	220061-1	10.32	9.80	8.82	7.94
89F2954	221117-2+		G/N	1.188″	220061-1	8.80◆	8.56◆	7.25◆	6.23◆
89F4357	225609-4▲*		G/S	1.187″	220061-1	37.30	35.43	30.12	25.60
89F2955	225532-1*	58, 58A, 58B, 58C	G/S	1.030″	220061-1	11.34	10.77	9.70	8.73
89F4352	225532-3*	142, 142A, 142B, 400, Belden 9246	G/S	1.030″	220061-1	10.79	10.25	9.22	8.30
89F4353	225609-3▲*		G/S	1.250″	220061-1	46.04	41.44	35.22	31.70
89F4331	227743-1	402 Semi-Rigid (0.141″ O.D.)	G/S	0.544″	59981-1	10.16	9.15	8.23	7.41

SMA JACKS

Stock No.	Type	RG/U	Plating‡ Center Contact/ Body	Dim. L	Hand Tool	1-9	10-24	25-49	50-99
89F4358	225608-4•*	174, 188, 188A, 316	G/S	1.060″	220061-1	26.19	24.88	22.39	20.15

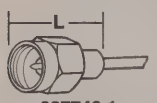
SMA PC BOARD JACKS AND ADAPTER

Stock No.	Type	Description	Plating‡ Center Contact/ Body	Dim. L	1-9	10-24	25-49	50-99
89F4338	221789-1	Vertical	G/G	0.530″	4.30◆	4.18◆	3.52◆	3.02◆
89F2962	221790-1	Right-Angle	G/G	0.530″	13.74◆	11.68◆	10.12◆	9.57◆
89F2960	221643-1•	Adapter (Jack-Jack)	G/S	0.880″	15.08	14.33	12.18	10.35

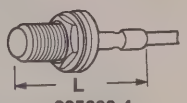
* Mil Style; + Commercial Grade; ▲ Right-Angle; • Bulkhead; ‡ Plating: G = Gold, N = Nickel, S = Passivated Stainless Steel
◆Price column quantities vary from above; *contact your local Newark sales office for details*
(8251) (de50505)

225532

225609

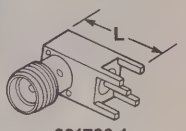


227743-1



225608-4

221789-1



221790-1

SMB COAXIAL CONNECTORS

Feature Teflon® dielectric. Meet MIL-C-39012 specifications up to 4GHz. *Order* **type 354940-1** *crimp tool separately on page 163. Order* **type 58046-1** *die set separately; contact your local Newark sales office for details. See Product Index for a complete selection of coaxial cable.*

50-OHM SMB PLUGS

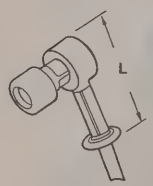
Stock No.	Type	RG/U	Plating‡ Center Contact/ Body	Dim. L	1-9	10-24	25-49	50-99
96F7616	413985-5*	178, 178A, 178B, 196, 196A	G/G	0.830″	6.34	5.70	5.42	4.88
50F2144	228214-2▲+		G/N	0.750″	5.72	5.43	5.16	4.64
92F1584	414363-8▲†		G/N	...	4.51	4.28	4.07	3.87
92F1585	414363-9▲†		G/N	...	4.37	4.15	3.94	3.75
96F7614	413985-1*	174, 316, 188, 188A	G/G	0.830″	6.03	5.43	5.15	4.64
96F7613	413985-3*		G/N	0.830″	5.27	5.00	4.75	4.52
96F7619	414002-1▲*		G/G	0.520″	7.15◆	6.96◆	4.96◆	3.70◆
96F7607	414618-2■	179, 179A, 179B, 161, 187, 187A, Belden 9221	G/N	...	8.88	7.99	7.59	6.83

50-OHM SMB PC BOARD JACKS AND ADAPTER

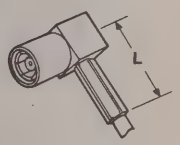
Stock No.	Type	Description	Plating‡ Center Contact/ Body	Dim. L	1-9	10-24	25-49	50-99
50F497	221111-1+	Vertical	G/N	0.480″	2.50◆	2.43◆	1.73◆	1.29◆
96F7646	413990-1*	Vertical	G/N	0.455″	4.52	4.30	4.08	3.88
96F7644	413990-2*	Vertical	G/G	0.455″	3.21	3.05	2.90	2.75
89F4054	228435-1	Right-Angle	G/N	0.530″	7.66	6.89	6.55	5.89
96F7640	414026-3*	Rt./A w/Standoffs	G/N	0.490″	5.18	4.92	4.68	4.44
89F3368	228553-1*•	Adapter (Jack-Jack)	G/N	0.690″	6.27	5.64	5.36	4.82

* Mil Style; + Commercial Grade; ▲ Right-Angle; • Bulkhead; †Zinc Die Cast; ■ 75Ω; ‡ Plating: G = Gold, N = Nickel
◆Price column quantities vary from above; *contact your local Newark sales office for details*
(8252) (de50506)

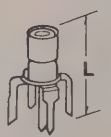
413985



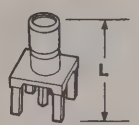
228214



414002

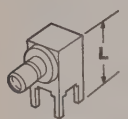


221111-1

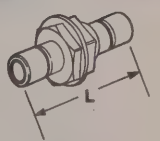


413990

228435-1



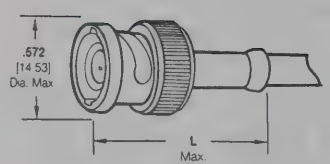
414026-3



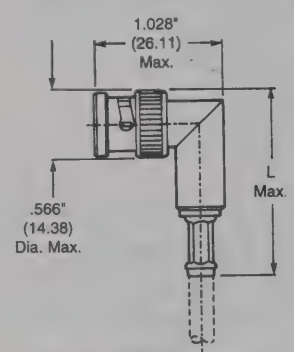
228553-1

IF YOU DON'T SEE THE PRODUCT YOU NEED LISTED HERE - CALL!
1-800-4-NEWARK
(1-800-463-9275)

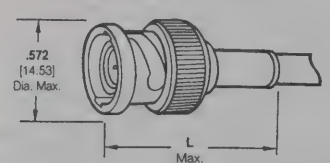
Bayonet-locking coupling provides highly reliable, quick connect/disconnect coaxial connections and low VSWR. Fully intermateable with comparable BNC UG/U connectors. Available military-type (*) or commercial-grade (+); straight and right-angle (▲). Crimp versions are MIL-C-39012 Category B Type, many dual crimp versions meet or exceed all requirements in specifications MIL-C-39012, Class II, Category B. *Order hand tools, listed in table below, separately on page 163.*



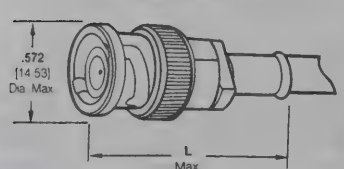
Hex Crimp



Right-Angle Hex Crimp



Dual Crimp



Single Crimp

Stock No.	Type	RG/U	Crimp Type	Plating‡ Center Contact/ Body	Di-elec-tric**	Dim. L (in.)	Hand Tool	1-9	10-24	25-49	50-99
50F961	2-221128-1	174, 188, 188A, 316	Hex	G/N	M	1.320	58436-3	3.51	3.33	3.17	2.85
93F5622	413959-3+▲		Hex	G/N	M	1.553	58436-3	13.95	12.55	11.93	9.54
44F7874	225395-7*		Dual	G/N	T	1.188	220009-1	3.53◆	3.43◆	2.45◆	1.83◆
89F746	1-227079-6+		Dual	G/N	P	1.090	220009-5	2.04◆	1.98◆	1.41◆	1.05◆
44F7875	2-331350-4*		Dual	G/S	T	1.188	220009-1	5.19	4.93	4.68	4.21
87F6218	2-330061-1*		Single	G/S	T	1.312	69245-1	12.53◆	9.02◆	6.79◆	5.60◆
87F6219	2-330058-1*		Single	G/S	P	1.312	69245-1	17.73	16.85	13.48	11.45
50F960	2-221128-3+	179, 179A, 179B, 161, 187, 187A, Belden, 9221	Hex	G/N	M	1.320	58436-3	3.97	3.77	3.58	3.40
46F1182	225395-8*		Dual	G/N	T	1.188	220009-1	3.49◆	3.40◆	3.27◆	2.35◆
89F749	2-227079-2+		Dual	G/N	P	1.090	220009-5	2.04◆	1.98◆	1.41◆	1.05◆
87F4027	2-331350-5*		Dual	G/S	T	1.188	220009-1	5.19	4.93	4.68	4.21
87F6212	2-329446-1*		Single	G/S	T	1.312	69245-1	12.22	11.00	10.45	8.36
50F1954	2-221128-5+	180, 180A, 180B, 195, 195A	Hex	G/N	M	1.320	58436-3	3.97	3.77	3.58	3.40
87F4028	225395-9*		Dual	G/N	T	1.395	69477-2	4.97	4.72	4.48	4.04
46F1183	2-331350-6*		Dual	G/S	T	1.395	69477-2	5.86	5.57	5.29	5.03
87F6214	2-329447-1*		Single	G/S	T	1.312	69246-1	12.22	11.00	10.45	8.36
50F1955	2-221128-7+	Belden 9907, 89907, Comm/Scope 3104, 2104	Hex	G/N	M	1.320	58433-2	3.51	3.33	3.17	2.85
96F7645	413959-6+▲		Hex	G/N	M	1.553	58436-1	15.22	13.69	11.64	10.48
46F1184	1-225395-0*	Belden 8218	Dual	G/N	T	1.188	69477-2	3.78	3.59	3.41	3.24
90F2389	221128-1+	58, 58A, 58B, 58C	Hex	G/N	P	1.320	58433-2	2.20◆	2.14◆	2.06◆	1.48◆
89F6139	1-221128-0+		Hex	G/N	M	1.320	58433-2	3.23	3.07	2.92	2.62
93F5625	413959-1+▲		Hex	G/N	M	1.153	58436-1	6.79◆	6.60◆	5.59◆	4.81◆
44F7870	225395-1*		Dual	G/N	T	1.328	69478-1	3.53◆	3.43◆	2.45◆	1.83◆
89F805	227079-5+		Dual	G/N	P	1.090	220187-1	2.04◆	1.98◆	1.41◆	1.05◆
89F806	227079-9+		Dual	S/N	P	1.090	220187-1	2.36	2.24	2.13	2.02
44F7871	2-331350-1*		Dual	G/S	T	1.328	69478-1	5.89	5.30	5.03	4.53
87F6205	2-329082-1*		Single	G/S	P	1.312	69140-1	10.09◆	9.81◆	6.99◆	5.22◆
87F6206	2-329444-1*		Single	G/S	T	1.312	69140-1	11.13	10.02	9.52	7.61
96F7583	2-221128-9+	188, 316, Dbl. Braid	Hex	G/N	M	1.320	220190-1	2.01	1.91	1.81	1.72
96F7584	413959-7+▲		Hex	G/N	M	1.553	220190-1	15.88	15.09	12.07	10.26
89F820	4-227079-3+	Belden 88240, Berk-Tek BTDC-58	Dual	G/N	T	1.312	220187-1	2.91	2.76	2.63	2.36
46F1181	225395-3*	223, 55, 55A, 55B	Dual	G/N	T	1.718	69478-1	3.78	3.59	3.41	3.24
89F808	227079-6+		Dual	G/N	P	1.090	220187-1	2.91	2.76	2.63	2.36
87F6217	2-329444-2*		Single	G/S	T	1.312	69140-2	11.13	10.02	9.52	7.61
87F4026	225395-6*	142, 142A, 142B, 400	Dual	G/N	T	1.188	69478-1	4.75	4.51	4.29	3.86
44F8962	2-331350-9*		Dual	S/S	T	1.188	69478-1	5.89	5.30	5.03	4.53
90F2372	1-221128-4+	124, 140, 210, 62, 62A, 62B, 59, 59A, 59B, Belden 9291, 9209, 9268	Hex	S/N	P	1.320	58433-2	3.17	3.01	2.86	2.72
89F1148	1-221128-1+		Hex	G/N	M	1.320	58433-2	2.45◆	2.39◆	2.30◆	1.65◆
90F2388	221128-2+		Hex	G/N	P	1.320	58433-2	2.48	2.36	2.24	2.13
44F7872	225395-2*		Dual	G/N	T	1.188	69477-1	3.49◆	3.40◆	3.27◆	2.35◆
89F810	227079-7+		Dual	G/N	P	1.090	220187-2	2.04◆	1.98◆	1.91◆	1.37◆
89F744	1-227079-1+		Dual	S/N	P	1.090	69141-1	2.04◆	1.98◆	1.41◆	1.05◆
44F7873	331350*		Dual	G/S	T	1.188	...	5.89	5.30	5.03	4.53
87F6208	2-329083-1*		Single	G/S	P	1.312	69141-1	10.09◆	9.81◆	6.99◆	5.22◆
87F6209	2-329445-1*		Single	G/S	T	1.312	69477-1	11.13	10.58	8.46	7.19
89F821	4-227079-9+	302, Belden 88241, Hi-Temp 62A, Times PL62, Berk-Tek, BTDC-59, -62	Dual	G/N	P	1.312	220187-2	3.29	3.12	2.97	2.82
93F5619	1-221128-7+	Belden 9104, 9112, 9167, 9259, 9266, Times FM-59	Hex	G/N	P	1.320	58433-2	3.23	3.07	2.92	2.62
87F4032	2-225395-0*		Dual	G/N	T	1.218	69477-1	4.90	4.65	4.42	3.98
89F818	1-227079-3+		Dual	G/N	P	1.090	220190-1				
							220189-5	4.01	3.81	3.62	3.26
50F2085	3-227079-0+	Belden 9248, 9114, 9290	Dual	G/N	P	1.090	220247-1	2.91	2.76	2.63	2.36
44F7876	4-331350-0*	Belden 8281, 9141, 9231, West. Elec. 724, 728, 3049	Dual	G/S	T	1.500	220043-1	6.11	5.50	5.22	4.70
87F4029	2-225395-1*	8, 8A, 213	Dual	G/N	T	1.075	220015-1	15.13	13.61	12.93	10.35
87F4030	225886-1*		Dual	G/S	T	1.075	220015-1	19.39	17.45	16.58	13.26

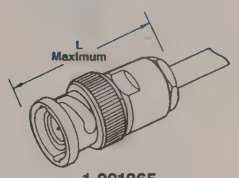
▲ Right-Angle; * Mil Type Style, + Commercial-Grade Style; ‡Plating: G = Gold, S = Silver, N = Nickel;
**Dielectric: T = Tefion®, P = Polypropylene, M = Polymethylpenetene
◆Price column quantities vary from above; *contact your local Newark sales office for details*
(8230)

(de50150)

50-OHM BNC PLUGS

SOLDER CLAMP FIELD SERVICEABLE PLUGS— MEETS MIL-C-39012, CATEGORY A SPECS

Stock No.	Type	RG/U	Plating ‡ Contact/ Body	Dielec- tric**	Dim. L	1-9	10-24	25-49	50-99
50F958	1-221265-1+	124, 140, 210, 62, 62A, 62B, 59, 59A, 59B, Belden 9291, 9209, 9268, 88241, Hi-Temp. 62A, Times PL-62, Berk-Tek BTDC -59, -62, 302, 71, 71A, 71B	G/N	T	1.250″	9.74*	9.47*	6.75*	5.03*
50F959	1-221265-0+	58, 58A, 58B, 58C, 141, 141A, 303, 223, 55, 55A, 55B, 142, 142A, 142B, 400	G/N	T	1.250″	9.60	8.64	8.21	7.39

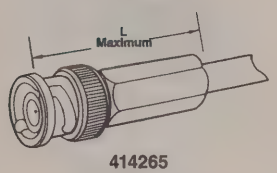


1-221265

TWIST-ON PLUGS

Used with solid conductor cable. Not for applications where cable frequently moves or flexes.

92F1007	414265-7+	58, 58B, 59, 59A, 59B	G/N	P	1.506″	2.87	2.73	2.59	2.46
92F1008	414265-3+		G/N	P	1.506″	2.91	2.76	2.63	2.36
92F1009	414265-5+	Belden 8281, 9141, 9231, Western Electric 724, 728, 3049	G/N	P	1.506″	2.91	2.76	2.63	2.36
92F1010	414265-2+	Belden 88240	G/N	P	1.506″	2.91	2.76	2.63	2.36



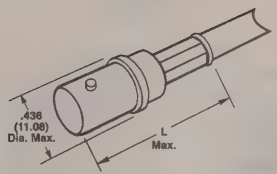
414265

+Commercial-Grade Style; ‡Plating: G = Gold, N = Nickel; **Dielectric: T = Teflon®, P = Polypropylene
*Price column quantities vary from above; *contact your local Newark sales office for details.*
(8228) (de50147)

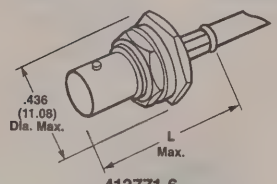
50-OHM BNC JACKS

Bayonet-locking coupling provides reliable, quick connect/disconnect coaxial connections and low VSWR. Working voltage 500Vrms. Dielectric withstanding voltage: 1500VAC. Frequency range: single crimp 0-2.5 GHz; dual crimp, 0-4 GHz. Crimp versions are MIL-C-39012 Category B Type. *Order hand tools separately on page 163.*

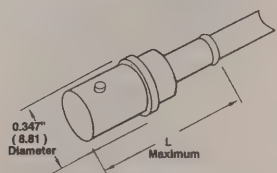
Stock No.	Type	RG/U	Crimp Type	Plating‡ Contact/ Body	Dielec- tric**	Dim. L	1-9	10-24	25-49	50-99
50F1956	413779-3+	174, 188, 188A, 316	Hex	G/N	M	1.300″	4.68	4.45	4.22	3.80
46F1187	225396-7*		Dual	G/N	T	1.200″	6.65	5.98	5.68	5.11
87F6252	2-330062-1*		Single	G/N	P	1.312″	16.09	14.48	13.76	11.01
87F4042	225396-8*	179, 179A, 179B, 161, 187, 187A, Belden 9221	Dual	G/N	T	1.200″	6.65	5.98	5.68	5.11
50F1959	413779-6+	Belden 89907, 9907, Comm/Scope 3104, 2104	Hex	G/N	M	1.300″	5.29	5.03	4.78	4.54
50F1961	413771-6+▲		Hex	G/N	M	1.450″	6.33	6.01	5.71	5.43
44F7877	225396-1	58, 58A, 58B, 58C	Dual	G/N	T	1.200″	5.54	5.27	5.00	4.75
46F1186	2-331351-1*		Dual	G/S	T	1.200″	8.22	7.40	7.03	6.33
87F6235	2-329545-1*		Single	G/N	T	1.312″	14.28	12.85	12.21	9.77
46F1190	225398-7*▲	174, 188, 188A, 316	Dual	G/N	T	1.406″	4.82**	4.69**	3.35**	2.49**
44F7882	1-331693-2*▲		Dual	G/S	T	1.406″	9.05	8.15	7.74	6.96
46F1189	225398-1*▲	58, 58A, 58B, 58C	Dual	G/N	T	1.625″	5.62	5.34	5.07	4.82
90F4492	228980-5+▲		Dual	G/N	P	1.375″	5.19	4.93	4.68	4.21
87F4037	225398-3*▲	223, 55, 55A, 55B	Dual	G/N	T	1.406″	7.50	6.75	6.41	5.77
87F6244	2-330063-1*▲	174, 188, 188A, 316	Single	G/N	T	1.265″	16.80	15.12	12.85	11.57
87F6239	2-329456-1*▲	58, 58A, 58B, 58C	Single	G/N	P	1.265″	17.94	16.15	15.34	13.81



413779



413771-6

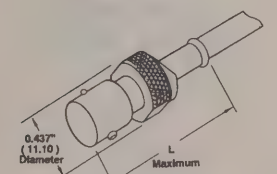


225396, 2-331351

BULKHEAD SOLDER JACKS

Accepts 0.059″ diameter wire. Includes lockwasher and jam nut. *Order* **type 227223-1** *bushing separately below.*

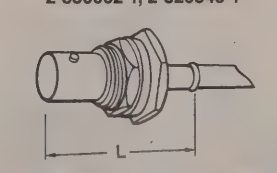
Stock No.	Type	Plating ‡ Contact/ Body	Dielectric**	Dim. L	Panel Thickness	1-9	10-24	25-49	50-99
96F4540	227715-3+	G/N	T	1.060″	0.046-0.125″	3.04	2.88	2.74	2.47
89F906	227754-3+	S/N	V	1.060″	0.046-0.125″	2.02	1.92	1.82	1.73
89F769	227754-2+	G/N	V	1.060″	0.046-0.125″	1.64	1.56	1.48	1.41
89F915	227223-1	Insulating Bushing—0.585″ diameter				0.22	0.21	0.20	0.18



2-330062-1, 2-329545-1

ISOLATED BULKHEAD SOLDER JACKS

Stock No.	Type	Plating‡ Contact/ Body	Dielectric**	Dim. L	Panel Thickness	1-9	10-24	25-49	50-99
89F911	227726-1	T/N	V	1.250″	0.046-0.250″	3.25	3.09	2.93	2.79
89F912	227726-2	S/N	V	1.250″	0.046-0.250″	3.25	3.09	2.93	2.79
89F913	227726-3	G/N	V	1.250″	0.046-0.250″	2.79**	2.71**	2.61**	1.88**

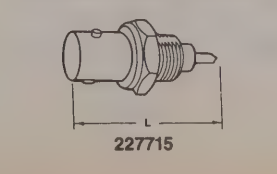


225398, 228980, 1-331693

SEALED BULKHEAD SOLDER JACKS

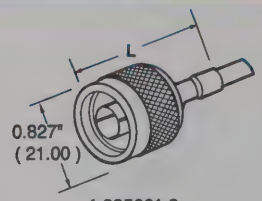
Prevents moisture from entering interface from rear.

Stock No.	Type	Plating‡ Contact/ Body	Dielectric**	Dim. L	Panel Thickness	1-9	10-24	25-49	50-99
50F534	227426-1	G/N	P	1.250″	0.250″	8.10**	7.88**	5.61**	4.20**



227715

* Mil Type Style; + Commercial-Grade Style; ▲ Bulkhead; ‡ Plating: G = Gold, S = Silver, N = Nickel, T = Tin; ** Dielectric: T = Teflon®, P = Polypropylene, M = Polymethylpentene, V = Valox
**Price column quantities vary from above; *contact your local Newark sales office for details.*
(8229) (de50149)



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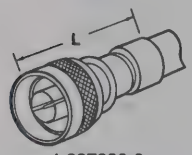

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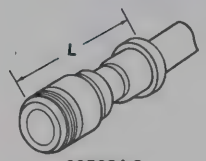
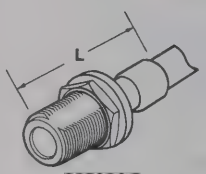
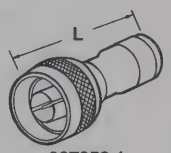


225664-2



225094-2



227953-1

50-OHM N CONNECTORS

Fully intermateable with MIL-C-39012 connectors. *Order hand tools separately on page 163. See Product Index for complete selection of coaxial cable.*

DUAL CRIMP N PLUGS

Stock No.	Type	RG/U	Plating‡ Center Contact/ Body	Dielec-tric**	Dim. L	1-9	10-24	25-49	50-99
89F4079	1-225661-2*	58, 58A, 58B, 58C	G/N	T	1.687″	18.43	16.59	14.10	12.69
89F4080	225361-1*†		G/S	T	1.687″	21.11	19.00	18.05	14.44
50F954	225392-7*		G/S	T	1.687″	21.11	19.00	18.05	16.24
89F4073	1-225661-5*	142, 142A/B, 400	G/N	T	1.687″	16.90	15.21	14.45	11.56
90F3885	1-227086-0+	8, 8A, 213	G/N	T	1.687″	6.02	5.42	5.14	4.63
89F4070	225662-2*†		G/N	T	1.859″	16.04	14.43	13.71	10.97
89F4064	225661-1*†	9, 9A, 9B, 214	G/N	T	1.859″	12.99	11.69	11.11	10.00
89F4066	225662-1*†		G/N	T	1.859″	17.50	15.75	13.38	12.05

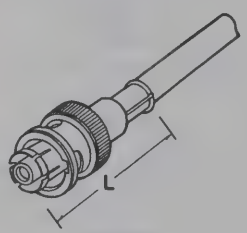
DUAL CRIMP N JACKS

Stock No.	Type	RG/U	Plating‡ Center Contact/ Body	Dielec-tric**	Dim. L	1-9	10-24	25-49	50-99
50F955	225664-2*†	8, 8A, 213	G/N	T	1.937″	26.43	23.79	22.60	18.08
50F2139	225094-2*†•		G/S	T	2.125″	33.73	30.35	28.84	23.07

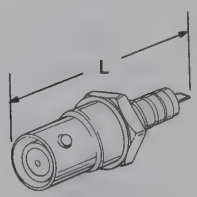
N PLUG TERMINATOR

Stock No.	Type	RG/U	Plating‡ Center Contact/ Body	Dielec-tric**	Dim. L	1-9	10-24	25-49	50-99
89F4095	227953-1	...	G/N	T	1.735″	12.05	10.84	10.30	9.27

* MIL Style; + Commercial-Grade Style; • Bulkhead; † Weatherproof; ‡ Plating: G = Gold, N = Nickel, S=Silver;
**Dielectric: T = Teflon®
(8243) (de50437)



51426-4



51494-2

SHV CONNECTORS

Comply with National Bureau of Standards' specifications ND-545 and meet all specifications of the Nuclear Regulatory Commission for NIM standard, high-voltage connectors. *Order hand tools separately on page 163. See Product Index for complete selection of coaxial cable.*

DUAL CRIMP SHV PLUGS

Stock No.	Type	RG/U	Plating‡ Center Contact/ Body	Dielec-tric**	Dim. L	1-9	10-24	25-49	50-99
89F3378	51426-4	58, 58A, 58B, 58C	G/N	T	1.452″	21.97	19.77	18.78	16.90
89F3379	51426-2	124, 140, 210, 62, 62A/B, 59, 59A/B, Belden 9291, 9209, 9268	G/S	T	1.45″	23.54	21.19	20.13	16.10

BULKHEAD SOLDER SHV JACK

Stock No.	Type	RG/U	Plating‡ Center Contact/ Body	Dielec-tric**	Dim. L	1-9	10-24	25-49	50-99
89F3394	51494-2	...	G/N	T	1.857″	13.65*	9.81*	7.41*	6.11*

‡ Plating: G = Gold, N = Nickel, S = Silver; ** Dielectric: T = Teflon®
*Price column quantities vary from above, *contact your local Newark sales office for details.*
(8240) (de50433)

UHF CONNECTORS

Order hand tools separately on page 163. See Product Index for a complete selection of coaxial cable.

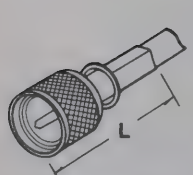
MINIATURE DUAL CRIMP UHF PLUG

Stock No.	Type	RG/U	Plating‡ Center Contact/ Body	Dielec-tric**	Dim. L	1-9	10-24	25-49	50-99
90F3886	226600-1	58, 58A, 58B, 58C	T/N	P	1.140″	0.96*	0.93*	0.66*	0.49*

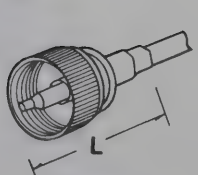
STANDARD SINGLE CRIMP UHF PLUG

Stock No.	Type	RG/U	Plating‡ Center Contact/ Body	Dielec-tric**	Dim. L	1-9	10-24	25-49	50-99
50F2143	226279-1	58, 58A, 58B, 58C	T/N	P	1.500″	2.93	2.78	2.64	2.51

‡ Plating: N = Nickel, T = Tin; ** Dielectric: P = Polypropylene
*Price column quantities vary from above, *contact your local Newark sales office for details.*
(8241) (de50434)



226600-1



226279-1

50-OHM AND 75-OHM TNC CONNECTORS

Dual crimp connectors manufactured in accordance with MIL-C-39012, Class II, Category B. *Order hand tools separately on page 163.*

50-OHM TNC PLUGS

Stock No.	Type	RG/U	Crimp Type	Plating‡ Contact/ Body	Dielec-tric**	Dim. L	1-9	10-24	25-49	50-99
97F8552	222506-5+	174, 188, 188A, 316	Hex	G/N	P	1.230″	2.96	2.77	2.47	2.34
97F8553	5-227000-0+		Dual	G/N	P	0.910″	5.43	5.16	4.90	4.66
97F8574	221506-3+	179, 179A&B, 187, 187A, Belden 9221	...	G/N	P	1.094″	7.03	6.33	5.70	5.13
97F8554	222506-9+	RD316, 188 Dbl. Braid	Hex	G/N	P	1.230″	5.26	4.99	4.74	4.27
97F8575	221506-5+	AT&T 735A	Dual	G/N	M	1.160″	7.03	6.33	5.70	5.13
93F5632	222506-1+	58, 58A, 58B, 58C	Hex	G/N	P	1.230″	4.81	4.57	4.34	3.90
97F8555	225550-2*		Dual	G/S	T	1.375″	20.85	18.76	17.82	14.26
50F2116	225555-2*†		Dual	G/N	T	1.375″	20.15	18.14	17.23	13.78
50F2122	225559-2▲*†		Dual	G/N	T	1.835″	27.04	24.33	23.12	20.81
89F2899	227000-5+	58, 58A, 58B, 58C, 141, 141A, 303	Dual	G/N	P	1.055″	4.37	4.15	3.94	3.55
50F2117	225555-5*†	141, 141A, 303	Dual	G/N	T	1.375″	20.15	18.14	17.23	15.51
89F2934	225550-1*†	223, 55, 55A, 55B	Dual	G/S	T	1.375″	24.64	23.40	19.89	16.91
97F8557	222506-4+	142, 142A, 142B, 400	Hex	G/N	P	1.230″	5.43	5.16	4.90	4.66
97F8556	4-227000-6+		Dual	G/N	P	1.055″	4.37	4.15	3.94	3.55
50F2119	225555-6*†		Dual	G/N	T	1.375″	18.27◆	13.14◆	9.92◆	8.18◆
50F2120	225555-3*†	124, 140, 210, 62, 62A, 62B, 59, 59A, 59B, Belden 9291	Dual	G/N	T	1.187″	16.92	15.23	12.94	11.65
89F2895	227000-7+		Dual	G/N	P	1.055″	4.37	4.15	3.94	3.55
97F8576	221506-4+	Belden 9145, AT&T 734A	...	G/N	P	1.150″	6.37	5.73	5.16	4.65
97F8577	221506-2+	Beld.8281,9141,9231	...	G/N	P	1.295″	6.37	5.73	5.16	4.65

75-OHM TNC PLUG

50F2132	221506-1+	210, 62, 62A/B, 59, 59A/B, Belden 9291, 9209, 9268	Dual	G/N	P	1.150″	6.37	5.73	5.16	4.65

50-OHM TNC JACKS

50F2128	331238■*	179, 179A&B, 187, 187A, Belden 9221	Single	G/N	T	1.500″	29.60	26.64	22.65	20.38
97F8558	414171-3+	174, 174A, 188 188A, 316	Dual	G/N	M	1.200″	6.05	4.89	4.03	3.73
97F8559	225400-2*	58, 58A, 58B, 58C	Dual	G/N	T	1.375″	24.11	21.70	20.62	16.49
96F7800	225551-2*†		Dual	G/S	T	1.406″	27.04	24.33	23.12	18.49
50F2129	225557-2■*†		Dual	G/N	T	1.50″	28.16	25.34	24.08	19.26
97F8560	225551-1*	223, 55, 55A, 55B	Dual	G/S	T	1.406″	33.46	31.79	27.02	22.97
96F7801	225551-6*†	142, 142A, 142B, 400	Dual	G/S	T	1.406″	27.04	24.33	23.12	18.49
97F8562	225557-6■* †		Dual	G/N	T	1.500″	28.16	25.34	24.08	19.26
50F2126	225400-3*	120, 124, 140, 210, 240, 62, 62A, 62B, 59, 59A, 59B, Belden 9291, 9209, 9269	Dual	G/N	T	1.218″	24.11	21.70	20.62	18.55
97F8561	228507-1*•	405 Semi-Rigid	...	G/N	T	1.169″	79.73	67.77	60.99	54.89

75-OHM BULKHEAD TNC JACK

50F2133	221509-1+	210, 62, 62A/B, 59, 59A/B, Belden 9291, 9209, 9268	Dual	G/N	P	1.350″	4.66	4.36	3.96	3.75

50-OHM PC BOARD/PANEL MOUNT TNC JACKS

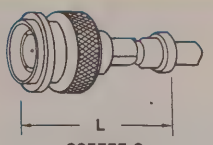
Stock No.	Type	Description	Mount-ing	Plating‡ Contact/ Body	Dim. L	1-9	10-24	25-49	50-99
97F8563	227812-1	Right-Angle PCB/Panel Mount Jacks	...	G/V	0.835″	6.06	5.45	5.18	4.66
97F8565	227818-1		Posts	G/V	0.835″	5.80	5.22	4.96	4.46
97F8564	227838-1		...	G/M	0.820″	7.22	6.49	6.17	5.55
89F2903	227839-1		Posts	G/M	0.820″	7.53	6.78	6.44	5.80
97F8570	413933-1		2 Holes	G/N	1.141″	11.09	10.53	9.48	8.53
97F8571	414449-1		1 Hole	G/N	1.101″	11.09	10.53	9.48	8.53
97F8566	227816-1	Vertical PCB/Panel Mount Jacks	...	G/V	0.835″	6.66	5.99	5.69	5.12
97F8567	227820-1		Posts	G/V	0.835″	6.66	5.99	5.69	5.12
97F8568	227817-1		...	G/M	0.820″	6.66	5.99	5.69	5.12
97F8569	227835-1		Posts	G/M	0.820″	8.32	7.48	7.11	6.40

50-OHM BULKHEAD SOLDER TNC JACKS AND JACK ADAPTER

97F8572	227760-2	Bulkhead Solder Jacks	w/Solder Terminal	G/N	1.060″	7.05	6.34	6.03	5.42
89F2902	227762-2			G/N	1.312″	2.46	2.34	2.22	2.11
90F2376	227758-2		...	G/N	1.060″	6.94	6.25	5.93	5.34
97F8573	227764-2		...	G/N	1.312″	2.29	2.17	2.07	1.96
89F2939	221500-1■	Adapter	...	G/N	1.58″	11.01	9.91	9.41	7.53

* MIL Style, + Commercial-Grade; ▲ Right-Angle; ■ Bulkhead; • Bulkhead for Semi-Rigid Cable Rear-Mount; † Weatherproof
‡ Plating: G = Gold, N = Nickel, S = Silver, V = Valox, M = Metal ** Dielectric: P = Polypropylene, M = Polymethylpentene, T = Teflon®
◆Price column quantities vary from above, *contact your local Newark sales office for details.*

(8242) (de50436)



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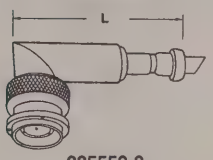

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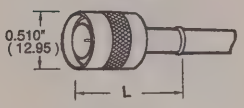

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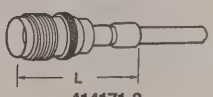

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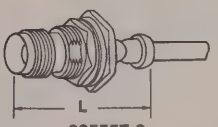

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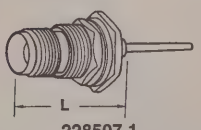

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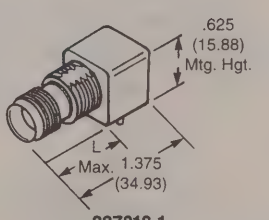

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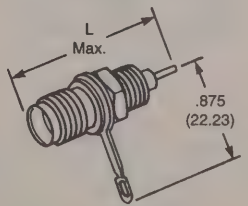

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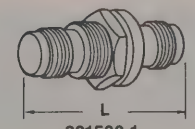
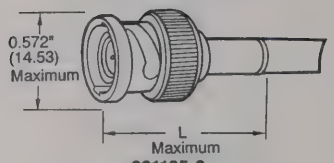


221500-1

75-OHM COMMERCIAL BNC PLUGS

Straight or right-angle 75-ohm commercial-grade BNC plugs. Feature gold-plated center contact and nickel-plated body. Manufactured in accordance with requirements of MIL-C-39012, Class II, Category B. *Order* **type 354940-1** *crimp tool and die sets separately on page 163.*



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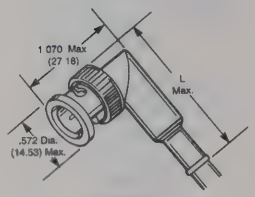

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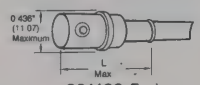


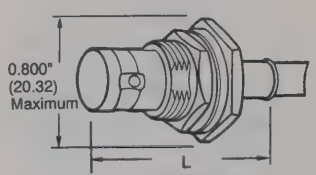
221199-5

Stock No.	Type	RG/U	Crimp Type	Dielec-tric**	Dim. L	1-9	10-24	25-49	50-99
50F1964	413589-8	179, 179A, 179B,	Hex	M	1.160″	4.88	4.63	4.40	3.96
96F7591	413588-8▲	187, 187A, 161,	Hex	M	1.553″	20.45	18.40	17.48	13.99
89F827	221185-8	Belden 9221	Dual	P	1.140″	2.62*	2.55*	2.45*	1.76*
50F966	413589-2	59, 59A, 59B, 140,	Hex	M	1.160″	4.43	4.21	4.00	3.60
96F7593	413588-2▲	210, 62, 62A, 62B,	Hex	M	1.553″	18.63	16.77	15.93	12.75
89F825	221185-2	Belden 929, 92009, 9269, 89269	Dual	P	1.090″	2.62*	2.55*	2.45*	1.76*
50F1963	413589-9	Belden 8212, 9104,	Hex	M	1.160″	4.43	4.21	4.00	3.60
89F829	221185-9	9112, 9240, 9167, 9259, 9266	Dual	P	1.090″	2.62*	2.55*	2.45*	1.76
96F7590	413588-7▲	AT&T 734A, Belden 9145	Hex	M	1.553″	18.63	16.77	15.93	12.75
89F826	221185-1	Belden 9248, 8228	Dual	P	1.010″	2.62*	2.55*	2.45*	1.76*
89F1147	221185-7	6, 6A	Dual	P	1.490″	4.08	3.88	3.68	3.32
96F7588	413588-5▲	Belden 8281,	Hex	M	1.553″	18.63	16.77	15.93	12.75
89F1146	221185-5	9141, 9231, WE 724, 728, 3049	Dual	P	1.120″	4.08	3.88	3.68	3.32
50F967	413589-1	Belden 88241 302, BTDC59/62	Hex	M	1.160″	4.43	4.21	4.00	3.60
50F965	413589-3	Belden 8218	Hex	M	1.160″	5.51	5.24	4.97	4.73
96F7586	413588-3▲		Hex	M	1.553″	20.45	19.43	18.46	17.53
50F963	413589-5	Belden 88281, 8281, 9144, 9231, WE 724, 728, 3049	Hex	M	1.160″	4.43	4.21	4.00	3.60

▲ Right-Angle; ** Dielectric: P = Polypropylene, M = Polymethylpentene
*Price column quantities vary from above, *contact your local Newark Sales office for details.*
(8329) (ne50567)

75-OHM COMMERCIAL BNC JACKS

Straight, bulkhead, or panel mount 75-ohm standard BNC jacks. Feature gold-plated center contact and nickel-plated body. *Order* **type 354940-1** *crimp tool and die sets separately on page 163.*



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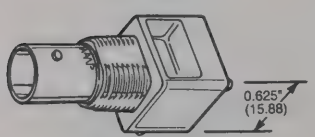

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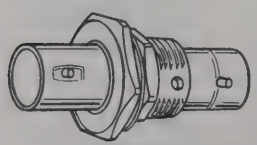

222117-1

STANDARD JACKS

Stock No.	Type	RG/U	Crimp Type	Dielec-tric**	Dim. L	1-9	10-24	25-49	50-99
50F1975	413590-8*	179, 179A, 179B,	Hex	M	1.450″	7.84	7.06	6.71	6.04
50F2112	221199-5	187, 187A, 161,	Dual	P	1.200″	5.95	5.35	5.08	4.58
89F831	221221-5*	Belden 9221	Dual	P	1.375″	7.60	6.84	6.15	5.54
50F1973	413760-3	Belden 8218	Hex	M	1.300″	3.23†	3.15†	2.65†	2.27†
50F1979	413590-3*		Hex	M	1.450″	8.18	7.37	6.63	5.97
50F971	413760-2	59, 59A, 59B,	Hex	M	1.300″	3.23†	3.15†	2.65†	2.27†
50F968	413590-2*	140, 210, 62, 62A,	Hex	M	1.450″	7.46	6.72	6.05	5.44
50F2113	221199-2	62B, Belden 9291,	Dual	P	1.200″	6.23	5.92	5.62	5.34
89F830	221221-2*	9209, 9269, 89269	Dual	P	1.375″	6.90	6.21	5.59	5.03
50F1968	413760-9	Belden 8212,	Hex	M	1.300″	3.23†	3.15†	2.65†	2.27†
90F4493	221221-7*	9104, 9112, 9240, 9167, 9259, 9266	Dual	P	1.375″	4.29	4.02	3.57	3.38

RIGHT-ANGLE PC BOARD MOUNT JACK - 0.240″ MAX. PANEL THICKNESS

Stock No.	Type	Contact Plating	Body Plating	Dielec-tric**	Length	1-9	10-24	25-49	50-99
90F4494	222092-1	Gold	Nickel	P	1.375″	5.61†	5.46†	3.89†	2.90†

BULKHEAD JACK ADAPTER (JACK-JACK)

Stock No.	Type	Contact Plating	Body Plating	Dielec-tric**	Length	1-9	10-24	25-49	50-99
50F2115	222117-1	Gold	Nickel	M	1.420″	9.27†	9.02†	6.43†	4.79†

* Bulkhead; ** Dielectric: P = Polypropylene, M = Polymethylpentene
†Price column quantities vary from above, *contact your local Newark Sales office for details.*
(8328) (ne50565)

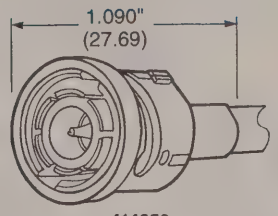
AT NEWARK, THERE'S ALWAYS MORE THAN MEETS THE EYE!
CONTACT US FOR PRODUCTS NOT LISTED IN THIS CATALOG.

ECONOMY SERIES 50-OHM BNC PLUGS

Ideal for most BNC applications, these economy 50-ohm plugs offer wide use in instrumentation, computer peripheral interconnections, 10BASE-2 network cabling, and premise wiring. Fully intermateable with standard BNC jacks. Coupling collar available in glass-filled thermoplastic or nickel-plated die-cast zinc. Lightweight plastic collar supplies circuit and user protection and is color-coded for quick circuit identification. Gold-plated brass stamped and formed center contact. "O"-crimp version; *order PRO-CRIMPER™ II hand tool and interchangeable die sets separately on this page.* Nickel-plated brass body. Thermoplastic dielectric. Working voltage: 500Vrms. Frequency range: 0 to 2GHz. Dielectric withstanding voltage: 1500VAC. Operating temperature: –25°C to +85°C.

Stock No.	Type	RG/U	Collar Color	1-9	10-24	25-49	50-99
66F8139	2-414650-2	58, Belden 9907	Black	1.46	1.39	1.32	1.25
66F8140	2-414650-8		Red	1.46	1.39	1.32	1.25
66F8141	3-414650-1		Green	1.46	1.39	1.32	1.25
66F8142	2-414650-5		Blue	1.46	1.39	1.32	1.25
66F8143	3-414650-4		Beige	1.46	1.39	1.32	1.25
66F8144	414852-4		Metal	1.46	1.39	1.32	1.25
66F8145	2-414650-3	59	Black	1.46	1.39	1.32	1.25
66F8146	2-414650-9		Red	1.46	1.39	1.32	1.25
66F8147	3-414650-2		Green	1.46	1.39	1.32	1.25
66F8148	2-414650-6		Blue	1.46	1.39	1.32	1.25
66F8149	3-414650-5		Beige	1.46	1.39	1.32	1.25
66F8150	414852-5		Metal	1.46	1.39	1.32	1.25
66F8151	2-414650-4	174, 179	Black	1.46	1.39	1.32	1.25
66F8152	3-414650-0		Red	1.46	1.39	1.32	1.25
66F8153	3-414650-3		Green	1.46	1.39	1.32	1.25
66F8154	2-414650-7		Blue	1.46	1.39	1.32	1.25
66F8155	3-414650-6		Beige	1.46	1.39	1.32	1.25
66F8156	414852-6		Metal	1.46	1.39	1.32	1.25

(8285) (ne06017)



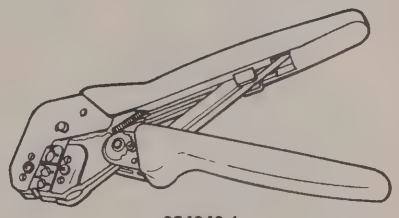
414650

PRO-CRIMPER™ II HAND TOOL

PRO-CRIMPER™ II hand tool frame with interchangeable die sets, *ordered separately below,* will crimp "O"-crimp BNC connectors. This versatile and reliable crimping tool requires less hand force to accomplish the correct crimp connection. Easy-grip handles.

Stock No.	Type	Description	Each
96F6512	354940-1	PRO-CRIMPER™ II Hand Tool (Frame/Handle Only)	76.50
66F9622	58558-1	Die Set for "O"-Crimp 50-Ohm BNC RG58/59	133.40
66F9623	58559-1	Die Set for "O"-Crimp 50-Ohm BNC RG174/179	244.02

(8319) (ne09617)


354940-1

50-OHM BNC COMMERCIAL TWIST-ON PLUGS AND JACKS

For use with solid-conductor cable. Not for applications where cable frequency moves or flexes. Bayonet locking coupling provides highly reliable, quick connect/disconnect coaxial connections and low VSWR. Fully intermateable with comparable BNC RG/U connectors. Feature gold-plated contact and nickel-plated body.

TWIST-ON PLUGS

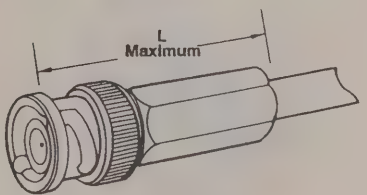
Stock No.	Type	RG/U	Dielec-tric**	Dim. L	1-9	10-24	25-49	50-99
92F1007	414265-7	58, 58B, 59, 59A, 59B	P	1.506″	2.87	2.73	2.59	2.46
92F1008	414265-3		P	1.506″	2.91	2.76	2.63	2.36

TWIST-ON JACKS

Stock No.	Type	RG/U	Dielec-tric**	Dim. L	1-9	10-24	25-49	50-99
50F2100	222428-1	59, 59A, 59B	A	1.580″	4.65	4.42	4.20	3.99

**Dielectric: A = Acetal, P = Polypropylene

(8284) (ne06016)



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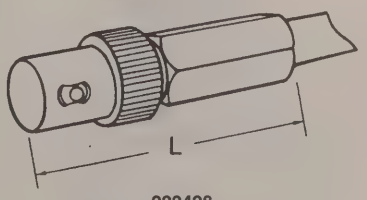


222428

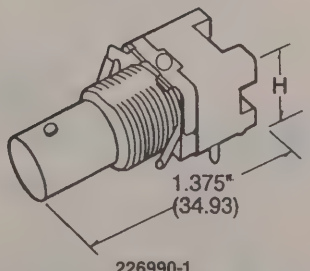
50-OHM COMMERCIAL PC BOARD/PANEL MOUNT JACKS

Vertical (*) or right-angle (+) mount. 0.240″ panel thickness.

Stock No.	Type	Contact Plating	Body Material	Mtg. Posts	Mtg. Ht.	1-9	10-24	25-49	50-99
89F781	226993-1*	Tin	White Valox	No	1.375″	5.55	5.27	5.01	4.76
89F785	226990-1+	Tin	White Valox	No	0.625″	3.13**	3.05**	2.93**	2.11**
89F773	226990-3+	Gold	White Valox	No	0.625″	4.31	4.10	3.89	3.50
89F775	226990-6+	Gold	Black Valox	No	0.625″	3.60	3.42	3.25**	3.09**
89F811	227676-1+	Gold	Metal	No	0.625″	3.20**	3.11**	2.22**	1.66**
89F786	227222-1*	Tin	White Valox	Yes	1.375″	2.31**	2.25**	2.16**	1.55**
89F788	227222-3*	Gold	White Valox	Yes	1.375″	2.31**	2.25**	2.16**	1.55**
89F792	227671-1*	Tin	Metal	Yes	1.375″	5.45	5.18	4.92	4.67
89F794	227673-1*	Gold	Metal	Yes	1.375″	2.66**	2.58**	2.49**	1.79**
89F812	227161-1+	Tin	White Valox	Yes	0.625″	2.31**	2.25**	2.16**	1.55**
89F814	227161-3+	Gold	White Valox	Yes	0.625″	3.45	3.28	3.11	2.96
50F979	227161-7+	Tin	White Valox	Yes	0.519″	2.31**	2.25**	2.16**	1.55**
89F815	227161-2+	Tin	Black Valox	Yes	0.625″	2.31**	2.25**	2.16**	1.55**
89F1144	227161-6+	Gold	Black Valox	Yes	0.625″	3.90	3.71	3.52	3.34
89F778	227661-1+	Tin	Metal	Yes	0.625″	3.12**	3.03**	2.92**	2.10**
89F780	227677-1+	Gold	Metal	Yes	0.625″	3.12**	3.03**	2.92**	2.10**
92F1002	413879-1+	Gold	Metal	Yes	0.500″	5.53**	5.38**	3.83**	2.86**

**Price column quantities vary from above, *contact your local Newark sales office for details.*

(8236) (da50262)



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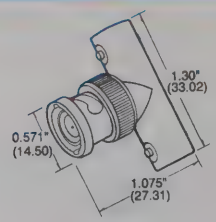

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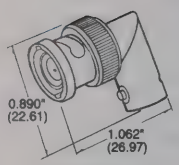

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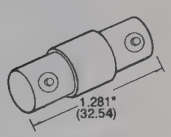

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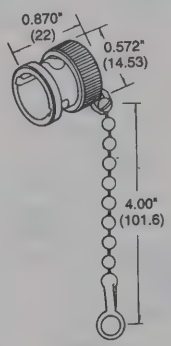

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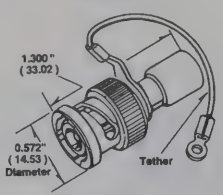
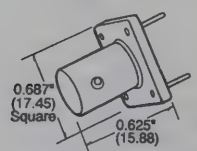


221629-1



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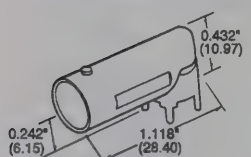

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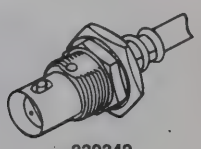
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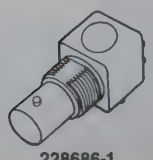
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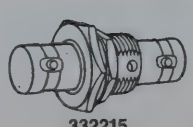

332215

50-OHM BNC ADAPTERS

Stock No.	Type	Description	Plating Contact/Body	Dielec-tric**	Length	1-9	10-24	25-49
50F2989	413592-2	Tee (Jack-Plug-Jack)	Gold/Nickel	A	1.300″	5.75	5.46	5.19
89F2918	221988-1	Tee (Jack-Jack-Jack)	Silver/Nickel	T	1.281″	14.91	13.41	12.74
89F2919	222165-2	Right-Angle (Jack-Plug)	Gold/Nickel	T	0.890″	17.75	15.98	15.18
89F2897	221551-1	Feed-Thru (Jack-Jack)	Silver/Nickel	T	1.281″	8.42	7.58	7.20
44F8965	330024	Bulkhead (Jack-Jack)	Silver/Silver	T	1.500″	18.25*	13.15*	9.72*
89F916	228226-1	Bulkhead (Jack-Jack)	Gold/Nickel	P	1.420″	6.70*	6.52*	4.65*
89F2922	222319-1	BNC Plug to UHF Jack	Gold/Nickel	T	0.572″	14.60	13.14	12.48

** Dielectric: A = Acetal, T = Teflon®, P = Polypropylene
*Price column quantities vary from above, *contact your local Newark sales office for details.*
(8239) (de50265)

50-OHM BNC ACCESSORIES

Stock No.	Type	Description	1-9	10-24	25-49
50F2110	221586-1	Black Polypropylene Tee Adapter Cover	3.63	3.45	3.28
87F4024	330022	Silver-Plated Jack Cover	7.53	6.78	6.44
94F4615	1-329631-2	Jam Nut for PC Board/Panel Mount Jacks	0.21*	0.20*	0.20*
94F4616	1-329632-2	Lockwasher for PC Board/Panel Mount Jacks	0.18*	0.17*	0.16*

*Price column quantities vary from above, *contact your local Newark sales office for details.*
(8327) (ne50266)

BNC COMMERCIAL TERMINATOR PLUGS

Available with or without tether straps and feature nickel finish, gold center contact and steel stamp.

Stock No.	Type	Resistor Specification	1-9	10-24	25-49
89F6141	221629-1	50 Ohm, 1 Watt with Tether Strap	6.86	6.18	5.87
89F1149	221629-4	50 Ohm, 1 Watt without Tether Strap	4.99*	4.86*	3.46*

*Price column quantities vary from above, *contact your local Newark sales office for details.*
(8320) (ne50148)

50-OHM COMMERCIAL METALLIZED PC BOARD MOUNT JACKS

Stock No.	Type	Mounting	Contact Plating	Body Plating	Dielec-tric**	1-24	25-99	100-149
89F801	227699-1	Vertical	Silver	Nickel	V	3.74*	3.64*	3.50*
89F802	227699-2	Vertical	Gold	Nickel	V	3.74*	3.64*	3.50*
50F2111	413631-1	Right-Angle	Silver	Nickel	P	6.28*	6.11*	4.36*

** Dielectric: V =Valox, P = Polypropylene
*Price column quantities vary from above, *contact your local Newark sales office for details.*
(8238) (de50264)

TWIN BNC CONNECTORS

Designed in accordance with MIL-C-39012 to meet stringent requirements of MIL-STD-1553 multiplex data bus. Accommodates twin conductor cable sizes, indicated below. *Order hand tools separately on page 163. See Product Index for selection of coaxial cable.*

Stock No.	Type	RG/U	Plating‡ Center Contact/Body	Dielec-tric**	1-9	10-24	25-49	50-99
89F2926	332225-5	108, 108A	S/N	P	18.12	16.31	15.49	13.94
90F4491	332342*		S/N	P	26.83	24.15	22.94	20.64

* Bulkhead; ‡Plating: S = Silver, N = Nickel; ** Dielectric: P = Polypropylene, T = Teflon®

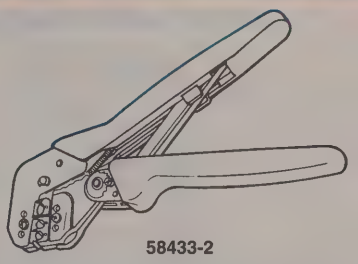
Stock No.	Type	Description	Body	Length	1-9	10-24	25-49	50-99
90F4496	228686-1	Right-Angle PCB Jack	White Valox	1.450″	10.34†	10.06†	7.17†	5.36†
89F2925	332215	Bulkhead Jack Adapter	Nickel	1.406″	17.18	15.46	14.69	11.75

†Price column quantities vary from above, *contact your local Newark sales office for details.*
(8253) (de50507)

RF CONNECTOR TOOLS AND KITS

RF CONNECTOR TERMINATION TOOLS

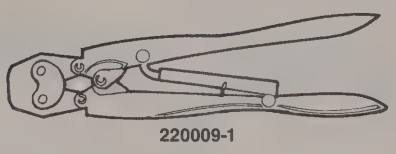
Stock No.	Type	Description	Each
97F8524	58433-1	PRO CRIMPER™ II Hand Tool Assembly with Die Set for Dual-Crimp BNC/TNC, 58, 62, 59 RG/U. (Die-set interchangeable with other die sets, *ordered separately below.*)	72.00
50F1983	58433-2	PRO-CRIMPER™ II Hand Tool Assembly with Die Set for Hex-Crimp BNC/TNC, 58, 62, 59 RG/U. (Die-set interchangeable with other die sets, *ordered separately below.*)	72.00
96F6512	354940-1	PRO-CRIMPER™ II Interchangeable Die Tool Frame (Frame/Handle only; *order die sets separately below*)	76.50



58433-2

DIE SETS FOR TYPE 354940-1 PRO CRIMPER™ II TOOL FRAME (ABOVE)

Stock No.	Type	Description	Each
89F835	58085-1	Die Set for Dual-Crimp 75-Ohm BNC/TNC, 62, 59 RG/U	126.15
89F838	58086-1	Die Set for Dual-Crimp 75-Ohm BNC, Belden 9248, 8228	159.50
97F8525	58425-1	Die Set for Hex-Crimp 75-Ohm BNC, 62, 59, RG/U	40.50
97F8526	58425-2	Die Set for Hex-Crimp 75-Ohm BNC, 179, 161, 187 RG/U	40.50
97F8527	58425-3	Die Set for Hex-Crimp 75-Ohm BNC, Double Braid 59 RG/U	40.50
89F839	58304-1	Die Set for Dual-Crimp 75-Ohm BNC/TNC, 179, 187 RG/U	179.35
97F8528	58436-2	Die Set for Hex-Crimp 50-Ohm BNC/TNC, Belden 8281, 9141	42.30
97F8529	58436-3	Die Set for Hex-Crimp 50-Ohm BNC/TNC, 174, 179, 180, 195 RG/U	42.30
96F7626	58489-1	Die Set for Hex-Crimp 50-Ohm SMB	52.20
97F8532	220196-1	Die Set for Dual-Crimp Miniature UHF, 58 RG/U	158.38
97F8533	220244-1	Die Set for Dual-Crimp 50-Ohm BNC, Belden 9248, 9114	125.76
89F2914	59980-1	Semi-Rigid Cable Interchangeable Die Tool Frame for SMA and TNC Connectors (Frame/Handle only: *order die set and locators separately below*)	551.48
89F4340	312253-1	Die Set for SMA and 50-Ohm TNC	108.00
89F4343	220220-2	Locator for SMA (without center contact) and 50-Ohm TNC	95.40
89F4346	312173-1	Locator for SMA Right-Angle Plugs	80.12

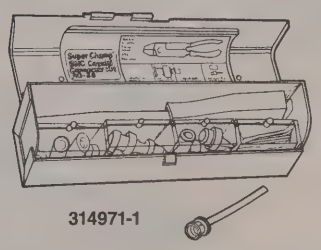


220009-1

CERTI-CRIMP® HAND TOOLS

Stock No.	Type	Description	Each
84F1151	59983-1	for Dual-Crimp Miniature UHF, 174, 316, 188 RG/U	419.89
87F6194	69140-1	for Single-Crimp 50-Ohm BNC, 58, 141, 303 RG/U	398.25
87F6195	69140-2	for Single-Crimp 50-Ohm BNC, 223, 55 RG/U	643.43
87F6196	69141-1	for Single-Crimp 50-Ohm BNC, 62, 59 RG/U	398.25
87F6197	69245-1	for Single-Crimp 50-Ohm BNC/TNC, 174, 316, 188 RG/U	425.25
87F6199	69245-4	for Single-Crimp 50-Ohm BNC, 178, 196 RG/U	570.38
87F6200	69246-1	for Single-Crimp 50-Ohm BNC, 180, 195 RG/U	574.43
87F6203	69652	for Single-Crimp 50-Ohm BNC, Belden 8281, 9141	552.15
50F528	69667	for Single-Crimp Twin BNC	555.00
44F7888	69477-1	for Mil Type Dual-Crimp 50-Ohm BNC, 62, 59 RG/U	268.25
46F1192	69477-2	for Mil Type Dual-Crimp 50-Ohm BNC, 180, 195 RG/U, Belden 8218	288.55
89F764	69477-4	for Commercial Type Dual-Crimp 50-Ohm BNC, Belden 8218	319.95
44F7887	69478-1	for Mil Type Dual-Crimp 50-Ohm BNC, 58, 141, 303 RG/U	268.25
44F7889	220009-1	for Mil Type Dual-Crimp 50-Ohm BNC, 174, 316, 188, 179, 187 RG/U	297.25
89F763	220009-5	for Commercial Type Dual-Crimp 50-Ohm BNC, 174, 316, 188, 179, 187 RG/U	284.85
87F4025	220015-1	for Mil Type Dual-Crimp 50-Ohm BNC/TNC/N, 8, 213, 11, 9, 214 RG/U	645.59
89F3370	220022-1	for Dual-Crimp SHV, 58 RG/U	398.25
89F3371	220022-2	for Dual-Crimp SHV, 62, 59 RG/U	328.73
44F7890	220043-1	for Mil Type Dual-Crimp 50-Ohm BNC, Belden 8281, 9141	343.58
89F2913	220045-2	for Mil Type Dual-Crimp 50-Ohm TNC/N, 58, 141, 303, 142, 400 RG/U	378.00
84F1153	220045-3	for Mil Type Dual-Crimp 50-Ohm TNC/N, 62, 59 RG/U	562.95
89F2964	220061-1	for SMA (Flexible Cable)	492.75
84F1160	220149-1	for Dual-Crimp Miniature UHF, 58 RG/U	977.50
50F535	220187-1	for Commercial Type Dual-Crimp 50-Ohm BNC/TNC, 58 RG/U	245.05
84F1161	220187-2	for Commercial Type Dual-Crimp 50-Ohm BNC/TNC, 62, 59 RG/U	253.63

220015-1



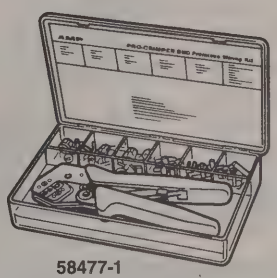
314971-1

(8341) (de50142)

BNC COAXIAL CONNECTOR KITS

BNC connector kits for RG-58 or RG-59 cable. Each kit includes 20 BNC plugs, one SUPER CHAMP® BNC coaxial connector crimping tool, and sturdy steel storage box with four plastic containers.

66F3443 Type 314971-1 RG-58 Kit. **Each** 113.24
66F1127 Type 314972-1 RG-59 Kit. **Each** 114.89
(8342) (de50144)



58477-1

PRO-CRIMPER™ II BNC PREMISE WIRING KIT

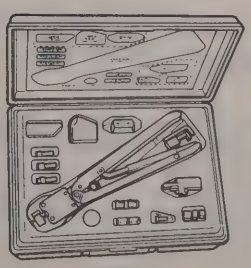
Type 58477-1 kit includes PRO-CRIMPER™ II hand tool assembly with **type 58435-1** die set, five each of the following plugs: RG 58, RG 58 plenum, and RG 59/62 plenum; ten RG 59/62 size plugs; two jack-to-jack adapters, two "T" adapters, and sturdy storage case.

97F9587 Type 58477-1. **Each** 116.73
(8220) (de03548)

SEMI-RIGID CABLE HAND TOOL KIT FOR SMA CONNECTORS

Type 59981-1 kit includes **type 59980-1** interchangeable die hand tool frame, **types 220220-2, 220221-2** plug locators, die set for RG-402/U cable, die set for RG-405/U cable, 6-pc. cable bend fixture assembly that contains two bend segments for RG-402/U cable (0.125″ and 0.250″ radius), bend segment for RG-405U cable, tool holder, limiting pin and conforming block. Plus one each of the following: jack locator, cutoff fixture, cable dressing fixture, trimmer tool, hex wrench, and carrying case.

84F1152 Type 59981-1. **Each** 1710.00
(8221) (de03554)



59981-1

SUPER CHAMP® CRIMP HAND TOOLS

47100-1

Type 47100-1 SUPER CHAMP® is made for use with insulated terminals and splices, 22-10 AWG. Features insulation crimping dies, electromechanical crimping dies, bolt cutter, wire cutter, wire stripper and gauge, stud gauge and cushioned handles.
92F5373 Type 47100-1. **Each** **16.59**

Type 604252-1 SUPER CHAMP® IV crimps insulated and uninsulated PLASTI-GRIP® and PIDG® terminals and splices, 22-16, 16-14 and 12-10 AWG. Makes a unique confined trapezoidal crimp that's more sound electrically and mechanically than those made with conventional dies. Has all the features of **type 47100-1** above, plus ignition crimp.

44F7960 Type 604252-1. **Each** **19.90**

Type 904135-1 SUPER CHAMP® V cuts and strips standard electrical wire, crimps closed barrel insulated or uninsulated terminals, and splices with or without insulation support and coaxial connector. It also cuts bolts of various common US thread configurations. Each function is marked on the tool.
83F9145 Type 904135-1. **Each** **9.87**

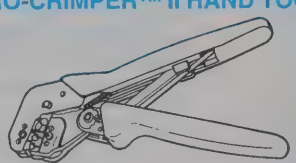
Type 29564 SUPER CHAMP® FT crimps uninsulated FASTON® push-on type terminals, 22-14 AWG. Special die crimps strain relief tabs firmly without damaging insulation. Has all the features of **type 47100-1** above, plus ignition crimp.
92F9040 Type 29564. **Each** **27.83**

Type 90287-1 AMP® Service Tool I crimps open- and closed-barrel uninsulated terminals, 22-10 AWG; FASTON® terminals (F crimp), 22-18 AWG; PIDG® and PLASTI-GRIP® terminals, and closed end splices, 22-10 AWG; M Series, M-R Series, MATE-N-LOK®, AMP-LEAF®, and AMP-UNYT® connectors and flat flex cable. Features separate open and closed crimp notches, bolt cutter and cushioned handles.
92F9096 Type 90287-1. **Each** **27.83**

Type 90330-1 AMP® Service Tool II made for use with the same terminals and connectors as **type 90287-1** above, has the same features plus special crimping notch for Tab-Lok FASTON® terminals.
98F7365 Type 90330-1. **Each** **57.49**

SUPER CHAMP® for use with coaxial BNC and UHF connectors using RG58 and RG59 cable and mini UHF using RG58/188 cable. Each tool is marked for accurate application and has cushioned handles.
66F6136 Type 220146-1 for BNC RG 58. **Each** **22.50**
66F6137 Type 220147-1 for BNC RG 59. **Each** **22.50**
66F6138 Type 220148-1 for UHF RG 58/59. **Each** **22.50**
92F4800 Type 58124-1 for Mini UHF RG 58/188. **Each** **22.50**
(8290) (ne06329)

PRO-CRIMPER™ II HAND TOOL



PRO-CRIMPER™ II tool frame requires less hand force to produce the same connection as comparable tools. With interchangeable die sets it can crimp many different types of connectors. Multiple terminal sizes are accommodated in one die. Has angled head for comfortable hand and wrist position. Ratchet control provides complete crimping cycle. Features emergency ratchet release and extra strong pivot pins for greater durability. Constructed of rugged high-carbon steel with cushioned handles. Various interchangeable die sets for the PRO-CRIMPER™ tool frame are available; *contact your local Newark sales office for details.*

Stock No.	Type	PRO-CRIMPER™ II Tool Frame	Each
97F9552	58433-3	With Die Set for Insulated Terminals and Splices, PIDG® and PLASTI-GRIP®, 22-10 AWG	79.26
50F1983	58433-2	With Die Set for Hex Crimp 50-Ohm BNC/TNC Coaxial Connectors, 58, 62, 59 RG/U	72.00
44F8730	58448-2	With Die Set for D-Sub 20 DF Pin and Socket Contacts, 28-24, 24-20 AWG	127.60
93F5677	58433-4	With Die Set for Fiber-Optic Connectors, D4 and FC Type 2.5mm Bayonet (ST Style)	86.00

(8291) (ne06330)

INSERTION/EXTRACTION TOOLS

91067

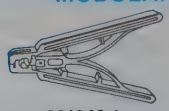
91285-1

For use with AMPLIMITE® HDP-20 Subminiature D connectors. Tool includes interchangeable tips for insertion and extraction of pins and sockets.

Stock No.	Type	Insertion/Extraction Tool	Each
44F8723	91067-1	For Size 22 DM Contacts, 28-22 AWG	5.37
44F8729	91067-2	For Size 20 DM Contacts, 24-20 AWG	4.22
90F1401	91285-1	For Size 22 DF Contacts, 28-22 AWG and Size 20 DF Posted Contacts	12.78

(8292) (ne06331)

MODULAR PLUG TOOLS



231648-1, 231649-1

2-231652-0

Type 189710-1 SUPER CHAMP® hand tool for applying 2-, 4-, 6-, and 8- position AMP® modular plugs, 28-24 stranded and 26-24 solid AWG. Features separate nests for terminating wires and engaging insulation strain relief. Cushioned handles for comfort.
66F812 Type 189710-1. **Each** **39.00**

Economical Chordal hand tool strips and terminates cable. Lightweight design for easy handling. **Type 231648-1** terminates 2-, 4-, and 6-position modular plugs. **Type 231649-1** terminates 4- position handset modular plugs.
50F894 Type 231648-1. **Each** **32.00**
50F895 Type 231649-1. **Each** **32.00**

Professional production hand tool cuts, strips and terminates cable. Features CERTI-CRIMP® ratchet to assure proper termination. With interchangeable die sets the tool frame can accommodate all plug sizes. Cushioned handles for comfort. Choice of five complete tool assemblies consisting of tool frame and die set. Tool frame and interchangeable die sets *ordered separately below.*

Stock No.	Type	Description	Each
66F1143	2-231652-3	Tool Assembly with 4-Position Die Set	111.75
93F6988	2-231652-8	Tool Assembly with 4-, 6-Position Die Set	111.75
66F1144	2-231652-6	Tool Assembly with 6-Position (Offset) Die Set	111.75
98F7051	2-231652-1	Tool Assembly with 8-Position Die Set	97.00
66F3376	3-231652-0	Tool Assembly with Category 5 8-Position Die Set	111.75
98F6804	2-231652-0	Hand Tool Frame Only	106.55
50F887	853400-3	4-Position Die Set Only	45.00
50F890	853400-8	4-, 6-Position Die Set Only	45.00
50F888	853400-6	6-Position (Offset) Die Set Only	45.00
50F886	853400-1	8-Position Die Set Only	45.00
66F3374	1-853400-0	Category 5 8-Position Die Set Only	45.00
66F1145	231662-5	Replacement Blade for Tool Frame	7.68

(8293) (ne06332)

TOOL KITS

AMPLIMITE® D-SUB HD-20 CONNECTOR REPAIR KITS

Type 787053 25-position RS232 repair kit contains 18 **type 207463-1** plugs, 6 **type 207464-1** receptacles, and 14 **type 749626-2** cable clamps. **Type 787054** multi-position repair kits contain 3 each: 9-, 15-, 25-, and 37-position receptacles, 6 each: 9-, 15-, 25-, and 37-position plugs and cable clamps. All kits include crimp snap-in contacts: 100 **type 66504-9** sockets and 100 **type 66506-9** pins, plus 1 insertion/extraction tool and 1 metal storage case. Kit type numbers with **suffix -2** also include 1 **type 90287-1** AMP® Service Tool I.

Stock No.	Type	Description	Each
96F9817	787053-1	RS232 Kit without AMP® Service Tool I	108.01
96F9818	787053-2	RS232 Kit with AMP® Service Tool I	139.71
96F9815	787054-1	Multi-Position Kit without AMP® Service Tool I	155.15
96F9816	787054-2	Multi-Position Kit with AMP® Service Tool I	186.85

SUPER CHAMP® HAND TOOL MODULAR PLUG KIT

Type 224685-1 kit is ideal for field service applications. Includes 25 each: **type 5-641335-7** 4-position, **type 5-641337-4** 6-position and **type 5-554739-4** 8-position AMP® modular plugs, **type 189710-1** SUPER CHAMP® modular plug hand tool, and a multi-compartment storage case with a cushioned tray and clear plastic hinged top.
66F6139 Type 224685-1. **Each** **73.59**

PROFESSIONAL PRODUCTION HAND TOOL MODULAR PLUG KIT

Type 1-231666-0 kit consists of **type 2-231652-0** production tool frame assembly, 4-, 6- and 8-position die sets, blade replacement kit, small screwdriver, and storage case.
92F4809 Type 1-231666-0. **Each** **190.68**

SUPER CHAMP® HAND TOOL TERMINAL KIT

Type 604200-1 500-piece PLASTI-GRIP® terminal hand tool kit consists of SUPER CHAMP® crimp tool, 225 ring and 200 spade terminals, and 75 butt splices in wire size 22-10. Packaged in heavy-duty metal storage case.
66F6140 Type 604200-1. **1-4** **93.00**

PRO-CRIMPER™ II HAND TOOL TERMINAL KIT

Type 55823-1 PLASTI-GRIP® and PIDG® terminal kit consists of PRO-CRIMPER™ II hand tool and 225 ring and spade terminals in 12-10, 16-14 and 22-16 wire sizes. Packaged in a sturdy storage case.
92F1358 Type 55823-1. **1-4** **89.25**

SUPER CHAMP® HAND TOOL COAXIAL KITS

Type 314971-1 BNC coaxial connector kit for RG58 cable contains 20 BNC58 plugs. **Type 314972-1** BNC coaxial connector kit for RG59, 62 cable contains 20 BNC59 plugs. **Type 314973-1** UHF coaxial connector kit for RG58, 59, 62 cable contains 20 UHF short collar plugs. All kits include SUPER CHAMP® crimp tool and steel storage case.
66F3443 Type 314971-1. **Each** **113.24**
66F1127 Type 314972-1. **Each** **114.89**
66F6141 Type 314973-1. **Each** **111.00**

PRO-CRIMPER™ II HAND TOOL COAXIAL PREMISE WIRING KIT

Type 58477-1 kit consists of PRO-CRIMPER™ II hand tool assembly with **type 58535-1** die set, 5 each; RG58, RG58 plenum and RG59/62 plenum size plugs, 10 RG59/62 size plugs, 2 jack-to-jack adapters, 2 "T" adapters, and multi-compartment storage case.
97F9587 Type 58477-1. **Each** **116.73**
(8294) (ne06333)

ORDERING GUIDE FOR 97 SERIES STANDARD CIRCULAR CONNECTORS

97 series medium- to heavy-weight, standard circular connectors feature a nonrotating contact design that simplifies soldering and helps lower termination costs. Standard MIL-C-5015 contacts are silver-plated with pre-tinned solder cups. Single key/keyway polarization. Shell components are constructed of high-grade aluminum alloy and feature strong threaded couplings. Diallyl phthalate inserts provide high arc and insulation resistance under both humidity and thermal stress. Your choice of 5 shell styles, environmental, solid or split shell construction, 128 contact arrangements (from 1 to 52 circuits), and alternate insert positioning. Standard, nonreflective cadmium-plated shell available in 3 finishes. Choose: olive drab chromate finish; shiny, clear cadmium-plated finish; or environmental-resistant black zinc cobalt finish. All shell finishes give the same high conductivity and resistance to corrosion. Operating temperature: –55°C to +125°C. Intermateable and intermountable with all **97 series** and MIL-C-5015 connectors. UL recognized File E115497; CSA certified File LR69183. Newark has a completely equipped Amphenol **MS** assembly center which allows the quick shipment of complete connectors from an extensive component inventory.

HOW TO SELECT A 97 SERIES CIRCULAR CONNECTOR IN 8 EASY STEPS . . .

Once you have determined that a **97 series** circular connector is required, just answer the questions posed in the following 8 steps to help you formulate the part number of your choice.

STEP 1 *How many wires are you going to connect and what gauge?*
The answer to this question determines which insert you need. The Insert Chart *on page 166* illustrates the 128 inserts available. Here's an example of how to use the chart. Say you want to connect 8 16-gauge wires. Just find the section of the chart marked 8 contacts. Under this section, find insert number 20-7— it's the one you want because it contains 8 16-gauge contacts. Your space limitations and voltage requirements also determine your choice of insert. The voltage capacity code for each insert is listed under its diagram *on page 166*. If you have more than one wire size to connect, the method is the same because you can always solder a smaller wire to a larger contact. However, soldering a large wire to a small contact is not recommended.

STEP 2 *What if several identical connectors have different functions?*
Here's a situation to watch out for! You have 4 identical receptacles on a panel. One carries high current loads. The others have low current functions. A plug mated with the wrong receptacle (cross-mating) could damage your valuable equipment. To avoid cross-mating, you can order identical inserts positioned in both the plugs and receptacles at various angles from standard. These variations from standard positions are called alternate Insert Positions, explained *on page 166*. The Alternate insert position is listed in parenthesis under each insert diagram in the Insert Chart *on page 166*.

STEP 3 *What kind of RECEPTACLE do you need?*
For wall mounting, use a Wall Receptacle, **type 3100**; *order on pages 171-172*. The elongated back of this receptacle extends through thick wall material. It is threaded to accept standard hardware fittings. For unmounted applications, use the Cable Receptacle, **type 3101**; *order on pages 172-173*. For box or panel mounting, use the Box Receptacle, **type 3102**; *order on pages 173-175*. This receptacle's back is short to conserve space. It is not threaded on the back end and is used when no accessories such as clamps are needed.

STEP 4 *What kind of PLUG do you need?*
For ordinary situations, the Straight Plug, **type 3106**, meets most connector requirements; *order on pages 175-178*. However, when space is critical you may want to consider using an Angle Plug, **type 3108**; *order on pages 178-180*. This type plug lets the cable enter your equipment at a right angle.

STEP 5 *Do you need a Plug with SOLID or SPLIT Back Shell?*
You can get both straight and angle plugs in solid or split back shell designs. With the Solid Back Shell, you have greater strength and save space, too. On the other hand, the Split Back Shell design lets you quickly inspect the solder terminals, which is important if you'll be subjecting the connector to rough handling and heavy use. The type identification for Solid Back Shell construction in a non-environmental style is the letter **A** immediately after the main shell type number, for example **3106A**. For a Solid Back Shell construction in the 97E environmental sealing style, the letter E should be placed immediately after the main shell type. Likewise, the type identification for Split Back Shell construction is **B**, for example **3106B**. Split Back Shell construction is available in non-environmental types only. Because of applicaton, receptacles are made in Solid Back Shell construction only. Their type identifications are **3100A/E, 3101A/E**, and **3102A**.

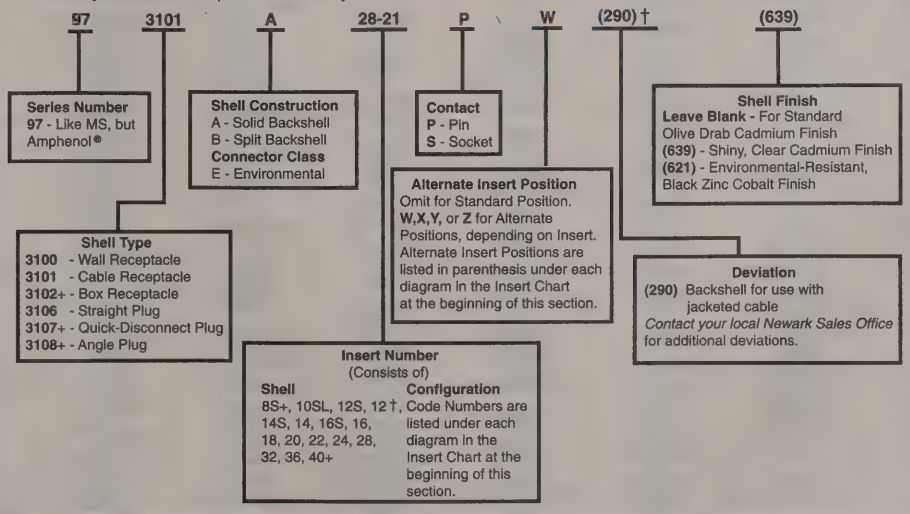
STEP 6 *Which connector gets the socket: the receptacle or the plug?*
Now you have to designate which inserts are used with which shells. Since either pin or socket inserts can be used with plugs or receptacles, now's the time to make your choice. Here's a good rule of thumb: Order the sockets for the connector at the "hot" side of the circuit. By having sockets at the power source, there's less chance that a wayward finger or screwdriver will short the circuit or cause personal injury. The code for Socket is simply an **S** following the insert code number. For Pins, it is **P**. Therefore, 20-7P insert would have Pin contacts while a 20-S insert would have Socket contacts.

STEP 7 *What kind of finish do you need?*
If you prefer the standard olive drab, nonreflective cadmium plate finish, no suffix number is needed. If you would rather have the shiny, clear cadmium plate finish, just add the suffix number **639** at the end of the part number. If you would like an environmental-resistant black zinc cobalt finish, just add the suffix number **621** at the end of the part number.

STEP 8 *Do you need any accessories?*
Accessories, such as cable clamps and protection caps and chains, are available; *order separately on page 181*.

BEFORE YOU ORDER . . .

Review the following example to correctly formulate the part number of your choice:


97
3101
A
28-21
P
W
(290)†
(639)
Series Number
97 - Like MS, but Amphenol®
Shell Construction
A - Solid Backshell
B - Split Backshell
Connector Class
E - Environmental
Contact
P - Pin
S - Socket
Shell Finish
Leave Blank - For Standard Olive Drab Cadmium Finish
(639) - Shiny, Clear Cadmium Finish
(621) - Environmental-Resistant, Black Zinc Cobalt Finish
Shell Type
3100 - Wall Receptacle
3101 - Cable Receptacle
3102+ - Box Receptacle
3106 - Straight Plug
3107+ - Quick-Disconnect Plug
3108+ - Angle Plug
Alternate Insert Position
Omit for Standard Position.
W,X,Y, or Z for Alternate Positions, depending on Insert.
Alternate Insert Positions are listed in parenthesis under each diagram in the Insert Chart at the beginning of this section.
Deviation
(290) Backshell for use with jacketed cable
Contact your local Newark Sales Office for additional deviations.
Insert Number
(Consists of)
Shell
8S+, 10SL, 12S, 12†, 14S, 14, 16S, 16, 18, 20, 22, 24, 28, 32, 36, 40+
Configuration
Code Numbers are listed under each diagram in the Insert Chart at the beginning of this section.

Review the above example to correctly formulate the part number of your choice. For more information on how to order these circular connectors, see the explanation above.

(+ Not for use with Environmental connectors; † For use with Environmental connectors only)

SERVICE RATINGS*

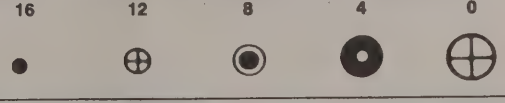
Codes are listed in **[BRACKETS]** under each diagram in the Insert Chart *on page 166*.

Service Codes		INST+	A	D	E	B	C
Limiting Operating Voltages at Sea Level	DC	250	700	1250	1750	2450	4200
	AC (rms)	200	500	900	1250	1750	3000
Effective Creepage (nominal)	mm	1.57	3.18	4.75	6.35	7.92	25.40
Mechanical Spacing (nominal)	mm	...	1.57	3.18	4.75	6.35	7.92

*Army-Navy ratings for aircraft use; Transients were not considered in calculating these values; Limiting operating voltages of 50,000 feet (15,240M) altitude are approximately 25% of the sea level values. +Normally for low voltages and currents.

(14230) (ne91319)

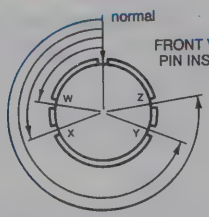
WIRE SIZE CODES



TEST CURRENT VALUES

Contact Size	16	12	8	4	0
Amperes	13	23	46	80	150

ALTERNATE INSERT POSITIONS



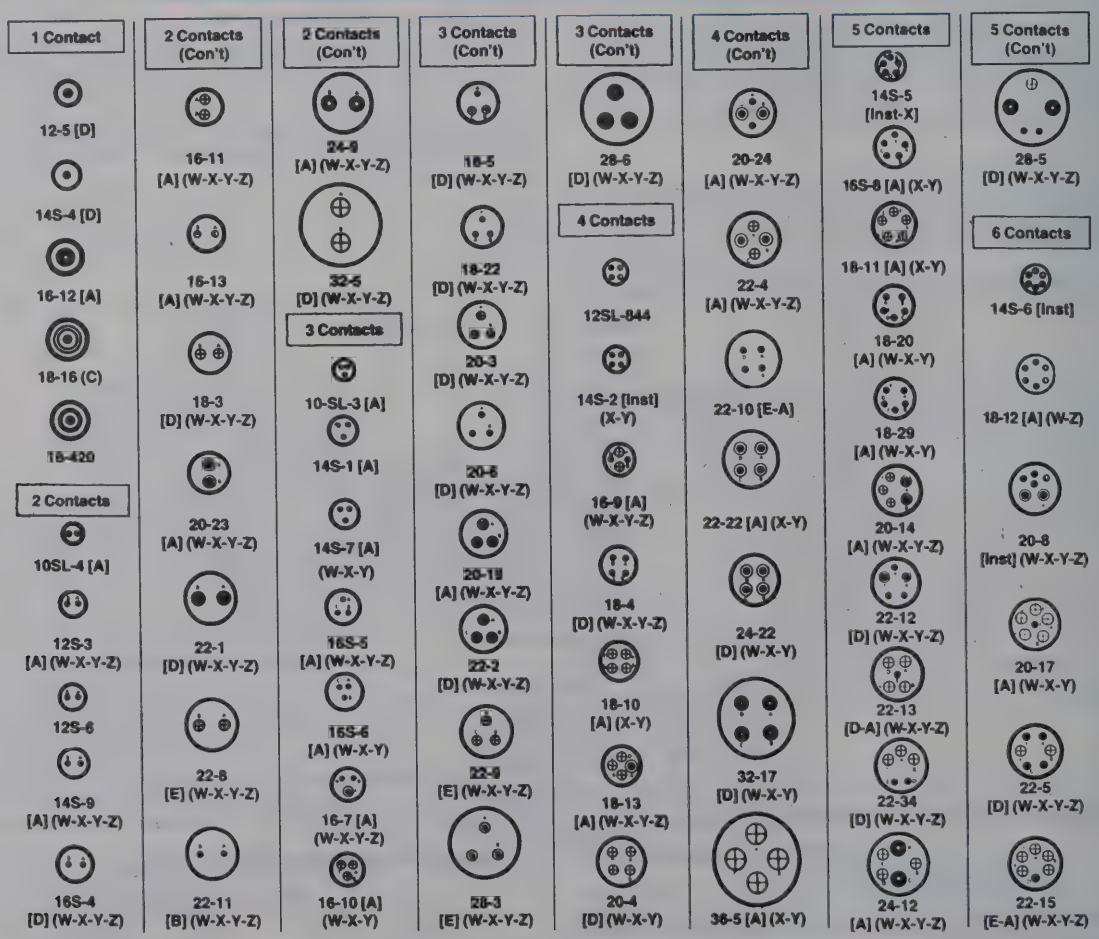
Codes are listed in **(PARENTHESIS)** under each diagram in the Insert Chart *on this page.*

Insert	W	X	Y	Z
12S-3, 14S-9, 16S-5, 18-1, 18-22, 20-3, 20-6, 22-2, 22-9, 28-3, 28-6, 28-18	70°	145°	215°	290°
14S-2, 18-10, 36-5	...	120°	240°	...
14S-5	...	110°	...	...
14S-7, 16S-6, 16-10, 18-20, 18-29, 20-17, 20-19, 28-12	90°	180°	270°	...
16S-1, 18-12, 20-15, 20-29, 22-28, 24-2, 24-10	80°	...	...	280°
16S-4, 16-9, 16-11, 16-13, 18-3, 18-4, 20-18, 20-21, 20-23, 20-24, 20-27, 22-1, 22-4 22-5, 22-8, 22-10, 22-11, 22-13, 22-20, 24-9, 24-11, 28-2, 28-5, 32-5, 36-6	35°	110°	250°	325°
16-7, 18-5, 18-9, 18-13, 20-7, 20-8, 20-14, 20-16, 22-12, 22-14, 22-15, 22-16, 22-18, 22-19, 22-34, 24-5, 24-6, 24-7, 24-12, 24-16, 24-20, 24-21, 24-28, 28-1, 28-8, 28-9, 28-10, 28-11, 28-15, 28-16, 28-17, 28-19, 28-20, 28-21, 32-6, 32-13, 36-1, 36-7, 36-8	80°	110°	250°	280°
16S-8, 18-11	...	170°	265°	...
18-8	70°	...	...	290°
20-4, 24-22, 32-17	45°	110°	250°	...
22-22	...	110°	250°	...
22-23	35°	...	250°	...
22-27	80°	...	250°	280°
32-7, 32-8, 36-9, 36-10	80°	125°	235°	280°
36-15	60°	125°	245°	305°

(14232)

(ne90578)

97 SERIES STANDARD CIRCULAR CONNECTORS INSERT CHARTS



(16328)

(ne10174)

REFER TO PRODUCT SELECTION, DRAWINGS AND DIMENSIONS *on pages 168 and 171-180.*

(ne95034d)

97 SERIES STANDARD CIRCULAR CONNECTORS INSERT CHART (CONTINUED)

6 Contacts (Con't)

36-6
2 #0, 4 #4
[Serv. A]
(W,X,Y,Z)

7 Contacts

16S-1
7 #16
[Serv. A] (W,Z)

18-9
5 #16, 2 #12
[Serv. INST]
(W,X,Y,Z)

20-15
7 #12
[Serv. A] (W,Z)

22-26*
2 #12, 5 #16
⅛" (3.176)
Spacing

22-28
7 #12
[Serv. A]
(W,Z)

24-2
7 #12
[Serv. D] (W,Z)

24-10
7 #8
[Serv. A]
(W,Z)

7 Contacts (Con't)

24-16
3 #16, 1 #8, 3 #12
[Serv. D (ABFG),
A (CDE)] (W,X,Y,Z)

24-27
7 #16
[Serv. E] (W,Z)

28-10
3 #12, 2 #8, 2 #4
[Serv. D (G), A
(Others)] (W,X,Y,Z)

8 Contacts

18-8
1 #12, 7 #16
[Serv. A] (W,Z)

20-7 8 #16
[Serv. D
(ABHG), A
(CDEF)] (W,X,Y,Z)

22-18 8 #16
[Serv. D (ABHFG),
A (Others)]
(W,X,Y,Z)

22-23
8 #12
[Serv. D (H), A
(Others)] (W,Y)

24-6 8 #12
[Serv. D (AGH), A
(Others)] (W,X,Y,Z)

9 Contacts

20-16
7 #16, 2 #12
[Serv. A]
(W,X,Y,Z)

9 Contacts (Con't)

20-18
3 #12, 6 #16
[Serv. A]
(W,X,Y,Z)

20-21
1 #12, 8 #16
[Serv. A]
(W,X,Y,Z)

22-16
3 #12, 6 #16
[Serv. A]
(W,X,Y,Z)

22-20
9 #16
[Serv. A]
(W,X,Y,Z)

22-27
1 #8, 8 #16
[Serv. D (J), A
(Others)] (W,Y,Z)

24-11
3 #8, 6 #12
[Serv. A]
(W,X,Y,Z)

28-1 3 #8, 6 #12
[Serv. D (AJE), A
(Others)]
(W,X,Y,Z)

10 Contacts

18-1 10 #16
[Serv. A (BCFG),
INST (Others)]
(W,X,Y,Z)

18-19
10 #16
[Serv. A] (X,Y)

10 Contacts (Con't)

24-21
1 #8, 9 #16
[Serv. D]
(W,X,Y,Z)

28-19
4 #12, 6 #16
[Serv. B (HM),
D (AB), A (Others)]
(W,X,Y,Z)

11 Contacts

20-33
11 #16
[Serv. A]

24-20
2 #12, 9 #16
[Serv. D]
(W,X,Y,Z)

12 Contacts

24-19
12 #16
⅛" (1.588)
Spacing

28-8
2 #12, 10 #16
[Serv. E (LM),
D (B), A (Others)]
(W,X,Y,Z)

28-9
6 #12, 6 #16
[Serv. D]
(W,X,Y,Z)

28-18 12 #16
[Serv. C (M),
D (GHJKL), A (AB),
INST (CDEF)]
(W,X,Y,Z)

13 Contacts

20-11
13 #16
[Serv. INST]

14 Contacts

20-27
14 #16
[Serv. A]
(W,X,Y,Z)

22-19
14 #16
[Serv. A]
(W,X,Y,Z)

28-2
2 #12, 12 #16
[Serv. D]
(W,X,Y,Z)

28-20
10 #12, 4 #16
[Serv. A]
(W,X,Y,Z)

15 Contacts

28-17
15 #16
[Serv. B (R),
D (MNP),
A (Others)]
(W,X,Y,Z)

16 Contacts

24-5
16 #16
[Serv. A]
(W,X,Y,Z)

24-7
2 #12, 14 #16
[Serv. A]
(W,X,Y,Z)

17 Contacts

20-29
17 #16
[Serv. A] (W,Z)

19 Contacts

22-14
19 #16
[Serv. A]
(W,X,Y,Z)

20 Contacts

28-16
20 #16
[Serv. A]
(W,X,Y,Z)

22 Contacts

28-11
4 #12, 18 #16
[Serv. A]
(W,X,Y,Z)

36-1
4 #12, 18 #16
[Serv. D]
(W,X,Y,Z)

23 Contacts

32-6 2 #4, 3 #8,
2 #12, 16 #16
[Serv. A] (W,X,Y,Z)

32-13 5 #12,18 #16
[Serv. D] (W,X,Y,Z)

24 Contacts

24-28 24 #16
[Serv. INST]
(W,X,Y,Z)

26 Contacts

28-12 26 #16
[Serv. A] (W,X,Y)

30 Contacts

32-8
6 #12, 24 #16
[Serv. A] (W,X,Y,Z)

31 Contacts

36-9 1 #4, 2 #8,
14 #12, 14 #16
[Serv. A] (W,X,Y,Z)

35 Contacts

28-15 35 #16
[Serv. A] (W,X,Y,Z)

32-7 7 #12, 28 #16
[Serv. INST (ABhj),
A (Others)]
(W,X,Y,Z)

35 Contacts (Con't)

36-15 35 #16
[Serv. D (m), A
(Others)] (W,X,Y,Z)

37 Contacts

28-21 37 #16
[Serv. A]
(W,X,Y,Z)

47 Contacts

36-7
7 #12, 40 #16
[Serv. A]
(W,X,Y,Z)

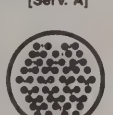
36-8
1 #12, 46 #16
[Serv. A] (W,X,Y,Z)

48 Contacts

36-10
48 #16
[Serv. A]
(W,X,Y,Z)

52 Contacts

32-414*
52 #16
[Serv. A]



36-403*
52 #16
[Serv. A]

* MS number not assigned; use **97 prefix** in completing part number.

(14228)

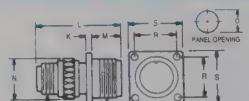
(ne90579)

REFER TO PRODUCT SELECTION, DRAWINGS AND DIMENSIONS *on pages 168 and 171-180.*

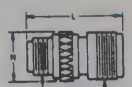
(41871)

(ne41871)

MS (MIL-C-5015) OR 97 SERIES 3100A WALL MOUNTING RECEPTACLES AND 3101A CABLE RECEPTACLES



3100A



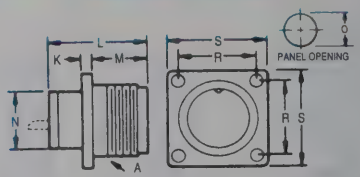
3101A

See ordering instructions for these circular connectors on page 165. Refer to the complete product listing of 3100A wall mounting receptacles on pages 171-172 and 3101A cable receptacles on pages 172-173.

Size*	A	K	L	M	N	O	R	S	V
10S	5/8-24	5/64″	1 5/16″	9/16″	5/8″	.688″	23/32″	1″	1/2-28
10SL	5/8-24	5/64″	1 9/32″	9/16″	3/4″	.812″	23/32″	1″	5/8-24
12S	3/4-20	5/64″	1 15/32″	9/16″	25/32″	.812″	13/16″	1 3/32″	5/8-24
12	3/4-20	5/64″	1 27/32″	3/4″	25/32″	.812″	13/16″	1 3/32″	5/8-24
14S	7/8-20	5/64″	1 7/16″	9/16″	7/8″	.938″	29/32″	1 3/16″	3/4-20
16S	1-20	5/64″	1 31/64″	9/16″	1″	1.062″	31/32″	1 9/32″	7/8-20
16	1-20	1/8″	1 57/64″	3/4″	1″	1.062″	31/32″	1 9/32″	7/8-20
18	1 1/8-18	1/8″	2″	3/4″	1 1/8″	1.188″	1 1/16″	1 3/8″	1-20
20	1 1/4-18	1/8″	2 1/8″	3/4″	1 1/4″	1.312″	1 5/32″	1 1/2″	1 3/16-18
22	1 3/8-18	1/8″	2 1/8″	3/4″	1 3/8″	1.438″	1 1/4″	1 5/8″	1 3/16-18
24	1 1/2-18	1/8″	2 1/4″	1 3/16″	1 1/2″	1.562″	1 3/8″	1 3/4″	1 7/16-18
28	1 3/4-18	1/8″	2 1/4″	1 3/16″	1 3/4″	1.812″	1 9/16″	2″	1 7/16-18
32	2-18	1/8″	2 3/8″	7/8″	2 1/32″	2.062″	1 3/4″	2 1/4″	1 3/4-18
36	2 1/4-16	1/8″	2 3/8″	7/8″	2 1/4″	2.312″	1 15/16″	2 1/2″	2-18

* Pin and socket inserts are interchangeable within plug and receptacle shells except for "SL" shell sizes.
(14132) (ne10170)

MS (MIL-C-5015) OR 97 SERIES 3102A BOX MOUNTING RECEPTACLES

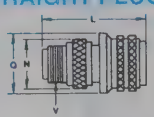


See ordering instructions for these circular connectors on page 165. Refer to the complete product listing of 3102A box mounting receptacles on pages 173-175.

Size*	A	K	L	M	N	O	R	S
10S	5/8-24	5/64″	27/32″	9/16″	1/2″	.688″	23/32″	1″
10SL	5/8-24	5/64″	61/64″	35/64″	1 1/16″	.812″	23/32″	1″
12S	3/4-20	5/64″	61/64″	9/16″	1 1/16″	.812″	13/16″	1 3/32″
12	3/4-20	5/64″	1 5/16″	3/4″	1 1/16″	.812″	13/16″	1 3/32″
12SL	3/4-20	5/64″	27/32″	35/64″	1 1/16″	.938″	13/16″	1 3/32″
14S	7/8-20	5/64″	1 5/16″	9/16″	3/4″	.938″	29/32″	1 3/16″
16S	1-20	5/64″	1 5/16″	9/16″	7/8″	1.062″	31/32″	1 9/32″
16	1-20	1/8″	1 11/32″	3/4″	7/8″	1.062″	31/32″	1 9/32″
18	1 1/8-18	1/8″	1 11/32″	3/4″	1″	1.186″	1 1/16″	1 3/8″
20	1 1/4-18	1/8″	1 11/32″	3/4″	1 1/8″	1.312″	1 5/32″	1 1/2″
22	1 3/8-18	1/8″	1 11/32″	3/4″	1 1/4″	1.438″	1 1/4″	1 5/8″
24	1 1/2-18	1/8″	1 11/32″	1 3/16″	1 3/8″	1.562″	1 3/8″	1 3/4″
28	1 3/4-18	1/8″	1 11/32″	1 3/16″	1 5/8″	1.812″	1 9/16″	2″
32	2-18	1/8″	1 7/16″	7/8″	1 29/32″	2.062″	1 3/4″	2 1/4″
36	2 1/4-16	1/8″	1 7/16″	7/8″	2 1/8″	2.312″	1 15/16″	2 1/2″

* Pin and socket inserts are interchangeable within plug and receptacle shells except for "SL" shell sizes.
(14131) (ne10172)

MS (MIL-C-5015) OR 97 SERIES 3106A SOLID SHELL STRAIGHT PLUGS

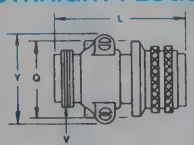


See ordering instructions for these circular connectors on page 165. Refer to the complete product listing of 3106A plugs on pages 175-176.

Size*	L	N	Q	V
10S	1.313″ (33.35)	0.625″ (15.88)	0.875″ (22.23)	1/2-28
10SL	1.375″ (34.93)	0.750″ (19.05)	0.875″ (22.23)	5/8-24
12S	1.438″ (36.53)	0.781″ (19.84)	1.000″ (25.40)	5/8-24
12	1.875″ (47.63)	0.781″ (19.84)	1.000″ (25.40)	5/8-24
12SL	1.484″ (37.69)	0.875″ (22.23)	1.000″ (25.40)	3/4-20
14S	1.438″ (36.50)	0.875″ (22.23)	1.125″ (28.58)	3/4-20
16S	1.453″ (36.91)	1.000″ (25.40)	1.250″ (31.75)	7/8-20
16	1.891″ (48.01)	1.000″ (25.40)	1.250″ (31.75)	7/8-20
18	2.000″ (50.80)	1.125″ (28.57)	1.344″ (34.11)	1-20
20	2.125″ (53.98)	1.250″ (31.75)	1.469″ (37.29)	1 3/16-18
22	2.125″ (53.98)	1.375″ (34.93)	1.594″ (40.46)	1 3/16-18
24	2.250″ (57.15)	1.500″ (38.10)	1.719″ (43.64)	1 7/16-18
28	2.250″ (57.15)	1.750″ (44.45)	1.969″ (49.99)	1 7/16-18
32	2.375″ (60.33)	2.031″ (51.59)	2.219″ (56.34)	1 3/4-18
36	2.375″ (60.33)	2.250″ (57.15)	2.469″ (62.69)	2-18

* Pin and socket inserts are interchangeable within plug and receptacle shells except for "SL" shell sizes.
(14133) (de50221)

MS (MIL-C-5015) OR 97 SERIES 3106B SPLIT SHELL STRAIGHT PLUGS

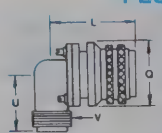


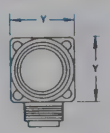
See ordering instructions for these circular connectors on page 165. Refer to the complete product listing of 3106B plugs on pages 176-178.

Size	L	Q	V	Y
14S	1.688″ (42.88)	1.125″ (28.58)	3/4-20	1.156″ (29.36)
16S	1.688″ (42.88)	1.250″ (31.75)	7/8-20	1.250″ (31.75)
18	2.063″ (52.40)	1.344″ (34.11)	1-20	1.641″ (41.66)
20	2.125″ (53.98)	1.469″ (37.29)	1 3/16-18	1.813″ (46.02)
22	2.125″ (53.98)	1.594″ (40.46)	1 3/16-18	1.938″ (49.20)
24	2.281″ (57.94)	1.719″ (43.64)	1 7/16-18	2.063″ (52.40)
28	2.281″ (57.94)	1.969″ (49.99)	1 7/16-18	2.313″ (58.72)
32	2.313″ (58.72)	2.219″ (56.34)	1 3/4-18	2.594″ (65.86)
36	2.344″ (59.51)	2.469″ (62.69)	2-18	2.844″ (72.21)

(14136) (de50224)

MS (MIL-C-5015) OR 97 SERIES 3108A SOLID SHELL ANGLE PLUGS





See ordering instructions for these circular connectors on page 165. Refer to the complete product listing of 3108A plugs on pages 178-179.

Size*	L	Q	U	V	Y
10S	1.250″ (31.75)	0.875″ (22.23)	0.875″ (22.23)	1/2-28	0.781″ (19.84)
10SL	1.313″ (33.32)	0.875″ (22.23)	1.000″ (25.40)	5/8-24	1.063″ (26.97)
12S	1.375″ (34.93)	1.000″ (25.40)	1.000″ (25.40)	5/8-24	1.063″ (26.97)
12SL	1.375″ (34.93)	1.000″ (25.40)	1.000″ (25.40)	3/4-20	1.063″ (26.97)
12	1.203″ (30.56)	1.000″ (25.40)	1.000″ (25.40)	5/8-24	1.063″ (26.97)
14S	1.375″ (34.93)	1.125″ (28.58)	1.000″ (25.40)	3/4-20	1.063″ (26.97)
16S	1.500″ (38.10)	1.250″ (31.75)	1.250″ (28.58)	7/8-20	1.313″ (33.32)
16	1.938″ (49.20)	1.250″ (31.75)	1.250″ (28.58)	7/8-20	1.313″ (33.32)
18	1.938″ (49.20)	1.344″ (34.11)	1.250″ (28.58)	1-20	1.313″ (33.32)
20	2.063″ (53.37)	1.469″ (37.29)	1.313″ (33.32)	1 3/16-18	1.625″ (42.28)
22	2.063″ (53.37)	1.594″ (40.46)	1.313″ (33.32)	1 3/16-18	1.625″ (42.28)
24	2.469″ (62.69)	1.719″ (43.64)	1.500″ (38.10)	1 3/16-18	2.000″ (50.80)
28	2.469″ (62.69)	1.969″ (49.99)	1.500″ (38.10)	1 3/16-18	2.000″ (50.80)

* Pin and socket inserts are interchangeable within plug and receptacle shells except for "SL" shell sizes.
(14137) (de50222)

MS (MIL-C-5015) OR 97 SERIES 3108B SPLIT SHELL ANGLE PLUGS

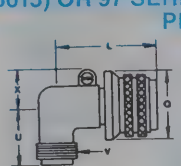


Fig. 1

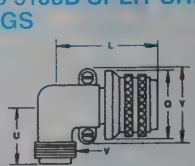


Fig. 2

See ordering instructions for these circular connectors on page 165. Refer to the complete product listing of 3108B plugs on pages 179-180.

Fig. 1 Size*	L	Q	U	V	X
10S	1.375″ (34.93)	0.875″ (22.23)	0.875″ (22.23)	1/2-28	...
10SL	1.500″ (38.10)	0.875″ (22.23)	1.000″ (25.40)	5/8-28	...
12S	1.563″ (39.67)	1.000″ (25.40)	1.000″ (25.40)	5/8-28	0.500″ (12.70)
12	1.875″ (47.63)	1.000″ (25.40)	1.000″ (25.40)	5/8-28	0.500″ (12.70)
14S	1.719″ (43.64)	1.125″ (28.58)	1.063″ (26.97)	3/4-20	0.656″ (16.66)

Fig. 2 Size*	L	Q	U	V	Y
16S	1.175″ (44.45)	1.250″ (31.75)	1.125″ (28.58)	7/8-20	1.500″ (38.10)
16	1.125″ (28.58)	1.250″ (31.75)	1.125″ (28.58)	7/8-20	1.500″ (38.10)
18	2.156″ (54.75)	1.344″ (34.11)	1.188″ (30.15)	1-20	1.641″ (41.66)
20	2.375″ (60.33)	1.469″ (37.29)	1.313″ (33.32)	1 3/16-18	1.813″ (46.02)
22	2.406″ (61.11)	1.594″ (40.46)	1.313″ (33.32)	1 3/16-18	1.938″ (49.20)
24	2.625″ (66.68)	1.719″ (43.64)	1.438″ (36.50)	1 7/16-18	2.063″ (52.37)
28	2.625″ (66.68)	1.969″ (49.99)	1.438″ (36.50)	1 7/16-18	2.313″ (58.72)
32	2.813″ (71.42)	2.219″ (56.34)	1.750″ (44.45)	1 3/4-18	2.594″ (65.86)
36	2.844″ (72.21)	2.469″ (62.69)	1.938″ (49.20)	2-18	2.844″ (72.21)

* Pin and socket are interchangeable within plug and receptacle shells except for "SL" shell sizes.
(14227) (de50223)

97E SERIES ENVIRONMENTAL STANDARD CYLINDRICAL CONNECTORS

How to Order

97 — 3106 E 28 — 21 S

Series Number
97 - Like MS, but Amphenol®

Shell Type
3101 In-Line Cable Receptacle
3106 Straight Plug

Connector Class
E designates Environmental

Shell Size
10SL, 12S, 14S, 16S, 18, 20, 22, 24, 28

Insert Arrangement
See the Insert Chart on pages 205 and 206 of Newark Electronics® Catalog 116 for insert arrangement drawings or *contact your local Newark branch.*

Contact Style
P - designates pin contacts
S - designates socket contacts

97E series environmental service-class connectors feature the same cost-effective benefits of the general-duty **97 series**, such as the nonrotating contact design that simplifies soldering and helps lower termination costs. *Order 97 series general-duty connectors separately; contact your local Newark sales office.* Environmental sealing is accomplished with the addition of a sealing gasket in the plug interface. Environmental connectors are for use in a variety of industrial applications including automotive, robotics, machine tool, and welding equipment.

MS (MIL-C-5015) OR 97 SERIES 3100E WALL MOUNTING RECEPTACLE

Stock No.	Type	Contacts	1-4	5-9	10-24	25-49
83F7827	97-3100E-10SL-03P	3	18.33	14.26	13.03	11.81
83F8316	973100E10SL03P290	3	34.86	27.89	23.19	20.57
83F7829	97-3100E-10SL-04P	2	17.28	13.44	12.29	11.14
83F8318	973100E12S03S290	2	33.14	26.52	22.04	19.56
83F8319	973100E12S03P290	2	33.32	26.66	22.16	19.66
83F7831	97-3100E-12S-03P	2	16.56	12.88	11.78	10.68
83F7832	97-3100E-12S-03S	2	16.73	13.01	11.90	10.78
83F7833	97-3100E-14S-01P	3	17.84	13.88	12.69	11.50
83F7834	97-3100E-14S-01S	3	18.11	14.09	12.88	11.67
83F7835	97-3100E-14S-02P	4	17.30	13.46	12.30	11.15
83F7836	97-3100E-14S-02S	4	19.19	14.93	13.65	12.37
83F7837	97-3100E-14S-05P	5	18.72	14.56	13.32	12.07
83F7838	97-3100E-14S-05S	5	19.43	15.11	13.82	12.52
83F7839	97-3100E-14S-06P	6	18.99	14.77	13.51	12.24
83F7840	97-3100E-14S-06S	6	19.25	14.97	13.69	12.40
83F7841	97-3100E-14S-07P	3	17.84	13.88	12.69	11.50
83F7842	97-3100E-14S-07S	3	18.11	14.09	12.88	11.67
83F7843	97-3100E-14S-09P	2	16.87	13.12	12.00	10.87
83F7844	97-3100E-14S-09S	2	19.21	14.94	13.66	12.38
83F7845	97-3100E-16-10P	3	24.93	19.39	17.73	16.07
83F7846	97-3100E-16-10S	3	23.58	18.34	16.77	15.20
83F8320	973100E1610P290	3	40.40	32.32	26.87	23.84
83F8321	973100E1610S290	3	38.90	31.12	25.87	22.96
83F7847	97-3100E-16S-01P	7	20.97	16.31	14.92	13.52
83F7848	97-3100E-16S-01S	7	22.34	17.38	15.89	14.40
83F7849	97-3100E-16S-08P	5	21.21	16.50	15.08	13.67
83F7850	97-3100E-16S-08S	5	21.69	16.87	15.43	13.98
83F7851	97-3100E-18-01P	10	24.88	19.35	17.69	16.04
83F7852	97-3100E-18-01S	10	26.05	20.26	18.53	16.79
83F7853	97-3100E-18-10P	4	23.98	18.65	17.05	15.46
83F7854	97-3100E-18-10S	4	25.60	19.91	18.21	16.50
83F7855	97-3100E-18-11P	5	24.47	19.03	17.40	15.77
83F7856	97-3100E-18-11S	5	25.40	19.76	18.06	16.37
83F7857	97-3100E-18-12P	6	22.85	17.77	16.25	14.72
83F7858	97-3100E-18-12S	6	24.03	18.69	17.09	15.49
83F7859	97-3100E-18-19P	10	39.38	31.51	26.19	23.24
83F7860	97-3100E-18-19S	10	34.78	27.83	23.13	20.52
83F7861	97-3100E-18-22P	3	22.34	17.38	15.89	14.40
83F7862	97-3100E-18-22S	3	23.58	18.34	16.77	15.20
83F7863	97-3100E-18-04P	4	21.80	16.96	15.50	14.05
83F7864	97-3100E-18-04S	4	23.03	17.91	16.38	14.84
83F7865	97-3100E-18-08P	8	24.92	19.38	17.72	16.06

CONTINUED

97E SERIES ENVIRONMENTAL STANDARD CYLINDRICAL CONNECTORS (CONT.)

MS (MIL-C-5015) OR 97 SERIES 3100E WALL MOUNTING RECEPTACLE (CONT.)

Stock No.	Type	Contacts	1-4	5-9	10-24	25-49
83F7866	97-3100E-18-08S	8	25.60	19.91	18.21	16.50
83F7867	97-3100E-20-15P	7	30.76	24.61	20.46	18.15
83F7868	97-3100E-20-15S	7	37.80	30.24	25.14	22.31
83F7869	97-3100E-20-16P	9	31.10	24.88	20.69	18.35
83F7870	97-3100E-20-16S	9	32.24	25.80	21.44	19.03
83F7871	97-3100E-20-18P	9	33.46	26.77	22.25	19.75
83F7872	97-3100E-20-18S	9	36.34	29.08	24.17	21.44
83F7873	97-3100E-20-27P	14	...	...	...	...
83F7874	97-3100E-20-27S	14	33.02	26.42	21.96	19.49
83F8322	973100E2027P290	14	47.92	38.34	31.87	28.28
83F8323	973100E2027S290	14	49.62	39.70	33.00	29.28
83F7875	97-3100E-20-29P	17	32.86	26.29	21.86	19.39
83F7876	97-3100E-20-29S	17	35.64	28.52	23.70	21.03
83F7877	97-3100E-20-33P	11	34.86	27.89	23.19	20.57
83F7878	97-3100E-20-33S	11	36.04	28.84	23.97	21.27
83F7879	97-3100E-20-04P	4	26.01	20.23	18.50	16.77
83F7880	97-3100E-20-04S	4	37.86	30.29	25.18	22.34
83F7881	97-3100E-20-07P	8	25.83	20.09	18.37	16.65
83F7882	97-3100E-20-07S	8	30.36	24.29	20.19	17.92
83F7883	97-3100E-22-14P	19	36.44	29.16	24.24	21.50
83F7884	97-3100E-22-14S	19	40.02	32.02	26.62	23.62
83F7885	97-3100E-22-19P	14	35.92	28.74	23.89	21.20
83F7886	97-3100E-22-19S	14	36.50	29.20	24.28	21.54
83F7887	97-3100E-22-20P	9	35.02	28.02	23.29	20.67
83F7888	97-3100E-22-20S	9	35.74	28.60	23.77	21.09
83F7889	97-3100E-22-22P	4	39.18	31.35	26.06	23.12
83F7890	97-3100E-22-22S	4	47.02	37.62	31.27	27.75
83F7891	97-3100E-22-23P	8	38.00	30.40	25.27	22.42
83F7892	97-3100E-22-23S	8	46.46	37.17	30.90	27.42
83F7893	97-3100E-24-10P	7	54.12	43.30	35.99	31.93
83F7894	97-3100E-24-10S	7	60.60	48.48	40.30	35.76
83F7895	97-3100E-24-22P	4	45.50	36.40	30.26	26.85
83F7896	97-3100E-24-22S	4	54.04	43.24	35.94	31.89
83F7897	97-3100E-24-27P	7	44.00	35.20	29.26	25.96
83F7898	97-3100E-24-27S	7	45.84	36.68	30.49	27.05
83F7899	97-3100E-24-28P	24	43.76	35.01	29.10	25.82
83F7900	97-3100E-24-28S	24	47.62	38.10	31.67	28.10
83F7901	97-3100E-24-05P	16	43.26	34.61	28.77	25.53
83F7902	97-3100E-24-05S	16	47.46	37.97	31.56	28.01
83F7903	97-3100E-24-07P	16	41.76	33.41	27.77	24.64
83F7904	97-3100E-24-07S	16	44.00	35.20	29.26	25.96
83F7905	97-3100E-28-11P	22	47.42	37.94	31.54	27.98
83F7906	97-3100E-28-11S	22	54.58	43.67	36.30	32.21
83F7907	97-3100E-28-12P	26	48.58	38.87	32.31	28.67
83F7908	97-3100E-28-12S	26	54.62	43.70	36.33	32.23
83F8324	973100E2812P290	26	72.00	57.60	47.88	42.48
83F8325	973100E2812S290	26	78.04	62.44	51.90	46.05
83F7909	97-3100E-28-15P	35	53.02	42.42	35.26	31.29
83F7910	97-3100E-28-15S	35	59.06	47.25	39.28	34.85
83F7911	97-3100E-28-16P	20	48.30	38.64	32.12	28.50
83F7912	97-3100E-28-16S	20	48.64	38.92	32.35	28.70
83F7913	97-3100E-28-18P	12	44.26	35.41	29.44	26.12
83F7914	97-3100E-28-18S	12	47.46	37.97	31.56	28.01
83F7915	97-3100E-28-20P	14	47.76	38.21	31.76	28.18
83F7916	97-3100E-28-20S	14	51.38	41.11	34.17	30.32
83F7917	97-3100E-28-21P	37	54.32	43.46	36.13	32.05
83F7918	97-3100E-28-21S	37	59.92	47.94	39.85	35.36

(28777) (ne28777)

MS (MIL-C-5015) OR 97 SERIES 3101E CABLE RECEPTACLES

Stock No.	Type	Contacts	1-4	5-9	10-24	25-49
83F5738	97-3101E-10SL-03P	3	22.43	17.45	15.95	14.46
83F5739	97-3101E-10SL-04P	2	21.28	16.55	15.13	13.72
83F8326	973101E10SL03P290	3	39.42	31.54	26.22	23.26
83F7921	97-3101E-12S-03P	2	18.54	14.42	13.19	11.95
83F7922	97-3101E-12S-03S	2	18.71	14.55	13.30	12.06
83F8334	973101E1410P290	3	...	...	...	...
83F8335	973101E1410S290	3	...	...	...	...
83F7923	97-3101E-14S-01P	3	20.13	15.66	14.31	12.97
83F7924	97-3101E-14S-01S	3	20.40	15.87	14.51	13.15
83F7925	97-3101E-14S-02P	4	19.59	15.24	13.93	12.62
83F7926	97-3101E-14S-02S	4	21.48	16.71	15.27	13.84
83F5740	97-3101E-14S-05P	5	21.01	16.34	14.94	13.54
83F5741	97-3101E-14S-05S	5	21.71	16.89	15.44	13.99
83F5742	97-3101E-14S-06P	6	21.28	16.55	15.13	13.72
83F5743	97-3101E-14S-06S	6	21.53	16.75	15.31	13.88
83F7927	97-3101E-14S-07P	3	20.13	15.66	14.31	12.97
83F7928	97-3101E-14S-07S	3	20.40	15.87	14.51	13.15
83F7929	97-3101E-14S-09P	2	19.16	14.90	13.62	12.35
83F7930	97-3101E-14S-09S	2	21.51	16.73	15.30	13.87
83F7931	97-3101E-16-10P	3	25.60	19.91	18.21	16.50
83F7932	97-3101E-16-10S	3	24.27	18.88	17.26	15.64
83F5744	97-3101E-16S-01P	7	22.25	17.31	15.82	14.34
83F5745	97-3101E-16S-01S	7	23.62	18.37	16.80	15.22
83F7933	97-3101E-16S-08P	5	22.49	17.49	15.99	14.49
83F7934	97-3101E-16S-08S	5	22.97	17.87	16.34	14.81
83F7935	97-3101E-18-01P	10	26.99	20.99	19.19	17.39
83F7936	97-3101E-18-01S	10	31.28	25.03	20.81	18.46

CONTINUED

MS (MIL-C-5015) OR 97 SERIES 3101E CABLE RECEPTACLES (CONT.)

Stock No.	Type	Contacts	1-4	5-9	10-24	25-49
83F7947	97-3101E-18-04P	4	23.91	18.60	17.00	15.41
83F7948	97-3101E-18-04S	4	25.13	19.55	17.87	16.20
83F8328	973101E1804P290	4	41.60	33.28	27.67	24.55
83F8329	973101E1804S290	4	42.96	34.37	28.57	25.35
83F7949	97-3101E-18-08P	8	30.02	24.02	19.97	17.72
83F7950	97-3101E-18-08S	8	30.76	24.61	20.46	18.15
83F7937	97-3101E-18-10P	4	26.09	20.29	18.55	16.81
83F7938	97-3101E-18-10S	4	30.76	24.61	20.46	18.15
83F7939	97-3101E-18-11P	5	26.55	20.65	18.88	17.11
83F7940	97-3101E-18-11S	5	30.56	24.45	20.33	18.03
83F7941	97-3101E-18-12P	6	24.95	19.41	17.74	16.08
83F7942	97-3101E-18-12S	6	26.14	20.33	18.59	16.85
83F7943	97-3101E-18-19P	10	41.72	33.38	27.75	24.62
83F7944	97-3101E-18-19S	10	37.12	29.70	24.69	21.90
83F7945	97-3101E-18-22P	3	24.45	19.02	17.39	15.76
83F7946	97-3101E-18-22S	3	25.69	19.98	18.27	16.56
83F7951	97-3101E-20-15P	7	32.18	25.75	21.40	18.99
83F7952	97-3101E-20-15S	7	39.22	31.38	26.09	23.14
83F7953	97-3101E-20-16P	9	32.52	26.02	21.63	19.19
83F7954	97-3101E-20-16S	9	33.66	26.93	22.39	19.86
83F7955	97-3101E-20-18P	9	34.88	27.91	23.20	20.58
83F7956	97-3101E-20-18S	9	37.76	30.21	25.11	22.28
83F7957	97-3101E-20-27P	14	32.74	26.20	21.78	19.32
83F7958	97-3101E-20-27S	14	34.44	27.56	22.91	20.32
83F7959	97-3101E-20-29P	17	34.28	27.43	22.80	20.23
83F7960	97-3101E-20-29S	17	37.06	29.65	24.65	21.87
83F7961	97-3101E-20-33P	11	36.28	29.03	24.13	21.41
83F7962	97-3101E-20-33S	11	36.96	29.57	24.58	21.81
83F7963	97-3101E-20-04P	4	30.32	24.26	20.17	17.89
83F7964	97-3101E-20-04S	4	39.28	31.43	26.13	23.18
83F7965	97-3101E-20-07P	8	30.12	24.10	20.03	17.77
83F7966	97-3101E-20-07S	8	31.78	25.43	21.14	18.75
83F7967	97-3101E-22-14P	19	37.62	30.10	25.02	22.20
83F7968	97-3101E-22-14S	19	41.22	32.98	27.42	24.32
83F7969	97-3101E-22-19P	14	37.12	29.70	24.69	21.90
83F7970	97-3101E-22-19S	14	37.68	30.15	25.06	22.24
83F7971	97-3101E-22-20P	9	36.20	28.96	24.08	21.36
83F7972	97-3101E-22-20S	9	36.92	29.54	24.56	21.79
83F7973	97-3101E-22-22P	4	40.36	32.29	26.84	23.82
83F7974	97-3101E-22-22S	4	48.20	38.56	32.06	28.44
83F7975	97-3101E-22-23P	8	39.18	31.35	26.06	23.12
83F7976	97-3101E-22-23S	8	47.66	38.13	31.70	28.12
83F8332	973101E2407P290	16	62.92	50.34	41.85	37.13
83F8333	973101E2407S290	16	65.16	52.13	43.34	38.45
83F7977	97-3101E-24-10P	7	54.18	43.35	36.03	31.97
83F7978	97-3101E-24-10S	7	60.60	48.48	40.30	35.76
83F7979	97-3101E-24-22P	4	45.50	36.40	30.26	26.85
83F7980	97-3101E-24-22S	4	54.04	43.24	35.94	31.89
83F7981	97-3101E-24-27P	7	44.00	35.20	29.26	25.96
83F7982	97-3101E-24-27S	7	45.84	36.68	30.49	27.05
83F7983	97-3101E-24-28P	24	43.76	35.01	29.10	25.82
83F7984	97-3101E-24-28S	24	47.62	38.10	31.67	28.10
83F7985	97-3101E-24-05P	16	43.26	34.61	28.77	25.53
83F7986	97-3101E-24-05S	16	47.46	37.97	31.56	28.01
83F7987	97-3101E-24-07P	16	41.76	33.41	27.77	24.64
83F7988	97-3101E-24-07S	16	44.00	35.20	29.26	25.96
83F7989	97-3101E-28-11P	22	50.88	40.71	33.84	30.02
83F7990	97-3101E-28-11S	22	58.04	46.44	38.60	34.25
83F7991	97-3101E-28-12P	26	52.04	41.64	34.61	30.71
83F7992	97-3101E-28-12S	26	58.06	46.45	38.61	34.26
83F7993	97-3101E-28-15P	35	56.48	45.19	37.56	33.33
83F7994	97-3101E-28-15S	35	62.52	50.02	41.58	36.89
83F7995	97-3101E-28-16P	20	51.76	41.41	34.42	30.54
83F7996	97-3101E-28-16S	20	52.10	41.68	34.65	30.74
83F7997	97-3101E-28-18P	12	47.72	38.18	31.74	28.16
83F7998	97-3101E-28-18S	12	50.92	40.74	33.87	30.05
83F7999	97-3101E-28-20P	14	51.22	40.98	34.07	30.22
83F8000	97-3101E-28-20S	14	54.84	43.88	36.47	32.36
83F8001	97-3101E-28-21P	37	57.78	46.23	38.43	34.09
83F8002	97-3101E-28-21S	37	63.36	50.69	42.14	37.39

(33007) (ne33007)

MS (MIL-C-5015) OR 97 SERIES 3106E SOLID SHELL STRAIGHT PLUGS

Stock No.	Type	Contacts	1-4	5-9	10-24	25-49
83F5748	97-3106E-12S-03P	2	16.26	12.65	11.56	10.48
83F5749	97-3106E-12S-03S	2	16.42	12.77	11.68	10.58
83F5750	97-3106E-14S-01P	3	17.84	13.88	12.69	11.50
83F5751	97-3106E-14S-01S	3	18.11	14.09	12.88	11.67
83F5752	97-3106E-14S-02P	4	17.30	13.46	12.30	11.15
83F5753	97-3106E-14S-02S	4	19.19	14.93	13.65	12.37
83F5754	97-3106E-14S-05P	5	18.72	14.56	13.32	12.07
83F5755	97-3106E-14S-05S	5	19.43	15.11	13.82	12.52
83F8338	973106E1405P290	5	33.96	27.17	22.59	20.04
83F8339	973106E1405S290	5	34.74	27.80	23.11	20.50
83F5756	97-3106E-14S-06P	6	18.99	14.77	13.51	12.24
83F5757	97-3106E-14S-06S	6	19.25	14.97	13.69	12.40
83F5758	97-3106E-14S-07P	3	17.84	13.88	12.69	11.50
83F5759	97-3106E-14S-07S	3	18.11	14.09	12.88	11.67

CONTINUED

MS (MIL-C-5015) OR 97 SERIES SOLID SHELL STRAIGHT PLUGS (CONT.)

Stock No.	Type	Contacts	1-4	5-9	10-24	25-49
83F5760	97-3106E-14S-09P	2	16.87	13.12	12.00	10.87
83F5761	97-3106E-14S-09S	2	19.21	14.94	13.66	12.38
83F5762	97-3106E-16S-01P	7	19.32	15.03	13.74	12.45
83F5763	97-3106E-16S-01S	7	20.70	16.10	14.72	13.34
83F5764	97-3106E-16S-08P	5	19.55	15.21	13.90	12.60
83F5765	97-3106E-16S-08S	5	20.04	15.59	14.25	12.91
83F8005	97-3106E-16-10P	3	24.29	18.89	17.27	15.65
83F8006	97-3106E-16-10S	3	22.95	17.85	16.32	14.79
83F8007	97-3106E-18-01P	10	23.94	18.62	17.03	15.43
83F5766	97-3106E-18-01S	10	25.10	19.52	17.85	16.17
83F5771	97-3106E-18-04P	4	20.87	16.23	14.84	13.45
83F5772	97-3106E-18-04S	4	22.07	17.17	15.70	14.23
83F8008	97-3106E-18-10P	4	23.03	17.91	16.38	14.84
83F8009	97-3106E-18-10S	4	24.65	19.17	17.53	15.88
83F5767	97-3106E-18-11P	5	23.51	18.29	16.72	15.15
83F5768	97-3106E-18-11S	5	24.47	19.03	17.40	15.77
83F5769	97-3106E-18-12P	6	21.91	17.04	15.58	14.12
83F5770	97-3106E-18-12S	6	23.10	17.97	16.43	14.89
83F8011	97-3106E-18-19S	10	33.72	26.98	22.43	19.90
83F8012	97-3106E-18-22P	3	21.39	16.64	15.21	13.78
83F8013	97-3106E-18-22S	3	22.65	17.62	16.11	14.60
83F8014	97-3106E-18-08P	8	23.98	18.65	17.05	15.46
83F8015	97-3106E-18-08S	8	24.65	19.17	17.53	15.88
83F5778	97-3106E-20-04P	4	30.90	24.72	20.55	18.24
83F5779	97-3106E-20-04S	4	39.84	31.88	26.50	23.51
83F5774	97-3106E-20-07P	8	30.70	24.56	20.42	18.12
83F5773	97-3106E-20-07S	8	32.36	25.89	21.52	19.10
83F5775	97-3106E-20-15P	7	32.74	26.20	21.78	19.32
83F8016	97-3106E-20-15S	7	39.80	31.84	26.47	23.49
83F8017	97-3106E-20-16P	9	33.10	26.48	22.02	19.53
83F8018	97-3106E-20-16S	9	34.24	27.40	22.77	20.21
83F8019	97-3106E-20-18P	9	35.46	28.37	23.58	20.93
83F8020	97-3106E-20-18S	9	38.34	30.68	25.50	22.62
83F5776	97-3106E-20-27P	14	33.32	26.66	22.16	19.66
83F5777	97-3106E-20-27S	14	35.02	28.02	23.29	20.67
83F5787	97-3106E-20-29P	17	34.86	27.89	23.19	20.57
83F5788	97-3106E-20-29S	17	37.64	30.12	25.03	22.21
83F8021	97-3106E-20-33P	11	36.86	29.49	24.52	21.75
83F8022	97-3106E-20-33S	11	37.54	30.04	24.97	22.15
83F5780	97-3106E-22-14P	19	36.44	29.16	24.24	21.50
83F5781	97-3106E-22-14S	19	40.02	32.02	26.62	23.62
83F8023	97-3106E-22-19P	14	35.92	28.74	23.89	21.20
83F8024	97-3106E-22-19S	14	36.50	29.20	24.28	21.54
83F8025	97-3106E-22-20P	9	35.02	28.02	23.29	20.67
83F8026	97-3106E-22-20S	9	35.74	28.60	23.77	21.09
83F8027	97-3106E-22-22P	4	39.18	31.35	26.06	23.12
83F8028	97-3106E-22-22S	4	47.02	37.62	31.27	27.75
83F8029	97-3106E-22-23P	8	38.00	30.40	25.27	22.42
83F8030	97-3106E-22-23S	8	46.46	37.17	30.90	27.42
83F5783	97-3106E-24-05P	16	43.70	34.96	29.06	25.79
83F8038	97-3106E-24-05S	16	47.90	38.32	31.86	28.27
83F8039	97-3106E-24-07P	16	42.20	33.76	28.07	24.90
83F8040	97-3106E-24-07S	16	44.44	35.56	29.56	26.22
83F8031	97-3106E-24-10P	7	54.56	43.65	36.29	32.19
83F8032	97-3106E-24-10S	7	61.04	48.84	40.60	36.02
83F8033	97-3106E-24-22P	4	45.94	36.76	30.55	27.11
83F8034	97-3106E-24-22S	4	54.48	43.59	36.23	32.15
83F8035	97-3106E-24-27P	7	44.44	35.56	29.56	26.22
83F8036	97-3106E-24-27S	7	46.28	37.03	30.78	27.31
83F5782	97-3106E-24-28P	24	44.20	35.36	29.40	26.08
83F8037	97-3106E-24-28S	24	48.06	38.45	31.96	28.36
83F8041	97-3106E-28-11P	22	48.74	39.00	32.42	28.76
83F8042	97-3106E-28-11S	22	55.90	44.72	37.18	32.99
83F8043	97-3106E-28-12P	26	49.90	39.92	33.19	29.45
83F8044	97-3106E-28-12S	26	55.94	44.76	37.20	33.01
83F5784	97-3106E-28-15P	35	54.34	43.48	36.14	32.06
83F8045	97-3106E-28-15S	35	60.38	48.31	40.16	35.63
83F5785	97-3106E-28-16P	20	49.62	39.70	33.00	29.28
83F8046	97-3106E-28-16S	20	49.96	39.97	33.23	29.48
83F8047	97-3106E-28-18P	12	45.60	36.48	30.33	26.91
83F8048	97-3106E-28-18S	12	48.78	39.03	32.44	28.78
83F8049	97-3106E-28-20P	14	49.08	39.27	32.64	28.96
83F8050	97-3106E-28-20S	14	52.70	42.16	35.05	31.10
83F8051	97-3106E-28-21P	37	55.64	44.52	37.00	32.83

(33009) (ne33009)

CALL NEWARK FOR
FAST, DEPENDABLE SERVICE.

MS (MIL-C-5015) OR 97 SERIES
3100A WALL MOUNTING RECEPTACLES

Solid shell construction. Integral polarizing key in front shell. Back shell threaded for MS/AN fittings. *Refer to additional ordering information, drawings, and dimensions on pages 165-168.*

Stock No.	Type	Total Contacts	1-4	5-9
39F3088	97-3100A-10SL-03P	3	16.46	13.17
39F3089	97-3100A-10SL-04P	2	15.43	12.35
91F7561	97-3100A-12S-03P	2	14.89	11.91
91F7562	97-3100A-12S-03S	2	15.03	12.03
91F7563	97-3100A-14S-01P	3	15.72	12.57
91F7564	97-3100A-14S-01S	3	16.11	12.89
91F7565	97-3100A-14S-02P	4	17.48	13.98
92F5516	97-3100A-14S-02S	4	18.05	14.44
91F7567	97-3100A-14S-04P	1	29.32	23.46
91F7568	97-3100A-14S-04S	1	29.86	23.89
91F7569	97-3100A-14S-05P	5	17.48	13.98
66F8865	97-3100A-14S-05P-	5	17.48	13.98
92F5517	97-3100A-14S-05S	5	17.25	13.80
66F8866	97-3100A-14S-05S-	5	18.11	14.49
92F5543	97-3100A-14S-06S	6	16.74	13.39
91F7572	97-3100A-14S-07P	5	15.72	12.57
91F7573	97-3100A-14S-07S	3	16.11	12.89
91F7574	97-3100A-14S-09P	2	15.03	12.03
91F7575	97-3100A-14S-09S	2	15.03	12.03
91F7576	97-3100A-16-09P	4	24.88	19.90
91F7577	97-3100A-16-09S	4	27.78	22.23
91F7578	97-3100A-16-10P	3	21.66	17.33
91F7579	97-3100A-16-10S	3	24.23	19.38
91F7580	97-3100A-16-11P	2	22.75	18.20
91F7581	97-3100A-16-11S	2	25.22	20.18
92F5570	97-3100A-16S-01P	7	15.15	12.12
66F8869	97-3100A-16S-01P-	7	17.00	14.45
92F5556	97-3100A-16S-01S	7	21.15	16.92
66F8870	97-3100A-16S-01S-	7	22.20	17.76
91F7587	97-3100A-16S-04P	2	19.81	15.85
91F7588	97-3100A-16S-04S	2	20.64	16.51
91F7589	97-3100A-16S-05P	3	19.13	15.31
91F7590	97-3100A-16S-05S	3	19.36	15.49
91F7591	97-3100A-16S-06P	3	37.49	29.99
91F7592	97-3100A-16S-06S	3	37.49	29.99
91F7593	97-3100A-16S-08P	5	19.64	15.72
91F7594	97-3100A-16S-08S	5	20.35	16.28
91F7595	97-3100A-18-01P	10	24.85	19.88
92F5562	97-3100A-18-01S	10	25.79	20.63
66F8874	97-3100A-18-01S-	10	27.07	21.66
91F7597	97-3100A-18-03P	10	22.18	17.74
91F7598	97-3100A-18-03S	2	27.44	21.95
91F7599	97-3100A-18-04P	4	20.16	16.13
91F7600	97-3100A-18-04S	4	21.75	17.40
91F7601	97-3100A-18-05P	3	21.44	17.15
91F7602	97-3100A-18-05S	3	24.31	19.45
91F7603	97-3100A-18-08P	8	24.85	19.88
91F7604	97-3100A-18-08S	8	26.53	21.23
91F7605	97-3100A-18-09P	7	26.53	21.23
91F7606	97-3100A-18-09S	7	28.78	23.02
91F7607	97-3100A-18-10P	4	24.23	19.38
91F7608	97-3100A-18-10S	4	26.53	21.23
91F7609	97-3100A-18-11P	5	24.23	19.38
91F7610	97-3100A-18-11S	5	24.85	19.88
91F7611	97-3100A-18-12P	6	22.46	17.97
91F7612	97-3100A-18-13P	4	47.05	37.64
91F7613	97-3100A-18-13S	4	53.00	42.40
91F7614	97-3100A-18-16P	1	24.31	19.45
91F7615	97-3100A-18-16S	1	28.78	23.02
91F7616	97-3100A-18-19P	10	33.42	26.74
91F7617	97-3100A-18-19S	10	27.75	22.20
91F7618	97-3100A-18-20P	5	24.28	19.43
91F7619	97-3100A-18-20S	5	25.71	20.57
91F7620	97-3100A-18-22P	3	22.18	17.74
91F7621	97-3100A-18-22S	3	24.28	19.43
91F7622	97-3100A-18-29P	5	42.50	34.00
91F7623	97-3100A-18-29S	5	42.50	34.00
91F7624	97-3100A-20-03P	3	26.62	21.29
91F7625	97-3100A-20-03S	3	35.10	28.08
91F7626	97-3100A-20-04P	4	24.88	19.90
91F7627	97-3100A-20-04S	4	28.67	22.93
91F7628	97-3100A-20-06P	3	43.78	35.02
91F7629	97-3100A-20-06S	3	44.75	35.80
91F7630	97-3100A-20-07P	8	24.88	19.90
91F7631	97-3100A-20-07S	8	27.41	21.93
91F7632	97-3100A-20-08P	6	55.68	44.54
91F7633	97-3100A-20-08S	6	64.98	51.99
91F7634	97-3100A-20-11P	13	47.46	42.71
91F7635	97-3100A-20-11S	13	95.27	76.22
91F7636	97-3100A-20-14P	5	59.26	47.41
91F7637	97-3100A-20-14S	5	75.54	60.44
91F7638	97-3100A-20-15P	7	27.78	22.23

CONTINUED

MS (MIL-C-5015) OR 97 SERIES
3100A WALL MOUNTING RECEPTACLES (CONT.)

Stock No.	Type	Total Contacts	1-4	5-9
91F7639	97-3100A-20-15S	7	37.57	30.06
91F7640	97-3100A-20-16P	9	27.95	22.36
91F7641	97-3100A-20-16S	9	29.75	23.80
91F7642	97-3100A-20-17P	6	31.00	24.80
91F7643	97-3100A-20-17S	6	37.49	29.99
91F7644	97-3100A-20-18P	9	32.57	26.05
91F7645	97-3100A-20-18S	9	35.95	28.76
91F7646	97-3100A-20-19P	3	34.73	27.78
91F7647	97-3100A-20-21P	9	52.89	42.31
91F7648	97-3100A-20-21S	9	55.59	44.47
91F7649	97-3100A-20-23P	2	30.20	24.16
91F7650	97-3100A-20-23S	2	32.76	26.21
91F7651	97-3100A-20-24P	4	53.97	43.18
91F7652	97-3100A-20-24S	4	66.92	53.54
91F7653	97-3100A-20-27P	14	28.67	22.93
91F7654	97-3100A-20-27S	14	31.45	25.16
91F7655	97-3100A-20-29P	17	31.34	25.07
91F7656	97-3100A-20-29S	17	34.47	27.58
91F7657	97-3100A-20-33P	11	34.73	27.78
91F7658	97-3100A-20-33S	11	35.53	28.42
91F7659	97-3100A-22-01P	2	32.02	25.62
91F7660	97-3100A-22-01S	2	37.01	29.61
91F7661	97-3100A-22-02P	3	34.24	27.40
91F7662	97-3100A-22-02S	3	41.45	33.16
91F7663	97-3100A-22-04P	4	61.11	48.89
91F7664	97-3100A-22-04S	4	69.45	55.56
91F7665	97-3100A-22-05P	6	56.87	45.50
91F7666	97-3100A-22-05S	6	57.61	46.09
91F7667	97-3100A-22-08P	2	48.25	38.60
91F7668	97-3100A-22-08S	2	61.06	48.85
91F7669	97-3100A-22-09P	3	50.89	40.72
91F7670	97-3100A-22-09S	3	64.50	51.60
91F7671	97-3100A-22-10P	4	50.89	40.72
91F7672	97-3100A-22-10S	4	52.89	42.31
91F7673	97-3100A-22-11P	2	46.94	37.55
91F7674	97-3100A-22-11S	2	50.89	40.72
91F7675	97-3100A-22-12P	5	61.11	48.89
91F7676	97-3100A-22-12S	5	71.30	57.04
91F7677	97-3100A-22-13P	5	56.59	45.27
91F7678	97-3100A-22-13S	5	59.63	47.71
91F7679	97-3100A-22-14P	19	34.98	27.99
91F7680	97-3100A-22-14S	19	39.74	31.79
91F7681	97-3100A-22-15P	6	60.60	48.48
91F7682	97-3100A-22-15S	6	73.52	58.82
91F7683	97-3100A-22-16P	9	36.58	29.26
91F7684	97-3100A-22-16S	9	37.01	29.61
91F7685	97-3100A-22-18P	8	32.34	25.87
91F7686	97-3100A-22-18S	8	32.76	26.21
91F7687	97-3100A-22-19P	14	34.30	27.44
91F7688	97-3100A-22-19S	14	34.98	27.99
91F7689	97-3100A-22-20P	9	33.36	26.69
91F7690	97-3100A-22-20S	9	35.10	28.08
91F7691	97-3100A-22-22P	4	39.37	31.49
91F7692	97-3100A-22-22S	4	49.47	39.58
91F7693	97-3100A-22-23P	8	37.49	29.99
91F7694	97-3100A-22-23S	8	48.08	38.46
91F7697	97-3100A-22-27P	9	37.01	29.61
91F7698	97-3100A-22-27S	9	39.99	32.00
91F7699	97-3100A-22-28P	7	61.94	49.55
91F7700	97-3100A-22-28S	7	85.53	68.43
91F7701	97-3100A-22-34P	5	56.59	45.27
91F7702	97-3100A-22-34S	5	59.38	47.50
91F7703	97-3100A-24-02P	7	35.27	28.22
91F7704	97-3100A-24-02S	7	42.58	34.07
91F7705	97-3100A-24-05P	16	43.95	35.16
93F1251	97-3100A-24-05S	16	47.11	37.69
91F7707	97-3100A-24-06P	8	71.64	57.32
91F7708	97-3100A-24-06S	8	93.02	74.42
91F7709	97-3100A-24-07P	16	40.96	32.77
91F7710	97-3100A-24-07S	16	44.21	35.37
91F7711	97-3100A-24-09P	2	68.11	54.49
91F7712	97-3100A-24-09S	2	75.23	60.19
91F7713	97-3100A-24-10P	7	44.01	35.21
91F7714	97-3100A-24-10S	7	65.87	52.69
91F7715	97-3100A-24-11P	9	43.29	34.64
91F7716	97-3100A-24-11S	9	55.36	44.29
91F7718	97-3100A-24-12S	5	106.23	84.98
91F7720	97-3100A-24-19P	12	76.28	61.03
91F7721	97-3100A-24-19S	12	80.72	64.58
91F7722	97-3100A-24-20P	11	41.02	32.82
91F7723	97-3100A-24-20S	11	41.27	33.02
91F7726	97-3100A-24-22P	4	46.34	37.07
91F7727	97-3100A-24-22S	4	57.58	46.07
91F7728	97-3100A-24-27P	7	61.06	48.85
91F7729	97-3100A-24-27S	7	62.62	50.10

CONTINUED

MS (MIL-C-5015) OR 97 SERIES
3100A WALL MOUNTING RECEPTACLES (CONT.)

Stock No.	Type	Total Contacts	1-4	5-9
91F7730	97-3100A-24-28P	24	42.75	34.20
91F7731	97-3100A-24-28S	24	48.36	38.69
91F7732	97-3100A-28-01P	9	87.53	70.02
91F7733	97-3100A-28-01S	9	112.09	89.67
91F7734	97-3100A-28-02P	14	45.03	36.03
91F7735	97-3100A-28-02S	14	47.85	38.28
91F7736	97-3100A-28-03P	3	80.69	64.56
91F7737	97-3100A-28-03S	3	86.05	68.84
91F7738	97-3100A-28-06P	12	54.57	43.65
91F7739	97-3100A-28-06S	12	61.08	48.87
91F7740	97-3100A-28-08P	12	78.13	62.51
91F7741	97-3100A-28-08S	12	80.69	64.56
91F7742	97-3100A-28-09P	12	82.69	66.15
91F7743	97-3100A-28-09S	12	90.34	72.28
91F7744	97-3100A-28-10P	7	95.61	76.49
91F7745	97-3100A-28-10S	7	120.23	96.18
91F7746	97-3100A-28-11P	22	45.46	36.37
91F7747	97-3100A-28-11S	22	55.05	44.04
91F7748	97-3100A-28-12P	26	47.00	37.60
91F7749	97-3100A-28-12S	26	55.05	44.04
91F7750	97-3100A-28-15P	35	52.94	42.36
91F7751	97-3100A-28-15S	35	60.94	48.75
91F7752	97-3100A-28-16P	20	46.63	37.30
91F7753	97-3100A-28-16S	20	47.00	37.60
91F7754	97-3100A-28-17P	15	77.17	61.73
91F7755	97-3100A-28-17S	15	82.69	66.15
91F7756	97-3100A-28-18P	12	42.90	34.32
91F7757	97-3100A-28-18S	12	46.51	37.21
91F7758	97-3100A-28-19P	10	75.54	60.44
91F7759	97-3100A-28-19S	10	91.71	73.37
91F7760	97-3100A-28-20P	14	45.91	36.73
91F7761	97-3100A-28-20S	14	51.04	40.83
91F7762	97-3100A-28-21P	37	54.71	43.77
91F7763	97-3100A-28-21S	37	61.80	49.44
91F7765	97-3100A-32-05S	2	70.76	56.61
91F7766	97-3100A-32-06P	23	60.94	48.75
91F7767	97-3100A-32-06S	23	86.79	69.43
91F7768	97-3100A-32-07P	35	112.43	89.95
91F7769	97-3100A-32-07S	35	143.60	114.88
91F7770	97-3100A-32-08P	30	63.36	50.69
91F7771	97-3100A-32-08S	30	64.50	51.60
91F7772	97-3100A-32-13P	23	58.64	46.91
91F7773	97-3100A-32-13S	23	66.83	53.47
91F7774	97-3100A-32-17P	4	138.42	110.73
91F7775	97-3100A-32-17S	4	151.68	121.35
91F7776	97-3100A-32-414P	52	98.17	78.54
91F7777	97-3100A-32-414S	52	131.19	104.95
91F7778	97-3100A-36-01P	22	116.16	92.93
91F7779	97-3100A-36-01S	22	145.59	116.47
91F7780	97-3100A-36-05P	4	205.47	164.38
91F7781	97-3100A-36-05S	4	243.39	194.71
91F7782	97-3100A-36-06P	6	116.87	93.50
91F7783	97-3100A-36-06S	6	143.08	114.47
91F7784	97-3100A-36-07P	47	92.39	73.92
91F7785	97-3100A-36-07S	47	101.87	81.50
91F7786	97-3100A-36-08P	47	155.12	124.10
91F7787	97-3100A-36-08S	47	166.11	132.89
91F7788	97-3100A-36-09P	31	184.75	147.80
91F7789	97-3100A-36-09S	31	223.89	179.11
91F7790	97-3100A-36-10P	48	78.50	62.80
91F7791	97-3100A-36-10S	48	84.91	67.93
91F7792	97-3100A-36-15P	35	129.68	103.74
91F7793	97-3100A-36-15S	35	142.49	113.99
91F7794	97-3100A-36-403P	52	184.75	147.80
91F7795	97-3100A-36-403S	52	247.51	198.01

(13926) (ne10163)

MS (MIL-C-5015) OR 97 SERIES
3101A CABLE RECEPTACLES

Solid shell construction. Integral polarizing key on front shell. MS/AN fittings on back shell. *Refer to additional ordering information, drawings, and dimensions on pages 165-168.*

Stock No.	Type	Total Contacts	1-4	5-9
39F3090	97-3101A-10SL-03P	3	20.98	16.79
39F3091	97-3101A-10SL-04P	2	20.07	16.06
92F5511	97-3101A-12S-03P	2	16.65	13.32
91F7797	97-3101A-12S-03S	2	17.71	14.17
91F7798	97-3101A-14S-01P	3	19.36	15.49
92F5539	97-3101A-14S-01S	3	18.70	14.96
93F1206	97-3101A-14S-02P	4	19.24	15.40

CONTINUED

MS (MIL-C-5015) OR 97 SERIES
3101A CABLE RECEPTACLES (CONT.)

Stock No.	Type	Total Contacts	1-4	5-9
93F1215	97-3101A-14S-02S	4	20.35	16.28
91F7802	97-3101A-14S-04P	1	35.70	28.56
91F7803	97-3101A-14S-04S	1	37.03	29.63
93F1201	97-3101A-14S-05P	5	20.75	16.60
93F1199	97-3101A-14S-05S	5	21.66	17.33
93F1231	97-3101A-14S-06P	6	21.66	17.33
93F1203	97-3101A-14S-06S	6	22.18	17.74
91F7808	97-3101A-14S-07P	3	19.36	15.49
92F5637	97-3101A-14S-07S	3	19.64	15.72
91F7809	97-3101A-14S-09P	2	18.28	14.62
91F7811	97-3101A-16-09P	4	25.71	20.57
91F7812	97-3101A-16-09S	4	28.95	23.16
91F7813	97-3101A-16-10P	3	22.20	17.76
91F7814	97-3101A-16-10S	3	24.82	19.86
91F7815	97-3101A-16-11P	2	23.31	18.65
91F7816	97-3101A-16-11S	2	26.27	21.02
93F1220	97-3101A-16S-01P	7	21.75	17.40
93F1205	97-3101A-16S-01S	7	23.77	19.02
91F7822	97-3101A-16S-04P	2	21.58	17.26
91F7823	97-3101A-16S-04S	2	22.75	18.20
91F7824	97-3101A-16S-05P	3	20.64	16.51
91F7825	97-3101A-16S-05S	3	21.24	16.99
91F7826	97-3101A-16S-06P	3	41.05	32.84
91F7827	97-3101A-16S-06S	3	42.73	34.18
93F1238	97-3101A-16S-08P	5	20.50	16.40
92F5615	97-3101A-16S-08S	5	21.12	16.90
92F5595	97-3101A-18-01P	10	26.62	21.29
93F1254	97-3101A-18-01S	10	30.40	24.32
91F7832	97-3101A-18-03P	2	25.71	20.57
91F7833	97-3101A-18-03S	2	31.00	24.80
91F7834	97-3101A-18-04P	4	23.17	18.54
91F7835	97-3101A-18-04S	4	24.82	19.86
91F7836	97-3101A-18-05P	3	24.88	19.90
91F7837	97-3101A-18-05S	3	27.75	22.20
91F7838	97-3101A-18-08P	8	27.95	22.36
91F7839	97-3101A-18-08S	8	29.46	23.57
91F7840	97-3101A-18-09P	7	29.86	23.89
91F7841	97-3101A-18-09S	7	32.02	25.62
91F7842	97-3101A-18-10P	4	25.79	20.63
91F7843	97-3101A-18-10S	4	28.07	22.46
91F7844	97-3101A-18-11P	5	27.07	21.66
91F7845	97-3101A-18-11S	5	27.95	22.36
91F7846	97-3101A-18-12P	6	25.68	20.54
92F5616	97-3101A-18-12S	6	25.79	20.63
91F7847	97-3101A-18-13P	4	53.00	42.40
91F7848	97-3101A-18-13S	4	59.38	47.50
91F7849	97-3101A-18-16P	1	27.75	22.20
91F7850	97-3101A-18-16S	1	32.02	25.62
91F7851	97-3101A-18-19P	10	37.01	29.61
91F7852	97-3101A-18-19S	10	30.49	24.39
91F7853	97-3101A-18-20P	5	27.44	21.95
91F7854	97-3101A-18-20S	5	29.32	23.46
91F7855	97-3101A-18-22P	3	25.71	20.57
91F7856	97-3101A-18-22S	3	27.44	21.95
91F7857	97-3101A-18-29P	5	42.90	34.32
91F7858	97-3101A-18-29S	5	45.97	36.78
91F7859	97-3101A-20-03P	3	28.72	22.98
91F7860	97-3101A-20-03S	3	36.89	29.51
91F7861	97-3101A-20-04P	4	26.84	21.48
91F7862	97-3101A-20-04S	4	30.46	24.37
91F7863	97-3101A-20-06P	3	46.94	37.55
91F7864	97-3101A-20-06S	3	47.88	38.30
91F7865	97-3101A-20-07P	8	26.84	21.48
91F7866	97-3101A-20-07S	8	28.95	23.16
91F7867	97-3101A-20-08P	6	59.38	47.50
91F7868	97-3101A-20-08S	6	68.54	54.83
91F7869	97-3101A-20-11P	13	65.27	52.22
91F7870	97-3101A-20-11S	13	98.54	78.83
91F7871	97-3101A-20-14P	5	61.94	49.55
91F7872	97-3101A-20-14S	5	79.30	63.44
91F7873	97-3101A-20-15P	7	29.32	23.46
91F7890	97-3101A-20-15S	7	34.11	30.70
91F7874	97-3101A-20-16P	9	29.46	23.57
91F7875	97-3101A-20-16S	9	31.45	25.16
91F7876	97-3101A-20-17P	6	32.57	26.05
91F7877	97-3101A-20-17S	6	39.42	31.54
91F7878	97-3101A-20-18P	9	34.73	27.78
91F7879	97-3101A-20-19P	3	36.63	29.31
91F7880	97-3101A-20-19S	3	44.21	35.37
91F7881	97-3101A-20-21P	9	55.68	44.54
91F7882	97-3101A-20-21S	9	59.26	47.41
91F7883	97-3101A-20-23P	2	32.02	25.62
91F7884	97-3101A-20-23S	2	34.79	27.83
91F7885	97-3101A-20-24P	4	56.59	45.27
91F7886	97-3101A-20-24S	4	69.85	55.88

CONTINUED

MS (MIL-C-5015) OR 97 SERIES 3101A CABLE RECEPTACLES (CONT.)

Stock No.	Type	Total Contacts	1-4	5-9
91F7887	97-3101A-20-27P	14	30.46	24.37
92F5548	97-3101A-20-27S	14	31.57	25.26
92F5578	97-3101A-20-29P	17	31.20	24.96
92F5563	97-3101A-20-29S	17	34.24	27.40
91F7888	97-3101A-20-33P	11	36.58	29.26
91F7889	97-3101A-20-33S	11	37.35	29.88
91F7891	97-3101A-22-01P	2	33.36	26.69
91F7892	97-3101A-22-01S	2	38.66	30.93
91F7893	97-3101A-22-02P	3	35.53	28.42
91F7894	97-3101A-22-02S	3	42.90	34.32
91F7895	97-3101A-22-04P	4	64.16	51.33
91F7896	97-3101A-22-04S	4	72.18	57.75
91F7897	97-3101A-22-05P	6	60.52	48.41
91F7898	97-3101A-22-05S	6	60.60	48.48
91F7899	97-3101A-22-08P	2	51.12	40.90
91F7900	97-3101A-22-08S	2	63.76	51.01
91F7901	97-3101A-22-09P	3	53.00	42.40
91F7902	97-3101A-22-09S	3	67.35	53.88
91F7903	97-3101A-22-10P	4	57.30	45.84
91F7904	97-3101A-22-10S	4	65.95	52.76
91F7905	97-3101A-22-11P	2	43.95	35.16
91F7906	97-3101A-22-11S	2	55.45	44.36
91F7907	97-3101A-22-12P	5	64.16	51.33
91F7908	97-3101A-22-12S	5	73.35	58.68
91F7909	97-3101A-22-13P	5	59.60	47.68
91F7910	97-3101A-22-13S	5	65.50	52.40
91F7911	97-3101A-22-14P	19	35.95	28.76
92F5551	97-3101A-22-14S	19	39.31	31.45
91F7912	97-3101A-22-15P	6	63.70	50.96
91F7913	97-3101A-22-15S	6	76.94	61.55
91F7914	97-3101A-22-16P	9	37.57	30.06
91F7915	97-3101A-22-16S	9	38.66	30.93
91F7916	97-3101A-22-18P	8	34.24	27.40
91F7917	97-3101A-22-18S	8	34.73	27.78
91F7918	97-3101A-22-19P	14	35.64	28.51
91F7919	97-3101A-22-19S	14	31.14	28.02
91F7920	97-3101A-22-20P	9	35.10	28.08
91F7921	97-3101A-22-20S	9	36.63	29.31
91F7922	97-3101A-22-22P	4	41.02	32.82
91F7923	97-3101A-22-22S	4	50.87	40.69
91F7924	97-3101A-22-23P	8	39.37	31.49
91F7925	97-3101A-22-23S	8	50.04	40.03
91F7928	97-3101A-22-27P	9	38.66	30.93
91F7929	97-3101A-22-27S	9	41.45	33.16
91F7930	97-3101A-22-28P	7	64.50	51.60
91F7931	97-3101A-22-28S	7	88.41	70.73
91F7932	97-3101A-22-34P	5	59.60	47.68
91F7933	97-3101A-22-34S	5	61.94	49.55
91F7934	97-3101A-24-02P	7	35.53	28.42
91F7935	97-3101A-24-02S	7	42.75	34.20
91F7936	97-3101A-24-05P	16	44.21	35.37
91F7937	97-3101A-24-05S	16	49.53	39.62
91F7938	97-3101A-24-06P	8	71.84	57.48
91F7939	97-3101A-24-06S	8	93.36	74.69
91F7940	97-3101A-24-07P	16	41.02	32.82
91F7941	97-3101A-24-07S	16	44.29	35.43
91F7942	97-3101A-24-09P	2	68.54	54.83
91F7943	97-3101A-24-09S	2	75.54	60.44
91F7944	97-3101A-24-10P	7	57.30	45.84
91F7945	97-3101A-24-10S	7	65.95	52.76
91F7946	97-3101A-24-11P	9	43.95	35.16
91F7947	97-3101A-24-11S	9	55.45	44.36
91F7948	97-3101A-24-12P	5	89.06	71.25
91F7949	97-3101A-24-12S	5	106.25	85.00
91F7951	97-3101A-24-19P	12	76.94	61.55
91F7952	97-3101A-24-19S	12	80.87	64.69
91F7953	97-3101A-24-20P	11	41.19	32.95
91F7954	97-3101A-24-20S	11	41.45	33.16
91F7955	97-3101A-24-21P	10	71.64	57.32
91F7956	97-3101A-24-21S	10	76.94	61.55
91F7957	97-3101A-24-22P	4	46.45	37.16
91F7958	97-3101A-24-22S	4	57.70	46.16
91F7959	97-3101A-24-27P	7	61.11	48.89
91F7960	97-3101A-24-27S	7	63.70	50.96
91F7961	97-3101A-24-28P	24	42.90	34.32
91F7962	97-3101A-24-28S	24	48.73	38.99
91F7963	97-3101A-28-01P	9	96.15	76.92
91F7964	97-3101A-28-01S	9	120.23	96.18
91F7965	97-3101A-28-02P	14	50.04	40.03
91F7966	97-3101A-28-02S	14	52.77	42.22
91F7967	97-3101A-28-03P	3	89.32	71.46
91F7968	97-3101A-28-03S	3	94.10	75.28
91F7969	97-3101A-28-06P	12	59.18	47.34
91F7970	97-3101A-28-06S	12	66.06	52.85
91F7971	97-3101A-28-08P	12	86.79	69.43

CONTINUED

MS (MIL-C-5015) OR 97 SERIES 3101A CABLE RECEPTACLES (CONT.)

Stock No.	Type	Total Contacts	1-4	5-9
91F7972	97-3101A-28-08S	12	89.32	71.46
91F7973	97-3101A-28-09P	12	91.03	72.82
91F7974	97-3101A-28-09S	12	98.71	78.97
91F7975	97-3101A-28-10P	7	102.98	82.39
91F7976	97-3101A-28-10S	7	128.14	102.51
91F7977	97-3101A-28-11P	22	50.04	40.03
91F7978	97-3101A-28-11S	22	59.29	47.43
91F7979	97-3101A-28-12P	26	51.66	41.33
91F7980	97-3101A-28-12S	26	59.29	47.43
91F7981	97-3101A-28-15P	35	57.58	46.07
91F7982	97-3101A-28-15S	35	65.55	52.44
91F7983	97-3101A-28-16P	20	51.12	40.90
91F7984	97-3101A-28-16S	20	51.66	41.33
91F7985	97-3101A-28-17P	15	86.05	68.84
91F7986	97-3101A-28-17S	15	91.03	72.82
91F7987	97-3101A-28-18P	12	47.85	38.28
91F7988	97-3101A-28-18S	12	52.06	41.65
91F7989	97-3101A-28-19P	10	84.31	67.45
91F7990	97-3101A-28-19S	10	100.19	80.15
91F7991	97-3101A-28-20P	14	50.44	40.35
91F7992	97-3101A-28-20S	14	55.36	44.29
91F7993	97-3101A-28-21P	37	59.18	47.34
91F7994	97-3101A-28-21S	37	66.49	53.19
91F7995	97-3101A-32-05P	2	68.11	54.49
91F7997	97-3101A-32-06P	23	65.15	52.12
91F7998	97-3101A-32-06S	23	91.03	72.82
91F7999	97-3101A-32-07P	35	120.23	96.18
91F8000	97-3101A-32-07S	35	151.03	120.82
91F8001	97-3101A-32-08P	30	67.37	53.90
91F8002	97-3101A-32-08S	30	68.17	54.54
91F8003	97-3101A-32-13P	23	63.13	50.51
91F8004	97-3101A-32-13S	23	71.30	57.04
91F8005	97-3101A-32-17P	4	145.82	116.65
91F8006	97-3101A-32-17S	4	159.28	127.42
91F8008	97-3101A-32-414S	52	135.49	108.39
91F8009	97-3101A-36-01P	22	120.03	96.03
91F8010	97-3101A-36-01S	22	149.60	119.68
91F8011	97-3101A-36-05P	4	208.98	167.18
91F8012	97-3101A-36-05S	4	246.55	197.24
91F8013	97-3101A-36-06P	6	118.75	95.00
91F8014	97-3101A-36-06S	6	145.13	116.11
91F8015	97-3101A-36-07P	47	94.07	75.26
91F8019	97-3101A-36-09P	31	188.51	150.81
91F8020	97-3101A-36-09S	31	227.79	182.23
91F8021	97-3101A-36-10P	48	80.30	64.24
91F8022	97-3101A-36-10S	48	86.76	69.41
91F8023	97-3101A-36-15P	35	133.81	107.05
91F8024	97-3101A-36-15S	35	146.24	117.00
91F8025	97-3101A-36-403P	52	188.51	150.81
91F8026	97-3101A-36-403S	52	251.75	201.40

(13935) (ne10164)

MS (MIL-C-5015) OR 97 SERIES 3102A BOX MOUNTING RECEPTACLES

One-piece aluminum die-cast shell. Integral polarizing key on front shell. *Refer to additional ordering information, drawings, and dimensions on pages 165-168.*

Stock No.	Type	Total Contacts	1-4	5-9
39F3092	97-3102A-10SL-03P	3	12.58	10.07
39F3093	97-3102A-10SL-04P	2	11.59	9.27
39F3103	97-3102A-10SL-04P	2	11.59	9.27
93F1213	97-3102A-12S-03P	2	8.09	6.47
93F1193	97-3102A-12S-03S	2	8.68	6.95
39F3106	97-3102A-12SL844P	4	21.44	17.15
93F1194	97-3102A-14S-01P	3	10.51	8.41
93F1182	97-3102A-14S-01S	3	10.56	8.45
66F8815	97-3102A-14S-01S-	3	10.56	8.45
93F1187	97-3102A-14S-02P	4	10.48	8.38
66F8816	97-3102A-14S-02P-	4	10.48	8.38
93F1170	97-3102A-14S-02S	4	11.13	8.91
66F8817	97-3102A-14S-02S-	4	11.13	8.91
91F8036	97-3102A-14S-04P	1	18.25	14.60
91F8037	97-3102A-14S-04S	1	19.56	15.65
93F1178	97-3102A-14S-05P	5	11.76	9.41
66F9320	97-3102A-14S-05P-	5	11.76	9.41
93F1167	97-3102A-14S-05S	5	12.67	10.14
66F9319	97-3102A-14S-05S-	5	12.67	10.14
93F1168	97-3102A-14S-06P	6	12.67	10.14
93F1165	97-3102A-14S-06S	6	13.07	10.46
66F9322	973102A14S06S-621	6	13.07	10.46

CONTINUED

MS (MIL-C-5015) OR 97 SERIES
3102A BOX MOUNTING RECEPTACLES (CONT.)

Stock No.	Type	Total Contacts	1-4	5-9
93F1245	97-3102A-14S-07P	3	10.51	8.41
93F1212	97-3102A-14S-07S	3	10.56	8.45
92F5513	97-3102A-14S-09P	2	10.82	8.66
93F1256	97-3102A-14S-09S	2	9.54	7.63
91F8048	97-3102A-16-09P	4	15.03	12.03
91F8049	97-3102A-16-09S	4	18.56	14.85
93F1255	97-3102A-16-10P	3	15.26	12.21
93F1229	97-3102A-16-10S	3	15.34	12.28
91F8050	97-3102A-16-11P	2	13.07	10.46
92F5520	97-3102A-16-11S	2	16.00	12.80
93F1181	97-3102A-16S-01P	7	12.73	10.18
66F9311	97-3102A-16S-01P-	7	12.73	10.18
93F1173	97-3102A-16S-01S	7	14.89	11.91
66F9310	97-3102A-16S-01S-	7	14.89	11.91
91F8056	97-3102A-16S-04P	2	11.76	9.41
91F8057	97-3102A-16S-04S	2	12.24	9.80
93F1249	97-3102A-16S-05S	3	11.64	9.32
91F8061	97-3102A-16S-06P	3	24.05	19.24
91F8062	97-3102A-16S-06S	3	24.94	19.95
93F1196	97-3102A-16S-08P	5	12.58	10.07
93F1214	97-3102A-16S-08S	5	13.07	10.46
93F1198	97-3102A-18-01P	10	17.37	13.89
66F9312	97-3102A-18-01P-	10	17.37	13.89
93F1191	97-3102A-18-01S	10	19.24	15.40
66F9313	97-3102A-18-01S-	10	19.24	15.40
91F8067	97-3102A-18-03P	2	13.75	11.00
91F8068	97-3102A-18-03S	2	18.76	15.01
93F1197	97-3102A-18-04P	4	12.58	10.07
92F5587	97-3102A-18-04S	4	12.95	10.36
91F8071	97-3102A-18-05P	3	12.58	10.07
91F8072	97-3102A-18-05S	3	15.34	12.28
92F5510	97-3102A-18-08P	8	16.54	13.23
93F1239	97-3102A-18-08S	8	18.96	15.17
91F8075	97-3102A-18-09P	7	17.48	13.98
91F8076	97-3102A-18-09S	7	19.64	15.72
93F1185	97-3102A-18-10P	4	16.11	12.89
93F1257	97-3102A-18-10S	4	18.05	14.44
92F5617	97-3102A-18-11P	5	15.34	12.28
92F5592	97-3102A-18-11S	5	16.54	13.23
93F1228	97-3102A-18-12P	6	14.66	11.73
93F1250	97-3102A-18-12S	6	16.11	12.89
91F8077	97-3102A-18-13P	4	32.28	25.83
91F8078	97-3102A-18-13S	4	37.49	29.99
91F8080	97-3102A-18-16S	1	19.64	15.72
92F5618	97-3102A-18-19P	10	25.05	20.04
93F1226	97-3102A-18-19S	10	19.64	15.72
91F8081	97-3102A-18-20P	5	15.03	12.03
92F5632	97-3102A-18-20S	5	16.85	13.48
92F5573	97-3102A-18-22S	3	14.32	11.46
91F8082	97-3102A-18-29P	5	23.63	18.90
91F8083	97-3102A-18-29S	5	26.76	21.41
91F8084	97-3102A-20-03P	3	16.43	13.14
91F8085	97-3102A-20-03S	3	24.85	19.88
93F1188	97-3102A-20-04P	4	14.98	11.98
92F5603	97-3102A-20-04S	4	23.09	18.47
91F8088	97-3102A-20-06P	3	25.82	20.66
96F4849	97-3102A-20-06S	3	24.99	20.00
93F1270	97-3102A-20-07P	8	15.72	12.57
93F1222	97-3102A-20-07S	8	18.11	14.49
91F8091	97-3102A-20-08P	6	37.49	29.99
91F8092	97-3102A-20-08S	6	46.94	37.55
91F8093	97-3102A-20-11P	13	43.78	35.02
91F8094	97-3102A-20-11S	13	77.17	61.73
91F8095	97-3102A-20-14P	5	40.62	32.50
91F8096	97-3102A-20-14S	5	57.61	46.09
92F5501	97-3102A-20-15P	7	18.28	14.62
92F5608	97-3102A-20-15S	7	27.13	21.70
93F1189	97-3102A-20-16P	9	18.05	14.44
91F8097	97-3102A-20-16S	9	20.64	16.51
91F8099	97-3102A-20-17P	6	20.35	16.28
91F8101	97-3102A-20-17S	6	27.07	21.66
91F8102	97-3102A-20-18P	9	22.18	17.74
91F8103	97-3102A-20-18S	9	25.71	20.57
91F8104	97-3102A-20-19P	3	24.28	19.43
91F8105	97-3102A-20-19S	3	32.02	25.62
91F8106	97-3102A-20-21P	9	34.47	27.58
92F5567	97-3102A-20-21S	9	35.58	28.47
91F8107	97-3102A-20-23P	2	19.64	15.72
91F8108	97-3102A-20-23S	2	22.75	18.20
91F8109	97-3102A-20-24P	4	35.41	28.33
91F8110	97-3102A-20-24S	4	48.36	38.69
93F1172	97-3102A-20-27P	14	19.36	15.49
66F9314	97-3102A-20-27P-	14	19.36	15.49
93F1186	97-3102A-20-27S	14	22.20	17.76
66F9315	97-3102A-20-27S-	14	22.20	17.76

CONTINUED

MS (MIL-C-5015) OR 97 SERIES
3102A BOX MOUNTING RECEPTACLES (CONT.)

Stock No.	Type	Total Contacts	1-4	5-9
93F1171	97-3102A-20-29P	17	21.75	17.40
93F1247	97-3102A-20-29S	17	24.88	19.90
91F8111	97-3102A-20-33P	11	24.28	19.43
92F5549	97-3102A-20-33S	11	23.74	18.99
91F8112	97-3102A-22-01P	2	19.36	15.49
91F8113	97-3102A-22-01S	2	24.88	19.90
91F8114	97-3102A-22-02P	3	21.58	17.26
91F8115	97-3102A-22-02S	3	29.46	23.57
91F8116	97-3102A-22-04P	4	39.94	31.95
91F8117	97-3102A-22-04S	4	48.25	38.60
91F8118	97-3102A-22-05P	6	35.70	28.56
91F8119	97-3102A-22-05S	6	36.95	29.56
91F8120	97-3102A-22-08P	2	26.76	21.41
91F8121	97-3102A-22-08S	2	39.54	31.63
91F8122	97-3102A-22-09P	3	29.32	23.46
91F8123	97-3102A-22-09S	3	43.27	34.61
91F8124	97-3102A-22-10P	4	25.88	23.29
92F5533	97-3102A-22-10S	4	30.17	24.14
91F8125	97-3102A-22-11P	2	25.82	20.66
91F8126	97-3102A-22-11S	2	29.32	23.46
91F8127	97-3102A-22-12P	5	39.94	31.95
91F8128	97-3102A-22-12S	5	50.04	40.03
91F8129	97-3102A-22-13P	5	35.41	28.33
91F8130	97-3102A-22-13S	5	42.38	33.91
93F1230	97-3102A-22-14P	19	23.77	19.02
93F1216	97-3102A-22-14S	19	28.95	23.16
91F8131	97-3102A-22-15P	6	39.42	31.54
91F8132	97-3102A-22-15S	6	52.89	42.31
91F8133	97-3102A-22-16P	9	24.28	19.43
91F8134	97-3102A-22-16S	9	24.88	19.90
91F8136	97-3102A-22-18P	8	20.35	16.28
91F8137	97-3102A-22-18S	8	20.64	16.51
92F5528	97-3102A-22-19P	14	22.20	17.76
93F1263	97-3102A-22-19S	14	23.77	19.02
92F5519	97-3102A-22-20P	9	21.32	17.06
92F5600	97-3102A-22-20S	9	21.75	17.40
92F5521	97-3102A-22-22P	4	25.68	20.54
93F1261	97-3102A-22-22S	4	35.21	28.17
92F5504	97-3102A-22-23P	8	25.22	20.18
92F5614	97-3102A-22-23S	8	34.24	27.40
91F8140	97-3102A-22-27P	9	24.88	19.90
91F8141	97-3102A-22-27S	9	27.75	22.20
91F8142	97-3102A-22-28P	7	40.62	32.50
91F8143	97-3102A-22-28S	7	64.16	51.33
91F8144	97-3102A-22-34P	5	35.41	28.33
91F8145	97-3102A-22-34S	5	37.49	29.99
91F8146	97-3102A-24-02P	7	22.46	17.97
91F8147	97-3102A-24-02S	7	29.86	23.89
92F5602	97-3102A-24-05P	16	28.10	22.48
93F1224	97-3102A-24-05S	16	35.10	28.08
91F8150	97-3102A-24-06P	8	46.20	36.96
91F8151	97-3102A-24-06S	8	68.54	54.83
93F1211	97-3102A-24-07P	16	27.95	22.36
92F5558	97-3102A-24-07S	16	29.86	23.89
91F8154	97-3102A-24-09P	2	43.18	34.55
91F8155	97-3102A-24-09S	2	50.89	40.72
92F5540	97-3102A-24-10P	7	40.82	32.66
92F5564	97-3102A-24-10S	7	51.21	40.97
91F8156	97-3102A-24-11P	9	31.00	24.80
91F8157	97-3102A-24-11S	9	42.58	34.07
91F8158	97-3102A-24-12P	5	63.76	51.01
91F8159	97-3102A-24-12S	5	80.72	64.58
92F5552	97-3102A-24-19P	12	48.90	39.12
92F5594	97-3102A-24-19S	12	53.63	42.90
91F8161	97-3102A-24-20P	11	26.53	21.23
91F8162	97-3102A-24-20S	11	26.93	21.54
93F1253	97-3102A-24-22P	4	30.49	24.39
91F8165	97-3102A-24-22S	4	43.27	34.61
91F8166	97-3102A-24-27P	7	35.70	28.56
91F8167	97-3102A-24-27S	7	37.49	29.99
93F1233	97-3102A-24-28P	24	30.40	24.32
93F1234	97-3102A-24-28S	24	35.64	28.51
91F8168	97-3102A-28-01P	9	64.16	51.33
91F8169	97-3102A-28-01S	9	88.52	70.82
91F8170	97-3102A-28-02P	14	31.45	25.16
92F5522	97-3102A-28-02S	14	33.08	26.46
91F8172	97-3102A-28-03P	3	56.87	45.50
91F8173	97-3102A-28-03S	3	62.28	49.82
91F8174	97-3102A-28-06P	12	41.19	32.95
91F8175	97-3102A-28-06S	12	47.62	38.10
91F8176	97-3102A-28-08P	12	54.57	43.65
91F8177	97-3102A-28-08S	12	56.87	45.50
91F8178	97-3102A-28-09P	12	59.38	47.50
91F8179	97-3102A-28-09S	12	66.92	53.54
91F8180	97-3102A-28-10P	7	74.35	59.48

CONTINUED

MS (MIL-C-5015) OR 97 SERIES
3102A BOX MOUNTING RECEPTACLES (CONT.)

Stock No.	Type	Total Contacts	1-4	5-9
91F8181	97-3102A-28-10S	7	99.48	79.59
92F5634	97-3102A-28-11P	22	33.36	26.69
92F5619	97-3102A-28-11S	22	40.85	32.68
92F5593	97-3102A-28-12P	26	33.59	26.87
93F1264	97-3102A-28-12S	26	42.90	34.32
92F5607	97-3102A-28-15P	35	39.05	31.24
93F1272	97-3102A-28-15S	35	49.04	39.24
93F1240	97-3102A-28-16P	20	33.33	26.67
93F1243	97-3102A-28-16S	20	35.27	28.22
91F8182	97-3102A-28-17P	15	53.91	43.13
91F8183	97-3102A-28-17S	15	59.38	47.50
92F5508	97-3102A-28-18P	12	30.71	24.57
92F5610	97-3102A-28-18S	12	31.77	25.42
91F8184	97-3102A-28-19P	10	52.35	41.88
91F8185	97-3102A-28-19S	10	68.71	54.97
92F5554	97-3102A-28-20P	14	31.83	25.46
92F5544	97-3102A-28-20S	14	37.15	29.72
92F5606	97-3102A-28-21P	37	40.56	32.45
92F5596	97-3102A-28-21S	37	47.82	38.26
91F8186	97-3102A-32-05P	2	48.53	38.83
91F8187	97-3102A-32-05S	2	55.68	44.54
91F8188	97-3102A-32-06P	23	47.96	38.37
91F8189	97-3102A-32-06S	23	73.69	58.96
91F8190	97-3102A-32-07P	35	87.27	69.82
91F8191	97-3102A-32-07S	35	117.70	94.16
91F8192	97-3102A-32-08P	30	50.21	40.17
91F8193	97-3102A-32-08S	30	51.04	40.83
91F8194	97-3102A-32-13P	23	43.95	35.16
91F8195	97-3102A-32-13S	23	52.09	41.67
91F8196	97-3102A-32-17P	4	112.43	89.95
91F8197	97-3102A-32-17S	4	125.95	100.76
91F8199	97-3102A-32-414P	52	83.48	66.79
92F5503	97-3102A-32-414S	52	116.05	92.84
91F8200	97-3102A-36-01P	22	78.13	62.51
91F8201	97-3102A-36-01S	22	107.34	85.87
91F8202	97-3102A-36-05P	4	166.48	133.19
91F8203	97-3102A-36-05S	4	204.68	163.74
91F8204	97-3102A-36-06P	6	94.47	75.58
91F8205	97-3102A-36-06S	6	120.80	96.64
91F8206	97-3102A-36-07P	47	70.22	56.18
91F8207	97-3102A-36-07S	47	79.64	63.71
91F8210	97-3102A-36-09P	31	146.24	117.00
91F8211	97-3102A-36-09S	31	185.69	148.56
92F5553	97-3102A-36-10P	48	56.27	45.02
92F5526	97-3102A-36-10S	48	62.02	49.62
91F8212	97-3102A-36-15P	35	91.40	73.12
91F8213	97-3102A-36-15S	35	104.49	83.59
91F8214	97-3102A-36-403P	52	146.24	117.00
91F8215	97-3102A-36-403S	52	209.57	167.66

(13942) (ne10165)

MS (MIL-C-5015) OR 97 SERIES
3106A SOLID SHELL STRAIGHT PLUGS

Refer to additional ordering information, drawings, and dimensions on pages 165-168.

Stock No.	Type	Total Contacts	1-4	5-9
39F3094	97-3106A-10SL-03S	3	18.76	15.01
39F3095	97-3106A-10SL-04S	2	17.76	14.21
39F3105	97-3106A-10SL-04S	2	17.76	14.21
91F8216	97-3106A-12-05P	1	20.35	16.28
91F8217	97-3106A-12-05S	1	21.78	17.42
93F1184	97-3106A-12S-03P	2	13.61	10.89
66F9316	97-3106A-12S-03P-	2	13.61	10.89
93F1225	97-3106A-12S-03S	2	14.58	11.66
39F3107	973106A12SL844S	4	39.99	32.00
93F1179	97-3106A-14S-01P	3	15.72	12.57
66F9317	97-3106A-14S-01P-	3	15.72	12.57
93F1200	97-3106A-14S-01S	3	16.11	12.89
93F1160	97-3106A-14S-02P	4	15.63	12.50
66F9318	97-3106A-14S-02P-	4	14.86	11.89
93F1166	97-3106A-14S-02S	4	16.85	13.48
66F8805	97-3106A-14S-02S-	4	16.85	13.48
91F8226	97-3106A-14S-04P	1	29.32	23.46
91F8227	97-3106A-14S-04S	1	29.86	23.89
93F1163	97-3106A-14S-05P	5	17.48	13.98
66F8806	97-3106A-14S-05P-	5	17.48	13.98
93F1169	97-3106A-14S-05S	5	18.11	14.49
66F8807	97-3106A-14S-05S-	5	18.11	14.49
93F1161	97-3106A-14S-06P	6	18.11	14.49
66F8808	973106A14S06P-621	6	18.11	14.49

CONTINUED

MS (MIL-C-5015) OR 97 SERIES
3106A SOLID SHELL STRAIGHT PLUGS (CONT.)

Stock No.	Type	Total Contacts	1-4	5-9
93F1192	973106A14S06P-639	6	18.11	14.49
93F1159	97-3106A-14S-06S	6	18.28	14.62
66F8809	973106A14S06S-621	6	18.28	14.62
93F1207	97-3106A-14S-07P	3	15.72	12.57
93F1217	97-3106A-14S-07S	3	16.11	12.89
93F1248	97-3106A-14S-09P	2	15.03	12.03
93F1218	97-3106A-14S-09S	2	15.03	12.03
91F8239	97-3106A-16-09S	4	26.62	21.29
92F5627	97-3106A-16-10P	3	20.35	16.28
92F5591	97-3106A-16-10S	3	21.81	17.45
91F8240	97-3106A-16-11S	2	24.28	19.43
93F1164	97-3106A-16S-01P	7	18.11	14.49
66F8810	973106A16S01P-621	7	18.11	14.49
93F1175	97-3106A-16S-01S	7	20.16	16.13
92F5623	97-3106A-16S-04P	2	16.65	13.32
92F5515	97-3106A-16S-04S	2	17.68	14.14
93F1259	97-3106A-16S-05P	3	16.85	13.48
92F5502	97-3106A-16S-05S	3	16.65	13.32
91F8250	97-3106A-16S-06P	3	34.10	27.28
91F8251	97-3106A-16S-06S	3	35.44	28.35
93F1183	97-3106A-16S-08P	5	17.59	14.08
93F1176	97-3106A-16S-08S	5	18.25	14.60
66F8812	973106A16S08S-621	5	18.25	14.60
93F1174	97-3106A-18-01P	10	23.77	19.02
66F8871	973106A1801P-621	10	23.77	19.02
93F1162	97-3106A-18-01S	10	26.27	21.02
66F8813	973106A1801S-621	10	26.27	21.02
91F8258	97-3106A-18-03P	2	21.29	17.04
91F8259	97-3106A-18-03S	2	26.27	21.02
91F8260	97-3106A-18-04P	4	19.13	15.31
91F8261	97-3106A-18-04S	4	20.64	16.51
91F8262	97-3106A-18-05P	3	20.35	16.28
91F8263	97-3106A-18-05S	3	22.89	18.31
91F8264	97-3106A-18-08P	8	23.77	19.02
92F5505	97-3106A-18-08S	8	24.45	19.56
91F8266	97-3106A-18-09P	7	24.91	19.93
91F8267	97-3106A-18-09S	7	27.07	21.66
92F5626	97-3106A-18-10P	4	22.89	18.31
92F5604	97-3106A-18-10S	4	24.45	19.56
93F1227	97-3106A-18-11P	5	22.89	18.31
93F1232	97-3106A-18-11S	5	23.77	19.02
93F1221	97-3106A-18-12P	6	21.58	17.26
93F1236	97-3106A-18-12S	6	22.89	18.31
91F8269	97-3106A-18-13P	4	45.12	36.09
91F8270	97-3106A-18-13S	4	51.12	40.90
91F8271	97-3106A-18-16P	1	22.89	18.31
91F8272	97-3106A-18-16S	1	27.07	21.66
93F1204	97-3106A-18-19P	10	32.76	26.21
92F5605	97-3106A-18-19S	10	25.22	20.18
92F5545	97-3106A-18-20P	5	21.75	17.40
91F8273	97-3106A-18-20S	5	24.31	19.45
92F5506	97-3106A-18-22P	3	21.29	17.04
91F8274	97-3106A-18-22S	3	22.83	18.27
91F8275	97-3106A-18-29P	5	37.06	29.65
91F8276	97-3106A-18-29S	5	39.94	31.95
91F8277	97-3106A-20-03P	3	29.49	23.59
91F8278	097-3106A-20-03S	3	32.53	29.27
91F8279	97-3106A-20-04P	4	27.78	22.23
91F8280	97-3106A-20-04S	4	38.34	30.68
96F6021	97-3106A-20-06P	3	44.72	35.78
91F8281	97-3106A-20-06S	3	50.04	40.03
91F8282	97-3106A-20-07P	8	27.78	22.23
91F8283	97-3106A-20-07S	8	29.86	23.89
91F8284	97-3106A-20-08P	6	61.06	48.85
91F8285	97-3106A-20-08S	6	69.85	55.88
91F8286	97-3106A-20-11P	13	67.35	53.88
91F8287	97-3106A-20-11S	13	99.94	79.95
91F8288	97-3106A-20-14P	5	63.76	51.01
91F8289	97-3106A-20-14S	5	80.69	64.56
92F5628	97-3106A-20-15P	7	30.46	24.37
92F5624	97-3106A-20-15S	7	38.37	30.70
92F5531	97-3106A-20-16P	9	29.04	23.23
92F5529	97-3106A-20-16S	9	31.17	24.94
91F8291	97-3106A-20-17P	6	34.10	27.28
91F8292	97-3106A-20-17S	6	40.31	32.25
92F5559	97-3106A-20-18P	9	33.82	27.05
92F5580	97-3106A-20-18S	9	37.26	29.81
91F8293	97-3106A-20-19P	3	37.35	29.88
91F8294	97-3106A-20-19S	3	45.09	36.07
91F8295	97-3106A-20-21P	9	57.61	46.09
91F8296	97-3106A-20-21S	9	60.60	48.48
91F8297	97-3106A-20-23P	2	32.76	26.21
91F8298	97-3106A-20-23S	2	35.72	28.58
91F8299	97-3106A-20-24P	4	59.26	47.41
91F8300	97-3106A-20-24S	4	71.84	57.48
93F1180	97-3106A-20-27P	14	31.37	25.10

CONTINUED

MS (MIL-C-5015) OR 97 SERIES 3106A SOLID SHELL STRAIGHT PLUGS (CONT.)

Stock No.	Type	Total Contacts	1-4	5-9
66F8872	973106A2027P-621	14	31.37	25.10
93F1190	97-3106A-20-27S	14	33.73	26.99
66F8873	973106A2027S-621	14	33.73	26.99
93F1258	97-3106A-20-29P	17	33.39	26.71
93F1195	97-3106A-20-29S	17	37.03	29.63
92F5622	97-3106A-20-33P	11	35.58	28.47
92F5633	97-3106A-20-33S	11	38.40	30.72
91F8303	97-3106A-22-01P	2	32.02	25.62
91F8304	97-3106A-22-01S	2	37.01	29.61
91F8305	97-3106A-22-02P	3	34.24	27.40
91F8306	97-3106A-22-02S	3	41.45	33.16
91F8307	97-3106A-22-04P	4	61.11	48.89
91F8308	97-3106A-22-04S	4	69.45	55.56
91F8309	97-3106A-22-05P	6	56.87	45.50
91F8310	97-3106A-22-05S	6	57.61	46.09
91F8311	97-3106A-22-08P	2	48.25	38.60
91F8312	97-3106A-22-08S	2	61.06	48.85
91F8313	97-3106A-22-09P	3	50.89	40.72
91F8314	97-3106A-22-09S	3	64.50	51.60
92F5611	97-3106A-22-10P	4	48.48	38.78
91F8315	97-3106A-22-10S	4	52.89	42.31
91F8316	97-3106A-22-11P	2	46.94	37.55
91F8317	97-3106A-22-11S	2	50.89	40.72
91F8318	97-3106A-22-12P	5	61.11	48.89
91F8319	97-3106A-22-12S	5	71.30	57.04
91F8320	97-3106A-22-13P	5	56.59	45.27
91F8321	97-3106A-22-13S	5	63.70	50.96
93F1219	97-3106A-22-14P	19	34.98	27.99
93F1235	97-3106A-22-14S	19	39.74	31.79
91F8322	97-3106A-22-15P	6	60.60	48.48
91F8323	97-3106A-22-15S	6	73.52	58.82
91F8324	97-3106A-22-16P	9	36.58	29.26
91F8325	97-3106A-22-16S	9	37.01	29.61
91F8326	97-3106A-22-18P	8	32.34	25.87
91F8327	97-3106A-22-18S	8	32.76	26.21
92F5598	97-3106A-22-19P	14	32.68	26.14
92F5546	97-3106A-22-19S	14	33.33	26.67
92F5584	97-3106A-22-20P	9	31.77	25.42
91F8328	97-3106A-22-20S	9	35.10	28.08
91F8329	97-3106A-22-22P	4	39.37	31.49
92F5560	97-3106A-22-22S	4	47.11	37.69
92F5609	97-3106A-22-23P	8	35.70	28.56
92F5547	97-3106A-22-23S	8	45.80	36.64
91F8333	97-3106A-22-27P	9	37.01	29.61
91F8334	97-3106A-22-27S	9	39.99	32.00
91F8335	97-3106A-22-28P	7	61.94	49.55
91F8336	97-3106A-22-28S	7	85.53	68.43
91F8337	97-3106A-22-34P	5	56.59	45.27
91F8338	97-3106A-22-34S	5	59.38	47.50
92F5574	97-3106A-24-02P	7	33.99	27.19
91F8340	97-3106A-24-02S	7	43.12	34.50
91F8341	97-3106A-24-05P	16	44.52	35.62
92F5620	97-3106A-24-05S	16	47.76	38.21
91F8343	97-3106A-24-06P	8	72.70	58.16
91F8344	97-3106A-24-06S	8	94.10	75.28
92F5575	97-3106A-24-07P	16	39.45	31.56
91F8347	97-3106A-24-09P	2	69.03	55.22
91F8348	97-3106A-24-09S	2	76.94	61.55
92F5550	97-3106A-24-10P	7	54.96	43.97
92F5530	97-3106A-24-10S	7	63.02	50.42
92F5565	97-3106A-24-11P	9	42.19	33.75
91F8349	97-3106A-24-11S	9	56.05	44.84
91F8350	97-3106A-24-12P	5	90.06	72.05
91F8351	97-3106A-24-12S	5	107.34	85.87
92F5589	97-3106A-24-19P	12	73.78	59.02
91F8353	97-3106A-24-19S	12	82.69	66.15
91F8354	97-3106A-24-20P	11	41.45	33.16
91F8355	97-3106A-24-20S	11	41.90	33.52
91F8358	97-3106A-24-22P	4	47.48	37.98
91F8359	97-3106A-24-22S	4	58.27	46.61
92F5534	97-3106A-24-27P	7	59.32	47.46
91F8360	97-3106A-24-27S	7	64.16	51.33
93F1202	97-3106A-24-28P	24	43.29	34.64
92F5586	97-3106A-24-28S	24	46.71	37.37
91F8361	97-3106A-28-01P	9	90.60	72.48
91F8362	97-3106A-28-01S	9	115.25	92.20
91F8363	97-3106A-28-02P	14	46.51	37.21
91F8364	97-3106A-28-02S	14	50.04	40.03
91F8365	97-3106A-28-03P	3	83.65	66.93
91F8366	97-3106A-28-03S	3	89.06	71.25
91F8367	97-3106A-28-06P	12	56.30	45.04
91F8368	97-3106A-28-06S	12	62.62	50.10
91F8369	97-3106A-28-08P	12	80.72	64.58
91F8370	97-3106A-28-08S	12	83.65	66.93
91F8371	97-3106A-28-09P	12	86.05	68.84

CONTINUED

MS (MIL-C-5015) OR 97 SERIES 3106A SOLID SHELL STRAIGHT PLUGS (CONT.)

Stock No.	Type	Total Contacts	1-4	5-9
91F8372	97-3106A-28-09S	12	93.36	74.69
91F8373	97-3106A-28-10P	7	98.23	78.58
91F8374	97-3106A-28-10S	7	123.02	98.42
92F5527	97-3106A-28-11P	22	44.72	35.78
92F5636	97-3106A-28-11S	22	56.73	45.38
92F5583	97-3106A-28-12P	26	46.65	37.32
92F5588	97-3106A-28-12S	26	54.03	43.22
93F1265	97-3106A-28-15P	35	54.71	43.77
92F5613	97-3106A-28-15S	35	60.14	48.12
93F1268	97-3106A-28-16P	20	48.36	38.69
92F5597	97-3106A-28-16S	20	46.65	37.32
91F8375	97-3106A-28-17P	15	80.52	64.42
91F8376	97-3106A-28-17S	15	86.05	68.84
93F1271	97-3106A-28-18P	12	45.03	36.03
92F5576	97-3106A-28-18S	12	46.23	36.98
91F8377	97-3106A-28-19P	10	79.30	63.44
91F8378	97-3106A-28-19S	10	95.27	76.22
92F5535	97-3106A-28-20P	14	45.37	36.30
91F8379	97-3106A-28-20S	14	52.66	42.13
92F5585	97-3106A-28-21P	37	51.55	41.24
92F5629	97-3106A-28-21S	37	63.73	50.99
91F8380	97-3106A-32-05P	2	74.40	59.52
91F8381	97-3106A-32-05S	2	81.41	65.13
91F8382	97-3106A-32-06P	23	70.76	56.61
91F8383	97-3106A-32-06S	23	96.66	77.33
91F8384	97-3106A-32-07P	35	131.93	105.54
91F8385	97-3106A-32-07S	35	162.78	130.23
91F8386	97-3106A-32-08P	30	72.95	58.36
91F8387	97-3106A-32-08S	30	73.81	59.05
91F8388	97-3106A-32-13P	23	69.22	55.38
91F8389	97-3106A-32-13S	23	77.93	62.35
91F8390	97-3106A-32-17P	4	157.83	126.26
92F5536	97-3106A-32-414P	52	103.69	82.96
91F8393	97-3106A-32-414S	52	141.97	113.58
91F8394	97-3106A-36-01P	22	131.93	105.54
91F8395	97-3106A-36-01S	22	161.07	128.86
91F8396	97-3106A-36-05P	4	220.19	176.15
91F8397	97-3106A-36-05S	4	257.99	206.39
91F8398	97-3106A-36-06P	6	125.49	100.40
91F8399	97-3106A-36-06S	6	151.68	121.35
91F8400	97-3106A-36-07P	47	100.73	80.59
91F8401	97-3106A-36-07S	47	110.69	88.56
91F8404	97-3106A-36-09P	31	200.24	160.19
91F8405	97-3106A-36-09S	31	239.15	191.32
92F5541	97-3106A-36-10P	48	82.29	65.83
92F5571	97-3106A-36-10S	48	88.18	70.55
91F8406	97-3106A-36-15P	35	145.30	116.24
91F8407	97-3106A-36-15S	35	158.17	126.54
91F8408	97-3106A-36-403P	52	200.24	160.19
91F8409	97-3106A-36-403S	52	263.20	210.56

(13944) (ne10166)

MS (MIL-C-5015) OR 97 SERIES 3106B SPLIT SHELL STRAIGHT PLUGS

Refer to additional ordering information, drawings, and dimensions on pages 165-168.

Stock No.	Type	Total Contacts	1-4	10-24
91F8410	97-3106B-14S-01P	3	19.81	11.89
91F8411	97-3106B-14S-01S	3	19.87	11.92
91F8412	97-3106B-14S-02P	4	19.70	11.82
91F8413	97-3106B-14S-02S	4	20.78	12.47
91F8414	97-3106B-14S-04P	1	36.44	21.86
91F8415	97-3106B-14S-04S	1	38.06	22.84
91F8416	97-3106B-14S-05P	5	21.21	12.73
92F5581	97-3106B-14S-05S	5	21.21	12.73
93F1237	97-3106B-14S-06P	6	21.21	12.73
91F8419	97-3106B-14S-06S	6	22.43	13.46
91F8420	97-3106B-14S-07P	3	19.81	11.89
91F8421	97-3106B-14S-07S	3	19.87	11.92
91F8422	97-3106B-14S-09P	2	18.79	11.28
91F8423	97-3106B-14S-09S	2	18.82	11.29
92F5532	97-3106B-16S-01P	7	22.72	13.63
92F5577	97-3106B-16S-01S	7	24.37	14.62
91F8426	97-3106B-16S-04P	2	24.00	14.40
91F8427	97-3106B-16S-04S	2	25.02	15.01
91F8428	97-3106B-16S-05P	3	22.83	13.70
91F8429	97-3106B-16S-05S	3	23.12	13.87
91F8430	97-3106B-16S-06P	3	44.60	26.76
91F8431	97-3106B-16S-06S	3	44.38	26.63
91F8432	97-3106B-16S-08P	5	23.34	14.01

CONTINUED

MS (MIL-C-5015) OR 97 SERIES 3106B SPLIT SHELL STRAIGHT PLUGS (CONT.)

Stock No.	Type	Total Contacts	1-4	10-24
91F8433	97-3106B-16S-08S	5	24.00	14.40
92F5542	97-3106B-18-01P	10	27.93	16.76
92F5590	97-3106B-18-01S	10	29.92	17.95
91F8436	97-3106B-18-03P	2	27.01	16.21
91F8437	97-3106B-18-03S	2	32.34	19.40
91F8438	97-3106B-18-04P	4	24.42	14.66
91F8439	97-3106B-18-04S	4	25.56	15.34
91F8440	97-3106B-18-05P	3	25.96	15.58
91F8441	97-3106B-18-05S	3	28.72	17.23
91F8442	97-3106B-18-08P	8	29.32	17.59
91F8443	97-3106B-18-08S	8	31.34	18.81
91F8444	97-3106B-18-09P	7	31.34	18.81
91F8445	97-3106B-18-09S	7	33.22	19.93
91F8446	97-3106B-18-10P	4	28.64	17.18
91F8447	97-3106B-18-10S	4	31.34	18.81
91F8448	97-3106B-18-11P	5	28.64	17.18
91F8449	97-3106B-18-11S	5	29.32	17.59
91F8450	97-3106B-18-12P	6	27.01	16.21
91F8451	97-3106B-18-12S	6	28.64	17.18
91F8452	97-3106B-18-13P	4	55.88	33.53
91F8453	97-3106B-18-13S	4	62.34	37.40
91F8454	97-3106B-18-16P	1	28.72	17.23
91F8455	97-3106B-18-16S	1	33.22	19.93
91F8456	97-3106B-18-19P	10	38.34	23.01
91F8457	97-3106B-18-19S	10	32.17	19.30
91F8458	97-3106B-18-20P	5	28.67	17.20
91F8459	97-3106B-18-20S	5	30.37	18.23
91F8460	97-3106B-18-22P	3	27.01	16.21
91F8461	97-3106B-18-22S	3	28.67	17.20
91F8462	97-3106B-18-29P	5	46.45	27.87
91F8463	97-3106B-18-29S	5	50.01	30.01
91F8464	97-3106B-20-03P	3	34.39	20.63
91F8465	97-3106B-20-03S	3	43.01	25.81
91F8466	97-3106B-20-04P	4	32.25	19.35
91F8467	97-3106B-20-04S	4	35.95	21.57
91F8468	97-3106B-20-06P	3	57.18	34.31
91F8469	97-3106B-20-06S	3	57.95	34.77
91F8470	97-3106B-20-07P	8	32.25	19.35
91F8471	97-3106B-20-07S	8	34.39	20.63
91F8472	97-3106B-20-08P	6	70.08	42.05
91F8473	97-3106B-20-08S	6	79.19	47.51
91F8474	97-3106B-20-11P	13	75.71	45.43
91F8475	97-3106B-20-11S	13	110.27	66.16
91F8476	97-3106B-20-14P	5	72.10	43.26
91F8477	97-3106B-20-14S	5	90.12	54.07
92F5568	97-3106B-20-15P	7	31.28	18.77
91F8478	97-3106B-20-15S	7	43.01	25.81
91F8479	97-3106B-20-16P	9	33.08	19.85
91F8480	97-3106B-20-16S	9	35.04	21.03
91F8481	97-3106B-20-17P	6	36.66	22.00
91F8482	97-3106B-20-17S	6	43.55	26.13
91F8483	97-3106B-20-18P	9	38.68	23.21
91F8484	97-3106B-20-18S	9	42.07	25.24
91F8485	97-3106B-20-19P	3	40.42	24.25
91F8486	97-3106B-20-19S	3	48.13	28.88
91F8487	97-3106B-20-21P	9	63.25	37.95
91F8488	97-3106B-20-21S	9	66.04	39.62
91F8489	97-3106B-20-23P	2	36.18	21.71
91F8490	97-3106B-20-23S	2	38.85	23.31
91F8491	97-3106B-20-24P	4	63.96	38.38
91F8492	97-3106B-20-24S	4	76.77	46.06
92F5582	97-3106B-20-27P	14	32.71	19.63
91F8493	97-3106B-20-27S	14	36.61	21.97
92F5555	97-3106B-20-29P	17	34.64	20.79
92F5621	97-3106B-20-29S	17	38.17	22.90
91F8494	97-3106B-20-33P	11	40.42	24.25
91F8495	97-3106B-20-33S	11	41.39	24.83
91F8496	97-3106B-22-01P	2	35.81	21.49
91F8497	97-3106B-22-01S	2	40.99	24.60
91F8498	97-3106B-22-02P	3	38.26	22.96
91F8499	97-3106B-22-02S	3	45.46	27.28
91F8500	97-3106B-22-04P	4	68.46	41.07
91F8501	97-3106B-22-04S	4	76.68	46.01
91F8502	97-3106B-22-05P	6	64.16	38.50
91F8503	97-3106B-22-05S	6	64.50	38.70
91F8504	97-3106B-22-08P	2	55.51	33.31
91F8505	97-3106B-22-08S	2	68.06	40.84
91F8506	97-3106B-22-09P	3	58.24	34.94
91F8507	97-3106B-22-09S	3	71.36	42.82
91F8508	97-3106B-22-10P	4	58.24	34.94
91F8509	97-3106B-22-10S	4	59.86	35.92
91F8510	97-3106B-22-11P	2	54.48	32.69
91F8511	97-3106B-22-11S	2	58.24	34.94
91F8512	97-3106B-22-12P	5	68.46	41.07
91F8513	97-3106B-22-12S	5	78.28	46.97

CONTINUED

MS (MIL-C-5015) OR 97 SERIES 3106B SPLIT SHELL STRAIGHT PLUGS (CONT.)

Stock No.	Type	Total Contacts	1-4	10-24
91F8514	97-3106B-22-13P	5	63.96	38.38
91F8515	97-3106B-22-13S	5	70.39	42.24
92F5572	97-3106B-22-14P	19	36.44	21.86
91F8516	97-3106B-22-14S	19	43.49	26.10
91F8518	97-3106B-22-15P	6	67.72	40.63
91F8519	97-3106B-22-15S	6	81.12	48.67
91F8520	97-3106B-22-16P	9	40.42	24.25
91F8521	97-3106B-22-16S	9	40.99	24.60
91F8522	97-3106B-22-18P	8	36.61	21.97
91F8523	97-3106B-22-18S	8	36.81	22.08
91F8524	97-3106B-22-19P	14	37.94	22.77
91F8525	97-3106B-22-19S	14	38.26	22.96
91F8526	97-3106B-22-20P	9	37.69	22.61
91F8527	97-3106B-22-20S	9	39.23	23.54
91F8528	97-3106B-22-22P	4	43.41	26.05
91F8529	97-3106B-22-22S	4	45.85	33.02
91F8530	97-3106B-22-23P	8	41.42	24.85
91F8531	97-3106B-22-23S	8	52.09	31.26
91F8534	97-3106B-22-27P	9	40.99	24.60
91F8535	97-3106B-22-27S	9	44.06	26.44
91F8536	97-3106B-22-28P	7	68.71	41.23
91F8537	97-3106B-22-28S	7	91.82	55.10
91F8538	97-3106B-22-34P	5	63.96	38.38
91F8539	97-3106B-22-34S	5	66.78	40.07
91F8540	97-3106B-24-02P	7	37.37	22.43
91F8541	97-3106B-24-02S	7	43.69	26.22
91F8542	97-3106B-24-05P	16	52.35	31.41
91F8543	97-3106B-24-05S	16	57.84	34.71
91F8544	97-3106B-24-06P	8	34.52	24.85
91F8545	97-3106B-24-06S	8	107.54	64.52
91F8546	97-3106B-24-07P	16	48.50	29.10
91F8547	97-3106B-24-07S	16	51.66	31.00
91F8548	97-3106B-24-09P	2	82.55	49.53
91F8549	97-3106B-24-09S	2	89.89	53.93
91F8550	97-3106B-24-10P	7	65.32	39.20
91F8551	97-3106B-24-10S	7	73.29	43.98
91F8552	97-3106B-24-11P	9	53.63	32.18
91F8553	97-3106B-24-11S	9	65.55	39.33
91F8554	97-3106B-24-12P	5	108.53	65.12
91F8555	97-3106B-24-12S	5	126.69	76.02
91F8557	97-3106B-24-19P	12	95.75	57.45
91F8558	97-3106B-24-19S	12	100.88	60.53
91F8559	97-3106B-24-20P	11	51.95	31.17
91F8560	97-3106B-24-20S	11	52.38	31.43
91F8563	97-3106B-24-22P	4	57.90	34.74
91F8564	97-3106B-24-22S	4	69.14	41.48
91F8565	97-3106B-24-27P	7	79.70	47.82
91F8566	97-3106B-24-27S	7	82.17	49.31
91F8567	97-3106B-24-28P	24	52.63	31.58
91F8568	97-3106B-24-28S	24	58.64	35.18
91F8569	97-3106B-28-01P	9	101.67	61.00
91F8570	97-3106B-28-01S	9	126.92	76.15
91F8571	97-3106B-28-02P	14	52.86	31.72
91F8572	97-3106B-28-02S	14	56.22	33.73
91F8573	97-3106B-28-03P	3	94.41	56.65
91F8574	97-3106B-28-03S	3	99.85	59.91
91F8575	97-3106B-28-06P	12	62.79	37.68
91F8576	97-3106B-28-06S	12	69.57	41.74
91F8577	97-3106B-28-08P	12	91.99	55.20
91F8578	97-3106B-28-08S	12	94.41	56.65
91F8579	97-3106B-28-09P	12	96.41	57.84
91F8580	97-3106B-28-09S	12	104.49	62.69
91F8581	97-3106B-28-10P	7	108.76	65.26
91F8582	97-3106B-28-10S	7	150.48	90.29
91F8583	97-3106B-28-11P	22	52.72	31.63
91F8584	97-3106B-28-11S	22	45.91	35.12
91F8585	97-3106B-28-12P	26	48.65	29.19
91F8586	97-3106B-28-12S	26	62.65	37.59
91F8587	97-3106B-28-15P	35	60.80	36.48
91F8588	97-3106B-28-15S	35	68.71	41.23
91F8589	97-3106B-28-16P	20	54.20	32.52
91F8590	97-3106B-28-16S	20	54.42	32.66
91F8591	97-3106B-28-17P	15	91.03	54.62
91F8592	97-3106B-28-17S	15	96.41	57.84
91F8593	97-3106B-28-18P	12	50.98	30.59
91F8594	97-3106B-28-18S	12	55.02	33.01
91F8595	97-3106B-28-19P	10	89.77	53.87
91F8596	97-3106B-28-19S	10	105.86	63.51
91F8597	97-3106B-28-20P	14	53.06	31.84
91F8598	97-3106B-28-20S	14	58.41	35.05
91F8599	97-3106B-28-21P	37	62.05	37.23
91F8600	97-3106B-28-21S	37	69.74	41.84
91F8601	97-3106B-32-05P	2	76.94	46.16
91F8602	97-3106B-32-05S	2	84.74	50.84
91F8603	97-3106B-32-06P	23	73.29	43.98

CONTINUED

MS (MIL-C-5015) OR 97 SERIES 3106B SPLIT SHELL STRAIGHT PLUGS (CONT.)

Stock No.	Type	Total Contacts	1-4	10-24
91F8604	97-3106B-32-06S	23	99.94	59.96
91F8605	97-3106B-32-07P	35	136.85	82.11
91F8606	97-3106B-32-07S	35	168.10	100.86
91F8607	97-3106B-32-08P	30	75.63	45.38
91F8608	97-3106B-32-08S	30	76.68	46.01
91F8609	97-3106B-32-13P	23	72.18	43.31
91F8610	97-3106B-32-13S	23	80.72	48.44
91F8611	97-3106B-32-17P	4	163.09	97.86
91F8612	97-3106B-32-17S	4	176.56	105.94
91F8613	97-3106B-32-414P	52	112.63	67.58
91F8614	97-3106B-32-414S	52	146.44	87.87
91F8615	97-3106B-36-01P	22	138.64	83.19
91F8616	97-3106B-36-01S	22	168.87	101.32
91F8617	97-3106B-36-05P	4	229.98	137.99
91F8618	97-3106B-36-05S	4	268.35	161.01
91F8619	97-3106B-36-06P	6	131.19	78.71
91F8620	97-3106B-36-06S	6	158.23	94.94
91F8621	97-3106B-36-07P	47	105.86	63.51
91F8622	97-3106B-36-07S	47	115.87	69.53
91F8625	97-3106B-36-09P	31	209.26	125.56
91F8626	97-3106B-36-09S	31	249.05	149.43
91F8627	97-3106B-36-10P	48	90.57	54.34
91F8628	97-3106B-36-10S	48	97.17	58.31
91F8629	97-3106B-36-15P	35	152.68	91.61
91F8630	97-3106B-36-15S	35	165.85	99.51
91F8631	97-3106B-36-403P	52	209.26	125.56
91F8632	97-3106B-36-403S	52	274.55	164.73

(13945) (ne10167)

MS (MIL-C-5015) OR 97 SERIES 3108A SOLID SHELL ANGLE PLUGS

Refer to additional ordering information, drawings, and dimensions on pages 165-168.

Stock No.	Type	Total Contacts	1-4	5-9
39F3096	97-3108A-10SL-03S	3	32.88	26.30
39F3097	97-3108A-10SL-04S	2	31.83	25.46
91F8637	97-3108A-14S-01P	3	32.88	26.30
91F8638	97-3108A-14S-01S	3	33.13	26.51
91F8639	97-3108A-14S-02P	4	32.76	26.21
93F1267	97-3108A-14S-02S	4	31.83	25.46
91F8641	97-3108A-14S-04P	1	62.28	49.82
91F8642	97-3108A-14S-04S	1	63.70	50.96
91F8643	97-3108A-14S-05P	5	34.30	27.44
91F8644	97-3108A-14S-05S	5	35.21	28.17
91F8645	97-3108A-14S-06P	6	35.21	28.17
92F5537	97-3108A-14S-06S	6	33.82	27.05
91F8647	97-3108A-14S-07P	3	32.88	26.30
91F8648	97-3108A-14S-07S	3	33.13	26.51
91F8649	97-3108A-14S-09P	2	32.02	25.62
91F8650	97-3108A-14S-09S	2	32.08	25.67
91F8651	97-3108A-16-09P	4	46.06	36.85
91F8652	97-3108A-16-09S	4	48.53	38.83
91F8653	97-3108A-16-10P	3	40.22	32.18
91F8654	97-3108A-16-10S	3	42.58	34.07
91F8655	97-3108A-16-11P	2	43.27	34.61
91F8656	97-3108A-16-11S	2	46.31	37.05
92F5524	97-3108A-16S-01P	7	40.36	32.29
92F5507	97-3108A-16S-01S	7	42.19	33.75
91F8662	97-3108A-16S-04P	2	44.52	35.62
91F8663	97-3108A-16S-04S	2	45.52	36.41
91F8664	97-3108A-16S-05P	3	41.02	32.82
91F8665	97-3108A-16S-05S	3	41.42	33.13
91F8666	97-3108A-16S-06P	3	80.69	64.56
91F8667	97-3108A-16S-06S	3	83.85	67.08
91F8668	97-3108A-16S-08P	5	41.45	33.16
91F8669	97-3108A-16S-08S	5	42.41	33.93
92F5566	97-3108A-18-01P	10	46.06	36.85
91F8671	97-3108A-18-01S	10	50.55	40.44
91F8672	97-3108A-18-03P	2	48.36	38.69
91F8673	97-3108A-18-03S	2	53.74	42.99
91F8674	97-3108A-18-04P	4	43.29	34.64
91F8675	97-3108A-18-04S	4	45.34	36.28
91F8676	97-3108A-18-05P	3	47.71	38.17
91F8677	97-3108A-18-05S	3	50.67	40.53
91F8678	97-3108A-18-08P	8	48.36	38.69
91F8679	97-3108A-18-08S	8	50.21	40.17
91F8680	97-3108A-18-09P	7	52.66	42.13
91F8681	97-3108A-18-09S	7	54.82	43.86
91F8682	97-3108A-18-10P	4	47.62	38.10
91F8683	97-3108A-18-10S	4	50.21	40.17

CONTINUED

MS (MIL-C-5015) OR 97 SERIES 3108A SOLID SHELL ANGLE PLUGS (CONT.)

Stock No.	Type	Total Contacts	1-4	5-9
91F8684	97-3108A-18-11P	5	47.62	38.10
91F8685	97-3108A-18-11S	5	48.36	38.69
91F8686	97-3108A-18-12P	6	45.91	36.73
91F8687	97-3108A-18-12S	6	47.62	38.10
91F8688	97-3108A-18-13P	4	93.02	74.42
91F8689	97-3108A-18-13S	4	98.71	78.97
91F8690	97-3108A-18-16P	1	50.67	40.53
91F8691	97-3108A-18-16S	1	54.82	43.86
91F8692	97-3108A-18-19P	10	124.39	99.51
91F8693	97-3108A-18-19S	10	51.04	40.83
91F8694	97-3108A-18-20P	5	50.44	40.35
91F8695	97-3108A-18-20S	5	52.06	41.65
91F8696	97-3108A-18-22P	3	48.36	38.69
91F8697	97-3108A-18-22S	3	50.44	40.35
91F8698	97-3108A-18-29P	5	82.23	65.79
91F8699	97-3108A-18-29S	5	88.41	70.73
91F8700	97-3108A-20-03P	3	57.70	46.16
91F8701	97-3108A-20-03S	3	68.71	54.97
91F8702	97-3108A-20-04P	4	52.94	42.36
92F5499	97-3108A-20-04S	4	53.86	43.08
91F8704	97-3108A-20-06P	3	98.11	78.49
91F8705	97-3108A-20-06S	3	98.71	78.97
91F8706	97-3108A-20-07P	8	52.94	42.36
92F5561	97-3108A-20-07S	8	52.43	41.95
91F8708	97-3108A-20-08P	6	110.15	88.12
91F8709	97-3108A-20-08S	6	118.72	94.98
91F8710	97-3108A-20-11P	13	116.16	92.93
91F8711	97-3108A-20-11S	13	149.60	119.68
91F8712	97-3108A-20-14P	5	112.43	89.95
91F8713	97-3108A-20-14S	5	129.68	103.74
91F8714	97-3108A-20-15P	7	55.45	44.36
91F8715	97-3108A-20-15S	7	65.55	52.44
91F8716	97-3108A-20-16P	9	55.73	44.59
91F8717	97-3108A-20-16S	9	57.61	46.09
91F8718	97-3108A-20-17P	6	62.17	49.73
91F8719	97-3108A-20-17S	6	68.83	55.06
91F8720	97-3108A-20-18P	9	63.76	51.01
91F8721	97-3108A-20-18S	9	67.20	53.76
91F8722	97-3108A-20-19P	3	65.95	52.76
91F8723	97-3108A-20-19S	3	73.47	58.77
91F8724	97-3108A-20-21P	9	107.16	85.73
91F8725	97-3108A-20-21S	9	109.73	87.78
91F8726	97-3108A-20-23P	2	61.11	48.89
91F8727	97-3108A-20-23S	2	64.07	51.26
91F8728	97-3108A-20-24P	4	108.02	86.42
91F8729	97-3108A-20-24S	4	120.37	96.30
91F8730	97-3108A-20-27P	14	56.53	45.23
91F8731	97-3108A-20-27S	14	59.26	47.41
91F8732	97-3108A-20-29P	17	59.09	47.27
92F5630	97-3108A-20-29S	17	60.32	48.25
91F8733	97-3108A-20-33P	11	65.95	52.76
91F8734	97-3108A-20-33S	11	66.61	53.29
91F8735	97-3108A-22-01P	2	62.42	49.94
91F8736	97-3108A-22-01S	2	68.14	54.52
91F8737	97-3108A-22-02P	3	65.27	52.22
91F8738	97-3108A-22-02S	3	72.41	57.93
91F8739	97-3108A-22-04P	4	115.48	92.38
91F8740	97-3108A-22-04S	4	123.47	98.78
91F8741	97-3108A-22-05P	6	112.09	89.67
91F8742	97-3108A-22-05S	6	111.35	89.08
91F8743	97-3108A-22-08P	2	102.47	81.98
91F8744	97-3108A-22-08S	2	115.25	92.20
91F8745	97-3108A-22-09P	3	104.52	83.62
91F8746	97-3108A-22-09S	3	118.64	94.91
91F8747	97-3108A-22-10P	4	104.52	83.62
91F8748	97-3108A-22-10S	4	107.16	85.73
91F8749	97-3108A-22-11P	2	101.16	80.93
91F8750	97-3108A-22-11S	2	104.52	83.62
91F8751	97-3108A-22-12P	5	115.48	92.38
91F8752	97-3108A-22-12S	5	125.49	100.40
91F8753	97-3108A-22-13P	5	110.92	88.74
91F8754	97-3108A-22-13S	5	117.44	93.95
91F8755	97-3108A-22-14P	19	62.71	50.17
91F8756	97-3108A-22-14S	19	67.66	54.13
91F8757	97-3108A-22-15P	6	115.02	92.02
91F8758	97-3108A-22-15S	6	127.83	102.26
91F8759	97-3108A-22-16P	9	67.57	54.06
91F8760	97-3108A-22-16S	9	68.14	54.52
91F8761	97-3108A-22-18P	8	63.73	50.99
91F8762	97-3108A-22-18S	8	64.07	51.26
91F8763	97-3108A-22-19P	14	61.80	49.44
91F8764	97-3108A-22-19S	14	62.71	50.17
91F8765	97-3108A-22-20P	9	64.53	51.62
91F8766	97-3108A-22-20S	9	66.15	52.92
91F8767	97-3108A-22-22P	4	70.76	56.61

CONTINUED

MS (MIL-C-5015) OR 97 SERIES
3108A SOLID SHELL ANGLE PLUGS (CONT.)

Stock No.	Type	Total Contacts	1-4	5-9
91F8768	97-3108A-22-22S	4	80.67	64.53
91F8769	97-3108A-22-23P	8	68.83	55.06
91F8770	97-3108A-22-23S	8	79.30	63.44
91F8773	97-3108A-22-27P	9	68.14	54.52
91F8774	97-3108A-22-27S	9	70.90	56.72
91F8775	97-3108A-22-28P	7	115.73	92.59
91F8776	97-3108A-22-28S	7	138.70	110.96
91F8777	97-3108A-22-34P	5	110.92	88.74
91F8778	97-3108A-22-34S	5	113.48	90.79
91F8779	97-3108A-24-02P	7	65.87	52.69
91F8780	97-3108A-24-02S	7	73.29	58.64
91F8781	97-3108A-24-05P	16	78.28	62.62
91F8782	97-3108A-24-05S	16	83.54	66.83
91F8783	97-3108A-24-06P	8	131.07	104.86
91F8784	97-3108A-24-06S	8	152.82	122.26
91F8785	97-3108A-24-07P	16	71.22	56.97
91F8786	97-3108A-24-07S	16	74.66	59.73
91F8787	97-3108A-24-09P	2	127.43	101.95
91F8788	97-3108A-24-09S	2	134.72	107.77
91F8789	97-3108A-24-10P	7	91.28	73.03
91F8790	97-3108A-24-10S	7	99.59	79.68
91F8791	97-3108A-24-11P	9	74.40	59.52
91F8792	97-3108A-24-11S	9	85.82	68.66
91F8793	97-3108A-24-12P	5	147.92	118.34
91F8794	97-3108A-24-12S	5	166.05	132.84
91F8795	97-3108A-24-16S	7	145.30	116.24
91F8796	97-3108A-24-19P	12	135.85	108.69
91F8797	97-3108A-24-19S	12	141.12	112.90
91F8798	97-3108A-24-20P	11	74.80	59.84
91F8799	97-3108A-24-20S	11	75.54	60.44
91F8802	97-3108A-24-22P	4	80.92	64.74
91F8803	97-3108A-24-22S	4	91.94	73.55
91F8804	97-3108A-24-27P	7	120.23	96.18
91F8805	97-3108A-24-27S	7	123.02	98.42
91F8806	97-3108A-24-28P	24	73.47	58.77
91F8807	97-3108A-24-28S	24	79.30	63.44
91F8809	97-3108A-28-01S	9	172.80	138.24
91F8810	97-3108A-28-02P	14	79.67	63.74
91F8811	97-3108A-28-02S	14	83.31	66.65
91F8812	97-3108A-28-03P	3	141.89	113.51
91F8813	97-3108A-28-03S	3	146.36	117.09
91F8814	97-3108A-28-06P	12	89.40	71.52
91F8815	97-3108A-28-06S	12	96.01	76.81
91F8816	97-3108A-28-08P	12	138.53	110.83
91F8817	97-3108A-28-08S	12	141.89	113.51
91F8818	97-3108A-28-09P	12	143.60	114.88
91F8819	97-3108A-28-09S	12	151.03	120.82
91F8820	97-3108A-28-10P	7	150.31	120.25
91F8821	97-3108A-28-10S	7	175.28	140.22
91F8822	97-3108A-28-11P	22	76.88	61.51
91F8823	97-3108A-28-11S	22	86.70	69.36
91F8824	97-3108A-28-12P	26	78.50	62.80
91F8825	97-3108A-28-12S	26	86.70	69.36
91F8826	97-3108A-28-15P	35	84.22	67.38
91F8827	97-3108A-28-15S	35	92.48	73.98
91F8828	97-3108A-28-16P	20	77.93	62.35
91F8829	97-3108A-28-16S	20	78.50	62.80
91F8830	97-3108A-28-17P	15	137.76	110.21
91F8831	97-3108A-28-17S	15	143.60	114.88
91F8832	97-3108A-28-18P	12	78.28	62.62
91F8833	97-3108A-28-18S	12	81.89	65.51
91F8834	97-3108A-28-19P	10	136.99	109.60
91F8835	97-3108A-28-19S	10	152.96	122.37
91F8836	97-3108A-28-20P	14	77.17	61.73
91F8837	97-3108A-28-20S	14	82.32	65.85
91F8838	97-3108A-28-21P	37	85.82	68.66
91F8839	97-3108A-28-21S	37	93.10	74.48

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MS (MIL-C-5015) OR 97 SERIES
3108B SPLIT SHELL ANGLE PLUGS

Refer to additional ordering information, drawings, and dimensions on pages 166-168.

Stock No.	Type	Total Contacts	1-4	5-9
39F3098	97-3108B-10SL-03S	3	24.91	19.93
39F3099	97-3108B-10SL-04S	2	23.86	19.09
91F8841	97-3108B-12S-03P	2	18.70	14.96
91F8842	97-3108B-12S-03S	2	18.82	15.05
91F8843	97-3108B-14S-01P	3	18.25	14.60
91F8844	97-3108B-14S-01S	3	18.70	14.96

CONTINUED

MS (MIL-C-5015) OR 97 SERIES
3108B SPLIT SHELL ANGLE PLUGS (CONT.)

Stock No.	Type	Total Contacts	1-4	5-9
91F8845	097-3108A-14S-02P	4	17.23	13.78
92F5500	97-3108B-14S-02S	4	18.59	14.87
91F8847	97-3108B-14S-04P	1	33.96	27.17
91F8848	97-3108B-14S-04S	1	35.07	28.06
91F8849	97-3108B-14S-05P	5	19.81	15.85
91F8850	97-3108B-14S-05S	5	20.35	16.28
92F5523	97-3108B-14S-06P	6	19.39	15.51
92F5599	97-3108B-14S-06S	6	19.93	15.94
91F8853	97-3108B-14S-07P	3	18.25	14.60
91F8854	97-3108B-14S-07S	3	18.70	14.96
91F8855	97-3108B-14S-09P	2	17.31	13.85
91F8856	97-3108B-14S-09S	2	17.85	14.28
91F8857	97-3108B-16-09P	4	30.35	24.28
91F8858	97-3108B-16-09S	4	33.22	26.58
91F8859	97-3108B-16-10P	3	26.53	21.23
91F8860	97-3108B-16-10S	3	28.81	23.05
91F8861	97-3108B-16-11P	2	27.73	22.18
91F8862	97-3108B-16-11S	2	30.74	24.60
91F8866	97-3108B-16S-01P	7	22.35	17.88
92F5569	97-3108B-16S-01S	7	23.26	18.61
91F8868	97-3108B-16S-04P	2	22.06	17.65
91F8869	97-3108B-16S-04S	2	22.83	18.27
91F8870	97-3108B-16S-05P	3	20.92	16.74
91F8871	97-3108B-16S-05S	3	21.35	17.08
91F8872	97-3108B-16S-06P	3	41.81	33.45
91F8873	97-3108B-16S-06S	3	41.81	33.45
91F8874	97-3108B-16S-08P	5	21.81	17.45
91F8875	97-3108B-16S-08S	5	22.43	17.95
92F5525	97-3108B-18-01P	10	28.89	23.12
92F5639	97-3108B-18-01S	10	32.74	26.19
91F8877	97-3108B-18-03P	2	28.21	22.57
91F8878	97-3108B-18-03S	2	33.45	26.76
91F8879	97-3108B-18-04P	4	25.51	20.41
91F8880	97-3108B-18-04S	4	27.21	21.77
91F8881	97-3108B-18-05P	3	27.41	21.93
91F8882	97-3108B-18-05S	3	30.37	24.30
91F8883	97-3108B-18-08P	8	30.35	24.28
91F8884	97-3108B-18-08S	8	32.25	25.80
91F8885	97-3108B-18-09P	7	32.71	26.17
91F8886	97-3108B-18-09S	7	35.07	28.06
91F8887	97-3108B-18-10P	4	29.46	23.57
92F5631	97-3108B-18-10S	4	32.25	25.80
91F8888	97-3108B-18-11P	5	29.46	23.57
91F8889	97-3108B-18-11S	5	30.35	24.28
91F8890	97-3108B-18-12P	6	27.93	22.34
91F8891	97-3108B-18-12S	6	29.46	23.57
91F8892	97-3108B-18-13P	4	57.95	46.36
91F8893	97-3108B-18-13S	4	64.07	51.26
91F8894	97-3108B-18-16P	1	30.37	24.30
91F8895	97-3108B-18-16S	1	35.07	28.06
91F8896	97-3108B-18-19P	10	39.48	31.59
91F8897	97-3108B-18-19S	10	33.02	26.42
91F8898	97-3108B-18-20P	5	30.35	24.28
91F8899	97-3108B-18-20S	5	31.85	25.48
91F8900	97-3108B-18-22P	3	28.21	22.57
91F8901	97-3108B-18-22S	3	30.35	24.28
91F8902	97-3108B-18-29P	5	52.80	42.24
91F8903	97-3108B-18-29S	5	52.80	42.24
91F8904	97-3108B-20-03P	3	36.27	29.01
91F8905	97-3108B-20-03S	3	44.60	35.68
91F8906	97-3108B-20-04P	4	33.79	27.03
91F8907	97-3108B-20-04S	4	37.69	30.15
91F8908	97-3108B-20-06P	3	61.03	48.82
91F8909	97-3108B-20-06S	3	61.28	49.03
91F8910	97-3108B-20-07P	8	33.79	27.03
91F8911	97-3108B-20-07S	8	36.27	29.01
91F8912	97-3108B-20-08P	6	73.35	58.68
91F8913	97-3108B-20-08S	6	82.49	65.99
91F8914	97-3108B-20-11P	13	79.47	63.58
91F8915	97-3108B-20-11S	13	113.34	90.67
91F8916	97-3108B-20-14P	5	75.49	60.39
91F8917	97-3108B-20-14S	5	93.22	74.58
91F8918	97-3108B-20-15P	7	36.58	29.26
91F8919	97-3108B-20-15S	7	46.74	37.39
91F8920	97-3108B-20-16P	9	36.69	29.35
91F8921	97-3108B-20-16S	9	38.46	30.77
91F8922	97-3108B-20-17P	6	40.59	32.47
91F8923	97-3108B-20-17S	6	47.65	38.12
91F8924	97-3108B-20-18P	9	42.53	34.02
91F8925	97-3108B-20-18S	9	45.54	36.44
91F8926	97-3108B-20-19P	3	44.15	35.32
91F8927	97-3108B-20-19S	3	52.38	41.90
91F8928	97-3108B-20-21P	9	70.08	56.06
91F8929	97-3108B-20-21S	9	72.10	57.68
91F8930	97-3108B-20-23P	2	39.85	31.88

CONTINUED

MS (MIL-C-5015) OR 97 SERIES 3108B SPLIT SHELL ANGLE PLUGS (CONT.)

Stock No.	Type	Total Contacts	1-4	5-9
91F8931	97-3108B-20-23S	2	42.73	34.18
91F8932	97-3108B-20-24P	4	70.70	56.56
93F1241	97-3108B-20-27P	14	37.94	30.36
91F8934	97-3108B-20-27S	14	40.28	32.22
91F8935	97-3108B-20-29P	17	39.85	31.88
92F5625	97-3108B-20-29S	17	43.67	34.93
91F8936	97-3108B-20-33P	11	44.15	35.32
91F8937	97-3108B-20-33S	11	45.54	36.44
91F8938	97-3108B-22-01P	2	39.85	31.88
91F8939	97-3108B-22-01S	2	45.66	36.53
91F8940	97-3108B-22-02P	3	42.53	34.02
91F8941	97-3108B-22-02S	3	50.01	40.01
91F8942	97-3108B-22-04P	4	75.71	60.57
91F8943	97-3108B-22-04S	4	84.91	67.93
91F8944	97-3108B-22-05P	6	71.87	57.50
91F8945	97-3108B-22-05S	6	72.10	57.68
91F8946	97-3108B-22-08P	2	62.76	50.21
91F8947	97-3108B-22-08S	2	75.49	60.39
91F8948	97-3108B-22-09P	3	65.50	52.40
91F8949	97-3108B-22-09S	3	79.47	63.58
91F8950	97-3108B-22-10P	4	65.50	52.40
91F8951	97-3108B-22-10S	4	67.18	53.74
91F8952	97-3108B-22-11P	2	61.28	49.03
91F8953	97-3108B-22-11S	2	65.50	52.40
91F8954	97-3108B-22-12P	5	75.71	60.57
91F8955	97-3108B-22-12S	5	85.36	68.29
91F8956	97-3108B-22-13P	5	71.50	57.20
91F8957	97-3108B-22-13S	5	77.68	62.14
91F8958	97-3108B-22-14P	19	42.53	34.02
92F5635	97-3108B-22-14S	19	47.79	38.23
91F8959	97-3108B-22-15P	6	74.97	59.98
91F8960	97-3108B-22-15S	6	89.32	71.46
91F8961	97-3108B-22-16P	9	44.60	35.68
91F8962	97-3108B-22-16S	9	45.66	36.53
91F8963	97-3108B-22-18P	8	40.76	32.61
91F8964	97-3108B-22-18S	8	41.27	33.02
91F8965	97-3108B-22-19P	14	42.13	33.70
91F8966	97-3108B-22-19S	14	42.53	34.02
91F8967	97-3108B-22-20P	9	42.19	33.75
91F8968	97-3108B-22-20S	9	43.49	34.80
91F8969	97-3108B-22-22P	4	47.71	38.17
92F5612	97-3108B-22-22S	4	55.56	44.45
91F8970	97-3108B-22-23P	8	46.34	37.07
91F8971	97-3108B-22-23S	8	57.30	45.84
91F8974	97-3108B-22-27P	9	45.66	36.53
91F8975	97-3108B-22-27S	9	48.82	39.05
91F8976	97-3108B-22-28P	7	76.82	61.46
91F8977	97-3108B-22-28S	7	100.88	80.70
91F8978	97-3108B-22-34P	5	71.50	57.20
91F8979	97-3108B-22-34S	5	73.92	59.14
91F8980	97-3108B-24-02P	7	40.93	32.75
91F8981	97-3108B-24-02S	7	48.39	38.71
91F8982	97-3108B-24-05P	16	50.55	40.44
91F8983	97-3108B-24-05S	16	56.22	44.97
91F8984	97-3108B-24-06P	8	82.89	66.31
91F8985	97-3108B-24-06S	8	104.83	83.87
91F8986	97-3108B-24-07P	16	46.74	37.39
91F8987	97-3108B-24-07S	16	50.13	40.10
91F8988	97-3108B-24-09P	2	79.19	63.35
91F8989	97-3108B-24-09S	2	86.76	69.41
91F8990	97-3108B-24-10P	7	63.99	51.19
91F8991	97-3108B-24-10S	7	72.90	58.32
91F8992	97-3108B-24-11P	9	49.47	39.58
91F8993	97-3108B-24-11S	9	61.82	49.46
91F8994	97-3108B-24-12P	5	100.82	80.66
91F8995	97-3108B-24-12S	5	118.58	94.86
91F8997	97-3108B-24-19P	12	88.07	70.45
91F8998	97-3108B-24-19S	12	92.99	74.39
91F8999	97-3108B-24-20P	11	47.48	37.98
91F9000	97-3108B-24-20S	11	47.71	38.17
91F9001	97-3108B-24-21P	10	82.49	65.99
91F9002	97-3108B-24-21S	10	88.07	70.45
91F9003	97-3108B-24-22P	4	53.29	42.63
91F9004	97-3108B-24-22S	4	64.50	51.60
91F9005	97-3108B-24-27P	7	71.87	57.50
91F9006	97-3108B-24-27S	7	73.92	59.14
91F9007	97-3108B-24-28P	24	49.02	39.21
91F9008	97-3108B-24-28S	24	54.42	43.54
91F9009	97-3108B-28-01P	9	102.53	82.02
91F9010	97-3108B-28-01S	9	127.52	102.01
91F9011	97-3108B-28-02P	14	53.60	42.88
91F9012	97-3108B-28-02S	14	56.50	45.20
91F9013	97-3108B-28-03P	3	95.75	76.60
91F9014	97-3108B-28-03S	3	100.88	80.70
91F9015	97-3108B-28-06P	12	63.45	50.76

CONTINUED

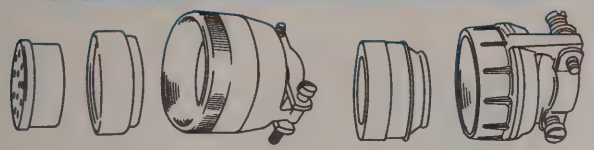
MS (MIL-C-5015) OR 97 SERIES 3108B SPLIT SHELL ANGLE PLUGS (CONT.)

Stock No.	Type	Total Contacts	1-4	5-9
91F9016	97-3108B-28-06S	12	70.08	56.06
91F9017	97-3108B-28-08P	12	92.99	74.39
91F9018	97-3108B-28-08S	12	95.75	76.60
91F9019	97-3108B-28-09P	12	97.77	78.22
91F9020	97-3108B-28-09S	12	105.43	84.34
91F9021	97-3108B-28-10P	7	109.07	87.26
91F9022	97-3108B-28-10S	7	134.86	107.89
91F9023	97-3108B-28-11P	22	53.06	42.45
91F9024	97-3108B-28-11S	22	63.42	50.74
91F9025	97-3108B-28-12P	26	55.02	44.02
91F9026	97-3108B-28-12S	26	63.42	50.74
91F9027	97-3108B-28-15P	35	61.03	48.82
91F9028	97-3108B-28-15S	35	69.57	55.65
91F9029	97-3108B-28-16S	20	55.02	44.02
91F9030	97-3108B-28-17P	15	91.03	72.82
91F9031	97-3108B-28-17S	15	97.77	78.22
91F9032	97-3108B-28-18P	12	51.58	41.26
91F9033	97-3108B-28-18S	12	55.48	44.38
91F9034	97-3108B-28-19P	10	90.91	72.73
91F9035	97-3108B-28-19S	10	107.54	86.03
91F9036	97-3108B-28-20P	14	53.63	42.90
91F9037	97-3108B-28-20S	14	58.89	47.12
91F9038	97-3108B-28-21P	37	62.65	50.12
91F9039	97-3108B-28-21S	37	70.28	56.22
91F9040	97-3108B-32-05P	2	81.21	64.97
91F9041	97-3108B-32-05S	2	88.47	70.77
91F9042	97-3108B-32-06P	23	76.97	61.57
91F9043	97-3108B-32-06S	23	103.72	82.98
91F9044	97-3108B-32-07P	35	142.74	114.20
91F9045	97-3108B-32-07S	35	175.42	140.34
91F9046	97-3108B-32-08P	30	79.19	63.35
91F9047	97-3108B-32-08S	30	80.15	64.12
91F9048	97-3108B-32-13P	23	75.89	60.71
91F9049	97-3108B-32-13S	23	84.62	67.70
91F9050	97-3108B-32-17P	4	169.98	135.99
91F9051	97-3108B-32-17S	4	183.59	146.87
91F9052	97-3108B-32-414P	52	116.76	93.41
91F9053	97-3108B-32-414S	52	150.60	120.48
91F9054	97-3108B-36-01P	22	147.72	118.18
91F9055	97-3108B-36-01S	22	177.89	142.32
91F9056	97-3108B-36-05P	4	239.20	191.36
91F9057	97-3108B-36-05S	4	278.14	222.51
91F9058	97-3108B-36-06P	6	136.54	109.23
91F9059	97-3108B-36-06S	6	163.21	130.57
91F9060	97-3108B-36-07P	47	111.09	88.88
91F9061	97-3108B-36-07S	47	120.74	96.59
91F9064	97-3108B-36-09P	31	217.37	173.90
91F9065	97-3108B-36-09S	31	258.41	206.73
91F9066	97-3108B-36-10P	48	95.13	76.10
91F9067	97-3108B-36-10S	48	101.47	81.18
91F9068	97-3108B-36-15P	35	161.90	129.52
91F9069	97-3108B-36-15S	35	174.96	139.97
91F9070	97-3108B-36-403P	52	217.37	173.90
91F9071	97-3108B-36-403S	52	283.06	226.45

(13947) (ne10169)

NEWARK HAS WHAT YOU NEED.
WITH SO MUCH IN STOCK, YOU HAVE THE COMPONENTS YOU NEED AT YOUR FINGERTIPS.

97 SERIES ENVIRONMENTAL BACKSHELLS



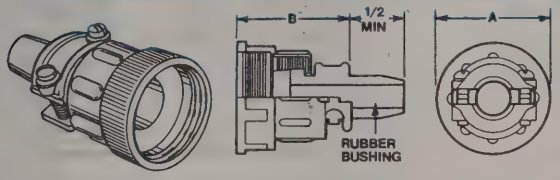
282 283

97E series backshells provide environmental sealing in the mated condition when used with the proper rear accessory hardware. **Type 97-282** wire sealing grommet and **type 97-283** cable sealing grommet provide environmental sealing with strain relief. These backshells can be used with any **97A series** connector. Additional shell sizes and insert configurations are available; *contact your local Newark sales office.*

Stock No.	Type	Fits Shell	Fits Insert	1-4	5-9
83F5638	97-282-12S-03	12S	12S-03	5.17	4.78
83F5639	97-282-14S-01	14S	14S-01	5.59	5.16
83F5648	97-282-18-01	18	18-01	6.14	5.67
83F5649	97-282-18-1	18	18-10	6.14	5.67
83F5652	97-282-18-19	18	18-19	10.32	9.53
83F5659	97-282-20-27	20	20-27	6.92	6.39
83F5676	97-282-28-12	28	28-12	9.58	8.84
83F5681	97-282-28-21	28-21	28-21	9.81	9.06
83F5684	97-283-14	14	...	13.96	12.89
83F5686	97-283-18	18	...	15.97	14.74
83F5689	97-283-24	24	...	22.46	20.74

(33008) (ne33008)

97 SERIES WATERPROOF CABLE CLAMPS

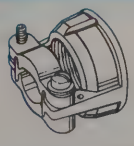


Waterproof cable clamp assembly includes **AN3057** cable clamp, rubber bushing, washer and adapter. To ensure the watertight integrity of this clamp when assembled to **97 series** circular plug, the plug must be ordered with type number **suffix 417**, which supplies a "W" washer on to the shoulder of the plug shell [Example: type number 3106-24-07P**(417)**]. Because **97 series** connectors do not include an inside tapered surface for sealing the rubber bushing, the waterproof cable clamp assembly is supplied with the adapter. The adapter may have a 1-to-1 ratio or be a reducing adapter, as illustrated above.

Stock No.	Type	Connector Size	Dimensions A	Dimensions B	Max. Cable O.D.	1-4	5-9
96F4852	9767-12-4	10SL, 12S, 12	0.781″	1.531″	0.219″	19.38	16.48
96F4853	9767-14-6	12SL, 14S, 14	0.906″	1.594″	0.344″	20.91	17.77
96F4855	9767-16-6	16S, 16	1.062″	1.594″	0.344″	21.01	17.86
96F4859	9767-18-6	18	1.188″	1.594″	0.344″	20.24	17.20
96F4856	9767-16-8	16S, 16	1.062″	1.594″	0.438″	21.22	18.04
96F4860	9767-18-8	18	1.188″	1.594″	0.438″	21.74	18.48
96F4863	9767-22-8	20, 22	1.375″	1.594″	0.438″	22.41	19.05
96F4857	9767-18-10	18	1.188″	1.594″	0.563″	22.18	18.85
96F4861	9767-22-10	20, 22	1.375″	1.594″	0.563″	22.59	19.20
96F4864	9767-28-10	24, 28	1.625″	1.531″	0.563″	24.56	20.88
96F4862	9767-22-12	20, 22	1.375″	1.656″	0.688″	25.47	21.65
96F4865	9767-28-12	24, 28	1.625″	1.656″	0.688″	27.82	23.65
96F4866	9767-28-16	24, 28	1.625″	1.781″	0.844″	27.28	23.18
96F5892	9767-32-20	32	1.938″	1.969″	1.031″	62.75	53.34

(8338) (ne53488)

97 SERIES MS3057A CABLE CLAMPS

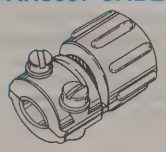


For jacketed cable or wire protected by tubing. Both clamping halves float for strain relief. For unjacketed cable or wire, *order* **MS3420** *rubber bushing separately on this page.* Two telescoping bushings supplied with shell sizes 24 and up. NOTE: For a shiny, clear, cadmium-plated finish, add **suffix 639** at end of type number.

Stock No.	Type	Fits Shell	1-4	5-9
96F4915	97-3057-1004	10SL, 12, 12S	6.24	5.30
96F4918	97-3057-1007	14, 14S	5.26	4.47
96F4870	97-3057-1008	16, 16S	6.94	5.90
96F4874	97-3057-1010	18	5.85	4.97
96F4878	97-3057-1012	20, 22	5.83	4.95
96F4882	97-3057-1016	24, 28	6.42	5.46
96F4885	97-3057-1020	32	9.29	7.90
96F4888	97-3057-1024	36	9.29	7.90

(8336) (ne53486)

97 SERIES AN3057 CABLE CLAMPS

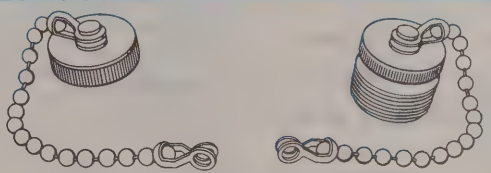


For jacketed cable or wires protected by tubing. 1 resilient washer and 2 fiber washers included. NOTE: **suffix 6** in type number indicates step-down clamp which accommodates smaller cable. For a shiny, clear, cadmium plated finish, add **suffix 639** at end of type number.

Stock No.	Type	Fits Shell	1-4	5-9
96F4901	97-3057-3	8S, 10S	9.11	7.75
96F4902	97-3057-4	10SL, 12S	7.53	6.40
96F4904	97-3057-6	14, 14S	7.66	6.51
96F4828	97-3057-8	16, 16S	8.28	7.04
96F4914	97-3057-10	18	7.02	5.96
96F4892	97-3057-10-6	18	7.66	6.51
96F4893	97-3057-12	20, 22	7.71	6.56
96F4894	97-3057-12-6	20, 22	7.92	6.73
96F4896	97-3057-16	24, 28	7.79	6.62
96F4898	97-3057-20	32	11.10	9.44
96F4899	97-3057-24	36	11.41	9.70

(8334) (ne53484)

97 SERIES MS CONNECTOR CAP AND CHAIN ASSEMBLIES



9760-10 9760-10P

Fit **97 series MS** receptacles and plugs. Provide protection against live circuits and keep out dirt and dust. Cadmium olive drab finish with beaded chain for mounting. Caps for receptacles feature internal threads for use with **MS3100A, MS3101A,** and **MS3102A** receptacles, *order separately on page 165.* Caps for plugs have external threads for use on plugs **MS3106** and **MS3108**, *order separately on page 165.*

CAPS FOR RECEPTACLES

Stock No.	Type	Fits Shell	1-4	5-9
96F5940	9760-10	10S, 10SL	4.38	3.72
96F5942	9760-12	12, 12S, 12SL	4.04	3.44
96F5895	9760-14	14, 14S	4.27	3.63
96F5944	9760-16	16, 16S	5.00	4.25
96F5891	9760-18	18	5.64	4.80
96F4836	9760-20	20	6.89	5.85
96F4838	9760-22	22	7.22	6.14
96F4840	9760-24	24	10.30	8.76
96F4842	9760-28	28	9.97	8.47
96F4844	9760-32	32	15.35	13.05
96F4846	9760-36	36	17.88	15.20

CAPS FOR PLUGS

Stock No.	Type	Fits Shell	1-4	5-9
96F5941	9760-10P	10S, 10SL	5.31	4.51
96F5943	9760-12P	12, 12S	10.43	8.87
96F5890	9760-14P	14, 14S	6.73	5.72
96F5885	9760-16P	16, 16S	7.69	6.54
96F4833	9760-18P	18	9.68	8.23
96F4837	9760-20P	20	17.39	14.78
96F4839	9760-22P	22	17.88	15.20
96F4841	9760-24P	24	21.38	18.17
96F4843	9760-28P	28	13.17	11.20
96F4845	9760-32P	32	33.80	28.73
96F4847	9760-36P	36	24.25	20.61

(8337) (ne53487)

97 SERIES MS3420 RUBBER BUSHINGS

MS3420 bushings are designed for use with **MS3057A** cable clamps, *order separately on this page.* Provide protection for unjacketed wire and cable and act as reducing bushing.

Stock No.	Type	Cable O.D.	1-4	5-9
96F5893	9779-513-3	0.130″	0.91	0.77
96F5888	9779-513-4	0.220″	1.09	0.93
96F5887	9779-513-6	0.312″	1.12	0.95
96F5886	9779-513-8	0.437″	0.91	0.77
96F5894	9779-513-10	0.562″	0.91	0.77
96F5889	9779-513-12	0.625″	1.09	0.93
96F5958	9779-513-16	0.750″	1.35	1.15
96F5911	9779-513-20	0.937″	2.05	1.74
96F5900	9779-513-24	1.250″	2.05	1.74

(8335) (ne53485)

97 SERIES REAR RELEASE CRIMP CONTACT CONNECTORS

HOW TO ORDER CONNECTORS
Review the following example to correctly formulate the **part number** of your choice.

97 4101 A - 28-21 S Y 662

SERIES

SHELL STYLE
4100 Wall Receptacle
4101 Cable Receptacle
4102 Box Receptacle
4106 Straight Plug
4108 Angle Plug

SHELL CONSTRUCTION
A—Solid
B—Split

SHELL SIZE
10SL, 12S, 14S, 16S, 18, 20, 24, 28, 32 & 36

SHELL FINISH
Leave Blank for standard finish
Add 662—Olive drab chromate over cadmium plate

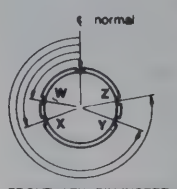
ALTERNATE INSERT POSITIONS
Omit for standard position.
W, X, Y, or **Z** for alternate positions, depending on insert. See Alternate Insert Position Chart.

CONTACT
P — Pin
S — Socket

INSERT DESIGNATION
See diagrams in the Insert Chart located at the beginning of this section.

(42273)

ALTERNATE INSERT POSITIONS



FRONT VIEW PIN INSERT

Insert	Degrees W	X	Y	Z	Insert	Degrees W	X	Y	Z
12S-3	70	145	215	290	20-4	45	110	250	—
14S-2	—	120	240	—	20-7	80	110	250	280
14S-5	—	110	—	—	20-27	35	110	250	325
14S-7	90	180	270	—	20-14	80	—	—	280
16S-1	80	—	—	280	24-2	80	—	—	280
16S-8	—	170	265	—	28-11	80	110	250	280
18-1	70	145	215	290	28-12	90	180	270	—
18-4	35	110	250	325	28-20	80	110	250	280
18-11	—	170	265	—	28-21	80	110	250	280
18-12	80	—	—	280	32-414*	80	110	250	280
18-19	—	120	240	—	36-10	80	125	235	280
18-20	90	180	270	—	*32-414 is clockwise				

(de90584 art)

97 series Poke Home® rear release contact connectors are intermateable and intermountable with existing **97 series** and MIL-C-5015 type shells in both plugs and receptacles. Rugged metal shell in your choice of solid or split construction. Shell available in your choice of standard, conductive clear chromate finish or olive drab chromate finish over cadmium plate. Choose from 24 insert configurations. *Insert arrangement diagrams can be found on pages 166-167.* Inserts molded of 94V-0. Underwriters Laboratory rated material. Wire sizes: 12-30 AWG. Operating temperature: –55°C to +125°C. Feature positive self centering of contacts—pins bent up to 20° will pick up. Can be adapted to handle circuitry with EMI/EMP shielding requirements. Greater contact to contact insulation, lighter weight and higher reliability. No re-design or re-work needed on existing equipment. Offers high speed, low cost termination, UL recognized, CSA certified. *Contacts for* **97 series** *are ordered separately on this page.*

97 SERIES RECEPTACLES

Stock No.	Type	Total Contacts	1-4	5-9
91F9073	91-4101A-18-01S	10	22.43	17.95
91F9074	97-4101A-18-04P	4	21.12	16.90
91F9075	97-4102A-16S-01S	7	9.85	7.88
91F9076	97-4102A-18-01P	10	10.96	8.77
91F9077	97-4102A-18-01S	10	12.13	9.70
91F9078	97-4102A-18-04P	4	10.22	8.18

97 SERIES MATING PLUGS

91F9079	97-4106A-18-01P	10	17.48	13.98
91F9080	97-4106A-18-01S	10	19.36	15.49
91F9081	97-4106A-18-04P	4	16.85	13.48
91F9082	97-4106B-18-01P	10	22.40	17.92
91F9083	97-4106B-18-01S	10	23.63	18.90
91F9084	97-4106B-18-04P	4	21.58	17.26
91F9085	97-4106B-18-04S	4	22.49	17.99
91F9086	97-4108B-18-01P	10	23.40	18.72
91F9087	97-4108B-18-01S	10	24.94	19.95
91F9088	97-4108B-18-04P	4	22.63	18.11

(17431) (de90584)

POKE HOME® CONTACTS FOR 97 SERIES REAR RELEASE CONNECTORS

Silver-plated copper alloy stamped and formed crimp contacts and closed entry socket contacts. Size 16 contact design incorporates insulation crimp support for greater strength at wire termination end. *Order* **97 series** *rear release connectors separately on this page.* **Sold in packages of 100.**

Stock No.	Type	Socket Contact	Contact Size	1-4	5-9
46F2098	97-45-1622S-4(920	Long	16	36.23	30.80
46F2099	97-55-1622S-4(920	Short	16	36.23	30.80
46F2095	97-38-1216P-4(920	Pin	12	43.99	37.39
46F2096	97-38-1216S-4(920	Socket	12	46.58	39.59
46F2097	97-45-1622P-4(920	Pin	16	33.64	28.60

(17432) (ne10178)

TERMINATION TOOLS

M81969/14-03

M81969/14-04

357-579

INSERTION/EXTRACTION TOOLS

Stock No.	Type	Contact Size	Description	1-4	5-9
38F1402	M81969/14-03	16	Plastic	1.30	1.10
38F1403	M81969/14-04	12	Plastic	1.50	1.28

CRIMPING TOOLS

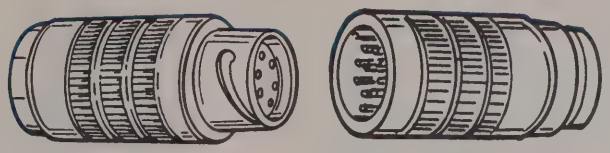
Stock No.	Type	For Contact Types	1-4	5-9
46F2100	357-578	9738-1216X-X 9745 & 9755-1418X-X 9745 & 9755-1622X-X	271.21	238.22
46F2101	357-579	9745 & 9755-2026X-X 9745 & 9755-2630X-X	271.21	238.22

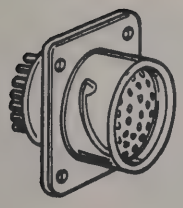
(17433) (ne10179)

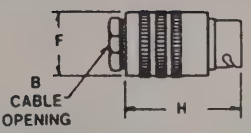
NEWARK: YOUR ONE-STOP SHOP.

CIRCULAR CONNECTORS

165 SERIES MINIATURE CIRCULAR CONNECTORS

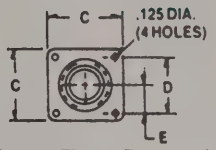




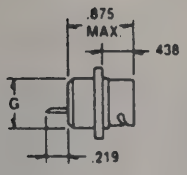


Cable Receptacle

Cable Plug

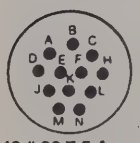


Square Flange Receptacle

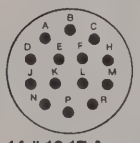


5 # 20 7.5 Amp

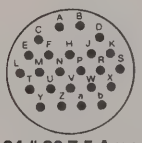
9 # 20 7.5 Amp



12 # 20 7.5 Amp



14 # 16 17 Amp



24 # 20 7.5 Amp

mm	A	B	C	D	E	F	G	H
Small	22.63	9.53	27.00	19.84	9.93	22.23	20.65	48.82
Large	28.98	16.66	33.35	24.61	12.29	28.58	27.00	49.23

Miniature connectors are one-third the size and weight of standard MIL-C-5015 connectors with the same number of contacts. Quick, positive bayonet coupling. O-ring seals in both plugs and receptacles make connectors pressure proof and water protected when mated and meet MIL-C-5015, Class C pressure requirements. Shell components are fabricated from high grade aluminum with gray anodize finish. Contacts are copper alloy gold over nickel plate. Inserts are diallyl phthalate, providing high arc and insulation resistance under both humidity and thermal stress conditions. Connectors are factory sealed to prevent leakage. UL recognized.

Stock No.	Type	Description	Contacts	1-4	5-9
38F320	165-33	Small Plug	5-#20 male	**59.41**	**50.50**
38F321	165-34	Small Plug	5-#20 female	**73.88**	**62.80**
38F322	165-35	Small Square Flange Receptacle	5-#20 male	**40.32**	**34.27**
38F323	165-36	Small Square Flange Receptacle	5-#20 female	**54.81**	**46.59**
40F011	165-35-1002	Small Cable Receptacle	5-#20 male	**73.95**	**62.86**
16F2273	165-33-1000	Small Plug for Potting	5-#20 male	**37.32**	**31.72**
38F304	165-13	Small Plug	9-#20 male	**61.43**	**52.22**
38F305	165-14	Small Plug	9-#20 female	**81.67**	**69.42**
38F306	165-15	Small Square Flange Receptacle	9-#20 male	**43.56**	**37.02**
38F307	165-16	Small Square Flange Receptacle	9-#20 female	**63.60**	**54.06**
40F010	165-15-1002	Small Cable Receptacle	9-#20 male	**79.44**	**67.52**
38F300	165-9	Small Plug	12-#20 male	**69.90**	**59.41**
38F301	165-10	Small Plug	12-#20 female	**92.84**	**78.92**
38F302	165-11	Small Square Flange Receptacle	12-#20 male	**52.41**	**44.55**
38F303	165-12	Small Square Flange Receptacle	12-#20 female	**74.45**	**63.28**
40F008	165-11-1002	Small Cable Receptacle	12-#20 male	**85.55**	**72.71**
40F009	165-12-1002	Small Cable Receptacle	12-#20 female	**107.21**	**91.13**
16F2272	165-10-1000	Small Plug for Potting	12-#20 female	**71.81**	**61.04**
38F316	165-29	Large Plug	14-#16 male	**93.15**	**79.18**
38F317	165-30	Large Plug	14-#16 female	**119.11**	**101.25**
38F318	165-31	Large Square Flange Receptacle	14-#16 male	**57.96**	**49.27**
38F319	165-32	Large Square Flange Receptacle	14-#16 female	**126.12**	**107.20**
38F312	165-25	Large Plug	24-#20 male	**124.67**	**105.97**
38F313	165-26	Large Plug	24-#20 female	**147.70**	**125.54**
38F314	165-27	Large Square Flange Receptacle	24-#20 male	**89.12**	**75.75**
38F315	165-28	Large Square Flange Receptacle	24-#20 female	**111.87**	**95.09**

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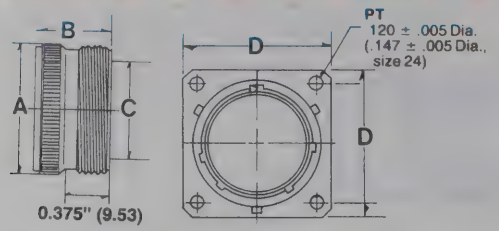
PT00 SERIES (MS3110) WALL MOUNT RECEPTACLES



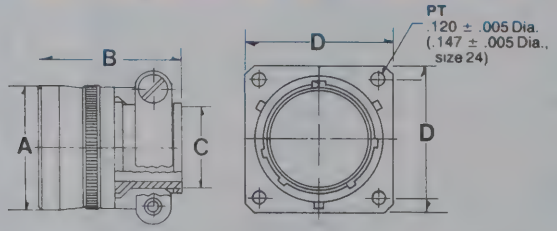
These miniature general-duty wall mount receptacles have twice the number of contacts in half the space of a standard connector. Back shell is threaded for conduit attachment of MS3057 cable clamp. Feature 5 key/keyway polarization with quick positive 3-point bayonet lock coupling system to assure positive mating without cross-plugging. Aluminum shell with corrosion-resistant, electrically conductive cadmium-plated finish with olive drab chromate after-treatment. Spring tension provided by wave washer in coupling nut assures maintenance of interfacial seal between mating halves. Pin and socket solder contacts machined from low-loss copper alloy, gold-plated to eliminate corrosion. Socket contacts are closed-entry design. Molded neoprene insert and main joint gasket. **P suffix** in type number indicates pin contacts; **S suffix** in type number indicates socket contacts. Other sizes are available; *contact your local Newark sales office.*

Stock No.	Type	Contacts	Shell Size	Dimensions A	B	C	D
95F1685	PT00A10-6P	6	10	0.675″	1.553″	0.421″	0.938″
95F1686	PT00A10-6S	6	10	0.675″	1.553″	0.421″	0.938″
95F1689	PT00A12-10P	10	12	0.803″	1.553″	0.546″	1.031″
95F1690	PT00A12-10S	10	12	0.803″	1.553″	0.546″	1.031″
95F1692	PT00A14-5S	5	14	0.920″	1.553″	0.663″	1.125″
95F1694	PT00A14-19S	19	14	0.920″	1.553″	0.663″	1.125″

Stock No.	Type	1-4	5-9
95F1685	PT00A10-6P	35.93	33.15
95F1686	PT00A10-6S	26.17	24.15
95F1689	PT00A12-10P	42.60	39.31
95F1690	PT00A12-10S	49.63	45.79
95F1692	PT00A14-5S	35.00	32.30
95F1694	PT00A14-19S	87.25	80.50

(8204) (de01555)

PT00 SERIES (MS3110) WALL MOUNT RECEPTACLES WITH ENVIRONMENT-RESISTANT STRAIN RELIEF



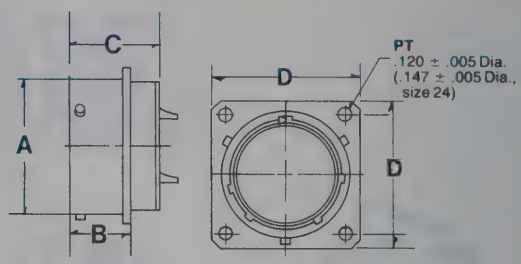
Offer the same quality features as **PT00 series** miniature general-duty wall mount receptacles, *order separately on this page*, except have environment-resistant strain relief clamp and grommet for moisture-proofing individual wires. Also provides added wire bundle support. **"P"** before **suffix (SR)** in type number indicates pin contacts; **"S"** before **suffix (SR)** indicates socket contacts. Other sizes are available; *contact your local Newark sales office.*

Stock No.	Type	Contacts	Shell Size	Dimensions A	B	C	D
95F1705	PT00E8-4P (SR)	4	8	0.550″	1.922″	0.240″	0.812″
95F1706	PT00E8-4S(SR)	4	8	0.550″	1.922″	0.240″	0.812″
95F1707	PT00E10-6P (SR)	6	10	0.675″	1.922″	0.302″	0.938″
95F1708	PT00E10-6S (SR)	6	10	0.675″	1.922″	0.302″	0.938″
95F1711	PT00E12-10P(SR)	10	12	0.803″	1.922″	0.428″	1.031″
95F1715	PT00E14-19P(SR)	19	14	0.920″	1.922″	0.552″	1.125″
95F1716	PT00E14-19S(SR)	19	14	0.920″	1.922″	0.552″	1.125″

Stock No.	Type	1-4	5-9
95F1705	PT00E8-4P (SR)	45.69	42.16
95F1706	PT00E8-4S(SR)	51.66	47.66
95F1707	PT00E10-6P (SR)	33.46	30.87
95F1708	PT00E10-6S (SR)	41.41	38.20
95F1711	PT00E12-10P(SR)	70.54	65.08
95F1715	PT00E14-19P(SR)	48.80	45.03
95F1716	PT00E14-19S(SR)	104.46	96.38

(8205) (de01556)

PT02 SERIES (MS3112) BOX MOUNT RECEPTACLES



These environment-resistant miniature receptacles offer the same quality features as **PT00 series** miniature general-duty wall mount receptacles, *order separately on this page*, except these receptacles have box mount design. **P suffix** in type number indicates pin contacts; **S suffix** indicates socket contacts. Other sizes are available; *contact your local Newark sales office.*

Stock No.	Type	Contacts	Shell Size	Dimensions A	B	C	D
95F1727	PT02E8-4P	4	8	0.473″	0.493″	0.825″	0.812″
95F1728	PT02E8-4S	4	8	0.473″	0.493″	0.825″	0.812″
95F1729	PT02E10-6P	6	10	0.590″	0.493″	0.825″	0.938″
95F1730	PT02E10-6S	6	10	0.590″	0.493″	0.825″	0.938″
95F1731	PT02E12-3P	3	12	0.750″	0.493″	0.825″	1.031″
95F1732	PT02E12-3S	3	12	0.750″	0.493″	0.825″	1.031″
95F1733	PT02E12-10P	10	12	0.750″	0.493″	0.825″	1.031″
95F1734	PT02E12-10S	10	12	0.750″	0.493″	0.825″	1.031″
95F1735	PT02E14-5P	5	14	0.875″	0.493″	0.825″	1.125″
95F1736	PT02E14-5S	5	14	0.875″	0.493″	0.825″	1.125″
95F1737	PT02E14-19P	19	14	0.875″	0.493″	0.825″	1.125″
95F1738	PT02E14-19S	19	14	0.875″	0.493″	0.825″	1.125″
95F1739	PT02E16-8P	8	16	1.000″	0.493″	0.825″	1.219″
95F1740	PT02E16-8S	8	16	1.000″	0.493″	0.825″	1.219″
95F1741	PT02E16-26P	26	16	1.000″	0.493″	0.825″	1.219″
95F1742	PT02E16-26S	26	16	1.000″	0.493″	0.825″	1.219″
95F1744	PT02E20-41S	41	20	1.250″	0.650″	1.076″	1.438″

Stock No.	Type	1-4	5-9
95F1727	PT02E8-4P	10.44	9.63
95F1728	PT02E8-4S	11.58	10.69
95F1729	PT02E10-6P	11.97	11.05
95F1730	PT02E10-6S	17.01	15.70
95F1731	PT02E12-3P	11.39	10.51
95F1732	PT02E12-3S	25.10	23.15
95F1733	PT02E12-10P	14.23	13.13
95F1734	PT02E12-10S	28.52	26.31
95F1735	PT02E14-5P	23.14	21.35
95F1736	PT02E14-5S	36.20	33.40
95F1737	PT02E14-19P	32.81	30.27
95F1738	PT02E14-19S	26.82	24.75
95F1739	PT02E16-8P	28.05	25.88
95F1740	PT02E16-8S	47.34	43.68
95F1741	PT02E16-26P	26.11	24.09
95F1742	PT02E16-26S	53.61	49.46
95F1744	PT02E20-41S	173.65	160.22

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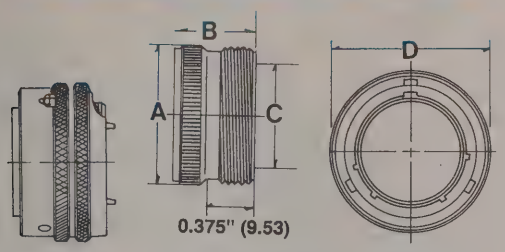
PT06 SERIES (MS3116) STRAIGHT PLUGS



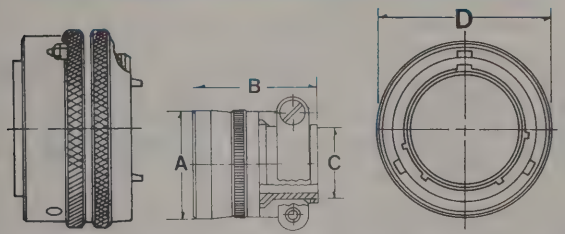
These miniature general-duty straight plugs have twice the number of contacts in half the space of a standard connector. Backshell is threaded for conduit attachment of **MS3057** cable clamp. Feature 5 key/keyway polarization with quick positive 3-point bayonet lock coupling system to assure positive mating without cross-plugging. Aluminum shell with corrosion-resistant, electrically conductive cadmium plated finish with olive drab chromate after-treatment. Spring tension provided by wave washer in coupling nut assures maintenance of interfacial seal between mating halves. Pin and socket solder contacts machined from low loss copper alloy, gold-plated to eliminate corrosion. Socket contacts are closed-entry design. Molded neoprene insert and main joint gasket. **P suffix** in type number indicates pin contacts; **S suffix** in type number indicates socket contacts.

Stock No.	Type	Contacts	Shell Size	Dimensions A	B	C	D
93F9341	PT06A8-4P	4	8	0.590″	1.553″	0.297″	0.750″
93F9342	PT06A8-4S	4	8	0.590″	1.553″	0.297″	0.750″
93F9343	PT06A10-6P	6	10	0.717″	1.553″	0.421″	0.859″
93F9344	PT06A10-6S	6	10	0.717″	1.553″	0.421″	0.859″
93F9345	PT06A12-3P	3	12	0.834″	1.553″	0.546″	1.031″
93F9346	PT06A12-3S	3	12	0.834″	1.553″	0.546″	1.031″
93F9349	PT06A12-10P	10	12	0.834″	1.553″	0.546″	1.031″
93F9350	PT06A12-10S	10	12	0.834″	1.553″	0.546″	1.031″
93F9351	PT06A14-5P	5	14	0.970″	1.553″	0.663″	1.156″
93F9352	PT06A14-5S	5	14	0.970″	1.553″	0.663″	1.156″
93F9353	PT06A14-19P	19	14	0.970″	1.553″	0.663″	1.156″
93F9354	PT06A14-19S	19	14	0.970″	1.553″	0.663″	1.156″
93F9357	PT06A16-26P	26	16	1.088″	1.553″	0.787″	1.281″
93F9361	PT06A22-55P	55	22	1.460″	1.703″	1.134″	1.656″

Stock No.	Type	1-4	5-9
93F9341	PT06A8-4P	**20.44**	**18.86**
93F9342	PT06A8-4S	**22.35**	**20.62**
93F9343	PT06A10-6P	**14.24**	**13.14**
93F9344	PT06A10-6S	**16.02**	**14.78**
93F9345	PT06A12-3P	**22.73**	**20.98**
93F9346	PT06A12-3S	**24.24**	**22.37**
93F9349	PT06A12-10P	**16.30**	**15.04**
93F9350	PT06A12-10S	**26.77**	**24.70**
93F9351	PT06A14-5P	**38.98**	**35.96**
93F9352	PT06A14-5S	**30.56**	**28.19**
93F9353	PT06A14-19P	**22.46**	**20.73**
93F9354	PT06A14-19S	**42.58**	**39.29**
93F9357	PT06A16-26P	**27.82**	**25.67**
93F9361	PT06A22-55P	**118.67**	**109.49**

(8207) (de01578)

PT06 SERIES (MS3116) STRAIGHT PLUGS WITH ENVIRONMENT-RESISTANT STRAIN RELIEF



Offer the same quality features as **PT06 series** miniature general-duty straight plugs, *order separately on this page*, except in addition have environment-resistant strain relief clamp and grommet for moisture-proofing individual wires. Also provides added wire bundle support. **"P"** before **suffix (SR)** in type number indicates pin contacts; **"S"** before **suffix (SR)** in type number indicates socket contacts.

Stock No.	Type	Contacts	Shell Size	Dimensions A	B	C	D
95F1668	PT06E8-4P(SR)	4	8	0.550″	1.906″	0.240″	0.750″
95F1669	PT06E8-4S(SR)	4	8	0.550″	1.906″	0.240″	0.750″
95F1670	PT06E10-6P(SR)	6	10	0.675″	1.906″	0.302″	0.859″
50F7848	PT06E10-6S(SR)	6	10	0.675″	1.906″	0.302″	0.859″
95F1671	PT06E12-3P(SR)	3	12	0.803″	1.906″	0.428″	1.031″
95F1672	PT06E12-3S(SR)	3	12	0.803″	1.906″	0.428″	1.031″
95F1673	PT06E12-10P(SR)	10	12	0.803″	1.906″	0.428″	1.031″
50F7849	PT06E12-10S (SR)	10	12	0.803″	1.906″	0.428″	1.031″

CONTINUED

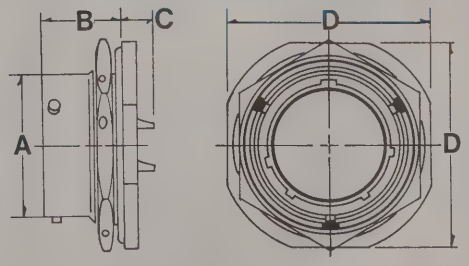
PT06 SERIES (MS3116) STRAIGHT PLUGS WITH ENVIRONMENT-RESISTANT STRAIN RELIEF (CONT.)

Stock No.	Type	Contacts	Shell Size	Dimensions A	B	C	D
95F1674	PT06E14-5P(SR)	5	14	0.920″	1.906″	0.552″	1.156″
95F1675	PT06E14-5S(SR)	5	14	0.920″	1.906″	0.552″	1.156″
95F1676	PT06E14-19P(SR)	19	14	0.920″	1.906″	0.552″	1.156″
50F7850	PT06E14-19S (SR)	19	14	0.920″	1.906″	0.552″	1.156″
95F1677	PT06E16-8P(SR)	8	16	1.047″	2.047″	0.615″	1.281″
95F1678	PT06E16-8S(SR)	8	16	1.047″	2.047″	0.615″	1.281″
95F1679	PT06E16-26P(SR)	26	16	1.047″	2.047″	0.615″	1.281″
50F7851	PT06E16-26S (SR)	26	16	1.047″	2.047″	0.615″	1.281″
95F1680	PT06E20-41P(SR)	41	20	1.290″	2.250″	0.740″	1.531″
50F7853	PT06E-20-41S(SR)	41	20	1.290″	2.250″	0.740″	1.531″

Stock No.	Type	1-4	5-9
95F1668	PT06E8-4P(SR)	**23.07**	**21.28**
95F1669	PT06E8-4S(SR)	**20.10**	**18.55**
95F1670	PT06E10-6P(SR)	**20.95**	**19.33**
50F7848	PT06E10-6S(SR)	**22.73**	**20.97**
95F1671	PT06E12-3P(SR)	**18.74**	**17.29**
95F1672	PT06E12-3S(SR)	**32.04**	**29.56**
95F1673	PT06E12-10P(SR)	**21.51**	**19.85**
50F7849	PT06E12-10S (SR)	**24.54**	**22.65**
95F1674	PT06E14-5P(SR)	**36.44**	**33.62**
95F1675	PT06E14-5S(SR)	**23.46**	**21.64**
95F1676	PT06E14-19P(SR)	**41.90**	**38.66**
50F7850	PT06E14-19S (SR)	**44.47**	**41.03**
95F1677	PT06E16-8P(SR)	**62.99**	**58.11**
95F1678	PT06E16-8S(SR)	**48.15**	**44.43**
95F1679	PT06E16-26P(SR)	**67.00**	**61.82**
50F7851	PT06E16-26S (SR)	**41.57**	**38.36**
95F1680	PT06E20-41P(SR)	**64.58**	**59.59**
50F7853	PT06E-20-41S(SR)	**145.77**	**134.49**

(8208) (de01579)

PT07 SERIES (MS3114) JAM NUT RECEPTACLES



These pressurized jam nut receptacles offer the same quality features as **PT06 series** miniature general-duty straight plugs, *order separately on this page*, except have less than 1 cubic inch per hour leakage at 30 psi over a temperature range of –65°F to +257°F. **P suffix** in type number indicates pin contacts; **S suffix** in type number indicates socket contacts.

Stock No.	Type	Contacts	Shell Size	Dimensions A	B	C	D
93F9368	PT07C8-4S	4	8	0.473″	0.696″	0.231″	0.938″
93F9369	PT07C10-6P	6	10	0.590″	0.696″	0.231″	1.062″
93F9370	PT07C10-6S	6	10	0.590″	0.696″	0.231″	1.062″
93F9371	PT07C12-3P	3	12	0.750″	0.696″	0.231″	1.250″
93F9375	PT07C12-10P	10	12	0.750″	0.696″	0.231″	1.250″
93F9376	PT07C12-10S	10	12	0.750″	0.696″	0.231″	1.250″

Stock No.	Type	1-4	5-9
93F9368	PT07C8-4S	**34.87**	**32.17**
93F9369	PT07C10-6P	**44.33**	**40.90**
93F9370	PT07C10-6S	**23.35**	**21.54**
93F9371	PT07C12-3P	**50.28**	**46.39**
93F9375	PT07C12-10P	**58.66**	**54.12**
93F9376	PT07C12-10S	**63.89**	**58.94**

(8209) (de01580)

C091-A SERIES INDUSTRIAL CONNECTORS

Plug

Receptacle

Industrial connectors with sturdy screw locking. Nickel-plated brass shell with thermoplastic dielectric. Crimp or solder termination. 2-8 and 14 contact versions have silver-plated contacts; voltage rated (VDE0110): 250V; current rated: 5A. 12 contact version has gold-plated contacts; voltage rated (VDE0110): 60V; current rated: 3A. Male plugs feature 0.236″(6) or 0.315″ (8) max. cable outlet. Front panel mount female receptacles for 0.197″(5) max. panel thickness. Accept 20 AWG (0.5) wire maximum.

6mm STRAIGHT MALE CABLE PLUGS WITH SOLDER TERMINATION

Stock No.	Type	Contacts	1-4	5-9
16F6833	T-3200-001	2	8.26	6.88
47F020	T-3260-001	3 (DIN)	7.63	7.33
47F021	T-3300-001	4 (IEC)	7.82	7.50
47F022	T-3360-001	5	7.98	7.66
16F6837	T-3360-010	5 (S DIN)	11.19	9.31
47F023	T-3400-001	6 (DIN)	8.32	7.98
47F024	T-3475-001	7	8.49	8.15
16F6840	T3484-001	7 (DIN)	10.63	8.85
47F025	T-3635-001	12	19.66	19.02

6mm STRAIGHT FEMALE CABLE PLUGS WITH SOLDER TERMINATION

16F6901	T-3261-001	3 (DIN)	9.74	8.11
16F6903	T-3361-001	5	10.22	8.50
16F6905	T-3401-001	6 (DIN)	10.60	8.82
16F6906	T-3476-001	7	10.81	9.00
16F6907	T-3485-001	7 (DIN)	14.27	11.88
16F6909	T-3636-001	12	17.32	15.43
16F6910	T-3651-001	14	18.75	16.70

8mm STRAIGHT MALE CABLE PLUGS WITH SOLDER TERMINATION

16F6844	T3200-002	2	10.33	8.60
16F6845	T3260-002	3 (DIN)	10.63	8.85
16F6846	T3300-002	4 (IEC)	10.84	9.02
16F6848	T3360-020	5 (S DIN)	13.21	10.99
16F6849	T3400-002	6 (DIN)	11.40	9.49
16F6850	T3475-002	7	11.61	9.66
16F6851	T3484-002	7 (DIN)	11.73	9.76
16F6852	T3504-002	8 (DIN)	12.05	10.03

8mm STRAIGHT FEMALE CABLE PLUGS WITH SOLDER TERMINATION

16F6911	T3201-002	2	11.40	9.49
16F6912	T3261-002	3 (DIN)	11.90	9.91
16F6913	T3301-002	4 (IEC)	12.23	10.18
16F6915	T3361-020	5 (S DIN)	14.12	11.75
16F6917	T3476-002	7	12.97	10.79
16F6918	T3485-002	7 (DIN)	13.68	12.18
16F6919	T3505-002	8 (DIN)	15.57	12.96

6mm STRAIGHT MALE CABLE PLUGS WITH CRIMP TERMINATION

16F6853	T3260-551	3 (DIN)	7.73	6.43
16F6854	T3300-551	4 (IEC)	8.23	6.85
16F6855	T3360-551	5	8.14	6.78
16F6856	T3356-551	5 (S DIN)	10.51	8.75
16F6857	T3400-551	6 (DIN)	8.20	6.83
16F6858	T3475-551	7	13.18	10.97
16F6859	T3484-551	7 (DIN)	10.51	8.75

8mm STRAIGHT MALE CABLE PLUGS WITH CRIMP TERMINATION

16F6861	T3260-552	3 (DIN)	11.19	9.31
16F6862	T3300-552	4 (IEC)	11.31	9.41
16F6863	T3360-552	5	11.40	9.49
16F6864	T3356-552	5 (S DIN)	11.40	9.49
16F6866	T3475-552	7	14.06	11.70
16F6812	T3484-552	7 (DIN)	11.70	9.73

FRONT-MOUNTING FEMALE RECEPTACLES WITH RING-NUT (SOLDER TERMINATION)

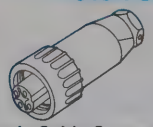
16F6811	T-3263-000	3 (DIN)	4.74	3.95
16F6795	T-3363-000	5	5.21	4.34
16F6797	T-3403-000	6 (DIN)	5.60	4.66
16F6801	T-3638-000	12	13.68	12.18

FRONT-MOUNTING FEMALE RECEPTACLES WITH HEX NUT (SOLDER TERMINATION)

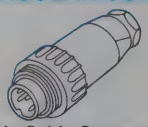
47F030	T-3263-009	3 (DIN)	4.48	3.92
47F031	T-3303-009	4 (IEC)	4.77	4.17
47F032	T-3363-009	5	4.90	4.28
16F6818	T-3359-009	5 (S DIN)	8.88	7.39
47F033	T-3403-009	6 (DIN)	5.26	5.05
47F034	T-3478-009	7	5.43	5.21
16F6821	T-3487-009	7 (DIN)	10.22	8.50
47F035	T-3638-009	12	14.50	14.03
16F6824	T-3653-009	14	15.37	13.69

(de00323)

C16-1 SERIES CIRCULAR CONNECTORS



Female Cable Connector



Male Cable Connector

Female Receptacle

Designed to meet the high requirements of industrial applications under harsh environmental conditions. 3+PE and 6+PE contact arrangements for power and signal applications. High-grade plastic housings. Threaded coupling provides protection against unlocking. Cable housing straight with PG9, 11 and 13.5 cable outlets. Internal strain relief with screw clamp or clamping ring. **Prefixes T3108, T3109,** and **T3111** in type numbers indicate 3+PE contacts and screw termination. **Prefixes T3104, T3105,** and **T3107** indicate 6+PE contacts and solder termination.

MALE CABLE CONNECTORS WITH STRAIN RELIEF

Stock No.	Type	Cable Outlet	1-4	5-9
16F6876	T3108-001	PG9	8.80	7.32
16F6877	T3108-101	PG11	7.47	6.65
16F6878	T3108-200*	PG13.5	7.57	6.74
16F6879	T3104-001	PG9	9.17	8.17
16F6880	T3104-101	PG11	11.19	9.31
16F6881	T3104-200*	PG13.5	9.41	8.39

MALE CABLE CONNECTORS WITHOUT STRAIN RELIEF

16F6882	T3108-000	PG9	7.58	6.31
16F6883	T3108-100	PG11	7.76	6.46

FEMALE CABLE CONNECTORS WITH STRAIN RELIEF

16F6886	T3109-001	PG9	7.98	7.11
16F6887	T3109-101	PG11	8.13	7.24
16F6889	T3105-001	PG9	10.60	9.44
16F6890	T3105-101	PG11	10.74	9.57

FEMALE CABLE CONNECTORS WITHOUT STRAIN RELIEF

16F6888	T3109-200	PG13.5	8.23	7.33
16F6897	T3105-200	PG13.5	10.89	9.70

FEMALE RECEPTACLES

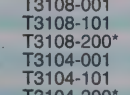
16F6898	T3111-000	...	7.05	5.87
16F6899	T3107-000	...	8.48	7.55

*With clamping ring

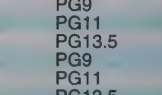
(8478)

(ne08253)

44 SERIES ENVIRONMENTALLY SEALED CONNECTORS



Plug



Receptacle

Insert Configurations

44 series high-performance environmentally sealed connectors feature a resilient, one-piece design incorporating crimp Poke-Home® contacts, *ordered separately below,* in six insert configurations. Primary and secondary mating seals and discrete wire seals resist liquids. Ideal for auto/truck, marine, industrial, traffic control, security, and mining ventilation systems. Voltage rating: 250VACrms. Current rating: 8A continuous. Temperature range: –40°C to +125°C. *Order tooling separately below.*

PLUGS

Stock No.	Type	Positions	1-24	25-49	50-99	100-249
61F1715	044-103-10002	2	2.76	2.06	1.72	1.49
61F1741	044-103-10003	3	3.06	2.29	1.90	1.65
61F1726	044-103-10004	4	3.18	2.37	1.98	1.71
61F1745	044-103-10005	5	2.95	2.19	1.83	1.58
61F1712	044-103-10006	6	3.05	2.27	1.90	1.64

RECEPTACLES

61F1700	0441041000202	2	2.91	2.17	1.80	1.57
61F1706	044-104-10003-02	3	2.03	1.86	1.61	1.43
61F1710	044-104-10004-02	4	2.12	1.95	1.68	1.50
61F1730	044-104-10005-02	5	2.12	1.95	1.68	1.50
61F1749	044-104-10006-02	6	2.24	2.06	1.78	1.59

POKE-HOME® CONTACTS

Stock No.	Type	Description	Pkg.	1-4	5-9	10-24
61F1733	0441001414P100101	Pin	100	36.23	28.74	22.39
61F1718	0441021414S100101	Socket	100	49.11	45.03	41.52
38F918	44-100-1414P-1000	Pin	1000	153.53	124.91	122.88
38F919	44-102-1414S-1000	Socket	1000	413.62	336.51	331.03

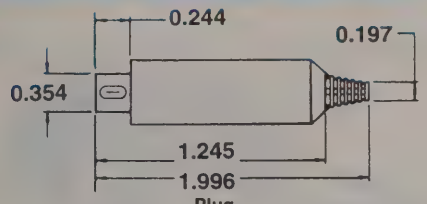
HAND TOOLS

Stock No.	Type	Description	Each
61F1703	356-258	Pin/Socket Contact Insertion Tool	37.15
61F1724	356-260	Socket Contact Removal Tool	37.15
61F1754	356-259	Pin Contact Removal Tool	37.15

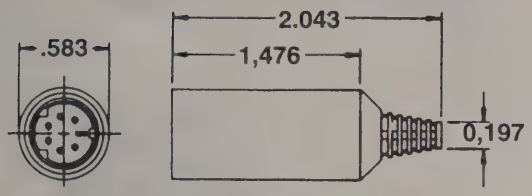
(8349)

(de00322)

18 SERIES MINI DIN CIRCULAR CONNECTOR KITS



Plug



Receptacle

Kit contains Mini-Din I/O connector with fixed contacts, 2-piece shield, 2-piece plastic cover, and PVC strain relief. Black thermoplastic insulation, rated UL94V-0. Tin-plated brass shell/shield. Solder cup termination except straight plugs which are solid (solder turn). Plugs and receptacles have phosphor bronze contacts; all plated tin over nickel under plate. Current rating: 1A. Voltage rating: 30VAC. Contact resistance: 30 milliohms maximum. Temperature range: –55°C to +105°C.

CABLE-MOUNT STRAIGHT PLUG KITS

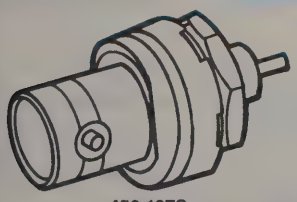
Stock No.	Type	Position	1-24	25-49	50-99	100-249
50F1943	18F-03P-131	3	1.39	1.05	0.88	0.80
50F1944	18F-04P-131	4	1.48	1.11	0.95	0.85
50F1945	18F-06P-131	6	1.66	1.25	1.06	0.96
50F1942	18F-08P-131	8	1.89	1.42	1.20	1.09

CABLE-MOUNT STRAIGHT RECEPTACLE KITS

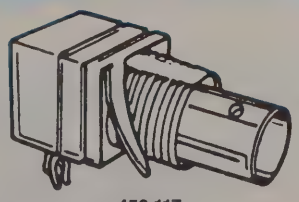
50F1946	18F-03S-121	3	1.75	1.32	1.12	1.01
50F1947	18F-04S-121	4	1.83	1.37	1.16	1.05
50F1936	18F-06S-121	6	2.09	1.58	1.34	1.20
50F1937	18F-08S-121	8	2.37	1.77	1.52	1.36

(8189) (de00324)

456 SERIES CAPACITIVELY DECOUPLED BNC FILTERED RF CONNECTORS



456-107S



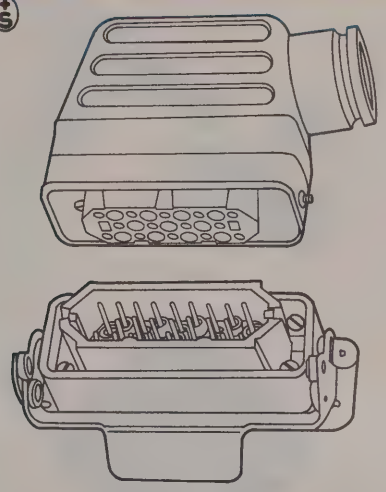
456-117

Provides capacitive decoupling up to 10,000 pF between connector body and mounting panel to control EMI emissions and meet FCC Docket 20780 requirements. Filter does not affect signal contact, only shell-to-ground connection. Reduces ground loop problems and dissipates ESD into chassis. Impedance: 50 ohms. Working voltage: 200 VDC. Interchangeable and intermateable with standard non-filter RF connectors. **Type 456-107S** front panel mount, silver-plated phosphor bronze solder cup contact with Teflon® insulator, nickel-plated brass shell, thermoplastic insulator body. Dielectric withstanding voltage: 600VDC. **Type 456-117** rear mount, right angle with boardlock device. For 0.062"-0.093" PC board. Nickel-plated diecast zinc shell, thermoplastic insulator body, nickel-plated phosphor bronze ground device. Gold-plated phosphor bronze contact with Noryl® insulator. Dielectric withstanding voltage: 1000VDC.

Stock No.	Type	Description	Each
97F9258	456-107S	Front Panel Mount, Solder Cup	9.38
97F9259	456-117	Rear PCB Mount, Right Angle	5.18

(8226) (de03581)

C-146 SERIES RECTANGULAR INDUSTRIAL CONNECTORS



C-146 series connectors can be used for many applications, such as control and power distribution, test and measurement equipment, and machine tools. Constructed of die-cast aluminum and environmentally protected by means of different latch-locking styles, neoprene gaskets, and cable strain relief options. Compatible and intermateable with other similar style products. Meets NEMA enclosures types 4 and 12. UL recognized. CSA certified. SEV and VDE approved.

TOP ENTRY HOODS (SINGLE CLAMP PINS)

Stock No.	Type	Contacts	Cable Outlet	1-4	5-9
16F6873	C146-10G006-601-1	6	PG16	15.07	12.54
16F6754	C146-10G016-606-1	16	PG21	19.22	17.12
16F6781	C146-10G048-606-1	48	PG29	59.57	57.84
16F6782	C146-10G048-607-1	48	PG36	62.45	60.64
16F6783	C146-10G048-608-1	48	PG42	67.45	65.49

END ENTRY HOODS (SINGLE CLAMP PINS)

16F6758	C146-10G006-501-1	6	PG16	14.95	12.44
16F6759	C146-10G010-506-1	10	PG16	15.62	13.91
16F6761	C146-10G016-506-1	16	PG21	17.96	16.00
16F6786	C146-10G048-507-1	48	PG36	62.45	60.64

END ENTRY HOODS (DUAL CLAMP PINS)

16F6788	C146-10G024-500-1	24	PG21	18.48	16.46

PANEL MOUNT BASES (SINGLE CLAMP)

Stock No.	Type	Contacts	1-4	5-9
16F6767	C146-10F016-001-1	16	19.56	17.43
16F6789	C146-10F024-001-1	24	19.56	17.43

PANEL MOUNT BASES (SINGLE CLAMP AND COVER)

16F6768	C146-10F006-003-1	6	20.18	17.97
16F6770	C146-10F016-003-1	16	23.83	21.69
16F6791	C146-10F024-003-1	24	25.32	23.04

PANEL MOUNT BASES (DUAL CLAMPS)

16F6774	C146-10F016-000-1	16	18.55	16.53

PIN INSERTS (SCREW TERMINAL CONTACTS—CAPTIVE)

16F6867	C146-10A006-102-1	6	13.47	11.21
16F6868	C146-10A010-102-1	10	14.51	12.93
16F6869	C146-10A016-102-1	16	18.08	16.11
16F6775	C146-10A024-102-1	24	23.43	20.87

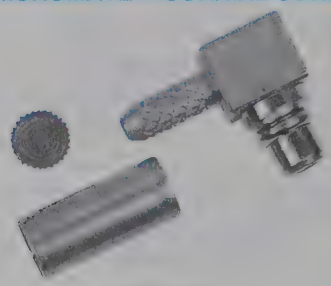
SOCKET INSERTS (SCREW TERMINAL CONTACTS—CAPTIVE)

16F6870	C146-10B006-102-1	6	13.47	11.21
16F6871	C146-10B010-102-1	10	14.51	12.93
16F6872	C146-10B016-102-1	16	18.08	16.11
16F6777	C146-10B024-102-1	24	23.43	20.87

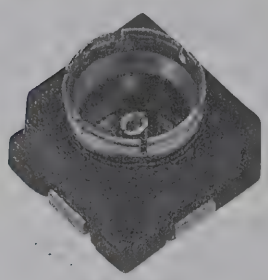
(8498) (ne09303)

NEWARK ACCEPTS MAJOR CREDIT CARDS.
CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR DETAILS.

50-OHM MICROMATE™ COAXIAL CONNECTORS



908-43200



908-22101

908-41400

Microminiature connectors are designed for high-density, lightweight coaxial applications, such as wireless data, communication, and instrumentation. Feature a low-mated profile to help meet critical height requirements. Positive snap-on mating provides retention through 500 mating cycles. Connectors are compatible with all MMCX designs and accommodate industry-standard coaxial cable. Impedance: 50 ohms. Frequency range: DC-6GHz. Voltage rating: 170Vrms. Dielectric withstanding voltage: 500Vrms.

RIGHT-ANGLE CABLE PLUGS

Stock No.	Type	Cable RG/U	1-9	10-24	25-49	50-99
66F9247	908-43200	RG-178, 196	8.44	7.18	6.10	5.49
66F9248	908-43300	RG-174, 188, 316	8.44	7.18	6.10	5.49
01F2396	908-43400	0.086″ Semi-Rigid	9.72	8.27	7.02	6.32
01F2390	908-43500	RD-316	8.44	7.18	6.10	5.49
01F2397	908-43600	0.047″ Semi-Rigid	9.72	8.27	7.02	6.32

STRAIGHT CABLE PLUGS

01F2391	908-41200	RG-178, 196	7.26	6.18	5.25	4.72
01F2392	908-41300	RG-174, 188, 316	7.26	6.18	5.25	4.72
01F2393	908-41400	0.086″ Semi-Rigid	10.50	8.93	7.58	6.83
01F2394	908-41500	RD-316	7.26	6.18	5.25	4.72
01F2395	908-41600	0.047″ Semi-Rigid	9.72	8.27	7.02	6.32

EDGE CARD OR VERTICAL MOUNT PLUG

Stock No.	Type	Description	1-9	10-24	25-49	50-99
01F2402	908-21100	Brass Contacts	7.69	6.54	5.55	5.00

STRAIGHT PCB MOUNT PLUG (THRU-HOLE)

01F2403	908-21103	Brass Contacts	7.60	6.46	5.49	4.94

JACKS

01F2404	908-22101	Surface Mount	4.29	3.65	3.10	2.79
01F2405	908-24100	Right-Angle PCB Mount Jack (Thru-Hole)	10.10	8.59	7.29	6.57

6″ ± .125″ CABLE ASSEMBLIES

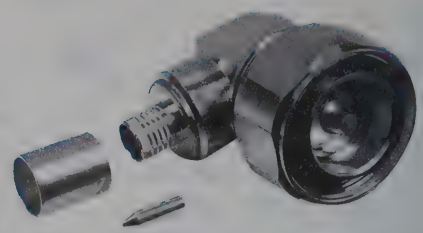
01F2398	95-680-58000	Right-Angle Micromate Plug to RP-TNC Jack	26.06	22.16	18.83	16.95
01F2399	95-680-68000	Right-Angle Micromate Plug to Straight Mini-UHF Plug	20.85	17.73	15.06	13.56
01F2400	95-680-98000	Right-Angle Micromate Plug to SMA Plug	20.85	17.73	15.06	13.56
01F2401	95-680-98001	Right-Angle Micromate Plug to SMA Jack	25.94	22.06	18.74	16.87

CONNECTOR REMOVAL TOOL

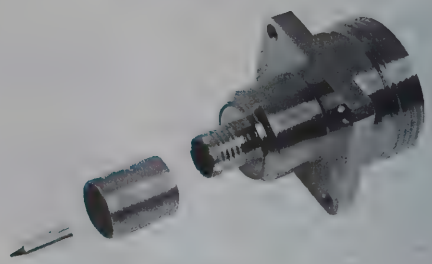
01F2406	908-50100	Cap Installation	24.52	20.85	17.71	15.95

(17345) (ne06413)

7/16 DIN COAXIAL CONNECTORS



716-3



716-2

Designed for use in high power communication systems. Connectors perform exceptionally well in multichannel cellular systems where power levels approximate 100 watts per channel. Waterproof per IEC 169 IP68 classifications.

Stock No.	Type	Description	1-9	10-24	25-49	50-99
91F5092	716-2	Female Straight to RG-393 Cable	68.70	58.42	49.63	44.68
91F5093	716-3	Male Right-Angle to RG-393 Cable	93.80	79.77	67.76	61.01
91F5094	716-7	Female Receptacle, Inner Conductor with Threaded Stud M3	47.23	40.16	34.12	30.72
91F5095	716-16	Female Receptacle, Inner Conductor with 0.115″ Wide Slot	36.84	31.33	26.61	23.96
91F5096	716-24	Female Receptacle, Inner Conductor with Solder Pocket	36.84	31.33	26.61	23.96

(17344) (ne10053)

MINI-UHF CONNECTORS FOR CELLULAR ANTENNAS AND PC BOARDS

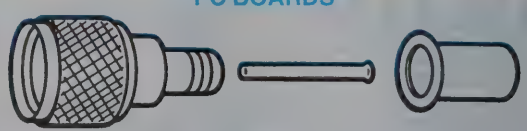


Fig. 1

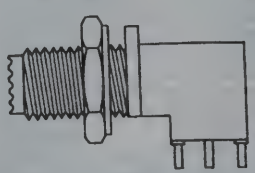


Fig. 2

Mini-UHF 50-ohm connectors for cellular antenna, phone, communication system, broad system, and LANS (local area network system) applications. Voltage rating: 335V peak. Brass crimp plugs available with bright nickel plating or black chromate finish with anti-UV conductive lacquer. Gold-plated brass contact. RG-58/U cable termination. Frequency range: 0-3GHz. Right-angle PC board bulkhead panel mount receptacle is tin-lead plated zinc diecast with tin-lead plated phosphor bronze contact. Frequency range: 1GHz.

Stock No.	Type	Fig.	Description	1-9	10-24	25-49	50-99
97F9261	81-115N-1000	1	Plug - Nickel	3.07	1.97	1.14	1.03
93F7538	81-119-1002	2	Right-Angle PCB Bulkhead Panel Mount Receptacle	3.26	2.78	2.36	2.13

(8268) (de52329)

901 SERIES 50-OHM SMA COAXIAL CONNECTORS

Subminiature units provide repeatable electrical performance 0 to 18GHz. *Order* **type 227-944** *crimp tool separately on page 199. Die sets for crimp tool available through your local Newark sales office.*

50-OHM STRAIGHT PLUGS

Stock No.	Type	Fig.	RG/U	Description	1-9	10-24	25-49	50-99
50F2433	9019723	1	.086″ Semi Rigid 405	Plug, Solder	5.70	5.13	4.36	3.53
93F7534	901-9808	1	.041″ Semi Rigid 402	Plug, Solder	6.00	5.40	4.59	3.72
39F2950	901-103	1	55, 58, 142, 223	Plug, Solder	37.04	33.34	28.34	22.94
50F2434	901-9201-1A	1	.141″ Semi Rigid 402	Plug, Solder	9.71	8.74	7.43	6.02
83F6687	901-101-15	2	55B, 142B, 223, 400	Plug, Solder	26.18	23.57	20.03	16.22
83F6688	901-128-11	...	174, 316	Plug, Solder	32.44	29.20	24.82	20.09
83F6698	901-9723-10	1	405	Plug, Solder to Body	8.12	7.31	6.22	5.03
83F6706	901-9805-HP	...	405	Pre-Assem. Factory Set Interface	6.00	5.40	4.59	3.71
39F3327	901-9601-3	2	174, 179, 187, 188, 316	Plug, Crimp, Gold Plated	19.44	17.49	14.87	12.04
39F3325	901-9501-3	3	174A, 179B, 187A, 188A, 316	Plug, Crimp	17.29	15.56	13.23	10.71
41F760	901-101	3	55, 142, 223, 400	Plug, Crimp	20.54	18.48	15.71	12.72
93F1340	901-9511-1	3	55, 142, 223, 400	Plug, Crimp, Gold Plated+	8.25	7.42	6.31	5.11
93F1341	901-9511-1SF	3	55, 142, 223, 400	Plug, Crimp, Passivated+	6.25	5.62	4.78	3.87
93F7535	901-9511-1SFC	3	55, 142, 223, 400	Plug, Crimp, Passivated	17.90	16.11	13.69	11.09
93F7537	901-9511-2	3	58, 141, Belden YR20621	Plug, Crimp, Gold Plated+	23.64	21.27	18.08	14.64
93F7521	901-9511-2SF	3	58, 141, Belden YR20621	Plug, Crimp, Passivated+	16.12	14.51	12.33	9.98
39F3326	901-9511-3	3	174, 179, 187, 188, 316	Plug, Crimp, Gold Plated+	7.87	7.08	6.02	4.88
93F1342	901-9511-3SF	3	174, 179, 187, 188, 316	Plug, Crimp, Passivated+	6.48	5.83	4.96	4.01
66F9585	901-9511-3SFC	2	174, 179, 187, 188, 316	Plug, Crimp, Passivated+	25.20	12.39	10.53	8.53

+Non-captivated solder contact

50-OHM RIGHT-ANGLE PLUGS

39F3328	901-9521-3	4	174, 179, 179B, 187, 187A, 188, 188A, 316	Plug, Solder	20.59	18.53	15.75	12.76
50F2435	901-9531-1	4	55, 142, 223, 400	Plug, Crimp, Gold Plated	12.10	10.89	9.26	7.50
93F1344	901-9531-1SF	4	55, 142, 223, 400	Plug, Crimp, Passivated	8.15	7.33	6.23	5.05
93F7601	901-9531-2	...	58, 141, Belden 20621	Plug, Crimp, Gold Plated	22.14	19.93	16.94	13.71
39F3329	901-9531-3	4	174, 179, 187, 188, 316	Plug, Crimp, Gold Plated	12.61	11.35	9.65	7.81
93F1345	901-9531-3SF	4	174, 179, 187, 188, 316	Plug, Crimp, Passivated	8.15	7.33	6.23	5.05

50-OHM JACKS AND BULKHEAD JACKS

93F7606	901-9210-1	5	.141″ Semi Rigid 402	Bulkhead Jack, Solder, Gold Plated	40.72	36.65	31.15	25.22
90F8492	901-9610-3	6	174, 179, 187, 188, 316	Bulkhead Jack, Crimp, Gold Plated	12.99	11.69	9.94	8.04

BULKHEAD JACK RECEPTACLES - FEMALE CONTACTS

Stock No.	Type	Fig.	Description	1-9	10-24	25-49	50-99
90F8493	901-9211	7	Rear Mount, Solder Cup, Gold Plated	16.32	14.69	12.49	10.11
90F8495	901-9220	7	Front or Rear Mount, Blunt Post Terminal, Gold Plated	9.29	8.36	7.11	5.76

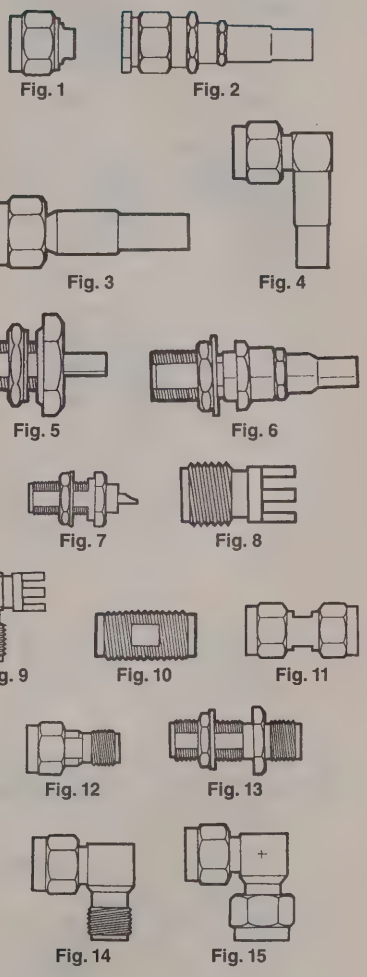
PC BOARD JACK RECEPTACLES - GOLD PLATED 4 LEG/BLUNT POST TERMINALS

Stock No.	Type	Fig.	Description	1-9	10-24	25-49	50-99
98F1495	901-144	8	Straight Jack, 0.155″ legs	9.39	8.45	7.19	5.82
51F3841	901-143	9	Angle Jack, 0.155″ legs	11.73	10.55	8.97	7.26
83F6689	901-143-3	9	Angle Jack, 0.155″ Solder-Dipped Legs	26.58	23.92	20.33	16.46
83F6690	901-143-4	9	Angle Jack, 0.105″ Solder-Dipped Legs	26.58	23.92	20.33	16.46

IN-SERIES ADAPTERS

93F7608	901-9217-SF	10	Straight Jack-Jack, Passivated	24.38	21.94	18.65	15.10
50F2437	901-9217	10	Straight Jack-Jack, Gold Plated	22.83	20.54	17.46	14.14
50F2438	901-9218	11	Straight Plug-Plug, Gold Plated	41.75	37.57	31.94	25.86
93F1329	901-9218-SF	11	Straight Plug-Plug, Passivated	41.75	37.57	31.94	25.86
50F2436	901-9216	12	Straight Plug-Jack, Gold Plated	40.56	36.51	31.03	25.12
93F1328	901-9216-SF	12	Straight Plug-Jack, Passivated	35.17	31.65	26.91	21.78
51F3842	901-9209A	13	Bulkhead Jack-Jack, Gold Plated	15.09	13.58	11.54	9.34
93F1323	901-9209-ASF	13	Bulkhead Jack-Jack, Passivated	13.19	11.87	10.09	8.17
01F388	901-125-11SF	...	Angle Plug-Jack, Passivated	39.26	35.33	30.03	24.31
93F1330	901-9219-ASF	14	Angle Plug-Jack, Passivated	28.35	25.51	21.69	17.56
50F2440	901-274	15	Angle Plug-Plug, Gold Plated	88.02	79.21	67.33	54.51
83F6696	901-9023	...	Launcher, Flush TFE / w/o Nut and Washer	24.03	21.63	18.38	14.88

(8276) (de52359)



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BRASS SMA COAXIAL CONNECTORS

Brass SMA coaxial connectors are an effective alternative when stainless steel construction is not required. Provide repeatable electrical performance from 0 to 12.4GHz. Meet or exceed MIL-C-39012 requirements.

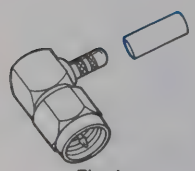


Fig. 1

Fig. 2

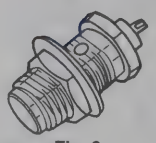
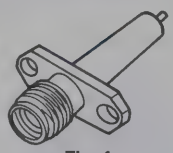


Fig. 3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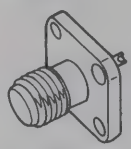


Fig. 5

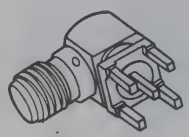


Fig. 6

STRAIGHT PLUGS

Stock No.	Type	Fig.	RG/U	Description	1-9	10-24	25-49	50-99
01F2196	901-9870	...	58	Crimp, Gold-Plated	5.39	4.86	4.13	3.34
01F2195	901-9916	...	174, 188, 316	Crimp, Gold-Plated	5.37	4.83	4.10	3.32
01F2197	901-9871	...	141, 223	Crimp, Gold-Plated	5.39	4.86	4.13	3.34
01F2200	901-9876-RFX	...	58	Crimp, Nickel-Plated	2.47	2.22	1.89	1.53
01F2201	901-9877-RFX	...	174, 188, 316	Crimp, Nickel-Plated	2.47	2.22	1.89	1.53

RIGHT-ANGLE PLUGS

01F2194	901-9873	1	58	Crimp, Gold-Plated	9.57	8.61	7.32	5.93
01F2193	901-9872	1	174, 188, 316	Crimp, Gold-Plated	9.09	8.18	6.95	5.63
01F2198	901-9880-RFX	1	58	Crimp, Nickel-Plated	4.58	4.12	3.51	2.84
01F2199	901-9881-RFX	1	174, 188, 316	Crimp, Nickel-Plated	4.58	4.12	3.51	2.84

BULKHEAD JACK RECEPTACLES

Stock No.	Type	Fig.	Description	1-9	10-24	25-49	50-99
01F2202	901-9889-RFX	2	Front Mount, Solder Cup, Nickel-Plated	3.60	3.24	2.75	2.23
01F2203	901-9890-RFX	3	Rear Mount, Solder Cup, Nickel-Plated	3.60	3.24	2.75	2.23
93F1325	901-9211-SF	3	Rear Mount, Solder Cup, Passivated	12.52	11.27	9.58	7.76

PANEL PLUG RECEPTACLES

01F2204	901-9891-RFX	4	2-Hole Panel Mount, Post, Nickel-Plated	7.06	6.35	5.40	4.37
01F2205	901-9887-RFX	...	4-Hole Panel Mount, Post, Nickel-Plated	7.54	6.79	5.77	4.67
01F2209	901-9893-RFX	...	2-Hole Panel Mount, Solder Cup, Ni Plated	4.25	3.82	3.25	2.63
01F2206	901-9892-RFX	5	4-Hole Panel Mount, Solder Cup, Ni Plated	4.32	3.89	3.31	2.68
93F1336	901-9244-1	4	2-Hole Panel Mount, Solder, Gold-Plated	18.61	16.75	14.24	11.53
39F3332	901-9215	5	4-Hole Panel Mount, Solder, Gold-Plated	19.36	17.43	14.81	11.99
83F6697	901-9215-3CCSF	...	4-Hole Panel Mount, Tab Terminal	14.41	12.97	11.02	8.93
83F6699	901-9757	...	4-Hole Flange Mount, Exposed TFE	18.29	16.46	13.99	11.33
83F6705	901-9804-1	...	4-Hole Flange Mount, Solder Dipped	15.75	14.18	12.05	9.76

PC BOARD JACK RECEPTACLES

01F2207	901-143-6-RFX	6	Right-Angle , 4-Leg, Blunt Post, Gold-Plated	4.89	4.40	3.74	3.03
01F2208	901-144-8-RFX	...	Straight, 4-Leg, Blunt Post, Gold-Plated	2.96	2.66	2.26	1.83

(10945) (ne09852)

50-OHM SMB SUBMINIATURE COAXIAL CONNECTORS

SMB subminiature connectors feature snap-on mating and meet or exceed MIL-C-39012 requirements. Voltage rating of 335V peak. Frequency range: 0-4GHz; useable to 10GHz. Temperature range: –65°C to +165°C. Moisture seal.

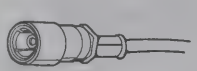


Fig. 7

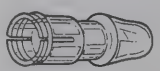


Fig. 8

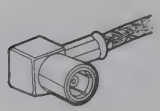


Fig. 9

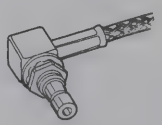


Fig. 10

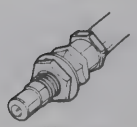


Fig. 11

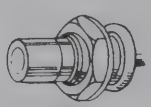


Fig. 12

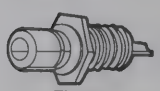


Fig. 13

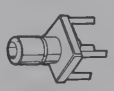


Fig. 14

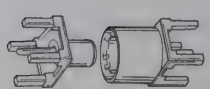


Fig. 15A and 15B

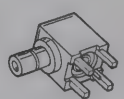


Fig. 16

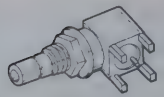


Fig. 17

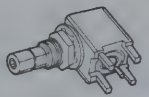


Fig. 18

STRAIGHT PLUGS — BRAID CRIMP/SOLDER FEMALE CONTACT

Stock No.	Type	Fig.	RG/U	Body Plating	1-9	10-24	25-49	50-99
90F8472	903-285P-51S	7	174, 179, 187, 188, 316	Gold	10.38	9.34	7.94	6.43
93F1365	903-370P-51S	7	174, 179, 187, 188, 316	Nickel	6.45	5.81	4.94	4.00
90F8497	903-287P-51S	7	178, 196	Gold	17.03	15.33	13.03	10.55

STRAIGHT PLUG — RADIAL CRIMP FEMALE CONTACT

42F201	27 1	8	174, 188, 316	Gold	5.62	4.78	4.06	3.66

RIGHT- ANGLE PLUGS — BRAID CRIMP/SOLDER FEMALE CONTACT

90F8473	903-289P-51A	9	174, 179, 187, 188, 316	Gold	7.47	6.72	5.71	4.63
01F884	903-289P-51A2	9	174, 179, 187, 188, 316	Gold	4.55	4.10	3.48	2.82
93F1361	903-367P-51A	9	174, 179, 187, 188, 316	Nickel	7.42	6.68	5.68	4.60
90F8498	903-291P-51A	9	178, 196	Gold	12.41	11.17	9.49	7.68
01F885	903-291P-51A1	9	178, 196	Gold	4.96	4.46	3.79	3.07
66F9588	903-368P-51A1	9	178, 196	Nickel	4.44	3.99	3.40	2.75

RIGHT-ANGLE BULKHEAD JACK — BRAID CRIMP/SOLDER MALE CONTACT

93F1377	903-422J-51A	10	174, 179, 187, 188, 316	Gold	23.94	21.55	18.32	14.83

STRAIGHT BULKHEAD JACK — BRAID CRIMP/SOLDER MALE CONTACT

01F886	903-505J-51S1	11	Double Shield 316	Nickel	6.76	6.08	5.17	4.19
66F9587	903-505J-51S	11	174, 179, 187, 188, 316	Nickel	7.02	6.32	5.37	4.35

BULKHEAD JACK RECEPTACLES — GOLD-PLATED BODY, SOLDER CUP TERMINALS

Stock No.	Type	Fig.	Description	1-9	10-24	25-49	50-99
50F2441	903-305J-51R	12	Rear Mount	16.51	14.86	12.63	10.22
93F1372	903-406J-51R+	13	Front Mount	6.03	5.43	4.61	3.74

BULKHEAD JACK RECEPTACLES — GOLD-PLATED BODY MALE CONTACT

42F203	27 3	12	Rear Mount	5.27	4.48	3.81	3.43

PC BOARD JACK RECEPTACLES — 4 LEG/BLUNT POST TERMINALS

50F2442	903-415J-51P	14	Gold-Plated Brass	6.10	5.49	4.67	3.78
01F887	903-499J-51P	14	Gold-Plated Diecast Zinc, Snap-Lock	5.83	5.25	4.46	3.61
66F9590	903-499J-51P2	14	Gold-Plated Diecast Zinc	4.13	3.72	3.16	2.56
66F9593	903-409J-53P†	15A	Slide-On Jack, Gold-Plated	10.93	9.84	8.36	6.77
66F9594	903-410P-53P†	15B	Slide-On Plug, Gold-Plated	12.35	11.11	9.45	7.65
51F3920	903-373J-51A	16	Angle, Tin-Lead-Plated, Leak Tight‡	6.79	6.11	5.19	4.20
93F1368	903-376J-51A†	17	Angle Bulkhead, Tin-Lead-Plated**‡	16.61	14.95	12.71	10.29
93F1376	903-413J-51A	18	Angle Bulkhead, Tin-Lead-Plated, Leak Tight‡	10.83	9.75	8.28	6.71

†Board-to-board interconnect for 0.360" spacing; +Jam nut and lockwasher *ordered separately; contact your local Newark sales office for details;* **No stand-off pads. ‡ Gold plated interface and contact.

(6304) (ne08618)

903 SERIES 75-OHM HIGH-DENSITY SMB COAXIAL CONNECTORS

SMB 75-ohm high-intensity subminiature coaxial connectors conform to the requirements of MIL-C-39012. Feature quick connect/disconnect snap-on mating. Operate to 4GHz with low reflection and are usable to 10GHz. Voltage rating for RG-188U cable: 335 volts. Dielectric withstanding voltage: 1000Vrms. Temperature range: –65°C to +165°C.

PLUGS — BRAID CRIMP/SOLDER FEMALE CONTACT

Nickel-plated zinc body, gold-plated contact.

Stock No.	Type	Fig.	Description	RG/U	1-9	10-24	25-49	50-99
52F6927	903-516P-71S	1	Straight Plug	735A	10.42	8.86	7.53	6.78
52F6928	903-517P-71A	2	Angle Plug	735A	10.25	8.72	7.41	6.67

PCB PLUG AND JACK RECEPTACLES — 4 LEG/BLUNT POST TERMINALS

Gold-plated body and contact. TFE fluorocarbon, red insulator.

Stock No.	Type	Fig.	Description	1-9	10-24	25-49	50-99
52F6929	903-524P-71P	3	Slide-On Plug Receptacle	19.93	16.95	14.40	12.96
52F6930	903-518J-71P	4	End Mount Jack Receptacle	5.05	4.29	3.65	3.28
52F6931	903-512J-71P	5	Jack Receptacle	3.87	3.49	2.96	2.40
52F6932	903-519J-71P	6	Angle Jack Receptacle	17.34	14.75	12.53	11.28

(8305) (ne08619)

Fig. 1

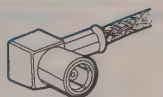


Fig. 2

Fig. 3

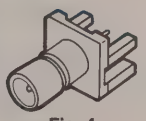


Fig. 4

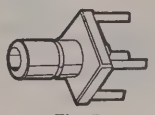


Fig. 5

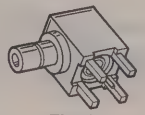


Fig. 6

MCX SERIES CONNECTORS

All types have gold plating, except **type 919-105P-51A,** which has white bronze plating.

Stock No.	Type	Fig.	Description	1-9	10-24	25-49	50-99
01F371	919-119J51AX	...	Right -Angle PCB Female Receptacle	9.80	8.33	7.08	6.37
01F811	919-104P-51AX	7	Right-Angle Plug for RG/U 188 and 316 Cable	8.58	7.30	6.20	5.58
01F372	919-118J-51S	...	Straight PCB Surface Mount Receptacle	7.20	6.12	5.20	4.68
01F812	919-101P-51SX	8	Straight Plug, Crimp Type, RG/U188, 316	9.15	7.78	6.61	5.95
01F813	919-109J-51PX	...	Straight Female Receptacle, Solder to PCB	7.51	6.38	5.42	4.88

(12528) (ne09853)

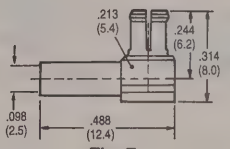


Fig. 7

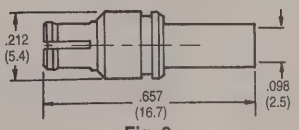


Fig. 8

50-OHM AND 75-OHM SMC SUBMINIATURE COAXIAL CONNECTORS

SMC subminiature connectors feature screw-on mating and meet or exceed MIL-C-39012 requirements. Voltage rating of 375V peak. Frequency range: 0-4GHz; useable to 10GHz. Temperature range: –65°C to +165°C. Weather-proof.

50-OHM STRAIGHT PLUGS — BRAID CRIMP/SOLDER FEMALE CONTACT

Stock No.	Type	Fig.	RG/U	Body Plating	1-9	10-24	25-49	50-99
93F1358	903-284P-52S	9	174, 179, 187, 188, 316	Gold	12.81	11.53	9.80	7.94

50-OHM STRAIGHT PLUG — RADIAL CRIMP FEMALE CONTACT

Stock No.	Type	Fig.	RG/U	Body Plating	1-9	10-24	25-49	50-99
42F207	27 7	10	174, 188, 316	Gold	7.38	6.28	5.33	4.80

50-OHM RIGHT ANGLE PLUGS — BRAID CRIMP/SOLDER FEMALE CONTACT

Stock No.	Type	Fig.	RG/U	Body Plating	1-9	10-24	25-49	50-99
93F1359	903-288P-52A	11	174, 179, 187, 188, 316	Gold	19.19	17.27	14.68	11.88

50-OHM BULKHEAD JACK RECEPTACLES — GOLD-PLATED BODY, SOLDER CUP TERMINALS

Stock No.	Type	Fig.	Description	1-9	10-24	25-49	50-99
93F1374	903-408J-52R*	12	Front Mount	19.97	17.97	15.28	12.37

50-OHM AND 75-OHM BULKHEAD JACK RECEPTACLES — GOLD-PLATED BODY MALE CONTACT

Stock No.	Type	Fig.	Description	1-9	10-24	25-49	50-99
42F209	27 9	13	50-Ohm, Rear Mount	4.82	4.10	3.48	3.13

50-OHM PC BOARD JACK RECEPTACLES — 4 LEG/BLUNT POST TERMINALS

Stock No.	Type	Fig.	Description	1-9	10-24	25-49	50-99
93F7531	903-420J-52P	14	Gold-Plated	7.19	6.47	5.50	4.45
93F1369	903-378J-52A†	15	Angle, Tin-Lead-Plated Body and Legs, Leak Tight	10.63	9.56	8.13	6.58
93F7533	903-419J-52A*†	16	Angle Bulkhead, Tin-Lead-Plated, Leak Tight	17.75	15.98	13.58	11.00

*Jam nut and lockwasher *ordered separately; contact your local Newark sales office for details.* †Gold plated interface and terminals.

(8306) (ne08620)

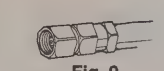


Fig. 9

Fig. 10

Fig. 11

Fig. 12

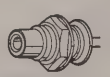


Fig. 13

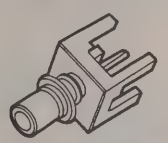


Fig. 14

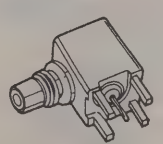


Fig. 15

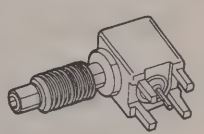


Fig. 16

50-OHM BNC COAXIAL NETWORKING CONNECTORS

Type 31-5800 for Thinnet/Ethernet systems using PVC or plenum cable. **Type 31-5900** for IBM/Arcnet systems using PVC or plenum cable. Each plug features three-piece crimp-crimp termination and is supplied with two ferrules: straight for PVC cable and neck down type for plenum cable. Feature durable astroplate finish and gold-plated contacts that snap in place. **Type CTL-1** hex crimp tool is available; *contact your local Newark sales office for details.* **Type 31-208-RFX** networking jack-plug-jack T-adapter is also available; *contact your local Newark sales office for details.*

Stock No.	Type	Fig.	RG-/U	1-9	10-24	25-49	50-99
66F9250	31-5800	17	58, 58A, 58B, 58C, 141, Plenum 58,Thinnet, Belden 9907, 89907, Comscope 2104K, 2135, 3104	2.22	1.88	1.60	1.44
66F9251	31-5900	17	59, 62, 59 20GACC, Plenum 59 & 62, Belden 1515A, 8212, 8221, 8241, 8241A, 8241F, 8263, 8279A, 9100, 9209, 9209A, 9240, 9244, 9259, 9274, 9275, 9659, 1426A, 82108, 88241, 89259, 82259, 1506A, AT&T 734A, Comscope 5553, 2020K, 3037V, 2249K	2.26	1.92	1.63	1.47

(8300) (ne06416)

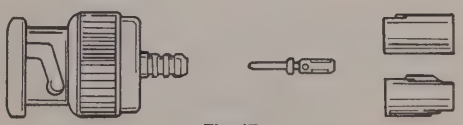


Fig. 17

50-OHM BNC CABLE CONNECTORS

Lightweight UL recognized units operate to 11GHz and yield low reflection up to 4GHz. **Figs. 1-5** braid clamp types with solder contact. **Fig. 6** Quicktrim® 3-piece clamp type plug assemblies with solder or crimp contact. **Figs. 7** and **8** 3-piece crimp type assemblies with braid crimp ferrule, crimp or solder contact. **Figs. 9-11** 3-piece crimp type assemblies with braid crimp ferrule, crimp or solder contact. **Figs. 12** and **13** Quick assembly 3-piece units with spring braid ferrule, solder contact. **Figs. 14-15** Suretwist® 1-piece reusable units. *Order tool and die sets separately on page 199.*

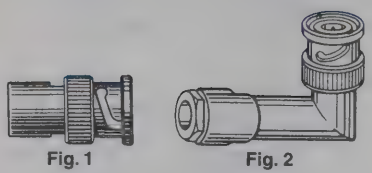


Fig. 1 Fig. 2

Fig. 3 Single Hole Mount Fig. 4

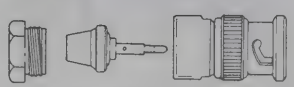


Fig. 5

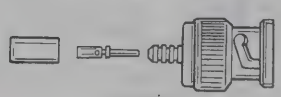


Fig. 6

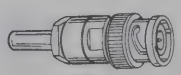


Fig. 7

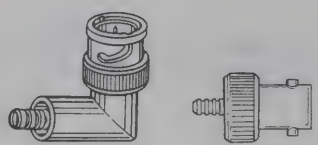


Fig. 8 Fig. 9

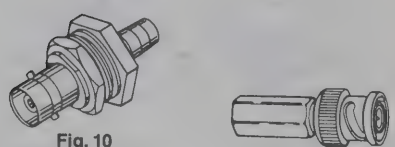


Fig. 10 Single Hole Mount Fig. 11

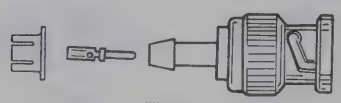


Fig. 12

Fig. 13

STRAIGHT PLUGS (CLAMP)

Stock No.	Type	Fig.	MIL No.	RG/U	1-9	10-24	25-49	50-99
83F6741	16300	1	...	180	12.99	11.05	9.39	8.45
39F063	31-2	1	UG-88	58, 141, 142, 400	3.97	3.69	2.58	2.45
39F1003	31-18	1	UG-88B	58, 141, 142, 400	7.07	6.58	4.61	4.37
39F1018	31-202*	1	UG-88C	55, 58, 141, 142, 223, 400	3.75	3.49	2.44	2.32
39F1220	31-301	1	...	55, 58, 141, 142, 223, 400	4.98	4.63	3.24	3.08
39F065	31-12	1	UG-260	59, 62, 71, 140, 210, 302	4.77	4.44	3.11	2.95
39F1027	31-212*	1	UG-260B	59, 62, 71, 140, 210, 302	3.85	3.58	2.51	2.38
38F1202	31-212-1005	1	...	59 (20 GA Center Cond.)	5.42	4.61	3.92	3.53
51F3835	6775	1	UG-959	8, 9, 11, 213, 214	7.77	7.22	5.06	4.80
51F3823	31-3303	1	16-0103+	122, 180, 195	9.45	8.03	6.83	6.15
40F6325	69475	1	...	174, 179, 188, 316	7.47	6.95	4.86	4.62
51F3824	15875	1	...	178, 196	7.19	6.68	4.68	4.44

RIGHT-ANGLE PLUG (CLAMP)

39F1020	31-204*	2	UG-913	55, 58, 141, 142, 223, 400	48.99	41.66	35.39	31.86

JACKS (CLAMP)

39F066	31-15	3	UG-261	59, 62, 71, 140, 210	9.82	8.35	7.10	6.39
40F6327	31-4328	3	17-0015+	59, 62, 140, 210	9.81	8.34	7.09	6.38
39F064	31-5*	3	UG-89	58, 141, 142, 223, 400	6.19	5.26	4.47	4.03

BULKHEAD JACKS (CLAMP)

39F1023	31-207*	4	UG-910	59, 62, 71, 140, 210	12.67	10.77	9.15	8.24
39F1022	31-206*	4	UG-909	58, 141, 142, 400	7.53	7.00	4.90	4.66
50F1606	86350	4	...	174, 179, ,187, 188, 316	14.73	12.52	10.64	9.58

STRAIGHT PLUGS (QUICKTRIM®)

38F1574	31-4541*	5	...	59, 62	6.21	5.77	4.04	3.84
38F1575	31-4542	5	...	Belden 9268	7.38	6.87	4.81	4.56

STRAIGHT PLUGS (CRIMP)

39F1446	31-321*†	6	3-05††	59, 62, 140, 210, 302	5.01	4.66	3.26	3.10
40F6318	31-4321†	6	16-0015+	59, 62, 140, 210, 302	5.95	5.53	3.87	3.68
39F029	68175†	6	...	59, 140, 210, 302	4.56	4.24	2.97	2.82
50F2443	68175-1003	6	...	Belden 9259	4.65	4.32	3.03	2.88
38F1200	68175-1004†	6	...	59, 62, 140, 210, 302	4.67	4.34	3.04	2.89
38F1201	68175-1005†	6	...	59 (20 GA Center Cond.)	5.05	4.69	3.29	3.12
39F1438	31-320*‡	6	3-01, 3-03††	58, 141	4.90	4.56	3.19	3.03
39F1442	31-326‡	6	3-02, 3-04††	55, 142, 223	6.65	5.66	4.81	4.33
40F6319	31-4320‡	6	16-0013+	58, 141	5.43	5.05	3.54	3.36
40F6320	31-4326‡	6	16-0014+	55, 142, 223	5.36	4.56	3.87	3.49
89F2891	31-4427‡	6	16-0503+	55, 142, 223, 400	7.56	6.43	5.46	4.92
39F1072	36775‡	6	...	58, 141	5.70	4.84	4.12	3.71
39F1082	36875‡	6	...	55, 142, 223, 400	5.89	5.01	4.26	3.83
40F6321	31-315* **	6	...	174, 188, 316	5.43	5.05	3.54	3.36
93F1473	31-315-1005	6	...	316 Double Braid	6.37	5.42	4.60	4.14
51F3836	31-242* **	6	...	Amphenol 21597 Times AA 6086	6.68	6.21	4.35	4.13
50F2447	31-320-1006	6	...	Belden 9907, 89907	4.65	4.32	3.03	2.88
40F6322	31-321-1000 •	6	...	Belden 8281	5.72	5.32	3.72	3.54
93F1480	31-4411	6	...	Belden 8213	33.68	28.64	24.33	21.91
39F1042	31-351	7	...	58, 141	12.06	11.22	7.85	7.46
39F1044	31-359†	7	...	59, 62, 140, 210, 302	12.62	11.73	8.21	7.80
51F3837	31-371**	7	...	174, 179, 187, 188, 316	13.56	12.61	8.83	8.39

RIGHT-ANGLE PLUGS (CRIMP)

39F1439	31-335*	8	...	58, 141	22.88	21.28	14.89	14.14
39F1443	31-334*	8	...	55, 142, 223, 400	26.27	22.34	18.98	17.08
39F1447	31-336*†	8	...	59, 62, 140, 210	18.54	17.24	12.07	11.46
88F1424	33275	8	...	174, 179, 187, 188	43.07	36.63	31.12	28.02

JACKS (CRIMP)

40F6326	31-4327‡	9	17-0013+	58, 141	8.00	6.80	5.78	5.20
50F1607	31-317* **	9	...	174, 179, 187, 188, 316	10.73	9.98	6.98	6.63

BULKHEAD JACKS (CRIMP)

39F1441	31-342‡	10	3-15, 3-17H	58, 141	6.94	6.45	4.52	4.29
51F3822	31-318* **	10	...	174, 188, 316	9.95	9.26	6.48	6.16

STRAIGHT PLUGS (QUICK ASSEMBLY)

38F920	31-4700*	11	...	58	5.66	5.27	3.69	3.50
38F922	31-4702*	11	...	59	5.26	4.90	3.43	3.25

STRAIGHT PLUGS (SURETWIST®)

46F8023	31-5137*	12	...	58, 58B	6.25	5.82	4.07	3.87
46F7815	31-5136*	12	...	59, 59A, 62, 62A	4.44	4.13	2.89	2.75

JACK (SURETWIST®)

46F8022	31-5138	13	...	59, 59A, 62, 62A	6.36	5.91	4.14	3.93

* Preferred for new design ** Die set 227-1221-9 and tool handle 227-944 ‡ Die set 227-1221-11 and tool handle 227-944 • Die set 227-1221-32 and tool handle 227-944 † Die set 227-1221-13 and tool handle 227-944 + M39012 P/N †† M23329 P/N

(8258) (de51786)

50-OHM BNC RECEPTACLES

BULKHEAD RECEPTACLES

Stock No.	Type	Fig.	MIL No.	Description	1-9	10-24
38F1322	31-10	1	...	Isolated	5.01	4.66
39F075	31-221	2	UG-1094	Thin Panel, Front Mount	2.33	2.16
39F3130	31-2221	2	UG-1094A	Front Mount	2.75	2.56
39F1312	5575	2	UG-625	Front Mount	4.58	3.90
39F1337	31-236	2	UG-625B	Front Mount	2.59	2.41
39F1339	31-238	2	UG-912	Pressurized, Front Mount	13.54	11.51
39F073	31-102	2	UG-657	Pressurized, Front Mount	3.57	3.32
77B6612	31-239	2	UG-657A/U	Front Mount, Pressurized	8.15	6.93
40F6330	31-3376+	2	21-0001	Gold-Plated Contacts, Front Mount	4.66	3.96
51F3829	31-4238+	2	24-0002	Hermetic, Front Mount	18.82	16.00
39F1034	31-222	...	...	Angle, External Tooth Lock Washer	37.30	31.72

PANEL RECEPTACLES

39F069	31-3	3	UG-290	3-56 Tapped Flange, 0.500″ Sq. Mounting Holes	5.22	4.85
39F1019	31-203	3	UG-290A	3-56 Tapped Flange, 0.500″ Sq. Mounting Holes	6.37	5.92
39F1311	4500	3	UG-185/U	.136″ Tapped Flange Mounting Holes	22.02	18.73

PANEL RECEPTACLE PC PINS

40F6329	18225	...	...	0.500″ Sq. Mounting Holes	22.14	18.83

PCB MOUNT RIGHT-ANGLE BULKHEAD RECEPTACLES

90F8468	31-5431*	4	...	Round Pins	5.13	4.77
93F1501	31-5538**	4	...	Round Pins	5.83	4.95
93F7524	31-5640+	5	...	Round Pins	6.08	5.17
90F8469	31-5486*	4	...	Round Pins Low-Profile	5.83	4.95
93F1503	31-5540**	4	...	Round Pins Low-Profile	5.83	4.95

PCB MOUNT VERTICAL BULKHEAD RECEPTACLES

93F1500	31-5493*	6	...	Round Pins	5.83	4.95
93F7512	31-5493-1010*	6	...	Fork Pins	5.83	4.95
93F1502	31-5539**	6	...	Round Pins	5.83	4.95

PCB MOUNT RECEPTACLES

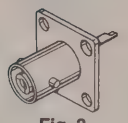
89F2885	31-5329	7	...	Jack/3 Legs 0.040″ (1.02) Post Terminal, Zinc Body	5.81	5.40

* Isolated, White Valox Housing ** Isolated, Black Valox Housing + Metal Housing

(8277) (de53369)

Fig. 1

Fig. 2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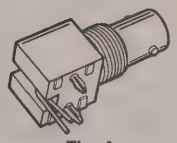
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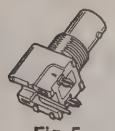
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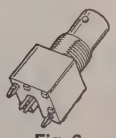
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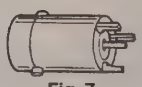


Fig. 7

Fig. 8

75-OHM BNC PC BOARD RECEPTACLES

Standard profile printed circuit angle bulkhead receptacles mount to board with two fork pins. Available with white valox or zinc housing. Gold-plated phosphor bronze center contact and nickel-plated zinc outer contact. White noryl insulator. Tin lead-plated brass mounting legs. Tin-plated copper signal and ground terminals, 0.190″ long into 0.035″ diameter mounting holes. Feature 2-stud bayonet lock mating. Voltage rating: 500Vrms. Dielectric withstanding voltage: 1500Vrms. Temperature range: –40°C to +100°C.

Stock No.	Type	Fig.	Description	1-9	10-24
66F6118	31-71047-1010	4	75-Ohm, Valox Housing	5.83	4.95
66F6119	31-71043-1010	5	75-Ohm, Zinc Housing	6.08	5.17

(8299) (ne06414)

75-OHM CRIMP-CRIMP BNC CONNECTORS

Designed for use in telecommunications. Mate with standard 50-ohm BNCs without damage. BNC-T1 provides constant 75-ohm performance with low VSWR DC to 4GHz. BNC-T2 is usable with low reflection DC to 1GHz. For applications above 1GHz, manufacturer recommends BNC-T1. *Order die sets separately; contact your local Newark sales office.*

Stock No.	Type	Fig.	Description	Cable Size RG/U	Die Set Number*	1-9	10-24
89F2857	31-70000	9	BNC Plug (BNC-T1)	Belden 89248 or PL-6	227-980-3	6.37	5.92
89F2858	31-70008	9	BNC Plug (BNC-T1)	59	227-980-1	6.46	6.01
89F2863	31-70013	9	BNC Plug (BNC-T1)	179	227-980-7	6.25	5.82
93F1515	31-71003	8	BNC Plug (BNC-T2)	59, 62, 71, 140, 210	...	12.67	10.77
90F8483	31-71008	9	BNC Plug (BNC-T2)	59	CTL-1	3.60	3.35
93F1517	31-71008-1000	9	BNC Plug (BNC-T2)	59 (20GA Center Cond.)	CTL-1	5.67	4.82
93F1518	31-71008-2000	9	BNC (BNC-T2)	Plenum 59	...	4.93	4.20
90F8485	31-71013	9	BNC Plug (BNC-T2)	179	CTL-2	4.93	4.20
93F1526	31-71032	9	BNC Plug (BNC-T2)	Belden 8281, 88281	CTL-2	4.30	3.66
93F1527	31-71033	9	BNC Plug (BNC-T2)	Belden 8218	CTL-2	4.09	3.48
01F994	31-71035	9	BNC Plug (BNC-T2)	Plenum 59 (20 Ga. CC)	...	8.14	6.92
01F996	31-71064	9	BNC Plug (BNC-T2)	RG-6 Type; Belden 9248	...	4.93	4.20
01F995	31-71066	9	BNC Plug (BNC-T2)	59 Quad Shield	...	5.50	4.68
93F1505	31-70008-1000	...	BNC Plug (BNC-T1)	ATT. 734A	...	7.34	6.24
93F1506	31-70013-1000	...	BNC Plug	Dbl. Br. 179	...	7.34	6.24
89F2871	31-70022	...	BNC Plug	ATT. 728B, Belden 9231	...	8.01	6.81
93F1520	31-71010	...	BNC Angle Plug	59, 62, Belden 8241, 8263, 8279, 9209	...	95.17	80.93
89F2866	31-70016	...	BNC Jack (BNC-T1)	179, 187	...	31.60	26.87
93F1521	31-71011	...	BNC Crimp Bulkhead Jack	59, Belden 8241, 8263	...	12.51	10.64
89F2868	31-70018	10	Bulkhead Recep. (BNC-T1)	...	...	6.57	6.11
90F8488	31-10-75	11	Bulkhead Recep. Isolated	...	...	5.30	4.93
89F2869	31-70019	12	Straight Adapter (J-J)	...	...	5.41	5.03
89F2870	31-70020	13	Bulkhead Adapter (J-J)	...	...	15.15	14.09

* Die sets fit **type 227-944** tool handle *order separately on page 199*, except **CTL** items which contain handle and die set.

(8198) (de01407)

Fig. 9

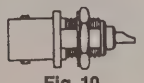


Fig. 10

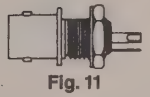


Fig. 11

Fig. 12

Fig. 13

COAXIAL CONNECTORS

Fig. 1

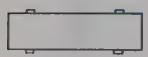
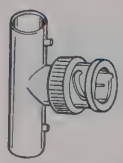


Fig. 2

Fig. 3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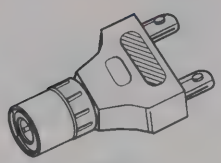
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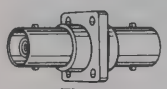
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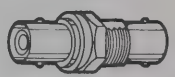
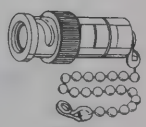


Fig. 7

Fig. 8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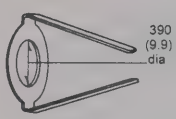


Fig. 10

Fig. 11

Fig. 12

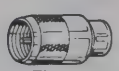
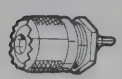


Fig. 13

Fig. 14

Fig. 15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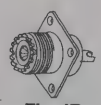


Fig. 17

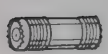


Fig. 18

Fig. 19

Fig. 20

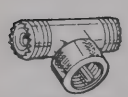
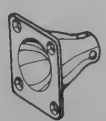


Fig. 21

Fig. 22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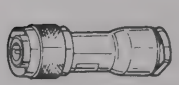


Fig. 24

Fig. 25

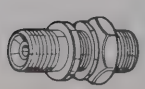


Fig. 26

Fig. 27

BNC ADAPTERS, CAPS, AND ACCESSORIES

Stock No.	Type	MIL No.	Fig.	Description	1-9	10-24	25-49	50-99
39F1031	31-218	UG-491A	1	Adapter (Plug-Plug)	8.42	7.83	5.48	5.20
39F1032	31-219	UG-914	2	Adapter (Jack-Jack)	4.87	4.52	3.17	3.01
01F992	31-9-75	...	...	Adapter (Plug-Jack), 75 Ohm	14.00	11.91	10.12	9.11
39F071	31-9	UG-306	3	Angle Adapter, (Plug-Jack)	12.06	11.22	7.85	7.46
39F1071	31-209	UG-306A	3	Angle Adapter, (Plug-Jack)	13.17	12.24	8.57	8.14
39F068	31-8	UG-274	4	Tee Adapter (Jack-Plug-Jack)	11.43	10.63	7.44	7.07
39F1024	31-208	UG-274A	4	Tee Adapter (Jack-Plug-Jack)	9.51	8.84	6.19	5.88
39F1080	31-2208	UG-274B	4	Tee Adapter (Jack-Plug-Jack)	19.32	16.43	13.96	12.57
01F997	31-5693	...	5	Overmolded Tee Adapter (Jack-Plug-Jack)	11.93	10.15	8.62	7.76
39F1331	47000	UG-414	6	Panel Adapter (Jack-Jack)	7.77	7.22	5.06	4.80
51F3827	4525	...	7	Bulkhead Adapter (Jack-Jack)	17.64	15.00	12.74	11.47
39F1033	31-220N	...	7	Adapter Bulkhead Mount (Jack-Jack), Nonsealed	7.19	6.68	4.68	4.44
90F6319	31-220H	UG-492A	7	Bulkhead Adapter (Jack-Jack), Sealed	8.29	7.71	5.40	5.13
39F1079	31-3220	UG-492D	7	Bulkhead Adapter (Jack-Jack), Sealed	10.58	9.84	7.31	6.54
38F757	31-4803	...	7	Bulkhead Adapter (Jack-Jack) Isolated	11.66	10.85	7.59	7.21
39F1000	31-6	CW-123	8	Male Cap w/chain	4.76	4.43	3.10	2.95
39F072	31-7	CW-155	8	Male Cap w/o chain	4.27	3.63	3.09	2.78
39F1002	31-17	CW-159	8	Male Cap Shorting Contact w/chain	6.87	6.39	4.47	4.25
90F8470	46650-51	...	9	50 Ohm, 1 Watt Resistor Male Cap w/o chain	15.87	13.49	11.46	10.32
51F3826	46650-75	...	9	75 Ohm, 1 Watt Resistor Male Cap w/o chain	10.54	9.80	6.86	6.51
51F3792	35650-51	...	9	50 Ohm, ½ Watt Resistor Male Cap w/chain	16.37	13.92	11.83	10.65
77B6341	4700-51	...	9	50 Ohm, ½ Watt, Male, Cap and Chain	12.61	10.72	9.11	8.20
77B6348	5275	...	9	50 Ohm, Male Shorting Cap	12.75	10.84	9.21	8.29
51F3793	35650-75	...	9	75 Ohm, ½ Watt Resistor Male Cap w/chain	14.41	13.40	9.38	8.91
39F1035	31-759	...	10	Shield Ground Lug (IBM 2245373)	0.54	0.50	0.35	0.33
93F7516	31-5652	...	11	Nickel-Plated Hex Nut for PCB Bulkhead Receptacle	0.91	0.85	0.60	0.57
93F7517	31-5653	...	12	Nickel-Plated Lockwasher for PCB Bulkhead Receptacle	1.05	0.90	0.76	0.69

(8279) (de91277)

UHF 500-VOLT, NON-CONSTANT IMPEDANCE COAXIAL CONNECTORS

Operate to 300MHz. Temperature range: –50°C to +149°C.

Stock No.	Type	Fig.	MIL No.	Description	RG/U	1-9	10-24	25-49
39F030	83-1SP (PL-259)	13	PL-259	Plug, Silver Plate Body	8,9,11,13, 63,87,149	3.37	3.14	2.20
39F188	83-1SP-1050	13	PL-259	Plug, Astroplate Body	213,214, 216,225	2.19	2.04	1.43
39F1225	83-822 (PL-259)	13	PL-259	Plug, Teflon™ Insulator	8,9,11,13,63, 87,149,213, 214,216,225	4.12	3.50	2.98
39F189	83-58SP	14	...	Straight Plug, Crimp	58,141	4.24	3.94	2.76
39F1075	83-58FCP	...	...	Straight Plug	58 Quick Assembly	3.43	3.19	2.23
39F1061	83-59	15	...	Angle Plug	8,9,11,13,63, 87,149,213, 214,216,225	37.24	31.67	26.90
39F192	83-878	16	...	Bulkhead Receptacle, Rear Mount	...	3.03	2.82	1.97
39F039	83-1R (SO-239)	17	SO-239	Panel Receptacle	...	2.86	2.44	2.07
39F049	83-798 (SO-239A)	17	SO-239A	Panel Receptacle	...	5.37	4.57	3.88
83F6740	83-876	17	...	Panel Receptacle Oval Flange	...	5.80	4.94	4.19
39F035	83-1J (PL-258)	18	PL-258	Straight Adapter J-J	...	4.38	3.72	3.16
39F193	83-877	19	...	Straight Adapter P-P	...	14.01	11.92	10.13
39F033	83-1AP (UG-646/U)	20	UG-646	Angle Adapter J-P	...	7.59	6.45	5.48
39F034	83-1T (M-358)	21	M-358	Tee Adapter J-P-J	...	11.07	9.41	7.99
39F036	83-1F (UG-363/U)	22	UG-363	Bulkhead Adapter J-J	...	13.29	11.30	9.60
39F041	83-168 (UG-176/U)	...	UG-176	Reducing Adapter	59,62,71, 140,210	0.69	0.64	0.45
39F040	83-185 (UG-175/U)	...	UG-175	Reducing Adapter	55,58,141, 142	0.81	0.69	0.58
39F038	83-765 (UG-177/U)	23	UG-177	Hood for 83-1R	58,141	2.64	2.25	1.91
83F6739	83-1H	23	UG-106/U	Hood, 4-Hole	8,10,11,12, 63,79,115, 149,213,215	5.45	4.64	3.94

(8201) (de01458)

HN MEDIUM-SIZE WEATHERPROOF COAXIAL CONNECTORS

Rated 1500V for high voltage applications. Captivated contacts. 3/4-20 threaded coupling. 50Ω impedance.

Stock No.	Type	Fig.	MIL No.	Description	RG/U	1-9	10-24	25-49	50-99
39F026	82-804	24	UG-59B/U	Straight Plug	8,9,87,213, 214,225	46.60	39.63	33.67	30.31
39F1158	82-92	25	UG-496/U	Panel Receptacle	...	36.67	31.18	26.49	23.85
39F027	82-805	25	UG-560/U	Panel Receptacle	...	45.29	38.51	32.72	29.45
51F3811	11050	26	...	Bulkhead Adapter J-J	...	114.90	97.71	83.01	74.73
51F3910	82-91	27	UG-212A	Angle Adapter	...	108.77	92.50	78.58	70.74

(8202) (de01459)

COAXIAL CONNECTORS

MINIATURE WEATHERPROOF TNC COAXIAL CONNECTORS

50-ohm units are for extreme-vibration applications. Frequency range: 0 to 11GHz. UL recognized.

Stock No.	Type	Fig.	Description	RG/U	1-9	10-24
50F2467	36825	1	Plug, Crimp	58,141	5.07	4.72
40F6332	31-2367	1	Plug, Crimp, M23329/4	58,141	6.27	5.33
51F3798	31-2368	1	Plug, Crimp	59,62	4.77	4.44
40F6331	31-2373	1	Plug, Crimp	142,223	4.93	4.59
01F993	31-5710	1	Plug, Crimp	Times LMR-400	15.10	12.84
51F3800	79075	2	Angle Plug, Clamp	55, 58, 141, 142, 223, 400	41.39	35.20
77B6498	79875	1	Plug Clamp	55, 58, 141, 142, 223, 400	10.95	9.31
98F625	31-2389	3	Bulkhead Jack, Crimp	58, 141	23.20	21.57
77B6687	31-2318	3	Bulkhead Jack, Crimp	174, 188, 316	12.36	10.51
40F6335	31-2301	4	Bulkhead Receptacle	...	7.48	6.96
90F8478	31-4791	...	Straight Adapter J-J	...	11.83	11.00
51F3804	78750	5	Male Cap	...	8.67	8.06

(8203) (de01460)

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

N WEATHERPROOF COAXIAL CONNECTORS

Threaded coupling devices designed for use up to microwave frequencies. 0-11GHz, VSWR consistently low. Impedance: 50 ohm. Dielectric withstanding: 2500Vrms.

Stock No.	Type	Fig.	MIL No.	Description	RG/U	1-9	10-24
39F019	82-61 (UG-21B/U)	6	UG-21B	Straight Plug, Clamp	8, 9, 213, 214	9.78	8.32
39F1108	82-96 (UG-21C/U)	6	UG-21C	Straight Plug, Clamp	8, 9, 213, 214, 225	6.55	5.57
39F1118	82-202 (UG-21D/U)	6	UG-21D	Straight Plug, Clamp	8, 9, 213, 214, 225	7.40	6.30
39F1187	82-312 (UG-1185/U	6	UG-1185	Straight Plug, Clamp	8, 9, 213, 214, 225	7.53	6.41
39F1323	34000 (UG-536/U)	6	UG-536	Straight Plug, Clamp	58, 141, 142	16.78	14.27
39F1324	34025 (UG-536B/U)	6	UG-536B	Straight Plug, Clamp	58, 141, 142	8.40	7.14
94F661	82-202-1006	6	...	Straight Plug, Clamp	Belden 9913	7.70	7.16
39F1187	82-312 (UG-1185/U	6	UG-1185/U	Straight Plug, Clamp	8, 9, 144, 165, 213	7.53	6.41
83F6743	36250	6	UG-1095A/U	Straight Plug, Clamp	55, 58, 141	22.85	19.44
39F1074	82-340 (01-0007)	7	01B0007	Straight Plug, Crimp	8, 213	10.35	8.81
01F684	82-340-1052	7	...	Straight Plug, Crimp	Belden 9913, 9914	11.14	9.48
51F3794	82-5370	7	...	Straight Plug, Crimp	55, 142, 223	7.01	6.52
51F3796	82-5375	7	...	Straight Plug, Crimp	58, 141	8.22	6.99
39F195	82-332 (01-0008)	7	01B0008	Straight Plug, Crimp	9, 214	11.09	9.43
51F3808	82-4425	7	01-0501+	Straight Plug, Crimp	214, 225, 393	10.38	9.65
51F3805	82-4426	7	01-0502+	Straight Plug, Crimp	213	13.15	11.18
44F6769	82-4426-1001	...	...	Straight Plug, Crimp	Belden 9880, 89880	10.69	9.95
83F6747	82-4425-1003	7	...	Straight Plug, Crimp	9, 214, 225, 393	10.17	8.65
77B6873	82-4427	7	01-0503+	Straight Plug, Crimp	142, 400	14.87	12.64
01F685	82-6034	7	...	Straight Plug, Crimp	174/U, 188A/U, 316/U	8.43	7.17
39F1129	82-835	8	...	Angle Plug, Clamp	8, 9, 87, 213, 214, 225	84.62	71.96
50F2451	18750	8	...	Angle Plug, Clamp	58, 141, 142	42.01	35.73
39F021	82-63 (UG-23B/U)	9	UG-23B	Straight Jack, Clamp	8, 9, 87, 213, 214, 225	9.72	9.04
90F8479	82-67	10	UG-160A/U	Bulkhead Jack, Clamp	8, 9, 87, 213, 214, 225	35.84	30.48
77B6371	35275	10	UG-556B/U	Bulkhead Jack, Clamp	55, 58, 141, 142, 223	27.99	23.80
50F2455	82-5373	11	...	Bulkhead Jack, Crimp	55, 142, 223	10.87	9.25
39F1128	82-811 (UG-680/U)	...	UG-680	Bulkhead Receptacle	...	23.85	20.28
39F186	82-369 (04-0001)	...	04-0001+	Bulkhead Receptacle	...	52.22	44.41
39F1117	82-201 (UG-30C/U)	...	UG-30C	Bulkhead Adapter	...	30.86	26.24
39F022	82-66 (UG-30/U)	...	UG-30	Bulkhead Adapter (J-J)	...	24.53	20.86
39F1340	91100 (UG-30D/U)	...	UG-30D	Bulkhead Adapter (J-J)	...	22.41	19.06
90F8480	82-4440	12	05-0501+	Angle Plug, Crimp	214, 225, 393	26.07	22.17
50F2454	82-5374	12	...	Angle Plug, Crimp	55, 142, 223	46.72	39.73
39F023	82-24 (UG-58/U)	13	UG-58	Panel Receptacle	...	6.28	5.34
39F028	82-97 (UG-58A/U)	13	UG-58A	Panel Receptacle	...	6.15	5.23
39F1111	82-100 (UG-57B/U)	14	UG-57B	Straight Adapter (P-P)	...	11.31	9.62
39F1112	82-101 (UG-29B/U)	15	UG-29B	Straight Adapter (J-J)	...	9.42	8.01
44F6771	82-101-1000	15	...	Straight Adapter (J-J)	...	16.90	14.37
39F076	82-64 (UG-27A/U)	16	UG-27A	Angle Adapter (J-P)	...	26.60	22.62
39F1127	82-213 (UG-27C/U)	16	UG-27C	Angle Adapter (J-P)	...	19.48	18.12
39F1109	82-98 (UG-27B/U)	16	UG-27B	Angle Adapter (J-P)	...	29.88	25.41
39F1110	82-99 (UG-28A/U)	17	UG-28A	Tee Adapter (J-J-J)	...	53.38	45.40
39F078	82-102 (UG-107B/U	...	UG-107B	Tee Adapter (J-P-J)	...	67.80	57.65
44F6773	82-5721-1000	18	...	Female Terminator Cap, 50 Ohm	...	27.54	25.62

+ Section of MIL-SPEC 39012.

(8199) (de01408)

Fig. 6

Fig. 7

Fig. 8

Fig. 9

Fig. 10

Fig. 11

Fig. 12

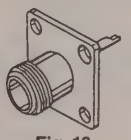


Fig. 13

Fig. 14

Fig. 15

Fig. 16

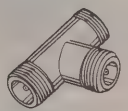


Fig. 17

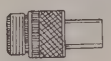


Fig. 18

MEDIUM-SIZE, WEATHERPROOF C COAXIAL CONNECTORS

Standard peak rating of 1500V and low VSWR to 10GHz. **Type 82-532** peak rating of 4000V and good performance to 2GHz. Coupled by two stud bayonet lock, connectors provide constant 50-ohm impedance and may be used with 75-ohm cable below 300MHz. Temperature range: –55°C to +165°C. Hermetically sealed. Meet MIL-C-39012.

Stock No.	Type	Fig.	MIL No.	Description	RG/U	1-9	10-24
39F1145	82-532	19	UG-628B	Straight Plug	8, 9, 87, 213, 214, 225	53.31	45.33
39F087	82-530	19	UG-573A/U	Straight Plug	8, 9, 87, 213, 214, 225	59.18	50.33
39F1141	82-515	20	UG-634	Bulkhead Receptacle	...	70.07	59.59
39F1133	82-504	21	UG-568	Panel Receptacle	...	25.14	21.38

(8247) (de50498)

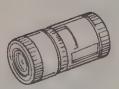


Fig. 19

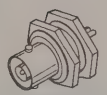


Fig. 20

Fig. 21

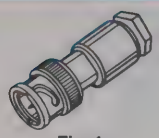


Fig. 1

Fig. 2

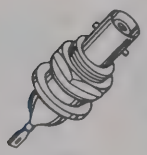


Fig. 3

Fig. 4

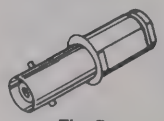


Fig. 5

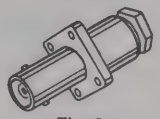


Fig. 6

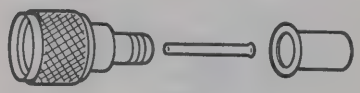


Fig. 7

Fig. 8

Fig. 9

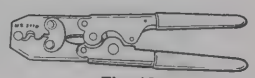


Fig. 10

WEATHERPROOF MINIATURE 5-AMP MHV COAXIAL CONNECTORS

Bayonet-lock coupling units for voltage applications to 5000V peak at frequencies 50MHz. All are nonconstant impedance, with male contacts and TFE insulation. Temperature range: –65°C to +165°C. **Types 27000** and **27025** receptacles rear mount units. Meet MIL-C-39012.

Stock No.	Type	MIL No.	RG/U	Description	Fig.	1-9	10-24	25-49
39F1478	27975	UG-932A	59, 62, 71, 140, 210	Straight Plug	1	16.72	14.22	12.08
39F1322	28000	UG-932	59, 62, 71, 140, 210	Straight Plug	1	12.84	10.92	9.27
39F3334	29100	...	55, 58, 141, 142	Straight Plug	1	12.25	11.40	7.98
39F1321	27000 UG 931/U	UG-931	...	Panel Receptacle	2	11.45	9.74	8.27
39F3335	27025	...	...	Bulkhead Receptacle	3	22.88	19.45	16.53
51F3814	10400	...	...	Bulkhead Receptacle	3	66.15	56.26	47.79
51F3815	28100	...	59, 62, 71, 140, 210	Angle Plug	4	36.47	33.92	23.74
51F3816	27075	UG-1016A/U	59, 62, 71, 140, 210	Straight Jack	5	32.22	27.40	23.27
51F3838	28175	UG-961A/U	59, 62, 140, 210	Panel Jack	6	46.80	39.80	33.81
51F3817	12650	...	...	Adapter (Jack-Jack)	...	68.99	64.16	44.90

(8248) (de50499)

50-OHM IMPEDANCE 237VRMS MINIATURE UHF COAXIAL CONNECTORS

For cellular mobile phone systems, similar applications to 2Ghz. Astroplate® finish. –55°C to +85°C.

Stock No.	Type	Description	Fig.	1-9	10-24	25-49	50-99
93F7597	81-115N-1000	RG/U 58, 141, 142A Plug	7	2.32	1.97	1.68	1.51

(8249) (de50500)

IBM® TWINAX T-ASSEMBLIES

Incorporate tee-shaped, jack-to-jack junction at one end for connecting to network, and twinax plug for mating with monitor or related peripheral equipment at other end. For use on IBM® System/3X computers with 52XX terminals and printers that have only one port for data I/O.

Stock No.	Type	IBM® No.	Fig.	1-9	10-24	25-49	50-99
89F2872	95-555-11101	IBM® 6457102	8	53.47	45.47	38.63	34.78

(8250) (de50503)

ENVIRONMENTAL F CONNECTORS FOR CATV APPLICATIONS

Stock No.	Type	Description	Fig.	1-9	10-24	25-49	50-99
90F8445	531-59000	Male for RG-59/U, CATV Cable	9	1.43	1.21	1.03	0.93
90F8446	531-WFGR	Male for RG-6/U, CATV Cable (Tri-Shield)	9	1.43	1.21	1.03	0.93
90F8447	227-1432	Crimp Tool for Above	10	73.22	69.56	66.10	...

(8259) (de52004)

MIL-C-39012 TWINAXIAL WEATHERPROOF COAXIAL CONNECTORS

Nonconstant impedance connectors for 78- and 95-ohm twin conductor cable. Improved shielding for use in balanced low level and high sensitivity circuits. 2 non-intermateable constructions available: BNC units (type numbers with **prefix 31**) are polarized contact design (1 male,1 female), 2 stud bayonet coupling, captivated contacts, 0-100Mhz, 100V peak voltage. Others polarized key/keyway construction, threaded coupling, 0-200MHz, 500V peak voltage.

Stock No.	Type	RG/U	Description	Fig.	1-9	10-24	25-49	50-99
39F2998	82-5589*†	Brand Rex 2498 T8756A Belden 8227, 9207 IBM 7362211	Straight Plug/ IBM7362229	11	11.09	10.32	7.22	6.86
39F2997	82-5588*	...	Straight Adapter/ IBM 7362230	12	22.01	20.47	14.33	13.61
39F1468	31-224	108A	Straight Plug	13	9.06	8.42	5.90	5.60
46F1168	31-2226	108A	Straight Plug	13	12.40	11.53	8.07	7.67
39F1470	31-223	...	Bulkhead Recept.	14	17.21	16.00	11.20	10.64
51F3819	31-2225	...	Bulkhead Recept.	14	15.94	14.83	10.38	9.86

*Twinaxial Keyed 90° †For use with **type 227-1417** die set and **type 227-987** tool handle, *order separately on page 199*, or **CTL-4** crimp tool, *order separately on page 199*, or **type 227-1414** die set and **type 227-944** tool handle, *order separately on page 199*.

Fig. 11

Fig. 12

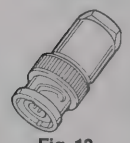


Fig. 13

Fig. 14

Fig. 15

Fig. 16

BETWEEN SERIES ADAPTERS

Stock No.	Type	MIL No.	Description	1-9	10-24	25-49	50-99
39F074	31-28	UG-273/U	BNC Jack, UHF Plug	11.42	10.62	7.44	7.06
39F1084	79675	...	BNC Jack, TNC Plug	25.27	23.50	16.45	15.62
39F1083	79025	...	BNC Plug, TNC Jack	30.55	28.41	19.89	18.89
50F1603	5225	UG-1034/U	BNC Plug, N Plug	67.46	57.37	48.73	43.88
50F1614	78800	...	N Plug, TNC Jack	32.23	27.41	23.28	20.96
39F1029	31-216	UG-201A/U	N Plug, BNC Jack	10.51	9.78	6.84	6.50
39F1030	31-217	UG-349A/U	N Jack, BNC Plug	12.62	11.73	8.21	7.80
93F1301	901-3143-1000	...	N Jack, SMA Plug	152.61	137.35	116.75	94.51
51F3820	16050	...	HN Plug, N Jack	41.95	35.67	30.30	27.28
39F1310	4400 UG 146 U	UG-146/U	UHF Jack, N Plug	11.85	10.08	8.56	7.71
99F3887	901-280	...	TNC Jack, SMA Jack	82.61	74.35	63.20	51.16
51F3790	901-293	...	SMA Plug, N Jack	59.51	53.56	45.53	36.86
98F2748	901-166	...	SMA Plug, BNC Jack	41.89	37.70	32.05	25.95
98F2746	901-164	...	SMA Plug, BNC Plug	41.37	37.24	31.65	25.62
98F2747	901-165	...	SMA Jack, BNC Plug	52.23	47.00	39.95	32.34
51F3813	901-167	...	SMA Jack, BNC Jack	39.23	35.31	30.01	24.29
90F8461	901-294	...	SMA Jack, N Plug	70.63	63.57	54.03	43.74
90F8462	901-295	...	SMA Jack, N Jack	152.61	137.35	116.75	94.51
93F1288	901-168	...	SMA Plug, TNC Plug	85.31	76.78	65.26	52.83
93F1307	901-9033	...	SMA Jack, SMB Jack	34.65	31.18	26.51	21.46
93F1308	901-9034	...	SMA Jack, SMB Plug	69.57	62.61	53.22	43.08

TRIAX WEATHERPROOF TRANSMISSION LINE COAXIAL

For mazimum RF shielding, minimum noise radiation; in traxial cable where shielding better than 30dB. Non-constant impedance; accept 75-ohm cable where impedance mismatch not critical.

Stock No.	Type	RG/U	Description	Thread	Fig.	1-9	10-24	25-49	50-99
39F3336	53150	58A	Straight Plug	11/16-24	15	84.34	71.73	60.93	54.86
39F3339	34475	...	Bulkhead Receptacle	7/8-20	16	75.73	64.40	54.71	49.25

(8200) (de01437)

RFX™ CONNECTORS

31 SERIES RFX™ 50Ω AND 75Ω BNC CONNECTORS

Fig. 1

Fig. 2

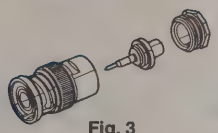


Fig. 3

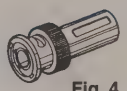


Fig. 4

All types are 50Ω, except those designated by an asterisk (*), which are 75Ω. Use with **CTL series** crimp tools; *order separately on page 199.*

Stock No.	Type	Fig.	RG/U	1-9	10-24	25-49	50-99
93F1398	31-2-RFX	1	58, 141, 142	1.95	1.81	1.27	1.21
93F1403	31-212-RFX	1	59, 62	2.05	1.91	1.34	1.27
93F1414	31-242-RFX	2	179, 187	2.23	1.90	1.61	1.45
93F1416	31-315-RFX	2	174, 188, 316	1.96	1.82	1.28	1.21
93F1418	31-320-RFX1	2	58, 141, 142	1.06	0.99	0.69	0.66
93F1419	31-321-RFX	2	59, 62	2.01	1.87	1.31	1.24
93F1420	31-321-1RFX1	2	Belden 8281	1.66	1.41	1.20	1.08
93F7586	31-71000-RFX-1*	2	Belden 9248	1.97	1.68	1.42	1.28
93F7587	31-71008-RFX-1*	2	59, 62	1.97	1.68	1.42	1.28
93F1445	31-71013-RFX*	2	179, 187	2.23	1.90	1.61	1.45
93F7574	68175-5RFX1	2	59, 20 Ga. conductor	1.23	1.05	0.89	0.80
93F7575	68175-1RFX1	2	Plenum 59, 62	1.23	1.05	0.89	0.80
93F1429	31-4541-RFX	3	59, 62	4.18	3.89	2.72	2.59
93F1431	31-5136-RFX	4	59	2.04	1.90	1.33	1.26

(8213) (de03312)

31 SERIES RFX™ 50Ω AND 75Ω BNC BULKHEAD JACKS

All jacks are 50Ω, except those designated by an asterisk (*), which are 75Ω. Use with **CTL series** crimp tools, *order separately on page 199.*

Stock No.	Type	RG/U	1-9	10-24	25-49	50-99
93F1417	31-318-RFX	174, 188, 316	4.05	3.76	2.63	2.50
93F1422	31-342-RFX	58, 141, 142	2.94	2.74	1.92	1.82
93F1423	31-343-RFX	59, 62, 140, 210	2.94	2.74	1.92	1.82
93F1443	31-71011-RFX*	59	3.22	2.74	2.33	2.10
93F1447	31-71016-RFX*	179	3.92	3.34	2.84	2.55

(8214) (de03313)

31 SERIES RFX™ BNC PANEL AND BULKHEAD RECEPTACLES

Fig. 1

Fig. 2

Fig. 3

Receptacles are front mount bulkhead, except **type 31-203-RFX**, which is front or rear mount panel. All types are 50Ω, except types with **suffix 75RFX**, which denotes 75Ω.

Stock No.	Type	Fig.	1-9	10-24	25-49	50-99
93F7577	31-10-RFX	1	2.12	1.97	1.38	1.31
93F7593	31-10-75RFX	1	3.92	3.34	2.84	2.55
93F1401	31-203-RFX	2	3.29	3.06	2.15	2.04
93F1411	31-221-RFX1	3	1.38	1.17	0.99	0.90
93F1412	31-221-75RFX	3	1.59	1.36	1.15	1.04

(8215) (de03314)

31 SERIES RFX™ BNC PC RECEPTACLES

Jacks with 4 legs and post terminal. Receptacles have gold-plated contacts.

Stock No.	Type	Impedance	1-9	10-24	25-49	50-99
93F7520	31-5329-52RFX	50-Ohm	5.33	4.54	3.85	3.47
93F7554	31-5329-72RFX	75-Ohm	5.62	4.78	4.06	3.66

(8219) (de03318)

31 SERIES RFX™ BNC RIGHT-ANGLE PLUGS AND GROUNDING LUG

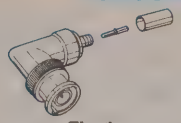


Fig. 1

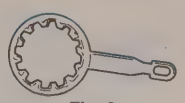


Fig. 2

Use with **CTL series** crimp tools, *order separately on page 199.*

Stock No.	Type	Fig.	RG/U	1-9	10-24	25-49	50-99
93F7553	31-335-RFX	1	58, 141, 142A	4.32	4.02	2.81	2.67
93F1421	31-336-RFX	1	59, 62	4.91	4.17	3.55	3.19
93F1442	31-71010-RFX	1	59, 62 (75Ω)	4.88	4.15	3.53	3.18

GROUNDING LUG

Stock No.	Type	Fig.	1-9	10-24	25-49	50-99
93F1438	31-10152-RFX	2	0.52	0.48	0.34	0.32

(8216) (de03315)

31 SERIES RFX™ BNC ADAPTERS

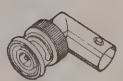


Fig. 1

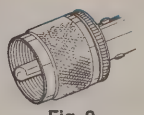


Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

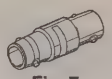


Fig. 7

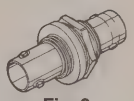
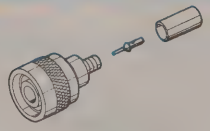


Fig. 8

Stock No.	Type	Fig.	Description	1-9	10-24	25-49
93F7576	31-9-RFX	1	Right-Angle Jack/Plug, 50-Ohm	3.89	3.61	2.53
93F1400	31-28-RFX	2	Jack/UHF Plug	10.48	9.74	6.82
93F1402	31-208-RFX	3	Jack/Plug/Jack Tee, 50-Ohm	4.05	3.76	2.63
93F1404	31-216-RFX	4	Jack/N Plug	8.88	8.26	5.78
93F1405	31-217-RFX	5	Plug/N Jack	12.00	11.16	7.81
93F1406	31-218-RFX	6	Plug/Plug, 50-Ohm	2.75	2.56	1.79
93F1408	31-219-RFX	7	Jack/Jack, 50-Ohm	2.54	2.16	1.83
93F7596	31-220G-RFX	8	Jack/Jack Blkhd. with Gasket, 50-Ohm	3.52	3.28	2.29
93F1409	31-220N-RFX	8	Jack/Jack Blkhd. w/o Gasket, 50-Ohm	3.24	3.01	2.11
93F1410	31-220N-75RFX	8	Jack/Jack Blkhd. w/o Gasket, 75-Ohm	3.68	3.13	2.66

(8218) (de03317)

31 SERIES RFX™ TNC PLUG

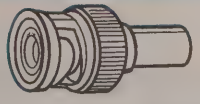


Use with **CTL series** crimp tools; *order separately on page 199.*

Stock No.	Type	RG/U	1-9	10-24	25-49	50-99
93F1427	31-2367-RFX	58, 141, 142A	1.87	1.59	1.35	1.21

(8217) (de03316)

RFX™ BNC RESISTOR TERMINATED MALE CAPS



BNC caps resistor terminated, 5% 1 watt. Impedance available: 50, 75 or 93 ohms. Feature nickel-plated brass body, silver-plated brass male contact. Delrin dielectric material.

Stock No.	Type	Impedance	1-9	10-24	25-49	50-99
93F1392	46650-51RFX	50-Ohm	2.54	2.16	1.83	1.65
93F1393	46650-75RFX	75-Ohm	2.54	2.16	1.83	1.65
93F1394	46650-93RFX	93-Ohm	2.54	2.16	1.83	1.65

(8270) (de52338)

FRIENDLY, QUALITY SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

RFX™ CONNECTORS

RFX™ BNC CONNECTORS

Fig. 1

Fig. 2

50-ohm miniature bayonet lock units with low reflection DC-4GHz.

RFX™ 50-OHM BNC PLUGS

Stock No.	Type	Fig.	RG/U	1-9	10-24	25-49	50-99
93F1391	36650-3RFX1	1	Plenum 58	1.46	1.36	0.95	0.90

RFX™ 50-OHM BNC JACK

Use with **CTL series** crimp tools; *order separately on page 199.*

93F7573	36800-RFX	2	58, 141, 142	1.62	1.51	1.06	1.00

(8275) (de52343)

RFX™ TYPE N COAXIAL CONNECTORS

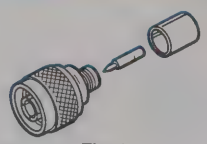


Fig. 1

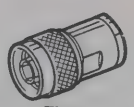


Fig. 2

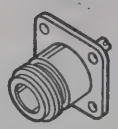


Fig. 3

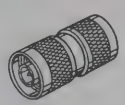


Fig. 4

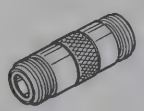


Fig. 5

⅝-24 threaded coupling units with 50 ohm impedance. Operate DC-11GHz with voltage rating of 1500V peak.

RFX™ TYPE N CABLE PLUGS—MALE CONTACTS

Stock No.	Type	Fig.	RG/U	1-9	10-24	25-49	50-99
93F1455	82-4426-11RFX	1	Belden 9880, 89880, Ethernet®	4.91	4.17	3.55	3.19
93F1454	82-202-RFX	2	8, 213, 214, 225	5.25	4.89	3.42	3.25
93F1390	34025-RFX	2	58, 141, 142A	4.98	4.63	3.24	3.08

RFX™ TYPE N PANEL RECEPTACLE (FRONT OR REAR MOUNT)

Stock No.	Type	Fig.	Description	1-9	10-24	25-49	50-99
93F1450	82-97-RFX	3	4-Hole Panel	4.53	3.85	3.27	2.95

RFX™ TYPE N STRAIGHT ADAPTERS

93F1451	82-100-RFX	4	Plug-Plug	6.76	6.28	4.40	4.18
93F1452	82-101-RFX	5	Jack-Jack	4.13	3.84	2.69	2.55

(8274) (de52342)

RFX™ BNC 2-PIECE SINGLE CRIMP PLUGS

50-ohm BNC plugs feature 2 stud miniature bayonet lock mating. Crimp-type outer and press fit inner cable attachments. Nickel-plated brass body, gold-plated brass male contacts. Delrin dielectric material. Frequency range: 0-4GHz. Voltage rating 500V peak. Use with **type CTL-2** crimp tool; *order separately on page 199.*

Stock No.	Type	Cable RG/U	1-9	10-24	25-49	50-99
93F1433	31-5556-RFX	59	2.14	1.99	1.40	1.33

(8269) (de52331)

RFX™ UHF COAXIAL CONNECTORS

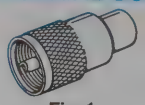


Fig. 1

Fig. 2

Fig. 3

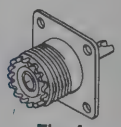


Fig. 4

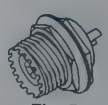


Fig. 5

General-purpose for DC to 300MHz with voltage rating of 500V peak.

RFX™ UHF CABLE PLUGS—MALE CONTACTS

Stock No.	Type	Fig.	RG/U	1-9	10-24	25-49	50-99
93F1465	83-1SP-15RFX	1	8, 9, 11, 13, 63, 87A, 149	1.93	1.79	1.26	1.19
93F1466	83-58FCP-RFX	2	58, 141	2.41	2.24	1.57	1.49

RFX™ REDUCING ADAPTERS

For cable plugs, *order separately above.* **Sold in packages of 5.**

93F1468	83-185-RFX	3	58, 141, 142	0.39	0.36	0.26	0.24
93F1467	83-168-RFX	3	59, 62, 71, 140, 210	0.39	0.36	0.26	0.24

RFX™ UHF RECEPTACLES AND ADAPTERS—FEMALE CONTACTS

Stock No.	Type	Fig.	Description	1-9	10-24	25-49	50-99
93F1464	83-1R-RFX	4	Panel Receptacle, 4 Hole Sq. Flange	2.32	2.15	1.51	1.43
93F1470	83-878-RFX	5	Bulkhead Receptacle, Rear Mount	2.78	2.59	1.81	1.72

(8271) (de52339)

RFX™ MINI-UHF COAXIAL CONNECTORS

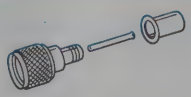


Fig. 1

Fig. 2

Designed for use in cellular mobile telephone systems and similar applications where size, weight, and cost are factors. 50-ohm connectors operate at DC-2.5GHz with low reflection and have a voltage rating of 335V peak.

Stock No.	Type	Fig.	Description	1-9	10-24	25-49	50-99
93F7597	81-115N-1000	1	RG/U 58, 141, 142A Plug	2.32	1.97	1.68	1.51
93F7582	81-120-RFX	2	Bulkhead Receptacle	2.28	1.94	1.65	1.48

(8273) (de52341)

RFX™ KEYED 90° TWINAX CONNECTORS

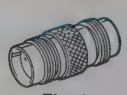


Fig. 1

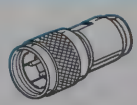


Fig. 2

Fig. 3

Used principally in system 3X/400 applications for balanced line high sensitivity circuits. Normally used on 100-ohm twinaxial cable. DC-200MHz with voltage rating of 500V peak. ¾-20 thread.

Stock No.	Type	Fig.	Description	1-9	10-24	25-49	50-99
93F1457	82-5588-RFX	1	Barrel Adapter, Jack-Jack	5.34	4.97	3.48	3.30
93F1458	82-5589-RFX	2	Cables to IBM ref. 7362211, Plug	5.52	4.69	3.98	3.59
93F1459	82-5590-RFX	3	Front Mount Receptacle	10.28	9.56	6.70	6.36
70B2236	32225	1	RG-22, Plug	25.40	21.60	18.35	16.52

(8272) (de52340)

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CRIMP TOOLS

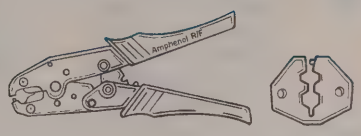
ECONOHEX™ CRIMP TOOL AND DIES

Stock No.	Type	Description	1-2
90F1652	227-987	ECONOHEX™ Tool Handle without Dies	93.37
93F1539	227-60	Pneumatic Crimp Tool	2633.76

DIES FOR ECONOHEX™ CRIMP TOOL

Stock No.	Type	RG/U	Connector Series	1-2
90F1649	227-1419	55, 58, 59, 62, 140, 141, 142, 142B, 210, 223, 302, 303, 400, Belden 9258, Brand Rex, MG-8X Amphenol 621-6003	Mini-UHF, UHF, BNC, TNC, MHV, SMA	57.07
90F1650	227-1418	122, 161, 174, 179,180, 187, 188, 195, 316, Amphenol 21-597	BNC, TNC, SMA, Mini-UHF	57.07
61F1704	227-1221-57	55, 58, 141, 142, 223, 303, 400	N	121.39
61F1708	227-1221-59	55, 58, 141, 142, 223, 303, 400	BNC, TNC, N, Mini-UHF	121.39

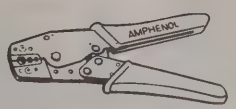
(8261) (de52007)



TRIHEX QUICK CRIMP TOOL

Stock No.	Type	RG/U	Connector Series	1-2
81F200	227-962	55, 58, 59, 62, 140, 141, 142, 210, 223, 303, 400	BNC, TNC, UHF, MHV, SMA	170.70

(8262) (de52008)

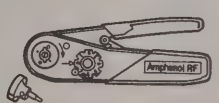


Trihex Crimp Tool

SMA AND APC-7 MILITARY QUALIFIED TOOLS

Stock No.	Type	Description	Mil. M22520	1-2
93F1550	227-1454	Mini-8 Indent SMA Center Contact Crimp Tool Frame	/2-01	360.42
93F1551	227-1454-1	Positioner for SMA Plugs 901-9511-1SFC, -3SFC, -12SFC	...	62.25

(8282) (ne02330)



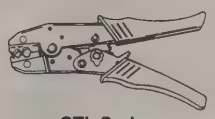
SMA Center Contact Crimp Tool

CTL SERIES HEX CRIMP TOOLS

Commercial crimp tools come complete with tool handle and die set. Allows termination of most popular RG coaxial cables as well as Twinax cable for IBM system 3X/400 networks.

Stock No.	Type	Hex Sizes	RG/U	1-2
93F1552	CTL-1	0.068″, 0.213″, 0.255″	RG-55, 58, 59, 62, 140, 141, 142, 210, 223, 303, 400, Plenum 59, 62 Belden 9258, 9259, 9907, 89907	49.88
93F1383	CTL-2	0.178″, 0.324″, 0.068″	RG-6, 174, 179, 187, 188, 316 Plenum 58, Belden 8281	49.88
93F1384	CTL-3	0.100″, 0.429″ 0.213″	RG-8, 11, 55, 58, 141, 142, 149, 213, 214, 223, 225, 303, 393, 400, Ethernet cables	49.88
93F7589	CTL-5	0.052″, 0.068″ 0.100″, 0.213″ 0.255″	RG-55, 58, 59, 62, 140, 141, 142 210, 223, 303, 400, Plenum 59, 62 Belden 9258, 9259, 9907, 89907	49.88
93F7590	CTL-6	0.052″ Sq., 0.178″, 0.255″, 0.068″	ATT 734A, ATT 735A	69.12
91F5098	CTL-9	0.068″, 0.128″, 0.178″	RG-180, 316	140.12
91F5099	CTL-13	0.105″, 0.128″, 0151″	RG-174, 178, 188, 196, 316, RD-316	140.12

(8210) (de02329)



CTL Series

TWINHEX CRIMP TOOL SYSTEM

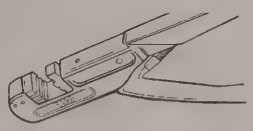
Stock No.	Type	Mil. No.†	Description	1-2
57F3110	227-944	/5-01	Frame only for all 227-1221-xx Die Sets below	254.91

DIES FOR TWINHEX CRIMP TOOL SYSTEM

Stock No.	Type	Mil. No.†	RG/U	Connector Series	1-2
51F3791	227-1221-03	/5-03	174, 179,187, 188, 316	BNC, SMA	121.39
61F1713	227-1221-09	/5-09	122, 174, 179, 180, 187, 188, 195	BNC, TNC/SMA	121.39
57F3111	227-1221-11	/5-11	55, 58, 141, 223, 303, 400	BNC, TNC/MHV, UHF, SMA	121.39
57F3112	227-1221-13	/5-13	59, 62, 71, 140, 210, 302	BNC, TNC/UHF, SMA	121.39
91F5097	227-1221-61	...	Belden 9913	Reverse Polarity TNC	146.07
61F1728	227-1221-25	...	8, 9, 11, 87A, 149, 165, 213, 214 216, 225, 393	APC-N, -7, -7S/N, SC	121.39
90F8451	227-980-3	...	Belden 9248, Times AA-5473	75 Ohm BNC	196.94

†Tool Military Specification M22520.

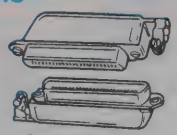
(8260) (de52006)



TwinHex Crimp Tool and Dies

57 SERIES MICRO-RIBBON® SOLDER TERMINATION CONNECTORS

Rack and Panel



Cable-to-Cable

57 series ribbon connectors are ideal for modems, multi-plexers, computers and peripherals, medical equipment, PBX devices and scientific instrumentation, telephone equipment, cash registers, vending machines and similar equipment. 5 amps per contact. 70 DC. Operating temperature: –55°C to +105°C. Wire sizes: 22 AWG solid, 24 AWG stranded. UL recognized, CSA certified.

RACK AND PANEL TYPE

Stock No.	Type	Contacts	Description	1-24	25-49	50-99	100-249
42F190	57 10140	14	Male	4.26	3.19	2.72	2.45
42F193	57 20140	14	Female	5.91	4.44	3.77	3.40
42F191	57 10240	24	Male	4.69	3.52	3.00	2.70
42F194	57 20240	24	Female	5.72	4.29	3.65	3.28
42F192	57 10360	36	Male	7.69	5.77	4.90	4.41
42F195	57 20360	36	Female	6.56	4.91	4.18	3.76
42F132	57 10500	50	Male	6.33	4.74	4.03	3.63
42F133	57 20500	50	Female	7.32	5.49	4.67	4.21
CABLE-TO-PANEL TYPE: TOP CABLE ENTRY							
42F126	57 30140	14	Male	6.28	4.71	4.00	3.61
42F127	57 40140	14	Female	5.74	4.31	3.66	3.30
42F128	57 30240	24	Male	7.55	5.67	4.82	4.33
42F129	57 40240	24	Female	5.93	4.45	3.78	3.41
42F130	57 30360	36	Male	7.81	5.86	4.98	4.49
42F131	57 40360	36	Female	6.77	5.09	4.32	3.89
42F134	57-30500	50	Male	8.78	6.59	5.59	5.03
42F135	57 40500	50	Female	7.55	5.67	4.82	4.33
CABLE-TO-CABLE TYPE: RUNNING CABLE							
42F198	57 10500 7	50	Male	9.10	6.82	5.80	5.22
42F199	57 20500 7	50	Female	9.63	7.23	6.14	5.53
CABLE-TO-CABLE TYPE RECEPTACLE							
40F6348	57-60140	14	Female	8.20	6.15	5.23	4.71
40F6349	57-60240	24	Female	8.70	6.52	5.54	4.99
40F6350	57-60360	36	Female	9.82	7.36	6.26	5.63
40F6351	57-60500	50	Female	13.11	9.83	8.36	7.52

(8231) (de50207)

57 SERIES MICRO-RIBBON® PCB CONNECTORS

0.100" (2.54) STRAIGHT TAIL WITHOUT SPRING LATCH

Stock No.	Type	Contacts	Description	1-24	25-49	50-99	100-249
40F6340	57-10360-13	36	Male	7.80	5.85	4.97	4.48
40F6341	57-20360-9	36	Female	8.71	6.53	5.55	4.99
40F6342	57-10500-27	50	Male	6.43	4.83	4.10	3.69
40F6343	57-20500-31	50	Female	9.63	7.23	6.14	5.53

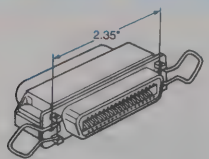
CABLE-TO-PANEL CONNECTORS: SCREWLOCK VERSIONS

Mate with right-angle receptacles without spring latch. Top cable entry.

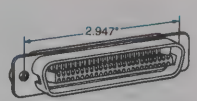
44F6716	57-33500-1	50	Male	8.41	6.31	5.37	4.83

(8232) (de50208)

FCC57 SERIES FILTERED MICRO-RIBBON ADAPTERS



36 Size
Receptacle View



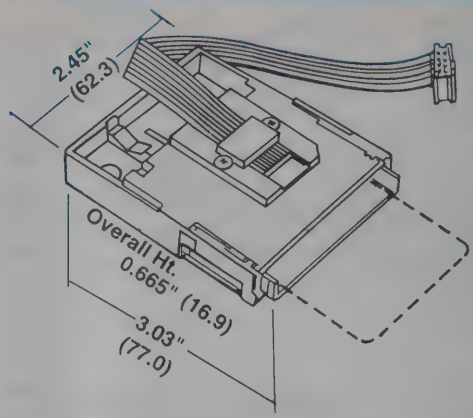
50 Size Plug View

Combines non-filtered adapter with discrete filter element (capacitor) to provide EMI noise protection and bring assembly into FCC compliance, Docket 20780. Withstand transient voltage spike of 700V. Rise time: 1 micro second. Choice of filter capacitance: 470 pF or 820 pF. High strength tin-plated diecast shell. Phosphor bronze contacts with 30µ" gold plating over copper underplate; 50µ" nickel barrier on 50 size adapter. Thermoplastic insert, rated UL94V-0.

Stock No.	Type	Size	Filter pF	Shell	1-9	10-24
89F3458	FCC-57-09360-110	36	470	Zinc	66.62	50.02
97F7890	FCC57-09360-130	36	820	Zinc	66.62	50.02
87F2286	FCC-57-09500-410	50	470	Alum.	38.05	28.57
87F2287	FCC-57-09500-430	50	820	Alum.	10.57	...

(8222) (de03571)

SMART/CHIP CARD ACCEPTOR DEVICE



Push-pull ISO-Standard model for vending, pay phone, POS, and access control applications. Credit card size ISO7816 smart/chip card is manually inserted until captured by card retention clip. Normally open card presence switch closes when card is fully inserted. Zero insertion force contacts land on card and read I/O to and from the 8 gold pads on the card. After transaction, the card is simply pulled out of the acceptor. Data is transferred via flat ribbon I/O cable terminated with 10 position IDC socket. Average 500,000 insertion cycle life. Copper tin contacts plated with copper nickel/selective gold. Thermoplastic housing, rated UL94V-0. Voltage rated: 32Vrms. Operating temperature: –25°C to +85°C. **This device does not accept PCMCIA cards.** Amphenol manufactures a wide variety of chip card acceptor devices; *contact your local Newark sales office for details.*

97F7891 Type C70210M0085142. **Each** **30.22**

(8447) (ne03582)

157 SERIES MICRO-PIERCE IDC CONNECTORS

Cable-to-Cable

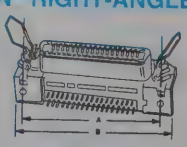
157 series specifications same as **57 series** except wire sizes 24 and 26 AWG solid conductor, 26 and 28 AWG stranded conductor. Insulation displacement termination. UL recognized, CSA certified. *Order* **type 356-246** *termination tool separately; contact your local Newark sales office.*

CABLE-TO-CABLE PLUGS: TOP CABLE ENTRY

Stock No.	Type	Contacts	Gender	1-24	25-49	50-99	100-249
40F6356	157-32140	14	Male	7.21	5.41	4.59	4.13
40F6357	157-32240	24	Male	8.53	6.40	5.44	4.90
40F6358	157-32360	36	Male	8.00	6.01	5.11	4.59
40F6359	157-32500	50	Male	9.21	6.91	5.87	5.28
CABLE-TO-CABLE RECEPTACLES: TOP CABLE ENTRY							
40F6365	157-62240	24	Female	11.87	8.89	7.57	6.80
40F6366	157-62360	36	Female	11.14	8.36	7.10	6.39
40F6367	157-62500	50	Female	12.51	9.38	7.97	7.18
LOW-PROFILE STEEL HOOD CABLE-TO-CABLE END CABLE ENTRY							
39F3600	157-72500-3	50	Plug	8.00	6.01	5.11	4.59
39F3601	157-82500-3	50	Receptacle	8.83	6.63	5.63	5.08
ALL PLASTIC CONNECTORS WITH HOOD AND CABLE CLAMP							
16F6941	157-79500-01	50	Plug	7.01	5.26	4.48	4.03
16F6942	157-89500-01	50	Receptacle	8.64	6.47	5.51	4.95

(8233) (de50209)

MICRO-RIBBON® RIGHT-ANGLE PC HEADERS



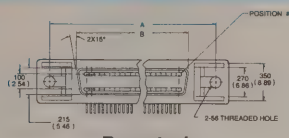
Allow mass termination from PC boards to equipment panels. EMI/RFI shielded with metal flange. Intermate with other micro-ribbon connectors. Contact spacing: 0.085". 10µ" gold-plated contacts.

842-57LE SERIES SPRING LATCH METAL FLANGE SOCKETS

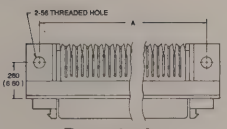
Stock No.	Type	Contacts	A	B	1-24	25-49	50-99
50F1931	84257LE40500-7700	50	2.95"	3.26"	10.92	8.19	6.96

(8234) (de50210)

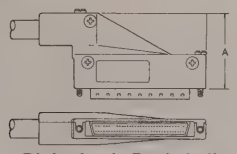
257 SERIES SCSI PCB MOUNT D-SUB RECEPTACLES AND BACKSHELLS



Receptacle



Receptacle



Right-Angle Backshell

PCB mount receptacles meet ANSI requirements for SCSI and are suitable for a variety of input/output applications. Low-profile design allows connector to be used in applications where space is at a premium. Contacts are a fork and blade type spaced at 0.050″. Features metal "D" shell for polarization and EMI/RFI shielding. Black thermoplastic insulator, rated UL94V-0. Phosphor-bronze contacts are plated 30µ″ gold in mating area, 100-200µ″ tin/lead on termination end, and 50-100µ″ nickel underplate. Current rating: 1A. Dielectric withstanding voltage: 500VAC. Operating temperature: –55°C to +125°C. **Suffix 1** in type number indicates 2-56 threaded hole as the board mounting option; **Suffix 2** in type number indicates boardlock as the board mounting option. Die-cast backshells with zinc, bright nickel plating are also available, *order separately below.*

SCSI PCB MOUNT RECEPTACLE MATING FACE: LATCH BLOCKS, RAILS, AND 2-56 THREADED HOLE

Stock No.	Type	Positions	Dim. A	Dim. B	1-24	25-49	50-99	100-249
16F6928	257-B-050SAM-11	50	1.830″	1.366″	7.12	5.34	4.54	4.09
16F6929	257-B-050SAM-12	50	1.830″	1.366″	12.26	10.20	9.27	7.52
16F6936	257-B-068SAM-11	68	2.280″	1.816″	12.53	9.39	7.98	7.19
16F6937	257-B-068SAM-12	68	2.280″	1.816″	9.98	8.30	7.54	6.12

SCSI PCB MOUNT RECEPTACLE MATING FACE: 2-56 THREADED HOLE ONLY

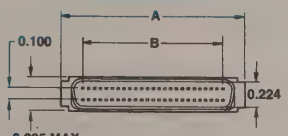
16F6930	257-B-050SAM-21	50	1.830″	1.366″	12.26	10.20	9.27	7.52
16F6931	257-B-050SAM-22	50	1.830″	1.366″	12.26	10.20	9.27	7.52
16F6938	257-B-068SAM-21	68	2.280″	1.816″	9.98	8.30	7.54	6.12
16F6939	257-B-068SAM-22	68	2.280″	1.816″	9.98	8.30	7.54	6.12

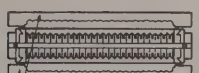
RIGHT-ANGLE EXIT DIE-CAST BACKSHELLS WITH SCREWS

Stock No.	Type	Positions	Cable O.D.	Dim. A	1-24	25-49	50-99	100-249
16F6934	257-S068R-440	68	0.440″	1.43″	18.88	14.16	12.04	10.83

(8303) (ne08252)

257 SERIES HIGH-DENSITY CABLE MOUNT CONNECTORS FOR SCSI II





Terminating Covers

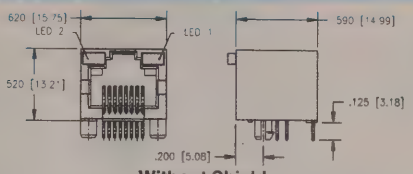
Meets ANSI requirements for SCSI II in input/output applications to connect small computers to peripheral devices. Choice of 50- or 68-position, 0.050″ (1.27) pitch cable mount plug with termination cover. Tin-over-copper plated steel front "D" shell. Nickel plated zinc alloy housing. Black thermoplastic insulator, rated UL94V-0. Phosphor bronze contacts plated 30µ″ gold on mating end, 100-200µ″ tin/lead on termination end, over 50µ″ nickel underplate. Current rating: 1A. Dielectric withstanding voltage: 500V AC. Wire size: 28-30 AWG solid or 7 strand with insulation outer diameter 0.036″ (0.914) max.

KIT: CABLE MOUNT PLUG WITH TERMINATION COVER

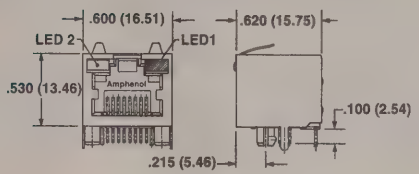
Stock No.	Type	Positions	Dimensions A	Dimensions B	1-24	25-49	50-99	100-249
97F7892	257-K-050-P-AM00	50	1.57″	1.20″	7.68	5.76	4.90	4.41
97F7893	257-K-068-P-AM00	68	2.02″	1.65″	9.23	6.92	5.88	5.29

(8225) (de03574)

RJHS SERIES HIGH-SPEED MODULAR JACKS



Without Shield



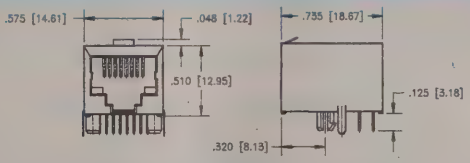
With Shield

RJ-45 modular jacks with built-in LEDs. Available from 1 to 8 ports. Ideal for LAN applications such as adapter cards and routers. Designed for Category 5 performance. Copper alloy, tin/lead-plated shield. Stamped and formed selectively plated contact has 50µ″ gold on mating end and tin/lead in PCB tail. Thermoplastic insert, which complies with UL94V-0. Number of contacts: 8. Single port. Contact resistance: 10mΩ maximum. Insulation resistance: 500MΩ minimum. Current rating: 1.5A. Voltage rating: 125VAC. Dielectric withstanding voltage: 1000VACrms. 60Hz 1 min. UL recognized, file no. E135615; CSA certified, file no. LR68598.

Stock No.	Type	Description	1-9	10-24
01F1767	RJHS-5080	Without Shield, Without LEDs	1.52	1.14
01F1768	RJHS-5081	Without Shield, LED1 Green, LED2 Yellow	1.80	1.35
01F1769	RJHS-5084	Without Shield, LED1 Yellow, LED2 Green	1.80	1.35
01F1770	RJHS-5085	Without Shield, LED1 Green, LED2 Green	1.80	1.35
01F1771	RJHS-5381	With Shield, LED1 Green, LED2 Yellow	2.73	2.05
01F1772	RJHS-5384	With Shield, LED1 Yellow, LED2 Green	2.73	2.05
01F1773	RJHS-5385	With Shield, LED1 Green, LED2 Green	2.73	2.05

(8344) (ne08225)

FRJ SERIES SHIELDED AND FILTERED MODULAR JACKS

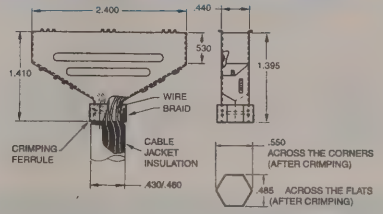


Offers low cost and effective EMC control within standard RJ-11 and RJ-45 connector footprints. EMC control is provided by completely shielded connector and/or with the use of high-resistivity, high-impedance ferrite block. Board layout changes are not required. Copper alloy, tin/lead-plated shield. Features fully enclosed contact body with a flat contact design that has 50µ″ gold mating side and tin/lead in the PCB tail. Thermoplastic insert, which complies with UL94V-0. Contact resistance: 20mΩ maximum. Insulation resistance: 500MΩ minimum. Current rating: 1.5A. Voltage rating: 125VAC. UL recognized, file no. E135615; CSA certified, file no. LR68598-11.

Stock No.	Type	Description	1-9	10-24
01F1774	FRJA-408	Without Shield, Standard Jack	1.31	0.99
01F1775	FRJA-448	Without Shield, Filtered Jack	2.00	1.50
01F1776	FRJA-488	Shielded Only (Rear Tabs)	2.28	1.71
01F1777	FRJA-468	Filtered and Shielded	2.97	2.23
01F1778	FRJA-438	Shielded Only (Front Tabs)	2.28	1.71
01F1779	FRJA-418	Filtered and Shielded	2.97	2.23

(8345) (ne08226)

SCSI OVERMOLD CONNECTORS



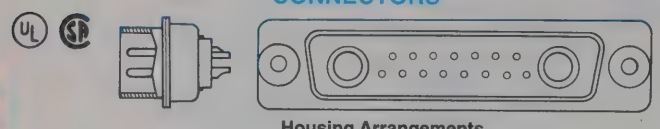
For 50-position connectors. Reduces user pre-mold operations, thus lowering labor costs. Single crimp ferrule eliminates the need for an inner/outer crimp. Number of contacts: 50.

SCSI OVERMOLD CABLE CONNECTORS: SPRING LATCH VERSION

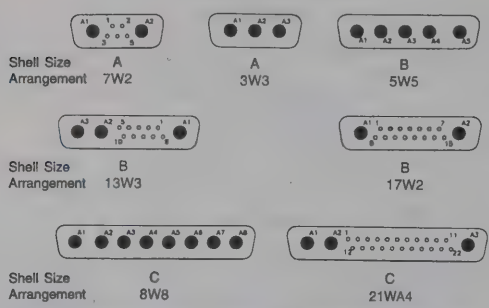
Stock No.	Type	Gender	1-24	25-49
16F6943	157-12500-10(441)	Plug	6.35	4.77
16F6946	157-42500(441)	Receptacle	6.78	5.09

(8302) (ne08250)

17TW SERIES D-SUBMINIATURE HYBRID CABLE CONNECTORS



Housing Arrangements



Combination (hybrid) D-subminiature metal shell cable connectors feature installed, non-removable screw-machine solder cup signal contacts combined with power and coaxial contacts, *order separately on this page.* Tin-plated steel shell. Gold over nickel-plated bronze female signal contacts or brass male signal contacts are fixed in the high-temperature, black thermoplastic insulator. Panel mount 0.122″ diameter holes. Current rating: 7.5 amps with 10 amp peaks. Voltage rating: 300Vrms at 50Hz. Dielectric withstanding voltage: 1000Vrms at 50Hz. Insulation resistance: 5000 megohms at 500VDC. Operating temperature: –55°C to +155°C with peaks up to 180°C. Flame retardant to UL94V-0. Choice of three shell sizes and nine housing arrangements. UL listed, CSA certified.

TINNED PLUGS WITH INDENTS

Stock No.	Type	Contacts* Signal/Power or Coax	Arrange-ment	Shell Size	1-24	25-49
52F7228	717TWA7W2P	5/2	7W2	A	5.56	4.18
52F7229	717TWA3W3P	0/3	3W3	A	4.03	3.03
52F7230	717TWB5W5P	0/5	5W5	B	3.90	2.92
52F7231	717TWB13W3P	10/3	13W3	B	6.09	4.57
52F7232	717TWB17W2P	15/2	17W2	B	6.96	5.22
52F7234	717TWC21WA4P	17/4	21WA4	C	8.72	6.53
52F7235	717TWC8W8P	0/8	8W8	C	4.84	3.63

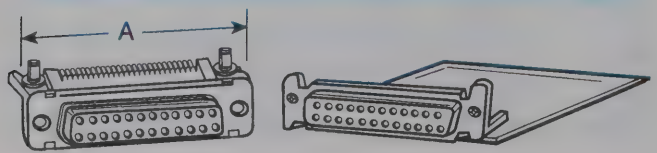
TINNED RECEPTACLES WITHOUT INDENTS

52F7237	77TWA7W2S	5/2	7W2	A	5.72	4.29
52F7238	77TWA3W3S	0/3	3W3	A	3.90	2.92
52F7239	77TWB5W5S	0/5	5W5	B	3.96	2.96
52F7240	77TWB13W3S	10/3	13W3	B	7.62	5.72
52F7241	77TWB17W2S	15/2	17W2	B	9.62	7.22
52F7244	77TWC8W8S	0/8	8W8	C	4.11	3.09

* Contacts: size 20 signal, size 8 power or coax

(8301) (ne07389)

D-SUBMINIATURE SURFACE MOUNT RECEPTACLES



Surface mount D-subminiature connectors can replace thru-hole D-subs as an I/O connector on PC boards where all other components are surface mount. This reduces PC board cost and eliminates the wave solder process required for standard D-sub connectors. Black, high-temperature thermoplastic rated UL94V-0. Voltage rating: 300VAC at sea level at 50Hz. Temperature range: –55°C to +125°C.

Stock No.	Type	Shell Size	Con-tacts	Dim. A	1-24	25-49	50-99
01F530	17SM09S-114T	E	9	1.226″	5.80	4.35	3.70
01F531	17SM15S-114T	A	15	1.551″	7.02	5.26	4.48
01F532	17SM25S-114T	B	25	2.098″	7.56	5.68	4.83

(16429) (ne09837)

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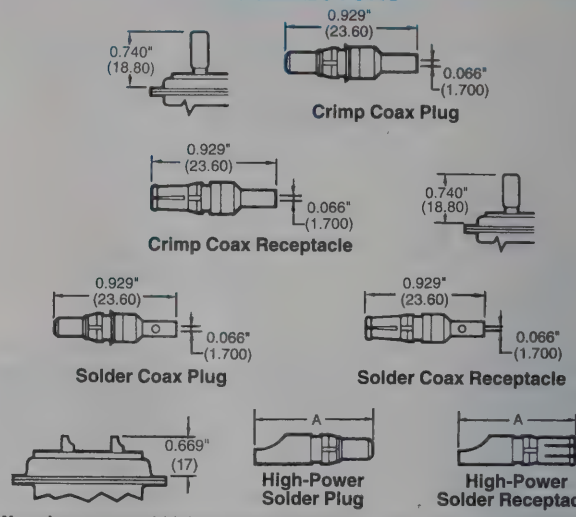
17TW SERIES COAX AND HIGH-POWER REMOVABLE CONTACTS FOR D-SUBMINIATURE HYBRID CABLE CONNECTORS



17TW series coax and high-power contacts (size 8) for use in combination (hybrid) D-subminiature cable connectors, *order separately on this page.* Machined copper alloy female contacts, machined brass male contacts. Both feature gold over nickel plating. Straight coax contacts available crimp or solder. Impedance: 50 ohms. Current rating: 0.5A. Voltage rating: 150Vrms at 50Hz. Frequency range: 0-1GHz. High-power contacts are solder type. Current rating: 10 to 40A. Voltage rating: 300Vrms at 50Hz.

STRAIGHT CRIMP COAX CONTACTS — 50 OHM, RG/U CABLE 179B/316B

Stock No.	Type	Description	1-24	25-49	50-99	100-249
52F7254	17DM53740-1	Plug	7.22	5.42	4.61	4.14
52F7255	17DM53742-1	Receptacle	8.01	6.02	5.12	4.60

STRAIGHT SOLDER COAX CONTACTS — 50 OHM, RG/U CABLE 179B/316B

52F7252	17DM53740-5001	Plug	8.58	6.44	5.48	4.93
52F7253	17DM53742-5001	Receptacle	9.51	7.12	6.06	5.45

HIGH-POWER SOLDER CONTACTS — PLUGS

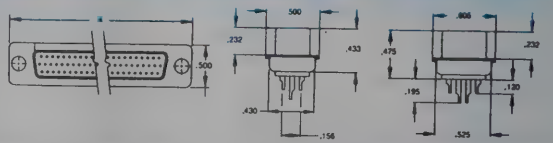
Stock No.	Type	Dim. A	Amp Rating	Wire Size	1-24	25-49	50-99	100-249
52F7246	17DM53745-1	0.866″	40	#8	3.50	2.63	2.24	2.01
52F7247	17DM53745-7	0.866″	20	#12	3.76	2.83	2.41	2.16
52F7248	17DM53745-8	0.866″	10	#16	3.25	2.45	2.07	1.87

HIGH-POWER SOLDER CONTACTS — RECEPTACLES

52F7249	17DM53744-1	0.854″	40	#8	5.54	4.15	3.53	3.18
52F7250	17DM53744-6	0.854″	20	#12	6.05	4.54	3.85	3.47
52F7251	17DM53744-7	0.854″	10	#16	5.38	4.03	3.43	3.09

(8343) (ne07390)

HIGH-DENSITY D-SUBMINIATURE CONNECTORS



15-62 position connectors have 3 rows, 78 position has 4 rows. **17HD series** cable mount D-Subs with straight solder cup termination. Fixed contacts plated gold flash over nickel in engagement area. Accept 22 AWG wire. Clear hole panel mount. Feature copper alloy contacts with tin/lead over nickel plating on termination end. 0.100″ (2.54) staggered spacing. Current rating: 5A. Voltage rating: 125VAC. Tin-plated steel shell has grounding indents on plugs. Black thermoplastic resin dielectric, rated UL94V-0. Dielectric withstanding voltage: 500VAC. *Order backshells separately on page 203.*

17HD SERIES SOLDER CUP PLUGS

Stock No.	Type	Con-tacts	Dim. A	1-24	25-49	50-99	100-249
84F2100	17HD015PAA000	15	1.215″	1.36	1.02	0.87	0.78
84F2101	17HD026PAA000	26	1.539″	2.68	2.01	1.71	1.54
84F2102	17HD044PAA000	44	2.088″	3.24	2.44	2.06	1.86
84F2103	17HD062PAA000	62	2.738″	4.02	3.02	2.56	2.30
84F2104	17HD078PAA000	78	2.630″	6.32	4.73	4.03	3.63

17HD SERIES SOLDER CUP SOCKETS

84F2105	17HD015SAA000	15	1.215″	1.77	1.33	1.13	1.02
84F2106	17HD026SAA000	26	1.539″	3.08	2.31	1.96	1.76
84F2107	17HD044SAA000	44	2.088″	3.66	2.75	2.33	2.11
84F2108	17HD062SAA000	62	2.738″	4.36	3.27	2.78	2.50
84F2118	17HD078SAA000	78	2.630″	7.01	5.26	4.48	4.03

(8197) (de00532)

17D SERIES D-SUBMINIATURE CONNECTORS

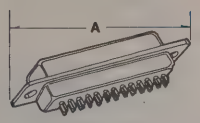


Fig. 1

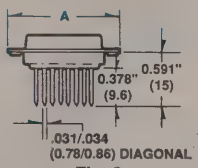


Fig. 2

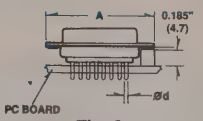


Fig. 3

Rack and panel D-Sub connectors for industrial use. Male and female brass, fixed screw machined contacts, both gold over nickel plated. Solder cup, solderless wire wrap, or straight PC solder mount termination. Yellow chromate plated zinc shell. 2-piece black thermoplastic dielectric insert, rated UL94V-0. 0.122″ (3.10) diameter mounting holes. Voltage rating: 300Vrms to 50Hz. Current rating: 7.5A. Wire: 20 AWG. Operating temperature: –55°C to +105°C. UL recognized E130160.

SOLDER CUP TERMINATION WITH PIN CONTACTS – FIG. 1

Stock No.	Type	Contacts	A	1-24	25-49	50-99	100-249
81F5171	DE9P	9	1.209″	1.85	1.69	1.43	1.10
81F5172	DA15P	15	1.535″	2.65	1.99	1.69	1.53
81F5173	DB25P	25	2.083″	2.95	2.75	2.40	1.99
81F5174	DC37P	37	2.724″	5.75	4.31	3.67	3.30
81F5175	DD50P	50	2.630″	7.65	5.74	4.88	4.39

SOLDER CUP TERMINATION WITH SOCKET CONTACTS – FIG. 1

81F5176	DE9S	9	1.209″	1.95	1.80	1.60	1.45
81F5177	DA15S	15	1.535″	3.57	2.68	2.28	2.05
81F5178	DB25S	25	2.083″	3.20	3.00	2.70	2.30
81F5179	DC37S	37	2.724″	8.35	6.26	5.32	4.79
81F5180	DD50S	50	2.630″	11.40	8.55	7.27	6.55

WIRE WRAP TERMINATION WITH PIN CONTACTS (2 WRAPS) – FIG. 2

44F6785	DE9P-F179	9	1.209″	6.56	4.92	4.18	3.76
81F5181	DA15P-F179	15	1.535″	7.34	5.50	4.68	4.22
81F5182	DB25P-F179	25	2.083″	8.75	6.56	5.57	5.02
81F5183	DC37P-F179	37	2.724″	12.22	9.16	7.79	7.01

WIRE WRAP TERMINATION WITH SOCKET CONTACTS – FIG. 2

44F6786	DE9S-F179	9	1.209″	6.99	5.24	4.45	4.01
81F5184	DA15S-F179	15	1.535″	8.05	6.04	5.14	4.62
81F5185	DB25S-F179	25	2.083″	9.08	6.81	5.79	5.21
81F5186	DC37S-F179	37	2.724″	14.19	10.64	9.05	8.14

STRAIGHT PC TERMINATION WITH PIN CONTACTS– TAIL LENGTH 0.124″ (3.15)/ DIAMETER 0.024″ (0.610) – FIG. 3

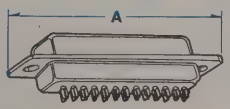
44F6787	DE9P-U	9	1.209″	2.55	1.91	1.63	1.46
44F6788	DA15P-U	15	1.535″	2.84	2.13	1.80	1.63
44F6789	DB25P-U	25	2.083″	3.81	2.86	2.43	2.19
44F6790	DC37P-U	37	2.724″	6.16	4.62	3.93	3.53
44F6791	DD50P-U	50	2.630″	9.47	7.10	6.04	5.44

STRAIGHT PC TERMINATION WITH SOCKET CONTACTS TAIL LENGTH 0.124″ (3.15)/ DIAMETER 0.024″ (0.610) – FIG. 3

44F6792	DE9S-U	9	1.209″	3.46	2.59	2.21	1.99
44F6793	DA15S-U	15	1.535″	4.03	3.02	2.57	2.31
44F6794	DB25S-U	25	2.083″	5.51	4.13	3.51	3.16
44F6795	DC37S-U	37	2.724″	8.98	6.73	5.73	5.15
44F6796	DD50S-U	50	2.630″	12.51	9.38	7.97	7.18

(8190) (de00337)

17S SERIES D-SUBMINIATURE CONNECTORS



Economical rack and panel D-sub connectors feature fixed precision formed, gold over nickel plated copper alloy contacts for commercial use. Solder cup termination. Same specifications as **17D series** D-Subs, *ordered separately on this page.*

PIN CONTACTS

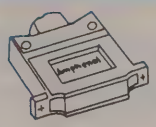
Stock No.	Type	Contacts	A	1-24	25-49	50-99	100-249
89F1461	17S-DE-09P	9	1.209″	2.09	1.58	1.34	1.20
89F1462	17S-DA-15P	15	1.535″	1.52	1.14	0.97	0.87
89F1463	17S-DB-25P	25	2.083″	2.21	1.66	1.41	1.27
89F1464	17S-DC-37P	37	2.724″	3.13	2.35	2.00	1.79
89F1465	17S-DD-50P	50	2.630″	5.86	4.40	3.74	3.37

SOCKET CONTACTS

89F1466	17S-DE-9S	9	1.209″	1.26	0.95	0.80	0.73
89F1467	17S-DA-15S	15	1.535″	1.62	1.21	1.03	0.93
89F1454	17S-DB-25S	25	2.083″	2.35	1.76	1.49	1.35
89F1455	17S-DC-37S	37	2.724″	3.39	2.54	2.16	1.94
89F1456	17S-DD-50S	50	2.630″	5.22	3.92	3.33	3.00

(8191) (de00338)

17 SERIES D-SUB METAL BACKSHELLS

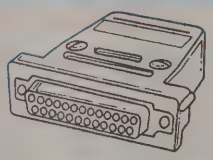


2-piece die-cast zinc backshells (hoods) with clear zinc finish meet FCC docket 20780, shielding out EMI/RFI. PVC inserts accommodate a wide range of braided or foil-shielded cable. All units are jack screw models. Include clear zinc-finished steel mounting hardware.

Stock No.	Type	Positions Std.	Positions Hi-Density	1-24	25-49	50-99	100-249
46F2342	17-1657-09	9	15	4.42	3.32	2.82	2.54
46F2343	17-1657-15	15	26	4.95	3.72	3.16	2.84
44F8239	17-1657-25	25	44	5.47	4.10	3.49	3.14
46F2345	17-1657-50	50	78	8.04	6.03	5.13	4.61

(8256) (de51596)

17 SERIES METALIZED PLASTIC BACKSHELLS



2-piece, jack screw/grommet type shielded backshells fit both standard pin count and high density configurations. ABS polymer housing, PVC insert. Nickel over copper plating for EMI/RFI suppression. Hardware included.

Stock No.	Type	Fit Positions Std.	Fit Positions Hi-Density	Cable O.D.	1-24	25-49	50-99	100-249
89F001	17-1724-2	9	15	0.19-0.35″	3.50	2.63	2.24	2.01
89F002	17-1725-2	15	26	0.19-0.35″	3.73	2.80	2.37	2.15
89F003	17-1726-2	25	44	0.19-0.46″	4.05	3.04	2.58	2.32
89F004	17-1727-2	37	62	0.30-0.68″	6.02	4.52	3.83	3.45

(8280) (ne00049)

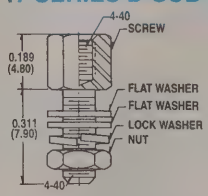
17 SERIES D-SUB 2-PIECE MOLDED HOOD

Black thermoplastic housing. Available only in B shell size (25 pins).

Stock No.	Type	1-24	25-49	50-99	100-249
81F5215	DB51226-1A	6.09	4.57	3.89	3.49

(8255) (de51595)

17 SERIES D-SUB LOCK ASSEMBLIES



Female Male

Stock No.	Type	Description	1-24	25-49	50-99	100-249
46F2235	17D20419-X	Male 9-37	3.84	2.89	2.46	2.21
81F5207	17-D20420-X	Male 50	7.95	5.97	5.08	4.57
82F9950	17D20418-2X	Female—All	4.82	3.61	3.07	2.77

(8257) (de51597)

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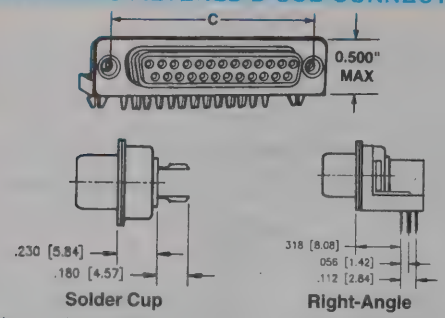
FILTERED CONNECTORS AND ADAPTERS

FCC17 SERIES FILTERED D-SUB CONNECTORS



Solder Cup — Right-Angle

Discrete filter element (capacitor) provides EMI noise protection and brings assembly into FCC compliance, Docket 20780. Designed to provide EIA RS-232 and RS-449 compatibility. Pin and socket styles with solder cup or right-angle PCB termination. Tin plated high-strength diecast shell with thermoplastic insert, rated UL94V-0. Phosphor bronze contacts plated with 15μ″ gold on contact area over 100μ″ nickel. 0.120″ diameter through mounting holes in flange. Current rating: 5A DC max., 2A RF filtering max. Operating temperature: –40° to +85°C. Intermate with standard non-filtered **17 series** D-Sub *ordered separately on page 203*, and connectors meeting MIL-C-24308. Other connectors are available in a variety of filter capacitance values; *contact your local Newark sales office.*

SOLDER CUP TERMINATION

Stock No.	Type	Contacts*	Filter pF	C	1-24	25-49
97F7880	FCC17-E09PM-240	9/P	820	0.984″	18.89	14.18
97F7882	FCC17-A15PM-240	15/P	820	1.312″	13.86	10.13
97F7884	FCC17-B25PM-240	25/P	820	1.852″	15.86	11.59
87F2285	FCC-17-E09SM-240	9/S	820	0.984″	20.82	15.63
97F7871	FCC17-A15SM-240	15/S	820	1.312″	14.57	10.64
87F2279	FCC-17-B25SM-240	25/S	820	1.852″	32.95	24.74
97F7872	FCC17-C37SM-240	37/S	820	2.500″	28.85	21.08

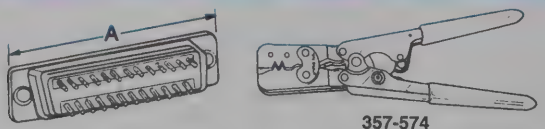
RIGHT ANGLE PCB TERMINATION WITH BOARDLOCKS

Stock No.	Type	Contacts*	Filter pF	C	1-24	25-49
01F1780	FCC17-E09SA-410	9/S	470	0.984″	10.90	7.94
01F1781	FCC17-A15SA-410	15/S	470	1.312″	13.23	9.65
01F1782	FCC17-B25SA-410	25/S	470	1.852″	15.57	11.35
01F1783	FCC17-C37SA-410	37/S	470	2.500″	22.58	16.45

*P=Pin, S=Socket

(8224) (de03573)

17RR SERIES REAR-RELEASE CRIMP D-SUB CONNECTORS



357-574

Shrouded contact and crimp protect against shorting or arcing. Meet EIA standard RS232C-RS449. Two piece black thermoplastic UL 94V-0 rated insulator. Voltage rating: 500VAC @ 5 amps. Wire types: 20 to 28 AWG. Temperature range: –55°C to +125°C. Shell plating: steel/tin plating, grounding indents on plug front shell. Polarization by "D" shape. *Order stamped and formed contacts and termination tools separately below.*

PLUGS

Stock No.	Type	Contacts	Dimension A	1-24	25-49
46F146	777-RR-E9P	9	1.240″ (31.5)	1.07	0.81
46F147	777-RR-A15P	15	1.567″ (39.8)	1.28	0.96
46F134	777-RR-B25P	25	2.110″ (53.6)	1.19	0.89
46F135	777-RR-C37P	37	2.756″ (70.0)	2.02	1.53

RECEPTACLES

46F141	177-RR-E9S	9	1.240″ (31.5)	1.01	0.76
46F142	177-RR-A15S	15	1.567″ (39.8)	0.96	0.72
46F143	177-RR-B25S	25	2.110″ (53.6)	1.06	0.79
46F144	177-RR-C37S	37	2.756″ (70.0)	2.09	1.57

REMOVABLE STAMPED AND FORMED CONTACTS

Plating: 10μ″ gold on mating end; gold flash on termination end. *Contact your local Newark sales office for plating availability.* **Sold in packages of 100.**

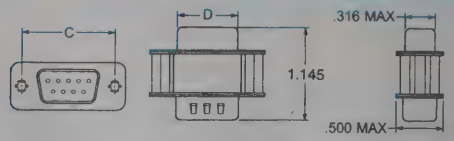
Stock No.	Type	Description	AWG	Per Pkg. 1-24	Per Pkg. 25-49
46F137	17-RRD1-F01-100	Female	20-24	18.48	13.86
46F139	17-RRD1-M01-100	Male	20-24	15.86	11.90

D-SUB TERMINATION TOOLING

Stock No.	Type	Description	1-2
38F928	357-574	Hand Crimp Tool	265.60
38F915	356-214/METAL	Removal Tool	11.01

(8254) (de51593)

FCC17 SERIES FILTERED D-SUB ADAPTERS

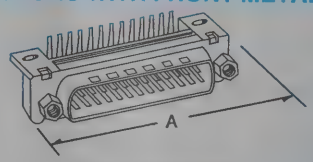


Pin-socket adapter connector designed to provide EIA RS-232 and RS-449 compatibility. Intermate with standard non-filtered **17 series** D-Subs, *ordered separately on page 203* and connectors meeting MIL-C-24308. High strength tin-plated zinc diecast shell. Thermoplastic insert, rated UL94V-0. Phosphor bronze contacts plated with 15μ″ gold over 100μ″ nickel. 0.120″ diameter through hole flange mounting. Current rating: 5A DC max.; 2A RF filtering max.

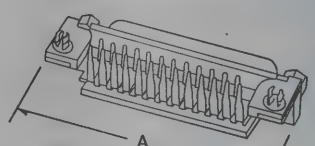
Stock No.	Type	Size	Filter pF	C	D	1-9	10-24
87F2298	FCC-17-E09AD-210	9	470	0.984″	0.643″	46.26	34.73
97F7888	FCC17-A15AD-210	15	470	1.312″	0.971″	26.24	19.54
87F2300	FCC-17-B25AD-210	25	470	1.852″	1.511″	57.97	43.53
97F7889	FCC17-C37AD-210	37	470	2.500″	2.159″	34.68	25.82

(8223) (de03572)

617 SERIES PCB MOUNT RIGHT-ANGLE D-SUB CONNECTORS WITH FRONT METAL SHELL



With Ground Strap



With Boardlock

Front tin-plated steel shell helps reduce EMI/RFI emissions. Precision formed copper alloy contacts plated with 30μ″ gold over nickel in engagement area, tin/lead over nickel in end area. Current rating: 5A. Voltage rating: 100VAC. Glass-filled thermoplastic dielectric, rated UL94V-0. Plugs feature grounding indents. Front mounting holes are #4-40 threaded. **617-A series** D-Subs have 0.120″ (3.05) diameter mounting hole with wrap-around ground strap and 0.318″ (8.08) footprint. **617-C series** D-Subs have split arrowhead boardlock and 0.318″ (8.08) footprint.

617-A SERIES PLUGS WITH GROUND STRAP

Stock No.	Type	Contacts	Dim. A	1-24	25-49	50-99	100-249
87F2243	617-A009P-AJ121	9	1.221″	2.01	1.52	1.29	1.16
50F1910	617-A025P-AJ121	25	2.088″	4.02	3.02	2.57	2.31
50F1922	617-A037P-AJ121	37	2.730″	5.30	3.98	3.38	3.05

617-A SERIES SOCKETS WITH GROUND STRAP

87F2244	617-A009S-AJ120	9	1.221″	1.88	1.40	1.19	1.08
50F1921	617-A015S-AJ120	15	1.539″	2.49	1.87	1.59	1.43
87F2248	617-A025S-AJ120	25	2.088″	3.19	2.39	2.03	1.84
87F2242	617-A037S-AJ120	37	2.730″	4.70	3.53	3.01	2.71

617-C SERIES PLUGS WITH BOARDLOCKS

87F2250	617-C009P-AJ121	9	1.221″	2.01	1.52	1.29	1.16
50F1914	617-C025P-AJ121	25	2.088″	3.64	2.73	2.32	2.08
50F1916	617-C037P-AJ121	37	2.730″	5.31	3.99	3.39	3.05

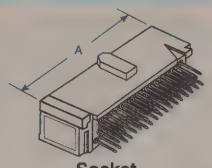
617-C SERIES SOCKETS WITH BOARDLOCKS

50F1915	617-C025S-AJ120	25	2.088″	3.22	2.42	2.05	1.85
50F1925	617-C037S-AJ120	37	2.730″	4.70	3.53	3.01	2.71

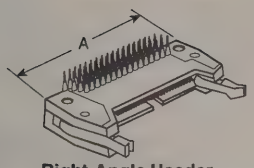
(8196) (de00531)

AT NEWARK, YOUR ORDER IS OUR FIRST PRIORITY.

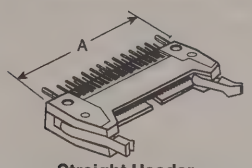
845 SERIES MASS-TERMINATED IDC CONNECTORS



Socket



Right-Angle Header



Straight Header

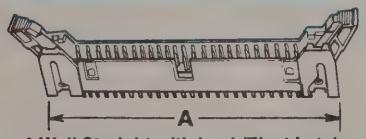
High-density 0.025″ IDC connectors are designed for use in condensed FRC wiring applications on PC boards in computers and other electronic equipment. Cable mount IDC sockets feature an innovative 3-blade contact arrangement allowing mass termination of 0.025″ conductor center flat ribbon cable without costly preprocessing procedures. Each blade has a tapered tip and chamfered edges to help prevent wire and blade damage during displacement. IDC headers are fully shrouded and are available in either straight or right-angle solder tails. Feature a molded body key for positive mating with the corresponding socket connector, virtually eliminating the possibility of misalignment at every disconnect/reconnect cycle. IDC connectors have glass-reinforced PBT rated UL94V-0. Voltage rating: 185V. Temperature range: –20°C to +105°C.

CABLE MOUNT IDC SOCKETS

Stock No.	Type	Contacts	Dimension A	1-24	25-49
01F1784	845-C050S-ALA55	50	1.436″ (36.48)	15.34	11.50
01F1785	845-C060S-ALA55	60	1.686″ (42.83)	17.49	13.12
01F1786	845-C068S-ALA55	68	1.886″ (47.90)	22.68	17.02
01F1787	845-C080S-ALA55	80	2.186″ (55.52)	22.68	17.02
01F1788	845-C100S-ALA55	100	2.686″ (68.22)	27.90	20.92
	RIGHT-ANGLE IDC HEADERS				
01F1793	845-B050P-ALA55	50	1.956″ (49.68)	7.42	5.57
01F1794	845-B060P-ALA55	60	2.206″ (56.03)	19.95	14.96
01F1795	845-B080P-ALA55	80	2.706″ (68.73)	14.08	10.56
01F1796	845-B100P-ALA55	100	3.206″ (81.43)	15.44	11.58
	STRAIGHT IDC HEADERS				
01F1789	845-A050P-ALA55	50	1.956″ (49.68)	9.40	7.05
01F1790	845-A060P-ALA55	60	2.206″ (56.03)	11.10	8.33
01F1791	845-A080P-ALA55	80	2.706″ (68.73)	11.39	8.54
01F1792	845-A100P-ALA55	100	3.206″ (81.43)	17.61	13.20

(16428) (ne09836)

816 SERIES 4-WALL HEADERS



4-Wall Straight with Lock/Eject Latch

Headers for 0.062″ (1.57) PC boards meet MIL-C-83503. 1-amp phosphor bronze contacts 30μ″ gold-over-nickel plated in contact area, tin solder plated on tails. Glass reinforced thermoplastic insulation rated UL94V-0. 0.100 x 0.100″ (2.54 x 2.54) contact spacing. Lock/eject latches, *order separately below,* reduce strain on cable and boards when removing mating connectors. UL recognized. CSA certified.

4-WALL RIGHT-ANGLE SOLDER TAILS

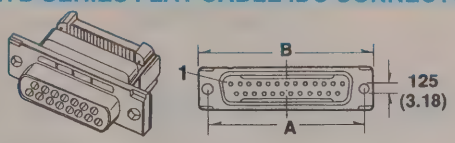
Stock No.	Type	Contacts	Dim. A	1-24	25-49
01F527	842-816-2032-035	20	1.76″ (44.70)	2.35	1.76
01F528	842-816-2632-035	26	2.06″ (53.32)	2.83	2.12
01F290	842-816-3432-035	34	2.46″ (62.48)	3.47	2.60
98F3516	842-816-4032-035	40	2.76″ (70.10)	3.60	2.70
01F529	842-816-5032-035	50	3.26″ (82.80)	4.36	3.27
	4-WALL STRAIGHT SOLDER TAILS				
46F2708	842-816-2030-035	20	1.76″ (44.70)	2.47	1.86
46F2709	842-816-2630-035	26	2.06″ (53.32)	2.75	2.05
46F2697	842-816-5030-035	50	3.26″ (82.80)	4.19	3.14

LOCK & EJECT LATCHES

Stock No.	Type	Description	1-24	25-49
46F2724	842-800-1607-006	0.575″ (14.61)	0.42	0.31
46F2726	842-800-1607-005	0.425″ (10.80)	0.35	0.26

(8194) (de00502)

841-17D SERIES FLAT CABLE IDC CONNECTORS



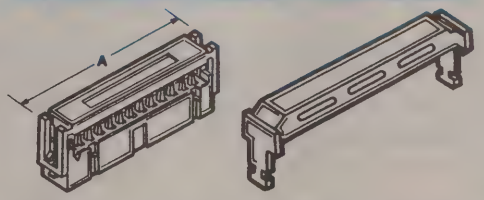
For modern peripheral equipment. Mass terminates to 0.050″ (1.27) flat ribbon cable. Available plastic or metal flange. 1-pc. universal hood. Gray, glass-filled polycarbonate insulator, rated UL94V-0. Phosphor bronze contacts with gold over nickel plating. Current rating: 1A. Voltage rating: 25VAC (VDE 0100 group A). Operating temperature: –25°C to +105°C. Wire size: solid 26/ stranded 28 AWG. Compatible with MIL-C-24308 and IEC proposal 48B (CO) 118. RS-232 and RS-449 standard. UL recognized E64911.

PLASTIC FLANGE WITH PIN CONTACTS

Stock No.	Type	Contacts	Dimensions A	Dimensions B	1-24	25-49
81F5022	841-17-DEFR-B9P	9	0.984″	1.205″	6.75	5.07
81F5023	841-17-DAFR-B15P	15	1.311″	1.531″	8.09	6.07
81F5024	841-17-DBFR-B25P	25	1.852″	2.078″	9.05	6.79
81F5025	841-17-DCFR-B37P	37	2.500″	2.718″	13.66	10.24
	PLASTIC FLANGE WITH SOCKET CONTACTS					
81F5026	841-17-DEFR-B9S	9	0.984″	1.205″	6.75	5.07
81F5027	841-17-DAFR-B15S	15	1.311″	1.531″	8.09	6.07
81F5028	841-17-DBFR-B25S	25	1.852″	2.078″	9.05	6.79
81F5029	841-17-DCFR-B37S	37	2.500″	2.718″	13.66	10.24
	METAL FLANGE WITH PIN CONTACTS					
46F2694	841-17-DEFR-A9P	9	0.984″	1.205″	6.98	5.23
46F1883	841-17-DAFR-A15P	15	1.311″	1.531″	8.12	6.09
46F1884	841-17-DBFR-A25P	25	1.852″	2.078″	9.55	7.17
46F1885	841-17-DCFR-A37P	37	2.500″	2.718″	14.03	10.52
50F1927	841-17-DDFR-A50P	50	2.406″	2.914″	29.44	22.08
	METAL FLANGE WITH SOCKET CONTACTS					
46F2695	841-17-DEFR-A9S	9	0.984″	1.205″	6.98	5.23
46F2691	841-17-DAFR-A15S	15	1.311″	1.531″	8.12	6.09
46F2692	841-17-DBFR-A25S	25	1.852″	2.078″	9.55	7.17
46F2693	841-17-DCFR-A37S	37	2.500″	2.718″	14.03	10.52
50F014	841-17-DDFR-A50S	50	2.406″	2.914″	27.62	20.71

(8281) (ne00339)

812 SERIES IDC SOCKET CONNECTORS



Meets MIL-C-83503/7B. Compatible with **816 series** headers. 0.100 x 0.100″(2.54 x 2.54) contact spacing terminates to 0.050″(1.27) flat ribbon cable. Center polarization and open-end covers for feed-through and daisy-chain applications. 1 amp copper alloy contacts have 30μ″ gold-over-nickel plate in contact area, tin on termination end. Glass reinforced thermoplastic insulation rated UL94V-0. Fit 26 AWG stranded, 28 AWG solid/stranded, 30 AWG solid wire. UL recognized, CSA certified. *Order strain reliefs and polarizing key separately below.*

Stock No.	Type	Contacts	Dimension A	1-24	25-49
87F6943	842-812-2022-134	20	1.18″ (30.0)	1.30	0.98
89F567	842-812-2622-134	26	1.48″ (37.6)	1.38	1.04
89F568	842-812-3422-134	34	1.88″ (47.8)	1.77	1.33
89F569	842-812-4022-134	40	2.18″ (55.4)	2.67	2.00
89F570	842-812-5022-134	50	2.68″ (68.1)	3.11	2.33

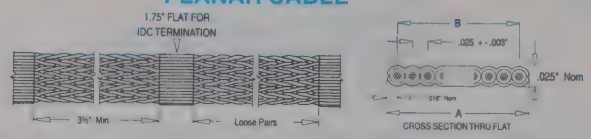
812 SERIES STRAIN RELIEFS

Stock No.	Type	Contacts	1-24	25-49
46F2698	842-800-1206-033	20	0.30	0.23
46F2699	842-800-1206-034	26	0.19	0.17
46F2701	842-800-1206-036	40	0.35	0.26
46F2702	842-800-1206-037	50	0.35	0.26

46F2727 Type 842-800-1211-002 Polarizing Key. **Each** **14.49**
(8193) (de00500)

ORDER PRODUCTS 24 HOURS A DAY AT
http://www.newark.com

425 SERIES 0.025″ PITCH LOOSE PAIR TWIST'N'FLAT® PLANAR CABLE

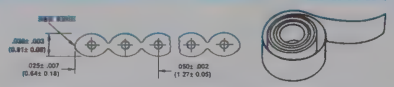


For mass termination to industry standard 0.025″ IDC connectors. 30 AWG, 7/38 tinned copper conductors. Color-coded PVC insulation: first pair red/gray followed by blue/gray and repeat. Minimum 3½″ long twisted pair section with a constant 1.75″ laminated flat section on 0.025″ centers. Loose pairs, between IDC flats, allow increased airflow around assembly. Double-sided lamination for conductor strain relief. Voltage rating: 150V. Current rating: 0.75A. Impedance: 110Ω single-ended; 95Ω single-ended with one conductor of each pair commoned to one BUS (SCSI mode); 120Ω differentially. Temperature rating: 80°C. UL listed, CSA certified. **Sold in spools of 100′.**

Stock No.	Type	Conductors	Pairs	Dimensions A	Dimensions B	1-4
66F9309	425-3006-068	68	34	1.707″	1.675″	651.02

(8295) (ne06399)

191-2801 SERIES SPECTRA-ZIP® PLANAR CABLE



Precise 0.050″ (1.27) conductor spacing for mounting IDC connectors. Cable thickness: 0.035″(0.89). Insulation: Gray PVC, flame retardant VW-1. Voltage rating: 300V. Current rating: 1A. Temperature rating: 105°C. Impedance: 105Ω. Conductors: 28 AWG, 7/36 stranded tinned copper. UL recognized, style 2651. CSA certified. 105°C, 300V. **Sold in spools of 100′.**

Stock No.	Type	Cond.	Width	1-4
04F2939	843-191-2801-116	16	0.800″	29.65
04F2940	843-191-2801-120	20	1.000″	37.07
04F2942	843-191-2801-125	25	1.250″	46.34
04F2943	843-191-2801-126	26	1.300″	48.19
04F2944	843-191-2801-134	34	1.700″	63.02
04F2945	843-191-2801-140	40	2.000″	74.14
04F2946	843-191-2801-150	50	2.500″	92.67
04F2947	843-191-2801-160	60	3.000″	111.21
04F2948	843-191-2801-164	64	3.200″	118.63

(8264) (de52044)

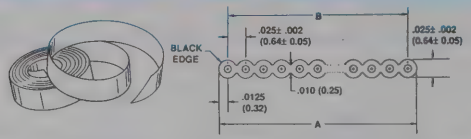
"FAST 20" 0.050″ CENTER ULTRA SCSI CABLE

"FAST 20" compliant 50-conductor planar cable accommodates SCSI 8 bit narrow applications requiring a higher data rate to 20 MB. Offers higher impedance with a tighter tolerance on skew. 26⅞4 AWG tinned copper conductors. Gray 0.010″ PVC insulation. Red stripe edge identifies #1 conductor. Current rating: 1.7A. Impedance: 90Ω. Capacitance: 16.5pf/ft at 1 MHz. Maximum time delay skew: 0.036 ns/ft. Temperature rating: 105°C. UL recognized, CSA certified. **Sold in spools of 100′.**

Stock No.	Type	Conductors	1-4
66F9370	191-2601-150	50	126.44

(8297) (ne06409)

SPECTRA-STRIP® 0.025″ CENTER ZIP CABLE



For interconnect miniaturization. Conductors: copper 30-1 bare solid. Insulation: 0.0075″ (0.19) wall PVC. Voltage rating: 150V. Current rating: 0.8A. Temperature rating: –20°C to +105°C. UL recognized. **Sold in spools of 100′.**

Stock No.	Type	Cond.	Width	1-4
95F1910	843-191-3003-026	26	0.650″	55.08
95F1913	843-191-3003-050	50	1.250″	105.92
95F1914	843-191-3003-060	60	1.500″	110.88
66F9368	843-191-3003-068	68	1.700″	127.51
95F1915	843-191-3003-080	80	2.000″	128.29
95F1916	843-191-3003-100	100	2.500″	72.48

(8212) (de02398)

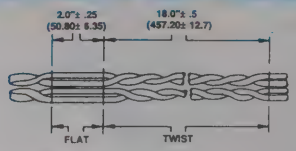
"FAST 20/40" 0.025″ CENTER ULTRA SCSI CABLE

"FAST 20/40" compliant 68-conductor planar cable is ideal for SCSI 16- and 32-bit wide applications requiring a higher data rate to 20 or 40 MB. Offers higher impedance with a tighter tolerance on skew. 30-1 AWG bare copper conductors. 0.005″ wall TPE insulation. Red stripe edge identifies #1 conductor. Current rating: 0.9A. Impedance: 90Ω. Maximum time delay skew: 0.036 ns/ft. Temperature rating: 105°C. UL recognized. **Sold in spools of 100′.**

Stock No.	Type	Conductors	1-4
66F9369	193-3099-988	68	226.28

(8296) (ne06408)

132 SERIES TWIST 'N' FLAT® PLANAR CABLE



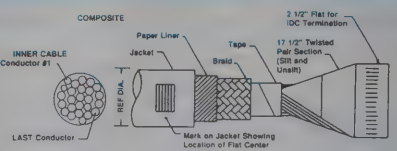
- **0.050″ (1.27) Conductor Spacing**

For mass termination to IDC connectors. Double-contoured flat sections enable termination from either side. Twisted pair centers: 0.100″ (2.54) nominal; conductor centers in flats: 0.050″ (1.27). Color-coded PVC insulation. Cable thickness: 0.042″ (1.07) flat section. Voltage rating: 300V. Current rating: 1A. Temperature rating: 80°C. Impedance: 100Ω. Conductors: 28 AWG, 7/36 stranded tinned copper. UL recognized, style 2697. CSA certified. **Sold in spools of 100′.**

Stock No.	Type	Pairs	Width	1-4
04F2949	843-132-2801-010	5	0.526″	60.32
04F2952	843-132-2801-020	10	1.026″	117.12
04F2953	843-132-2801-026	13	1.326″	136.81
04F2954	843-132-2801-034	17	1.726″	181.56
04F2955	843-132-2801-040	20	2.026″	213.59
04F2956	843-132-2801-050	25	2.526″	267.01
04F2957	843-132-2801-060	30	3.026″	311.06
04F2958	843-132-2801-064	32	3.226″	341.74

(8263) (de52043)

159-2832 SERIES ROUND TWIST 'N' FLAT™ CABLE

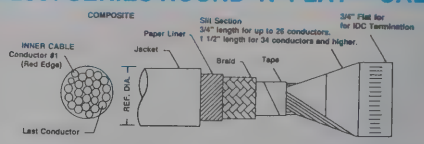


Jacketed, shielded cable combines round cable and mass termination capabilities of flat cable. 2½″ flat IDC termination. 0.050″(1.27) conductor spacing. Voltage rating: 300V. Impedance: 70Ω. Temperature rating: –20°C to +105°C. UL recognized. **Sold in spools of 100′.**

Stock No.	Type	Pairs	Width	Ref. Dia.	1-4
04F5216	843-159-2832-020	10	1.026″	0.380″	163.14
04F5217	843-159-2832-026	13	1.326″	0.410″	181.86
04F5218	843-159-2832-034	17	1.726″	0.450″	196.60
04F5219	843-159-2832-040	20	2.026″	0.480″	210.54
04F5220	843-159-2832-050	25	2.526″	0.530″	247.02

(8266) (de52046)

159-2801 SERIES ROUND 'N' FLAT™ CABLE

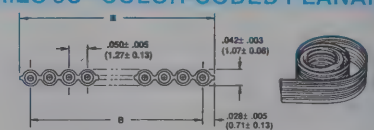


Jacketed shielded cable combines round cable with mass termination capabilities of flat cable. ¾″ flat IDC termination. 0.050″ (1.27) conductor spacing. Voltage rating: 300V. Impedance: 75Ω. Temperature rating: –20°C to +105°C. UL recognized. **Sold in spools of 100′.**

Stock No.	Type	Cond.	Width	Ref. Dia.	1-4
04F5210	843-159-2801-025	25	1.250″	0.360″	130.75
04F5211	843-159-2801-026	26	1.300″	0.360″	124.69
04F5212	843-159-2801-034	34	1.700″	0.400″	145.77
04F5213	843-159-2801-040	40	2.000″	0.430″	157.08
04F5214	843-159-2801-050	50	2.500″	0.480″	189.79
04F5215	843-159-2801-060	60	3.000″	0.520″	215.92

(8265) (de52045)

135 SERIES 3C® COLOR-CODED PLANAR CABLE



For digital and analog signal transmission. Voltage rating: 300V. Current rating: 1A. Temperature rating: 105°C. Impedance: 105Ω. Conductors: 28 AWG, 7/36 strand, tinned copper. UL recognized. **Sold in spools of 100′.**

Stock No.	Type	Cond.	Width	1-4
04F2926	843-135-2801-010	10	0.505″	41.54
04F2929	843-135-2801-020	20	1.005″	75.91
04F2931	843-135-2801-026	26	1.305″	92.62
04F2932	843-135-2801-034	34	1.705″	121.10
04F2933	843-135-2801-040	40	2.005″	142.47
04F2934	843-135-2801-050	50	2.505″	157.58

(8211) (de02397)

SERIAL BUS CONNECTORS

UNIVERSAL SERIAL BUS INTERCONNECTION SYSTEM

Universal Serial Bus (USB) PC board mount connectors and cable assemblies provide designers with a single shielded "plug-and-play" interconnection system for computer peripherals. Designed to comply with the USB specification version 1.0, allowing compatibility and intermateability of components. **USB series** connectors have glass-filled thermoplastic insulation, rated UL94V-0; infrared and vapor phase compatible. Copper alloy contacts. Current rating: 1 amp. Dielectric strength: 1000Vrms at sea level. Temperature rating: –55°C to +125°C. UL recognized, CSA certified. **USB series** cable assemblies have glass-filled thermoplastic insulation material, rated UL94V-0. Current rating: 1 amp. Dielectric strength: 1000Vrms at sea level. Temperature rating: –40°C to +75°C.

USB A SERIES RIGHT-ANGLE THRU-HOLE RECEPTACLES

Stock No.	Type	Description	Contact Plating	1-9
01F1797	USBS-ARPCB	Single	30µ" Gold	0.61
01F1798	USBS-ARPCB1	Single	30µ" Palladium Nickel w/Gold Flash	0.58
01F1799	USBS-A2RPCB	Stacked	30µ" Gold	1.10
01F1800	USBS-A2RPCB-1	Stacked	30µ" Palladium Nickel w/Gold Flash	1.07

USB A SERIES VERTICAL THRU-HOLE RECEPTACLES

48F2897	USBS-AVPCB	Single	30µ" Gold	0.69
48F2898	USBS-AVPCB-1	Single	30µ" Palladium Nickel w/Gold Flash	0.64

USB B SERIES RIGHT-ANGLE AND VERTICAL THRU-HOLE RECEPTACLES

01F1801	USBS-BRPCB-1	Right-Angle	30µ" Gold	0.81
01F1802	USBS-BRPCB-1	Right-Angle	30µ" Palladium Nickel w/Gold Flash	0.58
01F1803	USBS-BVPCB	Vertical	30µ" Gold	1.73
01F1804	USBS-BVPCB-1	Vertical	30µ" Palladium Nickel w/Gold Flash	1.73

USB A SERIES RIGHT-ANGLE SURFACE MOUNT RECEPTACLES

48F2899	USBS-ARSMT	Right-Angle	30µ" Gold	0.72
48F2900	USBS-ARSMT-1	Right-Angle	30µ" Palladium Nickel w/Gold Flash	0.69

USB SERIES A-TO-B CABLE ASSEMBLIES—30µ" GOLD

Stock No.	Type	Wire Gauge	Length	1-9
91F7283	USB-AB1011-M050	2#28 - 2#20	5.0m	7.38
91F7281	USB-AB1211-M030	2#28 - 2#22	3.0m	8.98
91F7280	USB-AB1211-M02A	2#28 - 2#24	2.5m	8.66
91F7279	USB-AB1411-M020	2#28 - 2#24	2.0m	4.22
91F7278	USB-AB1411-M01A	2#28 - 2#26	1.5m	7.86
91F7277	USB-AB1611-M010	2#28 - 2#26	1.0m	2.83
91F7276	USB-AB1811-M00A	2#28 - 2#28	0.5m	2.82

USB SERIES A-TO-B CABLE ASSEMBLIES—30µ" PALLADIUM NICKEL W/GOLD FLASH

48F2901	USB-AB1021-M050	2#28 - 2#20	5.0m	7.05
48F2902	USB-AB1221-M030	2#28 - 2#22	3.0m	4.50
48F2903	USB-AB1421-M02A	2#28 - 2#24	2.5m	3.65
48F2904	USB-AB1421-M020	2#28 - 2#24	2.0m	3.40
48F2905	USB-AB1621-M01A	2#28 - 2#26	1.5m	2.83
48F2906	USB-AB1621-M010	2#28 - 2#26	1.0m	2.55
48F2907	USB-AB1821-M00B	2#28 - 2#28	0.83m	2.73
48F2908	USB-AB1821-M00A	2#28 - 2#28	0.5m	2.47

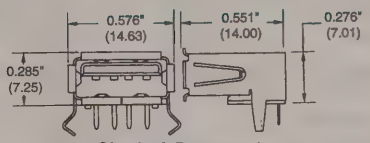
USB SERIES A-TO-STUB CABLE ASSEMBLIES— 30µ" GOLD

48F2909	USB-A1011-M050	2#28 - 2#20	5.0m	6.95
48F2911	USB-A1411-M02A	2#28 - 2#24	2.5m	3.55
91F7286	USB-A1411-M020	2#28 - 2#24	2.0m	3.70
48F2912	USB-A1611-M01A	2#28 - 2#26	1.5m	2.73
91F7285	USB-A1611-M010	2#28 - 2#26	1.0m	2.83
91F7284	USB-A1811-M00B	2#28 - 2#28	0.83m	2.63
48F2913	USB-A1811-M00A	2#28 - 2#28	0.5m	2.36

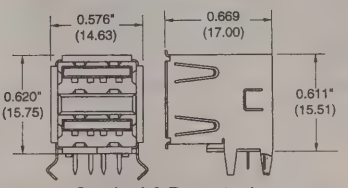
USB SERIES A-TO-STUB CABLE ASSEMBLIES—30µ" PALLADIUM NICKEL W/GOLD FLASH

48F2914	USB-A1021-M050	2#28 - 2#20	5.0m	6.65
48F2915	USB-A1221-M030	2#28 - 2#22	3.0m	4.08
48F2916	USB-A1421-M02A	2#28 - 2#24	2.5m	3.25
48F2917	USB-A1421-M020	2#28 - 2#24	2.0m	2.95
48F2918	USB-A1621-M01A	2#28 - 2#26	1.5m	2.82
48F2919	USB-A1621-M010	2#28 - 2#26	1.0m	2.36
48F2920	USB-A1821-M00B	2#28 - 2#28	0.83m	2.10
48F2921	USB-A1821-M00A	2#28 - 2#28	0.5m	2.01

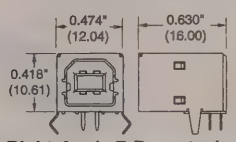
(15231) (ne10059)



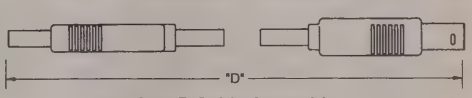
Single A Receptacle



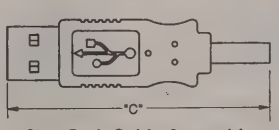
Stacked A Receptacle



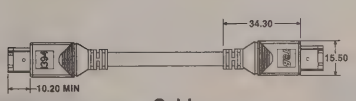
Right-Angle B Receptacle



A-to-B Cable Assembly



A-to-Stub Cable Assembly

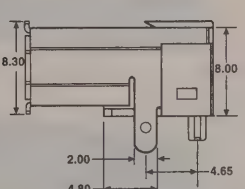


Cable

1394 SERIES SERIAL BUS CONNECTORS

Primarily targeted at high data rate applications. Provides more than 100 MB data transfer. New, innovative interface simplifies PC I/O and is engineered to service digital video cameras, digital video disks (DVD), hard disk drives, and other high-bandwidth devices. Design advantages include more complete receptacle shielding for better EMI/RFI protection. Optional rear shield on receptacles prevents EMI and RF interference from entering through an unmated connection. Receptacles are available in high-temperature plastic for easy compatibility with surface mount technology. Insulation material: glass-filled thermoplastic, rated UL94V-0. Contact material: Copper alloy, 30µ" gold plating in contact area, tin-lead plating in termination area. Shield material: copper alloy, tin-lead plating. Operating temperature: -55°C to +125°C.

NEW



Receptacle

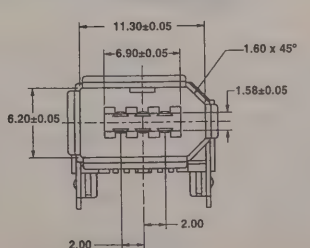
1394 SERIES RECEPTACLE

Stock No.	Type	Description	1-9
48F2523	1394S-RSMT	Right-Angle Surface Mount w/Back Shield	2.82

1394 SERIES CABLE

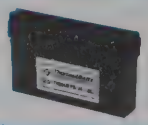
Stock No.	Type	Length	1-9
48F2524	1394-1M010-1	1m	15.36
48F2525	1394-1M020-1	2m	18.24

(41472) (ne41472)



Receptacle

SCSI TERMINATORS



SINGLE-ENDED CIRCUIT

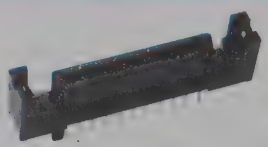
Stock No.	Type	No. of Positions	Interface	Termination Type	1-9
83F6659	TRM050SLVR	50	IDC	Active	34.76
83F6661	TRM050FPVRO	50	0.050" Centerline	Active	21.10
83F6662	TRM068FPSLAN	68	IDC	Active Negation	27.96
83F6660	TRM068FPSLVR	68	IDC	Active	27.88
83F6663	TRM068FPANO	68	0.050" Centerline	Active Negation	36.30

DIFFERENTIAL BUS CIRCUIT

83F6664	TRM068FPSLDIF	68	IDC	Differential	21.63
83F6666	TRM068FPSLLVDSE	68	IDC	Low-Voltage Differential	38.62
83F6665	TRM068FPDIFO	68	0.050" Centerline	Differential	26.91
83F6667	TRM068FPLVDSEO	68	0.050" Centerline	Low-Voltage Differential	41.49

(29671) (ne29671)

SCA-2 SERIES PC BOARD MOUNT RECEPTACLES



SCA-2 connectors are designed for direct attachment of SCSI and fiber channel disk drives to printed circuit boards. Mating force: 90g. Withdrawal force: 15g. Insulator: thermoplastic, rated UL94V-0. Contact plating: 30µ" gold selectively plated over mating area; tin-lead over tail area. 50µ" nickel underplate overall. Current: 1 amp. Insulation resistance: 1000 megohms min. Dielectric strength: 500VAC min. at sea level. Contact resistance: 35 milliohms max. UL recognized, CSA certified.

SOLDER TERMINATION—LOW-PROFILE

Stock No.	Type	Contacts	1-9
83F6651	T1R040ST293	40	5.45
83F6653	T1R080ST293	80	6.50

SOLDER TERMINATION—HIGH-PROFILE

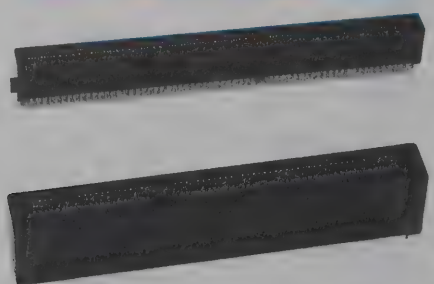
83F6656	T2R040ST293	40	5.98
83F6655	T2R080ST293	80	7.03

PRESS-FIT—LOW-PROFILE

83F6652	T1R040PF294	40	5.62
83F6654	T1R080PF294	80	6.67

(29672) (ne29672)

SLOT 1 AND AGP CONNECTORS

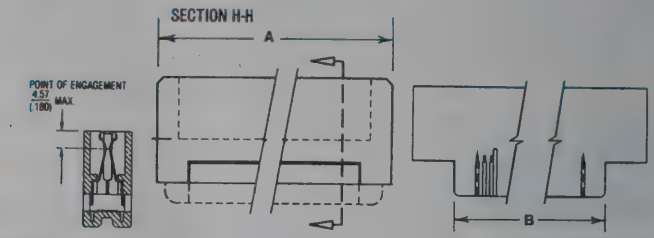


Intel®-approved Slot 1 and Accelerated Graphics Port (AGP) connectors are for use with all Pentium II® based computers, servers, and workstations. Ideally suited where flexibility is required for new paths to future processors. Feature lead-in chamfers for ease of card insertion. High-temperature insulator is suitable for reflow soldering processes and temperatures. Staggered contact design reduces card insertion force. Generous contact lead-in geometry eliminates card/contact stubbing. Insulator material: glass-filled high-temperature thermoplastic rated UL94V-0. Current rating: 1 amp per contact. Operating temperature: -40°C to +105°C. UL recognized, CSA certified.

Stock No.	Type	Connector Style	1-9
83F6657	8490001-2426-00	Slot 1	3.38
83F6658	8490006-1246-00	AGP	1.69

(29689) (ne29689)

622 SERIES ANSLEY® IDC CARD EDGE CONNECTORS



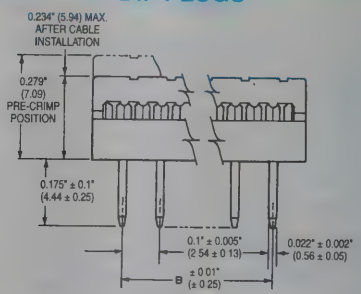
Provide high-performance flat cable interface to double-sided PC boards. Slide latching allows for visual inspection to verify positive crimping. Cover design prevents warpage. Beryllium copper bifurcated contacts plated with 30µ" gold over 50µ" nickel in contact zone; tin-lead over nickel in termination area. Blue glass-filled thermoplastic housing, rated UL94V-0. Current rating: 1 amp. Temperature rating: –55° to +125°C. UL recognized, CSA certified. *Order* **type 622-6005** *polarizing key separately below.*

Stock No.	Type	Positions	Dimensions A	Dimensions B	1-9
93F8209	622-2615	26	1.760" (44.70)	1.395" (35.43)	6.21
93F8210	622-3415	34	2.160" (54.86)	1.795" (45.59)	8.12
93F8213	622-5015	50	2.960" (75.18)	2.595" (65.91)	10.25

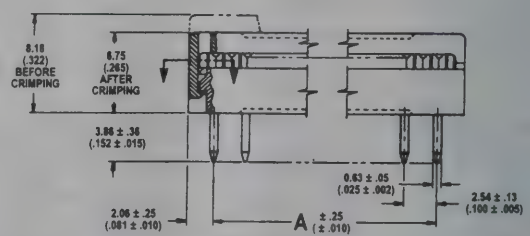
93F8215 Type 622-0005 Polarizing Key. **Package of 200** **28.47**

(8368) (de01826)

609 SERIES ANSLEY® LOW-PROFILE DIP PLUGS



Low Profile



Standard

Blue glass-filled thermoplastic housing, rated UL94V-0. Beryllium copper contacts plated with 30µ" gold over 50µ" nickel in contact zone; tin-lead over nickel in termination area. 0.300" (7.62) row-to-row spacing. Current rating: 1 amp. Temperature rating: –55° to +125°C. UL recognized, CSA certified.

LOW PROFILE

Stock No.	Type	Positions	Dimension B	1-9
93F8037	609-M085H	8	0.300" (7.62)	2.32
93F8038	609-M145H	14	0.600" (15.24)	2.50
93F8039	609-M165H	16	0.700" (17.78)	2.83
93F8040	609-M185H	18	0.800" (20.32)	3.45
93F8041	609-M205H	20	0.900" (22.86)	3.99

STANDARD

Stock No.	Type	Positions	Dimension A	1-9
48F1910	609-M161H	16	0.600" (15.24)	3.34
48F1911	609-M141H	14	0.700" (17.78)	2.94

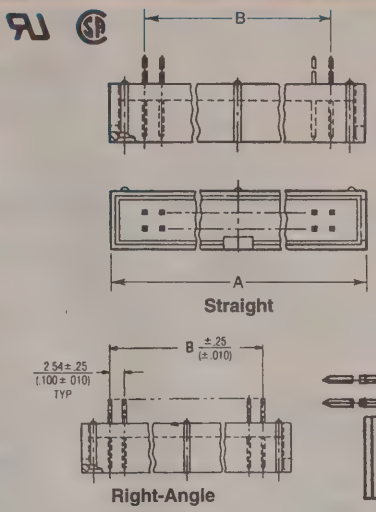
(8369) (de01827)

ALL PRODUCTS LISTED ARE STOCKED.

IDC CONNECTORS

609 SERIES ANSLEY® LOW PROFILE PC BOARD BOX HEADERS

Mates with female socket transition connectors in PC board applications, which require repetitive connection/disconnection. Low profile design maximizes packaging density. Available with straight or right-angle solder tails for use with 0.062″ (1.57) thick PC boards. Fully shrouded to protect 0.102″ (2.59) long, 0.025″ (0.635) square mating pins and assure positive polarization. Center polarization slot mates with center polarization tab on female connectors. Blue glass-filled thermoplastic housing (UL94V-0). Phosphor bronze contacts with 30µ″ gold over 50µ″ nickel in contact zone; tin-lead over nickel in termination area. Current rating: 1A. Dielectric strength: >1000Vrms. Temp. rating: –55° to +125°C. UL recognized, CSA certified.



STRAIGHT PIN HEADERS

Stock No.	Type	Positions	A	B	1-9
93F7985	609-1027	10	0.800″ (20.32)	0.400″ (10.16)	1.40
93F7986	609-1427	14	1.000″ (25.40)	0.600″ (15.24)	2.97
93F7987	609-1627	16	1.100″ (27.94)	0.700″ (17.78)	3.12
93F7988	609-2027	20	1.300″ (33.02)	0.900″ (22.86)	3.34
93F7990	609-2627	26	1.600″ (40.64)	1.200″ (30.48)	4.13
93F7991	609-3427	34	2.000″ (50.80)	1.600″ (40.64)	5.37
93F7993	609-4027	40	2.300″ (58.42)	1.900″ (48.26)	6.13
93F7994	609-5027	50	2.800″ (71.12)	2.400″ (60.96)	7.36

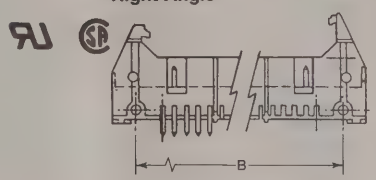
RIGHT-ANGLE PIN HEADERS

93F7973	609-1007	10	0.800″ (20.32)	0.400″ (10.16)	1.40
93F7978	609-2607	26	1.600″ (40.64)	1.200″ (30.48)	4.13
93F7979	609-3407	34	2.000″ (50.80)	1.600″ (40.64)	5.37
93F7982	609-5007	50	2.800″ (71.12)	2.400″ (60.96)	7.36

(8364) (de01764)

609 SERIES ANSLEY® PC BOARD STANDARD HEADERS

Square pin PC board male headers mate with center bump and dual-slot polarization female socket transition connectors with or without strain relief. Type number **suffix E** denotes short retainer/ejector latches for mating connectors without strain relief; **suffix ES** denotes long retainer/ejector latches for mating connectors with strain relief. To order type numbers with **suffix ES,** *contact your local Newark sales office.* Accommodates 0.062″ (1.57) thick PC boards. Blue glass-filled thermoplastic housing (UL94V-0). Phosphor bronze contacts with 30µ″ gold over 50µ″ nickel in contact zone; tin-lead over nickel in termination area. Current rating: 1A. Dielectric strength: >1000Vrms. Temp. rating: –55° to +125°C. UL recognized, CSA certified.



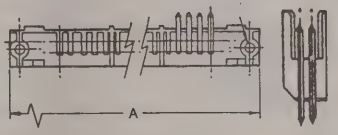
STRAIGHT VERTICAL MOUNT WITH EJECTOR LATCHES

Stock No.	Type	Positions	A	B	1-9
93F8017	609-1024E	10	1.26″ (32.13)	0.85″ (21.64)	3.37
93F8021	609-1624E	16	1.56″ (39.75)	1.16″ (29.46)	3.74
93F8025	609-2624E	26	2.06″ (52.45)	1.66″ (42.16)	4.89
93F8027	609-3424E	34	2.46″ (62.61)	2.06″ (52.32)	6.02
93F8031	609-5024E	50	3.26″ (82.93)	2.86″ (72.64)	8.12
93F8035	609-6424E	64	3.96″ (100.71)	3.56″ (90.42)	10.47

(8362) (de01688)

609 SERIES ANSLEY® FEMALE SOCKET TRANSITION CONNECTORS

Designed for mass termination of all types of flat cable to a variety of male headers in PCB applications which require repetitive connection and disconnection. Blue, glass-filled one-piece housing, rated UL94V-0. Mechanical side latched and polarization keyways. Tulip contacts provide up to four points of contact per conductor; 30µ″ gold plating in contact mating areas. Available with or without polarization tabs. *Order strain reliefs separately below.* UL recognized, CSA certified.

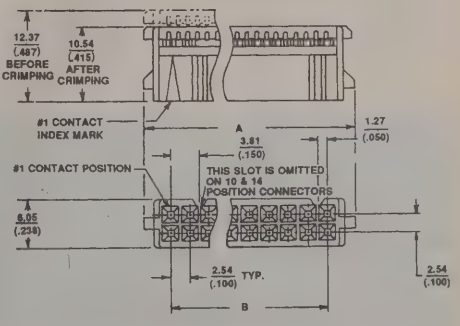


SOCKET CONNECTORS WITHOUT POLARIZATION TABS

Stock No.	Type	Positions	A	B	1-9
93F8046	609-1000M	10	0.676″ (17.17)	0.400″ (10.16)	3.45
93F8047	609-1400M	14	0.876″ (22.25)	0.600″ (15.24)	4.21
93F8048	609-1600M	16	0.976″ (24.79)	0.700″ (17.78)	4.53
93F8049	609-2000M	20	1.176″ (29.87)	0.900″ (22.86)	5.04
93F8050	609-2400M	24	1.376″ (34.95)	1.100″ (27.94)	5.91
93F8051	609-2600M	26	1.476″ (37.49)	1.200″ (30.48)	6.49
93F8052	609-3400M	34	1.876″ (47.65)	1.600″ (40.64)	8.44
93F8054	609-4000M	40	2.176″ (55.27)	1.900″ (48.26)	9.86
93F8055	609-5000M	50	2.676″ (67.97)	2.400″ (60.95)	12.39

SOCKET CONNECTORS WITH POLARIZATION TABS

Stock No.	Type	Positions	A	B	1-9
93F8056	609-1030	10	0.676″ (17.17)	0.400″ (10.16)	3.45
93F8057	609-1430	14	0.876″ (22.25)	0.600″ (15.24)	4.21
93F8058	609-1630	16	0.976″ (24.79)	0.700″ (17.78)	4.53
93F8059	609-2030	20	1.176″ (29.87)	0.900″ (22.68)	5.04
93F8060	609-2430	24	1.376″ (34.95)	1.100″ (27.94)	5.91
93F8061	609-2630	26	1.476″(37.49)	1.200″ (30.48)	6.49
93F8062	609-3430	34	1.876″ (47.65)	1.600″ (40.64)	8.44
93F8063	609-3630	36	1.976″ (50.19)	1.700″ (43.18)	8.95
93F8064	609-4030	40	2.176″ (55.27)	1.900″ (46.26)	9.86
93F8065	609-5030	50	2.676″ (67.97)	2.400″ (60.95)	12.39
93F8066	609-6030	60	3.176″ (80.67)	2.900″ (73.76)	15.25
93F8067	609-6430	64	3.376″ (85.75)	3.100″ (78.74)	16.23



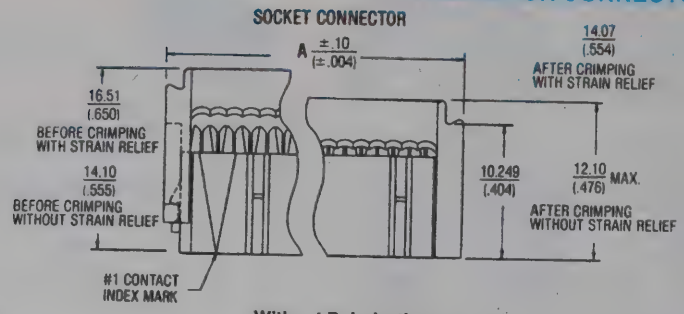
STRAIN RELIEF FOR 609 SERIES CONNECTORS (PKG. 50)

Stock No.	Type	Positions	1-9
93F8068	609-1031	10	21.74
93F8069	609-1431	14	21.74
93F8071	609-2031	20	21.74
93F8073	609-2631	26	21.74
93F8074	609-3431	34	25.36
93F8076	609-4031	40	25.36
93F8077	609-5031	50	25.36
93F8079	609-6431	64	25.36

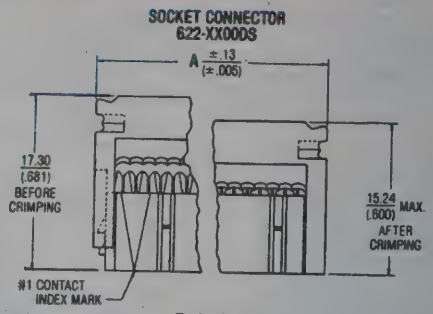
(8355) (de01625)

IDC CONNECTORS

622 SERIES ANSLEY® FEMALE SOCKET TRANSITION CONNECTORS


SOCKET CONNECTOR
A ±.10 (±.004)
14.07 (.554) AFTER CRIMPING WITH STRAIN RELIEF
16.51 (.650) BEFORE CRIMPING WITH STRAIN RELIEF
14.10 (.555) BEFORE CRIMPING WITHOUT STRAIN RELIEF
10.249 (.404)
12.10 (.476) MAX. AFTER CRIMPING WITHOUT STRAIN RELIEF
#1 CONTACT INDEX MARK

Without Polarization



Polarized

Designed for mass termination of all types of flat cable to a variety of male headers in PCB applications which require repetitive connection and disconnection. Blue, glass-filled thermoplastic housing, rated UL94V-0. Beryllium copper contacts plated with 30µ" gold over 50µ" nickel in contact zone, tin-lead over nickel in termination area. Current rating: 1 amp. Dielectric strength: >1000 Vrms. Temperature rating: –55°C to +125°C. Available with or without polarization. *Strain relief sold separately below.* UL recognized, CSA certified.

FEMALE SOCKET CONNECTORS WITHOUT POLARIZATION

Stock No.	Type	Positions	A	1-9
93F8080	622-1000	10	0.677" (17.20)	0.60
93F8081	622-1400	14	0.877" (22.28)	1.23
93F8082	622-1600	16	0.977" (24.82)	1.37
93F8083	622-2000	20	1.177" (29.90)	1.63
93F8084	622-2400	24	1.377" (34.96)	1.29
93F8085	622-2600	26	1.477" (37.52)	2.02
93F8086	622-3400	34	1.877" (47.68)	2.59
93F8087	622-3600	36	1.977" (50.22)	2.74
93F8088	622-4000	40	2.177" (55.30)	3.02
93F8089	622-5000	50	2.677" (68.00)	3.73
93F8091	622-6400	64	3.377" (85.78)	4.70

FEMALE SOCKET CONNECTORS WITH POLARIZATION

Stock No.	Type	Positions	A	1-9
93F8092	622-1030	10	0.677" (17.20)	0.91
93F8093	622-1430	14	0.877" (22.28)	1.23
93F8094	622-1630	16	0.977" (24.82)	1.37
93F8095	622-2030	20	1.177" (29.90)	1.63
93F8096	622-2430	24	1.377" (34.96)	1.91
93F8097	622-2630	26	1.477" (37.52)	2.02
93F8098	622-3430	34	1.877" (47.68)	2.59
93F8100	622-4030	40	2.177" (55.30)	3.02
93F8101	622-5030	50	2.677" (68.00)	3.73
93F8103	622-6430	64	3.377" (85.78)	4.70

STRAIN RELIEF FOR FEMALE SOCKET TRANSITION CONNECTORS

Stock No.	Type	Positions	1-9
93F8104	622-1031	10	0.35
93F8105	622-1431	14	0.35
93F8106	622-1631	16	0.35
93F8107	622-2031	20	0.35
93F8108	622-2431	24	0.35
93F8109	622-2631	26	0.35
93F8110	622-3431	34	0.40
93F8111	622-3631	36	0.40
93F8112	622-4031	50	0.40
93F8113	622-5031	50	0.40
93F8115	622-6431	64	0.40

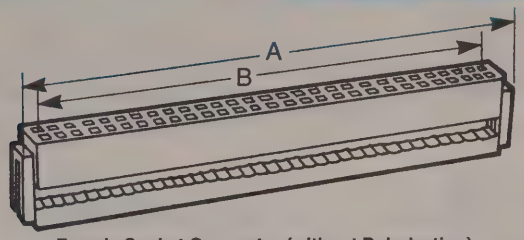
(8356)

(de01646)

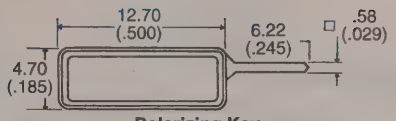
ONE-STOP SHOPPING . . . WITH ONE CALL AND ONE PURCHASE ORDER.

IDC SOCKETS

IDC FEMALE SOCKET CONNECTORS



Female Socket Connector (without Polarization)



Polarizing Key

636 series female socket connectors are available with or without strain reliefs and with or without polarization. Feature 0.100 x 0.100″ centers. Insulation: glass-filled thermoplastic. Flammability rating of UL94V-0. Contacts: phosphor bronze with 15μ″ (min.) gold over 50μ″ nickel in contact zone, and tin-lead over nickel in termination area. Temperature rating: –55°C to +125°C. Current rating: 1A. Insulation resistance: >1 x 10^9 ohms @ 500VDC. Dielectric strength: >1000Vrms at sea level. Color: black. UL recognized, CSA certified. *Order polarizing key, hand tool, and die separately below.*

WITHOUT POLARIZATION/WITHOUT STRAIN RELIEF

Stock No.	Type	No. of Pos.	Dimensions A	Dimensions B	1-9	10-24	25-49	50-99
52F7005	636-1000	10	0.677″	0.400″	0.48	0.45	0.40	0.38
52F7009	636-1400	14	0.877″	0.600″	1.03	0.91	0.83	0.78
52F7013	636-1600	16	0.977″	0.700″	1.09	0.96	0.88	0.82
52F7017	636-2000	20	1.177″	0.900″	1.11	0.98	0.90	0.84
52F7021	636-2400	24	1.377″	1.100″	0.90	0.85	0.80	0.75
52F7025	636-2600	26	1.477″	1.200″	1.37	1.21	1.11	1.03
52F7029	636-3000	30	1.677″	1.400″	1.51	1.33	1.22	1.14
52F7033	636-3400	34	1.877″	1.600″	1.54	1.36	1.25	1.16
52F7037	636-4000	40	2.177″	1.900″	1.68	1.48	1.36	1.27
52F7041	636-5000	50	2.677″	2.400″	2.14	1.88	1.73	1.61
52F7045	636-6000	60	3.177″	2.900″	2.54	2.23	2.05	1.91
52F7049	636-6400	64	3.377″	3.100″	2.79	2.46	2.26	2.10

WITHOUT POLARIZATION/WITH STRAIN RELIEF

52F7006	636-1001	10	0.677″	0.400″	1.06	0.93	0.86	0.80
52F7010	636-1401	14	0.877″	0.600″	1.37	1.21	1.11	1.03
52F7014	636-1601	16	0.977″	0.700″	1.43	1.26	1.16	1.08
52F7018	636-2001	20	1.177″	0.900″	1.46	1.28	1.18	1.10
52F7022	636-2401	24	1.377″	1.100″	1.68	1.48	1.36	1.27
52F7026	636-2601	26	1.477″	1.200″	1.71	1.51	1.39	1.29
52F7030	636-3001	30	1.677″	1.400″	1.85	1.63	1.50	1.40
52F7034	636-3401	34	1.877″	1.600″	1.94	1.71	1.57	1.46
52F7038	636-4001	40	2.177″	1.900″	2.08	1.83	1.68	1.57
52F7042	636-5001	50	2.677″	2.400″	2.54	2.23	2.05	1.91
52F7046	636-6001	60	3.177″	2.900″	2.94	2.58	2.38	2.21
52F7050	636-6401	64	3.377″	3.100″	3.19	2.81	2.58	2.40

WITH POLARIZATION/WITHOUT STRAIN RELIEF

52F7007	636-1030	10	0.677″	0.400″	0.72	0.63	0.58	0.54
52F7011	636-1430	14	0.877″	0.600″	1.03	0.91	0.83	0.78
52F7015	636-1630	16	0.977″	0.700″	1.09	0.96	0.88	0.82
52F7019	636-2030	20	1.177″	0.900″	1.11	0.98	0.90	0.84
52F7023	636-2430	24	1.377″	1.100″	1.34	1.18	1.09	1.01
52F7027	636-2630	26	1.477″	1.200″	1.37	1.21	1.11	1.03
52F7031	636-3030	30	1.677″	1.400″	1.51	1.33	1.22	1.14
52F7035	636-3430	34	1.877″	1.600″	1.54	1.36	1.25	1.16
52F7039	636-4030	40	2.177″	1.900″	1.68	1.48	1.36	1.27
52F7043	636-5030	50	2.677″	2.400″	2.14	1.88	1.73	1.61
52F7047	636-6030	60	3.177″	2.900″	2.54	2.23	2.05	1.91
52F7051	636-6430	64	3.377″	3.100″	2.79	2.46	2.26	2.10

WITH POLARIZATION/WITH STRAIN RELIEF

52F7008	636-1041	10	0.677″	0.400″	1.06	0.93	0.86	0.80
52F7012	636-1441	14	0.877″	0.600″	1.37	1.21	1.11	1.03
52F7016	636-1641	16	0.977″	0.700″	1.43	1.26	1.16	1.08
52F7020	636-2041	20	1.177″	0.900″	1.46	1.28	1.18	1.10
52F7024	636-2441	24	1.377″	1.100″	1.68	1.48	1.36	1.27
52F7028	636-2641	26	1.477″	1.200″	1.71	1.51	1.39	1.29
52F7032	636-3041	30	1.677″	1.400″	1.85	1.63	1.50	1.40
52F7036	636-3441	34	1.877″	1.600″	1.94	1.71	1.57	1.46
52F7040	636-4041	40	2.177″	1.900″	2.08	1.83	1.68	1.57
52F7044	636-5041	50	2.677″	2.400″	2.54	2.23	2.05	1.91
52F7048	636-6041	60	3.177″	2.900″	2.94	2.58	2.38	2.21
52F7052	636-6441	64	3.377″	3.100″	3.19	2.81	2.58	2.40

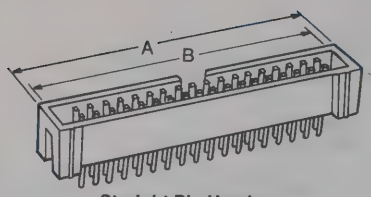
TOOLING

Stock No.	Type	Description	Each
52F7053	636-0000	Polarizing Key	0.12
93F8280	779-2100	Hand Tool	309.86
93F8288	779-2151	Die	66.51

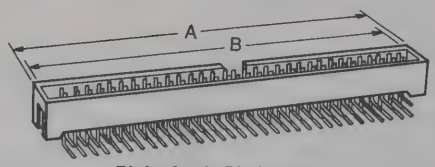
(8469) (ne07463)

AT NEWARK, THERE'S ALWAYS MORE THAN MEETS THE EYE!
CONTACT US FOR PRODUCTS NOT LISTED IN THIS CATALOG.

IDC HEADERS



Straight Pin Header



Right-Angle Pin Header

HIGH-TEMPERATURE, LOW-PROFILE IDC HEADERS

636 series headers come with either 0.102″ (2.59) long pins for 0.062″ (1.57) PC boards or 0.165″ (4.19) long pins for 0.125″ (3.18) PC boards. Feature 0.100 x 0.100″ centers. Insulation material: glass-filled high-temperature thermoplastic. Flammability rating of UL94V-0. Infrared and vapor phase compatible. Contacts: brass with 15μ″ (min.) gold over 50μ″ (min.) nickel plating. Current rating: 1A. Insulation resistance: >1 x 109 ohms @ sea level. Dielectric strength: >1000Vrms @ sea level. Temperature rating: –55°C to +125°C. Color: black. UL recognized, CSA certified.

STRAIGHT PIN HEADERS — 0.102″ (2.59) PINS

Stock No.	Type	No. of Pos.	Dimensions A	Dimensions B	1-9
52F6969	636-1027	10	0.800″	0.700″	0.72
52F6971	636-1427	14	1.000″	0.900″	0.97
52F6973	636-1627	16	1.100″	1.000″	1.09
52F6975	636-2027	20	1.300″	1.200″	1.23
52F6977	636-2627	26	1.600″	1.500″	1.54
52F6979	636-3427	34	2.000″	1.900″	1.94
52F6981	636-4027	40	2.300″	2.200″	2.25
52F6983	636-5027	50	2.800″	2.700″	2.71
52F6985	636-6027	60	3.300″	3.200″	3.28

STRAIGHT PIN HEADERS — 0.165″ (4.19) PINS

52F6970	636-1037	10	0.800″	0.700″	0.72
52F6972	636-1437	14	1.000″	0.900″	0.97
52F6974	636-1637	16	1.100″	1.000″	1.09
52F6976	636-2037	20	1.300″	1.200″	1.23
52F6978	636-2637	26	1.600″	1.500″	1.54
52F6980	636-3437	34	2.000″	1.900″	1.94
52F6982	636-4037	40	2.300″	2.200″	2.25
52F6984	636-5037	50	2.800″	2.700″	2.71
52F6986	636-6037	60	3.300″	3.200″	3.28

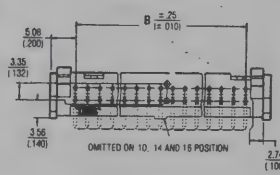
RIGHT-ANGLE PIN HEADERS — 0.102″ (2.59) PINS

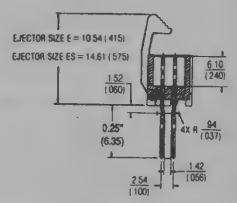
52F6987	636-1007	10	0.800″	0.700″	0.77
52F6989	636-1407	14	1.000″	0.900″	1.03
52F6991	636-1607	16	1.100″	1.000″	1.14
52F6993	636-2007	20	1.300″	1.200″	1.31
52F6995	636-2607	26	1.600″	1.500″	1.63
52F6997	636-3407	34	2.000″	1.900″	2.02
52F7001	636-5007	50	2.800″	2.700″	2.82

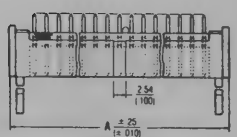
RIGHT-ANGLE PIN HEADERS — 0.165″ (4.19) PINS

52F6996	636-2617	26	1.600″	1.500″	1.63
52F7002	636-5017	50	2.800″	2.700″	2.82
52F7004	636-6017	60	3.300″	3.200″	3.39

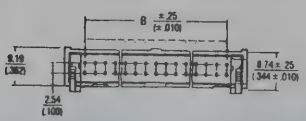
(8470) (ne07465)

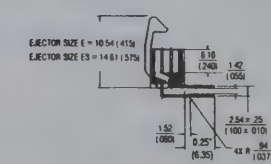


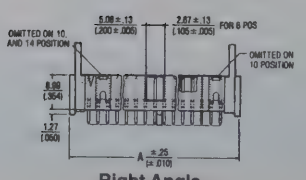




Straight







Right Angle

NEW 501 SERIES ANSLEY® LOW-PROFILE PC BOARD HEADERS

Vertical ejector design permits end-to-end soldering and uses minimum PC board space. Accommodates 0.062″(1.57) thick PC boards. Straight- or right-angle solder tails available. Mates with female socket transition connectors with or without strain relief. **Suffix E** in type number denotes short ejectors for mating connectors without strain relief; **suffix ES** denotes long ejectors for mating connectors with strain relief. Blue glass-filled thermoplastic housing, rated UL94V-0. Phosphor bronze contacts with 30μ″ gold over 50μ nickel in contact zone; tin-lead over nickel in termination area. Current rating: 1 amp. Dielectric strength: >1000 VRMS. Temperature rating: -55° to +125°C. UL recognized, CSA certified.

STRAIGHT VERTICAL MOUNT

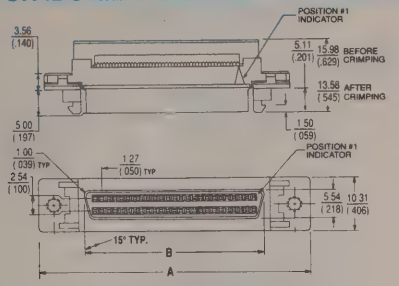
Stock No.	Type	Positions	Dimensions A	Dimensions B	1-9	10-24	25-49	50-99
93F7949	501-1027E	10	0.80″ (20.32)	0.400″ (10.16)	2.28	2.05	1.85	1.66
93F7950	501-1027ES	10	0.80″ (20.32)	0.400″ (10.16)	2.28	2.05	1.85	1.66
93F7951	501-1427E	14	1.00″ (25.40)	0.600″ (15.24)	2.51	2.26	2.03	1.83
93F7952	501-1427ES	14	1.00″ (25.40)	0.600″ (15.24)	2.51	2.26	2.03	1.83
93F7955	501-2027E	20	1.30″ (33.02)	0.900″ (22.86)	2.74	2.47	2.22	2.00
93F7956	501-2027ES	20	1.30″ (33.02)	0.900″ (22.86)	2.74	2.47	2.22	2.00
93F7957	501-2427E	24	1.50″ (38.10)	1.100″ (27.94)	3.06	2.76	2.48	2.23
93F7958	501-2427ES	24	1.50″ (38.10)	1.100″ (27.94)	3.06	2.76	2.48	2.23
93F7959	501-2627E	26	1.60″ (40.64)	1.200″ (30.48)	3.31	2.98	2.69	2.42
93F7960	501-2627ES	26	1.60″ (40.64)	1.200″ (30.48)	3.31	2.98	2.69	2.42
48F1904	501-3027E	30	1.80″ (45.72)	1.480″ (37.59)	3.75	3.38	3.04	2.74
48F1905	501-3027ES	30	1.80″ (45.72)	1.480″ (37.59)	3.75	3.38	3.04	2.74
93F7961	501-3427E	34	2.00″ (50.80)	1.600″ (40.64)	4.07	3.67	3.30	2.97
93F7962	501-3427ES	34	2.00″ (50.80)	1.600″ (40.64)	4.07	3.67	3.30	2.97
93F7965	501-4027E	40	2.30″ (58.42)	1.900″ (48.26)	4.60	4.14	3.73	3.36
93F7966	501-4027ES	40	2.30″ (58.42)	1.900″ (48.26)	4.60	4.14	3.73	3.36

RIGHT-ANGLE MOUNT

93F7925	501-1007E	10	0.80″ (20.32)	0.400″ (10.16)	2.28	2.05	1.85	1.66
93F7926	501-1007ES	10	0.80″ (20.32)	0.400″ (10.16)	2.28	2.05	1.85	1.66
48F1906	501-1207E	12	0.90″ (22.86)	0.580″ (14.73)	2.39	2.16	1.94	1.75
48F1907	501-1207ES	12	0.90″ (22.86)	0.580″ (14.73)	2.39	2.16	1.94	1.75
93F7927	501-1407E	14	1.00″ (25.40)	0.600″ (15.24)	2.51	2.26	2.03	1.83
93F7928	501-1407ES	14	1.00″ (25.40)	0.600″ (15.24)	2.51	2.26	2.03	1.83
93F7929	501-1607E	16	1.10″ (27.94)	0.700″ (17.78)	2.53	2.28	2.05	1.85
93F7930	501-1607ES	16	1.10″ (27.94)	0.700″ (17.78)	2.53	2.28	2.05	1.85
93F7933	501-2407E	24	1.50″ (38.10)	1.100″ (27.94)	3.06	2.76	2.48	2.23
93F7934	501-2407ES	24	1.50″ (38.10)	1.100″ (27.94)	3.06	2.76	2.48	2.23
48F1908	501-3007E	30	1.80″ (45.72)	1.480″ (37.59)	3.75	3.38	3.04	2.74
48F1909	501-3007ES	30	1.80″ (45.72)	1.480″ (37.59)	3.75	3.38	3.04	2.74
93F7937	501-3407E	34	2.00″ (50.80)	1.600″ (40.64)	4.07	3.67	3.30	2.97
93F7938	501-3407ES	34	2.00″ (50.80)	1.600″ (40.64)	4.07	3.67	3.30	2.97
93F7941	501-4007E	40	2.30″ (58.42)	1.900″ (48.26)	4.60	4.14	3.73	3.36
93F7942	501-4007ES	40	2.30″ (58.42)	1.900″ (48.26)	4.60	4.14	3.73	3.36

(32998) (ne32998)

FINE-PITCH IDC METAL SHELL "D" RECEPTACLES



Available in 3 separate bulkhead mounting styles: 4-40 flush threads, 2-56 cable latch with rails or 2-56 cable latch without rails, in a variety of contact sizes. Contacts are beryllium copper, 30µ" gold over nickel plating in the mating area, tin-lead plating in the termination area. Glass-reinforced black thermoplastic housing, with a 94V-0 flammability rating. Current rating: 1 amp. Insulation resistance: 1000 megohms. Dielectric strength: 1000VAC. Temperature rating: –55°C to +125°C. UL recognized. CSA certified.

4-40 FLUSH THREADS MOUNTING STYLE

Stock No.	Type	Positions	A	B	1-9	10-24
16F477	311-040SM29C	40	1.815" (46.10)	1.116" (28.35)	8.57	8.15
16F479	311-050SM29C	50	2.065" (52.45)	1.366" (34.70)	9.10	8.64
92F1728	311-068SM29C	68	2.515" (63.88)	2.280" (57.91)	11.28	10.71

2-56 CABLE LATCH WITH RAILS MOUNTING STYLE

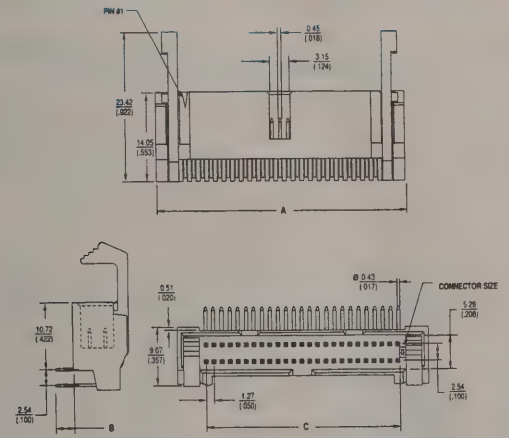
16F481	311-068SM29J	68	2.515" (63.88)	1.816" (46.13)	11.28	10.71

2-56 CABLE LATCH WITHOUT RAILS MOUNTING STYLE

16F476	311-026SM29N	26	1.465" (37.21)	0.766" (19.46)	6.71	6.38
16F478	311-040SM29N	40	1.815" (46.10)	1.116" (28.35)	8.57	8.15
16F480	311-050SM29N	50	2.065" (52.45)	1.366" (34.70)	9.10	8.64
16F482	311-068SM29N	68	2.515" (63.88)	1.816" (46.13)	11.28	10.71

(8392) (de03893)

2-ROW HEADERS WITH RIGHT-ANGLE TAILS

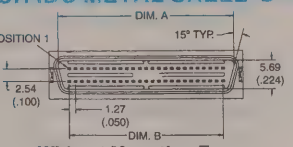


Headers for 0.125" (3.18) PCB with space-saving vertical ejectors. Centers are 0.050 x 0.100". Insulation material is black glass-filled thermoplastic rated UL94V-0, and infrared and vapor phase process compatible. Contacts are copper alloy, 30µ" gold over nickel plating in mating area, tin-lead plating in the termination area. Retainer-ejector latches disengage the header and female socket, minimizing stress in the cable termination and solder joint areas. Tail length (Dim. B): 0.114" (2.90). Current rating: 1A. Insulation resistance: >1x10^{9}Ω. Dielectric strength: >1000VAC. Temperature rating: –55°C to +125°C. UL recognized, CSA certified. *Order headers with straight tails by replacing* **suffix D072E** *in type number with* **suffix D272E.**

Stock No.	Type	Positions	Dimensions A	Dimensions C	1-9	10-24
16F532	311-020D072E	20	0.814"	0.450"	3.84	3.65
16F533	311-026D072E	26	0.964"	0.600"	4.10	3.90
16F534	311-030D072E	30	1.064"	0.700"	4.25	4.04
16F535	311-034D072E	34	1.164"	0.800"	4.44	4.22
16F536	311-040D072E	40	1.314"	0.950"	4.70	4.46
16F537	311-050D072E	50	1.564"	1.200"	5.13	4.87
16F538	311-060D072E	60	1.814"	1.450"	5.56	5.28
16F539	311-068D072E	68	2.014"	1.650"	9.32	8.85
16F540	311-080D072E	80	2.314"	1.950"	6.38	6.06
16F541	311-100D072E	100	2.814"	2.450"	7.25	6.89

(8481) (ne08260)

FINE-PITCH IDC METAL SHELL "D" PLUGS



Without Mounting Ears

0.050 x 0.100" centers. Insulation material is black glass-filled thermoplastic rated UL94V-0. Contacts are beryllium copper alloy, 30µ" gold over nickel plating in mating area, tin-lead plating in the termination area. Current rating: 1 amp. Dielectric strength: > 1000VAC. Temperature rating: –55°C to +125°C. UL recognized, CSA certified.

WITHOUT MOUNTING EARS

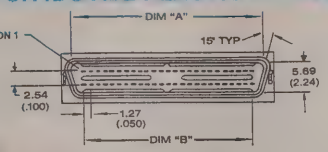
Stock No.	Type	Contacts	A	B	1-9	10-24
16F483	311-026PM29	26	0.772" (19.61)	0.600" (15.24)	4.10	3.90
16F484	311-040PM29	40	1.122" (28.50)	0.950" (24.13)	6.11	5.81
16F485	311-050PM29	50	1.372" (34.85)	1.200" (30.48)	6.80	6.46
16F486	311-068PM29	68	1.822" (46.28)	1.650" (41.91)	9.28	8.82
16F487	311-080PM29	80	2.122" (53.90)	1.950" (49.53)	11.85	11.26

WITH MOUNTING EARS

16F488	311-026PM29C	26	0.772" (19.61)	0.600" (15.24)	4.57	4.34
16F489	311-040PM29C	40	1.122" (28.50)	0.950" (24.13)	6.58	6.25
16F490	311-050PM29C	50	1.372" (34.85)	1.200" (30.48)	7.27	6.91
16F491	311-068PM29C	68	1.822" (46.28)	1.650" (41.91)	9.75	9.26
16F492	311-080PM29C	80	2.122" (53.90)	1.950" (49.53)	12.32	11.70
16F493	311-100PM29C	100	2.622" (66.60)	2.450" (62.23)	15.19	14.43

(8479) (ne08257)

FINE-PITCH IDC ALL PLASTIC "D" PLUGS



Without Mounting Ears

Designed for reliable interfaces in modern, high-density applications. Connectors conform with SCSI 2/3 internal cabling specifications. Strong beryllium copper contacts and IDC slots that concentrate the insulation displacement capability to allow trouble-free termination of all insulation types — including Teflon®. Low-profile design maximizes available cabinet space. Glass-reinforced thermoplastic insulation material. Current rating: 1 amp. Dielectric strength: 1000VAC. Temperature rating: –55°C to +125°C. UL recognized, CSA approved.

WITHOUT MOUNTING EARS

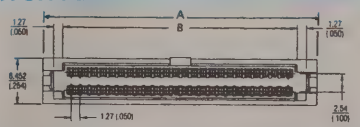
Stock No.	Type	Positions	A	B	1-9	10-24
66F8975	311-026P29	26	0.772" (19.61)	0.600" (15.24)	3.73	3.54
66F8976	311-040P29	40	1.122" (28.50)	0.950" (24.13)	5.74	5.45
66F8977	311-050P29	50	1.372" (34.85)	1.200" (30.48)	6.43	6.11
66F8978	311-068P29	68	1.822" (46.28)	1.650" (41.91)	8.91	8.46
66F8979	311-080P29	80	2.122" (53.90)	1.950" (49.53)	11.48	10.91
66F8980	311-100P29	100	2.622" (66.60)	2.450" (62.23)	14.35	13.63

WITH MOUNTING EARS

16F494	311-026P29C	26	0.772" (19.61)	0.600" (15.24)	4.20	3.99
16F495	311-040P29C	40	1.122" (28.50)	0.950" (24.13)	6.21	5.90
16F496	311-050P29C	50	1.372" (34.85)	1.200" (30.48)	6.90	6.55
16F497	311-068P29C	68	1.822" (46.28)	1.650" (41.91)	9.37	8.91
16F498	311-080P29C	80	2.122" (53.90)	1.950" (49.53)	11.95	11.35
16F499	311-100P29C	100	2.622" (66.60)	2.450" (62.23)	14.81	14.07

(8451) (ne06361)

FINE-PITCH FEMALE SOCKET CONNECTORS

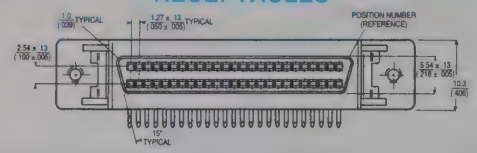


Fine-pitch mass-terminated IDC female sockets for 0.025" (0.635) conductor spacing. 0.050 x 0.100" centers. Female sockets accept 30 AWG fine-pitch IDC cable. Feature daisy chain capability, cable guides, positive locking latches, center polarization, and dual-beam mating beryllium copper contacts with 30µ" gold over 50µ" nickel plating. Black, glass-reinforced thermoplastic housing, rated UL94V-0. Current rating: 1 amp. Dielectric strength: >1000VDC. Temperature rating: –55°C to +125°C. UL recognized, CSA certified.

Stock No.	Type	Positions	A	B	1-9	10-24
16F500	311-020302	20	0.762" (19.35)	0.544" (13.82)	3.73	3.54
93F8305	311-026302	26	0.912" (23.16)	0.694" (17.63)	4.23	4.02
16F502	311-034302	34	1.112" (28.24)	0.894" (22.71)	4.90	4.66
93F8306	311-040302	40	1.262" (32.05)	1.044" (26.52)	5.41	5.14
93F8307	311-050302	50	1.512" (38.40)	1.294" (32.87)	6.25	5.93
92F1731	311-068302	68	2.008" (51.00)	1.744" (44.30)	7.75	7.37
92F1733	311-100302	100	2.808" (71.32)	2.544" (64.62)	10.44	9.92

(8358) (de01682)

SCSI FINE-PITCH D CONNECTOR RIGHT-ANGLE RECEPTACLES



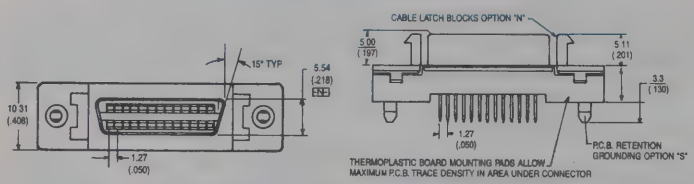
Insulation material is glass reinforced thermoplastic rated UL94V-0. Contacts are high-strength copper alloy, 50µ" nickel underplate with 30µ" of gold in the mating area, 100µ" minimum tin-lead on tails. Latch block material: nickel-plated zinc alloy. Metal shell material: tin-plated steel. Snap latch material: high-strength copper alloy. Tail length: 0.130" (3.30). Current rating: 1A. Insulation resistance: >1000MΩ. Dielectric strength: >1000VDC. Temperature rating: –55°C to +125°C. UL recognized, CSA certified. *Order receptacles with tail length 0.162" (4.11) by replacing* **suffix X1** *in type number with* **suffix X2.** Other mating styles are available.

2-56 CABLE LATCH WITH RAILS

Stock No.	Type	Positions	1-9	10-24	25-49	50-99
92F1748	HFR026RA29JX1	26	4.72	4.20	3.78	3.59
16F508	HFR040RA29JX1	40	5.72	5.09	4.58	4.35
92F1753	HFR050RA29JX1	50	6.48	5.77	5.19	4.93
16F512	HFR068RA29JX1	68	8.16	7.27	6.53	6.21
2-56 CABLE LATCH WITHOUT RAILS						
92F1749	HFR026RA29NX1	26	4.72	4.20	3.78	3.59
16F509	HFR040RA29NX1	40	5.72	5.09	4.58	4.35
92F1754	HFR050RA29NX1	50	6.48	5.77	5.19	4.93
16F513	HFR068RA29NX1	68	8.16	7.27	6.53	6.21

(8448) (ne03601)

SCSI FINE PITCH VERTICAL METAL SHELL FEMALE PC BOARD MOUNT CONNECTORS



For standard PC board mounting. Profile height: 0.150". Insulation material is glass reinforced thermoplastic rated UL94V-0. Contacts are high-strength copper alloy, 50µ" nickel underplate with 30µ" of gold in the mating area, 100µ" minimum tin-lead on tails. Latch block material: nickel-plated zinc alloy. Metal shell material: tin-plated steel. Snap latch material: high-strength copper alloy. Current rating: 1A. Insulation resistance: >1000MΩ. Dielectric strength: >1000VDC. Temperature rating: –55°C to +125°C. UL recognized, CSA certified.

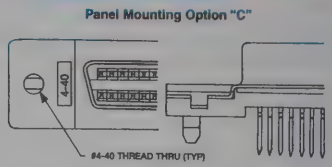
4-40 FLUSH

Stock No.	Type	Positions	1-9	10-24	25-49	50-99
66F8960	HFR068ST29C1	68	6.80	6.06	5.44	5.17
66F8972	HFR080ST29C1	80	8.26	7.36	6.61	6.28
66F8964	HFR100ST29C1	100	9.84	8.76	7.88	7.48
2-56 CABLE LATCH WITH RAILS						
66F9278	HFR026ST29J1	26	3.92	3.49	3.14	2.98
66F9282	HFR040ST29J1	40	4.80	4.28	3.84	3.65
66F8969	HFR050ST29J1	50	5.44	4.85	4.36	4.14
66F8961	HFR068ST29J1	68	6.80	6.06	5.44	5.17
66F8973	HFR080ST29J1	80	8.26	7.36	6.61	6.28
66F8965	HFR100ST29J1	100	9.84	8.76	7.88	7.48
2-56 CABLE LATCH WITHOUT RAILS						
66F9279	HFR026ST29N1	26	3.92	3.49	3.14	2.98
66F9283	HFR040ST29N1	40	4.80	4.28	3.84	3.65
66F8970	HFR050ST29N1	50	5.44	4.85	4.36	4.14
66F8962	HFR068ST29N1	68	6.80	6.06	5.44	5.17
66F8974	HFR080ST29N1	80	8.26	7.36	6.61	6.28
66F8966	HFR100ST29N1	100	9.84	8.76	7.88	7.48

(8482) (ne08261)

SCSI FINE-PITCH D PRESS-FIT PC BOARD MOUNT RECEPTACLES

NEW



Perfect for desktop computers, peripherals, and other equipment where space and weight are at a premium. Designed for high-density backplane or motherboard applications. Metal snap latches maintain ground screen to the PC board without soldering. High-temperature rated plastic housing will not degrade during reflow soldering processes. Available in metal shell and all other plastic versions. Requires only "flat rock"-type blocks for easy installation. UL recognized, CSA certified.

4-40 FLUSH

Stock No.	Type	Positions	1-9	10-24	25-49	50-99
48F1683	HFR026PF29C1	26	4.50	4.01	3.60	3.42
48F1685	HFR040PF29C1	40	5.50	4.90	4.40	4.18
48F1687	HFR050PF29C1	50	6.22	5.54	4.98	4.73
48F1689	HFR068PF29C1	68	7.52	6.70	6.02	5.72
48F1691	HFR080PF29C1	80	8.38	7.46	6.71	6.37
48F1693	HFR100PF29C1	100	9.82	8.74	7.86	7.47
2-56 CABLE LATCH WITHOUT RAILS						
48F1684	HFR026PF29N1	26	4.90	4.37	3.92	3.73
48F1686	HFR040PF29N1	40	5.90	5.26	4.72	4.49
48F1688	HFR050PF29N1	50	6.62	5.90	5.30	5.04
48F1690	HFR068PF29N1	68	7.92	7.05	6.34	6.02
48F1692	HFR080PF29N1	80	8.78	7.82	7.03	6.68
48F1694	HFR100PF29N1	100	10.22	9.10	8.18	7.77

(41471) (ne41471)

SCSI FINE-PITCH VERTICAL ALL PLASTIC SHELL FEMALE PC BOARD MOUNT CONNECTORS

For standard PC board mounting. Profile height: 0.150". Insulation material is glass reinforced thermoplastic rated UL94V-0. Contacts are high-strength copper alloy, 50µ" nickel underplate with 30µ" of gold in the mating area, 100µ" minimum tin-lead on tails. Latch block material: nickel-plated zinc alloy. Metal shell material: tin-plated steel. Snap latch material: high-strength copper alloy. Profile height: 0.150", standard PCB mounting. Current rating: 1A. Insulation resistance: >1000MΩ. Dielectric strength: >1000VDC. Temperature rating: –55°C to +125°C. UL recognized, CSA certified.

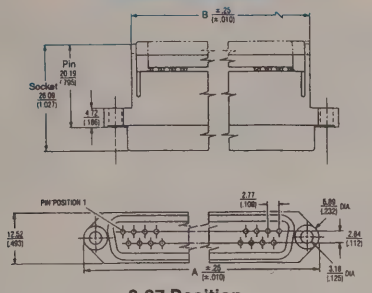
4-40 FLUSH

Stock No.	Type	Positions	1-9	10-24	25-49	50-99
16F4257	HHR068ST29C1	68	5.56	4.95	4.45	4.23
48F1673	HHR080ST29C1	80	7.52	6.70	6.02	5.72
48F1674	HHR100ST29C1	100	8.44	7.52	6.76	6.42
2-56 CABLE LATCH WITH RAILS						
16F4243	HHR026ST29J1	26	2.82	2.51	2.26	2.15
16F4247	HHR040ST29J1	40	3.66	3.26	2.93	2.79
16F4251	HHR050ST29J1	50	4.28	3.81	3.43	3.26
16F4258	HHR068ST29J1	68	5.56	4.95	4.45	4.23
48F1675	HHR080ST29J1	80	7.14	6.36	5.72	5.43
48F1676	HHR100ST29J1	100	7.52	6.70	6.02	5.72
2-56 CABLE LATCH WITHOUT RAILS						
16F4244	HHR026ST29N1	26	2.82	2.51	2.26	2.15
16F4248	HHR040ST29N1	40	3.66	3.26	2.93	2.79
16F4252	HHR050ST29N1	50	4.28	3.81	3.43	3.26
16F4259	HHR068ST29N1	68	5.56	4.95	4.45	4.23
48F1677	HHR080ST29N1	80	7.14	6.36	5.72	5.43
48F1678	HHR100ST29N1	100	8.44	7.52	6.76	6.42

(8489) (ne08613)

PERSONALIZED SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

609 SERIES ANSLEY® PLASTIC SHELL IDC "D" CONNECTORS



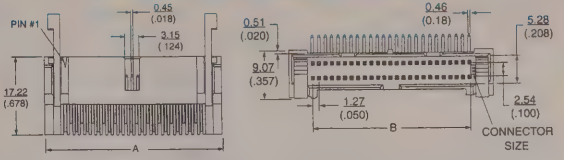
9-37 Position

Used in panel-mounted I/O applications for mass termination. Available in pin (**suffix P**) or socket (**suffix S**) versions, both with strain relief. Beryllium copper contact enables mass termination to 0.050" (1.27) pitch flat cable while maintaining I/O compatibility with 0.109" (2.77) industry standard "D" connectors. 30µ" gold over 50µ" nickel plating in contact-mating zone; tin-lead over nickel in termination area. Blue glass-filled thermoplastic housing, rated UL94V-0. Current rating: 1 amp. Dielectric strength: >1000 VRMS. +125°C. UL recognized, CSA certified. *Order mounting hardware accessories separately on this page.*

Stock No.	Type	Positions	Dimensions A	Dimensions B	1-9
93F8122	609-9P	9	1.216" (30.89)	0.639" (16.23)	6.60
93F8127	609-9S	9	1.216" (30.89)	0.639" (16.23)	7.68
93F8123	609-15P	15	1.544" (39.22)	0.966" (24.54)	8.77
93F8128	609-15S	15	1.544" (39.22)	0.966" (24.54)	10.51
93F8124	609-25P	25	2.084" (52.93)	1.511" (38.38)	11.20
93F8129	609-25S	25	2.084" (52.93)	1.511" (38.38)	12.86
93F8125	609-37P	37	2.732" (69.39)	2.165" (54.99)	16.49
93F8130	609-37S	37	2.732" (69.39)	2.165" (54.99)	19.13
93F8126	622-50P	50	2.914" (74.02)	2.008" (53.02)	16.20
93F8131	622-50S	50	2.914" (74.02)	2.008" (53.02)	17.11

(8365) (de01781)

4-ROW HEADER RIGHT-ANGLE TAILS WITH VERTICAL EJECTORS

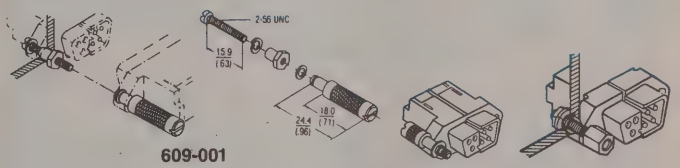


For 0.062" (1.57) PCB. Insulation material is black glass-filled thermoplastic rated UL94V-0, infrared and vapor phase process compatible. Contacts are copper alloy, 30µ" gold over nickel plating in mating area, tin-lead plating in the termination area. Tail length: 0.114" (2.90). Current rating: 1 amp. Dielectric strength: > 1000VAC. Temperature rating: –55°C to +125°C. UL recognized, CSA approved.

Stock No.	Type	Positions	A	B	1-9	10-24
16F542	311-020072E	20	0.814" (20.68)	0.450" (11.43)	3.84	3.65
93F8309	311-040072E	26	0.964" (24.49)	0.600" (15.24)	4.70	4.46
16F543	311-030072E	30	1.064" (27.03)	0.700" (17.78)	4.25	4.04
16F544	311-034072E	34	1.164" (29.57)	0.800" (20.32)	4.44	4.22
92F1734	311-068072E	68	2.014" (51.16)	1.650" (41.91)	5.87	5.58
92F1736	311-100072E	100	2.814" (71.48)	2.450" (62.23)	7.25	6.89

(8480) (ne08258)

HARDWARE AND TOOLING FOR PLASTIC OR METAL SHELL "D" CONNECTORS



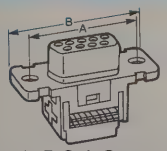
609-001

UL recognized, CSA certified. *Order plastic shell "D" connectors separately on this page. Order metal shell "D" connectors separately on this page.*

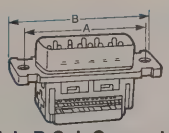
Stock No.	Type	Description	1-9
93F8147	609-002	Jackscrew Assembly locks "D" connector to jacksocket	6.16
93F8148	609-003	Jacksocket Assembly locks two front panel mount "D" connectors together; panel thickness: 0.196" (5.0) maximum	5.47
93F8149	609-006-1	Jacksocket Assembly connects rear panel mount connector to any "D" connector	5.47
93F8150	609-007-1	Jacksocket Assembly locks two front panel mount "D" connectors together; panel thickness: 0.09" (2.4) to 0.13" (3.2)	5.47
93F8154	609-50SL	Slide Lock Retainer locks two 50-position "D" connectors together	4.71

(8367) (de01783)

IDC D-SUB CONNECTORS WITH METAL SHELLS



Female D-Sub Connector



Male D-Sub Connector

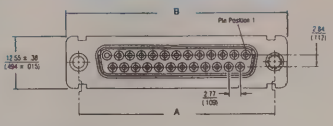
636 series D-sub connectors have 15µ" gold on contact area. Available in either 0.120" (min.) thru-hole or #4-40 threaded insert thru-hole mounting. Insulation material: glass reinforced thermoplastic rated for flammability per UL94V-0. Contacts: copper alloy with selective gold over 50µ" (min.) nickel underplate overall. Shell: tin-plated steel. Current rating: 1A. Insulation resistance: >1000 megohms @ 500VDC. DWV: >500Vrms @ sea level. Temperature rating: –55°C to +125°C. Color: black. UL recognized, CSA certified.

FEMALE CONNECTORS (RECEPTACLES) — 0.120" (MIN.) THRU-HOLE

Stock No.	Type	No. of Pos.	Dimensions A	Dimensions B	1-9
52F7054	636-09SM	9	0.984"	1.212"	3.70
52F7056	636-15SM	15	1.312"	1.539"	4.39
52F7058	636-25SM	25	1.852"	2.090"	4.98
52F7060	636-37SM	37	2.500"	2.732"	9.31
FEMALE CONNECTORS (RECEPTACLES) — #4-40 THREADED INSERT					
52F7055	636-09SM1	9	0.984"	1.212"	3.82
52F7057	636-15SM1	15	1.312"	1.539"	4.50
52F7059	636-25SM1	25	1.852"	2.090"	5.10
52F7061	636-37SM1	37	2.500"	2.732"	9.71
MALE CONNECTORS (PLUGS) — 0.120" (MIN.) THRU-HOLE					
52F7062	636-09PM	9	0.984"	1.212"	3.70
52F7064	636-15PM	15	1.312"	1.539"	4.39
52F7066	636-25PM	25	1.852"	2.090"	4.98
52F7068	636-37PM	37	2.500"	2.732"	9.31
MALE CONNECTORS (PLUGS) — #4-40 THREADED INSERT					
52F7063	636-09PM1	9	0.984"	1.212"	3.82
52F7065	636-15PM1	15	1.312"	1.539"	4.50
52F7067	636-25PM1	25	1.852"	2.090"	5.10
52F7069	636-37PM1	37	2.500"	2.732"	9.71

(8471) (ne07467)

622 SERIES ANSLEY® LOW-PROFILE METAL SHELL IDC "D" CONNECTORS

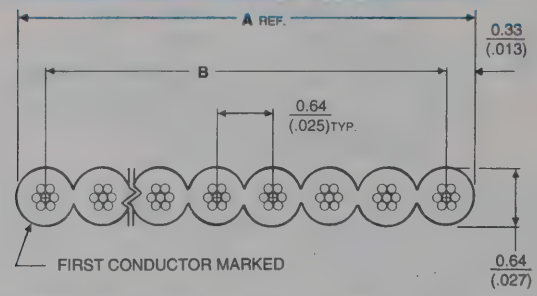


Designed for reliable EMI/RFI shielding. Interfaces in high-density, low-profile applications. Blue glass-filled thermoplastic housing, rated UL94V-0, with tin-plated steel shell. Beryllium copper contacts plated with 30µ" gold over 50µ" nickel in contact zone, tin-lead over nickel in termination area. Type no. suffixes: **PM** = pin receptacle with 0.125" (3.18) thru-hole; **SM** = socket plug with 0.125" (3.18) thru-hole; and **SM1** = socket plug with #4-40 threaded insert. Current rating: 1A. Dielectric strength: > 1000Vrms. Temp. rating: –55°C to +125°C. UL recognized, CSA certified. NOTE: 50-position cable strain relief included with connector. *Order mounting hardware accessories separately on this page.*

Stock No.	Type	Positions	Dimensions A	Dimensions B	1-9
93F8132	622-09PM	9	0.984" (24.99)	1.213" (30.81)	4.10
93F8133	622-09SM	9	0.984" (24.99)	1.213" (30.81)	5.07
93F8134	622-09SM1	9	0.984" (24.99)	1.213" (30.81)	5.38
93F8135	622-15SM	15	1.312" (33.32)	1.541" (39.14)	6.95
01F233	622-25PM	25	1.852" (47.04)	2.084" (52.93)	7.18
93F8137	622-25SM	25	1.852" (47.04)	2.088" (53.04)	8.51
93F8138	622-25SM1	25	1.852" (47.04)	2.088" (53.04)	8.83
93F8139	622-37SM	37	2.500" (63.50)	2.729" (69.31)	12.19
93F8140	622-37SM1	37	2.500" (63.50)	2.729" (69.31)	12.50
93F8141	622-50SM1	50	2.406" (61.11)	2.914" (74.02)	17.54

(8366) (de01782)

0.025″ FINE PITCH FEP FLAT CABLE



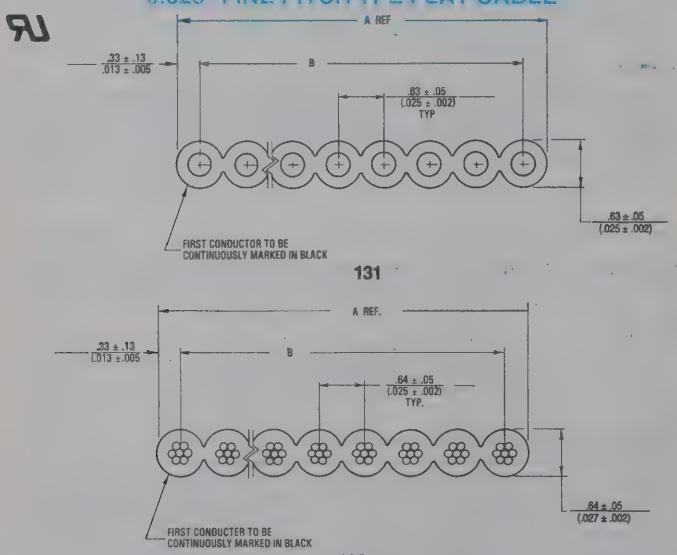
Fine-pitch flat cable provides the means to reduce mass and weight in flexible wiring assemblies. Polarizing stripe allows easy identification of number one circuit even in twisted or irregularly curved applications. **140 series** conductors are 30 AWG, 7/40 silver plated, stranded copper. Insulation material: flexible blue-gray PVC. Voltage rating: 150Vrms. Impedance: 95 ohms. Temperature rating: 150°C. **141 series** conductors are 30 AWG, silver plated, solid copper. Insulation material: extruded Teflon® FEP. Voltage rating: 150Vrms. Impedance: 90 ohms. Temperature rating: 150°C. UL recognized, CSA certified. **Sold in spools of 100′.**

140 SERIES 32 AWG STRANDED TEFLON®

Stock No.	Type	Conductors	Dimensions A	Dimensions B	1-2
16F217	140-026	26	0.650″ (16.51)	0.625″ (15.88)	449.81
16F218	140-040	40	1.000″ (25.40)	0.975″ (24.77)	692.00
16F219	140-050	50	1.250″ (31.75)	1.225″ (31.12)	864.99
16F220	140-068	68	1.700″ (43.18)	1.675″ (42.55)	1176.40
16F221	140-080	80	2.000″ (50.80)	1.975″ (50.17)	1383.99
16F222	140-100	100	2.500″ (63.50)	2.475″ (62.87)	1729.99
141 SERIES 30 AWG SOLID TEFLON®					
16F223	141-026	26	0.650″ (16.51)	0.625″ (15.88)	449.81
16F224	141-040	40	1.000″ (25.40)	0.975″ (24.77)	692.00
16F225	141-050	50	1.250″ (31.75)	1.225″ (31.12)	864.99
16F226	141-068	68	1.700″ (43.18)	1.675″ (42.55)	1176.40
16F227	141-080	80	2.000″ (50.80)	1.975″ (50.17)	1383.99
16F228	141-100	100	2.500″ (63.50)	2.475″ (62.87)	1729.99

(8393) (de04005)

0.025″ FINE PITCH TPE FLAT CABLE



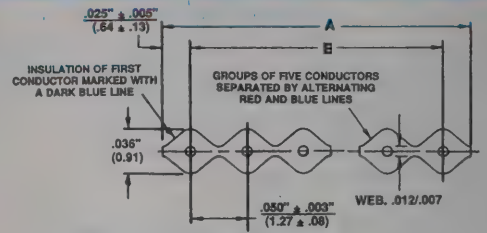
0.025″ pitch 30 AWG flat cable features white thermoplastic elastomer (TPE) insulation. Voltage rating: 150Vrms. Temperature rating: –20°C to +105°C. Impedance: 88 ohms (**131 series**) and 80 ohms (**132 series**). UL recognized. **Sold in spools of 100′.**

131 SERIES SOLID

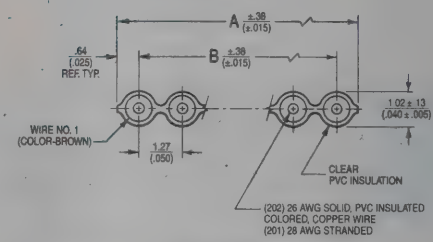
Stock No.	Type	Cond.	Dimensions A	Dimensions B	1-2
01F888	131-050	50	1.250″ (31.75)	1.225″ (31.12)	108.36
01F889	131-068	68	1.700″ (43.18)	1.675″ (42.55)	154.78
132 SERIES 7/38 TINNED STRANDED COPPER					
01F890	132-050	50	1.250″ (31.75)	1.225″ (31.12)	130.02
01F891	132-068	68	1.700″ (43.18)	1.675″ (42.55)	181.09

(13054) (ne09856)

0.050″ ANSLEY® PVC FLAT RIBBON CABLE



171 and 173


A ±.38 (±.015)
.64 (.025) REF. TYP.
B ±.38 (±.015)
1.02 ± .13 (.040 ± .005)
WIRE NO. 1 (COLOR-BROWN)
1.27 (.050)
CLEAR PVC INSULATION
(202) 26 AWG SOLID, PVC INSULATED COLORED, COPPER WIRE
(201) 28 AWG STRANDED

201 and 202

Designed to mass-terminate to all types of IDC connectors without wire stripping or soldering. Stranded or solid tin-plated conductors feature 0.050″ (1.27) spacing. Grooves on both sides assure accurate alignment. Flexible PVC insulation with red polarity stripe. Voltage rating: 300Vrms. Temperature rating: 105°C. Impedance: 100 ohms (**171** and **201 series**), 103 ohms (**202 series**), and 105 ohms (**173 series**). UL recognized, CSA certified. **Sold in spools of 100′.**

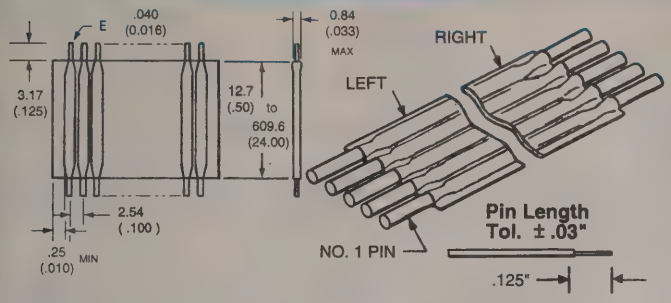
171 SERIES 28 AWG STRANDED

Stock No.	Type	Positions	Dimensions A	Dimensions B	1-2
93F7901	171-14	14	0.70″ (17.78)	0.65″ (16.51)	18.00
93F7902	171-15	15	0.75″ (19.05)	0.70″ (17.78)	19.29
93F7903	171-16	16	0.80″ (30.32)	0.75″ (19.05)	20.57
93F7904	171-20ED	20	1.00″ (25.40)	0.95″ (24.13)	25.71
93F7905	171-24ED	24	1.20″ (30.48)	1.15″ (29.21)	30.86
93F7906	171-25	25	1.25″ (31.75)	1.20″ (30.48)	32.14
93F7907	171-26	26	1.30″ (33.02)	1.25″ (31.75)	33.43
93F7908	171-34	34	1.70″ (43.18)	1.65″ (41.91)	43.71
93F7909	171-36	36	1.80″ (45.72)	1.75″ (44.45)	46.28
93F7910	171-37	37	1.85″ (46.99)	1.80″ (45.72)	47.57
93F7911	171-40ED	40	2.00″ (50.80)	1.95″ (49.53)	51.42
93F7912	171-50	50	2.50″ (63.50)	2.45″ (62.23)	64.28
93F7913	171-60	60	3.00″ (76.20)	2.95″ (74.93)	77.13
93F7914	171-64	64	3.20″ (81.28)	3.15″ (80.01)	82.27
173 SERIES 28 AWG SOLID					
16F184	173-10	10	0.50″ (12.70)	0.45″ (11.43)	20.29
16F185	173-14	14	0.70″ (17.78)	0.65″ (16.51)	28.41
16F186	173-15	15	0.75″ (19.05)	0.70″ (17.78)	30.45
16F187	173-16	16	0.80″ (20.32)	0.75″ (19.05)	32.49
16F188	173-20	20	1.00″ (25.40)	0.95″ (24.13)	40.60
16F189	173-24	24	1.20″ (30.48)	1.15″ (29.21)	48.72
16F190	173-25	25	1.25″ (31.75)	1.20″ (30.48)	50.75
16F191	173-26	26	1.30″ (33.02)	1.25″ (31.75)	52.89
16F192	173-34	34	1.70″ (43.18)	1.65″ (41.91)	69.03
16F193	173-40	40	2.00″ (50.80)	1.95″ (49.53)	81.21
16F194	173-50	50	2.50″ (63.50)	2.45″ (62.23)	101.54
16F195	173-56	56	2.80″ (71.12)	2.75″ (69.85)	113.72
16F196	173-60	60	3.00″ (76.20)	2.95″ (74.93)	123.95
201 SERIES COLOR-CODED 28 AWG STRANDED					
16F197	201-9	9	0.45″ (11.43)	0.40″ (10.16)	26.42
16F198	201-10	10	0.50″ (12.70)	0.45″ (11.43)	28.47
16F199	201-14	14	0.70″ (17.78)	0.65″ (16.51)	39.70
16F200	201-15	15	0.75″ (19.05)	0.70″ (17.78)	43.45
16F201	201-16	16	0.80″ (20.32)	0.75″ (19.05)	46.37
16F202	201-20	20	1.00″ (25.40)	0.95″ (24.13)	56.62
16F203	201-24	24	1.20″ (30.48)	1.15″ (29.21)	66.94
16F204	201-25	25	1.25″ (31.75)	1.20″ (30.48)	71.34
16F205	201-36	36	1.80″ (45.72)	1.75″ (44.45)	99.92
16F206	201-37	37	1.85″ (46.99)	1.80″ (45.72)	102.28
16F207	201-40	40	2.00″ (50.80)	1.95″ (49.53)	110.63
16F208	201-44	44	2.20″ (55.88)	2.15″ (54.61)	121.58
16F209	201-50	50	2.50″ (63.50)	2.45″ (62.23)	135.74
16F210	201-56	56	2.80″ (71.12)	2.75″ (69.85)	151.52
16F211	201-60	60	3.00″ (76.20)	2.95″ (74.93)	162.89
16F212	201-64	64	3.20″ (81.28)	3.15″ (80.01)	172.95
202 SERIES COLOR-CODED 26 AWG SOLID					
16F213	202-14	14	0.70″ (17.78)	0.65″ (16.51)	46.28
16F214	202-24	24	1.20″ (30.48)	1.15″ (29.21)	72.27
16F215	202-36	36	1.80″ (45.72)	1.75″ (44.45)	112.42
16F216	202-50	50	2.50″ (63.50)	2.45″ (62.23)	146.62

(8375) (de02159)

FLAT CABLE AND TOOLING

FLEXSTRIP™ JUMPERS



Ordering Information

FS - [N] - 2[2] - A - [30]

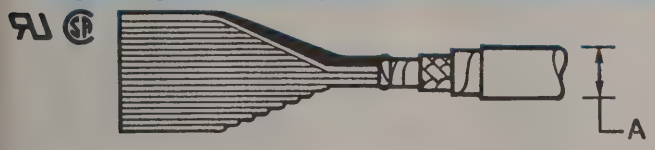
Insulation Material	Insulation Length	No. of Conductors
N= Nomex ™	(1", 2", 3")	(44 Maximum)
P= Polyester		

Multiconductor board-to-board interconnect devices are preplated and ready to use without wire stripping, cutting to length, or solder preparation. A convenient alternative to conventional point-to-point wiring for high-density, high-vibration PC board interconnect applications. One-piece construction provides vibration-resistant reliability and longer life than conventional wiring systems. Round-to-flat transition zone permits flexing stress to be distributed evenly throughout flat conductor area and acts as a hinge between PC boards. This allows boards to be opened for fabrication and servicing, then close for increased compactness.

To order FLEXSTRIP™ Jumpers, follow these instructions and insert your choices into the part number structure as shown in the boxes above:(1) Select either Nomex (N) or Polyester (P) construction.(2) Choose from 1″, 2″, or 3″ insulation lengths.(3) Specify the number of conductors for one piece (minimum of 2, maximum of 44).(4) Specify the quantity of FLEXSTRIP™ Jumpers required.(5) When ordering, use vendor identification number 8162. *Call your local Newark sales office for pricing.*

(8394) (de04293)

ANSLEY® CABLE FOR ROUND-TO-FLAT APPLICATIONS



300 series shielded and **301 series** unshielded tin-plated 28 AWG stranded cable offers the construction advantages of both flat and round cable under a single flexible PVC jacket. 360° plastic-laminated double aluminum foil shield with tinned copper braid shield overall reduces EM and RF interference and may be crimped to metal lining of backshell. Voltage rating: 300Vrms. Temperature rating: 80°C. UL recognized, CSA certified. Other conductor sizes available; *contact your local Newark sales office.* **Sold in spools of 100′.**

300 SERIES SHIELDED CABLE

Stock No.	Type	Conductors	Dimension A	1-2
93F7916	300-15	15	0.29″ (7.5)	140.98
93F7919	300-50	50	0.45″ (11.6)	244.43

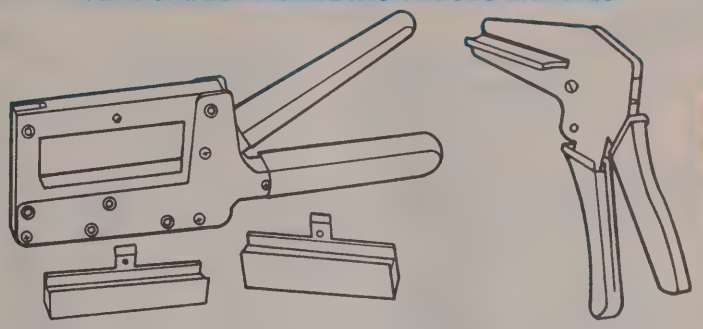
301 SERIES UNSHIELDED CABLE

93F7921	301-15	15	0.28″ (7.0)	106.70
93F7924	301-50	50	0.44″ (11.1)	192.36

(8376) (de02160)

ALL PRODUCTS LISTED ARE STOCKED.

FLAT CABLE PREPARATION TOOLS AND DIES



779 series hand crimp tool frame accommodates snap-in interchangeable dies, *ordered separately,* to mass terminate IDC connectors to flat cable without stripping or soldering. Ratchet mechanism controls crimp-cycle for proper termination. Cushion-grip handle.

93F8280 Type 779-2100 Hand Crimp Tool Frame. **Each** **309.86**

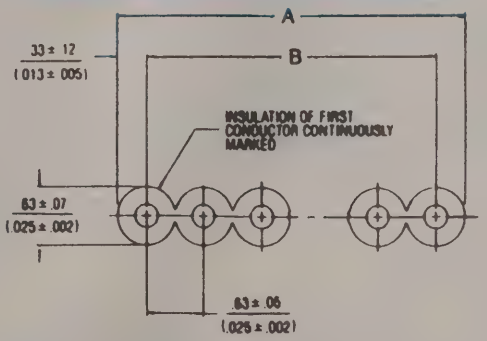
Stock No.	Type	Die Description/Application	1-2
92F3530	779-2150	**622 Series** Male Connectors	66.51
93F8288	779-2151	**622 Series** Female Socket Connectors	66.51
93F8292	779-2155	Low Profile DIPs	66.51
93F8291	779-2164	Card Edge Connectors	66.51
93F8293	779-2166	Plastic "D" Connectors except 50-pos.	66.51
52F7071	779-2166M	Metal Shell "D" Connector 50-pos.	66.51
93F8294	779-2167	50-pos. Plastic & Metal "D" Connectors	66.51
93F8295	779-2168A	**622 Series** Male Connectors	66.51
93F8296	779-2172	Ribbon Connectors	66.51
93F8297	779-2179	Low Profile "D" Connectors **(622 Series)**	66.51

Type 779-5030M cable cutter provides burr-free cuts of all types of flat cable, up to 64 conductors. Feature cable alignment guide for precise right-angle cuts. *Order replacement blade and platen for cable cutter separately.*

Stock No.	Type	Description	1-2
93F8281	779-5030M	Flat Cable Cutter	117.35
93F8283	779-5030MC-1	Replacement Blade for **Type 779-5030M** Cutter	13.03
93F8284	779-5030MP-1	Replacement Platen for **Type 779-5030M** Cutter	17.61

(8377) (de02161)

0.025″ FINE PITCH PVC FLAT CABLE



Blue PVC fine pitch, flat ribbon cable. 80 ohms. 0.025″ (0.635) to 0.050″ (1.270) spacing. **Sold in spools of 100′.**

SOLID

Stock No.	Type	Conductors	Dimensions A	Dimensions B	1-2
93F8311	136-026	26	0.650″ (16.51)	0.625″ (15.88)	52.80
93F8312	136-040	40	1.000″ (25.40)	0.975″ (24.76)	81.23
93F8313	136-050	50	1.250″ (31.57)	1.225″ (31.11)	101.54
92F1937	136-068	68	1.700″ (43.18)	1.675″ (42.55)	138.09
92F1938	136-080	80	2.000″ (50.80)	1.975″ (50.17)	162.46
92F1939	136-100	100	2.500″ (63.50)	2.475″ (62.87)	203.07

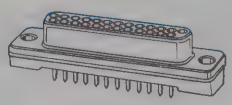
STRANDED

92F1774	137-026	26	0.650″ (16.51)	0.625″ (15.88)	52.75
92F1775	137-040	40	1.000″ (25.40)	0.975″ (24.76)	81.16
92F1776	137-050	50	1.250″ (31.57)	1.225″ (31.11)	101.44
92F1777	137-068	68	1.700″ (43.18)	1.675″ (42.55)	137.96
92F1778	137-080	80	2.000″ (50.80)	1.975″ (50.17)	162.31
92F1779	137-100	100	2.500″ (63.50)	2.475″ (62.87)	202.88

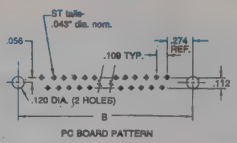
(8359) (de01684)

D-SUBMINIATURE CONNECTORS

H2 SERIES HOLMBERG™ ALL PLASTIC STRAIGHT TAIL D-SUB CONNECTORS

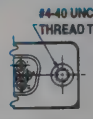

Receptacle

Plug



PC BOARD PATTERN

Mounting Style B Threaded Standoff



Mounting Style C Flush Insert

For use in vertical solder PC board applications. Intermate with all D-Sub connectors. 0.480″ profile PCB mount. Molded black glass-filled polyester housing, rated UL94V-0. Copper alloy contacts plated 30μ″ gold over 50μ″ nickel in contact area with tin/lead over nickel solder plating on tails. Mounting styles indicated by type number suffix: **B** = #4-40 threaded round standoff; **C** = flush insert #4-40 threaded insert. Board thickness: 0.062-0.093″ (1.57-3.18). Operating voltage: 600VDC. Current rating 5 amps. Operating temperature:–55° to +125°C. UL recognized, CSA certified. Mounting style A and J are available; *contact your local Newark sales office.*

H2 SERIES ALL PLASTIC STRAIGHT TAIL FEMALE RECEPTACLES

Stock No.	Type	Contacts	Length	Dimension B	1-9	10-24	25-49	50-99
93F8362	H2R09ST29B	9	1.224″ (31.08)	0.984″ (24.99)	2.30	2.05	1.84	1.75
93F8363	H2R15ST29B	15	1.552″ (39.42)	1.312″ (33.32)	2.40	2.14	1.92	1.83
93F8364	H2R25ST29B	25	2.092″ (53.13)	1.852″ (47.04)	2.76	2.46	2.21	2.10
93F8365	H2R37ST29B	37	2.740″ (69.59)	2.500″ (63.50)	3.30	2.94	2.64	2.51
48F1540	H2R09ST29C	9	1.224″ (31.08)	0.984″ (24.99)	2.30	2.05	1.84	1.75
48F1542	H2R15ST29C	15	1.552″ (39.42)	1.312″ (33.32)	2.40	2.14	1.92	1.83
48F1544	H2R25ST29C	25	2.092″ (53.13)	1.852″ (47.04)	3.00	2.67	2.40	2.28
48F1546	H2R37ST29C	37	2.740″ (69.59)	2.500″ (63.50)	3.24	2.89	2.60	2.47

H2 SERIES ALL PLASTIC STRAIGHT TAIL MALE PLUGS

48F1547	H2M09ST29B	9	1.224″ (31.08)	0.984″ (24.99)	1.90	1.70	1.52	1.45
48F1549	H2M15ST29B	15	1.552″ (39.42)	1.312″ (33.32)	3.18	2.83	2.55	2.42
48F1551	H2M25ST29B	25	2.092″ (53.13)	1.852″ (47.04)	2.70	2.41	2.16	2.06
48F1553	H2M37ST29B	37	2.740″ (69.59)	2.500″ (63.50)	3.30	2.94	2.64	2.51
48F1548	H2M09ST29C	9	1.224″ (31.08)	0.984″ (24.99)	1.84	1.64	1.48	1.40
48F1550	H2M15ST29C	15	1.552″ (39.42)	1.312″ (33.32)	2.14	1.91	1.72	1.63
48F1552	H2M25ST29C	25	2.092″ (53.13)	1.852″ (47.04)	2.64	2.35	2.12	2.01
48F1554	H2M37ST29C	37	2.740″ (69.59)	2.500″ (63.50)	3.24	2.89	2.60	2.47

(8352) (de01569)

H4 SERIES HOLMBERG™ METAL SHELL STRAIGHT TAIL D-SUB CONNECTORS

H4 series D-sub connectors offer the same features and specifications as the **H2 series** D-sub connectors, *order separately on this page*, except they have a tin-plated steel shield for electrical ground path continuity and magnetic shielding. Straight tail termination, 0.125″ (3.18) long. Mounting styles and modifications indicated by type number suffix: **B** = #4-40 threaded round standoff; **C** = #4-40 flush threaded insert. UL recognized, CSA certified. Mounting style H and J are available; *contact your local Newark sales office.*

H4 SERIES METAL SHELL STRAIGHT TAIL FEMALE RECEPTACLES

Stock No.	Type	Contacts	Length	Dimension B	1-9	10-24	25-49	50-99
93F8382	H4R09ST29B	9	1.224″ (31.08)	0.984″ (24.99)	2.12	1.89	1.70	1.62
93F8383	H4R15ST29B	15	1.552″ (39.42)	1.312″ (33.32)	2.42	2.16	1.94	1.84
93F8384	H4R25ST29B	25	2.092″ (53.13)	1.852″ (47.04)	2.90	2.59	2.32	2.21
93F8385	H4R37ST29B	37	2.740″ (69.59)	2.500″ (63.50)	3.50	3.12	2.80	2.66
93F8386	H4R09ST29C	9	1.224″ (31.08)	0.984″ (24.99)	2.06	1.84	1.65	1.57
93F8387	H4R15ST29C	15	1.552″ (39.42)	1.312″ (33.32)	2.36	2.10	1.89	1.80
93F8388	H4R25ST29C	25	2.092″ (53.13)	1.852″ (47.04)	2.84	2.53	2.28	2.16
93F8389	H4R37ST29C	37	2.740″ (69.59)	2.500″ (63.50)	3.42	3.05	2.74	2.60

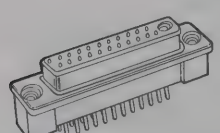
H4 SERIES METAL SHELL STRAIGHT TAIL MALE PLUGS

93F8374	H4M09ST29B	9	1.224″ (31.08)	0.984″ (24.99)	2.12	1.89	1.70	1.62
93F8375	H4M15ST29B	15	1.552″ (39.42)	1.312″ (33.32)	2.62	2.34	2.10	2.00
93F8376	H4M25ST29B	25	2.092″ (53.13)	1.852″ (47.04)	3.00	2.67	2.40	2.28
93F8377	H4M37ST29B	37	2.740″ (69.59)	2.500″ (63.50)	3.50	3.12	2.80	2.66
93F8378	H4M09ST29C	9	1.224″ (31.08)	0.984″ (24.99)	2.06	1.84	1.65	1.57
93F8379	H4M15ST29C	15	1.552″ (39.42)	1.312″ (33.32)	2.62	2.34	2.10	2.00
93F8380	H4M25ST29C	25	2.092″ (53.13)	1.852″ (47.04)	2.84	2.53	2.28	2.16
93F8381	H4M37ST29C	37	2.740″ (69.59)	2.500″ (63.50)	3.42	3.05	2.74	2.60

(8353) (de01581)

METAL SHELL D-SUBMINIATURE PRESS-FIT RECEPTACLES

NEW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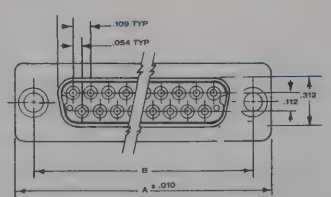
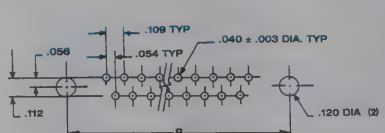
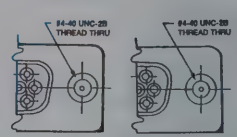




P.C. BOARD HOLE PATTERN



MOUNTING STYLE B THREADED STANDOFF
MOUNTING STYLE C FLUSH INSERT

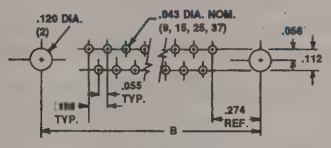
H9 series D-Sub connectors offer the same outstanding features and specifications as the **H2 series** D-Sub connectors, *order separately on this page*, except they have a bright, tin-plated steel shield for electrical ground path continuity and magnetic shielding. Termination: 0.205″ (5.21) long. Mounting styles and modifications indicated by suffix in type number: **B** = #4-40 threaded round standoff; **C** = #4-40 flush threaded insert. Glass-filled polyester insulation material, rated UL94V-0. Color: black. UL recognized, CSA certified.

Stock No.	Type	Contacts	Dimension A	Dimension B	1-9	10-24	25-49	50-99
48F1695	H9R09PF29B	9	1.224″ (31.08)	0.984″ (24.99)	5.38	4.79	4.31	4.09
48F1696	H9R15PF29B	15	1.552″ (39.42)	1.312″ (33.02)	6.06	5.40	4.85	4.61
48F1697	H9R25PF29B	25	2.092″ (53.13)	1.852″ (47.04)	7.16	6.38	5.73	5.45
48F1698	H9R37PF29B	37	2.740″ (69.59)	2.500″ (63.50)	8.46	7.53	6.77	6.43
48F1699	H9R09PF29C	9	1.224″ (31.08)	0.984″ (24.99)	5.26	4.69	4.21	4.00
48F1700	H9R15PF29C	15	1.552″ (39.42)	1.312″ (33.02)	5.92	5.27	4.74	4.50
48F1701	H9R25PF29C	25	2.092″ (53.13)	1.852″ (47.04)	7.04	6.27	5.64	5.35
48F1702	H9R37PF29C	37	2.740″ (69.59)	2.500″ (63.50)	8.34	7.43	6.68	6.34

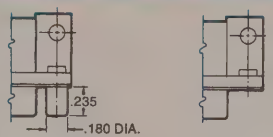
(32999) (ne32999)

D-SUBMINIATURE CONNECTORS

H3 AND H5 SERIES HOLMBERG™ 0.318″ FOOTPRINT SLIMLINE METAL SHELL RIGHT-ANGLE D-SUB CONNECTORS

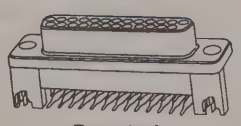


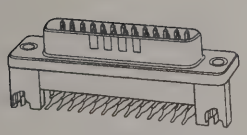
PCB Pattern

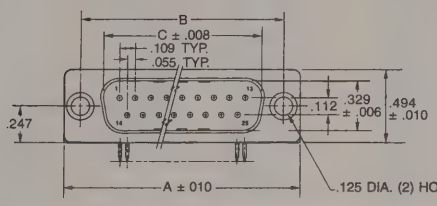


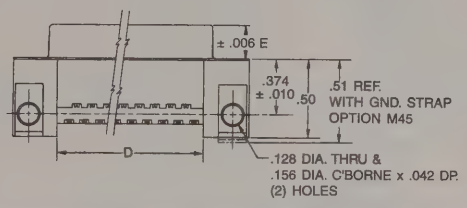
MOUNTING STYLE B THREADED STANDOFF

MOUNTING STYLE C FLUSH INSERT


Receptacle


Plug





For use in right-angle solder PC board applications. Intermate with all D-Sub connectors. 0.318″ (8.07) footprint for PCB mounting. Molded black, glassed filled polyester housing, rated UL94V-0. Copper alloy contacts plated 30µ″ gold over 50µ″ nickel in contact area with tin/lead-over-nickel solder plating on tails. Operating voltage: 600VDC. Current rating: 5 amps. Operating temperature: –55°C to +125°C. Mounting styles and modifications indicated by type number suffix: **B** = #4-40 threaded round standoff; **C** = flush #4-40 threaded insert. UL recognized, CSA certified. NOTE: Connectors are also available with snap latch and with 0.590″ footprint; *contact your local Newark sales office.*

Stock No.	Type	Contacts	A	B	C	D	1-9	10-24	25-49	50-99
H3 SERIES PLUGS										
16F1233	H3M09RA29B	9	1.224″ (31.09)	0.984″ (24.99)	0.666″ (16.91)	0.624″ (15.85)	2.10	1.87	1.68	1.60
16F1234	H3M15RA29B	15	1.552″ (39.42)	1.312″ (33.32)	0.994″ (25.25)	0.952″ (24.18)	2.44	2.18	1.96	1.86
16F1235	H3M25RA29B	25	2.092″ (53.13)	1.852″ (47.04)	1.534″ (38.96)	1.492″ (37.90)	3.00	2.67	2.40	2.28
16F1236	H3M37RA29B	37	2.740″ (69.59)	2.500″ (63.50)	2.183″ (55.45)	2.140″ (54.37)	3.66	3.26	2.93	2.79
16F1237	H3M09RA29C	9	1.224″ (31.09)	0.984″ (24.99)	0.666″ (16.91)	0.624″ (15.85)	2.04	1.82	1.64	1.55
16F4260	H3M15RA29C	15	1.552″ (39.42)	1.312″ (33.32)	0.994″ (25.25)	0.952″ (24.18)	2.38	2.12	1.91	1.81
16F4261	H3M25RA29C	25	2.092″ (53.13)	1.852″ (47.04)	1.534″ (38.96)	1.492″ (37.90)	2.92	2.60	2.34	2.22
16F4262	H3M37RA29C	37	2.740″ (69.59)	2.500″ (63.50)	2.183″ (55.45)	2.140″ (54.37)	3.80	3.39	3.04	2.89
H3 SERIES RECEPTACLES										
16F4266	H3R09RA29B	9	1.224″ (31.09)	0.984″ (24.99)	0.646″ (16.41)	0.624″ (15.85)	2.10	1.87	1.68	1.60
16F4267	H3R15RA29B	15	1.552″ (39.42)	1.312″ (33.32)	0.974″ (24.74)	0.952″ (24.18)	2.44	2.18	1.96	1.86
16F4268	H3R25RA29B	25	2.092″ (53.13)	1.852″ (47.04)	1.514″ (38.46)	1.492″ (37.90)	3.00	2.67	2.40	2.28
16F4269	H3R37RA29B	37	2.740″ (69.59)	2.500″ (63.50)	2.162″ (54.91)	2.140″ (54.37)	3.66	3.26	2.93	2.79
16F4270	H3R09RA29C	9	1.224″ (31.09)	0.984″ (24.99)	0.646″ (16.41)	0.624″ (15.85)	2.04	1.82	1.64	1.55
16F4271	H3R15RA29C	15	1.552″ (39.42)	1.312″ (33.32)	0.974″ (24.74)	0.952″ (24.18)	2.38	2.12	1.91	1.81
16F4272	H3R25RA29C	25	2.092″ (53.13)	1.852″ (47.04)	1.514″ (38.46)	1.492″ (37.90)	2.92	2.60	2.34	2.22
16F4273	H3R37RA29C	37	2.740″ (69.59)	2.500″ (63.50)	2.162″ (54.91)	2.140″ (54.37)	3.60	3.21	2.88	2.74
H5 SERIES PLUGS										
93F8318	H5M09RA29B	9	1.224″ (31.09)	0.984″ (24.99)	0.666″ (16.91)	0.624″ (15.85)	2.34	2.09	1.88	1.78
93F8319	H5M15RA29B	15	1.552″ (39.42)	1.312″ (33.32)	0.994″ (25.25)	0.952″ (24.18)	2.66	2.37	2.13	2.03
93F8320	H5M25RA29B	25	2.092″ (53.13)	1.852″ (47.04)	1.534″ (38.96)	1.492″ (37.90)	3.22	2.87	2.58	2.45
93F8321	H5M37RA29B	37	2.740″ (69.59)	2.500″ (63.50)	2.183″ (55.45)	2.140″ (54.37)	3.86	3.44	3.09	2.94
93F8314	H5M09RA29C	9	1.224″ (31.09)	0.984″ (24.99)	0.666″ (16.91)	0.624″ (15.85)	2.26	2.02	1.81	1.72
93F8315	H5M15RA29C	15	1.552″ (39.42)	1.312″ (33.32)	0.994″ (25.25)	0.952″ (24.18)	2.60	2.32	2.08	1.98
93F8316	H5M25RA29C	25	2.092″ (53.13)	1.852″ (47.04)	1.534″ (38.96)	1.492″ (37.90)	3.14	2.80	2.52	2.39
93F8317	H5M37RA29C	37	2.740″ (69.59)	2.500″ (63.50)	2.183″ (55.45)	2.140″ (54.37)	3.80	3.39	3.04	2.89
H5 SERIES RECEPTACLES										
93F8334	H5R09RA29B	9	1.224″ (31.09)	0.984″ (24.99)	0.646″ (16.41)	0.624″ (15.85)	2.34	2.09	1.88	1.78
93F8335	H5R15RA29B	15	1.552″ (39.42)	1.312″ (33.32)	0.974″ (24.74)	0.952″ (24.18)	2.66	2.37	2.13	2.03
93F8336	H5R25RA29B	25	2.092″ (53.13)	1.852″ (47.04)	1.514″ (38.46)	1.492″ (37.90)	3.22	2.87	2.58	2.45
93F8337	H5R37RA29B	37	2.740″ (69.59)	2.500″ (63.50)	2.162″ (54.91)	2.140″ (54.37)	3.86	3.44	3.09	2.94
93F8330	H5R09RA29C	9	1.224″ (31.09)	0.984″ (24.99)	0.646″ (16.41)	0.624″ (15.85)	2.26	2.02	1.81	1.72
93F8331	H5R15RA29C	15	1.552″ (39.42)	1.312″ (33.32)	0.974″ (24.74)	0.952″ (24.18)	2.60	2.32	2.08	1.98
93F8332	H5R25RA29C	25	2.092″ (53.13)	1.852″ (47.04)	1.514″ (38.46)	1.492″ (37.90)	3.14	2.80	2.52	2.39
93F8333	H5R37RA29C	37	2.740″ (69.59)	2.500″ (63.50)	2.162″ (54.91)	2.140″ (54.37)	3.80	3.39	3.04	2.89

(8354) (de01524)

FRIENDLY, QUALITY SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

PC BOARD HEADERS

SINGLE-ROW STRAIGHT PC BOARD HEADERS

0.100" (2.54) PC Board Header

Plating: 1 = Tin over nickel; 2 = Gold on mating end, tin over nickel on solder end. **Sold in packages of 5, except (‡) sold individually.**

0.100" (2.54) PC BOARD HEADERS*

Stock No.	Type	Positions	Dimensions A	B	C	Plating	Per Pkg. 1-24	25-49
16N2600	8431-0719	2	0.455"	0.235"	0.120"	1	1.14	0.97
16N2602	8431-0721	3	0.455"	0.235"	0.120"	1	1.45	1.24
16N2604	8431-0723	4	0.455"	0.235"	0.120"	1	1.76	1.50
16N2606	8431-0725	5	0.455"	0.235"	0.120"	1	2.07	1.76
16N2608	8431-0727‡	10	0.455"	0.235"	0.120"	1	0.69	0.58
16N2610	8431-0729‡	40	0.455"	0.235"	0.120"	1	1.47	1.25
16N2601	8431-0720	2	0.455"	0.235"	0.120"	2	2.07	1.76
16N2603	8431-0722	3	0.455"	0.235"	0.120"	2	2.44	2.07
16N2605	8431-0724	4	0.455"	0.235"	0.120"	2	3.42	2.91
16N2607	8431-0726	5	0.455"	0.235"	0.120"	2	3.73	3.17
16N2609	8431-0728‡	10	0.455"	0.235"	0.120"	2	1.23	1.04
16N2612	8431-0730‡	40	0.455"	0.235"	0.120"	2	2.33	1.98

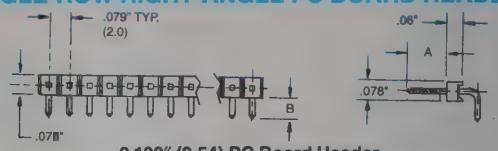
0.079" (2.01) PC BOARD HEADERS*

16N2657	8431-0775	2	0.320"	0.140"	0.120"	1	0.83	0.71
16N2659	8431-0777	3	0.320"	0.140"	0.120"	1	1.14	0.97
16N2661	8431-0779	4	0.320"	0.140"	0.120"	1	1.61	1.37
16N2663	8431-0781	5	0.320"	0.140"	0.120"	1	2.02	1.72
16N2665	8431-0783‡	10	0.320"	0.140"	0.120"	1	0.74	0.63
16N2667	8431-0785‡	40	0.320"	0.140"	0.120"	1	2.75	2.33
16N2658	8431-0776	2	0.320"	0.140"	0.120"	2	0.99	0.84
16N2660	8431-0778	3	0.320"	0.140"	0.120"	2	1.49	1.27
16N2662	8431-0780	4	0.320"	0.140"	0.120"	2	1.97	1.68
16N2664	8431-0782	5	0.320"	0.140"	0.120"	2	2.33	1.98
16N2666	8431-0784‡	10	0.320"	0.140"	0.120"	2	0.86	0.73
16N2668	8431-0786‡	40	0.320"	0.140"	0.120"	2	3.11	2.64

*Operating temperature: –65°C to +260°C

(4627) (ne08554)

SINGLE-ROW RIGHT-ANGLE PC BOARD HEADERS



0.100" (2.54) PC Board Header

Plating: 1 = Tin over nickel; 2 = Gold on mating end, tin over nickel on solder end. Operating temperature: –65°C to +260°C. **Sold in packages of 5, except (*) sold individually.**

0.079" (2.01) PC BOARD HEADERS

Stock No.	Type	Positions	Dimensions A	B	Plating	1-24	25-49
16N2685	8431-0803	2	0.140"	0.120"	1	0.99	0.84
16N2687	8431-0805	3	0.140"	0.120"	1	1.45	1.24
16N2689	8431-0807	4	0.140"	0.120"	1	1.92	1.63
16N2691	8431-0809	5	0.140"	0.120"	1	2.38	2.03
16N2693	8431-0811*	10	0.140"	0.120"	1	0.84	0.72
16N2695	8431-0813*	40	0.140"	0.120"	1	2.85	2.42
16N2686	8431-0804	2	0.140"	0.120"	2	1.14	0.97
16N2688	8431-0806	3	0.140"	0.120"	2	1.66	1.41
16N2690	8431-0808	4	0.140"	0.120"	2	2.23	1.89
16N2692	8431-0810	5	0.140"	0.120"	2	2.75	2.33
16N2694	8431-0812*	10	0.140"	0.120"	2	1.06	0.90
16N2696	8431-0814*	40	0.140"	0.120"	2	3.37	2.86

0.100" (2.54) PC BOARD HEADERS

16N2629	8431-0747	2	0.230"	0.090"	1	1.19	1.02
16N2631	8431-0749	3	0.230"	0.090"	1	1.56	1.32
16N2633	8431-0751	4	0.230"	0.090"	1	1.82	1.54
16N2635	8431-0753	5	0.230"	0.090"	1	2.18	1.85
16N2637	8431-0755*	10	0.230"	0.090"	1	0.72	0.61
16N2639	8431-0757*	40	0.230"	0.090"	1	1.54	1.31
16N2630	8431-0748	2	0.230"	0.090"	2	2.07	1.76
16N2632	8431-0750	3	0.230"	0.090"	2	2.64	2.25
16N2634	8431-0752	4	0.230"	0.090"	2	3.63	3.08
16N2636	8431-0754	5	0.230"	0.090"	2	3.78	3.21
16N2638	8431-0756*	10	0.230"	0.090"	2	1.26	1.07
16N2640	8431-0758*	40	0.230"	0.090"	2	3.09	2.63

(4629) (ne08556)

DOUBLE-ROW STRAIGHT PC BOARD HEADERS

0.100" (2.54) PC Board Header

Plating: 1 = Tin over nickel; 2 = Gold on mating end, tin over nickel on solder end. **Sold in packages of 5, except (‡) sold individually.**

0.100" (2.54) PC BOARD HEADERS*

Stock No.	Type	Positions	Dimensions A	B	C	Plating	1-24	25-49
16N2613	8431-0731	2	0.455"	0.235"	0.120"	1	1.14	0.97
16N2615	8431-0733	4	0.455"	0.235"	0.120"	1	1.76	1.50
16N2617	8431-0735	6	0.455"	0.235"	0.120"	1	2.44	2.07
16N2619	8431-0737	8	0.455"	0.235"	0.120"	1	3.01	2.56
16N2621	8431-0739	10	0.455"	0.235"	0.120"	1	0.69	0.58
16N2623	8431-0741‡	20	0.455"	0.235"	0.120"	1	0.99	0.84
16N2625	8431-0743‡	40	0.455"	0.235"	0.120"	1	1.47	1.25
16N2614	8431-0732	2	0.455"	0.235"	0.120"	2	2.07	1.76
16N2616	8431-0734	4	0.455"	0.235"	0.120"	2	3.42	2.91
16N2618	8431-0736	6	0.455"	0.235"	0.120"	2	3.94	3.35
16N2620	8431-0738	8	0.455"	0.235"	0.120"	2	4.92	4.18
16N2622	8431-0740‡	10	0.455"	0.235"	0.120"	2	1.23	1.04
16N2624	8431-0742‡	20	0.455"	0.235"	0.120"	2	1.55	1.31
16N2426	8443-0494‡	40	0.455"	0.235"	0.120"	2	1.91	1.29

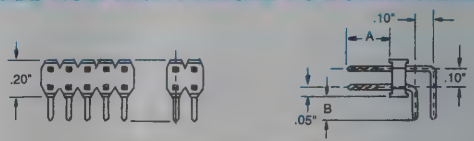
0.079" (2.01) PC BOARD HEADERS †

16N2669	8431-0787	2	0.320"	0.140"	0.120"	1	0.83	0.71
16N2671	8431-0789	4	0.320"	0.140"	0.120"	1	1.61	1.37
16N2673	8431-0791	6	0.320"	0.140"	0.120"	1	2.38	2.03
16N2675	8431-0793	8	0.320"	0.140"	0.120"	1	3.01	2.56
16N2677	8431-0795‡	10	0.320"	0.140"	0.120"	1	0.73	0.62
16N2679	8431-0797‡	20	0.320"	0.140"	0.120"	1	1.37	1.17
16N2681	8431-0799‡	40	0.320"	0.140"	0.120"	1	2.76	2.34
16N2670	8431-0788	2	0.320"	0.140"	0.120"	2	0.99	0.84
16N2672	8431-0790	4	0.320"	0.140"	0.120"	2	1.97	1.68
16N2674	8431-0792	6	0.320"	0.140"	0.120"	2	2.70	2.29
16N2676	8431-0794	8	0.320"	0.140"	0.120"	2	3.57	3.04
16N2678	8431-0796‡	10	0.320"	0.140"	0.120"	2	0.86	0.73
16N2680	8431-0798‡	20	0.320"	0.140"	0.120"	2	1.61	1.37
16N2482	8461-0538‡	40	0.320"	0.140"	0.120"	2	8.99	8.72

*Operating temperature: –65°C to +260°C; †Operating temperature: –65°C to +125°C

(4628) (ne08555)

DOUBLE-ROW RIGHT-ANGLE PC BOARD HEADERS



0.100" (2.54) PC Board Header

Plating: 1 = Tin over nickel; 2 = Gold on mating end, tin over nickel on solder end. **Sold in packages of 5, except (‡) sold individually.**

0.100" (2.54) PC BOARD HEADERS*

Stock No.	Type	Positions	Dimensions A	B	Plating	1-24	25-49
16N2641	8431-0759	2	0.230"	0.120"	1	1.19	1.02
16N2643	8431-0761	4	0.230"	0.120"	1	1.82	1.54
16N2645	8431-0763	6	0.230"	0.120"	1	2.54	2.16
16N2647	8431-0765	8	0.230"	0.120"	1	3.16	2.69
16N2649	8431-0767‡	10	0.230"	0.120"	1	0.72	0.61
16N2651	8431-0769‡	20	0.230"	0.120"	1	1.06	0.90
16N2653	8431-0771‡	40	0.230"	0.120"	1	1.54	1.31
16N2642	8431-0760	2	0.230"	0.120"	2	2.07	1.76
16N2644	8431-0762	4	0.230"	0.120"	2	3.63	3.08
16N2646	8431-0764	6	0.230"	0.120"	2	3.99	3.39
16N2648	8431-0766	8	0.230"	0.120"	2	5.08	4.31
16N2650	8431-0768‡	10	0.230"	0.120"	2	1.26	1.07
16N2652	8431-0770‡	20	0.230"	0.120"	2	1.59	1.35
16N2454	8443-0522‡	40	0.230"	0.120"	2	10.23	6.91

0.079" (2.01) PC BOARD HEADERS†

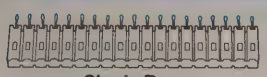
16N2697	8431-0815	2	0.140"	0.144"	1	0.99	0.84
16N2699	8431-0817	4	0.140"	0.144"	1	1.87	1.59
16N2701	8431-0819	6	0.140"	0.144"	1	2.90	2.47
16N2703	8431-0821	8	0.140"	0.144"	1	3.63	3.08
16N2705	8431-0823‡	10	0.140"	0.144"	1	0.84	0.72
16N2707	8431-0825‡	20	0.140"	0.144"	1	1.69	1.44
16N2709	8431-0827‡	40	0.140"	0.144"	1	2.98	2.54
16N2698	8431-0816	2	0.140"	0.144"	2	1.14	0.97
16N2700	8431-0818	4	0.140"	0.144"	2	2.23	1.89
16N2702	8431-0820	6	0.140"	0.144"	2	3.21	2.73
16N2704	8431-0822	8	0.140"	0.144"	2	4.30	3.65
16N2706	8431-0824‡	10	0.140"	0.144"	2	1.06	0.90
16N2708	8431-0826‡	20	0.140"	0.144"	2	1.84	1.56
16N2710	8431-0828‡	40	0.140"	0.144"	2	3.37	2.86

*Operating temperature: –65°C to +260°C; †Operating temperature: –65°C to +125°C

(4630) (ne08557)

PC BOARD CONNECTORS

BOX-TYPE STRIP SOCKET CONNECTORS



Single Row

Double Row

Single- and double-row receptacle sockets on 0.100″ centers are designed for close PC board interconnect where plugability is desired. Create a between-board dimension of 0.285″. Insertion: 228 grams per contact typical. Extraction: 120 grams per contact typical. Insertion/extraction forces mated to 0.025 sq. in. pin. **Sold in packages of 5.**

SINGLE ROW

Stock No.	Type	Contacts	Plating	Per Package 1-24	25-49	50-99
10N227	8431-0992	2	Tin	3.18	2.70	2.43
10N228	8431-0993	3	Tin	4.56	3.87	3.49
10N229	8431-0994	4	Tin	5.80	4.93	4.44
10N230	8431-0995	5	Tin	6.91	5.87	5.28
10N231	8431-0996	10	Tin	11.05	9.39	8.45
10N232	8431-0997	20	Tin	19.33	16.43	14.79
10N233	8431-0998	2	Duplex Gold	3.60	3.06	2.75
10N234	8431-0999	3	Duplex Gold	5.18	4.40	3.96
10N235	8431-1000	4	Duplex Gold	6.63	5.63	5.07
10N236	8431-1001	5	Duplex Gold	7.94	6.75	6.08
10N237	8431-1002	10	Duplex Gold	13.12	11.15	10.04
10N238	8431-1003	20	Duplex Gold	23.47	19.95	17.95

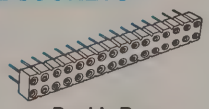
DOUBLE ROW

Stock No.	Type	Contacts	Plating	Per Package 1-24	25-49	50-99
10N239	8431-1004	2	Tin	3.18	2.70	2.43
10N240	8431-1005	4	Tin	5.80	4.93	4.44
10N241	8431-1006	6	Tin	7.87	6.69	6.02
10N242	8431-1007	8	Tin	9.39	7.98	7.18
10N243	8431-1008	10	Tin	11.05	9.39	8.45
10N244	8431-1009	20	Tin	19.33	16.43	14.79
10N245	8431-1010	40	Tin	38.64	32.84	29.56
10N246	8431-1011	80	Tin	71.76	61.00	54.90
10N247	8431-1012	2	Duplex Gold	3.60	3.06	2.75
10N248	8431-1013	4	Duplex Gold	6.63	5.63	5.07
10N249	8431-1014	6	Duplex Gold	9.11	7.75	6.97
10N250	8431-1015	8	Duplex Gold	11.05	9.39	8.45
10N251	8431-1016	10	Duplex Gold	13.12	11.15	10.04
10N252	8431-1017	20	Duplex Gold	23.47	19.95	17.95
10N253	8431-1018	40	Duplex Gold	46.92	39.88	35.89
10N254	8431-1019	80	Duplex Gold	93.85	79.77	71.79

(18330) (ne10294)

2mm SCREW MACHINE SOCKETS

Single Row



Double Row

2mm single- and double-row receptacle sockets on 0.079″ centers are screw machine type. Insertion: 213 grams per contact typical. Extraction: 90 grams per contact typical. Insertion/extraction forces use a 0.020 sq. in. pin. **Sold in packages of 5.**

SINGLE ROW

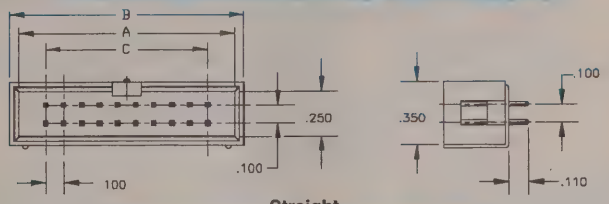
Stock No.	Type	Contacts	Plating	Per Package 1-24	25-49	50-99
10N188	8431-0953	2	Tin	3.18	2.70	2.43
10N189	8431-0954	3	Tin	4.56	3.87	3.49
10N190	8431-0955	4	Tin	5.80	4.93	4.44
10N191	8431-0956	5	Tin	6.91	5.87	5.28
10N192	8431-0957	10	Tin	11.05	9.39	8.45
10N193	8431-0958	20	Tin	19.33	16.43	14.79
10N194	8431-0959	2	Duplex Gold	3.60	3.06	2.75
10N195	8431-0960	3	Duplex Gold	5.18	4.40	3.96
10N196	8431-0961	4	Duplex Gold	6.63	5.63	5.07
10N197	8431-0962	5	Duplex Gold	7.94	6.75	6.08
10N198	8431-0963	10	Duplex Gold	13.12	11.15	10.04
10N199	8431-0964	20	Duplex Gold	23.47	19.95	17.95

DOUBLE ROW

Stock No.	Type	Contacts	Plating	Per Package 1-24	25-49	50-99
10N200	8431-0965	2	Tin	5.17	4.39	3.95
10N201	8431-0966	4	Tin	5.80	4.93	4.44
10N202	8431-0967	6	Tin	7.87	6.69	6.02
10N203	8431-0968	8	Tin	9.39	7.98	7.18
10N204	8431-0969	10	Tin	11.05	9.39	8.45
10N205	8431-0970	20	Tin	19.33	16.43	14.79
10N206	8431-0971	40	Tin	38.64	32.84	29.56
10N207	8431-0972	80	Tin	71.76	61.00	54.90
10N208	8431-0973	2	Duplex Gold	3.60	3.06	2.75
10N209	8431-0974	4	Duplex Gold	6.63	5.63	5.07
10N210	8431-0975	6	Duplex Gold	9.11	7.75	6.97
10N211	8431-0976	8	Duplex Gold	11.05	9.39	8.45
10N212	8431-0977	10	Duplex Gold	13.12	11.15	10.04
10N213	8431-0978	20	Duplex Gold	23.47	19.95	17.95
10N214	8431-0979	40	Duplex Gold	46.92	39.88	35.89
10N215	8431-0980	80	Duplex Gold	93.85	79.77	71.79

(18329) (ne10291)

0.100″AND 2mm SHROUDED BOX HEADERS



Straight

STRAIGHT HEADERS – 0.100″ CENTERS

Stock No.	Type	Contacts	Dimensions A	B	C	1-24	25-49	50-99
92N3713	1711	10	0.700″	0.800″	0.400″	0.99	0.84	0.76
92N3714	1712	16	1.000″	1.100″	0.700″	1.09	0.93	0.84
92N3715	1713	20	1.200″	1.300″	0.900″	1.19	1.02	0.91
92N3716	1714	26	1.500″	1.600″	1.200″	1.50	1.28	1.15
92N3717	1715	34	1.900″	2.000″	1.600″	2.02	1.72	1.55
92N3718	1716	40	2.200″	2.300″	1.900″	2.33	1.98	1.79
92N3719	1717	50	2.700″	2.800″	2.400″	2.95	2.51	2.26
92N3720	1718	60	3.200″	3.300″	2.900″	3.37	2.86	2.58
92N3721	1719	64	3.400″	3.500″	3.100″	3.63	3.08	2.77

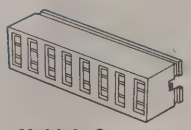
2mm HEADERS – 0.079″ CENTERS

Stock No.	Type	Contacts	Dimensions A	B	C	1-24	25-49	50-99
92N3722	1720	10	0.700″	0.800″	0.400″	1.50	1.28	1.15
92N3723	1721	12	0.800″	0.900″	0.500″	1.66	1.41	1.27
92N3724	1722	14	0.900″	1.000″	0.600″	1.76	1.50	1.35
92N3725	1723	16	1.000″	1.100″	0.700″	1.82	1.54	1.39
92N3726	1724	20	1.200″	1.300″	0.900″	1.92	1.63	1.47
92N3727	1725	24	1.400″	1.500″	1.100″	2.23	1.89	1.71
92N3728	1726	26	1.500″	1.600″	1.200″	2.38	2.03	1.82
92N3729	1727	30	1.700″	1.800″	1.400″	2.85	2.42	2.18
92N3730	1728	34	1.900″	2.000″	1.600″	3.26	2.77	2.50
92N3731	1729	36	2.000″	2.100″	1.700″	3.47	2.95	2.66
92N3732	1730	44	2.400″	2.500″	2.100″	4.20	3.57	3.21
92N3733	1731	60	3.200″	3.300″	2.900″	5.49	4.67	4.20
92N3734	1732	68	3.400″	3.500″	3.100″	6.16	5.24	4.71

(18327) (ne10188)

MICROSHUNT JUMPERS

Single Contact



Multiple Contacts

These versatile insulated shunt jumpers on 0.079 and 0.100″ centers are designed for field programming applications. Plastic is made of UL94V-0 material. Insertion: 200 grams per shunt position typical. Extraction: 120 grams per shunt position typical. Operating temperature: –65°C to +125°C. **Sold in packages of 5.**

0.079″ CENTERS

Stock No.	Type	Contacts	Plating	Per Package 1-24	25-49	50-99
10N177	8431-0942	1	Tin	1.04	0.88	0.80
10N178	8431-0943	1	Gold	1.25	1.06	0.95
10N179	8431-0944	2	Gold	1.38	1.17	1.06
10N180	8431-0945	3	Gold	2.07	1.76	1.59
10N181	8431-0946	4	Gold	2.77	2.35	2.12
10N182	8431-0947	5	Gold	3.45	2.93	2.64
10N183	8431-0948	6	Gold	4.14	3.52	3.17
10N184	8431-0949	7	Gold	4.84	4.11	3.70
10N185	8431-0950	8	Gold	5.52	4.69	4.22
10N186	8431-0951	9	Gold	6.21	5.28	4.75
10N187	8431-0952	10	Gold	6.91	5.87	5.28

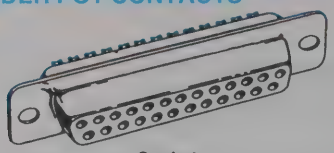
0.100″ CENTERS

Stock No.	Type	Contacts	Plating	Per Package 1-24	25-49	50-99
10N216	8431-0981	1	Tin	2.37	2.02	1.82
10N217	8431-0982	1	Gold	1.25	1.06	0.95
10N218	8431-0983	2	Gold	1.38	1.17	1.06
10N219	8431-0984	3	Gold	2.07	1.76	1.59
10N220	8431-0985	4	Gold	2.77	2.35	2.12
10N221	8431-0986	5	Gold	3.45	2.93	2.64
10N222	8431-0987	6	Gold	4.14	3.52	3.17
10N223	8431-0988	7	Gold	4.84	4.11	3.70
10N224	8431-0989	8	Gold	5.52	4.69	4.22
10N225	8431-0990	9	Gold	6.21	5.28	4.75
10N226	8431-0991	10	Gold	6.91	5.87	5.28

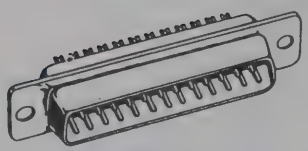
(18328) (ne10290)

D-SUBMINIATURE CONNECTORS

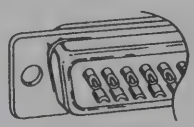
D-SUBMINIATURE CONNECTORS WITH SOLDER POT CONTACTS



Socket



Plug



Cutaway View

Designed for applications where space and weight are prime considerations. Connectors intermate with corresponding contact types. Steel shell with yellow chromate plating. Glass-filled thermoplastic insulator, rated UL94V-0. Insulator resistance: 1000MΩ @ 500VDC. Working voltage: 500VDC; high-density versions 300VDC. Current pin rating: 5A; high-density versions 3A. Solder pot machined or stamped brass contact pins. Gold- or tin-plated contact finish. Wire size: 24 to 20 AWG. Operating temperature range: –55°C to +105°C. *D-Sub connector punches are available; contact your local Newark sales office for details.*

GOLD-PLATED SOLDER POT MACHINED CONTACTS

Stock No.	Type	Description	Pins	1-24	25-49	50-99	100-499
87N484	DE9PMP	Plug	9	0.99	0.85	0.76	0.68
87N488	DE-9SMP	Socket	9	1.65	1.40	1.26	1.14
87N485	DA15PMP	Plug	15	2.15	1.83	1.65	1.49
87N489	DA-15SMP	Socket	15	2.99	2.55	2.29	2.06
87N486	DB25PMP	Plug	25	2.35	1.99	1.79	1.62
87N490	DB-25SMP	Socket	25	2.89	2.69	2.41	2.08
87N487	DC37PMP	Plug	37	3.99	3.40	3.06	2.75
87N491	DC-37SMP	Socket	37	4.99	4.25	3.82	3.44
66N8168	DD-50PMP	Plug	50	11.55	9.82	8.84	7.96
66N8169	DD-50SMP	Socket	50	16.95	14.41	12.97	11.68

GOLD-PLATED SOLDER POT STAMPED CONTACTS

44N8874	DE-9PSP	Plug	9	0.85	0.73	0.65	0.59
44N8875	DE-9SSP	Socket	9	0.85	0.73	0.65	0.59
44N8876	DA-15PSP	Plug	15	0.99	0.85	0.76	0.69
44N8877	DA-15SSP	Socket	15	1.05	0.90	0.81	0.73
44N8878	DB-25PSP	Plug	25	1.20	1.02	0.92	0.83
44N8879	DB-25SSP	Socket	25	1.25	1.07	0.96	0.87
89N266	DC37P-SP	Plug	37	1.99	1.70	1.53	1.38
89N267	DC37S-SP	Socket	37	1.99	1.70	1.53	1.38
66N8170	DD-50PSP	Plug	50	4.25	3.62	3.26	2.93
66N8171	DD-50SSP	Socket	50	4.50	3.83	3.45	3.10

TIN-PLATED SOLDER END, SOLDER POT STAMPED CONTACTS

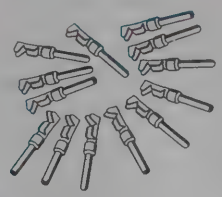
92N3441	1486	Plug	9	0.45	0.39	0.35	0.32
92N3442	3322	Socket	9	0.48	0.41	0.37	0.34
92N3443	1488	Plug	15	0.60	0.51	0.46	0.43
92N3444	1489	Socket	15	0.63	0.54	0.49	0.45
92N3445	3323	Plug	25	0.75	0.64	0.58	0.53
92N3446	1491	Socket	25	0.78	0.67	0.60	0.55
92N3447	1492	Plug	37	1.30	1.11	1.00	0.92
92N3448	3324	Socket	37	1.36	1.16	1.04	0.96
92N3449	1494	Plug	50	2.45	2.09	1.88	1.73
92N3450	1495	Socket	50	2.50	2.13	1.92	1.76

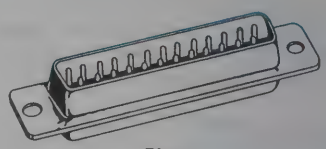
GOLD-PLATED HIGH-DENSITY SOLDER POT STAMPED CONTACTS

84N1352	SPC4174	Plug	15	0.99	0.85	0.76	0.70
84N1356	SPC4178	Socket	15	0.99	0.85	0.76	0.70
84N1353	SPC4175	Plug	26	1.99	1.70	1.53	1.40
84N1357	SPC4179	Socket	26	1.99	1.70	1.53	1.40
84N1354	SPC4176	Plug	44	2.99	2.55	2.29	2.11
84N1358	SPC4180	Socket	44	2.99	2.55	2.29	2.11
84N1355	SPC4177	Plug	62	3.99	3.40	3.06	2.81
84N1359	SPC4181	Socket	62	3.99	3.40	3.06	2.81

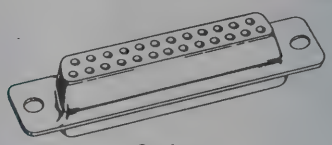
(8796) (de53491)

VOLTREX™ brand D-SUBMINIATURE CONNECTORS WITH CRIMP-STYLE STAMPED CONTACTS





Plug



Socket

Intermate with all existing comparable style connectors. Steel shell with yellow chromate plating. Black, glass-filled thermoplastic insulator. Insulator resistance: 1000MΩ @ 500VDC. Current pin rating: 5A. Working voltage: 500VDC. Crimp-style pin and socket contacts are supplied loose with connector. Contact diameter: 0.040″. Hold up to 20 AWG wire.

STEEL SHELL WITH YELLOW CHOMATE PLATING

Stock No.	Type	Description	Pins	1-24	25-49	50-99	100-499
46N7157	DEC-9P	Plug	9	1.35	1.15	1.04	0.93
46N7160	DEC-9S	Socket	9	1.35	1.15	1.04	0.93
46N7158	DAC-15P	Plug	15	1.55	1.32	1.19	1.07
46N7161	DAC-15S	Socket	15	1.55	1.32	1.19	1.07
46N7159	DBC-25P	Plug	25	1.95	1.66	1.50	1.35
46N7162	DBC-25S	Socket	25	1.95	1.66	1.50	1.35
66N8160	DCC-37P	Plug	37	5.25	4.47	4.02	3.62
66N8161	DCC-37S	Socket	37	5.55	4.72	4.25	3.83
66N8162	DDC-50P	Plug	50	9.20	7.82	7.04	6.34
66N8163	DDC-50S	Socket	50	9.50	8.08	7.27	6.55

STEEL SHELL WITH TIN PLATING

92N3430	1475	Plug	9	0.95	0.81	0.73	0.67
92N3431	1476	Socket	9	1.00	0.85	0.77	0.71
92N3432	1477	Plug	15	1.20	1.02	0.92	0.85
92N3433	1478	Socket	15	1.28	1.09	0.98	0.91
92N3434	1479	Plug	25	1.59	1.36	1.22	1.12
92N3435	1480	Socket	25	1.69	1.44	1.30	1.19
92N3436	1481	Plug	37	2.95	2.51	2.26	2.08
92N3437	1482	Socket	37	3.10	2.64	2.38	2.19
92N3438	1483	Plug	50	4.99	4.25	3.82	3.52
92N3439	1484	Socket	50	5.25	4.47	4.02	3.70

(8793) (de53454)

STANDARD CRIMP-STYLE STAMPED CONTACTS

Socket (Female)

Pin (Male)

Crimp contacts for D-subminiature connectors have snap-in pin diameter of 0.040″. Wire size 20 to 24 AWG. Contact material: brass. Plating: brass with 7μ″ gold. **Sold in packages of 100.**

Stock No.	Type	Description	Per Pkg. 1-24	Per Pkg. 25-49
89N270	CCD-202-1-SP	Pin	7.99	6.80
89N271	CCD-203-1-SS	Socket	8.99	7.65

(8794) (de53455)

HIGH-DENSITY CRIMP-STYLE STAMPED CONTACTS

Socket (Female)

Pin (Male)

Crimp contacts for D-subminiature connectors have a snap-in pin diameter of 0.030″. Wire size 20 to 24AWG. Contact material: pins are brass; sockets are phosphor bronze. Plating: pins and sockets, gold flash over 3μ″ nickel on entire contact. Additional gold plating on the mating end for lengths of 0.15″ min. on pins, 0.100″ min. on sockets. **Sold in packages of 100.**

Stock No.	Type	Description	Per Pkg. 1-24	Per Pkg. 25-49
89N5088	CCD-206-1-SP	Pin	5.99	5.10
89N5089	CCD-206-1-SS	Socket	6.99	5.95

(8795) (de53456)

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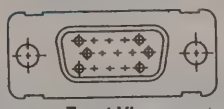
CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR DETAILS.

D-SUBMINIATURE CONNECTORS

HIGH-DENSITY CRIMP-TYPE D-SUB CONNECTORS

VOLTREX™ brand

HD Socket



Front View

Side View

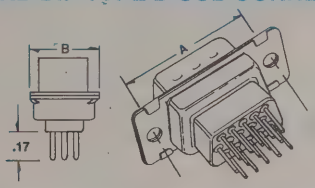
Contact spacing as close as 0.95″ in various contact positions. Glass fiber reinforced housing, rated UL94V-0. Steel shell with tin plating. Phosphor bronze contacts are gold-plated over nickel. Current rating: 5A. Dielectric strength: 1000Ω for one minute. Insulator resistance: 1000MΩ 500VDC. Wire size: 24 to 20AWG. Operating temperature range: –55°C to +105°C. *Order contacts separately on page 222.*

Stock No.	Type	Description	Pins	1-24	25-49	50-99	100-499
89N5078	HD-DAC15P	Plug	15	1.99	1.70	1.53	1.38
89N5083	HD-DAC15S	Socket	15	1.99	1.70	1.53	1.38
89N5079	HD-DFC26P	Plug	26	3.10	2.63	2.37	2.14
89N5084	HD-DFC26S	Socket	26	2.99	2.55	2.29	2.06
89N5080	HD-DGC44P	Plug	44	6.99	5.95	5.35	4.82
89N5085	HD-DGC44S	Socket	44	6.99	5.95	5.35	4.82
89N5081	HD-DKC62P	Plug	62	6.99	5.95	5.35	4.82
89N5086	HD-DKC62S	Socket	62	6.99	5.95	5.35	4.82
89N5082	HD-DLC78P	Plug	78	6.99	5.95	5.35	4.82
89N5087	HD-DLC78S	Socket	78	10.65	9.06	8.15	7.34

(8792) (de53453)

HD SERIES PC BOARD DIP TYPE D-SUB CONNECTORS

VOLTREX™ brand



High-density D-Sub connectors allow more terminations than standard D-Sub shells. Contact spacing as close as 0.95″ in various positions. Glass fiber reinforced housing, rated UL94V-0. Steel shell with yellow chromate plating. Copper alloy contacts are gold over nickel plated. Current rating: 5A. Dielectric strength: 1000V. Insulator resistance: 5000MΩ @ 300VDC. Operating temperature range: –55°C to +105°C.

PLUGS

Stock No.	Type	Pins	Dimensions A	Dimensions B	1-24	25-49	50-99
89N5073	HD-DA15P-PCS	15	0.984″	0.494″	3.55	3.02	2.72
89N5074	HD-DF26P-PCS	26	1.312″	0.494″	6.35	5.40	4.86
89N5075	HD-DG44P-PCS	44	1.852″	0.494″	8.99	7.65	6.88
89N5076	HD-DK62P-PCS	62	2.500″	0.494″	11.99	10.20	9.18
89N5077	HD-DL78P-PCS	78	2.408″	0.605″	14.99	12.75	11.47

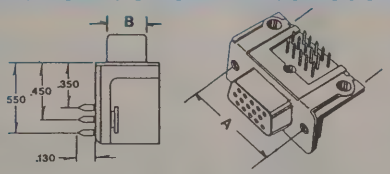
SOCKETS

Stock No.	Type	Pins	1-24	25-49	50-99
66N4051	HD-DSC-15S	15	2.59	2.21	1.99
66N4053	HD-DSC-26S	26	5.29	4.50	4.05
66N4055	HD-DSC-44S	44	7.99	6.80	6.12
66N4057	HD-DSC-62S	62	10.59	9.01	8.11
66N4041	HD-DSC-78S	78	15.99	13.60	12.24

(8870) (ne50508)

HD SERIES RIGHT-ANGLE PC BOARD D-SUB SOCKETS

VOLTREX™ brand



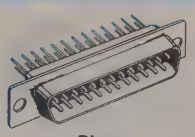
Glass fiber reinforced housing. Steel shell with plated tin-over-nickel finish. Socket contact: selective gold plating over nickel with phosphor bronze. Insulator resistance: 1000 megohm min. at 500VDC. Dielectric strength: 1kV for one minute. Current rating: 5A. Working voltage: 300VDC. Operating tempature range: –55°C to +105°C.

Stock No.	Type	Pins	Dimensions A	Dimensions B	1-24	25-49	50-99
93N1154	HD-DA15S-RAPC-1	15	0.984″	0.494″	2.99	2.55	2.29
93N1155	HD-DF26S-RAPC-1	26	1.312″	0.494″	5.99	5.10	4.59
93N1156	HD-DG44S-RAPC-1	44	1.852″	0.494″	7.75	6.59	5.93
93N1157	HD-DK62S-RAPC-1	62	2.500″	0.494″	9.15	7.78	7.00
93N1158	HD-DL78S-RAPC-1	78	2.406″	0.605″	16.99	14.45	13.00

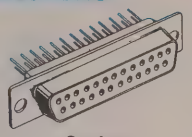
(8871) (ne50509)

PC BOARD D-SUB CONNECTORS

VOLTREX™ brand



Plug



Socket

Thermoplastic connectors intermate with corresponding contact types. 2-piece, glass-filled housing. Steel shell with tin plating. Phosphor bronze contacts with gold-over-nickel plating. Withstanding voltage: 1250VACrms. Current rating: 5A. Insulation resistance: 5000MΩ. Dielectric strength: 1kV for one minute. Working voltage: 500VDC. Operating temperature range: –55°C to +105°C.

STRAIGHT PC BOARD PLUGS

Stock No.	Type	Pins	1-24	25-49	50-99	100-499
89N4986	DE9P-PCS	9	1.45	1.24	1.11	1.00
89N4988	DA15P-PCS	15	2.20	1.87	1.69	1.52
89N4990	DB-25P-PCS	25	2.99	2.55	2.29	2.06
89N4992	DC37P-PCS	37	4.99	4.25	3.82	3.44
66N8164	DD-50P-PCS	50	6.99	5.95	5.35	4.82

STRAIGHT PC BOARD SOCKETS

89N4987	DE9S-PCS	9	1.85	1.58	1.42	1.28
89N4989	DA15S-PCS	15	2.99	2.55	2.29	2.06
89N4991	DB25S-PCS	25	3.99	3.40	3.06	2.75
89N4993	DC37S-PCS	37	5.50	4.68	4.21	3.79
66N8165	DD-50S-PCS	50	6.99	5.95	5.35	4.82

(8873) (ne50511)

RIGHT-ANGLE PC BOARD D-SUB CONNECTORS

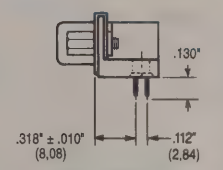
2-piece, glass-filled thermoplastic housing. Steel shell with tin plating. Brass alloy contacts with gold-over-nickel plating. Working voltage: 300VDC. Current rating: 5A. Insulator resistance: 1000MΩ at 500VDC. Operating temperature range: –55°C to +105°C.

Stock No.	Type	Description	Pins	1-24	25-49	50-99	100-499
44N8881	DE-9P-PCB	Plug	9	1.27	1.08	0.98	0.88
44N8882	DE-9S-PCB	Socket	9	1.50	1.28	1.15	1.04
44N8883	DA-15P-PCB	Plug	15	1.89	1.61	1.45	1.31
44N8884	DA-15S-PCB	Socket	15	1.89	1.61	1.45	1.31
44N8885	DB-25P-PCB	Plug	25	2.65	2.26	2.03	1.83
44N8886	DB-25S-PCB	Socket	25	2.65	2.26	2.03	1.83
66N8166	DC-37P-PCB	Plug	37	4.05	3.45	3.10	2.79
66N8167	DC-37S-PCB	Socket	37	4.25	3.62	3.26	2.93

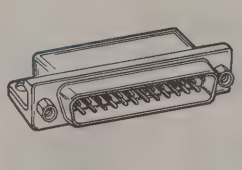
(8872) (ne50510)

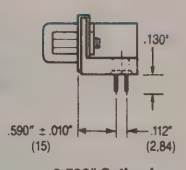
RIGHT-ANGLE SNAP-IN PC BOARD D-SUB CONNECTORS

VOLTREX™ brand



0.318" Setback





0.590" Setback

D-Sub connectors feature all-plastic housing and metal design. 2-piece, glass-filled thermoplastic housing. Steel shell with zinc plating and yellow chromate coating. Brass alloy contacts with gold-over-nickel plating. Working voltage: 500VDC. Dielectric strength: 1kV for one minute. Working current: 5A. Insulation resistance: 1000MΩ @ 500VDC. Operating temperature range: –55°C to +105°C. UL94V-0 rated.

Stock No.	Type	Description	Pins	Setback	1-24	25-49	50-99
89N1582	DE9P-FRS	Plug	9	0.318″	1.60	1.36	1.23
89N1584	DA15P-FRS	Plug	15	0.318″	1.89	1.61	1.45
89N1586	DB25P-FRS	Plug	25	0.318″	2.69	2.29	2.06
89N1588	DC37P-FRS	Plug	37	0.318″	3.99	3.40	3.06
89N1583	DE9S-FRS	Socket	9	0.318″	1.60	1.36	1.23
89N1585	DA15S-FRS	Socket	15	0.318″	1.89	1.61	1.45
89N1587	DB25S-FRS	Socket	25	0.318″	2.69	2.29	2.06
89N1589	DC37S-FRS	Socket	37	0.318″	3.99	3.40	3.06
90N7241	DE9PMP-FRS-2	Plug	9	0.590″	2.35	2.00	1.80
90N7243	DA15PMP-FRS-2	Plug	15	0.590″	2.99	2.55	2.29
90N7245	DB25PMP-FRS-2	Plug	25	0.590″	3.50	2.98	2.68
90N7247	DC37PMP-FRS-2	Plug	37	0.590″	5.75	4.89	4.40
90N7242	DE9SMP-FRS-2	Socket	9	0.590″	2.35	2.00	1.80
90N7244	DA15SMP-FRS-2	Socket	15	0.590″	2.99	2.55	2.29
90N7246	DB25SMP-FRS-2	Socket	25	0.590″	3.50	2.98	2.68
90N7248	DC37SMP-FRS-2	Socket	37	0.590″	5.75	4.89	4.40

(8874) (ne50512)

D-SUB CONNECTOR COVERS

DELUXE AND ECONOMY D-SUB CONNECTOR COVERS

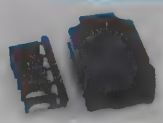


Fig. 1

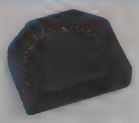


Fig. 2

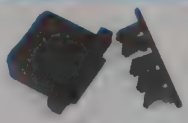


Fig. 3

Fig. 4

Fig. 5

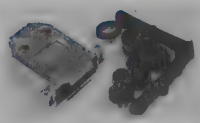


Fig. 6

Fig. 7

Fig. 8

Fig. 9

Fig. 10

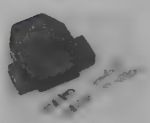


Fig. 11

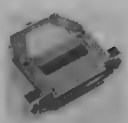


Fig. 12

Fig. 13

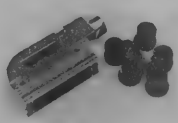


Fig. 14

Fig. 15

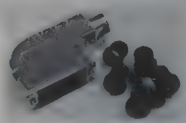


Fig. 16

1-pc. plastic covers fit all standard EIA cable and D-Sub connectors from most manufacturers. Half-moon insert system grips and prevents slippage or twisting of cable. Black polypropylene cover and insert. 1-pc. dual exit plastic cover features slotted thumbscrews and hinged snap-locking design in 25 positions. Black nylon 6/6 cover, UL94V-2 rated, with black zinc-finished steel screw machined thumbscrews. 2-pc. plastic covers feature split-jacket insert system that accepts most cable sizes. Gray or black styrene plastic cover, rated UL94V-0, with zinc-finished steel hardware. Metallized-plastic covers feature nickel-over-copper plating, UL94-HB rated, and PVC insert, UL94V-0 rated. Feature compression insert system that performs effectively with foil or braid shields. Metal covers feature compression insert system that produces a strong mechanical connection with most cable sizes. Straight or right-angle cable exit design. Accommodate standard D-Sub connectors from most manufacturers. Die-cast zinc cover with PVC insert, rated UL94V-0. Exceeds EMI/RFI FCC DOC#20780 Classes A and B.

1-PIECE STRAIGHT PLASTIC COVERS

Positions	Deluxe Models						Economy Models					
	Stock No.	Type	Fig.	1-24	25-49	50-99	Stock No.	Type	Fig.	1-24	25-49	50-99
9	51N1283	PMS-506-9	1	1.02	0.87	0.78	...	...	...	...	...	...
15	51N1284	PMS-507-15	1	1.15	0.98	0.88	...	...	...	...	...	...
25	51N1285	PMS-508-25	1	1.24	1.05	0.95	...	...	...	...	...	...
1-PIECE STRAIGHT PLASTIC COVERS WITH THUMBSCREW												
9	16N6957	8535-0243	2	1.99	1.70	1.53	...	...	...	...	...	...
15	16N6958	8535-0244	2	2.19	1.87	1.68	...	...	...	...	...	...
25	16N6959	8535-0245	2	2.29	1.95	1.76	...	...	...	...	...	...
37	16N6960	8535-0246	2	2.39	2.04	1.83	...	...	...	...	...	...
1-PIECE PLASTIC DUAL-EXIT COVER												
25	16N6966	8535-0252	3	1.59	1.36	1.22	...	...	...	...	...	...
2-PIECE STRAIGHT PLASTIC COVERS												
9	44N8887	PS-D501-9	4	0.79	0.68	0.61	...	...	...	...	...	...
15	44N8888	PS-D502-15	4	0.89	0.76	0.68	...	...	...	...	...	...
25	44N8889	PS-D503-25	4	0.89	0.76	0.68	...	...	...	...	...	...
37	89N269	PS-D504-37	4	0.99	0.85	0.76	...	...	...	...	...	...
50	16N6965	8535-0251	4	2.13	1.81	1.63	...	...	...	...	...	...
2-PIECE 45° PLASTIC COVERS												
9	16N6962	8535-0248	5	1.56	1.32	1.19	84N1018	3589	11	0.99	0.85	0.76
15	16N6963	8535-0249	5	1.71	1.46	1.31	...	...	...	...	...	...
25	16N6964	8535-0250	5	1.87	1.59	1.43	84N1019	3590	11	1.25	1.07	0.96
37	16N6965	8535-0251	5	2.13	1.81	1.63	...	...	...	...	...	...
45° METALLIZED-PLASTIC COVERS												
9	51N1290	MPO-530-9	5	2.64	2.25	2.02	...	...	...	...	...	...
15	51N1291	MPO-531-15	5	2.85	2.42	2.18	...	...	...	...	...	...
25	51N1292	MPO-532-25	5	3.06	2.60	2.34	...	...	...	...	...	...
37	51N1293	MPO-533-37	5	4.51	3.83	3.45	...	...	...	...	...	...
STRAIGHT METALLIZED-PLASTIC COVERS												
9	51N1286	MPS-520-9	6	2.42	2.05	1.85	84N1020	3591	12	0.99	0.85	0.76
15	51N1287	MPS-521-15	6	2.70	2.29	2.06	84N1021	3592	12	0.99	0.85	0.76
25	51N1288	MPS-522-25	6	2.90	2.47	2.22	84N1022	3593	12	0.99	0.85	0.76
37	51N1289	MPS-523-37	6	4.30	3.65	3.29	84N1023	3594	12	1.25	1.07	0.96
50	16N7112	8535-0268	6	5.28	4.49	4.04	84N1024	3595	12	1.25	1.07	0.96
STRAIGHT METAL COVERS												
9	51N1294	MS-540-9	6	4.97	4.23	3.80	84N1027	3598	13	1.99	1.70	1.53
15	51N1295	MS-541-15	6	5.02	4.27	3.84	84N1028	3599	13	2.75	2.34	2.11
25	51N1296	MS-542-25	6	5.39	4.58	4.12	84N1029	3600	13	2.99	2.55	2.29
37	51N1297	MS-543-37	6	6.40	5.44	4.90	84N1030	3601	13	3.25	2.77	2.49
50	51N1298	MS-544-50	6	7.97	6.78	6.10	84N1031	3602	13	3.50	2.98	2.68
RIGHT-ANGLE METAL COVER												
25	16N6972	8535-0258	7	7.51	6.38	5.74	84N1032	3603	14	2.99	2.55	2.29
STRAIGHT METAL RIBBON CABLE COVER												
25	16N6973	8535-0259	...	6.42	5.46	4.91	...	...	...	...	...	...
METAL ETHERNET COVERS												
15 - Short	16N6967	8535-0253	8	6.89	5.85	5.27	84N1033	3604	15	2.99	2.55	2.29
15 - Long	16N6968	8535-0254	9	6.89	5.85	5.27	84N1034	3605	15	2.99	2.55	2.29
90	16N6969	8535-0255	10	7.20	6.12	5.51	84N1035	3606	16	2.99	2.55	2.29

(8875) (ne51087)

D-SUB CONNECTOR ACCESSORIES

D-SUB CONNECTOR HARDWARE

Fig. 1

Fig. 2

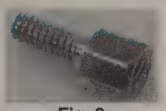


Fig. 3

Fig. 4

Fig. 5

Fig. 6

Fig. 7

Fig. 8

Fig. 9

Stock No.	Type	Fig.	Description	1-24	25-49
84N1366	SPC4188	1	9-Way Slide Latch	0.99	0.85
84N1367	SPC4189	1	15-Way Slide Latch	0.99	0.85
84N1368	SPC4190	1	25-Way Slide Latch	0.99	0.85
84N1369	SPC4191	1	Narrow Track	0.99	0.85
16N6970	8535-0256	1	Slide Latch Assembly	1.75	1.49
84N1370	SPC4192	2	Shoulder Screw & Saddle Washer	0.19	0.17
84N1371	SPC4193	3	Hex Locking Screw Set	0.39	0.34
84N1373	SPC4195	3	Hex Locking Screw Thread **(Pkg. of 2)**	0.59	0.51
84N1372	SPC4194	4	Hex Extender **(Pkg. of 2)**	0.39	0.34
84N1374	SPC4196	5	Slide Locking Post with Nut	0.49	0.42
84N1375	SPC4197	5	Slide Locking Post without Nut	0.49	0.42
84N1376	SPC4198	6	Spring Latch Lock	1.19	1.02
16N6971	8535-0257	7	Locking Post (**Pkg. of 2**)	1.05	0.90
92N3456	1501	8	Male Screwlock Set (**Pkg. of 2**)	1.45	1.24
92N3457	1502	9	Female Screwlock Set (**Pkg. of 2**)	2.33	1.98

(18929) (ne10847)

HANDLE THUMBSCREWS

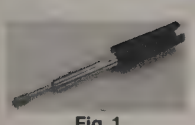


Fig. 1

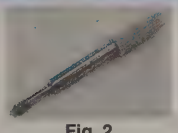


Fig. 2

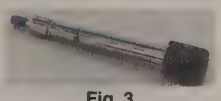


Fig. 3

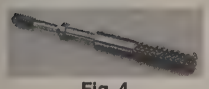
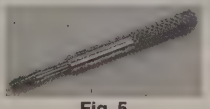


Fig. 4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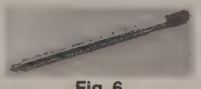


Fig. 6

Fig. 7

Fig. 8

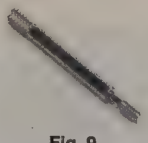


Fig. 9

Rugged steel construction with nickel or clear zinc plating. Choice of plastic, metal, or machined handle. Threadsize: #4-40 except **type SPC4366** which is M3.5 x 0.6. **Sold in packages of 2.**

Stock No.	Type	Fig.	Handle	Length	1-24	25-49
84N1377	SPC4199	1	Plastic	2.075″	0.59	0.51
84N1378	SPC4200	2	Plastic	1.93″	0.59	0.51
84N1379	SPC4201	3	Plastic	1.95″	0.79	0.68
84N1380	SPC4202	4	Metal	1.728″	0.49	0.42
84N1381	SPC4203	5	Metal	1.732″	0.49	0.42
84N1382	SPC4364	6	Metal	2.843″	1.09	0.93
84N1383	SPC4365	7	Metal	1.457″	0.59	0.51
84N1384	SPC4366	8	Metal	1.287″	1.19	1.02
16N6977	8535-0263	9	Machined	0.800″	0.78	0.66
16N6978	8535-0264	9	Machined	1.875″	0.99	0.84

(8847) (ne08521)

D-SUB CONNECTOR DUST COVERS

NEW

Clear plastic dust covers protect D-Sub connectors from harmful debris.

Stock No.	Type	Description	1-9	10-24	25-49
84N1239	SPC4249	9-Pin Plug	5.99	5.10	4.59
84N1240	SPC4250	9-Pin Socket	5.99	5.10	4.59
84N1241	SPC4251	15-Pin Plug	5.99	5.10	4.59
84N1242	SPC4252	15-Pin Socket	5.99	5.10	4.59
84N1243	SPC4253	25-Pin Plug	5.99	5.10	4.59
84N1244	SPC4254	25-Pin Socket	5.99	5.10	4.59
84N1245	SPC4255	37-Pin Plug	5.99	5.10	4.59
84N1246	SPC4256	37-Pin Socket	5.99	5.10	4.59

(31985) (ne31985)

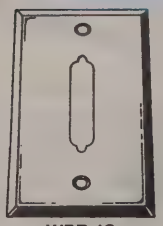
D-SUB CONNECTOR INSERTION/EXTRACTION TOOLS

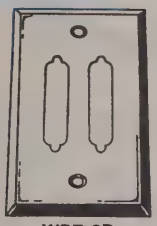
Tool includes interchangeable tips for insertion and extraction of pins and sockets.

Stock No.	Type	Description	Each
92N3440	1485	Insertion/Extraction Tool	3.63
84N1036	3607	High-Density Insertion/Extration Tool	4.25

(18927) (ne10848)

RS-232 WALL PLATES


WPR-1S


WPR-2D

Stainless steel construction. For use with RS-232 DB-25 connectors (not included). Available in single or duplex style. Mounting screws included.

Stock No.	Type	Style	1-24	25-49
46N7170	WPR-1S	Single	2.65	2.26
46N7171	WPR-2D	Duplex	2.65	2.26

(8770) (de51090)

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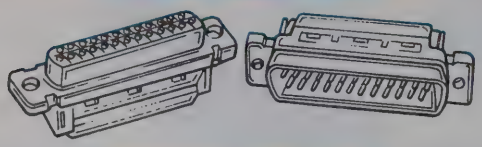
D-SUB CONNECTORS AND PANEL PUNCHES

PLASTIC AND METAL RIBBON CABLE IDC D-SUB CONNECTORS



PLASTIC IDC CONNECTORS

Special contact design allows usage of standard 0.050″ flat ribbon cable while maintaining standard contact centers of 0.050″. Low-profile, fully intermateable connectors are suitable for compact requirements of modern peripheral equipment. Contacts: copper alloy, gold plated over nickel. 1-piece universal hood provides 3 locking varieties: plastic latch for one-hand operation and quick disconnect; screw locking; and metal spring latch locking. Voltage rating: 300VAC. Current rating: 5A per contact. Insulation resistance: 5000MΩ min. Contact resistance: 5MΩ max. @ 1A DC. Wire size: 22-28 AWG. Hood accepts straight and right-angle cable entry. Operating temperature range: –55°C to +125°C.

Stock No.	Type	Description	Pins	1-24	25-49	50-99
90N6906	IDDE19PSP	Plug	9	3.30	2.81	2.53
90N6907	IDDE19SSP	Socket	9	3.55	3.02	2.72
90N6908	IDDA115PSP	Plug	15	3.95	3.36	3.03
90N6909	IDDA115SSP	Socket	15	4.50	3.83	3.45
90N6910	IDDB125PSP	Plug	25	3.95	3.36	3.03
90N6911	IDDB125SSP	Socket	25	4.50	3.83	3.45
90N6912	IDDC137PSP	Plug	37	7.75	6.59	5.93
90N6913	IDDC137SSP	Socket	37	8.25	7.02	6.32

(8876) (ne51088)

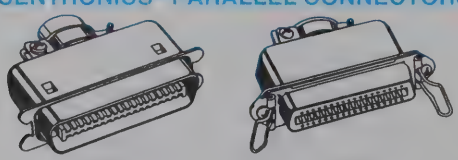
METAL IDC CONNECTORS

D-subminiature pin and socket connectors allow highly reliable mass termination of standard 0.050″ pitch round-conductor flat ribbon cable. Gastight junction with each conductor at 4 places. Internal transition from standard 0.055″ contact spacing which allows termination of standard 0.050″ ribbon cable; no special cable preparation is required. Contact plating: gold over nickel. Mating area has duplex plating. Insulator material: blue, glass-filled polyester, rated UL94V-0. 22-28 AWG. Voltage rating: 300VAC. Current rating: 5A per contact. Insulation resistance: 5000MΩ min. Contact resistance: 5MΩ max. @ 1ADC. Operating temperature: –55°C to +105°C.

Stock No.	Type	Description	Pins	1-24	25-49	50-99
90N6898	IDDE9PSP	Plug	9	3.55	3.02	2.72
90N6899	IDDE9SSP	Socket	9	3.85	3.28	2.95
90N6900	IDDA15PSP	Plug	15	4.35	3.70	3.33
90N6901	IDDA15SSP	Socket	15	4.80	4.08	3.68
90N6902	IDDB25PSP	Plug	25	4.35	3.70	3.33
90N6903	IDDB25SSP	Socket	25	4.80	4.08	3.68
90N6904	IDDC37PSP	Plug	37	7.99	6.80	6.12
90N6905	IDDC37SSP	Socket	37	8.50	7.23	6.51

(8876) (ne51088)

CENTRONICS® PARALLEL CONNECTORS



Plug Socket

Centronics®-type connector offers a fast, economical method to achieve electrical interconnection. A trapezoidal-shape shell provides correct polarity. Shell: nickel-plated steel. Spring latch: nickel-plated, black rubber bushing. Insulator: glass-filled thermoplastic. Insulator resistance: 1000MΩ min. @ 500VDC. UL94V-0. Working voltage: 500VDC. Current rating: 5 amps per contact. Copper alloy contacts with gold plating over nickel. Wire size: 22-24 AWG. Operating temperature range: –55°C to +105°C.

Stock No.	Type	Pins	Description	1-24	25-49	50-99	100-249
84N1360	SPC4182	14	Plug	2.99	2.55	2.29	2.11
84N1363	SPC4185	14	Socket	3.25	2.77	2.49	2.29
84N1361	SPC4183	24	Plug	3.25	2.77	2.49	2.29
84N1364	SPC4186	24	Socket	3.75	3.19	2.87	2.64
46N7163	57-30360	36	Plug	2.99	2.55	2.29	2.06
46N7164	57-60360	36	Socket	3.65	3.11	2.80	2.52
84N1362	SPC4184	50	Plug	4.99	4.25	3.82	3.52
84N1365	SPC4187	50	Socket	4.99	4.25	3.82	3.52

(8877) (ne51089)

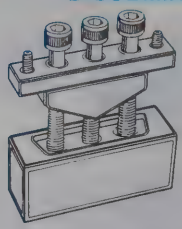
REPAIR KITS FOR D-SUB AND RIBBON CONNECTOR PANEL PUNCHES

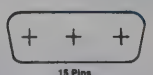
For use with D-subminiature connector panel punches, *ordered separately on this page.*

Stock No.	Type	Description	Each
89N101	RKD-9	3 Screws for **Type DSP-9** Panel Punch	2.97
89N102	RKD-15	5 Screws for **Type DSP-15** Panel Punch	8.98
89N103	RKDR-24-50	7 Screws for **Types DSP-24, -25, -36, -37, -50, RBC-24, -25, -36, -37, -50** and **BBCMK-50-3M** Panel Punches	8.67

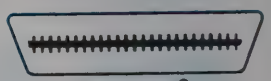
(8772) (de51304)

D-SUBMINIATURE CONNECTOR PANEL PUNCHES





Standard



Centronics®

- **Accurate Punch-Out Conforms to Plug or Receptacle**
- **Burr-Free on Panel Front**
- **Minimal Burr on Rear of Panel**
- **Quality-Built Punch/Die Set Can Be Re-Ground to Sharpen**

For use with Thomas & Betts Ansley®, Cannon/ITT, and Cinch plastic plugs and receptacles, as well as all other plastic and metal D-sub connectors; *see Product and Manufacturers Indexes for available selection.* The punch/die unit is machined of D-2 hardened tool steel with ground cutting edges. Punch and die are drawn together by 3 bolts which are tightened in a predetermined sequence. Adhesive-backed templates are included as guides for an accurate hole punch-out. Before the hole is completely cut, 2 hard point screws are tightened to both mark and punch the mounting screw holes. After the hole is cut, the slug is ejected from the die by use of 2 cap screws. All necessary screws and wrenches are provided. Punch cuts hole in 22- to 16-gauge steel or aluminum panel material. *Order replacement templates and repair kits separately on this page.*

Stock No.	Type	Description	Each
44N1084	DSP-9P	9-Pin, RS-449 STD	223.51
44N1085	DSP-15P	15-Pin Connectors	223.51
81N2660	DSP-25P	25-Pin, RS-232 STD	223.51
44N1088	DSP-37P	37-Pin, RS-449 STD	223.51
44N1089	DSP-50P	50-Pin Connectors	302.17
46N7349	RBC-24	24-Pin, IEEE 488 STD	302.17
46N7350	RBC-36	36-Pin, Contact BUS Centronics® Connectors	302.17

(8774) (de51306)

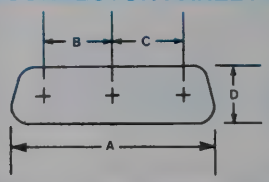
REPLACEMENT TEMPLATES FOR D-SUB PANEL PUNCHES

Adhesive-backed templates serve as a guide to accurately locate and position punch-out. For use with D-subminiature connector panel punches, *ordered separately on this page.* **Sold in packages of 25.**

Stock No.	Type	Description	Per Pkg.
44N1091	DSP-9-T	9-Pin Template	8.37
44N1092	DSP-15-T	15-Pin Template	8.37
44N1093	DSP-24-T	24-Pin Template	8.55
37N2210	DSP-25-T	25-Pin Template	4.57
44N1096	DSP-36-T	36-Pin Template	8.55
44N1094	DSP-37-T	37-Pin Template	8.37
44N1095	DSP-50-T	50-Pin Template	9.51

(8773) (de51305)

RIBBON CONNECTOR PANEL PUNCHES



Ribbon connectors feature the same trapezoidal shape as the D-subminiature connector but have buss-type contacts and require a larger panel opening. Punch and die unit is machined of D-2 hardened tool steel with ground cutting edges and are drawn together by 3 bolts which are tightened in a predetermined sequence. Adhesive-backed templates are included as guides for an accurate hole punch-out. All necessary screws and wrenches are also provided. **Type BBCMK-50-3M** is a special panel punch used for mounting the 3M Delta Ribbon connector, *ordered separately on page 257. Order panel punch repair kit separately on this page.*

TEMPLATE DIMENSIONS

Type	A	B	C	D
RBC-24	1.593″	0.520″	0.520″	0.650″
RBC-36	2.103″	0.720″	0.720″	0.650″
RBC-50	2.698″	0.850″	0.850″	0.650″
BBCMK-50-3M	2.660″	0.850″	0.850″	0.590″

PANEL PUNCHES

Stock No.	Type	Description	Each
46N7349	RBC-24	24-Pin	302.17
46N7350	RBC-36	36-Pin	302.17
46N7351	RBC-50	50-Pin	302.17
46N7352	BBCMK-50-3M	50-Pin	327.01

(8771) (de51303)

D-SUB CONNECTOR KITS AND CRIMP TOOLS

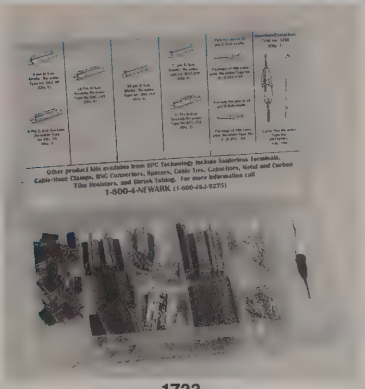
D-SUBMINIATURE CONNECTOR CRIMP TOOL KIT

BESTOOL™ brand

Type 8455-0662 D-Sub kit includes a crimp tool frame and pre-packaged D-subminiature contacts. Ergonomic tool design features a full-cycle mechanism which allows crimps to conform to industry standards. Easy-load positioner provides proper contact orientation. Kit includes crimp tool with positioner, 100 D-subminiature pins, 100 D-subminiature sockets, and a foam insert in a durable plastic storage case.

16N1881 Type 8455-0662. **Each** **258.34**
(8842) (ne08394)

D-SUBMINIATURE CONNECTOR KITS



1733

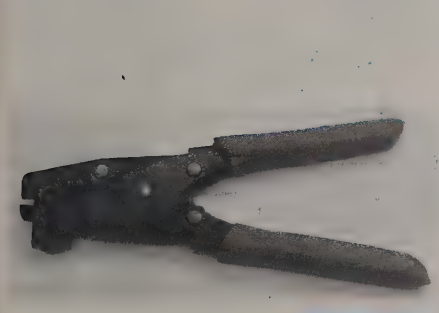
Type 1733 kit includes: 100 pins, male; 100 pins, female; 6 each: DB-9, DB-25, DB-37 plugs, male; 3 each: DB-9, DB-25, DB-37 plugs, female; cable ties; and metal tip pin inserter/extractor. **Type 1734** kit includes 100 pins, male; 100 pins, female; 16 DB-25 plugs, male; 6 DB-25 plugs, female; cable ties; and metal tip pin inserter/extractor.

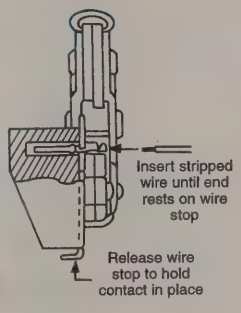
Stock No.	Type	Description	Each
92N3615	1733	D-Sub Connector Kit	**81.76**
92N3616	1734	D-Sub Connector Kit	**75.55**

(18926) (ne10846)

CRIMP TOOL FOR STANDARD D-SUBMINIATURE CONTACTS

BESTOOL™ brand





3-STEP CRIMP

1. Insert contact into locator. 2. Close tool carefully until connector is held in place without distorting ears. Insert stripped wire. Squeeze handles. 3. Raise locator and remove contact.

All crimp configurations are fully machined to maintain tolerances to industry standards. Straight-line jaw closure provides consistent crimp. Wide cushion grips provide user-friendly feel. Locator and wire-stop properly orient contacts. Crimps conductor and insulator portions of contacts in one closure. Heat treated for extended use. For open-barrel contacts in 30-20 AWG wire sizes. Rated at 5000 cycles.

90N3314 Type CT-200-DC-01. **Each** **53.82**
(8884) (ne53452)

OPEN-BARREL CRIMP TOOLS

BESTOOL™ brand

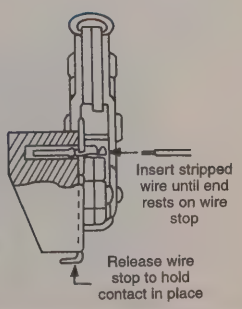
Crimp tools have full cycle ratcheting action for precise termination of open-barrel contacts. **Type 1748** has 3 crimping nests for AMP® Multimate contacts 5-20, 24-20, 18-16, and 28-24 AWG. A contact support and wire stop are provided. **Type 1749** has two crimping nests for AMP® D-Sub sizes 28-24 and 24-20 AWG. Locator and wire stop are provided. Both tools crimp wire and insulation in a single action.

Stock No.	Type	Description	For Contacts	AWG	Each
92N3743	1748	Crimp Tool	Amp® MultiMate	28-16	**124.19**
92N3744	1749	Crimp Tool	Amp® D-Sub (RS-232)	28-20	**127.30**

(18632) (ne10843)

HIGH-DENSITY D-SUBMINIATURE CONNECTOR CRIMP TOOL

BESTOOL™ brand



Crimps high-density D-subminiature pin and socket open-barrel contacts. Locator and wire-stop provide proper orientation during crimping. Conductor crimps are B-type. Insulation crimps are oval type, produced in two cavities: A is 22-26 AWG, B is 28-30 AWG. Other crimp tools available; *contact your local Newark sales office.*

Stock No.	Type	Description	1-4	5-9
92N8961	CTT8424-01	Crimp Tool	**139.94**	**113.03**

(12829) (ne09943)

NEWARK ACCEPTS MAJOR CREDIT CARDS.
CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR DETAILS.

D-SUB CONNECTORS AND ACCESSORIES

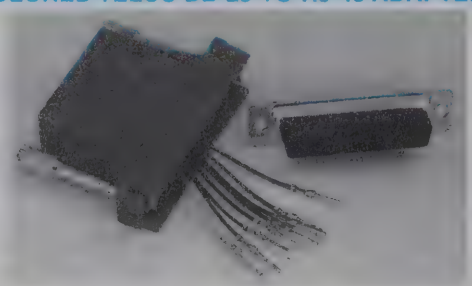
TELCO GENDER CHANGERS/ADAPTERS

Provides quality performance at an economical price.

Stock No.	Type	Description	Each
52N9405	8587-0149	DB-9 Male-to-Male	2.99
52N9406	8587-0150	DB-9 Female-to-Female	2.99
52N9407	8587-0151	DB-9 Female-to-High-Density Male	3.59
52N9403	8587-0147	DB-15 Male-to-Male	3.25
52N9404	8587-0148	DB-15 Female-to-Female	3.25
52N9399	8587-0143	High-Density DB-15 Male-to-Male	3.99
52N9400	8587-0144	High-Density DB-15 Female-to-Female	3.99
52N9393	8587-0137	DB-25 Male-to-Male	3.50
52N9394	8587-0138	DB-25 Female-to-Female	3.50
52N9395	8587-0139	DB-25 Female-to-DB-25 Male	3.50
52N9391	8587-0135	Centronics® Male-to-Male	5.99
52N9392	8587-0136	Centronics® Female-to-Female	5.99

(7838) (ne08703)

COLORED TELCO DB-25-TO-RJ-45 ADAPTERS



Plastic male or female DB-25-to-RJ-45 adapters, 8 conductor, in choice of 5 colors.

Stock No.	Type	Color	Description	1-24	25-49
92N3420	1596	Black	DB-25 Female-to-RJ-45	2.35	2.00
92N3421	1597	Black	DB-25 Male-to-RJ-45	2.35	2.00
92N3422	1598	Blue	DB-25 Female-to-RJ-45	2.35	2.00
92N3423	1599	Blue	DB-25 Male-to-RJ-45	2.35	2.00
92N3424	1600	Red	DB-25 Female-to-RJ-45	2.35	2.00
92N3425	1601	Red	DB-25 Male-to-RJ-45	2.35	2.00
92N3426	1602	Green	DB-25 Female-to-RJ-45	2.35	2.00
92N3427	1603	Green	DB-25 Male-to-RJ-45	2.35	2.00
92N3428	1604	Yellow	DB-25 Female-to-RJ-45	2.35	2.00
92N3429	1605	Yellow	DB-25 Male-to-RJ-45	2.35	2.00

(18727) (ne10844)

PLASTIC TELCO ADAPTERS WITH EMI/RFI SHIELDING

Choice of 9-pin or 25-pin plugs and sockets. 8 conductor. Color: Gray.

Stock No.	Type	Description	1-24	25-49
92N3452	1497	DB-9 Male-to-RJ-45	12.42	10.56
92N3453	1498	DB-9 Female-to-RJ-45	12.42	10.56
92N3454	1499	DB-25 Male-to-RJ-45	12.42	10.56
92N3455	1500	DB-25 Female-to-RJ-45	12.42	10.56

(18728) (ne10845)

LOW-PROFILE TELCO GENDER CHANGERS

VOLTREX™ brand

Low-profile design is ideal when space is a prime consideration in a permanent installation. Fully shielded. Gold-flashed contacts. 0.7″ deep at thickest point.

Stock No.	Type	Description	Each
50N226	SPC5295	DB-9 Male-to-Female	2.59
52N9430	8587-0073	DB-9 Female-to-Female	2.59
92N5306	2764-SPC	DB-9 Male-to-Male	2.59
50N225	SPC5294	DB-15 Male-to-Female	2.99
52N9374	8587-0118	DB-15 Male-to-Male	2.99
92N5305	2763-SPC	DB-15 Female-to-Female	2.99
50N224	SPC5293	DB-25 Male-to-Female	2.99
52N9453	8587-0163	DB-25 Female-to-Female	3.29
92N5304	2762-SPC	DB-25 Male-to-Male	3.29

(18426) (ne10305)

SHIELDED D-SUB CONNECTOR COVER KIT

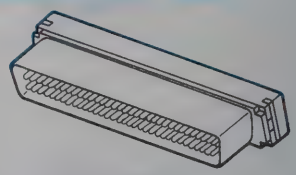
Type 1496 kit includes a black PVC boot, 2 stainless steel and PVC black thumbscrews, 2, die-cast zinc 68-position SCSI covers, 1 staple, and 2 screws.

Stock No.	Type	Description	1-24	25-49	50-99	100-499
92N3451	1496	Shielded D-Sub Cover Kit	15.27	12.98	11.68	10.75

(18928) (ne10849)

HIGH-DENSITY IDC PLUGS

VOLTREX™ brand



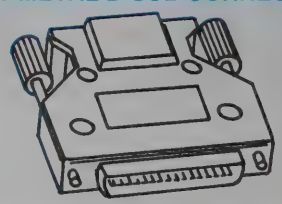
8535-0267

0.050 x 0.100″ pitch cable mount IDC connector plugs. D-type shell: steel with tin-over-copper plating. Black thermoplastic insulator, rated UL94V-0. Phosphor bronze contacts. Current rating: 1A. Dielectric withstanding voltage: 500VAC. Wire gauge: 28-30 AWG solid or stranded with insulation O.D. 0.036″ max.

Stock No.	Type	Pins	1-24	25-49	50-99	100-499
16N6979	8535-0265	26	8.39	7.13	6.42	5.78
16N6980	8535-0266	50	11.44	9.72	8.75	7.88
16N6981	8535-0267	68	14.34	12.19	10.97	9.88

(8844) (ne08404)

HIGH-DENSITY METAL D-SUB CONNECTOR COVERS



Rugged die-cast zinc D-Sub covers with nickel or zinc plating. Accept most 0.050 x 0.100″ centerline spacing D-type plugs. Meets SCSI-2 and -3, EIA RS-232, HSC and IPI standards. Exceed FCC DOC#20780 for Class A and B housings, maintaining attentuation beyond 1GHz. 50- and 68-position covers with thumbscrews utilize compression insert system, which provides superior shielding against EMI/RFI, and accommodate a wide variety of diameters, up to 0.490″. 26-position cover comes with spring latches and utilizes steel staple for strain relief.

Stock No.	Type	Size	1-24	25-49	50-99	100-499
16N6974	8535-0260	26	8.08	6.87	6.18	5.57
16N6975	8535-0261	50	11.96	10.16	9.15	8.24
16N6976	8535-0262	68	12.37	10.52	9.46	8.53

(8848) (ne08522)

NEW PRODUCTS ARE CONTINUALLY ADDED.
CALL NEWARK FOR CURRENT SELECTION.

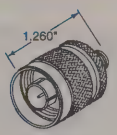
SMA AND SMB CONNECTORS

SMA CONNECTORS AND ADAPTERS

Contact, body, and/or insulating material of SMA adapters is identified in the table as follows: "N" indicates nickel body plating; "G" indicates, gold contact or body plating; and "T" indicates, Teflon® insulation.

Stock No.	Type	Description	1-24	25-49	50-99
16N2713	8589-0831	Male Crimp Plug for RG-174/U; 3-Pc., N, G, T	5.85	4.97	4.57
16N2714	8589-0832	Male Crimp Plug for RG-174/U; 3-Pc., G, G, T	7.92	6.73	6.18
16N2715	8589-0833	Male Crimp Plug for RG-58/U; N, G, T	5.85	4.97	4.57
16N2747	8589-0865	Male Crimp Plug for RG-58/U; G, G, T	8.27	7.03	6.45
16N2716	8589-0834	Male Crimp Plug for RG-55/U; N, G, T	5.85	4.97	4.57
84N1535	SPC4205	Male Crimp Plug for RG-55/U	6.59	5.61	5.05
84N1536	SPC4206	Male Crimp Plug for RG-161/U	5.99	5.10	4.59
16N2719	8589-0837	Male R/A Crimp Plug for RG-174/U; N, G, T	10.34	8.79	8.07
16N2720	8589-0838	Male R/A Crimp Plug for RG-58/U; N, G, T	9.31	7.91	7.26
16N2717	8589-0835	Female Crimp for RG-174/U; N, G, T	9.31	7.91	7.26
16N2718	8589-0836	Female Crimp for RG-58/U; N, G, T	7.86	6.68	6.13
16N2721	8589-0839	Female Bulkhead, Solder, Front Mount; N, G, T	7.96	6.77	6.21
16N2722	8589-0840	Female Bulkhead, Solder, Rear Mount; N, G, T	8.27	7.03	6.45
16N2748	8589-0866	Female Bulkhead, Hex Flange, w/Gasket; G, G, T	10.10	8.58	7.88
16N2751	8589-0869	Female Bulkhead, 2-Hole Flange; N, G, T	10.34	8.79	8.07
16N2723	8589-0841	Female Bulkhead, 4-Hole Flange, Solder; N, G, T	9.31	7.91	7.26
16N2752	8589-0870	Female Bulkhead, 4-Hole Flange; N, G, T	10.34	8.79	8.07
16N2724	8589-0842	Female R/A PCB Mount; N, G, T	10.87	9.24	8.48
16N2725	8589-0843	Female R/A PCB Mount; G, G, T	11.91	10.12	9.29
16N2726	8589-0844	Female Vertical PCB Mount; N, G, T	6.89	5.85	5.37
16N2727	8589-0845	Female Vertical PCB Mount; G, G, T	7.51	6.38	5.86
16N2728	8589-0846	R/A Adapter, SMA Male to SMA Female; N, G, T	15.48	13.16	12.07
16N2729	8589-0847	R/A Adapter, SMA Male to SMA Female; G, G, T	16.72	14.21	13.04
16N2730	8589-0848	Adapter, SMA Male to SMA Male; N, G, T	10.20	8.67	7.96
16N2731	8589-0849	Adapter, SMA Male to SMA Male; G, G, T	13.20	11.22	10.30
16N2732	8589-0850	Adapter, SMA Female to Female; N, G, T	8.70	7.39	6.79
16N2733	8589-0851	Adapter, SMA Female to SMA Male; N, G, T	10.30	8.76	8.04
16N2734	8589-0852	Adapter, SMA Female to SMA Male; G, G, T	11.34	9.64	8.84
16N2735	8589-0853	Bulkhead Adapter, SMA Female to Female; G, G, T	14.80	12.58	11.55
16N2749	8589-0867	Adapter, SMA Male to N Female; N, G, T	12.89	10.96	10.05
16N2750	8589-0868	Adapter, SMA Male to N Male; N, G, T	13.20	11.22	10.30
16N2736	8589-0854	Adapter, SMA Male to BNC Female; N, G, T	12.63	10.74	9.85
16N2737	8589-0855	Adapter, SMA Male to BNC Male; N, G, T	15.94	13.55	12.44
16N2738	8589-0856	Adapter, SMA Female to Mini UHF Male; N, G, T	6.16	5.24	4.81
16N2739	8589-0857	Adapter, SMA Female to Mini UHF Female; N, G, T	9.27	7.88	7.23
16N2740	8589-0858	Adapter, SMA Female to BNC Male; N, G, T	12.37	10.52	9.65
16N2741	8589-0859	Adapter, SMA Female to BNC Male; G, G, T	16.36	13.90	12.76
16N2742	8589-0860	Adapter, SMA Female to N Female; N, G, T	13.41	11.40	10.46
16N2743	8589-0861	Adapter, SMA Female to N Male; N, G, T	15.22	12.94	11.87
92N3393	1547	SMA Female to TNC Female; N, G, T	13.20	11.22	10.10
16N2753	8589-0871	SMA Male Plug for 0.085mm Semi-Rigid Cable; N, G, T	5.08	4.31	3.96
16N2754	8589-0872	SMA Male Plug for 0.141mm Semi-Rigid Cable; N, G, T	5.08	4.31	3.96
16N2755	8589-0873	Female Bulkhead, 2-Hole Flange; N, G, T	9.42	8.01	7.35
16N2756	8589-0874	Female Bulkhead, 4-Hole Flange; N, G, T	9.42	8.01	7.35

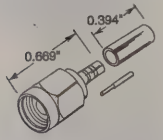
(8853) (ne08549)



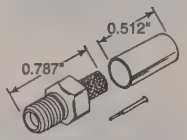
8589-0861

8589-0858

8589-0860



8589-0831



8589-0836

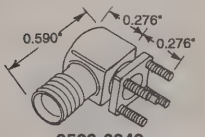
8589-0844

8589-0854

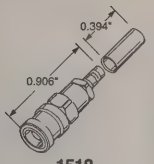
8589-0857

8589-0837

8589-0839



8589-0842



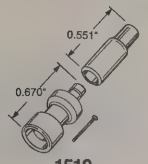
1518

SMB CONNECTORS AND ADAPTERS

Contact, body, and/or insulating material of SMB adapters is identified in the table as follows: "N" indicates nickel body plating; "G" indicates gold contact or body plating; and "T" indicates Teflon® insulation. Impedance: 50 ohms. Voltage rating: 375V peak. Frequency range: 0-4GHz.

Stock No.	Type	Description	1-24	25-49	50-99
92N3364	1518	Crimp Plug; N, G, T	3.99	3.39	3.05
92N3365	1519	Crimp Plug; N, G, T	3.57	3.04	2.74
92N3366	1520	R/A Crimp Plug; N, G, T	5.64	4.80	4.32
92N3367	1521	Crimp Jack; N, G, T	10.56	8.98	8.08
92N3368	1522	Clamp Plug; N, G, T	11.29	9.59	8.63
92N3369	1523	Bulkhead Crimp Jack; N, G, T	11.29	9.59	8.63
92N3370	1524	R/A PCB Mount; N, G, T	8.80	7.48	6.73
92N3371	1525	Vertical PCB Mount; N, G, T	3.01	2.56	2.30

(12952) (ne09913)



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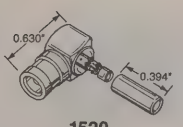

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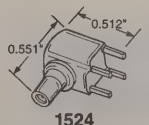

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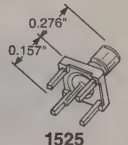


1525

SMA ADAPTER KIT

Stock No.	Type	Description	Each
16N2746	8589-0864	13-Pc. SMA Adapter Kit Contains In- and Between-Series SMA Adapters	124.19

(8852) (ne08548)

SMA Adapter Kit

VOLTREX™ BRAND CRIMP-ON BNC CONNECTORS

Lightweight BNC connectors significantly reduce assembly time for cable connection. **Figs. 1** and **3** are 2-pc. crimp plugs or jacks consisting of the connector and ferrule with a frequency range up to 4Ghz. **Fig. 2** are 3-pc. crimp plugs consisting of the connector, ferrule, and center contact with a frequency range up to 4GHz. **Fig. 4** are clamp-type plugs with solder contact. **Fig. 5** is a 2-pc. 75-ohm crimp plug with a frequency rating of 0-1GHz. Order **type CTR-8556-01** crimp tool separately; *contact your local Newark sales office for details.* UL recognized.

Fig. 1

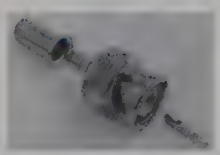


Fig. 2

Fig. 3

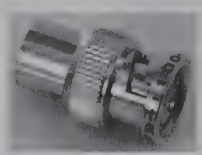


Fig. 4

Fig. 5

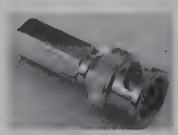


Fig. 6

Fig. 7

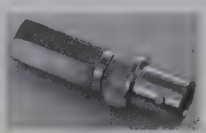


Fig. 8

Fig. 9

Fig. 10

Fig. 11

Fig. 12

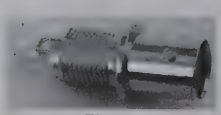


Fig. 13

Fig. 14

Fig. 15

50-OHM BNC CRIMP PLUGS

Stock No.	Type	Fig.	RG/U	Jacket O.D.	1-24	25-49	50-99
32N1108	CP88-1	1	58	0.195 - 0.210″	3.10	2.63	2.37
32N1109	CP88-2	1	59, 62	0.220 - 0.250″	2.75	2.33	2.10
84N1541	SPC4211	1	Belden 8281	0.272 - 0.307″	2.99	2.55	2.29
46N7374	SPC88-2	1	59, 62	0.220 - 0.250″	1.87	1.59	1.43
84N1406	SPC4165	1	58, 141, 142	0.195 - 0.210″	1.25	1.07	0.96
84N1407	SPC4166	1	174, 188, 316	0.085 - 0.105″	1.25	1.07	0.96
84N1264	SPC4275	1	58	0.195 - 0.210″	14.99	12.75	11.47
84N1549	SPC4219	2	6	0.265 - 0.280″	2.99	2.55	2.29
84N1550	SPC4220	2	6	0.265 - 0.280″	2.99	2.55	2.29
84N1563	SPC4233	2	59TFE, 62	0.195 - 0.210″	3.25	2.77	2.49
81N5443	CPMC88-58	2	58, 141	0.185 - 0.210″	2.80	2.38	2.14
81N5440	CPMC88-62	2	59, 62	0.220 - 0.250″	2.95	2.51	2.26
84N1537	SPC4207	2	59, 62	0.220 - 0.250″	3.59	3.06	2.75
84N1547	SPC4217	2	179, 187	0.095 - 0.106″	0.39	0.34	0.30
92N3404	1580	2	58TFE	0.175 - 0.191″	3.78	3.21	2.89
92N3405	1581	2	55, 142, 223	0.200 - 0.215″	3.78	3.21	2.89
84N1539	SPC4209	2	179, 187	...	2.99	2.55	2.29
81N5449	CPM88-174	2	174, 188	0.085 - 0.105″	3.10	2.63	2.37
50-OHM BNC CRIMP JACKS							
44N3642	CP89-1	3	58	0.195 - 0.210″	3.10	2.63	2.37
44N3643	CP89-2	3	59, 62	0.220 - 0.250″	3.10	2.63	2.37
84N1551	SPC4221	3	6	0.265 - 0.280″	3.25	2.77	2.49
50-OHM BNC CLAMP PLUGS							
92N3397	1551	4	58	0.185 - 0.205″	3.16	2.69	2.42
84N1253	SPC4264	4	174	0.095 - 0.115″	5.99	5.10	4.59
84N1265	SPC4276	4	8	0.395 - 0.415″	9.99	8.50	7.65
75-OHM BNC CRIMP PLUGS							
84N1542	SPC4212	2	6	0.265 - 0.280″	2.99	2.55	2.29
92N3399	1553	5	Belden 8281	0.295 - 0.315″	4.71	4.01	3.61
97N7729	CPMC-78-2	2	59, 62	0.220 - 0.250″	2.54	2.16	1.94
97N7730	CPMC-78-3	2	Belden 8281	0.280 - 0.305″	3.10	2.63	2.37
92N3408	1584	2	59, 62TFE	0.195 - 0.205″	6.58	5.59	5.03

(8801) (de53626)

VOLTREX™ BRAND TWIST-ON BNC CONNECTORS

Lightweight BNC plugs and jacks significantly reduce assembly time for cable connection because there is no soldering or special tools required for termination. **Figs. 6-8** are designed for solid wire except for **types CPFI-88SW-1**, and **CPFI-88SW-2** designed for stranded wire. **Figs. 9-15** are intermateable with all BNC units having a 2-stud bayonet locking coupling mechanism that meets military specifications MIL-C-39012. Frequency rating: 0-4GHz.

50-OHM BNC TWIST-ON PLUGS

Stock No.	Type	Fig.	RG/U	Jacket O.D.	1-24	25-49	50-99
84N1552	SPC4222	6	6	0.270 - 0.280″	2.99	2.55	2.29
32N1100	CPFI-UG88-1*	6	58	0.185 - 0.205″	3.10	2.63	2.37
32N1101	CPFI-UG88-2	6	58, 62	0.220 - 0.250″	2.85	2.42	2.18
46N7354	SPCFI-UG88-2*	6	59, 62	0.220 - 0.250″	2.02	1.72	1.55
95N3517	CPFI-88SW-1	6	58	0.185 - 0.205″	3.47	2.95	2.66
95N3518	CPFI-88SW-2	6	59	0.220 - 0.250″	3.47	2.95	2.66
81N5344	CPFI-RA-2	7	58, 62	0.220 - 0.250″	7.24	6.15	5.54
75-OHM BNC TWIST-ON PLUGS							
84N1560	SPC4230	6	6	0.270 - 0.280″	1.99	1.70	1.53
84N1563	SPC4233	6	59	0.220 - 0.250″	3.25	2.77	2.49
50-OHM BNC TWIST-ON JACKS							
84N1553	SPC4223	8	6	0.270 - 0.280″	3.25	2.77	2.49
81N5438	CPFI-UG89-2	8	59, 62	0.220 - 0.250″	3.63	3.08	2.77
RIGHT-ANGLE PC BOARD MOUNT JACK							
92N3398	1552	9	...	...	4.14	3.52	3.17
50-OHM BULKHEAD JACKS							
81N5453	CP1094A-LN-D	10	...	...	1.56	1.32	1.19
84N1263	SPC4274**	10	...	...	2.99	2.55	2.29
81N5454	CP1094U-LN-D	10	...	...	1.56	1.32	1.19
46N7366	SPC1094U-LN-G	11	...	...	1.30	1.10	0.99
89N268	SPC1094-LN-IG	12	...	...	2.59	2.20	1.98
90N3218	CP-1094A/ST-50	13	...	...	2.06	1.75	1.58
50-OHM BNC CHASSIS MOUNT JACKS							
92N3402	1578+	14	...	...	9.06	7.70	6.93
92N3403	1579	15	...	...	5.23	4.45	4.00

*Commerical grade;**75-ohm; +Dual/isolated

(8878) (ne51191)

CATV/MATV PRODUCTS

VOLTREX™ BRAND F CONNECTORS

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

Fig. 7

Fig. 8

Fig. 9

Fig. 10

Fig. 11

Fig. 12

Fig. 13

Fig. 14

Fig. 15

Fig. 16

Crimp-on, twist-on, and push-on F connectors significantly reduce assembly time for cable connection. Voltage rating: 500V. Frequency rating: 0-4GHz. UL recognized.

CRIMP-ON PLUGS WITH FERRULE

Stock No.	Type	Fig.	RG/U	Crimp Tool	1-24	25-49	50-99
87N1368	SPC-CF-6*	1	6	CTR-8572-01	0.37	0.31	0.28
92N3412	1588	1	6	CTR-8572-01	2.07	1.76	1.59
92N3414	1590	2	11	CT-100-F	4.14	3.52	3.17
84N1543	SPC4213	1	Tri-Shield	CTR-8572-01	0.39	0.34	0.30
84N1544	SPC4214	1	6	CTR-8572-01	0.39	0.34	0.30
84N1545	SPC4215	1	Tri-Shield	CTR-8572-01	0.39	0.34	0.30
87N1369	SPC-CF-59*	1	59	CTR-8572-01	0.37	0.31	0.28
32N1110	CPF 59-S+	3	59	CTR-8572-01	1.03	0.87	0.79
32N1129	CPF59-1/8+	4	59	CT-100-F	0.76	0.65	0.58
84N1399	SPC4158†	6	59	CTR-8572-01	0.99	0.85	0.76

WEATHERPROOF CRIMP-ON PLUGS

Type 2768 includes sealer ring that prevents moisture from damaging connection integrity. **Types 2765** and **2766** are gel-filled with an O-ring seal. **Type 2767** Snap-N-Seal plug includes a locking nut to weatherproof head-end of connector; *order* **type 1737** *Snap-N-Seal crimp tool separately on this page.*

92N5307	2765-SPC	1	6	CTR-8572-01	1.49	1.37	1.27
92N5308	2766-SPC	1	6	CTR-8572-01	0.99	0.91	0.85
92N5309	2767-SPC	7	6	1737	1.99	1.83	1.70
92N5310	2768-SPC	8	6	CTR-8572-01	1.29	1.37	1.27

PUSH-ON PLUGS

46N7375	SPCF-59P0+	5	59	CT-100-F	0.52	0.44	0.40
87N811	F-PHONO	10	6	CTR-8572-01	2.23	1.89	1.71

TWIST-ON PLUGS

92N3413	1589	9	6	CTR-8572-01	2.07	1.76	1.59
89N076	SPCFI-59	9	6	CTR-8572-01	0.35	0.29	0.26
84N1548	SPC4218‡	9	59	...	0.39	0.34	0.30
84N1546	SPC4216	11	59	...	0.39	0.34	0.30

CHASSIS-MOUNT FITTINGS

84N543	SPCF-61-A-S	12	...	...	0.55	0.47	0.42
84N541	CPF-61-HD	12	...	...	1.03	0.87	0.79
84N542	CPF-61-AD	13	...	...	1.03	0.87	0.79

75-OHM PC BOARD MOUNT JACKS

Right-angle jacks **type SPCF23PC-RA** with 33mm extended length and **type 8589-0940** with 28mm extended length.

46N7378	SPCF-22FPC	14	...	...	0.78	0.66	0.60
89N1549	SPCF23PC-RA	15	...	...	0.99	0.85	0.76
16N8642	8589-0940	15	...	...	1.49	1.27	1.14

75-OHM TERMINATOR — ½ WATT 5%

92N3411	1587	16	59	CTR-8572-01	2.07	1.76	1.59

*Commercial Grade; +Not UL recognized; †Crimp-On Jack; ‡Quick Disconnect
(17758) (ne10829)

SNAP-N-SEAL CRIMP TOOL

NEW

Compresses **type 2767-SPC** Snap-N-Seal connectors, *ordered separately on this page.* Also crimps RG-6 standard, tri-shield, and quad-shield cable and RG-59 cable. Cushioned handles for better grip and comfort. Overall length: 8½″.

92N3699 Type 1737. **Each** **59.99**
(33376) (ne33376)

CATV/MATV CABLE ASSEMBLIES

NEW

Fig. 1

Fig. 2

Fig. 3

Feature molded stress relief boot at each end.

Stock No.	Type	Fig.	Description	Cable Length	Each
84N1389	SPC4148	1	F Plug-to-F Plug, RG59/U	3′	2.29
84N1390	SPC4149	1	F Plug-to-F Plug, RG59/U	6′	2.89
84N1391	SPC4150	2	Push-On F Plug-to-	3′	2.89
84N1392	SPC4151	2	Push-On F Plug, RG59/U	6′	3.59
84N1393	SPC4152	3	RCA Plug-to-RCA Plug, RG59/U	3′	2.09
84N1394	SPC4153	3	RCA Plug-to-RCA Plug, RG59/U	6′	2.69

(33375) (ne33375)

CATV/MATV SPLITTERS

NEW

Mini 2-Way

2-Way

3-Way

4-Way

Zinc diecast construction. Rated: UHF/VHF/FM5-900MHz.

Stock No.	Type	Description	Each
84N1402	SPC4161	Mini 2-Way Splitter	0.99
84N1403	SPC4162	2-Way Splitter	0.99
84N1404	SPC4163	3-Way Splitter	1.29
84N1405	SPC4164	4-Way Splitter	1.39

(33374) (ne33374)

BESTOOL™ BRAND F-TYPE COAXIAL CRIMP TOOL

Type CT-100F parallel action coaxial crimp tool for F type connectors is an economical, rugged 2-cavity hand tool. Crimp capacity for front cavity is 0.260″ diameter and rear cavity is 0.429″ diameter. High carbon thru-hardened alloy steel jaws. High carbon steel handles with nickel-plated finish feature black cushion grips. Overall length: 9″.

81N5434 Type CT-100-F. **Each** **16.15**
(8737) (de04265)

BESTOOL™ BRAND F CONNECTOR TOOL

F connector tool combines two tools into one, a 7⁄16″ hex socket and #3⁄8-32 threaded end. The hex socket makes installation and removal of CATV F connectors easy. The threaded end makes it easy to install connectors on coaxial cable.

92N3775 Type 2037. **Each** **26.86**
(18630) (ne10840)

BESTOOL™ BRAND CATV CABLE STRIPPER AND CARTRIDGES

CATV cable stripper strips RG-6/59 to ¼″ x ¼″ preparation. Replaceable snap-in cartridges; *order separately below.* Spare cartridge holder built into tool.

Stock No.	Type	Description	RG/U	Each
92N3745	1750	Cable Stripper	6/59	20.65
92N3746	1751	Cartridge Only	11/7	20.65
92N3747	1752	Cartridge Only	6/59, 11/7	26.86

(18637) (ne10837)

COAXIAL CONNECTOR KITS AND TOOLS

CRIMP-ON BNC CONNECTOR KITS

EASY-ON™ brand

Connectors reduce installation time. At the center of the preassembled unit is a self-energizing contact between 2 polyethylene insulators. To install, push the trimmed center conductor home and complete the termination by sliding the braid crimp ferrule over the end of the unit and crimp. **Type 8411-UG88/1** kit contains: 25 RG-58/U connectors, universal coax stripper, and a full-cycle ratchet-type crimp tool. **Type 8411-UG88/2** kit contains: 25 RG-59/U and RG-62/U connectors, universal coax stripper, and a full-cycle ratchet-type crimp tool.

Stock No.	Type	Description	Each
23N3623	8411-UG88/1	RG-58/U Crimp-On BNC Kit	119.99
23N3624	8411-UG88/2	RG-59/U, -62 Crimp-On BNC Kit	119.99

(8802) (de53627)

TWIST-ON COAXIAL CONNECTOR KITS

EASY-ON™ brand

Connectors significantly reduce installation time. At the center of the preassembled unit is a self-energizing contact between 2 polyethylene insulators. **Type 8412-UG88-1** kit contains : 25 RG-58/U connnectors and a universal coax stripper. **Type 8413-UG88-2** kit contains: 25 RG-59/U and RG-62/U connectors and a universal coax stripper. *Order replacement tool,* **type 1595** *cable stripper, separately on this page.*

Stock No.	Type	Description	Each
89N2550	8412-UG88-1	RG/U 58 Twist-On Coax Connector Kit	99.99
89N2551	8413-UG88-2	RG/U 59, 62 Twist-On Coax Connector Kit	99.99

(8879) (ne51192)

BNC CONNECTOR REMOVAL TOOLS

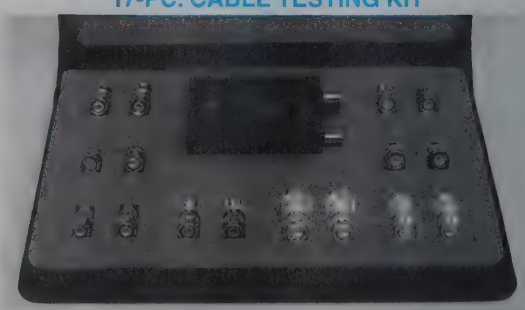
NEW

Easy-to-use extraction tool allows access to high-density locations for removal of BNC connectors. Choice of 3 lengths.

Stock No.	Type	Length	Each
84N1405	SPC4164	8″	8.99
84N1408	SPC4167	12″	9.99
84N1409	SPC4168	16″	9.99

(32200) (ne32200)

17-PC. CABLE TESTING KIT

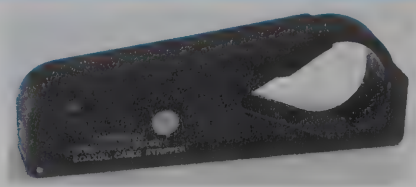


17-pc. cable testing kit includes coaxial cable tester for mini-UHF, TNC, UHF, male and/or female BNC, N or SMA terminations.

16N2744 Type 8589-0862. **Each** **175.94**

(18628) (ne10839)

SELF-ADJUSTING COAXIAL CABLE STRIPPERS



BESTOOL™ brand

Coaxial cable strippers feature self-adjusting blades. For RG/U 6, 58, 59,62 cable. *Order replacement blades separately below.*

Stock No.	Type	Description	Each
92N3418	1594	2-Step Cable Stripper	18.62
92N3419	1595	3-Step Cable Stripper	19.66
84N1039	3609	Replacement Blade for **type 1594**	4.99
84N1040	3610	Replacement Blade for **type 1595**	4.99

(18638) (ne10838)

CABLE ASSEMBLIES KIT

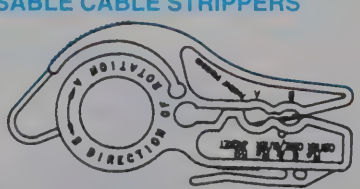
EASY-ON™ brand

6-piece cable assemblies kit can be used with universal adapter kit **type 8589-0863** ordered separately; *contact your local Newark sales office for details.* Extra-flexible type RG-58A/U cable with 100% double-braid shielding. Connectors at both ends are silver-plated machined brass with gold-plated contacts. Wire wall rack keeps cable organized.

16N7747 Type 8589-0931. **Each** **93.14**

(8846) (ne08517)

DISPOSABLE CABLE STRIPPERS



BESTOOL™ brand

Type CS-200 is a 2-level stripper for RG-6, RG-59, and RG-62 cable.

95N5162 Type CS-200. **Each** **8.08**

Type CS-300 is a 3-level stripper for RG-58, RG-59, and RG-62 cable.

95N5163 Type CS-300. **Each** **8.08**

(8708) (de01937)

SAME-DAY SHIPMENT ON ORDERS PLACED BY 5:00 PM C.S.T.

COAXIAL CONNECTORS

VOLTREX™ BRAND TNC CONNECTORS

TNC plugs and jacks have a voltage rating of 500V and a frequency rating of 0-4GHz. Feature Delrin insulation except **types 1536** and **1540** which are Teflon®. Type numbers with (*) have brass contacts; (+) gold; (†) silver. UL recognized. *Order* **type CRT-8556-01** *crimp tool separately; contact your local Newark sales office for details.*

50-OHM TNC PLUGS

Stock No.	Type	Fig.	RG/U	Jacket O.D.	1-24	25-49	50-99
84N1554	SPC4224*	1	58	0.195-0.210″	2.99	2.55	2.29
90N3210	CPMC-TNC-58*	2	58	0.195-0.210″	3.10	2.63	2.37
90N3208	CPMC-TNC-59/62*	2	59, 62	0.220-0.250″	3.10	2.63	2.37
92N3390	1544+•	2	59	0.220-0.250″	3.94	3.35	3.01

50-OHM TNC CRIMP JACKS

84N1271	SPC4347+	3	58	0.195-0.210″	5.99	5.10	4.59
84N1556	SPC4226*	4	59, 62	0.220-0.250″	3.99	3.40	3.06

TNC CLAMP PLUGS

92N3382	1536‡†	5	58	0.195-0.210″	4.51	3.83	3.45
92N3383	1537+	2	58	0.195-0.210″	4.92	4.18	3.76
92N3384	1538+	2	Proflex	0.220-0.250″	6.73	5.72	5.15
92N3385	1539+	2	8	0.395-0415″	6.73	5.72	5.15

TNC BULKHEAD JACKS

92N3386	1540+	6	...	...	5.85	4.97	4.48
92N3387	1541+◆	7	58	0.195-0.210″	9.32	7.92	7.13

50-OHM TNC TWIST-ON PLUGS

92N3391	1545†	8	58	0.195-0.210″	6.42	5.46	4.91
92N3392	1546†•	8	59	0.220-0.250″	5.33	4.53	4.08
81N5349	CPFI-TNC-RA2*	9	59, 62	0.220-0.250″	9.31	7.91	7.12

50-OHM TNC TERMINATORS

90N3215	CP-TNC-T-50	10	...	...	5.70	4.84	4.36
84N1534	SPC4204•	10	...	...	4.99	4.25	3.82

‡Solder; ◆Rear-Mount Crimp; •75 Ohm
(18027)

(ne10835)

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

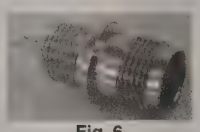


Fig. 6

Fig. 7

Fig. 8

Fig. 9

Fig. 10

VOLTREX™ BRAND N CONNECTORS

50-ohm N connectors feature Teflon® insulation. Type numbers with (*) have brass contacts and offer a voltage rating of 500V and a frequency rating of 0-11GHz. Type numbers with (+) have gold contacts and offer a voltage rating of 1000V and a frequency rating of 0-3GHz.

CRIMP PLUGS

Stock No.	Type	Fig.	RG/U	Jacket O.D.	1-24	25-49	50-99
84N1255	SPC4266+	11	8	0.400-0.410″	8.29	7.05	6.35
87N818	CPN-58*	11	58	0.185-0.205″	7.24	6.15	5.54
84N1254	SPC4265+	11	58	0.185-0.205″	6.25	5.32	4.79
92N3396	1550+†	12	58	0.185-0.205″	10.35	8.80	7.92

CRIMP JACK

84N1270	SPC4346+	13	58	0.185-0.205″	8.99	7.65	6.88

CLAMP PLUGS

92N3394	1548+	14	58	0.185-0.205″	12.42	10.56	9.51
84N1256	SPC4267+‡	14	58	0.185-0.205″	7.50	6.38	5.74
92N3395	1549+‡	15	8	0.395-0.415″	12.42	10.56	9.51
84N1266	SPC4277+	15	Belden 9913	...	6.99	5.95	5.35

CLAMP JACKS

84N1268	SPC4344+	16	Belden 9913	...	10.99	9.35	8.41
84N1269	SPC4345+	17	58	0.185-0.205″	11.99	10.20	9.18

TWIST-ON PLUG

87N807	CPFI-ETN-1*	18	ETN-Poly	0.400-0.410″	8.27	7.03	6.33

†Female 4-Hole Flange; ‡Solder
(18028)

(ne10834)

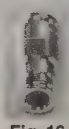
Fig. 11

Fig. 12

Fig. 13

Fig. 14

Fig. 15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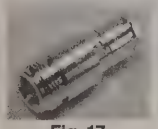


Fig. 17

Fig. 18

VOLTREX™ BRAND 50-OHM UHF AND MINI-UHF CONNECTORS

All connectors have a voltage rating of 500V with a frequency rating of 0-2GHz, except **types 1532-1534**, which have a frequency rating of 0-500MHz and **type 1507** which has a voltage rating of 335V. Feature Delrin insulation except, **type 1532**, which is Bakelite and **types 1533, 1534** which are Teflon®. Type numbers with (*) have brass contacts. Type numbers with (+) have silver contacts.

UHF CRIMP PLUGS

Stock No.	Type	Fig.	RG/U	AWG	Jacket O.D.	1-24	25-49	50-99
92N3378	1532+	19	58	20	0.195-0.210″	3.06	2.60	2.34
92N3379	1533+†	20	59	22	0.220-0.250″	4.77	4.05	3.65
92N3380	1534+	19	58	20	0.195-0.210″	5.59	4.75	4.28
39N030	2290*†	20	6	18	0.265-0.280″	1.91	1.45	1.22

UHF TWIST-ON PLUGS

32N1102	CPFI 259-19	...	58	...	0.185-0.205″	3.10	2.63	2.37
32N1103	CPFI 259-11	...	59	...	0.220-0.250″	3.10	2.63	2.37

MINI-UHF CRIMP PLUGS

87N821	MINI-UHF-58*	21	58	20	0.195-0.210″	2.23	1.89	1.71
92N3353	1507+	22	58	20	0.195-0.210″	2.75	2.33	2.10
95N3527	MINI-UHF-CRIMP*‡	23	58	20	0.195-0.210″	3.10	2.63	2.37

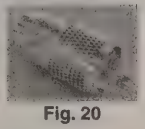
MINI-UHF PUSH-ON PLUG

95N3526	MINI-UHF PUSH ON*	24	58	20	0.195-0.210″	2.06	1.75	1.58

†Solder Plug; ‡Female Crimp Plug
(32072)

(ne32072)

Fig. 19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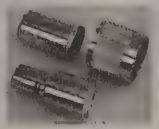


Fig. 21

Fig. 22

Fig. 23

Fig. 24

COAXIAL ADAPTERS

INTRA- AND BETWEEN-SERIES COAXIAL ADAPTERS

VOLTREX™ brand

Fig. 1

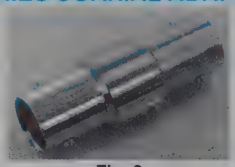


Fig. 2

Fig. 3

Fig. 4

Fig. 5

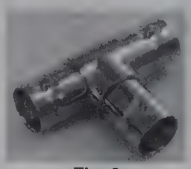


Fig. 6

Fig. 7

Fig. 8

Fig. 9

Fig. 10

Fig. 11

Fig. 12

Fig. 13

Fig. 14

Fig. 15

Fig. 16

Fig. 17

Fig. 18

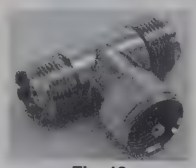


Fig. 19

Fig. 20

Fig. 21

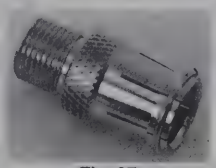
Fig. 22

Fig. 23

Fig. 24

Fig. 25

Fig. 26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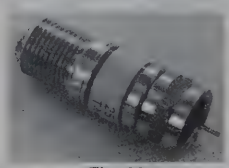


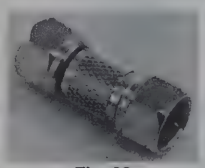
Fig. 28

Fig. 29

Fig. 30

Fig. 31

Fig. 32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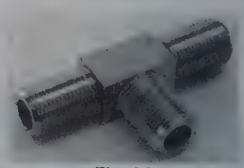


Fig. 34

Fig. 35

Fig. 36

Fig. 37

Fig. 38

Fig. 39

Fig. 40

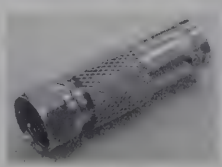


Fig. 41

Fig. 42

Fig. 43

Fig. 44

CONTINUED

COAXIAL ADAPTERS

INTRA- AND BETWEEN-SERIES COAXIAL ADAPTERS (CONT.)

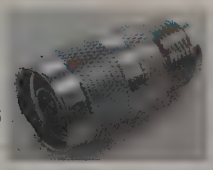
Fig. 45 

Fig. 46

Fig. 47

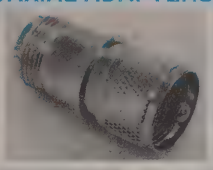
Fig. 48 

Fig. 49

Fig. 50

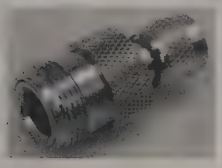
Fig. 51 

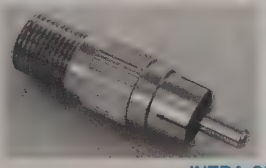
Fig. 52 

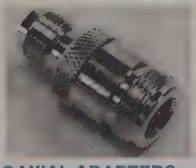
Fig. 53 

Fig. 54

Fig. 55

Fig. 56

INTRA-SERIES COAXIAL ADAPTERS

Stock No.	Fig.	Description	Length	1-24	25-49	50-99
81N5460	1	BNC Male to BNC Male	2.000″	5.17	4.39	3.95
92N3698	1	Economy BNC Male to BNC Male	1.285″	2.06	1.75	1.58
81N5461	2	BNC Female to BNC Female	1.250″	3.10	2.63	2.37
46N7367	2	Economy BNC Female to BNC Female	1.250″	2.06	1.75	1.58
84N1558	2	75-Ohm BNC Female to BNC Female	1.250″	5.29	4.50	4.05
46N7368	3	BNC "T" Female to Male to Female	1.500″	2.49	2.12	1.91
92N3400	3	Ecomony BNC "T" Female to Male to Female	1.500″	2.07	1.76	1.59
84N1559	3	75-Ohm BNC "T" Female to Male to Female	1.282″	3.25	2.77	2.49
92N3401	4	BNC Female to Right-Angle Male	.945″	9.89	8.41	7.56
84N1538	5	BNC Triple Male	1.817″	8.99	7.65	6.88
84N1561	6	BNC Triple Female	1.276″	3.99	3.40	3.06
84N1386	7	Protective Cap for BNC	...	1.99	1.70	1.53
90N3212	8	50-Ohm BNC Terminator — Green	...	4.13	3.51	3.16
84N1387	8	Economy 50-Ohm BNC Terminator	...	1.99	1.70	1.53
90N3213	8	75-Ohm BNC Terminator — Purple	...	4.13	3.51	3.16
84N1388	8	Economy 75-Ohm BNC Terminator	...	1.99	1.70	1.53
90N3214	8	93-Ohm BNC Terminator — White	...	4.13	3.51	3.16
87N814	9	BNC Bulkhead Female to Female	1.281″	6.20	5.27	4.75
92N3410	10	UG-27/U N Female to N Male, Right-Angle	...	14.75	12.54	11.29
46N7369	11	N Male to N Male	1.563″	4.40	3.74	3.37
46N7370	12	N Female to N Female	1.750″	3.89	3.30	2.97
87N815	13	TNC Bulkhead Female to Female	1.281″	7.24	6.15	5.54
87N816	14	TNC Female to TNC Female Splice	1.281″	5.17	4.39	3.95
84N1248	15	TNC Double Female to TNC Male	1.280″	7.99	6.80	6.12
84N1258	16	UHF Double Female	1.105″	8.99	7.65	6.88
84N1259	17	UHF Double Male	1.315″	7.99	6.80	6.12
84N1276	18	UHF Triple Female	1.584″	7.99	6.80	6.12
46N7372	19	UHF Female to Male to Female	1.625″	4.13	3.51	3.16
46N7371	20	UHF Male to UHF Female, Right-Angle	1.125″	3.78	3.21	2.89
92N3355	21	Mini-UHF Male to UHF Female	1.260″	9.84	8.36	7.53
84N1272	22	Mini-UHF Male to Mini-UHF Male	0.990″	8.99	7.65	6.88
92N3357	23	Mini-UHF Male to UHF Male	1.102″	4.45	3.79	3.41
84N1260	24	Mini-UHF Female to Mini-UHF Female	1.117″	8.99	7.65	6.88
84N1274	25	Mini-UHF Male to Mini-UHF Double Female	1.275″	8.25	7.02	6.32
84N1275	26	Mini-UHF Triple Female	1.280″	7.99	6.80	6.12
92N3415	27	Push-On F Female to F Male	...	2.07	1.76	1.59
92N3416	28	F Female to F Male Voltage Blocking Coupler	...	4.09	3.48	3.13
32N1114	29	CPF 81-AB F Female to F Female	0.875″	0.57	0.49	0.44
87N813	30	F Female Splice	0.938″	0.52	0.44	0.40
46N7360	31	SPCF 81-AB F Female to F Female	1.063″	0.63	0.53	0.48
46N7361	32	F Female to F Male, Right-Angle	1.125″	1.30	1.10	0.99
46N7362	33	F Male to F Male	0.750″	1.19	1.02	0.91
84N1400	34	F Triple Female	1.638″	1.25	1.07	0.96
39N035	35	PL-258 Straight Adapter	...	1.52	1.15	0.97
39N040	36	UG-175U Reducing Adapter	...	0.48	0.37	0.31
39N041	37	UG-176U Reducing Adapter	...	0.48	0.37	0.31

BETWEEN-SERIES COAXIAL ADAPTERS

Stock No.	Fig.	Description	Length	1-24	25-49	50-99
81N5462	38	BNC Male to UHF Female	2.000″	4.66	3.96	3.57
81N5464	39	BNC Male to F Female	1.031″	3.10	2.63	2.37
81N5463	40	BNC Female to UHF Male	2.000″	4.66	3.96	3.57
46N7365	41	BNC Female to F Male	1.375″	2.06	1.75	1.58
46N7363	42	BNC Female to N Female	0.750″	3.94	3.35	3.01
95N3521	43	BNC Female to Mini-UHF Male	1.185″	6.20	5.27	4.75
84N1560	44	BNC Female to RCA Male	...	1.99	1.70	1.53
46N7364	45	UHF Female to N Male	1.375″	3.89	3.30	2.97
87N823	46	F Female to UHF Male	2.063″	4.13	3.51	3.16
84N1257	47	N Male to BNC Female	...	7.85	6.68	6.01
87N812	48	N Female to UHF Male	1.406″	3.99	3.39	3.05
84N1273	49	Mini-UHF Female to BNC Male	1.217″	8.99	7.65	6.88
95N3522	50	Mini-UHF Male to TNC Female	1.185″	3.37	2.86	2.58
92N3356	50	Mini-UHF Male to TNC Female	1.181″	9.06	7.70	6.93
92N3354	51	Mini-UHF Male to N Female	1.181″	10.35	8.80	7.92
92N3417	52	RCA Male to F Female	...	2.07	1.76	1.59
84N1252	53	TNC Female to N Female	1.283″	8.99	7.65	6.88
92N3388	54	TNC Female to N Male	1.250″	14.49	12.32	11.09
92N3389	55	TNC Male to N Female	1.300″	16.05	13.64	12.28
84N1251	56	TNC Male to UHF Female	1.387″	6.99	5.95	5.35

(8813) (ne02053)

COAXIAL CONNECTORS AND KITS

50-OHM BNC MALE CABLE ASSEMBLIES

Clamp-On

Crimp-On

BNC male-to-BNC male. Clamp-on and crimp-on versions feature RG58C/U cable.

Stock No.	Type	Termination	Length	1-9	10-24
92N4015	3330	Clamp-On	18″ (0.457m)	12.68	10.78
92N4016	1770	Clamp-On	24″ (0.610m)	12.94	11.00
92N4017	1771	Clamp-On	36″ (0.914m)	13.41	11.40
92N4018	1772	Clamp-On	48″ (1.219m)	13.98	11.88
92N4019	1773	Clamp-On	60″ (1.524m)	14.44	12.28
92N4020	1774	Crimp-On	12″ (0.305m)	6.73	5.72
92N4021	3331	Crimp-On	24″ (0.610m)	6.99	5.94
92N4022	1776	Crimp-On	36″ (0.914m)	7.20	6.12
92N4023	1777	Crimp-On	48″ (1.219m)	9.32	7.92
92N4024	1778	Crimp-On	60″ (1.524m)	9.58	8.14
92N4025	1779	Crimp-On	72″ (1.829m)	9.84	8.36
92N4026	1780	Crimp-On	120″ (3.048m)	11.91	10.12

(18631) (ne10841)

BOOTED BNC CABLE ASSEMBLIES

BNC male-to-BNC male. Molded stress relief boot.

Stock No.	Type	Ohms	RG/U	Length	1-9	10-24
92N4027	1781	50	58C	12″ (0.305m)	11.34	9.64
92N4028	1782	50	58C	24″ (0.610m)	11.91	10.12
92N4029	1783	50	58C	36″ (0.914m)	12.37	10.52
92N4030	1784	50	58C	48″ (1.219m)	12.94	11.00
92N4031	1785	50	58C	60″ (1.524m)	13.41	11.40
92N4032	1786	50	58C	72″ (1.829m)	13.98	11.88
92N4033	1787	50	58C	120″ (3.048m)	15.48	13.16
92N4034	1788	50	58C	180″ (4.572m)	16.51	14.04
92N4044	1798	50	58A	24″ (0.610m)	15.79	13.42
92N4045	1799	50	58A	36″ (0.914m)	16.15	13.73
92N4046	1800	50	58A	48″ (1.219m)	16.51	14.04
92N4047	1801	50	58A	60″ (1.524m)	17.08	14.52
92N4035	1789	50	59B	12″ (0.305m)	12.17	10.34
92N4036	1790	50	59B	24″ (0.610m)	12.94	11.00
92N4037	1791	50	59B	36″ (0.914m)	13.72	11.66
92N4038	1792	50	59B	48″ (1.219m)	14.44	12.28
92N4039	1793	50	59B	60″ (1.524m)	15.01	12.76
92N4040	1794	50	59B	72″ (1.829m)	15.48	13.16
92N4041	1795	93	62A	36″ (0.914m)	15.27	12.98
92N4042	1796	93	62A	48″ (1.219m)	15.53	13.20
92N4043	1797	93	62A	60″ (1.524m)	15.99	13.60

(18629) (ne10842)

EASY-ON™ BRAND 30-PC. UNIVERSAL COAXIAL ADAPTER KIT

Type 8589-0863 30-piece universal adapter kit allows mix and match of any 2 male or female coaxial fittings. Each connector has a common end and a universal end. Simply choose the 2 common connector ends needed and screw them together with the universal adapter. Kit contains 6 universal adapters, 2 each of the following: BNC male adapters, BNC female adapters, N male adapters, N female adapters, SMA male adapters, SMA female adapters, TNC male adapters, TNC female adapters, UHF male adapters, UHF female adapters, mini-UHF male adapters, and mini-UHF female adapters. All parts are silver plated with gold contacts and Teflon® insulation. Features handy zippered storage case.

16N2745 Type 8589-0863. **Each** 175.94
(8845) (ne08516)

EASY-ON™ BRAND MCX MICROMINIATURE CONNECTORS

Straight

Right-Angle

PC Board Mount

Stock No.	Type	Description	1-24	25-49	50-99
92N3358	1512	Straight Crimp Plug	9.32	7.92	7.13
92N3359	1513	Straight Crimp Plug	8.39	7.13	6.42
92N3360	1514	Right-Angle Crimp Plug	15.27	12.98	11.68
92N3361	1515	Right-Angle Crimp Plug	14.96	12.72	11.44
92N3362	1516	Vertical PC Board Mount	9.22	7.83	7.05
92N3363	1517	Vertical PC Board Mount	8.39	7.13	6.42

(17638) (ne10823)

EASY-ON™ BRAND MICROMINIATURE CONNECTORS

1526, 1527

1528

1529

Direct insertion mating. Cabling: crimp and PC board solder. Body plating: silver. Impedance: 50–75 ohms. Voltage rating: 250 volts peak. Frequency range: 0.1mHz.

Stock No.	Type	Description	1-24	25-49	50-99
92N3372	1526	Male Crimp Plug	4.66	3.96	3.57
92N3373	1527	Male Crimp Plug	4.66	3.96	3.57
92N3374	1528	Female Vertical PC Board Mount	3.63	3.08	2.77
92N3375	1529	Female Vertical PC Board Mount 45°	3.63	3.08	2.77
92N3376	1530	Female Right-Angle PC Board Mount	4.04	3.44	3.09

(17639) (ne10824)

EASY-ON™ BRAND TWINAXIAL CABLE CONNECTORS

Plug

Receptacle

Adapter

For interconnecting computers and display systems and other peripherals. Impedance: 95 ohms nominal. Frequency range: 0–200MHz usable to 500MHz. Voltage rating: 500 volts peak. Thermal limits: –67°F to +185°F (–55°C to +85°C). Weatherproof. Keyway polarization mating, 1¾-20 threaded coupling. Cable affixment: screw thread nut and braid clamp. Male contacts: brass, silver plated. Female contacts: beryllium copper, silver plated. Insulators: copolymer of styrene or equal.

Stock No.	Type	Description	1-9	10-24	25-49	50-99
46N7359	TCC-2402	Plug	6.20	5.27	4.75	4.28
46N7373	TCC-2403	Receptacle	6.20	5.27	4.75	4.28
46N7358	TCC-2401	Adapter	7.24	6.15	5.54	4.99

(8768) (de50944)

VOLTREX™ BRAND 6-PC. 7/16 DIN ADAPTER KIT

NEW

7/16 DIN adapter kit includes 1 each of the following: DIN female to DIN female, DIN male to DIN male, right-angle DIN male to DIN female, DIN male to N female, DIN female to N male, and DIN female to N female.

84N1261 Type SPC4272. **Each** 354.99
(32201) (ne32201)

NEWARK: YOUR ONE-STOP SHOP.

CRIMP TOOLS AND KITS

COAX CRIMP TOOL KIT

BESTOOL™ brand

Kit includes 1 rugged interchangeable die tool frame with 2 mounting screws for easy die set change over and the following 4 interlocking die sets: **type CTD-8565-02** which crimps the center pin to 0.042″ square or 0.068″ hex and ferrule on small cable to 0.128″, 0.151″, or 0.178″ hex; **type CTD-8556-02** die which crimps the center pin to 0.042″ square or 0.068″ hex, RG-58 ferrule to 0.213″ hex and RG-59 ferrule to 0.255″ hex; **type CTD-8567-02** die which crimps the center pin to 0.042″ square or 0.068″ hex, RG-59 ferrule to 0.255″ hex and 8281 ferrule to 0.324″ hex; and **type CTD-8569-02** die which crimps the center pin to 0.068″, 0.080″, or 0.100″ hex and RG-8 ferrule to 0.429″ hex. Plus a cable stripper to provide 2- and 3-level stripping on RG-58, -59, and -62 coaxial cable and a sturdy storage case. Ideal for R&D facilities.

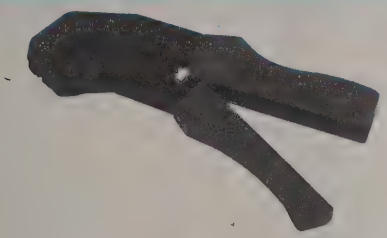
90N3319 Type CSK-8550. **Each** **296.01**
(8740) (de04268)

COAX CRIMP TOOL KIT

Type 8455-0663 coax kit features full-cycle mechanism which allows terminations to conform to industry standards. Die sets interlock to align crimp cavities and are easily interchanged with 2 mounting screws. Kit includes crimp tool frame, RG-58 and RG-59 die set, RG-58 and RG-59 die set with mini-center contact crimp, 3-level stripping tool, 10 RG-58 BNC connectors, 100 RG-59 BNC connectors, and a foam insert in a durable plastic case.

16N1882 Type 8455-0663. **Each** **325.00**
(18636) (ne10852)

STANDARD CRIMP TOOLS AND DIE SETS



Types 8400, 8500, and **8600** crimp tools and dies are designed for the professional that insists on the best commercial-grade, full-cycle crimp tool available. The ergonomic progressive pivoting design provides maximum crimping force with reasonable handle pressure. Accepts interchangeable dies. Molded grips. Positive ratcheting assembly with emergency release. Meets or exceeds all UL tensile requirements.

90N3315 Type 8405-015 Frame Only. **Each** **72.66**

Type CTR-8556-01 interchangeable die crimp tool comes with **type CTD-8556-02** die set. Crimps center pin to 0.068″ hex or 0.042″ square, certain outer ferrules of fiber-optic connectors to 0.100″ and 0.178″ hex, RG-174 ferrule to 0.178″ hex, RG-58 ferrule to 0.213″ hex, and RG-59 ferrule to 0.255″ hex.

84N1445 Type CTR-8556-01 Tool Frame & Die Set.. **Each** **102.99**
95N4331 TypeCTD-8556-02 Die Set Only. **Each** **37.68**

Type CTR-8572-01 interchangeable die crimp tool comes with **type CTD-8572-02** die set. Crimps outer ferrule to 0.324″ hex, RG-6 in one closure, and RG-59 outer ferrule to 0.360″ hex in the other closure.

84N1447 Type CTR-8572-01 Tool Frame & Die Set. **Each**..... **102.99**
95N4333 Type CTD-8572-02 Die Set Only. **Each**..... **37.68**

Type CTT-8627 interchangeable die crimp tool comes with **type CTD-8627** die set. Crimps D-Sub open-barrel contacts. "B" type conductor crimps and "oval" insulation crimps meet O.E.M. specifications and are produced in two cavities: front 28-24 AWG and rear 24-20 AWG.

97N8780 Type CTT-8627 Tool Frame & Die Set. **Each**..... **102.99**
97N8781 Type CTD-8627 Die Set Only. **Each**..... **44.41**

Type CTD-8567-02 die crimps the center pin to a 0.042″ square or 0.068″ hex and the ferrule on small cable to a 0.128″, 0.151″, or 0.178″ hex.

95N4332 TypeCTD-8567-02 Die Set Only. **Each** **37.68**

Type CTD-8565-02 die crimps the center pin to a 0.042″ square or 0.068″ hex, the RG-59 ferrule to a 0.255″ hex, and the 8281 ferrule to a 0.324″ hex.

97N9256 Type CTD-8565-02 Die Set Only. **Each**..... **37.68**

Type CTD-8569-02 die crimps the center pin to a 0.068″, 0.080″, or 0.100″ hex and the RG-8 ferrule to a 0.429″ hex.

97N9257 Type CTD-8569-02 Die Set Only. **Each**..... **37.68**

Type CTD 8568-02 die crimps two center pins to a 0.076″ hex in one closure and the RG-8 outer ferrule to a 0.429″ hex.

92N8958 Type CTD8568-02 Die Set Only. **Each** **37.68**

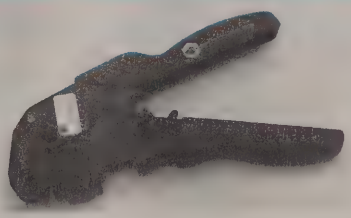
Type 1756 die crimps the center pin to a 0.044″ or 0.050″ square, the RG-58 ferrule to a 0.206″ diameter and the RG-59 ferrule to a 0.238″ diameter.

92N3751 Type 1756 Die Set Only. **Each** **38.25**

Type 1755 die crimps outer ferrule on most SMA, SMB, or SFR type fiber-optic connectors to a 0.151″, 0.178″, or 0.213″ hex.

92N3750 Type 1755 Die Set Only. **Each** **38.25**
(8736) (de04264)

COMPACT CRIMP TOOL AND DIE SETS



Type CTT-100L crimp tool frame features a compact design to provide a high level of efficiency and convenience for terminating small to medium size wire or cable. High carbon steel and quality construction provide the accuracy and longevity expected of a durable commercial-grade crimping tool. Compact, lightweight design for wire and contact handling convenience. This multipurpose tool frame accepts interchangeable crimp die sets, *ordered separately below.*

66N9835 Type CTT-100L Tool Frame Only. **Each** **74.01**

Type CTD-100-51 die set crimps center pin to a 0.068″ hex, RG58 ferrule to a 0.213″ hex, and RG59 ferrule to a 0.255″ hex. *Order* **type CTT-100L** *tool frame separately.*

66N9840 Type CTD-100-51 Die Set Only. **Each** **37.68**

Type CTD-100-52 die set crimps center pin to a 0.068″ hex, RG174 ferrule to a 0.178″, and 8281 ferrule to a 0.324″ hex. *Order* **type CTT-100L** *tool frame separately.*

66N9841 Type CTD-100-52 Die Set Only. **Each**..... **37.68**

Type CTD-100-54 die set crimps center pin to 0.042″ sq., RG58 ferrule to a 0.213″ hex, and RG59 ferrule to a 0.255″ hex. *Order* **type CTT-100L** *tool frame separately.*

66N9842 Type CTD-100-54 Die Set Only. **Each**..... **37.68**

Type 1757 die set crimps center pin to a 0.068″ hex, RG59 ferrule to a 0.255″ hex, and 8281 ferrule to a 0.324″ hex. *Order* **type CTT-100L** *tool frame separately.*

92N3752 Type 1757 Die Set Only. **Each** **38.25**

Type 1758 die set crimps center pin to a 0.042″ sq. or 0.068″ hex, ferrule on a small coaxial cable to a 0.100″ or 0.128″ hex, and RG174 ferrule to a 0.178″ hex. *Order* **type CTT-100L** *tool frame separately.*

92N3753 Type 1758 Die Set Only. **Each** **38.25**

Type 1759 die set crimps outer ferrule on most SMA, SMB, and SFR fiber-optic connectors to a 0.151″ hex, 0.178″ hex, or 0.213″ hex. *Order* **type CTT-100L** *tool frame separately.*

92N3754 Type 1759 Die Set Only. **Each** **38.25**
(18634) (ne10836)

RATCHET-TYPE BNC CRIMP TOOLS

Rugged 3-cavity crimp tools feature ratchet release mechanism that allows removal of incorrectly placed connector or crimp ring prior to completing crimp cycle. High carbon thru-hardened alloy steel jaws with black oxide finish are numbered for easy identification. Nickel-plated high carbon steel handles with black cushion grips. Overall length: 9″. **Type CTR-100-BNC-1** crimp capacity for front cavity is 0.068″ hex, center cavity 0.213″ hex, and back cavity 0.255″ hex. RG/U cable sizes: 55, 58, 59, 120, 140, 141, 142, 223, 400. **Type CTR-100-BNC-2** crimp capacity for front cavity is 0.068″, center cavity 0.178″ and back cavity 0.324″. RG/U cable sizes: 122, 180, 195, and 8381.

Stock No.	Type	Description	Each
81N5435	CTR-100-BNC-1	BNC Crimp Tool	107.64
81N5436	CTR-100-BNC-2	BNC Crimp Tool	107.64

(8738) (de04266)

MICROPAX AND FLAT FLEX CONNECTORS

NEW

Flexible Circuit Assembly

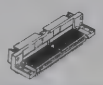
Cable Assembly

Right Angle Straddle-Mount

Vertical Surface-Mount Plug

Vertical Surface-Mount Receptacle

Right Angle Through-Hole Receptacle



Right Angle Through-Hole Plug

Vertical Through-Mount Plug

Vertical Through-Mount Receptacle

MICROPAX™ HIGH-DENSITY PC BOARD CONNECTORS

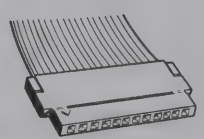
2-row, high-density connectors feature low insertion force for easy engagement/disengagement. Impedance controlled (shielded) for reliable electrical performance. Duplex plating. High-temperature plastic withstands IR, wave, and vapor-phase soldering. Connector-to-connector and connector-to-board polarization provides proper mating and application. Housing: zinc alloy. Current rating: 0.5 amp. Capacitance: 2.8pF. Impedance: 55 ohms. Vertical and straddle mount versions feature low-profile design to minimize board-to-board spacing. Crosstalk (near end at 500ps): 7:1 S:G = 8.5%; 1:1 S:G = 2.0%. UL recognized, CSA certified.

Stock No.	Type	Positions	Description	1-24
VERTICAL THROUGH MOUNT				
83F5623	91539-006	80	Plug	14.78
83F5624	91538-006	80	Receptacle	18.48
83F5627	89649-002	160	Plug	19.00
83F5628	89648-002	160	Receptacle	23.76
VERTICAL SURFACE MOUNT				
95F6708	91295-003	80	Plug	13.56
95F6709	91404-003	80	Receptacle	17.24
95F6716	91294-002	160	Plug	17.42
95F6700	91403-002	160	Receptacle	22.18
95F6704	91294-003	200	Plug	19.36
95F6705	91403-003	200	Receptacle	24.64
RIGHT-ANGLE THRU-HOLE				
83F5621	90784-001	80	Plug	13.12
83F5622	90790-001	80	Receptacle	16.80
83F5625	90793-003	160	Plug	16.64
83F5626	90794-001	160	Receptacle	29.26
83F5630	90786-007	200	Plug	18.40
83F5631	90787-004	200	Receptacle	23.60
RIGHT-ANGLE STRADDLE MOUNT				
95F6710	91543-105	80	Plug	16.16
95F6711	91542-105	80	Receptacle	19.84
95F6701	91895-101	160	Plug	20.02
83F5629	91894-101	160	Receptacle	24.78
83F5632	91895-103	200	Plug	21.96
95F6707	91894-103	200	Receptacle	27.20

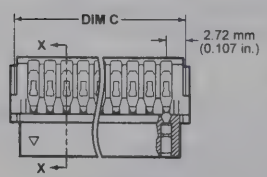
(29375) (ne29375)

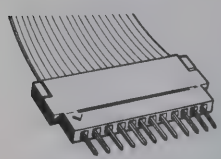
FLAT FLEX MALE/FEMALE CLINCHER™ CONNECTORS

For use with thin film conductive ink circuits whose total combined thickness of conductor and insulation does not exceed 0.006″ (0.152). Simultaneously terminate flat conductor, flat cable or flexible circuitry without cable stripping. Mate with 0.025″ (0.635) square or round pins on 0.100″ (2.54) centers. Dual-metal PV™ contacts ensure excellent electrical and mechanical performance. Clinching portion of contact forms gas-tight crimp to prevent contamination. Cupro-nickel contacts plated with 30μ″ gold or 100μ″ tin/lead finish. Current rating: 2A. Resistance: 15mΩ maximum. Maximum insertion force: 3N per contact. Minimum withdrawal force: 0.30N per contact. Blue polypropylene body, rated UL94V-0. Insulation resistance: $5x10^4$MΩ minimum. Temperature range: –65°C to +105°C. Withstanding voltage: >500Vrms at sea level. UL recognized. CSA certified. To order parts for conductive ink circuits less than 0.00″ (0.15) total thickness, change first digit after dash in type number from "0" to "1"; for example: 65801-039 would be changed to 65801-139. Male Clincher™ connectors are available, *contact your local Newark sales office.* (Available up to 32 positions.)

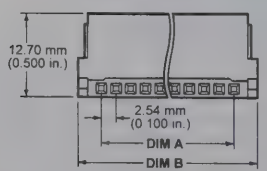


Female 65801





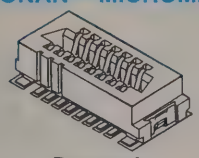
Male 66226



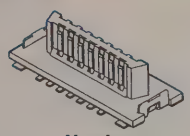
Stock No.	Type	Positions	Dimensions A	Dimensions B	Dimensions C	1-99	100-249
TIN-LEAD PLATED							
97F9705	66226-003	3	0.200″	0.490″	0.415″	1.10	1.01
89F4608	65801-004	4	0.300″	0.590″	0.515″	0.67	0.62
97F9706	66226-005	5	0.400″	0.690″	0.615″	1.22	1.12
89F4609	65801-006	6	0.500″	0.790″	0.715″	0.90	0.83
97F9707	66226-006	6	0.500″	0.790″	0.715″	1.15	1.05
89F4610	65801-008	8	0.700″	0.990″	0.915″	1.00	0.92
97F9708	66226-009	9	0.800″	1.090″	1.015″	1.52	1.40
89F4612	65801-010	10	0.900″	1.190″	1.115″	1.20	1.10
97F9709	66226-010	10	0.900″	1.190″	1.115″	1.69	1.56
94F6577	65801-011	11	1.000″	1.290″	1.215″	1.35	1.24
89F4613	65801-012	12	1.100″	1.390″	1.315″	1.64	1.51
95F6801	65801-013	13	1.200″	1.490″	1.415″	1.74	1.60
89F4614	65801-014	14	1.300″	1.590″	1.515″	1.59	1.47
94F6578	65801-018	18	1.700″	1.990″	1.915″	2.44	2.24
98F6355	65801-019	19	1.800″	2.090″	2.015″	3.80	3.50
GOLD PLATED							
98F8160	66226-035	3	0.200″	0.490″	0.415″	1.57	1.44
04F1579	65801-033	4	0.300″	0.590″	0.515″	1.47	1.35
97F9710	66226-037	5	0.400″	0.690″	0.615″	1.20	1.10
04F1580	65801-035	6	0.500″	0.790″	0.715″	1.77	1.63
97F9711	66226-038	6	0.500″	0.790″	0.715″	1.30	1.19
97F9712	66226-039	7	0.600″	0.890″	0.815″	1.42	1.31
04F1581	65801-037	8	0.700″	0.990″	0.915″	1.97	1.81
04F1582	65801-038	9	0.800″	1.090″	1.015″	2.17	1.99
04F1583	65801-039	10	0.900″	1.190″	1.115″	2.44	2.24
04F1584	65801-041	12	1.100″	1.390″	1.315″	2.89	2.65
04F1585	65801-043	14	1.300″	1.590″	1.515″	3.58	3.29
04F1586	65801-045	16	1.500″	1.790″	1.715″	4.50	4.14

(8371) (de02048)

BERG'S CONAN™ MICROMINIATURE 1mm CONNECTORS



Receptacle



Header

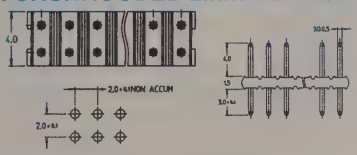
- **Robust Blade-on-Beam Contact Design**
- **"Passive Latching" Contacts Provide Audible Click and Retention**
- **Headers Provide 5 Height Options with Standard Receptacle**
- **Surface Mount with 0.004″ Lead Coplanarity**
- **Duplex-Plated Contacts**
- **Polarized with Optional Non-protrusive Orientation Posts**
- **Surface Mount Metal Holddowns**
- **Tape-and-Reel Available to Support Automated Placement**

CONAN™ connectors are low-profile, surface mount connectors that feature dual rows of contacts on 0.039″ (1.0) pitch in sizes that offer from 9 to 69 contact positions. Available mated height of 0.163″ (4.15), allows for extremely close spacing of parallel circuit boards. Designs requiring additional clearance can be accommodated with taller header options for 0.177″ (4.5), 0.197″ (5.0), 0.236″ (6.0), or 0.276″ (7.0) mated height. Insulators withstand infrared and vapor-phase reflow soldering temperatures. Shipped in antistatic tubes or provided on EIA standard tape-and-reel to support automated connector placement. Reeled connectors have pick-up pads which provide ample area for pickup with standard vacuum nozzles, without increasing space requirements for the connector. Tin-lead finish in the solder areas and 0.004″ (0.1) lead coplanarity produce high-quality solder joints. Surface mount retainers increase mechanical strength after soldering, but don't require force to be applied during component placement. Polarized housings prevent mismating. Molded lead-in assists blind mating during final assembly. Integral passive latches protect against accidental disengagement from mechanical shocks or vibration. Gold flash over palladium nickel finish in the contact areas provides the highest reliable electrical performance possible under extreme environmental conditions. UL recognized, CSA certified.

Stock No.	Type	No. of Positions	Description	1-99	100-249
97F7760	91930-21125	25	Receptacle	2.07	1.90
97F7761	91930-21141	41	Receptacle	3.03	2.79
97F7762	91930-21151	51	Receptacle	3.58	3.29
97F7763	91930-21169	69	Receptacle	4.28	3.93
92F6362	91910-21425	25	6.0mm Header	1.87	1.72
97F7764	91910-21525	25	7.0mm Header	1.87	1.72
97F7765	91910-21141	41	4.15mm Header	6.66	6.13
92F6363	91910-21441	41	6.0mm Header	2.76	2.54
97F7766	91910-21541	41	7.0mm Header	2.76	2.54
97F7767	91910-21151	51	4.15mm Header	3.23	2.97
92F6610	91910-21569	69	7.0mm Header	3.85	3.55

(8450) (ne06185)

MINITEK™ II UNSHROUDED 2mm VERTICAL HEADERS

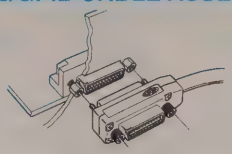


High density, 0.079″ x 0.079″ (2.00 x 2.00) pitch double row vertical headers. Utilize a 0.059″(1.5) low-profile design. 0.020″(0.5) square drawn wire, phosphor-bronze pin provide four smooth mating surfaces. Number directly after dash in type number specifies pin plating: **-0** = 0.008μ″ gold and **-1** = 0.030μ″ gold. Pin underplated with 50μ″ minimum nickel. Solder tail length: 0.118″(3.0). Mating length : 0.157″(4.0). Black, glass-filled nylon housing, rated UL94V-0. Wave solderable. Standoffs for easy PC board cleaning. Voltage rating: 200 VAC/DC. Current rating: 2 amps continuous. Insulation resistance: 1000 MΩ minimum. Withstanding voltage: 650V rms. Operating temperature range: –40° to +105°C. UL recognized, CSA certified.

Stock No.	Type	Positions	1-99
84F2019	86451-004	2x2	0.20
84F2020	86451-008	2x4	0.33
84F2021	86451-010	2x5	0.38
84F2023	86451-016	2x8	0.58
84F2024	86451-144	2x22	1.69

(8387) (de03128)

IEEE 488/GPIB CABLE ASSEMBLIES

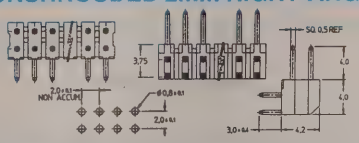


General-purpose interface bus assemblies feature double shielded cable, metal cast connector housing and shield termination. Pre-loaded cantilever beam ensures low connector insertion force and minimum contact wear. Interface meets IEEE-488 specifications. 0.85″ (21.59) spacing. Connector has insulation resistance of 10GΩ minimum, 1A maximum current rating, and 1,000 cycles durability. Contact force of 1-1, 5N per contact, with 24 contacts per connector side. Housed in black glass-filled thermoplastic polyester rated UL94 V-0.Contact is beryllium copper with 30μ″ gold over nickel finish. Shielded cover is zinc alloy with nickel finish. Black oxidized steel captive locking screw and metric thread. Double shielded cable made of aluminum/mylar polyester film tape with braid and drain wire. Gray PVC insulation. Material conductors,AWG 26-7/34. Signal line resistance, 0.14Ω/m maximum. Bulk resistance braid:0,0085Ω/m maximum. Capacitance: 150pF/m maximum at 1kHz. Impedance: 70-75Ω.Operating temperature: 80°C maximum.

Stock No.	Type	Assembly Description	Overall Assembly Lgth.	1-9	10-24
89F6211	81190-005	0.50M	23.62″ (0.6M)	66.78	60.10
89F6212	81190-010	1.00M	43.30″ (1.1M)	69.33	62.40
89F6213	81190-020	2.00M	82.68″ (2.1M)	77.33	69.60
89F6214	81190-040	4.00M	161.42″ (4.1M)	84.90	76.41
89F6215	81190-060	6.00M	240.16″ (6.1M)	91.41	82.27
89F6216	81190-080	8.00M	318.90″ (8.1M)	105.75	95.18

(8423) (de52047)

MINITEK™ II UNSHROUDED 2mm RIGHT-ANGLE HEADERS

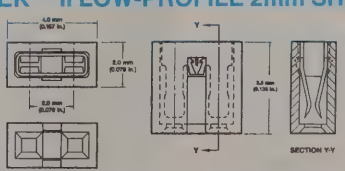


Same construction and features as vertical headers, *ordered separately on this page*, except right-angle configuration. Solder tail length: 0.118″ (3.0). Mating length: 0.157″ (4.0). Number directly after dash in type number specifies pin plating: **-0** = 0.008μ″ gold; **-3** = 0.015μ″ gold; and **-6** = 0.030μ″ GXT™. UL recognized, CSA certified.

Stock No.	Type	Positions	1-99
84F2040	86453-014	2x7	0.65
84F2043	86453-316	2x8	0.82
84F2041	86453-020	2x10	0.92
84F2042	86453-022	2x11	1.00
84F2044	86453-330	2x15	1.44
84F2045	86453-650	2x25	1.97

(8444) (ne03130)

MINITEK™ II LOW-PROFILE 2mm SHUNTS

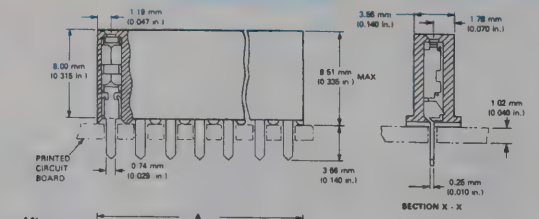


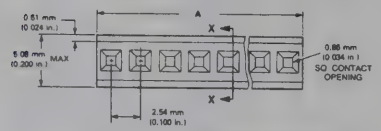
Type 86730-001 Minitek™ II shunt feature 0.079″x0.079″ (2.00x2.00) centerline, tapered lead-in and retentive barbs. Stackable side-by-side and end-to-end. Mates with 0.020″(0.5) square pin, 0.157″(4.0) long. Dual-beam phosphor bronze terminal with 8μ″ gold overplate, 50μ″ nickel underplate. Black glass-filled PBT housing, rate UL94V-0. Current rating: 1 amp. Voltage rating: 20 VAC. UL recognized, CSA certified.

Stock No.	Type	1-99
84F2012	86730-001	0.10

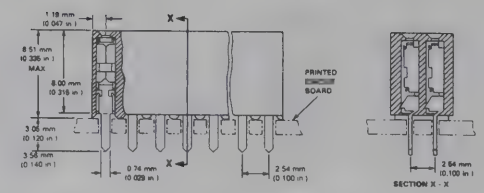
(8386) (de03127)

BERGCON® SYSTEM PC BOARD MOUNT VERTICAL CARD CONNECTORS

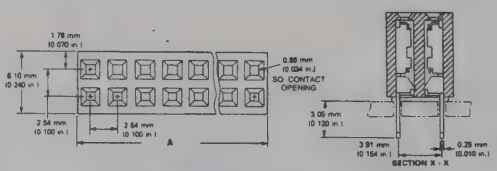




66951 Single-Row



66953 Double-Row



66956 Double-Row

Designed for parallel board-to-board stacking on 0.100 × 0.100″ (2.54 × 2.54) centerlines. **66951 series** wide base single-row, **66953 series** double-row with 0.140″ (3.56) solder tail length or **66956 series** double-row with 0.120″ (3.05) solder tail length versions. Feature 0.335″ (8.51) profile above board. Dual-metal PV™ brass contacts duplex plated with 30µ″ gold in contact area, 100µ″ tin-lead in solder area, and 50µ″ nickel underplated overall. Beryllium copper thermoplastic polyester housings, rated UL94V-0. Spring member plated with gold flash. Molded glass-filled. Wave solderable. Mate with 0.025″ (0.64) square or round pins. 0.190″ (4.83) to 0.300″ (7.62) pin length. Current rating: 3.0 amp maximum per contact. UL recognized, CSA certified.

66951 SERIES SINGLE-ROW — 0.140″ (3.56) LONG SOLDER TAIL

Stock No.	Type	Positions	Dimension A	1-24
50F8754	66951-006	1×6	0.60″ (15.24)	1.09
50F8755	66951-008	1×8	0.80″ (20.32)	1.29
50F8756	66951-012	1×12	1.20″ (30.48)	1.87
50F8757	66951-014	1×14	1.40″ (35.56)	2.15
50F8758	66951-016	1×16	1.60″ (40.64)	2.38
50F8759	66951-017	1×17	1.70″ (43.18)	2.53
84F1558	66951-018	1×18	1.80″ (45.72)	2.70
84F1559	66951-020	1×20	2.00″ (50.80)	3.01

66953 SERIES DOUBLE-ROW — 0.140″ (3.56) LONG SOLDER TAIL

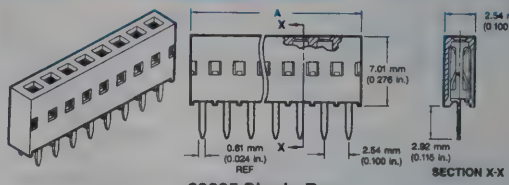
50F8742	66953-006	2×6	0.60″ (15.24)	1.78
94F7356	66953-007	2×7	0.70″ (17.78)	2.10
98F4196	66953-010	2×10	1.00″ (25.40)	3.42
50F8743	66953-014	2×14	1.40″ (35.56)	3.93
50F8744	66953-015	2×15	1.50″ (38.10)	4.19
94F6591	66953-017	2×17	1.70″ (43.18)	4.65
50F8745	66953-020	2×20	2.00″ (50.80)	5.45
50F8746	66953-025	2×25	2.50″ (63.50)	6.80
50F8747	66953-030	2×30	3.00″ (76.20)	8.17

66956 SERIES DOUBLE-ROW — 0.120″ (3.05) LONG SOLDER TAIL

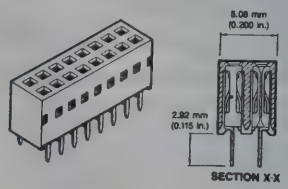
50F8748	66956-006	2×6	0.60″ (15.24)	1.78
50F8749	66956-007	2×7	0.70″ (17.78)	2.10
89F4636	66956-010	2×10	1.00″ (25.40)	2.90
50F8751	66956-015	2×15	1.50″ (38.10)	4.19
50F8752	66956-017	2×17	1.70″ (43.18)	4.65
89F4638	66956-020	2×20	2.00″ (50.80)	5.45
89F4639	66956-025	2×25	2.50″ (63.50)	6.80
50F8753	66956-030	2×30	3.00″ (76.20)	8.17

(8410) (de51230)

DUBOX™ SYSTEM PC BOARD MOUNT VERTICAL CARD CONNECTORS



68685 Single-Row



68683 Double-Row

Top-entry PC board mount receptacles can be stacked side-by-side on 0.100″ (2.54) centerlines. Available in **68685 series** single or **68683 series** double-row vertical, through-mount assemblies. Low profile, 0.276″ (7.0) allows closer stacking of parallel circuit boards. Preloaded dual cantilever beam phosphor bronze contacts plated with 30µ″ gold in contact area, 100µ″ tin-lead in solder area, and 50µ″ nickel underplated overall. 0.115″ (2.92) solder tail length. Molded housings, rated UL94V-0, feature beveled "lead-in" ramps to prevent pin stubbing. Wave solderable. Standoff for easy board cleaning. Mate with 0.025″ (0.64) square pins; 0.150″ (3.81) to 0.240″ (6.10) mating length. Current rating: 3 amp DC per contact. Withstanding voltage 1000VAC rms, 60Hz. Temperature range: –65°C to +125°C. UL recognized, CSA certified.

68685 SERIES TOP-ENTRY SINGLE-ROW ASSEMBLIES

Stock No.	Type	Positions	Dimension A	1-24
50F8771	68685-306	1×6	0.617″ (15.67)	1.21
50F8772	68685-308	1×8	0.817″ (20.75)	1.44
94F6602	68685-310	1×10	1.017″ (25.83)	1.72
50F8773	68685-314	1×14	1.417″ (35.99)	2.38
50F8774	68685-316	1×16	1.617″ (41.07)	2.64
50F8775	68685-317	1×17	1.717″ (43.61)	2.78
50F8776	68685-318	1×18	1.817″ (46.15)	2.98
50F8777	68685-320	1×20	2.017″ (51.23)	3.33

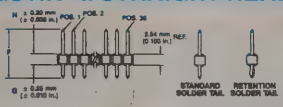
68683 SERIES TOP-ENTRY DOUBLE-ROW ASSEMBLIES

95F6697	68683-302	2×2	0.217″ (5.51)	0.89
95F6698	68683-303	2×3	0.317″ (8.05)	1.21
95F6699	68683-304	2×4	0.417″ (10.59)	1.41
95F6679	68683-305	2×5	0.517″ (13.13)	3.44
50F8762	68683-306	2×6	0.617″ (15.67)	2.01
50F8763	68683-307	2×7	0.717″ (18.21)	2.33
95F6680	68683-308	2×8	0.817″ (20.75)	2.58
95F6681	68683-309	2×9	0.917″ (23.29)	2.84
50F8764	68683-310	2×10	1.017″ (25.83)	8.03
95F6682	68683-311	2×11	1.117″ (28.37)	3.42
94F6599	68683-312	2×12	1.217″ (30.91)	3.70
95F6683	68683-313	2×13	1.317″ (33.45)	4.02
50F8765	68683-314	2×14	1.417″ (35.99)	4.33
50F8766	68683-315	2×15	1.517″ (38.53)	4.65
50F8767	68683-317	2×17	1.717″ (43.61)	5.11
95F6684	68683-318	2×18	1.817″ (46.15)	5.42
95F6685	68683-319	2×19	1.917″ (48.69)	5.71
50F8768	68683-320	2×20	2.017″ (51.23)	6.02
95F6686	68683-321	2×21	2.117″ (53.77)	6.34
50F8769	68683-325	2×25	2.517″ (63.93)	7.51
95F6689	68683-326	2×26	2.617″ (66.47)	7.83
50F8770	68683-330	2×30	3.017″ (76.63)	9.01
95F6692	68683-332	2×32	3.217″ (81.71)	9.61
95F6693	68683-334	2×34	3.417″ (86.79)	10.24
95F6694	68683-336	2×36	3.617″ (91.87)	10.84
95F6695	68683-338	2×38	3.817″ (96.95)	11.44
95F6696	68683-340	2×40	4.017″ (102.03)	12.02

(8411) (de51231)

CALL NEWARK FOR
FAST, DEPENDABLE SERVICE.

BERGSTIK® II STRAIGHT HEADERS



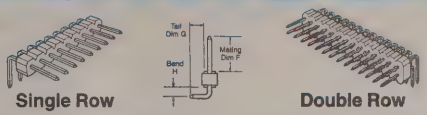
0.100″ centerline headers are available in single or double-row, straight or right-angle versions. Fit 0.062″ thick PC boards. Also available in standard solder tail design. Full length headers manually broken to desired length. Phosphor-bronze pin, current rating: 3A maximum. Polarize by omitting pin. UL recognized, CSA certified.

Stock No.	Type	No. of Positions	Dimensions H Mating End	Dimensions G Tail End	Dimensions F Overall Length	Plating*	1-99
Retention solder tail. UL recognized, CSA certified.							
89F4699	69190-402	2	.230″	.120″	.450″	4	0.18
89F4700	69190-403	3	.230″	.120″	.450″	4	0.23
89F4701	69190-404	4	.230″	.120″	.450″	4	0.28
89F4702	69190-405	5	.230″	.120″	.450″	4	0.33
89F4703	69190-410	10	.230″	.120″	.450″	4	0.50
Standard solder tail. UL recognized, CSA certified.							
89F4573	68000-236	36	.230″	.095″	.425″	2	1.52
89F4574	68000-436	36	.230″	.095″	.425″	4	0.80
89F4575	68000-636	36	.230″	.095″	.425″	6	1.52
89F4563	68001-236	36	.230″	.120″	.450″	2	1.07
89F4564	68001-436	36	.230″	.120″	.450″	4	0.80
89F4565	68001-636	36	.230″	.120″	.450″	6	1.52
89F4566	68002-236	36	.230″	.150″	.480″	2	2.49
89F4567	68002-436	36	.230″	.150″	.480″	4	1.37
89F4568	68002-636	36	.230″	.150″	.480″	6	2.21
89F4554	78511-236	36	.318″	.120″	.538″	2	1.52
89F4555	78511-436	36	.318″	.120″	.538″	4	1.00
89F4556	78511-636	36	.318″	.120″	.538″	6	1.52

* **Plating** (Finish): **1** is 30µ″ gold over 50µ″nickel, **2** is 15µ″ gold over 50µ″nickel, **4** is 150µ″ 93/7/tin lead, **6** is 30µ″ GXT™ palladium-nickel alloy w/gold finish over 50µ″ nickel

(8412) (de51240)

BERGSTIK® II RIGHT-ANGLE HEADERS



Single Row — Double Row

End-to-end and side-to-side stackable on 0.100″ centerline headers in right-angle single or double row versions. Fit 0.062″ PC board. Can be manually broken to desired length. Phosphor-bronze pin. Current rating: 3A maximum. Standard solder tail. Temperature range: –65°C to +130°C. UL recognized, CSA certified.

RIGHT-ANGLE SINGLE ROW

Stock No.	Type	No. of Positions	Dimensions H Bend from Plastic	Dimensions G Below Plastic	Dimensions F Above Plastic	Plating*	1-99
52F9262	68015-136H	36	0.060″	0.090″	0.230″	1	1.89
52F9263	68015-236H	36	0.060″	0.090″	0.230″	2	1.52
52F9264	68015-436H	36	0.060″	0.090″	0.230″	4	0.80
52F9265	68015-636H	36	0.060″	0.090″	0.230″	6	1.52
52F9266	68016-136	36	0.060″	0.120″	0.230″	1	1.89
89F4557	68016-236	36	0.060″	0.120″	0.230″	2	2.59
89F4558	68016-436	36	0.060″	0.120″	0.230″	4	0.77
89F4559	68016-636	36	0.060″	0.120″	0.230″	6	1.52

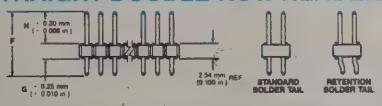
RIGHT-ANGLE DOUBLE ROW

52F9267	68020-172H	72	0.045″	0.095″	0.230″	1	3.73
52F9268	68020-272H	72	0.045″	0.095″	0.230″	2	5.05
52F9269	68020-472H	72	0.045″	0.095″	0.230″	4	1.89
52F9270	68020-672H	72	0.045″	0.095″	0.230″	6	3.01
52F9271	68021-172H	72	0.045″	0.120″	0.230″	1	3.98
52F9272	68021-272H	72	0.045″	0.120″	0.230″	2	5.07
52F9273	68021-472H	72	0.045″	0.120″	0.230″	4	1.59
52F9274	68021-672H	72	0.045″	0.120″	0.230″	6	3.01

* **Plating** (Finish): **1** is 30µ″ gold over 50µ″nickel, **2** is 15µ″ gold over 50µ″nickel, **4** is 150µ″ 93/7/tin lead, **6** is 30µ″ GXT™ palladium-nickel alloy w/gold finish over 50µ″ nickel

(8473) (ne08206)

STRAIGHT DOUBLE-ROW HEADERS



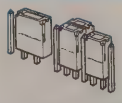
Standard solder tail. UL recognized, CSA certified.

Stock No.	Type	No. of Positions	Dimensions H Mating End	Dimensions G Tail End	Dimensions F Overall Length	Plating*	1-99
89F6219	67996-272	72	.230″	.095″	.425″	2	3.01
89F6220	67996-472	72	.230″	.095″	.425″	4	1.59
89F6221	67996-672	72	.230″	.095″	.425″	6	3.01
89F6222	67997-272	72	.230″	.120″	.450″	2	3.01
89F6223	67997-472	72	.230″	.120″	.450″	4	1.59
89F6224	67997-672	72	.230″	.120″	.450″	6	3.01
89F4680	68602-172	72	.230″	.150″	.480″	1	6.81
89F4681	68602-472	72	.230″	.150″	.480″	4	2.31
89F4682	68602-672	72	.230″	.150″	.480″	6	3.56
89F4689	68691-172	72	.318″	.120″	.538″	1	2.74
89F4690	68691-472	72	.318″	.120″	.538″	4	2.24
89F4691	68691-672	72	.318″	.120″	.538″	6	3.01

* **Plating** (Finish): **1** is 30µ″ gold over 50µ″nickel, **2** is 15µ″ gold over 50µ″nickel, **4** is 150µ″ 93/7/tin lead, **6** is 30µ″ GXT™ palladium-nickel alloy w/gold finish over 50µ″ nickel

(8413) (de51241)

MINI-JUMP™ 2-POSITION SHUNTS



Stackable on 0.100″(2.54) centers. Mate with 0.025″(0.635) square and round pins. Blue housing, rated UL94V-0. **Type 65474-001** is plated 40µ″ gold, **type 65474-002** is 100µ″ tin-lead and **type 65474-010** is 30µ″ gold. UL recognized, CSA certified.

Stock No.	Type	1-99
94F7344	65474-001	0.36
89F4579	65474-002	0.16
89F4580	65474-010	0.20

(8418) (de51561)

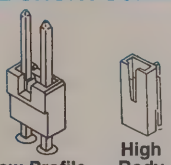
BERGSTIK® HEADER CUSTOM DESIGN KIT

Use to develop custom BergStik® applications. Includes 6 each unshrouded BergStiks: **types 67796-172, 67997-172** straight, and **type 68025-172** right-angle 2-row 72-position headers and **types 68000-136, 68001-136, 68002-136** straight and **type 68016-136** right-angle 1-row 36-position headers. 0.100″ (2.54) centerlines, standard solder tails, 30µ″ gold over 50µ″ nickel plating. UL recognized, CSA certified.

Stock No.	Type	Description	1-9
95F6678	WD-KIT	Kit with Cutting Tool and Case	591.83

(8373) (de02099)

LOW-PROFILE SHUNT JUMPER SYSTEM



Low-Profile — High Body

Economical, stackable jumper systems are applicable for bussing, programming and switch replacement. Standard two-position for 0.100″ (2.54) centers. Low-profile shunt stands 0.200″(5.08) above PC board; high-body shunt stands 0.360″ (9.15) above PC board. Dual-beam, phosphor-bronze contacts, and black glass-filled thermoplastic polyester housing, rated UL94V-0. Shunts mate with 0.025″ (0.635) square and round pins. Contact resistance: 15 Megohms. Current rating: 2.5 amps maximum per contact.

LOW PROFILE

Stock No.	Type	Plating	1-99
89F4578	68786-202	30µ″ gold	0.14
89F4577	68786-302	100µ″ tin lead	0.12

HIGH BODY

97F9685	71363-102	15µ″ gold	0.19
97F9686	71363-202	30µ″ gold	0.21
97F9687	71363-302	100µ″ tin lead	0.18

(8419) (de51562)

TYPE WDBS-1 BERGSTIK® DESIGNER KIT

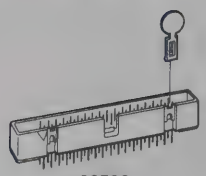
Use in 2, 3, 4 and 18 circuit combinations for prototype and custom BergCon® system applications. 0.100″(2.54) centerline products, in various sizes. Includes 34 BergStik® unshrouded headers, 24 discrete crimp-to-wire housings, 5 each low-profile/high-body shunts and 50 crimp-to-wire Mini-PV™ receptacles. UL recognized, CSA certified.

Stock No.	Type	Description	1-9
95F6677	WDBS-1	BergStik® Designer Kit	77.15

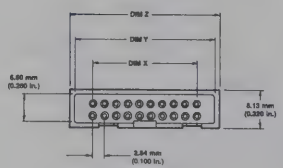
(8374) (de02100)

QUICKIE™ IDC STRAIGHT 4-WALL SLIMLINE HEADERS

66506 series slimline headers feature 4-wall shielding to protect pins and prevent misalignment. Molded-in pins provide positive retention in housing and prevent flux contamination. Applicable to PC board thicknesses of 0.062″ (1.58) and 0.125″ (3.18). Centerlines: 0.100 × 0.100″ (2.54 × 2.54). Housing material: glass-filled thermoplastic polyester, flammability rated UL94V-0. Pin material: phosphor bronze with 30µ″ nickel underplating and 30µ″ GXT™ finish. Insulation resistance: 1 × 10^6MΩ min. Withstanding voltage: >500VAC rms at sea level. Current rating: 3A continuous. Temperature range: –65°C to +125°C. Meets MIL-C-83503. UL recognized, CSA certified.



66506



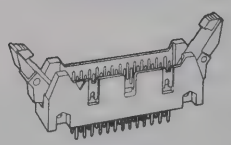
66506

Stock No.	Type	Positions	Solder Tail Length	Dimensions X	Dimensions Y	Dimensions Z	1-49
52F9965	66506-066	2 x 5	0.105″ (2.67)	0.400″ (10.16)	0.720″ (18.29)	0.780″ (19.81)	1.38
52F9966	66506-049	2 x 5	0.150″ (3.81)	0.400″ (10.16)	0.720″ (18.29)	0.780″ (19.81)	1.25
52F9967	66506-118	2 x 5	0.105″ (2.67)	0.400″ (10.16)	0.720″ (18.29)	0.780″ (19.81)	1.25
52F9968	66506-119	2 x 5	0.150″ (3.81)	0.400″ (10.16)	0.720″ (18.29)	0.780″ (19.81)	1.25
52F9969	66506-068	2 x 7	0.105″ (2.67)	0.600″ (15.24)	0.920″ (23.37)	0.980″ (24.89)	1.61
52F9970	66506-055	2 x 7	0.150″ (3.81)	0.600″ (15.24)	0.920″ (23.37)	0.980″ (24.89)	1.45
52F9971	66506-070	2 x 8	0.105″ (2.67)	0.700″ (17.78)	1.020″ (25.91)	1.080″ (27.43)	1.53
52F9972	66506-056	2 x 8	0.150″ (3.81)	0.700″ (17.78)	1.020″ (25.91)	1.080″ (27.43)	1.53
52F9973	66506-072	2 x 10	0.105″ (2.67)	0.900″ (22.86)	1.220″ (30.99)	1.280″ (32.51)	1.94
52F9974	66506-050	2 x 10	0.150″ (3.81)	0.900″ (22.86)	1.220″ (30.99)	1.280″ (32.51)	1.74
52F9975	66506-219	2 x 12	0.105″ (2.67)	1.100″ (27.94)	1.420″ (36.07)	1.480″ (37.59)	2.15
52F9976	66506-223	2 x 12	0.150″ (3.81)	1.100″ (27.94)	1.420″ (36.07)	1.480″ (37.59)	2.15
52F9977	66506-074	2 x 13	0.105″ (2.67)	1.200″ (30.48)	1.520″ (38.61)	1.580″ (40.13)	2.33
52F9978	66506-051	2 x 13	0.150″ (3.81)	1.200″ (30.48)	1.520″ (38.61)	1.580″ (40.13)	2.10
52F9979	66506-231	2 x 15	0.105″ (2.67)	1.400″ (35.56)	1.720″ (43.69)	1.780″ (45.21)	2.46
52F9980	66506-235	2 x 15	0.150″ (3.81)	1.400″ (35.56)	1.720″ (43.69)	1.780″ (45.21)	2.46
52F9981	66506-076	2 x 17	0.105″ (2.67)	1.600″ (40.64)	1.920″ (48.77)	1.980″ (50.29)	2.77
52F9982	66506-052	2 x 17	0.150″ (3.81)	1.600″ (40.64)	1.920″ (48.77)	1.980″ (50.29)	2.49
52F9983	66506-078	2 x 20	0.105″ (2.67)	1.900″ (48.26)	2.220″ (56.39)	2.280″ (57.91)	3.26
52F9984	66506-053	2 x 20	0.150″ (3.81)	1.900″ (48.26)	2.220″ (56.39)	2.280″ (57.91)	2.93
52F9985	66506-243	2 x 22	0.105″ (2.67)	2.100″ (53.34)	2.420″ (61.47)	2.480″ (62.99)	3.57
52F9986	66506-247	2 x 22	0.150″ (3.81)	2.100″ (53.34)	2.420″ (61.47)	2.480″ (62.99)	3.57
52F9987	66506-080	2 x 25	0.105″ (2.67)	2.400″ (60.96)	2.720″ (69.09)	2.780″ (70.61)	4.09
52F9988	66506-054	2 x 25	0.150″ (3.81)	2.400″ (60.96)	2.720″ (69.09)	2.780″ (70.61)	3.68
52F9989	66506-063	2 x 30	0.105″ (2.67)	2.900″ (73.66)	3.220″ (81.79)	3.280″ (83.31)	4.30
52F9990	66506-064	2 x 30	0.150″ (3.81)	2.900″ (73.66)	3.220″ (81.79)	3.280″ (83.31)	4.79

(8483) (ne08384)

QUICKIE™ III VERTICAL HEADERS WITH STANDARD LATCH

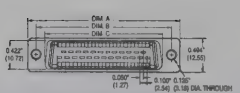
71918 series vertical headers feature four-walled shielding to protect pins and prevent misalignment. Dual-function latches lock and eject mated connector. Duplex-plated phosphor bronze pins with two-sided plating in contact area: contact sides of pin plated 30µ″ GXT. Polarization achieved by cutting off pin and adding polarization plug to mating Quickie™ III female connector.



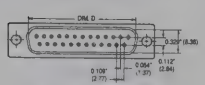
71918

Stock No.	Type	Positions	Dimension B	1-49
89F4776	71918-106	2 × 3	1.060″ (26.92)	1.01
89F4777	71918-108	2 × 4	1.160″ (29.46)	1.06
89F4778	71918-110	2 × 5	1.260″ (32.00)	1.14
89F4779	71918-114	2 × 7	1.460″ (37.08)	1.30
89F4780	71918-116	2 × 8	1.560″ (39.62)	1.35
89F4781	71918-118	2 × 9	1.660″ (42.16)	1.45
89F4782	71918-120	2 × 10	1.760″ (44.70)	1.53
89F4783	71918-126	2 × 13	2.060″ (52.32)	1.76
89F4784	71918-134	2 × 17	2.460″ (62.48)	2.02
89F4785	71918-140	2 × 20	2.760″ (70.10)	2.33
89F4786	71918-144	2 × 22	2.960″ (75.18)	2.54
89F4787	71918-150	2 × 25	3.260″ (82.80)	2.85
89F4788	71918-160	2 × 30	3.760″ (95.50)	3.29
89F4789	71918-164	2 × 32	3.960″ (100.58)	3.47

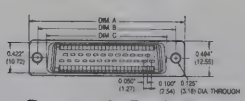
(8379) (de02498)



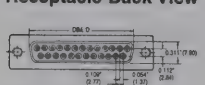
Plug-Back View



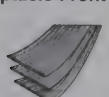
Plug-Front View



Receptacle-Back View



Receptacle-Front View



Round Conductor-Flat Cable

QUICKIE™ IDC D-SUBMINIATURE CONNECTORS

Connectors feature 2-row: 9, 15, 25 or 37 total positions. Double-scalloped cover facilitates proper alignment over contacts. Preassembled cover for rapid assembly. Strain relief. IDC technique enables simultaneous termination, without prestripping, of all conductors of flat flexible, round conductor cable with 0.050″ (1.27) pitch. Housing material: metal shell with tin-over-copper finish. Contact material: copper-based alloy. Finish: 30µ″ (0.76) min gold. Color: black.

METAL SHELL PLUG

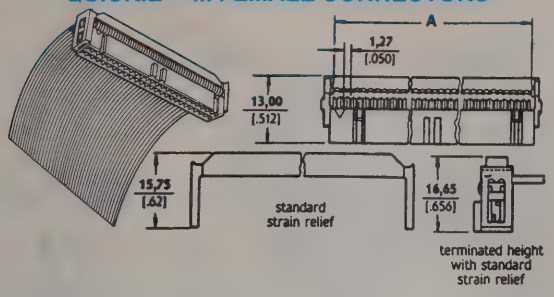
Stock No.	Type	Contacts	Dimensions A	Dimensions B	Dimensions C	Dimensions D	1-24
51F2475	66169-109	9	1.213″	0.984″	0.759″	0.666″	4.10
51F2460	66169-115	15	1.541″	1.312″	1.083″	0.994″	5.42
51F2461	66169-125	25	2.084″	1.852″	1.625″	1.534″	6.02
51F2462	66169-137	37	2.729″	2.500″	2.272″	2.182″	10.50

METAL SHELL RECEPTACLE

51F2463	66170-109	9	1.213″	0.984″	0.759″	0.643″	4.10
51F2464	66170-115	15	1.541″	1.312″	1.083″	0.971″	5.42
51F2465	66170-125	25	2.084″	1.852″	1.625″	1.511″	6.45
51F2466	66170-137	37	2.729″	2.500″	2.272″	2.159″	10.50

(11628) (ne09934)

QUICKIE™ III FEMALE CONNECTORS



Pre-loaded bridge-type cover reduces assembly time, protects contacts and offers precise cover-to-base alignment. Feed-through design allows cable to be inserted either side of connector for cable-end terminations. Also allows connector to pass smoothly over cable for daisy chain applications. Serrated slots provide accurate positioning of cable over contacts during assembly. Grid: 0.100″. Gray, glass-filled thermoplastic polyester body, rated UL 94 V-0. Current rating: 1 amp. Withstanding voltage: 1000 Vrms. Temperature range: –65° to +125°C. UL recognized. Phosphor bronze contacts finished with 30µ″ GXT™ (palladium-nickel alloy with gold flash) over pre-plated nickel. *To order with 30µ″ gold over nickel plating, change type number prefix to* **71600-XXX** *and contact your local Newark sales office.*

CENTRAL AND DUAL POLARIZATION

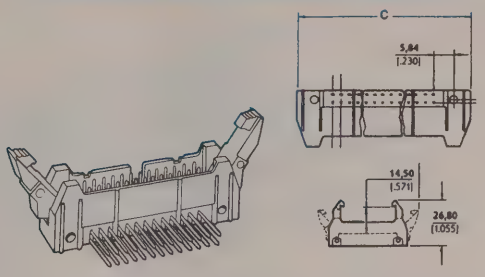
Stock No.	Type	Positions	Dimension A	1-24
89F4733	71602-010	2x5	0.525″	**0.52**
89F4734	71602-014	2x7	0.725″	**0.69**
89F4735	71602-016	2x8	0.825″	**0.78**
89F4736	71602-018	2x9	0.925″	**1.18**
89F4737	71602-020	2x10	1.025″	**0.89**
89F4738	71602-026	2x13	1.325″	**1.29**
89F4739	71602-034	2x17	1.725″	**1.29**
89F4740	71602-040	2x20	2.025″	**1.84**
89F4741	71602-044	2x22	2.225″	**1.55**
89F4742	71602-050	2x25	2.525″	**2.47**
89F4743	71602-060	2x30	3.025″	**2.07**
89F4744	71602-064	2x32	3.225″	**3.27**

DUAL POLARIZATION ONLY

89F4745	71602-306	2x3	0.325″	**0.84**
89F4746	71602-308	2x4	0.425″	**0.89**
89F4747	71602-310	2x5	0.525″	**0.84**
89F4748	71602-314	2x7	0.725″	**0.75**
89F4749	71602-316	2x8	0.825″	**0.78**
89F4750	71602-318	2x9	0.925″	**1.18**
89F4751	71602-320	2x10	1.025″	**0.89**
89F4752	71602-326	2x13	1.325″	**1.64**
89F6210	71602-334	2x17	1.725″	**2.10**
89F4753	71602-340	2x20	2.025″	**1.70**
89F4754	71602-344	2x22	2.225″	**2.50**
89F4755	71602-350	2x25	2.525″	**2.76**
89F4756	71602-360	2x30	3.025″	**2.07**
89F4757	71602-364	2x32	3.225″	**3.27**

(8427) (de52307)

QUICKIE ™ III RIGHT-ANGLE HEADERS WITH STANDARD LATCH

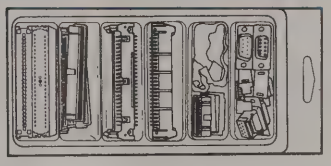


71922 series headers feature four-walled shielding to protect pins and prevent misalignment. Lock and eject system allows dense packaging design. Grid: 0.100″ (2.54). Duplex-plated phosphor bronze pins finished with 30µ″ GXT™ over nickel on contact sides and gold flash on non-contact sides. Polarization achieved by cutting off pin and adding polarization plug to mating Quickie™ III female connector.

Stock No.	Type	Positions	Dimension C	1-49
89F4790	71922-106	2x3	1.060″ (26.92)	**1.01**
89F4791	71922-108	2x4	1.160″ (29.46)	**1.06**
89F4792	71922-110	2x5	1.260″ (32.00)	**1.14**
89F4793	71922-114	2x7	1.460″ (37.08)	**1.30**
89F4794	71922-116	2x8	1.560″ (39.62)	**1.35**
89F4795	71922-118	2x9	1.660″ (42.16)	**1.45**
89F4796	71922-120	2x10	1.760″ (44.7)	**1.53**
89F4797	71922-126	2x13	2.060″ (52.32)	**1.76**
89F4798	71922-134	2x17	2.460″ (62.48)	**2.02**
89F4806	71922-140	2x20	2.760″ (70.10)	**2.33**
89F4807	71922-144	2x22	2.960″ (75.18)	**2.54**
89F6209	71922-150	2x25	3.260″ (82.80)	**2.85**
89F6208	71922-160	2x30	3.760″ (95.50)	**3.29**
89F4808	71922-164	2x32	3.960″ (100.58)	**3.47**

(8378) (de02497)

QUICKIE ™ IDC DESIGNER KIT



14-piece 0.100″ (2.54) Quickie™ IDC interconnection system kit includes 4 receptacles: 2 each of **types 66900-250** and **66900-220**; 4 headers: 1 each of **types 71912-150** and **71912-050**, 2 of **type 71912-120**; 4 D-subminiature connectors: 2 each of **types 66169-109** and **66170-109**; and 2 **type 71905-150** edgecard connectors. UL recognized, CSA certified.

Stock No.	Type	Description	1-9
95F6786	WDQ-1	Quickie™ IDC Designer Kit	**59.01**

(8431) (de52900)

QUICKIE ™ IDC 0.050″ (1.27MM) ROUND CONDUCTOR, FLAT CABLE

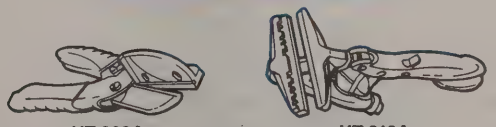
Compatible with the Quickie™ connector family. Conductor pitch is 0.050″ (1.27). **Type 76164** blue or **type 76825** gray both with identification stripe to indicate first position, UL 2651. **Type 76177** has sequentially colored conductors, UL 2884. PVC insulation, UL-rated FR-1. Resistance: > 104 megohms/3m. Temperature: 105°C maximum. Dielectric strength: 1500Vrms at sea level. Impedance: 105Ω stranded; 126Ω solid. Capacitance: 46pF/m stranded; 43pF/m solid. Voltage rating: 300VAC. Soft annealed copper conductor with tin finish. UL recognized, CSA certified. **Sold in spools of 100 ft. (30.48m).**

28 AWG STRANDED FLAT CABLE

Stock No.	Type	Positions	1-24	Stock No.	Type	Positions	1-24
89F4835	76164-064	64	**113.94**	**89F4834**	76825-060	60	**118.70**
89F4839	76825-010	10	**19.79**	**89F4813**	76177-040	40	**151.38**
89F4840	76825-014	14	**27.70**	**89F4814**	76177-044	44	**166.52**
89F4841	76825-016	16	**31.65**	**89F4815**	76177-050	50	**189.22**
89F4842	76825-020	20	**39.57**	**89F4817**	76177-064	64	**242.20**
89F4843	76825-026	26	**44.16**	**89F4819**	76177-010	10	**37.85**
89F4844	76825-034	34	**57.17**	**89F4820**	76177-014	14	**52.98**
89F4845	76825-040	40	**79.13**	**89F4823**	76177-026	26	**98.40**
89F4833	76825-050	50	**84.01**	**89F4824**	76177-034	34	**128.67**

(8428) (de52308)

QUICKIE ™ HAND TOOLS



HT 209A HT 210A

Type HT-209A cable shear perpendicularly cuts all flat cable up to 50 conductors on 0.050″ centers.

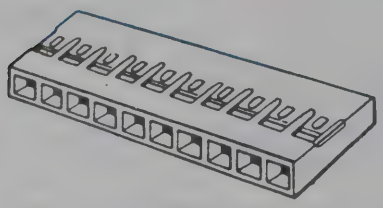
Stock No.	Type	Description	1-9
89F4980	HT-209A	Cable Shear	**272.36**

Type HT-210A connector terminator for terminating Quickie™ female connectors up to 50 positions, female IC, Quickie™ male DIP and PCB connectors.

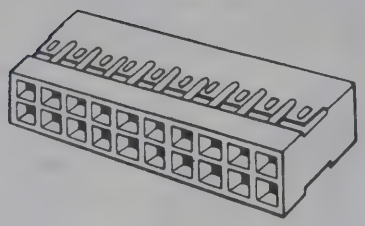
Stock No.	Type	Description	1-9
89F4981	HT-210A	Connector Terminator	**237.54**

(8429) (de52309)

SINGLE AND DOUBLE ROW MINI-LATCH HOUSINGS



65039



65043

Discrete crimp-to-wire housings on 0.100″ (2.54) centers. Stackable end-to-end and side-to-side. Accept Mini-PV™ receptacles, range 22-36AWG and crimp-to-wire male pins 22-32AWG, *ordered separately on this page.* Modified polyphenylene oxide, rated UL 94V-1. UL recognized, CSA certified. *Order* **type 65307-001** *polarizing plug separately on this page.*

65039 SERIES SINGLE ROW, 0.100″ (2.54) CENTERS

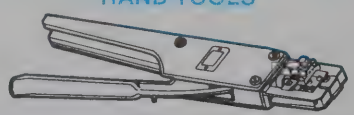
Stock No.	Type	Position	Housing Width	1-99
89F4598	65039-035	2	0.200″ (5.08)	0.35
89F4597	65039-034	3	0.300″ (7.62)	0.40
89F4596	65039-033	4	0.400″ (10.16)	0.43
89F4595	65039-032	5	0.500″ (12.70)	0.50
89F4594	65039-031	6	0.600″ (15.24)	0.58
89F4593	65039-030	7	0.700″ (17.78)	0.58
89F4592	65039-029	8	0.800″ (20.32)	0.63
89F4591	65039-027	10	1.000″ (25.40)	0.72
99F8621	65039-005	32	3.200″ (81.28)	1.94
66F737	65039-001	36	3.600″ (91.44)	1.97

65043 SERIES DOUBLE ROW, 0.100″ (2.54) CENTERS

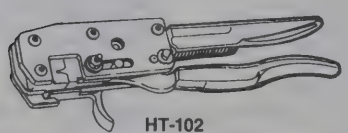
89F4606	65043-035	4	0.200″ (5.08)	0.60
89F4605	65043-034	6	0.300″ (7.62)	0.58
89F4604	65043-033	8	0.400″ (10.16)	0.70
89F4603	65043-032	10	0.500″ (12.70)	0.97
89F4602	65043-031	12	0.600″ (15.24)	0.53
89F4601	65043-030	14	0.700″ (17.78)	1.37
89F4600	65043-029	16	0.800″ (20.32)	1.20
89F4599	65043-027	20	1.000″ (25.40)	1.69
66F740	65043-024	26	1.300″ (33.02)	2.04
94F6563	65043-020	34	1.700″ (43.18)	1.97
94F6050	65043-017	40	2.000″ (50.80)	2.29
66F739	65043-012	50	2.500″ (63.50)	2.44
94F6560	65043-005	64	3.200″ (81.28)	3.26
66F738	65043-001	72	3.600″ (91.44)	3.06

(8418) (de51559)

HAND TOOLS



HT-73, HT-95



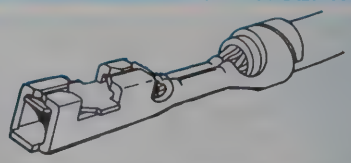
HT-102

Lightweight, rugged hand tools have ratchet-action handle that provides complete crimp cycle. For application on crimp-to-wire PV receptacles and pins.

Stock No.	Type	Description	1-9
89F4984	HT-73	Mini-PV™, 18-20 AWG	709.08
89F4985	HT-95	Mini-PV™, 22-32 AWG	709.08
89F4978	HT-102	Pin contacts, 18-20 AWG	693.25
04F1624	HT208A	22-26 AWG	448.68

(8422) (de51565)

CRIMP-TO-WIRE MINI-PV™ RECEPTACLES



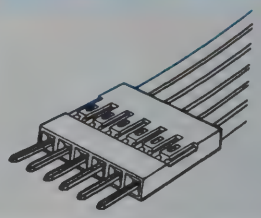
For use with Mini-Latch housings, *ordered separately on this page.* Mate with 0.025″ square pins. Available in tin/lead or a variety of gold platings. Current rating: 3A continuous. UL recognized, CSA certified.

Stock No.	Type	AWG	Plating	1-99
98F2828	47747000*	22,24,26	100″ tin	0.17
97F9688	48251-000*	22,24,26	15″ gold	0.33
89F4589	48252-000*	28,30,32	15″ gold	0.33
89F4590	48266-000*	18,20	30″ gold	0.36
89F4588	48235-000*	22,24,26	30″ gold	0.35
98F5796	48238-000*	28,30,32	30″ gold	0.35
94F6047	47743-000*	22,24,26	40″ gold	0.43
94F6555	48254-000†	22,24,26	15″ gold	0.33
89F4587	48234-000†	22,24,26	30″ gold	0.35
94F6046	47712-000†	22,24,26	40″ gold	0.43
50F8733	48236-000††	22,24,26	30″ gold	0.35
50F8734	48239-000††	28,30,32	30″ gold	0.35
94F7333	47745-000††	22,24,26	40″ gold	0.43
04F1609	47750-000††	22,24,26	100″ tin	0.17

Spring Force: *=Standard †=High ††=Ultra High

(8372) (de02098)

MALE CRIMP-TO-WIRE PINS



Contacts designed for use with Mini-Latch housing, *ordered separately on this page.* 0.100″ (2.54) spacings. Current rating: 3A continuous. For 18-32AWG wire range. Mate with Mini-PV™ receptacles, *ordered separately on this page.* UL recognized.

Stock No.	Type	Wire Size (AWG)	Finish	1-99
52F9250	48117-000	18-20	Gold	0.64
89F4586	48116-000	22-26	Gold	0.55
98F3722	48115-000	28-32	Gold	0.64
52F9251	75654-003*	18-20	Tin-Lead	0.26
94F6606	75654-002*	22-26	Tin-Lead	0.18
52F9252	75654-001*	28-32	Tin-Lead	0.25

* Not UL recognized

(8421) (de51564)

POLARIZATION PLUGS

For use with Mini-Latch housings, *ordered separately on this page.* White nylon, rated UL94V-0. UL recognized. **Sold in strips of 10 break-away plugs.**

Stock No.	Type	1-9
89F4607	65307-001	0.92

(8417) (de51560)

NEED IT FAST? OVERNIGHT SHIPMENT IS AVAILABLE ANYWHERE, ANYTIME.
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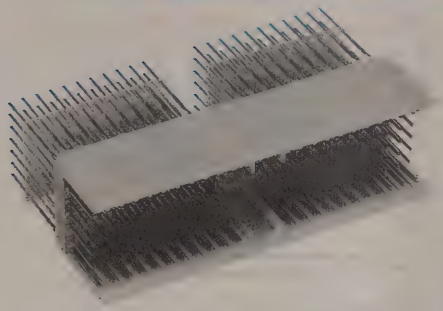
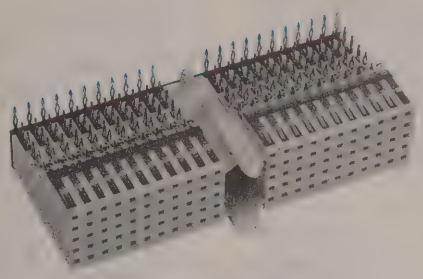
INTERCONNECTION SYSTEM

MILLIPACS 2™ POWER AND SIGNAL CONNECTORS



Vertical Header



Right-Angle Receptacle

Board-to-board or cable-to-board modular packaging on a high density 2 x 2mm grid. 5 rows of contacts with 2 additional rows of shielding/grounding allow for higher speed application. Insulator material: high temperature thermoplastic UL94V-0. Insulation resistance: 10,000 megohms initial. Operating temperature: -55°C to +125°C.

VERTICAL SIGNAL PIN HEADERS WITH PRESS-FIT TERMINATION

Stock No.	Type	Description	Positions	1-24	25-49
83F8157	HM2P07PD5110N9	Type A Header	110	5.07	3.93
83F8158	HM2P08PD5110N9	Type B Header	125	5.76	4.47
83F8159	HM2P09PD5110N9	Type C Header	55	2.69	2.09
83F8160	HM2P07PD5111N9	Type A Header (Shielded)	110	7.45	5.78
83F8161	HM2P08PD5111N9	Type B Header (Shielded)	125	8.52	6.60
83F8162	HM2P09PD5111N9	Type C Header (Shielded)	55	3.92	3.04
83F8163	HM2P07PK5110GF	Type A Header (13mm Tails)	110	7.76	6.02
83F8164	HM2P08PK5110GF	Type B Header (13mm Tails)	125	8.83	6.84
83F8165	HM2P09PK5110GF	Type C Header (13mm Tails)	55	4.03	3.12
83F8166	HM2P07PK5111GF	Type A Header (Shielded/ 13mm Tails)	110	10.12	7.84
83F8167	HM2P08PK5111GF	Type B Header (Shielded/ 13mm Tails)	125	11.56	8.96
83F8168	HM2P09PK5111GF	Type C Header (Shielded/ 13mm Tails)	55	5.25	4.07

VERTICAL SPECIAL (POWER/COAX) HEADERS WITH PRESS-FIT TERMINATION

83F8169	HM2P11PD5110N9	Type M Header	55 + 3 Power	3.89	3.02
83F8170	HM2P11PD5111N9	Type M Header (Shielded)	55 + 3 Power	5.25	4.07
83F8171	HM2P11PK5110GF	Type M Header (13mm Tails)	55 + 3 Power	12.85	9.96
83F8172	HM2P11PK5111GF	Type M Header (Shielded/ 13mm Tails)	55 + 3 Power	14.21	11.01
83F8173	HM2P10P1	Type L Header	6 Power	1.41	1.24
83F8174	HM2P12P1	Type N Header	3 Power	1.41	1.24

RIGHT ANGLE SIGNAL PIN RECEPTACLES WITH PRESS-FIT TERMINATION

83F8175	HM2R10PA5100N9	Type A Receptacle (No Pegs)	110	8.36	6.48
83F6402	HM2R02PA5100N9	Type B Receptacle	125	9.50	7.36
83F8176	HM2R03PA5100N9	Type C Receptacle	55	4.18	3.24
83F8177	HM2R30PA5100N9	Type C Receptacle (No Pegs)	55	4.18	3.24
83F6403	HM2R01PA5101N9	Type A Receptacle (Shielded)	110	11.87	9.20
83F8178	HM2R10PA5101N9	Type A Receptacle (Shielded/No Pegs)	110	11.87	9.20
83F8179	HM2R02PA5101N9	Type B Receptacle (Shielded)	125	13.41	10.39
83F8180	HM2R03PA5101N9	Type C Receptacle (Shielded)	55	5.41	4.19
83F8181	HM2R30PA5101N9	Type C Receptacle (Shielded/No Pegs)	55	5.81	4.50

RIGHT ANGLE SPECIAL (POWER/COAX) RECEPTACLES WITH PRESS-FIT TERMINATION

83F8182	HM2R05PA5100N9	Type M Receptacle	55 + 3 Power	4.47	3.47
83F8183	HM2R05PA5101N9	Type M Receptacle (Shielded)	55 + 3 Power	6.47	5.02
83F6404	HM2R04P1	Type L Receptacle	6 Power	1.41	1.24
83F8184	HM2R06P1	Type N Receptacle	3 Power	1.41	1.24

LOWER SHIELD COVERS FOR RIGHT ANGLE RECEPTACLES

83F8185	HM2SC22A	Type A Lower Shield Cover	...	1.64	1.44
83F8186	HM2SC25A	Type B Lower Shield Cover	...	1.64	1.44
83F8187	HM2SC11A	Type C Lower Shield Cover	...	1.27	1.12

IDC CABLE CONNECTORS FOR DISCRETE WIRING

Stock No.	Type	Description	Positions	1-24	25-49
83F8188	HM2C01D0C010N9	Cable Connector (30 AWG)	20	8.50	6.59
83F8189	HM2C01D2C010N9	Cable Connector (26 AWG)	20	8.50	6.59

MALE COLOR-CODED DISCRIMINATION KEYS

83F6405	HM2DK3568P	Pastel Orange	...	0.60	0.52
83F8191	HM2DK3478P	Steel Blue	...	0.60	0.52
83F8192	HM2DK3467P	Slate Gray	...	0.60	0.52
83F8193	HM2DK3456P	Cadmium Yellow	...	0.60	0.52
83F8194	HM2DK2578P	Reseda Green	...	0.60	0.52
83F8195	HM2DK1567P	Brilliant Blue	...	0.60	0.52
83F8196	HM2DK1356P	Blue Lilac	...	0.60	0.52
83F8197	HM2DK4678P	Ocher Yellow	...	0.60	0.52
83F8198	HM2DK1248P	Strawberry Red	...	0.60	0.52
83F8199	HM2DK1236P	Nut Brown	...	0.60	0.52

FEMALE COLOR-CODED DISCRIMINATION KEYS

83F6406	HM2DK1247R	Pastel Orange	...	0.60	0.52
83F8200	HM2DK1256R	Steel Blue	...	0.60	0.52
83F8201	HM2DK1258R	Slate Gray	...	0.60	0.52
83F8202	HM2DK1278R	Cadmium Yellow	...	0.60	0.52
83F8203	HM2DK1346R	Reseda Green	...	0.60	0.52
83F6407	HM2DK2348R	Brilliant Blue	...	0.60	0.52
83F8204	HM2DK2478R	Blue Lilac	...	0.60	0.52
83F8205	HM2DK1235R	Ocher Yellow	...	0.60	0.52
83F8206	HM2DK3567R	Strawberry Red	...	0.60	0.52
83F8207	HM2DK4578R	Nut Brown	...	0.60	0.52

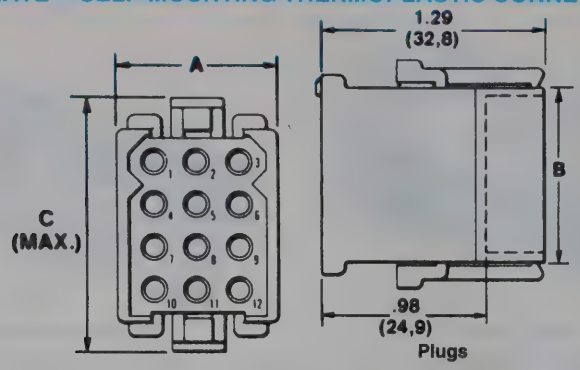
SHROUDS

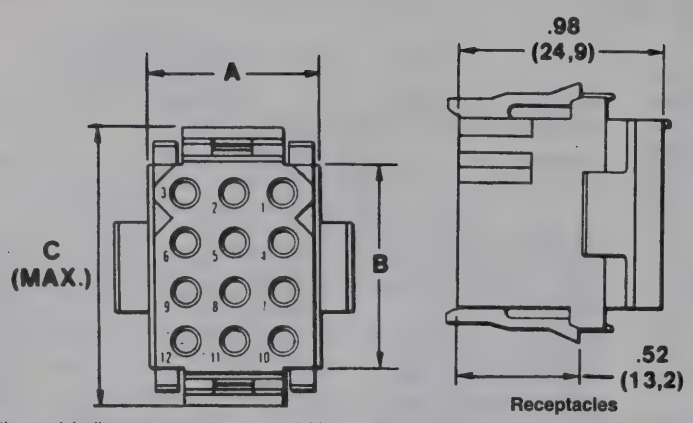
83F8208	HM2H04P1	Cable Shroud	25	1.07	0.94
83F8209	HM2H05P1	Cable Shroud	125	1.07	0.94
83F8210	HM2H06P1	Board Shroud	25	1.07	0.94
83F8190	HM2LK0	Locking Clip	...	0.60	0.52
83F8211	HM2H07P1	Type A Board Shroud	110	1.07	0.94
83F8212	HM2H08P1	Type B Board Shroud	125	1.07	0.94
83F8213	HM2H09P1	Type C Board Shroud	55	1.07	0.94

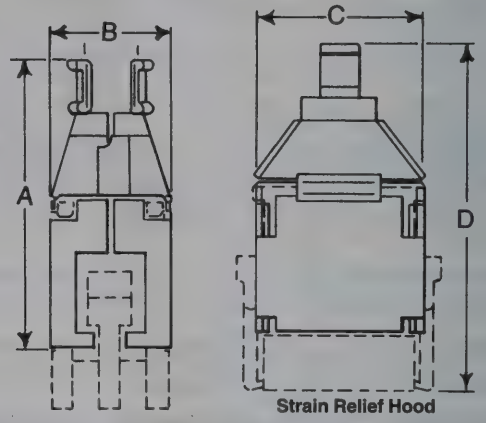
COMPACT PCI CONNECTORS

83F6408	HM2R01PA510FN9	Type A Receptacle (Upper Shield Only)	110	11.81	9.15
83F6409	HM2R10PA510FN9	Type A Receptacle (Upper Shield Only/No Pegs)	110	11.81	9.15
83F6410	HM2R70PA510FN9	22-Position Receptacle (Upper Shield Only)	110	11.81	9.15
83F6411	HM2R71PA510FN9	19-Position Receptacle (Upper Shield Only)	95	10.52	8.15
83F6412	HM2P07PDG1A1N9	Type A Header (CPCI Special Load)	110	8.87	6.88
83F6413	HM2P07PNG1A4GF	Type A Header (CPCI Special Load)	110	12.19	9.45
83F6415	HM2P70PDE121N9	22-Position Header (CPCI Special Load)	110	8.87	6.88
83F6417	HM2P70PNE124GF	22-Position Header (CPCI Special Load)	110	12.19	9.45
83F6418	HM2P71PN5114GF	19-Position Header (CPCI Special Load)	95	10.54	8.17
83F6420	HM2H07P130	19-Position Header (CPCI Special Load)	95	1.07	0.94
83F6421	HM2H70P130	Type A Shroud (3.0mm Standoff)	110	1.07	0.94
83F6422	HM2H71P130	22-Position Shroud (3.0mm Standoff)	110	1.07	0.94

QIKMATE™ SELF-MOUNTING THERMOPLASTIC CONNECTORS







Self-mounting, quick-disconnect connectors quickly snap into a cut-out in the mounting panel and firmly lock into place without additional hardware. Receptacles accommodate panel thicknesses of 0.030 to 0.090″. Removal is accomplished by depressing the latches on the receptacle at the rear of the panel. Plugs and receptacles are fully polarized for error-free mating; "skirted" design protects against accidental damage to pins. Contacts are available in screw-machined, strip-formed, and signal power versions for subminiature coaxial cables or twisted pair cables. Available with accessory strain relief hoods. Operating temperature: –55°C to +105°C. Insulation resistance at 500VDC: 5000 megohms. Test potential: 2000VAC, 60Hz. Contact retention force: 10 lbs. minimum after 10 insertions/ extractions. Humidity: 240 hours at 40°C, 90-95% RH. UL recognized, CSA certified. For use with Trim Trio™ contacts and accessories, *order separately on pages 250-251.*

PLUGS

Stock No.	Type	Number of Contacts	Dimensions			1-49	50-99	100-249	250-499
			A	B	C (Max.)				
16F5779	SMS2P-1	2	0.59″ (15.0)	0.33″ (8.4)	0.70″ (17.8)	0.61	0.52	0.48	0.43
16F5780	SMS3P-1	3	0.73″ (18.5)	0.33″ (8.4)	0.70″ (17.8)	0.56	0.48	0.44	0.40
16F5781	SMS6P-1	6	0.73″ (18.5)	0.53″ (13.5)	0.90″ (22.9)	0.56	0.48	0.44	0.40
16F5782	SMS12P-1	12	0.73″ (18.5)	0.93″ (23.6)	1.30″ (33.0)	0.61	0.52	0.48	0.43
16F5783	SMS24P-1	24	0.93″ (23.6)	1.33″ (33.8)	1.70″ (43.2)	2.55	2.17	1.99	0.88

RECEPTACLES

16F5784	SMS2R-1	2	0.43″ (10.9)	0.23″ (5.8)	0.60″ (15.2)	0.69	0.59	0.54	0.49
16F5785	SMS3R-1	3	0.63″ (16.0)	0.23″ (5.8)	0.60″ (15.2)	0.67	0.57	0.52	0.47
16F5786	SMS6R-1	6	0.63″ (16.0)	0.43″ (10.9)	0.80″ (20.3)	0.75	0.64	0.58	0.53
16F5787	SMS12R-1	12	0.63″ (16.0)	0.83″ (21.1)	1.20″ (30.5)	1.46	1.24	1.14	0.51
16F5788	SMS24R-1	24	0.83″ (21.1)	1.23″ (31.2)	1.60″ (40.6)	3.85	3.27	3.01	1.31

STRAIN RELIEF HOODS

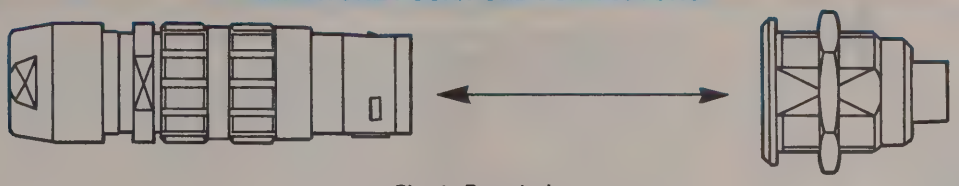
Stock No.	Type	Contact Position	Wire Bundle (Max.)	Dimensions				1-49	50-99	100-249	250-499
				A	B	C	D (Max.)				
16F5789	SMS2H-1	2	0.33″ (8.4)	1.82″ (46.2)	0.66″ (16.7)	0.42″ (10.6)	2.22″ (56.3)	1.54	1.31	1.20	1.08
16F5790	SMS3H-1	3	0.33″ (8.4)	1.82″ (46.2)	0.76″ (19.3)	0.42″ (10.6)	2.22″ (56.3)	1.62	1.38	1.27	1.14
16F5791	SMS6H-1	6	0.33″ (8.4)	1.82″ (46.2)	0.76″ (19.3)	0.62″ (15.7)	2.22″ (56.3)	2.76	2.35	2.16	1.94
16F5792	SMS12H-1	12	0.40″ (10.2)	1.78″ (45.2)	0.76″ (19.3)	1.02″ (25.9)	2.18″ (55.3)	2.36	2.01	1.85	0.81
16F5793	SMS24H-1	24	0.50″ (12.7)	1.99″ (50.5)	0.96″ (24.3)	1.42″ (36.0)	2.39″ (60.7)	3.11	2.64	2.43	2.18

(8500) (ne09333)

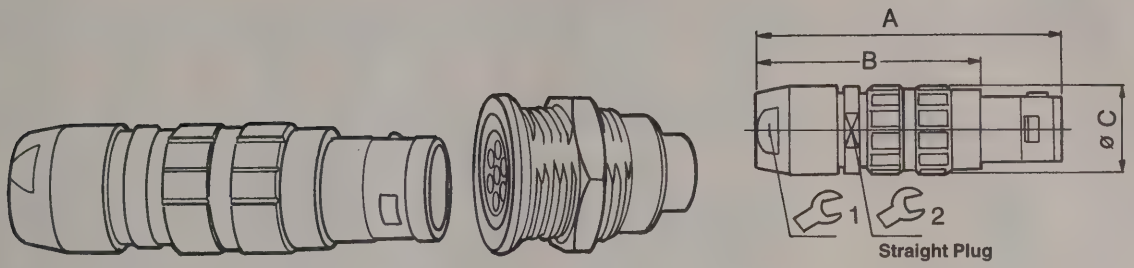
NEWARK STOCKS MORE PRODUCTS THAN ANY OTHER ELECTRONICS DISTRIBUTOR!

CIRCULAR CONNECTORS

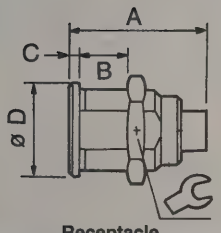
MINIATURE PUSH/PULL CONNECTORS



Plug-to-Receptacle



Straight Plug



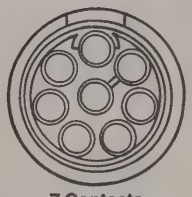
Receptacle

2 Contacts

3 Contacts

4 Contacts

5 Contacts



7 Contacts

Designed to provide quick, reliable high-density interconnections of wire and cable. Fully compatible and intermateable with Lemo's B series. Quick-latching mechanism provides easy operation throughout the service life of the connector. Removable crimp contacts facilitate assembly and allow for repairability. The connector assembly is comprised of a shell fitted with the push-pull locking device; an insulation block which retains the contacts after crimping 2 half-liners for grounding and positioning of the insulator block; and a collet, which is compressed by the pressure sleeve for cable strain relief.

RECEPTACLES

Stock No.	Type	Shell Size	No. of Socket Contacts	Socket Contact Type	Dimensions A	B	C	D	AWG	Current Rating	Operating Voltage VAC	VDC	1-4	5-9	10-24	25-49
16F5896	JBXER0G02FCSDS	0	2	Crimp	0.748″	0.315″	0.047″	0.394″	20-22-24	10A	660	460	**13.90**	**11.81**	**10.84**	**9.76**
16F5897	JBXER0G03FCSDS	0	3	Crimp	0.748″	0.315″	0.047″	0.394″	20-22-24	8A	600	420	**14.63**	**12.44**	**11.41**	**10.27**
83F8290	JBXER0G03FSSDS	0	3	Solder	0.748″	0.315″	0.047″	0.394″	20-22-24	8A	600	420	**14.14**	**12.02**	**10.81**	**9.73**
16F5898	JBXER0G04FCSDS	0	4	Crimp	0.748″	0.315″	0.047″	0.394″	22-24-26	7A	660	460	**15.61**	**13.27**	**12.18**	**10.96**
83F8291	JBXER0G04FSSDS	0	4	Solder	0.748″	0.315″	0.047″	0.394″	22-24-26	7A	660	460	**14.14**	**12.02**	**10.81**	**9.73**
16F5899	JBXER0G05FCSDS	0	5	Crimp	0.748″	0.315″	0.047″	0.394″	22-24-26	6.5A	400	260	**16.32**	**13.87**	**12.73**	**11.46**
83F8292	JBXER0G05FSSDS	0	5	Solder	0.748″	0.315″	0.047″	0.394″	22-24-26	6.5A	400	260	**15.77**	**13.40**	**12.06**	**10.86**
16F5903	JBXER1G05FCSDS	1	5	Crimp	0.827″	0.394″	0.059″	0.551″	20-22-24	9A	660	460	**20.11**	**17.09**	**15.69**	**14.12**
83F8293	JBXER1G06FCSDS	1	6	Crimp	0.827″	0.394″	0.059″	0.551″	22-24-26	7A	660	460	**20.56**	**17.47**	**15.73**	**14.16**
83F8294	JBXER1G06FSSDS	1	6	Solder	0.827″	0.394″	0.059″	0.551″	22-24-26	7A	660	460	**20.56**	**17.47**	**15.73**	**14.16**
16F5904	JBXER1G07FCSDS	1	7	Crimp	0.827″	0.394″	0.059″	0.551″	22-24-26	7A	600	460	**22.78**	**19.36**	**17.77**	**15.99**
83F8295	JBXER1G07FSSDS	1	7	Solder	0.827″	0.394″	0.059″	0.551″	22-24-26	7A	600	460	**22.01**	**18.71**	**16.83**	**15.15**
83F8296	JBXER1G08FCSDS	1	8	Crimp	0.827″	0.394″	0.059″	0.551″	22-24-26	7A	600	400	**22.56**	**19.18**	**17.26**	**15.53**
83F8297	JBXER1G08FSSDS	1	8	Solder	0.827″	0.394″	0.059″	0.551″	22-24-26	7A	600	400	**22.56**	**19.18**	**17.26**	**15.53**
83F8300	JBXER2G10FCSDS	2	10	Crimp	0.944″	0.393″	0.070″	0.708″	20-22-24	8A	830	560	**33.93**	**28.84**	**25.95**	**23.36**
83F8301	JBXER2G12FCSDS	2	12	Crimp	0.944″	0.393″	0.070″	0.708″	22-24-26	7A	830	560	**35.51**	**30.18**	**27.16**	**24.45**
83F8302	JBXER2G12FSSDS	2	12	Solder	0.944″	0.393″	0.070″	0.708″	22-24-26	7A	830	560	**35.51**	**30.18**	**27.16**	**24.45**

PLUGS

Stock No.	Type	Shell Size	No. of Pin Contacts	Pin Contact Type	Dimensions A	B	C	AWG	Current Rating	Operating Voltage VAC	VDC	1-4	5-9	10-24	25-49
16F5905	JBXFD0G02MCSDS	0	2	Crimp	1.535″	1.142″	0.394″	20-22-24	10A	660	460	**19.07**	**16.21**	**14.88**	**13.39**
16F5906	JBXFD0G03MCSDS	0	3	Crimp	1.535″	1.142″	0.394″	20-22-24	8A	600	420	**19.78**	**16.81**	**15.43**	**13.89**
83F8303	JBXFD0G03MSSDS	0	3	Solder	1.535″	1.142″	0.394″	20-22-24	8A	600	420	**19.11**	**16.24**	**14.62**	**13.16**
16F5907	JBXFD0G04MCSDS	0	4	Crimp	1.535″	1.142″	0.394″	22-24-26	7A	660	460	**20.84**	**17.72**	**16.26**	**14.64**
83F8304	JBXFD0G04MSSDS	0	4	Solder	1.535″	1.142″	0.394″	22-24-26	7A	660	460	**20.14**	**17.12**	**15.40**	**13.87**
16F5908	JBXFD0G05MCSDS	0	5	Crimp	1.535″	1.142″	0.394″	22-24-26	6.5A	400	260	**21.61**	**18.36**	**16.85**	**15.17**
83F8305	JBXFD0G05MSSDS	0	5	Solder	1.535″	1.142″	0.394″	22-24-26	6.5A	400	260	**20.88**	**17.74**	**15.97**	**14.37**
16F5912	JBXFD1G05MCSDS	1	5	Crimp	1.772″	1.339″	0.472″	20-22-24	9A	660	460	**28.31**	**24.06**	**22.08**	**19.88**
83F8306	JBXFD1G06MCSDS	1	6	Crimp	1.772″	1.339″	0.472″	22-24-26	7A	660	460	**28.75**	**24.43**	**21.99**	**19.79**
83F8307	JBXFD1G06MSSDS	1	6	Solder	1.772″	1.339″	0.472″	22-24-26	7A	660	460	**28.75**	**24.43**	**21.99**	**19.79**
16F5913	JBXFD1G07MCSDS	1	7	Crimp	1.772″	1.339″	0.472″	22-24-26	7A	600	460	**30.87**	**26.24**	**24.08**	**21.67**
83F8308	JBXFD1G07MSSDS	1	7	Solder	1.772″	1.339″	0.472″	22-24-26	7A	600	460	**29.82**	**25.35**	**22.81**	**20.53**
83F8309	JBXFD1G08MCSDS	1	8	Crimp	1.772″	1.339″	0.472″	22-24-26	7A	600	400	**30.56**	**25.98**	**23.37**	**21.04**
83F8310	JBXFD1G08MSSDS	1	8	Solder	1.772″	1.339″	0.472″	22-24-26	7A	600	400	**30.56**	**25.98**	**23.37**	**21.04**
83F8313	JBXFD2G10MCSDS	2	10	Crimp	2.047″	1.574″	0.590″	20-22-24	8A	830	560	**47.01**	**39.96**	**35.96**	**32.37**
83F8314	JBXFD2G12MCSDS	2	12	Crimp	2.047″	1.574″	0.590″	22-24-26	7A	830	560	**49.20**	**41.81**	**37.63**	**33.87**
83F8315	JBXFD2G12MSSDS	2	12	Solder	2.047″	1.574″	0.590″	22-24-26	7A	830	560	**49.20**	**41.81**	**37.63**	**33.87**

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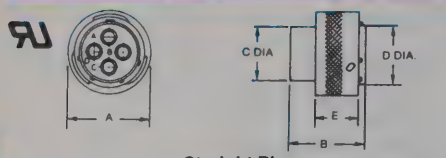
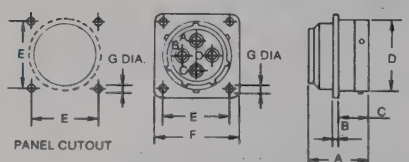
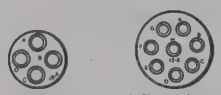


Straight Plug



Wall-Mounting Receptacle



4 Positions

8 Positions

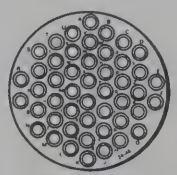
12 Positions

19 Positions

23 Positions

28 Positions

35 Positions



48 Positions

METALOK BANTAM™ CIRCULAR CONNECTORS

Circular connectors with metal bayonet couplings provide high reliability and durability. Accept any contacts in the Trim Trio™ Interconnection System. Plug connectors have CuZn nickel-plated bayonet coupling. Operating temperature: –55°C to +125°C. Insulation resistance: 5000 megohms min. Test potential: 2,000V–eff. Current rating: up to 13A. UL recognized. For use with Trim Trio™ contacts and accessories, *order separately on pages 250-251.*

STRAIGHT PLUGS FOR PIN CONTACTS

Stock No.	Type	Contacts	Shell Size	Dimensions A	B	C	D	E	1-9	10-24
16F5733	UTG610-4PN	4	10-4	0.850″	1.252″	0.429″	0.480″	0.752″	11.92	10.13
16F5734	UTG612-8PN	8	12-8	0.976″	1.252″	0.543″	0.594″	0.752″	11.92	10.13
16F5735	UTG614-12PN	12	14-12	1.102″	1.252″	0.669″	0.720″	0.752″	11.92	10.13
16F5736	UTG616-19PN	19	16-19	1.228″	1.252″	0.783″	0.843″	0.752″	11.20	9.52
16F5737	UTG618-23PN	23	18-23	1.350″	1.252″	0.882″	0.945″	0.752″	15.15	12.87
16F5738	UTG620-28PN	28	20-28	1.476″	1.252″	1.008″	1.067″	0.752″	17.61	14.96
16F5739	UTG622-35PN	35	22-35	1.602″	1.252″	1.043″	1.197″	0.752″	22.73	19.32
16F5740	UTG624-48PN	48	24-48	1.728″	1.252″	1.248″	1.319″	0.752″	22.73	19.32

STRAIGHT PLUGS FOR SOCKET CONTACTS

Stock No.	Type	Contacts	Shell Size	Dimensions A	B	C	D	E	1-9	10-24
16F5741	UTG610-4SN	4	10-4	0.850″	0.933″	0.425″	0.480″	0.752″	9.15	7.78
16F5742	UTG612-8SN	8	12-8	0.976″	0.933″	0.543″	0.594″	0.752″	11.92	10.13
16F5743	UTG614-12SN	12	14-12	1.102″	0.933″	0.669″	0.720″	0.752″	9.15	7.78
16F5744	UTG616-19SN	19	16-19	1.228″	0.933″	0.783″	0.843″	0.752″	11.20	9.52
16F5745	UTG618-23SN	23	18-23	1.350″	0.933″	0.882″	0.945″	0.752″	15.15	12.87
16F5746	UTG620-28SN	28	20-28	1.476″	0.980″	1.008″	1.067″	0.752″	17.61	14.96
16F5747	UTG622-35SN	35	22-35	1.602″	0.980″	1.122″	1.197″	0.752″	22.73	19.32
16F5748	UTG624-48SN	48	24-48	1.728″	1.031″	1.248″	1.319″	0.752″	17.43	14.82

WALL-MOUNTING RECEPTACLES FOR PIN CONTACTS

Stock No.	Type	Contacts	Shell Size	Dimensions A	B	C	D	E	F	G	1-9	10-24
16F5717	UTG010-4P	4	10-4	1.248″	0.091″	0.445″	0.591″	0.717″	0.909″	0.126″	4.82	4.10
16F5718	UTG012-8P	8	12-8	1.248″	0.091″	0.445″	0.748″	0.807″	1.031″	0.126″	5.01	4.26
16F5719	UTG014-12P	12	14-12	1.248″	0.091″	0.445″	0.874″	0.902″	1.122″	0.126″	5.04	4.28
16F5720	UTG016-19P	19	16-19	1.248″	0.091″	0.445″	0.996″	0.965″	1.213″	0.126″	5.89	5.00
16F5721	UTG018-23P	23	18-23	1.248″	0.098″	0.445″	1.122″	1.059″	1.303″	0.126″	7.93	6.74
16F5722	UTG020-28P	28	20-28	1.311″	0.098″	0.567″	1.248″	1.150″	1.429″	0.126″	6.39	5.43
16F5723	UTG022-35P	35	22-35	1.311″	0.138″	0.567″	1.374″	1.244″	1.547″	0.126″	6.65	5.65
16F5724	UTG024-48P	48	24-48	1.311″	0.138″	0.594″	1.496″	1.366″	1.677″	0.154″	9.50	8.08

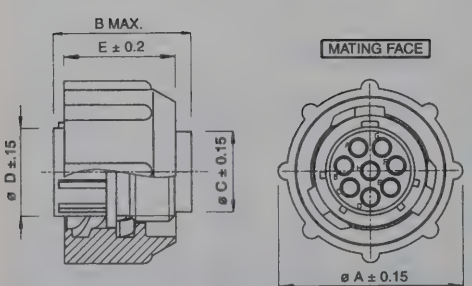
WALL-MOUNTING RECEPTACLES FOR SOCKET CONTACTS

Stock No.	Type	Contacts	Shell Size	Dimensions A	B	C	D	E	F	G	1-9	10-24
16F5725	UTG010-4S	4	10-4	0.957″	0.091″	0.445″	0.591″	0.717″	0.937″	0.126″	7.19	6.11
16F5726	UTG012-8S	8	12-8	0.957″	0.091″	0.445″	0.748″	0.807″	1.031″	0.126″	6.52	5.54
16F5727	UTG014-12S	12	14-12	0.957″	0.091″	0.445″	0.874″	0.902″	1.122″	0.126″	6.56	5.58
16F5728	UTG016-19S	19	16-19	0.957″	0.091″	0.445″	0.996″	0.965″	1.213″	0.126″	5.89	5.00
16F5729	UTG018-23S	23	18-23	0.957″	0.098″	0.445″	1.122″	1.059″	1.303″	0.126″	7.93	6.74
16F5730	UTG020-28S	28	20-28	1.063″	0.098″	0.567″	1.248″	1.150″	1.429″	0.126″	8.15	6.93
16F5731	UTG022-35S	35	22-35	1.102″	0.138″	0.567″	1.374″	1.244″	1.547″	0.126″	8.89	7.56
16F5732	UTG024-48S	48	24-48	1.197″	0.138″	0.594″	1.496″	1.366″	1.677″	0.154″	9.50	8.08

(8496) (ne09282)

UTP™ FULL PLASTIC CIRCULAR TRIM TRIO™ CONNECTORS

UTP series full plastic industrial circular connectors area range of multiway connectors using N° 16 Trim Trio™ 0.0625″ (1.6mm) diameter contacts. Vibration-proof plastic bayonet coupling ring incorporates a metal wave spring, which locks with an audible "click". Economical and lightweight. Fully intermateable, interchangeable and intermountable withTrim Trio™ **UTO series** (full metal) and **UTG series** (plastic with metal coupling ring) industrial connector families. Operating temperature: –55°C to +125°C. Insulation resistance: 5000MΩ min. Test potential: 2000VAC. Durability: 250 matings and unmatings. Degree of protection per DIN 40050: IP65 in mated condition. *See insert arrangements separately on this page.* For use with Trim Trio™ contacts and accessories, *order separately on pages 250-251.*



Plug

CABLE PLUG CONNECTOR FOR PIN CONTACTS

Stock No.	Type	Contacts	Shell Size	Dimensions (mm) A	B (Max.)	C	D	E	1-9	10-24
16F5749	UTP6104P	4	10-4	26.7	31.8	10.9	12.2	19.1	7.24	6.15
16F5750	UTP6128P	8	12-8	31.4	31.8	13.8	15.1	19.1	7.41	6.30
16F5751	UTP61412P	12	14-12	35.5	31.8	17.0	18.3	19.1	7.54	6.41
16F5752	UTP61619P	19	16-19	37.8	31.8	19.9	21.5	19.1	9.85	8.37
16F5753	UTP61823P	23	18-23	40.8	31.8	22.4	24.0	19.1	10.29	8.74
16F5754	UTP62028P	28	20-28	43.9	31.8	25.6	27.2	19.1	11.07	9.41
16F5755	UTP62235P	35	22-35	45.1	31.8	26.5	30.4	19.1	14.38	12.22
16F5756	UTP62448P	48	24-48	50.1	31.8	31.7	33.5	19.1	14.95	12.71

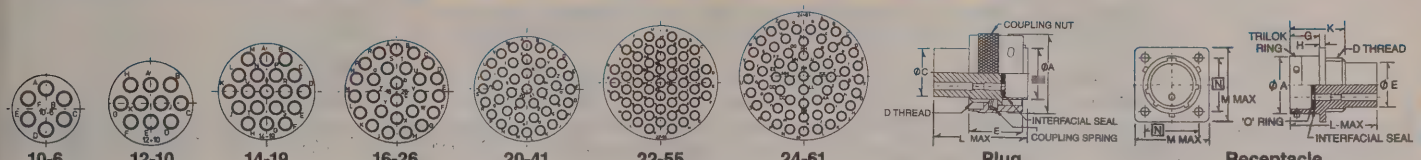
CABLE PLUG CONNECTOR FOR SOCKET CONTACTS

Stock No.	Type	Contacts	Shell Size	Dimensions (mm) A	B (Max.)	C	D	E	1-9	10-24
16F5757	UTP6104S	4	10-4	26.7	23.7	10.9	12.2	19.1	7.24	6.15
16F5758	UTP6128S	8	12-8	31.4	23.7	13.8	15.1	19.1	7.41	6.30
16F5759	UTP61412S	12	14-12	35.5	23.7	17.0	18.3	19.1	10.48	8.91
16F5760	UTP61619S	19	16-19	37.8	23.7	19.9	21.5	19.1	9.85	8.37
16F5761	UTP61823S	23	18-23	40.8	23.7	22.4	24.0	19.1	10.29	8.74
16F5762	UTP62028S	28	20-28	43.9	24.9	25.6	27.2	19.1	11.07	9.41
16F5763	UTP62235S	35	22-35	45.1	23.7	26.5	30.4	19.1	14.38	12.22
16F5764	UTP62448S	48	24-48	50.1	26.2	31.7	33.5	19.1	14.95	12.71

(8499) (ne09331)

CIRCULAR CONNECTORS

SEALOK™ MINIATURE CIRCULAR CONNECTORS



MIL-C-26482 circular bayonet coupled connectors accept crimped, stamped-and-formed contacts accommodating wire sizes 20/22 and 24/26 AWG. Mates plug and receptacle with one action of the tri-lok coupling mechanism. Completely intermateable with MIL-C-26482 products. The connector is a single-piece molded thermoplastic shell and insulator with a nickel-plated metal coupling nut and tri-lok ring. Operating temp: –55°C to +125°C. Insulation resist: 5000 megohms min. *Order contacts and cable clamps separately on pages 250-251.*

PLUGS

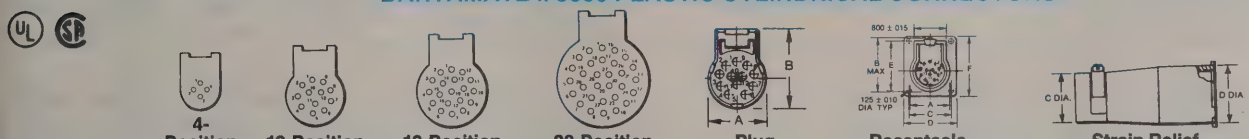
Stock No.	Type	Size	DIMENSIONS A	B	C	D THD. CLASS A	E	L (max.)	1-9	10-24	25-49	50-99
16F5801	UTGW610-6S1	10-6	0.850″	0.483″	0.433″	9/16-24 UNEF	0.752″	0.960″	7.11	6.04	5.55	4.99
16F5802	UTGW612-10S1	12-10	0.976″	0.595″	0.547″	11/16-24 UNEF			7.02	5.97	5.48	4.93
16F5803	UTGW614-19S1	14-19	1.102″	0.720″	0.673″	13/16-20 UNEF			7.69	6.54	6.01	5.40
16F5804	UTG616-26S1	16-26	1.228″	0.845″	0.787″	15/16-20 UNEF			8.13	6.91	6.35	5.71
16F5805	UTGW620-41S1	20-41	1.476″	1.070″	1.012″	1 3/16-18 UNEF			9.37	7.97	7.32	6.58
16F5806	UTGW622-55S1	22-55	1.602″	1.195″	1.126″	1 5/16-18 UNEF			9.94	8.45	7.76	6.97
16F5807	UTGW624-61S1	24-61	1.728″	1.320″	1.252″	1 7/16-18 UNEF			10.79	9.17	8.42	7.57
16F5794	UTGW610-6P1	10-6	0.850″	0.483″	0.433″	9/16-24 UNEF		1.320″	8.65	7.35	6.75	6.07
16F5795	UTGW612-10P1	12-10	0.976″	0.595″	0.547″	11/16-24 UNEF			8.94	7.59	6.98	6.27
16F5796	UTGW614-19P1	14-19	1.102″	0.720″	0.673″	13/16-20 UNEF			9.26	7.87	7.23	6.50
16F5797	UTGW616-26P1	16-26	1.228″	0.845″	0.787″	15/16-18 UNEF			9.81	8.34	7.66	6.88
16F5798	UTGW620-41P1	20-41	1.476″	1.070″	1.012″	1 3/16-18 UNEF			11.44	9.72	8.93	8.03
16F5799	UTGW622-55P1	22-55	1.602″	1.195″	1.126″	1 5/16-18 UNEF			11.99	10.19	9.36	8.41
16F5800	UTGW624-61P1	24-61	1.728″	1.320″	1.252″	1 7/16-18 UNEF			13.08	11.11	10.21	9.18

WALL-MOUNTING RECEPTACLES

Stock No.	Type	Size	DIMENSIONS A	D THD. CLASS 2A	E	G	H	K	L	M	N	1-9	10-24	25-49	50-99
16F5815	UTGW010-6S1	10-6	0.588″	9/16-24 UNEF	0.433″	0.447″	0.09″	0.839″	0.965″	0.954″	0.719″	5.52	4.69	4.31	3.87
16F5816	UTGW012-10S1	12-10	0.748″	11/16-24 UNEF	0.547″	0.447″	0.09″	0.839″	0.965″	1.047″	0.812″	5.80	4.93	4.53	4.07
16F5817	UTGW014-19S1	14-19	0.873″	13/16-20 UNEF	0.673″	0.447″	0.09″	0.839″	0.965″	1.141″	0.906″	5.99	5.10	4.68	4.21
16F5818	UTGW016-26S1	16-26	0.998″	15/16-20 UNEF	0.787″	0.447″	0.09″	0.839″	0.965″	1.234″	0.969″	6.76	5.74	5.28	4.74
16F5819	UTGW020-41S1	20-41	1.248″	1 3/16-18 UNEF	1.012″	0.573″	0.10″	1.060″	1.030″	1.453″	1.156″	8.61	7.32	6.72	6.04
16F5820	UTGW022-55S1	22-55	1.373″	1 5/16-18 UNEF	1.126″	0.573″	0.14″	1.100″	1.030″	1.578″	1.250″	9.26	7.87	7.23	6.50
16F5821	UTGW024-61S1	24-61	1.498″	1 7/16-18 UNEF	1.252″	0.604″	0.14″	1.193″	1.030″	1.703″	1.375″	12.75	10.84	9.95	8.95
16F5808	UTGW010-6P1	10-6	0.588″	9/16-24 UNEF	0.433″	0.447″	0.09″	0.839″	1.330″	0.954″	0.719″	7.41	6.30	5.79	5.20
16F5809	UTGW012-10P1	12-10	0.748″	11/16-24 UNEF	0.547″	0.447″	0.09″	0.839″	1.330″	1.047″	0.812″	7.52	6.39	5.87	5.28
16F5810	UTGW014-19P1	14-19	0.873″	13/16-20 UNEF	0.673″	0.447″	0.09″	0.839″	1.330″	1.141″	0.906″	7.63	6.48	5.96	5.35
16F5811	UTGW016-26P1	16-26	0.998″	15/16-20 UNEF	0.787″	0.447″	0.09″	0.839″	1.330″	1.234″	0.969″	8.78	7.47	6.86	6.16
16F5812	UTGW020-41P1	20-41	1.248″	1 3/16-18 UNEF	1.012″	0.573″	0.10″	1.060″	1.390″	1.453″	1.156″	11.11	9.45	8.68	7.80
16F5813	UTGW022-55P1	22-55	1.373″	1 5/16-18 UNEF	1.126″	0.573″	0.14″	1.100″	1.390″	1.578″	1.250″	11.44	9.72	8.93	8.03
16F5814	UTGW024-61P1	24-61	1.498″	1 7/16-18 UNEF	1.252″	0.604″	0.14″	1.193″	1.390″	1.703″	1.375″	16.30	13.85	12.72	11.44

(8492) (ne09252)

BANTAMATE II 5000 PLASTIC CYLINDRICAL CONNECTORS



BANTAMATE™ plugs are designed for applications requiring a high number of mating cycles and rapid connections and disconnections. Distinctive shape provides mating ease in blind or difficult-to-reach applications. A quick-release latching system simplifies disconnects. For reliability, the Bantamate II design utilizes the proven TRIM TRIO™ precision formed and machined contacts, *order separately on page 250.* Receptacles meet minimum durability requirements of 5000 mating/unmating cycles using a unique contact wiping system consisting of a lubricant saturated foam pad bonded to a spring-loaded stripper plate within the receptacle. Accommodates a full range of cable diameters. Strain relief can be added to either plug or receptacle. Operating temperature: –55°C to +105°C. Insulation resistance: 5000 megohms min. at 25°C. UL recognized, CSA certified.

PLUGS

Stock No.	Type	Positions	Dim. A	Dim. B	1-9	10-24	25-49	50-99
16F5838	MBG4P1	4	0.594″	0.862″	2.86	2.43	2.23	2.01
16F5839	MBG12P1	12	0.765″	1.073″	2.25	1.91	1.76	1.58
16F5840	MBG19P1	19	0.899″	1.202″	3.25	2.76	2.54	2.28
16F5841	MBG30P1	30	1.100″	1.398″	3.49	2.97	2.72	2.45

RECEPTACLES

Stock No.	Type	Positions	Dim. A	Dim. B	Dim. C	Dim. D	Dim. E	Dim. F	1-9	10-24	25-49	50-99
16F5842	MBG4R1	4	0.790″	1.160″	0.712″	0.941″	1.238″	1.471″	10.03	8.52	7.83	7.04
16F5843	MBG12R1	12	0.970″	1.375″	1.045″	1.279″	1.211″	1.451″	10.66	9.06	8.32	7.48
16F5844	MBG19R1	19	1.097″	1.500″	1.045″	1.277″	1.340″	1.580″	11.27	9.58	8.80	7.91
16F5845	MBG30R1	30	1.302″	1.705″	1.128″	1.402″	1.496″	1.768″	11.90	10.11	9.29	8.35

STRAIN RELIEF

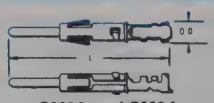
Stock No.	Type	Positions	C Dia.	D Dia.	Clamp Range - Side A	Clamp Range - Side B	1-9	10-24	25-49	50-99
16F5846	MBG4S1	4	0.48″	0.59″	0.335/0.250″	...	5.93	5.04	4.63	4.16
16F5847	MBG12S1	12	0.74″	0.83″	0.445/0.301″	0.590/0.446″	6.04	5.13	4.71	4.24
16F5848	MBG19S1	19	0.84″	0.96″	0.515/0.341″	0.690/0.516″	5.21	4.43	4.07	3.66
16F5849	MBG30S1	30	1.05″	1.14″	0.749/0.625″	0.900/0.750″	9.72	8.26	7.59	6.82

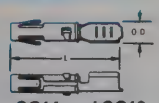
(8493) (ne09253)

CONTACTS

TRIM TRIO™ FORMED CONTACTS

SM14 and SM16


SM20 and SM24


SC14 and SC16

SC20 and SC24

Strip-fed formed contacts are made of sheet copper base alloy with tin or gold plating. The contact retaining spring forms a closed entry cup on the socket. Contacts accommodate solid or stranded wire. Diameter: 0.0625″. NOTE: Any Trim Trio™ contact can be used in any contact position in any connector in the Trim Trio™ system. **Sold in packages of 100.** *Order spools of 3000 by replacing "ML" in type number with "M" ; contact your local Newark sales office for pricing and availability.*

PINS

Stock No.	Type	Wire Size (AWG)	Plating	Cable Insulation Accommodation Max.	Cable Insulation Accommodation Min.	Cable Strip Length	Dimensions L	Dimensions O.D.	1-4	5-9	10-24	25-49
16F5663	SM16M-1S6	18-16	30μ″ Gold	0.125″	...	0.250″	1.05″	0.12″	66.01	56.10	51.49	46.37
16F5664	SM20M1S6	22-20	30μ″ Gold	0.082″	0.046″	0.156″	1.05″	0.139″	60.01	51.00	46.81	42.15
16F5671	SM16M1D70	18-16	5μ″ Gold	0.125″	...	0.250″	1.05″	0.12″	41.00	34.85	31.98	28.80
16F5672	SM20M1D70	22-20	5μ″ Gold	0.082″	0.046″	0.156″	1.05″	0.139″	37.54	31.90	29.28	26.37
16F5678	SM14M1TK6	14	Tin	0.125″	...	0.250″	1.05″	0.13″	22.56	19.18	17.60	15.85
16F5679	SM16M1TK6	18-16	Tin	0.125″	...	0.250″	1.05″	0.12″	22.56	19.18	17.60	15.85
16F5680	SM20M1TK6	22-20	Tin	0.082″	0.046″	0.156″	1.05″	0.139″	21.10	17.93	16.46	14.82
16F5681	SM24M1TK6	26-24	Tin	0.062″	0.035″	0.156″	1.05″	0.128″	21.10	17.93	16.46	14.82
SOCKETS												
16F5666	SC14ML1S6	14	30μ″ Gold	0.125″	...	0.250″	0.71″	0.13″	73.84	62.75	57.59	51.87
16F5667	SC16ML1S6	18-16	30μ″ Gold	0.125″	...	0.250″	0.71″	0.12″	73.84	62.75	57.59	51.87
16F5668	SC20ML1S6	22-20	30μ″ Gold	0.082″	0.046″	0.156″	0.71″	0.139″	67.29	57.19	52.49	47.27
16F5669	SC24ML1S6	26-24	30μ″ Gold	0.062″	0.035″	0.156″	0.71″	0.128″	67.29	57.19	52.49	47.27
16F5674	SC14ML1D70	14	5μ″ Gold	0.125″	...	0.250″	0.71″	0.13″	45.78	38.91	35.71	32.16
16F5675	SC16ML1D70	18-16	5μ″ Gold	0.125″	...	0.250″	0.71″	0.12″	45.78	38.91	35.71	32.16
16F5676	SC20ML1D70	22-20	5μ″ Gold	0.082″	0.046″	0.156″	0.71″	0.139″	41.59	35.34	32.44	29.21
16F5677	SC24ML1D70	26-24	5μ″ Gold	0.062″	0.035″	0.156″	0.71″	0.128″	41.59	35.34	32.44	29.21
16F5683	SC16ML1TK6	18-16	Tin	0.125″	...	0.250″	0.71″	0.12″	29.15	24.77	22.74	20.48
16F5684	SC20ML1TK6	22-20	Tin	0.082″	0.046″	0.156″	0.7″	0.139″	27.25	23.16	21.25	19.14
16F5685	SC24ML1TK6	26-24	Tin	0.062″	0.035″	0.156″	0.71″	0.128″	27.25	23.16	21.25	19.14

(8505) (ne09348)

TRIM TRIO™ MACHINED CONTACTS

Typical Pin

Typical Socket

RM20M12G4D28

RC20M12G4D28

Made of high-conductivity copper alloy. Springs are made of spring-temper, heat-treated, nickel-plated beryllium-copper. The socket spring supplies high contact pressure to provide low resistance contact between pin and socket. The socket contact features closed entry to prevent probe damage. Barrels have insulation grips for vibration support, a cable stop and inspection hole. Contacts are finished with 30μ″ min. gold over 75μ″ min. nickel. **Types RM20M12G4D28** and **RC20M12G4D28** sockets feature solderless wrap posts. Diameter: 0.0625″. NOTE: Any Trim Trio™ contact can be used in any contact position in any connector in the Trim Trio™ system. **Sold in packages of 100.**

PINS

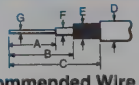
Stock No.	Type	Wire Size (AWG)	Cable Strip Length	Dimensions L	Dimensions O.D.	1-9	10-24	25-49	50-99
16F5686	RM28M1D28	30-28	0.187″	1.02″	0.076″	244.02	144.43	132.64	99.37
16F5687	RM24M9D28	26-24	0.188″	1.02″	0.101″	122.01	87.03	66.32	59.62
16F5688	RM20M12D28	22-20	0.188″	1.02″	0.116″	122.01	87.03	66.32	59.62
16F5689	RM16M23D28	20-16	0.281″	1.02″	0.101″	70.81	60.18	55.27	49.69
16F5690	RM20M12G4D28	28-30	...	1.81″/0.025″ Sq. Post		440.10	259.23	238.07	177.33
SOCKETS									
16F5891	HM1S52FRR000H6	30-28	0.187″	0.71″	0.076″	13.62	11.58	10.63	9.57
16F5692	RC24M9D28	26-24	0.188″	0.71″	0.101″	177.57	126.84	96.08	86.37
16F5693	RC20M12D28	22-20	0.188″	0.71″	0.116″	169.94	121.28	91.83	82.55
16F5694	RC16M23D28	20-16	0.281″	0.71″	0.101″	102.40	80.55	73.98	66.50
16F5695	RC20M12G4D28	28-30	...	1.50″/0.025″ Sq. Post		440.10	259.23	238.07	177.33

(8506) (ne09349)

MONOCRIMP™ TRIM TRIO™ ONE-PIECE CONTACTS FOR SUBMINIATURE COAXIAL AND TWISTED PAIR CABLES

Female

Male



Recommended Wire Strip Lengths

Provides high reliability and quick, economical installation. Installs in approximately five seconds by inserting a properly pre-stripped cable (coaxial or twisted pair) and making a single crimp. Pins and sockets are fabricated of high-conductivity copper alloy, electro-plated gold over silver or nickel. Contact springs are tempered, heat-treated nickel-plated beryllium copper. Contact retention after five cycles of insertion and extraction: 15 lbs. min. Operating temperature in mated condition: –55°C to +125°C. NOTE: Any Trim Trio™ contact can be used in any contact position in any connector in the Trim Trio™ system.

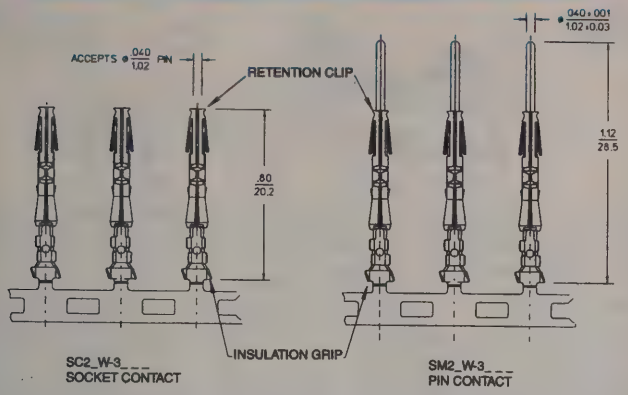
MALE

Stock No.	Type	Wire Size (AWG)	RG/U	Cable Strip Length A	Cable Strip Length B	Cable Strip Length C	Diameter D	Diameter E	Diameter F	Diameter G	1-9	10-24	25-49	50-99
16F5696	RMDX60-32D28	28	RG174/U	0.250″	0.300″	0.400″	0.114″	0.090″	0.075″	0.015″	11.35	9.65	8.86	7.97
16F5697	RMDX60-36D28	26	RG188/U	0.250″	0.300″	0.400″	0.110″	0.078″	0.060″	0.020″	12.14	10.32	9.48	8.52
16F5698	RMDX60-50D28	30	RG178B/U	0.200″	0.250″	0.350″	0.104″	0.083″	0.067″	0.010″	11.72	9.96	9.15	8.23
FEMALE														
16F5699	RCDX60-32D28	28	RG174/U	0.250″	0.300″	0.400″	0.114″	0.090″	0.075″	0.015″	9.42	8.00	7.35	6.61
16F5700	RCDX60-36D28	26	RG188/U	0.250″	0.300″	0.460″	0.110″	0.078″	0.060″	0.020″	4.90	4.16	3.82	3.44
16F5701	RCDX60-16D28	30	RG178B/U	0.250″	0.300″	0.400″	0.090″	0.064″	0.048″	0.012″	9.72	8.26	7.59	6.82

(8507) (ne09350)

CONTACTS, TOOLING AND CABLE CLAMPS

SEALOK™ STAMPED AND FORMED CONTACTS



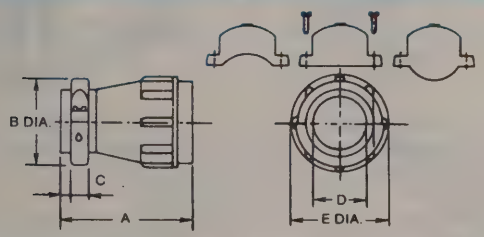
Low-cost no. 20 contacts with 0.040″ diameter are formed of copper alloy material with gold-over-nickel or tin plating. The contact retaining clip forms a closed entry cup on the socket. Contacts accommodate no. 20 through no. 26 wire. **Sold loose in packages of 100 or in spools of 3000.**

PINS – 30µ "GOLD OVER 75µ" NICKEL

Stock No.	Type	AWG	Cable Insul. Accom. Max.	Cable Insul. Accom. Min.	Pkg.	Each	2
16F5850	SM20WL3S26	22-20	0.082″	0.046″	100	21.73	18.46
16F5851	SM24WL3S26	26-24	0.062″	0.035″	100	21.73	18.46
16F5858	SM20W3S26	22-20	0.082″	0.046″	3000	564.49	507.98
16F5859	SM24W3S26	26-24	0.062″	0.035″	3000	564.49	507.98
	PINS – 20µ″ TIN						
16F5852	SM20WL3TK6	22-20	0.082″	0.046″	100	15.53	13.20
16F5853	SM24WL3TK6	26-24	0.062″	0.035″	100	15.53	13.20
16F5860	SM20W3TK6	22-20	0.082″	0.046″	3000	403.05	362.70
16F5861	SM24W3TK6	26-24	0.062″	0.035″	3000	403.05	362.70
	SOCKETS – 30µ″ GOLD OVER 75µ″ NICKEL						
16F5854	SC20WL3S25	22-20	0.082″	0.046″	100	21.73	18.46
16F5855	SC24WL3S25	26-24	0.062″	0.035″	100	21.73	18.46
16F5862	SC20W3S25	22-20	0.082″	0.046″	3000	564.49	507.98
16F5863	SC24W3S25	26-24	0.062″	0.035″	3000	564.49	507.98
	SOCKETS – 20µ″ TIN						
16F5856	SC20WL3TK6	22-20	0.082″	0.046″	100	15.53	13.20
16F5857	SC24WL3TK6	26-24	0.062″	0.035″	100	15.53	13.20
16F5864	SC20W3TK6	22-20	0.082″	0.046″	3000	403.05	362.70
16F5865	SC24W3TK6	26-24	0.062″	0.035″	3000	403.05	362.70

(8503) (ne09338)

STRAIGHT CABLE CLAMP WITH STRAIN RELIEF



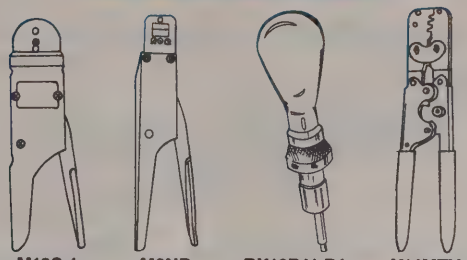
Glass-filled thermoplastic polyester clamps attach to the cable side of the connector to support the cable or wire bundle, providing strain relief and absorbing vibration and shock otherwise transmitted by the cable to the contact.

Stock No.	Type	Dimensions A	B	C	D	E	1-9	10-24
16F5822	UTG10AC	1.60″	0.860″	0.256″	0.348″	0.840″	4.91	4.17
16F5823	UTG12AC	1.60″	0.996″	0.256″	0.512″	0.960″	5.10	4.34
16F5824	UTG14AC	1.84″	1.08″	0.256″	0.512″	1.08″	5.28	4.48
16F5825	UTG16AC	1.84″	1.20″	0.256″	0.680″	1.21″	5.54	4.71
16F5826	UTG18AC	2.00″	1.28″	0.280″	0.760″	1.33″	5.80	4.93
16F5827	UTG20AC	2.20″	1.37″	0.280″	0.840″	1.46″	6.13	5.21
16F5828	UTG22AC	2.40″	1.48″	0.328″	0.920″	1.58″	6.50	5.52
16F5829	UTG24AC	2.60″	1.67″	0.328″	1.08″	1.71″	8.89	7.56

(8501) (ne09336)

SAME-DAY SHIPMENT ON ORDERS PLACED BY 5:00 PM C.S.T.

INSTALLATION TOOLING



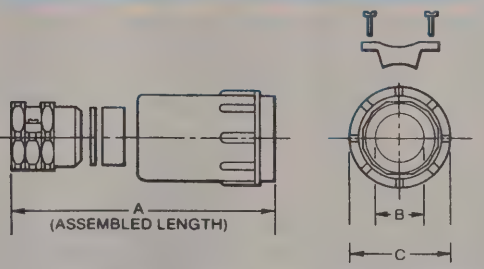
M10S-1 M8ND RX16D11-D1 Y14MTV

INSTALLATION AND EXTRACTION TOOLS

Stock No.	Type	Description	Each
16F5705	M10S1	Ratchet-Controlled Hytool Tool	732.86
16F5704	M8ND	N-Type Ratchet-Controlled Hytool Tool	274.06
16F6665	Y14MTV	Pliers-Type Ratchet Crimp Tool	214.46
16F5715	RX16D11-D1	Trim Trio™ Extraction Tool for Use with Qikmate™ Rectangular Connectors	82.80
16F6666	RX20-25GE1	Trim Trio™ Extraction Tool	54.64
16F5716	RX20D44	Sealok™ Extraction Tool	61.65
		DIE SETS	
16F5706	N24RT-10	Use with RC/RM24M-9 Contacts	748.41
16F5707	N20RT-30	Use with RC/RM-13-12 Contacts	668.36
16F5708	N16RT-21	Use with RC/RM16M-23 Contacts	642.64
16F5709	N24RT-11	Use with SC/SM24M Contacts	642.64
16F5710	N20RT-29	Use with SC/SM20M Contacts	642.64
16F5711	N16RT-24	Use with SC/SM16M Contacts	642.64
16F5712	N14RT-13	Use with SC/SM14M Contacts	584.21
16F5714	N20RT-33	Use with SC/SM20W Contacts	642.64
16F6667	S23D2	Indent Die Set — Multipiece Coaxial Contacts for Use with RG 178 A/U, 179A/U, 179B/U, 161/U, 187/U and 196/U Cables	437.78
16F6668	S26D2	Indent Die Set — Multipiece Coaxial Contacts for Use with RG 188/U and Amphenol 21-598 Cables	470.20
16F6672	S-80	Indent Die Set — One-Piece Coaxial and Twisted Pair Contacts for Use with RG 174/U, 188A/U and 316 Cables	789.06
16F6670	S22-1	Die Set Outer Coax	378.75
		LOCATOR BUSHINGS	
16F6669	SL46D2	Locator/Stop Bushing for Use with Multipiece Coaxial Contacts and Multipiece Twisted Pair Contacts (Pin or Socket Inner Conductor)	87.99
16F6671	SL47-1	Locator/Stop Bushing for Use with Multipiece Coaxial Contacts and Multipiece Twisted Pair Contacts (Pin or Socket Outer Conductor)	86.56
16F6673	SL-105	Locator/Stop Bushing for Use with One-Piece Coaxial or Twisted Pair Contacts (Pin or Socket)	84.99

(8504) (ne09339)

CABLE CLAMPS WITH SEALING GLANDS



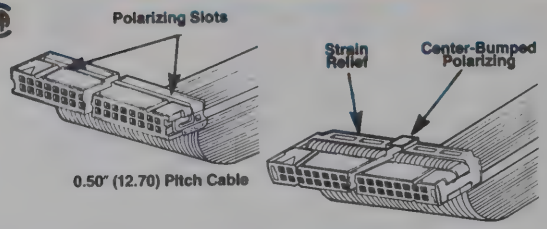
Includes a neoprene sealing gland for maximum water protection in sealed applications. Tested to IP65 specifications in mated condition.

Stock No.	Type	Dimensions A	B	C	1-9	10-24
16F5830	UTG10PG	2.20″	0.440″	0.836″	6.26	5.32
16F5831	UTG12PG	2.32″	0.540″	0.960″	8.46	7.19
16F5832	UTG14PG	2.60″	0.580″	1.08″	9.74	8.28
16F5833	UTG16PG	2.76″	0.660″	1.20″	10.11	8.59
16F5834	UTG18PG	2.92″	0.660″	1.33″	10.40	8.84
16F5835	UTG20PG	3.32″	0.880″	1.46″	11.99	10.19
16F5836	UTG22PG	3.60″	0.880″	1.58″	12.47	10.60
16F5837	UTG24PG	4.20″	1.18″	1.71″	15.06	12.80

(8502) (ne09337)

FLAT CABLE CONNECTORS

SOCKET CONNECTORS



0.100 × 0.100" (2.54 × 2.54) Scotchflex® polarizing socket connectors are available center-bumped or standard, in sizes 10 to 60 contacts, with open or closed end covers. Both standard socket and center-bumped socket connectors can be used with mating 3M headers and plug connectors. Accommodates flat cable or discrete wires. Wire accommodation: 26 AWG solid or stranded, 28 AWG solid or stranded, 30 AWG solid. UL recognized, file E68080; CSA certified. *Order clip-on strain reliefs separately below.*

POLARIZING SLOTS (OPEN END)

Stock No.	Type	Contacts	1-9	10-24
46F8392	3473-6000	10	2.16	2.05
87F3897	3385-6000	14	2.62	2.50
46F8354	3452-6000	16	2.86	2.72
46F8438	3421-6000	20	3.16	3.01
87F3890	3626-6000	24	3.79	3.60
46F8318	3399-6000	26	4.09	3.89
87F3898	3419-6000	30	4.69	4.45
46F8439	3414-6000	34	5.32	5.05
46F8440	3417-6000	40	6.26	5.94
90F8811	3425-6000	50	7.81	7.42
87F3899	3334-6000	60	9.67	9.18

CENTER-BUMPED POLARIZING (OPEN END)

46F4655	3473-6600	10	2.16	2.05
46F4656	3385-6600	14	2.62	2.50
46F4657	3452-6600	16	2.86	2.72
46F4658	3421-6600	20	3.16	3.01
87F3891	3626-6600	24	3.79	3.60
46F4659	3399-6600	26	4.09	3.89
46F4660	3419-6600	30	4.69	4.45
46F4661	3414-6600	34	5.32	5.05
46F4662	3417-6600	40	6.26	5.94
46F4663	3425-6600	50	7.81	7.42
46F4664	3334-6600	60	9.67	9.18

POLARIZING SLOTS (CLOSED END)

46F8305	3473-7000	10	2.24	2.13
90F1459	3385-7000	14	2.70	2.56
90F1461	3452-7000	16	2.92	2.78
90F1463	3421-7000	20	3.23	3.07
90F1454	3626-7000	24	3.85	3.66
46F8368	3399-7000	26	4.15	3.95
90F1464	3414-7000	34	5.40	5.13
90F1466	3417-7000	40	6.33	6.01
46F8395	3425-7000	50	7.88	7.49
90F1469	3334-7000	60	9.74	9.26

CENTER-BUMPED POLARIZING (CLOSED END)

90F1476	3473-7600	10	2.24	2.13
90F1460	3385-7600	14	2.70	2.56
90F1462	3452-7600	16	2.92	2.78
90F1453	3421-7600	20	3.23	3.07
90F1455	3626-7600	24	3.85	3.66
90F1456	3399-7600	26	4.15	3.95
90F1458	3419-7600	30	4.79	4.55
90F1465	3414-7600	34	5.40	5.13
90F1467	3417-7600	40	6.33	6.01
90F1468	3425-7600	50	7.88	7.49
90F1470	3334-7600	60	9.74	9.26

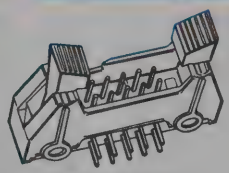
OPTIONAL CLIP-ON STRAIN RELIEFS

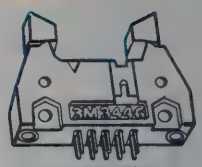
Stock No.	Type	Description	1-9	10-24
46F4665	3448-3010	Fit Socket 3473	0.28	0.26
46F4666	3448-3014	Fit Socket 3385	0.28	0.26
46F4667	3448-3016	Fit Socket 3452	0.28	0.26
46F4668	3448-3020	Fit Socket 3421	0.28	0.26
87F3892	3448-3024	Fit Socket 3626	0.28	0.26
46F4669	3448-3026	Fit Socket 3399	0.28	0.26
46F4670	3448-3030	Fit Socket 3419	0.37	0.35
46F4671	3448-3034	Fit Socket 3414	0.32	0.30
46F4672	3448-3040	Fit Socket 3417	0.32	0.30
46F4673	3448-3050	Fit Socket 3425	0.32	0.30
46F4674	3448-3060	Fit Socket 3334	0.45	0.43

(8508) (ne50404)

NEWARK ELECTRONICS® IS AN ISO 9002 COMPANY

SHROUDED CLICK HEADERS





0.100 × 0.100" (2.54 × 2.54) 4-wall, shrouded housing to protect against pin damage. 0.025" (0.635) square solder pins plated with 30µ" gold are 0.112" (2.84) long to fit 0.062" (1.57) board. UL recognized, CSA certified. *Order optional ejector latches and polarization keys separately below.*

RIGHT-ANGLE PIN

Stock No.	Type	Contacts	1-9	10-24
46F4676	3314-5002	14	1.91	1.82
46F4677	3408-5002	16	1.98	1.88
46F4678	3428-5002	20	2.21	2.11
87F3893	3627-5002	24	2.44	2.31
46F4679	3429-5002	26	2.60	2.48
46F4681	3431-5002	34	3.38	3.20
46F4682	3432-5002	40	3.85	3.66
46F4683	3433-5002	50	4.65	4.41
46F4684	3372-5002	60	5.72	5.44

STRAIGHT PIN

46F4686	3314-6002	14	1.91	1.82
46F4687	3408-6002	16	1.98	1.88
46F4688	3428-6002	20	2.12	2.00
87F3894	3627-6002	24	2.44	2.31
46F4689	3429-6002	26	2.60	2.48
46F4690	3440-6002	30	3.00	2.84
46F4691	3431-6002	34	3.38	3.20
46F4692	3432-6002	40	3.85	3.66
46F4693	3433-6002	50	4.65	4.41
46F4694	3372-6002	60	5.72	5.44

OPTIONAL EJECTOR LATCHES FOR CLICK HEADERS

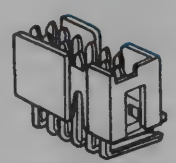
Stock No.	Type	Description	1-9	10-24
46F6002	3505-2	Use without Strain Relief	0.09	0.09
46F6003	3505-3	Use with Strain Relief	0.09	0.09

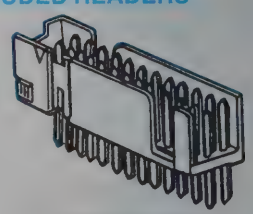
POLARIZATION KEY

46F8391	3518	Gray Glass-Filled Polyester	0.11	0.10

(8509) (ne50405)

LOW-PROFILE SHROUDED HEADERS





Low-profile 0.100 × 0.100" (2.54 × 2.54) headers feature 4-wall, shrouded housing. 0.025" (0.635) pins have 30µ" gold plating in wipe area and 60/40 tin-lead on the solder tails. Pins are 0.112" (2.84) long for 0.062" (1.57) board. UL recognized, CSA certified.

RIGHT-ANGLE PIN MODELS

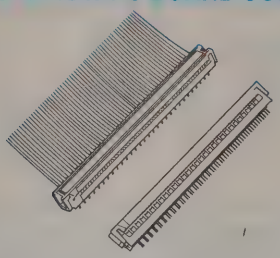
Stock No.	Type	Contacts	1-9	10-24
46F4715	2510-5002UB	10	1.65	1.57
98F5895	2514-5002UB	14	1.70	1.61
93F3743	2516-5002UB	16	1.88	1.78
93F2784	2520-5002UB	20	1.98	1.88
93F3744	2524-5002UB	24	2.06	1.96
93F2783	2526-5002UB	26	2.08	1.98
93F3746	2534-5002UB	34	2.52	2.38
46F4722	2540-5002UB	40	2.70	2.56
46F4723	2550-5002UB	50	3.36	3.18
46F4724	2560-5002UB	60	4.02	3.82

STRAIGHT PIN MODELS

46F4725	2510-6002UB	10	1.48	1.41
46F4726	2514-6002UB	14	1.53	1.45
93F1928	2516-6002UB	16	1.72	1.64
98F5933	2520-6002UB	20	1.78	1.70
93F1927	2524-6002UB	24	1.88	1.78
46F4729	2526-6002UB	26	1.91	1.82
46F4730	2530-6002UB	30	2.21	2.11
46F4731	2534-6002UB	34	2.30	2.19
46F4732	2540-6002UB	40	2.46	2.33
46F4733	2550-6002UB	50	3.04	2.89
46F4734	2560-6002UB	60	3.66	3.47

(8510) (ne50406)

0.100 x 0.100″ 2-ROW PC BOARD CONNECTORS

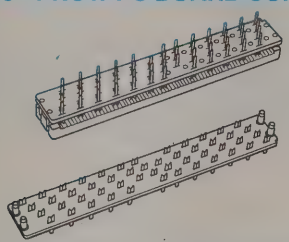


2-row connectors fit standard 0.100 x 0.100″ header layout and use less board area than 4-row design. Come with cover and two-piece assembly with adhesive. Contact tail length: 0.108″ (2.75mm). Glass-reinforced polyester (PBT) insulation material with UL 94V-0 flammability rating. Wire accommodation: 26 AWG or 28 AWG solid or stranded, 30 AWG solid. Current rating: 1 amp. Temperature rating: –55°C to +105°C. UL recognized, CSA certified.

Stock No.	Type	Contacts	1-9
90F1479	3910-0000T	10	1.98
90F1480	3914-0000T	14	2.24
90F1473	3940-0000T	40	3.57
46F8417	3950-0000T	50	4.18

(8414) (de51244)

0.100 x 0.100″ 4-ROW PC BOARD CONNECTORS

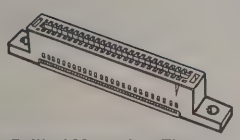


Low profile 4-row connectors with standard staggered grid. Glass filled polyester (PBT) insulation material with UL94V-0 flammability rating. Beryllium copper contact with tin/lead plating. 0.097″ (2.46) pin length. Board thickness: 0.062″ (1.57). Wire accommodation: 26 AWG or 28 AWG solid or stranded, 30 AWG solid. Current rating: 1 amp. Temperature rating: –55°C to +120°C. Military No. M83503/23-03. UL recognized, CSA certified.

Stock No.	Type	Contacts	1-9
46F8352	3422-0000T	20	1.80

(8415) (de51245)

0.100″ CARD EDGE CONNECTORS



Drilled Mounting Flanges

Without Flanges

Reinforced construction and bifurcated beryllium copper 1-amp contacts plated with 3μ″ gold; metal cover clips for cover retention. Wire accommodation: 26 AWG solid stranded, 28 AWG solid or stranded, 30 AWG solid. Color: gray. UL recognized, file no. 68080; CSA certified. *Order strain reliefs separately below.*

WITH DRILLED MOUNTING FLANGES

Stock No.	Type	Contacts	1-9
46F4761	3415-0000	50	8.98

WITHOUT MOUNTING FLANGES

46F4766	3461-0001	20	5.16
46F4767	3462-0001	26	6.11
46F4768	3463-0001	34	7.10
46F4769	3464-0001	40	8.72
46F4770	3415-0001	50	8.98

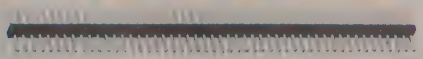
STRAIN RELIEFS

87F3983	3448-54	20	0.95
87F3984	3448-55	26	0.95
87F3985	3448-56	34	0.95
87F3986	3448-57	40	0.95
87F3987	3448-58	50	0.95

(8396) (de50336)

0.050″ PC BOARD MOUNT HEADERS

NEW



Single Row Thru-Hole

Dual Row, Thru-Hole

Single Row, SMT

Dual Row, SMT

Pin strip headers have 50-100 positions. High-temperature dielectric. Maximize use of PC board space. 0.050″ spacing. 0.016″ square posts. 30μ″ gold plating. Cutable strips. Insulation material: high-temperature nylon. Contact material: copper alloy; underplate: 30μ″ nickel; solder tails: 150μ″ tin-lead, gold flash. Current rating: 0.5A. Surface mount version is IR, vapor, and wave solder compatible. (*) indicates types 2C050-10501HF and 2C0A0-20501HF are dual insulator. UL recognized.

THRU-HOLE HEADERS

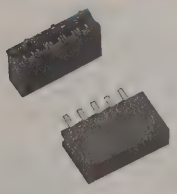
Stock No.	Type	Positions	Description	1-9
83F6520	2A050-10101HF	50	Single Row, Straight Pin	2.97
83F6521	2B050-10101HF	50	Single Row, Right-Angle Pin	4.66
83F6522	2C050-10201HF	50	Single Row, Straight Stack	3.98
83F6523	2C050-10501HF	50	Single Row, Straight Stack	3.24
83F6524	2A0A0-20101HF	100	Dual Row, Straight Pin	5.95
83F6525	2B0A0-20101HF	100	Dual Row, Right-Angle Pin	9.62
83F6526	2C0A0-20201HF	100	Dual Row, Straight Stack	7.95
83F6527	2C0A0-20501HF	100	Dual Row, Straight Stack	6.47

SURFACE MOUNT HEADERS

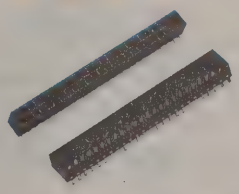
Stock No.	Type	Positions	Description	1-9
83F6528	2E150-10101HF	50	Single Row, Straight	4.66
83F6529	2E1A0-20101HF	100	Dual Row, Straight	9.30

(33775) (ne33775)

0.050″ PC BOARD MOUNT SOCKETS



Single Row, Thru-Hole



Dual Row, SMT

Pin quantity: 4-50 positions. High-temperature dielectric. Maximize use of PC board space. 0.5″ spacing. 30μ″ gold plating. Insulation material: LCP. Contact material: copper alloy; underplate: 30μ″ nickel; wiping area: gold; solder tails: 150μ″ tin-lead, gold flash. Current rating: 0.5A. Surface mount pin quantity: 10-100 positions. Surface mount sockets are IR, vapor, and wave solder compatible. UL recognized.

THRU-HOLE

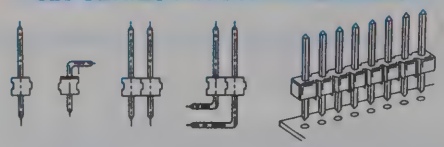
Stock No.	Type	Positions	Description	1-9
83F6504	3B010-10001HF	10	Single Row	1.13
83F6505	3B030-10001HF	30	Single Row	2.63
83F6506	3B040-10001HF	40	Single Row	3.17
83F6507	3B050-10001HF	50	Single Row	3.98
83F6508	3B010-20001HF	10	Dual Row	1.13
83F6509	3B030-20001HF	30	Dual Row	2.63
83F6510	3B040-20001HF	40	Dual Row	3.17
83F6511	3B050-20001HF	50	Dual Row	3.98

SURFACE MOUNT

Stock No.	Type	Positions	Description	1-9
83F6512	3C210-10001HF	10	Single Row	1.24
83F6513	3C230-10001HF	30	Single Row	2.94
83F6514	3C240-10001HF	40	Single Row	3.64
83F6515	3C250-10001HF	50	Single Row	4.56
83F6516	3C210-20001HF	10	Dual Row	1.24
83F6517	3C230-20001HF	30	Dual Row	2.94
83F6518	3C240-20001HF	40	Dual Row	3.64
83F6519	3C250-20001HF	50	Dual Row	4.56

(33776) (ne33776)

929 SERIES PIN STRIP HEADERS



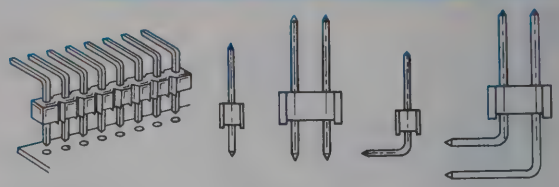
Straight and right-angle one-row or two-row versions; 36 pins per row. Stackable. Solder standoffs facilitate production wave soldering. Copper alloy 764 contacts with 10µ″ 90/10 tin plate on pin and tail. Black, glass-filled polyester insulation. UL recognized.

0.100″ STRAIGHT SOLDER TAIL — SINGLE ROW

Stock No.	Tupe	Length		1-9
		Pin	Tail	
46F4442	929800-01-36	0.093″	0.110″	1.53
44F7502	929834-01-36	0.235″	0.110″	0.86
44F7503	929834-03-36	0.235″	0.410″	1.50
44F7525	929400-01-36	0.295″	0.130″	1.12
44F7781	929700-01-36	0.318″	0.110″	0.86
44F7784	929700-11-36	0.318″	0.125″	1.16
44F7783	929700-06-36	0.318″	0.710″	1.74
0.100 x 0.100″ STRAIGHT SOLDER TAIL — DUAL ROW				
44F7506	929836-01-36	0.235″	0.110″	2.02
44F7516	929836-03-36	0.235″	0.410″	3.16
46F4424	929836-05-36	0.235″	0.610″	3.40
44F7789	929710-01-36	0.318″	0.110″	2.32
44F7799	929710-11-36	0.318″	0.125″	3.25
44F7801	929710-03-36	0.318″	0.410″	4.04
0.100″ RIGHT-ANGLE SOLDER TAIL — SINGLE ROW				
44F7518	929835-01-36	0.235″	0.110″	2.84
44F7527	929500-01-36	0.295″	0.130″	1.16
44F7814	929730-01-36	0.318″	0.110″	1.00
0.100 x 0.100″ RIGHT-ANGLE SOLDER TAIL — DUAL ROW				
44F7519	929838-01-36	0.235″	0.110″	2.28

(8398) (de50743)

2300 SERIES PIN STRIP HEADERS



Straight and right-angle headers are available in a one-row version with 40 contacts or two-row version with 80 contacts. End-to-end and side-by-side stackable strips can be broken to any length for prototyping. Solder standoffs make it easy to wash flux residue, reducing rework. 10µ″ gold and gold flash plating on phosphor bronze pins. Black, glass-filled polyester insulation material. 100µ″ tin-lead plating on solder tails. Solder tail length: 0.120″. Current rating: 1A.

STRAIGHT SOLDER TAIL — SINGLE ROW, 40 CONTACTS

Stock No.	Type	Description	Pin Length	1-9
92F1474	2340-6111TG	10µ″ Gold	0.230″	0.90
92F1475	2340-6111TN	Gold Flash	0.230″	0.67
92F1476	2340-6211TG	10µ″ Gold	0.318″	1.00
92F1477	2340-6211TN	Gold Flash	0.318″	0.67
STRAIGHT SOLDER TAIL — DUAL ROW, 2 x 40 CONTACTS				
92F1478	2380-6121TG	10µ″ Gold	0.230″	1.83
92F1479	2380-6121TN	Gold Flash	0.230″	1.34
92F1480	2380-6221TG	10µ″ Gold	0.318″	1.99
92F1481	2380-6221TN	Gold Flash	0.318″	1.34
RIGHT-ANGLE SOLDER TAIL — SINGLE ROW, 40 CONTACTS				
92F1482	2340-5111TG	10µ″ Gold	0.230″	1.16
92F1468	2340-5211TG	10µ″ Gold	0.318″	1.15
RIGHT-ANGLE SOLDER TAIL — DUAL ROW, 2 x 40 CONTACTS				
92F1470	2380-5121TG	10µ″ Gold	0.230″	1.98
92F1471	2380-5121TN	Gold Flash	0.230″	1.74
92F1473	2380-5221TG	Gold Flash	0.318″	4.54

(8390) (de03597)

929 SERIES BOARD MOUNT SOCKETS

Fig. 1

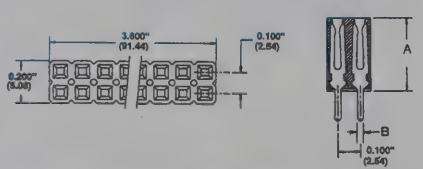


Fig. 2

Mate with standard 0.025″ round or square post headers. 0.100″ spacing between all contacts. Available in single- and dual-row with tin-lead plating or gold plating over nickel. Black polybutylene terephthalate (PBT) insulation, flammability rated UL94V-0. Solder standoffs facilitate production wave soldering. Current rating: 1A. Withstanding voltage: 1500Vrms. Temperature range: –40°C to +105°C. UL recognized.

TIN-LEAD PLATED

0.100″ STRAIGHT SOLDER TAIL — SINGLE ROW, 40 CONTACTS

Stock No.	Type	Fig.	Dimensions		1-9
			A	B	
65F222	929974-01-36	1	0.325″	0.030″	1.23
0.100″ STRAIGHT SOLDER TAIL — DUAL ROW, 2 x 40 CONTACTS					
65F223	929975-01-36-I	2	0.325″	0.030″	2.18

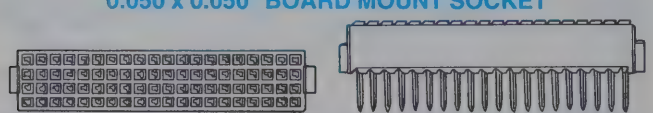
GOLD PLATED

0.100″ STRAIGHT SOLDER TAIL — SINGLE ROW, 40 CONTACTS

46F4434	929850-01-36-10	1	0.325″	0.030″	5.14
0.100″ STRAIGHT SOLDER TAIL — DUAL ROW, 2 x 40 CONTACTS					
46F4437	929852-01-36-10	2	0.325″	0.030″	4.07

(8399) (de50744)

0.050 x 0.050″ BOARD MOUNT SOCKET

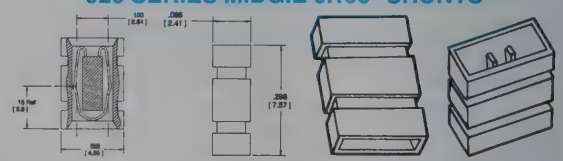


Straight, 2-row high-density board-to-board connector. Dual wipe sockets, beryllium copper contact sockets, 80 contacts, low profile. Applications in computers, medical and telecommunications. Color: black.

Stock No.	Type	1-9
48F2595	10780-6005JL	7.20

(40272) (ne40272)

929 SERIES MIDGIE 0.100″ SHUNTS

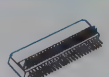


C-spring contact insures balanced forces. Compatible with 0.025″ pins. Stackable end-to-end and side-to-side. **Type 929950-00** has no contact plating; **Type 929955-06** has 10µ″ Gold over Nickel contact plating. Glass reinforced polyester insulation; flammability rated UL94V-0. Contact material: C 688. Current rating: 1A. Withstanding voltage: 1500Vrms. Temperature range: –55°C to +100°C. Mates with 0.025″ round or square pin headers; *contact your local Newark sales office.* UL recognized.

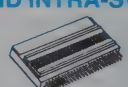
Stock No.	Type	Color	1-9
46F4438	929950-00	Black	0.11
46F4439	929955-06	Blue	0.17

(8400) (de50746)

INTRA-CONNECTORS AND INTRA-SWITCHES



Intra-Connector



Intra-Switch

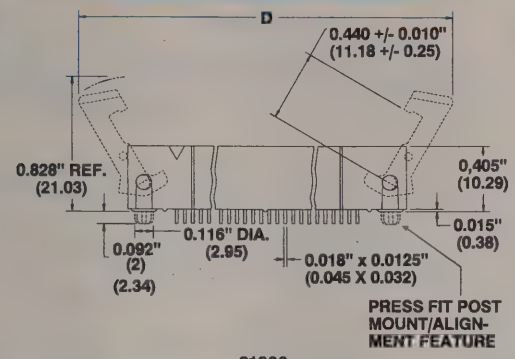
Intra-connectors mate 0.1 x 0.1″ (2.54 x 2.54) dual-row connectors or 0.025″ (0.635) square PC pins to test ribbon cable systems. Intra-switches allow opening/closing of individual lines at interconnect points.

INTRA-CONNECTORS

Stock No.	Type	Contacts	1-9
65F198	922576-20-I	20	11.23
65F199	922576-26-I	26	12.96
65F200	922576-34-I	34	15.07
65F201	922576-40-I	40	16.80
65F202	922576-50-I	50	18.36
INTRA-SWITCHES			
65F204	922578-26-I	26	41.48
65F206	922578-40-I	40	25.11
65F207	922578-50-I	50	49.41

(8351) (de00650)

0.050 x 0.100″ (1.27 x 2.54) TRIPOLARIZED STRAIGHT 4-WALL HEADERS



81000

Specialized high-density system for internal or external interconnects from board-to-board. Unique "Hill-n-Dale" termination vertically displaces every other wire to allow use of 0.025″ ribbon cable without reducing size of IDC. Straight 4-wall design. High walls protect pins; 2-row design saves space. 0.050 x 0.100″ doubles board density. Headers have solder tail for 0.062″ (1.57) PC boards, except type numbers with **suffix 620303,** which are for 0.094″ (2.39) PC boards, and **suffix 660403,** which are for 0.125″ (3.18) PC boards. **81000 series** headers have latch and eject for rugged applications. **81040 series** header has molded-in latch, reducing board space. UL recognized, CSA certified. *Order* **type 82000** *sockets separately on this page.*

81000 SERIES SCREW MOUNT HEADERS WITHOUT EJECTOR LATCHES

Stock No.	Type	Con-tacts	1-9
91F4923	81020-600200	20	4.77
91F4924	81026-600200	26	5.66
91F4925	81036-600200	36	7.00
91F4926	81040-600200	40	7.52
91F4927	81050-600200	50	8.88
91F4928	81060-600200	60	10.24
91F4929	81068-600200	68	11.34
91F4930	81080-600200	80	12.97
91F4931	81100-600200	100	15.70

81000 SERIES SCREW MOUNT HEADERS WITH EJECTOR LATCHES (PACKAGED SEPARATELY)

95F2915	81020-620200	20	6.53
95F2917	81036-620200	36	9.44
95F2919	81050-620200	50	11.93
95F2920	81060-620200	60	13.72
95F2921	81068-620200	68	15.16
95F2922	81080-620200	80	17.33

81000 SERIES PRESS-FIT MOUNT HEADERS WITH EJECTOR LATCHES (PACKAGED SEPARATELY)

95F2924	81020-620203	20	6.53
95F2925	81026-620203	26	7.66
95F2926	81036-620203	36	9.17
95F2928	81050-620203	50	11.93
95F2929	81060-620203	60	13.72
95F2930	81068-620203	68	14.73
95F2931	81080-620203	80	17.33
95F2933	81100-620203	100	20.90

81000 SERIES PRESS-FIT MOUNT HEADERS WITH EJECTOR LATCHES (PACKAGED SEPARATELY)

91F4932	81020-620303	20	4.96
91F4933	81026-620303	26	5.82
91F4934	81036-620303	36	7.18
91F4935	81040-620303	40	7.70
91F4936	81050-620303	50	9.06
91F4937	81060-620303	60	10.51
91F4938	81068-620303	68	11.51
91F4939	81080-620303	80	13.16
91F4940	81100-620303	100	15.87

81000 SERIES PRESS-FIT MOUNT HEADERS WITH EJECTOR LATCHES INSTALLED

91F4941	81020-660403	20	4.96
91F4913	81026-660403	26	5.66
91F4914	81036-660403	36	8.05
91F4915	81040-660403	40	8.58
91F4917	81060-660403	60	10.42
91F4919	81080-660403	80	13.16
91F4920	81100-660403	100	15.87

DIMENSIONS FOR 81000 SERIES HEADERS

Contacts	Overall Length	Body Length	Dimension D
20	1.060″	0.710″	1.92″
26	1.210″	0.860″	2.07″
36	1.460″	1.110″	2.32″

CONTINUED

0.050 x 0.100″ (1.27 x 2.54) TRIPOLARIZED STRAIGHT 4-WALL HEADERS (CONT.)

DIMENSIONS FOR 81000 SERIES HEADERS (CONT.)

Contacts	Overall Length	Body Length	Dimension D
40	1.560″	1.333″	2.42″
50	1.810″	1.460″	2.67″
60	2.060″	1.710″	2.92″
68	2.260″	1.910″	3.12″
80	2.560″	2.210″	3.42″
100	3.060″	2.710″	3.92″

EJECTOR LATCH FOR 81000 SERIES HEADERS

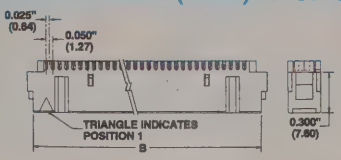
Stock No.	Type	1-9
91F4922	3505-28	0.10

TYPE 81040 LOW-PROFILE HEADER

Stock No.	Type	1-9
91F4921	81040-U10204	7.94

(8389) (de03219)

0.050 x 0.100″ (1.27 x 2.54) TRIPOLARIZED WIRE MOUNT SOCKETS FOR 0.025″ (0.635) PITCH CABLE



Sockets have insert-molded beryllium copper contacts; rugged tripolarization mating system, metal cover latch and strain relief. UL recognized, CSA certified. *Order mating cable separately on page 259.*

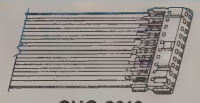
TYPE 82000 SOCKETS

Stock No.	Type	Con-tacts	O'all Lgth.	B	1-9
95F2934	82020-6006	20	0.755″	0.670″	6.69
95F2935	82026-6006	26	0.905″	0.820″	7.86
95F2936	82036-6006	36	1.115″	1.070″	9.71
95F2937	82040-6006	40	1.255″	1.170″	10.49
95F2938	82050-6006	50	1.505″	1.420″	12.35
95F2939	82060-6006	60	1.755″	1.670″	14.20
95F2940	82068-6006	68	1.955″	1.870″	15.72
95F2941	82080-6006	80	2.255″	2.170″	17.99
95F2932	82100-6006	100	2.755″	2.670″	21.76

(8388) (de03218)

0.100″ x 0.100″ POLARIZED WIRE MOUNT SOCKET

NEW


CHG-2010

CHG-2016

Accepts notched ribbon cable or discrete wire. Compatible with military/DIN 41612. 2-row, polarized body mates to long latch/eject headers and plugs. Twin-slot IDC provides 4 points of contact. Wire size options include 22 AWG standed and 24 AWG solid or standed except **type CHG-2034-J01010-KCP** which accepts 26 and 28 AWG solid and stranded. Color: gray. UL 94V-0 rated.

Stock No.	Type	Contacts	1-9
48F3035	CHG2010J01010KEP	10	3.60
48F3036	CHG2016J01010KEP	16	4.68
48F3037	CHG2020J01010KEP	20	5.39
48F3038	CHG2034J01010KEP	34	7.64
48F3039	CHG2034J01010KCP*	34	7.64
48F3040	CHG2040J01010KEP	40	8.09

*Complete type number is **CHG-2034-J01010-KCP**

(40672) (ne40672)

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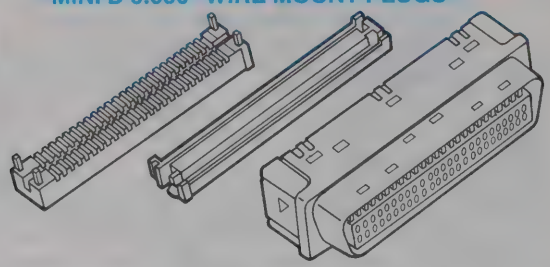
MINI D RIBBON CONNECTORS

MINI D 0.050″ WIRE MOUNT PLUGS

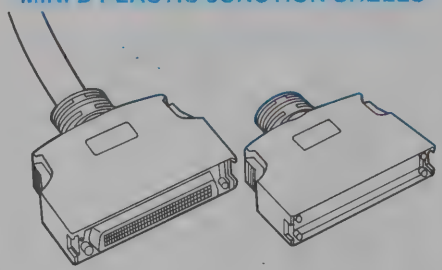


Mini D ribbon connectors are shielded I/O plug connectors with high-performance insertion/withdrawal cycles. Ribbon-type contact. Accept a variety of cable types including flat 0.050″ and 0.05″, shielded flat, round, and twisted pair. Underplate is 80µ″(2.0µm) nickel, which is QQ-N-290, Class 2. Wiping area is 30µ.″ (0.76µm) min. gold, rated MIL-G-45204, Type II, Grade C. Current rating: 1A. Insulation resistance: > 5 × 10^8Ω 500VDC. Withstanding voltage: 500Vrms for 1 minute. Available with a variety of junction shells. Color: black. UL recognized, CSA certified.

Stock No.	Type	Contacts	1-9
91F4890	10120-6000EC	20	6.61
52F7593	10126-6000EC	26	6.84
52F7595	10136-6000EC	36	6.97
91F4891	10140-6000EC	40	7.21
52F7594	10150-6000EC	50	7.69
52F7596	10168-6000EC	68	10.44
91F4892	10180-6000EC	80	11.05
91F4893	101A0-6000EC	100	13.42

(8461) (ne07423)

MINI D PLASTIC JUNCTION SHELLS

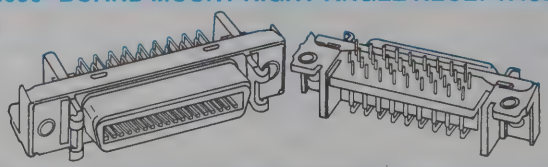


Junction shells for Mini D ribbon connectors are aesthetic plastic shells over metal EMI shields. EMI/ESD protection. 180° round cable exit. Reliable latching mechanism. Outer shell material is ABS, flammability rated UL94V-0. Inner shell is 0.02″ (0.5) thick steel, with nickel plating. Available in beige (standard), dark gray, or medium gray (special order).

Stock No.	Type	Contacts	1-9
91F4887	10314-3210-000	14	3.98
91F4888	10320-3210-000	20	5.32
52F7597	10326-3210-000	26	5.32
52F7598	10336-3210-009	36	5.32
91F4889	10340-3210-000	40	4.04
52F7599	10350-3210-000	50	5.62
52F7600	10368-3210-000	68	5.83

(8462) (ne07424)

MINI D 0.050″ BOARD MOUNT RIGHT-ANGLE RECEPTACLES

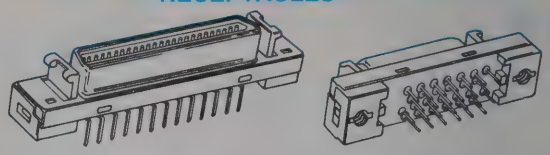


Feature high-temperature PCT body material with EMI/ESD protection. Latching mechanism and ground lock retention feature. Insulation is glass-reinforced polyester, contact is copper alloy, shroud and latch hook are steel with nickel plating. Current rating: 1A. Insulation resistance: 5 × 10^8Ω @ 500VDC. Withstanding voltage: 500Vrms for 1 minute. Underplate is 80µ″(2.0µm) nickel, rated QQ-N-290, Class 2. Wiping area is 30µ″ (0.76µm) min. gold, which meets MIL-G-45204, Type II, Grade C. UL recognized, CSA certified.

Stock No.	Type	Contacts	1-9
91F4884	10214-55G3VC	14	3.56
91F4885	10220-55G3VC	20	4.88
52F7589	10226-55G3VC	26	5.29
52F7590	10236-55G3VC	36	5.94
91F4886	10240-55G3VC	40	4.66
52F7591	10250-55H3VC	50	6.84
52F7592	10268-55H3VC	68	8.88

(8524) (ne07421)

MINI D 0.050″ BOARD MOUNT STRAIGHT-SHIELDED RECEPTACLES



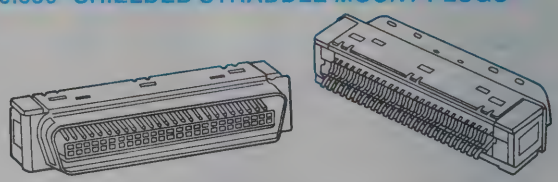
Board mount shielded I/O receptacles have high-performance insertion/withdrawal cycles. Feature ribbon-type contacts, EMI/ESD protection, and reliable latching mechanism. Current rating: 1A. Insulation resistance: >5 × 10^8Ω @ 500VDC. Withstanding voltage: 500Vrms for 1 minute. Contact: copper alloy; body: zinc with nickel plating; shroud: steel with nickel plating; insulation: glass-reinforced polyester (UL94V-0 for flammability). Underplate meets QQ-N-290, Class 2. Wiping area meets MIL-G-45204, Type II, Grade C. Color: black. UL recognized, CSA certified.

Stock No.	Type	Contacts	1-9
91F4880	10214-6212VC	14	7.21
91F4881	10240-6212VC	40	7.53
52F7587	10250-6212VC	50	9.46
52F7588	10268-6212VC	68	11.05
91F4882	10280-6212VC	80	10.24
91F4883	102A0-6212VC	100	10.59

(8459) (ne07420)

0.050″ SHIELDED STRADDLE MOUNT PLUGS

NEW



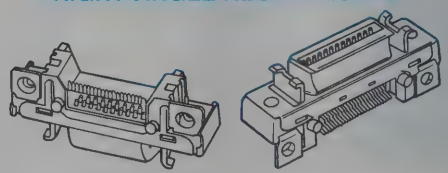
Straddle mount shielded I/O plug with unique connector solder tail-to-intermediate board design. Board soldering requires no special tooling. Color: black.

Stock No.	Type	Contacts	1-9
48F2596	10150-900AJL	50	6.18
48F2597	10168-900AJL	68	6.97
48F2598	101A0-900AJL	100	13.26

(40880) (ne40880)

0.050″ SHIELDED SURFACE MOUNT RIGHT-ANGLE RECEPTACLES

NEW



Surface mount right-angle shielded I/O receptacle with MDR digital LCD interface. Ultra-low signal skew design for high data rate transmission. Reliable repetitive plugging/unplugging. Latch design for easy use. Color: beige.

Stock No.	Type	Contacts	1-9
48F2599	10226-1210VE	26	11.24
48F2600	10240-1210VE	40	13.48

(40878) (ne40878)

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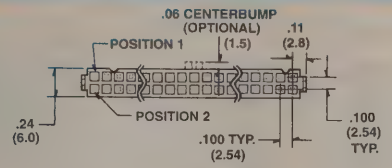
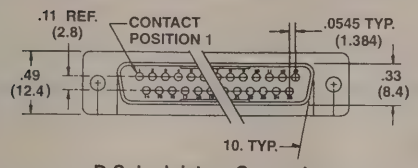
D-SUBMINIATURE AND IDC SOCKET CONNECTORS



IDC Socket



D-Subminiature Connector

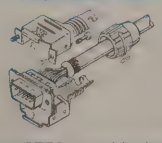
Designed to reduce assembly costs for contract manufacturers and other high-volume connector users. Wire mount socket connectors are ideal for use in personal computers, printers, plotters, and fax machines. Standard footprint 0.100 × 0.100″ IDC sockets feature a cantilevered U-contact design to ensure a reliable IDC termination. D-subminiature connectors accept 0.050″ flat ribbon cable and discrete wire. Grooved cover ensures accurate cable alignment. IDC sockets are UL94V-0 glass-filled polyester with phosphor bronze contacts and 30µ″ gold plating in wiping area; will accommodate 28 AWG stranded wire. D-subminiature connectors are glass-reinforced polyester (PBT) with copper alloy contacts and 15µ″ gold plating in wiping area; will accommodate 26 and 28 AWG solid or stranded wire. Both IDC and D-subminiature connectors have 1-amp current rating and will withstand 1000Vrms. UL recognized, CSA certified.

D-SUBMINIATURE CONNECTORS (FEMALE)

Stock No.	Type	Pins	Length	1-9	10-24	25-49	50-99
92F1509	89909-8000	9	0.70″	2.57	2.44	2.25	2.02
92F1510	89915-8000	15	1.03″	3.19	3.04	2.79	2.51
92F1511	89925-8000	25	1.57″	3.48	3.32	3.05	2.75
92F1512	89937-8000	37	2.22″	5.26	5.00	4.60	4.14
D-SUBMINIATURE CONNECTORS (MALE)							
92F1505	89809-8000	9	0.70″	2.80	2.65	2.44	2.20
92F1506	89815-8000	15	1.03″	3.60	3.42	3.14	2.83
92F1507	89825-8000	25	1.57″	3.89	3.70	3.40	3.06
92F1508	89837-8000	37	2.22″	5.27	5.01	4.61	4.14
IDC CONNECTORS							
92F1483	89110-0101	10	0.68″	0.37	0.35	0.32	0.29
92F1484	89114-0101	14	0.88″	0.52	0.50	0.46	0.41
92F1485	89116-0101	16	0.98″	0.60	0.57	0.52	0.47
92F1487	89126-0101	26	1.48″	0.97	0.93	0.85	0.76
92F1488	89134-0101	34	1.88″	1.28	1.20	1.11	1.00
92F1489	89140-0101	40	2.18″	1.49	1.42	1.31	1.17
92F1490	89150-0101	50	2.68″	1.87	1.77	1.63	1.46
STRAIN RELIEF FOR IDC SOCKETS							
92F1496	3448-89126	26	...	0.15	0.14	0.13	0.12
92F1497	3448-89134	34	...	0.15	0.14	0.13	0.12
92F1498	3448-89140	40	...	0.15	0.14	0.13	0.12
92F1499	3448-89150	50	...	0.15	0.14	0.13	0.12
PULL TABS FOR IDC SOCKETS							
92F1503	3490-89124	24-36	...	0.23	0.22	0.20	0.18
92F1504	3490-89140	40-60	...	0.25	0.24	0.22	0.20

(8449) (ne03642)

D-SUBMINIATURE METAL JUNCTION SHELLS FOR EMI/ESD PROTECTION

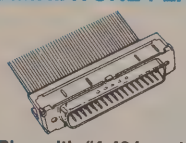


Designed for use with **types 3659** or **3750** round-jacketed flat cable, *order separately on page 258*. Provide EMI/ESD protection similar to aluminum die cast. Provide options in grounding for discrete wire applications. Easy assembly. Shell material: steel, nickel-plated top and bottom. Cover nut: glass-filled PBT. Jack screws: 2 each, nickel-plated steel. Retaining rings: 2 each, nickel-plated steel. Rated UL94V-0.

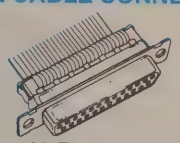
Stock No.	Type	Contacts	1-9	10-24	25-49	50-99
87F3873	3357-9209	9	3.10	2.94	2.71	2.44
87F3874	3357-9215	15	4.77	4.53	4.16	3.74
87F3875	3357-9225	25	5.12	4.86	4.48	4.03
87F3876	3357-9237	37	7.21	6.85	6.30	5.67

(8512) (ne50880)

D-SUBMINIATURE FLAT RIBBON CABLE CONNECTORS



Plug with #4-40 Insert



Socket with Thru-hole in Flange

2-piece, open-cover plugs and sockets are fully compatible with all 0.050″ spaced flat cable with 26 or 28 AWG solid/stranded wire. Insulation material: glass-reinforced polyester. Contact material: beryllium copper. Contact plating (in contact wiping area): 30µ″ (0.76µm) gold MIL-G-45204, Type II, Grade C over .05-150µ″ nickel QQ-N-290, Class 2. Current rating: 1A. Temperature rating: –55°C to +105°C. *Order strain reliefs separately below.*

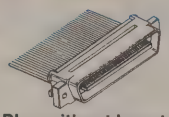
PLUGS—FLANGE, THRU-HOLE STYLE

Stock No.	Type	Contacts	1-9	10-24	25-49	50-99
46F4825	8209-6000	9	5.60	5.32	4.89	4.40
46F4826	8215-6000	15	6.37	6.05	5.57	5.01
46F4827	8225-6000	25	7.23	6.87	6.32	5.69
46F4828	8237-6000	37	9.34	8.87	8.17	7.35
PLUGS—#4-40 THREADED INSERT						
95F9669	8209-6003	9	6.87	6.51	6.00	5.40
95F9670	8215-6003	15	7.62	7.24	6.66	6.00
95F9671	8225-6003	25	8.22	7.82	7.19	6.47
95F9672	8237-6003	37	10.21	9.69	8.92	8.03
46F4829	8250-6005	50	20.34	19.33	17.77	16.01
SOCKETS—FLANGE, THRU-HOLE STYLE						
46F4830	8309-6000	9	5.75	5.46	5.02	4.52
46F4831	8315-6000	15	6.61	6.28	5.77	5.20
46F4832	8325-6000	25	7.34	6.98	6.42	5.78
46F4833	8337-6000	37	9.48	9.02	8.29	7.47
SOCKETS—#4-40 THREADED INSERTS						
95F9673	8309-6003	9	7.00	6.65	6.11	5.50
95F9674	8315-6003	15	7.86	7.47	6.87	6.18
98F5808	8325-6003	25	8.35	7.93	7.30	6.57
94F7999	8337-6003	37	10.21	9.69	8.92	8.03
46F4834	8350-6005	50	20.34	19.33	17.77	16.01
STRAIN RELIEFS						
87F3878	3448-8D09A	9	0.23	0.22	0.20	0.18
87F3879	3448-8D15A	15	0.31	0.29	0.27	0.24
87F3880	3448-8D25A	25	0.23	0.22	0.20	0.18
87F3881	3448-8D37A	37	0.37	0.36	0.32	0.29
87F3882	3448-8D50	50	0.72	0.68	0.63	0.56

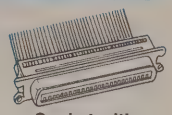
(8513) (ne50881)

DELTA PLASTIC FLAT RIBBON CABLE CONNECTORS

Socket with #4-40 Insert



Plug without Insert



Socket with Bail Mount

Accept 26-30 AWG in 0.050″ flat, round or jacketed cable. Constructed of glass-reinforced polyester. Rated UL94V-0. Contact material: beryllium copper. Contact plating (in contact wiping area): 30µ″ (0.76µm) gold MIL-G-45204, Type II, Grade C over 100µ″ (2.54µm) nickel QQ-N-209, Class 2. Current rating: 1A. Temperature rating: –55°C to +105°C.

PLASTIC SOCKETS

Stock No.	Type	Contacts	Length	1-9	10-24	25-49	50-99
46F4812	3565-1000*	50	3.27″	8.55	8.12	7.48	6.72
46F4813	3565-1001†	50	3.27″	9.24	8.77	8.07	7.26
46F4814	3565-1002‡	50	3.27″	9.46	9.00	8.27	7.45
PLASTIC PLUGS							
46F4800	3564-1000*	50	3.27″	8.55	8.12	7.48	6.72
46F4801	3564-1001†	50	3.11″	9.24	8.77	8.07	7.26
46F4802	3564-1002‡	50	3.27″	9.46	9.00	8.27	7.45

METAL STRAIN RELIEFS

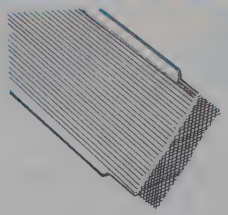
Stock No.	Type	Contacts	1-9	10-24	25-49	50-99
87F3872	3448-63	50	0.45	0.43	0.40	0.36

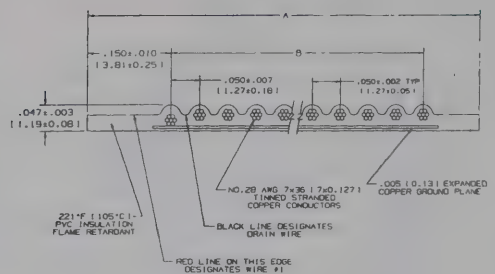
*Without insert; †With bail mount; ‡With #4-40 insert.

(8511) (ne50879)

NEW PRODUCTS ARE CONTINUALLY ADDED.
CALL NEWARK FOR CURRENT SELECTION.

3476 SERIES 0.050″ GROUND PLANE FLAT CABLE



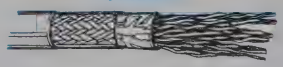

A
.150±.010 [3.81±0.25]
B
.050±.007 [1.27±0.18]
.050±.002 TYP [1.27±0.05]
.047±.003 [1.19±0.08]
NO.28 AWG 7x36 [7x0.127] TINNED STRANDED COPPER CONDUCTORS
.005 [0.13] EXPANDED COPPER GROUND PLANE
221°F [105°C] PVC INSULATION FLAME RETARDANT
BLACK LINE DESIGNATES DRAIN WIRE
RED LINE ON THIS EDGE DESIGNATES WIRE #1

Ground plane construction offers increased signal density or improved transmission properties. 28 AWG, 7 x 36 tinned, stranded copper conductors on 0.050″ (1.27) centers allow mass termination to various IDC connectors. Ground plane: expanded copper. Insulation material: gray polyvinyl chloride. Insulation resistance: >1 x 10^{10} ohms/10 feet (3m). Rated 300V. Temperature rating: –20°C to +105°C. Flammability rating: UL, VW-1; CSA-FT1. UL recognized, file no. E42769, style 2682. CSA certified. **Sold in spools of 100′.**

Stock No.	Type	Conductor	Dimension A	Dimension B	1-4	5-9
87F4341	3476/40	40	2.25″	1.95″	**317.49**	**301.61**
87F4342	3476/50	50	2.75″	2.45″	**396.84**	**377.00**

(8442) (ne03079)

3750 SERIES TWISTED PAIR SHIELDED DISCRETE ROUND CABLE



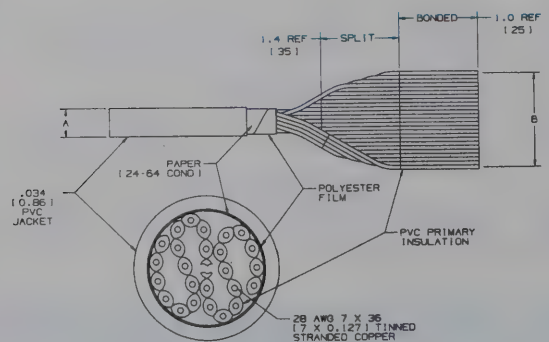
3750 series cable comprises 26 AWG 7 x 34″ (7 x 0.160) tinned stranded copper wire, which can be terminated to a broad line of IDC connectors and carry higher power levels in long I/O harnesses. The twisted pairs reduce crosstalk for balanced drive applications or can be used as discrete wires for unbalanced drive applications. Dual shields consisting of 90% tinned copper braid and aluminized polyester wrap provide excellent EMI/ESD protection and aid in the compliance of FCC requirements. Voltage rating: 300V. Temperature rating: –20°C to +80°C. UL listed, file no. E118772, style 2464. **Sold in spools of 100′.**

Stock No.	Type	Conductors (Pairs)	Diameter	1-4	5-9
87F4332	3750/10	10 (5)	0.26″	**102.51**	**97.38**
87F4333	3750/16	16 (8)	0.31″	**148.83**	**141.39**
87F4334	3750/26	26 (13)	0.37″	**207.27**	**196.90**

(8433) (de53418)

3759 SERIES 0.050″ (1.27) ROUND, JACKETED FLAT CABLE

NEC



Mass termination 28 AWG 7 x 36″ (7 x 0.127) tinned stranded copper in polyester film inner wrap. Flexible, black PVC outer wrap. Folded construction permits mass termination every 2.4″ (60.96). Temperature rating: –20°C to +80°C. UL listed, file no. E118773, Power Limited Circuit Cable CL2 or AWM style 20266. CSA certified. Meets NEC Article 725. **Sold in spools of 100′.**

CONTINUED

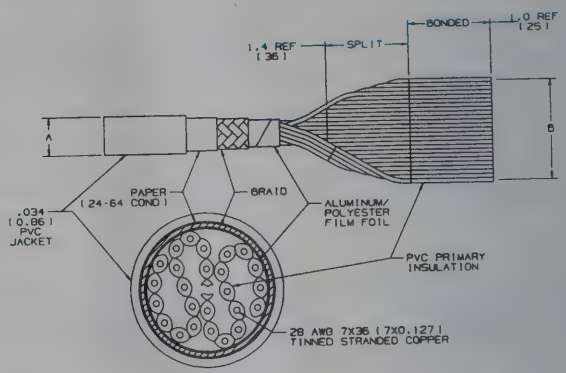
3759 SERIES 0.050″ (1.27) ROUND, JACKETED FLAT CABLE (CONT.)

Stock No.	Type	Conductors	Dimensions A	Dimensions B	1-4	5-9
95F7313	3759/9	9	0.26″	0.40″	**96.72**	**91.89**
95F7316	3759/25	25	0.33″	1.20″	**136.20**	**129.39**
94F8897	3759/37	37	0.38″	1.80″	**167.28**	**158.92**
95F7319	3759/40	40	0.39″	1.95″	**171.65**	**163.07**
04F8891	3759/50	50	0.46″	2.45″	**198.09**	**188.19**

(8441) (ne02799)

3659 SERIES 0.050″ (1.27) ROUND, SHIELDED/JACKETED FLAT CABLE

NEC

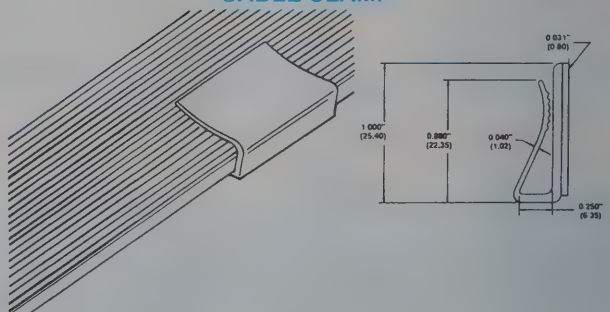


28 AWG 7 x 36″ (7 x 0.127) on 0.050″ (1.27) centers stranded gray flat cable has repeating areas of split and unsplit lengths to accommodate discrete or flat cable terminations. The flat cable is folded, wrapped with an aluminum/polyester film foil and enclosed in a round, 90% tinned-copper braid for complete EMI/ESD protection. The outer jacket is flexible PVC. Temperature rating: –20°C to +80°C. UL recognized, file no. E118773 Power Limited Circuit Cable CL2 or AWM style 20266. CSA certified. Meets NEC Article 725. **Sold in spools of 100′.**

Stock No.	Type	Conductors	Dimensions A	Dimensions B	1-4	5-9
03F5940	3659/9	9	0.30″	0.400″	**109.92**	**104.43**
03F5941	3659/10	10	0.30″	0.450″	**115.06**	**109.32**
03F5942	3659/15	15	0.31″	0.700″	**130.06**	**123.56**
03F5943	3659/20	20	0.34″	0.950″	**140.04**	**133.04**
03F5945	3659/25	25	0.37″	1.200″	**154.78**	**147.04**
03F5946	3659/26	26	0.37″	1.250″	**160.06**	**152.06**
03F5947	3659/34	34	0.41″	1.650″	**180.07**	**171.08**
03F5949	3659/37	37	0.43″	1.800″	**190.07**	**180.57**
03F5950	3659/40	40	0.43″	1.950″	**195.08**	**185.32**
03F5951	3659/50	50	0.48″	2.450″	**225.10**	**213.84**
03F5952	3659/60	60	0.51″	2.950″	**252.35**	**239.73**

(8521) (ne53416)

CABLE CLAMP

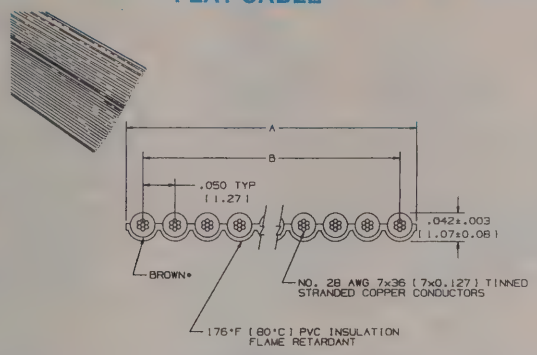


Organizes cable routing by clamping and retaining up to six layers of flat cable. Clamp has urethane foam tape backing. Constructed of gray PVC. Flammability rating: UL94V-0. Maximum operating temperature: 65°C. **Sold in packages of 100.**

Stock No.	Type	1-9	10-24
94F1485	3484-1000	**11.18**	**10.62**

(8523) (de03081)

28 AWG STRANDED COLOR-CODED 0.050″ (1.27) CENTER FLAT CABLE



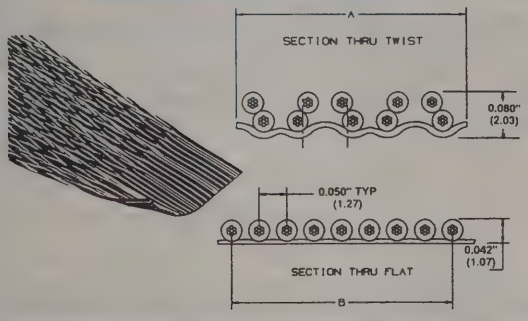
Easily zippable flat cable has 10-color repeat to aid wire identification, and 28 AWG, 7 × 36 stranded tinned copper conductors. 80°C flame-retardant PVC insulation. Voltage rating: 300V. Insulation resistance: 1×10^9 ohms/10′ (3). UL recognized, file no. E42769, style 2776; CSA certified. **Sold in spools of 100′.**

Stock No.	Type	Conductors	Dimensions A	Dimensions B	1-4	5-9
03F5915	3302/9	9	0.450″	0.400″	31.91	30.32
03F5916	3302/10	10	0.500″	0.450″	35.47	33.70
03F5917	3302/14	14	0.700″	0.650″	49.67	47.19
50F3094	3302/15	15	0.750″	0.700″	53.21	50.55
03F5918	3302/16	16	0.800″	0.750″	56.77	53.94
03F5919	3302/20	20	1.000″	0.950″	70.94	67.40
84F1535	3302/25	25	1.250″	1.200″	88.68	84.25
03F5920	3302/26	26	1.300″	1.250″	92.22	87.62
03F5921	3302/34	34	1.700″	1.650″	120.57	114.54
03F5922	3302/37	37	1.850″	1.800″	131.24	124.68
03F5923	3302/40	40	2.000″	1.950″	141.87	134.77
03F5924	3302/50	50	2.500″	2.450″	177.34	168.47
03F5925	3302/60	60	3.000″	2.950″	212.81	202.17
50F3097	3302/64	64	3.200″	3.150″	226.98	215.64

(8517) (ne53412)

TWISTED PAIR FLAT CABLE

VW-1



28 AWG 7 × 36 (7 × 0.127) stranded copper conductors, insulated with color-coded PVC, are twisted into pairs and laminated to a clear PVC film to form a planar cable. 18″ twisted pair sections are alternated with 2″ parallel sections where the conductors can be mass-terminated to a broad line of insulation displacement connectors. The insulator material is polyvinyl chloride. Temperature rating: –20°C to +80°C. Voltage rating: 300V. Passes VW-1 vertical wire flame test. UL recognized, file no. E42769, style 20462. **Sold in spools of 100′.**

Stock No.	Type	Conductors	Dimensions A	Dimensions B	1-4	5-9
87F4353	1700/16	16	0.80″	0.750″	48.69	46.26
87F4354	1700/20	20	1.00″	0.950″	60.86	57.82
87F4355	1700/26	26	1.30″	1.250″	79.12	75.17
87F4356	1700/34	34	1.70″	1.650″	103.46	98.29
87F4344	1700/40	40	2.00″	1.950″	121.72	115.63
87F4345	1700/50	50	2.50″	2.450″	152.15	144.54
87F4346	1700/60	60	3.00″	2.950″	182.58	173.45
87F4347	1700/64	64	3.20″	3.150″	194.75	185.01

(8518) (ne53413)

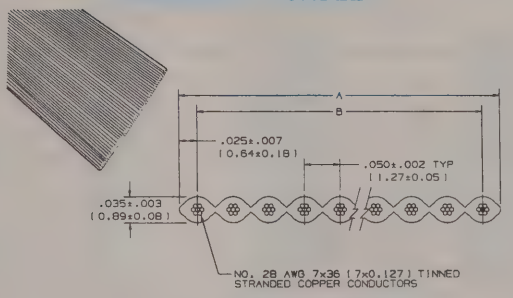
3749 SERIES 0.025″ (0.64) ROUND CONDUCTOR FLAT CABLE

Close spacing permits higher signal density. Solid 30 AWG conductors with gray TPE insulation have resistance $>1 \times 10^{10}$ ohms/10′, blue edge marking. Voltage rating: 150V. Characteristic impedance: 85 ohms. Temperature rated to +105°C. UL recognized. **Sold in spools of 100′.**

Stock No.	Type	Conductors	1-4	5-9	10-24
95F2942	3749/20	20	54.19	51.48	48.91
95F2944	3749/40	40	75.94	72.15	68.54
95F2945	3749/50	50	135.69	128.91	122.47
95F2947	3749/68	68	184.30	175.08	166.33
95F2948	3749/80	80	216.82	205.97	195.67
98F7231	3749/100	100	271.02	257.47	244.60

(8519) (ne53414)

28 AWG FLAT CABLE

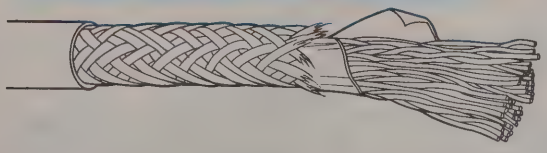


Easily zippable flat cable has 0.050″ (1.27) center spacing, 28 AWG 7 × 36 (7 × 0.127) stranded tinned copper conductors. 105°C flame-retardant PVC insulation: Voltage rating: 300V. Insulation resistance: $>1 \times 10^{10}$ ohms/10′ (3). UL recognized, file no. E42769; CSA certified. **Sold in spools of 100′.**

Stock No.	Type	Conductors	Dimensions A	Dimensions B	1-4	5-9
03F5904	3365/9	9	0.450″	0.400″	20.65	19.62
03F5905	3365/10	10	0.500″	0.450″	22.95	21.80
03F5906	3365/14	14	0.700″	0.650″	32.09	30.48
50F3092	3365/15	15	0.750″	0.700″	34.41	32.69
03F5907	3365/16	16	0.800″	0.750″	36.65	34.82
03F5908	3365/20	20	1.000″	0.950″	45.84	43.55
50F3093	3365/24	24	1.200″	1.150″	54.99	52.24
03F6789	3365/25	25	1.250″	1.200″	57.30	54.43
03F5909	3365/26	26	1.300″	1.250″	59.58	56.60
03F5910	3365/34	34	1.700″	1.650″	77.90	74.01
03F5911	3365/37	37	1.850″	1.800″	84.79	80.66
03F5912	3365/40	40	2.000″	1.950″	91.66	87.08
03F5913	3365/50	50	2.500″	2.450″	114.57	108.84
03F5914	3365/60	60	3.000″	2.950″	137.48	130.60
94F8850	3365/64	64	3.200″	3.150″	146.65	139.32

(8520) (ne53415)

3600 SERIES DISCRETE WIRE CABLE



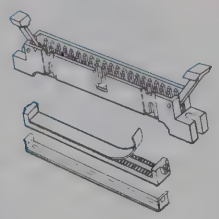
Flexible 28 AWG stranded wire. Twisted pairs to reduce crosstalk for balanced drive applications. Dual shielding with aluminum film foil and copper braid provides EMI/ESD protection. Voltage rating: N.E.C. 725, CL2 and CSA 150V. Insulation resistance (primary cable): $1 \times 10^{10}\Omega$/10 ft. (3m). Wires are color-coded for easy identification. UL listed, CSA certified. **Sold in spools of 300′, except types 3600B/80 and 3600B/100, which are sold in spools of 200′.**

Stock No.	Type	Conductors	1-4	5-9	10-24	25-49
91F4894	3600B/20	20 (10 pairs)	377.26	358.39	329.72	296.75
52F7601	3600B/26	26 (13 pairs)	440.14	418.13	397.23	357.50
52F7602	3600B/36	36 (18 pairs)	560.77	532.73	506.09	455.49
91F4895	3600B/40	40 (20 pairs)	628.77	597.32	549.54	494.58
52F7603	3600B/50	50 (25 pairs)	733.56	696.88	662.04	595.83
52F7604	3600B/68	68 (34 pairs)	1054.15	1001.45	951.38	856.24
91F4896	3600B/80	80 (40 pairs)	769.05	730.59	672.14	604.93
91F4897	3600B/100	100 (50 pairs)	994.85	945.10	869.49	782.54

(8460) (ne07422)

NEWARK HAS WHAT YOU NEED.
WITH SO MUCH IN STOCK, YOU HAVE THE COMPONENTS YOU NEED AT YOUR FINGERTIPS.

0.100 × 0.100″ (2.54 × 2.54) PLUG CONNECTORS



Accept flat cable or discrete wire. Shrouded to prevent physical and chemical pin damage. Beryllium-copper contacts plated with 30μ″ gold. Wire accommodation: 26 AWG solid or stranded, 28 AWG solid or stranded, 30 AWG solid. Color: gray. UL recognized, file no. E6 80; CSA certified. *Order ejector latches and polarization key separately below.*

WITH SLOTTED MOUNTING FLANGES

Stock No.	Type	Contacts	1-9
87F3990	4610-6000	10	3.14
87F3991	4614-6000	14	4.35
87F3992	4616-6000	16	4.93
87F194	4620-6000	20	5.75
87F3993	4624-6000	24	6.33
87F3994	4626-6000	26	6.52
87F3995	4630-6000	30	7.19
87F3974	4634-6000	34	8.12
87F3996	4636-6000	36	8.58
87F3975	4640-6000	40	9.00
87F3976	4650-6000	50	9.74
87F3997	4660-6000	60	11.49
87F3998	4664-6000	64	12.25

WITHOUT MOUNTING FLANGES

87F3999	4610-6001	10	3.14
87F4000	4614-6001	14	4.35
87F4001	4616-6001	16	4.93
87F4013	4620-6001	20	5.75
87F4003	4624-6001	24	6.33
87F4004	4626-6001	26	6.52
87F192	4634-6001	34	8.12
87F193	4650-6001	50	9.74
87F3977	4660-6001	60	11.49
87F4007	4664-6001	64	12.25

STRAIN RELIEFS

46F8287	3448-4610	10	0.42
87F4014	3448-4614	14	0.42
87F4015	3448-4616	16	0.98
87F4016	3448-4620	20	0.68
87F4017	3448-4624	24	0.34
87F4018	3448-4626	26	0.39
87F4020	3448-4634	34	0.39
87F4009	3448-4640	40	0.39
87F4010	3448-4650	50	0.42
87F4011	3448-4660	60	0.42
87F4012	3448-4664	64	0.42

POLARIZATION KEY

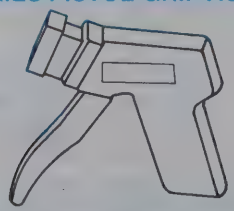
Stock No.	Type	Description	1-9
46F8391	3518	Made of Gray Glass-Filled Polyester	0.11

EJECTOR LATCHES

90F1471	3505-16	Short, for Use on Socket w/o Strain Relief	0.12
94F3335	3505-17	Long, for Use on Socket w/Strain Relief	0.14

(8397) (de50337)

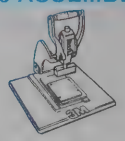
CHG SERIES PISTOL-GRIP ACTUATOR



Hand-held actuator is used with prototype and low-volume discrete wire terminations. Handy portable tool is a rugged, lightweight device especially suited for prototype and field repair applications. Accommodates assembly heads for **CHG series** body styles.

98F5872 Type 3586-12. **1-4** **183.60**
(33377) (ne33377)

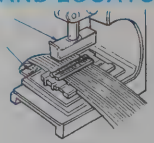
TYPE 3640 ASSEMBLY PRESS



Assembly press is an adjustable parallel-action device designed for proper displacement of cable insulation by "U" contacts as well as right cover seating. Features over-center handle design and 17:1 mechanical crimping action to reduce operator fatigue. Unit can be mounted on bench or table. Includes **type 3442-1A** standard platen. *Order additional platens and locator plates separately on this page. Order* **type 929025** *molded heads separately; contact your local Newark sales office.*

46F8355 Type 3640. **1-4** **322.77**
(8403) (de50809)

PLATENS AND LOCATOR PLATES



Platen
Locator Plate

For assembly press. Platens assure proper closure of connector bodies and covers; staging platform has tray to hold cable; locator plates assure proper positioning of connectors.

PLATENS

Stock No.	Type	Connector Application	1-4
46F8351	3442-1A	Standard Platen	19.03
95F9675	3442-45	For Assembly of 0.050 x 0.100″ Mini Wire Mount Sockets: **82xxx Series**	148.11

STAGING PLATFORM

92F1582	3767-0005	For **89 Series** Sockets	262.18

LOCATOR PLATES

46F8314	3443-94	Socket Connectors: All 0.100 x 0.100″ and 0.100 x 0.200″ Sockets	570.53
90F1477	3443-71	PCB Connectors for Assembly before Soldering: **3910, 3914, 3916, 3920, 3926, 3934, 3940, 3950, 3960, 3964**	176.61
46F8350	3443-58	D-Ribbon Connectors: **3564, 3565, 3572, 3573, 3549, 3548, 3367, 3366**	796.99
90F1478	3443-106N	D-Sub Connectors: **8209, 8309, 8215, 8225, 8325, 8237, 8337**	367.99
90F1486	3443-100	D-Sub Connectors: **8250, 8350**	747.15
92F1579	3443-106N	D-Sub Connectors: **89 Series**	246.03
92F1581	3443-123M	Card Edge Connectors: **89 Series**	581.96

(8401) (de50806)

IDC ASSEMBLY HAND TOOL

Terminate cable with the most popular IDC connectors. Four die sets are available to handle all sizes of DIP plugs, D-subminiature, sockets, and card-edge connectors. *Order die sets separately below.*

Stock No.	Type	Description	1-9
90F1490	925980-R	Assembly Hand Tool (Includes Anvil)	73.26
90F8196	925989-R	Socket Connector Die Set	21.94
90F8197	925982-R	DIP Plug Die Set	21.94
90F8198	925987-R	Card Edge Connector Die Set	21.94
90F8199	925988-R	D-Subminiature Connector Die Set	21.94

(8402) (de50808)

APPLICATION TOOLING FOR MINI D RIBBON CONNECTORS IS AVAILABLE. CALL NEWARK FOR MORE INFORMATION ABOUT TYPE 10960-2000 HAND PRESS, TYPE 10961 CUTTING UNIT, TYPE 10962 2000 FIXTURE UNIT, AND TYPES 10964-1 AND 10964-2 WIRE CLAMPS.

(14631) (ne07425)

2.0mm (0.079″) MILLI-GRID™ SYSTEM

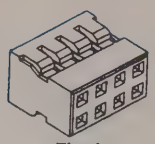


Fig. 1

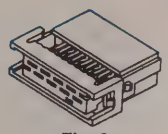


Fig. 2

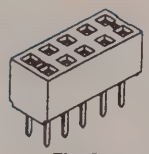


Fig. 3

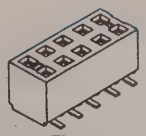


Fig. 4

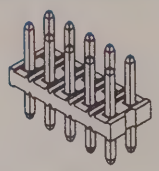


Fig. 5

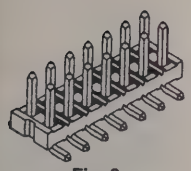


Fig. 6

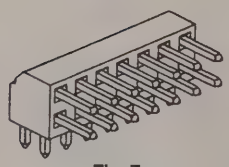


Fig. 7

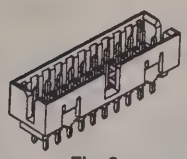


Fig. 8

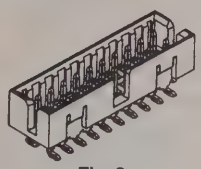


Fig. 9

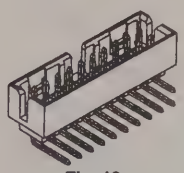


Fig. 10

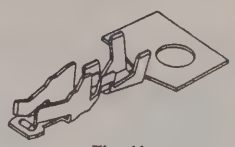


Fig. 11

2.0 x 2.0mm grid pattern. Current rating: 1.0A. Voltage rating: 125VAC. Contact resistance: 25 milliohms max. Dielectric withstanding voltage: 500VACrms applied between terminals. 15μ″ gold plating.

CONNECTORS

Stock No.	Type	Description	Fig.	Circuit Size	Pkg. Qty.	1-9	10-24
66F3818	51110-0850	Crimp Housing	1	8	10	4.67	4.21
66F3819	51110-1050	Crimp Housing	1	10	10	4.83	4.35
66F3820	51110-2050	Crimp Housing	1	20	10	9.58	8.62
66F3821	51110-0851	Crimp Housing	1	8	10	4.75	4.28
66F3822	51110-1051	Crimp Housing	1	10	10	4.83	4.35
66F3823	51110-2051	Crimp Housing	1	20	10	9.58	8.62
66F3824	87259-1012	IDT Receptacles	2	10	10	31.64	28.48
66F3825	87259-2012	IDT Receptacles	2	20	10	60.11	54.10
66F3826	87259-4412	IDT Receptacles	2	44	10	121.79	109.61
66F3827	87259-5012	IDT Receptacles	2	50	10	126.54	113.88
66F3828	79107-0003	Top Entry Board-to-Board	3	8	10	30.14	27.13
66F3829	79107-0005	Top Entry Board-to-Board	3	10	10	36.70	33.03
66F3830	79107-0009	Top Entry Board-to-Board	3	20	10	48.00	43.20
66F3831	79107-0021	Top Entry Board-to-Board	3	44	10	100.36	90.33
66F3832	79107-0024	Top Entry Board-to-Board	3	50	10	114.05	102.64
66F3833	79109-0003	SMT Top/Bot. Entry Hdr.	4	8	10	33.15	29.83
66F3834	79109-0005	SMT Top/Bot. Entry Hdr.	4	10	10	40.34	36.31
66F3835	79109-0009	SMT Top/Bot. Entry Hdr.	4	20	10	52.75	47.48
66F3836	79109-0021	SMT Top/Bot. Entry Hdr.	4	44	10	110.40	99.36
66F3837	79109-0024	SMT Top/Bot. Entry Hdr.	4	50	10	125.43	112.89
66F3838	87089-0816	Vertical Headers	5	8	10	12.65	11.39
66F3839	87089-1016	Vertical Headers	5	10	10	14.24	12.81
66F3840	87089-2016	Vertical Headers	5	20	10	25.31	22.78
66F3841	87089-4416	Vertical Headers	5	44	10	48.72	43.85
66F3842	87089-5016	Vertical Headers	5	50	10	55.36	49.82
66F3843	87267-0850	SMT Vertical Headers	6	8	10	18.98	17.08
66F3844	87267-1050	SMT Vertical Headers	6	10	10	21.36	19.23
66F3845	87267-2050	SMT Vertical Headers	6	20	10	31.64	28.48
66F3846	87267-4450	SMT Vertical Headers	6	44	10	62.64	56.38
66F3847	87267-5050	SMT Vertical Headers	6	50	10	71.18	64.06
66F3848	87049-0816	Right-Angle Headers	7	8	10	13.29	11.96
66F3849	87049-1016	Right-Angle Headers	7	10	10	15.82	14.24
66F3850	87049-2016	Right-Angle Headers	7	20	10	23.73	21.36
66F3851	87049-4416	Right-Angle Headers	7	44	10	52.20	46.98
66F3852	87049-5016	Right-Angle Headers	7	50	10	59.32	53.39
66F3853	87331-0820	Shrouded Headers	8	8	10	12.89	11.60
66F3854	87331-1020	Shrouded Headers	8	10	10	15.90	14.31
66F3855	87331-2020	Shrouded Headers	8	20	10	31.79	28.61
66F3856	87331-4420	Shrouded Headers	8	44	10	70.00	63.00
66F3857	87331-5020	Shrouded Headers	8	50	10	79.56	71.61
66F3858	87332-0820	SMT Shrouded Headers	9	8	10	22.47	20.22
66F3859	87332-1020	SMT Shrouded Headers	9	10	10	22.93	20.64
66F3860	87332-2020	SMT Shrouded Headers	9	20	10	34.80	31.32
66F3861	87332-4420	SMT Shrouded Headers	9	44	10	70.00	63.00
66F3862	87332-5020	SMT Shrouded Headers	9	50	10	79.56	71.61
66F3863	87333-0820	R.A. Shrouded Headers	10	8	10	15.43	13.89
66F3864	87333-1020	R.A. Shrouded Headers	10	10	10	15.90	14.31
66F3865	87333-2020	R.A. Shrouded Headers	10	20	10	31.79	28.61
66F3866	87333-4420	R.A. Shrouded Headers	10	44	10	70.00	63.00
66F3867	87333-5020	R.A. Shrouded Headers	10	50	10	79.56	71.61

TERMINALS

Stock No.	Type	Description	Fig.	Pkg. Qty.	1-9	10-24
66F3817	50394-8100	Crimp Terminal	11	100	18.22	16.40

CABLE

Stock No.	Type	Description	Circuit Size	Pkg. Qty.	1-4	5-9
66F8941	82-28-3010	Cable for IDT Recept.	10	100′	101.09	90.98
66F8942	82-28-3020	Cable for IDT Recept.	20	100′	303.55	273.20
66F8943	82-28-3044	Cable for IDT Recept.	44	100′	433.03	389.73
66F8944	82-28-3050	Cable for IDT Recept.	50	100′	758.86	682.97

(8453) (ne06479)

FFC/FPC CONNECTORS

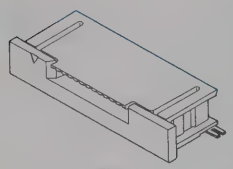


Fig. 1

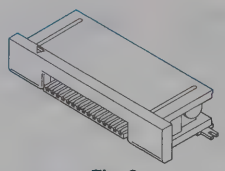


Fig. 2

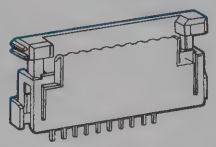


Fig. 3

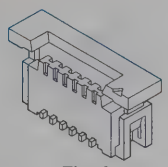


Fig. 4

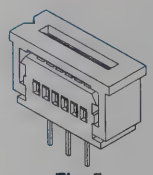


Fig. 5

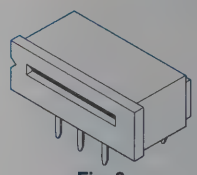


Fig. 6

Tin-plated phosphor bronze terminals. Flammability rating: UL94V-0. Push/pull actuator. Several styles available. For your particular application, *contact your local Newark sales office.*

Stock No.	Type	Description	Fig.	Pkg. Qty.	1-9	10-24
66F4269	52745-1090	0.5mm R.A. Top Contact-SMT	1	10	31.40	28.26
66F4270	52745-1190	0.5mm R.A. Top Contact-SMT	1	10	32.27	29.04
66F4271	52745-1490	0.5mm R.A. Top Contact-SMT	1	10	35.12	31.60
66F4272	52745-1690	0.5mm R.A. Top Contact-SMT	1	10	37.10	33.39
66F4273	52745-1890	0.5mm R.A. Top Contact-SMT	1	10	38.92	35.03
66F4274	52745-2090	0.5mm R.A. Top Contact-SMT	1	10	40.81	36.73
66F4275	52746-1090	0.5mm R.A. Bottom Contact-SMT	2	10	14.49	13.04
66F4276	52746-1290	0.5mm R.A. Bottom Contact-SMT	2	10	33.21	29.89
66F4277	52746-1490	0.5mm R.A. Bottom Contact-SMT	2	10	35.12	31.60
66F4278	52746-1690	0.5mm R.A. Bottom Contact-SMT	2	10	37.10	33.39
66F4279	52746-1890	0.5mm R.A. Bottom Contact-SMT	2	10	38.92	35.03
66F4280	52746-2090	0.5mm R.A. Bottom Contact-SMT	2	10	40.81	36.73
66F4281	52207-1090	1.0mm R.A.-Top Contact-SMT	3	10	42.00	37.80
66F4282	52207-1190	1.0mm R.A.-Top Contact-SMT	3	10	42.71	38.44
66F4283	52207-1290	1.0mm R.A.-Top Contact-SMT	3	10	46.19	41.57
66F4284	52207-1390	1.0mm R.A.-Top Contact-SMT	3	10	48.96	44.06
66F4285	52207-1490	1.0mm R.A.-Top Contact-SMT	3	10	50.54	45.49
66F4286	52207-1590	1.0mm R.A.-Top Contact-SMT	3	10	52.67	47.40
66F4287	52207-1690	1.0mm R.A.-Top Contact-SMT	3	10	54.73	49.26
66F4288	52207-1790	1.0mm R.A.-Top Contact-SMT	3	10	57.42	51.68
66F4289	52207-1890	1.0mm R.A.-Top Contact-SMT	3	10	58.76	52.89
66F4290	52207-1990	1.0mm R.A.-Top Contact-SMT	3	10	62.25	56.02
66F4291	52207-2090	1.0mm R.A.-Top Contact-SMT	3	10	65.41	58.87
66F4292	52610-1090	1.0mm Vertical-SMT	4	1	5.59	5.03
66F4293	52610-1290	1.0mm Vertical-SMT	4	1	7.02	6.32
66F4294	52610-1490	1.0mm Vertical-SMT	4	1	7.82	7.04
66F4295	52610-1690	1.0mm Vertical-SMT	4	1	8.46	7.61
66F4296	52610-1890	1.0mm Vertical-SMT	4	1	9.26	8.33
66F4297	52610-2090	1.0mm Vertical-SMT	4	1	10.03	9.03
66F4228	39-51-3104	1.25mm Vertical, Thru-Hole	5	10	37.57	33.82
66F4229	39-51-3124	1.25mm Vertical, Thru-Hole	5	10	42.55	38.29
66F4230	39-51-3144	1.25mm Vertical, Thru-Hole	5	10	47.70	42.93
66F4231	39-51-3164	1.25mm Vertical, Thru-Hole	5	10	52.83	47.55
66F4232	39-51-3184	1.25mm Vertical, Thru-Hole	5	10	58.22	52.39
66F4233	39-51-3204	1.25mm Vertical, Thru-Hole	5	10	63.19	56.87
66F4234	39-51-3224	1.25mm Vertical, Thru-Hole	5	10	68.10	61.29
66F4235	39-51-3244	1.25mm Vertical, Thru-Hole	5	10	73.39	66.05
66F4236	39-51-3264	1.25mm Vertical, Thru-Hole	5	10	78.46	70.61
66F4237	39-51-3284	1.25mm Vertical, Thru-Hole	5	10	83.51	75.16
66F4238	39-51-3304	1.25mm Vertical, Thru-Hole	5	10	88.74	79.86
66F4239	39-51-3103	1.25mm R.A., Thru-Hole	6	10	37.57	33.82
66F4240	39-51-3123	1.25mm R.A., Thru-Hole	6	10	42.55	38.29
66F4241	39-51-3143	1.25mm R.A., Thru-Hole	6	10	47.70	42.93
66F4242	39-51-3163	1.25mm R.A., Thru-Hole	6	10	52.83	47.55
66F4243	39-51-3183	1.25mm R.A., Thru-Hole	6	10	58.22	52.39
66F4244	39-51-3203	1.25mm R.A., Thru-Hole	6	10	63.19	56.87
66F4245	39-51-3223	1.25mm R.A., Thru-Hole	6	10	68.10	61.29
66F4246	39-51-3243	1.25mm R.A., Thru-Hole	6	10	73.39	66.05
66F4247	39-51-3263	1.25mm R.A., Thru-Hole	6	10	78.46	70.61
66F4248	39-51-3283	1.25mm R.A., Thru-Hole	6	10	83.51	75.16
66F4249	39-51-3303	1.25mm R.A., Thru-Hole	6	10	88.74	79.86

(8452) (ne06441)

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PC BOARD CONNECTORS

C-GRID HIGH-DENSITY DUAL ROW CONNECTORS

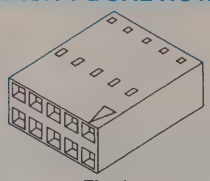

Fig. 1

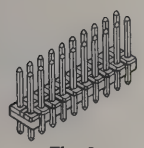

Fig. 2

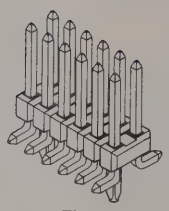

Fig. 3

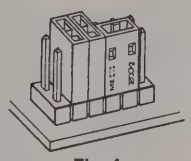

Fig. 4

C-Grid modular interconnection system is based on a 0.100″ (2.54) grid and designed for digital circuit boards. Comprised of **70450 series** low profile, stackable housings, **8624 series** breakaway headers, **11308 series** surface mount headers and **7859 series** two circuit shunts. Current rating: 3A. Insulation resistance: 1000MΩ. Dielectric strength is 600VAC rms for 1 minute. Operating temperature range: –40°C to +105°C. UL listed, CSA certified.

70450 SERIES DUAL ROW CRIMP HOUSINGS—FIG. 1

Stackable end-to-end and side-to-side on 0.100″ (2.54) grid. Accepts **70058** and **71851 series** female box crimp terminals; *contact your local Newark sales office for ordering information.* Mate with **8624 series** dual row headers, *ordered separately.* **Sold in packages of 10.**

Stock No.	Type	Circuits	1-9	10-24
50F2486	22-55-2061	6	24.21	21.79
50F2487	22-55-2081	8	25.31	22.78
50F2488	22-55-2101	10	26.50	23.85
91F2054	22-55-2121	12	27.60	24.84
91F2055	22-55-2141	14	28.79	25.91
91F2056	22-55-2181	18	30.93	27.83
50F2490	22-55-2201	20	32.11	28.90
50F2493	22-55-2341	34	40.02	36.02
50F2494	22-55-2401	40	43.43	39.08
50F2495	22-55-2501	50	49.04	44.14

8624 SERIES DUAL ROW STRAIGHT PIN BREAKAWAY HEADERS—FIG. 2

Easy breakaway to smaller sizes. Stackable end-to-end and side to side. Drawn 0.025″ (0.635) square wire provides 4-sided smooth surface for quality interface. Standoffs facilitate post solder cleaning. Pins plated with 15μ″ select gold, offer a 0.110″ (2.79) PC tail length with choice of mating end lengths: 0.240″ (6.10) or 0.320″ (8.13) long. Mate with **70450 series** connector housings, *ordered separately*, and **7859 series** shunts, *ordered separately.*

0.240″ (6.10) MATING END PIN LENGTH

Stock No.	Type	Circuits	1-9	10-24
46F506	10-89-1061	6	1.45	1.31
46F507	10-89-1081	8	1.74	1.56
46F494	10-89-1101	10	2.04	1.84
46F495	10-89-1161	16	2.96	2.67
46F496	10-89-1201	20	3.56	3.21
46F497	10-89-1261	26	4.58	4.12
46F499	10-89-1341	34	6.13	5.52
46F500	10-89-1401	40	6.86	6.17
46F487	10-89-1501	50	9.77	8.79
46F488	10-89-1801	80	12.32	11.09

71308 SERIES DUAL ROW SURFACE MOUNT HEADERS—FIG. 3

Headers are vapor phase/IR reflow process compatible and stackable end-to-end. Housings are high-temperature thermoplastic, rated UL94V-0. **Sold in packages of 10.**

Stock No.	Type	Circuits	1-9	10-24
01F2410	15-91-0800*	80	202.45	182.21
01F2411	15-91-2800†	80	168.29	151.46

*15μ″ min. select gold plating; †150μ″ min. select gold plating.

7859 SERIES TWO CIRCUIT SHUNT/JUMPERS—FIG. 4

Open or closed top to prevent upside down mating. Both versions stackable end-to-end and side-to-side. Designed to act as a DIP switch by increasing current flow and decreasing resistance. Dual beam phosphor bronze terminals offer 2 points of contact per pin. Glass-filled polyester housing, rated UL 94V-0. Contact resistance: 15 miliohms (gold). Current rating: 2 amps at 30°C rise over ambient. Mate with **8624 series** breakaway headers, *ordered separately.*

Stock No.	Type	Top	1-9	10-24
46F593	15-29-1024*	Open	0.62	0.56
46F594	15-29-1025*	Closed	0.62	0.56
46F595	15-38-1024†	Open	0.46	0.41

*15μ″ gold plating; †200μ″ tin plating.

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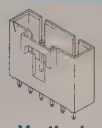
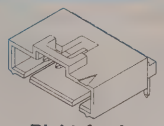
C-GRID SL™ HEADERS



Vertical



Right-Angle

Surface mount compatiable, single-row 0.100″ center shrouded locking headers are available in vertical and right-angle configurations. Rated UL94V-0. Pins are selectively gold plated in contact area and tin-lead plated in solder area. Current: 3A. Contact resistance: 15mΩ max. Durability: 50 cycles. Temperature range: –40° to +125°C. **Sold in packages of 10.**

VERTICAL SHROUDED LOCKING HEADERS

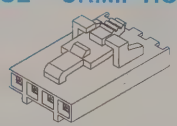
Stock No.	Type	Circuits	1-9	10-24
91F2057	70543-0001	2	13.13	11.82
91F2058	70543-0002	3	14.47	13.03
91F2059	70543-0003	4	16.14	14.52
91F2060	70543-0004	5	17.40	15.66
91F2061	70543-0005	6	18.82	16.94
91F2062	70543-0006	7	20.17	18.15
91F2063	70543-0007	8	21.59	19.43
91F2064	70543-0008	9	23.01	20.71
91F2065	70543-0009	10	24.44	21.99

RIGHT-ANGLE SHROUDED LOCKING HEADERS

Stock No.	Type	Circuits	1-9	10-24
91F2066	70553-0001	2	13.13	11.82
91F2067	70553-0004	5	17.40	15.66
91F2068	70553-0005	6	18.82	16.94
91F2069	70553-0006	7	20.17	18.15
91F2070	70553-0007	8	21.59	19.43
91F2071	70553-0008	9	23.01	20.71
91F2072	70553-0009	10	24.44	21.99

(17132) (ne09848)

C-GRID SL™ CRIMP HOUSINGS



Single-row 0.100″ center locking housings are designed for wire-to-board applications. Designed with anti-entanglement ribs to prevent wire from catching under the lock during harness assembly. Alignment ribs prevent contact damage during mating/unmating. *Order crimp terminals separately on this page.* **Sold in packages of 10.**

Stock No.	Type	Circuits	1-9	10-24
91F2073	50-57-9402	2	5.86	5.27
91F2074	50-57-9403	3	7.60	6.84
91F2075	50-57-9405	5	8.22	7.40
91F2076	50-57-9406	6	8.78	7.90
91F2077	50-57-9408	8	9.89	8.90
91F2078	50-57-9409	9	10.60	9.54
91F2079	50-57-9410	10	11.15	10.04

(17133) (ne10177)

2.54mm PITCH C-GRID SL™ CRIMP TERMINALS

Dual-beam, fully enclosed female box contact. Dual-tab strain relief. Locking tang secures terminal in housing. Voltage: 250V. Current: 3.0A. Contact resistance: 15mΩmax. Insulation resistance: 10,000MΩ min. Operating temperature: –40°C to +120°C. UL recognized, CSA certified. **Sold in packages of 100, except types 16-02-0103 and 16-02-0097, which are sold individually.**

Stock No.	Type	AWG	1-9	10-24
16F6106	16-02-0102-C*	22-24	11.28	10.15
16F6107	16-02-0096-C*	24-30	11.28	10.15
94F242	16-02-0104-C**	22-24	21.75	19.57
16F6109	16-02-0098-C**	24-30	21.75	19.57
93F3021	16-02-0103-C†	22-24	0.18	0.16
93F3022	16-02-0097-C†	24-30	0.18	0.16

* Plated with 150μ″ tin-lead over 50μ″ nickel overall. ** Plated with 30μ″ min. gold in select area over 50μ″ min. nickel overall with 75μ″ tin-lead in select area. †15μ″ min. gold in select area over 50μ″ min. nickel overall with 75μ″ tin-lead in select area.

(8476) (ne08248)

HAND CRIMPERS FOR C-GRID TERMINALS

Ideal for prototype work, small production volumes and field repair. Ratchet release action determines correct crimp height repeatability. Adjustable eccentric to allow for crimp pressure adjustment. Wire stop and terminal locator. Forms both conductor and insulation crimps in one action. Strip length: 0.100″ (2.54) to 0.125″ (3.17).

Stock No.	Type	AWG	Insulation Diameter	1-2
16F6110	11-01-0209	24-30	0.060″ max.	332.45
16F6111	11-01-0208	22-24	0.064″ max.	332.45

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KK® INTERCONNECTION SYSTEM 0.100″ (2.54) CENTER HEADERS

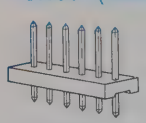
Fig. 1

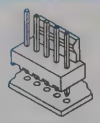
Fig. 2

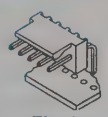
Fig. 3

4030 series straight square pin flat headers are stackable end-to-end and side-to-side. **6373 series** straight or **7478 series** right angle square pin friction lock headers. Choice of 2-10 circuits. Feature UL94V-0 nylon housing and 0.25″ (0.64) square brass pins available with tin or gold plating. Voltage rating: 250VAC maximum. Resistance: 20 milliohms. Dielectric withstanding voltage: 1500VAC for 60 seconds. Mate with **4455-AC series** 0.100″ (2.54) centerline connectors, which can be *ordered separately; contact your local Newark sales office.* UL recognized, CSA certified. **Sold in packages of 10.**

4030 SERIES STRAIGHT SQUARE PIN FLAT HEADERS— (FIG. 1)

Stock No.	Type	Circuits	1-9	10-24
44F4526	22-03-2021-P*	2	2.21	1.99
44F4527	22-03-2041-P*	4	4.51	4.06
44F4528	22-03-2061-P*	6	6.72	6.05
44F4529	22-03-2081*	8	7.92	7.12
44F4530	22-03-2101-P*	10	8.94	8.05

6373 SERIES STRAIGHT SQUARE PIN FRICTION LOCK HEADERS— (FIG. 2)

Stock No.	Type	Circuits	1-9	10-24
46F522	22-23-2021*	2	3.25	2.92
94F1668	22-23-2031*	3	4.83	4.35
46F523	22-23-2041*	4	5.30	4.77
94F9620	22-23-2051-P*	5	6.64	5.98
46F524	22-23-2061*	6	6.96	6.26
50F2484	22-23-2081*	8	8.38	7.55
46F525	22-23-2101*	10	9.50	8.55

6373 SERIES STRAIGHT SQUARE PIN FRICTION LOCK HEADERS— (FIG. 2)

Stock No.	Type	Circuits	1-9	10-24
98F1695	22-11-2022-10**	2	6.41	5.77
94F247	22-11-2042-P**	4	10.76	9.69
94F248	22-11-2062-P**	6	16.85	15.17
96F7362	22-11-2082**	8	20.49	18.44
96F7363	22-11-2102**	10	25.63	23.07

7478 SERIES RIGHT-ANGLE SQUARE PIN FRICTION LOCK HEADERS--(FIG. 3)

Stock No.	Type	Circuits	1-9	10-24
46F526	22-05-3021*	2	6.72	6.05
97F8805	22-05-3031*	3	7.68	6.91
46F527	22-05-3041*	4	8.62	7.76
46F528	22-05-3061*	6	10.52	9.47
50F2485	22-05-3081*	8	12.81	11.53
46F515	22-05-3101*	10	13.45	12.10

*Tin Plated **Gold Plated

(8516) (ne51144)

KK® SERIES 0.156″ (3.96) CENTER HEADERS

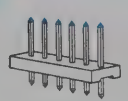
Fig. 1

Fig. 2

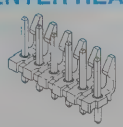
Fig. 3

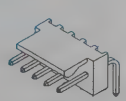
Fig. 4

Glass filled polyester housing, rated UL94V-0. Brass 0.5″ (1.4) square pins plated 200μ″ min. tin over 100μ″ min. copper. UL recognized, CSA certified. **Sold in packages of 10.**

41661 SERIES STRAIGHT PIN HEADERS—FIG. 1

Stock No.	Type	Circuit	1-9	10-24
87F6926	26-48-1041	4	2.77	2.49
87F6928	26-48-1061	6	4.13	3.71
50F2480	26-48-1081	8	5.49	4.94
87F6929	26-48-1101	10	6.95	6.25

41622 SERIES RIGHT-ANGLE PIN HEADERS—FIG. 2

87F6923	26-48-1102	10	7.83	7.04

41671 SERIES STRAIGHT PIN FRICTION LOCK HEADERS—FIG. 3

87F6930	26-48-1025	2	1.75	1.57
87F6931	26-48-1035	3	2.61	2.35
87F6932	26-48-1045	4	3.48	3.13
87F6933	26-48-1055	5	4.40	3.96
87F6934	26-48-1065	6	5.26	4.74
50F2482	26-48-1085	8	7.06	6.36
87F6935	26-48-1105	10	8.79	7.91

41682 SERIES RIGHT-ANGLE PIN FRICTION LOCK HEADERS—FIG. 4

87F6936	26-48-1026	2	2.01	1.81
87F6937	26-48-1036	3	2.99	2.69
87F6938	26-48-1046	4	4.02	3.62
87F6940	26-48-1066	6	5.97	5.37
50F2483	26-48-1086	8	8.04	7.24
87F6941	26-48-1106	10	10.05	9.04

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2695 SERIES 0.100″ (2.54) CENTER CRIMP HOUSINGS

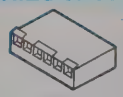
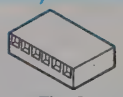


Fig. 1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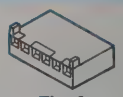


Fig. 3

Available with or without locking ramp. Red UL94V-0 nylon material. Accept **2759 series** crimp terminals, *ordered separately on this page.* Mate wth 0.100″ (2.54) center headers and staked 0.025″ (0.635) pins in board. Voltage rating: 250VAC maximum. Resistance: 20 milliohms. Dielectric withstanding voltage: 1500VAC. UL recognized, CSA certified. **Sold in packages of 10.**

TERMINAL HOUSING WITH LOCKING RAMP—FIG. 1

Stock No.	Type	Circuits	1-9	10-24
44F8417	22-01-2027	2	1.35	1.21
97F8800	22-01-2037	3	2.06	1.86
44F8418	22-01-2047	4	2.69	2.42
44F8419	22-01-2067	6	4.03	3.63
97F8799	22-01-2087	8	5.46	4.91
44F8420	22-01-2107	10	6.80	6.12

TERMINAL HOUSING WITHOUT LOCKING RAMP—FIG. 2

44F4547	22-01-2021	2	1.35	1.21
44F4522	22-01-2041	4	2.69	2.42
44F4523	22-01-2061	6	4.03	3.63
44F4524	22-01-2081	8	5.46	4.91
44F4525	22-01-2101	10	6.80	6.12

TERMINAL HOUSING WITH POLARIZING RIBS AND LOCKING RAMP—FIG. 3

98F1532	22-01-3027	2	1.59	1.43
94F245	22-01-3037	3	2.29	2.06
97F8801	22-01-3047	4	3.09	2.78
97F8802	22-01-3057	5	3.87	3.49
97F8803	22-01-3067	6	4.67	4.21
97F8804	22-01-3087	8	6.17	5.56
94F1667	22-01-3107	10	7.76	6.98

(8406) (de51091)

KK® SYSTEM 0.100″ (2.54) BREAKAWAY HEADERS

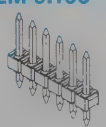


Fig. 1

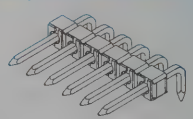


Fig. 2

Surface mount compatible, single row stick headers are available in straight and right-angle configurations. Rated UL94V-0. Phosphor bronze, 0.025″ square pins in tin or selective gold plating in contact area, tin-plated in solder area. Current: 4A. Contact resistance: 20mΩ max. Temperature range: 0°C to +75°C. Comes in 36-circuit size, which can be broken down to any circuit size that is required. UL recognized, CSA certified. **Sold in packages of 10.**

42375 SERIES STRAIGHT BREAKAWAY HEADERS—FIG. 1

Stock No.	Type	Pin Length	Plating	1-9	10-24
01F875	22-28-4360	0.240″	Tin	30.22	27.20
01F876	22-28-4363	0.240″	Gold	37.57	33.82
01F877	22-28-4361	0.320″	Tin	30.22	27.20
01F878	22-28-4364	0.320″	Gold	37.57	33.82

42377 SERIES RIGHT-ANGLE BREAKAWAY HEADERS—FIG. 2

01F879	22-28-8360	0.244″	Tin	30.22	27.20
01F880	22-28-8362	0.244″	Gold	37.56	33.81

(16727) (ne09842)

KK® INTERCONNECTION SYSTEM CRIMP TERMINALS

Patented double cantilever design. Brass material available in tin or gold plating for 0.100″ (2.54) housings. Accept 22 through 30 AWG wire leads. 0.062″ insulation diameter. **Sold in packages of 100, except type 08-56-0110, which is sold individually.**

2759 SERIES TERMINALS FOR 0.100″ (2.54) APPLICATIONS

Stock No.	Type	Plating	1-9	10-24
50F1617	08-56-0110	Gold	0.38	0.34
99F3973	08-55-0102	Gold	27.44	24.70
44F8234	08-50-0114	Tin	11.19	10.07

(8490) (ne08624)

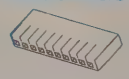
ARE YOU INTERESTED IN CRIMP AND EXTRACTION TOOLS?

REFER TO TOOL SECTION *on page 269.*

(33000) (ne33000)

PC BOARD AND SLIMLINE D-SUB CONNECTORS

2139 SERIES 0.156″ (3.96) CENTER CRIMP TERMINAL HOUSINGS



KK® interconnection system PC board connectors. Locking ramp and polarizing rib features available. 94V-2 plastic material. Accepts **2478** and **2578 series** cantilever crimp terminals, *order separately on this page.* Mates with 0.156″ (3.96) center headers and 0.045″(1.14) staked pins in the board. Voltage rating: 250VAC. UL recognized, CSA certified. **Sold in packages of 10.**

TERMINAL HOUSINGS WITH LOCKING RAMP

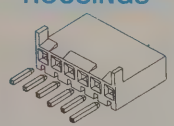
Stock No.	Type	Circuits	1-9	10-24
44F4480	09-50-3021	2	1.75	1.57
44F4481	09-50-3031	3	2.61	2.35
44F4482	09-50-3041	4	3.49	3.14
44F4483	09-50-3051	5	4.35	3.92
44F4484	09-50-3061	6	5.22	4.70
70B4923	09-50-3071	7	6.09	5.49
87F113	09-50-3081	8	6.96	6.26
44F4485	09-50-3101	10	8.70	7.83
97F8798	09-50-3121	12	10.44	9.40

TERMINAL HOUSINGS WITHOUT LOCKING RAMP

44F4486	09-50-7021	2	1.75	1.57
44F4487	09-50-7031	3	2.61	2.35
44F4488	09-50-7041	4	3.49	3.14
44F4489	09-50-7051	5	4.35	3.92
44F4490	09-50-7061	6	5.22	4.70
44F4491	09-50-7101	10	8.70	7.83

(8404) (de50963)

41695 SERIES 0.156″ (3.96) CENTER CRIMP TERMINAL HOUSINGS



With Ramp & Rib

KK® interconnection system PC board connectors. Choice of 2-10 circuits. Locking ramp and polarizing rib features available. 94V-0 polyester material. Accepts **2478** and **2578 series** cantilever crimp terminals, *order separately on this page.* Mates with 0.156″(3.96) center headers and 0.045″(1.14) staked pins in the board. Voltage rating: 250VAC maximum. Resistance: 20mΩ. Dielectric withstanding voltage: 1500VAC for 60 seconds. UL recognized, CSA certified.

HOUSINGS WITH LOCKING RAMP & POLARIZING RIBS

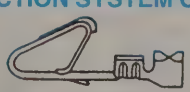
Stock No.	Type	Circuits	1-9	10-24
93F9632	09-50-8023	2	0.19	0.17
93F9633	09-50-8033	3	0.28	0.25
93F9634	09-50-8043	4	0.37	0.33
93F9635	09-50-8053	5	0.46	0.42
93F9636	09-50-8063	6	0.55	0.49
93F9637	09-50-8083	8	0.72	0.65
93F9638	09-50-8103	10	0.91	0.82

HOUSINGS WITH LOCKING RAMP

93F9646	09-50-8021	2	0.17	0.15
93F9647	09-50-8031	3	0.26	0.24
93F9648	09-50-8041	4	0.34	0.31
93F9658	09-50-8051	5	0.43	0.39
93F9659	09-50-8061	6	0.51	0.46
93F9660	09-50-8081	8	0.68	0.62
93F9661	09-50-8101	10	0.85	0.76

(8370) (de01997)

KK® INTERCONNECTION SYSTEM CRIMP TERMINALS



Patented double cantilever design. Phosphor bronze material available in tin or gold plating for 0.156″ (3.96) housings. Accepts 18 through 26 AWG wire leads. *Order crimp and extraction tools separately on page 269.*

2478, 2578 SERIES TERMINALS FOR 0.156″(3.96) APPLICATIONS

Stock No.	Type	AWG	Insul. Dia.	1-9	10-24
93F9690	08-52-0072*	18-24	0.110″	0.09	0.08
93F9691	08-58-0122†	18-24	0.110″	0.79	0.71
93F9692	08-50-0134*	22-26	0.065″	0.09	0.08
93F9693	08-58-0126†	22-26	0.065″	0.79	0.71

* Tin plating; † Gold plating

(8408) (de51145)

1.25mm PITCH WIRE-TO-BOARD SYSTEM

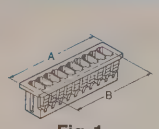


Fig. 1

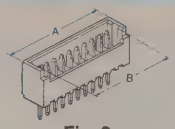


Fig. 2

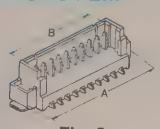


Fig. 3

These wire-to-board housings and headers are the smallest in the industry. They provide flexibility to organize a system to suit all requirements. PC board real estate saved for ten circuits is 50% over 2.0mm pitch versions. The volume saved is 66%. **Sold in packages of 10.** New hand crimp tool terminates from a strip; enables building prototypes with ease. *Order terminals separately, contact your local Newark sales office.*

CRIMP HOUSINGS — FIG. 1

Stock No.	Type	Circuits	Dimension A	Dimension B	1-9	10-24
66F3991	51021-0200	2	0.167″	0.166″	3.72	3.34
66F3992	51021-0300	3	0.217″	0.165″	4.35	3.92
66F3993	51021-0400	4	0.266″	0.215″	4.99	4.49
66F3994	51021-0500	5	0.315″	0.264″	5.78	5.20
66F3995	51021-0600	6	0.364″	0.313″	6.41	5.77
66F3996	51021-0700	7	0.413″	0.362″	6.72	6.05
66F3997	51021-0800	8	0.463″	0.411″	7.76	6.98
66F3998	51021-0900	9	0.512″	0.461″	8.38	7.55
66F3999	51021-1000	10	0.561″	0.510″	8.94	8.05

THRU-HOLE VERTICAL HEADERS — FIG. 2

66F4000	53047-0210	2	0.167″	0.120″	6.64	5.98
66F4001	53047-0310	3	0.217″	0.169″	8.00	7.20
66F4002	53047-0410	4	0.266″	0.219″	9.50	8.55
66F4003	53047-0510	5	0.315″	0.268″	11.23	10.11
66F4004	53047-0610	6	0.364″	0.366″	12.73	11.46
66F4005	53047-0710	7	0.413″	0.366″	14.47	13.03
66F4006	53047-0810	8	0.463″	0.415″	16.14	14.52
66F4007	53047-0910	9	0.512″	0.465″	17.56	15.80
66F4008	53047-1010	10	0.561″	0.514″	19.30	17.37

SMT VERTICAL HEADERS — FIG. 3

66F4018	53398-0290	2	0.285″	0.120″	25.94	23.35
66F4019	53398-0390	3	0.335″	0.169″	27.76	24.98
66F4020	53398-0490	4	0.384″	0.218″	30.22	27.20
66F4021	53398-0590	5	0.433″	0.268″	30.53	27.47
66F4022	53398-0690	6	0.482″	0.317″	33.29	29.96
66F4023	53398-0790	7	0.531″	0.366″	35.04	31.53
66F4024	53398-0890	8	0.581″	0.415″	39.94	35.95
66F4025	53398-0990	9	0.630″	0.465″	35.59	32.03
66F4026	53398-1090	10	0.679″	0.514″	43.81	39.43

(8456) (ne07414)

SLIMLINE D-SUB CONNECTORS

89143-1251

89142-6251

Slimline D-Subminiature connectors feature a slim profile for 40% board space savings, terminal design to ensure co-planarity, metal shell to provide EMI/RFI shielding, and fork board locks to increase PCB retention. Current: 1A max. Capacitance: 1 picofarad max. Contact resistance: 35mΩ max. Dielectric withstanding voltage: 1000Vrms. Housing: black PBT, rated UL94V-0. Contacts: phosphor bronze. Shell: aluminum killed steel. Contact plating: 15μ″ gold. Temperature range: –55°C to +85°C. **Sold in packages of 10.**

Stock No.	Type	Circuits	Description	1-9	10-24
52F7521	89143-1251	9	Male	64.53	58.08
52F7522	89141-6251	25	Female	64.53	58.08

(8468) (ne07440)

SMT SLIMLINE D-SUB CONNECTORS

SMD

89219-3200

89220-3200

89221-3200

SMT Slimline D-Subminiature connectors feature a slim profile for space savings, terminal design to ensure co-planarity, metal shell to provide EMI/RFI shielding, and fitting nails and board locks to increase PCB retention. Current: 1A max. Capacitance: 1 picofarad max. Contact resistance: 35mΩ max. Dielectric withstanding voltage: 1000Vrms min. Housing: black LCP, rated UL94V-0. Contacts: phosphor bronze. Shell: aluminum killed steel. Contact plating: gold. Temperature range: –55°C to +105°C. **Sold in packages of 10.**

Stock No.	Type	Circuits	Description	1-9	10-24
52F7515	89219-3200	9	Male	61.05	54.94
52F7516	89220-3200	15	Female	56.62	50.96
52F7517	89221-3200	25	Female	76.94	69.25

(8464) (ne07435)

5566-N SERIES MINI-FIT JR.™ PIN AND SOCKET HEADERS

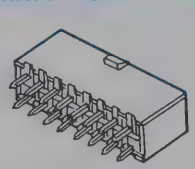


Fig. 1

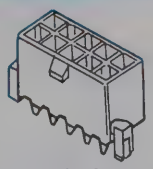


Fig. 2

Mini-Fit Jr.™ series can handle high current applications despite its small size. Positive lock. Audible "clicks" confirm correct contact insertion and correct mating of housing. Voltage rating: 600V. Tin-plated; gold plating available; *contact your local Newark sales office.* Width is 0.378" (9.60). UL recognized, CSA certified, TUV licensed. **Sold in packages of 10.**

VERTICAL HEADERS, LOW-PROFILE MOUNTING—94V-2, FIG. 1

Stock No.	Type	Circuits	1-9	10-24
89F1627	39-28-1023-P	2	9.91	8.92
89F1628	39-28-1043-P	4	13.70	12.33
89F1629	39-28-1063-P	6	17.41	15.67
89F1630	39-28-1083-P	8	21.13	19.02
89F1631	39-28-1103-P	10	24.75	22.28
89F1651	39-28-1123-P	12	28.39	25.55
89F1652	39-28-1143-P	14	32.19	28.97
89F1653	39-28-1163-P	16	35.82	32.24

VERTICAL HEADERS WITH DRAIN HOLES—94V-2, FIG. 2

48F1622	39-29-3026-P	2	12.23	11.00
48F1623	39-28-3046-P	4	15.75	14.17
48F1624	39-29-3066-P	6	19.19	17.27
48F1625	39-29-3086-P	8	2.26	2.04
48F1626	39-29-3106-P	10	25.99	23.39
48F1627	39-29-3126-P	12	29.34	26.41
48F1628	39-29-3146-P	14	32.86	29.58
48F1629	39-29-3166-P	16	36.23	32.60

VERTICAL HEADERS WITH PC BOARD MOUNTING PEGS—94V-2, FIG. 2

48F1630	39-29-9023-P	2	9.94	8.94
48F1631	39-29-9043-P	4	15.75	14.17
48F1632	39-29-9063-P	6	19.19	17.27
48F1633	39-29-9083-P	8	22.62	20.36
48F1634	39-29-9103-P	10	25.99	23.39
48F1635	39-29-9123-P	12	27.81	25.03
48F1636	39-29-9143-P	14	32.86	29.58
48F1637	39-29-9163-P	16	36.23	32.60

(8514) (ne50933)

MINI-FIT JR.™ PIN AND SOCKET HOUSINGS

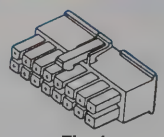


Fig. 1

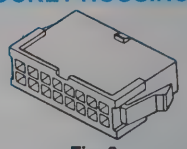


Fig. 2

Mini-Fit Jr.™ system pin and socket connectors designed for high current/high density power and signal applications in wire-to-wire and wire-to-board configurations. Choice of 2-24 circuit housings available in UL94V-0 and UL94V-2 materials. 600 volt rating. 10 milliohm contact resistance. Feature positive housing locks and fully isolated, low engagement force terminals. Receptacles accept Mini-Fit™ **5556 series** female terminals; plugs accept Mini-Fit™ **5558 series** male terminals; *both ordered separately on this page.* UL recognized, CSA certified, TUV licensed. **Sold in packages of 10.**

5557-NR RECEPTACLE HOUSINGS—RATED 94V-2, FIG. 1

Stock No.	Type	Circuits	1-9	10-24
89F1633	39-01-2020-P	2	4.96	4.46
89F1634	39-01-2040-P	4	5.54	4.98
89F1635	39-01-2060-P	6	6.94	6.24
89F1636	39-01-2080-P	8	7.93	7.14
89F1637	39-01-2100-P	10	8.84	7.95
89F1638	39-01-2120-P	12	9.41	8.47
89F1625	39-01-2140-P	14	12.13	10.92
89F1626	39-01-2160-P	16	14.77	13.29

5557-NR RECEPTACLE HOUSINGS—RATED 94V-0, FIG. 1

48F1646	39-01-2025-P	2	8.06	7.25
48F1647	39-01-2045-P	4	9.33	8.40
48F1648	39-01-2065-P	6	11.08	9.97
48F1649	39-01-2085-P	8	12.84	11.56
48F1650	39-01-2105-P	10	13.40	12.06
48F1651	39-01-2125-P	12	13.72	12.35
48F1652	39-01-2145-P	14	15.36	13.82
48F1653	39-01-2165-P	16	19.86	17.87

5559-NP SERIES PANEL MOUNT PLUG HOUSINGS—RATED 94V-2, FIG. 2

89F1639	39-01-2021-P	2	5.12	4.60
89F1640	39-01-2041-P	4	5.70	5.13
89F1641	39-01-2061-P	6	6.61	5.95
89F1642	39-01-2081-P	8	6.88	6.19
89F1643	39-01-2101-P	10	7.93	7.14
89F1644	39-01-2121-P	12	8.00	7.20
89F1645	39-01-2141-P	14	10.84	9.76
89F1632	39-01-2161-P	16	14.69	13.22

5559-NP SERIES FREE-HANGING PLUG HOUSINGS—RATED 94V-2, FIG. 2

48F1654	39-01-3023-P	2	4.94	4.45
48F1655	39-01-3043-P	4	5.27	4.75
48F1656	39-01-3063-P	6	6.38	5.75
48F1657	39-01-3083-P	8	6.65	5.98
48F1658	39-01-3103-P	10	7.34	6.61
48F1659	39-01-3123-P	12	7.72	6.94
48F1660	39-01-3143-P	14	10.48	9.43
48F1661	39-01-3163-P	16	13.60	12.24

(8440) (ne02010)

5569-N SERIES MINI-FIT JR.™ PIN AND SOCKET RIGHT-ANGLE HEADERS

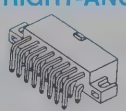


Fig. 1

Fig. 2

Mini-Fit Jr.™ system pin and socket right-angle connectors for high current/high density power and signal applications in wire-to-wire and wire-to-board configurations. Choice of 2-24 circuit housings available in UL94V-0 and UL94V-2 materials, with mounting flange or pegs. 600 volts rating. 10 milliohm contact resistance. Feature positive housing locks and fully isolated, low engagement force tin-plated terminals. 30µ" gold plating available; *contact your local Newark sales office.* UL recognized, CSA certified, TUV licensed. **Sold in packages of 10.**

RIGHT-ANGLE HEADERS WITH MOUNTING FLANGE—RATED 94V-2, FIG. 1

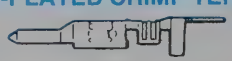
Stock No.	Type	Circuits	1-9	10-24
89F1654	39-29-1028-P	2	12.05	10.84
89F1655	39-29-1048-P	4	16.59	14.93
89F1656	39-29-1068-P	6	20.96	18.87
89F1657	39-29-1088-P	8	25.59	23.03
89F1658	39-29-1108-P	10	29.96	26.96
89F1659	39-29-1128-P	12	34.41	30.97
89F1660	39-29-1148-P	14	37.26	33.53
89F1661	39-29-1168-P	16	43.32	38.99

RIGHT-ANGLE HEADERS WITH MOUNTING PEGS—RATED 94V-2, FIG. 2

48F1638	39-30-1020-P	2	11.93	10.74
48F1639	39-30-1040-P	4	16.13	14.52
48F1640	39-30-1060-P	6	20.18	18.16
48F1641	39-30-1080-P	8	24.46	22.01
48F1642	39-30-1100-P	10	28.51	25.65
48F1643	39-30-1120-P	12	32.63	29.37
48F1644	39-30-1140-P	14	36.76	33.08
48F1645	39-30-1160-P	16	40.88	36.79

(8439) (ne02004)

5556/5558 SERIES MINI-FIT JR.™ TIN-PLATED CRIMP TERMINALS



Male

Female

Gold plating available; *contact your local Newark sales office.* UL recognized. CSA certified. **Terminals are sold in packages of 100; tools are sold individually.**

Stock No.	Type	Material	AWG	Form	1-9	10-24
89F1646	39-00-0039-C	Brass	18-24	Female	18.22	16.40
89F1662	39-00-0041-C	Brass	18-24	Male	18.22	16.40
89F1647	39-00-0047-C	Brass	22-28	Female	18.22	16.40
89F1663	39-00-0049-C	Brass	22-28	Male	18.22	16.40
89F1648	39-00-0060-C	Phos. Bronze	18-24	Female	29.95	26.95
89F1664	39-00-0062-C	Phos. Bronze	18-24	Male	29.95	26.95

MINI-FIT JR.™ PROTECTION TOOLS

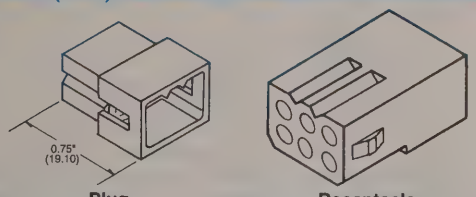
Stock No.	Type	AWG	1-2
96F7132	11-01-0197	18-24	332.95
97F8787	11-01-0198	22-28	332.95

MINI-FIT JR.™ EXTRACTION TOOL

94F9674	11-03-0044	18-24	34.47

(10426) (ne09864)

0.062″ (1.57) POWER CONNECTOR HOUSINGS



Plug Receptacle

Pin and socket nylon connector housings, rated UL94V-2, hold 0.062″ (1.57) diameter crimp or PC tail terminals, *order separately on this page.* Plugs and receptacles available in free-hanging or panel mount wire-to-wire configurations. Feature passive friction lock (detent). Operating voltage: 250 maximum. Panel thickness: 0.060″ (1.52) maximum. Grid spacing: 0.145″ (3.68). Wire sizes: 18-24, 24-30 AWG. UL recognized E-29179, CSA certified.

FREE-HANGING PLUGS

Stock No.	Type	Circuits	Amps Per Circuit	Pkg. Qty.	1-9	10-24
31F1000	03-06-2011	1	5	10	1.98	1.79
87F117	03-06-2023	2	5	10	3.41	3.07
59F1786	03-06-2032	3	5	10	4.11	3.70
59F1787	03-06-2042	4	5	10	5.86	5.27
59F1788	03-06-2055	5	5	5	3.05	2.74
59F1789	03-06-2061	6	5	5	3.13	2.82
59F1790	03-06-2092	9	5	5	3.17	2.85
59F1791	03-06-2122	12	5	5	3.32	2.99
59F1792	03-06-2152	15	5	5	4.47	4.02
59F1793	03-06-2242	24	5	5	10.88	9.79
59F1794	03-06-2362	36	5	5	14.24	12.82

PANEL MOUNT PLUGS WITH MOUNTING EARS

94F011	03-06-2024	2	5	10	3.41	3.07
97F8788	03-06-2033	3	5	10	4.13	3.71
31F1004	03-06-2041	4	5	10	5.86	5.27
31F1006	03-06-2054	5	5	5	3.05	2.74
31F1008	03-06-2062	6	5	5	3.13	2.82
31F1012	03-06-2091	9	5	5	3.17	2.85
31F1014	03-06-2121	12	5	5	3.32	2.99
31F1016	03-06-2151	15	5	5	4.47	4.02
43F735	03-06-2241	24	5	5	10.88	9.79
31F1018	03-06-2361	36	5	5	14.24	12.82

FREE-HANGING RECEPTACLES

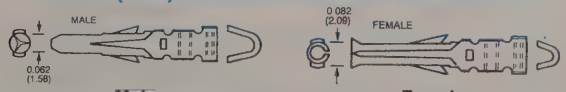
31F1001	03-06-1011	1	5	10	1.98	1.79
87F116	03-06-1023	2	5	10	3.72	3.34
59F1780	03-06-1032	3	5	10	4.11	3.70
59F1781	03-06-1042	4	5	10	6.11	5.50
87F114	03-06-1062	6	5	5	3.13	2.82
59F1782	03-06-1092	9	5	5	3.17	2.85
59F1783	03-06-1122	12	5	5	3.63	3.27
59F1784	03-06-1152	15	5	5	5.37	4.83

PANEL MOUNT RECEPTACLES WITH MOUNTING EARS

87F118	03-06-1022	2	5	10	3.72	3.34
31F1003	03-06-1038	3	5	10	4.11	3.70
31F1005	03-06-1041	4	5	10	6.11	5.50
31F1007	03-06-1055	5	5	5	3.85	3.47
31F1009	03-06-1061	6	5	5	3.13	2.82
31F1013	03-06-1091	9	5	5	3.17	2.85
31F1015	03-06-1121	12	5	5	3.63	3.27
31F1017	03-06-6155	15	5	5	5.37	4.83
43F736	03-06-1241	24	5	5	10.88	9.79
31F1019	03-06-1361*	36	5	5	21.36	19.22

* Without detent lock
(8437) (ne00237)

0.062″ (1.57) DIAMETER CRIMP TERMINALS



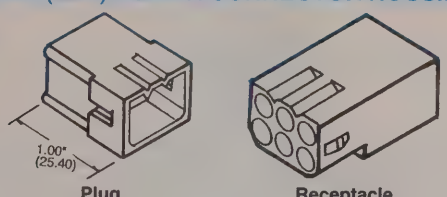
Male Female

0.062″ (1.57) mating diameter 5-amp terminals for **03 series** connector housings, *order separately on this page.* Withstand 1500Vrms for 60 seconds minimum. 0.008″ (0.203) tin-plated brass. Phosphor bronze available; *contact your local Newark sales office. Order crimp tools separately on page 269.* **Sold in packages of 100.**

Stock No.	Type	Wire Range	Insulation Diameter	Description	1-9	10-24
31F1026	02-06-2103	18-24	0.060/0.120″	Male	12.76	11.48
31F1027	02-06-1103	18-24	0.060/0.120″	Female	12.76	11.48
94F9644	02-06-5103	18-24	0.060/0.120″	Female	47.25	42.53
94F9646	02-06-6103	18-24	0.060/0.120″	Male	47.25	42.53
70B7412	02-06-8103	*	...	Male	19.59	17.63
94F1669	02-06-7103	*	...	Female	19.59	17.63
31F1028	02-06-2132	24-30	0.040/0.090″	Male	12.76	11.48
31F1029	02-06-1132	24-30	0.040/0.090″	Female	12.76	11.48

* Printed circuit tails.
(8435) (ne00195)

0.093″ (2.36) POWER CONNECTOR HOUSINGS



Plug Receptacle

Pin and socket nylon connector housings same as **03 series** except hold 0.093″ (2.36) diameter crimp or PC tail terminals, *order separately on this page.* Panel thickness: 0.090″ (2.29) maximum. Grid spacing: 0.198″ (5.03). Wire sizes: 14-20, 18-22, 22-24, 24-30 AWG. UL recognized, CSA certified.

FREE-HANGING PLUGS

Stock No.	Type	Circuits	Amps Per Circuit	Pkg. Qty.	1-9	10-24
31F1030	03-09-2011	1	12	10	2.14	1.93
59F1802	03-09-2022	2	12	10	3.95	3.56
59F1803	03-09-2032	3	12	10	4.99	4.49
96F7133	03-09-2042	4	9	10	5.15	4.63
31F1038	03-09-2057	5	9	5	3.56	3.21
59F1805	03-09-2062	6	9	5	2.97	2.67
59F1806	03-09-2092	9	9	5	3.68	3.31
31F1044	03-09-2121	12	7.5	5	4.21	3.79

PANEL MOUNT PLUGS WITH MOUNTING EARS

31F1032	03-09-2021	2	12	10	4.32	3.89
31F1034	03-09-2031	3	12	10	4.99	4.49
31F1036	03-09-2041	4	9	10	5.15	4.63
31F1040	03-09-2061	6	9	5	3.75	3.37
31F1042	03-09-2091	9	9	5	3.84	3.46
59F1795	03-09-2122	12	7.5	5	4.21	3.79

FREE-HANGING RECEPTACLES

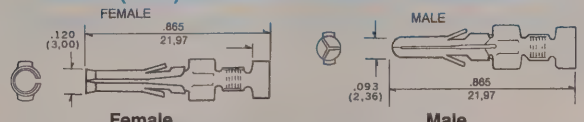
31F1031	03-09-1011	1	12	10	2.14	1.93
59F1797	03-09-1022	2	12	10	3.95	3.56
59F1798	03-09-1032	3	12	10	5.43	4.89
59F1799	03-09-1042	4	9	10	5.15	4.63
31F1039	03-09-1054	5	9	5	3.72	3.34
59F1800	03-09-1063*	6	9	5	2.97	2.67
59F1801	03-09-1094	9	9	5	3.68	3.31

PANEL MOUNT RECEPTACLES WITH MOUNTING EARS

96F9294	03-09-1027	2	12	10	3.95	3.56
31F1035	03-09-1081	3	12	10	5.70	5.13
31F1037	03-09-1041	4	9	10	5.15	4.63
31F1041	03-09-1061	6	9	5	3.10	2.79
31F1043	03-09-1091	9	9	5	3.68	3.31
31F1045	03-09-1121*	12	7.5	5	4.04	3.64
31F1047	03-09-1151*	15	7.5	5	1.16	1.04

*Without detent lock
(8438) (ne00238)

0.093″ (2.36) DIAMETER CRIMP TERMINALS



Female Male

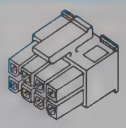
0.093″ (2.36) mating diameter 12-amp terminals for **03 series** connector housings, *order separately on this page.* Withstand 1500Vrms for 60 seconds minimum. 0.010″ (0.254) tin-plated brass stock. Phosphor bronze available; *contact your local Newark sales office. Order crimp tools separately on page 269.* **Sold in packages of 100.**

Stock No.	Type	Wire Range	Insulation Diameter	Description	1-9	10-24
31F1021	02-09-2103	14-20	0.065/0.160″	Male	12.87	11.58
94F1670	02-09-1104	14-20	0.065/0.160″	Female	12.87	11.58
31F1022	02-09-2118	18-22	0.060/0.120″	Male	12.87	11.58
94F1671	02-09-1119	18-22	0.060/0.120″	Female	12.87	11.58
31F1025	02-09-2143	24-30	0.030/0.060″	Male	15.15	13.63
96F9293	02-09-1144	24-30	0.030/0.060″	Female	13.67	12.30

(8436) (ne00196)

NEWARK ACCEPTS MAJOR CREDIT CARDS.
CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR DETAILS.

0.118″ MICRO-FIT 3.0™ RECEPTACLE HOUSINGS

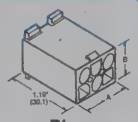


Designed on a 3.0mm grid for rugged wire-to-board applications. The positive latch secures the housing to the header. Fully isolated terminal silos reduce arcing potential. Rated UL94V-0. *Order crimp contacts separately; contact your local Newark sales office.* Available in sizes up to 24 circuits; *contact your local Newark sales office.* **Sold in packages of 10.**

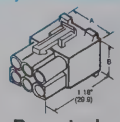
Stock No.	Type	Circuits	1-9	10-24
01F1884	43025-0200	2	5.70	5.13
01F1885	43025-0400	4	6.65	5.99
01F1886	43025-0600	6	8.00	7.20
01F1887	43025-0800	8	9.10	8.19
01F1888	43025-1000	10	10.59	9.53
01F1889	43025-1200	12	12.49	11.24

(16739) (ne09843)

3191 INTERNATIONAL 0.093″ (2.36) CONNECTOR HOUSINGS



Plug



Receptacle

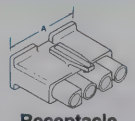
Nylon connector housings, rated UL 94V-0, are similar to **03 series** except feature positive locks and fully isolated terminals. Current density: up to 12 amps per circuit. 600V maximum. Panel thickness: 0.078″ (2.00) maximum. Wire size: 14-20, 18-22, 22-24, 24-30 AWG. UL recognized, CSA certified, TUV licensed. *Order installation tooling separately on page 269.* **Sold in packages of 10.**

FREE-HANGING PLUGS

Stock No.	Type	Circuits	Amps Per Circuit	Dimensions A	Dimensions B	1-9	10-24
48F1132	19-09-2029-P	2	12	0.58″	0.32″	5.48	4.88
48F1133	19-09-2039-P	3	11	0.85″	0.32″	6.10	5.44
48F1134	19-09-2049-P	4	9	1.11″	0.32″	6.33	5.65
48F1135	19-09-2069-P	6	9	0.85″	0.59″	7.10	6.33
48F1136	19-09-2099-P	9	9	0.85″	0.87″	8.10	7.22
PANEL MOUNT PLUGS							
48F1137	19-09-2028-P	2	12	0.58″	0.32″	5.48	4.88
48F1138	19-09-2038-P	3	11	0.85″	0.32″	6.10	5.44
48F1139	19-09-2048-P	4	9	1.11″	0.32″	6.33	5.65
RECEPTACLES							
98F1194	19-09-1029-P	2	12	0.56″	0.30″	5.62	5.05
94F243	19-09-1039-P	3	11	0.83″	0.30″	6.25	5.63
48F1140	19-09-1049-P	4	9	1.09″	0.30″	6.33	5.65
48F1141	19-09-1069-P	6	9	0.83″	0.56″	7.41	6.61
48F1142	19-09-1099-P	9	9	0.83″	0.83″	8.45	7.54

(8348) (de00239)

0.125″ (3.18) PIN AND SOCKET POWER CONNECTORS



Receptacle

Plug

HCS-125 series connectors carry up to 20A per circuit. 600V. Positive lock nylon housing rated 94V-2. Pull tabs, fully isolated terminals. Fit 10-18 AWG wire. UL recognized, CSA certified. *Order 0.125″ (3.18) tin-plate brass terminals, crimp tools separately on this page.* **Sold in packages of 5.**

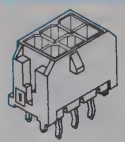
RECEPTACLES

Stock No.	Type	Dim. A	Panel Cutout*	Circuits	1-9	10-24
50F2736	03-12-1016	0.36″	0.531″	1	3.76	3.39
50F2737	03-12-1026	0.69″	0.851″	2	6.09	5.49
50F2738	03-12-1036	1.02″	1.181″	3	6.97	6.27
50F2739	03-12-1046	1.35″	1.511″	4	7.64	6.87
FREE HANGING PLUGS						
50F2744	03-12-2016	0.36″	0.521″	1	3.76	3.39
50F2727	03-12-2026	0.69″	0.851″	2	6.09	5.49
50F2728	03-12-2036	1.02″	1.181″	3	6.97	6.27
50F2729	03-12-2046	1.35″	1.511″	4	7.64	6.87
PANEL MOUNT PLUGS						
50F2741	03-12-2025	0.69″	0.851″	2	6.09	5.49
50F2742	03-12-2035	1.02″	1.181″	3	6.97	6.27
50F2743	03-12-2045	1.35″	1.511″	4	7.64	6.87

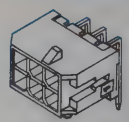
*Complete panel cutout = dimension shown in table x 0.440″ (11.18)

(8347) (de00198)

0.118″ MICRO-FIT 3.0™ HEADERS



Vertical



Right-Angle

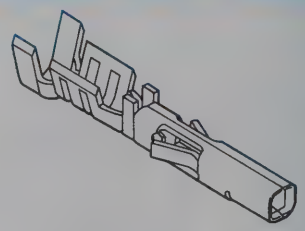
Surface mount compatible, dual-row 3.0mm center shrouded locking headers are available in vertical and right-angle configurations. Rated UL94V-0. Kinked solder tails enhance PC board retention. Phosphor bronze pin with tin-lead plating over nickel. Current: 5A. Contact resistance: 10mΩ max. Voltage: 250V. Temperature rating: –40°C to +105°C. Additional circuit sizes, gold plating thicknesses and surface mount design are available; *contact your local Newark sales office.* **Sold in packages of 10.**

VERTICAL HEADERS

Stock No.	Type	Circuits	1-9	10-24
01F1890	43045-0212	2	12.35	11.11
01F1891	43045-0412	4	17.08	15.37
01F1892	43045-0612	6	21.68	19.51
01F1893	43045-0812	8	26.35	23.71
01F1894	43045-1012	10	30.85	27.76
01F1895	43045-1212	12	35.37	31.83
RIGHT-ANGLE HEADERS				
01F1896	43045-0200	2	15.03	13.53
01F1897	43045-0400	4	20.66	18.59
01F1898	43045-0600	6	26.10	23.49
01F1899	43045-0800	8	31.87	28.68
01F1900	43045-1000	10	37.34	33.60
01F1901	43045-1200	12	42.86	38.57

(16740) (ne09844)

0.118″ MICRO-FIT 3.0™ TERMINALS



Designed with 4 points of contact to provide a reliable interface. Phosphor bronze terminals with tin plating. Selective gold plating also available; *contact your local Newark sales office.* Current: 5A. *Order crimp tool separately below.* **Terminals are sold in packages of 100. Crimp tools are sold individually.**

TERMINALS

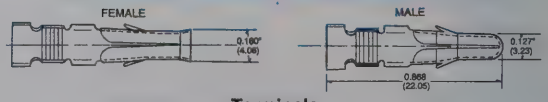
Stock No.	Type	Description	AWG	1-9	10-24
01F1902	43030-0007	Female/Tin	20-24	17.54	15.78
01F1903	43030-0010	Female/Tin	26-30	17.54	15.78

CRIMP TOOL

Stock No.	Type	Description	1-2
01F1904	11-01-0200	Female Hand Tool	332.96

(16741) (ne09845)

0.125″ CRIMP TERMINALS



Terminals

Types 18-12-2602 and **18-12-2222** are male and **types 18-12-1602** and **18-12-1222** are female. **Brass terminals are sold in packages of 100. Crimp tools are sold individually.**

BRASS TERMINALS

Stock No.	Type	Wire Range	Insul. Dia.	1-9	10-24
50F2730	18-12-2602	10-14	0.180″	19.81	17.83
50F2733	18-12-2222	16-18	0.120″	19.81	17.83
50F2731	18-12-1602	10-14	0.180″	19.81	17.83
50F2734	18-12-1222	16-18	0.120″	19.81	17.83

CRIMP TOOLS

Stock No.	Type	For Terminals	1-2
50F2735	W-HTR-1031-E	Types 18-12-2222, -1222	132.42

(8395) (de06623)

CONNECTOR KITS AND TOOLS

CRIMP AND EXTRACTION TOOLS

WHT-1919

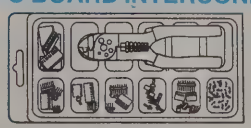
WHTR-1031-E

WHT-2038

Stock No.	Type	Description	Pin Diameter	1-2
31F1048	W-HT-1919	Prototype Crimp	0.093 and 0.156″	18.62
31F1049	W-HT-1921	Prototype Crimp	0.062 and 0.100″	18.62
44F8651	W-HTR-2262-A	Production Crimp	0.100″	125.86
30F338	W-HTR-2262	Production Crimp	0.062″	125.86
81F5735	W-HTR-1031-E	Production Crimp	0.093″	132.42
44F8649	W-HTR-2445-A	Production Crimp	0.156″	151.87
70B077	W-HTR-1719-C	Hand Crimp	0.062″	139.57
44F8652	W-HT-2759	Extraction Tool	0.100″	14.91
30F773	W-HT-2285	Extraction Tool	0.062″	16.80
30F772	W-HT-2038	Extraction Tool	0.093″	12.79
44F8650	W-HT-A-2174	Extraction Tool	0.156″	20.95

(8346) (de00197)

KK® SYSTEM PC BOARD INTERCONNECTION KITS



Kits offer interconnection in a number of modes; cable-to-board, board-to-board, parallel and perpendicular; and board- or cable-to-chassis. 250 volts; UL recognized, CSA certified.

0.100″ (2.54) CENTER KIT—2.5 AMPS

Stock No.	Type	Kit Contents	Quantity	1-2
90F6672	KK-100	Crimp Terminals (22-30 AWG)	100	51.73
		Crimp Terminal Housings	36	
		Straight Headers	18	
		Right Angle Headers	18	
		Shunts	10	
		Crimping Tool HT-1921	1	
		Extractor Tool HT-1884	1	

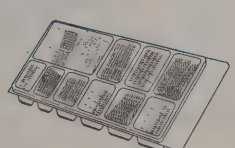
0.156″ (3.96) CENTER KIT—7 AMPS

Stock No.	Type	Kit Contents	Quantity	1-2
90F6671	KK-156	Crimp Terminal (18-24 AWG)	100	52.16
		Crimp Terminal Housings	48	
		Straight Breakaway Headers	24	
		Right Angle Breakaway Headers	24	
		Crimping Tool W-HT-1919	1	
		Extractor Tool HT-1884	1	

(8491) (ne08625)

MINI-FIT, JR.™ CONNECTOR KITS

Wire-to-Board Kit


Wire-to-Wire Kit

MINI-FIT, JR.™ WIRE-TO-BOARD KIT

Kit contains vertical headers, right-angle headers, and crimp housing receptacles in 2 to 20 circuits. All three connector types are provided in each of the following quantities: five 2-circuit, five 4-circuit, five 6-circuit, three 8-circuit, three 10-circuit, three 12-circuit, three 14-circuit, three 16-circuit, two 18-circuit, and two 20-circuit. 100 18-24 AWG female crimp terminals are also included. Voltage rating: 600V. UL recognized, CSA certified, TUV approved. *Order hand tool separately on page 266.*

Stock No.	Type	1-2
01F1117	WM-39WB	104.39

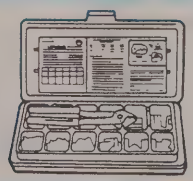
MINI-FIT, JR.™ WIRE-TO-WIRE KIT

Kit contains crimp housing receptacles and crimp housing plugs in 2 to 16 circuits. Both connector types are provided in each of the following quantities: five 2-circuit, five 4-circuit, five 6-circuit, five 8-circuit, five 10-circuit, four 12-circuit, three 14-circuit, and three 16-circuit. 100 female and 100 male18-24 AWG crimp terminals are also included. Voltage rating: 600V. UL recognized, CSA certified, TUV approved. *Order hand tool separately on page 266.*

Stock No.	Type	1-9
01F1118	WM-39WW	51.07

(17439) (ne09849)

POWER CONNECTOR KITS



WM72 116-PIECE 0.062″ CONNECTOR KIT

Assemble male and female connector housings from single to 36-circuit. Kit contains the following: 25 single-circuit receptacles, 25 single-circuit plugs, ten 3-circuit receptacles, ten 3-circuit plugs, four 5-circuit receptacles, four 5-circuit plugs, four 6-circuit receptacles, four 6-circuit plugs, three 4-circuit receptacles, three 4-circuit plugs, three 8-circuit receptacles, three 8-circuit plugs, three 9-circuit receptacles, three 9-circuit plugs, two 12-circuit receptacles, two 12-circuit plugs, one 15-circuit receptacle, one 15-circuit plug, one 36-circuit receptacle, one 36-circuit plug, two 0.062″ pin diameter terminals, one crimping tool, and one terminal ejector tool. UL recognized, CSA certified.

Stock No.	Type	1-2
49F1268	WM-72	67.28

WM50 93-PIECE 0.093″ CONNECTOR KIT

Assemble male and female connector housings from single to 15-circuit. Kit contains the following: 25 single-circuit receptacles, 25 single-circuit plugs, five 2-circuit receptacles, five 2-circuit plugs, four 3-circuit receptacles, four 3-circuit plugs, four 4-circuit receptacles, four 4-circuit plugs, three 5-circuit receptacles, three 5-circuit plugs, one 6-circuit receptacle, one 6-circuit plug, one 9-circuit receptacle, one 9-circuit plug, one 12-circuit receptacle, one 12-circuit plug, one 15-circuit receptacle, one 15-circuit plug, two 0.093″ pin diameter terminals, one crimping tool, and one terminal ejector tool. UL recognized, CSA certified.

Stock No.	Type	1-2
30F774	WM-50	63.91

(8434) (de53506)

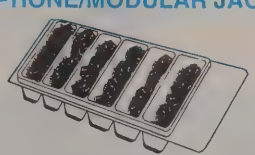
C-GRID® WIRE-TO-BOARD CONNECTOR KIT

Kit contains vertical shrouded headers, right-angle shrouded headers, and locking crimp housings in 2 to 10 circuits. All three connector types are provided in each of the following quantities: five 2-circuit, five 3-circuit, five 4-circuit, five 5-circuit, five 6-circuit, five 7-circuit, five 8-circuit, five 9-circuit, and five 10-circuit. 100 22-24 AWG female crimp terminals are also included. Plating on terminals is 15μ″ gold. UL recognized, CSA certified, TUV approved. *Order hand tool separately on page 263.*

Stock No.	Type	1-2
01F1119	WM-CGRID	108.79

(17440) (ne09850)

TELEPHONE/MODULAR JACK KIT



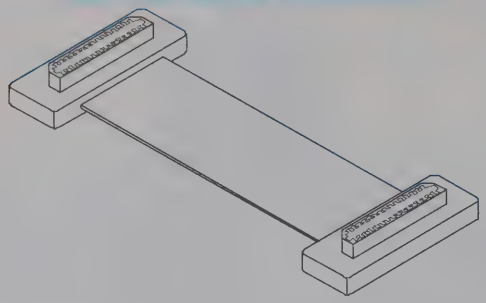
Kit offers jacks that conform to industry standard footprints and mate with FCC-68 plugs. Available in vertical, right-angle, shielded, and multiple port configurations. 50μ″ gold plating. UL recognized, CSA certified.

Stock No.	Type	Kit Contents	Qty.	1-9
01F1120	WM-MOD	4 Loaded 6 Mod. Jack, Right-Angle	2	40.44
		6 Loaded 6 Mod. Jack, Right-Angle	2	
		8 Loaded 8 Mod. Jack, Right-Angle	2	
		8 Loaded 8 Mod. Jack, Right-Angle, Shielded	1	
		4 Loaded 6 Mod. Jack, Vertical	2	
		6 Loaded 6 Mod. Jack, Vertical	2	
		8 Loaded 8 Mod. Jack, Vertical	2	
		2-Port Gang Jack	1	
		4-Port Gang Jack	1	
		6 Loaded 8 Mod. Jack, Right-Angle	2	
		8 Loaded 8 Mod. Jack, Right-Angle	2	
		8 Loaded 8 Mod. Jack, Right-Angle, Shielded	1	

(17441) (ne09851)

NEW CONNECTORS AND CABLE ASSEMBLIES

FLAT FLEX CABLE ASSEMBLIES



Flat flex cable assemblies suited for board-to-LCD interconnections. Space-saving, low-profile, overmolded strain relief designed for critical mechanical applications. Laminated cable 0. 5mm. Mate with 1mm dual row connectors; ZIF end to mate with 0.5 mm ZIF connector. Contact resistance: 30 miliohm max. Current rating: 0.50 AMPS, UL94V-1.Contacts: copper alloy with tin lead finish. Insertion force: 197 grams.

FEMALE TO FEMALE

Stock No.	Type	Position/ Orientation	Length	1-9	10-49
48F1042	9803FFA1T3-6.00	31/A1	6″	15.63	12.50
48F1043	9803FFB6T3-6.00	31/B6	6″	20.38	16.30
48F1045	9803FFA1T3-12.0	31/A1	12″	19.38	15.50
48F1046	9803FFB5T3-12.0	31/B6	12″	31.25	25.00
48F1049	9803FFA1T4-12.0	41/A1	12″	24.38	19.50
FEMALE TO ZIF					
48F1044	9803FZZ1T3-6.00	30/Z1	6″	11.88	9.50
48F1048	9803FZZ1T3-12.0	41/A1	6″	20.25	16.20
48F1047	9803FXX1T3-12.0	30/Z1	12″	16.50	13.20
ZIF PREP TO ZIF PREP					
48F1050	9803ZZZ1T3-1.75	30/Z1	1.75″	3.95	3.16
48F1051	9803ZZZ3T3-1.75	30/Z3	1.75″	5.25	4.20
48F1052	9803ZZZ1T3-3.75	30/Z1	3.75″	4.95	3.92
48F1053	9803ZZZ3T3-3.75	30/Z3	3.75″	6.22	4.98

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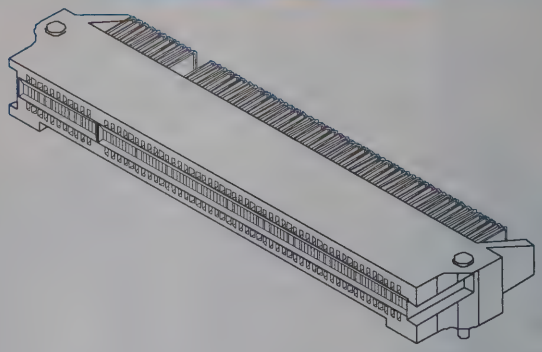
PCI CARD CONNECTORS



Right-angle 3.3V and 5V 32-and 64-bit connectors offer low-profile space savings and allow horizontal PCI card mounting. Thru-hole solder mount application compatible with wave soldering process. Meet all PCI local bus standards. Mate with .062″ PC Boards. Current rating: 1.0A. Insulation resistance: >1 x 10^9 ohm 500VDC.

5V

Stock No.	Type	No. Contacts	Dimensions A	B	C	1-9	10-49
48F1026	981151-120-2MCF	120	0.40″	0.230″	0.100″	17.50	14.00
48F1027	981158-120-2MCF	120	0.66″	0.492″	0.125″	19.30	15.44
48F1028	98115A-120-2MCF	120	0.83″	0.657″	0.100″	21.13	16.90
3.3V							
48F1029	98113A-120-2MCF	120	0.83″	0.657″	0.100″	21.13	16.90
48F1030	981131-184-2MCF	184	0.40″	0.230″	0.100″	25.75	20.60
48F1031	981138-184-2MCF	184	0.66″	0.492″	0.125″	29.05	23.24

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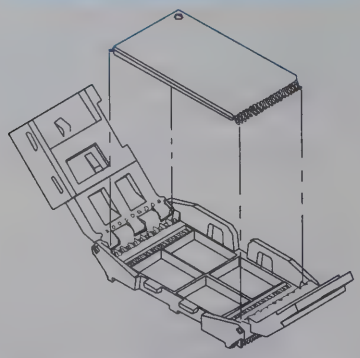
SURFACE MOUNT SOCKETS



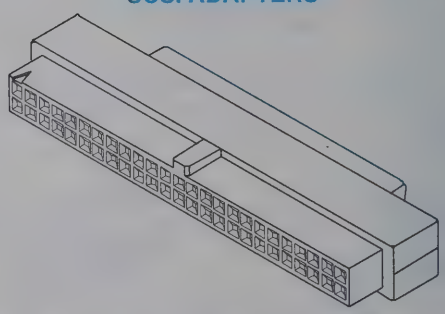
PSOP, TSOP, and SSOP sockets have unique positive locking lid to secure devices to high normal- force surface mount contacts. Common land-pad footprint of socket and device eliminates need to modify a PC Board layout after development stage. Zero insertion force. Contact resistance: 30 milliohm max. Current rating: 0.5 A; Insulation resistance: 500 megaohm. Contact material: copper alloy with tin-lead plating; minimum insertion/withdrawal cycles: 50.

WITHOUT ALIGNMENT PINS

Stock No.	Type	Style	No. Positions	1-9	10-49
48F1032	980020-40-01	TSOP	40	8.63	6.48
48F1034	980020-48-01	TSOP	48	9.10	6.83
48F1036	980020-56-01	TSOP	56	9.60	7.20
48F1038	980021-44-01	PSOP	44	10.60	7.95
48F1040	980022-56-01	SSOP	56	11.30	8.48
WITH ALIGNMENT PINS					
48F1033	980020-40-02	TSOP	40	8.63	6.48
48F1035	980020-48-02	TSOP	48	9.10	6.83
48F1037	980020-56-02	TSOP	56	9.60	7.20
48F1039	980021-44-02	PSOP	44	10.60	7.95
48F1041	980022-56-02	SSOP	56	11.30	8.48

(35876) (ne35876)

SCSI ADAPTERS



Allow reliable interfacing of 8-bit to 16-bit and 16-bit to 8-bit devices. Eliminates need for multiple cable assembly configurations. Short overall mating faces allow dense packaging, high withdrawal force contacts. Low inductance. Meet ANSI Spec X3-131-1986. Contact resistance: 15 millioh max. Current rating: 1.0A. Insulation resistance: >1 x 10^{12} ohms 300VDC.

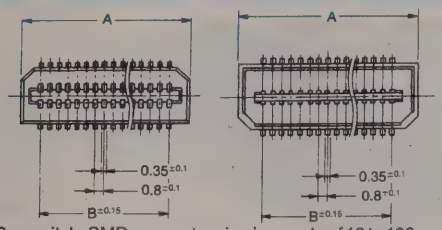
FEMALE-TO-FEMALE WITH CENTER KEY

Stock No.	Type	No. Positions	1-9	10-49
48F1054	980211-1F1-3F0*	50/68	25.88	20.70
48F1055	980211-1F1-3F3	50/68	25.88	20.70
48F1059	980211-1F1X3F0*+	50/68	25.88	20.70
48F1060	980211-1F1X3F3+	50/68	25.88	20.70
48F1061	980211-1F0T3F0*	50/68	46.25	37.00
48F1062	980212-1F1-3F0*	50/68	35.00	28.00
48F1063	980212-1F2-3F0*	50/68	35.00	28.00
MALE-TO-FEMALE AND MALE-TO-MALE WITH CENTER KEY				
48F1056	980211-1M1-3F0*	50/68	25.88	20.70
48F1057	980211-1M1-3F3	50/68	25.88	20.70
48F1058	980211-1M1-3M0*	50/68	25.88	20.70

*Without latching posts; +Terminal 25 powered

(35871) (ne35871)

P8 SERIES NARROW PITCH CONNECTORS



High density, 0.8mm pitch, SMD connectors in pin counts of 16 to 100 positions. Stacking heights of 3 to 13mm allow for various stacking heights of PC boards. Rated: 0.5A 60VAC/DC. Unique bellows type contacts for increased reliability. Use socket and header combinations below to achieve proper stacking height. 11.5mm stacking height items are hermaphrodite (male and female combined in one unit) and you stack two of each same position size to reach the 11.5mm stacking height.

3mm STACKING HEIGHT (SOCKET & HEADER)

No. of Contacts	Stock No.	Socket Type	1-24	Stock No.	Header Type	1-24
16	48F5188	AXN316038S	2.25	48F5211	AXN416330S	2.25
20	48F5189	AXN320038S	2.46	48F5213	AXN420330S	2.46
24	48F5192	AXN324038S	2.74	48F5217	AXN424330S	2.74
26	48F5194	AXN326038S	2.86	48F5218	AXN426330S	2.86
30	48F5196	AXN330038S	3.14	48F5220	AXN430330S	3.14
40	48F5200	AXN340038S	3.95	48F5224	AXN440330S	3.95
50	48F5202	AXN350038S	4.91	48F5228	AXN450330S	4.91
60	48F5204	AXN360038S	5.64	48F5231	AXN460330S	5.64
80	48F5205	AXN380038S	7.00	48F5233	AXN480330S	7.00
90	48F5207	AXN390038S	7.92	48F5236	AXN490330S	7.92
100	48F5186	AXN300038S	8.78	48F5208	AXN400330S	8.78

4mm STACKING HEIGHT (SOCKET & HEADER)

16	48F5188	AXN316038S	2.25	48F5212	AXN416430S	2.25
20	48F5189	AXN320038S	2.46	48F5214	AXN420430S	2.46
26	48F5194	AXN326038S	2.86	48F5219	AXN426430S	2.86
30	48F5196	AXN330038S	3.14	48F5221	AXN430430S	3.14
40	48F5200	AXN340038S	3.95	48F5225	AXN440430S	3.95
50	48F5202	AXN350038S	4.91	48F5229	AXN450430S	4.91
80	48F5205	AXN380038S	7.00	48F5234	AXN480430S	7.00
100	48F5186	AXN300038S	8.78	48F5209	AXN400430S	8.78

4.5mm STACKING HEIGHT (SOCKET & HEADER)

30	48F5198	AXN330238S	3.14	48F5221	AXN430430S	3.14

5.0mm STACKING HEIGHT (SOCKET & HEADER)

20	48F5189	AXN320038S	2.46	48F5215	AXN420530S	2.46
30	48F5196	AXN330038S	3.14	48F5222	AXN430530S	3.14
40	48F5200	AXN340038S	3.95	48F5226	AXN440530S	3.95
50	48F5202	AXN350038S	4.91	48F5230	AXN450530S	4.91
80	48F5205	AXN380038S	7.00	48F5235	AXN480530S	7.00
100	48F5186	AXN300038S	8.78	48F5210	AXN400530S	8.78

5.5mm STACKING HEIGHT (SOCKET & HEADER)

No. of Contacts	Stock No.	Socket Type	1-24	Stock No.	Header Type	1-24
30	48F5198	AXN330238S	3.14	48F5222	AXN430530S	3.14

6mm STACKING HEIGHT (SOCKET & HEADER)

20	48F5190	AXN320130S	2.46	48F5213	AXN420330S	2.46
24	48F5193	AXN324130S	2.74	48F5217	AXN424330S	2.74
26	48F5196	AXN330038S	3.14	48F5218	AXN426330S	3.14
30	48F5197	AXN330130S	3.14	48F5220	AXN430330S	3.14
40	48F5201	AXN340130S	3.95	48F5224	AXN440330S	3.95
50	48F5203	AXN350130S	4.91	48F5228	AXN450330S	4.91
80	48F5206	AXN380130S	7.00	48F5233	AXN480330S	7.00
100	48F5187	AXN300130S	8.78	48F5208	AXN400330S	8.78

7mm STACKING HEIGHT (SOCKET & HEADER)

20	48F5190	AXN320130S	2.46	48F5214	AXN420430S	2.46
22	48F5191	AXN322130S	2.61	48F5216	AXN422430S	2.61
26	48F5196	AXN330038S	3.14	48F5219	AXN426430S	3.14
30	48F5197	AXN330130S	3.14	48F5221	AXN430430S	3.14
40	48F5201	AXN340130S	3.95	48F5225	AXN440430S	3.95
50	48F5203	AXN350130S	4.91	48F5229	AXN450430S	4.91
80	48F5206	AXN380130S	7.00	48F5234	AXN480430S	7.00
100	48F5187	AXN300130S	8.78	48F5209	AXN400430S	8.78

8mm STACKING HEIGHT (SOCKET & HEADER)

20	48F5190	AXN320130S	2.46	48F5215	AXN420530S	2.46
30	48F5197	AXN330130S	3.14	48F5222	AXN430530S	3.14
34	48F5199	AXN334130S	3.58	48F5223	AXN434530S	3.58
40	48F5201	AXN340130S	3.95	48F5226	AXN440530S	3.95
50	48F5203	AXN350130S	4.91	48F5230	AXN450530S	4.91
80	48F5206	AXN380130S	7.00	48F5235	AXN480530S	7.00
100	48F5187	AXN300130S	8.78	48F5210	AXN400530S	8.78

13mm STACKING HEIGHT (SOCKET & HEADER)

50	48F5203	AXN350130S	4.91	48F5227	AXN450030S	4.91
80	48F5206	AXN380130S	7.00	48F5232	AXN480030S	7.00

CONTINUED

P8 SERIES NARROW PITCH CONNECTORS (CONT.)

11.5mm STACKING HEIGHT

No. of Contacts	Stock No.	Type	1-24	25-49
30	48F5182	AXN1300115S	6.31	6.00
40	48F5183	AXN1400115S	8.45	8.03
50	48F5184	AXN1500115S	10.50	9.98
80	48F5185	AXN1800115S	16.86	16.02
100	48F5181	AXN1000115S	21.09	20.04

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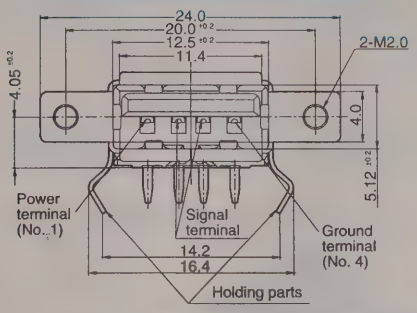
USB SERIES CONNECTORS



Conforming to the USB standard, these connectors are available in a type A or B, with side, top, or no flanges, through board or SMD terminals, and self clinching shielding terminals for added strength. A type conectors arealso available in 1 or 2 ports. Cables available in A-B or A-bare cable type connections.

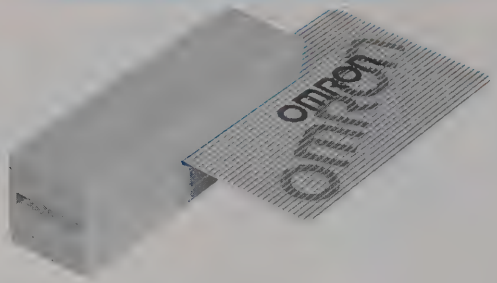
Stock No.	Type	Series	Flange	No. of Ports	1-24	25-49
48F5167	AXJ111212T	A	Side	1 (4 contacts)	1.41	1.34
48F5168	AXJ111222T	A	Center	1 (4 contacts)	1.41	1.34
48F5166	AXJ111202T	A	None	1 (4 contacts)	1.41	1.34
48F5170	AXJ111512T	A	Side	1 (4 contacts)	1.41	1.34
48F5169	AXJ111502T	A	None	1 (4 contacts)	1.41	1.34
48F5171	AXJ112202T	A	None	2 (4 contacts x 2-layer)	1.97	1.88
48F5172	AXJ112302T	A	None	2 (4 contacts x 2-layer)	1.97	1.88
48F5173	AXJ115301S	B	None	1 (4 contacts)	1.57	1.50

Stock No.	Type	Series	Cable Style	Cable Length	1-24	25-49
48F5174	AXJ13110	A – w/o Plug	w/o Shield	80cm	6.80	6.46
48F5175	AXJ13111	A – w/o Plug	w/ Shield	80cm	7.65	7.27
48F5176	AXJ13121	A – w/o Plug	w/ Shield	130cm	8.77	8.34
48F5177	AXJ13210	A – B	w/o Shield	80cm	9.34	8.88
48F5178	AXJ13211	A – B	w/ Shield	80cm	10.18	9.68
48F5179	AXJ13221	A – B	w/ Shield	130cm	11.31	10.75
48F5180	AXJ13231	A – B	w/ Shield	200cm	13.00	12.35

(38370) (ne38370)

NEWARK PROVIDES OPTIMUM SERVICE.
SAME-DAY SHIPMENT WHEN YOU PLACE
YOUR ORDER BY 5:00 PM C.S.T.

MANUAL SWIPE CARD READERS

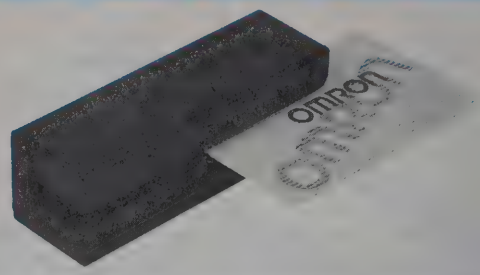


Enclosed, compact-size designed for low power consumption. Magnetic card types ISO 7810-7813. Single, double, or triple magnetic track configuration. TTL (CMOS) signal interface. Card feed speed range: 10 to 120cm/second. Max. power consumption: 5 to 15mA @ 5VDC. Operating temperature: –10°C to +55°C. Service life: 300,000 passes min. Color: ivory. I/O interface: solder pad, 9-, or 12-pin Molex connector. Dimensions: (w/ cover) 90L x 28W x 26.5mmH; (w/o cover) 90L x 24W x 24mmH. Typical applications include remote terminals for computers, credit card readers, ID card checkers, electronic locks, automatic gate machines, and point-of-sale systems.

Stock No.	Type	Magnetic Tracks Supported (Reads)	1-9	10-24	25-49	50-99
83F5328	3S4YR-HNR4	2	25.55	24.25	23.10	21.67
83F5329	3S4YR-HNR6	1, 2	40.84	38.75	36.92	34.63

(28351) (ne28351)

MANUAL SWIPE MAGNETIC CARD READERS

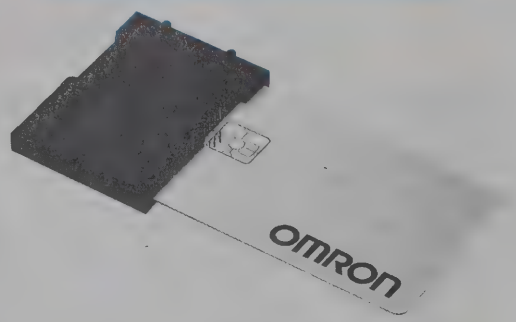


Manually operated enclosed card reader features easy-to-access slot. Magnetic card types ISO 7810-7813. Single or double magnetic track configuration. TTL (bipolar) signal interface. Card feed speed range: 10 to 150cm/second. Max. power consumption: 25mA (single track) @ 5VDC; 50mA (double track) @ 5VDC. Operating temperature: –10°C to +55°C. Service life: single track = 300,000 passes min.; double track = 600,000 passes min. Color: black. I/O interface: 5- or 9-pin JAE connector. Dimensions: (w/ cover): 100L x 32.5W x 32mmH; (w/o cover) 100L x 27W x 29.5mmH. Typical applications include remote terminals for computers, credit card readers, ID card checkers, electronic locks, automatic gate machines, point-of-sale systems. Open card readers (w/o cover) are also available; *contact your local Newark sales office.*

Stock No.	Type	Magnetic Tracks Supported (Reads)	1-9	10-24	25-49	50-99
83F5330	3S4YR-HSR4	2	35.12	33.32	31.75	29.78
83F5331	3S4YR-HSR6	1, 2	83.35	79.09	75.35	70.68

(28352) (ne28352)

MANUAL INSERT IC CARD READER

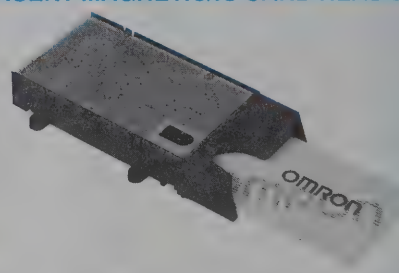


Ultra-compact design for IC card applications with limited space. Lifts IC card onto contacts to reduce wear on the card. Configured for front or rear ejection. Magnetic card types ISO 7816/1-2. TTL (bipolar) signal interface. Card feed speed: 100cm/second. Max. power consumption: 10mA @ 30VDC. Operating temperature: 0°C to +50°C. Service life: 300,000 passes min. Color: black. I/O interface: mounts to PC bar by flex cable. Typical applications include pre-paid card systems, IC credit card readers, time and attendance control, access control, telecommunications, vending machines, ID control, and data capturing.

Stock No.	Type	L x W x H	1-9	10-24	25-49	50-99
83F5337	3S4YR-SHR0X	60 x 44.5 x 6mm	18.46	16.94	15.42	14.79

(28356) (ne28356)

INSERT MAGNETIC/IC CARD READERS

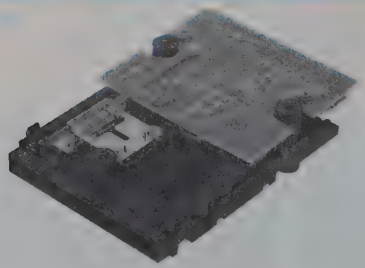


Compact insert reader with magnetic and IC card interface. Features red and green LEDs for operation indicator. Push or pull card read configurations. Solenoid-controlled IC card locking mechanism. Magnetic card types ISO 7810-7813. Single, double, or triple magnetic track configuration. TTL signal interface; RS-232C optional. Max. power consumption: 2.5 A @ 5VDC. Operating temperature: 0°C to +45°C. Service life: mag head = 300,000 passes; IC contact = 500,000 passes. Color: black. I/O interface: 26-pin connector. Dimensions: 126L x 76W x 25mmH. Typical applications include remote terminals for computers, credit card readers, ID card checkers, electronic locks, automatic gate machines, point-of sale terminals, ATMs, gas pump control, pre-paid systems, kiosks.

Stock No.	Type	Magnetic Tracks Supported (Reads)	1-9	10-24	25-49	50-99
83F5334	3S4YR-SGR1N	1, 2, 3	119.74	113.61	108.25	101.54
83F5335	3S4YR-SGR4N	2	91.72	87.02	82.91	77.78
83F5336	3S4YR-SGR6N	1, 2	107.00	101.53	96.73	90.74

(28355) (ne28355)

MOTOR DRIVEN CARD READER

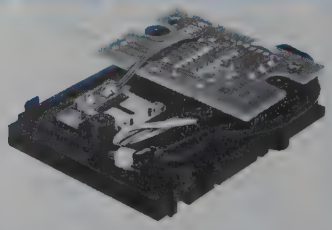


Reads 62% of magnetic track. Effective strip length of 46.6mm max. Microswitches incorporated for card detection. Magnetic card types ISO 7810-7813. Single magnetic track configuration. TTL (CMOS) signal interface. Card feed speed range: 10 to 100cm/second. Max. power consumption: 5mA @ 5VDC. Operating temperature: –5°C to +55°C. Service life: 300,000 passes min. Color: black. I/O interface: 10- or 12-pin JAE connector. Dimensions: 78L x 60W x 21.5mmH. Typical applications include access control, time and attendance, ID card checkers, electronic locks, remote terminals for computers, telephones, and vending machines.

Stock No.	Type	Magnetic Tracks Supported (Reads)	1-9	10-24	25-49	50-99
83F5333	3S4YR-SBR4N-20	2	33.15	31.46	29.97	28.12

(28354) (ne28354)

MANUAL INSERT MAGNETIC CARD READER



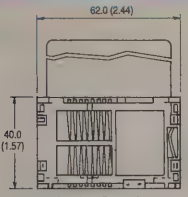
Reads 62% of magnetic track. Effective strip length of 46.6mm max. Microswitches incorporated for card detection. Magnetic card types ISO 7810-7813. Single or double magnetic track configuration. TTL (bipolar) signal interface. Card feed speed: 10 to 100cm/second. Max. power consumption: 25mA (single track) @ 5VDC; 50mA (double track) @ 5VDC. Operating temperature: –10°C to +55°C . Service life: 300,000 passes min. Color: black. I/O interface: 10- or 12-pin JAE connector. Dimensions: 87L x 60W x 21.5mmH. Typical applications include access control, time and attendance, ID card checkers, electronic locks, remote terminals for computers, telephones, and vending machines.

Stock No.	Type	Magnetic Tracks Supported (Reads)	1-9	10-24	25-49	50-99
83F5332	3S4YR-SBR4-20	2	44.84	42.55	40.54	38.03

(28353) (ne28353)

NEW SMART CARDS AND SIM/SAM CONNECTORS

CCM01 SERIES SMART CARD FRICTION CONNECTORS



Blade Card

Blade Card

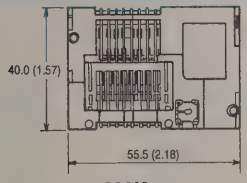
Sealed Card

Friction connectors comply with ISO and EMV certifications. Mechanical life: 100,000 operations. Available in either blade or sealed card detection switch for higher protection against dust and grit. Come standard with 8 contacts.

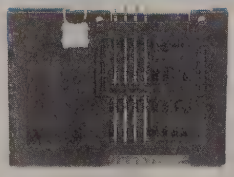
Stock No.	Type	Description	1-9	10-24
83F8524	CCM01-1NF	Blade Card Detection Switch/ Thru-Hole	1.59	1.35
83F8525	CCM01-2251	Sealed Card Detection Switch/ Surface Mount	2.72	2.31

(33006) (ne33006)

CCM02 SERIES SMART CARD LANDING CONNECTORS



200K



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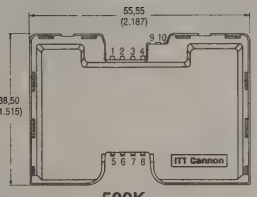
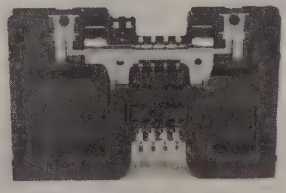


500K



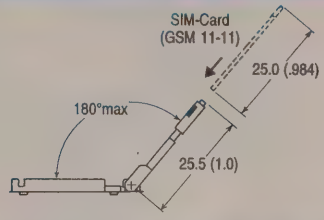
500K

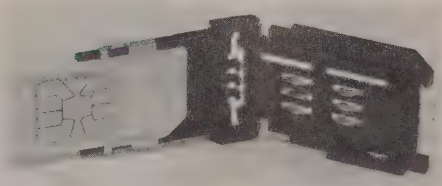
Connectors feature 8 landing type contacts with virtually zero insertion force, which provide an extended life of intensive use. Comply with ISO and EMV certifications. Come standard with a sealed switch. **Types CCM02-1NO-32** and **CCM02-1N0-33** offer up to 200,000 operations and **types CCM02-2503** and **CCM02-2504** provide up to 500,000 operations.

Stock No.	Type	Description	1-9	10-24
83F8526	CCM02-1NO-32	200K Cycle Landing, Thru-Hole	5.20	4.42
83F8527	CCM02-1N0-33	200K Cycle Landing, Surface-Mount	7.18	6.10
83F8528	CCM02-2503	500K Cycle Landing, Thru-Hole	4.71	4.00
83F8529	CCM02-2504	500K Cycle Landing, Surface-Mount	4.71	4.00

(33005) (ne33005)

CCM03 SERIES MICRO SIM/SAM CONNECTORS



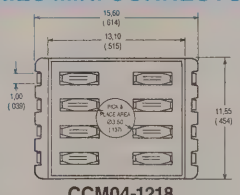


Miniature connectors are designed specifically for telecommunications. Comply with ISO and EMV certifications and allows up to 5000 operations. The **3000 series** connectors offer a narrower, lower profile body with more robust contacts.

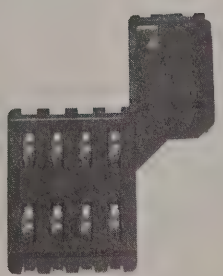
Stock No.	Type	Board Locator Pegs	Contacts	1-9	10-24
83F8530	CCM03-0	Y	6	1.44	1.23
83F8531	CCM03-0N0*	Y	6	2.00	1.70
83F8532	CCM03-3001	N	6	1.30	1.11
83F8533	CCM03-3002	Y	6	1.30	1.11
83F8534	CCM03-3003	N	8	1.35	1.15
83F8535	CCM03-3004	Y	8	1.35	1.15

*Has switch
(33004) (ne33004)

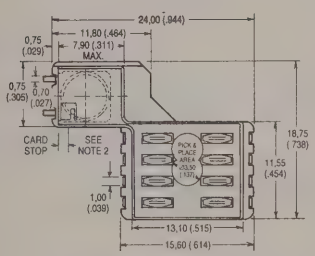
CCM04 SERIES MINI CONNECTOR FRAMES



CCM04-1218



CCMO4-1317



CCMO4-1317

Provide interconnection between card readers and the cards themselves with a mechanical life of 50,000 cycles. Comply with ISO and EMV certifications. **Type CCMO4-1317** offers added reliability with a sealed detection switch. Other heights also available; *contact your local Newark sales office for details.*

Stock No.	Type	Height	1-9	10-24
83F8536	CCM04-1218	2.75mm	1.23	1.04
83F8537	CCMO4-1317	2.75mm	2.00	1.70

(33003) (ne33003)

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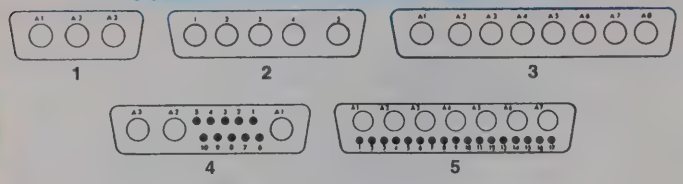
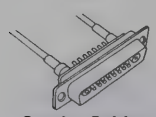
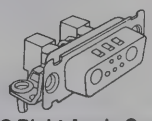
ONE CALL IS ALL IT TAKES TO GET FAST, EFFICIENT DELIVERY.

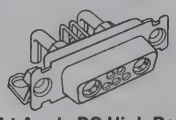
COMBINATION D-SUB CONNECTORS




Combo Cable


PC Right Angle Coax

Straight PC Coax


Right Angle PC High Power

Integrate signal, 50- and 75-ohm coax, high power and high voltage, or mix red, green, and blue video lines with signal and up to 40 amps of power in the same package. Tin-finished steel shells with 94V-0 thermoplastic or diallyl phthalate insulators. Signal contact current rating: 5 amps. Right angle and PC board versions are complete with fixed coax or high power contacts installed. Combo cable connectors require high power or coax contacts *order separately on this page.*

COMBO CABLE

Stock No.	Type	Contact Config.	Description	1-49	50-99
93F8904	DAM3W3SA197	1	Socket	3.96	3.36
93F8905	DBM5W5SA197	2	Socket	2.17	1.85
93F8906	DBM13W3SA197	4	Socket	4.85	4.12
93F8907	DCM8W8SA197	3	Socket	2.50	2.13
93F8908	DDM24W7SA197	5	Socket	11.30	9.60
93F8909	DAM3W3PK87	1	Plug	1.68	1.42
93F8910	DBM5W5PK87	2	Plug	2.17	1.85
93F8911	DBM13W3PK87	4	Plug	4.84	4.12
93F8912	DCM8W8PK87	3	Plug	2.50	2.13
93F8913	DDM24W7PK87	5	Plug	7.16	6.09
PC RIGHT ANGLE COAX/75 OHM					
93F8928	DAMC3X3SJA197	1	Socket	33.98	27.19
93F8929	DBMC5X5SJA197	2	Socket	54.31	47.79
93F8930	DBMC13X3SJA197	4	Socket	42.08	37.03
93F8931	DCMC8X8SJA197	3	Socket	84.32	74.20
93F8932	DDMC24X7SJA197	5	Socket	97.89	95.54
93F8933	DAMC3X3PJK87	1	Plug	33.67	26.94
93F8934	DBMC5X5PJK87	2	Plug	34.32	30.20
93F8833	DBMC13X3PJK87	4	Plug	39.98	35.18
93F8834	DCMC8X8PJK87	3	Plug	83.47	73.45
STRAIGHT PC COAX/75 OHM					
93F8915	DBMZ5X5SNA197	2	Socket	27.67	25.93
93F8917	DCMZ8X8SNA197	3	Socket	69.03	60.75
16F011	DBMZ5C5PNK87	2	Plug	32.30	29.74
16F012	DBMZ13C3PNK87	3	Plug	23.94	22.04
RIGHT ANGLE PC HIGH POWER					
93F8920	DAMC3H3SJA197	1	Socket	13.98	11.89
93F8924	DAMC3H3PJK87	1	Plug	12.26	10.42

(8715) (de02213)

TOOLING

CRIMP TOOLING FOR 75-OHM STAMPED CRIMP/CRIMP

Stock No.	Type	Description	1-24
16F019	CCTP-750HM	Stamped Center	779.86
16F020	CCTP-DM	Stamped Outer	674.08

CRIMP TOOL WITH INTEGRAL DIE SET FOR ALL COAXIAL STRAIGHT CRIMP BRAID

Stock No.	Type	Description	1-24
16F021	CCT-DM	Tool	571.48

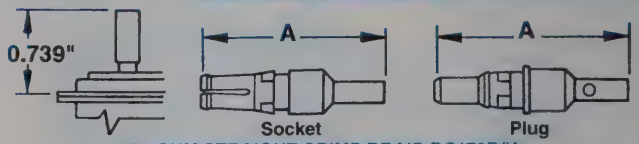
EXTRACTION* TOOL FOR COAXIAL, HIGH-POWER AND HIGH-VOLTAGE CONTACTS

Stock No.	Type	Description	1-24
16F022	CET-C6B-2	Extraction Tool	32.53

* No insertion tool is required; the contact is easily snapped in from the rear of the connector.

(8855) (ne08622)

COAXIAL CONTACTS



50-OHM STRAIGHT CRIMP BRAID RG179B/U

Stock No.	Type	Description	Dim. A	1-49	50-99
93F3691	DM53740-1	Plug	.945/.915"	4.48	3.80
93F3694	DM53742-1	Socket	.965/.917"	4.80	4.08

50-OHM STRAIGHT SOLDER BRAID RG179B/U

Stock No.	Type	Description	Dim. A	1-49	50-99
93F3693	DM53740-5001	Plug	.945/.915"	4.13	3.51
93F3696	DM53742-5001	Socket	.965/.917"	4.92	4.18

75-OHM STAMPED CRIMP/CRIMP 15μ" RG179U

Stock No.	Type	Description	Dim. A	1-24	25-99
16F015	D130322-2	Plug	.865"	3.12	2.87
16F016	D130344-1	Socket	.865"	3.38	3.11

75-OHM STAMPED CRIMP/CRIMP 30μ" RG179U

Stock No.	Type	Description	Dim. A	1-24	25-99
16F017	D130322-1	Plug	.865"	2.48	2.28
16F018	D130344	Socket	.865"	3.42	3.14

(8716) (de02214)

HIGH-POWER CONTACTS

Plug Socket

Overall plug length: 0.866" (22); diameter 0.142" (3.61). Overall socket length: 0.856" (21.74).

Stock No.	Type	Contact Type	1-49	50-99
93F8826	DM53745-1	Plug-#8	1.97	1.67
93F3692	DM53740-31	Plug-#8	4.90	4.16
93F8827	DM53745-7	Plug-#12	1.59	1.35
93F8813	DM53745-8	Plug-#16	1.97	1.67
93F8823	DM53744-1	Socket-#8	3.38	2.88
93F3695	DM53742-31	Socket-#8	4.85	4.13
93F8832	DM53742-5004	Socket-#8	5.95	5.05
93F8828	DM53740-5005	Socket-#8	4.40	3.74
93F8824	DM53744-6	Socket-#12	4.28	3.63
93F8825	DM53744-7	Socket-#16	1.79	1.52

(8717) (de02215)

SCREW LOCKS

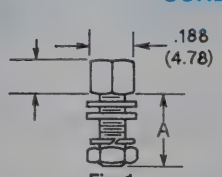


Fig. 1

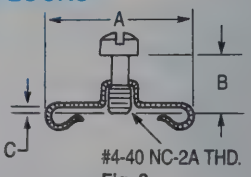


Fig. 2

Male and female screw locks provide positive mating in vibration applications. Hardware is cold rolled steel with yellow chromate over cadmium finish and clip is sheet steel. **Sold in packages of 2.**

FEMALE—FIG. 1

Stock No.	Type	Dimensions A	B	C	1-49	50-99
93F3697	D20418-2	0.312"	...	...	0.94	0.84
52F9812	D20418-39	0.312"	...	...	1.28	1.18
93F3460	D20418-50	0.500"	...	...	4.04	3.84

MALE FOR CONNECTOR SIZE DE9, DA15, DB25, DC37—FIG. 2

Stock No.	Type	Dimensions A	B	C	1-24	25-99
93F3698	D20419	0.555"	0.250"	0.048"	0.24	0.22
52F9813	D20419-18	0.555"	0.281"	0.067"	0.55	0.51
52F9814	D20419-21	0.555"	0.281"	0.092"	1.66	1.53

MALE FOR CONNECTOR SIZE DD50—FIG. 2

52F9815	D20420	0.656"	0.250"	0.048"	2.07	1.91
52F9816	D20420-13	0.656"	0.281"	0.067"	1.52	1.40

(8828) (ne08000)

HIGH RELIABILITY, MILITARY CRIMP D-SUBMINIATURE CONNECTORS

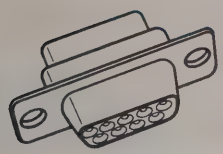


Fig. 1

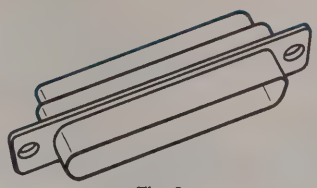
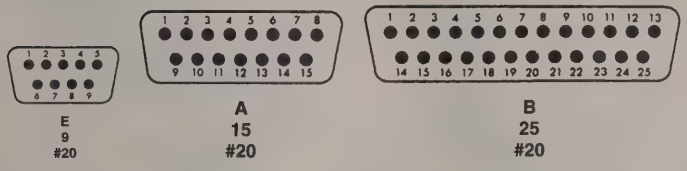


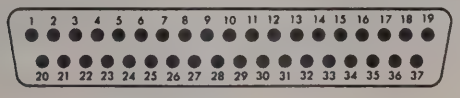
Fig. 2



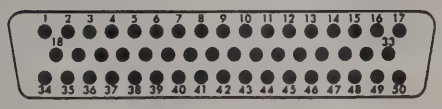
E
9
#20

A
15
#20

B
25
#20



Shell Size: C
Contact Arrangement: 37
Contact Size: #20



D
50
#20

Feature removable copper alloy contacts plated with 50µ″ gold per MIL-G-45204 Type II Grade C Class 1 over copper per MIL-C-14550. Steel shell per ASTM A-620 with yellow chromate over zinc finish and 0.120″ (3.15) through-mounting holes. Green insulator per MIL-M-14, type SDG-F. Accommodate wire from 18-30 AWG. Current rating: 20 AWG, 5 amps. Receptacles include socket contacts, plugs include pin contacts. *To order yellow chromate over cadmium, add* **suffix F** *to end of type number.*

CRIMP RECEPTACLES — FIG. 1

Stock No.	Type	Shell Size	Contacts	1-24	25-49
93F8873	M24308/2-1	E	9	**12.66**	**10.76**
93F8875	M24308/2-2	A	15	**16.89**	**14.36**
93F8877	M24308/2-3	B	25	**23.86**	**20.28**
96F3623	M24308-2/4	C	37	**42.40**	**37.32**
96F3625	M24308/2-5	D	50	**46.24**	**40.70**

CRIMP PLUGS — FIG. 2

93F8872	M24308/4-1	E	9	**12.54**	**10.66**
93F8874	M24308/4-2	A	15	**12.73**	**10.82**
93F8876	M24308/4-3	B	25	**21.59**	**18.35**
96F3624	M24308/4-4	C	37	**27.67**	**23.52**
96F3626	M24308/4-5	D	50	**26.98**	**21.59**

HIGH RELIABILITY CRIMP CONTACTS

Size 20 pin and socket copper alloy contacts accommodate 20, 22, 24 AWG wire. Plated 50µ″ gold per MIL-G-45204 Type II Grade C Class 1 over copper per MIL-C-14550.

Stock No.	Type	Contact	1-49	50-99
93F8854	330-5291-097	Pin	**0.20**	**0.17**
93F8855	031-1007-078	Socket	**0.27**	**0.23**

(8808) (ne01679)

HIGH RELIABILITY, MILITARY PC MOUNT D-SUBMINIATURE CONNECTORS

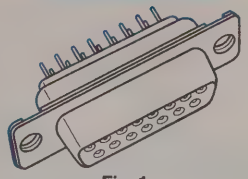


Fig. 1

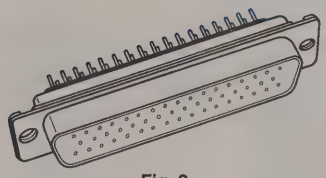
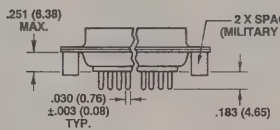


Fig. 2



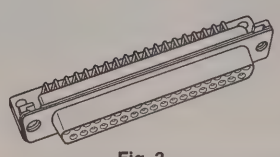


Fig. 3

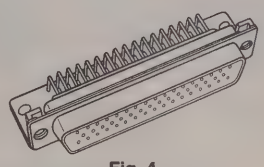
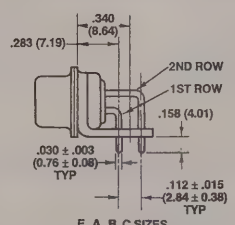
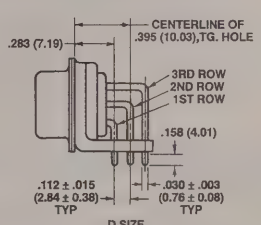


Fig. 4



E, A, B, C SIZES



D SIZE

Straight and right-angle printed circuit mount military D-Subs offer the same features as crimp military D-subminiature connectors, *order separately on this page.* Straight PC mount plugs and receptacles have 0.120″ (3.15) through-mounting holes and include pin or socket copper alloy contacts with 0.030″ (0.76) diameter tails, 0.183″ (4.65) long posts. Right-angle PC mount plugs and receptacles have brackets with 0.120″ (3.15) through-holes and copper alloy contacts with 0.030″ (0.76) diameter tails, 0.158″ (4.01) long posts. *See contact arrangement illustrations on this page.*

STRAIGHT PC MOUNT RECEPTACLES, FIG. 1

Stock No.	Type	Shell Size	Contacts	1-24	25-49
93F8882	M24308/23-7	E	9	**12.63**	**10.73**
93F8884	M24308/23-8	A	15	**7.72**	**6.56**
93F8886	M24308/23-9	B	25	**10.90**	**9.27**
95F6020	M24308/23-10	C	37	**15.21**	**12.93**
93F8888	M24308/23-11	D	50	**19.86**	**16.88**

STRAIGHT PC MOUNT PLUGS, FIG. 2

93F8883	M24308/24-7	E	9	**7.68**	**6.53**
93F8885	M24308/24-8	A	15	**11.28**	**9.59**
93F8887	M24308/24-9	B	25	**7.87**	**6.69**
95F6021	M24308/24-10	C	37	**10.72**	**9.11**
93F8889	M24308/24-11	D	50	**32.51**	**27.64**

RIGHT–ANGLE PC MOUNT RECEPTACLES WITH BRACKET, FIG. 3

93F8890	M24308/23-31	E	9	**12.78**	**10.86**
93F8892	M24308/23-32	A	15	**20.19**	**17.17**
93F8894	M24308/23-33	B	25	**15.09**	**12.83**
93F8896	M24308/23-34	C	37	**21.41**	**18.20**
95F6022	M24308/23-35	D	50	**32.14**	**25.71**

RIGHT–ANGLE PC MOUNT PLUGS WITH BRACKET, FIG. 4

93F8891	M24308/24-31	E	9	**5.35**	**4.55**
93F8893	M24308/24-32	A	15	**10.10**	**8.59**
93F8895	M24308/24-33	B	25	**9.02**	**7.67**
93F8897	M24308/24-34	C	37	**12.42**	**10.56**
95F6023	M24308/24-35	D	50	**16.31**	**13.86**

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http://www.newark.com

UNSHIELDED BACKSHELLS

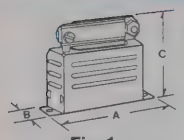


Fig. 1

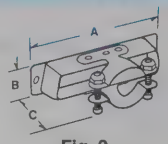


Fig. 2

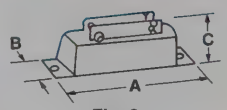


Fig. 3

All unshielded backshells are made of low-carbon steel per ASTM A-620. Yellow chromate over cadmium finish per M85049 specifications.

DEEP STRAIGHT CLAMP, FIG. 1

Stock No.	Type	Dimensions A	B	C	1-49	50-99
93F3708	DE24657	1.203″	0.484″	1.250″	3.33	2.83
93F3709	DA24658	1.531″	0.484″	1.250″	3.33	2.83
93F3710	DB24659	2.078″	0.484″	1.563″	3.43	2.92
93F3711	DC24660	2.718″	0.484″	1.563″	3.56	3.02
93F3712	DD24661	2.625″	0.593″	1.688″	4.13	3.51

ROUND CLAMP, FIG. 2

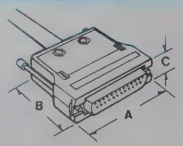
93F3713	DE44994	1.208″	0.500″	1.031″	4.05	3.45
93F3714	DA20961	1.531″	0.500″	1.031″	4.48	3.80
93F3715	DB20962	2.078″	0.500″	1.062″	4.76	4.05
93F3716	DC20963	2.718″	0.500″	1.062″	4.85	4.13
93F3717	DD20964	2.625″	0.609″	1.062″	4.97	4.22

STRAIGHT CLAMP, FIG. 3

93F8843	DB19678-2	2.078″	0.500″	1.852″	3.83	3.25

(8691) (de01648)

SNAP-TOGETHER SHIELDED BACKSHELLS



Snap-together design for quick assembly. Made of ABS polymer with nickel over copper finish. Attenuation: –44dB at 1000MHz. Requires two **type 250-8501-013** thumbscrews, *order separately below.*

BACKSHELLS

Stock No.	Type	Dimensions A	B	C	1-24	25-49
93F8871	DE121073-154	1.213″	1.417″	0.630″	19.13	15.31
93F8856	DA121073-150	1.539″	1.654″	0.630″	13.80	11.73
98F6356	DB121073-151	2.087″	1.654″	0.630″	17.81	15.14
93F8857	DC121073-152	2.728″	1.654″	0.630″	10.34	8.79

THUMBSCREWS

Stock No.	Type	Description	1-49	50-99
93F8858	250-8501-013	Brass Thumbscrew	1.64	1.40

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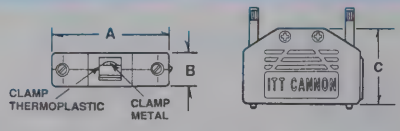
1-PC. UNIVERSAL SNAP-TOGETHER BACKSHELLS



Polypropylene shell with steel hardware, yellow chromate over zinc finish. Includes strain relief hardware and two thumbscrews.

Stock No.	Type	Dimensions A	B	C	1-49	50-99
93F8859	DEBS9	1.386″	0.638″	1.083″	2.36	2.01
93F8860	DABS-15	1.705″	0.638″	1.228″	2.29	1.95
93F8861	DBBS-25	2.252″	0.638″	1.508″	2.29	1.95

(8693) (de01651)

2-PC. UNIVERSAL SNAP-TOGETHER BACKSHELLS

Snap-together design for quick assembly. Uses customer-furnished tie-wrap for strain relief. Flame-retardant thermoplastic, rated UL90V-0.

Stock No.	Type	Dimensions A	B	C	1-49	50-99
93F8867	DE115339-20	0.768″	1.673″	0.669″	2.44	2.07
93F8868	DB115339-22	1.638″	1.673″	0.669″	2.81	2.39

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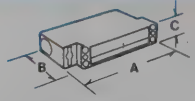
90° CABLE EXIT BACKSHELLS



One-piece black and gray thermoplastic shell, rated UL90V-2. Integral cable and set screw. Cadmium-plated steel screws.

Stock No.	Type	Dimensions A	B	C	1-49	50-99
93F3705	DA51211	1.822″	1.000″	1.312″	2.69	2.28
93F3707	DB51213	2.368″	1.250″	1.852″	2.96	2.52

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SLIDE LATCH ASSEMBLIES

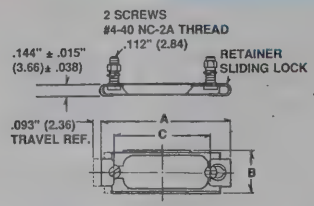

Fig. 1

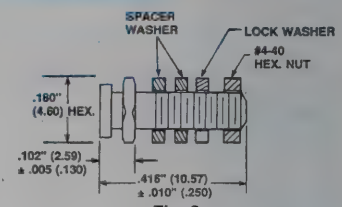

Fig. 2

Slide latch kit includes stainless steel slide latch retainer, 2 each cadmium-plated steel mounting screws, lock washers, and hex nut. *Order one assembly per connector.* Slide lock post kit consists of 2 posts, 4 space washers, 2 lock washers, and 2 hex nuts. Steel with yellow chromate over 100μ″ cadmium finish. *Order one kit per connector.*

SLIDE LATCH KITS, FIG. 1

Stock No.	Type	Dimensions A	B	C	1-49	50-99
93F8849	DE51224-1	1.380″	0.500″	0.984″	1.64	1.40
93F3702	DA51220-1	1.720″	0.500″	1.312″	1.02	0.87
93F8850	DB51221-1	2.260″	0.500″	1.852″	0.87	0.74
93F8851	DC51222-1	2.908″	0.500″	2.500″	1.49	1.27
93F8852	DD51223-1	2.814″	0.609″	2.406″	1.42	1.21
93F3706	DB51212	2.083″	1.250″	1.852″	2.96	2.52

SLIDE LOCK POST KITS, FIG. 2

Stock No.	Type	Material	1-49	50-99
93F3701	D53018	Steel	0.53	0.45

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SPRING LATCH ASSEMBLIES

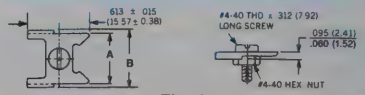


Fig. 1

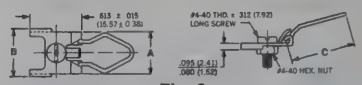


Fig. 2

Stainless steel spring latch plate kit consists of 2 plates, 2 screws, 2 lock washers, and 2 nuts. Stainless steel spring latch kit includes 2 springs, 2 screws, 2 brackets, 2 lock washers, and 2 hex nuts. Front panel mounting. *Order one of each per connector.*

SPRING LATCH PLATE KITS, FIG. 1

Stock No.	Type	Dimensions A	B	C	1-4	5-9
93F8863	D110278	0.484″	0.556″	...	0.57	0.54
93F8864	D110280	0.609″	0.673″	...	0.63	0.60

SPRING LATCH KITS, FIG. 2

93F8865	D110277	0.484″	0.565″	0.732″	0.90	0.85
93F8866	D110279	0.609″	0.673″	0.732″	1.03	0.98

(8696) (de01654)

JACKSCREW AND JACKPOST ASSEMBLIES

Jackpost Jackscrew

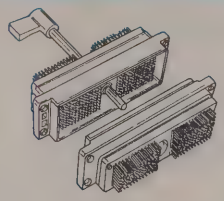
Stainless steel jackpost kit consists of 2 posts, 2 nuts, and 2 lockwashers. Stainless steel jackscrew kit consists of 2 studs, 2 heads, and 1 tube retaining compound. *Order one kit per connector.*

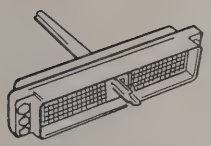
Stock No.	Type	Description	1-49	50-99
93F3699	D110551	Jackpost Kit	3.95	3.36
93F3700	D110550	Jackscrew Kit	4.97	4.23

(8697) (de01655)

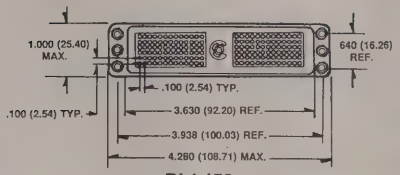
ZIF CONNECTORS AND ACCESSORIES

DL SERIES ZERO INSERTION FORCE CONNECTORS

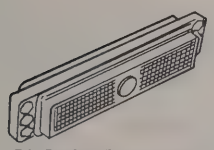




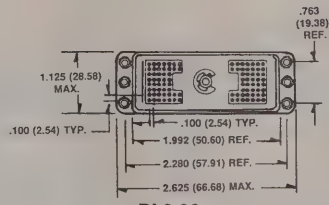
DL Series Plug



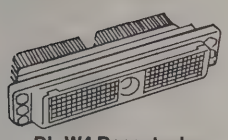
DL1-156



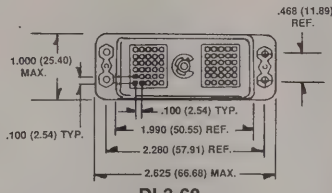
DL Series Receptacle



DL2-96



DL-W4 Receptacle



DL3-60

- **ZIF Design Enables Rapid Mating with Minimal Contact Wear**
- **For Cable-to-Cable, Cable-to-Panel, and Panel-to-Panel Interconnections**
- **Ideal for Multi-Cycle and Circuit Applications**

DL series rack and panel connectors feature zero insertion force (ZIF) design to enable long life and rapid mating. Ideal for any application requiring many cycles and circuits, for example medical, instrumentation and computer use. Glass-filled thermoplastic connector housing, rated UL94V-1, features stainless steel insulator retainer and camshaft. Zero connector engagement force minimizes contact wear as well. Contacts may be hand or machine terminated. Current rating: 5A. Capable of 8 lbs. minimum contact retention, 1200VAC dielectric withstanding voltage, and –55°C to +105°C operating temperature range. 18 to 32 AWG wire range. *Order actuating handle kit for plugs separately on this page. Order crimp contacts separately on this page. Order crimp tools separately on this page.*

CONNECTOR HOUSINGS

Stock No.	Type	Positions	Description	L x W	1-24	25-49
84F689	DL1-156P	156	Plug	4.28 x 1.00″	**46.63**	**41.03**
84F690	DL1-156R	156	Receptacle	4.28 x 1.00″	**15.15**	**12.87**
84F692	DL2-96P	96	Plug	2.63 x 1.13″	**44.02**	**38.74**
84F693	DL2-96R	96	Receptacle	2.63 x 1.13″	**9.45**	**8.04**
84F695	DL3-60P	60	Plug	2.63 x 1.00″	**49.67**	**43.71**
84F696	DL3-60R	60	Receptacle	2.63 x 1.00″	**12.37**	**10.51**
RECEPTACLES WITH PC/WIRE WRAP CONTACTS						
95F1948	DL1-156RW4B	156	Receptacle	4.28 x 1.00″	**130.46**	**123.93**
95F1949	DL2-96RW4B	96	Receptacle	2.63 x 1.13″	**85.38**	**81.11**

(8788) (de52726)

DL SERIES JUNCTION SHELL KITS

- **Stainless Steel Cable Clamps**
- **Thermoplastic, Rated UL94V**
- **Straight, Right-Angle, or 45° Cable Entry**
- **Knockout Plug Provides Alternate Second Cable Entry**
- **Complete With 4 Attaching Screws and Nuts**

Stock No.	Type*	For Use On	Mounting	Cable Entry	1-24	25-49
84F700	DL1-J/S	DL1-156	Straight or Right-Angle	0.875″	**16.44**	**13.98**
84F701	DL2-J/S	DL2-96	Straight or Right-Angle	0.560″	**13.32**	**11.33**
16F3610	DL2-2J/S	DL2-96	Straight or Right-Angle	0.625″	**17.63**	**14.98**
84F702	DL3-J/S	DL3-60	Straight or Right-Angle	0.560″	**14.92**	**12.68**
16F3611	DL3-3-J/S	DL3-60	Straight or Right-Angle	0.625″	**22.32**	**18.97**
16F3612	249-2237-001	DL3-60	Straight or Right-Angle	0.875″	**24.42**	**19.54**
16F3613	249-2060-001	DL3-60	45°	0.625″	**18.10**	**16.59**

* **Prefix DL1** indicates single-piece shell; **prefixes DL2** and **DL3,** 2-piece shells

(8834) (ne08230)

DL SERIES CRIMP CONTACTS

Loose beryllium copper crimp contacts available in three versions. No insertion tool required. Accommodate wide range of wire sizes. *Order crimp tools separately on this page.*

Stock No.	Type	AWG	Crimp Tool	1-49	50-99
20μ″ GOLD PLATING OVER 50μ″ NICKEL					
95F1933	030-2416-001	28-32	1	**0.31**	**0.26**
84F698	030-2410-001	24-26	2	**0.31**	**0.26**
84F697	030-2409-001	20-22	2	**0.31**	**0.26**
95F1936	030-2415-001*	18-20+	3	**0.31**	**0.26**
50μ″ GOLD PLATING OVER 50μ″ NICKEL (PLUG SIDE)					
95F1938	030-2416-003*	28-32	1	**0.35**	**0.30**
95F1939	030-2410-003*	24-26	2	**0.35**	**0.30**
95F1940	030-2409-003*	20-22	2	**0.35**	**0.30**
95F1941	030-2415-003*	18-20+	3	**0.35**	**0.30**
FLAT CONTACTS — 50μ″ GOLD PLATING OVER 50μ″ NICKEL (RECEPTACLE SIDE)					
95F1942	030-2494-001*	28-32	1	**0.35**	**0.30**
95F1943	030-2492-001*	24-26	2	**0.35**	**0.30**
95F1944	030-2491-001*	20-22	2	**0.35**	**0.30**
95F1945	030-2493-001*	18-20+	3	**0.35**	**0.30**

*For low current applications (less than 100 milliamps) manufacturer suggests using 50μ″gold contact on plug side and 50μ″ flat gold contact on receptacle side; + Non-insulation support

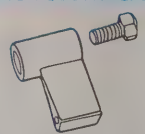
(8789) (de52727)

DL SERIES CRIMP HAND TOOLS

Stock No.	Type	Description	1-2
95F1946	CCT-DLT-1	Tool 1	**240.05**
84F703	CHTDLT20-26	Tool 2	**305.23**
95F1947	CCT-DL-3	Tool 3	**240.05**

(8790) (de52728)

DL SERIES ACTUATING HANDLE KIT



Type 204-0016-000 actuating handle kit for **type DL1, DL2,** and **DL3** connectors includes glass-filled thermoplastic actuating handle and attaching screw. "Locked" and "open" positions designated by pointer on handle. Kit actuates contacts and cam for locking connector.

Stock No.	Type	1-24
84F699	204-0016-000	**4.69**

(8791) (de52729)

PROTECTIVE COVERS

- **Fit Snugly Over Mating Faces**
- **Prevent Foreign Matter from Permeating Contact Cavities**
- **Antistatic Synthetic Rubber**

Stock No.	Type	For Use On	1-24	25-49
16F3614	039-0242-000	DL1-156P	**20.16**	**17.13**
16F3615	039-0243-000	DL1-156R	**20.16**	**17.13**
16F3616	039-0244-000	DL2-96P	**44.45**	**39.12**
16F3617	039-0245-000	DL2-96R	**57.44**	**50.55**
16F3618	039-0246-000	DL3-60P	**49.03**	**43.15**
16F3619	039-0247-000	DL3-60R	**49.03**	**43.15**

(8835) (ne08231)

POLARIZING POST KITS

- **Kits Include 2 Posts and 2 Screws**
- **Posts—Zinc per QQ-Z-363/Yellow Chromate Over Cadmium**

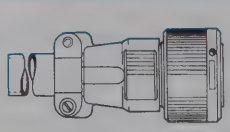
Stock No.	Type	For Use On	Mounting	Screws	1-49
16F3620	320-0021-006	DL1, DL2, DL3	Corner	4-40 x 9/32″ Pan Head	**4.18**
16F3621	320-0021-005	DL1, DL2	Center	2-56 x 3/16″ Fil. Head	**4.23**

(8836) (ne08232)

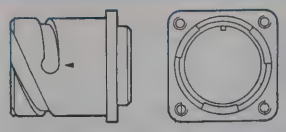
ITT Cannon

SEALED CONNECTORS

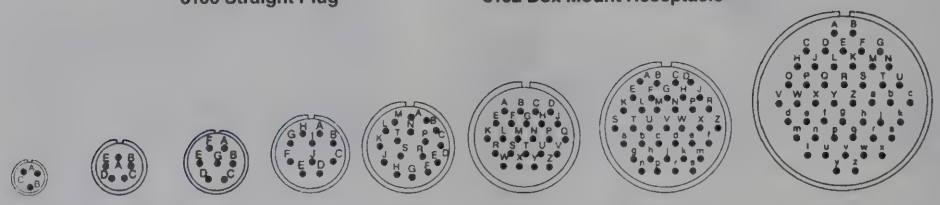
POSITIVE LOCK ENVIRONMENTALLY SEALED CA-BAYONET CONNECTORS



3106 Straight Plug



3102 Box Mount Receptacle



Shell Size	10SL-3	14S-5	16S-1	18-1	20-29	24-28	28-21	36-10
Contacts	3-#16	5-#16	7-#16	10-#16	17-#16	24-#16	37-#16	48-#16

Contact Arrangements
Mating Face View of Pin Insert Shown

CA-Bayonet MIL-C-5015 style connectors have positive, quick mating 3-point reverse bayonet lock coupling system. Completely sealed to withstand moisture, condensation, vibration, and flash-over. When connector halves are mated, rear sealing grommet and interfacial seal at front create an environmentally sealed assembly. Feature the same shell dimensions, contact layouts, and performance characteristics as the threaded coupling MIL-C-5015 connectors, but do not intermate. Standard plugs mate with box mount receptacles; *order separately below*. Available with pin or socket, solder or crimp silver-plated copper alloy contacts. Aluminum alloy body with olive drab chromate-over-cadmium finish. Polychloroprene insulator. Standard plugs have integrated cable clamp. Rated up to 13 amps. 500-cycle minimum mating life. Operating temperature: –55°C to +125°C. *Order crimp tool kit and wire hole fillers separately below*.

WITH SOLDER POT PIN OR SOCKET CONTACTS
STRAIGHT PLUGS

Stock No.	Type	Contacts	1-24	25-49	50-99
66F9359	CA3106E10SL-3PB*	3	35.61	27.43	22.22
66F9360	CA3106E14S-5PB*	5	37.60	28.96	23.46
66F9361	CA3106E16S-1PB*	7	47.19	36.34	29.45
66F9362	CA3106E18-1PB*	10	53.38	41.11	33.31
66F9363	CA3106E20-29PB*	17	58.83	45.31	36.71
66F9364	CA3106E24-28PB*	24	82.44	63.50	51.44
66F9365	CA3106E28-21PB*	37	85.45	65.81	53.32
66F9366	CA3106E36-10PB*	48	123.08	94.79	76.80
66F9367	CA3106E10SL-3SB†	3	37.24	28.68	23.24
66F9323	CA3106E14S-5SB†	5	40.60	31.27	25.34
66F9324	CA3106E16S-1SB†	7	50.98	39.26	31.81
66F9325	CA3106E18-1SB†	10	63.19	48.67	39.43
66F9326	CA3106E20-29SB†	17	72.18	55.59	45.04
66F9327	CA3106E24-28SB†	24	94.90	73.09	59.22
66F9328	CA3106E28-21SB†	37	109.52	84.35	68.34
66F9329	CA3106E36-10SB†	48	148.28	114.20	92.53

BOX MOUNT RECEPTACLES

66F9330	CA3102E10SL-3SB05†	3	15.68	12.08	9.79
66F9331	CA3102E14S-5PB05†	5	17.60	13.55	10.98
66F9341	CA3102E16S-1PB05†	7	26.52	20.42	16.55
66F9342	CA3102E18-1SB05†	10	32.82	25.28	20.48
66F9343	CA3102E20-29SB05†	17	40.04	30.84	24.98
66F9344	CA3102E24-28SB05†	24	52.75	40.62	32.91
66F9345	CA3102E28-21SB05†	37	72.39	55.75	45.17
66F9346	CA3102E36-10SB05†	48	83.08	63.99	51.84
66F9347	CA3102E10SL-3PB05*	3	16.92	13.03	10.56
66F9348	CA3102E14S-5SB05*	5	17.60	13.55	10.98
66F9349	CA3102E16S-1SB05*	7	22.76	17.53	14.21
66F9332	CA3102E18-1PB05*	10	23.19	17.86	14.47
66F9333	CA3102E20-29PB05*	17	26.59	20.48	16.59
66F9334	CA3102E24-28PB05*	24	40.25	31.00	25.12
66F9335	CA3102E28-21PB05*	37	48.32	37.22	30.15
66F9336	CA3102E36-10PB05*	48	57.59	44.36	35.94

WITH CRIMP PIN OR SOCKET CONTACTS
STRAIGHT PLUGS

Stock No.	Type	Contacts	1-24	25-49	50-99
66F8921	CA3106E10SL3PBF80*	3	35.47	27.32	27.32
66F8922	CA3106E14S-5PBF80*	5	37.35	28.76	28.76
66F8923	CA3106E16S-1PBF80*	7	46.83	36.07	36.07
66F8924	CA3106E18-1PBF80*	10	53.24	41.01	41.01
66F8925	CA3106E20-29PBF80*	17	58.80	45.29	45.29
66F8926	CA3106E24-28PBF80*	24	82.34	63.41	63.41
66F8836	CA3106E28-21PBF80*	37	85.35	65.73	65.73
66F8837	CA3106E36-10PBF80*	42	122.90	94.66	94.66
66F8838	CA3106E10SL3SBF80 †	3	37.77	29.09	29.09
66F8839	CA3106E14S-5SBF80 †	5	41.49	31.95	31.95
66F8840	CA3106E16S-1SBF80 †	7	52.21	40.21	40.21
66F8841	CA3106E18-1SBF80 †	10	63.12	48.61	48.61
66F8842	CA3106E20-29SBF80 †	17	72.07	55.51	55.51
66F8843	CA3106E24-28SBF80 †	24	94.73	72.96	72.96
66F8844	CA3106E28-21SBF80 †	37	109.24	84.13	84.13
66F9350	CA3106E36-10SBF80 †	48	147.93	113.93	113.93

BOX MOUNT RECEPTACLES

66F9352	3102E10SL3SBF8005 †	3	19.05	14.67	14.67
66F9353	3102E14S5SBF8005 †	5	21.84	16.82	16.82
66F9354	3102E16S1SBF8005 †	7	27.79	21.40	21.40
66F9355	3102E181SBF8005 †	10	33.10	25.49	25.49
66F9356	3102E2029SBF8005 †	17	40.00	30.81	30.81
66F9357	3102E2428SBF8005 †	24	52.57	40.49	40.49
66F9358	3102E2821SBF8005 †	37	72.14	55.56	55.56
66F8845	3102E3610SBF8005 †	48	115.82	89.20	89.20
66F8846	3102E10SL3PBF8005*	3	16.78	12.93	12.93
66F8847	3102E14S5PBF80-05*	5	17.67	13.61	13.61
66F8848	3102E16S-1PBF8005*	7	22.41	17.26	17.26
66F8849	3102E181PBF8005*	10	23.19	17.86	17.86
66F8850	3102E2029PBF8005*	17	26.73	20.59	20.59
66F8851	3102E2428PBF8005*	24	40.18	30.95	30.95
66F8852	3102E2821PBF8005*	37	48.21	37.11	37.11
66F8853	3106E3610PBF8005*	48	57.70	44.44	44.44

* = Pin contacts † = Socket contacts

KIT/ACCESSORIES

Type CAB16KIT crimp tool kit includes military style 8-indent crimp tool, locator, insertion and extraction tools, guide pins, lubricant, and instructions.

66F9767 Type CAB16KIT. **1-4** **986.48**

Type 2225-0017-000 wire hole fillers are used to fill unused cavities and preserve watertight seal.

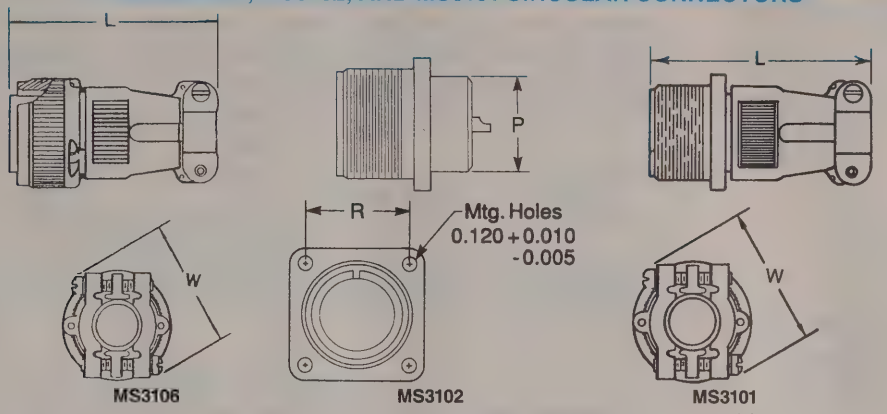
52F2894 Type 225-0017-000. **1-4** **0.17**

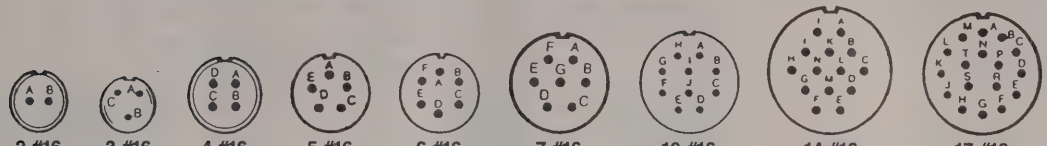
(8821) (ne06371)

CONTACT NEWARK FOR LARGE-QUANTITY PRICING.

MIL-C-5015 CONNECTORS

TYPES MS3106, MS3102, AND MS3101 CIRCULAR CONNECTORS





Contact Arrangements
Mating Face View of Pin Insert Shown

MIL-C-5015 circular connectors operate in extreme environmental conditions of high altitude flight. Type numbers with **prefixes MS3106F** and **MS3101F** feature resilient grommets with internal restrictions in wire cavities that act as individual wire seals. They also include an integral cable clamp that provides strain relief, and type numbers with **prefix MS3106F** have an O-ring under the coupling nut. Aluminum alloy shells have olive drab chromate coating over cadmium plating. Silver-plated copper alloy socket or pin contacts rated 13A. Tinned solder pot termination. Polychloropene insulators. Temperature range: –55°C to +125°C.

TYPE MS3106 PLUGS WITH SOCKET CONTACTS

Stock No.	Type	Insert Config-uration	Dimensions L	Dimensions W	1-9	10-24	25-49
50F2538	MS3106F10SL-4S	10SL-4	2.250″	1.125″	25.82	21.51	16.26
50F2537	MS3106F10SL-3S	10SL-3	2.250″	1.125″	25.87	21.56	16.29
50F2529	MS3106F14S-2S	14S-2	2.250″	1.343″	24.06	20.05	15.15
16F1741	MS3106F14S-5S	14S-5	2.250″	1.343″	24.95	20.79	15.71
50F2525	MS3106F14S-6S	14S-6	2.250″	1.343″	26.09	21.74	16.43
50F2497	MS3106F16S-1S	16S-1	2.250″	1.484″	29.43	23.17	18.78
50F2505	MS3106F18-1S	18-1	2.688″	1.609″	28.91	22.76	18.45
50F2514	MS3106F20-27S	20-27	2.750″	1.890″	34.50	27.16	22.02
50F2516	MS3106F20-29S	20-29	2.750″	1.890″	37.13	29.23	23.70

TYPE MS3106 PLUGS WITH PIN CONTACTS

Stock No.	Type	Insert Config-uration	Dimensions L	Dimensions W	1-9	10-24	25-49
50F2540	MS3106F10SL-4P	10SL-4	2.250″	1.125″	24.84	20.70	15.64
50F2539	MS3106F10SL-3P	10SL-3	2.250″	1.125″	24.44	20.37	15.39
50F2527	MS3106F14S-2P	14S-2	2.250″	1.343″	23.71	19.76	14.93
50F2528	MS3106F14S-5P	14S-5	2.250″	1.343″	22.36	18.63	14.08
50F2526	MS3106F14S-6P	14S-6	2.250″	1.343″	23.47	19.56	14.78
50F2498	MS3106F16S-1P	16S-1	2.250″	1.484″	25.50	20.08	16.28
50F2506	MS3106F18-1P	18-1	2.688″	1.609″	25.31	19.93	16.16
50F2513	MS3106F20-27P	20-27	2.750″	1.890″	27.52	21.67	17.57
50F2515	MS3106F20-29P	20-29	2.750″	1.890″	30.30	23.85	19.34

TYPE MS3102 BOX MOUNTING RECEPTACLES WITH SOCKET CONTACTS

Stock No.	Type	Insert Config-uration	Dimensions R ± .005	Dimensions P (Max.)	1-9	10-24	25-49
50F2546	MS3102R10SL-4S	10SL-4	0.719″	0.614″	9.48	7.90	5.97
50F2545	MS3102R10SL-3S	10SL-3	0.719″	0.614″	12.21	10.17	7.69
50F2533	MS3102R14S-2S	14S-2	0.906″	0.739″	10.91	9.09	6.87
50F2534	MS3102R14S-5S	14S-5	0.906″	0.739″	11.80	9.84	7.43
50F2531	MS3102R14S-6S	14S-6	0.906″	0.739″	12.29	10.24	7.74
50F2501	MS3102R16S-1S	16S-1	0.969″	0.864″	15.42	12.85	9.71
50F2510	MS3102R18-1S	18-1	1.062″	0.989″	16.77	13.98	10.56
50F2524	MS3102R20-27S	20-27	1.156″	1.145″	14.80	12.33	9.32
50F2522	MS3102R20-29S	20-29	1.156″	1.145″	25.38	21.15	15.98

TYPE MS3102 BOX MOUNTING RECEPTACLES WITH PIN CONTACTS

Stock No.	Type	Insert Config-uration	Dimensions R ± .005	Dimensions P (Max.)	1-9	10-24	25-49
50F2544	MS3102R10SL-4P	10SL-4	0.719″	0.614″	8.46	7.05	5.33
50F2543	MS3102R10SL-3P	10SL-3	0.719″	0.614″	9.02	7.52	5.68
50F2535	MS3102R14S-2P	14S-2	0.906″	0.739″	10.59	8.82	6.67
16F1742	MS3102R14S-5P	14S-5	0.906″	0.739″	9.21	7.68	5.80
50F2532	MS3102R14S-6P	14S-6	0.906″	0.739″	9.62	8.01	6.06
50F2502	MS3102R16S-1P	16S-1	0.969″	0.864″	10.91	9.09	6.87
50F2509	MS3102R18-1P	18-1	1.062″	0.989″	12.64	10.53	7.96
50F2523	MS3102R20-27P	20-27	1.156″	1.145″	14.80	12.33	9.32
50F2521	MS3102R20-29P	20-29	1.156″	1.145″	17.53	14.61	11.04

TYPE MS3101 CABLE CONNECTING RECEPTACLES WITH SOCKET CONTACTS

Stock No.	Type	Insert Config-uration	Dimensions L	Dimensions W	1-9	10-24	25-49
16F1743	MS3101F10SL-4S	10SL-4	2.250″	1.125″	23.55	18.54	15.03
16F1744	MS3101F10SL-3S	10SL-3	2.250″	1.125″	23.04	19.20	14.51
16F1745	MS3101F14S-2S	14S-2	2.250″	1.343″	23.58	19.65	14.85
16F1746	MS3101F14S-5S	14S-5	2.250″	1.343″	24.91	19.61	15.90
16F1747	MS3101F14S-6S	14S-6	2.250″	1.343″	26.02	20.48	16.61
16F1748	MS3101F16S-1S	16S-1	2.250″	1.484″	31.14	24.52	19.88
16F1749	MS3101F18-1S	18-1	2.688″	1.609″	27.78	21.87	17.73
16F1750	MS3101F20-27S	20-27	2.750″	1.890″	41.13	32.38	26.25
16F1751	MS3101F20-29S	20-29	2.750″	1.890″	41.69	32.82	26.61

TYPE MS3101 CABLE CONNECTING RECEPTACLES WITH PIN CONTACTS

Stock No.	Type	Insert Config-uration	Dimensions L	Dimensions W	1-9	10-24	25-49
16F1752	MS3101F10SL-4P	10SL-4	2.250″	1.125″	21.93	18.27	13.81
16F1753	MS3101F10SL-3P	10SL-3	2.250″	1.125″	21.60	18.00	13.60
16F1754	MS3101F14S-2P	14S-2	2.250″	1.343″	23.22	19.35	14.62
16F1755	MS3101F14S-5P	14S-5	2.250″	1.343″	21.87	18.23	13.77
16F1756	MS3101F14S-6P	14S-6	2.250″	1.343″	22.98	19.15	14.47
16F1757	MS3101F16S-1P	16S-1	2.250″	1.484″	27.19	21.41	17.36
16F1758	MS3101F18-1P	18-1	2.688″	1.609″	24.19	19.04	15.44
16F1759	MS3101F20-27P	20-27	2.750″	1.890″	33.02	26.00	21.08
16F1760	MS3101F20-29P	20-29	2.750″	1.890″	33.30	26.22	21.26

(8806)

(ne01123)

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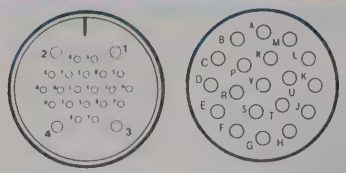

4-20 0-19

TRIDENT NEPTUNE® CIRCULAR CONNECTORS

Multiposition Trident Neptune® interface connectors have all the features of Trident Ringlock® connectors, plus power contact positions for combining power and signal in a single package. Wire entry seals and O-ring interface seal provides added environmental sealing to meet IP67 classification. Strong metal bayonet coupling system for durability and reliability. Accepts standard Trident signal contacts, *ordered separately on this page.* For Trident power contacts, *contact your local Newark sales office for details.*

STANDARD PLUGS

Stock No.	Type	Shell/ Contacts	Fig.	Dimensions A	B	C	1-49
93F9045	192900-0014	24/4-20	1	1.57″	1.59″	1.73″	21.20
93F9047	192900-0017	16/0-19	1	1.57″	1.06″	1.19″	15.24
STANDARD RECEPTACLES							
93F9048	192900-0030	24/4-20	2	1.65″	1.50″	2.00″	13.53
93F9054	192900-0039	16/0-19	2	1.56″	1.00″	1.22″	9.98

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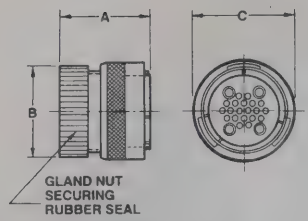

Fig. 1

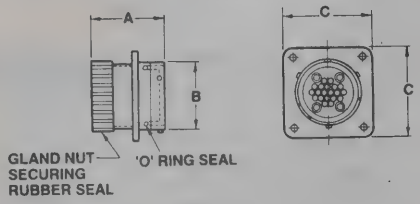

Fig. 2

CIRCULAR CABLE CLAMPS

Standard cable clamps provide strain relief and protection for wires. Fit onto any Trident Ringlock® plug or receptacle connectors. Sealed cable clamps provide strain relief and sealing to IP67 for jacketed cables. Fit onto any Trident Ringlock® plug or sealed receptacle connectors; *order separately on page 281.*

STANDARD CABLE CLAMPS, FIG. 3

Stock No.	Type	Shell Size	Dimension A	1-24	25-49
93F9029	192922-1310	10	1.57″ (39.90)	4.48	3.80
93F9030	192922-1320	12	1.57″ (40.00)	4.77	4.06
93F9031	192922-1330	14	1.81″ (46.00)	4.65	3.95
93F9032	192922-1340	16	1.81″ (46.00)	4.90	4.16
93F9033	192990-1510	18	1.97″ (50.00)	5.24	4.46
93F9034	192922-1350	20	2.17″ (55.00)	5.88	5.00
93F9035	192922-1360	22	2.36″ (60.00)	7.02	5.96
93F9036	192990-1520	24	2.56″ (65.00)	6.31	5.36
SEALED CABLE CLAMPS, FIG. 4					
93F9037	192990-1530	10	2.17″ (55.00)	9.02	7.67
93F9038	192990-1540	12	2.28″ (58.00)	9.61	8.17
93F9039	192990-1550	14	2.56″ (65.00)	10.05	8.54
93F9040	192990-1560	16	2.72″ (69.00)	10.48	8.91
93F9041	192990-1570	18	2.87″ (73.00)	11.53	9.80
93F9042	192990-1580	20	3.27″ (83.00)	12.69	10.78
93F9043	192990-1590	22	3.54″ (90.00)	14.21	12.08
93F9044	192990-1600	24	4.13″ (105.00)	16.35	13.90

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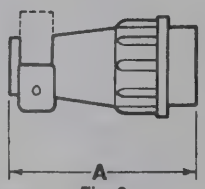

Fig. 3

TRIDENT® SIGNAL CONTACTS

Can be used with Trident® series Ringlock® connectors, *order separately on page 281.* High performance two-piece stamped and formed design. Current rating: 13 amps/circuit. Available in tin or gold flash over nickel platings. No insulation support for size 14 AWG. *Order crimp and extraction tooling separately on this page.* **Sold in packages of 100.**

TRIDENT® TIN-PLATED PINS, FIG. 5

Stock No.	Type	AWG	Insulation Diameter	1-4	5-9
93F9066	192990-0020	24-28	0.035-0.062″	18.22	17.31
93F9068	192990-0040	20-22	0.046-0.082″	18.22	17.31
93F9070	192990-0060	16-18	0.079-0.118″	18.22	17.31
93F9072	192990-1240	14	*	18.22	17.31
TRIDENT® TIN-PLATED SOCKETS, FIG. 6					
93F9067	192990-0030	24-28	0.035-0.062″	18.22	17.31
93F9069	192990-0050	20-22	0.046-0.082″	18.22	17.31
93F9071	192990-0070	16-18	0.079-0.118″	18.22	17.31
93F9073	192990-1250	14	*	18.22	17.31
TRIDENT® GOLD-PLATED PINS, FIG. 5					
93F9074	192990-0080	24-28	0.035-0.062″	21.53	20.46
93F9076	192922-1460	20-22	0.046-0.082″	21.53	20.46
93F9078	192990-0100	16-18	0.079-0.118″	21.53	20.46
93F9080	192990-1220	14	*	21.53	20.46
TRIDENT® GOLD-PLATED SOCKETS, FIG. 6					
93F9075	192990-0090	24-28	0.035-0.062″	23.19	22.03
93F9077	192922-1470	20-22	0.046-0.082″	23.19	22.03
93F9079	192990-0110	16-18	0.079-0.118″	23.19	22.03
93F9081	192990-1230	14	*	23.19	22.03

* Without insulation support.

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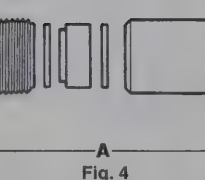

Fig. 4

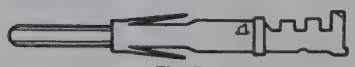

Fig. 5

TRIDENT® CRIMP AND EXTRACTION TOOLING

For crimping or extracting Trident® signal contacts, *order separately on this page.*

Stock No.	Type	Description	1-2
93F9149	192900-0176	Power Extraction Tool	30.11
93F9148	192922-1450	Signal Contact Extraction Tool	11.39
91F1742	192922-1440	Contact Crimp Tool, Non-Ratcheted 14-28 AWG	44.51

(8713) (de01964)

Fig. 6

TRIDENT RINGLOCK® CIRCULAR CONNECTORS SEALED AGAINST WATERJETS IP67

Combination circular connectors offer economy of plastic body with ruggedness of metal ring coupling. Thermoplastic body, rated UL 94V-0. Nickel-plated copper alloy coupling ring. Accepts standard Trident signal contacts, *ordered separately on page 280.* Standard format requires male contact (pin) on plug side. Reverse format opposite. Sealed receptacles come fitted with O-ring seal and when used with sealed cable clamps, *ordered separately on page 280,* provide splashproof sealing to IP67. Intermateable and interchangeable with Burndy trim trio series. *Order crimp and extraction tooling separately on page 280.*

RINGLOCK® STANDARD PLUGS, FIG. 1

Stock No.	Type	Shell/Contacts	Dimensions A	B	C	1-24	25-49
93F8975	192922-1250	10/4	0.85″	1.25″	0.43″	8.93	7.59
93F8976	192922-1260	12/8	0.98″	1.25″	0.54″	9.43	8.02
93F8977	192922-1270	14/12	1.10″	1.25″	0.67″	10.34	8.79
93F8978	192922-1280	16/19	1.23″	1.25″	0.78″	11.32	9.62
93F8980	192990-1320	18/23	1.35″	1.25″	0.88″	12.30	10.46
93F8981	192922-1290	20/28	1.48″	1.25″	1.01″	13.85	11.77
93F8982	192922-1300	22/35	1.60″	1.25″	1.12″	15.08	12.82
93F8983	192990-1340	24/48	1.73″	1.25″	1.25″	15.58	13.24

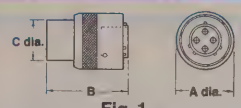

Fig. 1
Standard Plug for Pin Contacts

RINGLOCK® REVERSED PLUGS, FIG. 2

Stock No.	Type	Shell/ Contacts	Dimensions A	B	C	1-24	25-49
93F8993	192926-0500	10/4	0.85″	0.94″	0.43″	8.93	7.59
93F8994	192926-0510	12/8	0.98″	0.94″	0.34″	9.43	8.02
93F8995	192926-0520	14/12	1.10″	0.94″	0.67″	10.34	8.79
93F8996	192926-0530	16/19	1.23″	0.94″	0.78″	11.32	9.62
93F8998	192990-1380	18/23	1.35″	0.94″	0.88″	12.30	10.46
93F8999	192926-0540	20/28	1.48″	0.94″	1.01″	13.85	11.77
93F9000	192926-0550	22/35	1.60″	0.98″	1.12″	15.08	12.82
93F9001	192990-1400	24/48	1.73″	1.03″	1.25″	15.58	13.24

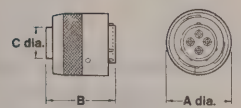

Fig. 2
Reversed Plug for Socket Contacts

RINGLOCK® STANDARD RECEPTACLES, FIG. 3

Stock No.	Type	Shell/Contacts	Dimensions A	B	C	1-24	25-49
93F8984	192922-1190	10/4	0.96″	0.59″	0.94″	5.08	4.32
93F8985	192922-1200	12/8	0.96″	0.75″	1.03″	5.22	4.44
93F8986	192922-1210	14/12	0.96″	0.87″	1.12″	5.33	4.53
93F8987	192922-1220	16/19	0.96″	1.00″	1.21″	5.74	4.88
93F8990	192922-1230	20/28	1.06″	1.25″	1.43″	6.97	5.93
93F8991	192922-1240	22/35	1.10″	1.37″	1.55″	7.38	6.27
93F8992	192990-1310	24/28	1.20″	1.50″	1.68″	7.79	6.62

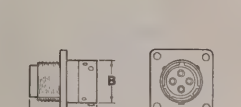

Fig. 3
Standard Receptacle for Socket Contacts

RINGLOCK® STANDARD SEALED RECEPTACLES, FIG. 3

Stock No.	Type	Shell/Contacts	Dimensions A	B	C	1-24	25-49
93F9011	192990-1660	10/4	0.96″	0.59″	0.94″	6.56	5.58
93F9012	192990-1670	12/8	0.96″	0.75″	1.03″	6.72	5.71
93F9013	192990-1680	14/12	0.96″	0.87″	1.12″	6.97	5.93
93F9014	192990-1690	16/19	0.96″	1.00″	1.21″	7.47	6.35
93F9016	192990-1710	18/23	0.96″	1.12″	1.30″	8.00	6.80

Fig. 4
Reversed Receptacle for Socket Contacts

RINGLOCK® REVERSED RECEPTACLES, FIG. 4

Stock No.	Type	Shell/Contacts	Dimensions A	B	C	1-24	25-49
93F9002	192926-0440	10/4	1.25″	0.59″	0.94″	5.08	4.32
93F9003	192926-0450	12/8	1.25″	0.75″	1.03″	5.22	4.44
93F9004	192926-0460	14/12	1.24″	0.874″	1.108″	5.33	4.53
93F9005	192926-0470	16/19	1.25″	1.00″	1.21″	5.74	4.88
93F9008	192926-0480	20/28	1.31″	1.25″	1.43″	6.97	5.93
93F9010	192990-1370	24/28	1.31″	1.50″	1.68″	7.79	6.62

RINGLOCK® REVERSE SEALED RECEPTACLES, FIG. 4

Stock No.	Type	Shell/Contacts	Dimensions A	B	C	1-24	25-49
93F9020	192990-1760	10/4	1.25″	0.59″	0.94″	6.56	5.58
93F9021	192990-1770	12/8	1.25″	0.75″	1.03″	6.72	5.71
93F9022	192990-1780	14/12	1.25″	0.87″	1.12″	6.97	5.93
93F9023	192990-1790	16/19	1.25″	1.00″	1.21″	7.47	6.35
93F9025	192990-1810	18/23	1.25″	1.12″	1.30″	8.00	6.80

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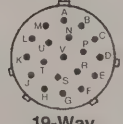
Contact Arrangements

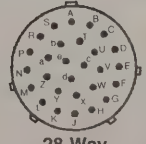
4-Way

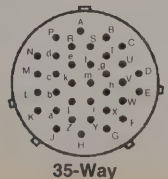
8-Way

12-Way


19-Way

23-Way


28-Way


35-Way

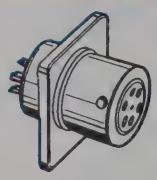
48-Way

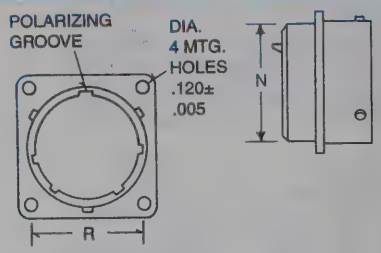
CONTACT NEWARK FOR LARGE-QUANTITY PRICING.

ITT Cannon

MIL-C-26482 SEALED CONNECTORS

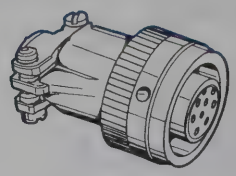
TYPES KPSE AND KPT MIL-C-26482 SERIES 1 MINIATURE SEALED CONNECTORS WITH CRIMP OR SOLDER CONTACTS



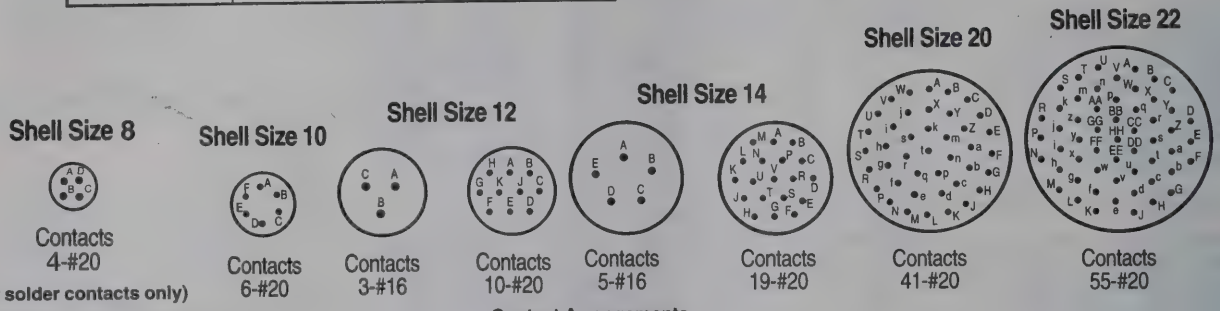


Box Mounting Receptacle

Shell Size	N Dia. Max.	R (TP)
8	0.469" (11.91)	0.594" (15.09)
10	0.593" (15.06)	0.719" (18.26)
12	0.719" (18.26)	0.812" (20.62)
14	0.843" (21.41)	0.906" (23.01)
20	1.219" (30.96)	1.156" (29.36)
22	1.343" (34.11)	1.250" (31.75)



Straight Plug with Strain Relief



Contact Arrangements
Mating Face View of Pin Insert Shown

Environmentally sealed plugs and receptacles offer high-density contact arrangements in a miniature circular metal shell. Meet all MIL-C-26482 requirements and are intermateable, intermountable, and interchangeable with all MIL-C-26482 connectors, crimp or solder style. Feature aluminum alloy body with olive drab chromate over cadmium finish. Polychloroprene insulators. Copper alloy crimp or solder pin and socket contacts with gold plating per MIL-G-45204 Type II. Plugs with pin contacts mate with socket contact receptacles and plugs with socket contacts mate with pin contact receptacles. Quick disconnect bayonet coupling for rapid positive mating and unmating. Moisture sealing is achieved by 4 seals: shell, peripheral, interfacial and wire. 500 cycles minimum mating life. Operating temperature: –55°C to +125°C. *Order crimp tool kit separately below when ordering crimp connectors.* NOTE: Shell size 8 layout is only available in solder type.

KPSE STRAIGHT PLUGS WITH CABLE CLAMP (CRIMP CONTACTS)

Stock No.	Type	Contacts	Shell Size	1-4	5-9	10-24
66F8818	MS3126F12-3P*	3	12	44.04	39.64	35.68
66F8819	MS3126F14-5P*	5	14	44.56	40.11	36.09
66F8917	MS3126F10-6P*	6	10	43.42	39.08	35.17
66F8820	MS3126F12-10P*	10	12	47.92	43.13	38.82
66F8821	MS3126F14-19P*	19	14	56.10	50.49	45.44
66F8822	MS3126F20-41P*	41	20	87.00	78.30	70.47
66F8823	MS3126F22-55P*	55	22	104.02	93.62	84.26
66F8824	MS3126F12-3S+	3	12	47.87	43.09	38.78
66F8825	MS3126F14-5S+	5	14	49.68	44.72	40.24
66F8826	MS3126F10-6S+	6	10	45.65	41.08	36.98
66F8827	MS3126F12-10S+	10	12	49.53	44.58	40.12
66F8828	MS3126F14-19S+	19	14	86.63	77.97	70.17
66F8829	MS3126F20-41S+	41	20	102.37	92.13	82.92
66F8830	MS3126F22-55S+	55	22	127.21	114.49	103.04

KPSE BOX MOUNTING RECEPTACLES (CRIMP CONTACTS)

66F8831	MS3122E12-3S+	3	12	35.50	31.95	28.76
66F8832	MS3122E14-5S+	5	14	38.30	34.47	31.02
66F8833	MS3122E10-6S+	6	10	34.94	31.44	28.30
66F8834	MS3122E12-10S+	10	12	36.18	32.56	29.30
66F8835	MS3122E14-19S+	19	14	51.60	46.44	41.80
66F8927	MS3122E20-41S+	41	20	96.26	86.63	77.97
66F8928	MS3122E22-55S+	55	22	121.62	109.46	98.51
66F8929	MS3122E12-3P*	3	12	32.14	28.93	26.03
66F8930	MS3122E14-5P*	5	14	32.61	29.35	26.41
66F8931	MS3122E10-6P*	6	10	32.09	28.88	25.99
66F8932	MS3122E12-10P*	10	12	33.69	30.32	27.29
66F8933	MS3122E14-19P*	19	14	51.50	46.35	41.71
66F8934	MS3122E20-41P*	41	20	79.18	71.26	64.14
66F8935	MS3122E22-55P*	55	22	93.72	84.35	75.92

* = Pin contacts + = Socket contacts

TYPE KPSE CRIMP TOOL KIT

Type KPSE-KIT crimp tool kit includes military style 8-indent crimp tool and locator, size 16 and 20 insertion and extraction tools, lubricant and assembly instructions.

66F9766 Type KPSE-KIT. **1-4** **945.24**

KPT STRAIGHT PLUGS WITH CABLE CLAMP (SOLDER CONTACTS)

Stock No.	Type	Contacts	Shell Size	1-4	5-9	10-24
93F3374	MS3116F8-4P*	4	8	36.95	33.26	29.93
99F7263	MS3116F12-3P*	3	12	37.52	33.77	30.39
99F6087	MS3116F14-15P*	5	14	44.15	39.73	35.76
93F3376	MS3116F10-6P*	6	10	35.25	31.72	28.55
93F3378	MS3116F12-10P*	10	12	38.45	34.61	31.15
93F3380	MS3116F14-19P*	19	14	43.06	38.75	34.88
99F4898	MS3116F20-41P*	41	20	52.19	46.97	42.27
16F3632	MS3116F22-55P*	55	22	72.82	65.54	58.98
93F3375	MS3116F8-4S+	4	8	41.51	37.36	33.62
16F3633	MS3116F12-3S+	3	12	41.30	37.17	33.45
16F3634	MS3116F14-15S+	5	14	49.27	44.34	39.91
93F3377	MS3116F10-6S+	6	10	37.89	34.10	30.69
93F3379	MS3116F12-10S+	10	12	41.82	37.64	33.87
93F3381	MS3116F14-19S+	19	14	49.63	44.67	40.20
99F4897	MS3116F20-41S+	41	20	76.34	68.70	61.83
16F3635	MS3116F22-55S+	55	22	94.55	85.10	76.59

KPT BOX MOUNTING RECEPTACLES (SOLDER CONTACTS)

Stock No.	Type	Contacts	Shell Size	1-4	5-9	10-24
93F3382	MS3112E8-4P*	4	8	17.08	15.37	13.84
16F3636	MS3112E12-3P*	3	12	17.44	15.70	14.13
16F3637	MS3112E14-15P*	5	14	24.17	21.75	19.58
93F3384	MS3112E10-6P*	6	10	17.73	15.96	14.36
93F3386	MS3112E12-10P*	10	12	19.57	17.61	15.85
93F3388	MS3112E14-19P*	19	14	24.95	22.45	20.21
16F3638	MS3112E20-41P*	41	20	38.71	34.84	31.36
16F3639	MS3112E22-55P*	55	22	50.15	45.14	40.62
93F3383	MS3112E8-4S+	4	8	21.64	19.47	17.53
16F3640	MS3112E12-3S+	3	12	21.22	19.10	17.19
16F3641	MS3112E14-15S+	5	14	29.29	26.37	23.73
93F3385	MS3112E10-6S+	6	10	20.34	18.31	16.48
93F3387	MS3112E12-10S+	10	12	22.93	20.64	18.57
93F3389	MS3112E14-19S+	19	14	31.52	28.37	25.53
16F3642	MS31 12E20-41S+	41	20	55.64	50.07	45.06
16F3643	MS3112E22-55S+	55	22	71.88	64.70	58.23

* = Pin contacts + = Socket contacts

(8822)

(ne06372)

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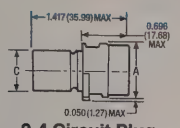
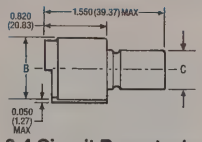
NEW ENVIRONMENTALLY SEALED CIRCULAR CONNECTORS

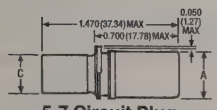
ENVIRONMENTALLY SEALED CIRCULAR CONNECTORS



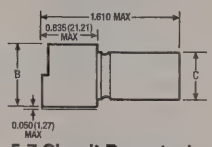
2-4 Circuit Plug



2-4 Circuit Receptacle



5-7 Circuit Plug

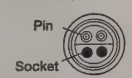


5-7 Circuit Receptacle

VIEW FROM MATING FACE OF PLUG

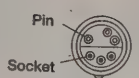
2 Circuit

3 Circuit



4 Circuit

5 Circuit



6 Circuit

7 Circuit

One-piece elastomeric molded body and multiple moisture seals make these plugs and receptacles ideal for applications where outside contaminants must be excluded. Meet or exceed DOT requirements for shock, vibration temperature cycling, salt-water spray and immersion, petroleum derivatives, and industrial gas. Water submersible, sealed to requirements of IP67 and DIN 400 50.
Operating voltage: 400VAC max. Current rating: 15 amps max. 50 cycles minimum mating life. Operating temperature: -40°C to +105°C. UL recognized, CSA certified. Color: black. Tin-plated copper alloy pin and socket crimp contacts, ordered separately, below, for 14 to 18 AWG; *Order contacts, tools, and accessories seperately below.*

PLUGS

Stock No.	Type	No. of Circuits	Dimensions A	B	C	1-9	10-24
66F8875	120-1807-000	2	0.550″	...	0.430″	1.51	1.36
66F8876	120-1808-000	3	0.600″	...	0.500″	1.56	1.40
66F8877	120-1809-000	4	0.600″	...	0.500″	1.85	1.66
66F8878	120-1841-000	5	1.010″	...	0.810″	2.75	2.47
66F8879	120-1842-000	6	1.010″	...	0.810″	2.75	2.47
66F8880	120-1873-000	7	1.010″	...	0.810″	2.86	2.58

RECEPTACLES

Stock No.	Type	No. of Circuits	Dimensions A	B	C	1-9	10-24
66F8881	120-1804-000	2	...	0.710″	0.430″	1.47	1.32
66F8882	120-1805-000	3	...	0.760″	0.500″	1.60	1.44
66F8883	120-1806-000	4	...	0.760″	0.500″	1.78	1.60
66F8884	120-1839-000	5	...	1.160″	0.810″	2.84	2.56
66F8885	120-1840-000	6	...	1.160″	0.810″	2.82	2.54
66F8886	120-1874-000	7	...	1.160″	0.810″	2.82	2.54

CONTACTS

Stock No.	Type	Description	1-9
66F8891	030-2196-001	Pin Contact, 14-18 AWG	0.61
66F8892	031-1267-001	Socket Contact, 14-18 AWG	0.63
66F8911	225-0093-000	Wire Hole Fillers	0.17

JACKET SEALING BOOTS

Stock No.	Type	Description	1-9
66F8887	317-1398-000	For 2 Circuits, 0.208-0.228″ Cable O.D.	2.75
66F8888	317-1397-000	For 3-4 Circuits, 0.220-0.240″ Cable O.D.	3.18
66F8889	317-1399-000	For 3-4 Circuits, 0.345-0.380″ Cable O.D.	3.18
66F8890	317-8657-000	For 5-7 Circuits, 0.283-0.331″ Cable O.D.	3.40

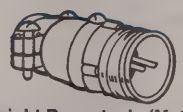
TOOLING

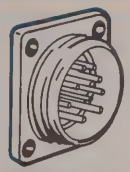
Stock No.	Type	Description	1-9
66F9601	317-1408-001	For 2 Circuits, Insertion Holding Blocks	58.60
66F8915	317-1408-000	For 3-4 Circuits, Insertion Holding Blocks	38.19
66F8916	317-1408-003	For 5-7 Circuits, Insertion Holding Blocks	52.82
66F8912	995-0001-904	Crimp Tool	327.76
66F8913	070306-0000	Insertion Tool	57.33

(33371) (ne33371)

STANDARD-K® SERIES CIRCULAR CONNECTORS

Straight Plug - Socket Contacts


Straight Receptacle (Mating Receptacle) - Pin Contacts


Wall Mount Receptacle (Mating Receptacle) With Pin Contacts

VIEW FROM MATING FACE OF PIN INSERT

WK-3

WK-C3

WK-4

WK-5

WK-6

GK-12

Standard-K® quick-disconnect connectors are rugged, reliable, lightweight and economical. Do not require special tooling or wire preparation. Simple, foolproof assembly, using a soldering iron and a screwdriver. Body: aluminum alloy with clear chromate over cadmium. Insulators: diallyl phthalate or fabricated phenolic. Contacts: copper alloy with silver plating. Operating temperature: -67°F to +257°F.

STRAIGHT PLUG WITH SOCKET CONTACTS

Stock No.	Type	Contacts	1-9	10-24
66F9602	WK-3-21C-1/2	3	47.77	42.99
66F9603	WK-C3-21C-1/2	3	53.36	48.03
66F9604	WK-4-21C-1/2	4	49.40	44.46
66F9606	WK-5-21C-1/2	5	44.39	39.95
66F9605	WK-6-21C-1/2	6	48.14	43.33
66F9607	GK-12-21C-1/2	12	57.86	52.07

DUST CAPS — METAL WITH CHAIN

Stock No.	Type	Fits Shell	1-24	25-49
66F9608	WK-59A-2	2/C	58.86	52.97
66F9609	GK-59A-2	2/C	56.27	50.65

STRAIGHT RECEPTACLES — WITH PIN CONTACTS

Stock No.	Type	Contacts	1-24	25-49
66F9610	WK-3-22C-1/2	3	35.14	31.63
66F9611	WK-C3-22C-1/2	3	46.58	41.92
66F9612	WK-4-22C-1/2	4	34.16	30.75
66F9613	WK-5-22C-1/2	5	35.79	32.21
66F9614	WK-6-22C-1/2	6	37.89	34.10
66F9615	GK-12-22C-1/2	12	52.85	47.56

DUST CAPS — WITH CHAIN

Stock No.	Type	Fits Shells	1-24	25-49
66F9616	WK-60A-2	22C, 32SL	64.93	49.95
66F9617	GK-60A-2	22C, 32SL	58.31	44.86

WALL MOUNT RECEPTACLE — WITH PIN CONTACTS

Stock No.	Type	Contacts	1-24	25-49
66F9595	WK-3-32SL	3	23.51	21.16
66F9596	WK-C3-32SL	3	34.95	31.46
66F9600	WK-4-32SL	4	62.66	56.39
66F9598	WK-5-32SL	5	22.91	17.63
66F9597	WK-6-32SL	6	23.32	17.95
66F9599	GK-12-32SL	12	48.37	37.21

(33370) (ne33370)

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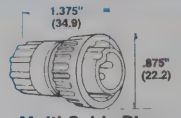
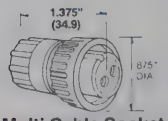
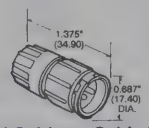
INDOOR/OUTDOOR CONNECTORS



Multi Cable Plug



Multi Cable Socket

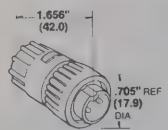


Multi Cable-to-Cable Plug

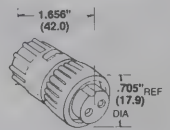
Multi Panel Plug

Multi Panel Socket

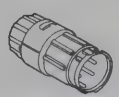
Panel Cutout

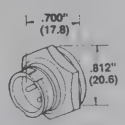


Mini Cable Plug

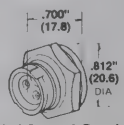


Mini Cable Socket


Mini Cable-to-Cable Plug



Mini Panel Plug



Mini Panel Socket

Panel Cutout

Indoor/outdoor connectors for industrial and marine applications. Non-corrosive, high-impact molded construction minimizes hazards of electrical shock and provides resistance to hostile outdoor environment. Suit wide range of non-environmental applications, such as communication systems, data processing, and entertainment devices. Available standard, miniature, and subminiature sizes; high-density connectors in cable end, panel mount or cable-to-cable. Solder cup contacts have gold-over-nickel plating. Type numbers with **suffix -3XX** include grommet seals. UL recognized. NOTE: When mating two cables, the cable-to-cable connectors need to be used in conjunction with the cable end connectors. For example: **type 5182-2PG-3XX** mates with **type 3182-2SG-3XX.**

MULTI-CON-X® CABLE END CONNECTORS

Stock No.	Type	Contacts	Description	1-24
89F4153	3182-2SG-3XX	2	Socket	5.01
89F4154	3182-2PG-3XX	2	Pin	4.39
89F4155	3182-3SG-3XX	3	Socket	6.17
89F4156	3182-3PG-3XX	3	Pin	4.64
89F4157	3282-4SG-3XX	4	Socket	3.89
89F4158	3282-4PG-3XX	4	Pin	2.65
89F4159	3282-5SG-3XX	5	Socket	4.33
89F4160	3282-5PG-3XX	5	Pin	2.34
89F4161	3282-6SG-3XX	6	Socket	5.01
89F4162	3282-6PG-3XX	6	Pin	2.65
89F4163	3282-7SG-3XX	7	Socket	6.30
89F4164	3282-7PG-3XX	7	Pin	3.58
89F4165	3282-8SG-3XX	8	Socket	5.80
89F4166	3282-8PG-3XX	8	Pin	3.77
89F4167	3282-9SG-3XX	9	Socket	6.30
89F4168	3282-9PG-3XX	9	Pin	5.68

MULTI-CON-X® PANEL MOUNT CONNECTORS

89F4185	4182-2SG-300	2	Socket	3.89
89F4186	4182-2PG-300	2	Pin	2.59
89F4187	4182-3SG-300	3	Socket	4.76
89F4188	4182-3PG-300	3	Pin	4.02
89F4189	4282-4SG-300	4	Socket	4.14
89F4190	4282-4PG-300	4	Pin	3.89
89F4191	4282-5SG-300	5	Socket	4.76
89F4192	4282-5PG-300	5	Pin	2.96
89F4193	4282-6SG-300	6	Socket	5.37
89F4194	4282-6PG-300	6	Pin	3.21
89F4195	4282-7SG-300	7	Socket	5.99
89F4196	4282-7PG-300	7	Pin	3.46
89F4197	4282-8SG-300	8	Socket	6.61
89F4198	4282-8PG-300	8	Pin	3.71
89F4199	4282-9SG-300	9	Socket	7.17
89F4200	4282-9PG-300	9	Pin	4.02

MULTI-CON-X® CABLE-TO-CABLE CONNECTORS

93F7237	5182-2SG-3XX	2	Socket	6.79
93F7238	5182-2PG-3XX	2	Pin	5.55

CONTINUED

INDOOR/OUTDOOR CONNECTORS (CONT.)

MULTI-CON-X® CABLE-TO-CABLE CONNECTORS (CONT.)

Stock No.	Type	Contacts	Description	1-24
93F7239	5182-3SG-3XX	3	Socket	8.15
93F7240	5182-3PG-3XX	3	Pin	6.92
93F7242	5282-4SG-3XX	4	Socket	6.86
93F7243	5282-4PG-3XX	4	Pin	5.86
93F7246	5282-6SG-3XX	6	Socket	7.96
93F7247	5282-6PG-3XX	6	Pin	6.73
93F7248	5282-7SG-3XX	7	Socket	8.21
93F7249	5282-7PG-3XX	7	Pin	7.17
93F7250	5282-8SG-3XX	8	Socket	8.95
93F7251	5282-8PG-3XX	8	Pin	7.66
93F7252	5282-9SG-3XX	9	Socket	9.39
93F7253	5282-9PG-3XX	9	Pin	7.96

MINI-CON-X® CABLE END CONNECTORS

89F4107	6282-2SG-3XX	2	Socket	3.15
89F4108	6282-2PG-3XX	2	Pin	2.42
89F4109	6282-3SG-3XX	3	Socket	3.83
89F4110	6282-3PG-3XX	3	Pin	2.78
89F4111	6282-4SG-3XX	4	Socket	4.39
89F4112	6282-4PG-3XX	4	Pin	2.96
89F4113	6282-5SG-3XX	5	Socket	4.87
89F4114	6282-5PG-3XX	5	Pin	3.09
89F4115	6282-6SG-3XX	6	Socket	5.37
89F4116	6282-6PG-3XX	6	Pin	3.33

MINI-CON-X® PANEL MOUNT CONNECTORS

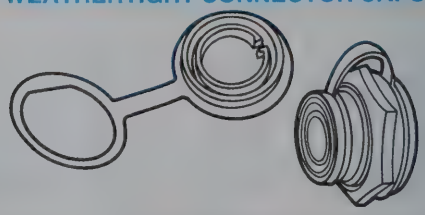
89F4127	7282-2SG-300	2	Socket	2.47
89F4128	7282-2PG-300	2	Pin	1.98
89F4129	7282-3SG-300	3	Socket	3.03
89F4130	7282-3PG-300	3	Pin	1.98
89F4131	7282-4SG-300	4	Socket	3.46
89F4132	7282-4PG-300	4	Pin	2.42
89F4133	7282-5SG-300	5	Socket	4.20
89F4134	7282-5PG-300	5	Pin	2.65
89F4135	7282-6SG-300	6	Socket	4.57
89F4136	7282-6PG-300	6	Pin	2.90

MINI-CON-X® CABLE-TO-CABLE CONNECTORS

93F7222	8282-2SG-3XX	2	Socket	3.09
93F7223	8282-2PG-3XX	2	Pin	2.42
93F7224	8282-3SG-3XX	3	Socket	3.77
93F7225	8282-3PG-3XX	3	Pin	2.59
93F7226	8282-4SG-3XX	4	Socket	4.08
93F7227	8282-4PG-3XX	4	Pin	2.96
93F7228	8282-5SG-3XX	5	Socket	4.45
93F7229	8282-5PG-3XX	5	Pin	3.21
93F7230	8282-6SG-3XX	6	Socket	4.70
93F7231	8282-6PG-3XX	6	Pin	3.52

(8680) (de00961)

WEATHERTIGHT CONNECTOR CAPS



One-piece, nonrotational, molded thermoplastic rubber black cap for fastening behind hex nut of panel mount connectors. Prevents tampering, contact damage; protects against weather.

Stock No.	Type	Description	1-99
94F7043	4295	For Multi-Con-X®	0.78
94F7020	6295	For Mini-Con-X®	0.78
93F7241	14295	For Maxi-Con-X®	1.14

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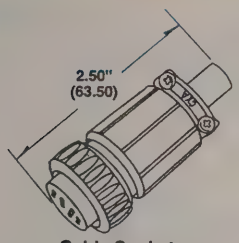
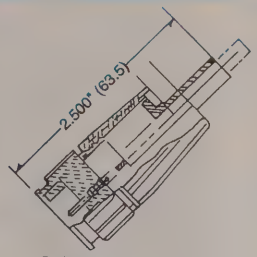
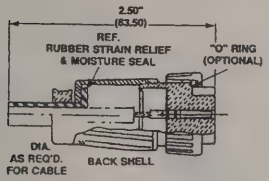
MAXI-CON-X® HIGH-DENSITY CONNECTORS



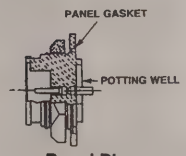
Cable Socket



Cable-to-Cable Plug

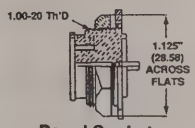


Cable Socket

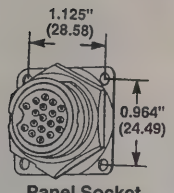


Panel Plug

Cable Plug

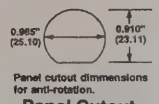


Panel Socket



Panel Socket

Panel Plug



Panel Cutout

Weathertight, high-density glass-filled nylon connectors have screw-machined solder contacts with gold-over-nickel plating. Flanged panel mount connectors are installed through back of panel and can be fastened by hex nuts, rivets or screws through four molded holes in flange. Mechanical type cable clamp securely grips cable. Rubber gland adds support and offers environmental protection. Cable end connectors include rubber grommet seal to fit up to 0.25″ (6.35) cable diameter and "O" ring; panel mount connectors supplied with hex nut and gasket. NOTE: When mating two cables, the cable-to-cable connectors need to be used in conjunction with the end connectors. For example: **type 15182-7PG-326** mates with **type 13182-7SG-321**.

MAXI-CON-X® CABLE END CONNECTORS

Stock No.	Type	Contacts	Description	1-24
89F4207	13182-7SG-321	7	Socket	13.33
89F4208	13182-7PG-321	7	Pin	9.26
89F4209	13382-10SG-321	10	Socket	11.05
89F4210	13382-10PG-321	10	Pin	8.15
89F4211	13282-18SG-321	18	Socket	12.22
89F4212	13282-18PG-321	18	Pin	8.27
MAXI-CON-X® PANEL MOUNT CONNECTORS				
89F4220	14182-7SG-300	7	Socket	9.45
89F4219	14182-7PG-300	7	Pin	8.46
89F4222	14382-10SG-300	10	Socket	8.02
89F4221	14382-10PG-300	10	Pin	6.67
89F4224	14282-18SG-300	18	Socket	12.66
89F4223	14282-18PG-300	18	Pin	6.48
MAXI-CON-X® CABLE-TO-CABLE CONNECTORS				
93F7232	15182-7PG-326	7	Pin	9.88
93F7233	15382-10PG-326	10	Pin	6.86
93F7234	15282-18SG-326	18	Socket	12.60
93F7235	15282-18PG-326	18	Pin	6.36

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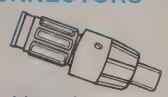
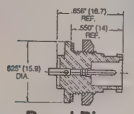
OVERNIGHT SHIPMENT IS AVAILABLE WHEN YOU NEED IT.
CONTACT YOUR LOCAL NEWARK SALES OFFICE.

MICRO-CON-X® SUBMINIATURE CONNECTORS

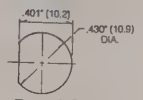
Cable Socket

Cable Plug


Cable-to-Cable Socket


Panel Pin

Panel Plug



Panel Cutout

Environmentally sealed molded glass-filled nylon connectors small enough to fit 0.5″ (12.70) opening. Reduce shock hazards and resist hostile indoor/outdoor conditions. Cable end version includes weathertight rubber grommet grip/seal; panel mount version includes hex nut and rubber gasket. Panel connectors mount 0.438″ (11.11) round or "D" shaped hole from behind and securely fasten with hex nut on front of panel. Socket or pin type screw-machine size # 20 gold over nickel plate solder cup contacts. NOTE: When mating two cables, the cable-to-cable connectors need to be used in conjunction with the cable end connectors, for example: **type 18282-2PG-311**.

MICRO-CON-X® CABLE END CONNECTORS

Stock No.	Type	Contacts	Description	1-24
93F7302	16282-2SG-311	2	Socket	2.42
93F7303	16282-2PG-311	2	Pin	1.98
93F7304	16282-3SG-311	3	Socket	2.90
93F7305	16282-3PG-311	3	Pin	2.17
MICRO-CON-X® PANEL MOUNT CONNECTORS				
93F7299	17282-2SG-300	2	Socket	2.78
93F7298	17282-2PG-300	2	Pin	2.29
93F7301	17282-3SG-300	3	Socket	2.59
93F7300	17282-3PG-300	3	Pin	2.17
MICRO-CON-X® CABLE-TO-CABLE CONNECTORS				
93F7220	18282-3SG-311	3	Socket	4.87
93F7221	18282-3PG-311	3	Pin	3.33

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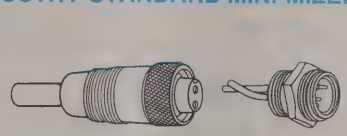
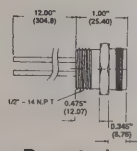
INDUSTRY-STANDARD MINI-MIZER® CONNECTORS



Plug



Receptacle

Fig. 1

Fig. 2

Fig. 3

Fig. 4

600V weathertight connectors for sensor, automotive, robotic, instrumentation and controls applications comply with UL, CSA, NEMA, ANSI and NFPA standards. Provide moisture-tight connection under 6′ water. Black anodized machine aluminum receptacle has epoxy-sealed contacts and mating plug includes metallic coupling ring. Gold-plated screw-machined brass contacts resist corrosion and perform in low current applications. Plugs with socket type contacts available in 3, 6 and 12′ lengths; receptacles with pin type contacts are designated by (*) and include 1′ leads. 16 AWG standard cable/wire size. UL recognized, CSA certified.

Stock No.	Type	Con-tacts	Cable Length	Description	1-24
50F2148	162S36	Fig. 1	3′	Plug	14.65
50F2149	162S72	Fig. 1	6′	Plug	15.79
50F2150	162S144	Fig. 1	12′	Plug	22.84
50F2151	172P12	Fig. 1	1′*	Receptacle	9.39
50F2152	163S36	Fig. 2	3′	Plug	18.54
50F2153	163S72	Fig. 2	6′	Plug	23.70
50F2154	163S144	Fig. 2	12′	Plug	31.93
50F2155	173P12	Fig. 2	1′*	Receptacle	10.47
50F2156	164S36	Fig. 3	3′	Plug	18.54
50F2157	164S72	Fig. 3	6′	Plug	21.75
50F2158	164S144	Fig. 3	12′	Plug	26.61
50F2159	174P12	Fig. 3	1′*	Receptacle	11.67
50F2160	165S36	Fig. 4	3′	Plug	29.36
50F2161	165S72	Fig. 4	6′	Plug	41.26
50F2162	165S144	Fig. 4	12′	Plug	52.94
50F2163	175P12	Fig. 4	1′*	Receptacle	11.50

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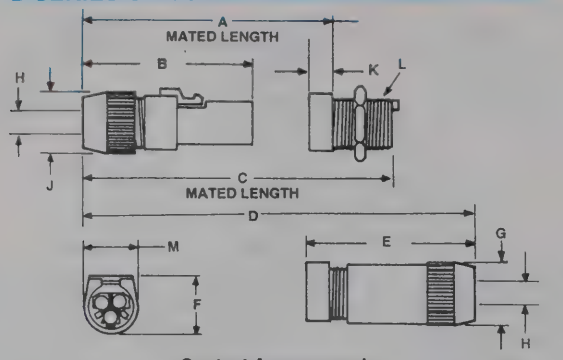
D SERIES CIRCULAR PLASTIC CONNECTORS



Contact Arrangement

[D01 Housing] [D02 Housing]

Design allows each connector half to accept pins or sockets. Feature low insertion/extraction force for high life cycles, 10,000+ operations. Quick disconnect push-button release. High impact, black polycarbonate housing available in D01 or D02 style. Solder cup and crimp contacts for 2-3 amps, 22-26 AWG, feature brass body, beryllium copper wires, and gold over nickel plating. Removable contacts 3-9 positions. Panel or cable mount receptacles available. Temperature rating: –40° to +85°C. UL recognized. *Order tooling separately on this page.*

Dimension	D01 Housing	D02 Housing
A	1.142″ (29)	1.358″ (34.5)
B	1.614″ (41)	1.950″ (49.5)
C	1.732″ (44)	2.087″ (53)
D	2.400″ (61)	2.953″ (75)
E	1.500″ (38)	1.772″ (45)
F	0.512″ (13)	0.689″ (17.5)
G (Diameter)	0.512″ (13)	0.709″ (18)
H (Diameter)	0.118″ (3) minimum	0.236″ (6) minimum
J (Diameter)	0.472″ (12)	0.709″ (18)
K	0.158″ (4)	0.278″ (7)
L	M11 x 100 thread	M15 x 100 thread
M	0.512″ (13)	0.669″ (17)

D01 SOLDER STYLE CONNECTORS

Stock No.	Type	Description	Contacts	1-24	25-49
96F3239	D01PB306MST	Plug	3	5.48	5.04
96F3240	D01EEB306FST	Receptacle +	3	5.89	5.42
96F3241	D01EPB306FST	Receptacle *	3	9.18	8.43
96F3242	D01PB406MST	Plug	4	6.83	6.28
96F3243	D01EEB406FST	Receptacle +	4	6.85	6.30
96F3244	D01EPB406FST	Receptacle *	4	9.89	9.09

D01 CRIMP STYLE CONNECTORS

16F4440	D01EEB306FRT	Receptacle+	3	7.02	6.23
16F4441	D01PB306MRT	Plug	3	6.52	5.79
16F4442	D01EPB306FRT	Receptacle*	3	10.92	9.70

D02 SOLDER STYLE CONNECTORS

96F3245	D02PB706MST	Plug	7	11.83	10.87
96F3246	D02EEB706FST	Receptacle +	7	12.28	11.29
96F3247	D02EPB706FST	Receptacle *	7	15.96	14.67
96F3248	D02PB906MST	Plug	9	12.65	11.63
96F3249	D02EEB906FST	Receptacle +	9	13.81	12.69
96F3250	D02EPB906FST	Receptacle *	9	17.48	16.06
96F3251	D02PB125MST	Plug	12	15.31	14.07
96F3252	D02EEB125FST	Receptacle +	12	18.87	17.34
96F3253	D02EPB125FST	Receptacle *	12	22.56	20.74

+ Panel Mount Receptacle * Cable Mount Receptacle

(8783) (de52027)

D SERIES TOOLING

Stock No.	Type	Description	Use With	1-4
16F4443	AFM8	Crimp Tool	D01 & D02 (7 & 9 Contacts)	382.58
16F4445	K623	Crimp Tool Positioner	D02 (7 & 9 Contacts)	81.34
96F3254	S/DEM1-0060	Removal Tool	D01 & D02 (7 & 9 Contacts)	66.69
16F4447	T1271	Insertion Tool	D02 (12 Contacts)	161.25

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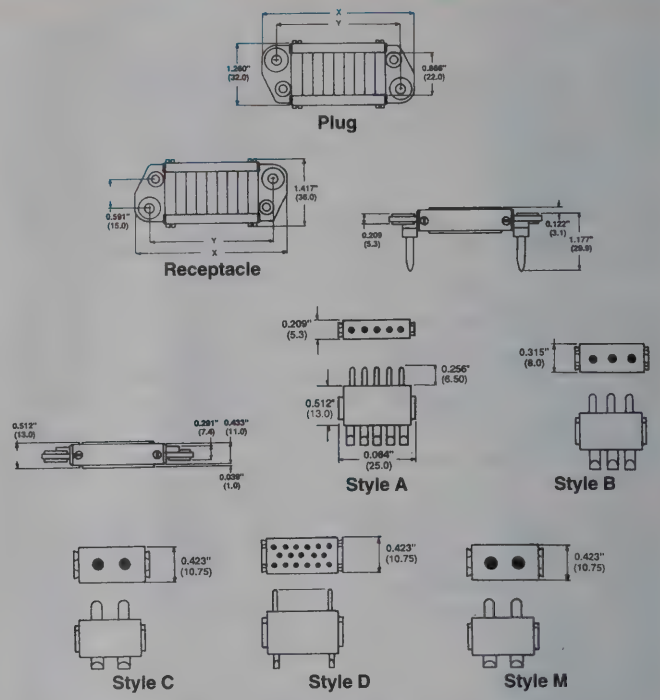
L SERIES RACK AND PANEL CONNECTORS



Module Style	A	B	C	D	M
Width	1 Unit	1.5 Units	2 Units	2 Units	2 Units
Number of Contacts	5	3	2	17	2
Contact Diameter	.059″ (1.5)	.098″ (2.5)	.138″ (3.5)	.047″ (1.2)	.138″ (3.5)
Current Rating	8 amps	15 amps	25 amps	8 amps	50 amps
AWG	16	12	10	20	8

HOUSING DIMENSIONS

UNITS	4	12	20
Dim. X	2.559″ (65)	4.291″ (109)	6.024″ (153)
Dim. Y	1.969″ (50)	3.701″ (94)	5.433″ (138)

Modules, mounting clips, side rails, and end caps assemble to form custom connectors that are blind matable with up to 0.049″ misalignment. Choice of 5 module options. Signals at 8, 15, 25, and 50 amperes power. Beryllium copper wires (socket) and brass body. Pins 10µ″ gold over nickel plated. Temperature rating: –55°C to +125°C. Select components by first determining modules, then clips (2 to join 2 modules), unit size frame, and plug or receptacle end caps.

L SERIES RACK AND PANEL MODULES–FEMALE

Stock No.	Type	Module Style	1-24	25-49
96F3256	LAFST	A	7.98	7.33
96F3258	LBFST	B	3.93	3.93
96F3260	LCFST	C	9.28	8.53
96F3262	LDFST	D	25.59	23.52
96F3264	LMFST	M	10.42	9.57

L SERIES RACK AND PANEL MODULES–MALE

96F3257	LAMST	A	5.09	4.68
96F3259	LBMST	B	6.11	5.62
96F3261	LCMST	C	5.98	5.50
96F3263	LDMST	D	13.37	12.29
96F3265	LMMST	M	6.37	5.86

L SERIES HARDWARE

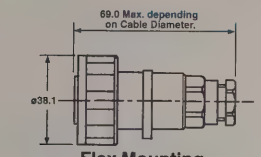
Stock No.	Type	Description	Pkg. of	1-24	25-49
01F329	YSR000 6Z	Side Rail for Unit 6	2	9.42	8.37
01F330	YSR000 8Z	Side Rail for Unit 8	2	9.94	8.83
01F331	YSR0010Z	Side Rail for Unit 10	2	10.46	9.29
96F3267	YSR0012Z	Side Rail for Unit 12	2	9.22	8.47
16F6948	YSR0016Z	Side Rail for Unit 16	2	15.28	13.83
01F332	YSR0020Z	Side Rail for Unit 20	2	11.06	10.02
96F3269	YHD0027	Clips	10	1.96	1.80
96F3270	YSW030-003C	Screws	4	2.18	2.00
96F3271	YEC0030C	End Cap with guide pins for plug	...	5.48	5.04
96F3272	YEC0031C	End Cap with guide pin sockets for receptacle	...	3.94	3.62

(8782) (de52026)

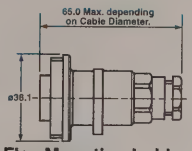
NEW

BUCCANEER® SEALED CONNECTORS

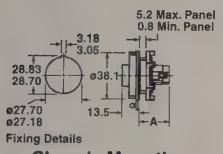
STANDARD BUCCANEER® PLUGS AND SOCKETS



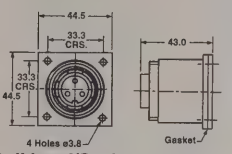
Flex Mounting



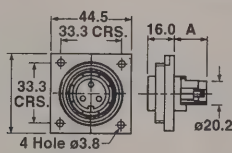
Flex Mounting In-Line



Chassis Mounting



Bulkhead/Surface Mounting



Low-Profile Flange Mounting

Buccaneer® connectors are designed specifically for use in demanding and harsh environments where water, dust, salt, spray and many common oils or chemicals can render other connectors useless. Connectors meet these demanding conditions with an all -molded construction that includes excellent sealing characteristics. Meets IEC enclosure IP68classification. UL recognized, CSA certified, VDE approved. All dimensions shown in mm. Color: black.

PLUGS

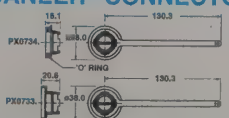
Stock No.	Type	Description	Current Rating	Contacts	1-24	25-49
48F2433	PX0736/P	Flex Mount	10A	2	7.73	6.88
48F2434	PX0737/P	Flex Mount/In-Line	10A	2	8.94	7.96
48F2435	PX0735/P	Chassis Mount	10A	2	6.04	5.38
48F2436	PX0757/P	Bulkhead Mount	10A	2	8.02	7.13
48F2437	PX0764/P	Flange Mount	10A	2	7.95	7.07
48F2438	PX0731/P	Flex Mount	10A	3	8.21	7.31
48F2439	PX0732/P	Flex Mount/In-Line	10A	3	9.42	8.38
48F2440	PX0730/P	Chassis Mount	10A	3	6.64	5.91
48F2441	PX0756/P	Bulkhead Mount	10A	3	8.15	7.26
48F2442	PX0765/P	Flange Mount	10A	3	7.95	7.08
48F2443	PX0739/P	Flex Mount	3A	6	9.22	8.20
48F2444	PX0740/P	Flex Mount/In-Line	3A	6	10.27	9.14
48F2445	PX0738/P	Chassis Mount	3A	6	7.49	6.66
48F2446	PX0758/P	Bulkhead Mount	3A	6	9.08	8.08
48F2447	PX0767/P	Flange Mount	3A	6	8.77	7.81

SOCKETS

48F2448	PX0736/S	Flex Mount	10A	2	9.31	8.28
48F2449	PX0737/S	Flex Mount/In-Line	10A	2	10.51	9.35
48F2450	PX0735/S	Chassis Mount	10A	2	7.63	6.79
48F2451	PX0757/S	Bulkhead Mount	10A	2	9.08	8.08
48F2452	PX0764/S	Flange Mount	10A	2	8.89	7.91
48F2453	PX0731/S	Flex Mount	10A	3	9.78	8.71
48F2454	PX0732/S	Flex Mount/In-Line	10A	3	10.99	9.78
48F2455	PX0730/S	Chassis Mount	10A	3	8.21	7.31
48F2456	PX0756/S	Bulkhead Mount	10A	3	9.72	8.65
48F2457	PX0765/S	Flange Mount	10A	3	9.48	8.44
48F2458	PX0739/S	Flex Mount	3A	6	11.85	10.55
48F2459	PX0740/S	Flex Mount/In-Line	3A	6	12.44	11.07
48F2460	PX0738/S	Chassis Mount	3A	6	10.09	9.05
48F2461	PX0758/S	Bulkhead Mount	3A	6	11.17	9.94
48F2462	PX0767/S	Flange Mount	3A	6	10.89	9.70

(41771) (ne41771)

STANDARD BUCCANEER® CONNECTOR ACCESSORIES



Sealing cap assembly tools. Color: black. All dimensions shown in mm.

Stock No.	Type	Suitable for	Description	1-24	25-49
48F2467	PX0733	Standard	Fits All Caps, Except Flex Mount	0.87	0.81
48F2468	PX0734	Standard	Fits Flex Mount Caps Only	1.14	1.06

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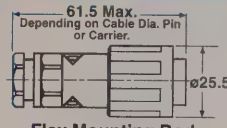
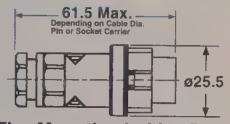
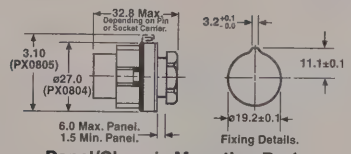
MINI BUCCANEER® SEALED CONNECTORS



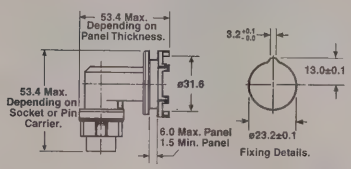
Flex Mounting Body



Flex Mounting In-Line Body



Panel/Chassis Mounting Body



Side Entry Panel/Chassis Mounting Body

For use with mini Buccaneer® screw terminals, *ordered separately on this page.* Color:black. All dimesions shown in mm.

Stock No.	Type	Description	1-24	25-49
48F2463	PX0800	Flex Mounting Body	3.70	3.29
48F2464	PX0801	Flex Mounting In-Line Body	3.42	3.04
48F2465	PX0803	Panel/Chassis Mounting Side Entry Body	3.55	3.16
48F2466	PX0805	Panel/Chassis Mounting Body	3.36	2.99

(41773) (ne41773)

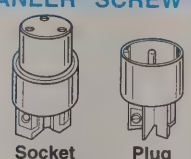
MINI BUCCANEER® CONNECTOR ACCESSORIES

Protective sealing caps to fit all mini Buccaneer® sealed connectors. Color: black. All dimensions shown in mm.

Stock No.	Type	Suitable for	Description	1-24	25-49
48F2469	PX0810	Mini connector Buccaneer	Fits type PX0801, 802, 803, 804 and 805	1.25	1.11
48F2470	PX0811	Mini connector Buccaneer	Fits type PX0800 Only	1.25	1.11

(41774) (ne41774)

MINI BUCCANEER® SCREW TERMINALS

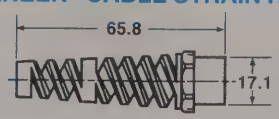

Socket Plug

Use with mini Buccaneer® connectors; *order separately on this page.* Color: black.

Stock No.	Type	Description	1-24	25-49
48F2472	SA3229	Socket	6.98	6.22
48F2473	SA3230	Plug	4.06	3.61
48F2474	SA3241	Socket	5.03	4.48
48F2475	SA3242	Plug	7.09	6.31
48F2476	SA3243	Socket	5.64	5.02
48F2477	SA3244	Plug	7.69	6.84

(41775) (ne41775)

BUCCANEER® CABLE STRAIN RELIEFS

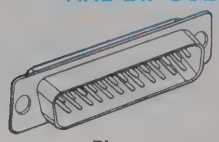


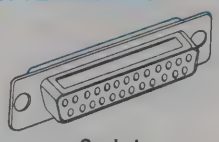
Liquidtight strain reliefs provide additional cable support. Suitable for 5-7mm and 7-9mm cables. Sold individually. Color: black. All dimensions shown in mm.

Stock No.	Type	Description	1-24	25-49
48F2478	12237	Cable Strain reliefs	0.88	0.65

(41776) (ne41776)

D-SUBMINIATURE METAL SHELL 0.109″ DENSITY CONNECTORS–SOLDER CUP AND DIP SOLDER TERMINALS


Plug


Socket

0.109″ (2.77) density D-subminiature series offers a wide range of terminal designs and intermates with all existing D-subminiature connectors of comparable pin count. All units have a current rating of 5 amps. Withstanding voltage: 1250VACrms. Contact resistance: 2.7 milliohms. Insulation resistance: 5000 megohms. Keystone-shape shell provides proper polarization. Shells feature zinc plating with yellow chromate finish. Insulator is glass-filled polyester rated UL94V-0. Operating temperature: –65°C to +125°C. 0.120″ (3.05) through-hole mounting is standard; however, connectors can be ordered with dual float bushings by adding suffix "Y" or 4-40 clinch nut by adding suffix "E" to the type number. *Order D-sub accessories on page 290.*

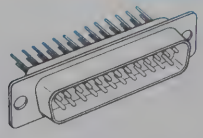
BASIC D COMMERCIAL GRADE, METAL SHELL D-SUBS WITH SOLDER CUP TERMINALS

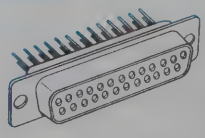
Zinc-plated steel shell with yellow chromate finish. Phosphor-bronze contacts available in 2 platings: gold flash over nickel in contact area. Two-piece glass-filled polyester insulator material, rated UL94V-0. Operating temperature: –65°C to +125°C. Discrete cable to board; to panel; to discrete cable. UL recognized, CSA certified.

Stock No.	Type	Description	Contacts	1-24	25-49
43F200	DE-9P	Plug	9	1.96	1.79
43F201	DE-9S	Socket	9	2.06	1.90
43F202	DA-15P	Plug	15	3.76	2.82
43F203	DA-15S	Socket	15	5.55	4.17
43F205	DB-25P	Plug	25	3.12	2.91
43F206	DB-25S	Socket	25	3.38	3.17
43F208	DC-37P	Plug	37	7.60	5.70
43F209	DC-37S	Socket	37	12.45	9.34
43F210	DD-50P	Plug	50	10.01	7.51
43F211	DD-50S	Socket	50	16.41	12.31

(8746) (de50487a)

BASIC D COMMERCIAL GRADE,METAL SHELL D-SUBS WITH WIRE WRAP TERMINALS





Copper alloy contacts; machined that feature gold flash over nickel plating. Zinc-plated steel shell with yellow chromate finish. Two-piece glass-filled polyester insulator material, rated UL94V-0. Operating temperature: –65°C to +125°C. Discrete cable to panel. UL recognized, CSA certified. Available with 0.375″ tail length for 2 wraps. Available with .585″ tail for 3 wrap tail lengths. *Order D-sub accessories on page 290.*

Stock No.	Type	Description	Contacts	1-24	25-49
29F1350	DE-9P-F179	Plug	9	4.65	3.49
29F1362	DE-9S-F179	Socket	9	6.72	5.04
29F1351	DA-15P-F179	Plug	15	5.54	4.16
29F1363	DA-15S-F179	Socket	15	9.17	6.88
29F1352	DB-25P-F179	Plug	25	7.82	5.87
29F1364	DB-25S-F179	Socket	25	11.82	8.87
29F1353	DC-37P-F179	Plug	37	10.91	8.19
29F1365	DC-37S-F179	Socket	37	16.82	12.62
29F1354	DD-50P-F179	Plug	50	17.42	13.07
29F1366	DD-50S-F179	Socket	50	22.14	16.60

SERIES 1 HIGH-RELIABILITY, METAL SHELL D-SUBS WITH SOLDER CUP TERMINALS

Insulator is glass-filled diallyl phthalate, UL94V-0 rated; phosphor-bronze contacts are 30µ″ gold-plated. Also available with 4-40 clinch nut (suffix E) or dual float bushings (suffix Y) added to the type number. Tin-plated shells available; *contact your local Newark sales office.*

43F233	DEM-9P	Plug	9	6.05	4.54
43F234	DEM-9S	Socket	9	8.72	6.54
43F235	DAM-15P	Plug	15	8.79	6.59
43F236	DAM-15S	Socket	15	12.91	9.68
43F238	DBM-25P	Plug	25	13.37	10.03
43F239	DBM-25S	Socket	25	20.41	15.31
43F241	DCM-37P	Plug	37	18.76	14.07
43F242	DCM-37S	Socket	37	29.19	21.89
43F243	DDM-50P	Plug	50	24.42	18.31
43F244	DDM-50S	Socket	50	38.60	28.95

(10025) (ne09910)

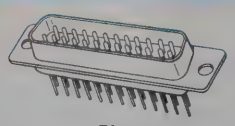
MIL-C-24308 METAL SHELL D-SUBS WITH CRIMP AND POKE TERMINALS

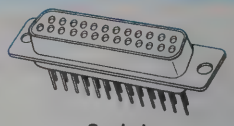
Intermateable with all D-subs of comparable pin count and complying dimensionally with MIL-C-24308. Brass plug contacts or phosphor-bronze socket contacts; both machined and feature 50µ″ gold over copper plating. Cadmium-plated steel shell with yellow chromate coating. Diallyl phthalate insulator material, per MIL-M-14, Type SDG-F, monoblock construction for improved electrical performance. Discrete cable-to-board; -to-panel; -to-discrete cable. UL recognized.

Stock No.	Type	Description	Contacts	1-24	25-49
45F844	M24308/4-1F	Plug	9	8.63	6.48
45F995	M24308/2-1F	Socket	9	11.14	8.36
45F996	M24308/4-2F	Plug	15	11.70	8.78
45F997	M24308/2-2F	Socket	15	15.87	11.90
45F998	M24308/4-3F	Plug	25	16.88	12.66
45F999	M24308/2-3F	Socket	25	23.75	17.81
45F1001	M24308/4-4F	Plug	37	22.99	17.24
45F1002	M24308/2-4F	Socket	37	33.12	24.84
45F1003	M24308/4-5F	Plug	50	35.82	26.87
45F1004	M24308/2-5F	Socket	50	48.61	36.46

(8741) (de08190)

SERIES 1 HIGH RELIABILITY CONNECTORS WITH METAL SHELL AND VERTICAL DIP SOLDER PCB TERMINALS


Plug


Socket

These high reliability, commercial connectors feature a glass-filled, diallyl phthalate insulator rated UL94V-0. Contacts are machined with 30µ″ gold plating. Tail length: 0.125″. Contact diameter .030″. Also available in 0.158″ and 0.185″ contact lengths. UL recognized.

Stock No.	Type	Description	Contacts	1-24	25-49
16F5253	DEM9SE	Socket	9	7.57	5.68
16F5254	DEM9PE	Plug	9	5.53	4.15
16F5255	DAM15SE	Socket	15	12.16	9.12
16F5256	DAM15PE	Plug	15	8.66	6.49
16F5257	DBM25SE	Socket	25	19.53	14.65
16F5258	DBM25PE	Plug	25	21.63	16.22

(8830) (ne08209)

SERIES 3 HIGH-RELIABILITY, METAL SHELL D-SUBS WITH CRIMP AND POKE TERMINALS

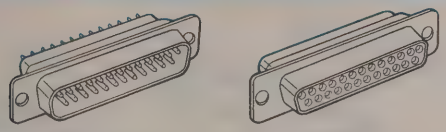
Ideal for high-reliability applications. Brass plug contacts phosphor-bronze socket contacts; both machined and feature 30µ″ gold over nickel plating. Zinc-plated steel shell with yellow chromate coating. UL 94V-0 rated glass fiber-filled, diallyl phthalate insulator monoblock construction, for improved electrical performance. Discrete cable-to-board; -to-panel; -to-discrete cable. UL recognized.

Stock No.	Type	Description	Contacts	1-24	25-49
45F825	DEMA-9P	Plug	9	16.46	12.35
45F826	DEMA-9S	Socket	9	16.89	12.67
45F827	DAMA-15P	Plug	15	23.21	17.41
45F828	DAMA-15S	Socket	15	23.77	17.83
45F829	DBMA-25P	Plug	25	34.98	26.23
45F830	DBMA-25S	Socket	25	35.62	26.72
45F831	DCMA-37P	Plug	37	48.78	36.58
45F832	DCMA-37S	Socket	37	49.57	37.18
45F833	DDMA-50P	Plug	50	62.86	47.15
45F834	DDMA-50S	Socket	50	63.79	47.84

(8747) (de50487b)

SAME-DAY SHIPMENT ON ORDERS PLACED BY 5:00 PM C.S.T.

D*U SERIES CONNECTORS WITH TIN-PLATED STEEL SHELLS AND DIP VERTICAL SOLDER TERMINALS



Plug Socket

Commercial-grade metal shell D-sub connectors with choice of straight or right-angle dip solder tails. Longer rear insulator provides integral stand-off from PC board. Tin-plated steel shell. Black molded glass-filled nylon insulation material, rated UL94V-0. Plugs have grounding indents and brass contacts; sockets have phosphor bronze contacts. Both feature gold flash over nickel plating. 0.120″(3.05) mounting hole. Mate with industry compatible D-subs complying dimensionally with MIL-C-24308. Current rating: 5A. Withstanding voltage: 1000 VAC rms. Operating temperature: –65° to +125°C. UL recognized.

STRAIGHT DIP SOLDER PC TAILS

Stock No.	Type	Con-tacts	Style	1-24	25-49
50F5813	DEU-09PBFTI	9	Plug	4.23	3.17
50F5815	DEU-09SBFT	9	Socket	5.98	4.48
50F5819	DAU-15PBF-TI	15	Plug	7.46	5.59
50F5821	DAU-15SBF-T	15	Socket	8.89	6.67
50F5827	DBU-25SBF-T	25	Socket	16.88	12.66
50F5831	DCU-37PBF-TI	37	Plug	12.08	9.06
50F5833	DCU-37SBF-T	37	Socket	19.44	14.58

(8751) (de50575)

D*U SERIES 0.109″ (2.77) DENSITY D-SUB CONNECTORS

Commercial grade metal shell connectors intermate with all existing D-subs of comparable pin count. Additional features include withstanding voltage: 1000VAC rms. Operating temperature: –65°C to +105°C. UL94V-0 rated molded glass-filled nylon insulation material. Available with or without crimp and poke contacts plated with gold flash over nickel. Steel shell with zinc plating coated with yellow chromate, except where noted. 0.120″ through-hole mount. Discrete cable to board; to panel; to discrete cable. UL recognized. *Order D-sub accessories separately on this page .*

D*U SERIES CONNECTORS WITH CRIMP AND POKE MACHINED CONTACTS

Brass contacts in plugs; phosphor bronze contacts in sockets.

Stock No.	Type	Description	Contacts	1-24	25-49
57F3218	DEU-9P	Plug	9	3.49	2.62
57F3219	DEU-9S	Socket	9	4.56	3.42
57F3220	DAU-15P	Plug	15	4.87	3.65
57F3221	DAU-15S	Socket	15	6.76	5.07
57F3222	DBU-25P	Plug	25	7.25	5.44
57F3223	DBU-25S	Socket	25	10.25	7.69
57F3224	DCU-37P	Plug	37	10.26	7.70
57F3225	DCU-37S	Socket	37	17.98	13.49
57F3226	DDU-50P	Plug	50	13.22	9.92
57F3227	DDU-50S	Socket	50	19.04	14.28

D*U SERIES CONNECTORS WITHOUT CONTACTS

Order crimp and poke contacts separately.

57F3208	DEU-9P-FO	Plug	9	1.52	1.14
57F3209	DEU-9S-FO	Socket	9	1.52	1.14
57F3210	DAU-15P-FO	Plug	15	1.58	1.18
57F3211	DAU-15S-FO	Socket	15	1.58	1.18
57F3212	DBU-25P-FO	Plug	25	1.80	1.35
57F3213	DBU-25S-FO	Socket	25	1.62	1.21
57F3214	DCU-37P-FO	Plug	37	2.19	1.64
57F3215	DCU-37S-FO	Socket	37	2.58	1.94
57F3216	DDU-50P-FO	Plug	50	2.29	1.72
57F3217	DDU-50S-FO	Socket	50	2.17	1.63

(8832) (ne08211)

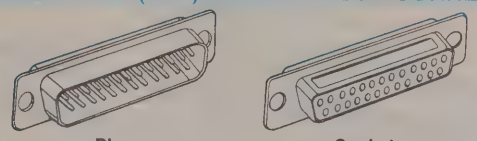
D*U SERIES 0.109″ (2.77) DENSITY CRIMP AND POKE CONTACTS

Gold-plated machined or stamped crimp and poke contacts for D*U series D-sub connectors *ordered separately on this page.*

Stock No.	Type	Description	AWG	1-24	25-49
45F974	030-1952-000	Machined - Pin	20-24	0.25	0.19
45F975	030-1953-000	Machined - Socket	20-24	0.36	0.27
45F980	030-1960-005	Stamped - Pin	20-28	0.24	0.18
45F981	030-1957-005	Stamped - Socket	20-28	0.27	0.21

(8805) (ne00030)

D*A SERIES 0.109″ (2.77) DENSITY D-SUB CONNECTORS



Plug Socket

Commercial grade metal shell connectors intermate with all existing D-subs of comparable pin count. Additional features include withstanding voltage: 1000VAC rms. Operating temperature: –65°C to +105°C. UL94V-0 rated molded glass-filled nylon insulation material. Steel shell with zinc plating coated with yellow chromate, except where noted. 0.120″ through-hole mount. Discrete cable to board; to panel; to discrete cable. Available in 9, 37 and 50 positions. UL recognized. *Order D-sub accessories separately on this page.*

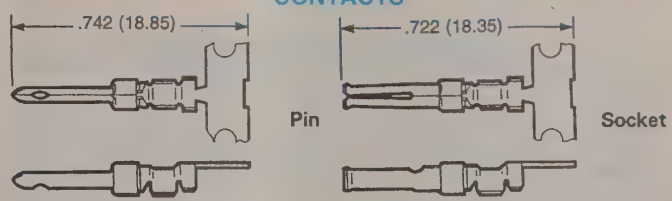
D*A SERIES CONNECTORS WITHOUT CONTACTS

Order insulation grip/crimp and poke contacts separately.

Stock No.	Type	Description	Contacts	1-24	25-49
44F5579	DAA-15P-FO	Plug	15	2.04	1.53
44F5584	DAA-15S-F0	Socket	15	2.04	1.53
44F5580	DBA-25PI-FO	Plug	25	1.91	1.43
44F5585	DBA-25S-F0	Socket	25	1.91	1.43

(8748) (de50490)

D*A SERIES D-SUBMINIATURE CRIMP AND POKE CONTACTS



Gold-plated crimp and poke contacts for **D*A series** D-Subminiature metal shell connectors.

PINS - GOLD FLASH

Stock No.	Type	AWG	1-24	25-49
91F5420	DGP-1000L-1	20-24	0.12	0.11
91F5422	DGP-1000L-3	20-24	0.12	0.11

PINS - 30μ″ GOLD

Stock No.	Type	AWG	1-24	25-49
91F5421	DGP-1000L-2	20-24	0.14	0.12
91F5423	DGP-1000L-4	26-30	0.14	0.12

SOCKETS - GOLD FLASH

Stock No.	Type	AWG	1-24	25-49
91F5424	DGS-1000L-1	20-24	0.18	0.14
91F5426	DGS-1000L-3	20-24	0.18	0.14

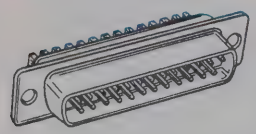
SOCKETS - 30μ″ GOLD

Stock No.	Type	AWG	1-24	25-49
91F5425	DGS-1000L-2	20-24	0.19	0.15
91F5427	DGS-1000L-4	26-30	0.19	0.15

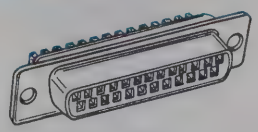
(12960) (ne09924)

NEW PRODUCTS ARE BEING ADDED TO OUR INVENTORY EVERY DAY.
CALL NEWARK FOR INFORMATION ON WHAT'S CURRENTLY IN STOCK.

0.109″(2.77) DENSITY SUPER SOLDER D-SUBMINIATURE CONNECTORS



Plug



Socket

Commercial-grade metal shell D-subs intermate with all D-subs of comparable pin count. Discrete cable-to-board; cable-to-panel; cable-to-discrete cable applications. Steel shell provides grounding capability; available zinc-plated with yellow chromate coating or bright tin-plated. Glass filled polyster (black) insulator. Phosphor bronze super solder contacts with gold flash over copper plating. Current rating: 3A. Withstanding: 1100VACrms. Contact resistance: 2.7 milliohms. Insulation resistance: 5000 megohms. Operating temperature: –65° to +125°C. UL recognized. Other position configurations are available. Contact your local Newark sales office; *order D-sub accessories separately.*

SOLDER CHANNEL TERMINATION ZINC-PLATED STEEL SHELL WITH YELLOW CHROMATE COATING

Stock No.	Type	Contacts	Style	1-24	25-49
44F5633	TE-9PS	9	Plug	8.94	6.71
44F5637	TE-9SS	9	Socket	8.18	6.14
BRIGHT TIN-PLATED STEEL SHELL					
44F5641	TE-9PTS	9	Plug	11.60	8.70
44F5645	TE-9STS	9	Socket	13.43	10.07

(8672) (de00026)

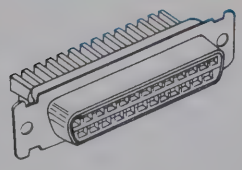
IDC TERMINATION FOR 24-26 AWG WIRE

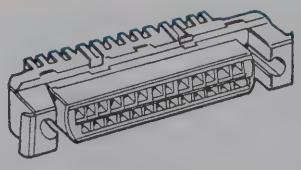
ZINC-PLATED STEEL SHELL WITH YELLOW CHROMATE COATING*

Stock No.	Type	Contacts	Style	1-24	25-49
81F1161	TE-9P-SH	9	Plug	3.24	2.43
81F1162	TE-9S-SH	9	Socket	3.06	2.30
81F1165	TB-25P-SH	25	Plug	5.74	4.31
81F1166	TB-25S-SH	25	Socket	5.23	3.92

*Available in tin-plated steel shell.
(8673) (de00027)

0.109″ (2.77) DENSITY SUPER D™ ALL-PLASTIC IDC D-SUB CONNECTORS



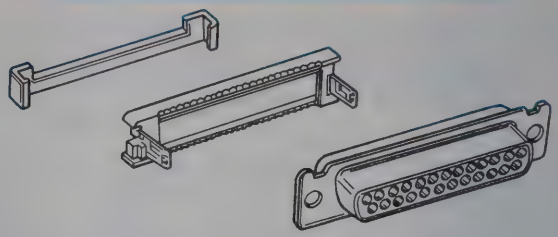


Commercial-grade all-plastic insulation displacement D-subs feature plain flange with mounting holes. Intermate with all D-subs of comparable pin count and complying dimensionally with MIL-C-24308. Accommodates 24-26 AWG solid or stranded wire. Glass-filled polyester insulation material, rated UL94V-0. Phosphor bronze contacts plated with gold flash over copper. Current rating: 3 amps. Withstanding voltage: 1000VACrms. Contact resistance: 5 milliohms. Insulation resistance: 5000 megohms. Operating temperature: –55°C to +125°C. Discrete cable to panel; to discrete cable. UL recognized.

Stock No.	Type	Contacts	Style	1-24	25-49
12F1300	TE-9P	9	Plug	2.61	1.96
12F1308	TE-9S	9	Socket	2.42	1.82
12F1301	TA-15P	15	Plug	4.32	3.24
12F1309	TA-15S	15	Socket	3.18	2.39
12F1302	TB-25P	25	Plug	5.11	3.83
12F1310	TB-25S	25	Socket	4.59	3.45

(8750) (de50574)

0.109″ (2.77) DENSITY FLAT CABLE IDC D-SUBMINIATURE CONNECTORS



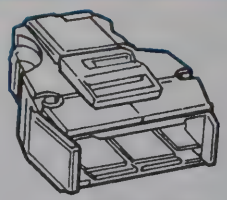
Mass-terminated IDC D-sub connectors for 0.050″ (1.27) flat cable. Back cover fastens to shell with metal latches. Strain relief included. Intermate with all D-sub connectors of comparable pin count and complying dimensionally with MIL-C-24308. Steel shell provides grounding capability; available with yellow chromate coating over zinc. Glass-filled polyester insulator material, rated UL 94V-0. Beryllium copper contacts with gold flash over nickel plating. Accommodates wire 28 AWG stranded/30 AWG solid. Current rating: 1A. Withstanding voltage: 500 VAC rms. Contact resistance: 15 milliohms. Insulation resistance: 1000 megohms. Available in 15 position configuration. Operating temperature: –55° to +105°C.

ZINC-PLATED STEEL SHELL WITH YELLOW CHROMATE COATING

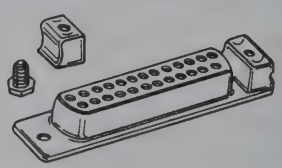
Stock No.	Type	Contacts	Style	1-24	25-49
44F6355	FC9P	9	Plug	9.25	6.94
44F6356	FC9S	9	Socket	6.75	5.06
44F6359	FC25P	25	Plug	13.70	10.27
44F6360	FC25S	25	Socket	8.96	6.72
44F6361	FC37P	37	Plug	11.03	8.27
44F6362	FC37S	37	Socket	12.54	9.40

(8675) (de00029)

D-SUB CONNECTOR ADAPTER SYSTEM



Hood with Latches



Latching Blocks for Adapter System

Commercial-grade 2-piece, modified phenylene oxide snap-on straight adapter hoods captivate metal shell D-sub connectors, *ordered separately.* Available with latches or with filler ends. Standard cable opening. Latching blocks, *ordered separately below,* are constructed of diecast zinc and include nickel-plated steel SEM screws.

STRAIGHT ADAPTER HOODS WITH LATCHES*

Stock No.	Type	Size	1-24	25-49
10F8154	SDH-9BL	9	2.15	1.61
10F8155	SDH-15BL	15	2.36	1.77
10F8156	SDH-25BL	25	2.47	1.85
10F8157	SDH-37BL	37	2.60	1.95

* Works with all metal D-subs except FC series and wire-wrap termination.

LATCHING BLOCKS

Stock No.	Type	Panel Thickness	1-24	25-49
44F5630	SD-LB-060-080	0.060″ or 0.080″	2.35	1.76
44F5629	SD-LB-125	Up to .060″	2.35	1.76

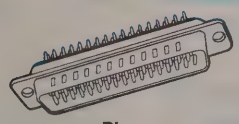
STRAIGHT ADAPTER HOODS WITH LATCHES—FOR ALL PLASTIC IDC CONNECTORS

Stock No.	Type	Size	1-24	25-49
10F8168	SDH-9GL	9	2.11	1.58
10F8169	SDH-15GL	15	2.19	1.65

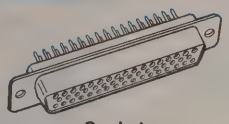
(8674) (de00028)

THIS NEWARK CATALOG IS AVAILABLE ON CD-ROM!
CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR DETAILS.

ECONOMICAL VERTICAL 0.109″ DENSITY METAL SHELL CONNECTORS



Plug



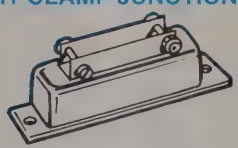
Socket

Mate with industry compatible connectors. Grounded tin-plated steel shell. Black, glass-filled polyester insulator material, rated UL94V-0. Plugs have grounding indents and brass contacts; sockets have phosphor bronze contacts. Both feature gold flash over nickel plating in mating area and tin/lead over nickel on straight solder dip tails to meet solderability per MIL-STD-202, Method 208. 0.125″(3.18) PC board thickness. Contact rating: 5A. Dielectric withstanding voltage: 1000 VAC rms. Operating temperature: –55° to +105°C.

Stock No.	Type	Contacts	Style	1-24	25-49
97F8773	DEKL-9PUTI	9	Plug	**0.56**	**0.42**
97F8766	DEKL-9SUT	9	Socket	**0.52**	**0.39**
97F8923	DBKL-25PUTI	25	Plug	**0.90**	**0.68**
97F8768	DBKL-25SUT	25	Socket	**0.89**	**0.67**
97F8770	DCKL-37PUTI	37	Plug	**1.45**	**1.09**
97F8769	DCKL-37SUT	37	Socket	**1.35**	**1.01**

(8733) (de03524)

STRAIGHT CLAMP JUNCTION SHELLS

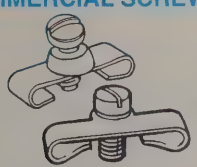


Low carbon steel shell; zinc-plated with yellow chromate finish. (*) = 2 screw lock assemblies required. Available in other shell sizes; *contact your local Newark sales office. Order screw lock assemblies separately on this page.*

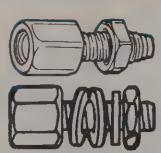
Stock No.	Type	Contacts	1-24	25-49
43F213	DB-19678-2*	25	**2.52**	**1.89**

(8752) (de50632)

COMMERCIAL SCREW LOCK ASSEMBLIES



Male



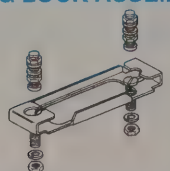
Female

P = pin. S = socket. (*) = use with junction shell. (**) = use with or without junction shell. All male except **type D-20418-2** which is female.

Stock No.	Type	Usage (For Shell Size)	1-24	25-49
43F231	D-20419-0	A,E (P or S); B,C (S only)	**0.56**	**0.42**
45F992	D-20419-16	A,E (P or S); B,C (S only)*	**0.99**	**0.75**
43F232	D-20420-0	D Socket	**0.90**	**0.67**
45F993	D-20420-12	D Socket w/Junction Shell	**1.18**	**0.89**
43F230	D-20418-2	E,A,B,C,D (P or S)**	**1.04**	**0.78**

(8753) (de50633)

SLIDING LOCK ASSEMBLIES



Assembly consists of lock retainer and two screws. Each lock retainer requires two **type D-53018** lock posts, *ordered separately below.*

Stock No.	Type	Shell Size	Contacts	1-24	25-49
85F8015	DE-51224-1	E	9	**1.84**	**1.38**
78B432	DA51220-1	A	15	**1.03**	**0.77**
57F3201	DB-51221-1	B	25	**1.16**	**0.87**
78B493	DC-51222-1	C	37	**1.52**	**1.14**
78B526	DD-51223-1	D	50	**1.58**	**1.18**

57F3200 Type D-53018 Lock Post (2 required). **Each** **0.85**
(8709) (de01957)

ALL-PLASTIC STRAIGHT AND RIGHT-ANGLE HOODS

Straight

Right-Angle

Stock No.	Type	Contacts	Description	1-24	25-49
45F990	DE-51218-1	9	Straight	**2.19**	**1.64**
45F991	DA-51210-1	15	Straight	**2.33**	**1.75**
29F2663	DB-51212-1	15	Straight	**2.79**	**2.09**
44F5594	DB-51213-1	25	Rt. Angle	**2.58**	**1.94**

(8756) (de50636)

DUST CAPS

Polyethylene caps protect connectors from performance-affecting debris. Available in other shell sizes, *contact your local Newark sales office.*

Stock No.	Type	Contacts	Connection	1-24	25-49
85F8017	DE60-20	9	Plug	**1.36**	**1.02**
85F8016	DE-59-20	9	Socket	**1.36**	**1.02**
50F4006	DA-60-20	15	Plug	**1.36**	**1.02**
85F8008	DA59-20	15	Socket	**1.36**	**1.02**
85F8012	DB60-20	25	Plug	**1.32**	**0.99**
85F8011	DB59-20	25	Socket	**1.32**	**0.99**

(8758) (de50638)

RIGHT-ANGLE AND DEEP STRAIGHT CLAMP JUNCTION SHELLS

Right-Angle Clamp

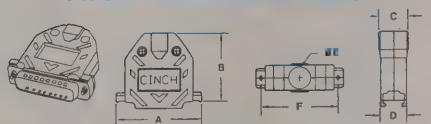
Deep Straight Clamp

Low carbon steel shell; zinc with yellow chromate finish. Available in 37 contact position.

Stock No.	Type	Contacts	Description	1-24	25-49
43F220	DE-19977-5	9	Rt. Angle	**3.62**	**2.71**
45F986	DE24657	9	Straight	**4.33**	**3.25**
43F216	DA-19977-1	15	Rt. Angle	**2.90**	**2.18**
29F2662	DA-24658	15	Straight	**4.25**	**3.19**
43F217	DB-19977-2	25	Rt. Angle	**3.15**	**2.36**
45F987	DB24659	25	Straight	**3.46**	**2.60**
45F988	DC24660	37	Straight	**3.62**	**2.71**

(8757) (de50637)

TWO-PIECE BACKSHELLS



Fit both standard and 1.5 density D-sub connectors. **Type DMH** diecast zinc cover, PVC inserts, steel, zinc-plated hardware. **Type DCH** metallized plastic cover, nickel-over-copper plating, PVC inserts, steel, zinc-plated hardware. **Type DPH** black plastic cover, PVC inserts, steel, zinc-plated hardware. Diecast and metallized plastic hoods provide EMI/RFI shielding. Available in 37 contact position. 4th letter in type number = shell size.

CABLE DIAMETER RANGES

Shell Size E & A.....0.210″/0.320″
Shell Size B.....0.230″/0.450″
Shell Size C & D.....0.350″/0.650″

EMI/RFI SHIELDED DIECAST BACKSHELLS

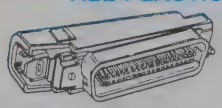
Stock No.	Type	Contacts Std.	Contacts 1.5	Dimensions (Inches) B	D	E	F	1-24	25-49
50F5667	DMH-E-001	9	15	1.465	.620	.400	0.984	**3.48**	**2.61**
50F5668	DMH-A-001	15	26	1.600	.620	.400	1.312	**3.69**	**2.77**
50F5669	DMH-B-001	25	44	1.570	.620	.525	1.857	**4.37**	**3.28**
50F5670	DMH-C-001	37	62	1.810	.620	.725	2.500	**5.73**	**4.30**
50F5671	DMH-D-001	50	78	1.800	.730	.725	2.406	**8.73**	**6.56**

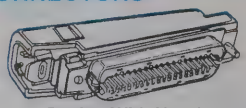
PLASTIC AND METALLIZED PLASTIC BACKSHELLS

50F5657	DCH-E-001	9	15	1.547	.645	.400	0.984	**2.00**	**1.50**
50F5658	DPH-E-001	9	15	1.547	.645	.400	0.984	**1.56**	**1.17**
50F5659	DCH-A-001	15	26	1.516	.645	.400	1.312	**2.30**	**1.73**
50F5660	DPH-A-001	15	26	1.516	.645	.400	1.312	**1.82**	**1.37**
50F5661	DCH-B-001	25	44	1.655	.645	.522	1.857	**3.95**	**2.97**
50F5662	DPH-B-001	25	44	1.655	.645	.522	1.857	**2.76**	**2.07**
50F5665	DCH-D-001	50	78	1.855	.750	.725	2.406	**5.54**	**4.15**

*Right-angle Ethernet backshell.
(8759) (de50639)

SUPERIBBON® 0.085″ (2.16) DENSITY COMMERCIAL-GRADE ALL-PLASTIC IDC CONNECTORS


Plug With Hood


Socket With Hood

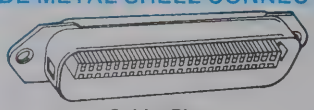
Designed for cable-end applications. Variation available: InstaLatch mating and square end hood, InstaLatch mating and square end hood, captivated for 4-40 screw and InstaLatch mating with pointed-end hood, screw and dust cover. UL94V-0 rated glass-filled polyester insulation material. Copper alloy contacts with selective gold over copper plating. Current rating: 5 amps. Operating temperature: –40°C to +120°C. Accept 24-26AWG solid wire. (†) Denotes 30µ″ gold plating. Also available in 64 position version. UL recognized.

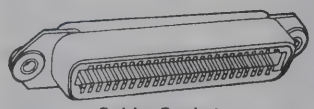
PLUG WITH SQUARE END HOOD

Stock No.	Type	Contacts	H x W x D	1-24	25-49
51F1898	97-12500-90	50	0.650x3.67x1.30″	4.66	3.50
SOCKET WITH SQUARE END HOOD					
51F1899	97-22500-90	50	0.650x3.67x1.30″	4.84	3.63
PLUG WITH INSTALATCH AND SQUARE END HOOD, CAPTIVATED FOR 4-40 SCREW					
10F7906	97-12500-91	50	0.650x3.67x1.30″	4.66	3.50
SOCKET WITH INSTALATCH AND SQUARE END HOOD, CAPTIVATED FOR 4-40 SCREW					
10F7907	97-22500-91	50	0.650x3.67x1.30″	4.84	3.63

(8731) (de03400)

0.085″ (2.16) DENSITY MINIATURE RIBBON COMMERCIAL-GRADE METAL SHELL CONNECTORS


Solder Plug


Solder Socket

Designed for cable-to-panel applications. Reliable solder or insulation displacement terminations available. Zinc-plated steel shell provides grounding and shielding capability. Copper alloy contacts plated select gold over nickel. Current rating: 5 amps. Mate with industry compatible connectors. Contacts: 50. Also available in 24 position version. UL recognized, CSA certified.

SOLDER PLUGS WITH 0.103″ (2.62) DIAMETER THROUGH HOLE

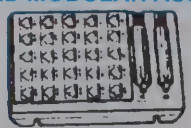
Stock No.	Type	H x W x D	1-24	25-49
45F967	57-10500	0.610x3.280x0.677″	6.99	5.24
SOLDER SOCKETS WITH FLOAT BUSHINGS				
45F966	57-20500	0.610x3.280x0.700″	7.88	5.92

SOLDER CUP/END ENTRY WITH HOODS

Stock No.	Type	Plug/Socket	1-24	25-49
50F1953	57-10500-14	Plug	9.12	6.85
45F971	57-20500-7	Socket	8.24	6.18

(8706) (de01830)

PRE-WIRED MODULAR ASSEMBLIES


SM125

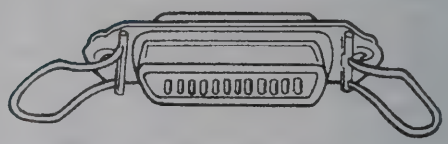
Type SM modular assemblies constructed of gray, glass-filled polyester, rated UL 94V-0. Phosphor bronze contact material. Operating temperature: –40°C to +100°C. Modular jacks meet 1000VAC dielectric and telephone USOC requirements. **Type SM-125** provides input/output connection and two-wire modular access to 25-pair cable. Features 25 two-wire modular jack sockets bridged to predetermined contacts of an in-line pair of 50-position miniature ribbon connectors. Miniature ribbon: 5A.

Stock No.	Type	Description	Each
50F5646	SM-125	25 Modular Jack Sockets	112.49

(8730) (de03251)

BAIL LATCHING 0.085″ (2.16) DENSITY METAL SHELL SOLDER TYPE CONNECTORS

Plug With Bail Latch Cutout


No Barrier Socket

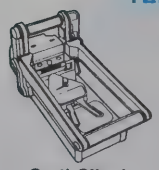
Solder type termination connectors for cable-to-panel applications. No barrier sockets with bail latches. Plugs have bail latch cutouts and zinc-plated steel hood. Copper alloy contacts with selective gold over copper plating. Dialyll phthalate type MDG per MIL-M14 insulation material. Zinc-plated steel shell provides grounding and shielding capability. Current rating: 5 amps. Operating temperature: –40°C to +120°C.

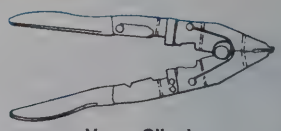
BAIL LATCHING PLUGS

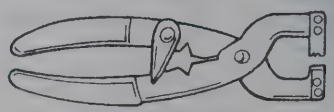
Stock No.	Type	Contacts	H x W x D	1-24	25-49
45F953	57-30140	14	0.422x1.49x1.19″	8.60	6.46
45F955	57-30240	24	0.473x1.92x1.18″	8.78	6.59
45F957	57-30360	36	0.473x2.43x1.26″	6.63	4.98
45F959	57-30500	50	0.473x3.02x1.35″	10.03	7.53
BAIL LATCHING SOCKETS					
45F952	57-40140	14	0.610x1.75x0.700″	4.84	3.63
45F954	57-40240	24	0.610x2.17x0.700″	5.73	4.30
45F956	57-40360	36	0.610x2.68x0.700″	6.81	5.11
45F958	57-40500	50	0.610x3.27x0.700″	7.88	5.92

(8729) (de03100)

TERMINATION TOOLS


Certi-Clinch


Versa-Clinch


Repair Pliers

Type SCT-330 Certi-Clinch portable, manually-operated field termination tool for field assembly and low production installations. Terminates all-plastic and metal shell IDC miniature ribbon connectors up to 50 contacts (25 pair nest). Handles solid wire only.
91F1804 Type SCT-330. **Each**..... **1650.92**

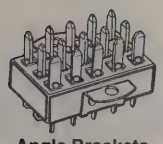
Type SCT-343 Kit to convert 32-pair tool to 25-pair operation.
52F3323 Type SCT-343. **Each**..... **510.62**

Type SCT-649 Carrying Case.
91F1806 Type SCT-649. **Each**..... **50.75**

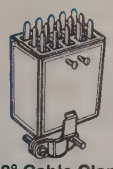
Type VCTT-361 Versa-Clinch hand-operated tool is used to perform four basic termination functions: (1) cuts off and terminates one wire at a time to miniature ribbon IDC connectors; (2) unlatches the all-plastic end entry hood for removal; (3) opens and closes miniature ribbon metal cable clamp; and (4) unlocks mated miniature ribbon IDC connectors.
43F155 Type VCTT-361. **Each**..... **91.96**

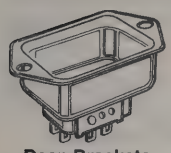
Type SRT-345 Hand-operated plier-type termination/repair tool cuts wires and terminates one wire at a time to replace damaged termination in the field. Black oxide finished carbon steel. Red vinyl dip handles.
91F1805 Type SRT-345. **Each**..... **43.50**
(8727) (de03098)

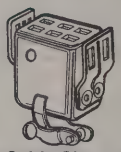
300 SERIES MULTI-DENSITY PLUGS & SOCKETS

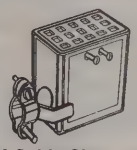

Angle Brackets

Deep Brackets


180° Cable Clamp

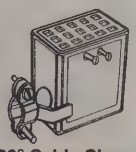

Deep Brackets


180° Cable Clamp with Lock


180° Cable Clamp with Keeper

Angle Brackets

180° Cable Clamp


90° Cable Clamp

300 series multiple density brass plugs and phosphor bronze sockets available with angle brackets, deep brackets for recess mounting, 90° cable clamp or 180° cable clamp with or without lock/keeper. Polarized for interconnecting power and signal carrying circuits in cable-cable and cable-panel applications. Thermoplastic hoods rated UL94V-0. CSA approved. Current: 10A. Withstanding: 730VACrms. Temperature rating: +105°C. For deep brackets, replace "**AB**" suffix with "**DB**" Other styles and terminations available; *contact your local Newark sales office.*

PLUGS WITH ANGLE BRACKETS (CABLE-TO-PANEL)

Stock No.	Type	Contacts	Panel Cutout W x L	1-24	25-49
39F200	P-302-AB	2	0.656″ Dia.	1.39	1.04
39F201	P-303-AB	3	0.453 x 1.016″	1.49	1.12
39F202	P-304-AB	4	0.719 x 0.781″	1.60	1.20
39F203	P-306-AB	6	0.719 x 1.031″	2.08	1.56
39F204	P-308-AB	8	0.719 x 1.281″	2.40	1.80
39F205	P-310-AB	10	0.719 x 1.578″	2.55	1.92
39F206	P-312-AB	12	0.953 x 1.266″	2.77	2.08

SOCKETS WITH ANGLE BRACKETS (CABLE-TO-PANEL)

39F220	S-302-AB	2	0.656″ Dia.	1.44	1.08
39F221	S-303-AB	3	0.453 x 1.016″	1.77	1.33
39F222	S-304-AB	4	0.719 x 0.781″	1.85	1.39
39F223	S-306-AB	6	0.719 x 1.031″	2.44	1.83
39F224	S-308-AB	8	0.719 x 1.281″	2.87	2.15
39F225	S-310-AB	10	0.719 x 1.578″	3.47	2.60
39F226	S-312-AB	12	0.953 x 1.266″	6.59	4.95

PLUGS WITH 180° CABLE CLAMP (CABLE-TO-CABLE)

39F280	P-302-CCT	2	0.691″ Dia.	2.55	1.92
39F281	P-303-CCT	3	0.472 x 1.034″	2.80	2.10
39F282	P-304-CCT	4	0.724 x 0.786″	3.14	2.36
39F283	P-306-CCT	6	0.724 x 1.036″	3.41	2.56
39F284	P-308-CCT	8	0.724 x 1.286″	3.73	2.80
39F285	P-310-CCT	10	0.720 x 1.592″	4.04	3.04
39F286	P-312-CCT	12	0.974 x 1.286″	4.31	3.24
39F287	P-315-CCT	15	1.170 x 1.795″	6.36	4.77
39F288	P-318-CCT	18	1.170 x 2.107″	6.87	5.16

SOCKETS WITH 180° CABLE CLAMP (CABLE-TO-CABLE)

39F300	S-302-CCT	2	0.691″ Dia.	2.72	2.04
39F301	S-303-CCT	3	0.472 x 1.034″	3.16	2.37
39F302	S-304-CCT	4	0.724 x 0.786″	3.19	2.40
39F303	S-306-CCT	6	0.724 x 1.036″	3.64	2.73
39F304	S-308-CCT	8	0.724 x 1.286″	4.40	3.30
39F305	S-310-CCT	10	0.720 x 1.592″	4.96	3.72
39F306	S-312-CCT	12	0.974 x 1.286″	5.64	4.24
39F307	S-315-CCT	15	1.170 x 1.795″	8.01	6.01
39F308	S-318-CCT	18	1.170 x 2.107″	8.57	6.43

PLUGS WITH 180° CABLE CLAMP WITH LOCK (CABLE-TO-CABLE)

29F859	P-302-CCT-L	2	0.691″ Dia.	4.64	3.48
29F860	P-303-CCT-L	3	1.034 x 0.472″	5.24	3.93
29F861	P-304-CCT-L	4	0.786 x 0.724″	5.11	3.83
29F862	P-306-CCT-L	6	1.036 x 0.724″	5.40	4.05
29F863	P-308-CCT-L	8	1.286 x 0.724″	5.67	4.26
29F864	P-310-CCT-L	10	1.592 x 0.720″	6.22	4.67

CONTINUED

300 SERIES MULTI-DENSITY PLUGS & SOCKETS (CONT.)

PLUGS WITH 180° CABLE CLAMP WITH LOCK (CABLE-TO-CABLE) (CONT.)

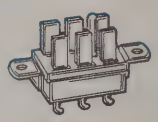
Stock No.	Type	Contacts	Panel Cutout W x L	1-24	25-49
29F865	P-312-CCT-L	12	1.286 x 0.974″	6.69	5.02
29F1028	P-315-CCT-L	15	1.795 x 1.100″	9.24	6.93

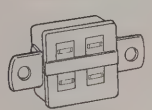
SOCKETS WITH 180° CABLE CLAMP WITH KEEPER (CABLE-TO-CABLE)

29F866	S-302-CCT-K	2	0.691″ Dia.	4.73	3.55
29F867	S-303-CCT-K	3	1.034 x 0.472″	5.64	4.24
29F868	S-304-CCT-K	4	0.786 x 0.724″	5.47	4.10
29F869	S-306-CCT-K	6	1.036 x 0.724″	5.98	4.49
29F870	S-308-CCT-K	8	1.286 x 0.724″	6.74	5.06
29F871	S-310-CCT-K	10	1.592 x 0.720″	9.50	7.13
29F872	S-312-CCT-K	12	1.286 x 0.974″	7.98	5.99
29F1035	S-315-CCT-K	15	1.795 x 1.100″	10.91	8.19

(8676) (de00048ab)

JONES 2400 SERIES MULTIPLE DENSITY SOLDER LUG/ SOLDER EYELET PLUGS AND SOCKETS


P2406AB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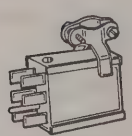
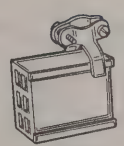

P2406CCE


S2406CCE

For medium use in cable-to-cable and cable-to-panel applications. Polarized to prevent wrong-way insertion. Brass plug, phosphor bronze socket. Contact plating: cadmium. Plug prongs are 0.250″(6.35) wide, 0.055″(1.40) thick. Black molded phenolic insulation material. Formed metal hood with dielectric liner to prevent shorting. Cable clamps of zinc and clear irridite-plated steel used for strain relief. Current rating: 15A. Withstanding voltage: 1700VAC rms. UL recognized, CSA certified. *To order plugs and sockets with cable clamp at 90° simply change type number suffix* **CCT** to **CCE**; to order plugs and *sockets with deep brackets for recessed mounting change suffix to* **DB**; for plugs and *sockets with shallow bracket for flush mounting change suffix to* **SB**.

PLUGS WITH CABLE CLAMP AT 180°

Stock No.	Type	Contacts	L	Cable Opening	1-24	25-49
29F524	P-2404-CCT	4	1.064″	0.438″	8.36	6.27
29F525	P-2406-CCT	6	1.500″	0.438″	9.09	6.82
29F526	P-2408-CCT	8	1.937″	0.563″	9.72	7.30
29F528	P-2412-CCT	12	2.813″	0.625″	11.26	8.45

SOCKETS WITH CABLE CLAMP AT 180°

Stock No.	Type	Contacts	1-24	25-49
29F530	S-2404-CCT	4	7.59	5.69
29F531	S-2406-CCT	6	8.22	6.17
29F532	S-2408-CCT	8	8.31	6.24
29F534	S-2412-CCT	12	11.36	8.53

PLUGS WITH ANGLE BRACKET

Stock No.	Contacts	Panel Cutout W x L	1-24	25-49
52F9957	4	1.094 x 1.094″	2.66	2.00
52F9958	6	1.094 x 1.531″	5.30	3.98
52F9959	8	1.094 x 1.969″	4.91	3.68

SOCKETS WITH ANGLE BRACKET

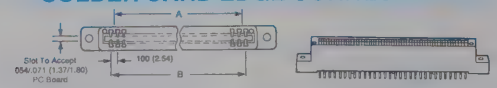
52F9961	4	1.094 x 1.094″	1.87	1.40
52F9962	6	1.094 x 1.531″	3.17	2.38
52F9963	8	1.094 x 1.969″	3.62	2.72
52F9964	12	1.094 x 2.844″	4.49	3.37

PLUGS WITH 90° CABLE CLAMP END

Stock No.	Type	Contacts	Panel Cutout W x L	1-24	25-49
29F1114	P-2406-CCE	6	1.094 x 1.531″	9.19	6.89

(8744) (de50291)

CARDCON™ 0.100″ (2.54) DENSITY COMMERCIAL DIP SOLDER CARD EDGE CONNECTORS



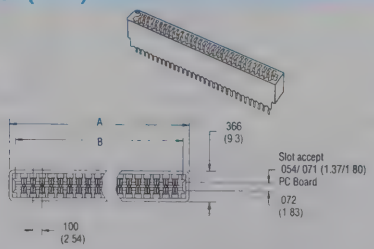
DIP solder tails on 0.200″ (5.08) row centers double readout. Accepts 0.062″ (1.59) thick PC boards. Available less mounting ears or with 0.128″ (3.25) mounting holes. Withstanding voltage: 650VAC RMS. Current rating: 3 amps. Contact resistance: 10 milliohms maximum. Insulation resistance: 5000 megohms minimum. Insulation material: UL94V-0 rated glass-filled polyester, black. UL recognized file E19071. Standard plating: 10µin. gold over nickel, 50µin. nickel in contact area, tin on tails. XT, AT plating: 30µin. gold over 50µin. nickel in contact area, tin on tails. Other sizes available; *contact your local Newark sales office.*

LESS MOUNTING EARS

Stock No.	Type	No. of Pos./ Contacts	1-24	25-49
44F4814	50-18SN-12	18/36	1.79	1.35
44F4816	50-22SN-12	22/44	2.19	1.65
44F4817	50-25SN-12	25/50	2.49	1.87
44F4819	50-30SN-12	30/60	2.99	2.24
44F4820	50-31SN-12	31/62	3.09	2.32
44F4821	50-36SN-12	36/72	3.58	2.69
44F4824	50-43SN-12	43/86	4.47	3.35
44F4827	50-50SN-12	50/100	4.98	3.74
91F5760	50-31SN-XT	31/62 IBM	3.68	2.76
0.128″ (3.25) MOUNTING HOLES				
44F4833	50-18SN-11	18/36	1.79	1.35
44F4835	50-22SN-11	22/44	2.19	1.65
44F4836	50-25SN-11	25/50	2.49	1.87
44F4838	50-30SN-11	30/60	2.99	2.24
44F4839	50-31SN-11	31/62	3.09	2.32
44F4840	50-36SN-11	36/72	3.58	2.69
44F4843	50-43SN-11	43/86	4.47	3.35
44F4846	50-50SN-11	50/100	4.98	3.74

(12929) (ne09925)

L SERIES .100″ (2.54) DENSITY CARD EDGE CONNECTORS



L series card edge connectors designed for use in AT- and XT-compatible personal computers to make capability enhancements efficient and economical. Accepts .062″ (1.59mm) thick PC boards. Contact plating: gold over nickel in contact area, tin over nickel on tails. Operating temperature: –55°C to +105°C. Meet MIL-STD-202, Method 103, Condition B.

Stock No.	Type	Contact Position	Dimensions A	Dimensions B	1-24	25-49
16F1854	50-52SNL-ATF	18/36 + 31/62 IBM	5.461″	5.299″	0.75	0.57
16F1855	50-31SNL-XTF	31/62 IBM	3.357″	3.200″	0.52	0.39

(9142) (ne08195)

CARD GUIDES

Fit 0.100″ (2.54) and 0.156″ (3.96) density edge connectors. Accept 0.062″ (1.57) thick PC boards. Constructed of polypropylene.

Stock No.	Type	Color	1-24	25-49
29F1398	50-GP-1	Green	0.93	0.70
81F1022	50-GP-1B	Black	0.93	0.70

(9163) (de50474a)

POLARIZING KEYS

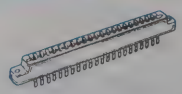
Style A Style B Style C

Style A and B for 0.156″ (3.96) density; Style C for 0.100″ (2.54) density.

Stock No.	Type	Style	1-24	25-49
28F1157	50-PK-1	B	0.19	0.15
28F1158	50-PK-2	A	0.19	0.15
57F3275	50-PK-3	C	0.19	0.15

(15243) (de50474b)

CARDCON™ 0.156″ (3.96) DENSITY COMMERCIAL SOLDER CARD EDGE CONNECTORS



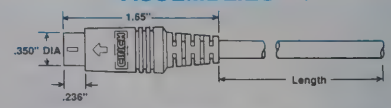
Available with single readout 0.156″ (3.96) long DIP solder tail; double readout .156″ (3.96) long DIP solder tail with 0.200″ (5.08) row spacing; single readout solder eyelet; and double readout solder eyelet with 0.200″ (5.08) row spacing. Bifurcated semi-bellows type contacts constructed of spring brass-plated with gold over nickel. UL94V-0 rated glass-filled polyester insulation material. Rated 5 amps. Withstanding voltage: 1800VACrms. Operating temperature: –65°C to +105°C. Accepts single or double sided 0.062″ (1.57) thick PCB's. UL recognized File # E19071.

SOLDER EYELET, SINGLE READOUT WITH 0.128″ (3.25) MOUNTING HOLE

Stock No.	Type	Pos./Contacts	1-24	25-49
81F1031	50-6SN-7	6/6	1.98	1.49
81F1032	50-10SN-7	10/10	2.21	1.66
81F1034	50-15SN-7	15/15	3.22	2.42
81F1036	50-22SN-7	22/22	4.73	3.55
SOLDER EYELET, DOUBLE READOUT, 0.200″ ROW SPACING, WITH 0.128″ MOUNTING HOLE				
81F1040	50-20SN-9	10/20	1.82	1.37
81F1042	50-30SN-9	15/30	2.32	1.74
81F1043	50-36SN-9	18/36	3.11	2.33
81F1044	50-44SN-9	22/44	3.58	2.69
81F1045	50-48SN-9	24/48	3.76	2.82
DIP SOLDER TAILS, SINGLE READOUT, 0.156″ LONG, WITH 0.128″ MOUNTING HOLE				
81F1023	50-6SN-5	6/6	1.98	1.49
81F1028	50-22SN-5	22/22	4.64	3.48
DIP SOLDER TAILS, DOUBLE READOUT, 0.200″ ROW SPACING, 0.156″ LONG, WITH 0.128″ MOUNTING HOLE				
29F1752	50-24SN-1	12/24	2.51	1.89
29F1753	50-30SN-1	15/30	2.90	2.18
29F1755	50-44SN-1	22/44	3.45	2.59
29F1757	50-50SN-1	25/50	3.80	2.86
DIP SOLDER TAILS, DOUBLE READOUT, 0.200″ ROW SPACING, 0.156″ LONG, LESS MOUNTING EARS				
29F1767	50-20SN-3	10/20	3.07	2.30
29F1769	50-30SN-3	15/30	4.31	3.24
29F1771	50-44SN-3	22/44	4.97	3.73

(9044) (de50477)

CIRCULAR MINI DIN PLUG SINGLE-ENDED CABLE ASSEMBLIES



Pre-assembled single-ended cable assembly meets FCC requirements for EMI/RFI suppression. Features phosphor bronze contacts with standard plating of gold flash over nickel underplate. Also available with additional gold plating over standard gold flash for a total 30µ″ thickness in mating area; *contact your local Newark sales office for details.* Current rating: 1A at 100VAC; 2A at 12VDC. Contact-to-contact resistance: 30mΩ maximum. Insulation resistance: 500MΩ minimum at 500 VDC. 0.197″ (5.0) OD black, PVC cable jacket over 28 AWG stranded wire conductors. Nylon plug insulator, rated UL94V-0 with black PVC plug overmold. Molded-in strain relief. Operating temperature: -40°C to +70°C. UL recognized, CSA certified.

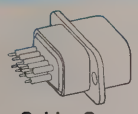
Stock No.	Type	Contacts	Length	1-24	25-49
51F1833	MDC-4P05	4	3.28′ (1M)	12.27	9.21
51F1834	MDC-4P13	4	6.56′ (2M)	15.43	11.58
51F1835	MDC-4P15	4	9.84′ (3M)	18.58	13.95
51F1836	MDC-5P05	5	3.28′ (1M)	12.85	9.64
51F1837	MDC-6P05	6	3.28′ (1M)	13.44	10.09
51F1838	MDC-6P13	6	6.56′ (2M)	16.60	12.46
51F1839	MDC-6P15	6	9.84′ (3M)	19.75	14.82
51F1843	MDC-8P05	8	3.28′ (1M)	14.61	10.96
51F1844	MDC-8P13	8	6.56′ (2M)	17.76	13.33
51F1845	MDC-8P15	8	9.84′ (3M)	20.92	15.70

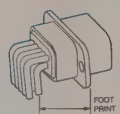
(8742) (de50289)

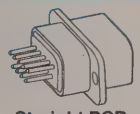
ONE-STOP SHOPPING . . . WITH ONE CALL AND ONE PURCHASE ORDER.

FILTERED CONNECTORS AND TERMINALS

700 SERIES HIGH-PERFORMANCE EMI FILTERED D-SUBMINIATURE CONNECTORS AND ADAPTERS


Solder Cup




Straight PCB

Filter circuits are pi-section. PC board connectors have 0.590″ footprint. Current rating: 5A. Operating temperature: –55°C to +125°C. Contacts: gold plated copper alloy. Shell: tinned aluminum. Insulators meet UL94V-0 flammability test.

Filter Type Suffix	Tol. (%)	3dB Cut-off Freq. (MHz)	Diel. With-stand Voltage (VDC)	Insertion Loss (dB) @ Frequency (MHz) 20	50	100	200	500	1000	5000
-001/-011	±20	17	300	...	5	10	18	39	52	45
-003/-013	+100,-0	3.2	300	9	15	25	43	65	70	63
-005/-015	+100,-0	0.8	150	16	31	46	60	75	75	65

PIN-TO-SOLDER CUP TERMINATION CONNECTORS

Stock No.	Type	Pins	Cap. pF	1-4	5-9	10-24	25-49
44F8272	56-701-013	9	1000	**22.46**	**21.31**	**19.67**	**18.85**
44F8273	56-701-015	9	4000	**23.32**	**22.13**	**20.43**	**19.58**
44F8297	56-711-013	15	1000	**31.73**	**30.11**	**27.80**	**26.64**
44F8296	56-711-015	15	4000	**35.08**	**33.63**	**31.69**	**30.24**
44F8320	56-721-013	25	1000	**48.43**	**45.96**	**42.42**	**40.66**
44F8321	56-721-015	25	4000	**50.86**	**48.26**	**44.55**	**42.69**

PIN-TO-SOCKET ADAPTERS

44F8276	56-705-003	9	1000	**22.46**	**21.31**	**19.67**	**18.85**
44F8277	56-705-005	9	4000	**23.32**	**22.13**	**20.43**	**19.58**
44F8301	56-715-005	15	4000	**35.50**	**33.69**	**31.10**	**29.80**
44F8323	56-725-001	25	310	**44.43**	**42.16**	**38.92**	**37.30**
44F8325	56-725-005	25	4000	**50.86**	**48.26**	**44.55**	**42.69**

PIN-TO-PCB RIGHT ANGLE CONNECTORS

44F8281	56-712-005	15	4000	**33.87**	**32.14**	**29.67**	**28.43**

(9140) (ne08100)

500 SERIES LOW-PROFILE EMI FILTERED PC BOARD CONNECTORS

Filtered PC board connectors protect equipment from external EMI noise and help prevent system glitches. Filter circuits are feed-thru. Space-saving 0.318" footprint. Current rating: 5A. RF current rating: 0.3A. Operating temperature: –40°C to +125°C. Insulator resistance: 1GΩ min. Insulator: glass reinforced polyester (meets UL94V-0). Contacts: phosphor bronze, 30μ" gold-plated, over nickel. Shell: Steel, tin plated.

Filter Type Suffix	Tol. (%)	3dB Cut-off Freq. (MHz)	Dielectric Withstand Voltage (VDC)	WVDC	Insertion Loss (dB) @ Frequency (MHz) 50	100	200	500	1000	5000
-011	±30	11	300	100	7	15	20	27	33	25
-013	±30	3	300	100	13	21	28	35	41	35

PIN-TO-RIGHT ANGLE PCB TAIL

Stock No.	Type	Pins	Cap. pF	1-4	5-9	10-24	25-49
16F4941	56-522-011	25	440	**20.10**	**19.08**	**17.61**	**16.87**

PIN-TO-STRAIGHT PCB TAIL

16F4947	56-527-011	25	440	**19.49**	**18.49**	**17.07**	**16.36**

SOCKET-TO-RIGHT ANGLE PCB TAIL

16F4949	56-504-011	9	440	**13.21**	**12.54**	**11.57**	**11.09**
16F4951	56-514-011	15	440	**16.43**	**15.59**	**14.39**	**13.79**
16F4952	56-524-011	25	440	**20.29**	**19.26**	**17.78**	**17.04**
16F4953	56-524-013	25	1000	**20.29**	**19.26**	**17.78**	**17.04**

SOCKET-TO-STRAIGHT PCB TAIL

16F4954	56-503-011	9	440	**12.24**	**11.61**	**10.72**	**10.27**
16F4956	56-513-011	15	440	**15.62**	**14.82**	**13.68**	**13.11**
16F4958	56-523-011	25	440	**19.80**	**18.79**	**17.34**	**16.62**

(9139) (ne08099)

MULTI-SECTION EMI FILTERS

Minimum no load insertion loss 50dB, per MIL-STD-220, over temperature range of –5°C to +125°C. Working voltage: 350VDC. Dimensions: 1.125″L x 0.594″H. **Type 1212** is 12-channel model and meets MIL-F-15733.

Stock No.	Type	1-4	5-9
19F3067	1212-0502	**181.83**	**172.54**

(7449) (de03057)

400 SERIES EMI/RFI FERRITE FILTERED D-SUB CONNECTORS

Prevents common-mode noise in signal lines of data communications terminals and digital devices. Effective in helping meet requirements of FCC, VDE and Japan's VCCI. 4-40 UNC locking insert eliminates loose hardware. Space-saving 0.318″ footprint. Current rating: 5A. Operating temperature: -40°C to +105°C. Insulator resistance: 1000MΩ min. 500VDC. Insulator: PBT +30% glass fiber (meets UL 94V-0). Contacts: gold plate over brass or phosphor bronze. Shell: steel (tin plate).

Dielectric Withstand Voltage (VDC)	Impedance Typ. (Ω) 25MHz	100MHz	Insertion Loss @ Frequency (MHz) 10	20	50	100	200	500	1000
1000	30	50	1dB	2dB	3dB	3.5dB	4dB	6dB	17dB

PIN-TO-RIGHT ANGLE

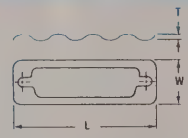
Stock No.	Type	Pins	1-4	5-9	10-24	25-49
16F4931	56-402-001	9	**1.84**	**1.75**	**1.61**	**1.55**

SOCKET-TO-RIGHT ANGLE

16F4934	56-404-001	9	**1.84**	**1.75**	**1.61**	**1.55**
16F4936	56-424-001	25	**2.70**	**2.57**	**2.37**	**2.27**

(9138) (ne08098)

EMI FILTERED WAVED-METAL D-SUBMINIATURE GASKETS



Waved-metal gaskets adjust for irregularities in the mounting surface to maintain electromagnetic compatibility of D-subminiature connectors. Style "A" are front-pin, front-socket or rear-pin mounting. Style "B" are rear-socket mounting. Gaskets are normally 0.030″ thick uncompressed, 0.005″ compressed.

Stock No.	Type	Pins	Style	L x W	1-4	5-9	10-24	25-49
51F3658	572019-00100-70	9	A	1.213 x 0.600″	**0.94**	**0.89**	**0.82**	**0.79**
51F3659	572019-00105-70	9	B	1.213 x 0.600″	**0.94**	**0.89**	**0.82**	**0.79**
51F3660	572019-00101-70	15	A	1.541 x 0.600″	**1.07**	**1.02**	**0.94**	**0.90**
51F3662	572019-00102-70	25	A	2.088 x 0.600″	**1.31**	**1.24**	**1.14**	**1.10**
51F3663	572019-00107-70	25	B	2.088 x 0.600″	**1.31**	**1.24**	**1.14**	**1.10**
51F3664	572019-00103-70	37	A	2.729 x 0.600″	**1.74**	**1.66**	**1.53**	**1.46**

(9141) (ne08101)

500 SERIES LOW-PROFILE EMI FILTERED CONNECTOR ENGINEERING KIT

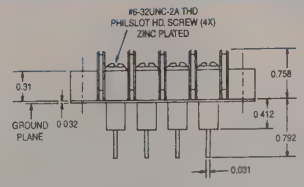
Type PN56-5500-002 engineering kit contains six pieces representative of the 500 series low-profile EMI filtered connectors. Type number suffix indicates mounting option: **TI** indicates 4-40 threads on mounting flange; **GBL** indicates grounded board lock with 4-40 threads. *Individual* **500 series** *connectors sold separately on this page.*

KIT CONTENTS

Type	Contacts/ Shell Size	Contact Type/ Termination	Capacitance (pF)
56-502-011GBL	9	Pin to 90° PCB TailTail	440
56-524-012T1	25	Socket to 90° PCB Tail	840
56-527-012T1	25	Pin to Straight PCB Tail	840
56-503-013	9	Socket to Straight PCB Tail	1000
56-514-013GBL	15	Socket to 90° PCB Tail	1000
56-522-013GBL	25	Pin to 90° PCB Tail	1000

01F115 Type 56-500-002. Engineering Kit. **Each** **21.92**
(11627) (ne09961)

52 SERIES FILTERED TERMINAL BLOCKS

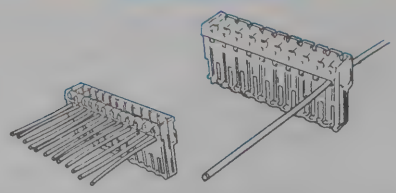


The **52 series** of filtered terminal blocks have been developed for DC power filtering applications. Working voltage: 100 VDC. Operating temperature range: –55°C to +105°C. Capacitance: 2,500 pF + 100% –0%. Current rating: 20A. UL 1059 recognized and CSA certified. *For latest mechanical details, contact your local Newark sales office.*

Stock No.	Type	Terminal Block Position	Min. Ins. Loss @ 100MHz	1-4	5-9	10-24
95F8952	52-160-002-A	2	60	**7.95**	**7.54**	**6.96**
95F8954	52-160-004-A	4	60	**13.38**	**12.69**	**11.72**
95F8956	52-160-006-A	6	60	**19.53**	**18.53**	**17.10**

(7448) (de03056)

MAS-CON® 0.100″ AND 0.156″ CENTERLINE IDC CONNECTORS



For mass termination of discrete wire and notched flat cable. Pre-loaded insulation displacement copper alloy contacts are 200µ″ tin-plated over nickel. Durable 6/6 nylon housing, rated UL94V-2. Color-coded ribs for AWG size identification. Dielectric withstanding voltage: 2.0kVAC for 0.100″CL, 3.0kVAC for 0.156″CL minimum between adjacent contacts. Operating temperature: –55°C to +105°C. UL recognized; CSA certified. ISO 9001 certified. Available in circuit end or circuit through style. Additional circuit sizes and plating options are also available; *contact your local Newark sales office for details.* **Sold in packages of 100 and 500.**

Stock No.	Type	Circuit	AWG	W	Pkg. Qty.	Per Pkg. Each	Per Pkg. 2-4
98F3593	CE100F22-2-D	2	22	0.20″	500	84.23	78.09
52F2189	CE100F22-3-D	3	22	0.30″	500	108.30	100.82
48F5008	CE100F22-4-D	4	22	0.40″	500	125.35	121.68
52F2193	CE100F22-5-D	5	22	0.50″	500	162.37	155.30
67F933	CE100F22-6-C	6	22	0.60″	100	84.03	77.90
67F934	CE100F22-7-C	7	22	0.70″	100	93.77	86.93
67F935	CE100F22-8-C	8	22	0.80″	100	101.21	94.22
83F6885	CE100F22-9-C	9	22	0.90″	100	110.07	102.46
83F6906	CE100F22-10-C	10	22	1.00″	100	66.68	62.07
83F7298	CE100F22-12-C	12	22	1.20″	100	68.91	66.89
48F5009	CE100F24-2-D	2	24	0.20″	500	81.39	75.45
48F5010	CE100F24-3-D	3	24	0.30″	500	104.64	97.41
48F5011	CE100F24-4-D	4	24	0.40″	500	125.35	121.68
48F5012	CE100F24-5-D	5	24	0.50″	500	156.88	150.05
67F924	CE100F24-6-C	6	24	0.60″	100	84.03	77.90
67F925	CE100F24-7-C	7	24	0.70″	100	93.77	86.93
67F926	CE100F24-8-C	8	24	0.80″	100	101.21	94.22
83F6890	CE100F24-9-C	9	24	0.90″	100	110.07	102.46
83F6907	CE100F24-10-C	10	24	1.00″	100	66.68	62.07
83F7300	CE100F24-16-C	16	24	1.60″	100	104.74	100.18
	0.156″ END CONNECTORS						
48F5015	CE156F18-2-D	2	18	0.312″	500	87.27	80.91
52F2192	CE156F18-3-D	3	18	0.468″	500	125.56	116.88
48F5016	CE156F18-4-D	4	18	0.624″	500	134.58	130.64
52F2191	CE156F18-5-D	5	18	0.780″	500	174.31	166.72
67F978	CE156F18-6-C	6	18	0.936″	100	48.92	45.35
83F6908	CE156F18-10-C	10	18	1.560″	100	115.60	112.22
67F965	CE156F20-2-C	2	20	0.312″	100	42.04	40.37
48F5007	CE156F20-5-D	5	20	0.780″	500	168.65	161.30
67F969	CE156F20-6-C	6	20	0.624″	100	48.92	45.35
83F7301	CE156F20-10-C	10	20	1.560″	100	59.99	58.23
83F7303	CE156F20-12-C	12	20	1.560″	100	81.83	79.43
48F5017	CE156F22-2-D	2	22	0.312″	500	87.27	80.91
48F5018	CE156F22-4-D	4	22	0.624″	500	134.58	130.64
67F960	CE156F22-6-C	6	22	0.936″	100	91.74	85.05
83F6909	CE156F22-10-C	10	22	1.560″	100	59.99	58.23
48F5019	CE156F24-4-D	4	24	0.40″	500	134.58	130.64

(8880) (ne51383)

MAS-CON® CONNECTOR INSTALLATION TOOLS

MCT CTD-100F MRT

Type MCT manual hand tool individually terminates discrete wires into MAS-CON® end connectors. Automatically indexes to next circuit position. *Order* **types CTD-100F, CTD-156F** *interchangeable nose sections separately below.*

Stock No.	Type	Description	Each	2-4	5-9
67F994	MCT	Tool	155.29	147.83	139.08
67F992	CTD-100F	For 0.100″ Connectors	183.64	177.95	167.48
67F993	CTD-156F	For 0.156″ Connectors	183.64	177.95	167.48

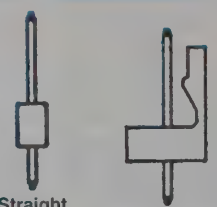
MRT HAND TOOLS

Type MRT hand tools individually terminate discrete wires into MAS-CON® end and through connectors.

67F996	MRT-100F	For 0.100″ Connectors	9.99	9.63	9.30
67F997	MRT-156F	For 0.156″ Connectors	9.99	9.63	9.30

(8883) (ne51386)

MAS-CON 0.100″ AND 0.156″ CENTERLINE MOLDED WAFER HEADERS



Straight Flat Straight Locking

Straight and right angle wafer headers in flat, polarized and locking versions. Polyester, UL 94V-0 rated. Formed square copper alloy pin is post plated with 200µ″ tin over nickel. Breakable to any length and end-to-end stackable. Current: 4.0 amps for .100CL, 12.5 amps for .156CL maximum per pin. Temperature range: –55°C to +105°C. Additional circuit sizes, header styles, and plating options are available; *contact your local Newark sales office.* UL recognized; CSA certified. **Sold in packages of 100 and 500.**

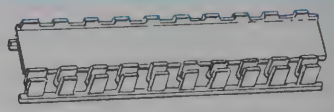
0.100″ CENTERLINE–SQUARE POSTS

STRAIGHT FLAT HEADERS

Stock No.	Type	Circuit	Width	Pkg. Qty.	Each	2-4
48F5020	MFSS100-2-D	2	0.200″	500	70.60	65.45
48F5022	MLSS100-3-D	3	0.300″	500	90.21	83.63
48F5021	MFSS100-4-D	4	0.400″	500	100.01	93.10
48F5024	MLSS100-5-D	5	0.500″	500	122.28	118.70
46F1290	MFSS100-6-C	6	0.600″	100	32.99	31.68
94F2789	MLSS-100-8-C	8	0.800″	100	47.09	43.66
83F6910	MFSS100-10-C	10	1.000″	100	50.01	46.36
	STRAIGHT LOCKING HEADERS					
48F5023	MLSS100-4-D	4	0.400″	500	119.46	111.20
94F3104	MLSS100-6-C	6	0.600″	100	35.72	33.12
83F6911	MLSS100-10-C	10	1.000″	100	55.70	51.64
	0.156″ CENTERLINE–SQUARE POSTS STRAIGHT LOCKING HEADERS					
48F5025	MLSS156-2-D	2	0.312″	500	84.33	78.18
48F5026	MLSS156-3-D	3	0.468″	500	118.53	110.34
48F5027	MLSS156-4-D	4	0.624″	500	124.58	120.94
48F5028	MLSS156-5-D	5	0.780″	500	153.80	147.10
94F2791	MLSS156-6-C	6	0.936″	100	43.03	39.89
83F6912	MLSS156-10-C	10	1.560″	100	69.23	64.18

(8881) (ne51384)

SCC SERIES MAS-CON® STRAIN RELIEF COMBINATION COVER



Provide additional strain relief in high-vibration environments. Molded of natural color 6/6 nylon. Used for end or through IDC connectors. Mate with MAS-CON® connectors; *ordered separately.* **Sold in packages of 100.**

0.100″ COMBINATION COVERS

Stock No.	Type	Circuits	Width	Pkg. Qty.	Per Package Each	Per Package 2-4
48F5030	SCC100F-2-D	2	0.200″	500	100.94	93.96
50F1749	SCC100F-3-C	3	0.300″	100	32.34	31.05
48F5031	SCC100F-4-D	4	0.400″	500	115.75	107.75
50F1752	SCC100F-6-C	6	0.600″	100	35.36	33.95
83F7323	SCC100F-10-C	10	1.000″	100	44.13	40.91
	0.156″ COMBINATION COVERS					
48F5032	SCC156F-2-D	2	0.200″	500	153.80	147.10
48F5033	SCC156F-4-D	4	0.400″	500	177.64	169.90
50F1761	SCC156F-6-C	6	0.600″	100	48.92	45.35

(8882) (ne51385)

MMIT SERIES MANUAL INDEX TOOLS

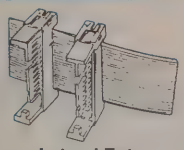
Manually terminates full line of MAS-CON® connectors, both end and through styles, with discrete wire. Easy termination for daisy-chain applications. Portable tool allows for on-site, factory, or remote use. Weighs less than 0.25 lbs.

Stock No.	Type	Each	2-4	5-9
95F3536	MMIT-100F	54.01	52.19	50.47
95F3537	MMIT-156F	54.01	52.19	50.47

(8811) (ne020051)

LAT-CON™ SHROUDED AND IDC HEADERS

Fully Shrouded



Lateral Entry

Fully shrouded headers with 0.114″ straight solder-tail contacts. Copper alloy contacts plated with 15µ″ gold over nickel. Pin spacing: 0.100 x 0.100″. Current rating: 3 amps. Lateral-entry IDC headers terminate to 28 AWG stranded, insulated 0.050″ flat cable for in-line splice, T-Tap design applications. Used as an I/O interface. Phosphor bronze contacts with 15µ″ gold over nickel plating. Current rating: 1 amp. Both types of headers feature glass-filled polyester housing, rated UL 94V-0 with short ejector latches for positive socket retention and easy socket unmating. Withstanding voltage: 1000V. Temperature range: –55°C to +125°C. Meet MIL-C-83503 specifications. 10-circuit position headers (*) have slot for center polarizing. All other header sizes have slot for military keying and center polarizing slot. UL recognized, CSA certified. Mate with sockets, *ordered separately on this page.* Easily installed with **type MCP5** termination press and **type CPD64F50HM** die, *ordered separately; contact your local Newark sales office for details.*

FULLY SHROUDED HEADERS WITH LATCH EJECTORS

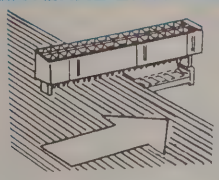
Stock No.	Type	Circuits	Each	2-4	5-9
89F2241	050-010-153A*	10	1.87	1.79	1.70
89F2242	050-014-153A	14	2.15	2.05	1.96
89F2243	050-016-153A	16	2.35	2.24	2.14
89F2244	050-020-153A	20	2.40	2.29	2.19
89F2245	050-026-153A	26	2.93	2.80	2.67
89F2246	050-034-153A	34	3.64	3.47	3.31
89F2247	050-040-153A	40	4.17	3.98	3.80
89F2248	050-050-153A	50	5.00	4.77	4.55
89F2249	050-060-153A	60	6.11	5.83	5.56
84F1940	050-064-153A	64	8.41	8.02	7.65

LATERAL-ENTRY IDC HEADERS WITH LATCH EJECTORS

84F1941	057-010-155A*	10	7.15	6.82	6.51
84F1943	057-016-155A	16	8.21	7.83	7.47
84F1944	057-020-155A	20	8.49	8.09	7.72
84F1945	057-026-155A	26	9.27	8.84	8.44
84F1946	057-034-155A	34	10.53	10.04	9.58
84F1947	057-040-155A	40	11.59	11.05	10.55
84F1948	057-050-155A	50	13.31	12.69	12.11
84F1950	057-064-155A	64	16.06	15.31	14.62

(8776) (de51393)

LAT-CON™ LATERAL-ENTRY IDC SOCKETS



Lateral entry reduces termination time up to 70%. Designed for 0.050″ center, 28 AWG, stranded flat cable (0.100 x 0.100″ mating spacing). Glass-filled polyester housing, flammability rated UL 94V-0. Insulation displacement contacts provide gas tight connections. Contacts plated with 15µ″ gold over nickel. Meets MIL-C-83503 specifications. Withstanding voltage: 1000vrms. Current rating: 1 amp. Temperature range: –55°C to +125°C. UL recognized; CSA certified. Mate with LAT-CON™ headers *ordered separately on this page.* Easily installed with **type MCP5** termination press and **type CPD64F50FM** LAT-CON™ die, *ordered separately; contact your local Newark sales office. Order optional strain reliefs separately; contact your local Newark sales office for details.*

LATERAL-ENTRY IDC SOCKETS

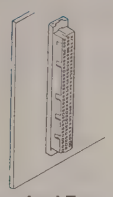
Stock No.	Type	Circuits	Each	2-4
89F2215	050-010-455	10	1.44	1.38
89F2216	050-014-455	14	2.02	1.93
89F2217	050-016-455	16	2.25	2.15
89F2218	050-020-455	20	2.43	2.31
89F2219	050-026-455	26	2.78	2.65
89F2220	050-034-455	34	3.16	3.01
89F2221	050-040-455	40	3.51	3.35
89F2222	050-050-455	50	4.37	4.17
84F1938	050-064-455	64	5.52	5.26

STRAIN RELIEFS FOR LATERAL-ENTRY IDC SOCKETS

44F4365	050-000-020	20	0.48	0.46
89F2226	050-000-026	26	0.48	0.46
89F2227	050-000-034	34	0.53	0.51
89F2228	050-000-040	40	0.53	0.51
44F4369	050-000-050	50	0.53	0.51
84F1939	050-000-064	64	0.53	0.51

(8775) (de51392)

HI-CON™ EUROCARD DIN CONNECTORS



Standard Female-Backplane

Standard Male-Daughter Board

Female-IDC Flat Cable

Male and female 2-,3-,4-row connectors permit high-density PC board packaging. Intermateable to DIN 41612, VG95324, BS9525, and IEC 603-2 specifications. Compatible with VMEbus, STEbus, MULTIbus II, CIMbus, and NUbus applications. Available with wave solderable (WS) pins, insulation displacement contacts (IDC), and compliant pins (CP). Glass-filled polyester housings, rated UL94V-0. Current rating: 3-amp maximum on board-mounted connectors; 1.5-amp maximum on IDC connectors. Operating temperature: –55°C to +125°C. Meet DIN Level III performance unless otherwise indicated. Other performance versions are also available; *contact your local Newark sales office.*

STANDARD, MALE, ANGLED

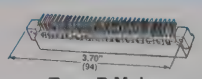
Stock No.	Type	DIN Type	Contacts	Number of Rows	Pin Style/Length	Each
83F6895	100-064-033*	B	96	3	WS/0.114″	5.15
89F2257	100-064-053	B	64	2	WS/0.114″	5.05
83F6896	100-964-033*	C	96	3	WS/0.114″	5.15
89F2258	100-964-053	C	64	2	WS/0.114″	5.05
83F6897	100-096-033*	C	64	2	WS/0.098″	7.03
89F2259	100-096-053	C	96	3	WS/0.114″	6.87
16F8992	100-096-232	C	96	3	CP/0.151″	8.74
		INVERSE, MALE, STRAIGHT				
84F1953	130-096-352	R	96	3	CP/0.189″	9.65
		STANDARD, FEMALE, STRAIGHT				
89F2262	100-064-452	B	64	2	WS/0.157″	8.44
83F6898	100-064-433*	B	64	2	IDC/...	9.00
83F6899	100-064-453*	B	64	2	WS/0.114″	8.15
84F1954	100-348-452	1/2C	48	3	WS/0.157″	7.40
83F6900	100-964-432	C	96	3	WS/0.098″	7.44
89F2251	100-964-452	C	64	2	WS/0.157″	6.90
83F6901	100-096-432*	C	64	2	WS/0.114″	9.00
89F2252	100-096-452	C	96	3	WS/0.157″	8.59
83F6902	100-096-453*	C	96	3	WS/0.184″	9.52
83F6903	100-096-932	C	64	2	WS/0.098″	9.15
		INVERSE, FEMALE, ANGLED				
89F2256	130-964-553	R	64	2	WS/0.114″	7.02
		FEMALE SOCKET FOR 0.50″ FLAT CABLE (See PAN-FLEX™)				
83F6904	120-064-435*	B	64	2	WS/0.114″	11.66
98F7611	120-964-435	C	64	2	IDC/...	12.22
		FEMALE SOCKET FOR 0.330″ FLAT CABLE (See PAN-FLEX™)				
95F3538	120-096-435F	C	96	3	IDC/...	44.41
		MALE CONNECTOR FOR 120 SERIES IDC FEMALE				
83F6905	120-964-033A*	C	64	2	WS/0.114″	12.03

*These part nos. have performance Level II.

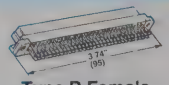
(8777) (de51394)

FRIENDLY, QUALITY SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

Gds SERIES PRINTED CIRCUIT BOARD DIN CONNECTORS



Type B Male Right-Angle



Type B Female Solder Lugs

- **Meet Requirements of DIN Standard 41612**
- **CSA Certified, ISO 9001 Certified**
- **Types B and C are UL Recognized**
- **Order Type M Special Contacts Separately**

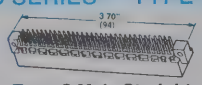
Male and female connectors available in many termination styles: Straight and right angle solder pins for printed circuits, solder lugs for discrete wiring, press-in for backplanes, and wrap posts for automatic wiring. Low insertion/withdrawl force and high vibration resistance. Includes glass-fiber filled thermosplastic resin molding. Copper alloy contacts are gold-plated in contact zone according to performance level 2 and tinned in termination zone for greater solderability. 0.100″ (2.54) contact spacing.

Gds A-B SERIES—TYPE B CONNECTORS, 2 AMPS

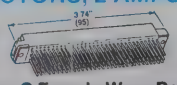
Stock No.	Type	Con-tacts	DIN Style	Termination	1-24	25-99
96F2672	09-02-164-6921	64	Male	Rt.-Angle Solder Pins for 0.063″(1.6) PCB	3.06	2.78
96F2746	09-02-264-6828	64	Female	For Insulation Displacement	18.05	16.40
96F2673	09-02-164-6824	64	Female	Straight Solder Pins for 0.098″(2.5) PCB	5.95	5.40
96F2674	09-02-164-6825	64	Female	Straight Solder Pins for 0.126″ (3.2) PCB	5.00	4.54
96F2675	09-02-164-6821	64	Female	Straight Wrap Post 0.512″(13) Long	7.07	6.42
96F2676	09-02-164-6823	64	Female	Solder Lugs	5.49	4.99

(8484) (ne08538)

Gds A-C SERIES — TYPE C CONNECTORS, 2 AMPS



Type C Male Straight



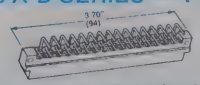
Type C Female Wrap Posts

Stock No.	Type	Con-tacts	DIN Style	Termination	1-24	25-99
96F2679	09-03-196-6922	96	M	Straight Solder Pins for 0.063″ (1.6) PCB	4.75	4.32
83F8407	09-03-396-6921	96	M	Rt. Angle Male w/Snap-in Clips	3.73	3.39
96F2677	09-03-196-6921	96	M	Right-Angle Solder	3.84	3.49
96F2678	09-03-164-6921	64	M	Pins for 0.063″(1.6) PCB	2.96	2.69
96F2680	09-03-196-6824	96	F	Straight Solder Pins-	4.59	4.17
96F2663	09-03-164-6824	64	F	0.234″ (2.5) long	3.60	3.27
96F2664	09-03-296-6825	96	F	for 0.063″ (1.6) PCB	5.18	4.71
96F2665	09-03-264-6825	64	F	0.275″ (7) long for 0.126″ (3.2) PCB	4.19	3.81
83F8408	09-03-264-6825	64	F	Female w/4.5 mm w/Solder	4.05	3.68
83F8409	09-03-296-6825	96	F	Straight Female w/Solder Termination, 4.5 mm	5.01	4.55
96F2644	09-03-264-6850	96	F	Press-In Compliant Pin,	6.59	5.99
16F5199	09-03-264-6850	64	F	2.16″ (5.5)	4.41	4.01
96F2747	09-03-264-6828	64	F	For Insulation Displace-ment for Flat Cable	12.07	10.97

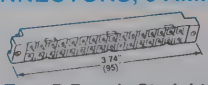
DIN Style: M = Male, F = Female

(8485) (ne08539)

Gds A-D SERIES — TYPE D CONNECTORS, 6 AMPS



Type D Male Right-Angle



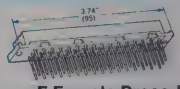
Type D Female Straight

Stock No.	Type	Con-tacts	DIN Style	Termination	1-24	25-99
96F2668	09-04-132-6921	32	Male	Right-Angle Solder Pin for 0.063″ (1.6) PCB	4.01	3.65
96F2669	09-04-232-6831	32	Female	Straight Solder Pin, 0.157″ (4) long for 0.126 ″ (3.2) PCB	9.33	8.48
96F2670	09-04-232-6826	32	Female	Right-Angle Solder Pin 0.039 x 0.039″ (1x1) for 0.063″	14.49	13.17
83F8420	09-04-232-6821	32	Female	With wrap Posts, 22mm	9.24	8.40

(8486) (ne08540)

Gds A-F — TYPE F CONNECTORS

Type F Male Right-Angle

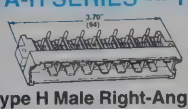


Type F Female Press-In

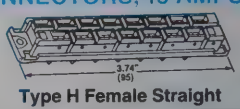
Stock No.	Type	Con-tacts	DIN Style	Termination	1-24	25-99
96F2671	09-06-148-6901	48	Male	Rt.-Angle Solder Pins	9.32	8.47
96F2654	09-06-248-6835	48	Female	With Solder Pins, 4.5mm	9.18	8.35
96F2655	09-06-248-6832	48	Female	With Press-in Terminations	17.60	15.99

(8487) (ne08541)

Gds A-H SERIES — TYPE H CONNECTORS, 15 AMPS



Type H Male Right-Angle

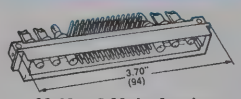


Type H Female Straight

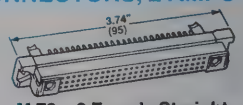
Stock No.	Type	Con-tacts	DIN Style	Termination	1-24	25-99
96F2653	09-06-115-2911	15	Male	Rt.-Angle Solder Pin for 0.063″(1.6) PCB	10.03	9.11
96F2636	09-06-215-2821	15	Female	Straight Solder Pin, 0.157″(4) long for 0.063″(1.6) PCB	9.87	8.96
83F8410	09-06-232-6823	32	Female	With Solder Lugs	8.50	7.73
83F8411	09-06-115-2932	14 + 1	Male	Rt. Angle Solder Pins - First Mating Contact Position 232	10.53	9.57
83F8412	09-06-215-2871	15	Female	For Faston 6.3 x 2.5 - May Also Be Used In Shell Housing	13.25	12.04

(8488) (ne08542)

Gds A-M SERIES-TYPE M CONNECTORS, 2 AMPS



M 42 + 6 Male Angle

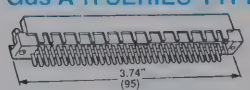


M 78 + 2 Female Straight

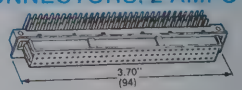
Stock No.	Type	Con-tacts	DIN Style	Termination	1-24	25-49
96F2656	09-03-178-6901	78 + 2	Male	Right-Angle	13.51	12.27
96F2657	09-03-160-6901	60 + 4	Male	Solder	10.63	9.66
96F2658	09-03-142-6901	42 + 6	Male	Pins for 0.063″	8.85	8.04
96F2659	09-03-124-6901	24 + 8	Male	(1.6) PCB	7.04	6.40
83F8413	09-03-178-6805	78 + 2	Female		10.77	9.79
83F8424	09-03-160-6805	60 + 4	Female	With Solder Pins	9.36	8.51
83F8414	09-03-142-6805	42 + 6	Female	4.0 mm	7.78	7.07
83F8415	09-03-124-6805	24 + 8	Female		7.06	6.42

(41876) (ne41876)

Gds A-R SERIES-TYPE R CONNECTORS, 2 AMPS



R Male Straight



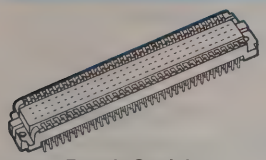
R Female Angle

Stock No.	Type	Con-tacts	DIN Style	Termination	1-24	25-49
96F2641	09-73-196-6903	96	Male	Straight Solder Pin, 0.157″ (4) Long, for 0.126″ (1.6) PCB	4.30	3.91
96F2642	09-73-164-6903	64	Male		3.52	3.20
83F8416	09-73-296-6801	96	Female	Rt. Angle Solder Pins	2.38	2.17
83F8417	09-73-264-6801	64	Female		1.77	1.61
83F8418	09-73-396-6801	96	Female	Rt. Angle Solder Pins and Snap-in Clip	6.48	5.89

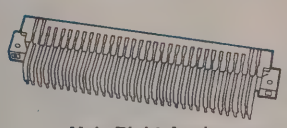
(41875) (ne41875)

D-SUB AND FLAT CABLE CONNECTORS

HAR-BUS 64 VME64 EXTENSION CONNECTOR SYSTEM



Female Straight



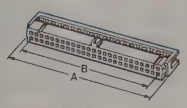
Male Right-Angle

Har-bus 64 is 100% backward-compatible to existing Eurocard systems and Gds A-C connectors; *ordered separately, contact your local Newark sales office.* The additions of rows z and d provide these capabilities: 35 more signal ground return, +3.3V power, ±48V power, and 6-slot geographical addressing pins. Contact spacing: 0.1″. (2.54). Working current: 2A maximum. Temperature range: –65°C to 125°C. All part numbers have 160 contacts.

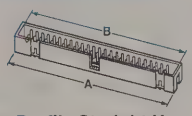
Stock No.	Type	Style	Termination	1-24	25-99	100-499
16F5200	02-01-160-2101	Male	Right-Angle	20.18	18.33	15.15
16F5201	02-02-160-2201	Female	Straight	19.97	18.15	15.00
83F8419	02-02-160-2301	Female	Straight	22.19	20.16	16.34

(8472) (ne08198)

SEK 18 SERIES FLAT CABLE CONNECTORS



Female Connector



Low Profile Straight Header

Meet IEC DIN 41651. Female connectors with center polarization, strain relief clamp offer insulation displacement connection, wire 28 AWG 7x0.127″ (0.09^2) with 0.05″ (1.27) pitch. Low profile male headers with 0.100″ (2.54) pitch feature 0.114″ (2.9) long straight solder pins for PC board mounting 0.035″ (0.9) diameter hole. All versions: thermoplastic resin (PBTP) mouldings, rated UL 94V-0. Insulation displacement contacts gold-plated in contact zone according to performance level 2 per DIN 41651, Part 2 (200 mating cycles, 4 days gas test) tinned in termination zone. Working current: 1 amp. Temp. range: –55°C to +125°C. UL recognized, CSA certified. *Long or short locking lever, termination tool kit ordered separately below.*

FEMALE CONNECTORS WITH OPEN END COVER

Stock No.	Type	Contacts	Dimensions A	Dimensions B	1-24	25-99
96F2734	09-18-506-6813	6	0.480″	0.200″	1.04	0.95
96F2735	09-18-510-6813	10	0.681″	0.400″	1.25	1.14
96F2736	09-18-514-6813	14	0.881″	0.600″	1.52	1.38
96F2737	09-18-516-6813	16	0.980″	0.700″	1.60	1.45
96F2738	09-18-520-6813	20	1.181″	0.900″	1.86	1.70
96F2739	09-18-526-6813	26	1.480″	1.200″	2.12	1.93
96F2740	09-18-534-6813	34	1.881″	1.600″	2.63	2.39
96F2741	09-18-540-6813	40	2.181″	1.900″	3.16	2.87
96F2742	09-18-550-6813	50	2.681″	2.400″	3.66	3.32
96F2725	09-18-560-6813	60	3.181″	2.900″	4.37	3.97
96F2726	09-18-564-6813	64	3.381″	3.100″	4.63	4.21

LOW PROFILE MALE HEADERS—STRAIGHT SOLDER PINS

96F2706	09-18-506-6324	6	0.600″	0.200″	0.97	0.89
96F2721	09-18-510-6324	10	0.800″	0.400″	1.15	1.04
96F2690	09-18-514-6324	14	1.000″	0.600″	1.43	1.30
96F2691	09-18-516-6324	16	1.100″	0.700″	1.52	1.38
96F2692	09-18-520-6324	20	1.300″	0.900″	1.74	1.58
96F2693	09-18-526-6324	26	1.600″	1.200″	1.97	1.79
96F2694	09-18-534-6324	34	2.000″	1.600″	2.40	2.18
96F2695	09-18-540-6324	40	2.300″	1.900″	2.66	2.42
96F2696	09-18-550-6324	50	2.807″	2.400″	3.12	2.84
96F2697	09-18-560-6324	60	3.307″	2.900″	3.80	3.45
96F2743	09-18-564-6324	64	3.507″	3.100″	3.99	3.63

ACCESSORIES FOR SEK 18 SERIES FLAT CABLE CONNECTORS

Locking levers snap into place. 1.023″ (26) long lever for use with female connector with strain relief clamp. 0.917″ (23.3) short lever for use with female connector without strain relief clamp. *Order 2 locking levers per male header.*

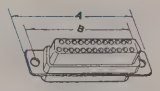
Stock No.	Type	Description	1-24	25-99
96F2744	09-18-000-9903	Long Locking Lever	0.14	0.13
96F2745	09-18-000-9904	Short Locking Lever	0.23	0.21
16F5202	09-18-000-9905	Locking Lever	0.34	0.31

(8785) (de52080)

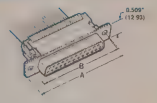
NEWARK MAKES IT EASY.
MORE PAYMENT OPTIONS! USE YOUR MAJOR CREDIT CARD, CORPORATE PURCHASING CARD, PUT IT ON YOUR ACCOUNT, OR PLACE A C.O.D. ORDER.

D-SUBMINIATURE CONNECTORS

Straight Solder



Crimp Terminal Housing



IDC

Comply with DIN 41652 and MIL-C-24308 specifications. Offer high packaging density. Tin plated steel shells with dimples on male versions provide shielding continuity. Copper alloy contacts gold plated in contact zone, tinned in termination zone. Thermoplastic resin, glass-fiber filled (PBTP) mouldings, rated UL-94V-0. Working current: turned contacts 7.5 amps maximum/stamped contacts 6.5 amps maximum. Test voltage: 1kV. Male and female connectors available with straight solder turned and 4-40 UNC retained nut in flange. Male and female crimp terminal housings for stamped crimp contacts, *ordered separately.* Crimp stamped contacts, termination tooling and hoods *ordered separately.*D-sub sconnectors 0.049″ (1.27) pitch. For insulation displacement connections, stranded wires 28/7, 26/7 AWG. Tinned mental shell, thermoplastic resin (PBTP) moulding, rated UL94V-0. Contacts gold-plated in contact zone per performance level 3, tinned in termination zone. Working current: 1 amp. Temp. range: –55°C to + 125°C. *Order corrosion-resistant steel strain relief clamp separately below.*

MALE CONNECTORS — STRAIGHT SOLDER TURNED PINS

Stock No.	Type	Contacts	Dimensions A	Dimensions B	1-24	25-99
96F2590	09-67-009-5654	9	1.216″	0.984″	4.10	3.72
96F2591	09-67-015-5654	15	1.543″	1.311″	5.01	4.55
96F2592	09-67-025-5654	25	2.090″	1.850″	7.02	6.38
96F2593	09-67-037-5654	37	2.732″	2.499″	9.89	8.99
96F2594	09-67-050-5654	50	2.637″	2.405″	11.96	10.87

FEMALE CONNECTORS — STRAIGHT SOLDER TURNED PINS

96F2595	09-67-009-4754	9	1.216″	0.984″	4.56	4.14
96F2597	09-67-015-4754	15	1.543″	1.311″	5.90	5.36
96F2598	09-67-025-4754	25	2.090″	1.850″	8.17	7.42
96F2596	09-67-037-4754	37	2.732″	2.499″	11.98	10.89
96F2626	09-67-050-4754	50	2.637″	2.405″	15.60	14.18

MALE CONNECTORS — CRIMP TERMINAL HOUSINGS

96F2627	09-67-009-5601	9	1.216″	0.984″	2.00	1.82
96F2628	09-67-015-5601	15	1.543″	1.311″	2.15	1.96
96F2629	09-67-025-5601	25	2.090″	1.850″	2.35	2.14
96F2630	09-67-037-5601	37	2.732″	2.499″	2.77	2.51
96F2631	09-67-050-5601	50	2.637″	2.405″	2.91	2.64

FEMALE CONNECTORS — CRIMP TERMINAL HOUSINGS

96F2634	09-67-009-4701	9	1.216″	0.984″	1.95	1.77
96F2617	09-67-015-4701	15	1.543″	1.311″	2.15	1.96
96F2618	09-67-025-4701	25	2.090″	1.850″	2.41	2.19
96F2619	09-67-037-4701	37	2.732″	2.499″	2.85	2.59
96F2620	09-67-050-4701	50	2.637″	2.405″	3.04	2.77

CRIMP STAMPED CONTACTS

Stock No.	Type	Style	AWG	1-24	25-49
96F2632	09-67-000-7177	Male	28-24	0.15	0.14
96F2633	09-67-000-8177	Male	24-20	0.15	0.14
96F2621	09-67-000-7277	Female	28-24	0.17	0.15
96F2622	09-67-000-8277	Female	24-20	0.17	0.15
96F2623	09-99-000-0175	Service Crimp Tool		635.22	577.21
96F2624	09-99-000-0171	Insertion/Removal Tool		38.55	35.03

BLACK THERMOPLASTIC HOODS WITH KNURLED SCREWS

Stock No.	Type	Contacts	Dimension A	1-24	25-49
96F2625	09-67-009-0424	9	1.240″ (31.5)	4.24	3.85
96F2608	09-67-015-0424	15	1.574″ (40.0)	4.34	3.94
96F2609	09-67-025-0424	25	2.106″ (53.5)	4.34	3.94
96F2610	09-67-037-0424	37	2.795″ (71.0)	5.17	4.70
96F2611	09-67-050-0424	50	2.657″ (67.5)	6.59	5.99

IDC MALE CONNECTORS

Stock No.	Type	Contacts	Dimensions A	Dimensions B	1-24	25-99
96F2748	09-66-128-7700	9	1.227″	0.984″	9.09	8.26
96F2749	09-66-228-7700	15	1.555″	1.311″	10.57	9.61
96F2750	09-66-328-7700	25	2.103″	1.850″	12.41	11.28
96F2599	09-66-428-7700	37	2.744″	2.499″	16.86	15.32

IDC FEMALE CONNECTORS

96F2600	09-66-118-7500	9	1.227″	0.984″	9.85	8.95
96F2601	09-66-218-7500	15	1.555″	1.311″	11.32	10.29
96F2602	09-66-318-7500	25	2.103″	1.850″	13.53	12.29
96F2603	09-66-418-7500	37	2.744″	2.499″	17.97	16.33

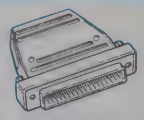
IDC STEEL STRAIN RELIEF CLAMPS

Stock No.	Type	For D-Sub with	1-24	25-99
96F2604	09-66-108-0000	9 Contacts	1.09	0.99
96F2605	09-66-208-0000	15 Contacts	1.09	0.99
96F2606	09-66-308-0000	25 Contacts	1.09	0.99
96F2607	09-66-408-0000	37 Contacts	1.09	0.99

(8425) (de52074)

D-SUB CONNECTORS AND ACCESSORIES

D-SUB PLASTIC HOODS WITH INTERNAL CABLE CLAMPS



2-piece shielded plastic hoods (backshells). Cable knock-outs in place. Straight or right-angle cable outlets made by user. Standard screw models.

Stock No.	Type	Positions	1-9	10-24
38F1800	17-1587-06	9	4.01	3.21
38F1801	17-1588-06	15	2.60	2.08
38F1802	17-1589-06	25	4.01	3.21
38F1803	17-1590-06	37	2.60	2.08
38F1804	17-1591-06	50	4.46	3.57

(9011) (de50040)

17 SERIES D-SUB HOODS WITH INTERNAL CABLE CLAMPS

2-piece hoods are shielded, with cable knock-outs in place. Straight or right-angle cable outlets made by user. All units are jack screw models.

Stock No.	Type	Contacts	1-9	10-24
90F8721	17-1724-2	9	3.23	2.59
90F8722	17-1725-2	15	3.65	2.92
90F8723	17-1726-2	25	4.46	3.57
90F8724	17-1727-2	37	8.45	6.76

(9010) (de50038)

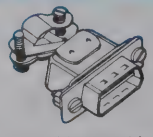
D-SUB HOODS WITH EXTERNAL CABLE CLAMPS

2-piece screw lock hoods (backshells) with cable clamp allow side or top cable entry. Glass-filled nylon body. Steel clamp and hardware.

Stock No.	Type	Positions	1-9	10-24
38F1411	17-1370	9	6.85	5.48
38F1412	17-1371	15	8.89	7.11
38F1413	17-1372	25	9.16	7.33
38F1414	17-1373	37	6.97	5.57
38F1415	17-1374	50	8.45	6.76

(9013) (de50042)

D-SUB CABLE CLAMP ASSEMBLIES



Adapt connector for cable-to-panel or cable-to-cable applications.

Stock No.	Type	Shell Size	1-9	10-24
39F1380	17-310-01	E/9	6.16	4.93
39F1381	17-311-01	A/15	4.51	3.61
39F1382	17-312-01	B/25	5.33	4.27

(9014) (de50043)

D-SUB LOCK ASSEMBLIES

Stock No.	Type	Description	1-9	10-24
39F1390	17-529	Shells E,A,B,C (9-37)	2.45	1.96
39F1391	17-768	Shells E,A,B,C,D (9-50)	2.93	2.35
81F5203	17-893	Jack socket	4.16	3.33
81F5205	17-895	Set*	8.66	6.93

*Includes: 2 jack screws, washers, 2 jack sockets, retainer rings, nuts.
(9012) (de50041)

17 SERIES ORIGINAL POKE-HOME® SOLDER-TYPE AND CRIMP-TYPE D-SUB CONNECTORS

Both solder and crimp type contacts are gold-over-nickel plated, copper alloy, rated 7.5 amps. Operating temperature range: –55° C to +125° C.

17 SERIES SOLDER-TYPE D-SUB CONNECTORS

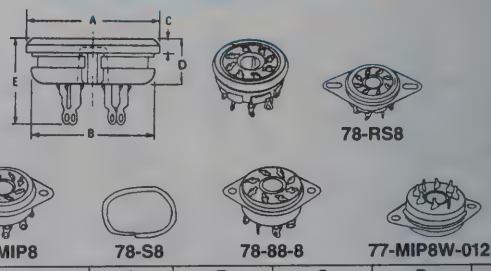
Stock No.	Type	Contacts	Description	1-9	10-24
39F1370	17-20090	9	Plug	5.78	4.63
39F1371	17-20150	15	Plug	6.76	5.41
39F1372	17-20250	25	Plug	9.77	7.82
39F1373	17-20370	37	Plug	13.56	10.84
39F1374	17-20500	50	Plug	16.84	15.22
39F1360	17-10090	9	Receptacle	8.29	6.63
39F1361	17-10150	15	Receptacle	10.84	8.67
39F1362	17-10250	25	Receptacle	16.53	13.22
39F1363	17-10370	37	Receptacle	20.68	18.69
39F1364	17-10500	50	Receptacle	27.21	24.59

17 SERIES CRIMP-TYPE D-SUB CONNECTORS

10F7879	17-20090-1	9	Plug	5.78	4.63
10F7880	17-20150-1	15	Plug	6.76	5.41
10F7881	17-20250-1	25	Plug	9.77	7.82
10F7882	17-20370-1	37	Plug	13.56	10.84
10F7883	17-20500-1	50	Plug	16.84	15.22
10F7884	17-10090-1	9	Receptacle	8.26	6.61
10F7885	17-10150-1	15	Receptacle	10.84	8.67
10F7886	17-10250-1	25	Receptacle	16.53	13.22
10F7887	17-10370-1	37	Receptacle	20.68	18.69

(9009) (de50037)

TUBE AND RELAY SOCKETS



Sockets	A	B	C	D	E
78-S4, -S5, -S6	1.25″	1.156″	0.135″	0.420″	0.844″
78-S8, -S11	1.25″	1.156″	0.145″	0.490″	0.875″

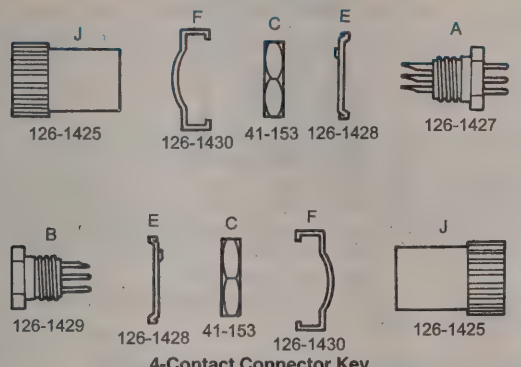
Type 78-S are type S sockets with retainer ring. Made of phenolic, they are screw and rivetless. Sockets are notched around circumference for rotation to wiring positions. **Type 78-RS** replacement type S sockets are assembled with retainer ring holding a nickel-plated steel mounting plate. Mounting plate centers: 1.50 to 1.859″ (38.10 to 47.22). **Type 78-88-8 MIP** octal-style compact sockets have phosphor bronze cadmium-plated contacts. Mount in 1.125″ (28.58) dia. hole, mounting plate holes on 1.313″ (33.35) centers. **Type 77-MIP** are molded-in-plate type; 2 holes in each contact provide easy wiring. **Type 77-MIP8W-0125** PC MIP socket-mount on boards to 0.125″ (3.18) thick. Rated 3A. Contacts are copper alloy with cadmium-plate finish. Contact tails: 0.125L x 0.063W x 0.016″ thick (3.18 x 1.60 x 0.406). Mount 0.063″ (1.60) dia. hole. **Type 146-103** is phenolic and operates up to +300°F. Rated 5A @ 1250Vrms. **Type 146-103** top mount relay socket does not have tie-point inserts. **Type 146-103** is 2.625W x 1.985D x 0.968″ H (66.68 x 50.42 x 24.59). UL recognized.

Stock No.	Type	Contacts	1-9	10-24
38F840	77-MIP-4	4	5.93	4.75
38F845	77-MIP-8*	8	6.25	5.00
38F849	77-MIP-11	11	6.13	4.90
42F825	77-MIP8W-125	8	7.96	6.37
38F846	78-88-8*	8	6.10	4.88
38F800	78RS4	4	6.49	5.19
38F806	78-RS8*	8	6.64	5.31
38F810	78-S4†	4	4.66	3.73
38F811	78-S5†	5	5.21	4.17
38F812	78-S6†	6	5.23	4.18
38F816	78-S8*‡	8	5.35	4.28
38F821	78-S11‡	11	5.11	4.09
38F930	146 103	8	17.82	16.10

*Octal style; † Brass contact; ‡ Luballoy contact
(9024) (de50061)

PLUGS AND HEXAGONAL CONNECTORS

126 SERIES MINIATURE HEXAGONAL CONNECTORS



Refer to the enlarged view drawing above to determine the components required. Note the identification letter, then order by the type number alongside the desired combination of components and the number of contacts. For example, a male 5 contact connector with rear hood, cable clamp and lock sleeve requires components A, G and H. In the column for male 5 contact assemblies, AGH indicates **type 126-217**, which contains all three components.

4-CONTACT CONNECTOR ASSEMBLIES

Stock No.	Male Type	Key	1-9	10-24
87F5331	126-214-1000	AFJ	**9.73**	**7.78**
42FX112	126-214	ACE	**6.58**	**5.26**
42FX119	126-215	BFJ	**10.75**	**8.60**
87F5184	126-233	BCE	**7.99**	**6.39**

5-CONTACT CONNECTOR ASSEMBLIES

42FX100	126-010	AC	**7.79**	**6.23**
42FX120	126-217	AGH	**11.75**	**9.40**
42FX113	126-216	ACE	**6.44**	**5.15**
42FX101	126-011	BC	**7.70**	**6.16**
42FX121	126-223	BGH	**13.48**	**10.78**
42FX114	126-218	BCE	**8.15**	**6.52**

7-CONTACT CONNECTOR ASSEMBLIES

42FX104	126-191	AC	**6.68**	**5.35**
42FX122	126-195	AGH	**12.46**	**9.97**
42FX115	126-197	ACE	**7.15**	**5.72**
42FX105	126-192	BC	**9.73**	**7.78**
42FX123	126-196	BGH	**15.51**	**12.41**
42FX116	126-198	BCE	**7.85**	**6.28**

9-CONTACT CONNECTOR ASSEMBLIES

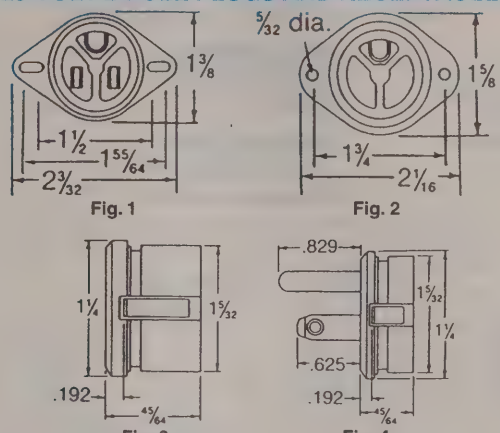
42FX102	126-012	AC	**7.96**	**6.37**
42FX124	126-220	AGH	**13.69**	**10.95**
42FX117	126-219	ACE	**8.41**	**6.73**
42FX103	126-013	BC	**12.10**	**9.68**
42FX125	126-222	BGH	**16.73**	**15.12**
42FX118	126-221	BCE	**12.64**	**10.11**

INDIVIDUAL 5-7-9 CONTACT CONNECTORS

Stock No.	Type	Description	Key	1-9	10-24
42FX110	126-1069-02	Clip	E	**0.48**	**0.39**
42FX109	126-1064-02	Lock Sleeve	G	**2.09**	**1.67**
42FX108	126-1063	Hood & Cable Clamp	H	**4.97**	**3.98**

(9060) (de50648)

125-VOLT 2-POLE PLUGS AND RECEPTACLES

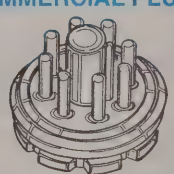


Mounting plate **types 160-2** and **160-3** have a cadmium-plated steel mounting plate assembled to molded thermoplastic body. Flush motor **types 160-4** and **160-5** are inserts assembled in flush cadmium-plate steel shells for below surface mounting. Insert **types 160-10** and **160-11** are high-temperature thermoplastic with zinc plated retaining ring, copper alloy contacts and fit 0.031-0.050″ thick panels. **Type 160-10-N** receptacle insert requires **type 12-001-03** mounting plate, *order separately below.*

Stock No.	Type	Fig.	Description	1-9	10-24
39F1230	160-2-N	1	Receptacle	**18.89**	**17.08**
39F1231	160-3-N	1	Plug	**22.53**	**20.36**
39F1232	160-4-N	2	Receptacle	**28.80**	**26.03**
39F1233	160-5-N	2	Plug	**33.43**	**30.21**
39F1238	160-10-N	3	Receptacle	**17.57**	**15.88**
39F1239	160-11-N	4	Plug	**19.93**	**18.01**
42F811	12-001-031	—	Mounting Plate	**1.37**	**1.10**

(9057) (de50645)

COMMERCIAL PLUGS

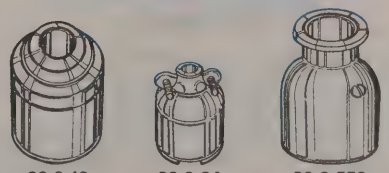


Black phenolic plugs for use as chassis connectors, with plug-in units or as cable connectors. **Types 86-CP8** and **86-CP11** have center guide post as shown above; **types 86-CP4, 5** and **6** are polarized without center guide post. *Order caps separately on this page.*

Stock No.	Type	Contacts	1-9	10-24
42F030	86-CP4	4	**4.34**	**3.47**
42F031	86-CP5	5	**4.55**	**3.64**
42F032	86-CP6	6	**4.70**	**3.76**
42F034	86-CP8	8	**3.98**	**3.19**
42F037	86-CP11	11	**3.88**	**3.10**

(9059) (de50647)

COMMERCIAL PLUG CAPS



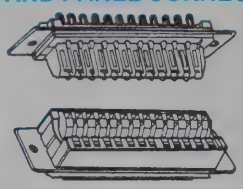
86-3-13 **86-3-24** **86-3-558**

Make cable connectors of commercial plugs, *order separately on this page.* **Type 86-3-13** black epoxy finish steel end outlet, 0.438″ inter diameter. **Type 86-3-24** black epoxy finish steel cable clamp with 0.375″ wire insulator. **Type 86-3-858** thermoplastic end outlet with strain relief, 0.313″ inter diameter.

Stock No.	Type	Description	1-9	10-24
42F017	86-3-13	End Outlet	**3.11**	**2.49**
42F019	86-3-24	Cable Clamp	**6.02**	**4.82**
38F1400	86-3-858	Strain Relief End Outlet	**5.38**	**4.30**

(9058) (de50646)

26 SERIES® BARRIER POLARIZATION RACK AND PANEL CONNECTORS



High-impact diallyl phthalate dielectrics and molded-in corrosion-resistant mounting plates. Rated 5 amps per contact, 750VDC. Temperature range: –55°C to + 125°C. Barrier polarization feature prevents mismating.

BARRIER POLARIZATION PLUGS

Stock No.	Type	Contacts	1-9	10-24
39FX130	26-182*	8	17.30	13.19
42FX150	26-4100-8P**	8	14.46	9.79
42FX151	26-4100-16P	16	18.10	13.84
42FX152	26-4100-24P	24	22.35	17.08
42FX153	26-4100-32P	32	35.05	26.81

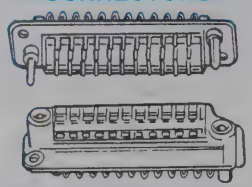
BARRIER POLARIZATION RECEPTACLES

39FX131	26-183*	8	17.50	13.39
42FX154	26-4200-8S**	8	15.18	11.54
42FX155	26-4200-16S	16	21.27	16.23
42FX156	26-4200-24S	24	26.37	20.14
42FX157	26-4200-32S	32	31.89	24.36

*Mounting hole centers: 1.688″ (42.88); **1.375″ (34.93)

(9015) (de50047)

26 SERIES ® PIN POLARIZATION RACK AND PANEL CONNECTORS



High-impact diallyl phthalate dielectrics and molded-in corrosion-resistant mounting plates. Rated 5 amps per contact, 750VDC. Temperature range: –55°C to +125°C. Feature pins that mate before contacts for sure alignment.

PIN POLARIZATION PLUGS

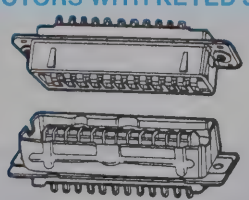
Stock No.	Type	Contacts	1-9	10-24
39FX132	26-159-16	16	25.00	19.08
39FX134	26-159-24	24	32.55	24.89
39FX136	26-159-32	32	37.44	28.57

PIN POLARIZATION RECEPTACLES

39FX133	26-190-16	16	28.94	22.10
39FX135	26-190-24	24	37.65	28.76
39FX137	26-190-32	32	43.08	32.90

(9017) (de50049)

26 SERIES® BARRIER POLARIZATION RACK AND PANEL CONNECTORS WITH KEYED SHELLS



High-impact diallyl phthalate dielectrics and molded-in corrosion-resistant mounting plates. Rated 5 amps per contact, 750VDC. Temperature rating: –55°C to +125°C. Barrier polarization feature prevents mismating. Keyed aluminum shells prevent mismating of several connectors mounted on same panel.

BARRIER POLARIZATION PLUGS WITH KEYED SHELLS

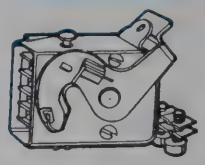
Stock No.	Type	Contacts	Shell Keys	1-9	10-24
42FX182	26-4101-8P	8	1	25.38	19.35
42FX183	26-4101-16P	16	3-6	32.43	24.78
42FX184	26-4101-24P	24	3-6	38.44	29.37
42FX185	26-4101-32P	32	3-6	44.59	34.02

BARRIER POLARIZATION RECEPTACLES WITH KEYED SHELLS

42FX186	26-4201-8S	8	1	28.21	21.55
42FX187	26-4201-16S	16	3-6	38.09	29.07
42FX188	26-4201-24S	24	3-6	47.94	36.65
42FX189	26-4201-32S	32	3-6	55.20	42.14

(9016) (de50048)

26 SERIES® TOP CABLE ENTRY CABLE-TO-PANEL CONNECTORS



High-impact diallyl phthalate dielectrics and molded-in corrosion-resistant mounting plates. Rated 5 amps per contact, 750VDC. Temperature range: –55°C to +125°C. Feature positive latching to keep connector surely mated in shock or vibration environments. Latching arm can also be wire-locked. Shells keyed for polarization to prevent mismating.

TOP CABLE ENTRY PLUGS

Shell provided with male inserts. Mate with **type 26-4401** receptacles; *to order, contact your local Newark sales office.*

Stock No.	Type	Contacts	Shell Keys Nos.	1-9	10-24
42FX158	26-4301-8P	8	1	61.06	46.63
42FX159	26-4301-16P	16	3-6	69.34	52.94
42FX160	26-4301-24P	24	3-6	78.85	60.23
42FX161	26-4301-32P	32	3-6	78.84	60.22

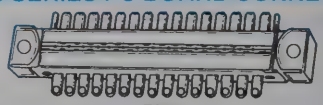
TOP CABLE ENTRY RECEPTACLES

Shells provided with socket inserts. Mate with **type 26–4401** plugs; *to order, contact your local Newark sales office.*

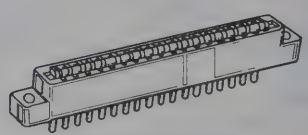
42FX162	26-4301-8S	8	1	72.20	55.12
42FX163	26-4301-16S	16	3-6	74.97	57.27
42FX164	26-4301-24S	24	3-6	88.67	67.73
42FX165	26-4301-32S	32	3-6	97.20	74.22

(9018) (de50050)

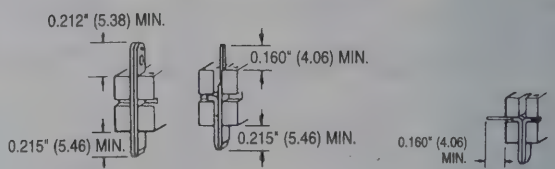
133/143 SERIES PC BOARD CONNECTORS



Plug



Card Edge Connector



133 and **143 series** PC connectors are rated 5 amps, 600VACrms. Dielectric material is diallyl phthalate per MIL-M-14 type MDG. Dielectric resistance: 5000 megohms minimum. **133 series** plugs have brass contacts, and **133 series** male plug adapters for PC boards are especially useful in situations involving board thicknesses other than 1/16″. **133 series** and **143 series** intermate. Type number suffixes in tables refer to tail style: for **143 series suffix -01** indicates solder eyelet; **suffix -03** indicates DIP solder; for **133 series**, *see drawings above.*

133 SERIES PLUGS

Stock No.	Type	Contacts	1-9	10-24
39F732	133-015-13	15	37.69	34.06
39F734	133-022-13	22	49.83	45.03

133 SERIES MALE PLUG ADAPTERS

42F319	133-018-03	18	42.76	38.64
42F138	133-018-21	18	44.51	40.22

143 SERIES CARD EDGE CONNECTORS

42F300	143-010-01	10	6.56	5.25
42F308	143-012-01	12	7.06	5.65
42F301	143-015-01	15	8.24	6.59
42F302	143-018-01	18	9.83	7.87
42F303	143-022-01	22	11.81	9.45
42F309	143-006-03	6	7.48	5.98
42F310	143-010-03	10	7.37	5.90
42F314	143-022-03	22	12.13	9.70

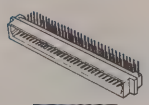
(9020) (de50056)

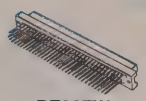
TWO-PIECE PC INDIRECT CONNECTORS PER DIN 41612

Two-piece printed circuit indirect connectors meet requirements of DIN 41612, VG 95324 and IEC 130. Fully-loaded with 96-pins, connectors have gold over nickel-plate on copper alloy contacts. Tested for 400 cycles minimum. Insulator material is glass-filled polycarbonate or polyether sulphane.

Stock No.	Type	Description	1-4	5-9
46F363	RE96FW	Female 0.025″(0.635) Square Leads, 0.57″(13.72)L for Racks	16.93	16.09
46F364	RE96MSR-062	Male Right-Angle Solder Tails, 0.032″(0.813) Diagonal Square for Eurocards	10.30	9.78
87F1066	RE96MWR	Male, Right-Angle Wire-Wrap 0.630″ (16.00)L	22.51	21.38

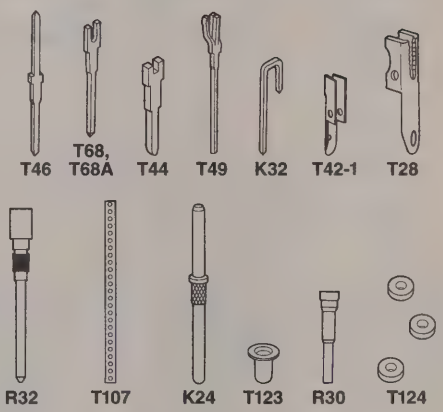
(8948) (de01249)


RE96MSR


RE96FW

WIRING TERMINALS AND SOCKET PINS

For 0.042″ diameter holes in 0.063″ boards unless noted. Press-in, 0.025″ sq. post, single and double-tailed wire-wrap terminals: **T46-2** 0.78″L, **T46-3** 1.06″L, **T46-4** 0.42″L and **T46-5** 0.88″L. Bifurcated press-in, 0.025″ sq. post wire-wrap terminals with 2-prong receptacle: tin-plated **T68A** 0.63″L and **T68** 0.80″L hold 0.032″D lead/20 ga. wire; tin-plated **T44**, gold-plated **T44-1** 0.69″L hold 0.021″ D lead/24 ga. wire. **T49** trifurcated press-in, 0.025″ sq. post wire Klipwrap terminal with 3-prong receptacle holds in upper slot 17 ga. wire/0.032-0.040″ D lead and lower slot 22 ga. wire/0.018-0.025″ D lead. **K32** J-pin wire-wrap terminal installs in 2 0.042″ D holes on 0.1″ centers. **T42-1** push-in wiring terminal holds up to 7 wires or leads horizontally or vertically thru 0.042″ D hole. **T28** similar to **T42-1** except for 0.062″ D hole. **R32** pressfit low profile wire-wrap socket pin. **T107** 0.08″ wide solder-coated bus strips with 0.042″ D holes spaced on 0.1″ centers. **K24A** gold-plated, **K24C** tin-plated press-in Inbord pins with diamond knurled shoulder for use in G-10 epoxy glass boards. **T123** eyelet reduces 0.055″ D hole to 0.042″; **(*) sold in packages of 500. R30** low-profile, pressfit socket pin with 0.110″ long solder tail for 0.055″ D holes. **T124/M+** 1100-piece solder washer kit includes 0.110″, 0.103″ and 0.106″ O.D. sizes to fit over sockets and tails of most Vector pins and terminals. **T125** 2-level, **T126** 3-level press-fit wire-wrap terminals for voltage and ground holes in Vectorbord Plus™ and Pads & Planes™ patterns also available. *Contact your local Newark sales office. Order terminal and socket installation tools and dies separately. Contact your local Newark sales office.* **Sold in packages of 100 and 1000.**


T46 T68, T68A T44 T49 K32 T42-1 T28

R32 T107 K24 T123 R30 T124

SOLD IN PACKAGES OF 100

Stock No.	Type	1-4
38F1242	T46-3-9/C	14.95
38F1245	T46-4-9/C	8.44
87F649	T46-5-9/C	14.05
34F1215	T68/C	9.64
38F1364	T44/C	7.88
38F1330	T49/C	14.46
38F1362	K32/C	16.06
38F1363	T42-1/C	6.61
38F465	T28/C	8.14
38F1040	R32/C	35.34
50F2551	T107/C	97.87
87F1081	T123/500*	32.85
87F3868	R30/C	18.21

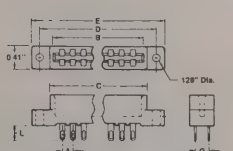
SOLD IN PACKAGES OF 1000

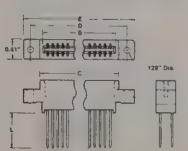
38F1243	T46-3-9/M	102.27
38F1246	T46-4-9/M	63.27
38F1248	T46-5-9/M	94.74
34F1218	T68A/M	106.00
34F1216	T68/M	56.75
38F1329	T44/M	47.32
38F1331	T49/M	127.63
38F1326	K32/M	133.84
38F1328	T42-1/M	46.04
38F1061	T28/M	45.34
38F1039	R32/M	240.91
38F1087	K24A/M	110.96
38F401	K24C/M	61.04
94F9373	T124/M+	157.86

(8949) (de01250)

CARD EDGE CONNECTORS

Designed for 0.062″ thick printed circuit boards. Low insertion force. Mating contacts are gold over nickel-plated for reliability. 0.200″ pin row separation. Test voltage: 650VAC. Rated current: 3 amps. Contact resistance drop: 30MV maximum at rated current. Insulation resistance: 5000 megohms at 500VDC. Supplied with between-contact polarizing keys except **Type R644** , which has in-contact polarizing keys. All solder tail with eyelet termination *except* **type R644-3** which is wire-wrap termination – 0.025″ square. Pin length: 0.25″ (solder tail); 0.65″ (wire-wrap).


Solder Tail with Eyelet


Wire Wrap 0.025″ Sq.

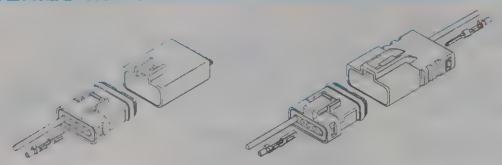
SOLDER TAIL WITH EYELET TERMINATION

Stock No.	Type	Contacts	Mounting Ears	A	B	C	D	E	1-4	5-9
81F4778	R636-2	72	Flush	0.100″	3.707″	3.88″	4.175″	4.475″	19.49	18.52
10F8212	R656-1	56	Flush	0.125″	3.625″	3.79″	4.045″	4.336″	16.06	15.26
38F487	R644	44	Flush	0.156″	3.596″	3.75″	4.032″	4.036″	11.78	11.19
38F1140	R644-3	44	Center	0.156″	3.596″	3.75″	4.032″	4.360″	10.30	9.78

(9102) (de51881)

566 SERIES WATERPROOF CONNECTORS AND TOOL

NEW



566 Series are fully waterproof connectors with a 2mm pitch and a water protection grade of "4". Plugs and receptacles are available in 1, 3 and 5 contact positions. PC board mount style available in 2, 3, 5 and 9 contact positions. Current rating: 2A. Operating temperature: -40° to +105°C. Rated voltage: 250V. *Order ejection tool separately below.*

PLUGS

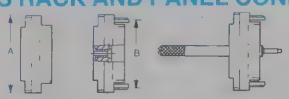
Stock No.	Type	Contacts	1-49	50-99
83F7160	566-002-715-120	2	6.90	5.89
83F7163	566-003-715-120	3	10.21	8.71
83F7166	566-005-715-120	5	16.67	14.21
PC BOARD MOUNT PLUGS				
83F7159	566-002-420-001	2	1.18	1.01
83F7162	566-003-420-101	3	1.84	1.57
83F7165	566-005-420-101	5	2.76	2.35
83F7168	566-009-420-101	9	4.00	3.42
RECEPTACLES				
83F7161	566-002-725-220	2	7.64	6.51
83F7164	566-003-725-220	3	10.87	9.27
83F7167	566-005-725-220	5	17.14	14.62
83F7169	566-009-725-220	9	29.99	25.58

EJECTION TOOL

Stock No.	Type	Description	1-49	50-99
83F7170	566-280-300	Ejection Tool	583.90	497.99

(41872) (ne41872)

516 SERIES RACK AND PANEL CONNECTORS



Designed for cable-to-cable and cable-to-panel applications. Insertable/removable, recessed phosphor-bronze contacts, *order separately below,* with gold plating over nickel. Polycarbonate insulator except 120-contact versions which are diallyl phthalate. Current rating: 8.5A. *Order application tooling separately.* All 56 pin versions available in 6 colors.

PLUGS WITH ACTUATING SCREW

Stock No.	Type	Contacts	Dimensions A	Dimensions B	1-49	50-99
95F3170	516-020-000-301	20	1.312"	1.000"	8.41	6.31
95F3174	516-038-000-301	38	2.000"	1.688"	8.51	6.39
95F3178	516-056-000-301	56	2.592"	2.280"	8.51	6.39
95F3182	516-090-000-301	90	2.718"	2.375"	16.51	12.39
95F3186	516-120-000-101	120	2.750"	2.375"	19.31	14.49
PLUGS WITH LOCKING NUT						
95F3171	516-020-000-302	20	1.312"	1.000"	6.11	4.58
95F3175	516-038-000-302	38	2.000"	1.688"	6.00	4.51
95F3179	516-056-000-302	56	2.592"	2.280"	6.20	4.66
95F3183	516-090-000-302	90	2.718"	2.375"	7.50	5.63
95F3187	516-120-000-102	120	2.750"	2.375"	10.00	7.50
RECEPTACLES WITH ACTUATING SCREW						
95F3172	516-020-000-401	20	1.312"	1.000"	8.01	6.00
95F3176	516-038-000-401	38	2.000"	1.688"	8.41	6.31
95F3180	516-056-000-401	56	2.592"	2.280"	8.51	6.38
95F3184	516-090-000-401	90	2.718"	2.375"	16.21	12.16
95F3188	516-120-000-201	120	2.750"	2.375"	19.71	14.78
RECEPTACLES WITH LOCKING NUT						
95F3173	516-020-000-402	20	1.312"	1.000"	6.00	4.51
95F3177	516-038-000-402	38	2.000"	1.688"	5.80	4.35
95F3181	516-056-000-402	56	2.592"	2.280"	6.00	4.51
95F3185	516-090-000-402	90	2.718"	2.375"	7.30	5.48
95F3189	516-120-000-202	120	2.750"	2.375"	10.40	7.81

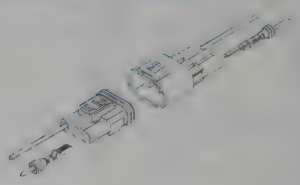
CONTACTS — SOLD IN PACKAGES OF 100

Stock No.	Type	Description	1-9
95F3205	516-290-500	Solder eyelet	16.72
95F3206	516-290-520	PC Tab	15.84
95F3207	516-290-540	Wire Wrap (0.050" x 0.567")	22.00
95F3208	516-290-541	Wire Wrap (0.026" x 0.580")	20.24
95F3209	516-290-542	Wire Wrap (0.050" x 0.760")	23.76
95F3210	516-290-590	Crimp	19.02
98F8556	516-290-591	Crimp (Reel of 1800)	332.55

(8807) (ne01568)

568 AND 570 SERIES WATERPROOF CONNECTORS AND TOOL

NEW



568 and **570 series** are fully waterproof connectors with 5.8mm contact spacing and a water protection grade of "4". **570 series** plugs and receptacles are available in 2 or 3 contact positions. PC board mount in 1, 2, or 3 contact positions. **570 series** have current rating of 10A. **568 series** have plug and receptacle with 1 contact position have a current rating of 15A. Operating temperature: -40° to +105° C, Rated voltage: 300V. *Order ejection tool separately below.*

PLUGS

Stock No.	Type	Contacts	1-49	50-99
83F7176	570-002-735-100	2	8.30	7.08
83F7179	570-003-735-100	3	13.29	11.33
83F7172	568-001-735-100	1	4.66	3.98
PC BOARD MOUNT PLUGS				
83F7174	570-001-420-101	1	1.58	1.35
83F7177	570-002-420-101	2	1.91	1.63
83F7179	570-003-735-100	3	13.29	11.33
83F7172	568-001-735-100	1	4.66	3.98
RECEPTACLES				
83F7175	570-001-745-200	1	5.33	4.54
83F7178	570-002-745-200	2	8.96	7.64
83F7181	570-003-745-200	3	13.88	11.84
83F7173	568-001-745-200	1	4.08	3.48

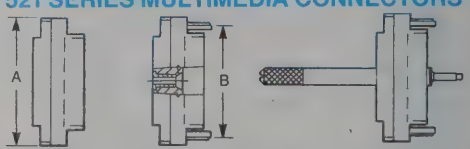
EJECTION TOOL

Stock No.	Type	Description	1-49	50-99
83F7171	570-280-300	Ejection Tool	418.20	356.67

(41874) (ne41874)

521 SERIES MULTIMEDIA CONNECTORS

NEW

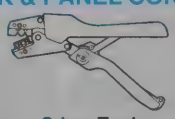


521 Series connectors allow for 8 audio channels and a 6-component composite video channel with 75 ohm coaxial contacts. Includes 28 Edacon contacts, 6 coaxial contacts. Dielectric withstanding voltage: 1000 Vrms. Frequency range: 0-2 GHz.

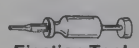
Stock No.	Type	Description	1-49	50-99
83F7151	521-290-572	40A Power Plug	4.11	3.51
83F7152	521-290-573	20A Power Plug	3.93	3.35
83F7153	521-290-574	10A Power Plug	4.15	3.54
83F7145	521-028-000-501	Plug with Actuating Screw; Green Polyester	31.42	26.80
83F7146	521-028-000-502	Plug with Locknut; Green Polyester	21.58	18.41
83F7154	521-290-575	40A Power Receptacle	10.02	8.55
83F7155	521-290-576	20A Power Receptacle	8.74	7.45
83F7156	521-290-577	10A Power Receptacle	9.00	7.67
83F7147	521-028-000-601	Receptacle with Actuating Screw; Green Polyester	32.01	27.30
83F7148	521-028-000-602	Receptacle with Locknut; Green Polyester	22.17	18.91

(41873) (ne41873)

516 SERIES RACK & PANEL CONNECTOR TOOLS

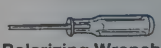


Crimp Tool



Ejection Tool

Insertion Tool (95F3214)



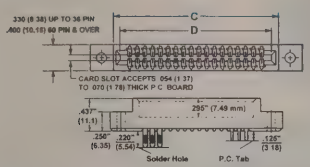
Polarizing Wrench

Order **516 Series** *rack and panel connectors separately on this page.*

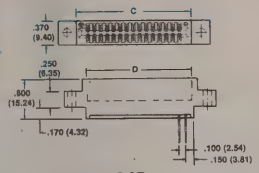
Stock No.	Type	Description	Each
95F3212	516-280-201	Crimp Tool	130.34
95F3213	516-280-300	Contact Ejection Tool	53.62
95F3214	516-280-400	Crimp Insertion Tool	41.94
95F3215	516-280-500	Polarizing Hardware Wrench	56.01

(8689) (de01545)

341 AND 345 SERIES DUAL READOUT 0.100″ (2.54) CARD EDGE RECEPTACLES



341



345

Feature pre-loaded, bifurcated contacts copper/nickel/tin alloy plated with gold over nickel in mating area and tin-lead tails. Choice of PC tab, wire wrap or solder hole contacts. Flush mount, green glass-filled polyester insulator, rated UL94V-0. Accepts PC boards 0.054 to 0.070″ (1.37-1.78) thick. Current rating: 3A. For 345 series use **type 345-240-318** polarizing insert for between-contact position and **type 345-240-328** insert for in-contact position *ordered separately on this page.* These parts are 0.200″ row spacing. For **341 series** use **type 341-240-318** polarizing insert for between-contact position, **type 321-240-328** insert for in-contact position; *contact your local Newark sales office.* UL recognized, 345 series CSA certified.

PC TAB TERMINALS, WITHOUT MOUNTING LUGS

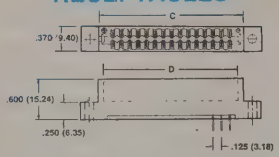
Stock No.	Type	Contacts	Dimensions C	Dimensions D	1-49	50-99
95F3045	345-020-520-201	20	1.260″	1.100″	4.00	3.07
95F3050	345-050-520-201	50	2.760″	2.600″	5.68	4.36
95F3051	345-060-520-201	60	3.260″	3.100″	6.20	4.77

SOLDER HOLE TERMINALS, MOUNTING LUGS WITH 0.128″ DIAMETER HOLES

95F3026	341-020-500-202	20	1.275″	1.100″	7.88	6.57
95F3027	341-026-500-202	26	1.575″	1.400″	8.41	7.01
95F3028	341-030-500-202	30	1.775″	1.600″	8.93	7.44
95F3029	341-036-500-202	36	2.075″	1.900″	9.67	8.06

(8687) (de01474)

346 SERIES DUAL READOUT 0.125″ (3.18) CARD EDGE RECEPTACLES

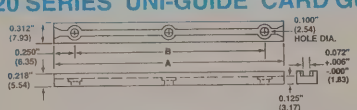


Same as **345 series** receptacles except 0.125″ (3.18) contact spacing, 0.250″ (6.35) row spacing. Feature PC tab terminals, 0.025″ (0.64) square x 0.175″ (4.45) long. Mounting lugs with 0.128″ (3.25) diameter holes. Use **type 345-240-318** polarizing insert for between-contact position and **type 345-240-328** insert for in-contact position, *ordered separately.* UL recognized, CSA certified.

Stock No.	Type	Contacts	Dimensions C	Dimensions D	1-49	50-99
95F3082	346-056-520-202	56	3.785″	3.625″	5.57	4.29
95F3085	346-072-520-202	72	4.785″	4.625″	6.20	4.77
95F3087	346-100-520-202	100	6.535″	6.375″	9.04	6.96

(8688) (de01475)

616-220 SERIES 'UNI-GUIDE' CARD GUIDES



Universal card guides hold printed circuit cards in position, align card with connector. High temperature resistant gray polycarbonate. Install with 2 or 3 3/32″-diameter pop rivets. **Sold in packages of 100.**

Stock No.	Type	Dimensions A	Dimensions B	1-49
95F3238	616-220-302	2.500″	2.000″	35.19
95F3239	616-220-303	4.500″	4.000″	47.11
95F3240	616-220-304	5.500″	5.000″	53.26
95F3241	616-220-305	8.000″	7.500″	76.14

(8726) (de02801)

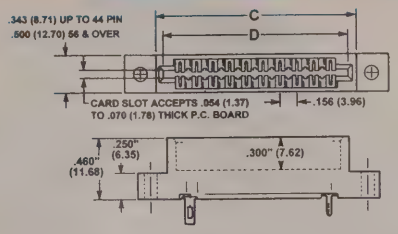
POLARIZING INSERTS FOR CARD EDGE CONNECTORS

Use for polarizing between-contact and in-contact positions of card edge connectors, *ordered separately. Contact your local Newark sales office.* **Sold in packages of 1000.**

Stock No.	Type	Description	Each
95F3248	345-240-318	Between-Contact	92.47
95F3249	345-240-328	In-Contact	114.67

(8702) (de01671)

305 SERIES DUAL READOUT 0.156″ (3.96) CARD EDGE RECEPTACLES



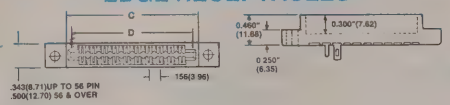
Bifurcated copper/nickel/tin alloy contacts with gold over nickel plating in mating area, tin-lead tails. Choose solder hole, or PC tab contacts. Flush mount, glass-filled polyester insulator, rated UL94V-0, with mounting lugs. Accepts PC boards 0.054 to 0.070″ (1.37-1.78) thick. Current rating: 5A. UL recognized, CSA certified.

SOLDER HOLE TERMINALS, MOUNTING LUGS WITH 0.128″ DIAMETER HOLES

Stock No.	Type	Contacts	Dimensions C	Dimensions D	1-49	50-99
95F3155	305-056-500-202	56	4.678″	4.530″	10.06	5.87
95F3157	305-072-500-202	72	5.926″	5.780″	12.01	7.01
95F3158	305-086-500-202	86	7.018″	6.870″	13.21	7.70

(8690) (de01566)

306 AND 307 SERIES DUAL READOUT 0.156″ (3.96) CARD EDGE RECEPTACLES



307

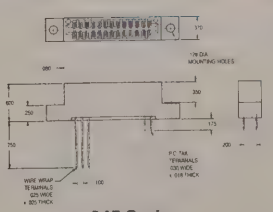
Low profile receptacles feature, phosphor bronze contacts with bifurcated nose. Selective gold over nickel plating in mating area with tin-lead tails. Solder hole or PC tab contacts. Flush mount, green glass-filled polyester insulator, rated UL94V-0. Parts are single read out with center line contacts. Accepts PC boards 0.054 to 0.070″ (1.37-1.78) thick. Current rating: 5A. UL recognized, CSA certified.

SOLDER HOLE TERMINALS, MOUNTING LUGS WITH 0.128″ DIAMETER HOLES

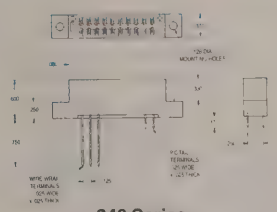
Stock No.	Type	Contacts	Dimensions C	Dimensions D	1-49	50-99
95F3098	307-012-500-202	12	1.246″	1.100″	3.28	2.96
95F3099	307-020-500-202	20	1.870″	1.720″	4.55	4.10
95F3100	307-024-500-202	24	2.182″	2.030″	4.68	4.21
95F3102	307-036-500-202	36	3.118″	2.970″	5.73	3.96
95F3103	307-044-500-202	44	3.742″	3.590″	6.65	4.60
95F3105	307-056-500-202	56	4.678″	4.532″	8.64	5.98
95F3106	307-072-500-202	72	5.926″	5.780″	10.74	7.44
95F3107	307-086-500-202	86	7.018″	6.872″	12.49	8.65
95F3088	306-006-500-102	6	1.246″	1.100″	3.79	3.16
95F3093	306-022-500-102	22	3.742″	3.590″	8.93	7.44

(8666) (de01472)

345/346 SERIES CARD EDGE CONNECTORS



345 Series



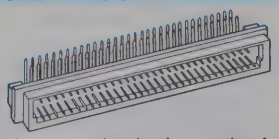
346 Series

Pre-loaded, single-beam, cantilever, bifurcated contacts, copper/nickel/tin alloy plated, gold over nickel in mating area. Tin-lead tails. UL recognized, CSA certified.

Stock No.	Type	Contacts	Contact Spacing	Bus Style	Each
66F9808	301-188-520-201	188	0.050″	EISA	5.47
66F9809	245-062-520-350	62	0.100″	IBM PC-XT	0.84
95F3251	245-098-520-350	98	0.100″	IBM PC-At ISA	1.75
66F9810	302-112-520-201	112	0.050″	IBM MCA	2.42
66F9811	337-086-520-201	86	0.156″	Mot. Exercisor	2.63
66F9812	337-086-524-201	86	0.156″	Multibus 1	2.63
66F9813	345-060-524-201	60	0.100″	Multibus 1	6.20
66F9814	302-120-520-201	120	0.050″	PCI	6.01
66F9815	346-056-520-802	56	0.125″	Standard Bus	5.57
66F9816	346-100-520-802	100	0.125″	S100	9.04
66F9818	345-140-520-201	140	0.100″	Versabus	3.88
66F9817	345-120-520-201	120	0.100″	Versabus	9.67

(8824) (ne06437)

DIN BOARD MOUNT CONNECTORS



DIN connectors feature high contact density, low mating forces, and 2-piece design. Header and receptacle versions without keying in 3 row (3x32) configuration, except types with (*) 3 row (3x16). 0.100″ (2.54) grid. 0.025″ (0.635) square terminals. Standard and inverted (reverse) versions available for solder-in, wire wrap, press-fit, and surface mount compatible applications. Contact resistance: 20 milliohms. Rated 3A @ 20°C. Insulation resistance: 5000 megohms @ 500VDC. Operating temperature: –65°C to +125°C. Comply with DIN 41612. UL recognized, CSA certified, VDE approved. M55302/VG95324 approved. *Before ordering, refer to the Coding Key table below for an explanation of contact designation codes and variation codes.*

CONTACT DESIGNATION CODES

0.025″ (0.64) Square Terminals:

1 = PC Contact, Right-Angle Short Square Terminal, 0.118″ (3.00) long
2 = PC Contact, Right-Angle Square Terminal, 0.118″ (3.00) long
3 = PC Contact, Square Terminal, 0.114″ (2.90) long
4 = PC Contact, Square Terminal, 0.177″ (4.50) long
7 = Straight Wire Wrap Square Terminal, 0.512″ (13.00) long
9 = Press-Fit, Square Terminal, 0.512″ (13.21) long

VARIATION CODES

Contact Fully Loaded, 0.100″ (2.54) Grid

Gold-Plated Contact Area, Tin/Lead Terminal:
025 = DIN 41612 Class II, 400 Cycle Life

Gold-Plated Contact Area and Terminal:
097 = DIN 41612 Class II, 400 Cycle Life
913 = MIL-M-55302/131-01 Class I, 500 Cycle Life

8457 SERIES STANDARD RIGHT-ANGLE HEADERS, STYLE C, ½ C, AND EXPANDED C

Stock No.	Type	Positions	Designation Code	Variation Code	Each
69F397	10-8457-096002025	96	1	025	5.23
95F2138	10-8457-096002913	96	1	913	8.53

8477 SERIES INVERTED HEADERS, STYLER R, ½ R, AND EXPANDED R

89F737	10-8477-096002025	96	4	025	4.26
51F1803	10-8477-096006025	96	6	025	4.73

8457 SERIES STANDARD RECEPTACLES, STYLE C

69F400	20-8457-096001025	96	4	025	8.16
51F1801	20-8457-096002025	96	3	025	8.16
51F1802	20-8457-096005025	96	7	025	9.80
69F391	20-8457-096005097	96	7	097	13.77

8477 SERIES INVERTED RIGHT-ANGLE RECEPTACLES, STYLE R, ½ R, AND EXPANDED R

69F408	20-8477-096002025	96	2	025	7.34

8458 SERIES STANDARD COMPLIANT PRESS-FIT RECEPTACLES, WITH EARS, STYLE C, ½ C, AND EXPANDED C

16F3046	208458096005025	96	9	025	5.36

(8685) (de01040)

6208 SERIES FPC/FFC FLEX-TO-BOARD CONNECTORS

Straight type, ZIF (zero insertion force) units feature 0.039″ (1.00) contact spacing for flat printed circuit (FPC)/flat flex circuit (FFC) cable. Retainer ensures secure fit. Connectors fit 0.197″ (5.00) above board. Tin-lead plated phosphor bronze contacts. Glass-filled PPS insulator and slider rated UL94V-0. Rated 1 amp, 100 volt maximum. Dielectric withstanding: 500Vrms minimum. Applicable FPC/FFC: 0.012±0.002″ (0.305 ±0.05).

Stock No.	Type	Positions	Dimensions A	Dimensions B	1-499
95F2122	006208000105001	5	0.449″	0.157″	1.16
95F2125	00 6208000108001	8	0.567″	0.276″	1.37
95F2129	006208000112001	12	0.724″	0.433″	1.63
95F2136	006208000119001	19	1.000″	0.709″	2.11
95F2137	006208000120001	20	1.039″	0.748″	2.19

(8679) (de00149)

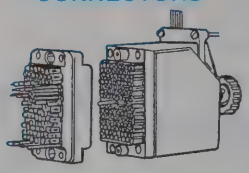
6200 SERIES FPC/FFC FLEX-TO-BOARD CONNECTORS

DIP-type ZIF (zero insertion force) low-profile right-angle connectors with 0.039″ (1.00) contact spacing for flat printed circuit (FPC)/flat flex circuit (FFC) cable. Height above board 0.114″ (2.90). Horizontal cable entry. Retainer locks securely in place. Tin-lead plated phosphor bronze contacts. Glass-filled PPS insulator rated UL94V-0. 1A, 50V. Dielectric withstanding: 500Vrms minimum. Applicable FPC/FFC: 0.012±0.002″.

Stock No.	Type	Positions	Dimensions A	Dimensions B	1-499
95F2152	006200057012800	5	0.451″	0.157″	1.27
95F2159	006200127012800	12	0.726″	0.433″	1.33
95F2167	006200207012800	20	1.041″	0.748″	2.05
95F2177	006200307012800	30	1.435″	1.142″	2.41

(8678) (de00148)

8016 SERIES RACK AND PANEL RECTANGULAR CONNECTORS



ORDERING INFORMATION FOR 8016 SERIES RACK-AND-PANEL CONNECTORS
ORDERING CODE FOR CONNECTORS

To order a connector, simply complete the 13-digit ordering code, by selecting your choices from the information below:

XXXX—XXX—XXX—XXX

SERIES 8016

VARIATION CODE See table above for applicable code

NUMBER OF CONTACTS 020, 038, 056, 090, 120

CONTACT CODE*

216-60 8017 04 13†	.078″ Taper Tab
217-60 8017 05 13	Solder/.098″ Wire Hole
218-60 8017 06 13	Solderless Wrap Tail .024″ x .050″ x .567″
750-60 8017 06 23	Solderless Wrap Tail .024″ x .050″ x .760″
296-60 8017 06 33	Solderless Wrap Tail .025″ x .025″ x .580″
000-60 8017 03 13	Wire Crimp Tail (loose)
000-60 8017 03 23	Wire Crimp Tail (1800 reel)

***First 3 digits are the contact code.**
†To order individual contact, use this part number.

Available with 20, 38, 56, 90 or 120 insertable/removable Verilok™ contacts. Actuating screw or nut lock mated connectors together. Guide pins and sockets provide correct alignment. Covers are aluminum with top or side cable entry. Rated 8.5A max. Contacts are phosphor bronze with 10μ″ min. gold plating over 30-100μ″ nickel. Polyester insulator material. *To order, locate the 3-digit* **variation code** *of the connector desired, and then use this code to complete the 13-digit ordering code shown in the table.*

8016 SERIES VARIATION CODES

Polyester Insulator Body	No Cover	Aluminum Cover† Small Clamp 0.605″ x 0.500″	Large* Clamp 0.650″ x 0.608″	X-Large Clamp 0.820″ x 0.614″	Cable Entrance	Actuating Screw	Fixed Nut
Male (Exposed Contacts)	601	...	...	...	...	Yes	No
	602	...	...	...	...	No	Yes
	...	603	619	631	Top	Yes	No
	...	604	620	632	Side	Yes	No
	...	605	621	633	Top	No	Yes
	...	606	622	634	Side	No	Yes
Female (Recessed Contacts)	607	...	...	...	...	No	Yes
	608	...	...	...	...	Yes	No
	...	609	623	635	Top	Yes	No
	...	610	624	636	Side	Yes	No
	...	611	625	637	Top	No	Yes
	...	612	626	638	Side	No	Yes

* Large cover clamp available only with 38 or 56 position versions.
† Use cover only with crimp contacts on 20 position version.

(8799) (de53509)

APPLICATION TOOLING

CONTACT EXTRACTION TOOL

Extracts contacts from insulator quickly and easily, without damage to contacts or insulator.

69F310 Type 06-1877-040-000. **Each**..... **60.64**

CONTACT CRIMPING PLIERS

Designed for hand crimping of contacts. Well suited for maintenance, model shop, laboratory, and small-scale production purposes.

Stock No.	Type	Contact Capability	Wire Size and Type	Each
69F314	06-7852-010-000	60-8017-0313	18-26 AWG, Stranded	234.01
69F315	06-7858-010-000	60-8216-0313	22-30 AWG, Stranded	221.52

POLARIZATION TOOL

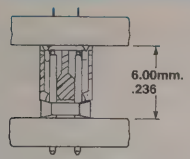
Small spanner wrench for **8016 series** connectors. Changes the position of guide pins and sockets to achieve different polarization combinations.

69F320 Type 06-1989-020-000. **Each**..... **77.07**

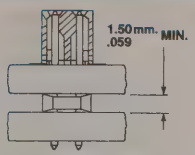
(8800) (de53510)

BOARD MOUNT AND IDC CONNECTORS

RN PAK-2 0.079″ (2mm) INTERCONNECT SYSTEM



Vertical Header/
Straight Socket



Bottom Entry Surface-Mount Socket/
Vertical Header, Board Stacking

Highly recommended system for disk drives, notebook/notepad computers, portable peripherals, printers, radios, compact disc players, telephones, VCR cameras, and every other application where dense, board-to-board packaging is required. **Headers:** Offer vertical or right-angle through-holes and 2mm pin-to-pin and row-to-row spacing or surface-mounting. Right angle insulator design with ribs stabilizes connectors on PCBs and facilitates IR processing. Temperature range: –40°C to +105°C. Insulation resistance 1000 Megohms. Flammability rating: UL 94V-0. Current rating: 1 Amp. Black thermoplastic construction, with ROBEX® plated phosphor bronze contacts. **Sockets:** Offer top and bottom entry option for greater flexibility for PCB stacking. Through-hole or surface mounting. Early point of contact ensures adequate wiping action and reliable contact. 2mm pin-to-pin and row-to-row spacing. Insertion force: 100 grams per contact. Temperature range: –40°C to +105°C. Insulation resistance: 1000 Megohms. Flammability rating: UL 94V-0. Current rating: 1 Amp. Black thermoplastic construction, with ROBEX® plated phosphor bronze contacts. Available in several configurations, with 4-60 positions and options to customize your application. Headers can be cut to desired positions.

RN PAK-2 HEADERS — VERTICAL

Stock No.	Type	Positions	1-24
04F783	P2DN-060A-S1-TR	60	5.22
04F782	P2DN-060A-R1-TR	60	3.37

RN PAK-2 SOCKETS — VERTICAL

92F3549	P2DS-012-S1-TR	12	0.87
92F3550	P2DS-024-S1-TR	24	1.50
92F3551	P2DS-036-S1-TR	36	2.58
92F3552	P2DS-048-S1-TR	48	3.57
92F3553	P2DS-060-S1-TR	60	4.74

RN PAK-2 SOCKETS — BOTTOM ENTRY

92F3554	P2DS-012-B1-TR	12	0.87
92F3555	P2DS-024-B1-TR	24	1.50
92F3556	P2DS-036-B1-TR	36	2.58
92F3557	P2DS-048-B1-TR	48	2.79
92F3558	P2DS-060-B1-TR	60	4.74

RN PAK-2 SOCKETS — RIGHT ANGLE

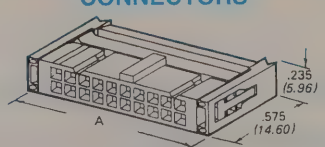
92F3559	P2DS-012-R1-TR	12	1.01
92F3560	P2DS-024-R1-TR	24	1.77
92F3561	P2DS-036-R1-TR	36	3.13
92F3562	P2DS-048-R1-TR	48	3.31
92F3563	P2DS-060-R1-TR	60	5.85

RN PAK-2 SOCKETS — SURFACE MOUNT

92F3564	P2DS-012-SM-TR	12	0.63
92F3565	P2DS-024-SM-TR	24	1.65
92F3566	P2DS-036-SM-TR	36	2.48
92F3567	P2DS-048-SM-TR	48	3.31
92F3568	P2DS-060-SM-TR	60	4.01

(8763) (de50658)

IDS-PK SERIES 0.100 x 0.100″ (2.54 x 2.54) GRID IDC SOCKET CONNECTORS

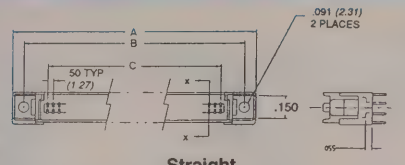


For quick connect/disconnect with 0.025″ (0.635) post headers. Compatible with MIL-C-83503. Center polarization tab meets DIN-41651 and BT-224. Phosphor bronze copper contacts plated with 10µ″ ROBEX® over nickel on contact area and 100µ″ tin on terminal area. Black, glass-filled polyester body and lid rated UL94V-0. Temperature range: –55°C to +105°C. UL recognized, CSA certified. *Order strain reliefs separately, contact your local Newark sales office.*

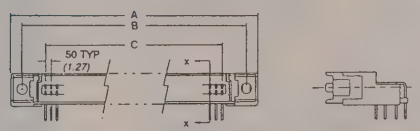
Stock No.	Type	Contacts	Dimension A	1-24
90F6489	IDS-C10PK-TR	10	0.680″ (17.27)	0.42
90F6491	IDS-C14PK-TR	14	0.880″ (22.35)	0.53
90F6493	IDS-C16PK-TR	16	0.980″ (24.89)	0.63
90F6497	IDS-C26PK-TR	26	1.480″ (37.59)	0.69
90F6499	IDS-C34PK-TR	34	1.880″ (47.75)	0.91
90F6501	IDS-C40PK-TR	40	2.180″ (55.37)	1.03
90F6503	IDS-C50PK-TR	50	2.680″ (68.07)	1.21
90F6505	IDS-C60PK-TR	60	3.180″ (80.77)	1.40

(8780) (de51610)

RN PAK-50® P50E SERIES BOARD MOUNT 50 MIL IDC PLUGS



Straight



Right Angle

Accepts 28 AWG flat cable. Mates to **P25E series** IDC sockets, *ordered separately on this page.* Accommodates backward and forward compatibility with standard 0.100″ (2.54) and 0.050″ (1.27) centerline connectors used on one cable. Offers 3-dimensional mating: vertical, horizontal and parallel. Latching eject mechanism facilitates mating/unmating. Available in straight or right-angle termination styles. Redundant ribbon contact design provides lower insertion/withdrawal forces, lower contact resistance, high normal force and high wear resistance. Contacts are recessed and fully protected on three sides, minimizing pin deformation. Phosphor bronze contacts plated gold over nickel on contact area, tin over nickel on terminal area. Contact resistance: 30MΩ. Current rating: 0.5A. Black, glass-filled nylon body, rated UL94V-O. Temperature range: –55°C to +105°C.

STRAIGHT SOLDER MOUNT—0.118″ (3.0)

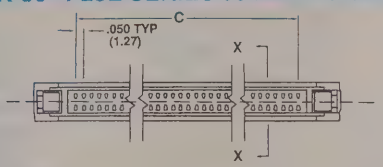
Stock No.	Type	Contacts	A	B	C	1-24	25-49
04F784	P50E-050P1-S1-TG	50	1.846″	1.650″	1.200″	3.78	3.06
04F790	P50E-080P1-S1-TG	80	2.596″	2.400″	1.950″	5.19	4.21
04F791	P50E-100P1-S1-TG	100	3.096″	2.900″	2.450″	5.86	4.74

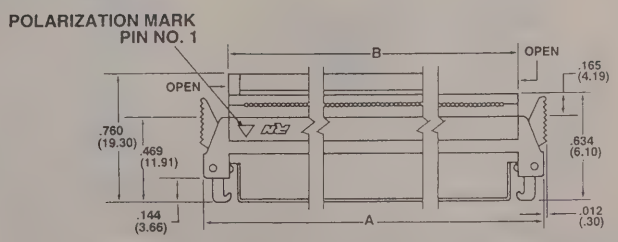
RIGHT ANGLE SOLDER MOUNT—0.118″ (3.0)

Stock No.	Type	Contacts	A	B	C	1-24	25-49
04F750	P50E-020P1-SR1-TG	20	1.096″	0.900″	0.450″	3.53	2.86
04F754	P50E-034P1-SR1-TG	34	1.446″	1.250″	0.800″	4.05	3.28
04F756	P50E-040P1-SR1-TG	40	1.596″	1.400″	0.950″	4.17	3.37
04F785	P50E-050P1-SR1-TG	50	1.846″	1.650″	1.200″	4.59	3.72
04F787	P50E-080P1-SR1-TG	80	2.596″	2.400″	1.950″	6.19	5.01
04F788	P50E-100P1-SR1-TG	100	3.096″	2.900″	2.450″	6.94	5.62

(8778) (de51576)

RN PAK-50® P25E SERIES 50 MIL IDC SOCKETS





Accept 30 AWG, 25 mil center flat cable. Designed to mate with **P50E series** IDC board mount connectors, *ordered separately on this page.* Offer 3-dimensional mating: vertical, horizontal and parallel. Latching eject mechanism facilities mating/unmating. Daisy chain capability. Redundant ribbon contact design provides lower insertion/withdrawal forces, lower contact resistance, high normal force and high wear resistance. Contacts are recessed and fully protected on three sides, minimizing pin deformation. Phosphor bronze contacts plated with gold over nickel on contact area, tin over nickel on terminal area. Contact resistance: 30MΩ. Current rating: 0.5A. Black, glass-filled nylon body, rated UL94V-0. Temperature range: –55°C to +105°C.

Stock No.	Type	Contacts	A	B	C	1-24	25-49
04F744	P25E-040-S-TG	40	1.596″	1.202″	0.950″	10.13	8.20
04F745	P25E-050-S-TG	50	1.846″	1.452″	1.200″	11.24	9.09
04F747	P25E-080-S-TG	80	2.596″	2.202″	1.950″	13.67	11.06
04F748	P25E-100-S-TG	100	3.096″	2.702″	2.450″	15.08	12.21

(8779) (de51577)

MCX PLUGS AND JACKS

CECC 22220 compatible. Frequency range: 0 to 6GHz. Plating: gold.

Stock No.	Type	Fig.	Description	Impedance (Ohms)	1-9
66F3137	133-3402-101	1	Rt.-Angle Cable Plug, RG 178	50	6.29
66F3141	133-3403-101	1	Rt.-Angle Cable Plug, RG 316	50	6.43
83F6825	133-8433-101	1	Rt.-Angle Cable Plug, RG 179	75	6.58
83F6822	133-8433-001	2	Straight Cable Plug, RG 179	75	8.71
66F3139	133-3403-001	2	Straight Cable Plug, RG 316	50	5.72
83F6812	133-3801-201	3	Straight PC Mount Plug, 0.155″ Leg	50	7.21
83F6828	133-8801-201	3	Straight PC Mount Plug, 0.155″ Leg	75	6.29
66F3143	133-3701-201	4	Straight PC Board Jack, 0.155″ Leg	50	4.39
66F3145	133-3701-211	4	Straight PC Board Jack, 0.110″ Leg	50	4.39
66F3147	133-3701-221	4	Straight PC Board Jack, 0.068″ Leg	50	4.49
83F6826	133-8701-201	4	Straight PC Board Jack, 0.155″ Leg	75	5.13
66F3149	133-3701-231	5	PC Board Jack .100″ Layout, 0.115″ Leg	50	4.39
66F3151	133-3701-301	6	Rt.-Angle PC Board Jack, 0.155″ Leg	50	10.15
66F3153	133-3701-311	6	Rt.-Angle PC Board Jack, 0.110″ Leg	50	10.39
66F3155	133-3701-321	6	Rt.-Angle PC Board Jack, 0.068″ Leg	50	10.39
83F6827	133-8701-301	6	Rt.-Angle PC Board Jack, 0.155″ Leg	75	8.09
83F6813	133-3711-201	7	Vertical Surface Mount Jack	50	5.31
83F6814	133-3302-401	8	Straight Cabled Bulkhead Jack, RG 178	50	10.27
83F6815	133-3303-401	8	Straight Cabled Bulkhead Jack, RG 316	50	10.27
83F6816	133-3302-001	9	Straight Jack, RG 178	50	9.63
83F6817	133-3303-001	9	Straight Jack, RG 316	50	9.63
83F6823	133-8333-001	9	Straight Jack, RG 179	75	9.68
83F6824	133-8333-401	9	Straight Bulkhead Jack, RG 179	75	10.16
66F8115	133-3701-401	10	Front Mt. Bulkhead Jack Receptacle	50	6.56
83F6830	133-8701-401	10	Front Mt. Bulkhead Jack Receptacle	75	5.81
66F8117	133-3701-801	11	End Launch Jack (.062″ PCB)	50	5.84
83F6829	133-8701-801	11	End Launch Jack, 1.062″ PCB	75	5.13

(8823) (ne06382)

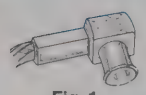


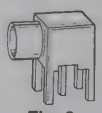
Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5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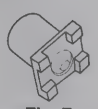
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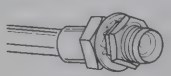
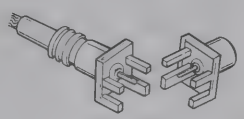


Fig. 8

Fig. 9

Fig. 10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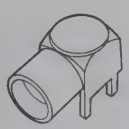
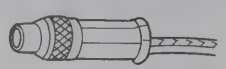


Fig. 12

Fig. 13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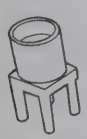
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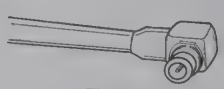
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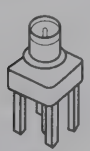
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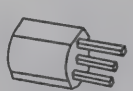


Fig. 18

MMCX PLUGS AND JACKS

Impedance: 50 ohms. Frequency range: 0 to 6GHz. Plating: gold. Meets MIL-C-39012 requirements.

Stock No.	Type	Fig.	Description	1-9
01F976	135-3701-301	12	Right-Angle PC Board Jack, 0.115″ Leg	10.82
01F977	135-3701-311	12	Right-Angle PC Board Jack, 0.068″ Leg	10.62
01F978	135-3436-101	13	Right-Angle Cable Plug, 0.047″ Dia. Flex	9.70
01F979	135-3402-101	13	Right-Angle Cable Plug, RG 178	9.70
01F980	135-3403-101	13	Right-Angle Cable Plug, RG 316	9.70
01F981	135-3436-001	14	Straight Cable Plug, 0.047″ Dia. Flex	6.13
01F982	135-3402-001	14	Straight Cable Plug, RG 178	6.13
01F983	135-3403-001	14	Straight Cable Plug, RG 316	9.29
01F984	135-3701-201	15	Straight PC Board Jack, 0.115″ Leg	5.62
01F985	135-3701-211	15	Straight PC Board Jack, 0.068″ Leg	5.51
83F6818	135-3693-101	16	Right Angle Solder-Type Plug, 0.086″ Semi-Rigid	10.00
83F6819	135-3801-201	17	Straight PC Mount Plug, 0.115″ Leg	8.17
83F6820	135-3711-801	18	End Launch Jack Receptacle, Surface Mount	7.66

(10926) (ne09838)

50 AND MINI 75 OHM SMB COAXIAL CONNECTORS

Frequency range: DC to 2GHz (75 ohm) or DC to 4GHz (50 ohm). Plating: gold.

FLEXIBLE CABLE MOUNT CRIMP PLUGS

Stock No.	Type	Fig.	Description	Cable: RG-XXX/U	Impedance (Ohms)	1-9
51F2964	131-1403-001*	19	Straight	174,188,316	50	6.84
46F2188	131-1403-101*	20	Right Angle	174,188,316	50	5.75
16F3629	131-8403-101	21	Right Angle	179,187	75	9.16

PC JACK RECEPTACLES

Stock No.	Type	Fig.	Description	Impedance (Ohms)	1-9
46F2190	131-1701-201*	22	Straight Jack, 0.155″ Leg	50	2.92
94F9924	131-1701-211*	22	Straight Jack, 0.095″ Leg	50	2.92
16F3630	131-8701-201	22	Straight Jack, 0.083″ Leg	75	3.08
96F9761	131-1701-371*	23	Right Angle Jack, 0.083″ Leg	50	5.07
83F6821	131-8701-841	24	End Launch Jack, 0.062″ PCB	75	10.20

* Die-Cast
(8816) (ne02767)

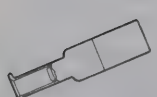


Fig. 19

Fig. 20

Fig. 21

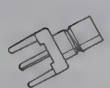


Fig. 22

Fig. 23

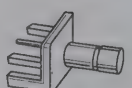


Fig. 24

50-OHM SMA COAXIAL CONNECTORS

Flexible cable-mount plugs and jacks: frequency response DC to 12.4GHz. PC board mount receptacles and flange-mount receptacles: frequency response DC to 18GHz. For all semi-rigid solder plugs and jacks: frequency response DC to 26.5GHz. Dielectric withstanding voltage: 405 (0.086″) has 1000Vrms; 402 (0.141″) has 1500Vrms. Plating: gold.

SMA FLEXIBLE CABLE-MOUNT PLUGS

Stock No.	Type	Fig.	Description	Cable Size RG/U	1-9
93F9173	142-0203-011	8	Straight Clamp	161,174,188,316	10.98
81F4463	142-0203-101	7	Right-Angle Clamp	161,174,188,316	9.51
81F4452	142-0403-011	2	Straight Crimp	161,174,188,316	6.64
83F6831	142-0402-011	2	Straight 3-Piece Crimp	178	10.24
50F2716	142-0403-101	11	Right-Angle Crimp	161,174,188,316	9.19
95F9624	142-0407-011	2	Straight Crimp	58,141,303	6.87

SMA 3-PIECE STRAIGHT JACKS

83F6833	142-0302-011	15	Crimp	178	11.18
83F6834	142-0302-431	16	Bulkhead Crimp	178	13.35

SMA SEMI-RIGID VERTICAL SOLDER-TYPE PLUGS

51F2968	142-0693-001	13	C Spring Nut	405 (0.086″)	4.60
51F2970	142-0694-011	14	Thread-on Nut	402 (0.141″)	1.53

SMA FLEXIBLE CABLE-MOUNT JACKS

95F9612	142-0303-011	15	Straight Crimp	161,174,188,316	7.39
95F9614	142-0303-411	16	Bulkhead Crimp	161,174,188,316	8.59

SMA SEMI-RIGID SOLDER-TYPE JACKS

51F2966	142-0593-001	12	Straight	405 (0.086″)	4.72
51F2967	142-0594-001	12	Straight	402 (0.141″)	6.66

SMA PC BOARD MOUNT JACK RECEPTACLES

Stock No.	Type	Fig.	Description	1-9
94F4116	142-0701-301	3	0.200″ Right-Angle	9.19
50F2709	142-0701-321	3	0.281″ Right-Angle, Solder	13.43
50F2711	142-0701-211	4	0.281″ Straight, Solder	8.96
98F1467	142-0701-201	4	0.200″ Straight	6.95
90F2624	142-0701-801	10	End Launch for .062″ Thick PCB	7.43
16F3627	142-0711-821	10	¼″ End Launch for .062″ Thick PCB	7.21
16F3628	142-0711-0841	10	¼″ End Launch for .047″ Thick PCB	7.21
95F9620	142-0711-201	17	Surface Mount Straight +	5.78
95F9621	142-0711-301	18	Surface Mount Right-Angle +	12.58
99F8295	142-0701-501	19	0.200″ Right-Angle Bulkhead Jack	13.08
83F6832	142-0701-531	20	Right-Angle Bulkhead Jack	20.80

SMA FLANGE AND BULKHEAD SOLDER-TYPE JACK RECEPTACLES

50F2712	142-0701-631	5	4-Hole Flange (Flush Mount)	6.87
50F2713	142-0701-621	6	2-Hole Flange (Flush Mount)	6.87
50F2714	142-0701-401	1	Rear Mount Bulkhead	6.41
50F2715	142-0701-411	9	Front Mount Bulkhead	8.25

+Frequency response DC to 18 GHz
(8815)

(ne02766)

SMD

Fig. 1

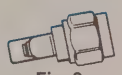


Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

Fig. 7

Fig. 8

Fig. 9

Fig. 10

Fig. 11

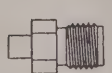
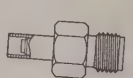


Fig. 12

Fig. 13

Fig. 14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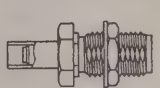
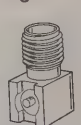


Fig. 16

Fig. 17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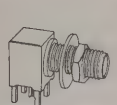
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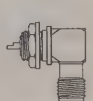
Fig. 20

SMA BETWEEN SERIES ADAPTERS

NEW

Plating: gold.

Stock No.	Type	Fig.	Description	1-9
83F6800	134-1019-151	29	SMA Plug to MMCX Jack	45.87
83F6801	134-1019-161	22	SMA Plug to MMCX Plug	49.69
83F6802	134-1019-171	30	SMA Jack to MMCX Jack	42.05
83F6803	134-1019-181	24	SMA Jack to MMCX Plug	45.87
83F6804	134-1012-011	25	SMA Plug to SMB Jack	42.05
83F6805	134-1012-021	21	SMA Plug to SMB Plug	45.87
83F6806	134-1012-031	26	SMA Jack to SMB Jack	42.05
83F6807	134-1012-041	23	SMA Jack to SMB Plug	42.05
83F6808	134-1018-001	21	SMA Plug to MCX Jack	42.05
83F6809	134-1018-011	27	SMA Plug to MCX Plug	45.87
83F6810	134-1018-021	23	SMA Jack to MCX Jack	42.05
83F6811	134-1018-031	28	SMA Jack to MCX Plug	42.05

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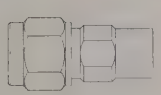
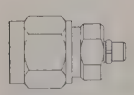


Fig. 21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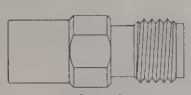
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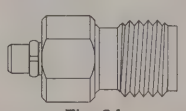


Fig. 24

Fig. 25

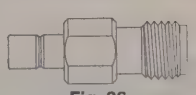


Fig. 26

Fig. 27

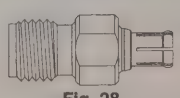


Fig. 28

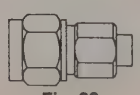


Fig. 29

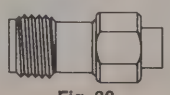
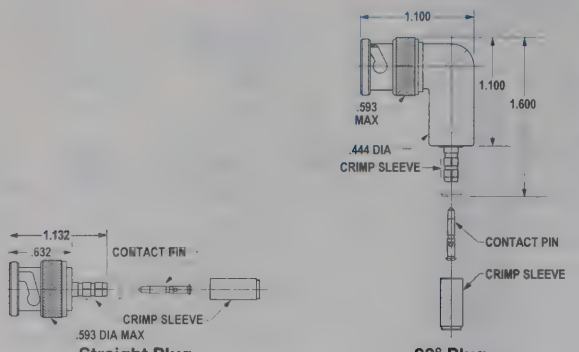


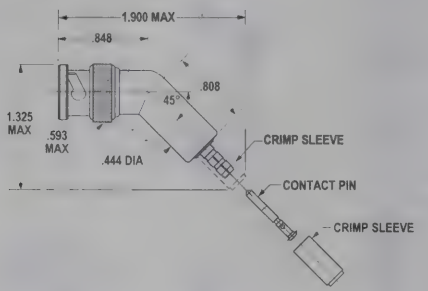
Fig. 30

BNC-75 OHM CONNECTORS



Straight Plug

90° Plug



45° Plug

50µ" gold-plated captive center contact pin. Spring-loaded coupling ring utilizes a beryllium-copper crescent washer. Full 0.50" machined crimp sleeve, 0.300" support ferrule with radial and axial grooves. 45° and 90° BNCs allow routing and cable management in tight packaging requirements. Type number suffix (following dash) indicates cable group size.

STRAIGHT PLUGS TOOL CRIMP

Stock No.	Type	Description	1-9	10-24
48F2738	UPL220-003	RG-174, RG-316, RG188	5.59	4.58
48F2739	UPL220-004	RG-179, Belden 1520A, and 1522A	4.48	3.75
48F2740	UPL220-006	Belden 1671J, Grumman GC875GPI, Times RD-316	4.66	3.82
48F2741	UPL220-008	RG-195, Microdot 293-3968, 295-3801	4.66	3.82
48F2742	UPL220-009	Comm/Scope 0222, Belden 8218, Belden YR23023	4.42	3.62
48F2743	UPL220-013	RG-59, RG-62	4.42	3.62
48F2744	UPL220-013A	Trompeter TCC-75-2, Belden 8241F	5.02	4.11
48F2745	UPL220-013B	RG-62	4.68	3.83
48F2746	UPL220-014	Belden 1505a, Gepco VPM2000	4.42	3.62
48F2747	UPL220-015	AT&T 730 and 731	4.66	3.82
48F2748	UPL220-016	Belden 8281, Gepco VP618P	4.42	3.62
48F2749	UPL220-017	RG6	4.66	3.82
48F2750	UPL220-019	Belden 9209	4.48	3.75
48F2751	UPL220-020	Belden 9248, 1547A	4.48	3.75
48F2752	UPL220-022	Belden 89269, Gepco VPM618	4.66	3.82
48F2753	UPL220-023	Belden YR28912, 89108	4.66	3.82
48F2754	UPL220-024	Belden 82120	4.66	3.82
48F2755	UPL220-025	AT&T 734, Comm/Scope734###, Judd S95103101	4.42	3.62
48F2756	UPL220-026	AT&T 735, Comm/Scope 735###, Judd S95103101	4.42	3.62
48F2757	UPL220-027	AT&T KS19224L2	5.70	4.67

90° PLUGS TOOL CRIMP

48F2759	UPLR220-009	Comm/Scope 0222, Belden 8218, Belden YR23023	19.48	15.49
48F2760	UPLR220-013	RG-59, RG-62	19.48	15.49
48F2761	UPLR220-016	Belden 8281, Gepco VP618P	19.48	15.49
48F2762	UPLR220-025	AT&T 734, Comm/Scope 734###, Judd S95090501	19.48	15.49
48F2763	UPLR220-026	AT&T 735, Comm/Scope 735### Judd S95103101	19.48	15.49

45° PLUGS-TOOL CRIMP

48F2764	UPLFF220-013	RG-58, RG62	19.48	15.49
48F2765	UPLFF220-016	Belden 8281, Gepco VP618P	19.48	15.49
48F2766	UPLFF220-025	AT&T 734, Comm/Scope 734##, Judd S95090501	19.48	15.49
48F2767	UPLFF220-026	AT&T 735, Comm/Scope 735###, Judd S95103101	19.48	15.49

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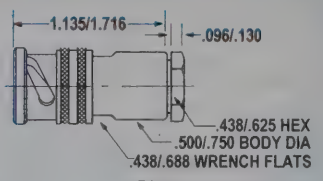
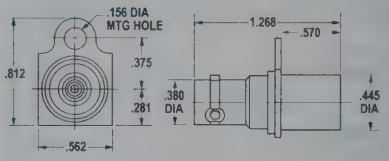
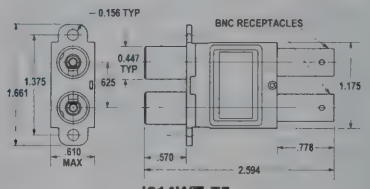
VIDEO PATCH CORDS AND ACCESSORIES



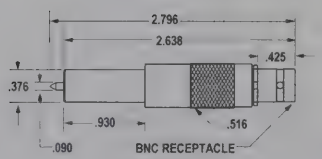
PL75



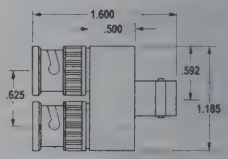
J72



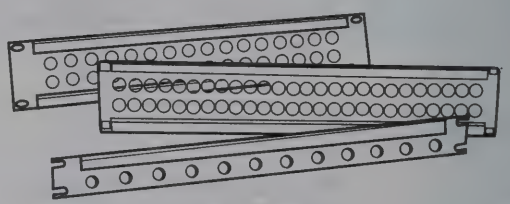
J214WT-75



MP20W



PN2



Patch Panels

PCW-36-75

Type J214 high frequency, dual coaxial "normal-through" patch jacks offers extended bandwidth of DC to 1.50Hz and -30dB through 750MHz and 25dB through 1.5GHz and higher. **Types J72** and **PL75-26** patching products are used for triax patching.

ACCESSORIES

Stock No.	Type	Description	1-9	10-24
48F2787	PL75-29	Triax Cable Plug	13.27	10.95
48F2783	J72	Triax Patch Jack	16.01	13.10
48F3809	J214WT-75	75-Ohm, High-Frequency Dual Coaxial "Normal-Through" Patch Jack	28.43	24.64
48F3810	JSIB-48A	Standard 19" Panel w/48 Holes	77.39	72.31
48F2768	MP20W	Coaxial Video Monitor Probe	122.60	105.00
48F2796	PN2C	Fixed Paralleling Adapter	37.36	31.27

PATCH CORDS

48F3811	PCW-36-75RED	36" Video Patch Cord, Red	25.33	20.47
48F3812	PCW-36-75BLK	36" Video Patch Cord, Black	25.33	20.47
48F3813	PCW-36-75YEL	36" Video Patch Cord, Yellow	25.33	20.47
48F3814	PCW-36-75GRN	36" Video Patch Cord, Green	25.33	20.47
48F3815	PCW-36-75BLU	36" Video Patch Cord, Blue	25.33	20.47
48F2769	PCW-36-75	36" Video Patch Cord, Violet	25.33	20.47

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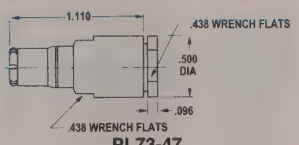
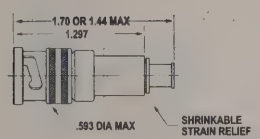
NEW

RF TWINAX/TRIAX CONNECTORS

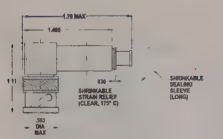
RF TWINAX/TRIAX CONNECTORS



PL73-47



PL75C-201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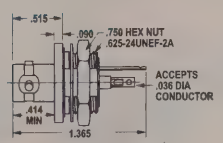
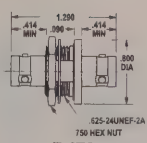


BJ72



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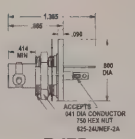
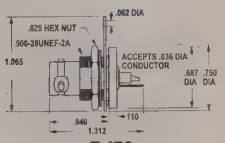
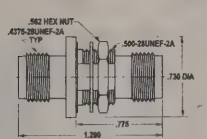

BJ75



BJ76



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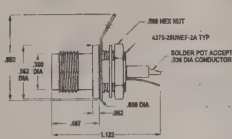

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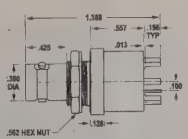
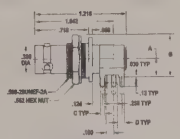
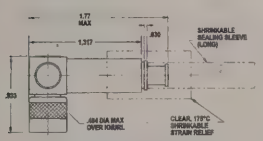


CBBJ79



CBBJR79

PL155AC-201



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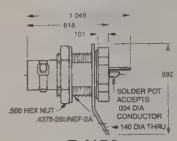
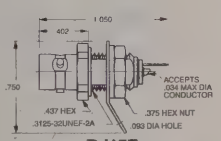
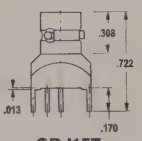


BJ150



BJ157



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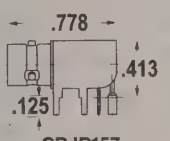

CBJR157

Type 70 twinaxial/triaxial connectors are concentrically designed with 2 concentric contacts isolated from each other, the center contact, and the shielding connection. They are used in digital data bus, MIL-STD-1553B (airborne/ground, primary/redundant) base-band circuits, and video pair applications (FLIR). Field serviceable wrench crimp version for quick termination of cables up to 0.250″ diameter. Tool crimp version requires hand tools for assembly ("C" in **type** number). Digits in type number following dash indicate cable/group size. Connectors do not require mechanical alignment for mating. Nominal impedance non constant. Frequency range: 0-500MHz. Voltage rating 400 (100 @ 70,000). Insulation resistance: 5000MΩ . Temperature range: -65° to +165° C. Cable retention force (min.) 40 lbs. with 0.200-0.325″ O.D. cable. **Type 150** connectors have the same electrical characteristics but are smaller in size.

70 SERIES CABLE PLUGS

Stock No.	Type	Description	Cable	1-9	10-24
48F2788	PL75-47	Wire Crimp, Push On	M17/176-00002	13.27	10.95
48F2791	PL75C-201	3 Lug, Tool Crimp	M17/176-00002	16.54	13.85
48F2786	PL75C-204	3 Lug, Tool Crimp	Raychem 10602	18.82	15.59
48F2795	PLR74C-306	Right-Angle, 2 Lug, Tool Crimp	M17/134-00001	131.01	102.01
48F2797	PLR75C-201	Right-Angle, 3 Lug, Tool Crimp	M17/176-00002	109.18	85.00

70 SERIES BULKHEAD JACKS

Stock No.	Type	Description	1-9	10-24
48F2772	BJ72	3-Lug, Insulated, Front Mount	17.31	15.81
48F2773	BJ73	3-Lug, Insulated, Feed-Thru	17.65	14.78
48F2774	BJ75	3-Lug, Insulated, Rear Mount, Solder Pot	19.67	18.31
48F2775	BJ76	3-Lug, Rear Mount, Solder Pot	13.93	11.49
48F2776	BJ77	3-Lug, Front Mount, Solder Pot	13.31	10.61
48F2778	BJ78	3-Lug, Feed-Thru	14.57	12.20
48F2777	BJ770	3-Lug, Front Mount, Solder Pot	10.88	8.67
48F2779	CBBJ79	3-Lug, Circuit Board, Non insulated	31.85	27.84
48F2780	CBBJR79	3-Lug, Right-Angle Circuit Board, Standard	32.45	28.37

150 SERIES CABLE PLUGS

Stock No.	Type	Description	Cable	1-9	10-24
48F2784	PL155AC-201	3-Lug, Tool Crimp	M17/176-00002	17.52	14.67
48F2792	PLR155AC-201	3-Lug, Rt.-Angle, Tool Crimp	M17/176-00002	159.42	113.80
48F2793	PLR155AC-203	3-Lug, Rt.-Angle, Tool Crimp	Trompeter TWC-124-1A	161.74	125.86
48F2794	PLR155ACFL-201	4-Lug, Rt.-Angle, Tool Crimp	M17/176-00002	162.61	116.08

150 SERIES BULKHEAD JACKS

Stock No.	Type	Description	1-9	10-24
48F2770	BJ150	3 Lug, Rear Mount, Solder Pot	15.36	12.85
48F2771	BJ150	3 Lug, Front Mount, Solder Pot	15.36	12.85
48F2781	CBJ157	3 Lug, Circuit Board	24.23	20.18
48F2782	CBJR157	3 Lug, Right-Angle Circuit Board	41.75	33.82

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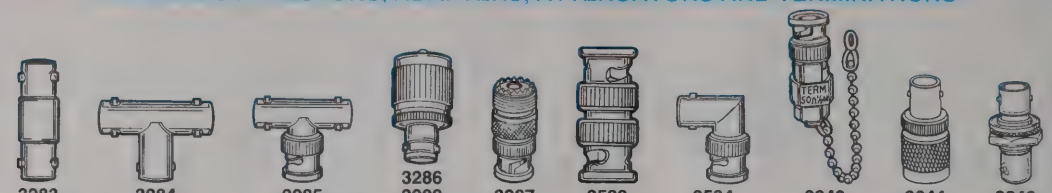
COAXIAL CONNECTORS AND ADAPTERS

COAXIAL CONNECTORS, ADAPTERS, ATTENUATORS AND TERMINATIONS



Stock No.	Type	Description	1-24	25-49
30F1401	3283	BNC Female to Female	6.52	5.96
30F1409	3284	BNC "T", Female to Female to Female	17.66	15.61
30F1402	3285	BNC "T", Female to Male to Female	15.97	14.12
39F3635	3286	BNC Female to UHF Male	10.93	9.40
39F3630	3287	UHF Female to BNC Male	15.90	14.06
30F1414	3533	BNC Male to Male	11.81	10.16
39F3629	3534	Right Angle BNC Female to BNC Male	13.82	12.21
44F5328	3840-50	BNC Resistor Termination, 50 Ohm	13.64	11.74
44F5326	3840-75	BNC Resistor Termination, 75 Ohm	13.64	11.74
50F1474	3844	BNC Female to TNC Male	16.68	14.75
39F3631	3846	Isolated Ground BNC Female to Female	19.55	17.28
89F363	3847	BNC Female to Female +	15.97	14.12
35F1017	4119-50	BNC Feed-Thru Termination, 50 Ohm	56.69	53.33
46F2212	4119-75	BNC Feed-Thru Termination, 75 Ohm	56.69	53.33
77B4117	4959	SMA Female PCB Mount	43.94	41.34
46F2206	4788	BNC Right Angle Female PC Mount	20.20	17.86
46F2207	4578	BNC Female PC Mount	13.30	11.44
46F2208	4896	BNC "T", Male to Female to Female	24.63	21.78
44F5330	4488	BNC Male Cable Plug 50 Ohm (2)	5.67	5.19
44F8847	5079	BNC Male Cable Plug, 75 Ohm (1)	12.55	10.80
77B2417	3839	BNC Female Connector Dust Cap	3.92	3.59
50F1473	5085	BNC Shorting Plug	9.71	8.35
94F1517	5307	BNC Male Cable Plug	13.17	11.33

N ADAPTERS

Stock No.	Type	Description	1-24	25-49
39F3632	3288	BNC Female to "N" Male	11.40	9.81
44F5332	3841	"N" Female to Female	13.98	12.03
50F1475	3842	"N" Male to Male	15.05	13.31
77B2419	3843	"N" Female to Male	23.33	20.62
89F364	3535	BNC Male to "N" Female	15.64	13.83

+ Hermetically Sealed (1) Fits cable RG 59, 62, 71, 210 (2) Fits cable RG 58, 141, 142, 223

BNC 50 OHM ATTENUATOR

Stock No.	Type	Description	1-4	5-9
90F2367	4108-3DB	BNC 50 Ohm Attenuator, 3db	70.54	66.37
90F2368	4108-6DB	BNC 50 Ohm Attenuator, 6db	70.54	66.37
90F2369	4108-10DB	BNC 50 Ohm Attenuator, 10db	70.54	66.37
90F2370	4108-20DB	BNC 50 Ohm Attenuator, 20db	70.54	66.37

(8803) (de90747)

5510

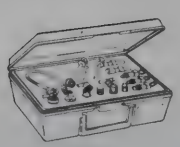
ADAPTER ATTENUATOR & TERMINATION KITS

BNC 50Ω MALE TO FEMALE FEED-THRU ATTENUATOR KIT

Kit contains 5 attenuators, 1 each of 3, 6, 10, 14, 20dB attenuation.

Stock No.	Type	Description	1-4
90F2330	5510	BNC/Banana/Binding Post Adapter Kit	52.91

(43170) (ne43170)



6201

COAXIAL LAN TEST ACCESSORY KIT

Each kit contains 2 50-ohm BNC cables (male-to-male and male-to-female); 2 breakouts (BNC male to minigrabbers® and BNC male to minigators); 3 BNC male termination plugs for 50-, 75- and 100-ohm impedance; 8 BNC and Type N adapters, BNC female-to-female, BNC T female/male/female, BNC right-angle male-to-female, BNC male-to-male, BNC female/Type N male, BNC male/Type N female, Type N female-to-female, and Type N male-to-male; and 2 Type N male termination plugs for 50- and 75-ohm impedance.

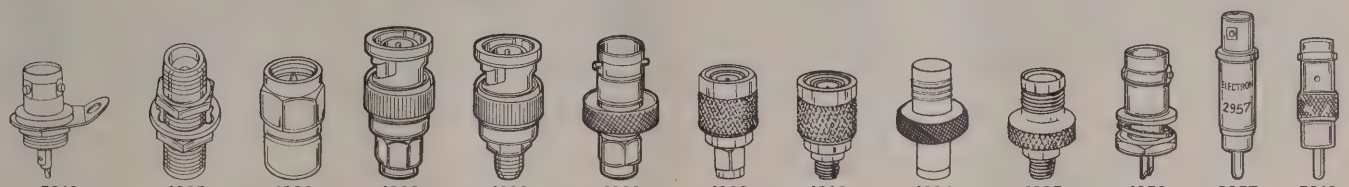
Stock No.	Type	Description	1-4
91F2999	6201	Coaxial LAN Test Accessory Kit	251.92

(10930) (ne09912)

Pomona®

COAXIAL CONNECTORS, ADAPTERS AND KITS

CONNECTORS, RECEPTACLES AND ADAPTERS



TRIAXIAL CONNECTORS

Stock No.	Type	Description	1-9	10-24
44F5327	3580	2 Lug Bulkhead Female	18.77	16.59
44F5331	3600	2 Lug Male Cable Plug, 78 Ohm	21.57	19.07
44F8849	5056	2 Lug Male Cable Plug, 50 Ohm	25.61	22.64
87F022	5218	3 Lug Male Cable Plug	27.69	24.48
46F2375	5290	2 Lug Triaxial Female to Female	22.03	19.47
46F2377	5298	2 Lug Triaxial Female to BNC Male	26.13	23.10
46F2378	5299	3 Lug Triaxial Female to BNC Male	24.83	21.95
46F4502	5300	BNC Female to 3 Lug Triaxial Male	25.54	22.58

PANEL AND BULKHEAD RECEPTACLES

30F1432	2447	BNC Male Panel, 50 Ohm	12.28	10.57
39F3634	2451	BNC Female Panel, 50 Ohm	6.31	5.77
30F1403	3778	BNC Isolated Ground Female Bulkhead, 50 Ohm	11.94	10.27
39F3628	4160	BNC Female Bulkhead, 50 Ohm	4.77	4.35
89F370	4979	BNC Male Bulkhead, 50 Ohm	14.40	12.73
77B2456	4159	BNC Female Bulkhead, Hermetically Sealed	15.05	13.31
89F362	5148	BNC Female Isolated Ground Bulkhead*	12.55	10.80
87F026	5219	Triaxial Female Bulkhead, 3 Lug	19.29	17.05

* Valox Insulation

SMA ADAPTERS

Stock No.	Type	Description	1-9	10-24
46F2214	4282	SMA Female to Male	57.95	54.52
46F2211	4283	SMA Male to Male	40.50	38.10
46F2213	4284	SMA Female to Female	40.37	37.99
90F2942	4285	SMA Female to Female	56.69	53.33
90F2943	4286	SMA Male Termination, 50 Ohm	103.29	97.18
35F1009	4288	SMA Male to BNC Male	36.47	34.31
35F1016	4289	SMA Female to BNC Male	37.79	35.56
46F2210	4290	SMA Male to BNC Female	29.78	26.33
89F365	4291	SMA Female to BNC Female	30.17	26.67
98F2925	4292	SMA Male to TNC Male	50.01	47.05
77B2516	4293	SMA Female to TNC Male	43.59	41.01
94F1533	4294	SMA Male to TNC Female	37.24	35.04
70B9318	4295	SMA Female to TNC Female	38.80	36.50
89F366	4296	SMA Male to "N" Male	46.29	43.55
89F367	4297	SMA Female to "N" Male	43.40	40.83
89F368	4298	SMA Male to "N" Female	38.48	36.21
89F369	4299	SMA Female to "N" Female	33.26	31.29

TWINAXIAL CONNECTORS

44F8848	4957	Male Cable Plug	43.77	41.18
44F8844	4958	Bulkhead Receptacle	28.54	25.23

PHONO ADAPTERS

Stock No.	Type	Description	1-9	10-24
39F3633	2957	BNC Female to Phono Plug, 1.95"L	11.40	9.81
46F2379	5319	BNC Female to Phono Plug, 1.53"L	7.26	6.24

(12741) (ne09942)

UNIVERSAL ADAPTER KITS

Type 5698 kit contains 2 each: BNC male, BNC female, TNC male, TNC female, SMA male, SMA female, N male, N female; 4 intermediate couplers, 1 double banana plug, 1 double banana jack. **Type 5748** maxi kit contains 2 each: BNC male, BNC female, TNC male, TNC female, SMA male, SMA female, N male, N female, UHF male, UHF female, mini UHF male, mini UHF female, F male, F female, RCA male, RCA female; 6 intermediate couplers, 1 double banana plug, 1 double banana jack, 1 sampler.

Stock No.	Tpe	Description	1-4
50F841	5698	Universal Adapter Kit	143.60
50F1552	5748	Universal Adapter Kit	289.71

(8931) (de01176)

50- & 75-OHM BNC CONNECTORS

Fig. 1 Fig. 2 Fig. 3 Fig. 4 Fig. 5 Fig. 6 Fig. 7 Fig. 8

Stock No.	Type	Description	Fig.	1-24
91F9192	28P102-8	Plug, Clamp, RG-58	1	20.27
91F9193	28P184-1	Plug, Crimp, RG-174	2	13.39
91F9194	28JF103-1	Jack, Single-Hole Mount	3	32.31
16F5457	28JR198-2	Jack, PCB/Single-Hole Mt.	4	15.48
91F9195	28P189-2	Plug, Clamp, RG-59	5	14.68
91F9196	28P293-1	Plug, Crimp, RG-59	6	12.73
91F9197	28JS209-1	Jack, Crimp	7	23.51
91F9198	28JR272-1	Jack, PCB Mount	8	18.70

(12546) (ne09935)

SMA COAXIAL CONNECTORS

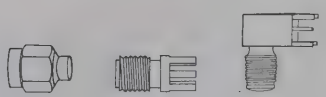


Fig. 9 Fig. 10 Fig. 11

Stock No.	Type	Description	Fig.	1-24
91F9199	39P106-1	Plug, Solder, 0.085″ Cable	9	4.93
91F9200	39P122-12	Plug, Clamp, RG-316	...	17.12
91F9201	39JF106-1	Jack, Flange Mount	...	32.34
91F9202	39JR127-1	Jack, PCB Mount	10	21.05
91F9203	39JR128-1	Jack, R/A, PCB Mount	11	44.93
91F9204	39JR232-1	Jack, Flange Mount	...	21.82

(12540) (ne09936)

SMB COAXIAL CONNECTORS

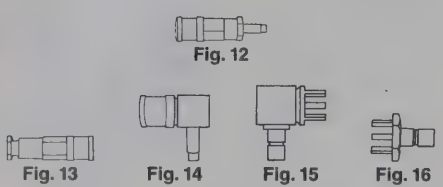


Fig. 12 Fig. 13 Fig. 14 Fig. 15 Fig. 16

Stock No.	Type	Description	Fig.	1-24
91F9212	32P100-1	Plug, Crimp, RG-174	12	34.84
91F9213	32P104-1	Plug, Clamp, RG-174	13	33.89
91F9214	32P111-1	Plug, Crimp, RG-316	14	21.62
91F9215	32P129-3	Plug, R/A, Clamp	...	33.55
91F9216	32JR111-1	Jack, R/A, PCB Mount	15	22.39
91F9217	32JR119-1	Jack, Straight, PCB Mount	16	15.37

(12541) (ne09937)

TNC COAXIAL CONNECTORS

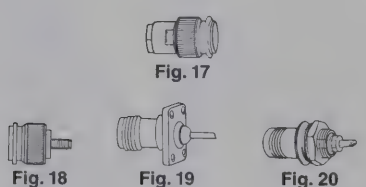


Fig. 17 Fig. 18 Fig. 19 Fig. 20

Stock No.	Type	Description	Fig.	1-24
91F9205	24P105-1	Plug, Clamp, RG-58	17	26.32
91F9206	24P167-1	Plug, Crimp, RG-58	18	17.98
16F5464	24JR112-1	Jack, Flange Mount	19	9.17
91F9207	24JR113-1	Jack, Single-Hole Mount	20	13.59

(12543) (ne09938)

50-OHM N COAXIAL CONNECTORS

Fig. 21 Fig. 22

Stock No.	Type	Description	Fig.	1-24
91F9208	25P107-3	Plug, Clamp, RG-58	...	25.69
91F9209	25P158-4	Plug, Crimp, RG-58	21	19.27
91F9210	25JS104-1	Jack, Clamp	22	35.61
91F9211	25JR191-1	Jack, PCB Mount	...	7.94

(12544) (ne09939)

BNC AND SMA ADAPTERS

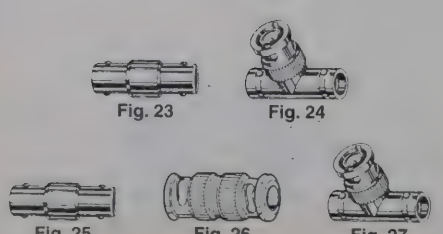


Fig. 23 Fig. 24 Fig. 25 Fig. 26 Fig. 27

Stock No.	Type	Description	Fig.	1-24
91F9218	39A101-1	SMA Adapter, Jack-Jack	...	25.72
91F9219	39A106-2	SMA Adapter, Plug-Plug	...	18.84
16F5461	28A110-2	75-Ohm BNC Adapter, Jack-Jack	23	16.35
91F9220	28AT109-1	75-Ohm BNC Adapter, Tee J/P/J	24	45.73
91F9221	28A100-1	50-Ohm BNC Adapter, Jack-Jack	25	15.63
91F9222	28A101-1	50-Ohm BNC Adapter, Plug-Plug	26	14.94
91F9223	28AT101-1	50-Ohm BNC Adapter, Tee J/P/J	27	50.75

(12539) (ne09940)

COAXIAL CONNECTORS

BNC STYLE STRAIGHT COAXIAL PLUGS

KC-59-544, KC-59-545

KC-59-557-M06, KC-59-291 KC-59-294

Stock No.	Type	Contacts	1-9
44F8537	KC-59-544	0.0001″ Gold Plate	7.43
50F1435	KC-59-545	0.0001″ Gold Plate	8.29
44F8478	KC-59-557-M06	Crimp	7.94
44F8473	KC-59-291	Crimp & Captive	4.78
44F8475	KC-59-294	Crimp & Captive	4.93

(8863) (ne09452)

TNC STYLE STRAIGHT RF COAXIAL PLUGS – LENGTH x WIDTH: 1.08 x 0.63″

KA-59-22

KA-59-230

Stock No.	Type	Contacts	1-9
90F3269	KA-59-22	Captive	10.72
90F3270	KA-59-230	Crimp & Captive	7.96

(8864) (ne09453)

SHV STYLE STRAIGHT RF COAXIAL PLUGS

1705-14

1705-1, 1705-2

Stock No.	Type	Description	1-9
93F4891	1705-14	Solder Contact	27.73
46F6039	1705-1	Crimp Contact	19.83
46F6038	1705-2	Crimp Contact	20.74

(8865) (ne09454)

N STYLE STRAIGHT COAXIAL RF PLUGS

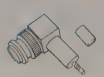
UG-536C/U, KN59-176

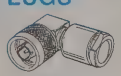
Stock No.	Type	1-9
90F1980	UG-536C/U	12.84
90F1971	KN59-176	16.24

(8866) (ne09455)

RF COAXIAL ANGLE PLUGS

KA-59-343


KA-59-236


UG594B/U, KN59-243

Stock No.	Type	Style	1-9
90F3276	KA-59-343*	TNC	27.13
90F3273	KA-59-236†	TNC	23.74
90F1981	UG-594B/U*	N	30.71
90F2823	KN59-243*	N	42.30

*Captive contacts; †Crimp, captive contacts
(8867) (ne09456)

RF COAXIAL JACKS

KA-19-171

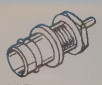
1702-1

KN-39-68

Stock No.	Type	Description	1-9
90F3268	KA-19-171*	R Mt./Captive	13.85
93F4892	1702-1†	R Mt./Crimp	32.76
90F1970	KN-39-68‡	Captive	13.22

*TNC style; †SHV style; ‡N style
(8868) (ne09457)

RF COAXIAL RECEPTACLES


KC-79-106, UG-1094/U, KC-79-35, KC-79-46

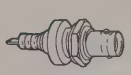
KC-79-302M06

KC-79-108

UG-1104A/U

KC-79-07-M06

1704-1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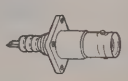

1707-1

KN-79-69

KN-79-70

FRONT MOUNT

Stock No.	Type	Style	Panel Thickness	1-9
44F8513	KC-79-106	BNC	0.253″	5.48
44F8501	KC-79-302-M06	BNC	0.166″	9.64
44F8518	UG-1094/U	BNC	0.134″	4.36
44F8551	KC-79-35*	BNC	0.134″	4.70
91F7188	KC-79-46*	BNC	0.260″	5.00
50F1442	KC-79-108†	BNC	0.362″	18.27
46F6040	1704-1	SHV	...	13.98
93F6328	1704-2	SHV	...	19.69
90F1977	KN-79-69†	N	...	54.25

† Hermetically sealed

PANEL MOUNT

50F1444	UG1104A/U*	BNC	...	12.67
44F8494	KC-79-07-M06‡	BNC	0.062″	10.78
46F6041	1707-1	SHV	...	19.53
90F1978	KN79-70	N	...	16.91

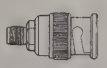
*Male, brass contact; ‡For PC boards
(8869) (ne09458)

BNC AND N STYLE RF COAXIAL BETWEEN-SERIES ADAPTERS

1209-7

1209-17

1209-18


879-4-15-MA9

879-5-15-MA9

1209-1-15-MA9

1209-2-15-MA9

Stock No.	Type	Description	1-9
50F1454	1209-7	BNC Jack-N Plug	15.64
50F1455	1209-17	BNC Jack-N Jack	33.81
50F1456	1209-18	BNC Plug-N Jack	22.84
90F3284	879-4-15-MA9	SMA Jack to BNC Plug	43.46
90F3285	879-5-15-MA9	SMA Plug to BNC Jack	38.54
90F3287	1209-1-15-MA9	SMA Jack to N Plug	47.52
90F3286	1209-2-15-MA9	SMA Plug to N Jack	47.74

(8861) (ne09409)

N STYLE RF COAXIAL WITHIN-SERIES ADAPTERS

UG-27C/U, 1209-10

1209-9

1209-12

1209-13

Stock No.	Type	MIL No.	Description	1-9
44F8439	UG-27C/U	...	Plug-Jack	28.33
50F1451	1209-9	M55339/05-00057	Plug-Plug	21.48
50F1450	1209-10	M55339/03-00027	Plug-Jack	43.21
50F1452	1209-12	M55339/04-00030	Jack-Jack	30.36
50F1453	1209-13	M55339/07-00029	Jack-Jack	15.94

(8858) (ne09406)

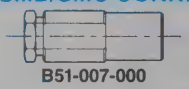
KINGS DIGITAL BROADCAST PRODUCTS

NEWARK OFFERS A BROAD RANGE OF DIGITAL INTERCONNECTION PRODUCTS FROM KINGS ELECTRONICS, INCLUDING 75 OHM BNC CONNECTORS, TRI-LOC CONNECTORS, VIDEO JACKFIELDS, VIDEO JACKS, PATCHING CONNECTORS, WITHIN AND BETWEEN SERIES ADAPTERS, CRIMP TOOLS AND DIES. *CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR THE LATEST KINGS PRODUCT INFORMATION CATALOG.*

(8851) (ne08534)

RF COAXIAL CONNECTORS

50-OHM SMB/SMC CONNECTORS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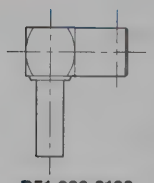
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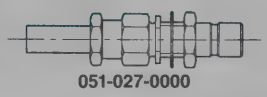
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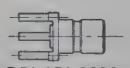
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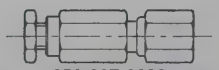

050-007-0000

Frequency range: 0 to 12.4 GHz. Mechanical: screw-on or snap-on coupling interfaces, solder contact. Size: 50-ohm coupling nut 15⁄64″ hex, 0.250″ (6.35) diameter, snap-on. Meets MIL-C-39012 specifications.

SNAP-ON CONNECTORS

Stock No.	Type	Description	1-9	10-24
90F2529	B51-007-0000-220	St. Plug, Clamp, Flexible Coax*	12.92	10.59
90F2533	B51-011-0000-220	R/A Plug, Clamp, Flexible Coax*	17.92	14.69
90F2535	B51-024-0000-220	St. Plug, Crimp, Flexible Coax*	6.88	5.64
90F2539	B51-328-3188-220	R/A Plug, Crimp, Flexible Coax*	7.55	6.19
90F2531	051-010-0000-220	St. Bulkhead Jack, Clamp Flexible Coax*	15.02	12.32
90F2537	051-027-0000-220	St. Bulkhead Jack, Crimp, Flex. Coax*	12.85	10.53
90F2541	051-043-0000-220	Bulkhead Jack Receptacle, Rear Mnt.	6.15	5.04
90F2543	051-045-0000-220	Bulkhead Jack Receptacle, Frt. Mnt.	5.38	4.42
90F2544	051-047-0000-220	Bulkhead Jack Receptacle, Rt. Angle	25.83	21.18
90F2546	B51-351-0000-220	St. PCB Mount Jack	3.34	2.74
93F1825	B51-053-0000-220	R/A PCB Mount Jack	6.66	5.46

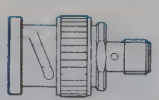
SCREW-ON CONNECTORS

90F2582	050-007-0000-220	St. Plug, Clamp, Flexible Coax*	12.77	10.48
90F2583	050-007-3196-220	St. Plug, Clamp, Flexible Coax†	10.22	8.38
90F2586	050-311-3188-220	R/A Plug, Clamp, Flexible Coax*	19.43	15.93
90F2588	050-024-0000-220	St. Plug, Crimp, Flexible Coax*	10.19	8.36
90F2589	050-024-3196-220	St. Plug, Crimp, Flexible Coax†	10.64	8.73
90F2592	B50-328-3188-220	R/A Plug, Crimp, Flexible Coax*	10.39	8.52
90F2590	050-027-0000-220	St. Bulkhead Jack, Crimp, Flex. Coax*	15.31	12.55
90F2594	050-043-0000-220	Bulkhead Jack Receptacle, Rear Mnt.	6.88	5.64
90F2598	B50-051-0000-220	Straight PCB Mount Jack	5.56	4.56
90F2599	B50-053-0000-220	Right Angle PCB Mount Jack	11.53	9.45

* RG-316 Cable † RG-178 Cable

(8719) (de02350)

50 OHM BETWEEN SERIES AND IN-SERIES ADAPTORS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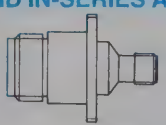

050-675-6701

Meet MIL-C-39012 specifications. Adaptors with description Conhex to BNC and Conhex to N are designed for 0.125″ (3.18) maximum panel thickness.

BETWEEN SERIES ADAPTORS

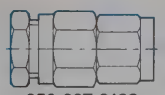
Stock No.	Type	Description	1-9	10-24
90F2580	051-077-6801-220	SMB Bulkhead Plug to BNC Jack	63.90	57.51
90F2488	050-674-6800-890	SMA Jack to BNC Plug	58.36	52.52
90F2491	050-675-6801-890	SMA Jack to BNC Bulkhead Jack	63.16	56.84
90F2548	050-674-6700-890	SMA Jack to N Plug	64.10	57.69
90F2552	050-675-6701-890	N Jack to SMA Panel Mount Jack	73.53	66.18
90F2553	050-675-6705-890	N Bulkhead Jack to SMA Jack	38.95	35.05

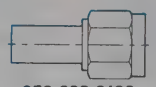
IN-SERIES ADAPTORS

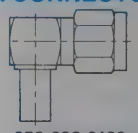
Stock No.	Type	Description	1-9	10-24
90F2525	050-675-0000-310	SMA Jack to Jack, Bulkhead Mount	20.05	18.05
90F2526	050-673-0000-310	SMA Plug to Plug	18.93	17.03
90F2527	050-678-0000-310	SMA Plug to Jack, Right Angle	26.61	23.95
95F6353	050-674-6324-990	SMA Slide-on Plug to SMA Jack	43.02	38.72

(8721) (de02535)

50-OHM SUBMINIATURE RF COAXIAL SMA CONNECTORS


050-607-3188


050-622-9188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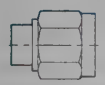
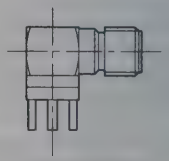

A50-607-3702

050-651-0000


050-653-0000

Frequency range: 0 to 18GHz. Mechanical: captivated or non-captivated screw-on coupling interface solder contact. Coupling nut size: 0.312″ hex. Field repairable. Medium power. Meet MIL-C-39012 specifications.

SMA SERIES PLUGS

Stock No.	Tupe	Description	Cable	1-9	10-24
90F2518	050-607-3188-310	St. Plug, Clamp, Flexible	RG-316	18.56	15.22
90F2493	050-611-3188-310	R/A Plug, Clamp, Flexible	RG-316	24.98	20.48
90F2499	050-622-9188-310	St. Plug, Crimp, Flexible	RG-316	8.01	6.57
90F2504	050-628-9142-310	R/A Plug, Crimp, Flexible	RG-142	27.97	22.94
90F2505	050-628-9188-310	R/A Plug, Crimp, Flexible	RG-316	21.51	17.64
90F2512	055-607-2003-310	St. Plug, Semi-Rigid w/o Contact	0.141″	3.85	3.16
90F2513	A55-607-3702-310	St. Plug, Semi-Rigid	0.085″	6.55	5.37
90F2501	A50-624-9188-310	St. Plug, Crimp, Capt. Contact	RG-316	18.30	15.00

SMA SERIES JACK RECEPTACLES

90F2503	050-627-9188-310	St. Bulkhead Jack, Flexible	RG-316	27.64	22.67
90F2506	050-643-0000-310	Bulkhead Mount Solder Pot Contact, Rear Mount	...	22.90	18.78
01F1411	050-651-0000-310	PCB Mount Straight Jack	...	9.48	7.77
95F6334	050-653-0000-310	PCB Mount Rt. Angle Jack	...	15.31	12.55

(8718) (de02349)

50 OHM SSMB/SSMC MICROMINIATURE CONNECTORS

A51-428-3188

A51-453-0000

A51-451-0000

050-451-0000

Very small (50% of SMB) coaxial connector suitable for Wireless, Instrumentation, Medical, PCMCIA and Antenna applications. Available in two mating engagements: snap-on or screw-on. Impedance: 50 ohms. Frequency range: 0 to 12.4 GHz. Voltage rating, sea level: 250 VRMS. Current rating: 1.0 amps DC maximum. Meets MIL-C-39012 specifications.

SNAP-ON CONNECTORS

Stock No.	Type	Description	1-9	10-24
90F2600	051-424-3188-220	Straight Plug, for Braided Coax	13.26	11.80
92F5401	A51-428-3188-220	Right Angle Plug, for Braided Coax	11.00	9.80
90F2602	051-427-3188-220	Bulkhead Jack, for Braided Coax	10.81	9.63
90F2608	051-447-0000-220	Bulkhead Receptacle, Rt. Angle	36.01	34.44
90F2609	A51-451-0000220	Printed Circuit Receptacle	5.45	4.85
90F2610	A51-453-0000-220	Printed Circuit Receptacle, Rt. Angle	10.40	9.26

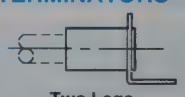
SCREW-ON CONNECTORS

Stock No.	Type	Description	1-9	10-24
90F2612	050-424-3188-220	Straight Plug, for Braided Coax	14.92	13.29
90F2572	050-428-3196-220	Rt. Angle Plug, for Braided Coax	29.76	26.49
90F2576	050-451-0000-220	Printed Circuit Receptacle	10.93	9.73

(8720) (de02534)

COAXIAL TERMINATORS

Single Leg


Two Legs

Stock No.	Type	Description	RG/U	1-9	10-24
95F6345	055-939-9029-AR6	Single Leg at Front; Single Leg at Rear	174,179, 188	1.39	1.24
95F6347	055-939-9049-AR6	Two Legs at Front-Std.	174,179, 188,316	1.39	1.24
95F6349	055-939-9069-AR6	Two Legs at Front-Surface and Vertical Mount	174,179, 188,316	1.24	1.10

(8722) (de02538)

AUDIO PLUGS AND JACKS

VOLTREX™ BRAND AUDIO PHONE PLUGS AND JACKS

Fig. 1

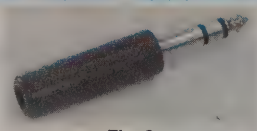


Fig. 2

Fig. 3

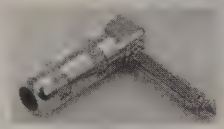


Fig. 4

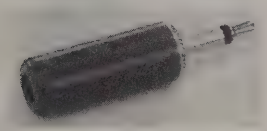


Fig. 5

Fig. 6

Fig. 7

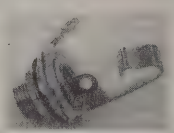


Fig. 8

Fig. 9

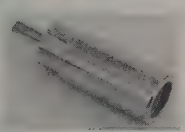


Fig. 10

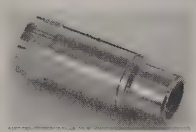


Fig. 11

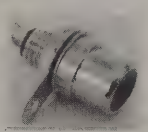


Fig. 12

Type SPC4059 audio speaker plug features solder terminals and cable clamp. **Type SPC4058** plug features heavy-duty ground terminals and cable clamp.

AUDIO PHONE PLUGS

Stock No.	Type	Fig.	Description	Con-ductors	1-9	10-24
84N1134	SPC4050	1	¼″ Dia., Metal Handle	2	3.25	2.77
84N1135	SPC4051	1	¼″ Dia., Metal Handle with 0.375" Hole	2	3.25	2.77
84N1136	SPC4052	1	¼″ Dia., Metal Handle	3	4.25	3.62
84N1137	SPC4053	1	¼″ Dia., Metal Handle with 0.375" Hole	3	4.25	3.62
37N2197	300-R	2	¼″ Dia., Red Plastic Handle, Screw Lug	2	0.83	0.63
37N2198	300-B	2	¼″ Dia., Black Plastic Handle, Screw Lug	2	0.83	0.63
44N932	300-M	2	¼″ Dia., Metal Handle, Screw Lug	2	1.54	1.16
37N2208	301-R	2	¼″ Dia., Red Plastic Handle, Solder Lug	2	0.65	0.49
37N2209	301-B	2	¼″ Dia., Black Plastic Handle, Solder Lug	2	0.65	0.49
44N933	301-M	2	¼″ Dia., Metal Handle, Solder Lug	2	1.36	1.03
37N2199	302-R	2	¼″ Dia., Red Plastic Handle, Solder Lug	3	0.82	0.62
37N2200	302-B	2	¼″ Dia., Black Plastic Handle, Solder Lug	3	0.82	0.62
44N934	302-M	2	¼″ Dia., Metal Handle, Solder Lug	3	1.49	1.13
37N2201	303-B	2	¼″ Dia., Black Plastic Handle, Screw Lug	3	1.01	0.77
84N1138	SPC4054	3	Right-Angle ¼″ Dia., Metal Handle	2	3.30	2.81
84N1139	SPC4055	3	Right-Angle ¼″ Dia., Metal Handle with 0.135" Hole	2	3.30	2.81
84N1140	SPC4056	3	Right-Angle ¼″ Dia., Metal Handle	3	4.75	4.04
84N1141	SPC4057	3	Right-Angle ¼″ Dia., Metal Handle with 0.135" Hole	3	4.75	4.04
84N1142	SPC4058	4	Right-Angle ¼″ Dia., Threaded Metal Handle	2	3.99	3.40
37N2204	307-R	5	Miniature 0.137″ Dia., Red Plastic Handle, Solder Lug	2	0.51	0.39
37N2205	307-B	5	Miniature 0.137″ Dia., Black Plastic Handle, Solder Lug	2	0.51	0.39
44N935	307-M	6	Miniature 0.137″ Dia., Metal Handle, Solder Lug	2	0.86	0.65
37N2206	308-B	7	Ultraminiature 0.097″ Dia., Black Plastic Handle, Solder Lug	2	0.45	0.34

CONTINUED

VOLTREX™ BRAND AUDIO PHONE PLUGS AND JACKS (CONT.)

AUDIO PHONE PLUGS (CONT.)

Stock No.	Type	Fig.	Description	Con-ductors	1-9	10-24
84N1143	SPC4059	...	Speaker Plug, ¼″ Dia., Black Handle	2	5.75	4.89

¼″ DIA., PANEL-MOUNT AUDIO PHONE JACKS

Enclosed jacks feature silver contacts.

Stock No.	Type	Fig.	Description	Con-ductors	1-9	10-24
84N1144	SPC4060	8	Open	2	1.95	1.66
84N1146	SPC4062	8	Open with 0.375″ Bushing	2	1.75	1.49
37N2202	336	8	Open with 0.375″ Mtg. Hole Dia.	2	0.76	0.57
84N1145	SPC4061	8	Open	3	1.99	1.70
84N1147	SPC4063	8	Open with 0.375″ Bushing	3	2.10	1.79
37N2203	338	8	Open with 0.375″ Mtg. Hole Dia.	3	1.11	0.84
84N1148	SPC4064	9	Enclosed with Metal Bushing, Single Open Circuit*	3	1.85	1.58
84N1149	SPC4065	9	Enclosed with Metal Bushing, Single Closed Circuit*	3	1.99	1.70
84N1150	SPC4066	9	Enclosed with Metal Bushing, Double Open Circuit†	3	1.85	1.58
84N1151	SPC4067	9	Enclosed with Metal Bushing, Single Open Circuit†	3	1.99	1.70
84N1152	SPC4068	9	Enclosed with Metal Bushing, Single Open Circuit‡	3	1.99	1.70
84N1153	SPC4069	9	Enclosed with Metal Bushing, Single Closed Circuit‡	3	2.05	1.75
84N1154	SPC4070	9	Enclosed with Insulated Bushing, Single Open Circuit†	2	1.85	1.58
84N1155	SPC4071	9	Enclosed with Insulated Bushing, Single Closed Circuit*	2	1.99	1.70
84N1156	SPC4072	9	Enclosed with Insulated Bushing, Single Open Circuit‡	2	1.99	1.70
84N1157	SPC4073	9	Enclosed with Insulated Bushing, Single Closed Circuit‡	2	2.05	1.75

*Solder termination; †PC termination; ‡PC retention termination

1-CONDUCTOR PHONO PLUG AND JACKS

Type 5-005 plug has finger grip and includes 0.062″ fiber washer. Mates with **type 5-006** coaxial jack that has combination clamp and solder termination or **type 340** jack that front mounts into 0.25″ diameter hole and includes nut, washer and solder lug. All feature cadmium-plated steel housing and nickel-plated contacts.

Stock No.	Type	Fig.	Description	1-9	10-24	25-99
44N937	5-005	10	Plug w/Shielded Handle	0.82	0.62	0.53
44N938	5-006	11	In-Line Jack w/Shielded Handle	0.82	0.62	0.53
44N936	340	12	Front Mount Jack	0.52	0.40	0.33

(28576) (ne28576)

VOLTREX™ BRAND RCA PLUGS AND JACKS

Fig. 1

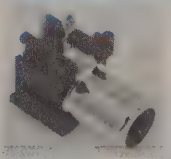


Fig. 2

Fig. 3

Quality performance at an economical price. Schematic drawings are available; *contact your local Newark sales office for details.*

Stock No.	Type	Fig.	Description	1-9	10-24
84N1165	SPC4081	1	Female Jack	1.65	1.41
84N1166	SPC4082	2	PC Board Jack, Red Housing	2.05	1.75
84N1167	SPC4083	2	PC Board Jack, Black Housing	2.05	1.75
84N1168	SPC4084	3	Phono Plug	2.05	1.75
84N1169	SPC4085	3	Phono Plug with 0.283″ Hole	2.05	1.75

(32373) (ne32373)

MONO ¼″ PLUG CABLE ASSEMBLY

Designed for sound applications. ¼″ mono plug terminated on each end.

84N1227 (32372) Type SPC4236. **Each** **11.99** (ne32372)

NEWARK SAVES YOU TIME.
A SIMPLE PHONE CALL CAN GET YOU OVERNIGHT DELIVERY ANYTIME, ANYWHERE.

NEW

AUDIO AND POWER PLUGS AND JACKS

VOLTREX™ BRAND PC BOARD MOUNT AUDIO JACKS

VOLTREX™ brand

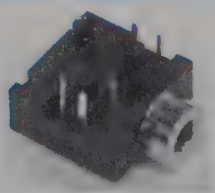


Fig. 1

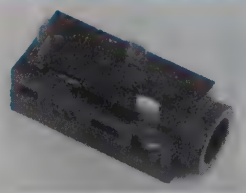


Fig. 2

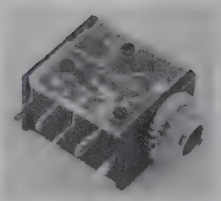


Fig. 3

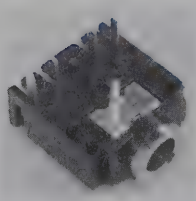


Fig. 4

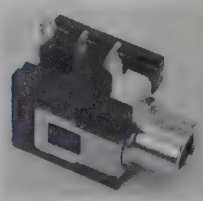


Fig. 5

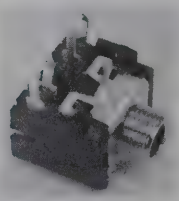


Fig. 6

Fig. 7

PC board mount audio jacks provide quality performance at an economical price. Schematic drawings are available; *contact your local Newark sales office for details.*

Stock No.	Type	Fig.	Description	1-9	10-24
84N1218	SPC4134	1	2.5mm Stereo	1.15	0.98
84N1219	SPC4135	1	2.5mm Mono	1.15	0.98
84N1220	SPC4136	2	2.5mm Stereo	1.15	0.98
84N1196	SPC4112	3	3.5mm Stereo, 6mm Threaded	1.15	0.98
84N1197	SPC4113	3	3.5mm Stereo, Nonthreaded	1.15	0.98
84N1198	SPC4114	3	3.5mm Stereo, Shuntless, Nonthreaded	1.15	0.98
84N1199	SPC4115	3	3.5mm Stereo, Shuntless, 6mm Threaded	1.15	0.98
84N1200	SPC4116	3	3.5mm Mono, 6mm Threaded	1.15	0.98
84N1201	SPC4117	3	3.5mm Mono, Nonthreaded	1.15	0.98
84N1202	SPC4118	...	3.5mm Stereo, Horizontal Mount	1.15	0.98
84N1203	SPC4119	...	3.5mm Stereo, Horizontal Mount, Nonthreaded	1.15	0.98
84N1208	SPC4124	4	3.5mm Stereo	1.15	0.98
84N1209	SPC4125	4	3.5mm Mono	1.15	0.98
84N1210	SPC4126	4	3.5mm Mono, Shuntless	1.15	0.98
84N1211	SPC4127	5	3.5mm Stereo, Shuntless	1.15	0.98
84N1212	SPC4128	6	3.5mm Stereo	1.15	0.98
84N1213	SPC4129	6	3.5mm Stereo, Shuntless Tip	1.15	0.98
84N1214	SPC4130	6	3.5mm Mono, Shuntless	1.15	0.98
84N1215	SPC4131	7	3.5mm Stereo, Shielded	5.95	5.06

(32375) (ne32375)

VOLTREX™ BRAND POWER PLUGS AND JACKS

Fig. 1

Fig. 2

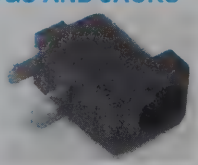


Fig. 3

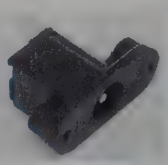
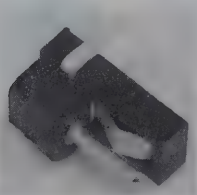


Fig. 4

Fig. 5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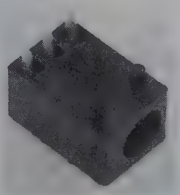


Fig. 7

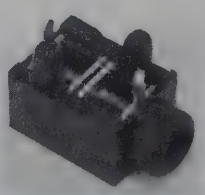


Fig. 8

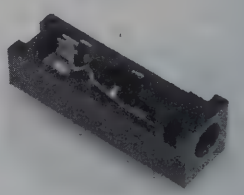


Fig. 9

Schematic drawings are available; *contact your local Newark sales office for details.*

Stock No.	Type	Fig.	Description	1-9	10-24
84N1158	SPC4074	1	DC Power Plug	2.99	2.55
84N1159	SPC4075	2	PC Board Power Jack, PC Type	2.85	2.43
84N1160	SPC4076	2	PC Board Power Jack, Solder Type	2.85	2.43
84N1161	SPC4077	3	2mm PC Board Power Jack	1.05	0.90
84N1162	SPC4078	3	2.5mm PC Board Power Jack	1.05	0.90
84N1163	SPC4079	...	2mm Panel Mount Power Jack	1.05	0.90
84N1164	SPC4080	...	2.5mm Panel Mount Power Jack	1.05	0.90
84N1186	SPC4102	4	2mm Panel Mount Power Jack	1.15	0.98
84N1187	SPC4103	4	2.5mm Panel Mount Power Jack	1.15	0.98
84N1188	SPC4104	5	2mm Panel Mount Power Jack	1.15	0.98
84N1189	SPC4105	6	2.5mm Panel Mount Power Jack	1.15	0.98
84N1190	SPC4106	6	PC Board Power Jack	1.15	0.98
84N1191	SPC4107	7	3mm PC Board Power Jack	1.15	0.98
84N1192	SPC4108	8	PC Board Tip Jack	1.05	0.90
84N1193	SPC4109	8	PC Board Tip Jack	1.05	0.90
84N1194	SPC4110	9	PC Board Bantam Jack with 0.144" Straight Terminals	2.25	1.92
84N1195	SPC4111	9	PC Board Bantam Jack with 0.144" Straight Terminals	3.20	2.72

VOLTREX™ BRAND STEREO XLR TYPE AUDIO CORD PLUGS AND RECEPTACLES

Industry-standard stereo XLR type audio cord plugs and receptacles are ideal for a variety of applications, including microphones, test equipment, instrumentation, and computers. Feature nickel-plated or black finish housing with silver- or gold-plated contacts.

MALE XLR TYPE AUDIO CORD PLUGS

Stock No.	Type	Fig.	Con-ductors	Housing			Contacts	1-9	10-24
				Finish	Height	Width			
84N1094	SPC4010	1	3	Nickel	...	...	Silver	4.85	4.13
84N1095	SPC4011	1	5	Nickel	...	...	Silver	9.85	8.38
84N1097	SPC4013	2	3	Black	...	...	Silver	4.85	4.13
84N1225	SPC4234	2	3	Black	...	...	Gold	10.99	9.35
84N1098	SPC4014	2	5	Black	...	...	Silver	9.95	8.46
84N1226	SPC4235	2	5	Black	...	...	Gold	11.99	10.20

FEMALE XLR TYPE AUDIO CORD PLUGS

84N1099	SPC4015	3	3	Nickel	...	...	Silver	5.50	4.68
84N1100	SPC4016	3	5	Nickel	...	...	Silver	12.45	10.59
84N1102	SPC4018	4	3	Black	...	...	Silver	5.50	4.68
84N1227	SPC4236	4	3	Black	...	...	Gold	11.99	10.20
84N1103	SPC4019	4	5	Black	...	...	Silver	12.60	10.71
84N1228	SPC4237	4	5	Black	...	...	Gold	12.99	11.05

MALE XLR TYPE AUDIO RECEPTACLES

84N1104	SPC4020	5	3	Nickel	1.43″	0.87″	Silver	4.65	3.96
84N1107	SPC4023	5	3	Black	1.43″	0.87″	Silver	2.99	2.84
84N1106	SPC4022	5	4	Nickel	1.43″	0.87″	Silver	5.50	4.68
84N1105	SPC4021	5	5	Nickel	1.43″	0.87″	Silver	9.65	8.21
84N1108	SPC4024	5	5	Black	1.43″	0.87″	Silver	9.80	8.33
84N1109	SPC4025	5	3	Nickel	1.22″	1.02″	Silver	4.65	3.96
84N1111	SPC4027	5	3	Black	1.22″	1.02″	Silver	4.65	3.96
84N1230	SPC4239	5	3	Black	1.22″	1.02″	Gold	5.99	5.10
84N1110	SPC4026	5	5	Nickel	1.22″	1.02″	Silver	9.80	8.33
84N1112	SPC4028	5	5	Black	1.22″	1.02″	Silver	9.80	8.33
84N1122	SPC4038	6	3	Black*	1.22″	1.02″	Silver	2.85	2.43

FEMALE XLR TYPE AUDIO RECEPTACLES

84N1113	SPC4029	7	3	Nickel	1.43″	1.06″	Silver	6.25	5.32
84N1116	SPC4032	7	3	Black	1.43″	1.06″	Silver	6.50	5.53
84N1229	SPC4238	7	3	Black	1.43″	1.06″	Gold	6.99	5.95
84N1115	SPC4031	7	4	Nickel	1.43″	1.06″	Silver	8.95	7.61
84N1114	SPC4030	7	5	Nickel	1.43″	1.06″	Silver	13.95	11.86
84N1117	SPC4033	7	5	Black	1.43″	1.06″	Silver	12.95	11.01
84N1118	SPC4034	7	3	Nickel	1.22″	1.02″	Silver	6.50	5.53
84N1120	SPC4036	7	3	Black	1.22″	1.02″	Silver	6.50	5.53
84N1119	SPC4035	7	5	Nickel	1.22″	1.02″	Silver	12.95	11.01
84N1121	SPC4037	7	5	Black	1.22″	1.02″	Silver	12.95	11.01
84N1123	SPC4039	8	3	Black*	1.22″	1.02″	Silver	2.85	2.43

*Thermoplastic

(28575) (ne28575)

VOLTREX™ brand

Fig. 1

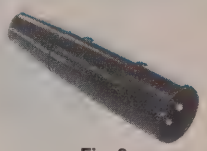
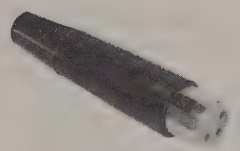


Fig. 2

Fig. 3



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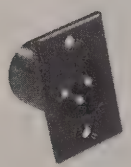
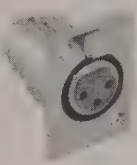


Fig. 5

Fig. 6



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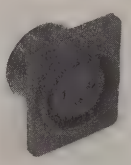

Fig. 8

SPC4040

SPC4041

SPC4043

VOLTREX™ BRAND XLR TYPE AUDIO ADAPTERS

XLR type adapters feature nickel-plated finish bodies with silver-plated contacts or pins.

XLR TYPE

Stock No.	Type	Description	1-9	10-24
84N1124	SPC4040	3-Contact Female XLR to 3-Contact Female XLR	14.50	12.33
84N1125	SPC4041	3-Pin Male XLR to 3-Pin Male XLR	12.10	10.29
84N1126	SPC4042	3-Contact Female XLR to 3-Conductor Male ¼″ Stereo Phone Plug	14.50	12.33
84N1127	SPC4043	3-Contact Female XLR to 3-Conductor Female ¼″ Stereo Phone Jack	14.50	12.33

(28572) (ne28572)

VOLTREX™ BRAND XLR TYPE AUDIO CABLE ASSEMBLIES

XLR type male to XLR type female audio cable assemblies available in 10′ or 25′ lengths. Nickel-plated housing and silver-plated contacts.

Stock No.	Type	Length	1-9	10-24
84N1232	SPC4241	10′	9.99	8.50
84N1233	SPC4242	25′	13.99	11.90

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SPC4241, SPC4242

NEW DIN CONNECTORS AND AUDIO ADAPTERS

VOLTREX™ BRAND MINI CIRCULAR DIN CONNECTORS

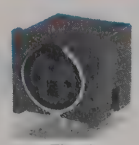
Fig. 1

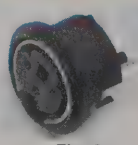
Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

PC board mount miniature DIN receptacles and plug feature selective plating. Receptacles available in nonshielded and 4- and 5-sided shielded versions. 5-sided shielded version is also available with a grounding clip.

NONSHIELDED RECEPTACLES - FIG. 1

Stock No.	Type	Pins	1-24	25-49
84N1298	SPC4279	3	0.99	0.85
84N1176	SPC4092	3	2.05	1.75
84N1299	SPC4280	4	0.99	0.85
84N1177	SPC4093	4	2.10	1.79
84N1300	SPC4281	5	0.99	0.85
84N1178	SPC4094	5	2.25	1.92
84N1301	SPC4282	6	1.09	0.93
84N1302	SPC4283	7	1.09	0.93
84N1303	SPC4284	8	1.19	1.02
84N1304	SPC4285	9	1.59	1.36

NONSHIELDED RECEPTACLES - FIG. 2

84N1179	SPC4095	3	2.05	1.75
84N1180	SPC4096	4	2.60	2.21
84N1181	SPC4097	5	2.85	2.43

SHIELDED RECEPTACLES, 4 SIDES - FIG. 3

84N1305	SPC4286	3	1.09	0.93
84N1173	SPC4089	3	3.25	2.77
84N1306	SPC4287	4	1.19	1.02
84N1174	SPC4090	4	4.75	4.04
84N1307	SPC4288	5	1.19	1.02
84N1175	SPC4091	5	5.25	4.47
84N1308	SPC4289	6	1.29	1.10
84N1309	SPC4290	7	1.39	1.19
84N1310	SPC4291	8	1.39	1.19
84N1311	SPC4292	9	1.49	1.27

SHIELDED RECEPTACLES, 5 SIDES - FIG. 3

84N1312	SPC4293	3	1.19	1.02
84N1313	SPC4294	4	1.19	1.02
84N1314	SPC4295	5	1.39	1.19
84N1315	SPC4296	6	1.39	1.19
84N1316	SPC4297	7	1.39	1.19
84N1317	SPC4298	8	1.59	1.36
84N1318	SPC4299	9	1.59	1.36

SHIELDED RECEPTACLES, 5 SIDES WITH GROUNDING CLIP - FIG. 4

84N1319	SPC4300	3	1.39	1.19
84N1320	SPC4301	4	1.39	1.19
84N1321	SPC4302	5	1.39	1.19
84N1322	SPC4303	6	1.39	1.19
84N1323	SPC4304	7	1.39	1.19
84N1324	SPC4305	8	1.59	1.36
84N1325	SPC4306	9	1.59	1.36

SHIELDED RECEPTACLES WITH 2-HOLE FLANGE - FIG. 5

84N1184	SPC4100	5	2.60	2.21

DIN PLUG - FIG. 6

84N1185	SPC4101	...	5.25	4.47

(28571) (ne28571)

NEWARK MAKES ORDERING SIMPLE.
ONE CALL IS ALL IT TAKES TO GET
FAST, EFFICIENT DELIVERY.

VOLTREX™ BRAND CIRCULAR DIN CONNECTORS

VOLTREX™ brand

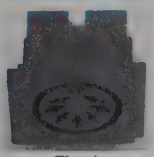
Fig. 1

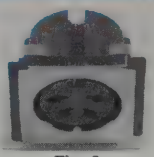
Fig. 2

Fig. 3

PC board mount circular DIN connectors feature selective plating. Available in nonshielded and front-shielded versions. 5-pin front-shielded version also available with grounding spring.

NONSHIELDED — FIG. 1

Stock No.	Type	Pins	Plating	1-24	25-49
84N1326	SPC4307	3	5mm	0.89	0.76
84N1327	SPC4308	4	5mm	0.89	0.76
84N1328	SPC4309	5	5mm	0.89	0.76
84N1172	SPC4088	5	3mm	2.05	1.75
84N1329	SPC4310	6	5mm	0.89	0.76
84N1330	SPC4311	7	5mm	0.99	0.85
84N1331	SPC4312	8	5mm	0.99	0.85
84N1332	SPC4313	3	10mm	0.89	0.76
84N1333	SPC4314	4	10mm	0.89	0.76
84N1334	SPC4315	5	10mm	0.89	0.76
84N1335	SPC4316	6	10mm	0.89	0.76
84N1336	SPC4317	7	10mm	0.99	0.85
84N1337	SPC4318	8	10mm	0.99	0.85

FRONT-SHIELDED — FIG. 2

84N1338	SPC4319	3	5mm	0.99	0.85
84N1339	SPC4320	4	5mm	0.99	0.85
84N1340	SPC4321	5	5mm	0.99	0.85
84N1341	SPC4322	6	5mm	1.09	0.93
84N1342	SPC4323	7	5mm	1.09	0.93
84N1343	SPC4324	8	5mm	1.09	0.93
84N1344	SPC4325	3	10mm	0.99	0.85
84N1345	SPC4326	4	10mm	0.99	0.85
84N1346	SPC4327	5	10mm	0.89	0.76
84N1347	SPC4328	6	10mm	0.99	0.85
84N1348	SPC4329	7	10mm	0.99	0.85
84N1349	SPC4330	8	10mm	0.99	0.85

FRONT-SHIELDED WITH GROUNDING SPRING — FIG. 3

84N1350	SPC4331	5	5mm	0.99	0.85
84N1351	SPC4332	5	10mm	0.99	0.85

(32377) (ne32377)

VOLTREX™ BRAND INDUSTRY-STANDARD AUDIO ADAPTERS

SPC4044

SPC4045

SPC4049

SPC4046

SPC4047

SPC4048

Industry-standard audio adapters feature positive contacts to prevent resistive losses.

Stock No.	Type	Description	1-9	10-24	25-49
84N1128	SPC4044	¼" Male Phone Plug to ¼" Male Phone Plug	2.95	2.51	2.26
84N1129	SPC4045	¼" Female Phone Jack to ¼" Female Phone Jack	3.25	2.77	2.49
84N1130	SPC4046	1 RCA® Female Jack to 1 RCA® Female Jack/1 RCA® Male Plug	4.95	4.21	3.79
84N1131	SPC4047	1 RCA® Male Plug to 1 RCA® Female Jack/1 RCA® Male Plug	4.95	4.21	3.79
84N1132	SPC4048	¼" Female Phone Jack to ¼" Male Phone Plug	3.75	3.19	2.87
84N1133	SPC4049	Cable Mount ¼" Male Phone Jack	4.25	3.62	3.26

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ITT Cannon

AUDIO CONNECTORS

XLR SERIES HIGH-PERFORMANCE AUDIO CONNECTORS

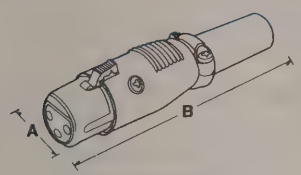

Fig. 1 Sockets

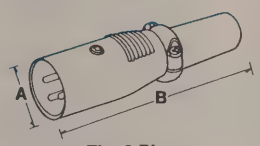

Fig. 2 Pins

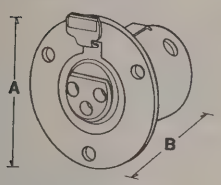

Fig. 3 Sockets

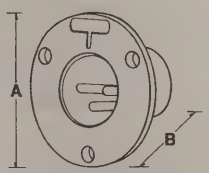

Fig. 4 Pins

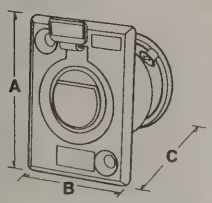

Fig. 5 Sockets

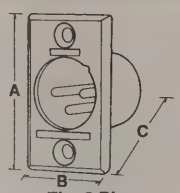

Fig. 6 Pins

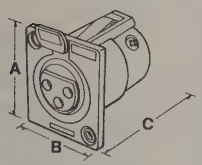

Fig. 7 Sockets

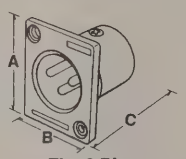

Fig. 8 Pins

For use where high reliability, quiet operation and the elimination of EMI/RFI are required. Feature silver-finished copper alloy contacts and resilient socket insulator for best performance in humid conditions. Latch lock quick disconnect. UL recognized.

XLR SERIES STRAIGHT CORD PLUGS

Stock No.	Type	Fig.	Positions	Dimensions A	B	C	1-24	25-49
93F4032	XLR-3-11C	1	3	0.75″	3.10″	...	9.77	8.31
93F4033	XLR-3-12C	2	3	0.75″	2.87″	...	6.22	5.29
93F4041	XLR-4-11C	1	4	0.75″	3.10″	...	12.53	10.65
93F4001	XLR-5-11C	1	5	0.75″	3.10″	...	13.39	11.38
93F4002	127007-0110	2	5	0.75″	2.87″	...	7.22	6.14
93F8804	112122-0000	1	6	0.75″	3.10″	...	15.65	13.30
93F4007	XLR-6A-12C	2	6	0.75″	2.87″	...	7.77	6.60
93F4011	XLR-7-11C	1	7	0.75″	3.10″	...	18.17	15.45
93F8805	XLR-7-12C	2	7	0.75″	2.87″	...	10.11	8.60

XLR SERIES WALL/PANEL MOUNTING RECEPTACLES

93F4034	XLR-3-13	3	3	1.44″	1.06″	...	11.39	9.68
93F4035	XLR-3-14	4	3	1.44″	0.84″	...	6.49	5.52
93F4036	XLR-3-31	5	3	1.44″	1.06″	1.06″	9.82	8.35
93F4037	XLR-3-32	6	3	1.44″	0.87″	0.84″	4.90	4.16
93F4039	XLR-3-31-F77	7	3	1.18″	0.98″	1.06″	10.39	8.83
93F4040	XLR-3-32-F77	8	3	1.18″	0.98″	0.91″	6.61	5.62
93F4043	XLR-4-13	3	4	1.44″	1.06″	...	12.98	11.04
93F4044	XLR-4-14	4	4	1.44″	0.84″	...	7.18	6.10
93F4045	XLR-4-31	5	4	1.44″	1.06″	1.06″	12.71	10.80
93F4003	XLR-5-13	3	5	1.44″	1.06″	...	14.19	12.06
93F4004	XLR-5-14	4	5	1.44″	0.84″	...	7.59	6.45
93F4005	XLR-5-31	5	5	1.44″	1.06″	1.06″	14.14	12.02
93F4008	XLR-6A-31	5	6	1.44″	1.06″	1.06″	16.31	13.86
93F4009	XLR-6A-32	6	6	1.44″	0.87″	0.84″	6.58	5.60
93F4012	XLR-7-31	5	7	1.44″	1.06″	1.06″	18.40	15.64
93F4010	XLR-7-32	6	7	1.44″	0.87″	0.84″	9.20	7.82

(8980) (de01697)

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XLB2 SERIES ECONOMY AUDIO CONNECTORS

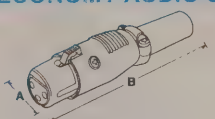


Fig. 1 Sockets

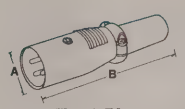


Fig. 2 Pin

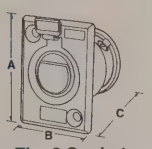


Fig. 3 Sockets

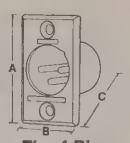


Fig. 4 Pins

Quality performance at an economical price. Fewer components and a captive insulator screw ease assembly. Thermoplastic insulator and formed female contacts. Latch lock quick disconnect.

XLB2 SERIES STRAIGHT CORD PLUGS

Stock No.	Type	Fig.	Positions	Dimensions A	B	C	1-24	25-49
93F8811	XLB2-3-11	1	3	0.75″	3.10″	...	7.65	6.51
93F8812	XLB2-3-12	2	3	0.75″	2.87″	...	6.36	5.40
93F8795	XLB2-4-11	1	4	0.75″	3.10″	...	8.04	6.84
93F8796	XLB2-4-12	2	4	0.75″	2.87″	...	7.18	6.10
93F8797	XLB2-5-11	1	5	0.75″	3.10″	...	8.82	7.49
93F8798	XLB2-5-12	2	5	0.75″	2.87″	...	7.68	6.53

XLB2 SERIES WALL MOUNT RECEPTACLES

93F8799	XLB2-3-31	3	3	1.44″	1.06″	1.06″	8.11	6.89
93F8800	XLB2-3-32	4	3	1.44″	0.87″	0.84″	5.26	4.47
93F8801	XLB2-4-31	3	4	1.44″	1.06″	1.06″	9.11	7.75
93F8802	XLB2-4-32	4	4	1.44″	0.87″	0.84″	6.17	5.25
93F8803	XLB2-5-31	3	5	1.44″	1.06″	1.06″	13.12	11.15
93F8793	XLB-2-5-32	4	5	1.44″	0.87″	0.84″	6.68	5.67

(8981) (de01698)

XLB SERIES PLASTIC PC MOUNT AUDIO CONNECTORS

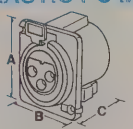


Fig. 1

Fig. 2

Plastic shell printed circuit audio connectors plug into printed circuit board and flow solder from the rear. Glass-filled nylon insulator, rated UL94V-0. Feature latch lock quick disconnect. Mate with **XLR series** audio connectors and **XLB series** audio connectors, *order separately on this page.* **Suffix PCS** in type number indicates straight connector and **suffix PCV** in type number indicates right angle.

Stock No.	Type	Fig.	Positions	Dimensions A	B	C	1-24	25-49
93F4022	XLB-3-31PCS-M01	1	3	1.18″	1.06″	0.94″	8.54	7.26
93F4021	XLB-3-32-PCS-M01	2	3	1.18″	1.06″	0.94″	6.02	5.11
93F4023	XLB-3-31PCV-M01	1	3	1.18″	1.06″	0.94″	8.66	7.36
93F8794	XLB-3-32PCV-M01	2	3	1.18″	1.06″	0.94″	5.99	5.09

(8982) (de01699)

XLM SERIES METAL PC MOUNT AUDIO CONNECTORS

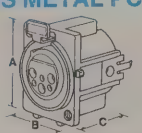


Fig. 1 Female

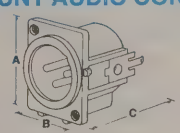


Fig. 2 Male

Right-angle audio connectors feature die-cast shell for improved EMI shielding and added ruggedness. Small flange for stackability and PCB retaining terminal for added stability during wave solder. Straight connectors are also available; *contact your local Newark sales office.*

Stock No.	Type	Fig.	Positions	Dimensions A	B	C	1-24	25-49
93F4025	XLM-3-31PCV	1	3	1.10″	0.88″	0.83″	9.45	8.04
93F4027	XLM-3-32PCV	2	3	1.10″	0.88″	0.79″	8.82	7.49

PLASTIC AND METAL DUST CAPS

Stock No.	Type	Description	1-49	50-99
93F4029	XLR-SDC	Plastic Cap for Female Connector	2.14	1.82
93F4028	XLR-PDC	Plastic Cap for Male Connector	2.14	1.82
93F4030	XLR-13-RC	Metal Cap for Female Connector	20.04	17.04

(8983) (de01700)

DIN PLUGS AND RECEPTACLES

Fig. 1

Fig. 2

Fig. 3

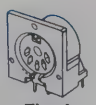


Fig. 4

Fig. 5

Fig. 6

DIN CONNECTOR MATING CHART

FEMALE \ MALE	05BL3M	05BL5M	05CL3M	05CL5M	05GM3M	05GM5M	09CL4M	09GM4M	12BL5M	12BL6M	12CL5M	12GM5M
57GB3F	•				•							
57GB5F		•		•		•						
57HA3F	•		•		•							
57PC3F	•		•		•							
57PC5F		•		•		•						
60GB4F								•				
60HA4F							•	•				
61GA5F									•		•	•
61HA5F									•		•	•
61PC5F									•		•	•

Designed for audio circuitry, test equipment, instruments, computers, cameras, control devices, other low-level circuits. Molded phenolic insert with tin-plated socket/pin contacts. Meet DIN specifications; *see DIN connector mating chart above.*

STRAIGHT CORD PLUGS WITH 30° LOCKRING - FIG. 1

Stock No.	Type	Description	1-9
22F454	05CL3M	3 Pins at 180°	7.20
22F455	05CL5M	5 Pins at 180°	8.47
22F456	09CL4M	4 Pins at 210°	7.88
22F457	12CL5M	5 Pins at 240°	8.06

STRAIGHT CORD PLUGS WITH SHIELDED BARREL - FIG. 2

22F458	05GM3M	3 Pins at 180°	3.42
22F459	05GM5M	5 Pins at 180°	4.83
22F465	09GM4M	4 Pins at 210°	4.56
22F466	12GM5M	5 Pins at 240°	4.92

STRAIGHT CORD PLUGS WITH EXTENDED BARREL - FIG. 3

22F467	05BL3M	3 Pins at 180°	3.92
22F468	05BL5M	5 Pins at 180°	5.20
22F469	12BL5M	5 Pins at 240°	5.20
89F397	12BL6M	6 Pins at 240°	5.42

RIGHT ANGLE RECEPTACLES FOR PC BOARD MOUNTING - FIG. 4

44F7434	57PC5F	5 Contacts at 180°	2.33
44F7435	61PC5F	5 Contacts at 240°	2.60

RECEPTACLES FOR LOCK RING PLUGS - FIG. 5

22F537	57HA3F	3 Contacts at 180°	3.33
22F543	60HA4F	4 Contacts at 210°	3.37
22F544	61HA5F	5 Contacts at 240°	3.97

RECEPTACLES FOR CHASSIS OR PANEL MOUNTING - FIG. 6

22F545	57GB3F	3 Contacts at 180°	2.69
22F546	57GB5F	5 Contacts at 180°	3.10
22F547	60GB4F	4 Contacts at 210°	2.92
22F548	61GA5F	5 Contacts at 240°	2.83

(8936) (de01195)

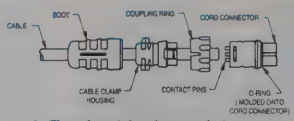
AC LINE CORD

7.50″ (190.5) long, black SVT vinyl jacket AC line cord. 1250W, 10A, 125V. 18 AWG (41x34). Meets NEMA 5-15. UL listed, CSA certified.

Stock No.	Type	1-9
26F720	P-2392	11.18

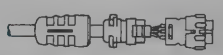
(8939) (de01199)

MINI WEATHERTIGHT™ CONNECTORS



1. Feed cable through boot.

2. Strip cable, solder connectors.



3. Push coupling ring onto cord connector.

4. Snap clamps into compartments.

5. Push boot to seat tightly.

Ideal for process control, marine electronics, medical instrumentation, geothermal instrumentation, communications, transportation, general industrial electronics. Superior leakage protection. The contact area is double-sealed for excellent moisture and chemical resistance. Thermoplastic rubber body simulates closed entry contact system to prevent probe damage or accidental loss of spring retention due to misaligned or bent pins. Housing rated at UL94V-0 against flammability. Panel connector shell features a positioning keyway to prevent misalignments and a polarizing single "D" design for proper panel mounting and to prevent rotations. Made of thermoplastic polymer glass fiber. Rear boot and connector shell interior are thermoplastic rubber. Contacts are copper-base alloy, gold-plated over nickel underplate.

Stock No.	Type	Connector Type	Contacts	M/F	1-9
66F3118	EN3C3F	Cord	3	Female	5.38
66F3119	EN3C3M	Cord	3	Male	3.87
66F3120	EN3C4F	Cord	4	Female	6.43
66F3121	EN3C4M	Cord	4	Male	4.47
66F3123	EN3C5M	Cord	5	Male	5.10
66F3124	EN3C6F	Cord	6	Female	8.57
66F3125	EN3C6M	Cord	6	Male	5.70
66F3126	EN3C8F	Cord	8	Female	10.71
66F3127	EN3P3F	Panel	3	Female	4.74
66F3128	EN3P3M	Panel	3	Male	3.42
66F3129	EN3P4F	Panel	4	Female	5.79
66F3130	EN3P4M	Panel	4	Male	4.01
66F3131	EN3P5F	Panel	5	Female	6.79
66F3133	EN3P6F	Panel	6	Female	7.84
66F3134	EN3P6M	Panel	6	Male	5.24
66F3135	EN3P8M	Panel	8	Male	6.43

CAP – Provides an extra-secure seal. Fits all Switchcraft® panel mount connectors. Snaps on. Made of thermoplastic polymer glass fiber. In-line and overmolded connector also available; *contact your local Newark sales office.*

66F3136 Type EN3CAP. **Each** **1.01**
(9133) (ne06258)

EUROPEAN 250VAC RECEPTACLES

EAC-311

3-pin grounding primary receptacles for power rack-mounted devices, test equipment, appliances. Meet EN 60 320 specs. UL listed, CSA certified; VDE, DEMKO, SEMKO, NEMKO approved. **Type EAC-305** is front panel mount; **type EAC 309** and **EAC 311** are front or rear panel mount; **type EAC-333** is rear panel mount. *Order* **type P-2392** *line cord separately on this page.*

SCREW-MOUNT RECEPTACLES (10A RATING)

Stock No.	Type	Pins/ Contacts	Terminals	1-9
44F7430	EAC-305	Female	Solder Lug	2.60
94F083	EAC309	Male	Solder Lug	2.01
44F7428	EAC-311	Male	FASTON	2.01
90F2824	EAC333	Male	PC	2.46

(8938) (de01197)

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QG® QUICK GROUND AUDIO CONNECTORS

Fig. 1 Fig. 2 Fig. 3 Fig. 4

Used in variety of applications, including microphones, test equipment, instrumentation, and computers. 3-pole connectors rated 15A; 4-pole 10A; 5-pole 7.5A. Wire sizes: 12 AWG solid, 14 AWG stranded (3-contact), 14 AWG solid, 16 AWG stranded (4-contact), 16 AWG solid, 18 AWG stranded (5-contact). Die-cast zinc shells with satin nickel finish (except **types A3MB** and **A3FB** black finish). **Type A-M** 2.781″L x 75″ diameter (70.64 x 19.05). **A-F** 3.219″L x 0.75″ diameter (81.76 x 19.05), **R-F** and **RM** 0.625″ (15.88) diameter. *See QG® mating chart for mating on this page.* *Features "No-Screws" retention system.

QUICK GROUND STRAIGHT MALE CORD PLUGS–FIG. 1

Stock No.	Type	Contacts	1-9
50F1618	AA3M*	3	4.01
27F068	A3M	3	5.65
22F1061	A3MB	3	5.65
27F069	A4M	4	6.52
39F2275	A5M	5	11.48

QUICK GROUND STRAIGHT FEMALE CORD PLUGS–FIG. 2

50F1619	AA3F*	3	3.33
27F066	A3F	3	6.38
22F1060	A3FB	3	6.38
27F067	A4F	4	8.88
39F2274	A5F	5	14.49

QUICK GROUND RIGHT ANGLE FEMALE CORD PLUGS–FIG. 3

39F2284	R3F	3	18.13
39F2285	R4F	4	20.41

QUICK GROUND RIGHT ANGLE MALE CORD PLUGS–FIG. 4

39F2287	R3M	3	16.72
39F2288	R4M	4	17.13

(9025) (de50065)

QG® QUICK GROUND FEMALE RECEPTACLE WALL PLATES

Fig. 1 Fig. 2

Type J3FS has 1 **D3F** receptacle, **type J4FS** has 1 **D4F** receptacle. **Type K3FS** has 2 **D3F** receptacles, **type K4S** has 2 **D4F** receptacles. All have stainless steel finish and mount standard single electrical outlet box. 4.50 x 2.75″ (114.30 x 69.85). Screws included.

Stock No.	Type	Fig.	Contacts	1-9	10-24
22F1029	J3FS	1	3	16.85	13.48
22F1032	K3FS	2	3	23.63	18.90

(9026) (de50066)

QG® QUICK GROUND FEMALE RECEPTACLES

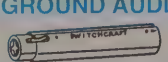
Fig. 1 Fig. 2 Fig. 3

Types D3F, D4F, D5F and **C3F, C4F, C5F** front panel mount 0.953″ (24.21) diameter hole. **Type B3F** front panel mounts 1.25″ (31.75) diameter hole up to 0.438″ (11.13) thick. All types have standard latchlock.

Stock No.	Type	Fig.	Contacts	1-9
27F070	D3F	1	3	7.20
27F071	D4F	1	4	10.20
39F2282	D5F	1	5	16.49
27F059	C3F	2	3	9.61
27F063	C4F	2	4	12.12
39F2281	C5F	2	5	19.40
39F2276	B3F	3	3	16.58

(9028) (de50068)

QG® QUICK GROUND AUDIO ADAPTER



A3F female/A3M male adapter accepts internally connected transformer, attenuator, circuitry in-line with mic input. 3 contacts. 4.016″ length.

Stock No.	Type	1-9
26F721	S3FM	15.17

(9029) (de50069)

QG® QUICK GROUND MALE RECEPTACLES

Fig. 1 Fig. 2 Fig. 3

Types D3M, D4M, D5M and **types C3M, C4M, C5M** front panel mount 0.766″ (19.46) diameter hole. **Types B3M, B4M** front panel mount 0.812″ (20.62) diameter hole; have locknut to prevent turning.

Stock No.	Type	Fig.	Contacts	1-9
27F072	D3M	1	3	5.33
22F1031	D4M	1	4	6.33
39F2283	D5M	1	5	11.21
27F060	C3M	2	3	6.84
27F064	C4M	2	4	7.29
39F2280	C5M	2	5	12.80
27F062	B3M	3	3	10.07
27F065	B4M	3	4	10.34

(9027) (de50067)

TINI QG® QUICK GROUND AUDIO CONNECTORS

Fig. 1 Fig. 2 Fig. 3 Fig. 4 Fig. 5

Types TA-F are 1.890″L x 0.413″ diameter (48.01 x 10.49). **TA-M** are 2.035″L x 0.413″ diameter (51.69 x 10.49). **TB-M** are 0.468″ (11.89) diameter, front panel mounts 0.422″ (10.72) diameter hole. **TY-F** 0.413″ (10.49) diameter, front panel mounts in 0.562″ (14.27) diameter hole. **TRA3M** has 0.438″ (11.13) diameter, mounts to 0.188″ (4.78) max. panel thickness.

STRAIGHT FEMALE CORD PLUGS

Stock No.	Type	Fig.	Contacts	1-9
38F1222	TA3F	1	3	9.34
38F1224	TA4F	1	4	10.16
70B5031	TA5F	1	5	11.51

STRAIGHT MALE CORD PLUGS

38F1225	TA3M	2	3	7.79
38F1226	TA4M	2	4	8.47

PANEL-MOUNT FEMALE RECEPTACLES

38F1229	TY3F	3	3	10.07
38F1230	TY4F	3	4	10.89

PANEL-MOUNT MALE RECEPTACLES

38F1227	TB3M	4	3	8.57
38F1228	TB4M	4	4	9.43

RIGHT-ANGLE PC/PANEL MOUNT MALE RECEPTACLE

96F9603	TRA3M	5	3	8.98

(9031) (de50071)

PCB MOUNT MINIATURE 0.137″ (3.5) JACKS

Fig. 1 Fig. 2 Fig. 3

Mono 2 and stereo 3 conductor jacks for IEC or JIS standard 3.5mm plugs. Mount in 0.062″ (1.57) thick PC boards. Vertical jacks are 0.492″ (12.5) high max., 0.314″ (8.0) centers and mount on 0.334″ (8.5) centers. Horizontal jacks are 0.244″ (6.2) high max. and mount on 0.480″ (12.2) centers. Threaded bushing except **type 35RAPC4BHN2** non-threaded. *Vertical mount, †horizontal mount.

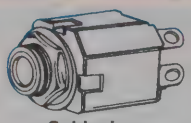
Stock No.	Type	Fig.	Conductors	1-9
96F9606	35RAPC2AV*	1	2	0.86
96F9607	35RAPC4BHN2†	...	3	0.94
96F9608	35RAPC4BH3†	2	3	1.41
96F9609	35RAPC4BV4*	3	3	1.58

(9004) (de03435)

QG® QUICK GROUND CONNECTOR MATING CHART

	FEMALE										
MALE	A*F	A*FB	AA*F	B*F	B*FB	C*F	D*F	D*FB	J*FS	K*F	R*F
A*M	•	•	•	•	•	•	•	•	•	•	•
A*MB	•	•	•	•	•	•	•	•	•	•	•
AA*M	•	•	•	•	•	•	•	•	•	•	•
B*M	•	•	•								•
B*MB	•	•	•								•
C*M	•	•	•								•
D*M	•	•	•								•
R*M	•	•	•	•	•	•	•				•

(9030) (de50070)



Solder Lug

0.250″ (6.35) HI-D JAX® ENCLOSED PHONE JACKS

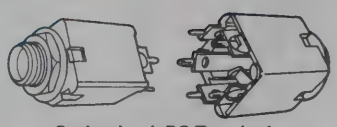
Choice of solder lug terminals for panel/chassis mounting or spring lock PC terminals that close during insertion into PC board and upon insertion open to hold jack to board during soldering. Unitized molded housing. Threaded metal bushing mount through 0.375″ diameter hole on 0.625″ centers for panels up to 0.156″ thick; with PC terminals up to 0.094″ thick. Type number with **M prefix** mate with phone and MIL-standard plugs. *Order mating plugs listed in table on page 326.* PC terminals also available; *contact your local Newark sales office.*

SOLDER LUG TERMINALS

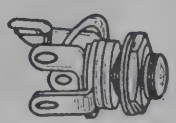
Stock No.	Type	Description	Conductors	Schematic*	Mating Plug	1-9
39F656	111	Open Circuit	2	1	250	2.01
39F642	N-111	Insulated Bushing	2	1	250	2.39
39F657	112A	Single Closed Circuit	2	2	250	2.05
39F643	N-112A	Insulated Bushing	2	2	250	2.52
39F644	113	Isolated "Make" Circuit	2	4	250	3.24
39F658	112B	Double Open Circuit	3	3	267	2.09
57F3306	N-112B	Insulated Bushing	3	3	267	2.65
39F646	M-112B	0.25 I.D. Sleeve, Metal Bushing	3	3	482	3.07
39F659	113B	Single Closed Circuit	3	6	267	2.73
39F661	114B HI-D JAX	Double Closed Circuit	3	8	267	2.82
39F647	N-114B	Insulated Bushing	3	8	267	3.29

*See Schematic *on page 325.*

(8952) (de01269)



Spring Lock PC Terminals



TR-2A

MICRO-JAX SUBMINIATURE PHONE JACK

Silver-plated, tempered nickel silver springs. Internally keyed nylon insulation springs and solder lugs to eliminate shorts. Fits 0.190″ diameter hole in panels up to 0.093″ thick. *Order* **types 850, 880** *mating plugs separately on page 326.*

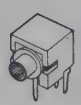
Stock No.	Type	Schematic*	1-9
39F578	TR-2A	2	2.65

*See Schematic *on page 325.*

(8953) (de01270)

MDSL-2A

MDPC-2A



MDPC-2A-RA

RIGHT ANGLE, PCB MINIATURE PHONE JACKS

Three-conductor low profile jacks provide plug/jack access to communication circuits for patching or testing. Right angle mounting on 0.062″ (1.6) max. thick PC board. Snap-in terminals hold jack to board during wave-soldering. Housing rated UL94V-0. Silver-plated copper alloy springs. Gold alloy contacts. Dielectric withstanding voltage: 500 VAC. Mate with Tini phone plugs *on page 326.*

Stock No.	Type	Description	Schematic*	Mating Plug	1-9
44F7442	RTT-87-02	Twin Jack	8	TT-263	6.91
96F9646	RTT34B02S	Single Snap-In Jack	8	TT-253	3.59

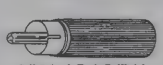
*See Schematic *on page 325.*

(9005) (de03436)

3507

3505F

3502 AAS/BU



3502 ABAS/BU

MICRO-D JAX SUBMINIATURE PHONE JACKS

Fully enclosed, shunted 2-conductor jacks 0.313W x 0.344H x 0.500″D. **MDSL-2A, MDSL-2A-RA** have #10-48 threaded bushing, mounting washer, locknut. Mount 0.315″ or 0.350″ centers; **MDSL-2A** mount 0.350″ centers thru 0.203″ diameter hole in panels to 0.062″ thick. **MDPC-2A-RA** has right angle PC terminals, 0.345″ above board clearance. *Order* **type 850** *mating plug separately on page 326.*

Stock No.	Type	Schematic*	Terminals	1-9
81F491	MDSL-2A	2	Solder Lug	2.09
81F490	MDPC-2A	2	PC	2.09
81F492	MDPC-2A-RA	2	PC	2.35

*See Schematic *on page 325.*

(8940) (de01238)

3501FP, 3501FR

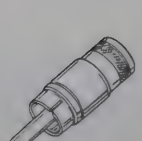
3558-1

RF PHONO PLUG AND JACK

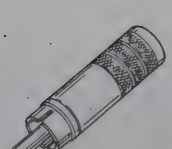
Type 3507 2-conductor RF phono plug has nickel-plated brass body and screw-on handle. **Type 3505F** 2-conductor phono jack mounts panels up to 0.172″ (4.37) thick. **Type 3502** plugs have larger cable clamp providing increased strain relief for larger cables. Longer cable clamp for easier plug assembly. Knurled handle provides increased gripping surface for tightening and withdrawal of plug.

Stock No.	Type	Description	1-9
26F718	3507	RF Phono Plug	2.95
26F717	3505F	Phono Jack	2.35
83F9080	3502AAU	Heavy Duty Phono Plug	2.78
83F9081	3502ABAU	Heavy Duty Phono Plug	3.13

(8937) (de01196)



3502



3502A

2-CONDUCTOR PHONO JACKS AND PLUGS

Stock No.	Type	Description	1-9
39F2157	3501FP	Front Mount Chassis Jack	1.50
39F2158	3501FR	Rear Mount Phono Jack	1.88
39F2159	3502	1.313″ Long Plug, Shielded Handle/Clamp	2.09
96F9615	3502A	1.64″ Long Plug, Shielded Handle/Clamp	2.09
39F2161	3558-1	1.344″ Long Plug, Red Handle/Clamp	1.58

(8948) (de01244)

PHONE JACKS AND ADAPTERS

LITTEL-JAX PHONE JACKS

11,C-11 12A 12B,C-12B

Feature notched insulating washers that mechanically interlock springs and solder lugs. "V" bend in tip spring firmly holds mating phone plug, listed in table below; *ordered separately on page 326.* Mount in single 0.375″ hole in panels up to 0.156″ thick, except **types L-11, L-12A** in panels up to 0.25″ thick. **Types C-11** and **C-12B** have locating pin (non-turn device).

TWO-CONDUCTOR PHONE JACKS

Stock No.	Type	Schematic*	Mating Plug	1-9
39F782	11	1	250	2.14
39F662	C11	1	440	3.03
39F653	L-11	1	250	2.09
39F783	12A	2	250	2.14
39F654	L-12A	2	250	2.31

THREE-CONDUCTOR PHONE JACKS

Stock No.	Type	Schematic*	Mating Plug	1-9
39F665	12-B	3	267	2.22
39F667	C-12-B	3	480	4.27
39F666	S-12B	3	480	3.29
39F668	13B	6	267	5.12
39F577	14B	8	267	5.38

*See Schematic *on this page.*
(8950) (de01267)

TINI-JAX MINIATURE PHONE JACKS

41

Miniature two-conductor phone jacks are ⅓ the size of "Littel-Jax" jacks, but similar in construction. Mount in 0.25″ diameter hole in panels up to 0.125″ thick. Mate with **type 750** 0.141″ diameter tip plug *ordered separately on page 326.* .

Stock No.	Type	Schematic*	1-9
39F744	41	1	1.88
39F745	42A	2	2.22

*See Schematic *on this page.*
(8951) (de01268)

TINI-D JAX MINIATURE ENCLOSED PHONE JACK

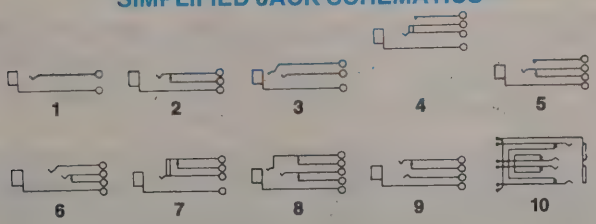
142A

Complete enclosed two-conductor phone jack mounts on 0.375″ centers in 0.25″ diameter hole in panels up to 0.125″ thick. 0.625″ depth behind panel. Molded phenolic housing protects copper alloy springs. *Order* **type 750** *mating plug separately on page 326.*

Stock No.	Type	Schematic*	1-9
39F648	142A	2	2.86

*See Schematic *on this page.*
(8954) (de01271)

SIMPLIFIED JACK SCHEMATICS



(8945) (de01243)

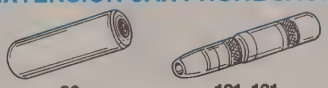
TP-JAX THICK-PANEL PHONE JACKS

Long-bushing, nickel-plate brass phone jacks ideal for electric guitars. Shielding helps eliminate hum. Solder lug terminals. Mount 0.469″ diameter hole in panels to 0.125″ thick. Conductors: **Type 151** = 2, **Type 152B** = 3. *Order mating plugs separately on page 326.*

Stock No.	Type	Schematic*	Mating Plugs	1-9
39F651	151	1	240,245,250,255, 270,280	6.74
39F652	152B	3	260,267,269,297	7.42

*See Schematic *on this page.*
(8941) (de01239)

EXTENSION-JAX PHONE JACKS



80 121, 131

2- and 3-conductor 0.25″ cable extension phone jacks with black plastic or nickel-plate shielded handles. 0.688″ O.D., 2.156″L except **types 121, 131** 0.5″ O.D., 2.5″ L.

Stock No.	Type	Conductors	Terminals	Mating Plug	1-9
39F670	80*	2	Screw	240	5.72
39F247	121+	2	Solder	280	7.42
39F649	131+	3	Solder	297	9.21
22F269	830*	3	Screw	260	7.94

* Black handle +Shielded handle
(8944) (de01242)

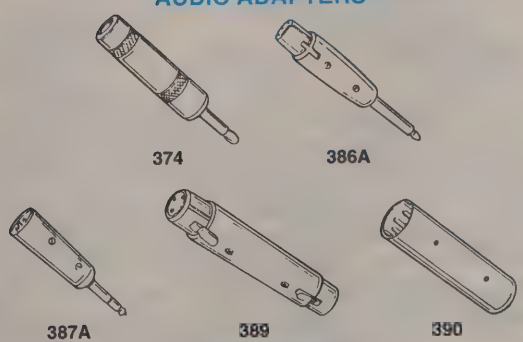
SPRING-LOADED PHONE JACK COVERS

Seal jack openings when phone plug removed. Protect against dust, moisture. For ⅜-32 threaded bushing phone jacks. Color: **Type 515** = black **Type 512** = bright nickel.

Stock No.	Type	1-9
39F650	515	7.94
70B640	512	7.76

(8943) (de01241)

AUDIO ADAPTERS



374 386A 387A 389 390

Adapters have positive contacts to prevent resistive losses.

Stock No.	Type	Description	1-9
39F2166	374	Phone Jack Input/2-Conductor Tini-Plug Output	8.06
39F2173	386A	3-Contact **A3F/AA3F** Female Microphone Input to 3-Conductor Phone Plug Output	17.45
39F2174	387A	3-Pin **A3M/AA3M** Male Microphone Input to 3-Conductor Phone Plug Output	15.72
39F2175	389	Coupler; 3-Contact Female **A3F/AA3F** Audio Connector at each end, Shielded	17.76
39F2176	390	Coupler; 3-Pin Male **A3M/AA3M** Audio Connector at each end, Shielded	14.76

(8947) (de01245)

PHONE AND PHONO PLUGS

LITTEL-PLUG® PHONE PLUGS

Fig. 1

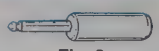


Fig. 2

Fig. 3

2- and 3-conductor plugs with, screw or solder terminals. Molded plastic or shielded nickel-plated brass handle. Fit standard 0.25″ (6.35) ID phone jacks. **Type 288** has wide insulator between tip and sleeve to fit 3-conductor jack. **Type 299** phone plug includes larger cable clamp wings for improved strain relief on large cables. Modified brass, electrotin-plated terminals for easier soldering. *Order mating jacks separately on page 325.*

TWO-CONDUCTOR PLUGS

Stock No.	Type	Fig.	Mating Jack	Terminals	1-9
39F760	240*	2	11	Screw	3.63
39F763	250*	2	11	Solder	3.42
39F764	280‡	3	11	Solder	4.22
39F678	288‡	3	11	Solder	6.61

THREE-CONDUCTOR PLUGS

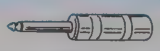
39F675	260*	2	12B	Screw	5.67
39F771	267*	2	12B	Solder	4.82
39F767	297‡	3	12B	Solder	5.72
83F9089	299	1	12B	Solder	6.03

* Black handle † Red handle ‡ Shielded handle

(8956) (de01320)

0.25″ (6.35) COMMERCIAL PHONE PLUGS

170


190

2-conductor plugs have screw terminals, 3-conductor plug has solder terminals. Fit standard jacks. Shielded nickel-plated brass handle. **Type 188** has a larger cable opening, large cable/clamp and larger solder terminals. *Order* **type 11, 12B** *mating jacks separately on page 325.*

Stock No.	Type	Terminal	Cable O.D.	1-9
22F275	170	Screw	0.250″ (6.35)	7.47
83F9090	188	Solder	0.450″ (9.53)	5.59
22F1034	190	Solder	0.375″(9.53)	7.47

(8957) (de01321)

TINI-PLUG® MINIATURE PHONE PLUGS

2-conductor 0.141″ (3.58) diameter units have solder terminals. Molded plastic or shielded nickel-plated brass handle. 1.609″ (40.87)L. Cable O.D.: 0.218″ (5.54). Mate with Tini-Jax® jacks, *Order jacks separately on page 325.*

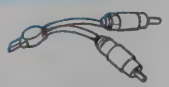
Stock No.	Type	Handle	1-9
39F746	750	Black	3.12
39F747	755	Red	3.12
39F748	780	Shielded	4.27

(8958) (de01322)

HI-FI MOLDED CABLE ASSEMBLIES

5AK-05

25A-25


25F-25

Straight 2-conductor **type 05A-05** phone plug or **25A-25** phono plug to various connections. Offer built-in cable clamp. Gray jacketed cable with matching plastic handle. **Type 25F-25** stereo cable assemblies provide two isolated channels for all stereo applications. Feature two color-coded phono plugs at each end of two shielded insulated cables.

PHONE PLUG

Stock No.	Type	Length	1-9
37F2907	05AK05	6′	10.71

PHONO PLUG

37F2956	25AK25	6′	6.14
37F2957	25AN25	10′	7.12

STEREO/PHONO

37F2946	25FK25	6′	12.92
37F2947	25FN25	10′	15.82

(8963) (de01327)

MICRO-PLUG® SUBMINIATURE PHONE PLUGS

2-conductor units fit cable to 0.125″ (3.18) O.D. 1.106″ (28.09)L x 0.25″ (6.35) O.D., 0.097″ (2.46) diameter sleeve. Screw-on anodized aluminum handle and cable clamp. Mates with **type TR-2A** phone jack *ordered separately on page 324* and **MDSL-2A** phone jack *ordered on page 324.*

Stock No.	Type	Handle	1-9
22F395	850	Black	3.16
22F1039	880	Natural	3.16

(8959) (de01323)

3.5mm HEAVY-DUTY STEREO PLUGS

NEW

Stereo plugs feature one-piece tip rod and large solder terminal for easy solderability. Heavy-duty cable clamp provides better strain relief for larger cables. Larger design allows for easier plug assembly and more room for solder connections. Large handle with knurled back provides ergonomic gripping surface. Tubular insulator prevents solder joints from contacting handle. Meet Military standards MIL-STD-202F, Method 107G (thermal shock), and Method 201 (vibration).

Stock No.	Type	Handle	Plug	1-9
83F9085	35HDNN	Nickel	Nickel	4.88
83F9086	35HDNAU	Nickel	Gold	5.50
83F9087	35HDBN	Black	Nickel	4.88
83F9088	35HDBAU	Black	Gold	5.50

(35774) (ne35774)

SPACE-SAVING 0.25″ (6.35) PHONE PLUGS

228, 238

227

226, 236

2- and 3-conductor 0.25″ (6.35) diameter phone plugs with right-angle or flat handle for applications where conventional plugs would protrude. Solder lug terminals. Available molded black plastic or shielded nickel-plated steel flat handle or screw-on nickel-plated brass knurled right-angle handle. *Order mating jacks separately on page 325.*

FLAT PLUG

Stock No.	Type	Conductors	Mating Jack	1-9
22F1042	227	2	11	3.93
22F1043	228‡	2	11	4.69
22F1044	238‡	3	12B	6.06

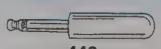
RIGHT-ANGLE, SCREW-ON HANDLE

93F7717	226	2	11	4.44
93F7718	236†	3	12B	6.02

‡Shielded handle †Screw-on

(8960) (de01324)

MILITARY TYPE PHONE PLUGS


440

482NC,483NC

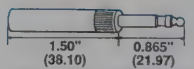
2- and 3-conductor units feature Littel-Plug® plugs which meet MIL-P-642. All feature plug fingers: 0.25″ (6.35 diameter) and screw terminals. **TYPE NC** is rugged, heavy-duty cable clamp. Solder terminals for easier solder ability and assembly. Metal shielded handle. Note: NCP-Plastic handle.

Stock No.	Type	Conductors	MIL-Type	1-9
39F792	440*	2	PJ-055B	7.64
39F791	480*	3	PJ-068	13.95
22F391	482+	3	PJ-051R	12.71
22F1041	483*	3	PJ-051B	12.71
83F9082	482NC	3	PJ-051B	13.12
83F9083	483NC	3	PJ-051B	13.12
83F9084	485NC	3	PJ-051B	13.12

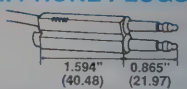
*Black handle †Red handle

(8962) (de01326)

BANTAM TYPE 0.173″ (4.39) TINI PHONE PLUGS



TT-253, TT-253-N, TT-254, TT-254N



TT-263

Miniature non-shorting phone plugs with three-conductor fingers. Feature twist-on molded plastic handle in black or red. Brass one-piece tip rod, ring, one-piece sleeve, plug body, terminals and terminal screws all interlock to help prevent shifting and shorting. Internal 12-24 threads. Type numbers with **N suffix** denote corrosion-resistant nickel-plating. **Type TT-263** fits 0.313″ (7.95) centers, horizontally or vertically and uses single or dual cables for two electrically-independent fingers. UL recognized.

Stock No.	Type	Fingers	1-9
94F1647	TT-253*	1	9.55
96F9649	TT253N*	1	9.55
94F1648	TT254+	1	9.55
96F9650	TT254N†	1	9.55
94F8938	TT263*	2	21.28

*Black handle †Red handle

(8955) (de01273)

PHONE JACKS AND PLUGS, PATCH PANELS

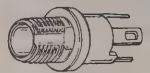
BATTERY CHARGER POWER JACKS AND PLUGS

Mating 2-conductor power jacks and plugs suit AC/DC connections. **Types 712A, L712A, 722A, L722A** mount 0.312″ diameter hole. **PC-712A, PC722A, RAPC-712, RAPC-722** mount PC boards to 0.062″ thick. Right-angle power jack for PC mounting available; *contact your local Newark sales office.*

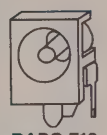
MINIATURE POWER JACKS

Stock No.	Type*	Description	Bushing Length	Pin Dia.	Mating Plug	1-9
37F2993	712A	Solder Lugs	0.219″	0.1″	760K, 760, 765	3.12
94F345	PC712A	PC Terminals	0.219″			3.12
93F7715	RAPC712	Rt. Angle PC Terminals	...			1.15
96F9613	L712A	Solder Lugs	0.319″	0.01″	761-K	4.27
37F2994	722A	Solder Lugs	0.219″	0.08″	S-760K, S-760, S-765	3.12
89F258	PC722A	PC Terminals	0.219″			3.12
93F7716	RAPC722	Rt. Angle PC Terminals	...			1.15
96F9614	L722A	Solder Lugs	0.319″	0.008″	S-761K	4.27

712A


L712A
L722A

PC-722A

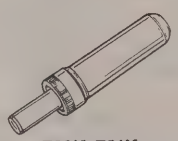

RAPC-712

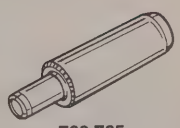
MINIATURE POWER PLUGS

Stock No.	Type	Handle	Pin Center Hole Dia.	Pin Center Hole Depth	Mating Jack	1-9
37F2995	760	Black	0.10″	0.328″	712A, PC-712A, RAPC-712	3.12
37F2996	765	Red	0.10″	0.328″		3.16
96F9610	760K	Black	0.10″	0.325″	712A, PC-712A	4.52
37F2997	S-760	Black	0.08″	0.328″	722A, PC-722A, RAPC-722	3.12
37F2998	S-765	Red	0.08″	0.328″		3.12
96F9611	S760K	Black	0.08″	0.325″	722A, PC-722A	4.52
96F9612	761K	Black	0.10″	0.425″	L712A	4.52
96F9616	S761K	Black	0.08″	0.425″	L722A	4.52

*K = Locking, 5 = Red Handle

(8942) (de01248)


760K, 761K
S760K, S761K


760,765

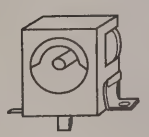
RIGHT ANGLE MINIATURE POWER JACKS

Three termination styles: through hole, surface mount, and hybrid (combination through hole and surface mount) which allows the use of universal PC board. High-grade thermoplastic UL94V-0 housing, brass, nickel-plated center pin, brass solder plated terminals. Contact resistance: 30 milliohms maximum. Insulation resistance: 30 megohms @ 100VDC. Molded right-angle cable assemblies available; *contact your local Newark sales office.*

Stock No.	Type	Pin Size	Mating Plug	1-9
16F3601	RASH712	.100″	760, 765	1.25
16F3602	RASM712	.100″	760, 765	1.25
16F3604	RASH722	.080″	S765K	1.25
16F3605	RASM722	.080″	S760, S765	1.25
16F3607	RAPC732	.050″	860	1.20
16F3609	RASM732	.050″	860	1.33
93F7715	RAPC712	.100″	760	1.15
93F7716	RAPC722	.080″	S760	1.15

(9147) (ne08221)

RASM722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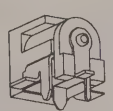

RASH712

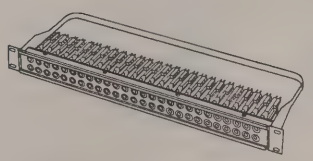
JACK AND PATCH PANELS

Type MT52 jack panels feature nickel-plated jacks, gold switching contacts, fanned solder terminals, and steel frame jack. Ground terminal: nickel-silver, spring-tempered solder lugs. Contact resistance: less than 0.020Ω. Contact rating: 0.75A @ 140VDC. Working voltage: 140VDC. Insulation: 500VAC. Working temperature range: –40°C to +85°C. **Type TTP96FA** has front panel with IDC terminals that slide forward to permit easy wire terminations. Includes 96TT jacks with gold-plated switching contact and nickel-plated frames. Wire designation strip for easy identification. Fits standard 19″ wide rack. Height: 1.75″.

JACK PANELS

Stock No.	Type	Description	No. of Jacks	1-2
16F3596	MT52FN	Full-Normal	52	223.28
83F9091	TTP96FA	Front Access TT Patch Panel With IDC Terminals	52	1761.30
16F3589	TTP96ASFN	Front Access TT Patch Panel With IDC Terminals	52	300.88

(9148) (ne08223)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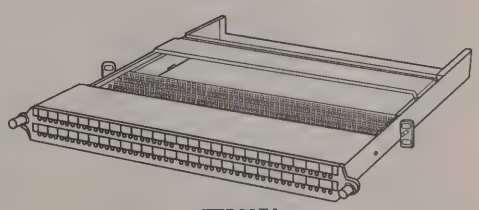
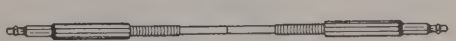

TTP96FA

PATCH CORDS

Designed for use in broadcasting, studio recordings and sound applications. Three-conductor shielded **type 482** plug at each end.

Stock No.	Type	Length	1-9	10-24
39F694	18QD18	2′	20.32	16.26

(8961) (de01325)



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AUDIO CONNECTORS, PATCH CORDS AND PATCH PANELS

XLR STYLE AUDIO CONNECTORS

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

Fig. 7

Fig. 8

Fig. 9

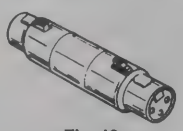


Fig. 10

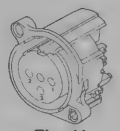


Fig. 11

Fig. 12

Designed for worldwide use in audio, instrumentation, computer, medical, and transportation applications. Amp rating: 3-pin = 16A per contact; 4-pin = 10A per contact; 5-pin = 7.5A per contact; 6-pin = 7.5A per contact. Wire sizes: 16AWG (3- and 4-pin) to 18AWG (5- and 6-pin). Die-cast zinc shells with nickel, sand-blasted finish for low glare, except type numbers with **"BAG" suffix** which have black finish that is electrically conductive paint or chromate. Male receptacles have brass contacts, female have beryllium copper. Silver contact plating except type numbers with **"B" suffix** which are gold plated.

X SERIES STRAIGHT CABLE CONNECTORS—SCREWLESS

Stock No.	Type	Fig.	Contacts	Gen.	1-9
46F8554	NC3MX	1	3	M	3.10
46F8555	NC3FX	2	3	F	3.33
89F6044	NC4MX	1	4	M	5.34
89F6047	NC4FX	2	4	F	6.53
89F6045	NC5MX	1	5	M	6.44
89F6048	NC5FX	2	5	F	7.34
89F6046	NC6MX	1	6	M	5.80
89F6049	NC6FX	2	6	F	8.41
89F145	NC3MX-B	1	3	M	4.16
95F4116	NC3MX-BAG	1	3	M	3.59
89F153	NC3FX-B	2	3	F	5.53
95F4117	NC3FX-BAG	2	3	F	4.80
89F6050	NC4MX-B	1	4	M	6.56
89F6053	NC4FX-B	2	4	F	8.10
89F6051	NC5MX-B	1	5	M	7.41
89F6054	NC5FX-B	2	5	F	9.23
89F6052	NC6MX-B	1	6	M	7.48
89F6055	NC6FX-B	2	6	F	9.97
50F2699	NC6MXS*	1	6	M	5.80
50F2700	NC6FXS*	2	6	F	8.41

RC SERIES RIGHT ANGLE CONNECTORS

46F8576	NC3MRC	3	3	M	10.36
46F8577	NC3FRC	4	3	F	11.17
87F6607	NC4FRC	4	4	F	17.39
89F6035	NC3MRC-B	3	3	M	10.74
95F4119	NC3FRC-BAG	4	3	F	11.39

P SERIES RECTANGULAR FLANGED PANEL RECEPTACLES

Mount from front of panel in 0.940" diameter punch out.

46F8557	NC3MP	5	3	M	3.37
95F4120	NC3MP-BAG	5	3	M	4.68
46F8556	NC3FP-1	6	3	F	3.41
46F8567	NC4MP	5	4	M	4.74
46F8566	NC4FP-1	6	4	F	7.59
87F6602	NC5MP	5	5	M	7.78
87F6603	NC5FP-1	6	5	F	10.78
87F6604	NC6MP	5	6	M	9.14
87F6605	NC6FP-1	6	6	F	14.28
89F151	NC3MP-B	5	3	M	5.30
89F152	NC3FP-1-B	6	3	F	4.83
95F4121	NC3FP-1-BAG	6	3	F	4.05
89F139	NC4MP-B	5	4	M	6.41
89F140	NC4FP-1-B	6	4	F	8.81
89F141	NC5MP-B	5	5	M	9.04
89F143	NC6MP-B	5	6	M	10.88
89F144	NC6FP-1-B	6	6	F	16.19
50F2696	NC6FPS-1*	6	6	F	14.28

D SERIES SQUARE FLANGED PANEL RECEPTACLES

PC mount versions (suffix **-H** indicates right-angle PC pins with removable inserts. (Also available in -V with vertical pins). **DL-1** versions are one piece constructions with solder cups. Mount front or rear of panel in 0.940" diameter punch out.

Stock No.	Type	Fig.	Mounting	Gen.	1-9
87F6598	NC3MD-H	7	Hor. PCB	M	4.55
87F6600	NC3FD-H	8	Hor. PCB	F	3.97
46F8558	NC3FD-L	8	Solder Lug	F	4.20
95F4122	NC3MD-L-1-B	7	Solder Lug	M	4.42

CONTINUED

XLR STYLE AUDIO CONNECTORS (CONT.)

D SERIES SQUARE FLANGED PANEL RECEPTACLES (CONT.)

Stock No.	Type	Fig.	Mounting	Gen.	1-9
50F2704	NC3FD-L-1	8	Solder Lug	F	3.46
95F4123	NC3FD-L-1-B	8	Solder Lug	F	3.92
89F6036	NC3MD-H-BAG	7	Hor. PCB	M	4.95
89F6038	NC3FD-H-BAG	8	Hor. PCB	F	4.96
89F6031	NC3FD-L-BAG	8	Solder Lug	F	5.31

3-PIN PRE-WIRED AUDIO CONNECTOR ADAPTERS

Stock No.	Type	Fig.	Description	1-9
50F2705	NA3MM/W	9	3MX Male to 3MX Male	14.92
50F2691	NA3FF/W	10	3FX Female to 3FX Female	15.94

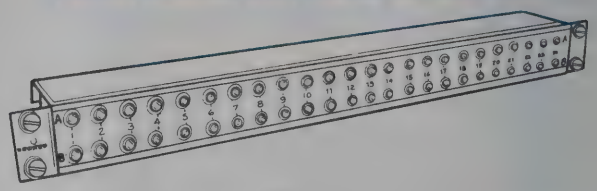
AB SERIES RECEPTACLES

AB Series receptacles feature 0.90" center-to-center mounting. Selective grounding features on the female: 1=pin 1 shell and chassis ground together, -2 pin - shell and chassis ground separately. Standard gold contacts. Type - Y insulation displacement. -V vertical to PCB, -H parallel to PCB. **A Series** 1 piece high-impact plastic shell. **B Series** metal shell with plastic insert. Fastens to chassis from rear with self-tapping screws.

Stock No.	Type	Fig.	Gen.	1-9
83F7210	NC3FAV-1	11	F	2.36
83F7211	NC3FAV-2	11	F	2.36
83F7212	NC3FBV-1	11	F	3.82
83F7209	NC3MAV	12	M	1.94
83F7213	NC3MBV	12	M	3.36
91F3465	NC3FAY	11	F	2.42
91F3466	NC3MAY	12	M	2.38
91F3467	NC3FAH-1	11	F	2.39
91F3468	NC3MAH	12	M	2.04
91F3469	NC3FBH-1	11	F	3.96
91F3470	NC3MBH	12	M	3.48

(9099) (de51649)

PATCH PANELS AND CABLE ASSEMBLIES



NYS-SPP

NPP-TT and **NPP-TB** panels feature all switching configurations. Top and bottom rows linked by internal connectors that are easily accessible and replaceable. Fully PCB wired. Contacts: gold-plated. Accept solid and stranded wire up to 20 AWG (0.5mm^2). Connector contact resistance: **type NPP-TT** <12mΩ; **type NPP-TB** <10mΩ. Switch contact resistance: <15mΩ. Spring-force push terminals for fast connection and termination. Jack lifetime: >5,000 insertion/withdrawal cycles. Dimensions: 19" W x 1U rack space. **Type NYS-SPP** features a modular ¼" patch panel with 48 balanced channels. Front and rear sides of **type NYS-SPP** both have 2 rows of 24 sockets with ¼" jacks mating with stereo phone plugs. Fully PCB wired. Individually-replaceable PC cards eliminate solder set up.

Stock No.	Type	Mating Plug	Termination	No. of Jacks	1-9
16F4418	NPP-TT	Bantam TT	Push Terminals	2 x 48	1101.24
16F4419	NPP-TB	¼" BPO 316 and MIL-P-642/2	Push Terminals	2 x 24	1042.25
83F7214	NYS-SPP	NP3C and NYS228	Jack to Jack	2 x 24	197.85

TT TINY TELEPHONE (BANTAM) PATCH CABLE ASSEMBLIES

Flexible, durable cable is color-coordinated with sleeve on NP3TT-1 plug. Constructed with 24 AWG stranded wire. Nickel-plated plug helps eliminate corrosion and tarnish. Hex crimped strain relief. Type numbers with **suffix -BLK** denote black color; type numbers with **suffix -R** denote red color.

Stock No.	Type	L	1-9
95F5004	NKTT03-BLK	12"	14.35
95F5011	NKTT05-BLK	24"	14.96
95F5012	NKTT05-R	24"	14.96
95F5019	NKTT1-BLK	36"	15.55
95F5020	NKTT1-R	36"	15.55

¼" LONG FRAME MIL-STYLE PATCH CABLE ASSEMBLIES

All metal body, chuck strain relief, nickel plated WeCo no. 310 style plug. Flexible, durable cable constructed of 24 AWG stranded wire is color-coordinated with plug handle. Length: 36". Type number with **suffix -BLK** denotes black color; type number with **suffix -R** denotes red color.

Stock No.	Type	1-9
95F5017	NKTB1-BLK	28.25
95F5018	NKTB1-R	28.25

(9144) (ne08208)

PLUGS AND JACKS, DIN CONNECTORS

PHONE PLUGS AND JACKS

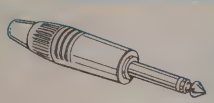


Fig. 1

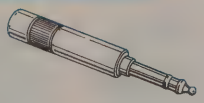


Fig. 2

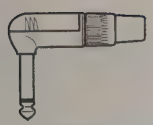


Fig. 3

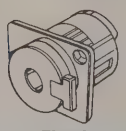


Fig. 4

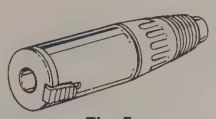


Fig. 5

STRAIGHT ¼" STANDARD PHONE PLUGS

Standard plugs feature metal die cast shell, one piece plug construction, shielded handle, nickel contacts, solder termination, and chuck strain relief. Cable diameter: 0.30" (8). (*) designates 0.375" (9) diameter cable. Fits all standard jacks.

Stock No.	Type	Fig.	Cond.	Shell Plating	1-9
46F8560	NP2C	1	2	Nickel	3.70
95F5021	NP2L	1	2	Nickel	3.89
46F8561	NP3C	1	3	Nickel	4.61
89F149	NP2C-BAG	1	2	Black	3.70
89F150	NP3C-BAG	1	3	Black	4.73

MIL/B-GAUGE-TYPE PHONE PLUGS

Same construction as standard plugs, above. Fits long frame jacks. Weco style 310.

90F2060	NP3TB-R	2	3	Red	7.49
90F2061	NP3TB-B	2	3	Black	7.49
83F7215	NP3RCS	3	3	Nickel	7.09

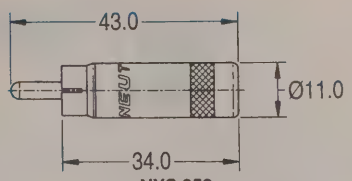
LOCKING PHONE JACKS

Die-case zinc shells, nickel-plated. Securely lock phone plugs in position. Use for mono or stereo applications. Fits in punchout diameter 0.940". Mate with all ¼" standard phone plugs, *ordered separately.*

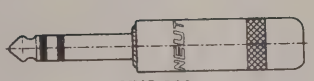
Stock No.	Type	Fig.	Shell Plating	1-9
46F8572	NJ3FP6C	4	Panel Mount	7.51
89F5058	NJ3FC6	5	Cable Mount	11.09

(9100) (de51709)

DIN CONNECTORS, PLUGS, ADAPTERS & JACKS



NYS 352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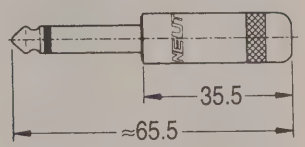
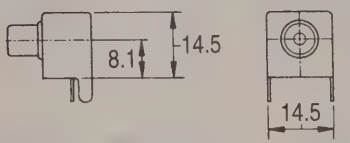


NYS 201



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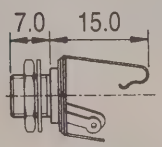

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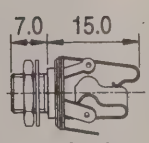

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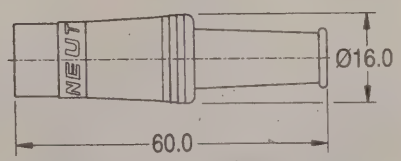
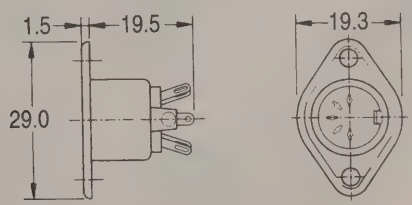


NYS 321, NYS 322



NYS 325 NYS 326

SPEAKON & POWERCON CONNECTION SYSTEMS

Fig. 1

Fig. 2

Fig. 3

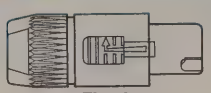


Fig. 4

Speakon and PowerCon utilize the same connector design but for different applications: Speakon is used for speakers and amplifiers and PowerCon for AC power connections.

Types NL4 are 4-pole, **NL8** are 8-pole. Cable O.D. for 4-pole is 6-15mm; pole is 8-20mm. Termination can be either soldered or screw compression on cable mount; solder or quick disconnect on panel mount. P.C. board mount versions available, *contact your local Newark sales office. Order coupler for linking (extending) cables separately below.*

SPEAKON

Stock No.	Type	Fig.	Mount	M-F	1-9
51F1805	NL4FC	1	Cable	F	8.32
51F1808	NL8FC	1	Cable	F	15.39
51F1806	NL4MP	2	Panel	M	4.29
51F1807	NL4MPR	3	Panel*	M	5.67
51F1809	NL8MPR	3	Panel*	M	11.17

*Round Flange

POWERCON—FIG. 4

Type NAC3FCA and **NAC3FCB** are for cable mounting. Cable O.D. 5-15mm with a maximum wire gauge of 12AWG. All PowerCon connectors are rated for 250V and 20A. The connectors are color-coded in A and B versions for power-in or power-out with identifying keyways. Chassis **types NAC3MPA** and **NAC3MPB** have quick-disconnect type terminations. SEV and VDE approved, UL recognized.

Stock No.	Type	Mount	M-F	1-9
91F3453	NAC3FCA	Cable	F	7.80
91F3454	NAC3FCB	Cable	F	7.80
91F3455	NAC3MPA	Chassis	M	4.37
91F3456	NAC3MPB	Chassis	M	4.37
91F3457	NAC3MM	Coupler	...	20.19

(9101) (de51710)

PLUGS AND ADAPTERS

Stock No.	Type	Description	1-9
66F9794	NYS355	F to RCA Adapter	1.74
66F9795	NYS352	Shielded RCA Phono Plug	0.88
66F9797	NYS201	Shielded 2-Cond. Phone Plug, 18 AWG max.	1.24
52F7340	NYS228	Shielded 3-Cond. Phone Plug, 18 AWG max.	2.97

JACKS

Stock No.	Type	Description	1-9
66F9804	NYS229	¼" 2-Cond. Jack, with Insulated Washer & Solder Lugs	1.03
66F9805	NYS230	¼" 3-Cond. Jack, with Insulated Washer & Solder Lugs	1.11
52F7341	NYS354	Right-Angle PCB Mount Phono Jack	0.80

DIN CONNECTORS

Stock No.	Type	Description	1-9
66F9788	NYS321	3-pin 180° Metal M Cable Mount DIN	1.20
66F9789	NYS322	5-pin 180° Metal M Cable Mount DIN	1.24
66F9792	NYS325	5-pin 180° Chassis Mount with Flared Terminals	0.69
66F9793	NYS326	7-pin 270° Chassis Mount with Flared Terminals	0.73

(9134) (ne06434)

91 SERIES MICROPHONE CONNECTORS

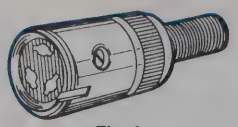


Fig. 1

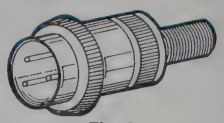


Fig. 2

Fig. 3

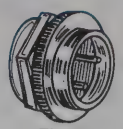


Fig. 4

91 series 3-, 4-, and 6-contact connectors, designed primarily for audio equipment, find extensive use with all types of portable equipment. Cord protector spring ID on 3 contact units = 0.281″ (7.14); on 4 and 6 contact units = 0.385″ (9.78). Connectors feature positive screw-type coupling ring connection and squeeze-type clamp cable grips. Shells are chrome-plated brass, with molded black phenolic dielectric. 600Vrms voltage rating. Current ratings: female contacts, 3A; male contacts, 5A. Voltage breakdown: 2000V.

Stock No.	Type	Contacts	Fig.	Description	Mates With	1-9	10-24
39F012	91MC3F	3	1	Female Jack	91-MC3M	14.13	12.77
39F1287	91MC3F1	3	2	Female Plug	91-MC3M1, 91-PC3M	14.64	11.71
39F013	91MC3M	3	2	Male Plug	91-MC3F, 91-PC3F	13.72	10.98
39F014	91PC3F	3	3	Female Receptacle	91-MC3M	11.14	8.91
39F1289	91PC3M	3	4	Male Receptacle	91-MC3F1	9.16	7.33
39F015	91-MC4F	4	1	Female Jack	91-MC4M	14.74	13.33
39F1290	91MC4F1	4	2	Female Plug	91-MC4M1, 91-PC4M	14.64	11.71
39F016	91MC4M	4	2	Male Plug	91-MC4F, 91-PC4F	12.28	9.82
39F017	91-PC4F	4	3	Female Receptacle	91-MC4M	10.51	8.41
39F1292	91PC4M	4	4	Male Receptacle	91-MC4F1	9.28	7.42
38F1542	91-MC6F	6	1	Female Jack	91-MC6M	15.86	14.34
38F1543	91-MC6M	6	2	Male Plug	91-PC6F	13.45	10.76
38F1544	91-PC6F	6	3	Female Receptacle	91-MC6M	12.20	9.76

(9021) (de50058)

91 SERIES MINIATURE MICROPHONE CONNECTORS

Fig. 5

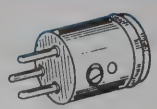


Fig. 6

Compact connectors for shielded cable can be used for battery antenna or microphone applications. Shells are cadmium-plated brass, with black phenolic dielectric. Fit cable diameters to 0.250″ (6.35). 500V, 3A.

Stock No.	Type	Contacts	Fig.	Description	1-9	10-24
39F3000	91-MPF3S	3	5	Socket	8.78	7.03
39F3001	91-MPM3S	3	6	Plug	6.71	5.37
39F3002	91-MPF4S	4	5	Socket	9.32	7.46
39F3003	91-MPM4S	4	6	Plug	6.86	5.49

(9023) (de50060)

80 SERIES MICROPHONE CONNECTORS

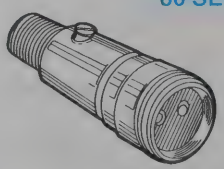


Fig. 7

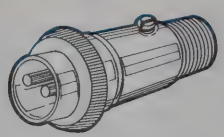


Fig. 8

Fig. 9

Fig. 10

80 series single and double contact connectors feature chrome-plated, machine brass shells with threaded coupling and black phenolic dielectric. For shielded cable and one and two conductor cable. Mounting hole of 0.625″ (15.88). Maximum chassis thickness for lock nut type receptacle: 1.344″ (34.14). Cable diameter: up to 0.313″ (7.95). Voltage and current ratings, single contact: male 1250V, 5A; female 1000V, 3A. Double contact: male 600V, 3A; female 600V, 3A. Voltage breakdown: single contact male 4000V, female 3000V. Double contact male 2000V, female 2000V.

Stock No.	Type	Contacts	Fig.	Description	Mates With	1-9	10-24
39F007	80M	1	8	Male Plug	80-C	14.65	11.72
39F008	80C	1	10	Female Receptacle	80-M	11.18	8.95
39F009	80MC2F	2	7	Female Jack	80-MC2M	11.60	9.28
39F1284	80MC2F1	2	8	Female Plug	80-PC2M, 80-MC2M1	12.29	9.84
39F010	80MC2M	2	8	Male Plug	80-MC2F, 80-PC-2F	11.23	8.98
39F1285	80MC2M1	2	7	Male Jack	80-MC2F1	11.53	9.22
39F011	80PC2F	2	10	Female Receptacle	80-MC2M	10.13	8.11
39F1286	80PC2M	2	9	Male Receptacle	80-MC2F1	10.46	8.37

(9022) (de50059)

LET NEWARK CONNECT™ AUTOMATICALLY REPLENISH YOUR INVENTORY.
CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR DETAILS.

AC POWER LINE CONNECTORS

AC POWER LINE APPLIANCE INLETS/OUTLETS

6100.3

6100.4 6600.3 6110.3 6110.4 6600.4

Panel-mount inlets are 10A/15A, 250V according to IEC 320. **6100 series** has 65° operating temperature for "cold" conditions. **6110 series** has 120° operating temperature for "hot" conditions. Other panel thicknesses available for snap-in types. UL recognized, CSA certified, VDE, SEMKO, and SEV approved. **6600 series** outlets (illustrated above) are also available with medical or standard filters; *contact your local Newark sales office.*

SCREW-ON MOUNTING

Stock No.	Type	Terminals	1-49	50-99
89F5319	6100.3100	0.138x0.032" (3.5x0.8) Solder	1.24	0.88
89F5320	6100.3200	0.187x0.032" (4.8x0.8) Quick Disconnect	1.24	0.88
89F5321	6100.3300	0.250x0.032" (6.3x0.8) Quick Disconnect	1.24	0.88
89F5305	6110.3100	0.138x0.032" (3.5x0.8) Solder	1.56	1.11
89F5306	6110.3200	0.187x0.032" (4.8x0.8) Quick Disconnect	1.56	1.11
89F5307	6110.3300	0.250x0.032" (6.3x0.8) Quick Disconnect	1.56	1.11

SNAP-IN MOUNTING FOR 1.5mm PANELS

89F5322	6100.4115	0.138x0.032" (3.5x0.8) Solder	1.24	0.88
89F5323	6100.4215	0.187x0.032" (4.8x0.8) Quick Disconnect	1.24	0.88
89F5324	6100.4315	0.250x0.032" (6.3x0.8) Quick Disconnect	1.24	0.88
89F5308	6110.4115	0.138x0.032" (3.5x0.8) Solder	1.56	1.11
89F5309	6110.4215	0.187x0.032" (4.8x0.8) Quick Disconnect	1.56	1.11

(7488) (de50728)

AC POWER LINE APPLIANCE INLETS FOR PCB

GSP1.3101.1 GSP2.3201.13 4300.0251

Right-angle inlets are 10A/15A, 250V according to IEC 320. 65°C operating temperature for "cold" conditions. **Types GSP1** and **2.3101.1** and **2.3201.1** have solder/quick-connect ground terminal 4.8x0.8mm. **Types GSP1** and **2.4113.1** and **2.4213.1** feature mounted insulating cover. **Type GSP2** for 1.5mm panels. UL recognized, CSA certified, VDE approved.

Stock No.	Type	Mounting	Terminal Spacing	1-49	50-99
95F3000	GSP1.3101.1	Panel/Screw Flange	9.05/9.7mm	1.88	1.33
95F3002	GSP1.4113.1	Panel/Screw Flange	7/7.3mm	2.45	1.74
92F3532	GSP2.3101.13	PCB/Screw Posts*	9.05/9.7mm	2.63	1.87
92F3533	GSP2.4113.13	PCB/Screw Posts*	7/7.3mm	3.25	2.31
92F3534	GSP2.3201.13	PCB/Snap Posts 1.6mm	9.05/9.7mm	2.21	1.57
92F3535	GSP2.4213.13	PCB/Snap Posts 1.6mm	7/7.3mm	2.84	2.02
50F2840	4300.0251	PCB/Screw Flange	7/15.1mm	2.93	2.08

*Screws included.
(7490) (de50730)

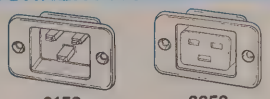
COMBINATION INLETS/OUTLETS

Inlet/outlet combinations for panel according to IEC 320. Rated 10A/250V. **Type 4300.0303** has connection between ground terminals. UL recognized, CSA certified, VDE approved.

Stock No.	Type	Mounting/Terminals	1-49	50-99
50F6936	4300.0301	Panel/0.187"x0.032" Quick Connect	4.59	3.26
92F3536	4300.0303	Panel/0.187"x0.032" Quick Connect	4.59	3.26

(7491) (de50731)

HIGH-CURRENT AC INLETS/OUTLETS


6153 6653

6153 and **6653** high current ac inlets/outlets have 16A/20A rating, and a 65°C operating temperature according to IEC 320. UL recognized, CSA certified, VDE approved. Available with standard or medical filters, *contact your local Newark sales office.*

Stock No.	Type	Terminals	1-49	50-99
16F1769	6153.3100	0.158x0.032" (4.0x0.8) Solder	11.37	6.89
99F5953	6153.3300	0.250x0.032" (6.3x0.8) Quick-Connect	5.81	4.22
99F7388	6653.3100	0.158x0.032" (4.0x0.8) Solder	9.48	6.47
16F1770	6653.3300	0.250x0.032" (6.3x0.8) Quick-Connect	7.94	6.09
90F2635	6600.4315	0.250x0.032" (6.3x0.8) Quick-Connect	1.65	1.52

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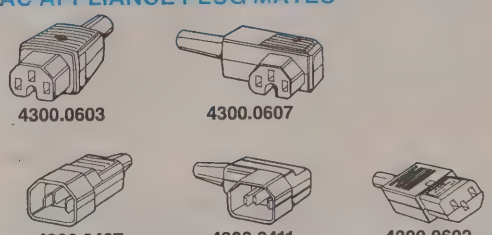
AC APPLIANCE PLUG MATES


4300.0603 4300.0607 4300.0401 4300.0407 4300.0411 4300.0602

4300 series appliance inlets and main outlets feature cabled entry, screw terminals 65°C operating temperature (except **types 4300.0603** and **4300.0607,** which are rated at 120°C.) Amp rating: 10A/15A, 250V. UL recognized, CSA certified, VDE approved.

Stock No.	Type	Description	1-49	50-99
89F5299	4300.0603	Main outlet, straight entry	6.93	4.92
89F5300	4300.0607	Main outlet, 90° angled entry	8.95	6.36
89F5331	4300.0401	Appliance inlet, 90° angled entry	9.95	7.06
89F5318	4300.0407	Appliance inlet, straight entry	8.43	5.98
89F5317	4300.0411	Appliance inlet, 90° angled entry	8.43	5.98
50F2842	4300.0602	Main outlet, straight entry	6.59	4.68
91F7170	4300.0609	Main outlet, 90° angled entry	10.08	9.50
83F8440	4300.0921	Rewireable Plug Mate	10.03	7.12
83F8441	4300.0922	Rewireable Plug Mate	10.13	7.19
83F8428	4300.0098	Low Current AC Inlet, Class II, Snap-in, solder terminal	1.83	1.30
83F8429	4300.0096	Low Current AC Inlet, Class II, Screw-on, solder terminal	1.83	1.30
83F8430	4300.0099	Low Current AC Inlet, Class II, Snap-in, PCB terminal	1.83	1.30
83F8431	4300.0097	Low Current AC Inlet, Class II, Screw-on, PCB terminal	1.83	1.30
83F8432	4300.0100	Low Current AC Inlet, Class I, Screw-on, solder terminal	1.39	0.99
83F8433	4300.0101	Low Current AC Inlet, Class I, Screw-on, PCB terminal	1.39	0.99
83F8434	CS01.0221.150	Low Current Cordset	4.71	3.34
83F8435	CS02.0221.150	Low Current Cordset	4.07	2.89
83F8436	CS03.0621.150	Low Current Cordset	7.90	5.61
83F8437	0909.0001	Outlet Strip, 2 position	2.42	1.72
83F8438	0909.0021	Outlet Strip, 4 position	4.31	3.06
83F8439	0909.0041	Outlet Strip, 6 position	6.16	4.38

(7492) (de50734)

NEMA 5-15R AC APPLIANCE SNAP-IN INLETS

4300.0701 4300.0702 4300.0705

Snap-in, panel mount with tin-plated, copper alloy terminals. 15A, 125V. UL recognized. CSA certified.

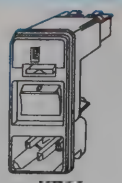
Stock No.	Type	Terminals	1-49	50-99
50F2843	4300.0701	Solder/Quick Dis. 0.187x0.20" (4.8x0.6)	1.28	0.91
50F2844	4300.0702	V-slotted AWG 14	1.16	0.82
92F3539	4300.0705	Solder/Quick Disconnect 0.187x0.020" (4.8x0.6)	0.79	0.56

(7493) (de50735)

POWER ENTRY MODULES

AC INLET AND 2-POLE FUSEHOLDERS/SWITCHES

4303


KD14

Type KD has DPST 70A switch in-rush current. *Order fingergrip fuse drawers separately below.* Series voltage selection optional. UL recognized, CSA certified, VDE approved.

Stock No.	Type	Mounting	HxWxD (mm)	1-49
50F2863	4303.0001	Screw-on	58x30x55	6.01
50F2864	4303.0002	Snap-in, 1.5mm Panel Thick	43.5x30x55	6.01
50F2846	KD14.4101.151	Screw-on, Front or Rear	83.5x30x55	20.20
50F2847	KD14.4101.105	Snap-in, 1.5mm Panel Thick	69x30x55	20.20

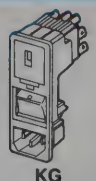
FINGERGRIP FUSE-DRAWERS (ORDER FUSES SEPARATELY)

Stock No.	Type	Voltage Selector	Color	Fuses	1-49
50F2848	4303.2401	None	Black	2-Pole, 5x20mm	3.48
50F2849	4303.2902	None	Grey	2-Pole, ¼x1¼"	3.48
84F815	4303.2912	None	Grey	1-Pole, ¼x1¼"	8.04

(7499) (de51806)

AC INLET AND 2-POLE FUSEHOLDERS/SWITCHES

KE


KG

Types KE and **KG** with series-parallel voltage selection. DPST, 70A switch in-rush current. All types have 0.187 x 0.032" (4.75 x 0.813) quick-connect terminals. UL recognized, CSA certified, VDE approved at 10A/250V. *Order 4-position voltage selector and fuse drawers separately below.*

Stock No.	Type	Mounting	HxWxD (mm)	1-49
99F7256	KE10.2100.151	Screw	69.5x30x55	11.80
16F1768	KE10.2100.105	Snap-in, 1.5mm Panel Thick	55x30x55	20.82
50F2857	KG10.6101.151	Screw-on Rear or Front	97x30x55	16.96
50F2858	KG10.6101.105	Snap-in, 1.5mm Panel Thick	82.5x30x55	16.96

4-POSITION VOLTAGE SELECTOR

Stock No.	Type	Markings	1-49
50F2859	4305.0048.01	100, 120, 220, 240	5.13

FUSE-DRAWERS (ORDER FUSES SEPARATELY)

Stock No.	Type	Color	Fuses	1-49
50F2860	4305.0001	Black	2-Pole, 5x20mm	4.12
50F2861	4305.0012	Grey	2-Pole, ¼x1¼"	4.08
50F2862	4305.0027	Grey	1-Pole, ¼x1¼"	5.29

(7501) (de51808)

AC INLET WITH ON/OFF SWITCH, 2-POLE

KP

4302 2-Pole

4302 1-Pole

PC board mount types come with protective cover. **Type KP** and **4302 series** 2-pole have switch in rush ratings of 70 amps for DPST and 20 amps for SPST at 15A/250V, 4302 1-pole at 10A/250V. UL recognized, CSA certified, VDE approved. *Order filtered version separately.*

Stock No.	Type	Description	HxWxD (mm)	1-49
92F2173	KP01.1112.11	DPST, PCB 1.6mm, 1.5mm pnl.	36x56.1x31.2	9.05
92F2174	KP01.1152.11	DPST, PCB screws, 1.5mm pnl.	36x56.1x31.2	9.45
50F2853	4302.0001	SPST, Screw Mount	34x44x35.5	9.43
50F2854	4302.0002	SPST, Snap-in, 1.5mm Panel	34x30x35.5	9.43
50F2855	4302.2001	DPST, Screw Mount	59x30x31.7	9.51
50F2856	4302.2002	DPST, Snap-in, 1.5mm Panel	44.5x30x31.7	9.51

(7500) (de51807)

AC INLET WITH FUSEHOLDER, 1- AND 2-POLE

KP

6200

GSF Front

GSF Back

Type GSF2.1 has 1-pole fusing; **type GSF2.2** has 2-pole fusing on back of inlet. **Type KP** and **type 6200** feature shocksafe 5x20mm fuseholders. **Type KP** features 1- and 2-pole fuseholder. **Type 6200** has 1-pole with spare fuse compartment and becomes **type 6220** for 2-pole units. **Type 6200** has 0.187 x 0.032" quick-connect terminals. UL recognized, CSA certified, VDE approved. *Order filtered version of* **type KP** *separately.*

Stock No.	Type	Description	1-49
92F2175	KP01.1412.01	1-Pole, PCB mnt. 1.6mm, 1.5mm pnl.	6.74
92F2176	KP01.1452.01	1-Pole, PCB mnt. screws, 1.5mm pnl.	7.21
92F2177	KP01.1312.01	2-Pole, PCB mnt. 1.6mm, 1.5mm pnl.	7.71
92F2178	KP01.1352.01	2-Pole, PCB mnt. screws, 1.5mm pnl.	8.18
89F5310	6200.2100	1-Pole, screw-on, front panel*	2.98
89F5311	6200.2200	1-Pole, screw-on, front panel†	2.98
89F5312	6200.2300	1-Pole, screw-on, front panel‡	2.98
89F5313	6200.4115	1-Pole, snap-in, front panel*	2.98
89F5314	6200.4215	1-Pole, snap-in, front panel†	2.98
89F5315	6200.4315	1-Pole, snap-in, front panel‡	2.98
91F7171	GSF2.1011.01	1-Pole screwmount	3.90
91F7172	GSF2.2011.01	2 Pole screwmount	4.35
92F3540	GSF1.1212.31	PCB/Snap Post 1.6mm	3.90
92F3541	GSF1.2212.31	PCB/Snap Post 1.6mm	4.29

* 0.138x0.032" (3.51x0.813) solder. †0.187x0.032" (4.75x0.813) quick disconnect. ‡0.250x0.032" (6.35x0.813) quick disconnect.
(7489) (de50729)

AC INLET WITH 2-POLE FUSEHOLDER AND OPTIONAL VOLTAGE SELECTOR

Inlet features shock-safe 5 x 20 2-pole fuseholder. **Types 4301.2041** and **4301.2042** include voltage selector for series connection. All types have 0.187 x 0.032" (4.75 x 0.813) quick-connect terminals. UL recognized, CSA certified, VDE approved at 10A/250V. *Order fuse-drawers separately below.*

Stock No.	Type	Mounting	HxWxD (mm)	1-49
50F2867	4301.0501	Screw-on, Front or Rear	34x30x40.5	4.70
50F2868	4301.0502	Snap-in, 1.5mm Panel Thick	34x30x40.5	4.56
50F2869	4301.2041	Screw-on, Front or Rear	34x44x41.4	5.93
50F2870	4301.2042	Snap-in, 1.5mm Panel Thick	34x30x41.4	5.93

FUSE-DRAWERS (ORDER FUSES SEPARATELY)

Stock No.	Type	Voltage Selector	Color	Fuses	1-49
50F2871	4301.1401	None	Black	2-Pole, 5x20mm	3.48
50F2872	4301.1413	None	Black	1-Pole, 5x20mm	4.57
50F2873	4301.1014.08	100, 120, 220, 240	Black	2-Pole, 5x20mm	5.91
50F2874	4301.3536.08	100, 120, 220, 240	Black	1-Pole, 5x20mm	7.55

(7502) (de51810)

POLARIZED AND NON-POLARIZED AC INLET WITH ON/OFF SWITCH

Fig. 1

Fig. 2

Fig. 3

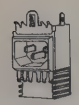
Features SPST on/off line switch and is PCB mountable with snap-in stabilizing legs and center screw. Designed for "cold" connections, Protection Class I and II. Electrical connections between inlet and switch are made on the PCB. Units are available with polarized and non-polarized AC inlet. Casing: thermoplastic PA6.6 rated UL 94V-0. Terminals: tin-plated brass. Dimensions: 18 H x 53.3 W x 24.3mm D. UL recognized, CSA certified, VDE approved.

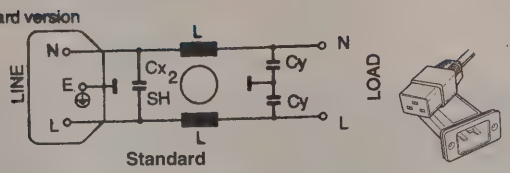
Stock No.	Type	Description	Fig.	1-49	50-99
16F1766	CMF2.1131.12	Polarized*	1	4.31	3.59
16F1767	CMF1.1131.12	Non-Polarized C8*	2	4.31	3.59
91F7169	CMF 3.1132.12	Polarized C6*	3	5.88	5.54

* AC Inlet
(7574) (ne08218)

FILTERED POWER ENTRY MODULES

GRF SERIES AC INLETS WITH EMI SHIELD AND OPTIONAL FILTER





Types GRF2 and **GRF4** panel mount from inside the equipment using a new Lock and Shield™ mounting method. Both have 4.8 x 0.8mm solder quick-connect terminals. **Type GRF2.03** is grounded through the metal shield and terminals; **type GRF2.02** is grounded through the metal shield only. **Types GRF2** and **GRF4** have a panel thickness of 1.5mm. Thicknesses of 1.2 and 2.0mm and other current ratings available; *contact your local Newark sales office.*

SHIELDED INLET WITHOUT FILTER 30.2H x 30.25W x 33.8mmD

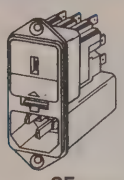
Stock No.	Type	1-49	50-99
91F6049	GRF2.0315.11	2.22	1.58
91F6050	GRF2.0215.11	2.22	1.58

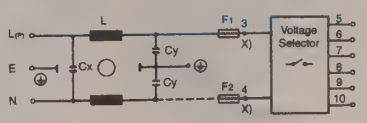
SHIELDED INLET WITH RFI FILTER 59.3H x 31.4W x 24.2mmD

Stock No.	Type	Filter (Amps)	1-49	50-99
83F8447	GRF4.0411.013	500mA Std.	8.67	6.16
83F8448	GRF4.0412.013	1A Std.	8.67	6.16
83F8449	GRF4.0413.013	3A Std.	8.67	6.16
83F8450	GRF4.0416.013	6A Std.	8.67	6.16
91F6051	GRF4.0417.013	10A Std.	8.97	6.37
91F6052	GRF4.0419.013	15A Std.	8.97	6.37
83F8451	GRF4.0021.013	500mA Med.	8.67	6.16
83F8452	GRF4.0022.013	1A Med.	8.67	6.16
83F8453	GRF4.0023.013	3A Med.	8.67	6.16
83F8454	GRF4.0026.013	6A Med.	8.67	6.16
91F6053	GRF4.0027.013	10A Med.	8.97	6.37
91F6054	GRF4.0029.013	15A Med.	8.97	6.63
83F8455	C20F.0001	Std. RFI	30.13	21.38
83F8456	C20F.0002	Med. RFI	30.13	21.38

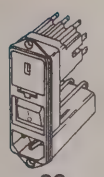
Leakage Current: * <0.5mA @230V/50Hz; † <5µA @ 120V/60Hz
(19257) (ne10274)

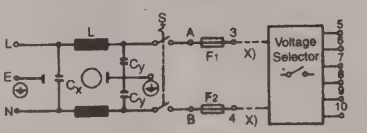
CE AND CG SERIES LINE FILTERS WITH AC CONNECTOR





CE





CG

CE and **CG series** line filters have AC connector and interchangeable fuse drawers for ¼ x 1¼" or 5 x 20mm fuses. Available with single- or double-pole shock-safe fuse holder and series parallel voltage selection. Quick-connect terminals are 4.8 x 0.8mm. CG series with DPST have 35A in-rush current; dimensions: 97H x 30W x 69mmD. **CE** dimensions: 69.5H x 30W x 69mmD. UL recognized, CSA certified, and VDE approved.

Stock No.	Type	Filter (Amps)	1-49	50-99
91F6392	CE10.6100.151*	1A Standard	32.00	22.76
91F6393	CE20.6100.151*	2A Standard	32.00	22.76
91F6394	CE30.6100.151*	4A Standard	32.00	22.76
91F6395	CE40.6100.151*	6A Standard	32.00	22.76
91F6396	CEG0.6100.151†	1A Medical	41.92	29.82
91F6397	CEA0.6100.151†	2A Medical	41.92	29.82
91F6398	CEC0.6100.151†	4A Medical	41.92	29.82
91F6399	CEE0.6100.151†	6A Medical	41.92	29.82
91F6400	CG10.6101.151*	1A Standard	45.44	32.31
91F6401	CG20.6101.151*	2A Standard	45.44	32.31
91F6402	CG30.6101.151*	4A Standard	45.44	32.31
92F7983	CG40.6101.151*	6A Standard	45.44	32.31
91F6403	CGG0.6101.151†	1A Medical	53.21	50.13
91F6404	CGA0.6101.151†	2A Medical	53.21	50.13
91F6405	CGC0.6101.151†	4A Medical	59.52	56.07
91F6406	CGE0.6101.151†	6A Medical	59.52	56.07

Leakage Current @250V/50Hz: * <0.5mA; † <5µA

4-POSITION VOLTAGE SELECTOR

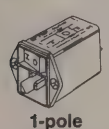
Stock No.	Type	Markings	1-49	50-99
50F2859	4305.0048.01	100, 120, 220, 240	5.13	3.64

FUSE DRAWERS

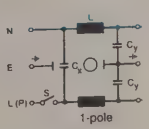
Stock No.	Type	Color	Mounting	1-49	50-99
50F2860	4305.0001	Black	2-Pole, 5 x 20mm	4.12	2.92
50F2861	4305.0012	Gray	2-Pole, ¼ x 1¼"	4.08	2.90
91F7148	4305.0021	Black	1-Pole, 5 x 20mm	5.37	4.90
50F2862	4305.0027	Gray	1-Pole, ¼ x 1¼"	5.29	3.76

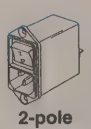
(19262) (ne10277)

LINE FILTERS WITH AC INLET AND ON/OFF LINE SWITCH

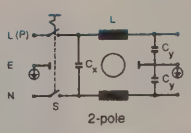


1-pole





2-pole



KFB series available with 1- and 2-pole switching and standard or medical RFI filter. Leakage current @250V/50Hz: <0.5mA. Quick-connect terminals are 6.3 x 0.8mm. Dimensions: 1-pole is 31.2H x 44W x 60mmD, 2-pole is 59H x 30W x 59mmD. UL recognized, CSA certified, CS (Australia), and VDE approved.

1 POLE-STANDARD RFI FILTER

Stock No.	Type	Filter (Amps)	1-49	50-99
91F6407	4302.5001	1A Standard	31.31	22.28
91F6408	4302.5002	2A Standard	31.31	22.28
91F6409	4302.5003	4A Standard	31.31	22.28
91F6410	4302.5004	6A Standard	31.31	22.28

2-POLE-STANDARD RFI FILTER

91F6411	4302.5311	1A Standard	36.29	25.82
91F6412	4302.5312	2A Standard	36.29	25.82
91F6413	4302.5313	4A Standard	36.29	25.82
91F6414	4302.5314	6A Standard	36.29	25.82

2 POLE (LOW LEAKAGE) *-MEDICAL RFI FILTER

91F6415	4302.5331	1A Medical	36.29	25.82
91F6416	4302.5333	2A Medical	36.29	25.82
91F6417	4302.5335	4A Medical	36.29	25.82
91F6418	4302.5337	6A Medical	36.29	25.82

*Leakage Current @ 250V/50Hz: <5µA
(19260) (ne10276)

KP SERIES "BACKPACK" LINE FILTER

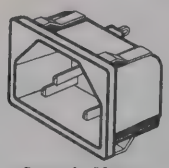
PCB Mount "Backpack" line filter snaps on to rear of KP module and has maximum leakage current. Maximum leakage current @ 250V/50Hz: <0.5mA. Cx2: 100$_n$f; Cy: 2.2$_n$f. Test voltage L, N, E: 2700VDC, 2 sec.; L, N: 1075 VDC, 2 sec. U_n (V): up to 250V max., 50/60Hz. KP series power entry modules available; *contact your local Newark sales office for quotation/availability.*

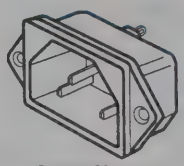
Stock No.	Type	I_n T_a @ 40°C	L (mH)	1-49	50-99
91F6419	KPF1.1	1	10	19.34	14.05
91F6420	KPF2.1	2	4	19.34	14.05
91F6421	KPF4.1	4	2	19.34	14.05
91F6422	KPF6.1	6	1	19.34	14.05
83F8458	KPF0.1	...	...	18.41	13.07
83F8457	KPF8.1	...	...	18.41	13.07

(19261) (ne10853)

AC RECEPTACLES

AC POWER INLET RECEPTACLES — IEC 320


Snap-In Mount


Screw Mount

AC power male inlet receptacles available in screw mount style or with universal snap-in feature to fit 0.0315″ (0.8) to 0.0787″ (2.0) panel thickness. Choose solder tab terminals or 0.250″ (6.35) quick-disconnect terminals. Maximum rating: 15A/250VAC. Complies with international safety regulations. UL listed, CSA certified, VDE approved at 10A/250VAC, DEMKO, SETI, NEMKO, SEMKO, and SEV approved.

WITHOUT COUNTERSUNK HOLES

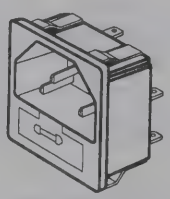
Stock No.	Type	Mount	Terminals	1-9	10-24
92N4141	2138	Snap-In	Solder Tab	0.96	0.81
92N4142	2139	Snap-In	0.250″ Q.D.	1.03	0.87
92N4143	2140	Screw	Solder Tab	0.96	0.81
92N4144	2141	Screw	0.250″ Q.D.	0.99	0.85
84N1428	SPC4627	Screw	Solder Tab	0.85	0.73
84N1429	SPC4628	Screw	0.187″ Q.D.	0.85	0.73
84N1430	SPC4629	Screw	0.250″ Q.D.	0.95	0.81

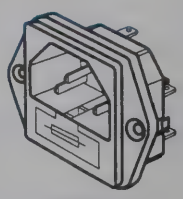
WITH COUNTERSUNK HOLES

84N1428	SPC4627	Screw	SolderTab	0.85	0.73
84N1429	SPC4628	Screw	0.187″ Q.D.	0.85	0.73
84N1430	SPC4629	Screw	0.250″ Q.D.	0.95	0.81

Q.D. = Quick Disconnect
(15926) (ne10128)

AC POWER INLET RECEPTACLES WITH FUSE HOLDER — IEC 320


Snap-In Mount

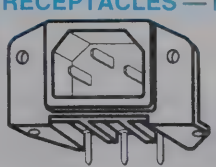

Screw Mount

AC power male inlet receptacles with a fuse holder for single fuse. Available with snap-in feature or in screw mount style. Choose solder tab terminals or 0.250″ (6.35) quick-disconnect terminals. Maximum rating: 10A/250VAC. Complies with international safety regulations. UL listed, CSA certified, VDE, SEMKO, and SEV approved.

Stock No.	Type	Mount	Terminals	1-9	10-24
92N4154	2151*	Snap-In	Solder Tab	2.64	2.25
92N4155	2152*	Snap-In	0.250″ Q.D.	2.64	2.25
92N4152	2149+	Snap-In	Solder Tab	3.37	2.86
92N4153	2150+	Snap-In	0.250″ Q.D.	3.52	3.00
92N4150	2147	Screw	Solder Tab	2.64	2.25
92N4151	2148	Screw	0.250″ Q.D.	2.64	2.25

*Universal snap-in feature fits 0.0315″ (0.8) to 0.0787″ (2.0) panel thickness.
+Fits 0.0590″ (1.5) panel thickness.
(15927) (ne10129)

PC BOARD AC POWER INLET RECEPTACLES — IEC 320

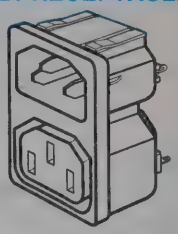


Male right-angle, PC board mount AC power inlet receptacles available with 0.276″ (7) or 0.354″ (9) terminal centers. Maximum rating: 15A/250VAC. Complies with international safety regulations. UL listed, CSA certified, VDE approved at 10A/250VAC, DEMKO, SETI, NEMKO, SEMKO, and SEV approved.

Stock No.	Type	Pins	Terminals Pitch	1-9	10-24
92N4147	2144	Round	0.276″ (7)	1.35	1.15
92N4148	2145	Flat	0.276″ (7)	1.40	1.19
92N4149	2146	Flat	0.354″ (9)	1.40	1.19

(15928) (ne10130)

AC POWER INLET/OUTLET RECEPTACLE — IEC 320

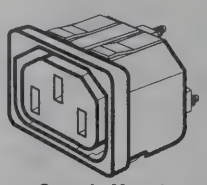


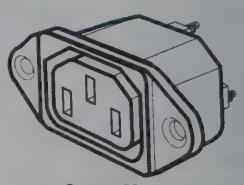
Multifunction male/female AC power inlet/outlet receptacle available with universal snap-in feature to fit 0.0315″ (0.8) to 0.0787″ (2.0) panel thickness. Solder tab terminals. Maximum rating: 10A/250VAC. Complies with international safety regulations. UL listed, CSA certified, VDE, DEMKO, SETI, NEMKO, and SEMKO approved.

Stock No.	Type	Mount	Terminals	1-9	10-24
92N4160	2157	Snap-In	Solder Tab	2.54	2.16

(15929) (ne10131)

AC POWER OUTLET RECEPTACLES — IEC 320


Snap-In Mount

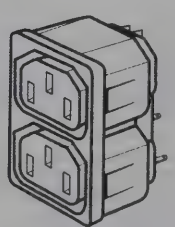

Screw Mount

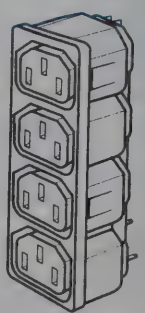
AC power female outlet receptacles available in screw mount style or with universal snap-in feature to fit 0.0315″ (0.8) to 0.0787″ (2.0) panel thickness. Choose solder tab terminals or 0.250″ (6.35) quick-disconnect terminals. Maximum rating: 15A/250VAC. Complies with international safety regulations. UL listed, CSA certified, VDE approved at 10A/250VAC, DEMKO, SETI, NEMKO, SEMKO, and SEV approved.

Stock No.	Type	Mount	Terminals	1-9	10-24
92N4158	2155	Snap-In	Solder Tab	0.96	0.81
92N4159	2156	Snap-In	0.250″ Q.D.	1.03	0.87
92N4156	2153	Screw	Solder Tab	1.03	0.87
92N4157	2154	Screw	0.250″ Q.D.	1.03	0.87

Q.D. = Quick Disconnect
(15930) (ne10132)

AC POWER MULTIPLE OUTLET RECEPTACLES — IEC 320


2-Position


4-Position

AC power 2- and 4-position female outlet receptacles. Available with snap-in feature to fit 0.0590″ (1.5) panel thickness. Solder tab terminals. Maximum rating: 10A/250VAC. Complies with international safety regulations. UL listed, CSA certified, VDE, SETI, NEMKO, SEMKO, and SEV approved.

Stock No.	Type	Positions	Mount	Terminals	1-9	10-24
92N4161	2158	2	Snap-In	Solder Tab	5.13	4.36
92N4162	2159	4	Snap-In	Solder Tab	7.92	6.73

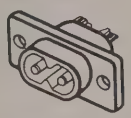
(15931) (ne10133)

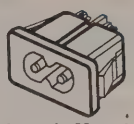
PERSONALIZED SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

AC RECEPTACLES

LOW-CURRENT INLETS — IEC 320

NEW


Screw Mount

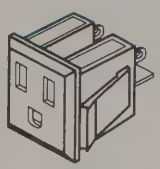

Snap-In Mount

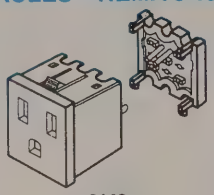
Male low-current inlets available in snap-in or screw mounting. Choice of solder tab or PC board mount terminals. Maximum rating: 2.5A @ 250VAC. UL recognized, CSA certified, VDE, DEMKO, NEMKO, SEMKO, and SEV approved.

Stock No.	Type	Description	Terminals	1-9	10-24
84N1435	SPC4634	Screw Mount	Solder Tab	0.96	0.82
84N1436	SPC4635	Screw Mount	PCB Mount	0.96	0.82
84N1437	SPC4636	Snap-In Mount*	Solder Tab	0.96	0.82
84N1438	SPC4637	Snap-In Mount*	PCB Mount	0.96	0.82

*Fits 0.8mm to 2.0mm panel thickness.
(32071)
(ne32071)

AC POWER OUTLET RECEPTACLES – NEMA 5-15R


2142


2143

NEMA 5-15R AC power snap-in outlet receptacles. Available with quick-disconnect solder terminals or IEC terminals for solid wire. Maximum rating: 15A/250VAC. UL listed, CSA certified.

Stock No.	Type	Mount	Terminals	1-9	10-24	25-49
92N4145	2142	Snap-In	Q.D./Solder	1.01	0.86	0.77
92N4146	2143	Snap-In	IEC	1.01	0.86	0.77

Q.D. = Quick Disconnect
(16528)
(ne10135)

MULTIFUNCTION AC POWER OUTLET MODULES

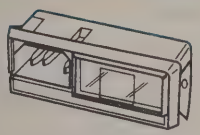


Fig. 1

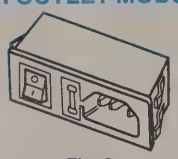


Fig. 2

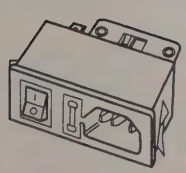


Fig. 3

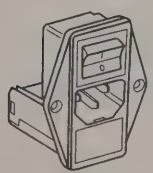


Fig. 4

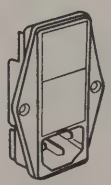


Fig. 5

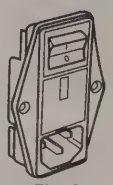


Fig. 6

AC power outlet modules feature an IEC male power inlet, fuse holder, and voltage selector or power switch or both. Snap-in or screw mount styles available. Choose solder tab terminals or 0.250" (6.35) quick-disconnect terminals. Durable plastic or metal housings. Maximum rating: 6A/250VAC. UL listed, CSA certified, VDE approved at 10A/250VAC.

SNAP-IN MOUNT WITH SINGLE FUSE HOLDER

Stock No.	Type	Fig.	Terminals	Housing++	Power Switch	Voltage Selector	1-9	10-24
92N4165	3353*	1	Solder	P	...	Front	12.31	10.46
92N4166	2163**	2	Solder	P	SPST	...	10.86	9.23
92N4167	2164**	2	Solder	P	DPST	...	14.38	12.22
92N4168	2165**	3	Q.D.	M	SPST	...	13.71	11.65
92N4169	2166**	3	Q.D.	M	DPST	...	20.59	17.50
92N4170	2167**	2	Q.D.	M	SPST	Rear	20.59	17.50
92N4171	2168**	2	Q.D.	M	DPST	Rear	25.83	21.95

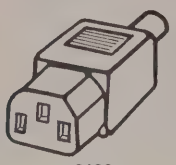
Q.D. = Quick Diconnect

SCREW MOUNT WITH DOUBLE FUSE HOLDER

92N4172	2169+	4	Solder	P	DPST	Front	11.90	10.11
92N4173	2170	5	Solder	P	DPST	Front	13.41	11.40
92N4174	2171	6	Solder	P	DPST	Front	14.79	12.58

*Panel thickness 0.0394-0.063" (1.0-1.6); **Panel thickness 0.0394-0.0709" (1.0-1.8); +Fuse holder for 5 x 20mm or 6.3 x 32mm (North American Type); ++Housing: P= Plastic, M= Metal
(16529)
(ne10136)

AC POWER CORD PLUG ASSEMBLIES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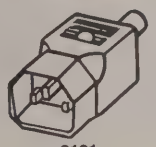
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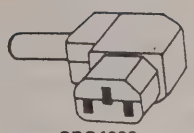
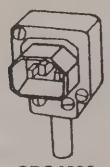
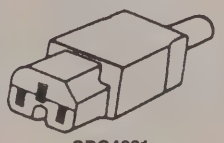

SPC4630


SPC4632


SPC4631

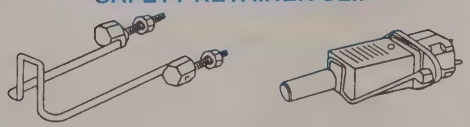
AC power male and female rewireable plug connectors with straight and 90° angle cable entry. Feature screw terminals. Easily converts a power cord into a detachable power cord set. Maximum rating: 10A/250VAC. UL listed, CSA certified, VDE, DEMKO, SETI, BSI, IMQ, NEMKO, SEMKO, and SEV approved.

Stock No.	Type	Description	Entry	1-9	10-24	25-49
92N4163	2160	Outlet/Female	Straight	4.20	3.57	3.21
92N4164	2161	Inlet/Male	Straight	7.09	6.03	5.43
84N1432	SPC4631	Outlet/Female	Straight	4.95	4.21	3.79
84N1431	SPC4630	Outlet/Female	Angled	5.25	4.47	4.02
84N1433	SPC4632	Inlet/Male	Angled	6.45	5.49	4.94

(16527)
(ne10134)

SAFETY RETAINER CLIP

NEW



Use in conjunction with **types SPC2160** and **SPC2161** AC power plug assemblies, *ordered separately on this page*, to help prevent accidental removal of the power cord from screw mount IEC-C14 power inlet or IEC-C13 power outlet. Stainless steel clip comes with 2 each: threaded post, threaded nut, and washer.

Stock No.	Type	Description	1-9	10-24
84N1434	SPC4633	Saftey Retainer Clip	2.95	2.51

(32070)
(ne32070)

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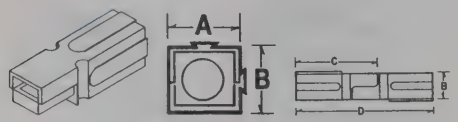
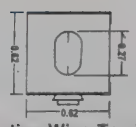
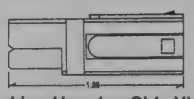
POWER CONNECTORS

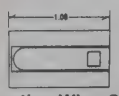
POWERPOLE® 600V SINGLE-POLE CONNECTORS

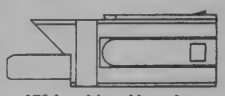



Mounting Wing Top View

Mounting Pad Top View

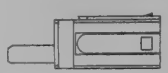

Locking Housing Side View


Mounting Wing Side View


45° Locking Housing Side View

Front View for Locking 45° & 90°

Mounting Pad Side View


90° Locking Housing Side View

Mounting Wing Side View

Two self-mating halves so no separate male or female parts are needed. Polycarbonate insulation housings can be stacked together using molded-in dovetails for quick assembly of multipole connectors. Crimp or solder terminal to wire and insert tin-plated spring loaded contact into housing. The locking 75 amp Powerpole utilizes the same contacts and crimp tooling as standard 75 amp housing. The locking 75 amp Powerpole is a single-pole connector with a latching design. To mate locking Powerpole connectors together into modular, multipole configurations, simply slide the locking clip of one connector into the adjoining cavity of its mate. UL recognized, CSA certified. Includes housing and contact. *Order replacement housings and contacts below; insertion and crimping tools separately on this page.*

DIMENSION TABLE

Current Rating	A	B	C	D
15 Amp	0.32″ (7.9)	0.32″ (7.9)	0.97″ (24.6)	1.63″ (41.3)
30 Amp	0.32″ (7.9)	0.32″ (7.9)	0.97″ (24.6)	1.63″ (41.3)
45 Amp	0/32″ (7.9)	0.32″ (7.9)	0.97″ (24.6)	1.63″ (41.3)
75 Amp	0.63″ (15.9)	0.63″ (15.9)	1.88″ (47.6)	3.20″ (81.4)
120 Amp	0.88″ (22.2)	0.88″ (22.2)	2.75″ (69.9)	4.63″ (117.5)

MODULAR SINGLE-POLE CONNECTORS

Stock No.	Type	Color	Max. Amps	AWG	Std. Pkg.	1-9	10-24
84F1192	1395G5	Yellow	15	16-20	100	67.39	55.60
84F1190	1395	Red	15	16-20	100	67.39	55.60
84F1188	1395G1	Black	15	16-20	100	67.39	55.60
84F1191	1395G2	White	15	16-20	100	67.39	55.60
84F1189	1395G3	Green	15	16-20	100	67.39	55.60
84F1196	1330	Red	30	12-18	100	67.39	55.60
84F1195	1330G2	Green	30	12-18	100	67.39	55.60
84F1193	1330G4	Black	30	12-18	100	67.39	55.60
84F1197	1330G5	White	30	12-18	100	67.39	55.60
84F1227	1300	Blue	75	6-12	25	85.30	77.23
84F1228	1300G3	Red	75	6-12	25	85.30	77.23
84F1226	1300G4	Black	75	6-12	25	85.30	77.23
84F1233	1320	Blue	120	2-8	20	212.50	192.39
84F1237	1380	Blue	180	1/0-10	10	152.91	127.06

HOUSINGS FOR 45-75 — 120 AMP CONTACTS

Stock No.	Type	Color	Max. Amps	Std. Pkg.	1-9	10-24
84F1200	1327	Red	45	100	45.49	37.58
84F1199	1327G5	Green	45	100	45.49	37.58
84F1198	1327G6	Black	45	100	45.49	37.58
84F1201	1327G7	White	45	100	45.49	37.58
84F1230	5916	Blue	75	25	46.84	42.41
84F1229	5916G4	Black	75	25	46.84	42.41
84F1231	5916G7	Red	75	25	46.84	42.41
48F3967	1321G1	Black	120	20	128.39	116.50
48F3968	1321G2	White	120	20	128.39	116.50
48F3969	1321G3	Red	120	20	128.39	116.50
48F3970	1321G4	Green	120	20	128.39	116.50

CONTINUED

POWERPOLE® 600V SINGLE-POLE CONNECTORS (CONT.)

75 AMP HOUSING

Stock No.	Type	Color	Max. Amps	Std. Pkg.	1-9	10-24
48F3973	75LOKBLU	Blue	75	25	78.94	71.63
48F3974	75LOK45BLU	Blue	75	25	122.94	111.55
48F3975	75LOK90BLU	Blue	75	25	122.94	111.55

CONTACTS

Stock No.	Type	Max. Amps	AWG	Std. Pkg.	1-9	10-24
84F1205	1332	15	16-20	100	22.75	18.54
84F1206	1331	30	12-18	100	22.75	18.54
91F4944	261G2	45	10-14	5000	549.90	474.91
84F1232	5900*	60	6-12	25	36.32	32.89
48F3971	1319G4	120	#4	20	4.81	4.37
48F3972	1319G6	120	#6	20	4.81	4.37

*Also use these contacts for 75 AMP Locking Connectors

25-AMP PCB CONTACTS

Stock No.	Type	Description	Std. Pkg.	1-9	10-24
91F4945	1377G1	Long Right-Angle, 0.700″	100	85.11	77.23
91F4946	1377G2	Long Right-Angle, 0.400″	100	85.11	77.23
91F4947	1377G3	Straight Terminal, 2.16″	100	85.11	77.23
91F4948	1377G4	Straight Terminal, 1.70″	100	85.11	77.23
91F4949	1377G11	Short Right-Angle, 0.700″	100	85.11	77.23
91F4950	1377G12	Short Right-Angle, 0.400″	100	85.11	77.23

GENDERLESS MOUNTING WING SPACERS

Stock No.	Type	Description	Std. Pkg.	1-9	10-24
91F4952	1399G8	15/45-Amp/Blue	100	141.85	128.71
91F4953	1399G9	15/45-Amp/Red	100	141.85	128.71
91F4951	1399G7	75-Amp/Blue	100	141.85	128.71
48F3977	75LOKWNGBLU	75-Amp/Blue	25	48.38	43.90

(8886) (de00044)

SB® SERIES CONNECTORS

Two-pole, 600V connectors are used for computer systems, uninterruptible power and power distributions systems. Mechanically keyed and color-identified to prevent mismatching of battery and charger voltage. Other colors available. Spring-loaded, silver-plated, contoured contacts, individually replaceable and self-wiping. One-piece, non-conductive polycarbonate housing.

SB® 50 SERIES CONNECTORS: TWO-POLE

Stock No.	Type	Includes	Housing Color	AWG Wire Size	Cable Well Dia.	1-24	25-49
96F6194	6319	Springs/Contacts	Gray	6 to 16	0.221″	9.20	8.18
92F2276	6319G1	Springs/Contacts	Gray	10 to 12	0.136″	10.10	8.98
92F2277	6331G1	Springs/Contacts	Red	6 to 16	0.221″	9.20	8.18

SB® 175 SERIES CONNECTORS: TWO-POLE

98F9370	6325G1	Springs/Contacts	Gray	1/0	0.437″	21.45	19.06
92F2283	6329G1	Springs/Contacts	Red	1/0	0.437″	21.45	19.06

SB® 350 SERIES CONNECTORS: TWO-POLE

Stock No.	Type	Includes	Housing Color	AWG Wire Size	Cable Well Dia.	1-9	10-24
98F7889	6320-G1	Springs/Contacts	Gray	2/0	0.484″	29.49	26.70

(9007) (de03950)

CONNECTOR TOOLING

Stock No.	Type	Description	1-4
84F1243	111038G2	15,30,60A Contact Insertion/Extraction Tool. **Sold in packages of 10.**	20.80
84F1240	1351G1	Manual Crimp Tool - 15-30A	235.98
91F4942	1351G2	Manual Crimp Tool - 45A	378.19
91F4943	1352G1	Manual Crimp Tool	302.56

(8887) (de00046)

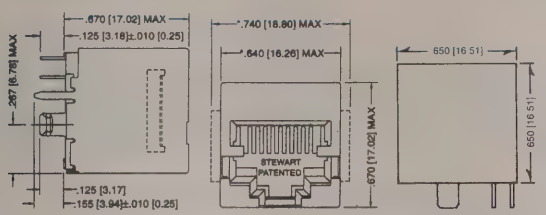
HYDRAULIC HAND TOOLS TYPES 1368 AND 59006-00 ARE AVAILABLE ON SPECIAL ORDER; CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR DETAILS.

(12940) (ne10182)

NEW

MODULAR JACKS

SHIELDED AND UNSHIELDED VERTICAL JACKS



65 series PC board modular jacks are designed to meet the requirements of a high-performance communications environment. Construction: thermoplastic, rated UL94V-0. Phosphor bronze contacts with selective gold plating in contact area. UL recognized, CSA certified.

UNSHIELDED

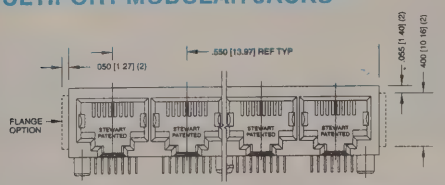
Stock No.	Type	Description	Contacts/ Positions	1-9	10-24
83F6993	SS-6544-FLS	With Flange	4/4	1.12	0.96
83F6994	SS-6544-NF	Without Flange	4/4	1.12	0.96
83F6995	SS-6546-NF	Without Flange	4/6	1.19	1.02
83F6996	SS-6546-FLS	With Flange	4/6	1.19	1.02
83F6966	SS-6566-NF	Without Flange	6/6	1.26	1.08
83F6967	SS-6566-FLS	With Flange	6/6	1.26	1.08
83F6968	SS-650810-A-NF	Without Flange	8/10	1.47	1.26
83F6969	SS-650810-A-FLS	With Flange	8/10	1.47	1.26
83F6970	SS-651010-A-FLS	With Flange	10/10	1.58	1.35

SHIELDED

Stock No.	Type	Description	Contacts/ Positions	1-9	10-24
83F6971	SS-650810S-A-NF	Without Flange	8/10	2.49	2.13
83F6972	SS-650810S-A-FLS	With Flange	8/10	2.49	2.13
83F6974	SS-651010S-A-FLS	With Flange	10/10	2.56	2.19

(34487) (ne34487)

MULTIPORT MODULAR JACKS



66 series single-row harmonica jacks, shielded and unshielded, are used for twisted-pair networking environments. Most systems that use unshielded twisted-pair cable can use shielded multiport jacks to block EMI leakage from the enclosure. Phosphor bronze contacts with selective gold plating in contact area. Fully enclosed and available in 6- or 8-contact positions. Thermoplastic housing, rated UL94V-0. Meet FCC Part 68.5 rules and regulations. UL recognized, CSA certified.

UNSHIELDED

Stock No.	Type*	Description	Ports/ Pins	Length	1-9	10-24
83F6931	SS-666602-NF	RJ-11	2/6	0.993″	4.06	3.48
83F6932	SS-666604-NF	RJ-11	4/6	1.889″	5.39	4.62
83F6935	SS-668804-NF	RJ-45	4/8	2.305″	4.13	3.54
83F6936	SS-668804-FLS	RJ-45	4/8	2.305″	4.13	3.54
83F6937	SS-668808-NF	RJ-45	8/8	4.505″	8.16	6.99
83F6938	SS-668808-FLS	RJ-45	8/8	4.505″	8.16	6.99

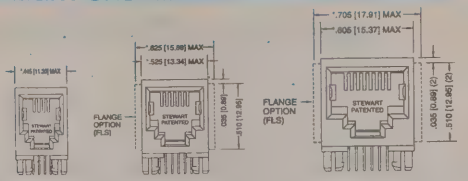
SHIELDED

83F6933	SS-666602S-NF	RJ-11	2/6	0.993″	9.35	8.01
83F6934	SS-666604S-NF	RJ-11	4/6	1.889″	13.16	11.28
83F6939	SS-668802S-A-NF	RJ-45	2/8	1.254″	5.36	4.59
83F6940	SS-668802S-A-FLS	RJ-45	2/8	1.254″	5.36	4.59
83F6941	SS-668804S-A-NF	RJ-45	4/8	2.354″	8.37	7.17
83F6942	SS-668804S-A-FLS	RJ-45	4/8	2.354″	8.37	7.17
83F6943	SS-668806S-A-NF	RJ-45	6/8	3.454″	10.71	9.18
83F6944	SS-668808S-A-NF	RJ-45	8/8	4.554″	12.29	10.53
83F6945	SS-668808S-A-FLS	RJ-45	8/8	4.554″	12.29	10.53

***Suffix NF** in type number = Without Flange, **Suffix FLS** = With Flange

(34488) (ne34488)

STANDARD HEIGHT UNSHIELDED MODULAR JACKS

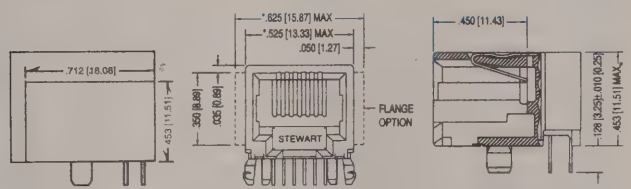


63 series PC board modular jacks are designed to meet the requirements of a high performance communications environment. Construction: thermoplastic, rated UL94V-0. Phosphor bronze contacts with selective gold plating in contact area. UL recognized, CSA certified.

Stock No.	Type	Description	Contacts/ Positions	1-9	10-24
83F6955	SS-6344-NF	Without Flange	4/4	1.12	0.96
83F6956	SS-6366-1-NF	Without Flange	6/6	1.16	0.99
83F6957	SS-6388-F	Full Flange	8/8	1.33	1.14
83F6958	SS-6388-NF	Without Flange	8/8	1.26	1.08
83F6959	SS-6388-FLS	With Flange	8/8	1.33	1.14

(34490) (ne34490)

UNSHIELDED MICROJACKS®

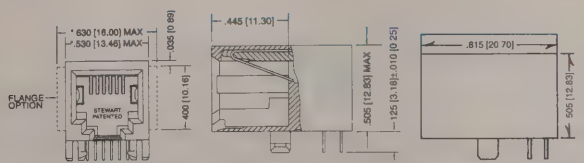


70 series PC board modular jacks are ultralow profile and designed to meet the requirements of a high-performance communications environment. Construction: thermoplastic, rated UL94V-0. Phosphor bronze contacts with selective gold plating in contact area. UL recognized, CSA certified.

Stock No.	Type	Description	Contacts/Positions	1-9	10-24
83F6946	SS-7026-NF	Without Flange	2/6	1.61	1.38
83F6947	SS-7026-FLS	With Flange	2/6	1.68	1.44
83F6948	SS-7046-NF	Without Flange	4/6	1.68	1.44
83F6949	SS-7046-FLS	With Flange	4/6	1.79	1.53
83F6950	SS-7066-NF	Without Flange	6/6	1.79	1.53
83F6951	SS-7066-FLS	With Flange	6/6	1.79	1.53
83F6952	SS-700810-NF	Without Flange	8/10	1.19	1.02
83F6953	SS-700810-FLS	With Flange	8/10	1.19	1.02
83F6954	SS-701010-NF	Without Flange	10/10	1.26	1.08

(34489) (ne34489)

LOW-PROFILE MODULAR PC BOARD JACKS



64 series modular PC board jacks are designed to meet the requirements of a high-performance communications environment. Construction: thermoplastic, rated UL94V-0. Phosphor bronze contacts with selective gold plating in contact area. UL recognized, CSA certified.

UNSHIELDED

Stock No.	Type	Description	Contacts/ Positions	1-9	10-24
83F6960	SS-6444-NF	Without Flange	4/4	0.84	0.72
83F6961	SS-6444-FLS	With Flange	4/4	0.84	0.72
83F6963	SS-6446-FLS	With Flange	4/6	0.88	0.75
83F6964	SS-6466-NF	Without Flange	6/6	1.02	0.87
83F6965	SS-6466-FLS	With Flange	6/6	1.02	0.87
83F6987	SS-6488-NF	Without Flange	8/8	0.95	0.81
83F6988	SS-6488-FLS	With Flange	8/8	0.95	0.81

SHIELDED

83F6989	SS-6488S-A-NF	Without Flange	8/8	1.72	1.47
83F6990	SS-6488S-A-FLS	With Flange	8/8	1.72	1.47
83F6991	SS-6488S-A-PG4-BA	PG Top, Bottom, Sides	8/8	1.82	1.56
83F6992	SS-641010S-A-NF	Without Flange	10/10	1.93	1.65

(34485) (ne34486)

BANANA PLUGS AND JACKS

BANANA PLUGS

VOLTREX™ brand

819 811

Nickel-plated brass hex body. 4-leafed nickel-plated phosphor bronze spring. Fit banana jacks. **Type 819** includes screw and tinned lug. **Type 811** includes hex nut, flat washer, tinned lug, and #6-32 threaded stud. Panel mount.

Stock No.	Type	1-9	10-24	25-99	100-249
39N890	819	0.77	0.58	0.49	0.39
38N291	811	0.69	0.52	0.44	0.35

(9124) (ne00111)

INSULATED BANANA PLUGS

Fig. 1 Fig. 2 Fig. 3

Nickel-plated brass body. Four-leafed nickel-plated phosphor bronze spring. All fit standard jacks. **Types 851** and **853** allow for solderless connection. **Type 852** has set screw to secure wire without soldering.

Stock No.	Type	Fig.	Color	1-9	10-24	25-99	100-249
39N944	851-R	1	Red	0.83	0.63	0.53	0.43
39N940	851-B	1	Black	0.83	0.63	0.53	0.43
39N941	851-Y	1	Yellow	0.83	0.63	0.53	0.43
39N942	851-GR	1	Green	0.83	0.63	0.53	0.43
39N863	852-R	2	Red	0.77	0.58	0.49	0.39
39N864	852-B	2	Black	0.77	0.58	0.49	0.39
39N865	852-GR	2	Green	0.77	0.58	0.49	0.39
39N866	852-Y	2	Yellow	0.77	0.58	0.49	0.39
39N934	853-R	3	Red	0.86	0.65	0.55	0.44
39N935	853-B	3	Black	0.86	0.65	0.55	0.44
39N936	853-Y	3	Yellow	0.86	0.65	0.55	0.44
39N937	853-GR	3	Green	0.86	0.65	0.55	0.44
39N938	853-BL	3	Blue	0.86	0.65	0.55	0.44
39N939	853-W	3	White	0.86	0.65	0.55	0.44

(9125) (ne00112)

INSULATED BANANA PLUGS

Nickel-plated brass hex body plug, with brass spacer. 4-leafed nickel-plated phosphor bronze spring. Fit standard banana jacks.

Stock No.	Type	Color	1-9	10-24	25-99	100-249
35N635	33-028-1	Red	0.84	0.64	0.54	0.43
35N640	33-028-2	Black	0.84	0.64	0.54	0.43

(9126) (ne00113)

TAPERED SOLDERLESS BANANA PLUGS

High-voltage insulated plugs offer fast, solderless connection to 16-gauge wire. Nickel-silver spring with nickel-plated brass body. Current rating: 15A, 5000VDC.

Stock No.	Type	Color	1-9	10-24	25-99	100-249
81N1187	860-W	White	0.68	0.51	0.43	0.35
81N1188	860-R	Red	0.68	0.51	0.43	0.35
81N1189	860-B	Black	0.68	0.51	0.43	0.35
81N1190	860-GR	Green	0.68	0.51	0.43	0.35
81N1191	860-Y	Yellow	0.75	0.56	0.47	0.37
81N1192	860-BL	Blue	0.68	0.51	0.43	0.35

(8900) (de00110)

BANANA JACK

Nickel-plated brass hex body. Includes hex nut and tinned lug. Mounts in 0.25″ (6.35) diameter hole in panels up to 0.375″ (9.53) thick. Accepts standard banana plugs.

Stock No.	Type	1-9	10-24	25-99	100-249
39N867	813	0.46	0.35	0.30	0.24

(9128) (ne00116)

SOLDER-TYPE BANANA JACKS

Cadmium-plated formed contact with pierced terminal for solder connection. Threaded nylon body. Current rating: 15A, 10,000VDC. For panels up to 0.344″ (8.74) thick.

Stock No.	Type	Color	1-9	10-24	25-99	100-249
81N1227	861-W	White	0.63	0.48	0.39	0.32
81N1228	861-R	Red	0.63	0.48	0.39	0.32
81N1229	861-B	Black	0.63	0.48	0.39	0.32
81N1230	861-GR	Green	0.63	0.48	0.39	0.32
81N1231	861-Y	Yellow	0.63	0.48	0.39	0.32
81N1232	861-BL	Blue	0.63	0.48	0.39	0.32

(9127) (ne00115)

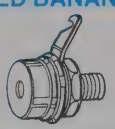
INSULATED BANANA JACKS

Nickel-plated body. Mount in 0.313″ (7.95) diameter hole in panels up to 0.375″ (9.53) thick. Include hex nut, insulated washer, lock washer, and tinned brass lug. Molded head.

Stock No.	Type	Color	1-9	10-24	25-99	100-249
39N967	844-R	Red	0.85	0.64	0.54	0.43
39N968	844-B	Black	0.85	0.64	0.54	0.43

(9131) (ne00119)

INSULATED BANANA JACKS



Nickel-plated brass body. Include hex nut, and plastic washer. Mount in 0.313″ (7.95) diameter hole in panels up to 0.375″ (9.53) thick.

Stock No.	Type	Color	1-9	10-24	25-99	100-249
39N868	845-R	Red	0.56	0.42	0.36	0.29
39N869	845-B	Black	0.56	0.42	0.36	0.29
39N870	845-GR	Green	0.56	0.42	0.36	0.29
39N871	845-Y	Yellow	0.56	0.42	0.36	0.29

(9129) (ne00117)

COMBINATION INSULATED JACKS

Nickel-plated brass body. Phosphor bronze spring. Include hex nut and nylon washer. Accept standard tip or banana plugs. Mount in 0.313″ (7.95) diameter hole in panels up to 0.5″ (12.70) thick.

Stock No.	Type	Color	1-9	10-24	25-99	100-249
35N2760	848-R	Red	0.66	0.50	0.42	0.34
35N2761	848-B	Black	0.66	0.50	0.42	0.34
35N2762	848-GR	Green	0.66	0.50	0.42	0.34
35N2763	848-Y	Yellow	0.72	0.55	0.45	0.36

(9130) (ne00118)

IF YOU DON'T SEE THE PRODUCT YOU NEED LISTED HERE - CALL!
1-800-4-NEWARK
(1-800-463-9275)

TIP AND TEST PLUGS AND JACKS

INSULATED TIP PLUGS

Nickel-plated brass plug. Butyrate per Fed. Spec. L-P349A, Type 3 Class MS. Molded handle in choice of red or black. Fit standard 0.080″ (2.0) phone tip jacks.

Stock No.	Type	Color	1-9	10-24	25-99
35N689	33-116-1	Red	0.32	0.25	0.21
35N690	33-116-2	Black	0.32	0.25	0.21

(9114) (ne00082)

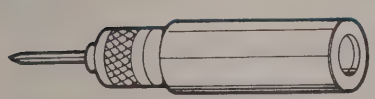
INSULATED TIP PLUGS

Solderless nickel-plated brass plug. Wire runs through body of tip, wraps around screw, and knurled collar tightens. Molded handle in choice of red or black. Threaded. Fit standard 0.080″ (2.0) phone tip jacks.

Stock No.	Type	Color	1-9	10-24	25-99
39N852	855-R	Red	0.57	0.43	0.37
39N853	855-B	Black	0.57	0.43	0.37

(9115) (ne00083)

INSULATED TIP PLUGS

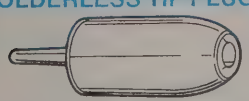


Solderless, nickel-plated brass plug. Knurled collar. Threaded. Molded handle in choice of 4 colors. Fit standard phone tip jacks.

Stock No.	Type	Color	1-9	10-24	25-99
35N775	856-R	Red	0.56	0.42	0.36
35N776	856-B	Black	0.56	0.42	0.36
35N777	856-GR	Green	0.56	0.42	0.36
35N778	856-Y	Yellow	0.56	0.42	0.36

(9116) (ne00084)

SOLDERLESS TIP PLUGS



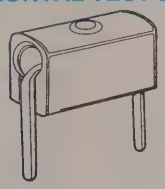
Recessed metal head prevents exposure when plugged into standard jack. Nickel-plated brass. Solderless connection to 16 AWG wire. Current rating: 10A. Fit standard 0.080″ (2.0) phone tip jacks.

Stock No.	Type	Color	1-9	10-24	25-99
81N1239	867-W	White	0.89	0.67	0.55
81N1240	867-R	Red	0.89	0.67	0.55
81N1205	867-BK	Black	0.89	0.67	0.55
81N1206	867-GR	Green	0.89	0.67	0.55
81N1208	867-BL	Blue	0.89	0.67	0.55

(9117) (ne00085)

VOLTREX™ brand

HORIZONTAL TEST JACKS

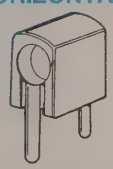


Accept standard 0.080″ (2.0) diameter tip plugs. Gold-plated copper aluminum alloy contact, flux/solder protected. Nylon body meets UL requirements for self extinguishing. Current rating: 5A. 1pF max. @ 1MHz. Breakdown voltage: 2100Vrms minimum. Contact resistance: 0.005 ohms maximum.

Stock No.	Type	Color	1-9	10-24	25-99
99N1725	TJ-100-WHT	White	0.61	0.46	0.38
99N1726	TJ-100-RED	Red	0.61	0.46	0.38
99N1727	TJ-100-BLK	Black	0.61	0.46	0.38
99N1729	TJ-100-GRN	Green	0.61	0.46	0.38
99N1731	TJ-100-BLU	Blue	0.61	0.46	0.38
99N1732	TJ-100-YEL	Yellow	0.61	0.46	0.38

(9118) (ne00087)

MINIATURE HORIZONTAL TEST JACKS

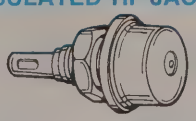


Accept standard 0.080″ (2.0) diameter tip plugs. Silver-plated copper aluminum alloy contact, flux/solder protected. Nylon body meets UL requirements for self-extinguishing. Current rating: 5A. 1pF max. @ 1MHz. Breakdown voltage: 2100Vrms minimum. Contact resistance: 0.010 ohms maximum.

Stock No.	Type	Color	1-9	10-24	25-99
81N1210	TJ-101-R	Red	0.49	0.37	0.31
81N1211	TJ-101-BK	Black	0.49	0.37	0.31
81N1212	TJ-101-GR	Green	0.49	0.37	0.31
81N1213	TJ-101-Y	Yellow	0.49	0.37	0.31
81N1214	TJ-101-BL	Blue	0.49	0.37	0.31

(9119) (ne00088)

INSULATED TIP JACKS

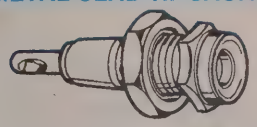


Nickel-plated brass body. Phosphor bronze contact. Include hex nut and nylon washer. Panel mount in 0.313″ (7.95) hole up to 0.375″ (9.53) thick. Accept standard 0.080″ (2.0) phone tip plugs.

Stock No.	Type	Color	1-9	10-24	25-99
39N856	842-R	Red	0.61	0.46	0.39
39N857	842-B	Black	0.61	0.46	0.39
39N858	842-GR	Green	0.61	0.46	0.39
39N859	842-Y	Yellow	0.61	0.46	0.39

(9121) (ne00091)

METAL CLAD TIP JACKS

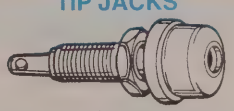


Phosphor bronze formed contact per QQ-B-750. Silver-plated slotted tubular terminal. Threaded nickel-plated brass jacket covers nylon body, high corrosion resistance. Panel thickness to 0.281″ (7.14). Current rating: 10A. Fit standard 0.080″ (2.0) tip plugs.

Stock No.	Type	Color	1-9	10-24	25-99
81N1203	866-W	White	1.13	0.85	0.70
81N1204	866-R	Red	1.13	0.85	0.70
81N1223	866-B	Black	1.13	0.85	0.70
81N1224	866-GR	Green	1.13	0.85	0.70
81N1225	866-Y	Yellow	1.13	0.85	0.70

(9120) (ne00090)

COMBINATION INSULATED TIP JACKS

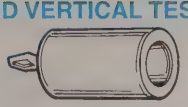


Nickel-plated brass body. Phosphor bronze spring. Include hex nut and nylon washer. Accept standard 0.080″ (2.0) phone tip or banana plug. Mount in 0.313″ (7.95) panel hole up to 0.5″ (12.70) thick. Mate with **type 855** tip plug only, *order separately on this page.*

Stock No.	Type	Color	1-9	10-24	25-99
35N2760	848-R	Red	0.66	0.50	0.42
35N2761	848-B	Black	0.66	0.50	0.42
35N2762	848-GR	Green	0.66	0.50	0.42
35N2763	848-Y	Yellow	0.72	0.55	0.45

(9122) (ne00092)

PC BOARD VERTICAL TEST JACKS



Accept standard 0.080″ (2.0) diameter tip plug. Silver-plated beryllium copper formed contact, flux/solder protected. Nylon body meets UL requirements for self-extinguishing. Current rating: 5A. 1pF max. @ 1MHz. Breakdown voltage: 3500Vrms minimum. Contact resistance: 0.010 ohms maximum.

Stock No.	Type	Color	1-9	10-24	25-99
81N1215	TJ-200-W	White	0.65	0.50	0.41
81N1216	TJ-200-R	Red	0.65	0.50	0.41
81N1217	TJ-200-BK	Black	0.65	0.50	0.41
81N1218	TJ-200-GR	Green	0.65	0.50	0.41

(9123) (ne00094)

SAME-DAY SHIPMENT ON ORDERS PLACED BY 5:00 PM C.S.T.

INSTRUMENT ADAPTERS

BANANA PLUGS

VOLTREX™ brand

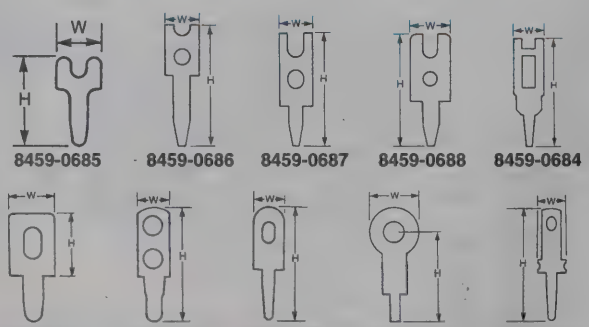
6-100 6-101 6-103 6-104 6-107

Type 6-100 dual banana plugs are nickel-plate brass, with 4-leaved, nickel-plate phosphor bronze spring. Cadmium-plate steel screw. Set screw holds wire. **Type 6-101** dual banana plugs are nickel-plate brass, with 4-leaved nickel-plate beryllium copper spring. 0.219″ (5.56) diameter cable guide on rear. 15A. **Type 6-103** combines rear BNC coaxial plug and dual banana plugs on 0.75″ (19.05) centers. **Type 6-104** dual shorting plug mates with type 4-876 dual binding posts. **Type 6-107** combines BNC coaxial jack and dual banana plugs on 0.75″ (19.05) centers.

Stock No.	Type	Color	1-9	10-24	25-99
39N895	6-100R	Red	6.84	5.18	4.36
39N896	6-100-B	Black	6.84	5.18	4.36
34N856	6-101R	Red	2.22	1.68	1.42
34N857	6-101B	Black	2.22	1.68	1.42
35N1067	6-103	Black	5.39	4.08	3.44
34N858	6-104	Black	7.97	6.04	5.08
34N860	6-107	Black	4.27	3.23	2.72

(8987) (de01942)

PC BOARD TEST POINT TERMINALS



8459-0685 8459-0686 8459-0687 8459-0688 8459-0684

8459-0679 8459-0680 8459-0681 8459-0682 8459-0683

Low-profile, space-saving designs in a wide array of configurations to suit most applications. Mount easily, ideal for wave soldering. Provide easy access for production testing and field service troubleshooting. Re-fit PC boards without need for redesign. Brass, tin plated; other platings and materials are available, *contact your local Newark sales office for details.* **Sold in packages of 100.**

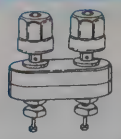
SLOTTED

Stock No.	Type	Dimensions H	Dimensions W	Per Pkg. 1-9	Per Pkg. 10-24	Per Pkg. 25-49
16N960	8459-0684	0.075″	0.270″	7.39	6.29	5.32
16N961	8459-0685	0.100″	0.335″	7.39	6.29	5.32
16N962	8459-0686	0.138″	0.394″	7.39	6.29	5.32
16N963	8459-0687	0.110″	0.390″	7.39	6.29	5.32
16N964	8459-0688	0.098″	0.197″	7.39	6.29	5.32
		LOOP				
16N955	8459-0679	0.118″	0.296″	7.39	6.29	5.32
16N956	8459-0680	0.110″	0.395″	7.39	6.29	5.32
16N957	8459-0681	0.118″	0.445″	7.39	6.29	5.32
16N958	8459-0682	0.312″	0.718″	7.39	6.29	5.32
16N959	8459-0683	0.110″	0.630″	7.39	6.29	5.32

(9149) (ne08377)

CONTACT NEWARK FOR LARGE-QUANTITY PRICING.

DUAL BINDING POSTS

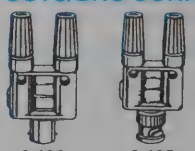


Nickel-plated brass body. Captive molded nylon head. Molded black insulation, cross slotted to accept standard phone tips in post either forward or sideways. Mount in two ½″ holes on ¾″ mounting centers in panels to ¼″ thick. Accept single or dual banana plugs. Include 4 hex nuts, and 2 flat washers.

Stock No.	Type	Color	1-9	10-24	25-99
35N845	4-876-B	Two Black	2.55	1.93	1.63
35N846	4-876-R	Two Red	2.55	1.93	1.63
35N847	4-876-B/R	One Red, One Black	2.55	1.93	1.63

(9056) (de50629)

BINDING POSTS/BNC CONNECTORS



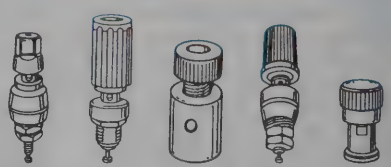
6-106 6-105

Type 6-105 combines BNC coaxial plug and insulated dual 5-way red and black binding posts on 0.75″ (19.05) centers. Meets UG-144I/U. **Type 6-106** combine BNC coaxial jack and dual 5-way red and black binding posts on 0.75″ (19.05) centers. Accepts 0.175″ diameter banana plugs. Both rated 15A.

Stock No.	Type	Color	1-9	10-24	25-99
34N870	6-105	Black	5.55	4.21	3.54
35N1068	6-106	Black	4.68	3.55	2.99

(8988) (de01943)

STANDARD BINDING POSTS



3-876 3-881 874 3-880 MBP

Type 3-876 is nylon with gold-plated brass insert washers, hex head, and body. Accepts phone tip, spade lug, banana plug, alligator clip, wire to 15 AWG. **Type 3-880** has keyed insulators to prevent turning. Gold-plated metal body. Current rating: 15A, 1000VACrms min. Fits 0.063-0.25″ (1.60-6.35) panel thicknesses. **Type 3-881** is nylon insulated with silver-plated metal body. Panel thicknesses to 0.281″ (7.14). Current rating: 15A, 8000VDC breakdown. **Type 874** has nickel-plated brass head and body; accepts standard phone tip or banana plug. **Type MBP-159** is a compression-type post for grounded, single-wire connections. Nickel-plated brass. Mounts #6 screw clearance hole. Rated: 15A.

Stock No.	Type	Color	1-9	10-24	25-99
35N844	3-876-R	Red	2.36	1.79	1.51
35N749	3-876-B	Black	2.36	1.79	1.51
81N1234	3-880-R	Red	5.59	4.24	3.50
81N1235	3-880-B	Black	5.59	4.24	3.50
81N1245	3-881-W	White	2.08	1.58	1.30
81N1246	3-881-R	Red	2.08	1.58	1.30
81N1247	3-881-BK	Black	2.08	1.58	1.30
81N1248	3-881-GR	Green	2.08	1.58	1.30
81N1249	3-881-Y	Yellow	2.08	1.58	1.30
38N293	874	...	0.56	0.43	0.36
90N1661	MBP-159	...	0.63	0.48	0.40

(8989) (de01944)

PRESS FIT TIP JACKS

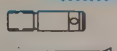
Nylon body installs by pressing into mounting hole. Requires no mounting hardware. Silver-plated contact with turret terminal sets in a nylon body. Closed-end feature prevents access of probes over 0.085″ (2.16). Current rating: 5A. Breakdown voltage: 5000VDC. Contact resistance: 0.005 ohms maximum. For panel thicknesses up to ⅜″.

Stock No.	Type	Color	1-9	10-24	25-99
81N1222	868-R	Red	1.22	0.92	0.76
81N1241	868-BK	Black	1.22	0.92	0.76
81N1242	868-GR	Green	1.22	0.92	0.76
81N1243	868-Y	Yellow	1.22	0.92	0.76

(18729) (ne10850)

JACKS, PLUGS AND SAFETY SOCKETS

4mm BANANA JACKS AND BINDING POSTS

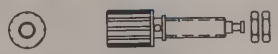


2289, SPC4376, SPC4377, SPC4378

2297, 2298

2299, 2300

2301, 2302



2303, 2304

Banana jacks with unbreakable insulation. Nickel-plated. 36A, 750V, internal resistance: 6mΩ.

Stock No.	Type	Description	Color	1-9	10-24	25-49	50-99
92N4651	2289	Jack, Solder	Black	0.83	0.75	0.67	0.62
92N4652	SPC4376	Jack, Solder	Red	0.83	0.75	0.67	0.62
92N4653	SPC4377	Jack, Screw	Black	0.99	0.89	0.80	0.74
92N4654	SPC4378	Jack, Screw	Red	0.99	0.89	0.80	0.74

Banana jacks feature nylon insulation. Nickel-plated. Nylon hex nut, nylon spacer and nut. 36A, 750V, internal resistance: 5mΩ.

92N4659	2297	Jack, Solder	Black	0.63	0.56	0.51	0.47
92N4660	2298	Jack, Solder	Red	0.63	0.56	0.51	0.47

Banana jacks on both sides. Nickel-plated brass. 36A, 750V, Internal resistance: 5mΩ.

92N4661	2299	Jack, Through	Black	0.73	0.66	0.59	0.54
92N4662	2300	Jack, Through	Red	0.73	0.66	0.59	0.54

Insulated binding posts with 4mm banana jack and 2mm wire hole. Spacer and 2 nuts. 36A, 750V, internal resistance: 5mΩ.

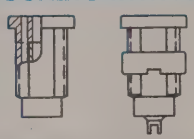
92N4663	2301	Binding Post	Black	2.07	1.87	1.68	1.55
92N4664	2302	Binding Post	Red	2.07	1.87	1.68	1.55

Noninsulated binding posts with 4mm banana jack and 2mm wire hole. External lock-washer and 2 nuts. 36A, 750V, internal resistance: 6mΩ.

92N4665	2303	Binding Post	Black	1.82	1.63	1.47	1.35
92N4666	2304	Binding Post	Red	1.82	1.63	1.47	1.35

(19626) (ne10854)

SAFETY SOCKETS WITH PANEL NUT



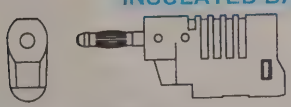
2268, 2269, 2270, 2271

4mm safety sockets with panel nut meet IEC 1010 standard. Nickel-plated brass contact. 25A current, 1000V, maximum internal resistance: 5mΩ. Operating temperature: –20°C to +80°C. **Types 2268 and 2269** have a 0.080″ diameter solder hole. **Types 2270 and 2271** have a 0.06 x 0.080″ (1.5 x 2) solder slot.

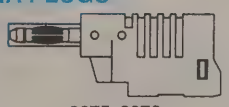
Stock No.	Type	Description	Color	1-9	10-24	25-49	50-99
92N4630	2268	Safety Socket, Solder	Black	1.71	1.54	1.39	1.28
92N4631	2269	Safety Socket, Solder	Red	1.71	1.54	1.39	1.28
92N4632	2270	Safety Socket, Fork	Black	1.82	1.63	1.47	1.35
92N4633	2271	Safety Socket, Fork	Red	1.82	1.63	1.47	1.35

(19627) (ne10855)

INSULATED BANANA PLUGS



SPC4379, 2294



2275, 2276

Types SPC4379 and **2294** banana plugs have 4mm banana jack that accepts 4mm plug. Wire connection with recessed screw. Nickel-plated. **Types 2275** and **2276** have retractable sheath. 36A, 750V, internal resistance: 6mΩ.

Stock No.	Type	Description	Color	1-9	10-24	25-49	50-99
92N4655	SPC4379	Stackable Plug	Black	2.33	2.10	1.89	1.74
92N4656	2294	Stackable Plug	Red	2.33	2.10	1.89	1.74
92N4637	2275	Retractable Plug	Black	3.63	3.26	2.94	2.70
92N4638	2276	Retractable Plug	Red	3.63	3.26	2.94	2.70

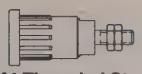
Types 2295 and **2296** banana plugs have 4mm banana jack that accepts 4mm plug. Quick-wire connection with pushbutton. Nickel-plated. **Types 2277** and **2278** have a retractable sheath. 32A, 750V, internal resistance: 6mΩ.

92N4657	2295	Stackable Plug	Black	3.37	3.03	2.73	2.51
92N4658	2296	Stackable Plug	Red	3.37	3.03	2.73	2.51
92N4639	2277	Retractable Plug	Black	4.14	3.73	3.36	3.09
92N4640	2278	Retractable Plug	Red	4.14	3.73	3.36	3.09

(19630) (ne10857)

4mm PUSH-IN SAFETY SOCKETS

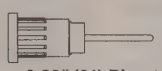
NEW



M4 Threaded Stud

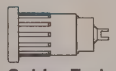
0.25″ Faston® Terminal

0.48″ (12) Pin



0.83″ (21) Pin

Solder Hole



Solder Fork

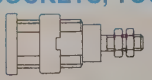
Accept sheathed banana plugs. Press fit into mounting hole for easy, low-cost assembly. Feature nickel-plated brass contact. Rated: 1000V CATIII P2, 36A, <5mΩ resistance. Meet IEC1010 safety standard.

Stock No.	Type	Description	Description	1-9
50N068	SPC4857	M4 Threaded Stud with 2 Nuts	Black	1.49
50N069	SPC4858	M4 Threaded Stud with 2 Nuts	Red	1.49
50N070	SPC4859	0.25″ Faston® Terminal*	Black	1.59
50N071	SPC4860	0.25″ Faston® Terminal*	Red	1.59
50N072	SPC4861	0.48″L x 0.075″ Dia. (12 x 1.9) Pin	Black	0.99
50N073	SPC4862	0.48″L x 0.075″ Dia. (12 x 1.9) Pin	Red	0.99
50N074	SPC4863	0.83″L x 0.075″ Dia. (21 x 1.9) Pin	Black	1.29
50N075	SPC4864	0.83″L x 0.075″ Dia. (21 x 1.9) Pin	Red	1.29
50N076	SPC4865	0.080″ Solder Hole+	Black	0.99
50N077	SPC4866	0.080″ Solder Hole+	Red	0.99
50N078	SPC4867	0.080″ Solder Fork+	Black	1.19
50N079	SPC4868	0.080″ Solder Fork+	Red	1.19

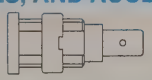
*For standard Faston® female; +For wire connection

(33373) (ne33373)

SAFETY SOCKETS, TOOLS, AND ACCESSORIES

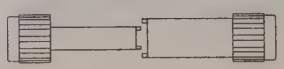


2265



2267

2272



2273

2274

Types 2264 and **2265** 4mm safety sockets with 2 panel nuts meet IEC 1010 standard. Nickel-plated brass contact. Threaded studs, M4 x 0.39″ (10) length. 1000V CATIII P2, 36A, <5mΩ resistance.

Stock No.	Type	Description	Color	1-9	10-24	25-49	50-99
92N4626	2264	Safety Socket	Black	2.18	1.96	1.76	1.62
92N4627	2265	Safety Socket	Red	2.18	1.96	1.76	1.62

Types 2266 and 2267 4mm safety sockets with panel nut meet IEC 1010 standard. Nickel-plated brass contact. Fast-on terminals, 0.25 x 0.39″, 0.031″ thick (6.3 x 10, 0.8). 1000V CATIII P2, 36A, <5mΩ resistance.

92N4628	2266	Safety Socket	Black	1.71	1.54	1.39	1.28
92N4629	2267	Safety Socket	Red	1.71	1.54	1.39	1.28

Type 2272 replacement nut for safety sockets. Brass, nickel-plated M12 x 0.75″ thread, 0.57″ (14.5) length. Requires special tool; *order separately below.*

Stock No.	Type	Description	1-9	10-24	25-49	50-99
92N4634	2272	Panel Nut Replacement	0.73	0.66	0.59	0.54

Type 2273 assembly tool set includes a holding tool and nut wrench for assembling safety sockets into panels. Material: steel.

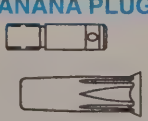
92N4635	2273	Assembly Tool Set	31.00	27.90	25.11	23.10

Type 2274 standoff for extending safety sockets out of panel. Length: 0.39″(10). Material : polyacetal. Color: gray.

92N4636	2274	Safety Socket Standoff	0.73	0.66	0.59	0.54

(19634) (ne10861)

BANANA PLUGS



Banana plugs screw into insulator. Nickel-plated. 36A, 750V, internal resistance: 6mΩ.

Stock No.	Type	Description	Color	1-9	10-24	25-49	50-99
92N4667	2305	Plug, Solder	Black	0.88	0.80	0.72	0.66
92N4668	2306	Plug, Solder	Red	0.88	0.80	0.72	0.66
92N4669	2307	Plug, Screw	Black	0.99	0.89	0.80	0.74
92N4670	2308	Plug, Screw	Red	0.99	0.89	0.80	0.74

(19628) (ne10856)

BANANA AND TIP PLUGS/JACKS

INSULATED SOLDERLESS BANANA PLUGS

For standard 0.175″ banana jack. Insulated nylon handle. Connect wire to 16 AWG. Nickel-plated brass body with nickel silver plug spring. Current: 15A. Resistance: 0.010 ohms. Other colors available; *contact your local Newark sales office.*

Stock No.	Type	Color	1-24
39F1530	108-0301-001	White	1.27
39F1531	108-0302-001	Red	1.27
39F1532	108-0303-001	Black	1.27
39F1533	108-0304-001	Green	1.27
39F1535	108-0306-001	Orange	1.27
39F1536	108-0307-001	Yellow	1.27
39F1537	108-0308-001	Brown	1.27
39F1539	108-0310-001	Blue	1.27

(9081) (de51290)

NYLON INSULATED BANANA JACKS

For standard 0.175″ banana plug. Formed brass contact, bright-tinned finished. Come with nickel-plated nut. Panel thickness: to 0.343″. Current: 15A. Contact resistance: 0.010 ohms.

Stock No.	Type	Color	1-24
39F1573	108-0901-001	White	0.65
39F1574	108-0902-001	Red	0.65
39F1575	108-0903-001	Black	0.65
39F1576	108-0904-001	Green	0.65
39F1578	108-0906-001	Orange	0.65
39F1579	108-0907-001	Yellow	0.65
39F1580	108-0908-001	Brown	0.65
39F1582	108-0910-001	Blue	0.65
39F1584	108-0912-001	Violet	0.65
39F1585	108-0913-001	Gray	0.65

(9082) (de51291)

UNINSULATED BANANA PLUGS

Fig. 1

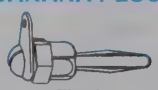


Fig. 2

Brass body with nickel silver springs. Threaded stud types (Fig. 1): **Type 108-0750**, takes standard jack; panel thickness ≤0.250″ or ≤0.625″; up to 14 gauge wire; 15A. Screw type plugs (Fig. 2): **Type 108-0753**, for standard jack; 0.125″ panel thickness, 14 gauge wire; 15A. Jacks are available; *contact your local Newark sales office.*

Stock No.	Type	Fig.	Description	1-24
39F888	108-0750-001	1	Plug, ⅜″ stud	1.63
39F890	108-0753-001	2	Plug, 6-32 screw	1.38

(9090) (de51299)

INSULATED HEX BODY BANANA PLUGS

For standard banana jacks of 0.175″ (4.45) across flats. Wire is solder or solderless up to 16 gauge. Nylon insulated handle is UL approved for self extinguishing. Plug is nickel-plated brass. Current rating: 15 amps. Breakdown voltage: 3500Vrms minimum. Contact resistance: 0.010 ohms maximum. Other colors available; *contact your local Newark sales office.*

Stock No.	Type	Color	1-24
33F1876	108-1762-101	Red	2.14
33F1878	108-1763-101	Black	2.14

(de02179)

INSULATED SOLDERLESS TIP PLUGS

For 0.080″ diameter standard tip jacks. Nylon insulating handle with nickel-plated brass plug contact. Accept wire sizes to 16 gauge. Head recessed to reduce shock hazard. Current: 10A. Breakdown voltage: 3500Vrms. Other colors available; *contact your local Newark sales office.*

Stock No.	Type	Color	1-24
39F1513	105-0301-001	White	0.94
39F1514	105-0302-001	Red	0.94
39F1515	105-0303-001	Black	0.94

(9088) (de51297)

SMALL HANDLE INSULATED TIP PLUGS

For standard 0.080″ (2.03) diameter tip jack. Accepts up to 16-gauge wire, using a solder-type connection. Nylon body is UL approved for self extinguishing. Tip material is nickel-plated brass. Current rating: 10 amps. Breakdown voltage: 3500Vrms minimum. Contact resistance: 0.010 ohms maximum. Other colors available; *contact your local Newark sales office.*

Stock No.	Type	Color	1-24
94F036	105-0772-001	Red	1.07
39F1751	105-0773-001	Black	1.07

(8999) (de02180)

MILITARY INSULATED METAL-CLAD TIP JACKS

For 0.080″ diameter standard tip plug. Come with nylon body and nickel-plated brass jacket. Gold-plated turret terminal contact with wrap-around beryllium copper spring. Come with nickel-plated washer and nut. Mount panels to 0.218″ thick. Breakdown voltage: 8000VDC. Current: 10A. Conform with MS-16108, Rev. F of MIL-STD-242A and MIL-C-39024/10. Other colors available; *contact your local Newark sales office.*

Stock No.	Type	Color	1-24
39F1726	105-0201-200	White	2.86
39F1727	105-0202-200	Red	2.86
39F1728	105-0203-200	Black	2.86

(9087) (de51296)

INSULATED METAL-CLAD STANDARD TIP JACKS

For 0.080″ diameter standard tip plug. Nylon body, nickel-plated threaded, brass jacket. Silver-plated contact with slotted terminal. Come with nickel-plated nut. Mount panels to 0.218″ thick. Current: 10A. Breakdown voltage: 5700Vrms minimum. Other colors available; *contact your local Newark sales office.*

Stock No.	Type	Color	1-24
39F1700	105-0251-001	White	1.20
39F1701	105-0252-001	Red	1.20
39F1702	105-0253-001	Black	1.20

(9084) (de51293)

INSULATED STANDARD BINDING POSTS

For standard 0.175″ diameter banana plug. Fluted, insulating nylon body prevents turning. Silver-plated brass stud has turret termination. Come with nickel-plated nut. Current: 15A. Breakdown voltage: 5700Vrms minimum. Panel thickness: 0.281″ max. Other colors available; *contact your local Newark sales office.*

Stock No.	Type	Color	1-24
39F1545	111-0101-001	White	2.22
39F1546	111-0102-001	Red	2.22
39F1547	111-0103-001	Black	2.22

(9089) (de51298)

INSULATED RIB-LOC® TIP JACKS

Accept standard 0.080″ (2.03) diameter tip plugs. Press mount into mounting hole. Silver-plated terminals. Current rating: 5 amps. Breakdown voltage: 3500Vrms. Contact resistance: 0.005 ohm maximum. Panel thickness: up to 0.375″ (9.53), 0.172″ (4.37) hole. Other colors available; *contact your local Newark sales office.*

Stock No.	Type	Color	1-24
81F4433	105-1041-001	White	1.30
81F4434	105-1042-001	Red	1.30
81F4435	105-1043-001	Black	1.30

(8994) (de02175)

VERTICAL TEST JACKS

Mount through 0.052″ (1.32) hole; requires minimum mounting area. Accept 0.080″ (2.03) diameter tip plugs. Machined or formed beryllium copper contact with silver finish. Current rating: 5 amps. Other colors available; *contact your local Newark sales office.*

MACHINED CONTACTS

Stock No.	Type	Color	1-24
39F1752	105-0851-001	White	0.73
39F1753	105-0852-001	Red	0.73
39F1754	105-0853-001	Black	0.73

FORMED CONTACTS

Stock No.	Type	Color	1-24
81F4439	105-2201-201	White	0.70
81F4440	105-2202-201	Red	0.68
81F4441	105-2203-201	Black	0.68

(8995) (de02176)

INSULATED STANDARD TIP JACKS

For standard 0.080″ diameter tip plug. Nylon body, phosphor bronze contact. Panel thickness: 0.437″ max. Current: 10A. Breakdown voltage: 5700Vrms minimum. Other colors available; *contact your local Newark sales office.*

Stock No.	Type	Color	1-24
39F1560	105-0801-001	White	0.78
39F1561	105-0802-001	Red	0.78
39F1562	105-0803-001	Black	0.78

(9083) (de51292)

INSULATED DELUXE TIP JACKS

For 0.080″ diameter standard tip plug. Machined silver-plated brass contact with turret terminal and wrap-around beryllium copper spring. Come with threaded nylon body and nickel-plated nut. Mount in panels to 0.437″ thick. Current: 10A. Breakdown voltage: 5700Vrms min. Other colors available; *contact your local Newark sales office.*

Stock No.	Type	Color	1-24
39F878	105-0601-001	White	1.34
39F879	105-0602-001	Red	1.34
39F880	105-0603-001	Black	1.34

(9085) (de51294)

HORIZONTAL TEST JACKS

Accept standard 0.080″ (2.03) diameter tip plug in either end, or top or bottom. Cross-hole accepts hook-type oscilloscope probe. Channel on underside for air-flow cooling during soldering. Silver-plated, copper aluminum alloy contact. Two common terminals. Current rating: 5 amps. Breakdown voltage: 2100Vrms minimum. Contact resistance: 0.010 ohms maximum. Nylon body is UL approved for self extinguishing. Other colors available; *contact your local Newark sales office.*

Stock No.	Type	Color	1-24
39F1742	105-0751-001	White	0.46
39F1743	105-0752-001	Red	0.46
39F1744	105-0753-001	Black	0.46

(9001) (de02182)

STANDARD DOUBLE BANANA PLUGS

15 amp dual banana plug/banana jack assembly with clamp screw contacts for wire leads. Cable guide will accommodate up to 0.219″ diameter cable. Standard 0.750″ centers. Molded ABS body, heat-treated beryllium copper spring, nickel plated.

Stock No.	Type	Color	1-9
50F5317	1675-101	White	5.85
28F1250	1675-102	Red	5.85
28F1251	1675-103	Black	5.85

(9091) (de51522)

BNC TO DUAL BANANA PLUG AND BINDING POSTS

1686 1687 1688

Molded ABS body, heat-treated beryllium copper spring nickel plated, solid brass BNC connectors. Rated 15 amps AC except where limited by coaxial connectors, 5kV, 60Hz continuous working voltage.

Stock No.	Type	Description	1-9
28F1255	1686	BNC Female to Dual Banana Plugs	11.02
28F1256	1687	BNC Male to Dual Banana Plugs	15.22
77B4776	1688	BNC Male to Dual Binding Posts, MIL UG-144/U style	15.53

(9092) (de51523)

UNINSULATED BANANA PLUGS

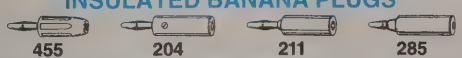
102 103 100

Nickel-plated brass body, beryllium copper spring. Supplied with mounting hardware and solder lug.

Stock No.	Type	Description	1-9
28F1168	100	Std., 6-32 Hole	2.33
38F291	103	Std., Thd 6-32 L ½″	2.39
38F290	102	Std., Thd 6-32 L ⅝″	2.05
28F1167	433	Std., Thd 6-32 L ¾″	2.38

(9320) (de51510)

INSULATED BANANA PLUGS



455 204 211 285

Nickel-plated brass body, beryllium copper spring. Rated: standard, 15A-1kV; giant, 25A-2kV.

Stock No.	Type	Spring	Wiring	Material	Color	1-9
35F780	455-102 RED	Std.	Solderless	Polycarbonate	Red	2.94
35F781	455-103 BLACK	Std.	Solderless	Polycarbonate	Black	2.94
39F863	204-102 RED	Std.	Side Screw	Molded Nylon	Red	3.05
39F864	204-103 BLACK	Std.	Side Screw	Molded Nylon	Black	3.05
39F944	211-102 RED	Std.	Stud or Well	Molded Nylon	Red	2.87
39F940	211-103 BLACK	Std.	Stud or Well	Molded Nylon	Black	2.87
32F829	285-102 RED	Giant	Solder Well	Polycarbonate	Red	9.00
32F830	285-103 BLACK	Giant	Solder Well	Polycarbonate	Black	9.00

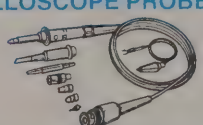
(9321) (de51511)

50-OHM PATCH CORDS

Stock No.	Type	Description	Length	1-9
87F3652	1589-12	BNC Male to BNC Male– RG58/U Coaxial Cable	12″	17.39
87F3795	1589-24		24″	17.97
87F3653	1589-36		36″	18.61

(9083) (de51524)

OSCILLOSCOPE PROBE KITS

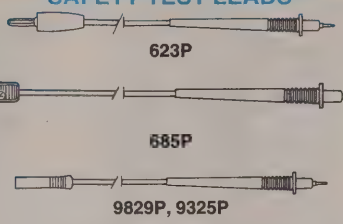


Professional quality oscilloscope probe kits supplied in a handy folding vinyl pouch.

Stock No.	Type	Description	Band Width	1-4
87F3791	OP1010	10:1 Attenuation	100MHz	66.40
87F3792	OP1110	1:1/10:1 Attenuation	100MHz	70.77
87F3793	OP2010	10:1 Attenuation	300MHz	123.95

(9094) (de51525)

SAFETY TEST LEADS



623P

685P

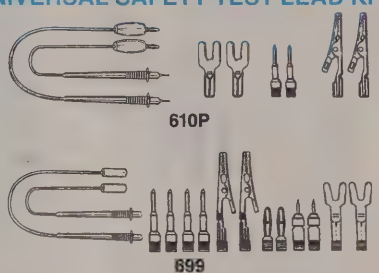
9829P, 9325P

Supplied in pairs: 1 red, 1 black. Precision 0.080″ phone tip. 8-32 thread.

Stock No.	Type	Description	1-9
44F7414	623P	Standard Banana Plug/Test Prod	11.51
44F8972	685P	Right Angle Std. Banana Plug/Test Prod	12.01
87F6623	9829P	Shrouded Safety Jack for Simpson 260-7	14.83
81F4201	9325P	Shrouded Banana Plug/Test Prod	13.11

(9095) (de51526)

UNIVERSAL SAFETY TEST LEAD KITS



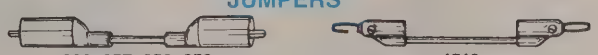
610P

699

Stock No.	Type	Kit Includes	1-9
44F7413	610P	2 Phone, 2 Alligator, 2 Spade Clips	16.61
35F1655	699	2 Needle Tips, 4 Phone, 2 Banana, 2 Alligator, 2 Spade Clips, and Vinyl Pouch	26.82

(9096) (de51527)

JUMPERS

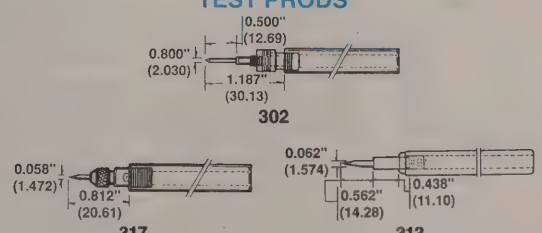


629, 657, 658, 659 1510

Stock No.	Type	Description	Lgth.	Color	1-9
35F833	1510-12-102 RED	Std. Stacking Banana Plug to Std. Stacking Banana Plug Wire 18 AWG PVC Wire	12″	Red	5.23
35F834	1510-12-103 BLACK		12″	Black	5.23
35F791	1510-24-102 RED		24″	Red	5.59
35F792	1510-24-103 BLACK		24″	Black	5.59
35F795	1510-36-102 RED		36″	Red	5.98
35F796	1510-36-103 BLACK		36″	Black	5.98
87F3654	629	Std. Alligator Clip to Std. Alligator Clip– 20 AWG Rubber Wire, Vinyl Boots	12″	Sold in pairs 1 red 1 black	5.18
46F1319	657		24″		5.51
46F2330	658		36″		6.23
46F1320	659		48″		6.28

(9097) (de51528)

TEST PRODS



302 317 313

4″ long handles are ABS except **type 313** which is 6″ long phenolic. **Type 313** features sharp needle tip for insulation piercing.

Stock No.	Type	Color	1-9
35F930	302-102	Red	3.78
35F638	302-103	Black	3.78
35F940	317-102	Red	4.89
35F939	317-103	Black	4.89
94F8997	313-102	Red	38.30
94F1269	313-103	Black	38.30

(9098) (de51529)

5510

ADAPTER, ATTENUATOR & TERMINATION KITS

BNC 50Ω MALE TO FEMALE FEED-THRU ATTENUATOR KIT

Kit contains 5 attenuators, 1 each of 3, 6, 10, 14, 20dB attenuation.

Stock No.	Type	Description	1-4
90F2330	5510	BNC/Banana/Binding Post Adapter Kit	52.91

(8932) (de01178)

STANDARD AND MINIATURE BANANA AND PIN JACKS

Fig. 1 Fig. 2

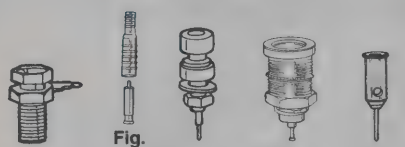


Fig. 3 Fig. 4 Fig. 5 Fig. 6 Fig. 7

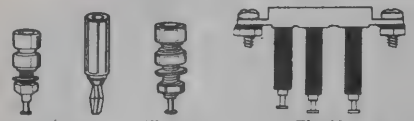


Fig. 8 Fig. 9 Fig. 10 Fig.11

Stock No.	Type	Fig.	Description	1-24	25-49	50-99	100-249
89F354	1581-0*	1	Banana Jack, Black	12.22	8.85	8.54	8.30
30F1410	1581-2 RED*	1	Banana Jack, Red	12.22	8.85	8.54	8.30
30F1419	2269-0 BLACK	2	Double Banana Jack, Black	3.50	3.21	2.97	2.58
30F1418	2269-2 RED	2	Double Banana Jack, Red	3.50	3.21	2.97	2.58
50F1460	3267*	3	Uninsulated Banana Jack	11.54	8.36	8.07	7.84
94F1519	5167-0	4	Do-It-Yourself In-Line Banana Jack with Flexible Boot	2.38	2.18	2.02	1.76
96F7109	4773-0	5	Insulated Pin Jack with Wire Wrap Terminal	3.15	2.89	2.68	2.31
44F5316	4921-0 BLK	6	Panel Mount Banana Jack for Sheathed Plugs, Black	3.50	3.21	2.97	2.58
44F5317	4921-2 RED	6	Panel Mount Banana Jack for Sheathed Plugs, Red	3.50	3.21	2.97	2.58
39F3622	1432-0	7	Banana Jack to Pin Tip Plug, Black	1.47	1.35	1.26	1.08
39F3623	1432-2	7	Banana Jack to Pin Tip Plug, Red	1.47	1.35	1.26	1.08
89F357	3542-0*	8	0.080″ Pin Jack, Black	17.59	13.25	12.46	11.86
89F358	3542-2*	8	0.080″ Pin Jack, Red	17.59	13.25	12.46	11.86
94F1590	4543-0*	2	Pin Tip Jack with Double Mounting Base	5.04	4.61	4.27	3.70
39F3616	1809-0	9	0.080″ Pin Jack to Banana Plug, Black	2.73	2.49	2.32	2.01
39F3617	1809-2	9	0.080″ Pin Jack to Banana Plug, Red	2.73	2.49	2.32	2.01
96F7081	4163-0	11	European Triple Banana Jack	7.40	6.37	5.83	5.34
39F3619	2142-0	10	Mini Insulated Banana Jack, Black	1.61	1.47	1.37	1.19
39F3620	2142-2	10	Mini Insulated Banana Jack, Red	1.61	1.47	1.37	1.19
50F1465	2143-0 BLACK	2	Mini Insulated Double Banana Jack, Black	4.34	3.98	3.68	3.19
50F1536	2143-2	2	Mini Insulated Double Banana Jack, Red	4.34	3.98	3.68	3.19

* Sold in packages of 10.
(8978) (de01673)

STANDARD AND MINIATURE BANANA PLUGS

STANDARD BANANA PLUGS

Fig. 12 Fig. 13 Fig. 14

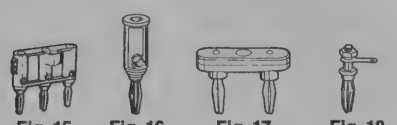


Fig. 15 Fig. 16 Fig. 17 Fig. 18

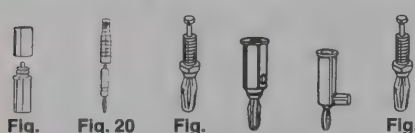


Fig. 19 Fig. 20 Fig. 21 Fig. 22 Fig. 23 Fig. 24

Stock No.	Type	Fig.	Description	1-24	25-49	50-99	100-249
34F857	MDP-0 BLACK	12	Double Banana Plug, Black	3.01	2.75	2.56	2.21
34F856	MDP-2 RED	12	Double Banana Plug, Red	3.01	2.75	2.56	2.21
50F1461	MDP-S-0 BLACK	...	Double Banana Plug with Shorting Bar, Black	4.90	4.49	4.15	3.60
50F1462	MDP-S-2	...	Double Banana Plug with Shorting Bar, Red	4.90	4.49	4.15	3.60
34F858	MDP-S-9 WHITE	...	Double Banana Plug with Shorting Bar, White	4.90	4.49	4.15	3.60
39F3615	MDP-ST	...	Dbl. Banana Plug Solder Turrets	4.21	3.84	3.56	3.08
34F859	MDP-X	13	4-Terminal Isolation Double Banana Plug, 0.750″ (19.05) spacing	13.30	11.44	10.46	9.61
30F1430	1330-0 BLACK	14	Double Banana Plug For Component Mounting	3.29	3.01	2.80	2.42
35F1066	2970-0 BLACK	15	Triple Banana Plug, Black	6.02	5.51	5.10	4.42
35F1065	2970-2 RED	15	Triple Banana Plug, Red	6.02	5.51	5.10	4.42
30F1411	1325-0 BLACK	16	Solderless Stackup Banana Plug, Black	1.75	1.61	1.49	1.28
30F1407	1325-2 RED	16	Solderless Stackup Banana Plug, Red	1.75	1.61	1.49	1.28
30F1400	1825-0 BLACK	...	Solderless Stackup Banana Plug with Safety Collar, Black	1.75	1.61	1.49	1.28
44F661	1825-2 RED	...	Solderless Stackup Banana Plug with Safety Collar, Red	1.75	1.61	1.49	1.28
94F940	5145	17	Encapsulated Dbl. Banana Plug Shorting Bar	7.08	6.47	6.00	5.19
89F361	3263*	18	Banana Plug Threaded Stud 6-32x0.50″	17.59	13.25	12.46	11.86
44F5346	4933-0 BLK	19	Do-It-Yourself In-Line Sheathed Banana Plug, Black, 22-18 AWG	4.34	3.98	3.68	3.19
44F5347	4933-2 RED	19	Do-It-Yourself In-Line Sheathed Banana Plug, Red, 22-18 AWG	4.34	3.98	3.68	3.19
94F1520	5169-0	20	Do-It-Yourself In-Line Banana Plug with Flexible Boot, Black, 22-18 AWG	3.01	2.75	2.56	2.21
94F1521	5169-2	20	Do-It-Yourself In-Line Banana Plug with Flexible Boot, Red, 22-18 AWG	3.01	2.75	2.56	2.21
94F1522	5170-0	20	Do-It-Yourself In-Line Banana Plug with Flexible Boot, Black, 16-14 AWG	3.01	2.75	2.56	2.21
94F1523	5170-2	20	Do-it-Yourself In-Line Banana Plug with Flexible Boot, Red, 16-14 AWG	3.01	2.75	2.56	2.21

MINIATURE BANANA PLUGS

39F3621	3276	21	Mini Banana Plug with Threaded Stud	1.61	1.47	1.37	1.19
30F1416	3690-0 BLACK	22	Mini Solder-Type Banana Plug, Black	2.31	2.12	1.97	1.69
30F1415	3690-2 RED	22	Mini Solder-Type Banana Plug, Red	2.31	2.12	1.97	1.69
34F938	2945-0 BLACK	23	Mini Solderless Stackup Banana Plug with Safety Collar, Black	4.21	3.84	3.56	3.08
34F939	2945-2 RED	24	Mini Solderless Stackup Banana Plug with Safety Collar, Red	4.21	3.84	3.56	3.08
34F844	2244-0 BLACK	...	Mini Double Banana Plug/Setscrews, Black	5.88	5.38	4.98	4.32
77B2548	4513*	24	Mini Banana Plug with Threaded Stud	21.50	16.13	15.22	14.50
84F903	3452-0	25	Mini Double Pin Tip Plug with Shorting Bar	5.88	5.38	4.98	4.32
34F845	2244-2 RED	...	Mini Double Banana Plug/Setscrews, Red	5.88	5.38	4.98	4.32
16F1593	2035-0	13	Mini-Double Banana Plug/Shorting Bar, Black	6.09	5.57	5.17	4.52
16F1594	2035-2	13	Mini-Double Banana Plug/Shorting Bar, Red	6.38	5.82	5.41	4.68
77B2354	3273*	14	Mini Rivet Banana Plug	13.57	9.83	9.49	9.23

* Sold in packages of 10.
(8977) (de01672)

PLUGS, ADAPTERS AND BINDING POSTS

ADAPTERS, BINDING POSTS & ACCESSORIES

50 OHM BNC COAXIAL ADAPTERS

Stock No.	Type	Description	1-24	25-49	50-99	100-249
34F860	1269	BNC Female to Double Banana Plug, Black	7.87	6.77	6.20	5.69
35F1067	1270	BNC Male to Double Banana Plug, Black	12.28	10.57	9.67	8.87
34F870	1296	Double Binding Posts to BNC Male	14.01	12.39	11.78	10.63
35F1068	1452	Binding Posts to BNC Female	12.28	10.57	9.67	8.87
35F1070	3430-0	Single Binding Post to BNC Male, Black	7.26	6.24	5.72	5.25
35F1069	3430-2	Single Binding Post to BNC Male, Red	7.26	6.24	5.72	5.25
34F936	3269	BNC Female to Mini Double Banana Plug, Black	13.84	11.91	10.89	10.00
34F937	3296	Miniature Binding Posts to BNC Male, Black	25.09	22.18	21.09	19.03

PHONE AND PHONO ADAPTERS

89F352	1285	Binding Posts to Phone Plug	16.75	14.81	14.08	12.71
35F1071	1297	50 Ohm BNC Female to Phone Plug	13.30	11.44	10.46	9.61
44F5336	2112	Binding Posts to PJ-051/WE-310 Phone Plug	25.02	22.12	21.03	18.98
44F5334	2798	BNC Female to PJ-051/WE-310 Phone Plug	24.44	21.60	20.54	18.54
50F1466	3837	BNC Female to 2-Conductor Tini Plug	14.40	12.73	12.11	10.93
77B2433	4043	BNC Male to ¼" Phone Jack	29.19	25.81	24.54	22.14
94F5159	4044	¼" Phone Jack to Double Stacking Banana Plug	21.34	18.87	17.60	15.89
46F2379	5319	BNC Female to Phono Plug	7.26	6.24	5.72	5.25
44F5337	4719	BNC Female to Bantam Plug	23.20	20.51	19.50	17.60
89F353	4993	Bantam Jack to PJ-051/ WE-310 Plug	43.08	40.53	37.56	...
44F5329	4054	Phono Jack to 50 Ohm BNC Male	19.03	16.82	16.00	14.43

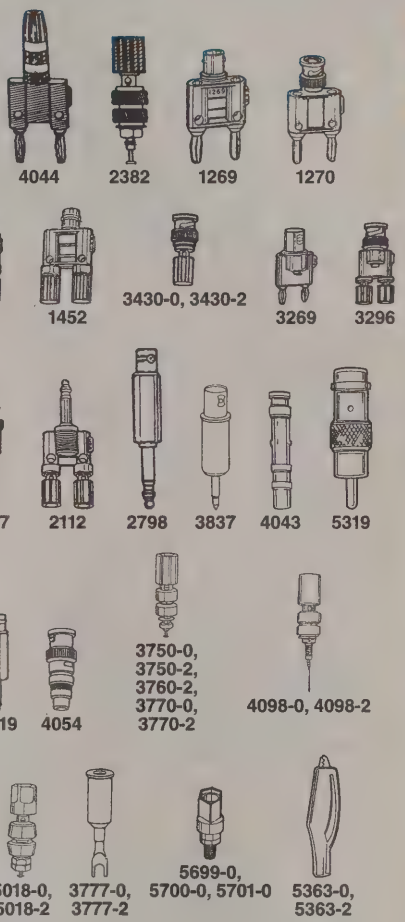
BINDING POSTS

89F356	3760-0	Miniature Rivet-Type Banana Plug	3.43	3.14	2.92	2.52
89F355	3760-2	Single Standard Binding Post, Red	3.43	3.14	2.92	2.52
77B2411	3770-0	Binding Post, Low Voltage, Black	6.56	5.64	5.06	4.65
78B1723	3770-2	Binding Post, Low Voltage, Red	6.56	5.64	5.06	4.65
89F359	4243-0	Double Binding PostAssembly, Black	6.80	6.21	5.76	4.98
89F360	4243-2	Double Binding Post Assembly, Red	6.80	6.21	5.76	4.98
78B1720	3750-0	Gold-Plated Binding Post	5.04	4.61	4.27	3.70
78B1721	3750-2	Gold-Plated Binding Post	5.04	4.61	4.27	3.70
84F918	4098-0	Binding Post w/Wire, Black	5.67	5.19	4.81	4.16
84F919	4098-2	Wrap Terminal, Red	5.67	5.19	4.81	4.16
50F1463	5018-0	Hex Head Binding Post, Black	10.72	9.23	8.44	7.75
50F1464	5018-2	Hex Head Binding Post, Red	10.72	9.23	8.44	7.75
94F745	2382-0	Miniature Binding Post, Gold Plate, Black	5.21	4.77	4.34	3.75
94F746	2382-2	Miniature Binding Post, Gold Plate, Red	5.21	4.77	4.34	3.75
84F895	2439-0	Miniature Binding Post, Tin Plate, Black	3.93	3.59	3.26	2.83
84F896	2439-2	Miniature Binding Post, Tin Plate, Red	3.93	3.59	3.26	2.83

MISCELLANEOUS ACCESSORIES

30F1428	3777A-0	Insulated Barrier Strip Spade Lug to Banana Jack, Black	4.34	3.98	3.68	3.19
50F1468	3777A-2	Insulated Barrier Strip Spade Lug to Banana Jack, Red	4.34	3.98	3.68	3.19
50F1537	5699-0	Terminal Strip Banana Jack Adapter	4.34	3.98	3.68	3.19
50F1543	5700-0	Terminal Strip Banana Jack Adapter	4.34	3.98	3.68	3.19
50F1546	5701-0	Terminal Strip Banana Jack Adapter	4.34	3.98	3.68	3.19
30F1421	2240-0	Insulated Alligator Clip to Banana Jack	8.15	5.90	5.70	5.54
87F020	5363-0	Insulated Minigator Clip to 0.025" (0.64) Square Pin, Black	4.41	4.03	3.75	3.24
87F021	5363-2	Insulated Minigator Clip to 0.025" (0.64) Square Pin, Red	4.41	4.03	3.75	3.24

(8979) (de01674)



TEST LEAD ACCESSORIES

MOLDED PVC STRESS RELIEF BOOTS

Protects cable 0.185-0.2.00" (4.70-5.08) outer diameter except (*) which fit 0.237-0.247" (6.02-6.27) outer diameter.

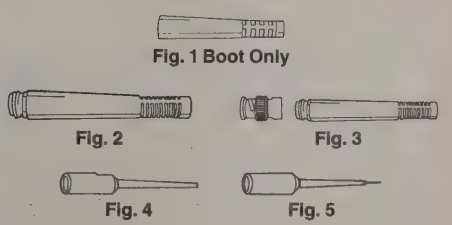
Stock No.	Type	Fig.	Color	Fits Cable	1-24	25-49	50-99
44F5341	5155-0	1	Black	RG 58, 141	0.91	0.84	0.78
44F5315	5156-0	1	Black	RG 59, 62, 210	0.91	0.84	0.78
44F5342	5076-0	2	Black	RG 58, 141	3.99	3.65	3.39
44F5344	5066-0	3	Black	RG 58, 141	8.69	7.47	6.84

CONNECTOR TEST ADAPTERS

For rapid testing of hard-to-reach contacts of multi-pin and socket rack or panel connectors. 2500 WVDC, +50°C.

Stock No.	Type	Fig.	Description	Contact Diameter	Amps	1-24	25-49	50-99
81F4641	4690-0	4	Black Socket	0.030"	5.0	5.67	5.19	4.81
81F4649	4690-2	4	Red Socket	0.030"	5.0	5.67	5.19	4.81
81F4642	4691-0	5	Black Pin	0.030"	5.0	4.34	3.98	3.68
81F4650	4691-2	5	Red Pin	0.030"	5.0	4.34	3.98	3.68
81F4643	3560-0	4	Black Socket	0.040"	7.5	4.34	3.98	3.68
81F4651	3560-2	4	Red Socket	0.040"	7.5	4.34	3.98	3.68
81F4644	3561-0	5	Black Pin	0.040"	7.5	4.69	4.29	3.98
81F4652	3561-2	5	Red Pin	0.040"	7.5	4.69	4.29	3.98
81F4645	3562-0	4	Black Socket	0.063"	13.0	4.69	4.29	3.98
81F4653	3562-2	4	Red Socket	0.063"	13.0	4.69	4.29	3.98
81F4646	3563-0	5	Black Pin	0.063"	13.0	4.13	3.77	3.51
81F4654	3563-2	5	Red Pin	0.063"	13.0	4.13	3.77	3.51
81F4647	3564-0	4	Black Socket	0.093"	23.0	7.40	6.37	5.83
81F4655	3564-2	4	Red Socket	0.093"	23.0	7.40	6.37	5.83
81F4648	3565-0	5	Black Pin	0.093"	23.0	4.13	3.77	3.51
81F4656	3565-2	5	Red Pin	0.093"	23.0	4.13	3.77	3.51

(43070) (ne43070)



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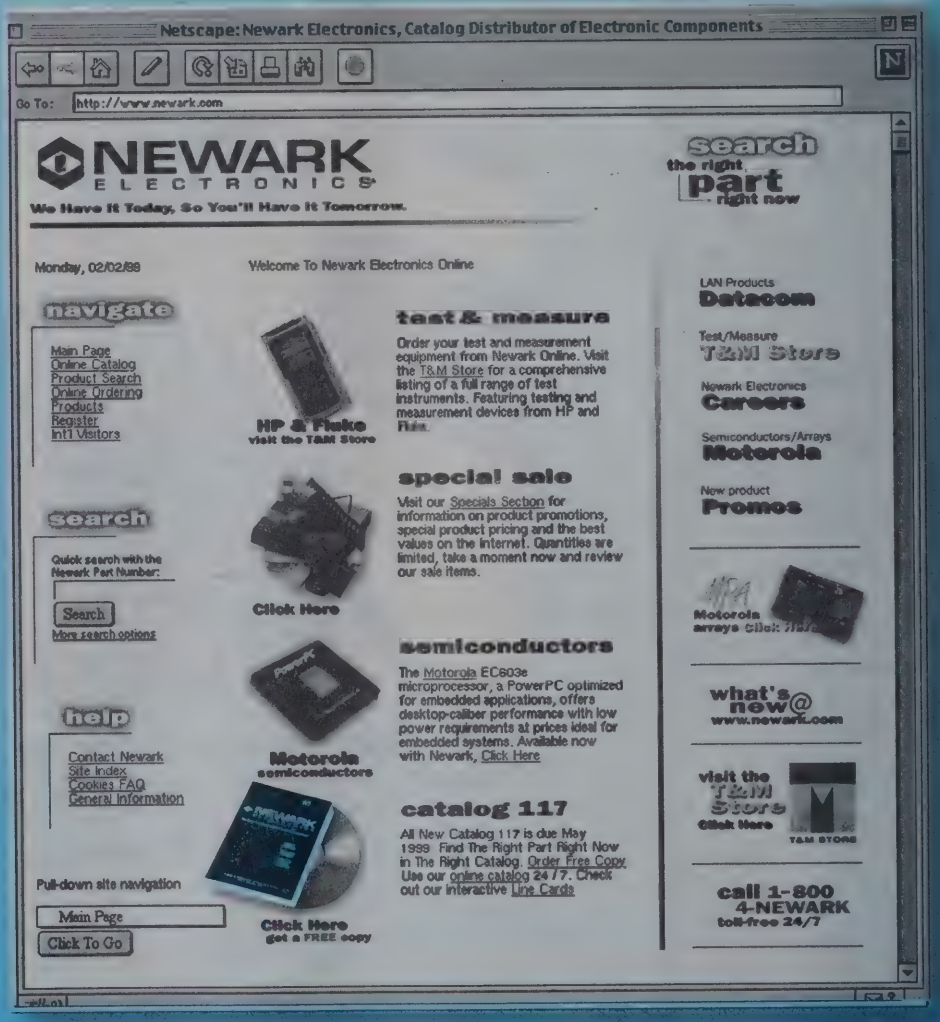
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Pages 350—375

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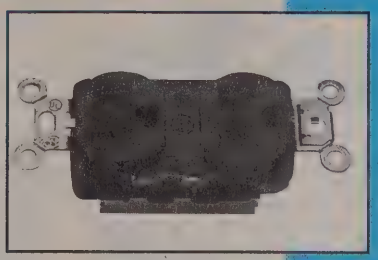
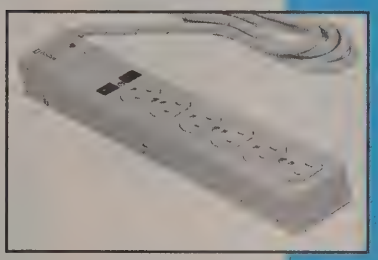
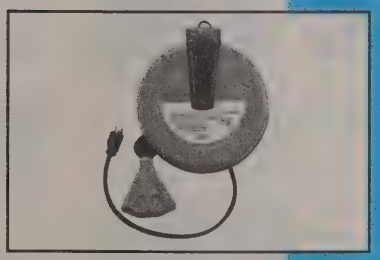
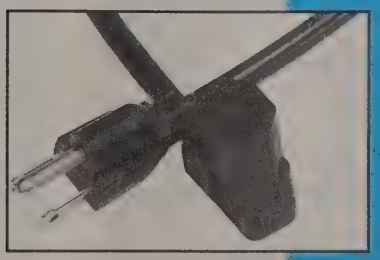
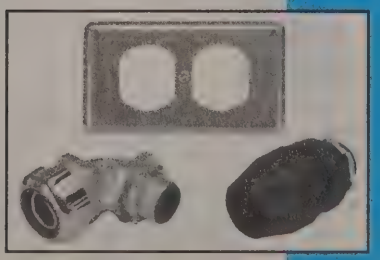










Products include...

- **Conduit and Tubing**
  - **Connectors**
  - **Cord Grips**
  - **Fittings**
- **Cord Reels**
- **Device Covers**
- **Extension Cords**
- **Junction Boxes**
- **Outlet Centers**
- **Outlet Strips**
- **Power Supply Cords**
- **Surge Suppressors**
- **Wiring Devices**
  - **Adapters**
  - **Connectors**
  - **GFCIs**
  - **Plugs**
  - **Receptacles**
  - **Switches**
- **Work Lights**

For Electrical Boxes, see Section 6: Enclosures, Cabinets, Chassis & Racks

For Circuit Breakers, see Section 10: Fuses & Circuit Breakers

For Power Supplies and Power Conditioning Products, see Section 14: Power Supplies & Power Protection

For Wire Management Products, see Section 25: Wire & Cable Accessories

2-POLE, 3-WIRE HOSPITAL-GRADE PLUGS/CONNECTORS

Fig. 1

Fig. 2

Fig. 3

2-pole, 3-wire grounding. Accept 12/3SO to 18/3SJ cord. UL listed, **8200 series**: 15A, 125VAC/DC. **8300 series**: 20A, 125VAC/DC. *Order mating receptacles separately.*

Stock No.	Type	Description	Fig.	NEMA	1-5	6-10
31F1341	HBL8215C	Plug	3	5-15P	14.10	12.99
31F1343	HBL8215CAT	Plug	1	5-15P	22.09	20.13
31F1342	HBL8215CT	Plug	3	5-15P	21.33	19.44
31F1344	HBL8219C	Connector	2	5-15R	24.78	21.57
31F1358	HBL8315C	Plug	3	5-20P	18.73	17.26
31F1359	HBL8315CT	Plug	3	5-20P	26.00	22.29
31F1360	HBL8319C	Connector	2	5-20R	30.51	26.55

(2852) (de50072)

HOSPITAL-GRADE RECEPTACLES

Mate with **8200, 8300 series** hospital-grade plugs. UL listed. 2-pole, 3-wire grounding. **8200**: 15A, 125 volt. **8300**: 20A, 125 volt. **5262, 5362 series** feature illuminated face design. **5262:** 15A, 125V. **5362:** 20A, 125V.

8200 SERIES RECEPTACLES

Stock No.	Type	Color	NEMA	1-5	6-10
31F1336	8200	Brown	5-15R	24.78	21.57
31F1337	8200-I	Ivory	5-15R	24.78	21.57
31F1338	8200-R	Red	5-15R	24.78	21.57
31F1339	8200-GY	Gray	5-15R	24.78	21.57

8300 SERIES RECEPTACLES

31F1348	8300	Brown	5-20R	27.31	23.77
31F1349	8300-I	Ivory	5-20R	27.31	23.77

5262 SERIES ILLUMINATED RECEPTACLES

92F4491	8200ILI	Ivory	5-15R	38.82	33.27

5362 SERIES ILLUMINATED RECEPTACLES

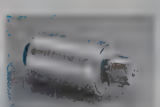
92F4493	8300ILI	Ivory	5-15R	41.90	35.92

(2854) (de50073)

2-POLE, 3-WIRE HOSPITAL-GRADE DEVICES

23001HG

23014HG, 23004HG


24312

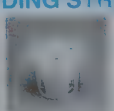
2-pole, 3-wire grounding nonexplosion-proof devices rated 20A, 125V, 60Hz, AC. For nonhazardous areas. Explosion-proof for operating rooms and class 1, division 1, group C atmospheres. **Type 24312** is an explosion-proof plug. UL listed, CSA certified.

Stock No.	Type	Description	1-5	6-10
81F2902	HBL23001HGB	Connector	97.09	86.70
81F2903	HBL23014HGB	Plug	101.54	90.67
81F2904	HBL23004HG	Plug/Epoxy Kit	130.67	117.15
81F2905	HBL24312	Epoxy Sealed Plug	279.14	241.98

(2856) (de50074)

2-POLE, 3-WIRE GROUNDING STRAIGHT BLADE DEVICES

5278-C


5279

5240

15A, 125VAC or DC. 2-pole, 3-wire. Receptacle 5-15R. Plug 5-15P.

Stock No.	Type	Description	1-5	6-10
46F1292	HBL5278C	Inlet, Nylon Casing	17.80	16.22
32F728	HBL5279	Flanged Receptacle	42.51	36.44
31F1367	HBL5280C	Plug	25.02	21.45
81F2898	HBL5240	Inlet	25.25	23.00

(2870) (de50081)

2-WIRE MIDGET PLUGS/CONNECTORS/RECEPTACLES

7465V

7464V

7468

7464V and **7465V** fit 0.218″-0.375″ (5.54-9.53) diameter cords. 2-pole, 2-wire. Casings brass, polished nickel finish. 15A, 125VAC/DC. UL listed.

Stock No.	Type	Description	1-5	6-10
38F522	7464-V	Connector	14.49	12.88
31F1365	7465-V	Polarized Plug	13.46	11.96
38F502	HBL7466	Flanged Inlet, Exposed Terminal	19.19	17.48
38F503	HBL7468	Flanged Receptacle, NEMA ML-1R	15.91	14.49

(2858) (de50075)

STRAIGHT BLADE NYLON PLUGS/CONNECTOR

5464VY, 5666VY
5364VY, 5965VY

5969VY

5865VY

3-wire grounding except **5865VY** 2-wire. UL listed. **5865VY** nonpolarized.

PLUGS

Stock No.	Type	Rating	Cord Diameter	NEMA	1-5	6-10
31F1335	HBL5965VY	15A, 125VAC/DC	0.220-0.660″	5-15P	8.70	8.02
31F1363	HBL5865VY	15A, 125VAC/DC	0.218-0.385″	1-15R	7.49	6.90
66F5607	HBL5965VBLK	15A, 125VAC/DC	0.220-0.660″	5-15P	9.25	8.53
34F1153	HBL5464VY	20A, 250VAC/DC	0.460-0.720″	6-20P	14.65	13.50
34F1151	HBL5666VY	15A, 250VAC/DC	0.296-0.687″	6-15P	11.02	10.15
34F1152	HBL5364VY	20A, 125VAC/DC	0.460-0.720″	5-20P	13.22	12.18

CONNECTOR

81F2897	HBL5969VY	15A, 125VAC/DC	0.220-0.660″	5-15R	17.29	15.94

(2860) (de50076)

2-POLE, 3-WIRE STRAIGHT BLADE PLUGS AND RECEPTACLES

9331

9330

2 pole, 3 wire grounding. Cord diameter for plugs: 0.625 -1.187″ (15.9-30.2) **9308, 9309**: 30A, 125V. **9330, 9331**: 30A, 250V. **9367, 9368**: 50A, 250V. UL listed, CSA Certified.

Stock No.	Type	Description	1-5	6-10
92F509	HBL9308	Receptacle, Black Phenolic, NEMA 5-30R	22.99	20.01
52F9738	9309	Plug, Nylon, Angle 4-Position, NEMA 5-30P	52.70	47.07
92F510	HBL9330	Receptacle, Black Phenolic, NEMA 6-30R	26.28	22.88
52F9739	HBL9331	Plug, Nylon, Angle 4-Position, NEMA 6-30P	54.60	48.76
92F511	HBL9367	Receptacle, Black Phenolic, NEMA 6-50R	30.01	26.12
66F5609	HBL9368	Plug, Nylon, Angle 4-Position, NEMA 6-50P	58.79	52.50

(3065) (ne08338)

GROUNDING NYLON ADAPTERS

5273L

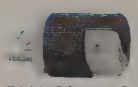
Male: 2-wire parallel, polarized. Female: 3-wire 15A, 125V grounding, straight slot.

Stock No.	Type	1-5	6-10
38F517	5273L	15.97	14.72

(2868) (de50080)

STRAIGHT BLADE 3-WIRE GROUND DEVICES

5369-C/5269C



5366-C/5266-C

Nylon 2-pole ground devices. 0.296-0.688″ (7.52-17.48) diameter cord. **Type HBL5266-CA** is an 8-position angle plug.

PLUGS

Stock No.	Type	Rating	NEMA	1-5	6-10
32F750	HBL5266C	15A, 125V AC/DC	5-15P	12.89	11.88
30F1304	HBL5366C	20A, 125V AC/DC	5-20P	17.73	16.34
52F9755	HBL5266CA	15A, 125V AC/DC	5-15P	16.63	15.33

CONNECTORS

30F1301	HBL5269C	15A, 125V AC/DC	5-15R	22.58	19.65
34F1143	HBL5369C	20A, 125V AC/DC	5-20R	29.63	25.78

(2879) (de50086)

TWIST-LOCK 2-POLE, 3-WIRE GROUNDING DEVICES

2311

2310A

2313

Units are wire-ground except **types 9965C** and **7565C**. Accept 0.385-0.780″ (9.78-19.81) diameter cord except **types 4720C, 4729C,** and **7565C** which accept 0.296-0.688″ (7.52-17.48); and **types 2411, 2421, 2431, 2433** which accept 0.595 to 0.895″ diameter cord. All are UL listed, CSA certified, except **Type 7565C**.

TWIST-LOCK PLUGS

Stock No.	Type	Rating	NEMA	1-5	6-10
81F2909	HBL2311	20A, 125VAC/DC	L5-20R	18.83	17.36
81F2906	HBL2321	20A, 250VAC/DC	L6-20R	18.83	17.36
81F2908	HBL2331	20A, 277VAC	L7-20R	18.83	17.36
34F1140	HBL2611	30A, 125VAC/DC	L5-30R	29.30	25.50
32F725	HBL4720C	15A, 125VAC/DC	L5-15R	14.98	13.80
81F2917	HBL9965C	20A, 125/250 VAC/DC	...	22.91	19.94
52F9726	HBL2335	20A, 277VAC	L7-20R	23.98	21.85
66F5600	HBL2411	20A, 125/250VAC	L14-20P	28.64	24.92
66F5601	HBL2421	20A, 3Ø/250VAC	L15-20P	30.62	26.65
52F9729	HBL2431	20A, 3Ø/480VAC	L16-20P	34.50	29.58
70B4658	HBL2621	30A, 250VAC/DC	L6-30P	29.52	25.69
70B4151	HBL4570C	15A, 250VAC/DC	L16-15P	15.86	14.62

TWIST-LOCK RECEPTACLES

98F1997	HBL2310	20A, 125VAC/DC	L5-20R	24.01	20.90
52F9741	2320A	20A, 250VAC/DC	L6-20R	24.01	20.90
30F1305	HBL2610	30A, 125VAC/DC	L5-30R	34.03	29.62
66F5611	HBL2410	20A, 125/250VAC/DC	L14-20R	33.70	29.33
66F5612	HBL2420	20A, 3Ø/250VAC	L15-20R	33.81	29.43
70B6514	2620A	30A, 250VAC/DC	L5-30R	36.78	32.01

TWIST-LOCK CONNECTORS

81F2910	HBL2313	20A, 125VAC/DC	L5-20R	29.30	25.50
81F2907	HBL2323	20A, 250VAC/DC	L6-20R	29.30	25.50
34F1141	HBL2613	30A, 125VAC/DC	L5-30R	54.86	48.99
34F1142	HBL4729C	15A, 125VAC/DC	L5-15R	26.54	23.10
34F1144	HBL7565C	10A, 250V/15A, 125VAC/DC	...	32.49	28.28
66F5603	HBL2625	20A, 3Ø/480VAC	L16-20R	46.33	39.72
52F9732	HBL2623	30A, 250VAC/DC	L6-30R	55.27	49.36
46F1296	HBL4579C	15A, 25VAC/DC	L6-15R	27.31	23.77

(2872) (de50082)

3-POLE, 3-WIRE NON-GROUNDING DEVICES

7484

7487

7485

7486

Types 7432, 7433 fit cord diameter 0.335-0.421″ (8.51-10.69); **7484, 7485** fit 0.281-0.421″ (7.14-10.69). 15A, 125VAC/DC. Blade holder phenolic, cord grip nylon. Cord grip finish black oxidized. NEMA receptacle ML-3R.

Stock No.	Type	Description	1-5	6-10
38F504	HBL7485	Plug	14.76	13.60
38F505	HBL7484	Connector	20.16	18.58
38F506	HBL7486	Flanged Inlet	18.94	17.46
38F507	HBL7487	Flanged Receptacle	23.13	20.13

(2874) (de50083)

2-POLE, 3-WIRE GROUNDING DEVICES

7593

7594

7595

7596

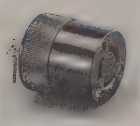
15A, 125VAC or DC. NEMA receptacle ML-2R. Plug ML-2P. *For plug or connector with insulation displacement terminal, add* **suffix V**.

Stock No.	Type	Description	1-5	6-10
32F742	HBL7593	Connector	19.61	18.07
32F743	HBL7594	Plug	14.98	13.80
38F523	HBL7595	Flanged Inlet	16.96	15.63
38F524	HBL7596	Flanged Receptacle	20.49	18.88

(2876) (de50084)

3-POLE, 3-WIRE PHENOLIC DEVICES

7567C



7555

7556

7485V

7557 and 7489

10A, 250VAC; 15A, 125VAC or DC. **7567C** fits 0.296-0.688″ (7.52-17.48) diameter cord; **7555** fits 0.296-0.625″ (7.52-15.88) **7485V** fits 0.300-0.430″ (7.6-10.9). **7489** fits 0.500″(12.7).

Stock No.	Type	Description	1-5	6-10
31F1366	HBL7567C	Plug	19.83	18.27
38F510	HBL7555	Connector	41.66	37.95
38F511	HBL7556	Flanged Inlet	29.82	25.56
38F512	HBL7557	Flanged Receptacle	29.82	25.56
52F9743	HBL7485V	Plug	13.44	12.38
52F9737	HBL7489	Receptacle	28.53	25.99

(2877) (de50085)

2-POLE, 3 WIRE STRAIGHT BLADE RECEPTACLES

Fig. 1

Fig. 2

Fig. 3

Fig. 4

2-pole, 3-wire ground. **Type 5262** 3-wire isolated ground. Nylon except **5256 and 5258** phenolic. **5242** side wire model. **5252, 5462, 5662** side and back wire models.

Stock No.	Type	Fig.	Rating	NEMA	1-5	6-10
32F701	HBL5242	1	15A/125VAC/DC	5-15R	8.48	7.82
32F749	HBL5252	1	15A/125VAC/DC	5-15R	11.79	10.86
34F1154	5262	1	15A/125VAC/DC	5-15R	19.39	17.86
44F1496	5662	1	15A/250VAC/DC	6-15R	23.57	20.51
44F1502	5462	1	20A/250VAC/DC	6-20R	28.97	25.21
44F1498	5362	1	20A/125VAC/DC	5-20R	22.80	19.84
30F1303	HBL5284	4	15A/125VAC/DC	5-15R	15.14	13.46
30F1300	HBL5258	3	15A/125VAC/DC	5-15R	11.36	10.35
44F1499	HBL5261	2	15A/125VAC/DC	5-15R	17.18	15.83
32F746	HBL5256	3	15A/125VAC/DC	5-15R	24.59	21.85

(2881) (de50087)

3-WIRE TWIST-LOCK DEVICES

20A, 125/250VAC or DC. UL listed. Brass casings have polished nickel finish. Receptacle fits standard single gang plates.

3326C

3325C

Stock No.	Type	Description	1-5	6-10
44F1500	HBL3325C	Nylon Flanged Inlet	30.07	25.78
44F1501	HBL3326C	Nylon Flanged Receptacle	51.76	44.37

(2866) (de50079)

ISOLATED GROUNDING RECEPTACLES

Orange nylon, flush receptacles wire isolated ground. All are 125 volts.

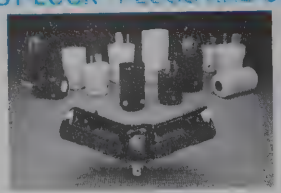
IG5XXX

IG2XXX

Stock No.	Type	Amp	NEMA	1-5	6-10
34F1157	IG-2310-A	20	L5-20R	28.64	24.92
34F1158	IG2610	30	L5-30R	39.54	34.41
34F1161	IG-5262	15	5-15R	24.23	21.09
34F1163	IG-5362	20	5-15R	30.18	26.26

(2885) (de50091)

VALISE® TWIST-LOCK® PLUGS AND CONNECTORS



Valise® Twist-Lock® plugs and connectors feature devices available in traditional black with white cord grips. Yellow with black cord grips are also available; *contact your local Newark sales office.* The removable cord grip inserts offer a simple way of accommodating a wide range of cord diameters, while providing a powerful hold to prevent slippage and strain. One-piece Valise style body offers unique interlocking lugs which secure the body together for strength and security as the device folds to grip the cord, even with rough use. Cord range: **types HBL45** and **HBL47** = 0.220-0.660″ (5.6-16.8); **type HBL23** = 0.325-0.720″ (8.26-18.3); **type HBL26** = 0.590-0.930″ (15.0-23.6). UL listed, CSA certified, CE compliant.

PLUGS

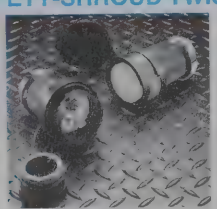
Stock No.	Type	Rating	NEMA	1-5	6-10
91F2344	HBL4723VBK	15A, 125V	L5-15P	10.11	9.32
91F2346	HBL4573VBK	15A, 250V	L6-15P	10.64	9.81
91F2348	HBL4773VBK	15A, 277V	L7-15P	11.71	10.79
91F2350	HBL2311VBK	20A, 125V	L5-20P	12.77	11.77
91F2352	HBL2321VBK	20A, 250V	L6-20P	12.77	11.77
91F2354	HBL2331VBK	20A, 277V	L7-20P	12.77	11.77
91F2356	HBL2611VBK	30A, 125V	L5-30P	19.79	18.24
91F2358	HBL2621VBK	30A, 250V	L6-30P	20.01	18.44

CONNECTORS

Stock No.	Type	Rating	NEMA	1-5	6-10
91F2345	HBL4729VBK	15A, 125V	L5-15R	17.99	16.57
91F2347	HBL4579VBK	15A, 250V	L6-15R	18.41	16.97
91F2349	HBL4779VBK	15A, 277V	L7-15R	19.16	17.65
91F2351	HBL2313VBK	20A, 125V	L5-20R	19.79	18.24
91F2353	HBL2323VBK	20A, 250V	L6-20R	19.79	18.24
91F2355	HBL2333VBK	20A, 277V	L7-20R	19.79	18.24
91F2357	HBL2613VBK	30A, 125V	L5-30R	39.37	34.27
91F2359	HBL2623VBK	30A, 250V	L6-30R	39.58	34.45

(14838) (ne10525)

WATERTIGHT SAFETY-SHROUD TWIST-LOCK SYSTEM

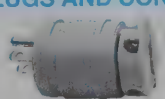


NEMA type 4X rated product line is offered in a complete family consisting of plugs, connector bodies and receptacles. Universal neoprene diaphragm seal accommodates a wide range of cord sizes from #16-3, SJ-#85, S, SO. All screws are Phillips/slotted combination. All models 20 amps. More ampere and voltage combinations available; *contact your local Newark sales office.*
Key: R = receptacle; MP = male plug; CB = connector body

Stock No.	Type	Key	Rating	Voltage	Each
52F1614	HBL2310SW	R	2-Pole, 3-Wire	125	66.04
52F1615	HBL2311SW	MP	2-Pole, 3-Wire	125	53.20
52F1616	HBL2313SW	CB	2-Pole, 3-Wire	125	59.62
52F1618	HBL2320SW	R	2-Pole, 3-Wire	250	66.04
52F1619	HBL2321SW	MP	2-Pole, 3-Wire	250	53.20
52F1620	HBL2323SW	CB	2-Pole, 3-Wire	250	59.62
91F2382	HBL2730SW	R	3-Pole, 4-Wire	3 Ø 480VAC	78.20
91F2383	HBL2731SW	MP	3-Pole, 4-Wire	3 Ø 480VAC	82.40
91F2384	HBL2733SW	CB	3-Pole, 4-Wire	3 Ø 480VAC	86.40

(2976) (ne06245)

ELASTOGRIP® PLUGS AND CONNECTOR BODIES



High visibility yellow elastomer plugs and connectors for use where safety is critical. NEMA 5-15 plugs and connectors are rated 15A, 125VAC. Watertight connectors are IP65 and IP67 when closure plug inserted or when installed and used properly with a watertight plug. UL listed, CSA recognized.

Stock No.	Type	Description	1-9	10-99
50F5633	HBL1447	Dust-tight Plug	11.46	10.56
50F5634	HBL1547	Dust-tight Connector	22.97	20.93
50F5635	HBL14W47	Water-tight Plug	20.38	18.78
50F5636	HBL15W47	Water-tight Connector	33.40	28.63

(31991) (ne31991)

INDUSTRIAL AC WALL SWITCHES AND WALL PLATES

Industrial switches feature one-piece rivetless copper alloy spring contact arm and terminal plate to secure proper contact alignment and provide low heat rise. Silver cadmium oxide contacts reduce contact erosion and prevent welding. Nickel-plated steel bridge resists corrosion. One-piece integral grounding terminal with #8 brass screw complies with NEC® Article 380-12. Nylon toggles. Rated 20A @ 120-277VAC, except **HBL 1201, HBL 1201L, HBL1201I, 1201IL, 1201PL,** 15A. Dimensions: 2.38H x 1.25W x 1.05″D. UL listed, CSA certified.

SWITCHES

Stock No.	Type	Description	1-5	6-10
92F4486	HBL1201	Single-Pole, Brown	11.90	10.96
92F4485	HBL1201I	Single-Pole, Ivory	11.90	10.96
92F4487	HBL1201L	Lock Type	23.23	21.16
83F8486	HBL1203	Single-Pole, Lighted Toggle	17.45	16.08
83F8487	HBL1203I	Single-Pole, Pilot Light	17.45	16.08
83F8488	HBL1201IL	3-Way, Brown Toggle	22.14	19.26
83F8489	HBL1221IL	3-Way, Ivory Toggle	32.56	28.34
83F8490	HBL1223IL	Single-Pole, Lighted toggle	42.35	36.86
92F4489	HBL1221	Single-Pole, Brown	19.39	17.86
92F4488	HBL1221I	Single-Pole, Ivory	19.39	17.86
92F4490	HBL1221L	Lock Type	30.32	25.99
83F5315	HBL1223	3-Way, Brown Toggle	20.01	18.44
83F5314	HBL1223I	3-Way, Ivory Toggle	20.01	18.44
83F8492	HBL1221PL	3-Way, Lighted Toggle	33.84	29.45
83F5317	HBL1209	Key for Lock Switches	3.18	2.90

WALL PLATES

Stock No.	Type	Description	1-5	6-10
83F5321	P1	1-Gang/1-Switch Ivory Nylon Plate	0.64	0.59
83F5322	P2	2-Gang/2-Switch Ivory Nylon Plate	1.11	1.02
83F5323	P3	3-Gang/3-Switch Ivory Nylon Plate	1.66	1.53
83F5324	S1	1-Gang/1-Switch Smooth Stainless Plate	2.34	2.16
83F5325	S2	2-Gang/2-Switch Smooth Stainless Plate	4.90	4.51
83F5326	S3	3-Gang/3-Switch Smooth Stainless Plate	7.77	7.16

(28372) (ne28372)

GFI DUPLEX RECEPTACLES

Units open circuit if leakage level exceeds 4-6mA. 120V. Brown or ivory (type **suffix "I"**). Fit 2.5″ (63.50) deep box. UL listed, CSA certified.

Stock No.	Type	Amp	NEMA	Each
44F1491	GF5252A	15	5-15R	15.20
44F1493	GF5352A	20	5-20R	16.30
44F1494	GF5352IA	20	5-20R	16.30

(2883) (de50090)

CIRCUIT GUARD® PORTABLE GFCI's

GFP

Waterproof ground fault circuit interrupters interrupt electrical power for loads when leakage to ground reaches 4-6mA. Work with 2-pole, 3-wire receptacle. Ground fault interrupters protect people from the hazards of line-to-ground electrical current leakage. No-voltage-release feature. Manual set. NEMA 5-15 plug; NEMA 5-15R connector. 15A, 120VAC, 60Hz. **Types GFP5266CY,** and **GFP1C** are user attachable **GFI** plugs designed to allow portable equipment manufacturers the ability to provide ground fault protection to their equipment. They feature large neon power "ON" light, manual set, positive verification of power status, prevents unintentional restart of equipment after loss of primary power. Rated: 2-pole, 3-wire 15A, 120VAC. All are UL listed, CSA certified.

Stock No.	Type	Description	Each
50F7934	GFP-4C15M	18″ Line-Cord	67.18
50F7935	GFP-6C15M	6′ Line-Cord	71.94
91F2376	GFP5266CY	Yellow, NEMA 5-15P	52.57
91F2377	GFP1C	1′ Line-Cord, Yellow, NEMA 5-15P/NEMA 5-15R	55.00

(2686) (de00548)

GFI AND RECEPTACLE CIRCUIT TESTERS

Circuit tester neon lights indicate and identify improper wiring conditions in electrical circuits. Plugs into single-phase, 125V, 2-pole, 3-wire outlet. UL listed.

34F1145 Type HBL5200. **Each** **63.04**

GFI tester measures trip level of portable or "wired-in" GFIs within 2-7 mA and leakage in small tools, appliances within 1-7 mA. 110, 120, 130V circuit at 15, 20A.

34F1150 Type GFT2-G. **Each** **157.27**

(2864) (de50078)

WIRING PLUGS, CONNECTORS AND RECEPTACLES

HOSPITAL & SPECIFICATION GRADE AC RECEPTACLES

Hospital grade meets Federal Specification WC-596-F. Impact resistant nylon face. Self-grounding, side and back wiring for copper wire sizes 14 to 10 AWG. UL listed, CSA certified.

Stock No.	Type	Amps/VAC	Style	Color	Figure	Grade	1-9
89F3639	5262A	15/125	Duplex	Brown	1	Specification	12.96
89F3640	5262AI	15/125	Duplex	Ivory	1	Specification	12.96
89F3644	5362AI	20/125	Duplex	Ivory	1	Specification	17.68
89F3600	RP26I	Wall Plate for 26242I	...	Ivory	...	Specification	0.97
89F3673	8201I	15/125	Single	Ivory	2	Hospital	20.43
89F3675	8301I	20/125	Single	Ivory	2	Hospital	23.05
89F3670	8200I	15/125	Duplex	Ivory	1	Hospital	26.04

(2765) (de03832)

Fig. 1

Fig. 2

GFI PLUGS AND RECEPTACLES

Duplex receptacles come in standard and hospital grade. Industrial motor controller has reset capability. Plugs are rain-tight and accept 0.30" to 0.46" cord. Portable GFCI's feature high impact resistant housing, 6' cord. Belt mount portable GFCI has auto reset, leather mounting strap. All are 120V, UL listed.

Stock No.	Type	Style	Amps/VAC	Description	Color	Figure	Grade	1-9
89F3684	1591	Recep.	15/125	Duplex	Brown	3	Standard	18.57
89F3685	1591-I	Recep.	15/125	Duplex	Ivory	3	Standard	18.57
89F3688	2081-I	Motor Control	20/125	1½ HP Rated	Ivory	4	Standard	36.07
89F3689	GF-15P	Plug	15/120	Auto Reset	Gray	5	Standard	152.91
50F1767	1591-CMM	Plug	15/120	Manual Reset	Yellow	8	Standard	38.41
89F3690	GF-20P	Plug	20/120	Auto Reset	Gray	5	Standard	152.91
89F3691	PS-150S	Portable	15/125	2-Duplex	Yellow	6	Standard	215.21
89F3693	PL-200L	Portable	20/125	Duplex/Turnlok	Yellow	6	Standard	215.21
50F1766	SIR-15HH	Belt Mount	15/125	Manual Reset	Yellow	7	Standard	109.63
89F3686	1591-HGI	Recep.	15/120	Duplex	Ivory	3	Hospital	66.14
89F3687	2091-HGI	Recep.	20/120	Duplex	Ivory	3	Hospital	58.35

(2767) (de03833)

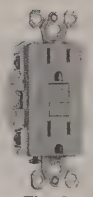


Fig. 3

Fig. 4

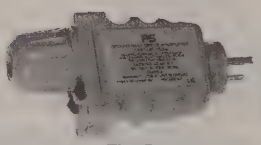


Fig. 5

Fig. 6

PLUGS, CONNECTORS & RECEPTACLES

- All Nylon Construction
- Ready to Wire
- Internal Cord Grip

STRAIGHT BLADE VERSIONS

Stock No.	Type	Description	Fig.	Amp/VAC	1-9
92F3173	5965-Y	General Purp. Plug	9	15/125	7.85
92F3174	5364-Y	General Purp. Plug	9	20/125	13.54
92F3175	5969-Y	General Purp. Connector	10	15/125	15.66
90F1753	5266-X	Industrial Grade Plug	...	15/125	13.58
90F1759	5666-X	Industrial Grade Plug	...	15/250	16.52
90F1755	5366-X	Industrial Grade Plug	...	20/125	18.69
90F1754	5269-X	Industrial Grade Connector	...	15/125	23.87
90F1756	5369-X	Industrial Grade Connector	...	20/125	31.24
51F3916	5266-XHG	Hospital Grade Plug	...	15/125	14.87
89F3678	5266-HGAN	Hospital Grade Angle Plug	...	15/125	22.51

TURNLOK VERSIONS

95F2843	L515P	Plug	12	15/125	15.22
89F3655	L520P	Plug	12	20/125	19.27
95F2844	L530P	Plug	12	30/125	26.54
89F3658	L620P	Plug	12	20/250	29.92
94F5569	L630P	Plug	12	30/250	26.77
93F3178	L1420P	Plug	12	20/125-250	66.51
92F3179	L1520P	Plug	12	20/3PH-250	19.83
92F3180	L515C	Connector	11	15/125	27.12
92F3181	L1420C	Connector	11	20/125-250	39.22
98F5960	L530R	Sin. Recep.	...	30/125	33.41

(2780) (de03755)

Fig. 7

Fig. 8

Fig. 9

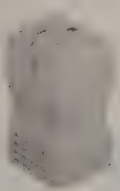


Fig. 10

Fig. 11

Fig. 12

NEMA 4X WATERTIGHT PLUGS AND CONNECTORS

Constructed of rubber, these plugs and connectors are available in straight blade and locking versions.

Stock No.	Type	Description	Fig.	NEMA Configuration	Amps/VAC	1-9
91F2873	14W47	Straight Blade Plug	13	515P	15/125	18.31
91F2874	15W47	Straight Blade Connector	14	515R	15/125	30.12
91F2875	24W47	Locking Plug	13	L515P	15/125	21.27
91F2876	25W47	Locking Connector	14	L515R	15/125	31.04
91F2877	14W33	Straight Blade Plug	13	520P	20/125	20.99
91F2878	15W33	Straight Blade Connector	14	520R	20/125	28.81

(13042) (ne10021)

Fig. 13

Fig. 14

WALL SWITCHES

SPECIFICATION-GRADE DECORATOR SWITCHES

MADE IN USA

Industrial design cam-action mechanism provides quiet switch action and consistent paddle height. Patented built-in wire stripper speeds installation of 12- or 14-gauge wire. Side wire terminals accept up to 10-gauge solid or stranded wire. Ground screw terminal is standard. Meet UL 20 requirements. All switches are rated 15A @ 120/277VAC. Made in the U.S.A.

Stock No.	Type	Color	Description	Each
92N4446	2058	Ivory	Single-Pole	**4.14**
92N4447	2059	White	Single-Pole	**4.14**
92N4448	2060	Ivory	Three-Way	**5.18**
92N4449	2061	White	Three-Way	**5.18**
92N4450	2062	Ivory	Four-Way	**18.63**
92N4451	2063	White	Four-Way	**18.63**

(15532) (ne10044)

INDUSTRIAL AC QUIET SWITCHES

NEW UL

MADE IN USA

Industrial switches feature cam action mechanism to provide quiet action. Single pole. Side wires accept up to #10 AWG wire. **Types SPC4385** and **SPC4386** locking switches have automatic grounding system to eliminate bonding jumper in grounded metal enclosures. 20A, 120/277VAC grounding. Size: 2.38H x 1.31W x 1.05"D. UL listed. Made in the U.S.A.

Stock Number	Type	Wiring	Toggle	Each
84N1928	SPC4383	Side	Brown Nylon	**4.50**
84N1929	SPC4384	Side	Ivory Nylon	**4.50**
84N1930	SPC4385	Back and Side	Brown Nylon	**15.95**
84N1931	SPC4386	Back and Side	Ivory Nylon	**15.95**

(29779) (ne29779)

DECORATOR COMMERCIAL COMBINATION SWITCHES

MADE IN USA

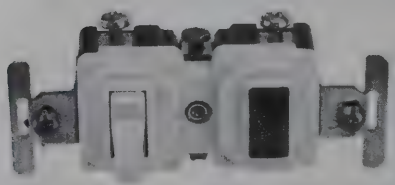
Devices have either 2 or 3 single-pole, 15A, 120VAC switches. Meet UL 20 requirements. 12- or 14-gauge solid wires are push-in terminated. Made in the U.S.A.

Stock No.	Type	Color	Description	Each
92N4440	2052	Ivory	2 Switches	**22.77**
92N4441	2053	White	2 Switches	**22.77**
92N4442	2054	Ivory	3 Switches	**27.95**
92N4443	2055	White	3 Switches	**27.95**

(15534) (ne10042)

COMMERCIAL COMBINATION WIRING DEVICES

Switch/Receptacle



Switch/Pilot Light

MADE IN USA

Devices are either switch/switch, switch/receptacle, or switch/pilot light. Switches are single-pole and meet UL 20 requirements. Receptacles meet UL 498 requirements. Grounding terminal screw is standard. All units are side wired. Made in the U.S.A.

SWITCH/SWITCH

Stock No.	Type	Color	Switch Rating	Each
92N4434	2046	Ivory	15A @ 120/277VAC	**12.42**
92N4435	2047	White	15A @ 120/277VAC	**12.42**

SWITCH/RECEPTACLE

Stock No.	Type	Color	Switch Rating	Receptacle Rating	Each
92N4436	2048	Ivory	15A @ 120VAC	15A @ 125V	**13.98**
92N4437	2049	White	15A @ 120VAC	15A @ 125V	**13.98**

SWITCH/PILOT LIGHT

Stock No.	Type	Color	Switch Rating	Pilot Light Rating	Each
92N4438	2050	Ivory	15A @ 120VAC	1/25W @ 120V	**16.56**
92N4439	2051	White	15A @ 120VAC	1/25W @ 120V	**16.56**

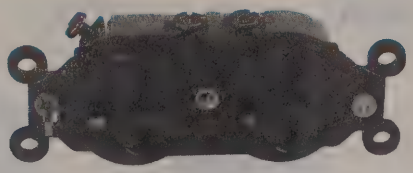
(15533) (ne10041)

AT NEWARK, THERE'S ALWAYS MORE THAN MEETS THE EYE!
CONTACT US FOR PRODUCTS NOT LISTED IN THIS CATALOG.

WIRING RECEPTACLES

STRAIGHT-BLADE DUPLEX RECEPTACLES

NEW UL



MADE IN USA

Triple-wipe line contacts provide excellent long-term plug retention. Double-wipe ground contacts, reinforced by face and back body, provide long-term ground retention. Automatic grounding system eliminates need for bonding jumper in grounded enclosure. Back-and-side-wire terminals accept 14, 12, and 10 AWG solid or stranded wire. UL listed, made in U.S.A.

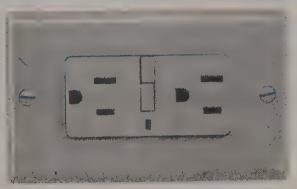
INDUSTRIAL SPECIFICATION GRADE

Stock No.	Type	Color	Rating	NEMA Configuration	Each
84N1933	SPC4388	Brown	15A, 125V	5-15R	13.95
84N1934	SPC4389	Ivory	15A, 125V	5-15R	13.95
84N1935	SPC4390	White	15A, 125V	5-15R	13.95
84N1936	SPC4391	Brown	20A, 125V	5-20R	15.95
84N1937	SPC4392	Ivory	20A, 125V	5-20R	15.95
84N1938	SPC4393	White	20A, 125V	5-20R	15.95
84N1939	SPC4394	Brown	15A, 250V	6-15R	15.95
COMMERCIAL SPECIFICATION GRADE					
84N1926	SPC4381	Brown	20A, 125V	5-20R	4.50
84N1927	SPC4382	Ivory	20A, 125V	5-20R	4.50
HOSPITAL GRADE					
84N1940	SPC4395	Ivory	20A, 125V	5-20R	17.95
84N1941	SPC4396	White	20A, 125V	5-20R	17.95

(32073) (ne32073)

GROUND FAULT CIRCUIT INTERRUPTER

NEW UL



The only GFCI with a standard test light for proper line and and load connections. The test light illuminates only if the proper line and load terminations have been made. If the test light remains off, the GFCI is miswired and needs to be corrected. Protects from electrical shock hazards and is used in offices, homes, schools and hotels. Provides easy access to top ground screw and accepts wire with a AWG of 14-10.

Stock No.	Type	Color	Rating	NEMA Configuration	Each
84N1289	SPC4626	Ivory	15A, 125V	5-15R	13.95

(32075) (ne32075)

DECORATOR COMMERCIAL DUPLEX RECEPTACLES

UL

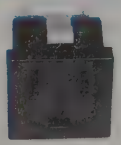
MADE IN USA

Side wire terminals accept up to 10-gauge solid or stranded wire. Meet UL 498 requirements. Configured NEMA 5-20R. Rated 20A @ 125V.

Stock No.	Type	Color	Each
92N4444	2056	Ivory	4.87
92N4445	3351	White	4.87

(15531) (ne10043)

SNAP-IN RECEPTACLES



MADE IN USA

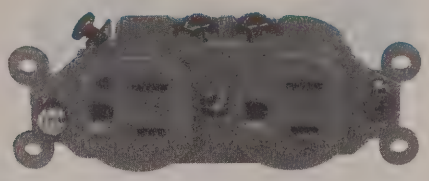
Heavy spring brass contacts integral with terminals. Meet UL 498 requirements. Color: black. Rated 15A, 125V.

Stock No.	Type	Description	Each
92N4473	2085	Quick Connect and Screw Terminal Ground	2.59
92N4474	2086	Wire Leads	3.11

(15529) (ne10048)

STRAIGHT-BLADE DUPLEX RECEPTACLES WITH ISOLATED GROUND

NEW UL



MADE IN USA

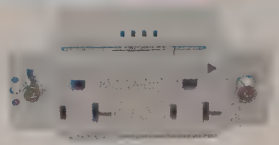
Grounding system isolated from common building ground. Triple-wipe line contacts provide excellent long-term plug retention. Double-wipe ground contacts, reinforced by face and back body, ensure long-term ground retention. Automatic grounding secures wall plate grounding in grounded metal enclosure. Face/body assembled with dual drive pins for superior assembly security. Back-and-side-wire terminals accept 14, 12, and 10 AWG solid or stranded wire. UL listed, made in the U.S.A.

Stock No.	Type	Color	Rating	NEMA Configuration	Each
84N1942	SPC4397	Orange	15A, 125V	5-15R	15.95
84N1943	SPC4398	Orange	20A, 125V	5-20R	17.95

(32074) (ne32074)

HOSPITAL- AND SPECIFICATION-GRADE SURGE BLOCKING TVSS RECEPTACLES

UL



MADE IN USA

Specification Grade

Grounding system is fully isolated from common building ground. Features EMI and RFI noise protection. Automatic ground provides wall plate grounding in grounded metal enclosure. Replaceable module restores expired surge protection without interruption of power. Audible alarm signals when surge protection has expired. Meet UL 489 and UL 1449 requirements. Clamping voltage: 500V. Joules: 320.

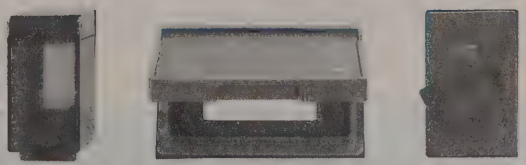
SPECIFICATION-GRADE

Stock No.	Type	Color	Rating	NEMA Configurtaion	Each
92N4464	2076	Ivory	20A, 125V	5-20R	51.75
92N4465	2077	White	20A, 125V	5-20R	51.75
HOSPITAL-GRADE					
92N4466	2078	Ivory	20A, 125V	5-20R	59.00
REPLACEMENT MODULES					
92N4467	2079	Ivory	...	5-15R	22.77
92N4468	2080	White	...	5-15R	22.77

(15528) (ne10046)

PLASTIC WEATHER COVERS

UL



MADE IN USA

2083 2082 2081

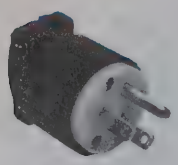
Ideal for wet locations. Protect against rain, snow, and ice. **Type 2083** is constructed of polycarbonate that resists abuse and temperature extremes and is designed as a weather protective in-use deep cover that meets NEMA enclosure type 3R for sealing out moisture, water, ice, and snow. Lockable with padlock. Has 2 exit ports for 12/3 cords. UL listed. **Types 2082** and **2081** are gray. **Type 2083** is clear.

Stock No.	Type	Description	Mounting Orientation	Each
92N4470	2082	GFCI/Decorator w/Self-Closing Lids	Horizontal	7.77
92N4469	2081	Flush Mount Switch Cover	Vertical	5.70
92N4471	2083	GFCI/Decorator w/Self-Closing Cover	Vertical	20.70

(15527) (ne10047)

ALL PRODUCTS LISTED ARE STOCKED.

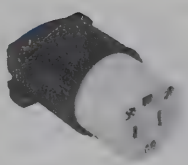
STRAIGHT BLADE PLUGS AND CONNECTORS



5-15P Plug

5-15P Angle Plug

MADE IN USA



5-15R Connector

6-20P 5-15P 5-20P 6-15P

Plugs and connectors can be used in factories, labs, health facilities, offices and institutions; and also in electronics, lab and test lighting equipment. Feature high impact-resistant thermoplastic housings with easy-grip grooves. Industrial specification grade plugs and connectors accept 0.25-0.69: cord dia., screws are speed-threaded and captive; include solid brass plug blades and see-through terminal cover; terminal screws back out, ready for wiring; combination slotted/Phillips head screws throughout. UL listed. Made in USA.

STANDARD GRADE

Stock No.	Type	Description	Rating	NEMA	Each
92N4455	2067	Straight Plug	15A @ 125V	5-15P	27.95
92N4456	2068	Straight Connector	15A @ 125V	5-15P	4.87
92N4457	2069	Angle Plug*	15A @ 125V	5-15P	9.06

INDUSTRIAL SPECIFICATION GRADE

84N1951	SPC4406	Straight Blade Plug	15A @ 125V	5-15P	10.95
84N1952	SPC4407	Straight Blade Connector	15A @ 125V	5-15R	16.95
92N4452	2064	Angle Plug	15A @ 125V	5-15P	14.49
84N1954	SPC4409	Straight Blade Plug	20A @ 125V	5-20P	14.95
84N1955	SPC4410	Straight Blade Connector	20A @ 125V	5-20R	19.95
92N4453	2065	Angle Plug	20A @ 125V	5-20R	18.63
84N1957	SPC4412	Straight Blade Plug	15A @ 125V	6-15P	11.45
84N1287	SPC4624	Straight Connector	15A @ 125V	5-15R	13.95
84N1956	SPC4411	Straight Blade Plug	20A @ 125V	6-20P	15.25
84N1288	SPC4625	Straight Connector	20A @ 125V	6-20R	15.95

HOSPITAL GRADE

84N1958	SPC4413	Plug	15A @ 125V	5-15P	11.95
84N1959	SPC4414	Connector	15A @ 125V	5-15R	21.95

*Vinyl

(28349) (ne28349)

LOCKING PLUGS AND CONNECTORS

NEMA

MADE IN USA

Angled L5-15P Plug

L5-15R Connector

L5-15P 5-20P 5-30P L6-15P 6-20P

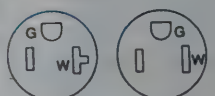
2-pole, 3-wire grounding plugs and connectors are available in NEMA configurations L5-15 or L6-15. Available in either straight or angled versions. Color: black and white. Accept cord diameters: 0.25 to 0.69".

Stock No.	Type	Description	Rating	NEMA Configuration	Each
92N4458	2070	Straight Plug	15A @ 125V	L5-15P	17.60
92N4459	2071	Angled Plug	15A @ 125V	L5-15P	18.63
92N4460	2072	Straight Connector	15A @ 125V	L5-15R	18.63
84N1945	SPC4400	Straight Plug	20A @ 125V	L5-20P	12.95
84N1946	SPC4401	Straight Connector	20A @ 125V	L5-20R	17.95
84N1949	SPC4404	Straight Plug	30A @ 125V	L5-30P	17.95
84N1950	SPC4405	Straight Connector	30A @ 125V	L5-30R	39.95
92N4462	2074	Straight Plug	15A @ 250V	L6-15P	15.53
92N4461	2073	Angled Plug	15A @ 250V	L6-15P	20.70
92N4463	2075	Straight Connector	15A @ 250V	L6-15R	19.67
84N1947	SPC4402	Straight Plug	20A @ 250V	L6-20P	15.95
84N1948	SPC4403	Straight Connector	20A @ 250V	L6-20R	22.95

(15530) (ne10045)

FLANGED INLETS

MADE IN USA



5-20R 5-15R

Available in NEMA configurations L5-15R and L5-20R. Zinc-plated steel flange resists corrosion. Heat-resistant thermoset receptacle face. UL listed. Made in U.S.A.

Stock No.	Type	Rating	NEMA Configuration	Each
84N1953	SPC4408	15A @ 125V	5-15R	16.45
92N4454	2066	20A @ 125V	5-20R	17.60

(35771) (ne35771)

NEWARK AND SPC TECHNOLOGY PROVIDE THE PRODUCTS AND SERVICE YOU NEED!

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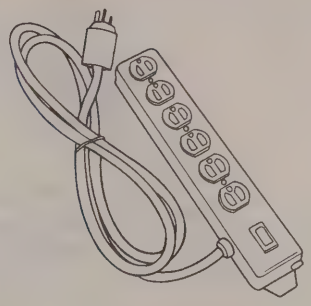
(41974) (spcblurb)

OUTLET STRIPS

90° 15-AMP AND STANDARD 20-AMP SURGE SUPPRESSORS

NEW UL



Specifications:
- **Seamless Steel Case with Baked On Blue Finish**
- **Resettable Overload Circuit Breaker**
- **On/Off Switch with Pilot Light**
- **UL Listed**

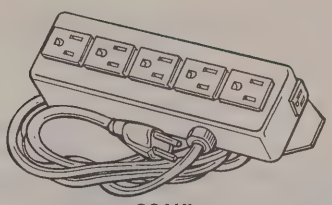
Types SPC 4142 and **SPC 4143** are rated at 15A, 125VAC, 60Hz. **Types SPC 4142** and **SPC 4143** have a 14 AWG power cord with 3 conductors and molded plug. **Types SPC 4140** and **SPC 4141** are rated at 20A, 125VAC, 60Hz. **Types SPC 4140** and **SPC 4141** have a 12 AWG power cord with 3 conductors, and molded plug. Also has Type III mounting with 10$^{15}/_{16}$" centers. Dimensions: 1½H x 2⅜W x 13¼"L.

Stock No.	Type	No. of Outlets	Cord Length	Each
84N1221	SPC4140	6	6′	79.45
84N1222	SPC4141	6	15′	84.45
84N1223	SPC4142*	6	6′	31.95
84N1224	SPC4143*	6	15′	36.95

*CSA Certified
(30772) (ne30772)

COMPACT OUTLET STRIPS

UL SP



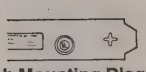
OSAUL

OSAUL Series Specifications:

- **Rated at 15 amps, 125 VAC, 60 HZ**
- **Mounting: 5 $^{13}/_{16}$" Centers, Flush Style**
- **Case Color: Blue**
- **Power Cord is 14 Gauge, 3 Cond. SJT with Molded Plug**
- **Resettable Overload Circuit Breakers**

OSA 05 Series Specifications:

- **Rated at 15 amps, 125 VAC, 60 Hz**
- **Mounting 8¼" Centers, Permanent Style**
- **Case Color: Grey**
- **Power Cord is 14 Gauge, 3 Cond., SJT with Molded Plug**
- **UL and CSA certified**



Flush Mounting Diagram

Permanent Mounting Diagram

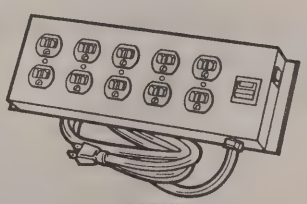
These outlet strips are extremely useful for limited space applications. Dimensions:1½H x 2⅜W x 8¾" L. Rated 15A, 125VAC, 60Hz, 1875 watts continuous duty. Outlets are black, "U" ground. Cord color: black. Seamless steel case with baked-on finish. UL listed, CSA certified.

Stock No.	Type	No. of Outlets	Cord Length	Circuit Breaker Protected	Weight	Each
66N7683	OSA0506	5	6′	No	2 lbs.	15.48
66N7684	OSA0515	5	15′	No	2.5 lbs.	19.62
66N7685	OSAUL0506	5	6′	Yes	2 lbs.	23.76
66N7686	OSAUL0515	5	15′	Yes	2.5 lbs.	27.90

(3949) (ne09265)

SMALL FOOTPRINT OUTLET STRIPS

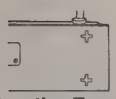
UL



OSDUL

Specifications:

- **Rated at 15 amps, 125 VAC, 60 Hz**
- **Mounting: Keyhole Slots with 10$^{11}/_{16}$" x 2¾" Centers**
- **Power Cord is 14 Gauge, 3 Cond. SJT, with Molded Plug**
- **Fabricated Steel Case with Baked-on Blue Finish**
- **Outlet Component Colors: Black**
- **Resettable Overload Circuit Breakers**
- **On/Off Switch with Built-In Pilot Light**
- **UL Listed**



Mounting Type II Keyhole Slots Diagram

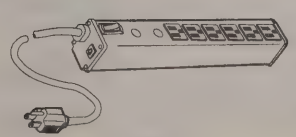
Provides 10 grounded outlets in a small area. Dimensions: 1½H x 4¼W x 13$^{7}/_{16}$" L.

Stock No.	Type	No. of Outlets	Cord Length	Weight	Each
66N7697	OSDUL100-6	10	6′	3 lbs.	48.85
66N7698	0SDUL10015	10	15′	4 lbs.	53.20

(3950) (ne09266)

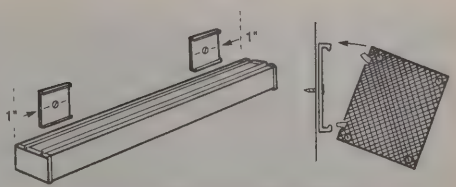
SNAP AND SLIDE MOUNTING OUTLET STRIPS

UL SP



OSH

Specifications:
- **Rated at 15 amps, 125 VAC, 60 Hz**
- **Housing: Aluminum, White**
- **Power Cord is 14 Gauge, 3 Cond. with Molded Plug**
- **Resettable Overload Circuit Breakers**
- **On/Off Switch With Pilot Light**
- **UL listed, CSA certified**



Snap and Slide Mounting Diagram

Type OSH outlet strips offer convenient additional power outlets where needed. Plug-in centers are perfect for computer rooms, workstations, factories, schools, retail checkouts, entertainment centers and more. Used to connect appliances, audio/video equipment, power tools, test equipment, lighting and more. Snap-on/slide-off feature allows mounting in any position, including inverted. Includes two mounting clips w/sheet metal screws. Meets UL 1336 standard.

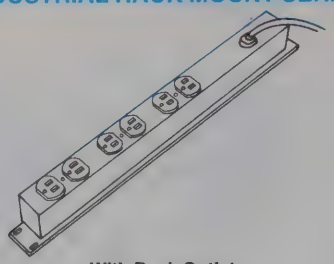
Stock No.	Type	No. of Outlets	Cord Length	Dimensions L x W x D	Weight	Each
66N7723	OSH66	6	6′	12.25 x 2.00 x 1.75"	2.30	23.89
66N7724	OSH615	6	15′	12.25 x 2.00 x 1.75"	3.00	28.12

(3951) (ne09267)

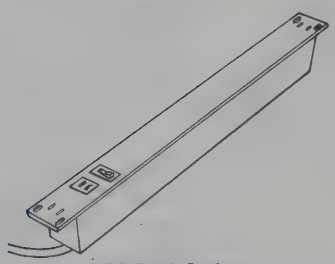
HEAVY DUTY INDUSTRIAL OUTLET STRIPS

INDUSTRIAL RACK MOUNT SERIES

ISO 9002 Certified



With Back Outlets
- Back View



With Back Outlets
- Front View

- Rated at 15 Amps, 125 VAC, 60 HZ, 1875 Watts
- Power Cord is 14 Gauge, 3-Cond. SJT, with Molded Plug
- Resettable Overload Circuit Breakers
- Black, Heavy-Duty Steel Construction Case
- On/Off Switch with Pilot Light
- Mounting Centers- 18¼" x 1¼"

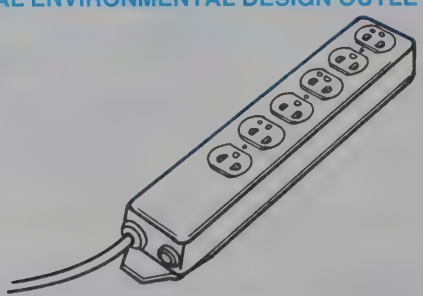
Outlet racks are perfect for desks, cabinets and other enclosures.

Stock No.	Type	No. of Outlets	Cord Length	1-9	10-24
66N7699	OSEUR0606F	6 Front	6′	47.44	46.54
66N7700	OSEUR0615F	6 Front	15′	52.72	52.62
66N7701	OSEUR0606B	6 Back	6′	50.08	49.13
66N7702	OSEUR0615B	6 Back	15′	52.72	52.62

(3897) (ne07088)

MEDICAL ENVIRONMENTAL DESIGN OUTLET STRIP

ISO 9002 Certified



- Rated at 15 Amps, 125 VAC, 60 HZ, 1875 Watts
- Power Cord is 14 Gauge, 3-Cond. SJT with Molded Plug
- Resettable Overload Circuit Breakers
- White, Seamless Steel Case
- 15′ Cord

Manufactured specially for use in hospitals and laboratory environments. These strips use hospital-grade outlets and components are UL-listed. Ideal applications include work areas, lab and instrument carts, laboratory workbenches and more. **Not for critical care environments.**

Stock No.	Type	No. of Outlets	Mounting Centers	1-4	5-9
66N7695	OSCUL0415	4	5 13/16"	55.46	55.35
66N7696	OSCUL0615	6	10 5/16"	66.99	66.85

(3894) (ne07085)

INDUSTRIAL MID-LENGTH SERIES

ISO 9002 Certified

- Rated at 15 Amps, 125 VAC, 60 HZ, 1875 Watts
- Power Cord is 14 Gauge, 3-Cond. SJT, with Molded Plug
- Resettable Overload Circuit Breakers
- Case Size: 11-⅞L x 2-⅜W x 1- ½"H
- 10-5/16" Mounting Center Holes
- Seamless, Blue Steel Case with On/Off Switch

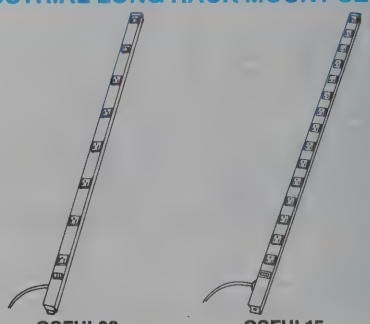
Mid-length strips can be used in a variety of applications, including offices, factories, schools and labs.

Stock No.	Type	No. of Outlets	Cord Length	1-9	10-24
66N7689	OSBUL0706*	7	6′	34.80	34.14
66N7690	OSBUL0715*	7	15′	39.42	38.67
66N7691	OSBUL0906	9	6′	32.82	32.20
66N7692	OSBUL0915	9	15′	37.39	36.68
66N7693	OSBUL0606*	6	6′	31.05	30.46
66N7694	OSBUL0615*	6	15′	35.67	34.99

* CSA Certified.
(3896) (ne07087)

INDUSTRIAL LONG RACK MOUNT SERIES

ISO 9002 Certified



OSFUL08 OSFUL15

- Rated at 15 Amps, 125 VAC, 60 HZ, 1875 Watts
- Power Cord is 14 Gauge, 3-Cond. SJT with Molded Plug
- Resettable Overload Circuit Breakers
- On/Off Switch with Pilot Light
- 4′ Cases are Blue, 47" Mounting Center
- 6′ Case is Grey, 71" Mounting Center

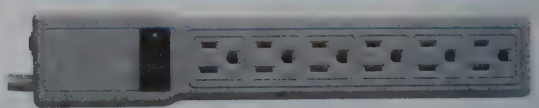
Versatile and rugged multiple outlet strips are ideal for production lines, workbenches and lab tables. No wiring required.

Stock No.	Type	Case Length	No. of Outlets	Cord Length	1-4	5-9
66N7703	OSFUL0806	4′	8	6′	53.32	53.21
66N7704	OSFUL0815	4′	8	15′	57.77	57.65
66N7705	OSFUL1506	4′	15	6′	62.62	62.49
66N7706	OSFUL1515	4′	15	15′	67.07	66.94
66N7707	OSFUL1915	6′	19	15′	78.72	78.56

(3895) (ne07086)

HOME-USE SURGE AND OUTLET STRIPS

ISO 9002 Certified



- 6 Grounded Outlets
- Slim-Line Design
- High-Impact Plastic Housing

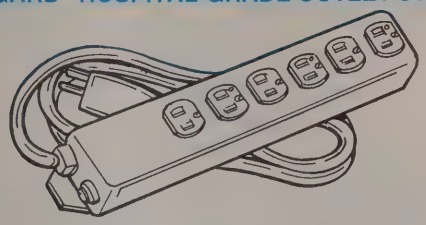
Outlet strip has an on/off switch, resettable circuit breaker, and a 4-ft. cord.

92N5925 Type PS6. **Each** **9.99**
(28770) (ne28770)

NEW PRODUCTS ARE BEING ADDED TO OUR INVENTORY EVERY DAY.
CALL NEWARK FOR INFORMATION ON WHAT'S CURRENTLY IN STOCK.

OUTLET STRIPS

MEDGARD® HOSPITAL-GRADE OUTLET STRIPS



ULHC6

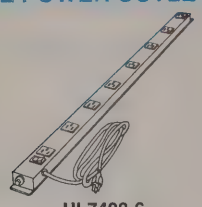
- **Hospital-Grade Plug, Cord and Outlets**
- **Lifetime Warranty**

"Green Dot" hospital-grade duplex plug, cord and receptacles. Steel case, white. 15A @ 125V, 60Hz, 1875 watts continuous duty. 10 microamps maximum leakage. 14/3 SJT cord. UL listed, CSA certified.

Stock No.	Type	No. Outlets	Cord	Each
44F4285	ULHC-4-6	4	6′	57.93
44F4286	ULHC-4-15	4	15′	64.04
44F4287	ULHC-6-6	6	6′	71.37
44F4288	ULHC6-15	6	15′	59.93

(3786) (de00723)

TRIMLINE POWER OUTLET STRIPS



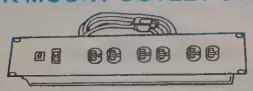
UL7408-6

15A @ 125VAC, 60Hz, 1875 watts continuous duty. All types feature master switch, pilot light and circuit breaker. Outlets: "U" ground. UL listed.

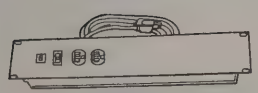
Stock No.	Type	Case	No. Outlets	Outlet Centers	Cord	Each
46F3865	UL7208-6	2′	8	...	6′	52.33
46F3866	UL7208-15	2′	8	...	15′	57.44
46F3863	UL7408-6	4′	8	5.75″	6′	61.76
46F3864	UL7408-15	4′	8	5.75″	15′	66.90
46F3867	UL7415-6	4′	15	2.875″	6′	72.54
46F3868	UL7415-15	4′	15	2.875″	15′	77.66
46F3869	UL7610-6	6′	10	7.00″	6′	73.87
46F3870	UL7610-15	6′	10	7.00″	15′	79.02
46F5196	UL7619-6	6′	19	3.50″	6′	86.07
46F3871	UL7619-15	6′	19	3.50″	15′	91.21

*CSA certified
(3787) (de00724)

RACK MOUNT OUTLET STRIPS



900CB



904CB

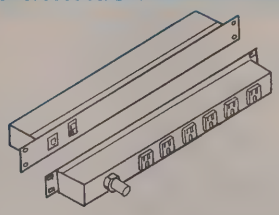
911CB

Units fit standard 19″ rack-enclosures. 15A @ 125VAC, 60Hz, 1875 watts continuous duty. Outlets: 6 "U" grounded. Steel case with pilot light on front panel. Circuit breaker protection. Cord: 14/3 SJT. UL recognized. **Types 900, 904** front: 19″L x 3 15/32″W; back: 17″L x 3 1/32″W x 2 3/8″D. Mounting centers: 18 1/4 x 3″. **Types 903, 911** front: 19″L x 1 23/32″W; back: 17″L x 1 11/16″W x 2 3/8″D. Mounting centers: 18 1/4 x 1 1/4″.

Stock No.	Type	Outlets	Cord	Each
60F2432	900CB	6 Front	6′	55.92
60F2491	900CB-15	6 Front	15′	61.72
60F2492	904CB	2 Front, 4 Back	6′	58.69
60F2493	904CB-15	2 Front, 4 Back	15′	63.81
60F2578	903CB	6 Front	6′	52.95
60F2579	903CB-15	6 Front	15′	58.09
60F2580	911CB	6 Back	6′	55.92
60F2581	911CB-15	6 Back	15′	39.92

(3790) (de00727)

OUTLET STRIP WITH RIGHT-ANGLE RECEPTACLES



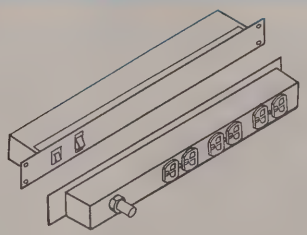
911 CBRA-15

Offers instant power distribution from back of the unit. Fits standard 19″ rack enclosures. Designed for oversized and right-angle plugs up to 2.5". Rated 15A @ 125VAC, 60Hz, 1875W continuous duty. Outlets: 6-back "U" grounded. Circuit breaker protection. Cord: 15′, 14/3. Steel case with master switch/pilot light. Front: 19L x 1 23/32″W; back: 17L, 1 11/16W x 2 3/8″D. Mounting: 18 1/4 x 1 1/4″. UL recognized.

Stock No.	Type	Each
16F659	911CBRA	64.40

(3911) (ne08348)

20-AMP RACK MOUNT OUTLET STRIP



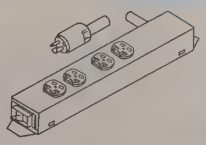
X911 CB186

Fits standard 19″ rack enclosures. Rated 20A @ 125VAC, 60Hz, 2500W continuous duty and outlets "U" grounded on back. Cord: 15′, 12/3. Steel case with master switch/pilot light on front panel and outlets on back. Circuit breaker protection. UL recognized.

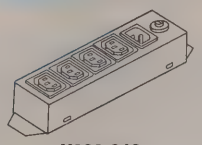
Stock No.	Type	Outlets	Each
16F660	X911CB-186	6	103.16

(3944) (ne08848)

OUTLET STRIPS



4250-6



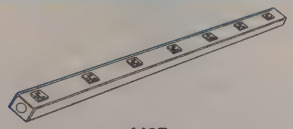
X999-646

Type 4250-6 is provided with a 6′ 14/3 SJT cord and NEMA L6-15P twist lock plug. **Type X999-646** has 4 IEC 320 outlets and 1 male inlet. Features a 10A circuit breaker. UL listed, CSA certified.

Stock No.	Type	No. Outlets	Description	Each
16F661	4250-6	4	15A @ 250VAC, Mounting Centers: 10.312	110.29
16F662	X999-646	4 Female 1 Male (IEC)	10A @ 250VAC, 10A Circuit Breaker	49.74

(3910) (ne08347)

PERMANENT INSTALLATION OUTLET STRIPS



4407

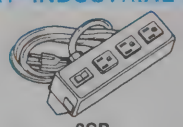
15A @ 125VAC, 60Hz, 1875 watts continuous duty. Outlets: "U" ground, beige. Internal wiring: 14 AWG insulated, TW. Beige case sizes: 3′, 4′, 5′, 6′ lengths x 1.594″W x 1.375″H.

Stock No.	Type	Centers	Outlets	Case Lgth.	Each
79W396	4309	3.5″	9	3′	43.36
79W400	4407	7.0″	7	4′	49.51
79W404	4413	3.5″	13	4′	52.15
79W412	4515	3.5″	15	5′	57.01
79W420	4610	7.0″	10	6′	54.84
79W424	4619	3.5″	19	6′	68.30

(3788) (de00725)

MULTIPLE OUTLET STRIPS

POWER MASTER® INDUSTRIAL OUTLET STRIPS



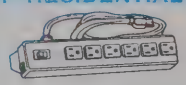
3SP

Convert 1 outlet into 3-8. Perfect solution for home, office or workshop. Heavy-duty, metal-housing units feature circuit breaker protection. Maximum rating: 15A @ 125VAC, 60Hz, 1875 watts continuous duty. Individual "U" ground outlets. Type III mounting. 14/3 SJT, 6′ (1.83m) cord/molded plug. UL listed, CSA certified.

Stock No.	Type	No. of Outlets	Master Switch	Pilot Light	Each
87F2851	3SP	3	Yes	Yes	21.31
87F2852	4S	4	Yes	No	21.31
87F2853	5	5	No	No	21.31
87F2854	6SP	6	Yes	Yes	23.00
87F2855	7S	7	Yes	No	23.00
87F2856	8	8	No	No	23.00

(3778) (de00712)

POWER MASTER® RESIDENTIAL OUTLET STRIPS

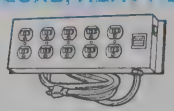


Feature circuit breaker protection, steel housing, "U" grounded outlets and heavy-duty cord/molded plug. Maximum rating: 15A @ 125VAC, 60Hz, 1875 watts continuous duty. All have On-Off switch/pilot light except **type 4NQ.** UL listed.

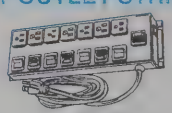
Stock No.	Type	No. of Outlets	Cord	Each
87F2857	4NQ	4	6′	17.35
46F3878	4SPDX	4	6′	15.15
90F2096	4-SPDX-15	4	15′	21.67
46F3879	6SPDX	6	6′	17.35
90F2097	6-SPDX-15	6	15′	21.54

(3779) (de00713)

DELUXE, HEAVY-DUTY OUTLET STRIPS



UL800CB



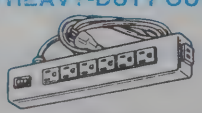
UL25PCB

Maximum rating: 15A @ 125VAC, 60Hz, 1875 watts continuous. Feature circuit breaker protection, steel housing, and master switch with pilot light. Provide grounded outlets in a small area. Applications include workstations, labs or production workbenches. **Type UL25PCB** units feature individual switch-controlled outlets. 14/3 SJT power cord/molded plug. 1.5H x 4.25W x 13.438″L (38.10 x 107.95 x 365.25). UL listed. Types with (*) are CSA certified.

Stock No.	Type	No. of Outlets	Cord	Each
79W352	UL25PCB-6*	7	6′	85.88
79W356	UL25PCB-15*	7	15′	91.02
79W360	UL800CB-6	10	6′	53.15
79W364	UL800CB-15	10	15′	58.28

(3780) (de00714)

MID-LENGTH HEAVY-DUTY OUTLET STRIPS



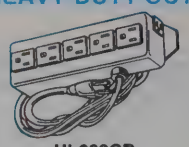
UL 15CB

Maximum rating: 15A @125VAC, 60Hz, 1875 watts continuous. Features circuit breaker protection, 14/3 SJT cord/molded plug, and "U" ground outlets. Standard units have Type IV mounting: 12.75″ (323.85) centers. All units are 1.5H x 2.375W x 13.25″L (38.10 x 60.33 x 336.55). (*) denotes types that are UL listed/CSA certified and have Type III mounting: 10.313″ (261.95) centers.

Stock No.	Type	No. of Outlets	Master Switch	Cord	Each
61F1650	UL15CB-6*	7	Yes	6′	40.39
61F1659	UL15CB-15*	7	Yes	15′	45.73
61F1653	UL17CB-6*	9	No	6′	38.06
61F1661	UL17CB-15*	9	No	15′	42.34
60F2401	24CB	6	Yes	6′	35.20
60F2439	24CB-15	6	Yes	15′	40.54
61F1655	UL24CB-6*	6	Yes	6′	36.03
61F1663	UL24CB-15*	6	Yes	15′	41.37

(3781) (de00715)

COMPACT HEAVY-DUTY OUTLET STRIPS



UL602CB

Maximum rating: 15A @ 125VAC, 60Hz, 1875 watts continuous duty. 1.5H x 2.375W x 8.75″L (38.10 x 60.33 x 222.25). Features "U" ground outlets, and seamless steel case, baked-on finish, and 14/3 SJT power cord/molded plug. Standard units have Type IV mounting: 8.25″ (209.55) centers. (*) denotes types that are UL listed/CSA certified and Type III mounting. 5.813″ (147.64) centers.

Stock No.	Type	No. of Outlets	Cord	Each
OUTLET STRIPS WITHOUT CIRCUIT BREAKER				
60F2420	602	5	6′	20.21
60F2421	602-15	5	15′	23.57
OUTLET STRIPS WITH CIRCUIT BREAKER				
61F1657	UL602CB-6*	5	6′	27.50
61F1652	UL602CB-15*	5	15′	32.84
61F1662	UL603CB-6*	4	6′	26.00
61F1654	UL603CB-15*	4	15′	31.34
61F1660	UL605CB-6*	3	6′	29.64
61F1656	UL605CB-15*	3	15′	34.97

(3782) (de00716)

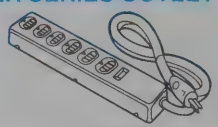
90° DESIGN MID-LENGTH OUTLET STRIPS

Ideal for oversized and right-angle plugs such as transformers, converters, and chargers. Maximum rating: 15A @ 125VAC, 60Hz, 1875 watts continuous. "U" ground outlets. Features circuit breaker protection, master switch/pilot light, 14/3 SJT cord/molded plug and steel case. Mounting type III: 10.313″ (261.95). 1.5H x 2.375W x 13.25″L (38.10 x 60.33 x 336.55). UL listed, CSA certified.

Stock No.	Type	No. of Outlets	Cord	Each
50F2813	UL24RA-6	6	6′	33.77
50F2814	UL24RA-15	6	15′	38.58

(3783) (de00717)

PREMIER SERIES OUTLET STRIPS



ULA6TME

Features low-profile, contoured steel housing, and circuit breaker protection. Color coordinated components. Useful in contract applications. Maximum rating: 15A @ 125VAC, 60Hz, 1875 watts. Outlets: "U" ground duplex. Type III keyhole-slot mounting. UL listed.

Stock No.	Type	No. of Outlets	Master Switch/ Pilot Light	Cord	Each
50F2808	ULA4TME-6	4	Yes	6′	23.89
50F2809	ULA4TME-15	4	Yes	15′	28.93
50F7285	ULA6TME6	6	Yes	6′	31.44
98F1531	ULA6TME-15	6	Yes	15′	36.90

(3784) (de00718)

20-AMP MULTIPLE OUTLET STRIPS

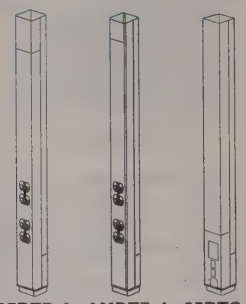
Designed for applications where more than 15 amps are required. (Will accept 15 or 20A plug.) Maximum rating: 20A @ 125VAC, 60Hz, 2500 watts continuous. Features master switch/pilot light, 12/3 SJT power cord/molded plug, circuit breaker protection. Six "U" ground duplex outlets and steel housing. Type III mounting: 10.313″ (261.95) centers. UL listed.

Stock No.	Type	No. of Outlets	Master Switch	Cord	Each	2-3
44F4291	UL620-6	6	Yes	6′	89.14	87.49
44F4292	UL620-15	6	Yes	15′	95.31	93.54

(3785) (de00719)

TELEPOWER® POWER, TELEPHONE & DATA SERVICE POLES

WIREMOLD Wire Management Systems



25DTP-4 AMDTP-4 25DTC-4

- **Distributes Power and Data Services from Overhead Wiring Systems**
- **Easily Relocated for a Flexible Office Environment**
- **Dual Channel Poles for Both Power and Data Cabling**
- **Easy Installation; Complete Installation Accessories Included**

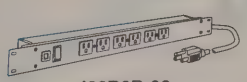
Poles come with feed fittings, ceiling trim plates, T-bar mounting hardware, and carpet/floor grippers. A variety of knockouts and twistouts on the bottom of the poles allow easy access to update wiring. Maximum ceiling height: 10′. **Type 25DTP-4** is steel constructed, has an ivory finish, and is factory wired with two spec grade 20A, 125VAC duplex receptacles. K.O.'s provided for RJ11/RJ45 and furniture communications connectors. **Type AMDTP-4** is anodized aluminum construction/finish and factory wired with two spec grade 20A, 125VAC duplex receptacles. An opening for communications and a ½″ hole for power is provided at the top of the pole. **Type 25DTC-4** is an ivory steel constructed pole with dual compartments for communications wiring only. Blank unwired without outlets. UL listed.

Stock No.	Type	Description	AC Outlets	Each	2-4
52F2263	25DTP4	Steel, Power & Communications Pole	4	**96.96**	**92.10**
52F2264	AMDTP4	Aluminum, Power & Communications Pole	4	**146.42**	**139.08**
52F2265	25DTC-4	Steel, Communications Only 10′ 5″ Pole	...	**89.85**	**85.34**

(3008) (ne06469)

19″ RACK MOUNT POWER STRIPS

WIREMOLD Shape Electronics Division



J60B0B-90

Fit all standard 19″ cabinets, carts, and racks. 120V @ 15A, 60Hz with 15-amp resettable circuit breaker. **Suffix B20** and **B20X** indicates 20 amps. Dimensions: 19 W x 1.75 H x 2.75″ D (1.25″ mounting centers). 1.5″ receptacle center to center. 90° units (**suffix 90**) have outlets rotated for applications using plug-in power supplies (adjacent outlets are not covered up). Medical-grade units (**suffix BH**) have medical-grade outlets and plugs. Matte black steel housing with black 14/3 SJT cord. UL recognized, CSA certified.

15-AMP 19″ RACK MOUNT POWER OUTLET STRIPS

Stock No.	Type	No of Outlets Front	No of Outlets Back	On/Off Switches	Cord	1-9
66F9403	J60B0B-90	6	0	Yes	6′	**52.25**
66F9404	J60B2B-90	6	0	Yes	15′	**57.52**
66F9401	J06B0BX	0	6	No	6′	**51.68**
66F9402	J06B2BX	0	6	No	15′	**57.04**
66F9405	J60B0BH	6	0	Yes	6′	**91.52**
66F9406	J60B2BH	6	0	Yes	15′	**101.20**
66F9409	J24B0BH	2	4	Yes	6′	**91.52**
66F9410	J24B2BH	2	4	Yes	1′5	**101.20**
95F1241	J06B0B	0	6	Yes	6′	**53.25**
94F7599	J06B2B(213BD)	0	6	Yes	15′	**58.77**
95F2876	J24B2B	2	4	Yes	15′	**58.77**
95F2872	J60B0B	6	0	Yes	6′	**53.25**
94F7602	J60B2B(212BD)	6	0	Yes	15′	**58.77**
95F2877	J24B0B	2	4	Yes	6′	**53.25**

20-AMP 19″ RACK MOUNT POWER OUTLET STRIPS

83F8124	J06B0B20	0	6	Yes	6′	**58.57**
83F8125	J06B2B20	0	6	Yes	15′	**64.64**
83F8126	J06B0B20X	0	6	No	6′	**58.57**
83F8127	J06B2B20X	0	6	No	15′	**64.64**
83F8128	J60B0B20	6	0	Yes	6′	**58.57**
83F8129	J60B2B20	6	0	Yes	15′	**64.65**
83F8130	J60B0B20X	6	0	No	6′	**58.57**
83F8131	J60B2B20X	6	0	No	15′	**64.65**

(3883) (ne06241)

PLUGMOLD® MULTI-OUTLET, PRE-WIRED RACEWAY

WIREMOLD Wire Management Systems

- **Provides Multiple Outlet Convenience for Electrically Busy Areas**
- **Hardwired for Permanent Installation**
- **15A Spec Grade Receptacles at 6″ or 12″ or 18″ Centers**
- **Pre-Wired with 12-Gauge Insulated Solid Wire**
- **3-, 5- or 6-foot Lengths Available**
- **Optional Entrance End Fitting Adapts Outlet Strip to Existing Power Circuits and Mounts to Existing Electrical Box**

Pre-wired electrical raceway provides multiple outlet convenience for electrically busy areas. Raceways are hard-wired for permanent installations. 15A spec grade receptacles on 6″ or 12″ centers. Feature steel construction, ivory Scuffcoat™ finish, compact low-profile design (1⁹⁄₃₂″ W x ¾″ D), and prewired 12-gauge insulated solid wire. Optional entrance end fitting (**type V2010A2**) adapts outlet strip to existing power circuits and mounts to existing electrical box. UL listed, CSA certified.

V20GB SERIES

Stock No.	Type	Length	Outlets	Distance Between Outlets	Each	2-4
52F2256	V20GB306	3′	6	6″	**25.90**	**24.60**
52F2257	V20GB506	5′	10	6″	**38.99**	**37.04**
52F2258	V20GB512	5′	5	12″	**28.13**	**26.72**
52F2259	V20GB606	6′	12	6″	**44.54**	**42.31**
52F2260	V20GB612	6′	6	12″	**33.43**	**31.75**
52F2261	V20GB618	6′	4	18″	**28.25**	**26.84**
52F2262	V2010A2	...	...	...	**3.84**	**3.65**

V20GBA SERIES 4-WIRE, 2-CIRCUIT WITH OUTLETS WIRED ALTERNATELY

52F7298	V20GBA512	5′	5	12″	**34.44**	**32.71**
52F7299	V20GBA609	6′	8	9″	**43.13**	**40.97**
52F7300	V20GBA612	6′	6	12″	**40.88**	**38.83**
52F7301	V20GBA618	6′	4	18″	**35.53**	**33.75**

V20iG SERIES 3-WIRE, SINGLE CIRCUIT, ISOLATED GROUNDING RECEPTACLES

52F7302	V20IG306	3′	6	6″	**32.24**	**30.63**
52F7303	V20IG512	5′	5	12″	**33.59**	**31.90**
52F7304	V20IG606	6′	12	6″	**55.73**	**52.93**
52F7305	V20IG618	6′	4	18″	**35.89**	**34.09**

(2997) (ne06470)

INDUSTRIAL MULTIPLE POWER TAPS

WIREMOLD Shape Electronics Division

R400

R600

Putty-white. Cross slots for mounting. ON/OFF indicator light. Rated 125V/15A. UL listed. 2-year warranty.

Stock No.	Type	Cord Length	Outlets	Switch	1-9
95F2895	R410	6′	4	Yes	**20.58**
95F2899	R610	6′	6	Yes	**22.48**
95F2900	R612	12′	6	Yes	**26.43**

(3871) (de52214)

INTERNATIONAL PLUG-IN OUTLET CENTER UNITS

WIREMOLD Shape Electronics Division

Feature five 220V IEC 320 plugs and 10A single-pole circuit breaker. Snap/side mount. Dimensions: 11L x 2W x 1.75″D. Gray finish. Power cord not included; order appropriate adapter cord separately, *contact your local Newark sales office*. UL listed, CSA certified. TUV approved. 2-year warranty.

95F1245 Type IEC5. **Each** **46.96**

(34493) (ne34493)

LOOK FOR ELECTRICAL PANEL HARDWIRE SURGE PROTECTION *on page 674.*

(34492) (ne34492)

MULTI-OUTLET STRIPS

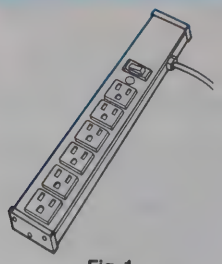


Fig. 1

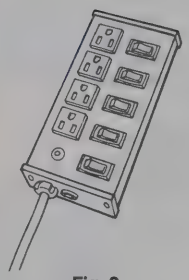


Fig. 2

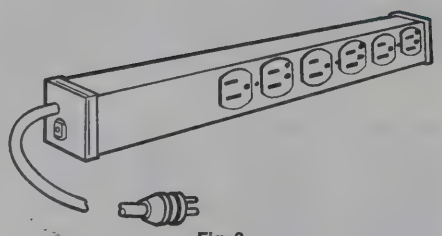


Fig. 3

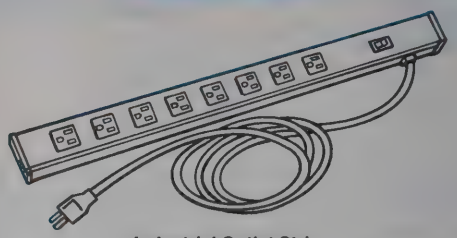
Power outlet strips provide power where space is limited. All are rated 15 amps @ 125 volts and feature circuit breaker, non-corrosive aluminum construction (except **type P6**, plastic housing), 14/3 SJT power cord and impact resistant plastic end caps. Types with (*) do not have master pilot light/power switch. Compact models available with 4 to 10 outlets are gray with snap-on/off mounting clips (except 10-outlet units, beige with keyhole mounting). Deluxe control models include individually switched receptacles and master power switch. **Types UL208** and **UL209** are beige with keyhole mounting. 90° right-angle outlet strips have rotated outlets to allow angled plugs or small power supplies to be plugged in without covering adjacent outlets. No power switch. Silver with snap-on mounting clips. 20-amp models are rated at 20 amps/125 volts, 2500 watts continuous duty with 20-amp breaker and NEMA-5-20R receptacles. Beige with black 12/3 SJT power cord and mount with snap-on mounting clips. Medical-grade power strips feature UL1363 listed hospital-grade plug and receptacles designated by green dot. 15A/125V rating and circuit breaker. All types offer 14/3 SJT power cord and impact-resistant plastic end caps. Noncorrosive white aluminum housing. Snap-on/off mounting clips included. Power switch is not included per hospital requirement. 3-year warranty.

COMPACT POWER OUTLET STRIPS

Stock No.	Type	Fig.	Outlets	Case Lgth.	Cord Lgth.	1-9
95F1269	UL100BC*	1	5	9.19″	6′	22.78
95F1270	UL100BD*	1	5	9.19″	15′	28.24
95F1225	UL104BC	1	4	9.19″	6′	26.20
95F1226	UL104BD	1	4	9.19″	15′	31.65
95F1271	UL204BC	1	7	13.00″	6′	34.02
95F1272	UL204BD	1	7	13.00″	15′	39.47
95F1273	UL205BC*	1	8	13.00″	6′	31.99
95F1274	UL205BD*	1	8	13.00″	15′	37.45
95F1275	UL207BC	1	6	12.25″	6′	31.96
95F1276	UL207BD	1	6	12.25″	15′	37.42
95F1277	UL210BC	1	10	12.00″	6′	43.46
95F1278	UL210BD	1	10	12.00″	15′	48.92
95F1227	P6(T6-6)	1	6	12.00″	6′	13.36
DELUXE CONTROL POWER STRIPS						
95F1228	UL208BC	2	4	7.50″	6″	53.48
95F1229	UL208BD	2	4	7.50″	15′	58.93
95F1279	UL209BC	2	8	12.75″	6′	75.72
95F1280	UL209BD	2	8	12.75″	15′	81.17
90° RIGHT-ANGLE POWER STRIPS						
95F1214	UL1090BC*	...	4	16.00″	6′	32.03
95F1215	UL1090BD*	...	4	16.00″	15′	37.48
20-AMP POWER STRIPS						
95F1265	ULB420-6	...	4	7.50″	6′	80.56
95F1266	ULB420-15	...	4	7.50″	15′	87.12
95F1267	ULB620-6	...	6	12.75″	6′	83.08
95F1268	ULB620-15	...	6	12.75″	15′	89.65
MEDICAL-GRADE POWER STRIPS						
95F1249	ULBH4-6	3	4	9.875″	6′	53.06
95F1250	ULBH4-15	3	4	9.875″	15′	58.66
95F1251	ULBH6-6	3	6	12.875″	6′	65.16
95F1252	ULBH6-15	3	6	12.875″	15′	70.76

(3864) (de51972)

POWER STRIPS



Industrial Outlet Strip

Heavy-duty units rated 15 amps @ 125 volts with 15-amp circuit breaker. Gray units are constructed of noncorrosive aluminum, feature impact-resistant end caps, 14/3 SJT power cord. UL 1363 listed and CSA certified. 3-year warranty. Industrial strips are 1.75″ wide, 1.63″ high and available in 2′, 4′ and 6′ lengths, with up to 24 outlets. Pilot light/power switch, except units with (*) in type number. Snap-on mounting clips. UL recognized.

INDUSTRIAL POWER OUTLET STRIPS

Stock No.	Type	Outlets	Case Length	Cord Length	1-9
95F1216	UL300BC	8	24″	6′	49.86
95F1217	UL300BD	8	24″	15′	54.32
95F1218	UL401BC	8	48″	6′	54.14
95F1219	UL401BD	8	48″	15′	58.60
95F1220	UL402BC	16	48″	6′	65.37
95F1221	UL402BD	16	48″	15′	69.84
95F1222	UL403BC	8	48″	6′	48.75
95F1233	UL404BC	15	48″	6′	65.37
95F1179	UL2062BC	10	72″	6′	53.05
95F1181	UL2063BC	20	72″	6′	76.36
95F1182	UL2063BD	20	72″	15′	80.82
95F1183	UL2064BC	12	72″	6′	55.80
95F1184	UL2064BD	12	72″	15′	60.26
95F1185	UL2065BC	24	72″	6′	78.67
95F1186	UL2065BD	24	72″	15′	83.14

(3865) (de51973)

CABINETMATE® PLUG-IN POWER OUTLET STRIPS

NEW

- **Multi-Length, Low-Profile**
- **120V; Resettable Overload Circuit Breaker**
- **Non-corrosive Aluminum Housing**
- **Measure 1.5W x 1.18″D**
- **UL 1363 Listed, CSA Certified (Except 20-Amp)**
- **Two-Year Warranty**

Heavy-duty rack mount power outlet strips suitable for all types of cabinets. Mount using spring clips. Aluminum gray finish. 15-amp outlet strips include 14/3 SJT black cord; 20-amp models include 12/3 SJT power cord with 20-amp plug. Include pilot light/power switch, except units with (*) in type number.

15-AMP CABINET POWER OUTLET STRIPS

Stock No.	Type	Outlets	Length	Cord Length	Each
95F1235	4810ULBC*	10	48″	6′	58.26
95F1236	4810ULBD*	10	48″	15′	64.29
95F1187	7011ULBC*	11	70″	6′	67.10
95F1188	7011ULBD*	11	70″	15′	73.13
95F1189	7712ULBC*	12	77″	6′	74.30
95F1190	7712ULBD*	12	77″	15′	80.34
20-AMP CABINET POWER OUTLET STRIPS					
52F9667	4810ULBC.20	10	48″	6′	67.22
52F9668	4810ULBD.20	10	48″	15′	76.52
52F9669	7011ULBC.20	11	70″	6′	77.59
52F9670	7011ULBD.20	11	70″	15′	86.89
52F9671	7712ULBC.20	12	77″	6′	86.33
52F9672	7712ULBD.20	12	77″	15′	98.12

(34491) (ne34491)

EXTENSION CORDS AND WORK LIGHTS

OUTDOOR EXTENSION CORDS

Orange SJTW-A extension cords.

Stock No.	Type	Cord Length	AWG/ Conductors	125V Rating	Each
84N1419	0265	8′	16/3	13A	**7.95**
84N1420	0266	15′	16/3	13A	**9.95**
84N1421	0267	25′	16/3	13A	**12.95**
84N1422	0268	50′	16/3	13A	**18.95**
84N1423	0269	100′	16/3	10A	**31.95**
84N1424	0625	25′	14/3	15A	**14.99**
84N1425	0626	50′	14/3	15A	**24.95**
84N1426	0528	25′	12/3	15A	**19.99**
84N1427	0529	50′	12/3	15A	**34.99**

(28347) (ne28347)

ROUND VINYL WORK LIGHTS

NEW UL OSHA

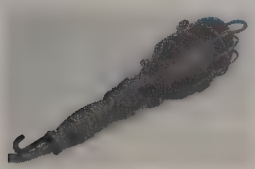


Fig. 1

Fig. 2

Feature a dual-hook system that permits the work light to hang by either its guard or handle. Durable, heat-resistant housing stays cool even with short-neck bulbs. Round orange vinyl jacket is versatile and easy to see. Will not mark floors or walls. All metal grounded guard lights are UL rated for 100-watt bulbs. AWG/conductors for **types 0680, 0681,** and **0682**: 18/3; for **types 0691, 0692,** and **0649**: 16/3; for **types 0200** and **0201**: 18/2 and have a 75W bulb rating. Cord color: orange. Wire type: SJTW-A. UL listed. OSHA compliant for temporary lighting.

PLASTIC GUARD WITH SWITCH, NO OUTLET — FIG. 1

Stock No.	Type	Cord Length	125V Rating	Each
50N514	0200	15′	...	**8.95**
50N515	0201	25′	...	**14.95**

METAL GROUNDED GUARD WITH SWITCH & GROUNDED OUTLET — FIG. 2

50N517	0680	15′	10A	**14.95**
50N518	0681	25′	10A	**19.95**
50N519	0682	50′	10A	**34.95**
50N520	0691	25′	13A	**19.95**
50N521	0692	50′	13A	**28.95**
50N525	0649*	25′	13A	**24.95**

*With built-in circuit breaker
(34084) (ne34084)

RETRACTABLE REEL LIGHTS

NEW UL OSHA

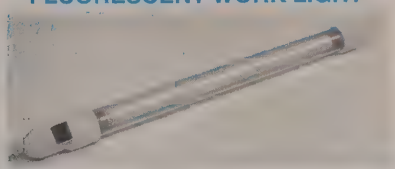
Perfect to use around the garage, basement, or shop. Both have a switch and outlet in the handle. Reel cases are made of epoxy-finished steel. Feature dual-hook system and complete mounting hardware. 100W bulb rating. AWG/conductors for **type 0212,** 18/3, for **type 0211,** 16/3. Wire type SJT. UL listed. OSHA compliant for general use.

Stock No.	Type	Cord Length	125V Rating	Each
50N522	0212	20′	7A	**58.95**
50N523	0211	30′	10A	**59.95**

(34085) (ne34085)

FLUORESCENT WORK LIGHT

NEW UL



Powerfully built with shatter-resistant housing, fluorescent light for energy savings and cool-in-use operation. Bulb is easy to replace. Includes on/off switch and adjustable hanger hooks. 25′ cord length. AWG/conductors: 18/2. Bulb rating: 15W. Wire type SJT. UL listed.

50N524 Type 0221. **Each** **49.95**
(34086) (ne34086)

RETRACTABLE CORD REEL POWER BLOCK

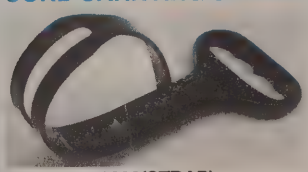
NEW UL OSHA

Convenient 3-outlet plug avoids the cost and clutter of running 2 or 3 cords for tools and appliances around the home, job, or recreational area. Rugged steel case with hanging hardware. AWG/conductors: 16/3. 125V rating: 10A. Rating: 300V. 30′ cord length. Wire type SJTW-A. UL listed. OSHA compliant for general use.

50N526 Type 0548. **Each** **58.95**
(34087) (ne34087)

CORD CARRYING STRAPS

NEW UL



2802(STRAP)

2869

Type 2869 is a luggage-grade nylon strap with convenient handle. Perfect for carrying cords, tubing, pipe, hose or rope. **Type 2802 (STRAP)** has a sturdy 1-piece construction design which holds up to 150′ of 16 gauge/3 conductor cord. UL listed.

Stock No.	Type	Description	Each
50N527	2802(STRAP)	Black Plastic	**2.95**
50N528	2869	Yellow Nylon	**4.95**

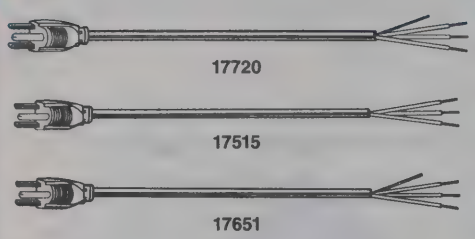
(34088) (ne34088)

PERSONALIZED SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

Belden

3-CONDUCTOR POWER CORDS

3-CONDUCTOR POWER SUPPLY CORDS



- NEMA 5-15P Molded Vinyl Grounding Plug PH-290B, PH-185, or PH-173
- European Color Coding
- Rated 60°C; 125V
- UL Listed, CSA Certified

BELDFOIL® SHIELDED, PVC JACKETED

Stock No.	Type	AWG (Stranding)	O.D.	L	Rating	Plug	Cord	1-9	10-24	25-99	100-249
37F3291	17612	18 (42 × 34)	.340″	6′7″	1250W/10A	185	SJT	7.18	6.60	6.02	5.44
37F3292	17613	18 (42 × 34)	.340″	9′10″	1250W/10A	185	SJT	9.37	8.61	7.85	7.09
37F3293	17614	16 (65 × 34)	.365″	6′7″	1625W/13A	185	SJT	8.49	7.80	7.11	6.42
37F3294	17615	16 (65 × 34)	.365″	9′10″	1625W/13A	185	SJT	11.24	10.33	9.42	8.51
37F3295	17616	14 (41 × 30)	.402″	6′7″	1875W/15A	173	SJT	9.37	8.61	7.85	7.09
37F3296	17617	14 (41 × 30)	.402″	9′10″	1875W/15A	173	SJT	13.22	12.14	11.07	10.00
37F3305	17618	18 (42 × 34)	.340″	6′7″	1250W/10A	386A	SJT	8.49	7.80	7.11	6.42
37F3306	17619	18 (42 × 34)	.340″	9′10″	1250W/10A	386A	SJT	11.05	10.16	9.26	8.36
44F1831	17720*	18 (42 × 34)	.270″	6′7″	1250W/10A	290B	SVT	6.72	6.18	5.63	5.09
37F3289	17740	18 (42 × 34)	.270″	6′7″	1250W/10A	290B	SVT	6.51	5.99	5.46	4.93
37F3290	17741	18 (42 × 34)	.270″	9′10″	1250W/10A	290B	SVT	8.28	7.61	6.93	6.26
DUOFOIL® & BRAID SHIELDED, PVC JACKETED											
81F6104	17650	18 (42 × 34)	.307″	6′7″	1250W/10A	290B	SVT	11.84	10.88	9.92	8.96
81F6105	17651	18 (42 × 34)	.307″	9′10″	1250W/10A	290B	SVT	14.21	13.06	11.91	10.76
UNSHIELDED, PVC JACKETED											
37F3297	17512	18 (42 × 34)	.315″	6′7″	1250W/10A	290B	SJT	3.51	3.22	2.94	2.66
37F3298	17513	18 (42 × 34)	.315″	9′10″	1250W/10A	290B	SJT	4.58	4.21	3.84	3.47
37F3299	17514	16 (65 × 34)	.340″	6′7″	1625W/13A	185	SJT	4.77	4.39	4.00	3.61
37F3300	17515	16 (65 × 34)	.340″	9′10″	1625W/13A	185	SJT	6.05	5.56	5.07	4.58
37F3301	17516	14 (41 × 30)	.380″	6′7″	1875W/15A	173	SJT	6.09	5.60	5.11	4.61
37F3302	17517	14 (41 × 30)	.380″	9′10″	1875W/15A	173	SJT	7.95	7.31	6.66	6.02
81F6098	17534	18 (42 × 34)	.246″	6′7″	1250W/10A	290B	SVT	3.34	3.07	2.80	2.53
81F6099	17535	18 (42 × 34)	.246″	9′10″	1250W/10A	290B	SVT	4.01	3.68	3.36	3.03
44F1833	17747*	18 (42 × 34)	.246″	6′7″	1250W/10A	290B	SVT	3.55	3.26	2.97	2.68
44F1834	17748*	18 (42 × 34)	.315″	6′7″	1250W/10A	290B	SJT	4.22	3.87	3.53	3.19

*Rated 105°C; passes VW-1 vertical wire flame test.

(6222) (ne52738)

3-CONDUCTOR POWER SUPPLY CORDS

- NEMA 5-15P Molded PVC Grounding Plug PH-290B, PH-185, or PH-173
- North American Color Coding
- Rated 60°C; 125V
- UL Listed, CSA Certified

TYPE SVT AND SJT PVC JACKETED

Stock No.	Type	AWG (Stranding)	Nom. O.D.	L	Rating	Plug	Cord	1-9	10-24	25-99	100-249
36F1821	17237	18 (42 × 34)	.246″	6′	1250/10	290B	SVT	2.80	2.57	2.35	2.12
36F1822	17239	18 (42 × 34)	.246″	8′	1250/10	290B	SVT	3.32	3.05	2.78	2.51
36F957	17405	18 (16 × 30)	.315″	6′	1250/10	290B	SJT	3.18	2.92	2.67	2.41
36F958	17407	18 (16 × 30)	.315″	8′	1250/10	290B	SJT	3.74	3.44	3.13	2.83
36F1251	17276	16 (26 × 30)	.340″	20′	1625/13	185	SJT	11.05	10.16	9.26	8.36
TYPE SV AND SJ RUBBER AND SJO NEOPRENE JACKETED											
36F1037	17236	18 (42 × 34)	.246″	6′	1250/10	290B	SV	4.77	4.39	4.00	3.61
36F1038	17238	18 (42 × 34)	.246″	8′	1250/10	290B	SV	5.67	5.21	4.75	4.29
36F842	17406	18 (16 × 30)	.315″	6′	1250/10	185	SJ	5.42	4.98	4.54	4.10
36F857	17408	18 (16 × 30)	.315″	8′	1250/10	185	SJ	6.09	5.60	5.11	4.61
36F959	17409	18 (16 × 30)	.315″	8′	1250/10	185	SJO	6.32	5.81	5.30	4.79
36F960	17412	18 (16 × 30)	.315″	12′	1250/10	185	SJ	8.29	7.62	6.95	6.28
36F843	17419	16 (26 × 30)	.340″	9′	1625/13	185	SJ	7.22	6.64	6.05	5.47
36F961	17422	16 (26 × 30)	.340″	12′	1625/13	185	SJ	10.27	9.43	8.60	7.77
36F849	17425	16 (26 × 30)	.340″	15′	1625/13	185	SJ	14.21	13.06	11.91	10.76
36F1823	17629	14 (41 × 30)	.380″	9′	1875/15	173	SJ	13.22	12.14	11.07	10.00
36F1253	17635	14 (41 × 30)	.380″	15′	1875/15	173	SJ	22.79	20.94	19.09	17.25

(6223) (ne52739)

POWER SUPPLY CORDS WITH PH-386 CONNECTOR

- Rated 60°C; 125V
- International Color Coding
- Molded Vinyl Grounding Connector PH-386, IEC-320-C-13
- UL Listed, CSA Certified

BELDFOIL® SHIELDED, PVC JACKETED

Stock No.	Type	AWG (Stranding)	O.D.	L	Rating	Recep.	Cord	1-9	10-24	25-99	100-249
37F3303	17749	18 (42 × 34)	.270″	6′7″	1250W/10A	386A	SVT	7.62	7.01	6.39	5.77
37F3304	17750	18 (42 × 34)	.270″	9′10″	1250W/10A	386A	SVT	9.37	8.61	7.85	7.09
37F3305	17618	18 (42 × 34)	.340″	6′7″	1250W/10A	386A	SJT	8.49	7.80	7.11	6.42
37F3307	17620	16 (65 × 34)	.365″	6′7″	1625W/13A	386E	SJT	7.49	6.88	6.28	5.67
37F3308	17621	16 (65 × 34)	.365″	9′10″	1625W/13A	386E	SJT	12.62	11.60	10.58	9.55
UNSHIELDED, PVC JACKETED											
37F3311	17518	18 (42 × 34)	.315″	6′7″	1250W/10A	386A	SJT	4.77	4.39	4.00	3.61
37F3312	17519	18 (42 × 34)	.315″	9′10″	1250W/10A	386A	SJT	5.86	5.39	4.91	4.44
37F3313	17520	16 (65 × 34)	.340″	6′7″	1625W/10A	386E	SJT	5.21	4.79	4.37	3.95
37F3314	17521	16 (65 × 34)	.340″	9′10″	1625W/10A	386E	SJT	6.72	6.18	5.63	5.09
36F890	17254	18 (42 × 34)	.246″	7′6″	1250W/10A	386	SVT	4.25	3.91	3.57	3.22

(6225) (ne52741)

ONE-STOP SHOPPING . . . WITH ONE CALL AND ONE PURCHASE ORDER.

POWER SUPPLY CORDS

POWER SUPPLY CORDS WITH RIGHT-ANGLE CONNECTOR

- Right-Angle Connector
- Rated 60°C; 125V - Dual-Rated at 10A-250V
- International Color Coding
- UL Listed, CSA Certified

UNSHIELDED, PVC JACKETED

Stock No.	Type	AWG (Stranding)	O.D.	Length	Rating	Recep.	Cord	1-9	10-24	25-99
37F3325	17536-C3-10	18 (42 x 34)	.315"	6'7"	1250W/10A	390A	SJT	4.98	4.58	4.18
37F3326	17537-C3-10	18 (42 x 34)	.315"	9'10"	1250W/10A	390A	SJT	6.32	5.81	5.30
37F3328	17539-C3-10	16 (65 x 34)	.340"	9'10"	1625W/13A	390A	SJT	7.18	6.60	6.02

BELDFOIL® SHIELDED, PVC JACKETED

37F3317	17751-C3-10	18 (42 x 34)	.270"	6'7"	1250W/10A	390A	SVT	8.28	7.61	6.93
37F3318	17752-C3-10	18 (42 x 34)	.270"	9'10"	1250W/10A	390A	SVT	9.79	9.00	8.20
37F3319	17636-C3-10	18 (42 x 34)	.340"	6'7"	1250W/10A	390A	SJT	8.93	8.20	7.48

(6226) (ne52742)

RETRACTILE POWER SUPPLY CORDS

- Allows Free Movement; Helps Prevent Accidents
- Rated 60°C; 125V
- North American Color Coding
- UL Listed, CSA Certified

RETRACTILE, RUBBER INSULATED, NEOPRENE JACKETED

Stock No.	Type	AWG (Stranding)	Nom. O.D.	Length	Rating	Cord	Plug	1-9	10-24	25-99	100-249
36F844	17447-S2-10	18 (42 x 34)	.360"	1 to 6'	1250W/10A	SJO	185	10.86	9.98	9.10	8.22
36F845	17448-S2-10	16 (65 x 34)	.370"	1 to 6'	1625W/13A	SJO	173	11.65	10.70	9.76	8.81
36F1250	17449-S2-10	16 (65 x 34)	.370"	2 to 12'	1625W/13A	SJO	173	15.78	14.50	13.22	11.94

(6224) (ne52740)

3-CONDUCTOR POWER SUPPLY CORDS

- Molded PVC Grounding Connector PH-386, IEC 320-C-13
- NEMA 5-15P Molded Vinyl Grounding Plug
- Rated 60°C, 125V • International Color Coding
- UL Listed, CSA Certified

BELDFOIL® SHIELDED, PVC JACKETED

Stock No.	Type	AWG (Stranding)	Length	Rating	Plug	Conn.	Cord	1-9	10-24	25-99
37F3333	17600-C3-10	18 (42 x 34)	6'7"	1250W/10A	185	386A	SJT	8.29	7.62	6.95
37F3334	17601-C3-10	18 (42 x 34)	9'10"	1250W/10A	185	386A	SJT	12.24	11.25	10.25
37F3335	17602-C3-10	16 (65 x 34)	6'7"	1625W/13A	185	386E	SJT	11.24	10.33	9.42
37F3336	17603-C3-10	16 (65 x 34)	9'10"	1625W/13A	185	386E	SJT	13.41	12.32	11.23
37F3337	17604-C3-10	14 (41 x 30)	6'7"	1875W/15A	173	386E	SJT	12.24	11.25	10.25
37F3338	17605-C3-10	14 (41 x 30)	9'10"	1875W/15A	173	386E	SJT	15.59	14.33	13.06
44F1827	17725-C3-10*	18 (42 x 34)	6'7"	1250W/10A	290B	386A	SVT	9.14	8.40	7.66
44F1828	17729-C3-10	18 (42 x 34)	6'7"	1250W/10A	185	386A	SJT	10.06	9.24	8.43
37F3331	17742-C3-10	18 (42 x 34)	6'7"	1250W/10A	290B	386A	SVT	5.61	5.16	4.70
37F3332	17743-C3-10	18 (42 x 34)	9'10"	1250W/10A	290B	386A	SVT	10.86	9.98	9.10

DUOFOIL® & BRAID SHIELDED, PVC JACKETED

81F6106	17660-C3-10	18 (42 x 34)	6'7"	1250W/10A	290B	386A	SVT	14.21	13.06	11.91
81F6107	17661-C3-10	18 (42 x 34)	9'10"	1250W/10A	290B	386A	SVT	17.16	15.77	14.38

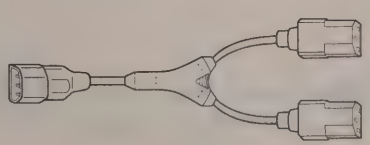
UNSHIELDED, PVC JACKETED

36F1255	17250-B1-10†	18 (42 x 34)	7'6"	1250W/10A	290B	386	SVT	3.58	3.29	3.00
36F889	17251-B1-10†	18 (42 x 34)	7'6"	1250W/10A	290B	386	SVT	3.58	3.29	3.00
37F3339	17500-C3-10†	18 (42 x 34)	6'7"	1250W/10A	290B	386A	SJT	4.20	3.86	3.52
37F3340	17501-C3-10†	18 (42 x 34)	9'10"	1250W/10A	290B	386A	SJT	6.32	5.81	5.30
37F3341	17502-C3-10†	16 (65 x 34)	6'7"	1625W/13A	185	386E	SJT	6.51	5.99	5.46
36F888	17255-B1-10†	16 (65 x 34)	7'6"	1625W/13A	185	386E	SJT	6.51	5.99	5.46
37F3342	17503-C3-10†	16 (65 x 34)	9'10"	1625W/13A	185	386E	SJT	7.80	7.17	6.53
37F3343	17504-C3-10†	14 (41 x 30)	6'7"	1875W/15A	173	386E	SJT	4.75	4.37	3.98
37F3344	17505-C3-10†	14 (41 x 30)	9'10"	1875W/15A	173	386E	SJT	9.60	8.82	8.04
44F1830	17757-C3-10†	18 (42 x 34)	7'6"	1250W/10A	290B	386	SVT	4.25	3.91	3.57
44F1829	17758-C3-10†	18 (42 x 34)	6'7"	1250W/10A	290B	386A	SJT	5.08	4.67	4.25

*Passes VW-1 vertical wire flame test; †North American color coding, rated 105°C.
(6216) (ne50325)

"Y" POWER SUPPLY CORDS

- Y-Cords Replaces Two Standard Power Cords
- 2 Molded PVC Grounding Connectors AEC 250A
- Rated 60°C
- Cord Type: SJT
- Color: Black
- UL Listed, CSA Certified



IEC 320 C14 PLUG AND TWO IEC 320 C13 CONNECTORS

Stock No.	Type	Length	AWG (Stranding)	Rating	1-9	10-24	25-99
83F6486	17268A-B1-10	6' (2' Legs)	18 (41x34)	10A / 125V	6.90	6.35	5.79
83F6487	17269A-B1-10	10' (2' Legs)	18 (41x34)	10A / 125V	7.66	7.04	6.42
83F6488	17270A-B1-10	6' (2' Legs)	16 (65x34)	13A / 250V	6.07	5.58	5.09
83F6489	17271A-B1-10	10' (2' Legs)	16 (65x34)	13A / 250V	7.27	6.69	6.10

NEMA 5-15P PLUG AND TWO IEC 320 C13 CONNECTORS

83F6490	17272A-B1-10	6' (2' Legs)	18 (41x34)	10A / 125V	7.61	6.99	6.37
83F6491	17273A-B1-10	10' (2' Legs)	18 (41x34)	10A / 125V	7.00	6.43	5.86
83F6492	17274A-B1-10	6' (2' Legs)	16 (65x34)	13A / 250V	6.55	6.02	5.49
83F6493	17275A-B1-10	10' (2' Legs)	16 (65x34)	13A / 250V	7.52	6.91	6.30

(31471) (ne31471)

PowerBrite™ FLUORESCENT-TYPE POWER SUPPLY CORDS

PowerBrite™ is a line of colored plastic-jacketed cords. The neon-like pink, green, and yellow cord jackets can add value to a consumer-related OEM/EOEM product. These bright, distinctive colors make color-coding power cords easy. Especially useful in high-density broadcast and computer applications or in any rack-mounted electronic equipment installation where multiple cords are utilized in a close or confined area. Practical to use where a number of computer or peripheral devices access a power strip. PowerBrite™ cords provide a high degree of differentiation and allow for immediate identification of cords by type and/or usage. Also available in red. *Contact your local Newark sales office.*

UNSHIELDED

Type 17000A-B1 and **type 17002A-B1** rating: 1250W 10A-125V, cord type SVT. **Type 17001A-B1** and **type 17041A-B1** rating: 1625W 13A-125V, cord type SJT. Molded PVC grounding plug PH-290B or PH-185. Molded PVC grounding connector PH-386 or PH-386E, IEC 320-C13. Rated 60°C, 125V. Passes VW-1 vertical wire flame test. UL listed, CSA certified.

Type	Pink Stock No.	Green Stock No.	Yellow Stock No.	Black Stock No.	Red Stock No.	AWG	Nominal O.D.	Length	1-9	10-24	25-99	100-249
17000A-B1*	52F5967	52F5968	52F5969	95F3503	52F9127	18 (42 x 34)	0.246″ (6.25)	36″ (0.91M)	3.72	3.42	3.12	2.82
17001A-B1†	52F5971	52F5972	52F5973	95F3504	52F9128	16 (26 x 30)	0.340″ (8.64)	36″ (0.91M)	4.73	4.35	3.97	3.58
17002A-B1*	52F5975	52F5976	52F5977	95F3505	52F9129	18 (42 x 34)	0.246″ (6.25)	18″ (0.46M)	3.37	3.10	2.83	2.55
17041A-B1†	52F5979	52F5980	52F5981	52F5978	52F9183	16 (26 x 30)	0.340″ (8.64)	24″ (0.61M)	3.57	3.28	2.99	2.70

* North American color coding † International color coding

DUOFOIL® AND BRAID SHIELDED

Rating: 1250W 10A-125V. Cord type: SVT Z-Fold® Duofoil® + 85% braid. Molded PVC grounding plug PH-290B. **Types 17025A-B1, 17026A-B1,** and **17042A-B1** have molded PVC grounding connector PH-386A, IEC 320-C13. **Types 17029A-B1, 17035A-B1** and **17043A-B1**, have molded PVC right-angle grounding connector PH-910, IEC 320-C13. International color coding.

Type	Stock No.	Stock No.	Stock No.	Stock No.	Stock No.	AWG	Nominal O.D.	Length	1-9	10-24	25-99	100-249
17025A-B1	52F5983	52F5984	52F5985	52F5982	52F9130	18 (42 x 34)	0.307″ (7.80)	12″ (0.30M)	7.89	7.25	6.61	5.97
17026A-B1	52F5987	52F5988	52F5989	52F5986	52F9131			18″ (0.45M)	8.08	7.43	6.77	6.12
17042A-B1	52F5991	52F5992	52F5993	52F5990	52F9132			24″ (0.61M)	8.29	7.62	6.95	6.28
17029A-B1	52F5995	52F5996	52F5997	52F5994	52F9134	18 (42 x 34) [1.19]	0.307″ (7.80)	12″ (0.30M)	7.89	7.25	6.61	5.97
17035A-B1	52F5999	52F6000	52F6001	52F5998	52F9135			18″ (0.45M)	8.08	7.43	6.77	6.12
17043A-B1	52F6003	52F6004	52F6005	52F6002	52F9136			24″ (0.61M)	8.29	7.62	6.95	6.28

(6518) (nec7462)

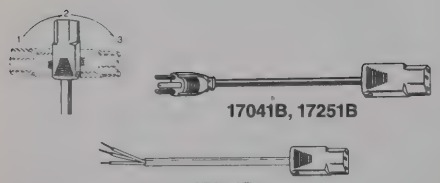
RIGHT ANGLE, BELDFOIL® SHIELDED CORDS

- **Molded PVC Right Angle Grounding Connector PH-390 IEC 320-C-13**
- **NEMA 5-15P Molded Vinyl Grounding Plug, PVC Jacketed**

Stock No.	Type	AWG (Stranding)	L	Rating	Plug	Conn.	Cord	1-9	10-24	25-99	100-249
37F3347	17606	18 (41 x 34)	6′7″	1250W/10A	185	390A	SJT	10.06	9.24	8.43	7.61
37F3348	17607	18 (41 x 34)	9′10″	1250W/10A	185	390A	SJT	12.24	11.25	10.25	9.26
37F3349	17608	16 (65 x 34)	6′7″	1625W/13A	185	390B	SJT	11.65	10.70	9.76	8.81
37F3350	17609	16 (65 x 34)	9′10″	1625W/13A	185	390B	SJT	13.81	12.69	11.57	10.45
37F3345	17745	18 (41 x 34)	6′7″	1250W/10A	290B	390A	SVT	9.14	8.40	7.66	6.92
37F3346	17746	18 (41 x 34)	9′10″	1250W/10A	290B	390A	SVT	11.24	10.33	9.42	8.51
RIGHT ANGLE, UNSHIELDED, PVC JACKETED											
37F3353	17506	18 (41 x 34)	6′7″	1250W/10A	290K	390A	SJT	5.96	5.48	4.99	4.51
37F3354	17507	18 (41 x 34)	9′10″	1250W/10A	290K	390A	SJT	6.97	6.41	5.84	5.28
37F3355	17508	16 (65 x 34)	6′7″	1625W/13A	290K	390A	SJT	6.72	6.18	5.63	5.09
37F3356	17509	16 (65 x 34)	9′10″	1625W/13A	290K	390A	SJT	8.28	7.61	6.93	6.26

(6143) (de50326)

BELFIT™ POWER CORDS



- **Type 17251B and Type 17041B, Molded NEMA 5-15 Plug**
- **Type 17254B is a Hardwire Version**

Belfit™ power supply cords feature a user-adjustable connector. The Belfit connector can be adjusted for left-angle, right-angle or straight configurations, meeting the broadest possible range of application and installation requirements. O.D.: 0.246″. Rating: 1250W/10A. Cord: SVT. Color coding: North American. Color: Black.

Stock No.	Type	AWG Stranding	Length	1-9	10-24	25-99	100-249
01F154	17251B	18 (41 x 34)	90″	3.78	3.47	3.16	2.86
01F155	17041B	18 (41 x 34)	24″	2.85	2.62	2.39	2.16
01F156	17254B	18 (41 x 34)	90″	4.33	3.98	3.63	3.28

(13176) (ne10288)

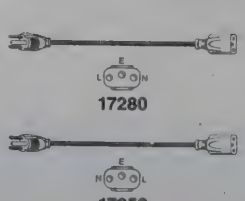
DETACHABLE POWER SUPPLY CORD

- **3 Conductor Unshielded PVC Jacketed**
- **NEMA 6-15P Molded PVC Grounding Plug PH-44C**
- **Molded PVC Grounding Connector PH-386, IEC 320-C13**

Stock No.	Type	AWG (Stranding)	Nom. O.D.	Length	Rating	Cord	1-9	10-24	25-99	100-249
81F6100	17566	18 (42 x 34)	.246″	6′7″	2500W/10A	SVT	5.00	4.60	4.19	3.79
81F6101	17567	18 (42 x 34)	.246″	9′10″	2500W/10A	SVT	5.86	5.39	4.91	4.44
81F6102	17568	18 (42 x 34)	.315″	6′7″	2500W/10A	SJT	5.86	5.39	4.91	4.44
81F6103	17569	18 (42 x 34)	.315″	9′10″	2500W/10A	SJT	6.51	5.99	5.46	4.93

(6228) (ne53420)

SVT CORD UNSHIELDED



- **NEMA 5-15P Molded PVC Grounding Plug PH-290B**
- **Molded PVC 3-Contact Connector PH-163**
- **17952S North American Color Coding**
- **Gray PVC Jacketed**

Nominal OD: 0.0246″. Rating: 875W/7A.

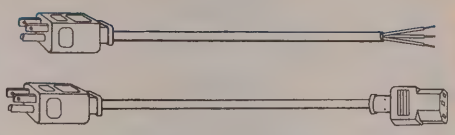
Stock No.	Type	AWG (Stranding)	Length	1-9	10-24	25-99	100-249
36F986	17952	18 (41 x 34)	8′	6.32	5.81	5.30	4.79
36F987	17280	18 (41 x 34)	7½′	5.67	5.21	4.75	4.29

(8144) (de50327)

POWER SUPPLY CORDS

MEDICORD™ HOSPITAL GRADE (GREEN DOT) POWER SUPPLY CORDS

- Rated 60°C; 125V
- North American Color Coding
- NEMA 5-15P Molded PVC Clear Hospital Grade Plugs
- UL Listed



8′ SJT TYPE CORD WITH PLUG PH-813

Stock No.	Type	AWG (Stranding)	Nom. O.D.	Rating	1-9	10-24	25-99	100-249
87F2999	17010-S2-8	18 (41 x 34)	.430″	1250W/10A	20.11	18.48	16.85	15.22
87F3000	17011-S2-8	16 (65 x 34)	.475″	1625W/13A	21.26	19.53	17.81	16.09
87F3001	17030-S2-8*	18 (41 x 34)	.315″	1250W/10A	12.62	11.60	10.58	9.55
8′ SJT TYPE CORD WITH PLUG PH-813 AND GROUNDING CONNECTOR PH-386								
87F3002	17015-S2-8	18 (41 x 34)	.430″	1250W/10A	22.22	20.41	18.61	16.81
87F3003	17016-S2-8	16 (65 x 34)	.475″	1625W/13A	23.36	21.47	19.58	17.68
87F3010	17031-S2-8*	18 (41 x 34)	.315″	1250W/10A	14.40	13.24	12.07	10.90
10′ SJT TYPE CORD WITH PLUG PH-813								
92F6675	17022A-S2-8†	18 (41 x 34)	.315″	1250W/10A	13.22	12.14	11.07	10.00
92F6676	17023A-S2-8†	18 (41 x 34)	.315″	1250W/10A	13.22	12.14	11.07	10.00

* CSA certified, † Gray Plug

(6185) (de52907)

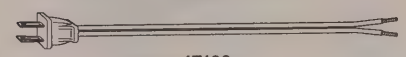
2-CONDUCTOR POWER SUPPLY CORDS

- Rated 60°C; 125V
- UL Listed, CSA Certified

TYPE SPT-1 PARALLEL CORDS, MOLDED PVC POLARIZED PLUG PH-S-289-S, NEMA 1-15P

Conductors split 1″, stripped and twisted 5/8″. Rating: 1250W/10A. OD: 0.110″x 0.207″

Stock No.	Type	AWG (Strand.)	L	1-9	10-24	25-99	100-249
02F5260	17106-B1-1	18 (42 x 34)	6′	1.77	1.62	1.48	1.34
02F5261	17106-B1-8	18 (42 x 34)	6′	1.77	1.62	1.48	1.34
02F5262	17106-B1-36	18 (42 x 34)	6′	1.77	1.62	1.48	1.34
02F5263	17109-B1-1	18 (42 x 34)	9′	2.23	2.05	1.86	1.68
02F5264	17109-B1-9	18 (42 x 34)	9′	2.23	2.05	1.86	1.68



17106

17902

TYPE SPT COOLING FAN CORDS, MOLDED PVC CONNECTOR PH-707A

- UL Recognized

Rating: 250W/1A. Color: Black

Stock No.	Type	AWG (Strand.)	O.D.	L	1-9	10-24	25-99	100-249
37F5003	17902-B1-10	18 (42 x 34)	.110 x .207″	2′	1.78	1.64	1.50	1.35
37F5007	17906-B1-10	18 (42 x 34)	.110 x .207″	6′	2.88	2.64	2.41	2.18

(6183) (de52743)

ADD-A-LINE - SJT CORD UNSHIELDED

- Add-A-Line Outlet in NEMA 5-15P Plug PH-745
- NEMA 5-15R Molded PVC Grounding Connector PH-108
- North American Color Coding
- Black PVC Jacketed

Nominal OD: 0.340″. Rating: 1625W/13A.

Stock No.	Type	AWG (Stranding)	Length	1-9	10-24	25-99	100-249
36F965	17462-S2-10	16 (26 x 30)	8′	9.83	9.03	8.23	7.44
36F1257	17463-S2-10	16 (26 x 30)	15′	13.62	12.51	11.41	10.31

(6217) (ne50328)

SJ CORD UNSHIELDED

- NEMA 5-15P Ground Plug PH-185
- NEMA 5-15R Molded PVC Grounding Connector PH-108
- North American Color Coding
- Black PVC Jacketed

Nominal OD: 0.340″. Rating: 1250W/10A.

Stock No.	Type	AWG (Stranding)	Nom. O.D.	Length	Rating	1-9	10-24	25-99	100-249
36F964	17461-S2-10	16 (26 x 30)	.340″	10′	1625W/13A	11.24	10.33	9.42	8.51

(6145) (de50329)

3-CONDUCTOR EXTENSION CORDS WITH DUPLEX CONNECTOR

Type 17475 SJO neoprene. **Type 17675** SJT vinyl. 60°C, 125 V. Length: 25′.

Stock No.	Type	AWG (Stranding)	Nom. O.D.	Rating	1-9	10-24	25-99	100-249
37F3024	17475-S2-10	16 (26x30)	.340″	1625W/13A	26.43	24.29	22.14	20.00
37F3026	17675-S2-10	14 (41x30)	.380″	1875W/15A	41.70	38.02	34.35	31.89

(6148) (de50332)

17475

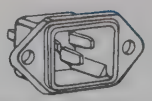
FRIENDLY, QUALITY SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

1-800-4-NEWARK (1-800-463-9275)

POWER SUPPLY AND INTERNATIONAL CORDS

POWERCORD RECEPTACLES

Mates with any Belden cord having connector PH-386, PH-390 or PH-391, IEC-320-C13. May be used for equipment in the U.S., Canada and European countries. **Type 17252A** rated 15A, 250V; UL listed, CSA certified.

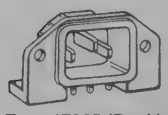


Type 17252A (Back)

RECESSED POWER RECEPTACLE

Stock No.	Type	Description	1-9	10-24	25-99	100-249
98F1661	17252A-B1-0	Recessed Power Receptacle	1.55	1.43	1.30	1.18

10A, 250V. 3-pin grounding type. Two 0.136" dia. holes allow fastening to PC board; 2 more 0.136"dia. holes allow fastening to panel or chassis. PC pins have ⅛" projection to fit through PC board. Ground pin can connect to lug on rear of housing. Mates with any Belden® cord having connector PH-386, 390 or 391, IEC-320-C13. UL listed, CSA certified, VDE approved.



Type 17265 (Back)

AC POWER RECEPTACLE-10A, 250V

Stock No.	Type	Description	1-9	10-24	25-99	100-249
37F3022	17265-B1-0	AC Power Receptacle	2.36	2.17	1.98	1.79

Grounding, 3-contact type; front mount. Mounts with two #5 screws or ⅛" dia. rivets (not supplied). Mates with Belden molded vinyl plugs PH-388, PH-388C and PH-388D. Rating: 15 amps-250V. UL Listed; CSA certified.

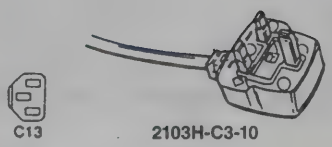
AC POWER RECEPTACLE-15A, 250V

Stock No.	Type	Description	1-9	10-24	25-99	100-249
37F3023	17267A-B1-0	AC Power Receptacle	2.13	1.96	1.78	1.61

(6184) (de52744)

BRITISH 3-CONDUCTOR RIGHT ANGLE PLUG

Specification: BS1363A. Operating voltage: 250VAC. Insulation resistance >10M ohms. Cable retention: 0.5mm^2 – 1.00mm^2>30N, 1.25mm^2 – 1.5mm^2> 60N. Outside body: PVC. Terminals: solid brass. Color: black. Approval code: 1. *See approval chart on page 369.*



C13 2103H-C3-10

Stock No.	Type	Amps	End Finish	Meters	1-9	10-24	25-99	100-249
84F1025	17962-C3-10	3	IEC 320 STD C13	2.50	12.74	11.70	10.67	9.64
84F1026	17963-C3-10	5	IEC 320 STD C13	2.50	13.92	12.80	11.67	10.54
84F1027	17964-C3-10	10	IEC 320 STD C13	2.50	12.70	11.67	10.64	9.61
93F2437	2103H-C3-10	10	Hard Wire 40mm/10mm	2.50	9.75	8.96	8.17	7.38
93F2438	2104H-C3-10	10	IEC 320 STD C13 Straight	2.50	9.79	9.00	8.20	7.41

(6149) (de50413)

FUSES FOR BRITISH PLUGS

NOTE: Loose fuses are supplied on the condition that they are only fitted to the appropriate plug, ie., 3 amp fuses should only be fitted to plugs designated with 3 amp fuse size. Under no condition should they be fitted to any other size. This statement applies to each individual amperage of fuse. Under no circumstances will Powercords or Belden accept any liability for any deviant.

Stock No.	Type	Description	1-49	50-99	100-249	250-499
52F7560	TDC180-3A	3A/240V	1.07	0.97	0.91	0.87
52F7561	TDC180-5A	5A/240V	1.07	0.97	0.91	0.87
52F7562	TDC180-10A	10A/240V	1.07	0.97	0.91	0.87
52F7563	TDC180-13A	13A/240V	1.07	0.97	0.91	0.87

(6205) (ne08222)

SCHUKO/DOUBLE EARTH CORD WITH 3-CONDUCTOR STRAIGHT PLUG

Specifications: CEE7 sheet VII. 250V. Insulation resistance: >10MΩ. Cable retention: >60N. PVC outer body. Brass-nickel plate terminals. Agency approvals: 3, 4, 6, 7, 8, 9, 10, 11, 12. *See approval chart on page 369.*

C13 C19

Stock No.	Type	Amps	End Finish	Meters	Color	1-9	10-24	25-99	100-249
44F1807	17800-C3-326	10	Hard Wire	2.00	Gray	9.60	8.82	8.04	7.26
44F1841	17850-C3-326	10	IEC 320 STD C13	2.00	Gray	9.47	8.70	7.93	7.17
44F1808	17801-C3-326	10	Hard Wire	2.50	Gray	10.86	9.98	9.10	8.22
93F2443	2111H-C3-10	10	IEC 320 STD C13	2.50	Black	8.26	7.59	6.92	6.25
93F2445	2113H-C3-10	16	Hard Wire 40mm/10mm	2.50	Black	2.76	2.54	2.31	2.09

(6091) (de00158)

SCHUKO/DOUBLE EARTH CORD WITH 3-CONDUCTOR RIGHT ANGLE PLUG

Specifications: CEE7 sheet VII. 250V. Insulation resistance: >10MΩ. Cable retention: >60N. PVC outer body. Brass-nickel plate terminals. Agency approvals: 3, 4, 6, 7, 8, 9, 10, 11, 12. *See approval chart on page 369.*

C13 C19

Stock No.	Type	Amps	End Finish	Meters	Color	1-9	10-24	25-99	100-249
44F1809	17810-C3-326	10	Hard Wire	2.00	Gray	9.60	8.82	8.04	7.26
16F1110	2124H-C3-10	10	IEC320 STD C13	2.50	Black	4.31	3.96	3.61	3.26
93F2456	2121H-C3-10	10	Right Angle Hard Wire 40mm/ 10mm	2.50	Black	6.48	5.95	5.43	4.90
93F2457	2125H-C3-10	10	IEC 320 STD C13	2.50	Black	5.58	5.12	4.67	4.22
93F2459	2122H-C3-10	16	IEC 320 STD C19	2.50	Black	10.04	9.22	8.41	7.60

(6092) (de00159)

SCHUKO CORD WITH 2-CONDUCTOR CLASS II STRAIGHT PLUG

Specifications: CEE7 sheet VII. 250V. Insulation resistance: >10MΩ. Cable retention: >60N. PVC outer body. Brass-nickel plate terminals. Color: Black. Agency approvals: 3, 4, 6, 7, 8, 9, 10, 11, 12. *See approval chart on page 369.*

Stock No.	Type	Amps	End Finish	Meters	1-9	10-24	25-99	100-249
93F2447	2130H-C3-10	10	Hard Wire 40mm/10mm	1.00	4.01	3.68	3.36	3.03
99F7775	2116H-C3-10	10	IEC 320 STD C13	2.50	5.75	5.28	4.82	4.35

(6093) (de00160)

INTERNATIONAL CORD PRODUCTS

AUSTRALIAN CORD WITH 3-CONDUCTOR STRAIGHT PLUG

Specifications: AS 3112-1981, NZ SS 198-1967. 250VAC. Insulation resistance: >10MΩ. Cable retention: >130N. PVC outer body. Brass terminals. Color: Black. Agency approvals: 16, 17. *See approval chart. on this page.*

Stock No.	Type	Amps	End Finish	Meters	1-9	10-24	25-99	100-249
93F2460	2105H-C3-10	10	Hard Wire 40mm/10mm	2.50	10.44	9.59	8.75	7.90
93F2461	2106H-C3-10	10	IEC 320 STD C13	2.50	7.62	7.01	6.39	5.77
93F2463	2107H-C3-10	10	IEC 320 STD C13	3.00	8.08	7.43	6.77	6.12

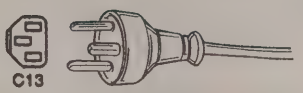
(6094) (de00161)

DANISH CORD WITH 3-CONDUCTOR STRAIGHT PLUG

Specification: SRAF 1962/DB 16/87. 250V. Insulation resistance >10MΩ. Cable retention: >60N. PVC outer body. Nickel-plate brass terminals. End Finish: IEC 320 STD C13. Color: Black. Agency approval: 5. *See approval chart on this page.*

Stock No.	Type	Amps	Meters	1-9	10-24	25-99	100-249
93F2454	2108H-C3-10	10	2.50	9.02	8.29	7.56	6.83

(6098) (de00165)



EURO 2.5-METER CORD WITH 2-CONDUCTOR STRAIGHT PLUG

Specifications: CEE7 sheet XVI. 250V. Insulation resistance: >10MΩ. Cable retention: >60N. PVC outer body. Nickel-plate brass terminals. Color: black. Agency approvals: 3, 7, 8, 9, 11, 12. *See approval chart on this page.*

Stock No.	Type	Amp	End Finish*	1-9	10-24	25-99	100-249
93F2465	2132H-C3-10	2.5	Hard Wire 40mm/10mm	4.81	4.42	4.03	3.64

(6100) (de00167)

ISRAELI 2.5-METER CORD WITH 3-CONDUCTOR RIGHT-ANGLE PLUG

Specifications: S.I.32. 250VAC. Insulation resistance: >10MΩ. PVC outer body. Brass terminals. Color: black. Agency approval: 19. *See approval chart on this page.*

Stock No.	Type	Amp	End Finish*	1-9	10-24	25-99	100-249
04F1115	2115H-C3-10	10	IEC 320 STD C13	11.32	10.40	9.48	8.57

(6101) (de00168)

ITALIAN CORD WITH 3-CONDUCTOR STRAIGHT PLUG

Specification: CEI 23-16. 250V. Insulation resistance >10MΩ. Cable retention: >60N. PVC outer body. Nickel-plate brass terminals. Color: Black. Length: 2.5M. Agency approval: 10 *See approval chart on this page.*

Stock No.	Type	Amps	End Finish	1-9	10-24	25-99	100-249
93F2453	2114H-C3-10	10	IEC 320 STD C13	7.49	6.88	6.28	5.67

(6097) (de00164)

SOUTH AFRICAN CORD WITH 3-CONDUCTOR RIGHT ANGLE PLUG

Specifications: BS 546A, SABS 164-1980, IS 1293-1967. 250VAC. Insulation resistance >10MΩ. Cable retention: >8kg. PVC outer body. Nickel-plate brass terminals. Color: Black. Length: 2.5M. Agency approval: 18. *See approval chart on this page.*

Stock No.	Type	Amps	End Finish	1-9	10-24	25-99	100-249
93F2464	2131H-C3-10	10	IEC 320 STD C13	9.49	8.73	7.96	7.19

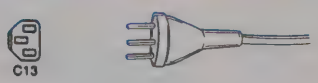
(6099) (de00166)

INTERNATIONAL APPROVAL CHART

Code	Logo	Country	Code	Logo	Country	Code	Logo	Country	Code	Logo	Country
1.		Great Britain	6.		Finland	11.		Norway	16.		Australia
2.		Great Britain	7.		France	12.		Sweden	17.		New Zealand
3.		Austria	8.		Germany	13.		Switzerland	18.		South Africa
4.		Belgium	9.		Holland	14.		U.S.A.	19.		Israel
5.		Denmark	10.		Italy	15.		Canada			

(12958) (de50420)

SWISS CORD WITH 3-CONDUCTOR STRAIGHT PLUG



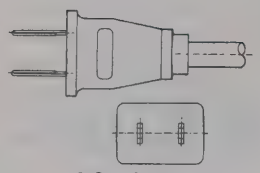
Specifications: ASE 1011(1959) Type 12. 250V. Insulation resistance: >10MΩ. PVC outer body. Nickel-plate brass terminals. Color: Black. Agency approval: 12. *See approval chart on page 369.*

Stock No.	Type	Amps	End Finish	Meters	1-9	10-24	25-99	100-249
93F2452	2102H-C3-10	10	IEC 320 C13	2.50	6.76	6.22	5.67	5.12

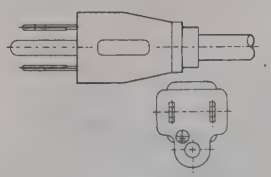
(6096) (de00163)

JAPANESE "T" MARK RATED POWER SUPPLY CORDS

DENTORI CATEGORY A



2-Conductor



3-Conductor

Made to meet Japanese requirements for appliances and electrical equipment conforming to the Dentori Law, which regulates appliance and materials control in Japan. "T" Mark rated and approved by Japan's Ministry of International Trade & Industry. Tested by Japanese Electrical Testing (JET). Ideal for all products manufactured throughout the world for use in Japan. **Type BF2006-J** is heat resistant.

2-CONDUCTOR PLUG 860J; RATED 125V

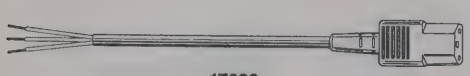
Stock No.	Type	Length	Japanese Size/Type	Compares to UL-CSA Spec/Type	Rating	1-9	10-24	25-99	100-249
50F1243	2006J-C3-10	2M	0.75/HVCTF	18A /SJT	8A/75°C	3.26	3.00	2.73	2.47
50F1245	2008J-C3-10	2M	1.25/VCTF	16AWG JT	12A/60°C	3.58	3.29	3.00	2.71

3-CONDUCTOR PLUG 882J; RATED 125V

84F1019	2004J-C3-10	2M	0.75/VCTF	18AWG/ T	7A/60°C	3.81	3.51	3.20	2.89
84F1021	2010J-C3-10	2M	1.25/VCTF	16AWG/ T	12A/60°C	4.75	4.37	3.98	3.60

(6186) (de52910)

IEC 320 STD C13 THREE CONDUCTOR STRAIGHT PLUG



17820

Unshielded 3-conductor power supply cords meet approval of Sweden, Denmark, Norway, Finland, Netherlands, Austria, Germany, Belgium and France. Each cord passes a double-molded CEE-22 connector test specifically. Molded PVC plug and connector.

Stock No.	Type	Amps	End Finish	Length	Color	1-9	10-24	25-99	100-249
44F1842	17820-C3-326	10	Hard Wire	2.00M	Gray	9.83	9.03	8.23	7.44
16F1108	2120H-C3-10	10	Hard Wire	2.50M	Black	4.68	4.30	3.92	3.54

(6204) (ne08220)

UNIVERSAL JUMPER CORD/IEC 320 C13 STRAIGHT PLUG

2117H-C3-10

Specification: BS4491, EN 60 320, IEC 320 standard 13. 250VAC, AS 3100 standard 13. Insulation resistance: >10MΩ. Cable retention: >60N. PVC outer body. Phosphor bronze terminals. Color: black. Agency approvals: 1-17. *See approval chart on page 369.*

Stock No.	Type	Amp	End Finish*	Length	1-9	10-24	25-99	100-249
93F2450	2117H-C3-10	10	IEC 320 STD C13	1.00m	4.69	4.31	3.93	3.55
52F9137	2119H-C3-10	10	IEC 320 STD C13	2.00m	6.82	6.27	5.72	5.16

(6095) (de00162)

JUMPER CORDS

- **Molded PVC Grounding Plug PH-388, IEC-320-C-14**
- **Molded PVC Grounding Connector PH-386, IEC-320-C-13**

BELDFOIL® SHIELDED-RATED 60°C, 125V*

Stock No.	Type	AWG (Stranding)	L	Rating	Plug	Conn.	Cord	1-9	10-24	25-99	100-249
37F3002	17625	16 (65 x 34)	1M	1625W/13A	388B	386E	SJT	8.72	8.01	7.30	6.60
37F3000	17753	18 (41 x 34)	1M	1250W/10A	388A	386A	SVT	7.62	7.01	6.39	5.77

JUMPER CORDS, UNSHIELDED-RATED 60°C, 125V*

37F3004	17524	18 (41 x 34)	1M	1250W/10A	388A	386A	SJT	4.81	4.42	4.03	3.64
37F3005	17525	16 (65 x 34)	1M	1625W/13A	388B	386E	SJT	5.65	5.19	4.74	4.28

*Dual-rated at 10A-250V.

(6146) (de50330)

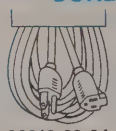
IF YOU DON'T SEE THE PRODUCT YOU NEED LISTED HERE - CALL!

1-800-4-NEWARK

(1-800-463-9275)

OUTDOOR HEAVY-DUTY 3-CONDUCTOR EXTENSION CORDS

UL OSHA



03318-63-04

5-15P

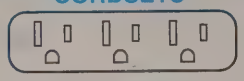
Safety-Orange® vinyl, UL listed, meets OSHA for outdoor/indoor use. Cord type: SJTW-A. Temperature range: 40°C to 60°C.

Stock No.	Type	AWG	Length	Rating	Each
50F1403	03318-63-04	16	10′	13A-125V	5.30
50F1404	03327-63-04	16	25′	13A-125V	8.19
50F1407	03328-63-04	14	25′	15A-125V	10.98
50F1408	03356-63-04	14	50′	15A-125V	27.25
48F4334	03304.63.04	14	100′	15A-125V	33.25
50F1410	06853-63-04	12	50′	15A-125V	41.05
48F4335	06801.63.04	12	100′	15A-125V	45.73

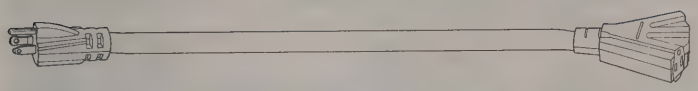
(6289) (de52809)

INDOOR/OUTDOOR HEAVY-DUTY POWR-CENTER CORDSETS

UL OSHA



5-15R Powr-Center®



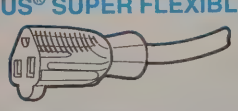
Includes 3 grounded outlets. 3-conductor, UL listed. Meets OSHA requirements. Cord type: STW-A. 12 AWG. 15A-125V. Vinyl, Safety-Orange®. Temperature rating: -40°C to 60°C.

Stock No.	Type	Length	1-4	5-9	10-24	25-49
50F1392	00594-63-04	2′	12.72	12.18	11.70	11.47
48F4336	00595.61.04	25′	43.73	41.98	41.17	39.61
50F1393	00596-61-04	50′	72.14	69.37	68.07	65.58

(6292) (de52812)

LIFETIME PLUS® SUPER FLEXIBLE LIGHTED CORDS

UL OSHA



5-15P

Yellow PVC cords meet OSHA requirements. 3-conductor. When power runs through cords the connector end lights up, indicating the power is on. Applications include: chain saws, wet/dry vacs, and other outdoor equipment. –50°C to +60°C weather and water resistant. Cord type: SJTW-A. UL listed.

16 AWG CORDS

Stock No.	Type	Length	Rating	1-4	5-9	10-24	25-49
97F7531	03387-63-05	25′	13A-125V	17.44	16.71	16.05	15.73
97F7533	03389-63-05	50′	13A-125V	17.33	16.60	15.94	15.63

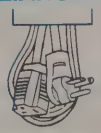
14 AWG CORDS

97F7532	03390-63-05	25′	15A-125V	17.78	17.03	16.36	16.04
97F7534	03391-63-05	50′	15A-125V	27.13	26.04	25.54	24.57
97F7535	03392-63-05	100′	13A-125V	44.98	43.18	42.34	40.74

(6266) (de03466)

MAJOR APPLIANCE EXTENSION CORDS

UL



5-15P

Applications include: air conditioners, refrigerators, freezers, microwaves, and dehumidifiers. Molded right angle, 3 wire male cap with round grounding pin, parallel blades. Cord type: SPT-3.14 AWG. 15A-125V. UL listed except *.Insulation: PVC; beige. **Type 00442-63-17** manufactured with 100% copper stranding.

Stock No.	Type	Length	1-4	5-9	10-24	25-49
50F1396	00436-63-17	6′	5.16	4.94	4.74	4.65
50F1397	00439-63-17	9′	4.81	4.45	4.28	4.19
50F1398	00442-63-17*	12′	8.69	8.33	7.99	7.84

(6290) (de52810)

ADAPTERS

Type 04786-98-10 is an unbreakable 3-to-2 grounding adapter. UL listed.

Stock No.	Type	Rating	1-4	5-9	10-24	25-49
50F1430	04786-98-10	6A-125V	0.32	0.30	0.28	0.28

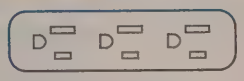
(6296) (de52876)

HOUSEHOLD EXTENSION CORDS

UL OSHA

1-15R

00316-60-02, 00322-60-02



5-15R Powr-Center®

00565-63-17

Polarized 13A/125V, UL listed. Three outlets and safety lock for use with lights, clocks, fans, and office appliances. Cord type: SPT-2. 16 AWG. **Type 00565-63-17** has 3 grounded outlets.

Stock No.	Type	Length	Color	1-4	5-9	10-24	25-49
50F1422	00316-60-02	6′	White	1.47	1.40	1.35	1.32
50F1424	00322-60-02	12′	White	2.16	2.07	1.99	1.95
50F1395	00565-63-17	9′	Beige	8.89	8.52	8.18	8.02

(6291) (de52811)

SNUG PLUG® DECORATOR EXTENSION CORDS

NEW UL

1-15P

Fits flush against an outlet allowing furniture placement along outlet walls. Features built-in strain relief which prevents wear and tear at the point where the cord enters the plug. Insulation: PVC; white. AWG: 16. 2 conductor polarized. UL listed.

Stock No.	Type	Length	Rating	Each
48F4337	00346.63.02	6′	13A-125V	2.61
48F4338	00342.63.02	12′	13A-125V	3.79

(34574) (ne34574)

COILED POWER TOOL EXTENSION CORD

NEW UL OSHA

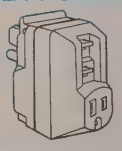
Features a coiled cord that expands form 3′ to 10′. Right angle plug helps prevent cord from being pulled from socket. 3 conductor grounded. AWG: 16. Insulation: PVC. Jacket: orange. Type SJT. 60°C rated. UL listed, OSHA acceptable.

Stock No.	Type	Length	Rating	Each
48F4339	06014.60.04	10′	13A-125V	14.61

(34575) (ne34575)

PLUG-IT™ GROUND FAULT CIRCUIT INTERRUPTER (GFCI) AND SURGE PROTECTOR PLUG

NEW UL OSHA



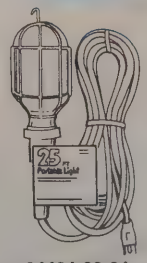
Plug detects power leaks and cuts off electricity in less than a second to prevent electric shock. Use where GFCI protection is needed, indoors or outdoors. Maximum clamping voltage: 790V. MOV: 80 joules. Body: PVC; yellow. UL listed, OSHA acceptable.

Stock No.	Type	Rating	Each
48F4340	D7524.13.05	15A-125V	20.66

(34576) (ne34576)

LIGHTS

UL



04464-60-04

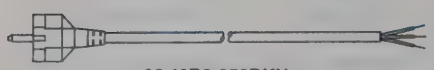
18 AWG Safety-Orange® cord and metal grounded guards, switch and side outlets. **Type 04464-60-04** is a 3-conductor portable trouble light, rated 10A-125V. 75W bulb max. (not included). UL listed.

Stock No.	Type	Cord Length	Cord Type	1-4	5-9	10-24	25-49
50F1426	04464-60-04	25′	SJT	15.03	14.40	13.83	13.56

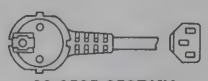
(6297) (de52875)

INTERNATIONAL CORDS

92-1025-250BKH

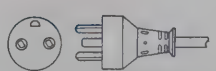


92-10R3-250BKH

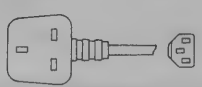


92-2525-250BKH

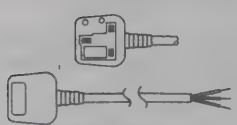
92-1425-250BKH



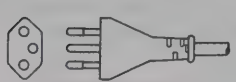
92-1625-250BKH



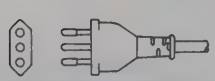
92-1725-250BKH



92-17R3-250BKH



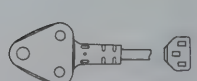
92-1825-250BKH



92-2025-250BKH

92-2125-250BKH

92-2225-250BKH



92-2425-250BKH

92-2300-250BKH

CONTINENTAL EURO (SCHUKO) CORD

Standards: Plug - CEE7-VII, DIN 49441 R1, Connector - CEE 22-V, IEC320, C13, AS 3109, Rating: 10A, 250V, Cable:1383Y(1.0)BS 6500 1990 Table 16. Color: Black. Length: 2.5M. Approvals: 3, 4, 5, 6, 7, 8, 9, 10, 11, 12. *See approval chart on page 369.*

Stock No.	Type	Connector	1-9	10-24	25-99
91F9621	92-1025-250BKH	HS10S	4.95	4.50	4.16
91F9622	92-10R3-250BKH	Hard Wire	4.42	4.02	3.72
91F9634	92-2525-250BKH*	HS10S	5.06	4.60	4.25

*Right Angle Plug

(19635) (ne10278)

AUSTRALIAN CORD

Standards: plug - AS3112, connector - CEE 22-V, IEC320, C13, AS 3109. Ratings: 10A, 250V. Cable: PVC sheathed ordinary duty round 3 x 1.0mm. Color: black. Length: 2.5M. Approvals: 16. *See approval chart on page 369.*

Stock No.	Type	Connector	1-9	10-24	25-99
91F9623	92-1425-250BKH	M1625	5.51	5.01	4.64

(19636) (ne10279)

DANISH CORD

Standards: plug - DEMKO 107/10-1973, connector - CEE 22-V, IEC320, C13, AS 3109. Ratings: 10A, 250V. Cable: H05VV-F, 3 x 1.0mm. Color: black. Length: 2.5M. Approvals: 5. *See approval chart on page 369.*

Stock No.	Type	Connector	1-9	10-24	25-99
91F9624	92-1625-250BKH	M1625	6.63	6.03	5.58

(19637) (ne10280)

UK "13" AMP CORD

Standards: plug - BS1363A, connector - CEE 22-V, IEC320, C13, AS 3109. Ratings: 10A, 250V. Cable: H05VV-F, 3 x 1.0 mm. Color: black. Length: 2.5M. Approvals: 1,2. *See approval chart on page 369.*

Stock No.	Type	Connector	1-9	10-24	25-99
91F9625	92-1725-250BKH	HS10S	7.29	6.63	6.13
91F9626	92-17R3-250BKH	Hard Wire	6.77	6.15	5.69

(19638) (ne10281)

SWISS CORD

Standards: plug - SEV 1011-S24507, connector - CEE 22-V, IEC320, C13, AS 3109. Ratings: 10A, 250V. Cable: H05VV-F, 3 x 1.0 mm. Color: black. Length: 2.5M. Approvals: 13. *See approval chart on page 369.*

Stock No.	Type	Connector	1-9	10-24	25-99
91F9627	92-1825-250BKH	M1625	4.74	4.31	3.99

(19639) (ne10282)

ITALIAN CORD

Standards: plug - CEI.23-16-VII, connector - CEE 22-V, IEC320, C13, AS 3109. Ratings: 10A/250V. Cable: H05VV-F, 3 x 1.0mm. Color: black. Length: 2.5M. Approvals: 10. *See approval chart on page 369.*

Stock No.	Type	Connector	1-9	10-24	25-99
91F9628	92-2025-250BKH	M1625	4.51	4.10	3.80

(19640) (ne10283)

ISRAEL CORD

Standards: plug - S.I. 32, connector - CEE 22-V, IEC320, C13, AS 3109. Ratings: 10A, 250V. Cable: H05VV-F, 3 x 1.0mm. Color: black. Length: 2.5M. Approvals: 19. *See approval chart on page 369.*

Stock No.	Type	Connector	1-9	10-24	25-99
91F9629	92-2125-250BKH	HS10S	10.71	9.73	9.00

(19641) (ne10284)

JAPANESE CORD

Standards: plug - JIS C8303, Connector - CEE 22-V, IEC320, C13, AS 3109. Ratings: 10A/125V. Cable: VCTF 3 x 1.25mm. Color: black. Length: 2.5M. Approvals: Japan.

Stock No.	Type	Connector	1-9	10-24	25-99
91F9630	92-2225-250BKH	M1625	3.76	3.42	3.16

(19642) (ne10285)

SOUTH AFRICA/INDIA 2.5M LENGTH CORD

Standards: plug - BS 546A, connector - CEE 22-V, IEC320, C13, AS 3109, SABS 164-1980. Ratings: 10A/250V. Cable: H05VV-F, 3 x 1.0mm. Color: black. Length: 2.5M. Approvals: 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13. *See approval chart on page 369.*

Stock No.	Type	Connector	1-9	10-24	25-99
91F9633	92-2425-250BKH	HS10S	9.16	8.33	7.70

(19643) (ne10286)

UNIVERSAL JUMPER CORD

Standards: plug - IEC32-2.2/E, connector - CEE 22-V, IEC320, C13, AS 2109. Ratings: 10A, 125V/250V. Cable: 3183Y(1.0) H05VV-F3GBS 6500 1990, Table 16. Color: black. Approvals: 3, 4, 5, 6, 7, 8, 10, 11, 12, 13. *See approval chart on page 369.*

Stock No.	Type	Connector	1-9	10-24	25-99
91F9631	92-2300-150BKH*	HS10S	3.08	2.80	2.59
91F9632	92-2300-250BKH†	HS10S	3.21	2.92	2.70

Length: *1.5M †2.5M

(19644) (ne10287)

NEW

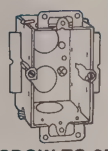
SWITCH AND OUTLET BOXES

SQUARE BOXES AND ACCESSORIES

3 x 2″ SWITCH BOX

2½″ deep gangable, with conduit knockouts. 12.5 cubic inch capacity. Flush ears.

Stock No.	Type	Knockouts: Ea. Side Conduit	Knockouts: Ea. End Conduit	Knockouts: Bottom Conduit	1-9	10-24	25-49	50-99
48F3982	CDOW-TG-25	1—½″	1—½″	2—½″	5.77	5.20	4.68	4.21



CDOW-TG-25

4″-SQ. OUTLET BOX

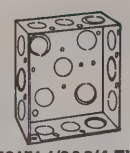
1½″ deep, with conduit knockouts. 21.0 cubic inch capacity.

Stock No.	Type	Knockouts: Ea. Side Conduit	Knockouts: Ea. End Conduit	Knockouts: Bottom Conduit	1-9	10-24	25-49	50-99
48F3978	52151 1/2&3/4 EW	2—½″ 1—½″ & ¾″E	2—½″ 1—½″ & ¾″E	3—½″ 2—½″ & ¾″E	1.69	1.52	1.37	1.23

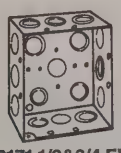
4″-SQ. OUTLET BOX

2⅛″ deep, with conduit knockouts. 30.3 cubic inch capacity.

Stock No.	Type	Knockouts: Ea. Side Conduit	Knockouts: Ea. End Conduit	Knockouts: Bottom Conduit	1-9	10-24	25-49	50-99
48F3979	52171 1/2&3/4E	2—½″ 1—½″ & ¾″E	2—½″ 1—½″ & ¾″E	3—½″ 2—½″ & ¾″E	3.47	3.12	2.81	2.53



52151 1/2&3/4 EW



52171 1/2&3/4 EW

4″-SQ. COVERS

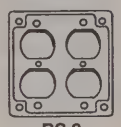
Stock No.	Type	Description	1-9	10-24	24-49	50-99
48F3983	52 C 6	Flat, with ½″ Knockout	0.78	0.70	0.63	0.57

52 C 6

4″-SQ. DEVICE COVERS

Stock No.	Type	Raised	Cubic Inch Capacity	1-9	10-24	25-49	50-99
48F3984	52 C 13	½″	3.0	1.04	0.93	0.84	0.76
48F3985	52 C 17-25	½″	6.3	1.49	1.34	1.20	1.08

52 C 17-25



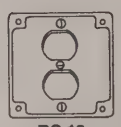
RS 8

4″-SQ. SURFACE COVERS

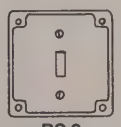
½″ deep. 5.0 cubic inch capacity.

Stock No.	Type	Description	1-9	10-24	25-49	50-99
48F3986	RS 8	For Two Duplex, Flush Receptacles	1.87	1.68	1.51	1.36
48F3987	RS 12	For One Duplex, Flush Receptacle	1.69	1.52	1.37	1.23
48F3988	RS 9	For One Toggle Switch	1.69	1.52	1.37	1.23
48F3989	RS 2	For One Toggle Switch and One Duplex Flush Receptacle	1.98	1.78	1.60	1.44

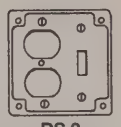
(40774) (ne40774)



RS 12



RS 9



RS 2

OUTLET BOXES AND ACCESSORIES

4 x 2⅛″ OUTLET BOX

1½″ deep, with conduit knockouts. 10.3 cubic inch capacity.

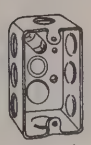
Stock No.	Type	Knockouts: Ea. Side Conduit	Knockouts: Ea. End Conduit	Knockouts: Bottom Conduit	1-9	10-24	25-49	50-99
48F3980	58351 1/2	3—½″	1—½″	2—½″	2.80	2.52	2.27	2.04

4 x 2⅛″ OUTLET BOX

2⅛″ deep, with conduit knockouts. 14.5 cubic inch capacity.

Stock No.	Type	Knockouts: Ea. Side Conduit	Knockouts: Ea. End Conduit	Knockouts: Bottom Conduit	1-9	10-24	25-49	50-99
48F3981	58371 1/2	3—½″	1—½″	2—½″	3.25	2.93	2.64	2.37

58351 1/2



58371 1/2

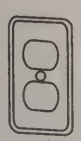
4 x 2⅛″ OUTLET BOX COVERS

Stock No.	Type	Description	1-9	10-24	25-49	50-99
48F3990	58 C 1	Blank	0.55	0.49	0.44	0.40
48F3991	58 C 6	With ½″ Knockout	1.78	1.60	1.44	1.30
48F3992	58 C 7	For Duplex Flush Receptacle	0.55	0.49	0.44	0.40
48F3993	58 C 30	For One Toggle Switch	0.55	0.49	0.44	0.40

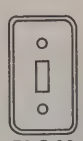
(41270) (ne41270)

58 C1

58 C6



58 C7



58 C 30

CAN'T LOCATE A PARTICULAR PRODUCT?
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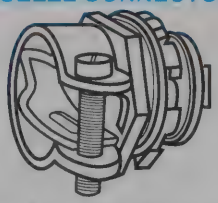
SQUEEZE CONNECTORS

NEW



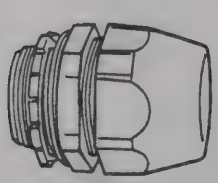
Durable squeeze connectors will fit every size of armored and leaded cable and flexible conduit. Malleable iron construction (**type 253-TB** is steel). UL listed, CSA certified.

Stock No.	Type	Cable Opening Min.	Cable Opening Max.	Trade Size	KO Size	1-9	10-24	25-49
48F2946	252*	0.531″	0.437″	0.312″	0.375″	**4.16**	**3.74**	**3.37**
94F3032	253-TB†	0.585″	0.455″	0.375″	0.500″	**126.64**	**112.03**	**107.16**
90F6154	254	0.938″	0.812″	0.500″	0.500″	**2.66**	**2.13**	**1.94**
48F2947	255	1.094″	0.938″	0.750″	0.750″	**2.76**	**2.49**	**2.24**
48F2948	256	1.375″	1.250″	1.000″	1.000″	**6.92**	**6.22**	**5.60**
48F2949	257*	1.656″	1.500″	1.250″	1.250″	**10.26**	**9.24**	**8.32**
48F2950	258*	1.875″	1.688″	1.500″	1.500″	**13.86**	**12.48**	**11.23**
48F2951	259*	2.500″	2.313″	2.000″	2.000″	**19.71**	**17.74**	**15.97**
48F2952	249*	3.062″	2.812″	2.500″	2.500″	**30.12**	**25.61**	**23.04**
48F2953	277*	3.563″	3.312″	3.000″	3.000″	**41.65**	**35.41**	**31.86**

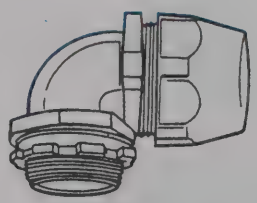
*UL listed for flexible metal conduit only; †UL listed for armored cable only (fitting material is steel)
(39402) (ne39402)

THE BULLET™ LIQUIDTIGHT NONMETALLIC CONNECTORS

NEMA



Straight



90° Angle

Corrosion-resistant industrial fittings for conduit install fast, easy with high pullout resistance. Straight or 90° angle versions. Include locknut, captivated sealing O-ring. Tapered ferrule fits variety of conduit diameters and field cuts. Ideal for type B nonmetallic liquidtight conduit and flexible nonmetallic tubing. Meet NEMA 4, NEMA 6 standards. UL listed, CSA certified.

STRAIGHT LIQUIDTIGHT CONNECTORS

Stock No.	Type	Conduit Size	Knockout Size	1-9
93F7730	LT38P	0.375″ (9.53)	0.500″ (12.70)	**3.39**
93F7731	LT50P	0.500″ (12.70)	0.500″ (12.70)	**3.36**
93F7732	LT75P	0.750″ (19.05)	0.750″ (19.05)	**4.66**
93F7733	LT100P	1.000″ (25.40)	1.000″ (25.40)	**7.12**
93F7734	LT125P	1.250″ (31.75)	1.250″ (31.75)	**11.49**
93F7741	LT150P	1.500″ (38.10)	1.500″ (38.10)	**16.35**
93F7742	LT200P	2.000″ (50.80)	2.000″ (50.80)	**24.62**

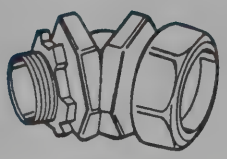
90°-ANGLE LIQUIDTIGHT CONNECTORS

93F7743	LT938P	0.375″ (9.53)	0.500″ (12.70)	**5.27**
93F7744	LT950P	0.500″ (12.70)	0.500″ (12.70)	**5.07**
93F7745	LT975P	0.750″ (19.50)	0.750″ (19.50)	**7.23**
93F7746	LT9100P	1.000″ (25.40)	1.000″ (25.40)	**15.24**

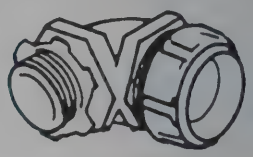
(6368) (de01155)

LIQUIDTIGHT, FLEXIBLE CONDUIT FITTINGS

Straight



45° Angle



90° Angle

One-piece metal units snap in. Neoprene seal ring eliminates locknut. Straight, 45°- or 90°-angle versions. Nylon-insulated throat. Tapered hub threads. Temperature range: –34°C to +105°C. UL listed, CSA certified.

Stock No.	Type	Description	Hub & Conduit Size	Package Qty.	1-9
94F3076	5332	Straight	0.50″ (12.70)	Each	**2.79**
94F3077	5333	Straight	0.75″ (19.05)	Each	**4.01**
90F2620	5334-TB	Straight	1.00″ (25.40)	Each	**6.24**
90F6111	5341	45° Angle	0.50″ (12.70)*	Each	**5.02**
94F3047	5342	45° Angle	0.50″ (12.70)*	25	**96.67**
94F3078	5352	90° Angle	0.50″ (12.70)	Each	**5.02**

* Conduit Size: 0.375″ (9.53)
(6369) (de01156)

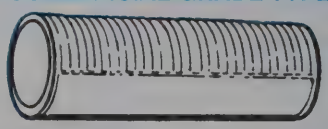
XTRAFLEX™ CORRUGATED FLEXIBLE NONMETALLIC TUBING

Tubing offers maximum flexibility in tight applications and fast, easy installation. Smooth inner diameter permits easy wire pulling. Color: black. UL recognized, CSA certified. **Sold in spools of 100′.**

Stock No.	Type	Size	1-4	5-9
90F2857	EFC038	0.375″ (9.53)	**67.82**	**59.99**
90F2840	EFC050	0.500″ (12.70)	**67.82**	**59.99**
90F2841	EFC075	0.750″ (19.05)	**103.61**	**91.65**
90F2842	EFC100	1.000″ (25.40)	**177.07**	**156.64**
90F2843	EFC125	1.250″ (31.75)	**190.93**	**177.58**
93F7749	EFC150	1.500″ (38.10)	**173.30**	**153.31**
93F7735	EFC200	2.000″ (50.80)	**186.49**	**173.45**

(40271) (ne40271)

XTRAFLEX™ COMMERCIAL-GRADE TYPE B SYSTEMS



Black nonmetallic fittings. Other colors available; *contact your local Newark sales office for details.* UL listed, CSA certified. **Sold in spools of 100′.**

NONMETALLIC LIQUIDTIGHT CONDUIT

Stock No.	Type	Size	1-4	5-9
90F2852	LTC050	0.500″ (12.70)	**54.63**	**48.33**
90F2853	LTC075	0.750″ (19.05)	**79.12**	**69.99**
48F2940	LTC100	1.000″ (25.40)	**118.30**	**104.65**
90F2855	LTC125-TB	1.250″ (31.75)	**149.49**	**139.04**
93F7747	LTC150-TB	1.500″ (38.10)	**136.57**	**120.81**
93F7748	LTC200-TB	2.000″ (50.80)	**173.30**	**153.31**

(6367) (de01154)

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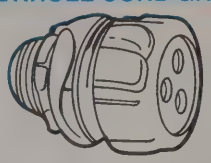
CONDUIT FITTINGS AND CONNECTORS

MULTIHOLE CORD GRIPS



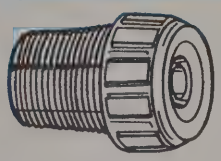
Provides strain relief and liquidtight protection for multiple cables in one fitting. UL listed, CSA certified.

Stock No.	Type	Hub Size	No. of Holes	Cord Dia.	1-9	10-24	25-49
16F1153	2520-2	½″	2	0.220"	10.58	9.52	8.57
16F1155	2531-2	¾″	2	0.260"	10.98	9.89	8.90
16F1156	2531-3	¾″	3	0.260"	11.64	10.48	9.43
16F1157	2541-2	1″	2	0.300"	16.77	15.09	13.59
16F1158	2542-2	1″	2	0.375"	16.77	15.09	13.59
16F1160	2541-3	1″	3	0.300"	16.77	15.09	13.59
16F1161	2540-4	1″	4	0.220"	12.53	11.27	10.15

(6479) (ne08235)

LIQUIDTIGHT STRAIN RELIEF CONNECTORS

NEC



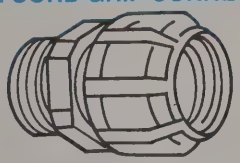
Flexible cord and power cable connectors are suitable for hazardous location use in Class I, Div. 2; Class II, Div. 1 and 2; and Class III, Div. 1 and 2, where general-purpose equipment is specifically permitted per NEC section 500-2 (a). Hub size: 0.50″ (12.70). UL listed, CSA certified.

Stock No.	Type	Cable Size Min.-Max.	Throat Diameter	Package Qty.	1-9	10-24
90F2621	2520	0.125-0.250″	0.563″	25	115.68	98.36
90F2622	2521	0.250-0.375″	0.563″	25	115.68	98.36
90F2623	2522	0.375-0.500″	0.563″	Each	6.01	5.41
90F2864	2523	0.450-0.560″	0.563″	Each	6.01	5.41
94F3008	2524*	0.500-0.625″	0.625″	10	51.59	43.87
90F2865	2525*	0.625-0.750″	0.625″	Each	6.70	6.03

*Remove sufficient outer covering of cable to permit conductors to pass through connector body.
(6370) (de01157)

NYLON CORD GRIP CONNECTORS

NEW



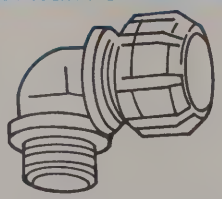
Wider range means one connector can cover twice the cable range of others. Includes new reduced size and smaller footprint. Weather-stabilized nylon. Operating temperature: -34°C to +105°C. UL94V-2. UL listed, CSA certified.

Stock No.	Type	Hub Size	Throat Dia.	Cord Range	1-9	10-24	25-49	50-99
94F9786	2920NM	0.5″	0.55″	0.125-0.375″	6.53	5.23	4.76	4.37
48F2927	2921NM	0.5″	0.55″	0.310-0.560″	6.05	5.45	4.90	4.41
48F2928	2922NM	0.5″	0.55″	0.500-0.750″	6.17	5.56	5.00	4.50
48F2929	2930NM	0.75″	0.79″	0.125-0.375″	6.27	5.64	5.08	4.57
48F2930	2931NM	0.75″	0.79″	0.310-0.560″	6.68	6.01	5.41	4.87
48F2931	2932NM	0.75″	0.79″	0.500-0.750″	6.56	5.90	5.31	4.78
48F2932	2940NM	1″	0.98″	0.310-0.560″	7.92	7.13	6.42	5.78
48F2933	2941NM	1″	0.98″	0.500-0.750″	7.77	6.99	6.29	5.66
48F2934	2942NM	1″	0.98″	0.700-0.950″	8.28	7.46	6.71	6.04

(39573) (ne39573)

NONMETALLIC LIQUIDTIGHT STRAIN RELIEF CONNECTORS

NEW



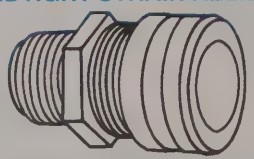
Weather stabilized nylon. 90° elbow, new reduced size and smaller footprint. Operating temperature: -34°C to +105°C. UL94V-2. UL listed, CSA certified.

Stock No.	Type	Hub Size	Throat Dia.	Cord Range	1-9	10-24	25-49	50-99
48F2935	4960NM	0.5″	0.55″	0.125-0.375″	10.08	9.08	8.17	7.35
48F2936	4961NM	0.5″	0.55″	0.310-0.560″	10.08	9.08	8.17	7.35
48F2937	4970NM	0.75″	0.79″	0.125-0.375″	12.56	11.30	10.18	9.16
48F2938	4971NM	0.75″	0.79″	0.310-0.560″	12.56	11.30	10.18	9.16
48F2939	4972NM	0.75″	0.79″	0.500-0.750″	12.33	11.10	9.99	8.99

(39572) (ne39572)

ALUMINUM LIQUIDTIGHT STRAIN RELIEF CONNECTORS

NEW

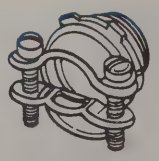


Body and gland nut are aluminum. UL listed, CSA certified.

Stock No.	Type	Hub Size	Throat Dia.	Cord Range	1-9	10-24	25-49	50-99
94F9785	2920AL	0.5″	0.5625″	0.125-0.375″	6.91	5.53	5.03	4.62
94F9787	2921AL	0.5″	0.5625″	0.310-0.560″	6.91	5.53	5.03	4.62
48F2941	2922AL	0.5″	0.5625″	0.500-0.750″	6.00	5.40	4.86	4.38
48F2942	2930AL	0.75″	0.8125″	0.125-0.375″	6.72	6.05	5.45	4.90
98F4128	2931AL	0.75″	0.8125″	0.310-0.560″	7.26	5.81	5.29	4.85
48F2943	2932AL	0.75″	0.8125″	0.500-0.750″	6.60	5.94	5.35	4.82
48F2944	2940AL	1″	1.0625″	0.310-0.560″	8.33	7.50	6.75	6.07
98F8369	2941AL	1″	1.0625″	0.500-0.750″	9.58	7.66	6.97	6.40
48F2945	2942AL	1″	0.9687″	0.700-0.950″	8.33	7.50	6.75	6.07

(39571) (ne39571)

TWO-SCREW CONNECTORS



Type 3301-TB steel connector for armored cable and flexible metal conduit. UL listed. All others are metal connectors with threaded saddle for nonmetallic sheath cable and flexible cord. UL listed, CSA certified.

Stock No.	Type	Cable Opening Max.	Cable Opening Min.	K.O. Size	Package Qty.	1-9	10-24
94F1114	3301-TB	0.656″	0.390″	0.500″	100	114.87	97.67
90F2618	3302-TB	0.656″	0.250″	0.500″	Each	1.46	1.32
90F2619	3303-TB	0.820″	0.530″	0.750″	50	107.35	91.28
94F1116	3304	0.070″	0.690″	1.000″	25	70.68	60.10
90F2849	3305	1.385″	0.850″	1.250″	Each	6.61	5.95

(6366) (de01153)

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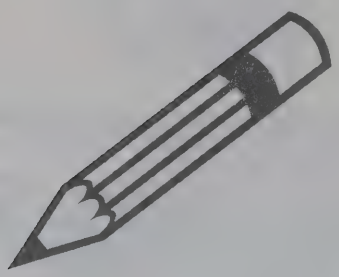
NOTES



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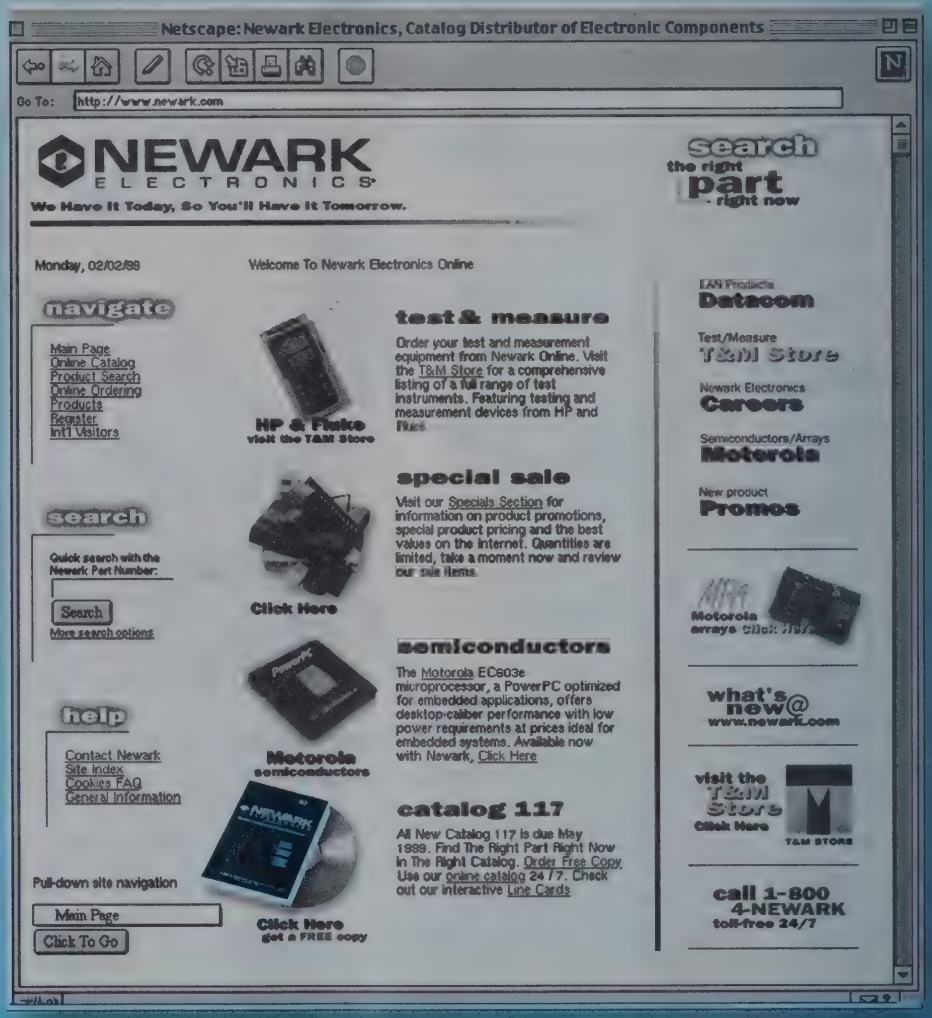
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Enclosures, Cabinets, Chassis & Racks

Pages 380—443

6

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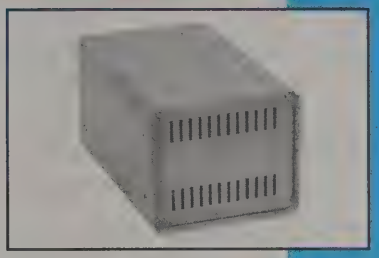

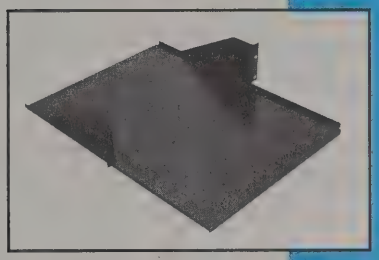

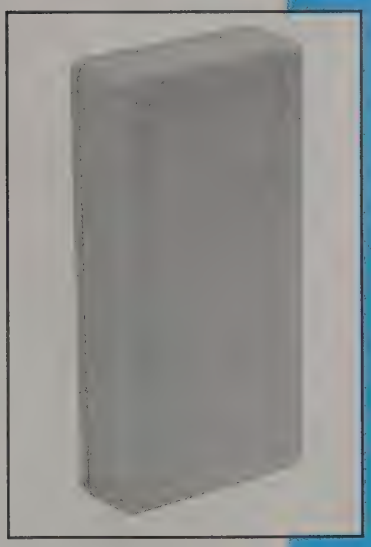

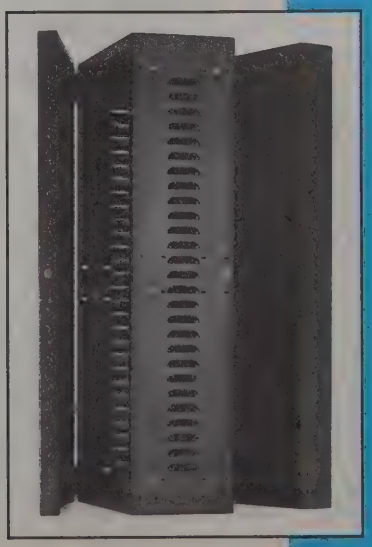

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RACK AND CABINET BUYING GUIDE

HOW TO SIZE A RACK OR CABINET THAT MEETS YOUR NEEDS:

Make a list of what equipment you need to house. You need to determine the size and the weight of all your equipment. You want the cabinet or rack to be large and strong enough to hold your existing equipment and to provide room for future growth.
Typical items that are housed are: CPUs, Monitors, Keyboards, Modems, Switches, Hubs, CD towers, UPSs, Servers, Power Supplies, and Power Conditioners.

MEASURE TWICE, BUY ONCE.

Will the rack or cabinet fit in the space you have planned for it?
Check the following dimensions:

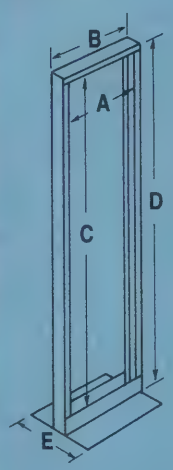
A. Inside Width
B. Outside Width
C. Inside Height
D. Outside Height
E. Depth

The most common cabinet and racks are designed to hold 19″ wide equipment. The height and depth may vary depending on the cabinet or rack. Standard heights range from 48″ to 83″ and depths range from 27″ to 33″.

WHAT DO YOU NEED?

After you have determined the size of cabinet or rack that you need, you will need to select accessories. Use the illustrated guide below and your requirements to design your rack or cabinet.

RACKS



Rack Dimensions

A: Inside Width: _____
B: Outside Width: _____
C: Inside Height: _____
D: Outside Height: _____
E: Base Depth: _____

What will you store?

Component	Height	Width

CABINETS

Cabinet Dimensions

A: Inside Width: _____
B: Outside Width: _____
C: Inside Height: _____
D: Outside Height: _____
E: Base Depth: _____

What will you store?

Component	Height	Width

Accessories you want in your rack:

- ❒ Heavy-duty casters
- ❒ Power strip
- ❒ Surge strip
- ❒ Cable management
- ❒ Vented stationary shelf
- ❒ Cantilever shelf
- ❒ Keyboard shelf
- ❒ Blank panels

Accessories you want in your cabinet:

- ❒ Heavy-duty casters
- ❒ Solid stationary shelf
- ❒ Solid sliding shelf
- ❒ Vented sliding shelf
- ❒ Vented stationary shelf
- ❒ Power strip
- ❒ Surge strip
- ❒ Fan panel
- ❒ Interior light
- ❒ Cantilever shelf
- ❒ Cable management
- ❒ Keyboard shelf
- ❒ Plexiglas® door
- ❒ Blank panels
- ❒ Vented door
- ❒ Solid door

(38670) (ne38670)

NEMA ENCLOSURES

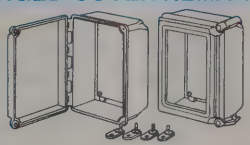
ULTRX™ NEMA 4X FIBERGLASS ENCLOSURES

Corrosion-resistant, light gray fiberglass housings are available with solid door or polycarbonate window. Foam gasket provides water-tight and dust-tight seal. All units include mounting feet, screws, and DIN bosses. Meets NEMA enclosure type 3R, 4, 4X, 12, 13. Meets IEC enclosure IP66 classification. Meets UL94-5V. *Optional panels are available on page 383.*

Stock No.	Type	Inside H x W x D	Each	2-5	6-9
95F2761	U-U504020	19.53 x 15.55 x 8.62″	250.51	242.56	228.19
95F2762	U-U606020	23.94 x 23.43 x 8.62″	353.86	342.99	333.03
92F4979	U-U504030	19.53 x 15.55 x 12.64″	320.97	310.79	292.38
95F2763	U-U756030	29.84 x 23.43 x 12.64″	421.12	408.19	396.34
92F4983	U-U1008030	39.69 x 31.81 x 12.64″	601.58	583.11	566.17
		ENCLOSURES WITH WINDOW COVER			
95F2764	U-U504020W	19.53 x 15.55 x 8.62″	357.39	346.41	336.35
95F2765	U-U606020W	23.94 x 23.43 x 8.62″	530.77	514.47	499.53
92F4980	U-U504030W	19.53 x 15.55 x 12.64″	424.65	411.61	399.66
95F2766	U-U756030W	29.84 x 23.43 x 12.64″	631.67	612.27	594.49
92F4984	U-U1008030W	39.69 x 31.81 x 12.64″	840.47	814.66	791.00

(6876) (de01706)

FIBERGLASS HINGED-COVER NEMA 4X ENCLOSURES

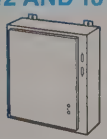


Molded fiberglass polyester enclosures are ideal for corrosive and extreme conditions. Foam gasket provides water-tight/dust-tight seal. Three versions available: screw-cover units with hinged, solid door; quick-release latch models with either solid door or scratch-resistant window. All include mounting feet and screws. Finish: light gray. Meets NEMA enclosure types 4, 4X, 12, 13, and IEC enclosure IP66 classification. UL94-5V rated. Optional panels available; *on page 383.*

Stock No.	H x W x D	Each	2-5	6-9
	SOLID, SCREW COVER			
95F2767	6 x 6 x 4″	41.11	38.47	36.13
95F2768	8 x 6 x 4″	42.99	40.22	37.78
95F2769	10 x 8 x 6″	49.61	48.00	45.08
95F2770	12 x 10 x 6″	60.41	58.45	54.90
83F7195	14 x 12 x 8″	75.44	72.99	68.56
83F7196	16 x 14 x 8″	87.45	83.26	78.33
83F7197	18 x 16 x 10″	105.73	100.65	94.69
	SOLID, QUICK-RELEASE COVER			
95F2771	6 x 6 x 4″	50.61	48.97	45.99
95F2772	8 x 6 x 4″	52.68	50.97	47.87
95F2773	10 x 8 x 6″	59.53	57.60	54.10
95F2774	12 x 10 x 6″	70.05	67.78	63.67
83F7198	14 x 12 x 8″	87.80	83.59	78.64
83F7199	16 x 14 x 8″	97.36	92.68	87.20
83F7200	18 x 16 x 10″	132.15	121.92	118.35
	WINDOW, QUICK-RELEASE COVER			
95F2776	8 x 6 x 4″	75.66	73.21	68.76
95F2777	10 x 8 x 6″	98.19	93.48	87.94
95F2778	12 x 10 x 6″	115.29	109.76	103.26
52F7174	14 x 12 x 8″	125.73	119.70	112.61
92F128	16 x 14 x 8″	146.65	135.30	131.34
92F127	18 x 16 x 10″	197.70	191.43	180.09

(6877) (de01707)

NEMA TYPE 12 AND 13 ENCLOSURE

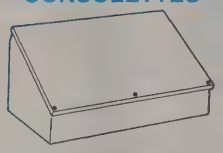


Designed for flange-mounted disconnects. 14-gauge steel. Continuously welded seams, ground smooth, no holes or knockouts. Body and door stiffeners in larger enclosures for extra rigidity. Rolled lip on all sides of enclosure keeps out liquids and contaminants. Removable door. Oil-resistant gasket. Collar studs provided for mounting optional panels. Holes are provided in body for mounting door hardware; *ordered separately.* Hardware includes: latch pivot posts, cover interlock bracket, cover latch bar. White enamel interior, gray primer exterior. Dimensions: 25H x 36W x 10″D. *Additional sizes and panels available; contact your local Newark sales office.*

Stock No.	Type	Wt. (lbs.)	Each	2-5	6-9
96F4774	A36SA2610LP	82	384.45	372.64	361.82

(6906) (de03281)

CONSOLETTES

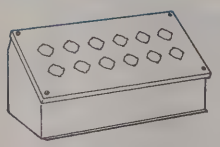


Constructed of 14-gauge steel. Provide protection from oil, water, and dust. Can be mounted for a 60° or 90° surface incline. Mount on pedestals, desktops, or machines. Captivated cover screws thread into sealed wells. Control panel has continuous hinge along bottom edge. Units come complete with oil-resistant gasket. Finish: ANSI 61 gray powder. UL listed, CSA certified.

Stock No.	Type	H x W x D	Weight	Each	2-5	6-9
96F4662	C8C8	8 x 8 x 7″	7 lbs.	78.66	76.11	71.49
96F4663	C8C12	8 x 12 x 7″	10 lbs.	87.05	84.23	79.11
96F4664	C8C16	8 x 16 x 7″	13 lbs.	95.59	91.00	85.61
96F4665	C8C20	8 x 20 x 7″	16 lbs.	103.89	98.90	93.04
96F4666	C12C12	12 x 12 x 9″	15 lbs.	101.33	96.47	90.76
96F4667	C12C16	12 x 16 x 9″	17 lbs.	112.89	107.48	101.11
96F4668	C12C20	12 x 20 x 9″	21 lbs.	124.69	118.71	111.68

NOTE: Additional sizes in stock; *call your local Newark sales office to order.*
(6958) (de52520)

NEMA 12, 13 PUSHBUTTON ENCLOSURES

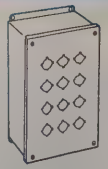


Designed for standard oil-tight pushbutton switches and pilot lights. Protect against water, oil, and dust. Constructed of 14-gauge steel. Captivated cover screws thread into sealed wells. Units come complete with oil-resistant gasket and adhesive. Meets NEMA enclosure types 12 and 13. Finish: ANSI 61 gray powder. UL listed, CSA certified.

Stock No.	Type	Holes	H x W x D	Each	2-5	6-9
96F4742	E-1PBA	1	3.50 x 3.25 x 4.84″	44.76	43.31	40.68
96F4743	E-2PBA	2	3.50 x 5.50 x 4.84″	52.11	50.42	47.36
96F4745	E-4PBA	4	3.50 x 10.00 x 4.84″	66.65	64.49	60.58
		ENCLOSURES WITH DETACHABLE HINGE				
96F4746	E-4SPBA	4	7.25 x 6.25 x 6.75″	75.00	72.58	68.17

Note: Larger units (up to 30 holes) stocked; *contact your local Newark sales office to order.*
(6956) (de52518)

NEMA 12, 13 MINIATURE PUSHBUTTON ENCLOSURES



For miniature oil-tight pushbutton switches and pilot lights with "4-way" holes. Offer protection against water, oil, and dust. Constructed of 14-gauge steel. Captivated cover screws thread into sealed wells. Units come complete with oil-resistant gasket and adhesive. Units 8.5 x 5.0″ and larger have a detachable hinge. Meets NEMA enclosure types 12 and 13. Finish: ANSI 60 gray powder. UL listed, CSA certified.

Stock No.	Type	Holes	H x W x D	Each	2-5	6-9
96F4751	E-1PBGX	1	3.25 x 2.75 x 3.5″	35.46	33.18	31.16
96F4752	E-2PBGX	2	5.12 x 2.75 x 3.5″	39.78	37.22	34.95
96F4753	E-3PBGX	3	7.0 x 2.75 x 3.5″	44.17	41.32	38.81
96F4754	E-4PBGX	4	8.88 x 2.75 x 3.5″	46.95	45.43	42.67
96F4755	E-6PBGX	6	8.5 x 5.0 x 4.25″	59.51	57.58	54.08
96F4757	E-12PBGX	12	10.38 x 6.5 x 4.25″	73.69	71.31	66.97

(6955) (de52517)

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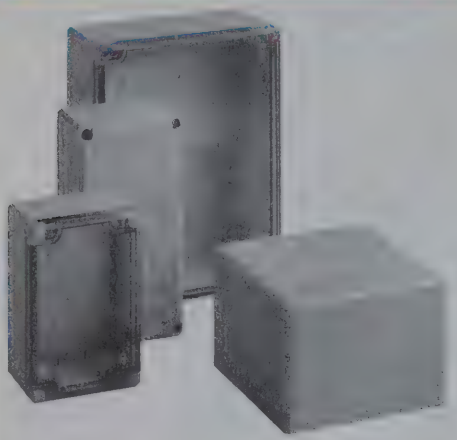
NEMA ENCLOSURES



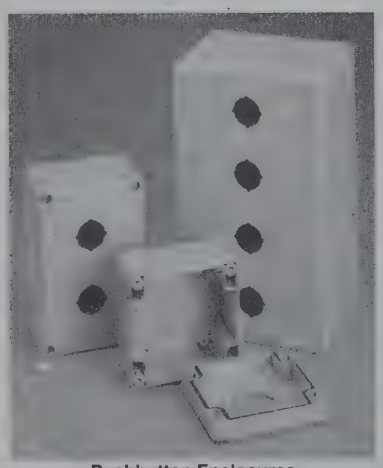
QLINE™ "E" POLYCAROBNATE TYPE 4X ENCLOSURES

Contoured body with flush cover screws for attractive, contemporary appearance. Can be used as insulated electrical junction boxes, terminal wiring boxes, instrument housings and as housings for electrical controls in wet, dusty and corrosive environments that may be subject to occasional submersion. Covers are clear or opaque (suffix **CC** in type number indicates clear cover) and are made of impact-resistant polycarbonate and feature a molded-in hole for a wire lead. Units are easily punched, drilled, filed or sawed. Seamless foam-in-place gasket provides oil-resistant, water-tight, and dust-tight seal. Meet NEMA enclosure types 4, 4X, Type 6, Type 12, and Type 13. Screws for mounting optional panel are included. UL listed, CSA certified.

Stock No.	Type	External LxW	Internal HxWxD
83F7185	Q-1388PCE	4.92x2.95" (125x75)	4.67x2.70x2.65" (118.5x68.5x67.4)
83F7186	Q-1388PCECC	4.92x2.95" (125x75)	4.67x2.70x2.65" (118.5x68.5x67.4)
83F7187	Q-18138PCE	6.89x4.92" (175x125)	6.63x4.67x2.65" (168.5x118.5x67.4)
83F7188	Q-18138PCECC	6.89x4.92" (175x125)	6.63x4.67x2.65" (168.5x118.5x67.4)
83F7189	Q-13810PCE	4.92x2.95" (125x75)	4.67x2.70x2.65" (118.5x68.5x67.4)
83F7190	Q-13810PCECC	4.92x2.95" (125x75)	4.67x2.70x2.65" (118.5x68.5x67.4)
83F7191	Q-181310PCE	6.89x4.92" (175x125)	6.63x4.67x2.65" (168.5x118.5x67.4)
83F7192	Q-181310PCECC	6.89x4.92" (175x125)	6.63x4.67x2.65" (168.5x118.5x67.4)
83F7193	Q-251810PCE	9.84x6.89" (250xx175)	9.59x6.63x3.64" (243.5x168.5x92.4)
83F7194	Q-251810PCECC	9.84x6.89" (250xx175)	9.59x6.63x3.64" (243.5x168.5x92.4)
06B9614	Q-DEHK	Hinge Kit	
06B9639	Q-IHK	Hinge Kit with Cover Plugs	
06B9643	Q-IPDF	Panel Depth Fitting	

Stock No.	Type	Each	2-5	6-10	11-15
83F7185	Q-1388PCE	**17.11**	**16.55**	**15.55**	**15.10**
83F7186	Q-1388PCECC	**17.11**	**16.55**	**15.55**	**15.10**
83F7187	Q-18138PCE	**23.83**	**23.05**	**21.65**	**21.02**
83F7188	Q-18138PCECC	**23.83**	**23.05**	**21.65**	**21.02**
83F7189	Q-13810PCE	**17.64**	**17.07**	**16.03**	**15.57**
83F7190	Q-13810PCECC	**17.64**	**17.07**	**16.03**	**15.57**
83F7191	Q-181310PCE	**24.09**	**23.31**	**21.90**	**21.26**
83F7192	Q-181310PCECC	**24.09**	**23.31**	**21.90**	**21.26**
83F7193	Q-251810PCE	**53.93**	**52.18**	**49.01**	**46.88**
83F7194	Q-251810PCECC	**55.02**	**53.23**	**50.00**	**47.82**
06B9614	Q-DEHK	**12.66**	**12.24**	**11.48**	**10.80**
06B9639	Q-IHK	**5.76**	**5.57**	**5.22**	**4.92**
06B9643	Q-IPDF	**9.68**	**9.36**	**8.77**	**8.26**

(31687) (ne31687)



Pushbutton Enclosures

QLINE™ "D" POLYCARBONATE NEMA TYPE 4X ENCLOSURES

Contoured bodies with flush cover screws designed to insulate and house 30.5mm or 22.5mm pushbuttons in wet, dusty, and corrosive environments. Meet NEMA/EEMAC enclosure types 4, 4X, 12, and 13 and IEC enclosure IP67 classification. Constructed of high-impact polycarbonate material. Polycarbonate is easily punched, drilled, filed, or sawed. Cross-point cover screws are zinc-plated steel. Polycarbonate screw cover caps and mounting hardware are included. Color: light gray. UL listed, CSA certified.

Stock No.	Type	External Lx W	Internal H x W x D
91F2284	Q-1PBPCD	3.15 x 3.15" (80 x 80)	2.95 x 2.87 x 3.11" (75 x 73 x 79)
91F2286	Q-1PBPCDM	3.15 x 3.15" (80 x 80)	2.95 x 2.87 x 3.11" (75 x 73 x 79)
91F2285	Q-4PBPCD	7.87 x 4.72" (200 x 120)	7.60 x 4.45 x 3.11" (193 x 113 x 79)

Stock No.	Type	Each	2-5	6-10	11-15
91F2284	Q-1PBPCD	**27.32**	**25.56**	**24.01**	**23.31**
91F2286	Q-1PBPCDM	**26.64**	**24.93**	**23.41**	**22.73**
91F2285	Q-4PBPCD	**38.72**	**36.23**	**34.03**	**33.04**

(13732) (ne10027)

QLine "I"

QLINE™ "I" POLYCARBONATE NEMA TYPE 4X ENCLOSURES

Designed for use as insulated electrical junction boxes, terminal wiring boxes, instrument housings, electrical control boxes, and pushbutton housings in wet, dusty, and corrosive environments. Rated UL94-V5. Meet NEMA enclosure types 4, 4X, 12, and 13 and IEC enclosure IP65 classification. Constructed of impact-resistant polycarbonate. Clear and opaque covers are constructed of impact-resistant polycarbonate (**suffix CC** in type number denotes clear cover). Units are easily punched, drilled, filed, or sawed. Slotted cover screws are strong, durable polyamide. Mounting holes molded directly under cover screws. Molded internal pads provided for mounting optional panels, DIN rails, and other components. Molded internal rails for mounting adjustable depth panel kit and swing panel kits. Screws provided for mounting optional panel. Cover includes a molded hole for wire leads. Color: light gray. UL listed, CSA certified.

Stock No.	Type	External L x W	Internal H x W x D
91F2273	Q202013PCI	7.87 x 7.87" (200 x 200)	7.40 x 7.40 x 4.84" (188 x 188 x 123)
91F2279	Q202013PCICC	7.87 x 7.87" (200 x 200)	7.40 x 7.40 x 4.84" (188 x 188 x 123)
91F2274	Q302013PCI	11.81 x 7.87" (300 x 200)	11.34 x 7.40 x 4.84" (288 x 188 x 123)
91F2280	Q302013PCICC	11.81 x 7.87" (300 x 200)	11.34 x 7.40 x 4.84" (288 x 188 x 123)
91F2275	Q402013PCI	15.75 x 7.87" (400 x 200)	15.28 x 7.40 x 4.84" (388 x 188 x 123)
91F2276	Q303013PCI	11.81 x 11.81" (300 x 300)	11.34 x 11.34 x 4.84" (288 x 288 x 123)
91F2281	Q303013PCICC	11.81 x 11.81" (300 x 300)	11.34 x 11.34 x 4.84" (288 x 288 x 123)
91F2277	Q403013PCI	15.75 x 11.81" (400 x 300)	15.28 x 11.34 x 4.84" (388 x 288 x 123)
91F2282	Q403013PCICC	15.75 x 11.81" (400 x 300)	15.28 x 11.34 x 4.84" (388 x 288 x 123)

Stock No.	Type	Each	2-5	6-10	11-15
91F2273	Q202013PCI	**46.73**	**45.21**	**42.47**	**40.62**
91F2279	Q202013PCICC	**46.73**	**45.21**	**42.47**	**40.62**
91F2274	Q302013PCI	**59.15**	**57.23**	**53.76**	**51.41**
91F2280	Q302013PCICC	**59.15**	**57.23**	**53.76**	**51.41**
91F2275	Q402013PCI	**66.03**	**63.89**	**60.01**	**57.40**
91F2276	Q303013PCI	**68.07**	**65.86**	**61.86**	**59.17**
91F2281	Q303013PCICC	**68.07**	**65.86**	**61.86**	**59.17**
91F2277	Q403013PCI	**78.77**	**76.21**	**71.58**	**68.47**
91F2282	Q403013PCICC	**78.77**	**76.21**	**71.58**	**68.47**

(13734) (ne10029)

NEMA ENCLOSURES AND ACCESSORIES

TYPE 12,13 CONTINUOUS HINGE STEEL JUNCTION BOXES

Protect from dust, oil and water. Continuously welded seams without holes or knockouts. Include external screw clamps, oil-resistant gasket, and continuous hinge pin. ANSI 61 gray powder finish. Meets NEMA 12, 13 and IEC IP65. "**S**" suffix are boxes hinged on the short side. UL listed, CSA certified. Weld nuts for mounting optional panels; *order separately on this page.* Other sizes available; *contact your local Newark sales office.*

Stock No.	Type	Gauge	H x W x D	Fits Panel*	Each
96F4671	A-404CH**	16	4 x 4 x 3″	...	27.11
96F4672	A-604CH	16	6 x 4 x 3″	A6P4	31.09
96F4674	A-6044CH	16	6 x 4 x 4″	A6P4	32.84
96F4675	A-606CH	16	6 x 6 x 4″	A6P6	36.23
96F4676	A-806CH	14	8 x 6 x 3.5″	A8P6	38.49
96F4677	A-808CH	14	8 x 8 x 4″	A8P8	43.65
96F4678	A-1008CH	14	10 x 8 x 4″	A10P8	46.16
96F4680	A-1008CHS	14	10 x 8 x 4″	A10P8	46.16
96F4681	A-1210CH	14	12 x 10 x 5″	A12P10	58.98
96F4682	A-1210CHS	14	12 x 10 x 5″	A12P10	58.98
96F4683	A-8066CH	14	8 x 6 x 6″	A8P6	44.34
96F4684	A-10086CH	14	10 x 8 x 6″	A10P8	52.04
96F4685	A-10106CH	14	10 x 10 x 6″	A10P10	57.35
96F4686	A-1212CH	14	12 x 12 x 6″	A12P12	68.52
96F4688	A1412CH	14	14 x 12 x 6″	A14P12	74.47
96F4690	A-16106CH	14	16 x 10 x 6″	A16P10	73.07
96F4691	A-1614CH	14	16 x 14 x 6″	A16P14	87.67
96F4693	A-12108CH	14	12 x 10 x 8″	A12P10	69.78
96F4694	A-14128CH	14	14 x 12 x 8″	A14P12	82.92
96F4695	A-16148CH	14	16 x 14 x 8″	A16P14	97.45
96F4696	A-161410CH	14	16 x 14 x 10″	A16P14	107.30

**Not designed for panel.
(6953) (de52515)

MEDIUM TYPE 1 ENCLOSURES

Not for uses requiring oil- or dust-tight specifications. Removable doors have butt hinges and flush handle latches. Mounting holes on back of enclosure. ANSI 61 gray powder finish; white panels. Meets NEMA type 1 and IEC IP30 classification. UL listed, CSA certified. *Optional panels ordered separately on this page.*

Stock No.	Type	Enclosure H x W x D*	Optional Panel Type	Optional Panel Size	Each
92F8648	A-16N12ALP†	16 x 12 x 6.62″	A16N12MP	13 x 10.50″	87.10
92F8650	A-16N20ALP†	16 x 20 x 6.62″	A16N20MP	13 x 18.50″	107.61
92F8652	A-20N20ALP†	20 x 20 x 6.62″	A20N20MP	17 x 18.50″	118.26
92F8655	A-24N24ALP††	24 x 24 x 6.62″	A24N24MP	21 x 22.50″	132.61
92F8671	A-30N24ALP††	30 x 24 x 6.62″	A30N24MP	26 x 22.50″	147.40
92F8656	A-36N24ALP††	36 x 24 x 6.62″	A36N24MP	32 x 22.50″	171.52
92F8658	A-16N12BLP†	16 x 12 x 8.62″	A16N12MP	13 x 10.50″	94.93
92F8659	A-20N16BLP†	20 x 16 x 8.62″	A20N16MP	17 x 14.50″	117.76
92F8661	A-24N20BLP†	24 x 20 x 8.62″	A24N20MP	21 x 18.50″	143.19
92F8662	A-24N24BLP††	24 x 24 x 8.62″	A24N24MP	21 x 22.50″	146.09

* Sizes available to 36 x 30 x 12.62″- *contact your local Newark sales office.*
† 16-gauge steel †† 14-gauge steel
(6954) (de52516)

TYPE A STEEL PANELS

14-gauge steel with a white enamel finish. Also available in stainless steel; *add* "**SS**" *suffix to type number when ordering. Additional panel sizes are available; contact your local Newark sales office.*

Stock No.	Type	H x W	Fits Box Size(s) H x W x D	Each	2-5
89F5421	A-6P6	4.88 x 4.88″	6.00 x 6.00 x 4.00″ 6.00 x 6.00 x 6.00″	2.95	2.85
89F5422	A-8P6	4.88 x 6.75″	8.00 x 6.00 x 4.00″ 8.00 x 6.00 x 6.00″	3.38	3.26
89F5423	A-10P8	6.88 x 8.75″	10.00 x 8.00 x 4.00″ 10.00 x 8.00 x 6.00″	4.61	4.45
89F5424	A-12P10	8.88 x 10.75″	12.00 x 10.00 x 4.00″ 12.00 x 10.00 x 6.00″	6.25	6.04
89F5426	A-16P12	9.00 x 13.00″	16.00 x 12.00 x 6.00″	16.28	15.74
89F5427	A-16P16	13.00 x 13.00″	16.00 x 16.00 x 6.00″	20.02	18.73
89F5428	A-20P16	13.00 x 17.00″	20.00 x 16.00 x 8.00″	23.81	22.27
89F5429	A-20P20	17.00 x 17.00″	20.00 x 20.00 x 8.00″	28.75	26.90
89F5431	A-24P20	21.00 x 17.00″	24.00 x 20.00 x 8.00″	37.22	34.83

(6875) (de01704)

TYPE 4X STAINLESS STEEL JUNCTION BOXES

Designed for wet and corrosive conditions. 14- or 16-gauge stainless steel with smooth, continuously welded seams without holes or knockouts. Stainless steel clamps, screws, and foam gasket provide watertight and dust-tight seal. Door has heavy-gauge removable hinge. Meets NEMA 4, 4X, 12, 13 and IEC IP66. UL listed, CSA certified. Optional stainless steel and painted panels available separately; *order separately on this page.* Additional sizes available; *contact your local Newark sales office.*

Stock No.	Type	Gauge	H x W x D	Panel*	Each
96F4697	A-6044CHNFSS	16	6 x 4 x 4″	A6P4	126.71
96F4698	A-606CHNFSS	16	6 x 6 x 4″	A6P6	142.48
96F4699	A-8064CHNFSS	14	8 x 6 x 4″	A8P6	158.15
96F4700	A-1008CHNFSS	14	10 x 8 x 4″	A10P8	192.61
96F4701	A-12106CHNFSS	14	12 x 10 x 6″	A12P10	269.93
96F4702	A-1212CHNFSS	14	12 x 12 x 6″	A12P12	297.72

* *Order separately on this page.*
(6951) (de52513)

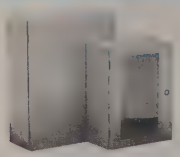
CONCEPT™ SINGLE DOOR ENCLOSURES

Painted steel, single door enclosures are available in standard solid and window door models. Narrow flange design allows installation of new, larger CONCEPT™ sub-panels with up to 15% more mounting surface than standard panels. A NEMA-sized panel also can be installed using a panel conversion kit. Optional DIN rail mounting, grid strap mounting or rack mounting are also available. Self-grounded latch system has flush design and contains a combination double seal/trim for maximum leakage protection. **C-P** *panels listed on this page.* 2 door enclosures also available; *contact your local Newark sales office.*

Stock No.	Type	H x W x D	Panel Type	Each
92F4955	C-SD12126	12 x 12 x 6″	C-P1212	132.77
92F4956	C-SD16126	16 x 12 x 6″	C-P1612	141.71
92F4957	C-SD16166	16 x 16 x 6″	C-P1616	152.64
92F4960	C-SD16208	16 x 20 x 8″	C-P2016	172.52
92F4962	C-SD20208	20 x 20 x 8″	C-P2020	183.30
92F4964	C-SD24208	24 x 20 x 8″	C-P2420	197.04

(6979) (ne03942)

CONCEPT™ STAINLESS STEEL WALL-MOUNT ENCLOSURES



Feature continuously welded seams that are ground smooth. 16 gauge bodies and doors. Seamless foam-in-place one-piece gasket provides oiltight and dusttight seal. Meet NEMA 4, 4X, 12, and 13. Include screws, grounding hardware, and sealing washers for wall mounting holes. UL listed, CSA certified. Optional panels available separately; *contact your local Newark sales office.*

Stock No.	Type	H x W x D	Each
92F4946	C-SD16126SS	16 x 12 x 6″ (406 x 305 x 152)	371.03
92F4947	C-SD16166SS	16 x 16 x 6″ (406 x 406 x 152)	411.12
92F4948	C-SD20166SS	20 x 16 x 6″ (508 x 406 x 152)	451.13
92F4952	C-SD20208SS	20 x 20 x 8″ (508 x 508 x 203)	534.83
92F4954	C-SD24208SS	24 x 20 x 8″ (610 x 508 x 203)	585.75

(31686) (ne31686)

CONCEPT™ PANELS

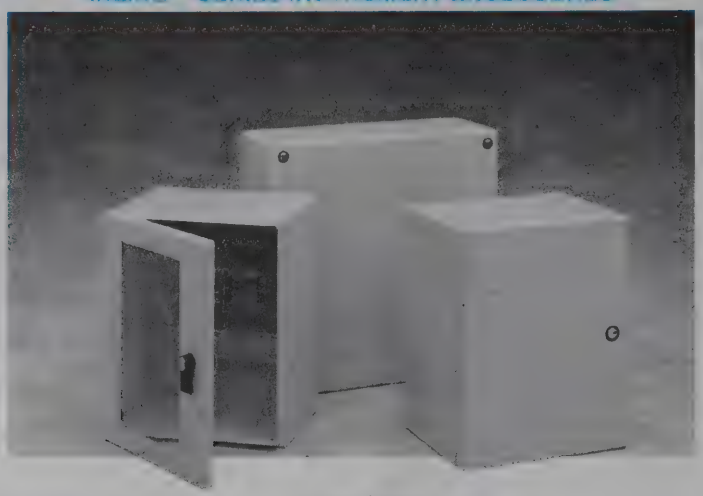
C-P CONCEPT™ panels come in a white enamel finish and fit **types C-SD, C-SDW, C-SDSS, C-DSC** enclosures.

Stock No.	Type	D x H	Each
92F4965	C-P1212	10.2 x 10.2″	6.50
92F4966	C-P1612	14.2 x 10.2″	8.37
92F4967	C-P1616	14.2 x 14.2″	21.68
92F4969	C-P2020	18.2 x 18.2″	30.84
92F4971	C-P2420	22.2 x 18.2″	39.38
92F4972	C-P2424	22.2 x 22.2″	45.67

(6981) (ne03946)

INSTRUMENT ENCLOSURES

INLINE™ SERIES INSTRUMENT ENCLOSURES



Window Cover
Screw Cover
Hinged Cover

Designed to house and protect sensitive electrical components from harsh, dirty environments. For installations where dirt, dust, oil, water, or other contaminants are present. Constructed of 16-gauge steel. Back fastening holes provide direct mounting; external mounting feet optional. Streamlined style with flush latching and durable textured light gray polyester powder coating finish. Units come complete with hardware, including: panel mounting screws, grounding hardware, and sealing washers for wall-mounting holes. Optional 12-gauge steel panels are available; *contact your local Newark sales office.*

INLINE™ SCREW COVER INSTRUMENT ENCLOSURES

Feature integral compression stops that maintain optimal gasket compression. Meet NEMA/EEMAC enclosure **types 4** and **12** and IEC enclosure IP66 classification. UL listed, CSA certified, VDE approved.

Stock No.	Type	H x W x D	Steel Panel*	Each
91F4815	L-SC151512	5.91 x 5.91 x 4.72″(150 x 150 x 120)	L-P1515	**39.35**
91F4816	L-SC201512	7.87 x 5.91 x 4.72″ (200 x 150 x 120)	L-P2015	**46.69**
91F4817	L-SC252015	9.84 x 7.87 x 5.91″ (250 x 200 x 150)	L-P2520	**56.66**
91F4818	L-SC302515	11.81 x 9.84 x 5.91″(300 x 250 x 150)	L-P3025	**64.20**
91F4819	L-SC353020	13.78 x 11.81 x 7.87″ (350 x 300 x 200)	L-P3530	**81.06**

** Order steel panel separately on this page.*
(12956) (ne10022)

INLINE™ HINGED COVER INSTRUMENT ENCLOSURES

Feature 180° door opening and removable hinge pins. Meet NEMA/EEMAC enclosure **types 4** and **12** and IEC enclosure IP66 classification. UL listed, CSA certified, VDE approved.

Stock No.	Type	H x W x D	Steel Panel*	Each
91F4820	L-HC151512	5.91 x 5.91 x 4.72″ (150 x 150 x 120)	L-P1515	**38.06**
91F4821	L-HC201512	7.87 x 5.91 x 4.72″ (200 x 150 x 120)	L-P2015	**46.56**
91F4822	L-HC252015	9.84 x 7.87 x 5.91″ (250 x 200 x 150)	L-P2520	**54.64**
91F4823	L-HC302515	11.81 x 9.84 x 5.91″ (300 x 250 x 150)	L-P3025	**61.93**
91F4824	L-HC353020	13.78 x 11.81 x 7.87″ (350 x 300 x 200)	L-P3530	**87.12**

** Order steel panels separately on this page.*
(12964) (ne10023)

INLINE™ WINDOW COVER INSTRUMENT ENCLOSURES

Suited to protect field bus components and other instrumentation. Feature 180° door opening and removable hinge pins. Meet NEMA/EEMAC enclosure **type 12** and IEC enclosure IP55 classification. UL listed, CSA certified, VDE approved.

Stock No.	Type	H x W x D	Steel Panel*	Each
91F4825	L-WC201512	7.87 x 5.91 x 4.72″ (200 x 150 x 120)	L-P2015	**67.53**
91F4826	L-WC252015	9.84 x 7.87 x 5.91″ (250 x 200 x 150)	L-P2520	**81.99**
91F4827	L-WC302515	11.81 x 9.84 x 5.91″ (300 x 250 x 150)	L-P3025	**92.95**
91F4828	L-WC204015†	7.87 x 15.75 x 5.91″ (200 x 400 x 150)	...	**165.46**
91F4829	L-WC206015†	7.87 x 23.62 x 5.91″ (200 x 600 x 150)	...	**181.46**

** Order steel panels separately on this page.*
† Hinged on opposite (left) side of enclosure.
(12966) (ne10024)

STEEL PANELS

Constructed of 12-gauge steel. Color: white

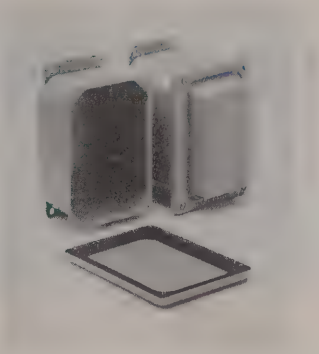
Stock No.	Type	H x W	Each
91F4830	L-P1515	5.16 x 5.16″ (131 x 131)	**4.32**
91F4831	L-P2015	7.13 x 5.16″ (181 x 131)	**5.34**
91F4832	L-P2520	9.09 x 7.13″ (231 x 181)	**6.44**
91F4833	L-P3025	11.06 x 9.09″ (281 x 231)	**7.30**
91F4834	L-P3530	13.03 x 11.06″ (331 x 281)	**9.23**

(12961) (ne10025)

NEMA INSTRUMENT ENCLOSURES

SCREW COVER "DSC" ENCLOSURES

Units are designated for use as electrical junction boxes, terminal wiring boxes, and instrument housings, and are suitable for use with liquid-tight flexible conduit. Protection provided from dust, dirt, oil, and water. Enclosures have no holes or conduit knockouts. Covers are flat. Cover screws thread into enclosure outside gasket line to prevent leakage through cover screw holes. Units feature oil-resistant gasket and adhesive and external mounting feet. Meets NEMA enclosure types 4, 6, 12 and 13 and IEC enclosure IP67 classification. UL listed, CSA certified.



STANDARD SIZE ENCLOSURES

Stock No.	Type	Int. Volume Cubic In.	Cover Type	H x W x D	Each	2-5	6-10	11-15
16F255	A643DSC	55.9	Flat	5.75 x 4.00 x 2.75″	30.91	28.92	27.16	26.37
16F256	A843DSC	79.4	Flat	8.00 x 4.00 x 2.75″	34.69	32.46	30.49	29.60

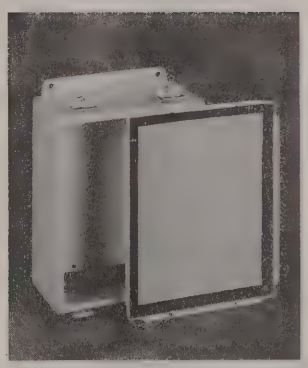
SMALL SIZE ENCLOSURES

16F254	A402DSC	13.9	...	4.00 x 2.00 x 2.00″	12.78	12.36	11.59	10.90

(7024) (ne08077)

LIFT-OFF COVER "LP" ENCLOSURES

Protect contents from dust, dirt, oil, and water. Units have smooth, continuous weld seams and external screw clamps. Gasket and adhesive are oil-resistant. Unit has grounding stud on door, external mounting feet, and weldnuts for mounting optional panels. *Corresponding panel available separately see "Panels" table for ordering information.* Enclosures meet NEMA/EEMAC enclosure types 12 and Type 13 and IEC enclosure IP65 classification. UL listed, CSA certified.



ENCLOSURES

Stock No.	Type	Gauge	Panel Type	H x W x D	Each	2-5	6-10	11-15
16F243	A404LP	16	None	4.00 x 4.00 x 3.00″	26.05	24.38	22.90	22.23
16F244	A604LP	16	A-6P4	6.00 x 4.00 x 3.00″	31.02	29.02	27.26	26.46
16F246	A806LP	14	A-8P6	8.00 x 6.00 x 3.50″	38.38	35.91	33.73	32.75
16F245	A606LP	16	A-6P6	6.00 x 6.00 x 4.00″	36.15	33.83	31.77	30.85
16F241	A1008LP	14	A-10P8	10.00 x 8.00 x 4.00″	46.12	44.63	41.92	40.09
16F242	A1210LP	14	A-12P10	12.00 x 10.00 x 5.00″	58.94	57.03	53.57	51.23

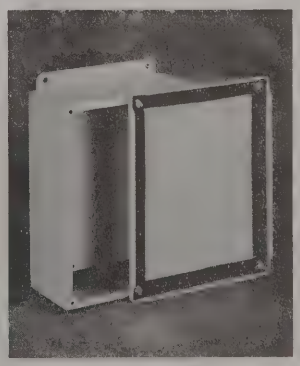
PANELS

Stock No.	Panel Type	H x W	Each	2-5	6-10	11-15
16F257	A6P4	4.88 x 2.88″	2.43	2.35	2.20	2.07
89F5422	A8P6	6.75 x 4.88″	3.38	3.26	3.06	2.88
89F5421	A6P6	4.88 x 4.88″	2.95	2.85	2.67	2.52
89F5423	A10P8	8.75 x 6.88″	4.61	4.45	4.18	3.93
89F5424	A12P10	10.75 x 8.88″	6.25	6.04	5.67	5.33
96F4641	A8P8	6.75 x 6.88″	3.95	3.82	3.58	3.37

(7022) (ne08075)

SCREW COVER "SC" ENCLOSURES

Designed for use as electrical junction boxes, terminal wiring boxes, instrument housings, and electric control enclosures. Protection provided from dust, dirt, oil, and water. Seams are continuously welded and ground smooth with no holes or knockouts. Captivated cover screws thread into sealed wells. Unit features oil-resistant gasket and adhesive and external mounting feet. Weldnuts provided for mounting optional panels and terminal kits in size 6.00 × 4.00″ and larger. Unit meets NEMA/EEMAC enclosure types 12 and 13 and IEC enclosure IP65 classification. *Order optional panels separately; see "Panel" table below.* UL listed, CSA certified.



Stock No.	Type	Gauge	Panel Type	H x W x D	Each	2-5	6-10	11-15
16F247	A404SC	16	None	4.00 x 4.00 x 3.00″	27.95	26.15	24.56	23.85
16F249	A604SC	16	A-6P4	6.00 x 4.00 x 3.00″	32.16	30.09	28.26	27.44
16F252	A806SC	14	A-8P6	8.00 x 6.00 x 3.50″	39.79	37.23	34.97	33.96
16F248	A6044SC	16	A-6P4	6.00 x 4.00 x 4.00″	34.00	31.81	29.87	29.01
16F250	A606SC	16	A-6P6	6.00 x 6.00 x 4.00″	37.51	35.10	32.96	32.01
16F253	A808SC	14	A-8P8	8.00 x 8.00 x 4.00″	45.25	42.34	39.77	38.61
16F251	A8066SC	14	A-8P6	8.00 x 6.00 x 6.00″	44.48	43.04	40.43	38.67

PANELS

Stock No.	Panel Type	H x W	Each	2-5	6-10	11-15
16F257	A6P4	4.88 x 2.88″	2.43	2.35	2.20	2.07
89F5422	A-8P6	6.75 x 4.88″	3.38	3.26	3.06	2.88
89F5421	A-6P6	4.88 x 4.88″	2.95	2.85	2.67	2.52
89F5423	A-10P8	8.75 x 6.88″	4.61	4.45	4.18	3.93
89F5424	A-12P10	10.75 x 8.88″	6.25	6.04	5.67	5.33
96F4641	A8P8	6.75 x 6.88″	3.95	3.82	3.58	3.37

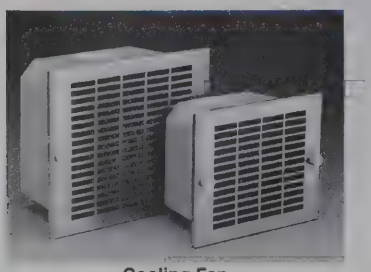
(7023) (ne08076)

NEWARK ACCEPTS MAJOR CREDIT CARDS.
CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR DETAILS.

CLIMATE CONTROL PRODUCTS

COOLING FAN PACKAGES

For use in enclosures where space is limited. Powered by 115 or 230VAC, 50/60Hz single-phase motors. Designed to be the air inlet in cooling systems. Exhaust grille and filter provide air outlet. *Order exhaust grilles with filters separately below.* UL recognized, CSA certified.



Cooling Fan

85/100 CFM @ 50/60Hz, 2500/3000 RPM

Stock No.	Type	Watts	Volts	Each
89F5371	A-PA4AXFN	21	115VAC	104.21
89F5372	A-PA4AXFN2	22	230VAC	110.58
200/240 CFM @ 50/60Hz, 2850/3400 RPM				
89F5373	A-PA6AXFN	33	115VAC	176.82
89F5374	A-PA6AXFN2	34	230VAC	182.89
480/560 CFM @ 50/60Hz, 1350/1650 RPM				
89F5375	A-PA10AXFN	36	115VAC	242.89
89F5376	A-PA10AXFN2	36	230VAC	242.96

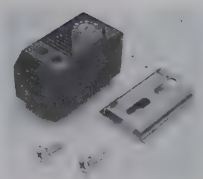
EXHAUST GRILLES WITH FILTERS

Stock No.	Type	Description	Each
50F7613	A-EXGR4	For 85/100 cfm	46.07
50F7614	A-EXGR6	For 200/240 cfm	48.80
50F7615	A-EXGR10	For 480/560 cfm	64.76

(6959) (de52521)

TEMPERATURE CONTROLLERS

Regulate fan and blower activities. Set point range: +30°F to +140°F. When enclosure reaches the designated temperature, contacts in the controller close and the fan starts. Thermostat with **suffix NC** is designated for use with heaters; **suffix NO** is designated for fans. UL recognized, CSA certified.



Temperature Controller

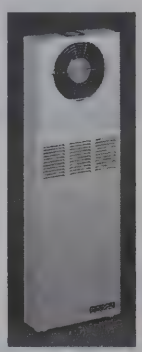
Stock No.	Type	Description	Each
92F8684	ATEMNC	Thermostat for Heaters	38.97
92F8685	ATEMNO	Thermostat for Cooling Fans	38.97

(6960) (de52522)

AIR-TO-AIR HEAT EXCHANGERS

Feature streamlined appearance and modified heat pipe core that offers high performance. Units can be mounted on the front, side, top, or inside of an electrical enclosure. Note: Mounting the units horizontally will slightly reduce the cooling efficiency. Units feature closed-loop cooling, keeping contaminants outside the enclosure. Units operate on either 115VAC, 50/60Hz or 230VAC, 50/60Hz. Max. ambient temperature: +155°F, +68°C. Units are single phase. UL and cUL listed.

XR-20



XR-29

Stock No.	Type	Voltage	Full Load Amps	Air In W/°F	Air In W/°K	Air Out W/°F	Air Out W/°K	Each
91F4810	XR-2016-101	115VAC	0.6	4	7	9	16	727.00
91F4811	XR-2026-101	230VAC	0.3	4	7	9	16	763.69
91F4812	XR-2916-001	115VAC	0.6	8	14	30	54	881.23
91F4813	XR-2926-001	230VAC	0.3	8	14	30	54	909.09

(12955) (ne10034)

CONSIDER SPECIFIC APPLICATION NEEDS BEFORE CHOOSING A CLIMATE CONTROL SOLUTION

- VENTILATION DEVICES SUCH AS LOUVERS ARE USEFUL IF MAINTAINING A COOL, CONSTANT TEMPERATURE IS NOT A FACTOR
- FAN PACKAGES AND BLOWERS MAY INTRODUCE AMBIENT CONTAMINANTS LIKE OIL, MIST, AND DUST INTO THE ENCLOSURE
- HEAT EXCHANGERS† CANNOT COOL BELOW THE AMBIENT TEMPERATURE
- CLOSED-LOOP AIR CONDITIONERS‡ CAN COOL AND REDUCE HUMIDITY WITHOUT INTRODUCING CONTAMINANTS
- USE THE FORMULAS LISTED BELOW TO DETERMINE THE RIGHT AIR CONDITIONER OR HEAT EXCHANGER FOR YOUR APPLICATION:

1) WATTS -- 1 WATT = 3.413BTU/Hr: DETERMINE THE INTERNAL HEAT LOAD PRODUCED BY EQUIPMENT AS TOTAL OPERATING WATTS

2) ΔT (DESIRED TEMPERATURE DIFFERENCE) -- 1 °K ΔT = 1.8°F ΔT, °K ΔT = °C ΔT: TO DETERMINE THE ΔT (°F) WHICH IS THE TEMPERATURE DIFFERENCE BETWEEN THE MAXIMUM TEMPERATURE OUTSIDE THE ENCLOSURE (T_O) AND THE MAXIMUM DESIRED TEMPERATURE INSIDE THE ENCLOSURE (T_I) WHICH CAN BE CALCULATED AS: $T_O - T_I = \Delta T$ FOR AIR CONDITIONERS; $T_I - T_O = \Delta T$ FOR HEAT EXCHANGERS AND FANS

3) AREA (ft^2) 1 M^2 = 10.76ft^2 (CALCULATE THE EXPOSED SURFACE AREA OF THE ENCLOSURE IN SQUARE FEET): AREA (ft^2) = 2[(H″ X W″) + (H″ X D″) = (W″ X D″)] ÷ 144.

†TO DETERMINE THE RIGHT HEAT EXCHANGER PERFORMANCE RATING:

$$\frac{[\text{WATTS} \div \Delta T(°F)] - [0.22 \times \text{AREA}\ (ft^2)]}{\text{WATTS/°F}}$$

‡TO DETERMINE THE RIGHT AIR CONDITIONER CAPACITY:

$$\frac{(\text{WATTS} \times 3.413 + [1.25 \times \text{AREA}\ (ft^2) \times \Delta T(°f)]}{\text{BTU/Hr}}$$

(13730) (ne85141)

ENCLOSURE AIR CONDITIONERS

PROAIR™ SERIES CR29 SIDE MOUNT AIR CONDITIONERS

Units deliver up to 4000 BTUs per hour. Can be mounted on the door, side, or front of enclosure. Easy installation with mounting hardware and instructions included. Hinged front cover permits units to be easily serviced and maintained. Dimensions: 29.50H x 15.75W x 8.63"D (749 x 400 x 219). Max. ambient temperature: 131°F, 55°C. Units operate at either 115VAC, 50/60Hz or 230VAC, 50/60Hz. Units are single phase. UL and cUL listed.

Stock No.	Type	Voltage	BTU/Hr* (Watts) @ 131°F	Amps @ 131°F	BTU/Hr* (Watts) @ 95°F	Amps @ 95°F	Each
91F4799	CR29-0216-G002	115VAC	2000-2200 (585-645)	7.4/7.4	1700-2000 (500-585)	7.0/6.0	1979.20
91F4800	CR29-0226-G002	230VAC	2500-2700 (730-790)	4.6/3.9	1800-2000 (525-585)	4.4/3.3	2004.34
91F4801	CR29-0416-G002	115VAC	3500-4000 (1025-1170)	13.5/13.5	2400-2800 (703-820)	10.7/9.6	2151.10
91F4802	CR29-0426-G002	230VAC	3500-4000 (1025-1170)	6.7/6.6	2400-2800 (703-820)	5.9/5.3	2176.24

* Because air conditioners provide less cooling at lower operating temperatures, two cooling capacity ratings are provided.
(13029) (ne10030)

CR29

PROAIR™ SERIES CR43 SIDE MOUNT AIR CONDITIONERS

Units are designed to deliver 6000-8500 BTUs per hour cooling capacity. High-performance centrifugal blowers provide substantial air flow, even in tightly-packed enclosures. Units can be mounted on the door, side, or front of the enclosure. Easy installation with mounting hardware and instructions are included. Hinged front cover makes units easy to service and maintain. Max. ambient temperature: 131°F, 55°C. Dimensions: 43.31H x 15.75W x 10.25"D (1100 x 400 x 260). UL and cUL listed.

Stock No.	Type	VAC/Hz	BTU/Hr* (Watts) @ 131°F	Amps @ 131°F	BTU/Hr* (Watts) @ 95°F	Amps @ 95°F	Each
91F4803	CR43-0616-002	115/60	6000 (1760)	13.7	5100 (1495)	11.0	2669.51
91F4804	CR43-0625-002	230/50	6000 (1760)	6.8	5100 (1495)	5.3	2694.65
91F4805	CR43-0626-002	230/60	6000 (1760)	6.9	5100 (1495)	5.5	2694.65
91F4806	CR43-0816-002	115/60	8500 (2490)	16.5	7500 (2195)	12.9	3002.43
91F4807	CR43-0825-002	230/50	7500 (2195)	8.0	7000 (2050)	6.1	3036.40
91F4808	CR43-0826-002	230/60	8500 (2490)	8.2	7500 (2195)	6.3	3036.40

* Because air conditioners provide less cooling at lower operating temperatures, two cooling capacity ratings are provided.
(13034) (ne10031)

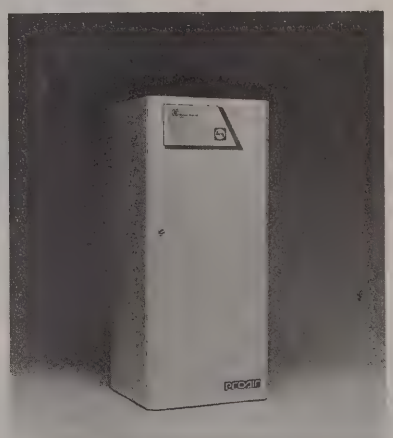
CR43

PROAIR™ CR23 SERIES SIDE MOUNT AIR CONDITIONER

Unit delivers 1600 BTUs per hour cooling capacity. Unit is narrow to allow mounting on enclosures with depths of 10". Can also be mounted on the door or front of the enclosure. Includes mounting hardware and instructions. Hinged front permits units to be easily serviced and maintained. Dimensions: 23.00H x 10.00W x 8.75"D (584 x 254 x 222). Unit is rated 115VAC, 50/60Hz. Max. ambient temperature: 131°F, 55°C. Unit is single phase.

Stock No.	Type	BTU/Hr* @ 131°F/131°F	Amps @ 131°F/131°F	BTU/Hr* @ 95°F/95°F	Amps @ 95°F/95°F	Each
91F4814	CR23-0216-G002	1400/1600	4.8/4.8	1500/1700	4.0/4.0	1715.58

* Because air conditioners provide less cooling at lower operating temperatures, two cooling capacity ratings are provided.
(13037) (ne10032)



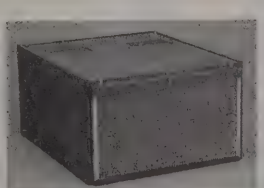
CR23-0216-G002

HIBOY™ II TSM TOP MOUNT AIR CONDITIONER

Unit is designed to deliver 3300-4000 BTUs per hour cooling capacity. Low-profile unit is designed to mount on top surface of an enclosure and blows cool air downward. Max. ambient temperature: 125°F, 52°C. Rated 115VAC, 50/60Hz. Dimensions: 10.25H x 17.00W x 20.00"D (260 x 432 x 508). Unit is single phase. UL and cUL listed.

Stock No.	Type	FLA @ 125°F	BTU/Hr (Watts) @ 125°F	Each
91F4809	MHB11-0416-G307	14.7/13.6	3300-4000 (965-1170)	2253.01

(13038) (ne10033)



MHB11-0416-G307

NEMA ENCLOSURES

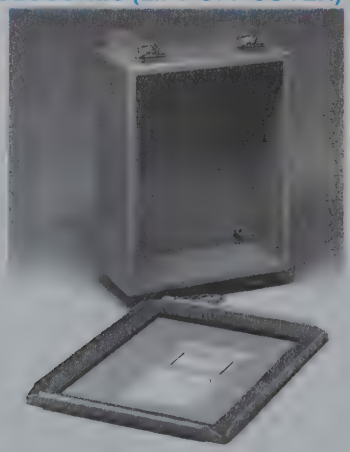
SMALL NEMA 12 ENCLOSURES (SCREW COVER)

Type 1414SC are rugged, NEMA 12 type enclosures, featuring a captive screw cover. Units include inner panel (larger than 4 x 4″) and plated lid chain. Formed from 16-gauge steel. Features smooth continuously welded seams, enclosure grounding stud, welded wall mount brackets and permanently secured oil-resistant gasket. Enclosures are finished in recoatable ASA baked enamel; panels are finished in white baked enamel. UL listed and CSA certified.

Stock No.	Type	Description	Each	2-4
84F003	1414SCA	4 x 4 x 3″	29.24	27.50
84F004	1414SCC	6 x 4 x 3″	36.18	34.03
84F005	1414SCG	8 x 6 x 3.5″	46.52	43.98
99F4210	1414SCE	6 x 6 x 4″	43.60	41.22
99F4510	1414SCI	10 x 8 x 4″	56.59	53.22
84F006	1414SCK	12 x 10 x 5″	73.46	68.29
84F007	1414SCM6	14 x 12 x 6″	93.07	86.51
84F008	1414SCO6	16 x 14 x 6″	106.78	99.55
84F009	1414SCM8	14 x 14 x 8″	125.63	117.13
84F010	1414SCO10	16 x 14 x 10″	151.82	147.11

(34285) (ne34285)

SMALL NEMA 12 ENCLOSURES (LIFT-OFF COVER)



Type 1414 are rugged, NEMA 12 type enclosures featuring external screw clamps and lift-off cover. Units include inner panel (larger than 4″ x 4″) and plated lid chain. Formed from 16-gauge or 14-gauge steel. Features smooth, continuously welded seams, enclosure grounding stud, welded wall mount brackets, and permanently secured oil-resistant gasket. Enclosures are finished in recoatable ASA 61 gray baked enamel; panels are finished in white baked enamel. UL listed and CSA certified.

Stock No.	Type	Description	Each	2-4
99F6085	1414A	4 x 4 x 3″	33.07	30.73
99F6086	1414C	6 x 4 x 3″	38.25	34.07
83F8942	1414G	8 x 6 x 3.5″	45.00	42.55
83F8939	1414A4	4 x 4 x 4″	30.46	28.80
83F8940	1414C4	6 x 4 x 4″	37.87	35.80
83F8941	1414E	6 x 6 x 4″	40.90	38.47
88F2065	1414I	10 x 8 x 4″	64.48	59.92
83F8943	1414K	12 x 10 x 5″	70.30	66.12
83F8944	1414M6	14 x 12 x 6″	90.00	83.65
83F8947	1414O6	16 x 14 x 6″	107.19	99.63
83F8945	1414M8	14 x 12 x 8″	122.46	114.18
83F8946	1414O10	16 x 14 x 10″	136.50	132.27

(34284) (ne34284)

SMALL NEMA ENCLOSURES (HINGED COVER)

Rugged, NEMA-type enclosures feature external screw clamps on 3 sides and continuous hinged cover. Choice of 3 versions: NEMA Type 12 enclosure with clamped, piano-hinged cover, finished in ASA 61 gray recoatable baked enamel; NEMA Type 4, 4X enclosure with piano-hinged cover, finished in high-solids epoxy, ASA 61 gray finish; or stainless steel NEMA Type 4, 4X enclosure with piano-hinged cover. All types include inner panel, except where noted, and are suitable for transformer or instrument housings. Use as electrical junction and terminal boxes, to mount pneumatic or hydraulic instruments, or as control tubing junction point. Watertight, oil- and petroleum-resistant. Protect against dirt and dust. UL listed, CSA certified.

NEMA TYPE 12 ENCLOSURES

Stock No.	Type	H x W x D	Each	2-4
90F9588	1414 PHA*	4 x 4 x 3″	28.36	26.67
90F9589	1414 PHC	6 x 4 x 3″	36.11	34.14
90F9590	1414 PHG	8 x 6 x 3.5″	43.79	41.19
90F9591	1414 PHRG	6 x 8 x 3.5″	45.11	42.65
90F9592	1414 PHA4*	4 x 4 x 4″	30.50	28.84
90F9593	1414 PHC4	6 x 4 x 4″	38.00	35.93
90F9594	1414 PHE	6 x 6 x 4″	42.22	39.91
90F9595	1414 PHH4	8 x 8 x 4″	50.33	46.78
90F9596	1414 PHI	10 x 8 x 4″	54.76	51.50
90F9597	1414 PHRI	8 x 10 x 4″	55.35	51.45
90F9598	1414 PHKC4	12 x 6 x 4″	53.53	49.76
90F9599	1414 PHK	12 x 10 x 5″	70.34	66.15
90F9600	1414 PHRK	10 x 12 x 5″	71.10	66.09
90F9601	1414 PHG6	8 x 6 x 6″	50.46	46.90
90F9602	1414 PHI6	10 x 8 x 6″	61.13	57.49
90F9603	1414 PHJ6	10 x 10 x 6″	68.50	63.68
90F9604	1414 PHL6	12 x 12 x 6″	81.82	76.95
90F9605	1414 PHMH6	14 x 8 x 6″	73.35	68.18
90F9606	1414 PHM6	14 x 12 x 6″	90.11	83.76
90F9607	1414 PHRM6	12 x 14 x 6″	90.11	83.76
90F9608	1414 PHN6	16 x 10 x 6″	88.39	82.16
90F9609	1414 PHO6	16 x 14 x 6″	103.43	96.43
90F9610	1414 PHRO6	14 x 16 x 6″	103.43	96.43
90F9611	1414 PHK8	12 x 10 x 8″	82.92	77.07
90F9612	1414 PHM8	14 x 12 x 8″	95.72	89.25
90F9613	1414 PHO8	16 x 14 x 8″	113.74	106.04
90F9614	1414 PHO10	16 x 14 x 10″	124.12	115.72

NEMA TYPE 4, 4X ENCLOSURES

90F9615	1414 N4 PHA*	4 x 4 x 3″	40.58	38.17
90F9616	1414 N4 PHC	6 x 4 x 3″	48.95	45.50
90F9617	1414 N4 PHG	8 x 6 x 3.5″	60.73	56.45
90F9618	1414 N4 PHE	6 x 6 x 4″	56.51	53.15
90F9621	1414 N4 PHI6	10 x 8 x 6″	85.12	79.12
90F9620	1414 N4 PHK	12 x 10 x 5″	96.42	90.68
90F9622	1414 N4 PHL6	12 x 12 x 6″	99.70	92.96
90F9623	1414 N4 PHM6	14 x 12 x 6″	118.63	110.60
90F9624	1414 N4 PHO6	16 x 14 x 6″	125.00	121.12
90F9625	1414 N4 PHM8	14 x 12 x 8″	127.62	118.98
90F9626	1414 N4 PHO10	16 x 14 x 10″	147.80	143.22

STAINLESS STEEL NEMA TYPE 4, 4X ENCLOSURES

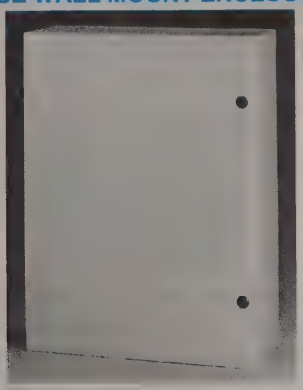
90F9628	1414 N4 PHSS C4	6 x 4 x 4″	135.99	126.79
90F9629	1414 N4 PHSS E	6 x 6 x 4″	126.92	118.33
90F9627	1414 N4 PHSS G	8 x 6 x 3.5″	151.43	146.74
90F9630	1414 N4 PHSS G4	8 x 6 x 4″	150.90	146.22
90F9631	1414 N4 PHSS I	10 x 8 x 4″	162.57	154.83
90F9632	1414 N4 PHSS K	12 x 10 x 5″	258.45	250.47
90F9633	1414 N4 PHSS L6	12 x 12 x 6″	285.06	276.26
90F9634	1414 N4 PHSS M6	14 x 12 x 6″	311.94	302.31
90F9635	1414 N4 PHSS O6	16 x 14 x 6″	350.05	339.74
90F9636	1414 N4 PHSS M8	14 x 12 x 8″	311.35	302.17
90F9637	1414 N4 PHSS O10	16 x 14 x 10″	388.54	377.09

*Inner panel not included

(6974) ne000023

NEMA ENCLOSURES

ECLIPSE WALL MOUNT ENCLOSURES



The Eclipse wall mount enclosure offers a panel larger than standard NEMA enclosures. Available in standard sizes from 12H x 12W x 6″D to 60H x 36W x 12″D, some sizes with 16″ and 20″ deep versions. The NEMA 12 version is suitable for indoor industrial environments and is offered in recoatable textured enamel (RAL 7032 beige). *Order Eclipse inner panels separately on this page.* For other sizes, accessories, and window-door version; *contact your local Newark sales office.*

Stock No.	Type	H x W x D	Panel	Each	2-4
16F1953	ESD12126CG	12 x 12 x 6″	EP1212	134.30	125.21
16F1954	ESD16126CG	12 x 12 x 6″	EP1612	127.17	123.23
16F1955	ESD16166CG	16 x 16 x 6″	EP1616	137.00	132.75
16F1956	ESD20166CG	20 x 16 x 6″	EP2016	146.84	142.28
16F1957	ESD20206CG	20 x 20 x 6″	EP2020	158.40	153.49
16F1958	ESD16208CG	16 x 20 x 8″	EP1620	154.84	150.04
16F1959	ESD20168CG	20 x 16 x 8″	EP2016	154.84	150.04
16F1960	ESD20208CG	20 x 20 x 8″	EP2020	167.32	162.13
16F1961	ESD24168CG	24 x 16 x 8″	EP2416	165.56	160.43
16F1963	ESD24208CG	24 x 20 x 8″	EP2420	176.97	171.51

(7030) (ne08357)

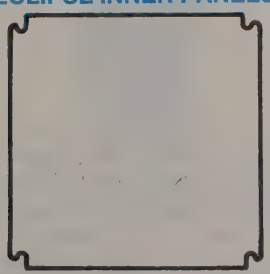
ECLIPSE NEMA 4 WALL MOUNT ENCLOSURES

Features stainless steel hinges and high solids epoxy paint finish, which makes this version suitable for both indoor and outdoor applications. Offered in ASA 61 gray. *Order Eclipse inner panels separately on this page.* For other sizes, materials, accessories, and window-door versions, *contact your local Newark sales office.*

Stock No.	Type	H x W x D	Panel	Each	2-4
16F1944	EN4SD12126GY	12 x 12 x 6″	EP1212	139.90	130.43
16F1945	EN4SD16126GY	16 x 12 x 6″	EP1612	132.48	128.37
16F1946	EN4SD16166GY	16 x 16 x 6″	EP1616	142.71	138.28
16F1947	EN4SD20166GY	20 x 16 x 6″	EP2016	152.95	148.21
16F1948	EN4SD20206GY	20 x 20 x 6″	EP2020	165.00	159.88
16F1949	EN4SD16208GY	16 x 20 x 8″	EP1620	161.29	156.29
16F1950	EN4SD20168GY	20 x 16 x 8″	EP2016	161.29	156.29
16F1951	EN4SD20208GY	20 x 20 x 8″	EP2020	171.48	166.18
16F1952	EN4SD24168GY	24 x 16 x 8″	EP2416	169.69	164.45
16F1962	EN4SD24208GY	24 x 20 x 8″	EP2420	184.33	178.64

(7031) (ne08358)

ECLIPSE INNER PANELS

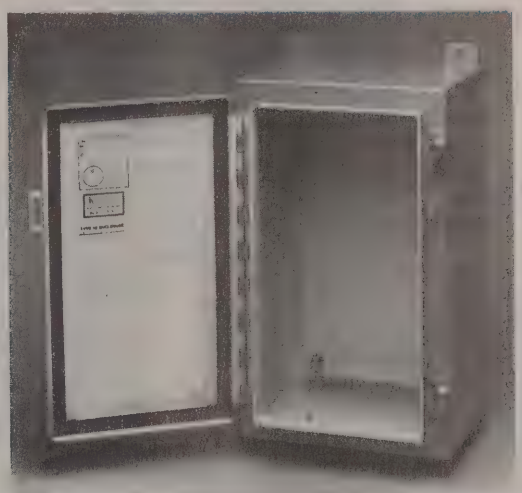


Larger than standard NEMA panels, designed with corner notches for easy installation. Finished in white. Other sizes are available; *contact your local Newark sales office.*

Stock No.	Type	H x W	Each	2-4
16F1964	EP1212	10.2 x 10.2″	7.28	6.87
16F1965	EP1612	14.2 x 10.2″	9.38	8.85
16F1966	EP1616	14.2 x 14.2″	23.37	22.09
16F1967	EP1620	14.2 x 18.2″	27.70	26.18
16F1968	EP2016	18.2 x 14.2″	27.70	26.18
16F1969	EP2020	18.2 x 18.2″	33.23	31.42
16F1970	EP2416	22.2 x 14.2″	32.00	30.26
16F1942	EP2420	22.2 x 18.2″	42.44	40.13

(7032) (ne08359)

HEAVY-DUTY NEMA 12 ENCLOSURES WITH PANEL



Type 1418 are heavy-duty and meet NEMA enclosure type 12. Enclosures 14-gauge steel bodies with clamped doors, and include 12-gauge steel inner panel. Features smooth, continuously welded seams, formed lip on door and enclosure to exclude flowing liquids, enclosure and door grounding studs, welded wall mount brackets, permanently secured, oil resistant gasket with retainers, padlock hasp, and literature pocket. Enclosure exterior is finished in a recoatable ASA 61 gray baked enamel; interior and panel finished in a white baked enamel. UL listed and CSA certified.

Stock No.	Type	H x W x D	Panel Size	Each	2-4
50F8420	1418B6	16 x 12 x 6″	13 x 9″	148.03	140.98
50F8421	1418C6	20 x 16 x 6″	17 x 13″	174.79	166.47
50F8422	1418D6	20 x 20 x 6″	17 x 17″	216.47	209.79
50F8426	1418B8	16 x 12 x 8″	13 x 9″	154.65	147.29
50F8427	1418C8	20 x 16 x 8″	17 x 13″	183.36	174.63
50F8428	1418D8	20 x 20 x 8″	17 x 17″	200.54	190.99
50F8429	1418E8	20 x 20 x 8″	21 x 17″	220.42	209.93
83F8948	1418H8	24 x 16 x 8″	21 x 13″	224.14	217.22
50F8430	1418J8	24 x 24 x 8″	21 x 21″	239.95	228.53
50F8431	1418K8	30 x 24 x 8″	27 x 21″	269.81	256.97
50F8436	1418E10	24 X 20 X 10″	21 x 17″	261.78	253.70
50F8437	1418J10	30 X 24 X 10″	21 x 21″	284.93	276.14
50F8438	1418K10	30 X 24 X 10″	27 x 21″	301.44	292.56

(34278) (ne34278)

NEMA HOLE PLUGS

Type HP steel hole plugs are designed to seal unused pushbutton holes, conduit openings and knockout holes against dust, oil and water. Plugs have oil-resistant gasket and are secured with an 8-32 x ¾″ threaded stud and plated wing nut. ASA 61 gray recoatable baked enamel finish.

Stock No.	Type	Size	Diameter	Each
66F7223	HP50	0.5″ Conduit	1.38″	3.68
66F7225	HP75	0.75″ Conduit	1.63″	4.66
66F7209	HP100	1″ Conduit	1.88″	6.44
66F7215	HP200	2″ Conduit	3.00″	9.02
66F7227	HPB	Std. Push-Button	1.75″	5.00

(7203) (ne06237)

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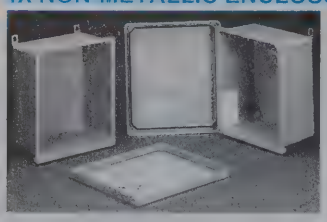
NEMA 4, 4X NON-METALLIC ENCLOSURES



Durable, non-metallic enclosures are molded in fiberglass reinforced polyester with matching cover. All models come complete with stainless steel hinge, latches and wall-mounting hardware. Fiberglass material is easily punched, drilled or sawed. Choice of snap-latch or hinged screw-cover versions. Built to NEMA Type 4, 4X specifications. UL listed, CSA certified. Optional white panels available — *order separately below.*

SNAP-LATCH ENCLOSURES

Stock No.	Type	H x W x D	Panel Size*	Each	2-4
50F8463	PJ664L	7.04 x 7.04 x 4.13″	A	51.50	47.87
50F8464	PJ864L	8.94 x 7.06 x 4.13″	B	53.67	49.89
50F8465	PJ1086L	11.08 x 9.20 x 6.13″	C	57.58	53.52
50F8466	PJ12106L	13.08 x 11.20 x 6.13″	D	69.25	64.37
50F8467	PJ14126L	15.08 x 13.20 x 6.13″	E	81.28	75.56
50F8468	PJ16148L	17.22 x 15.34 x 8.13″	F	92.77	86.23
50F8469	PJ18168L	19.34 x 17.34 x 8.13″	G	117.19	108.93
50F8470	PJ20168L	20.94 x 16.94 x 8.13″	H	146.09	141.56

HINGED, SCREW-COVER ENCLOSURES

50F8471	PJ664H	7.04 x 7.04 x 4.13″	A	43.08	40.73
50F8472	PJ864H	8.94 x 7.06 x 4.13″	B	45.29	42.82
50F8473	PJ1086H	11.08 x 9.20 x 6.13″	C	49.08	45.63
50F8474	PJ12106H	13.08 x 11.20 x 6.13″	D	60.80	56.52
50F8475	PJ14126H	15.08 x 13.20 x 6.13″	E	69.56	64.65
50F8476	PJ16148H	17.22 x 15.34 x 8.13″	F	81.04	75.33
50F8477	PJ18168H	19.34 x 17.34 x 8.13″	G	101.59	94.71
50F8478	PJ20168H	20.94 x 16.94 x 8.13″	H	134.01	129.86

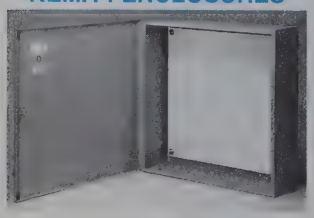
** Order Separately Below*

OPTIONAL PANELS

Stock No.	Type	Size	L x W	Each	2-4
50F8479	14R0505	A	4.88 x 4.88″	3.30	3.12
50F8480	14R0705	B	6.75 x 4.88″	3.78	3.57
50F8481	14R0907	C	8.75 x 6.88″	5.16	4.87
50F8482	14R1109	D	10.75 x 8.88″	7.00	6.61
50F8483	14R1311	E	12.75 x 10.88″	9.18	8.67
50F8484	14R1513	F	14.75 x 12.88″	12.16	11.48
50F8485	P1868	G	16.88 x 14.88″	30.54	28.87
50F8486	P2068	H	18.44 x 14.44″	30.54	28.87

(6859) (de00033)

NEMA 1 ENCLOSURES



Type N1A 14-gauge panel enclosures feature removable inner panel mounted in the rear of the enclosure on the collar studs. Removable door is mounted on slip hinges. Designed to house controls and instruments not requiring oil- or dust-tight protection. Meets NEMA enclosure type 1.

Stock No.	Type	H x W x D	Each
91F2191	N1A16127	16 x 12 x 7″	99.87
91F2192	N1A16167	16 x 16 x 7″	113.12
91F2193	N1A20167	20 x 16 x 7″	126.26
91F2194	N1A20169	20 x 16 x 9″	136.92
91F2195	N1A20207	20 x 20 x 7″	126.08
91F2196	N1A20209	20 x 20 x 9″	136.51
91F2197	N1A24207	24 x 20 x 7″	139.88
91F2198	N1A24209	24 x 20 x 9″	151.40
91F2199	N1A24247	24 x 24 x 7″	157.01
91F2200	N1A24249	24 x 24 x 9″	166.89

(12428) (ne09825)

2000 SERIES NEMA 12 WALL MOUNT ENCLOSURES AND PANELS

NEMA 12 **2000 series** provides protection where equipment may be washed down or otherwise be wet. 14-gauge construction with 1 latch and standard hinges. Attractive recoatable beige enamel finish. *Order* **2000 series** inner panels separately below. For *other sizes or stainless steel NEMA 4/4X enclosures, contact your local Newark sales office.*

NEMA 12 OIL- & DUSTTIGHT ENCLOSURES

Stock No.	Enclosure Type	H x W x D	Uses Inner Panel Type	Each	2-4
93F9420	2R12126	12 x 12 x 6″	18P0909	139.25	134.93
93F9421	2R16126	16 x 12 x 6″	18P1309	148.63	144.02
93F9422	2R16166	16 x 16 x 6″	18P1313	160.11	155.15
93F9423	2R20166	20 x 16 x 6″	18P1713	168.84	163.62
93F9424	2R20206	20 x 20 x 6″	18P1717	182.18	176.55
93F9425	2R20168	20 x 16 x 8″	18P1713	178.06	172.56
93F9426	2R24168	24 x 16 x 8″	18P2113	190.40	184.52
93F9427	2R16208	16 x 20 x 8″	18P1713	178.06	172.56
93F9428	2R20208	20 x 20 x 8″	18P1717	192.45	186.50
93F9411	2R24208	24 x 20 x 8″	18P2117	206.82	200.44

NEMA 4 (ASA 61 GRAY) ENCLOSURES

Stock No.	Type	H x W x D	Panel Type	Each	2-4
93F9412	2P12126	12 x 12 x 6″	18P0909	146.07	141.55
93F9413	2P16126	16 x 12 x 6″	18P1309	155.88	151.05
93F9414	2P16166	16 x 16 x 6″	18P1313	167.97	162.76
93F9415	2P20166	20 x 16 x 6″	18P1713	177.09	171.62
93F9416	2P20206	20 x 20 x 6″	18P1717	191.10	185.20
93F9417	2P20168	20 x 16 x 8″	18P1713	186.80	181.04
93F9418	2P24168	24 x 16 x 8″	18P2113	199.68	193.52
93F9419	2P16208	16 x 20 x 8″	18P1713	186.81	181.04
93F9402	2P20208	20 x 20 x 8″	18P1717	201.85	195.62
93F9403	2P24208	24 x 20 x 8″	18P2117	216.95	210.25

2000 SERIES INNER PANELS

Stock No.	Type	H x W	Each	2-4
93F9397	18P0909	9 x 9″	13.34	12.59
93F9398	18P1309	13 x 9″	18.24	17.21
93F9399	18P1313	13 x 13″	21.58	20.40
93F9400	18P1713	17 x 13″	25.66	24.26
93F9401	18P1717	17 x 17″	30.98	29.29
93F9391	18P2113	21 x 13″	29.81	28.18
93F9392	18P2117	21 x 17″	40.12	37.93

(6934) (de51136)

NEMA 12 OIL- AND DUSTTIGHT PUSHBUTTON ENCLOSURES

Enclosure holes accept most standard heavy-duty oiltight pushbuttons, switches, and pilot lights. Rugged enclosure is all-seam welded, 14-gauge steel. Box features wall-mounting flanges, ground stud, and thread seal wells for attaching cover screws. Built to meet NEMA enclosure type 12. UL recognized, CSA certified.

Stock No.	Type	Holes	H x W x D	Each	2-4
50F8449	1435A	1	3.50 x 3.25 x 2.75″	36.44	34.45
50F8450	1435B	2	5.75 x 3.25 x 2.75″	41.64	39.36
50F8451	1435C	3	8.00 x 3.25 x 2.75″	46.73	44.18
50F8452	1435D	4	10.25 x 3.25 x 2.75″	50.35	46.80

(6858) (de00032)

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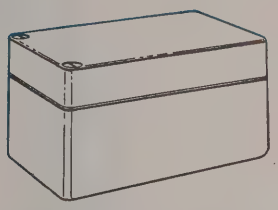
NEMA ENCLOSURES

AS SERIES ROLEC® MODULAR DIE-CAST ALUMINUM ENCLOSURES

- Aluminum Die-Cast G Al Si 12/DIN 1775
- Captive Stainless Steel Screws are Standard
- Neoprene Oil- and Petrol-Resistant Gasket Standard (–40°C to +80°C)
- Meets IEC Enclosure IP65 Classification
- Meets DIN40050
- Meets NEMA Enclosure Types 1, 2, 3, 3R, 4, 4X, 5, 12, 13
- Single-Channel Fastening System
- Trouble-Free Turning 90° to 90° with Square Enclosure by Synchronous Arrangement of Channels
- External Mounting Feet Can Be Turned Through 90°
- Enclosures Have Inner Blind Holes
- Beige Enamel Finish

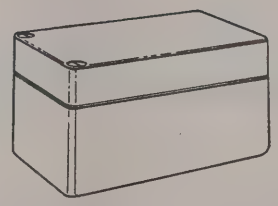


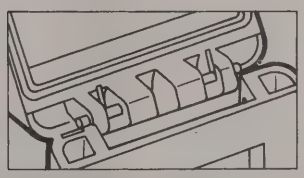
Stock No.	Type	H x W x D	1-4	5-9	10-24	25-49
51F3545	R100-060-000	2.0 x 2.6 x 1.6″	13.72	12.66	12.06	11.01
51F3546	R100-062-000	2.6 x 2.6 x 1.6″	21.23	18.91	17.34	16.00
51F3547	R100-064-000	3.9 x 2.6 x 1.6″	18.98	17.52	16.68	15.22
51F3548	R100-066-000	5.9 x 2.6 x 1.6″	33.60	29.93	27.44	25.32
51F3549	R100-080-000	3.1 x 3.1 x 2.4″	31.09	27.69	25.39	23.43
51F3550	R100-082-000	4.7 x 3.1 x 2.4″	30.24	27.92	26.59	24.26
51F3551	R100-084-000	6.3 x 3.1 x 2.4″	46.33	41.27	37.84	34.92
51F3552	R100-100-000	3.9 x 3.9 x 3.1″	35.08	32.39	30.84	28.15
51F3553	R100-102-000	5.9 x 3.9 x 3.1″	42.89	39.59	37.71	34.41
51F3554	R100-104-000	7.9 x 3.9 x 3.1″	65.54	55.72	51.40	47.76
51F3555	R100-120-000	4.7 x 4.7 x 3.9″	69.03	58.68	54.14	50.30
51F3556	R100-122-000	7.1 x 4.7 x 3.9″	78.23	66.50	61.35	57.01
51F3557	R100-124-000	9.4 x 4.7 x 3.9″	87.41	74.30	68.55	63.69
51F3558	R100-160-000	6.3 x 6.3 x 3.9″	70.05	64.66	61.58	56.19
51F3559	R100-162-000	9.4 x 6.3 x 3.9″	87.97	81.21	77.34	70.57
51F3560	R100-164-000	12.6 x 6.3 x 3.9″	115.99	110.43	107.02	99.43
51F3561	R100-166-000	18.9 x 6.3 x 3.9″	166.09	161.23	154.32	147.95
51F3562	R100-200-000	7.9 x 7.9 x 4.7″	142.01	137.85	131.94	128.25
51F3563	R100-202-000	11.8 x 7.9 x 4.7″	170.98	165.98	158.87	152.31

(7026) (ne08111)

PD SERIES ROLEC® MODULAR FIBERGLASS ENCLOSURES

- Designed for Use as Instrument Enclosures, Electrical Junction Boxes or Terminal Wiring Enclosures
- Provide Outstanding Protection Against Dust, Oil and Pressurized Water
- Impervious to Atmospheric and Marine Corrosion
- Meets NEMA Enclosure Types 1, 2, 3, 3R, 4, 4X, 5, 12, and 13
- Meets IEC 529 Enclosure IP66 Classification
- UL94V-0 Flammability Rating
- 2-Piece Molded Fiberglass Reinforced Polyester Construction
- Captive Polyfiber Cover Screws Are Provided with a Standard Slot Head
- Threaded Cover Screw Holes Also Provide Single-Channel Access to Rear-Mounting Positions
- Recessed Neoprene Gasket with Tongue-and-Groove Construction Is Oil and Petroleum Resistant
- Threaded Stainless Steel Inserts Provide for Internal Mounting
- Light Beige RAL 7032, Pantone® 413

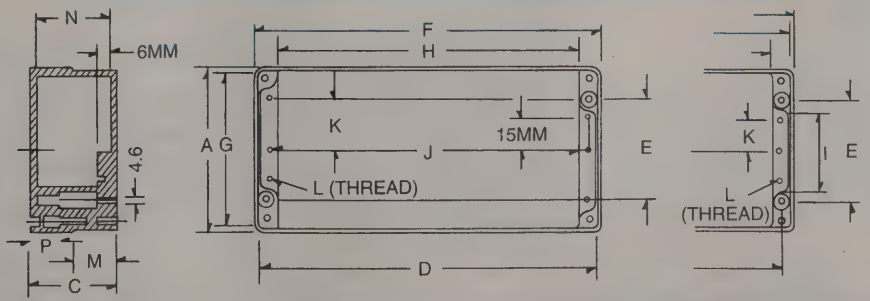




Stock No.	Type	H x W x D	1-4	5-9	10-24	25-49
51F3537	R-130-120-000	5.5 x 4.7 x 3.9″	64.95	55.22	50.94	47.33
51F3538	R-130-122-000	7.9 x 4.7 x 3.9″	73.60	62.57	57.73	53.63
51F3539	R-130-124-000	10.2 x 4.7 x 3.9″	82.66	70.27	64.83	60.24
51F3540	R-130-160-000	7.1 x 6.3 x 3.9″	91.86	78.09	72.04	66.94
51F3541	R-130-162-000	10.2 x 6.3 x 3.9″	96.62	91.99	89.15	82.83
51F3542	R-130-164-000	13.4 x 6.3 x 3.9″	115.41	109.87	106.48	98.93
51F3543	R-130-200-000	8.7 x 7.9 x 4.7″	112.26	106.87	103.57	96.23
51F3544	R-130-202-000	12.5 x 7.9 x 4.7″	124.64	121.00	115.81	112.57

(7025) (ne08110)

ROLEC WATERTIGHT DIECAST ALUMINUM ENCLOSURES



Die-cast aluminum enclosures feature a patented internal metal-to-metal, tongue-and-groove joining system for added EMI/RFI protection. Neoprene gasketing allows for the units to meet IEC enclosure IP65 classification and NEMA enclosure type 4. Finish: baked enamel. Color: stone gray.

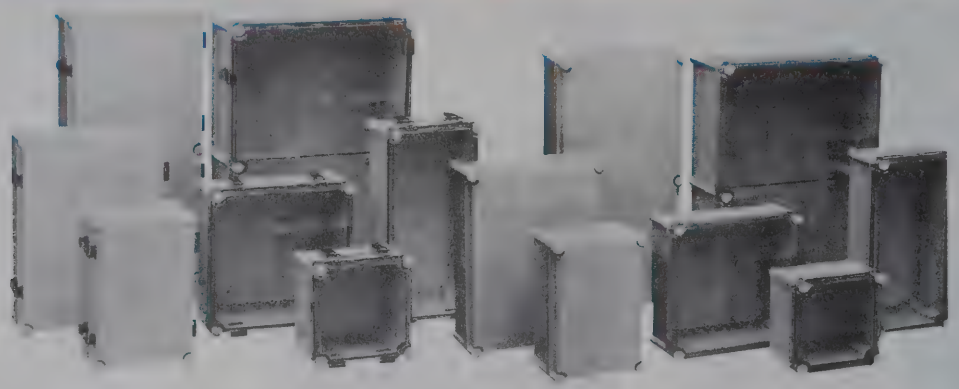
Stock No.	Type	DIMENSIONS A	B	C	D	E	F	1-4	5-9	10-24	25-49
16F5520	R111-082-000	3.30″	5.20″	1.80″	4.50″	2.10″	4.70″	42.89	38.20	35.03	32.32
16F5521	R110-082-000	3.30″	5.20″	2.70″	4.50″	2.10″	4.70″	46.03	41.00	37.59	34.69
16F5522	R111-083-000	3.30″	7.20″	1.80″	6.50″	2.10″	6.70″	47.01	41.87	38.40	35.42
16F5523	R110-083-000	3.30″	7.20″	2.70″	6.50″	2.10″	6.70″	49.72	44.29	40.61	37.47
16F5524	R111-123-000	5.00″	9.00″	3.60″	8.20″	3.30″	8.40″	75.97	64.58	59.59	55.36
16F5525	R110-123-000	5.00″	9.00″	3.60″	8.20″	3.30″	8.40″	89.25	75.87	70.00	65.04
16F5526	R111-162-000	5.00″	10.60″	2.60″	9.60″	4.40″	10.00″	91.01	86.64	83.96	78.01
16F5527	R110-162-000	6.60″	10.60″	4.00″	9.60″	4.40″	10.00″	99.86	95.07	92.13	85.60

(7028) (ne08345)

NEMA WALL MOUNT ENCLOSURES

NEMA 4X WALL MOUNT MOLDED ENCLOSURES

NEMA



Nonmetallic gasketed enclosures are available in both solid door and clear door versions. Material: ABS and polycarbonate plastic. Color: light gray. NEMA enclosure type 4X, IEC529 enclosure IP66 classification, and UL-508-4X indoor rating. *Order internal panels and accessories separately below.*

STYLE A - STAINLESS STEEL HINGES WITH LOCKING DRAW LATCH

H x W x D	Weight (lbs.)	Solid Door			Clear Door		
		Stock No.	Type	Each	Stock No.	Type	Each
11.8 x 7.9 x 5.9″	2.2	83F6444	NBA-10142	47.56	83F6449	NBA-10162	49.82
11.8 x 7.9 x 7.1″	2.5	83F6445	NBA-10144	52.37	83F6450	NBA-10164	58.97
15.8 x 11.8 x 7.1″	4.7	83F6446	NBA-10148	77.18	83F6451	NBA-10168	86.99
19.7 x 15.8 x 7.9″	7.4	83F6447	NBA-10152	104.91	83F6452	NBA-10172	110.68
23.6 x 15.8 x 9.1″	9.5	83F6448	NBA-10156	125.51	83F6453	NBA-10176	130.10
STYLE B - PLASTIC HINGES WITH SNAP-ACTION LATCH							
5.9 x 5.9 x 3.5″	0.8	83F6454	NBB-10240	17.68	83F6460	NBB-10260	19.30
11.4 x 7.5 x 5.5″	2.2	83F6455	NBB-10243	36.81	83F6461	NBB-10263	40.16
13.0 x 13.0 x 7.1″	4.4	83F6456	NBB-10245	47.27	83F6462	NBB-10265	51.61
15.4 x 11.4 x 6.3″	4.2	83F6457	NBB-10247	47.75	83F6463	NBB-10267	52.09
18.3 x 13.8 x 7.9″	6.6	83F6458	NBB-10253	77.65	83F6464	NBB-10273	84.73
27.6 x 19.7 x 9.8″	17.2	83F6459	NBB-10258	207.11	83F6465	NBB-10278	225.99
STYLE C - CONCEALED HINGES WITH KEY-ACTIVATED LATCHES							
31.5 x 23.6 x 11.0″	27.5	83F6466	NBC-10352	331.06	...	...	...
STYLE D - PHILLIPS DRIVE NONMETALLIC FASTENERS							
11.0 x 7.5 x 5.1″	2.0	83F6467	NBD-10442	37.42	83F6472	NBD-10462	37.42
15.0 x 7.5 x 7.1″	3.3	83F6468	NBD-10445	52.27	83F6473	NBD-10465	52.27
13.4 x 11.0 x 5.1″	3.4	83F6469	NBD-10449	49.92	83F6474	NBD-10469	49.92
15.0 x 11.0 x 7.1″	4.1	83F6470	NBD-10452	66.33	83F6475	NBD-10472	66.33
22.1 x 15.0 x 7.1″	7.5	83F6471	NBD-10456	103.36	83F6476	NBD-10476	103.36
STYLE E - PLASTIC HINGES WITH SNAP-ACTION LATCH							
11.4 x 7.5 x 5.5″	3.5	83F6477	NBE-10543	64.35	83F6481	NBE-10563	64.35
15.4 x 11.4 x 6.3″	6.0	83F6478	NBE-10547	84.16	83F6482	NBE-10567	84.16
18.3 x 13.8 x 7.9″	9.2	83F6479	NBE-10553	116.46	83F6483	NBE-10573	116.46
27.6 x 19.7 x 9.8″	24.0	83F6480	NBE-10558	293.76	83F6484	NBE-10578	293.76

ACCESSORIES

Stock No.	Type	Description	Each
83F5543	NBX-10910	Side Mount Vent	2.33
83F5544	NBX-10911	Top Mount Vent	2.93
83F5545	NBX-10915	Locking Hasp Kit	13.44
83F5546	NBX-10920	Small External Wall Mounting Brackets	0.91
83F5547	NBX-10922	Medium External Wall Mounting Brackets	1.01
83F5548	NBX-10924	Large External Wall Mounting Brackets	1.32
83F5553	NBX-10950	Internal Bosses; 5 x 10mm Machine Screws (**Pkg. of 100**)	6.17
83F5554	NBX-10951	Internal Bosses; 4 x 8mm Machine Screws (**Pkg. of 100**)	6.17
83F5555	NBX-10952	Internal Bosses; 6 x 10mm Threadform Screws (**Pkg. of 100**)	6.17
83F5556	NBX-10953	External Bosses; 5 x 10mm Machine Screws (**Pkg. of 100**)	6.17
83F5557	NBX-10954	External Bosses; 4 x 8mm Machine Screws (**Pkg. of 100**)	6.17
83F5558	NBX-10970	Internal Panel Hinge Bracket Kit	1.92

INTERNAL PANELS

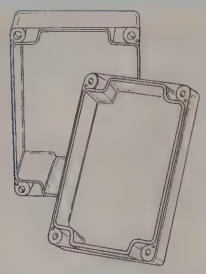
Stock No.	Type	Fits Style	W x H	Weight (lbs.)	Each
83F5559	NBX-10980	A	6.7 x 10.5″	1.3	6.67
83F5560	NBX-10981	A	10.4 x 14.3″	2.6	12.83
83F5561	NBX-10982	A	14.3 x 18.2″	4.6	18.59
83F5562	NBX-10983	A	14.3 x 22.1″	5.5	23.43
83F5563	NBX-10984	B	4.9 x 4.9″	0.5	3.64
83F5564	NBX-10985	B, D, E	6.3 x 9.9″	1.1	7.07
83F5565	NBX-10986	B	11.5 x 11.5″	2.3	10.00
83F5566	NBX-10987	B, E	10.4 x 14.3″	2.6	12.83
83F5567	NBX-10990	B, E	13.1 x 17.6″	4.1	16.37
83F5568	NBX-10991	B, E	18.9 x 26.8″	8.9	36.31
83F5569	NBX-10992	C	20.5 x 28.4″	10.2	34.99
83F5571	NBX-10994	D	6.3 x 13.9″	1.6	10.91
83F5572	NBX-10996	D	9.9 x 12.3″	2.2	12.43
83F5573	NBX-10997	D	9.9 x 13.8″	2.4	20.28
83F5574	NBX-10999	D	20.9 x 13.6″	5.0	6.17

(29677) (ne29677)

NEMA 4, 4X AND UTILITY BOXES

NONMETALLIC NEMA 4X BOXES

NEMA



- **Meet NEMA 4X and IEC Enclosure IP65 Classification**

Comes complete with stainless steel screws and installed neoprene gasket. Molded-in vertical card guides with horizontal mounting bosses. Wall mounting holes and cover attaching screws are located outside of the sealed area for sealing integrity.

LIGHT GRAY BODY AND COVER

Stock No.	Type	H x W x D	Each
95F960	PN-1320	138 x 2.28 x 2.56″	7.48
95F961	PN-1321	1.57 x 2.56 x 4.53″	10.41
95F962	PN-1322	2.17 x 2.56 x 4.53″	11.22
95F963	PN-1323	2.17 x 3.54 x 4.53″	12.93
95F964	PN-1324	2.17 x 4.76 x 6.73″	18.08
95F965	PN-1325	2.17 x 5.75 x 8.74″	24.04
92F2518	PN-1327	3.16 x 4.76 x 6.73″	19.60
66F3904	PN1328	3.15 x 3.54 x 4.53″	15.05
66F3907	PN1329	2.95 x 5.75 x 8.74″	26.37
52F6534	PN-1330	1.38 x 1.97 x 2.05″	5.96
52F6535	PN1331	2.17 x 3.15 x 3.23″	11.42
52F6536	PN-1332	2.17 x 3.15 x 6.30″	15.56
52F6537	PN-1333	3.35 x 3.15 x 6.30″	16.67
52F6538	PN-1334	2.95 x 4.72 x 7.87″	23.73
91F3908	PN-1335	10.43 x 7.28 x 3.74″	38.94
91F3909	PN-1336	4.72 x 4.72 x 2.36″	16.97
91F3910	PN-1337	4.72 x 4.72 x 3.54″	18.39
91F3911	PN-1338	6.30 x 6.30 x 2.36″	23.63
91F3912	PN-1339	6.30 x 6.30 x 3.54″	25.35

LIGHT GRAY BODY, CLEAR COVER

95F6385	PN-1320-C	138 x 2.28 x 2.56″	7.78
95F6386	PN-1321-C	1.57 x 2.56 x 4.53″	10.71
95F6387	PN-1322-C	2.17 x 2.56 x 4.53″	11.52
95F6388	PN-1323-C	2.17 x 3.54 x 4.53″	13.34
95F6389	PN-1324-C	2.17 x 4.76 x 6.73″	18.69
95F6390	PN-1325-C	2.17 x 5.75 x 8.74″	24.64
92F2519	PN-1327-C	3.16 x 4.76 x 6.73″	19.60
66F3905	PN1328C	3.15 x 3.54 x 4.53″	15.05
66F3908	PN1329C	2.95 x 5.75 x 8.74″	26.37
52F6539	PN-1330-C	1.38 x 1.97 x 2.05″	6.17
52F6540	PN-1331-C	2.17 x 3.15 x 3.23″	11.62
52F6541	PN-1332-C	2.17 x 3.15 x 6.30″	15.86
52F6542	PN-1333-C	3.35 x 3.15 x 6.30″	16.97
52F6543	PN-1334-C	2.95 x 4.72 x 7.87″	24.04
91F3913	PN-1335-C	10.43 x 7.28 x 3.74″	38.94
91F3914	PN-1336-C	4.72 x 4.72 x 2.36″	16.97
91F3915	PN-1337-C	4.72 x 4.72 x 3.54″	18.39
91F3916	PN-1338-C	6.30 x 6.30 x 2.36″	23.63
91F3917	PN-1339-C	6.30 x 6.30 x 3.54″	25.35

ABS PLASTIC DARK GRAY BODY AND COVER

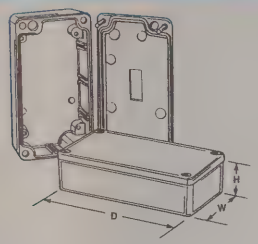
95F6391	PN-1320-DG	138 x 2.28 x 2.56″	5.96
95F6392	PN-1321-DG	1.57 x 2.56 x 4.53″	7.28
95F6393	PN-1322-DG	2.17 x 2.56 x 4.53″	8.19
95F6394	PN-1323-DG	2.17 x 3.54 x 4.53″	9.90
95F6395	PN-1324-DG	2.17 x 4.76 x 6.73″	14.35
95F6396	PN-1325-DG	2.17 x 5.75 x 8.74″	19.40
92F2520	PN-1327-DG	3.16 x 4.76 x 6.73″	13.54
66F3906	PN1328DG	3.15 x 3.54 x 4.53″	10.21
66F3909	PN1329DG	2.95 x 5.75 x 8.74″	16.57
52F6544	PN-1330-DG	1.38 x 1.97 x 2.05″	5.26
52F6545	PN-1331-DG	2.17 x 3.15 x 3.23″	8.19
52F6546	PN-1332-DG	2.17 x 3.15 x 6.30″	11.92
52F6547	PN-1333-DG	3.35 x 3.15 x 6.30″	13.13
52F6548	PN-1334-DG	2.95 x 4.72 x 7.87″	17.48
91F3918	PN-1335-DG	10.43 x 7.28 x 3.74″	29.51
91F3919	PN-1336-DG	4.72 x 4.72 x 2.36″	12.33
91F3920	PN-1337-DG	4.72 x 4.72 x 3.54″	13.13
91F3921	PN-1338-DG	6.30 x 6.30 x 2.36″	17.78
91F3922	PN-1339-DG	6.30 x 6.30 x 3.54″	18.99

(6977) (ne02423)

ONE-STOP SHOPPING . . . WITH ONE CALL AND ONE PURCHASE ORDER.

DIE-CAST ALUMINUM NEMA 4 BOXES

NEMA



- **Neoprene Gasket Installed**
- **PC Board Mounting Bosses**
- **Wall Mount Holes**

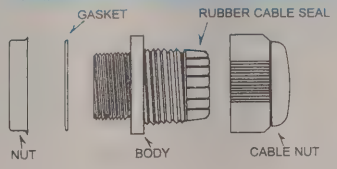
Resist atmospheric and marine corrosion. Wall mount and cover attaching screws are outside the sealed area to further allow integrity of the seal. Internal bosses for mounting PC boards horizontally or for connecting terminals. Internal guide slots for mounting PC board assemblies vertically. Include M4 stainless steel nonmagnetic screws, copper-plated ground screw and washer. Meets NEMA enclosure type 4 and IEC enclosure IP65 classification. Natural finish. Gray finish is also available; *contact your local Newark sales office for details.*

Stock No.	Type	H x W x D	Wall Thickness	Each
95F935	AN-1300	1.18 x 1.42 x 3.54″	0.130″	5.91
95F936	AN-1301	1.38 x 2.28 x 2.5″	0.138″	6.21
95F937	AN-1302	1.18 x 2.56 x 4.53″	0.134″	9.07
95F938	AN-1303	2.17 x 2.56 x 4.53″	0.130″	11.04
95F939	AN-1304	2.17 x 3.54 x 4.53″	0.130″	12.91
95F940	AN-1305	2.95 x 4.25 x 5.83″	0.130″	23.05
95F941	AN-1306	2.17 x 4.76 x 6.73″	0.130″	23.45
95F942	AN-1307	2.17 x 5.83 x 8.82″	0.210″	24.73

(6947) (da52107)

NEMA 4X CABLE GLANDS

NEW

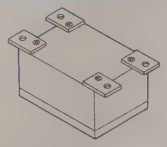


Designed to maintain NEMA 4X rating when cable enters or exits a NEMA 4 or 4X type enclosure. Assembly consists of UL94V-2 rated molded nylon body, hex, and cable nut with a rubber gasket and cable seal. Color: black.

Stock No.	Type	Mounting Size	Cable Range	Each
83F3332	NG 9511	0.49″ (12.5)	0.118-0.256″	1.89
83F3333	NG 9512	0.59″ (15.2)	0.158-0.315″	1.89
83F3334	NG 9513	0.73″ (18.6)	0.197-0.394″	2.00
83F3335	NG 9514	0.80″ (20.4)	0.236-0.472″	2.56
83F3336	NG 9515	0.88″ (22.5)	0.394-0.551″	2.78

(34275) (ne34275)

EXTERNAL MOUNTING BRACKETS FOR NEMA 4X BOXES



External mounting brackets mount to **type PN-1300** nonmetallic NEMA 4X boxes, *ordered separately on this page.* Allow box to be mounted to a wall or panel without removing the sealed cover. 4 molded brackets attach to the bottom of the NEMA 4X box. Include attachment screws. Nylon 6/6 material. **Sold in packages of 4.**

Stock No.	Type	Color	Per Pkg.
91F3923	MB1390LG	Light Gray	2.00
91F3924	MB1390DG	Dark Gray	2.00

(16535) (ne10608)

DIE-CAST ALUMINUM ECONOBOXES

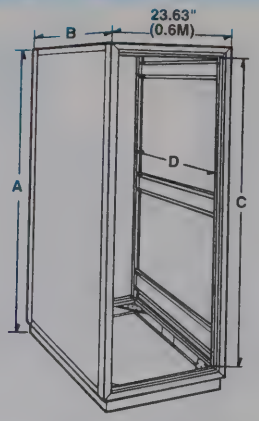
Economical, lightweight, easy-to-machine enclosures are ideal as instrument and meter cases, filter networks, junction boxes, switches, and audio and radio frequency distributors. Die-cast 380 aluminum alloy construction offers excellent screening properties. Perfect for applications requiring a sturdier structure than sheet metal utility cabinets. Close-fitting flanged lids fasten to body with screws.

Stock No.	Type	Thick-ness	H* x W x D	Wt. (lbs.)	Each
93F689	CU-123	1/16″	1.06 x 1.50 x 3.62″	½	7.98
91F1603	CU124	1/16″	1.06 x 2.37 x 4.37″	½	8.38
91F1604	CU234	3/32″	2.06 x 3.68 x 4.68″	¾	13.40
91F1605	CU247	3/32″	2.06 x 4.70 x 7.39″	1¼	22.76
91F1606	CU347	3/42″	3.06 x 4.70 x 7.39″	1½	26.70

*Height less cover
(6950) (da52110)

CABINET RACKS

ALL AMERICAN UPRIGHT CABINET RACKS



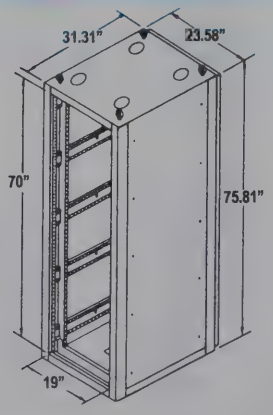
- **Heavy-Duty Aluminum Frame Has Alloy Extrusions, Aluminum Corner Brackets, Steel Supports**
- **16-Gauge Steel Pontoon Has 1.109″ Dia. Knockout Holes for Cable Access. Caster Brackets Fit Type RC Casters, *ordered separately on page 404.***
- **Removable 18-Gauge Steel Sides**
- **20-Gauge Steel Removable Top and Rear Door**
- **Spring-Loaded, Pin-Hinges Allow Easy Removal of Rear Door. Fitted with Cam Lock Door Mounts Right or Left**
- **2 Pairs of Fully Adjustable Panel Mounting Rails Tapped 10-32 on E.I.A. Universal Spacing**
- **Shipped Completely Assembled**
- **Finish: White Textured Frame. Sand-Textured Sides, Door and Top.**
- ***Order Panels, Slides, Power Strips and Other Accessories separately on page 404 and on page 405.***

Stock No.	Type	Outside Height "A"	Outside Depth "B"	Panel Space "C"	Clear Inside Depth "D"	Each
87F294	AA-16412	48 13/16″	26 1/2″	42″	24″	1086.62
87F295	AA-16413	59 5/16″	26 1/2″	52 1/2″	24″	1138.38
87F296	AA-16414	68 1/16″	26 1/2″	61 1/4″	24″	1229.62
87F297	AA-16415	76 13/16″	26 1/2″	70″	24″	1274.06
87F298	AA-16416	85 9/16″	26 1/2″	78 3/4″	24″	1384.92
87F299	AA-16422	48 13/16″	31 3/4″	42″	29 1/4″	1135.25
87F300	AA-16423	59 5/16″	31 3/4″	52 1/2″	29 1/4″	1225.35
87F301	AA-16424	68 1/16″	31 3/4″	61 1/4″	29 1/4″	1295.36
87F302	AA-16425	76 13/16″	31 3/4″	70″	29 1/4″	1365.29
87F303	AA-16426	85 9/16″	31 3/4″	78 3/4″	29 1/4″	1448.82

(6965) (de52575)

SEISMIC CABINET RACK

NEW



- **All-Welded, Reinforced Heavy Gauge Steel Construction**
- **Integral Panel Mounting Rails Offer Equipment Mounting Stability**
- **Standard Gray Texture (GT) Finish**

These welded reinforced steel cabinet racks offer the maximum level of seismic protection for equipment. Four 4″ diameter cable access holes in the top and one 9.5″ square hole in the base. Comes complete with solid side panels, locking rear door, and top mounted lifting eye bolts. Designed and tested by an independent testing facility to withstand Bellcore's #GR-63-CORE, Issue 1, for Zone 4 requirements. *Order seismic cabinet rack accessories separately below.*

Stock No.	Type	Panel Size	Overall Size	Each
83F3353	SCR 8838	19″ x 70″	75.81″H x 23.58″W x 31.31″D	1678.41

ACCESSORIES

Stock No.	Type	Description	Each
48F1071	SCD-8868-GT	Lockable Steel Front Door	92.26
83F3303	AK 8850	Seismic Anchor Kit (4 Anchors/Kit)	92.26

(34484) (ne34484)

CABINET RACKS AND ACCESSORIES

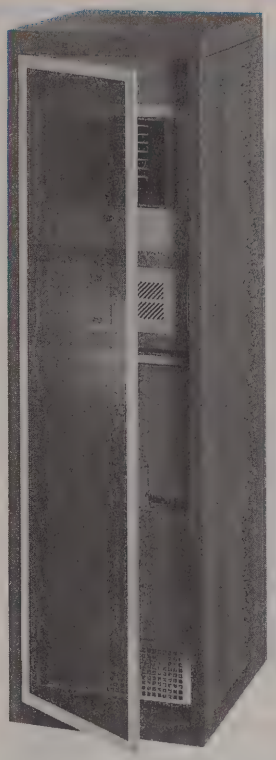
TYPE DC-8002 ECONOMIZER® TURN KEY CABINET RACK ASSEMBLIES

- **Cabinet Rack with Louvered Side Panels and Rear Door**
- **Locking Econoglas Front Door Secures Networking Equipment**
- **2 Fully Adjustable Ventilated Shelves**
- **Ventilated Top for Optional Fan**
- **Cable Access in Bottom**
- **Sturdy Welded Frame**

Economizer® cabinet racks come completely assembled and ready to use. Louvered side panels and rear door. Ventilated top suitable for **type FN-1282** exhaust fan, *order separately on page 403*, to help keep equipment cool. Include 2 pairs of installed 12-gauge, full-height panel mounting rails and 2 ventilated shelves. Panel size: 70Hx 19″W. Overall size: 75.31H x 22W x 25.5″D. Available in 3 textured finishes. Additional colors available; *contact your local Newark sales office for details.*

Stock No.	Type	Finish	Each
01F143	DC-8002-BK	Black	**1100.97**
01F144	DC-8002-RB	Royal Blue	**1100.97**
97F7942	DC-8002-S	Sand	**1100.97**

(7035) (ne08592)



DC Assemblies

TYPE DC-8075-S CABINET RACK ASSEMBLIES

NEW

Constructed of sturdy, welded steel frames with locking Econoglas front door that offers tight security and monitoring ability. Two pairs of adjustable panel mounting rails. Louvered sides and rear door. Ventilated top suitable for **type FN-1282** exhaust fan, *order separately on page 403*, to help keep equipment cool. Four 4″ diameter cable access holes in the top and one 9.5″-square hole in the base improves and enhances cabling choices. Includes leveling kit which allows for installation on all floor configurations. Sand textured finish. Additional sizes, colors, and configurations available; *contact your local Newark sales office for details.*

Stock No.	Type	Panel Size H x W	Overall Size H x W x D	Each
48F1086	DC-8075-S	70.00 x 19.00″	75.31 x 22.00 x 25.00″	**1048.82**
48F1087	DC-8076-S	78.75 x 19.00″	84.06 x 22.00 x 25.50″	**1127.16**

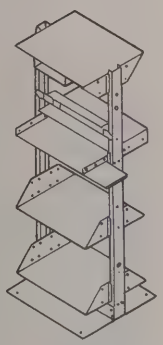
(34676) (ne34676)

TYPE DC8050 DISTRIBUTION CABINET RACK ASSEMBLIES

Type DC8050 communications distribution cabinet rack assemblies offer built-in cable management. Features welded steel ventilated construction with locking Econoglas paneled front door that provides greater security and the ability to monitor equipment. Two pairs of adjustable panel mounting rails. Louvered sides and rear door. Ventilated top suitable for **type FN-1282** exhaust fan, *order separately on page 403*, to help keep equipment cool. Four 4″ diameter cable access holes in top and one 9.5″-square hole in base improves and enhances cabling choices. Built-in cable management panels and brackets adjusts to specific requirements. Panel space: 70H x 19″W. Clear inside depth: 29.25″. Overall size: 75.312H x 27W x 30.75″D. Available in two finishes.

Stock No.	Type	Finish	Each
91F3902	DC8050BT	Black	**1507.08**
91F3903	DC8050RB	Royal Blue	**1507.08**

(17341) (ne10337)



CSR8060

TYPE CSR8060 SERVER RACK ASSEMBLY

- **Sliding Keyboard Shelf With Slide Out Mouse Pad, Will Accommodate 20.5″ Long Keyboards**
- **Two Heavy Duty, Adjustable 19″ Deep Shelves Offer Equipment Mounting Versatility**

Type CSR8060 is a communications server rack for networking applications which require the equipment to be in one easy-to-access location. Aluminum open rack with free-standing base capable of being secured to the floor. Complete with 19″ monitor shelf, 4 x 10.5″ switchbox compartment, and 6-outlet power strip with front mounted switch controls. Panel space: 61.25H x 23″W. Overall size: 66.50H x 24.25W x 23″D. Available in 2 finishes.

Stock No.	Type	Finish	Each
91F3879	CSR8060BT	Black	**694.94**
91F3880	CSR8060MG	Metallic Gray	**694.94**

(17342) (ne10338)

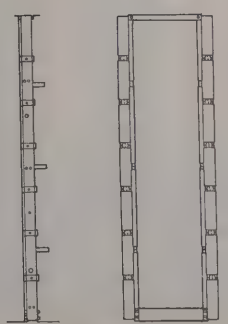
TYPE DC8035 OPEN-RACK ASSEMBLY

- **Industry Standard ARR-1272-BT Aluminum Rack Offers Both Light Weight and Strength**
- **Provide Vertical Cable Management**

Type DC8035 rack assembly combines a standard aluminum open-rack with versatile cable management components. Includes 12 cableway rings, 1 pair of cableway covers and 6 cable rings. Panel size: 77H x 19″W. Overall size: 84H x 26.25W x 15″D. Finish: black.

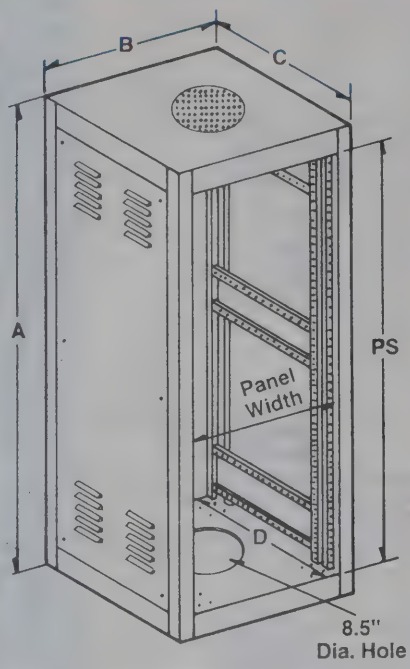
91F3881 Type DC8035. **Each** **319.77** (ne10339)

(17343)



DC8035

ECONOMIZER™ UPRIGHT CABINET RACKS



- **Rugged Welded Frame Constructed of 14-Gauge Steel Vertical Rails**
- **16-Gauge Solid Top and Bottom Rail Supports**
- **20-Gauge Steel Side Panels and Rear Door with Key that Opens 180° and Can be Hinged Left or Right**
- **Fully Adjustable, 12-Gauge Steel Panel Mounting Rails Tapped 10-32 In Front on E.I.A. Universal Spacing**

Bottom is pierced for **type RC** casters; *ordered separately on this page*, and has four 1.109″ knockouts and one 8.5″ dia. hole for cable access. "B" dimension for 19″ units is 22″, and 27″ for 24″ units. Your choice of sand textured or royal blue textured finish. Black textured is also available; *contact your local Newark sales office for details. Also order Economizer doors separately on page 398. Order Economizer accessories separately on this page* and *on page 404. Order* **type DC-8002-S** *datacom cabinet assembly separately on page 395.*

19″ NON-VENTILATED RACKS

Sand Textured Stock No.	Blue Textured Stock No.	Type	Dimensions (Inches) PS	A	C	D	Each
89F1129	89F1099	ER-16502	42	47 5/16	18 1/2	17	554.76
89F1130	89F1100	ER-16503	52 1/2	57 13/16	18 1/2	17	610.19
89F1131	89F1101	ER-16504	61 1/4	66 9/16	18 1/2	17	655.09
89F1132	89F1102	ER-16505	70	75 5/16	18 1/2	17	694.03
89F1133	89F1103	ER-16506	78 3/4	84 1/16	18 1/2	17	723.73
89F1134	89F1104	ER-16512	42	47 5/16	25 1/2	24	628.06
89F1135	89F1105	ER-16513	52 1/2	57 13/16	25 1/2	24	655.47
89F1136	89F1106	ER-16514	61 1/4	66 9/16	25 1/2	24	717.01
89F1137	89F1107	ER-16515	70	75 5/16	25 1/2	24	748.69
89F1138	89F1108	ER-16516	78 3/4	84 1/16	25 1/2	24	792.36
89F1139	89F1109	ER-16522	42	47 5/16	30 3/4	29 1/4	655.70
89F1140	89F1110	ER-16523	52 1/2	57 13/16	30 3/4	29 1/4	686.09
89F1141	89F1111	ER-16524	61 1/4	66 9/16	30 3/4	29 1/4	765.79
89F1142	89F1112	ER-16525	70	75 5/16	30 3/4	29 1/4	785.03
89F1143	89F1113	ER-16526	78 3/4	84 1/16	30 3/4	29 1/4	855.51

19″ VENTILATED RACKS

50F9643	50F9658	ER-16602	42	47 5/16	18 1/2	17	626.91
50F9644	50F9659	ER-16603	52 1/2	57 13/16	18 1/2	17	646.00
50F9645	50F9660	ER-16604	61 1/4	66 9/16	18 1/2	17	695.40
50F9646	50F9661	ER-16605	70	75 5/16	18 1/2	17	733.57
50F9647	50F9662	ER-16606	78 3/4	84 1/16	18 1/2	17	759.23
50F9648	50F9663	ER-16612	42	47 5/16	25 1/2	24	650.63
50F9649	50F9664	ER-16613	52 1/2	57 13/16	25 1/2	24	695.78
50F9650	50F9665	ER-16614	61 1/4	66 9/16	25 1/2	24	756.17
50F9651	50F9666	ER-16615	70	75 5/16	25 1/2	24	787.25
50F9652	50F9667	ER-16616	78 3/4	84 1/16	25 1/2	24	830.16
50F9653	50F9668	ER-16622	42	47 5/16	30 3/4	29 1/4	708.53
50F9654	50F9669	ER-16623	52 1/2	57 13/16	30 3/4	29 1/4	738.92
50F9655	50F9670	ER-16624	61 1/4	66 9/16	30 3/4	29 1/4	818.63
50F9656	50F9671	ER-16625	70	75 5/16	30 3/4	29 1/4	837.87
50F9657	50F9672	ER-16626	78 3/4	84 1/16	30 3/4	29 1/4	910.63

24″ NON-VENTILATED RACKS

50F9673	50F9688	ER-16802	42	47 5/16	18 1/2	17	688.91
50F9674	50F9689	ER-16803	52 1/2	57 13/16	18 1/2	17	718.23
50F9675	50F9690	ER-16804	61 1/4	66 9/16	18 1/2	17	771.14

CONTINUED

ECONOMIZER™ UPRIGHT CABINET RACKS (CONT.)

24″ NON-VENTILATED RACKS (CONT.)

Sand Textured Stock No.	Blue Textured Stock No.	Type	Dimensions (Inches) PS	A	C	D	Each
50F9676	50F9691	ER-16805	70	75 5/16	18 1/2	17	816.87
50F9677	50F9692	ER-16806	78 3/4	84 1/16	18 1/2	17	851.84
50F9678	50F9693	ER-16812	42	47 5/16	25 1/2	24	739.30
50F9679	50F9694	ER-16813	52 1/2	57 13/16	25 1/2	24	771.60
50F9680	50F9695	ER-16814	61 1/4	66 9/16	25 1/2	24	844.05
50F9681	50F9696	ER-16815	70	75 5/16	25 1/2	24	881.39
50F9682	50F9697	ER-16816	78 3/4	84 1/16	25 1/2	24	932.85
50F9683	50F9698	ER-16822	42	47 5/16	30 3/4	29 1/4	786.87
50F9684	50F9699	ER-16823	52 1/2	57 13/16	30 3/4	29 1/4	823.29
50F9685	50F9700	ER-16824	61 1/4	66 9/16	30 3/4	29 1/4	919.11
50F9686	50F9701	ER-16825	70	75 5/16	30 3/4	29 1/4	940.10
50F9687	50F9702	ER-16826	78 3/4	84 1/16	30 3/4	29 1/4	1026.61

24″ VENTILATED RACKS

50F9703	50F9718	ER-16902	42	47 5/16	18 1/2	17	741.74
50F9704	50F9719	ER-16903	52 1/2	57 13/16	18 1/2	17	771.06
50F9705	50F9720	ER-16904	61 1/4	66 9/16	18 1/2	17	823.90
50F9706	50F9721	ER-16905	70	75 5/16	18 1/2	17	869.71
50F9707	50F9722	ER-16906	78 3/4	84 1/16	18 1/2	17	904.68
50F9708	50F9723	ER-16912	42	47 5/16	25 1/2	24	792.14
50F9709	50F9724	ER-16913	52 1/2	57 13/16	25 1/2	24	824.51
50F9710	50F9725	ER-16914	61 1/4	66 9/16	25 1/2	24	896.89
50F9711	50F9726	ER-16915	70	75 5/16	25 1/2	24	934.22
50F9712	50F9727	ER-16916	78 3/4	84 1/16	25 1/2	24	985.61
50F9713	50F9728	ER-16922	42	47 5/16	30 3/4	29 1/4	839.70
50F9714	50F9729	ER-16923	52 1/2	57 13/16	30 3/4	29 1/4	876.04
50F9715	50F9730	ER-16924	61 1/4	66 9/16	30 3/4	29 1/4	936.67
50F9716	50F9731	ER-16925	70	75 5/16	30 3/4	29 1/4	992.94
50F9717	50F9732	ER-16926	78 3/4	84 1/16	30 3/4	29 1/4	1081.73

(6967) (de52594)

ECONOMIZER™ CABINET RACK ACCESSORIES

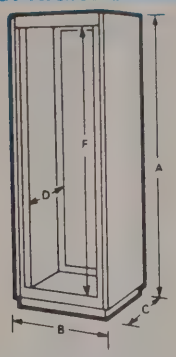
Order additional accessories separately on page 397.

Stock No.	Type	Description	Each
89F1124	PMR-9450	Mounting Rail for 42′ Panel Space	58.96
91F094	RC-7758	Casters	52.46
92F2538	RL-7770	Leveler Kit	47.95
81F4473	POS-66	Power Strip	88.01
95F934	POS-193S	Rack Mount Power Strip	131.80
50F9780	SH-2384-BT	Ventillated Shelf	64.35
50F9789	60-2380-BT	Solid Shelf	61.43
50F9797	SH-2392-BT	Ventilated Sliding Shelf	114.01
50F9805	SH-2388-BT	Solid Sliding Shelf	112.26
93F4057	FN-1282	Top Mount Fan	117.42
89F1095	FT-1170WH	Fan Tray	174.23
89F1097	FN-1280	Fans for Tray	38.67
91F1635	B50	Blower	314.17
91F388	PA1101-MG	1 U Panel	10.45
91F389	PA1102-MG	2 U Panel	14.58
91F390	PA1103-MG	3 U Panel	20.00

(7029) (ne08349)

THIS NEWARK CATALOG IS AVAILABLE ON CD-ROM!
CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR DETAILS.

60 SERIES UPRIGHT CABINET RACKS



60 series upright cabinet racks are accessible from the front or rear. Construction: welded 14-gauge steel frame with "U" shaped 16-gauge panel mounting rail supports. Dimensions: 24 1/16" outside width. Racks with 22" outside depth (C) have 20 1/2" clear inside depth (D) and 18 5/16 x 17" opening at the top. Racks with 25 1/2" outside depth (C) have 24" clear inside depth and 18 5/16 x 20 1/2" opening on top. 20-gauge door. 18-gauge sides and top. Front and rear panel mounting rails tapped #10-32 on E.I.A. universal spacing. Accommodates 19" panels. 1.09" diameter knockout holes in base. Caster brackets pierced for **type RC-7758** casters. One door and two pairs of fully adjustable mounting rails are included. 24" panel space upright rack available by special order; *contact your local Newark sales office.*

CABINET RACKS WITH 22" OUTSIDE DEPTH

Gray Textured Stock No.	Royal Blue Textured Stock No.	Type	Height (A)	Panel Space (F)	Weight	Each
92F900	89F4228	60-2300	29 5/16"	21"	112 lbs.	767.86
92F901	89F6075	60-2301	40 1/16"	31 1/2"	137 lbs.	836.95
92F902	89F6076	60-2302	50 5/16"	42"	162 lbs.	947.28
92F903	89F6077	60-2303	61 1/16"	52 1/2"	189 lbs.	1035.54
92F904	89F6078	60-2304	69 7/16"	61 1/4"	215 lbs.	1123.95
92F905	89F6079	60-2305	78 5/16"	70"	227 lbs.	1198.70
92F906	89F6080	60-2306	87 3/16"	78 3/4"	244 lbs.	1292.46

CABINET RACKS WITH 25-1/2" OUTSIDE DEPTH

92F907	89F6081	60-2307	29 5/16"	21"	123 lbs.	798.09
92F908	89F6082	60-2308	40 1/16"	31 1/2"	145 lbs.	857.95
92F909	89F4229	60-2309	50 5/16"	42"	170 lbs.	969.50
92F910	89F6083	60-2310	61 1/16"	52 1/2"	202 lbs.	1049.43
92F911	89F6084	60-2311	69 7/16"	61 1/4"	216 lbs.	1151.51
92F912	89F6085	60-2312	78 5/16"	70"	231 lbs.	1218.09
92F913	89F6086	60-2313	87 3/16"	78 3/4"	263 lbs.	1322.92

30 SERIES EXTRA DEEP UPRIGHT CABINET RACKS

Dimensions: 24 1/16" outside width (B); 30 3/4" outside depth (C); clear inside depth 29 1/4" (D); top opening 18 5/16" x 25 3/4".

Gray Textured Stock No.	Royal Blue Textured Stock No.	Type	Height (A)	Panel Space (F)	Weight	Each
99F1022	89F6068	30-2300	29 5/16"	21"	154 lbs.	855.96
99F1023	89F6069	30-2301	40 1/16"	31 1/2"	174 lbs.	936.59
99F1024	89F6070	30-2302	50 5/16"	42"	202 lbs.	1051.11
99F1025	89F6071	30-2303	61 1/16"	52 1/2"	225 lbs.	1154.26
99F1026	89F6072	30-2304	69 7/16"	61 1/4"	245 lbs.	1234.89
99F1027	89F6073	30-2305	78 5/16"	70"	268 lbs.	1293.14
99F1028	89F6074	30-2306	87 3/16"	78 3/4"	294 lbs.	1422.02

(7020) (ne08019)

2000 SERIES UPRIGHT CABINET RACKS

2000 series upright cabinet racks are accessible from front and rear. All welded steel construction includes 14 gauge frame with "U" shaped 16-gauge panel mounting rail supports, 20 gauge door, 18 gauge sides and top. Anodized aluminum extrusion top trim. Front and rear panel mounting rails tapped #10-32 on E.I.A. universal spacing. Accommodates 19" panels. One-inch (1.109") knockout holes in base. Caster brackets pierced for RC-7758 casters. Two pairs of fully adjustable mounting rails are included. Units are shipped assembled. Order separately *on page 404.* Dimension "B": 24 3/16".

UPRIGHT CABINET RACKS - 27 3/8" OUTSIDE DEPTH (C), 24" CLEAR INSIDE DEPTH (D)

Royal Blue Stock No.	Gray Stock No.	Royal Blue Type	Outside Ht. (A)	Panel Space (F)	Each
80W627	80W628	E-2008 RB	30 1/4"	21"	807.48
80W630	80W631	E-2009 RB	40 3/4"	31 1/2"	883.37
80W633	80W634	E-2010 RB	44 1/4"	35"	921.47
80W506	80W636	E-2011 RB	51 1/4"	42"	1013.32
80W604	80W605	E-2012 RB	61 3/4"	52 1/2"	1137.47
80W607	80W507	E-2013 RB	70 1/2"	61 1/4"	1203.28
80W609	80W610	E-2014 RB	79 1/4"	70"	1246.57
80W612	80W613	E-2015 RB	88"	78 3/4"	1349.57

UPRIGHT CABINET RACKS - 23 7/8" OUTSIDE DEPTH (C), 20 1/2" CLEAR INSIDE DEPTH (D)

Royal Blue Stock No.	Gray Stock No.	Type	Weight (lbs.)	Each
80W500	80W638	E-2000	119	796.64
80W640	80W501	E-2001	141	853.67
80W502	80W503	E-2002	149	883.37
80W643	80W644	E-2003	168	962.01
80W646	80W647	E-2004	195	1062.34
80W649	80W625	E-2005	216	1162.43
80W621	80W622	E-2006	233	1219.31
80W624	80W505	E-2007	260	1322.31

EXTRA DEEP UPRIGHT CABINET RACKS - 32 5/8" OUTSIDE DEPTH (C), 29 1/4" CLEAR INSIDE DEPTH (D)

99F1064	99F1072	E30-2000	150	867.26
99F1065	99F1073	E30-2001	175	935.52
99F1066	99F1074	E30-2002	180	990.19
99F1067	99F1075	E30-2003	217	1055.85
99F1068	99F1076	E30-2004	248	1179.15
99F1069	99F1077	E30-2005	259	1255.50
99F1070	99F1078	E30-2006	303	1348.57
99F1071	99F1079	E30-2007	307	1438.82

(7208) (ne08023)

ACCESSORIES

To order the following BUD accessories, see the designated pages.

Casters ..... *on page 404.*
Leveler ..... *on page 404.*
Vented Shelf ..... *on page 400.*
Solid Shelf ..... *on page 400.*
Sliding Vent Shelf ..... *on page 400.*
Sliding Solid Shelf ..... *on page 400.*
Sliding Desk Top ..... *on page 400.*
Power Outlet Strip ..... *on page 404.*
Rack Mount Power Outlet Strip ..... *on page 404.*
Temp Stat ..... *on page 403.*
Slides ..... *on page 405.*
Slide Mounting Kit ..... *on page 405.*
1.75" Panel ..... *on page 405.*
3.50" Panel ..... *on page 405.*
5.25" Panel ..... *on page 405.*
Desk Top Drawer ..... *on page 400.*
Rack Mount Chassis ..... *on page 434.*
Blower ..... *on page 403.*
Fan Tray ..... *on page 403.*
Fan ..... *on page 403.*

(7211) (ne08026)

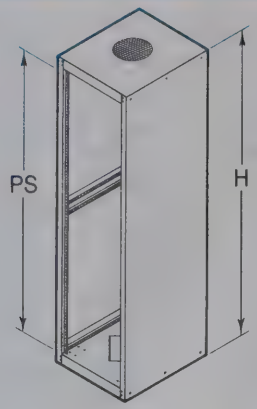
2000 SERIES UPRIGHT CABINET RACK PLEXIGLAS DOORS AND MOUNTING RAILS

PLEXI-DOORS				MOUNTING RAILS		
Stock No.	Type	Panel Space	Each	Stock No.	Type	Each
16F1082	V-9060-L	21.00"	337.78	94F4880	PMR-9448	54.82
16F1083	V-9061-L	31.50"	362.51	98F988	PMR-9449	62.37
16F1084	V-9062-L	35.00"	384.58	95F6416	PMR-2002	64.45
99F8122	V-9063-L	42.00"	398.78	89F1124	PMR-9450	58.96
16F1085	V-9064-L	52.50"	425.35	89F1125	PMR-9451	74.92
16F1086	V-9065-L	61.25"	450.55	89F1126	PMR-9452	83.79
16F1087	V-9066-L	70.00"	491.01	89F1127	PMR-9453	79.89
16F1088	V-9067-L	78.75"	510.94	89F1128	PMR-9454	90.34

(7209) (ne08024)

NEW PRODUCTS ARE BEING ADDED TO OUR INVENTORY EVERY DAY.
CALL NEWARK FOR INFORMATION ON WHAT'S CURRENTLY IN STOCK.

LPR SERIES™ CABINET RACKS



LPR

LPR Series™ cabinet racks are shipped complete with 16-gauge top and bottom, 18-gauge sides, and assembly hardware. Ready-to-assemble with standard Phillips screwdriver in minutes. Integral, full-height panel mounting rails with EIA universal spaced mounting holes; recessed 1.00″ at front of cabinet only. Welded-in support rails of adjustable panel mounting rails; *order separately below.* Large 10″ square and 1.109″ standard knockouts in bottom for cable access. Bottom is also pierced for **type RC-7758** casters or **type RL-7770** leveler kit, ordered separately *on page 404.* Top is ventilated and pierced to accept **type FN-1282** exhaust fan, ordered separately *on page 403.*

LPR SERIES™ STANDARD CABINET RACKS

Order applicable mounting rails and steel doors below.

Royal Blue Stock No.	Sand Stock No.	Type	Panel Space (PS)	Height H	Est. Wt. (lbs.)	Each
66F3897	66F3898	LPR-8212	42.00″	47.312″	89	411.68
66F3899	66F3900	LPR-8213	52.50″	57.812″	98	456.58
66F3910	66F3911	LPR-8214	61.25″	66.562″	106	483.99
66F3912	66F3913	LPR-8215	70.00″	75.312″	114	514.37
66F3914	66F3915	LPR-8216	78.75″	84.062″	121	549.72

MOUNTING RAILS

Stock No.	Type	Fits Cabinet Type	Panel Space (PS)	Each
89F1124	PMR-9450	LPR-8212	42.00″	58.96
89F1125	PMR-9451	LPR-8213	52.50″	74.92
89F1126	PMR-9452	LPR-8214	61.25″	83.79
89F1127	PMR-9453	LPR-8215	70.00″	79.89
89F1128	PMR-9454	LPR-8216	78.75″	90.34

STEEL DOORS

Royal Blue Stock No.	Sand Stock No.	Type	Fits Cabinet Type	Panel Space (PS)	Each
89F1119	50F9733	ER-16532	LPR-8212	42.00″	165.70
89F1120	50F9734	ER-16533	LPR-8213	52.50″	177.49
89F1121	50F9735	ER-16534	LPR-8214	61.25″	200.64
89F1122	50F9736	ER-16535	LPR-8215	70.00″	212.10
89F1123	50F9737	ER-16536	LPR-8216	78.75″	219.62

LPR SERIES™ KNOCKDOWN CABINET RACKS

Order applicable mounting rails and steel doors below.

Royal Blue Stock No.	Sand Stock No.	Type	Panel Space	Each
52F6501	48F1066	LPR8222	42.00″	468.49
52F6502	48F1067	LPR8223	52.50″	509.18
52F6503	48F1068	LPR8224	61.25″	550.03
52F6504	48F1069	LPR8225	70.00″	583.39
52F6505	48F1070	LPR8226	78.75″	613.63

MOUNTING RAILS

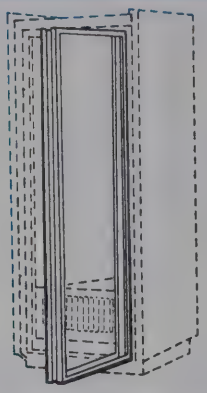
Stock No.	Type	Fits Cabinet Type	Panel Space	Each
89F1124	PMR-9450	LPR8222	42.00″	58.96
89F1125	PMR-9451	LPR8223	52.50″	74.92
89F1126	PMR-9452	LPR8224	61.25″	83.79
89F1127	PMR-9453	LPR8225	70.00″	79.89
89F1128	PMR-9454	LPR8226	78.75″	90.34

STEEL DOORS

89F1119	ER-16532RB	LPR8222	42.00″	165.70
89F1120	ER-16533RB	LPR8223	52.50″	177.49
89F1121	ER-16534RB	LPR8224	61.25″	200.64
89F1122	ER-16535RB	LPR8225	70.00″	212.10
89F1123	ER-16536RB	LPR8226	78.75″	219.62

(6992) (ne06157)

PLEXIGLAS RACK DOORS



⅛″ smoke gray plexiglas doors fit **series 60, series 2000** and **Economizer™** racks. Magnet secures door closed. Door is positioned on cabinet with top and bottom supports and is reversible to achieve right or left openings. Frame is anodized aluminum extrusion. Installation hardware included. *Locking versions available; contact your local Newark sales office.*

FOR UPRIGHT CABINET RACKS—FITS 19″ PANEL WIDTH

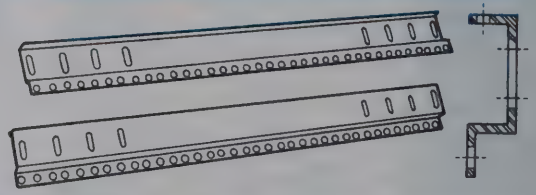
Stock No.	Type	Vertical Panel Space	Each
93F694	V-9060-A	21.00″	285.33
93F695	V-9061-A	31.50″	313.84
93F704	V-9062-A	35.00″	308.31
93F696	V-9063-A	42.00″	319.53
93F697	V-9064-A	52.50″	332.13
79W265	V-9065-A	61.25″	372.82
93F699	V-9066-A	70.00″	411.91
93F700	V-9067-A	78.75″	432.37

ECONOGLAS DOOR—FITS 19″ PANEL WIDTH

01F145	V-9766-L	70.00″	223.30

(6900) (de02897)

PMR SERIES MOUNTING RAILS FOR RACKS



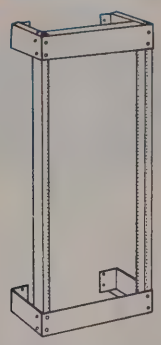
PMR series 12-gauge steel panel mounting rails for accessories that require 2 sets of rails. **Sold in packages of 2.**

Stock No.	Type	Panel Space	Per Pkg.
94F4880	PMR9448	21″	54.82
95F6417	PMR-2331	24.50″	56.99
95F6418	PMR-14315	28″	61.14
98F988	PMR9449	31.50″	62.37
95F6416	PMR-2002	35″	64.45
89F1124	PMR-9450	42″	58.96
89F1125	PMR-9451	52.50″	74.92
89F1126	PMR-9452	61.25″	83.79
89F1127	PMR-9453	70″	79.89
89F1128	PMR-9454	78.75″	90.34

(6968) (de52595)

NEWARK STOCKS MORE PRODUCTS THAN ANY OTHER ELECTRONICS DISTRIBUTOR!

WALL MOUNT RELAY RACKS

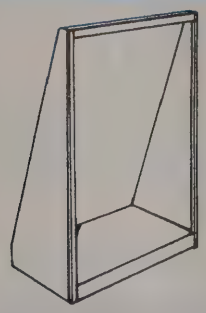


Choose from 8″, 12″, and 18″ depths. Aluminum. Silver-gray finished heavy gauge steel wall brackets. #12-24 tapped holes on both flanges.

Stock No.	Type	Panel Space H x W	Depth	Each
91F3866	WRR2242	42 x 19″	8″	149.56
91F3867	WRR2243	42 x 19″	12″	158.18
91F3868	WRR2244	42 x 19″	18″	179.58
91F3869	WRR2262	75.25 x 19″	8″	200.06
91F3870	WRR2263	75.25 x 19″	12″	209.84
91F3871	WRR2264	75.25 x 19″	18″	233.00

(7014) (ne07031)

TABLETOP RELAY RACKS



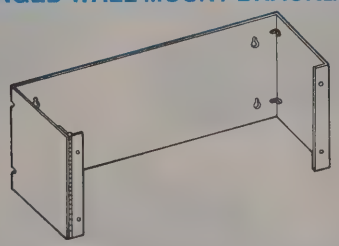
Chassis-type base for mounting heavy components. Supporting angles provide steady support. Panel mounting rails are recessed so that standard 19″ panel will fit flush with front; tapped #10-32 on EIA universal spacing. 20.375 x 12″ base. *Order panels separately on page 405.*

BLACK TEXTURED

Stock No.	Type	Panel Space H x W	Wt. (lbs.)	Each
91F030	RR1248-BT	21 x 19″	14.250	100.16
91F031	RR1249-BT	28 x 19″	16.750	109.45
		METALLIC GRAY		
91F677	RR1248-MG	21 x 19″	14.250	100.16
91F678	RR1249-MG	28 x 19″	16.750	109.45

(6962) (de52530)

HINGED WALL MOUNT BRACKETS

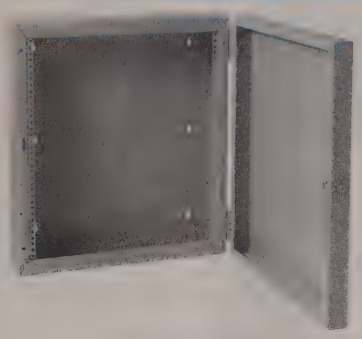


Heavy 16-gauge steel with integral hinge. Mount to flat surface on 16″ centers. 19″ width also allows for mounting onto standard racks. Finish: black.

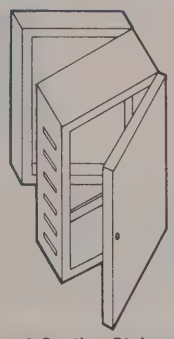
Stock No.	Type	H x W x D	Each
97F7943	HWB-1790	3.50 x 19 x 5″	30.83
97F7944	HWB-1791	5.25 x 19 x 5″	36.71
97F7945	HWB-1792	7.00 x 19 x 5″	41.14
97F7946	HWB-1793	8.75 x 19 x 5″	44.13
97F7947	HWB-1794	10.50 x 19 x 5″	48.03
97F7948	HWB-1795	12.25 x 19 x 5″	52.09

(6916) (de03837)

WALL MOUNT CABINETS



2-Section Style



3-Section Style

- **Plexiglas-Paneled or Steel Key-Lockable Front Doors**

Wall mount cabinets available in 2- and 3-section styles with plexiglas or steel door. Both cabinet styles feature standard 19″ EIA panel mounting rails in rear section with 1.1″ and 3″ diameter knockouts in both the top and bottom of the rear section for easy cabling access. 4.5″ deep rear section, 2″ deep door section, and 20.50″ length overall. Sturdy 16-gauge steel construction finished with durable black textured powercoat paint make cabinets suitable for telecom, datacom and other electronic equipment needs. Removable hinges allow for both left-hand and right-hand applications. 3-section styles have a swing frame center section, with adjustable 19″ EIA panel mounting rails and exhaust fan mounting option. Both cabinet styles also available in off-white textured finish; *contact your local Newark sales office for details.*

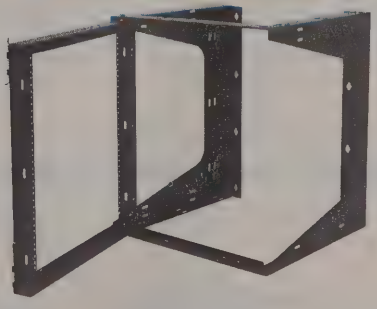
PLEXIGLAS DOOR

Stock No.	Type	Panel Space H x W x D	Description	Each
52F6467	WM-5432-BRT	21 x 19 x 4.25″	2-Section	275.05
52F6468	WM-5434-BRT	45 x 19 x 4.25″	2-Section	366.48
52F6469	WM-5442-BRT	21 x 19 x 10.87″	3-Section*	440.01
52F6470	WM-5444-BRT	45 x 19 x 10.87″	3-Section*	612.87
52F6471	WM-5452-BRT	21 x 19 x 15.87″	3-Section+	446.27
52F6472	WM-5454-BRT	45 x 19 x 15.87″	3-Section+	625.77
		STEEL DOOR		
83F3354	WM5402-BRT	21 x 19 x 4.25″	2 Section	250.72
83F3355	WM5404-BRT	45 x 19 x 4.25″	2 Section	307.39
83F3356	WM-5412-BRT	21 x 19 x 10.87″	3-Section*	392.67
83F3357	WM-5414-BRT	45 x 19 x 10.87″	3-Section*	532.01
83F3358	WM-5422-BRT	21 x 19 x 15.87″	3-Section+	430.69
83F3359	WM-5424-BRT	45 x 19 x 15.87″	3-Section+	560.26

*With 11″ center; +With 16″ center
(7015) (ne07032)

SWING FRAME RACKS

NEW



Perfect for patch panel mounting where floor space is not available. Affords easy access to rear of equipment. Can be installed to swing from either the left or right side to adapt to any set-up. Swing frame section is secured with quick-release pin latches. Comes completely assembled with panel mounting hardware and six 8″ Velcro® cable management straps. Sturdy welded steel with black powdercoat finish.

Stock No.	Type	H x W x D	Panel Space	Each
83F3656	SF 2283	24 x 21.25 x 12″	21 x 19″	153.41
83F3657	SF 2284	24 x 21.25 x 18″	21 x 19″	180.75
83F3658	SF 2293	38 x 21.25 x 12″	35 x 19″	191.36
83F3659	SF 2294	38 x 21.25 x 18″	35 x 19″	220.96

(34675) (ne34675)

NEWARK: YOUR ONE-STOP SHOP.

STATIONARY AND SLIDING SHELVES

Ventilated and nonventilated black textured shelves **(suffix BT)** fit 19″ and 24″ wide panel spaces and all cabinet rack depths. All are 16-gauge steel and include necessary mounting hardware. Shelves allow sufficient room in rear for cables and power outlet strips. Sliding shelves are flanged on all four sides for added support. Also available in metallic-gray **(suffix MG)** and white **(suffix WH)** finishes; *contact your local Newark sales office for details.*

VENTILATED STATIONARY SHELVES

Stock No.	Type	Fits Panel Width	W x D	Each
50F9779	SH-2383-BT	19″	17.90 x 14.25″	61.43
50F9780	SH-2384-BT	19″	17.90 x 17.75″	64.35
50F9781	SH-2385-BT	19″	17.90 x 21.25″	66.71
50F9782	SH-2386-BT	19″	17.90 x 26.50″	72.28
50F9783	SH-2483-BT	24″	22.90 x 14.25″	72.09
50F9784	SH-2484-BT	24″	22.90 x 17.75″	75.20
50F9786	SH-2485-BT	24″	22.90 x 21.25″	78.31
50F9787	SH-2486-BT	24″	22.90 x 26.50″	84.16

NONVENTILATED STATIONARY SHELVES

50F9788	SH-2379-BT	19″	17.90 x 14.25″	58.88
50F9789	60-2380-BT	19″	17.90 x 19.25″	61.43
50F9790	60-2381-BT	19″	17.90 x 22.75″	64.45
50F9791	SH-2382-BT	19″	17.90 x 26.50″	69.07
50F9792	SH-2479-BT	24″	22.90 x 14.25″	68.69
50F9793	SH-2480-BT	24″	22.90 x 17.75″	71.71
50F9794	SH-2481-BT	24″	22.90 x 21.25″	74.63
50F9795	SH-2482-BT	24″	22.90 x 26.50″	80.11

VENTILATED SLIDING SHELVES

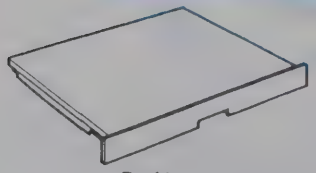
Stock No.	Type	Fits Panel Width	W x D	Travel	Each
50F9796	SH-2391-BT	19″	17 x 14.25″	8″	107.44
50F9797	SH-2392-BT	19″	17 x 17.75″	12″	114.01
50F9798	SH-2393-BT	19″	17 x 21.25″	15″	120.33
50F9799	SH-2394-BT	19″	17 x 26.50″	19″	128.75
50F9800	SH-2491-BT	24″	22 x 14.25″	8″	117.52
50F9801	SH-2492-BT	24″	22 x 17.75″	12″	124.54
50F9802	SH-2493-BT	24″	22 x 21.25″	15″	131.20
50F9803	SH-2494-BT	24″	22 x 26.50″	19″	133.76

NONVENTILATED SLIDING SHELVES

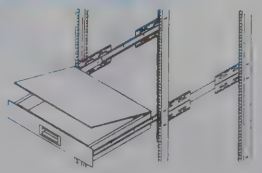
50F9804	SH-2387-BT	19″	17 x 14.25″	8″	105.77
50F9805	SH-2388-BT	19″	17 x 17.75″	12″	112.26
50F9806	SH-2389-BT	19″	17 x 21.25″	15″	118.40
50F9807	SH-2390-BT	19″	17 x 26.50″	19″	126.64
50F9808	SH-2487-BT	24″	22 x 14.25″	8″	115.33
50F9809	SH-2488-BT	24″	22 x 17.75″	12″	122.26
50F9810	SH-2489-BT	24″	22 x 21.25″	15″	129.01
50F9811	SH-2490-BT	24″	22 x 26.50″	19″	131.34

(6971) (de53063)

DESKTOPS AND DESKTOP DRAWERS



Desktop



Desktop Drawer

Type DD-2363 hinged drawer tops have plastic laminate bonded to aluminum. Front panel height 2U (3.5″), mount to panel mounting rails in cabinet. Inside size: 16.88 x 13.88 x 3″. Available in 3 colors.

Stock No.	Type	Color	Each
48F1073	DD-2363-BT	Black	259.08
93F050	DD2363MG	Gray	259.08
94F4921	DD-2363-WH	White	259.08

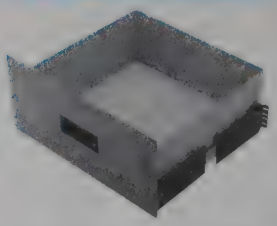
Type 60-2361 sliding desktops require only 1U (1.75″) panel space and 15.125 - 17.625″ inside. Working area: 11 x 17.375″. Supports 50 lbs. Laminated surface mounts to uprights in **60 series** cabinets without brackets. Available in 2 colors.

Stock No.	Type	Color	Panel	Each
93F048	60-2361-MG	Gray	18.937 x 1.750″	131.09
95F5528	60-2361-WH	White	18.937 x 1.750″	131.09

(6901) (de02898)

SLIDING DRAWERS

NEW



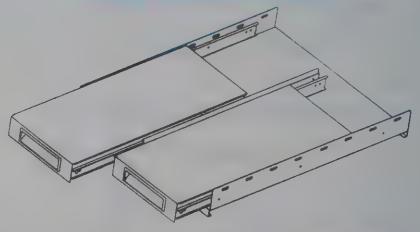
Support 2 heavy loads even when fully extended. Fit cabinets with 19″ panel space and require 2 pairs of panel mounting rails per cabinet rack. 8.750″ panel height. Available in 3 colors.

Stock No.	Type	Color	Size Inside H x W x D	Each
91F3874	D1722WH	White	6.312 x 16.562 x 16.187″	188.52
91F3875	D1722MG	Metallic	6.312 x 16.562 x 16.187″	188.52
91F3873	D1722BT	Black	6.312 x 16.562 x 16.187″	188.52
91F3877	D1723WH	White	6.312 x 16.562 x 19.187″	192.37
91F3878	D1723MG	Metallic	6.312 x 16.562 x 19.187″	192.37
91F3876	D1723BT	Black	6.312 x 16.562 x 19.187″	192.37

(34677) (ne34677)

DUAL SLIDING SHELF

NEW

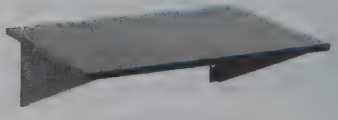


Rugged, all-steel construction and smooth action ball bearing slides. Conveniently fits into all standard 19″ Bud cabinets. Two independently operated sliding shelves that lock to prevent unwanted over-extension. Panel space: 19″ wide x 22.75″ deep. Individual shelf size: 8.33″ wide x 14.92″ deep. Each shelf accommodates 90 lbs. Durable powdercoat finish.

48F1074 Type SH-2397. **Each**..... **144.72**

(34678) (ne34678)

SHELF ASSEMBLIES

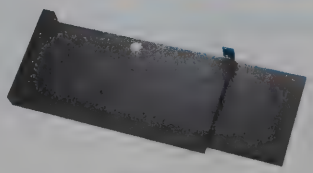


Easily attach over panel, direct to panel, or to panel mounting rails. Mounting brackets slip into shelf bottom. Overall height: 7″. Hardware included. Available in royal blue and gray textured.

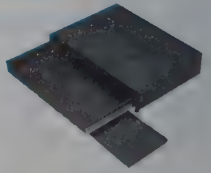
Royal Blue		Gray Textured			
Stock No.	Type	Stock No.	Type	W x D	Each
91F878	SA-1719RB	91F882	SA-1719GT	22″ x 16″	86.81
91F879	SA-1720RB	91F883	SA-1720GT	22″ x 20″	87.56

(6902) (de02899)

KEYBOARD/MOUSE SHELVES



Stationary



Sliding

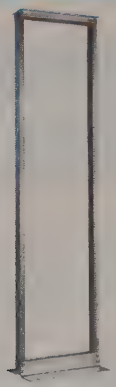
Stationary and sliding shelves are constructed of heavy-gauge steel. **Types SA1775** and **SA1776** stationary shelves feature mouse pads that can be bolted onto either side of the shelf. Utilize 1U (1.75″) of panel space height. **Types KS1785** and **KS1787** sliding shelves lock securely in the open position. Feature a small mouse pad that slides out in either the left- or right-hand position. Utilize 2U (3.50″) of panel space height. Available in 19″ and 23″ panel space widths in either black textured finish or metallic gray.

Black Textured		Metallic Gray		Max. Panel/ Keyboard Widths	Each
Stock No.	Type	Stock No.	Type		
91F3886	SA1775BT	91F3887	SA1775MG	19.0″/20.0″	66.14
91F3888	SA1776BT	91F3889	SA1776MG	23.0″/24.0″	71.14
91F3890	KS1785BT	91F3891	KS1785MG	19.0″/16.5″	133.43
91F3892	KS1787BT	91F3893	KS1787MG	23.0″/20.5″	142.54

(12750) (ne09835)

RELAY RACKS AND ACCESSORIES

ALUMINUM OPEN RELAY RACKS



Available in 4′, 6′, 6½′, 7′, and 9′ heights. Panel mounting holes are #12-24 tapped on EIA universal spacing, on both front and rear flanges. *Order shelves separately on page 400.*

77″ PANEL SPACE HEIGHT

Stock No.	Type	Finish	Panel Space H x W	Height	Wt. (lbs.)	Each
96F9332	ARR-1272-NF	Natural	77 x 19″	84″	37	**142.12**
96F9335	ARR-1295-NF	Natural	77 x 23″	84″	40	**246.87**
93F4052	ARR-1272G	Gray	77 x 19″	84″	37	**252.64**
93F4055	ARR-1294G	Gray	77 x 23″	84″	40	**286.50**
91F3872	ARR1294BT	Black	77 x 23″	84″	40	**242.86**

42″ PANEL SPACE HEIGHT

Stock No.	Type	Panel Space H x W	Finish	Each
91F3862	ARR1276NF	42 x 19″	Natural	**125.40**
91F3863	ARR1276BT	42 x 19″	Black	**138.78**
91F3864	ARR1296NF	42 x 23″	Natural	**177.65**
91F3865	ARR1296BT	42 x 23″	Black	**192.70**

STEEL OPEN RELAY RACKS

Ideal for telecommunications installations where easy access to components is necessary. Available in 3 styles. **Type RR-1263:** Ruggedly constructed chassis-type base and supporting angles. Rails tapped #10-32 on EIA universal spacing. 19$^{31}/_{32}$″W x 22″D base drilled for **type RC** casters, *ordered separately on page 404.* Metallic-gray finish. **Type RR-1265:** Heavy-duty rack designed to be bolted to the floor. 20$^{3}/_{8}$″W x 12¾″D base. Panel mounting holes drilled and tapped #12-24. Black textured finish. **RR-1367 series:** Extra-sturdy racks constructed of 14- and 12-gauge steel with metallic-gray and black textured finish. 8″-deep welded "U" member and triangular brackets hold upright to 12-gauge steel, 20$^{7}/_{8}$″W x 26″D chassis-type base. Panel mounting rails tapped at #10-32 on EIA universal spacing. All racks are shipped unassembled. Base drilled for **type RC** casters, *ordered separately on page 404.*

Stock No.	Type	Panel Space H x W	Height	Each
91F1740	RR1263-MG	31½ x 19″	35$^{5}/_{8}$″	**146.47**
91F1743	RR1363-MG	36¾ x 19″	40$^{7}/_{8}$″	**155.92**
91F1741	RR1264-MG	66½ x 19″	70$^{5}/_{8}$″	**174.05**
91F1744	RR1364-MG	71¾ x 19″	75$^{7}/_{8}$″	**177.91**
91F1745	RR1366-MG	77 x 19″	81⅛″	**181.77**
91F054	RR-1265-BT	66½ x 19″	72¼″	**215.44**
50F9852	RR-1269	77 x 19″	82¾″	**226.23**
50F9853	RR-1270	101½ x 19″	107¼″	**249.30**
50F9854	RR-1290	66½ x 23″	72¼″	**230.07**
50F9855	RR-1291	77 x 23″	82¾″	**242.11**
50F9856	RR-1292	101½ x 23″	107¼″	**265.77**
93F642	RR-1367-BT	61¼ x 19″	64$^{5}/_{8}$″	**320.44**
91F1746	RR1367-MG	61¼ x 19″	64$^{5}/_{8}$″	**320.44**
91F1747	RR1368-MG	70 x 19″	73$^{3}/_{8}$″	**337.10**
91F1748	RR1369-MG	77 x 19″	80$^{3}/_{8}$″	**348.29**

(6961) (de52529)

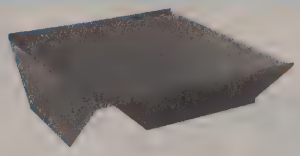
OPEN RELAY RACK SUPPORT BRACKETS

16-gauge steel brackets offer support for stabilizing the tops of aluminum and steel racks. Mounts to flat surface, such as a wall, and to bolts that fasten the top horizontal relay rack rails. Adjustable lengths. Metallic-gray finish. **Sold in packages of 2.**

Stock No.	Type	Length	Per Package
97F7940	MB1760-MG	6″-11″	**29.70**
97F7941	MB-1761-MG	12″-17″	**34.65**

(6909) (de03562)

OPEN-RACK MONITOR SHELVES

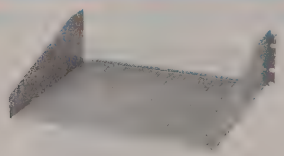


Monitor shelves are constructed of heavy-gauge steel. Capable of being mounted in open relay rack styles.

Black Textured		Metallic Gray		Panel Space H x W	Each
Stock No.	Type	Stock No.	Type		
91F3882	SA1796BT	**91F3883**	SA1796MG	**3U (5.25″) x .19″**	**85.11**
91F3884	SA1798BT	**91F3885**	SA1798MG	**3U (5.25″) x .23″**	**91.15**

(12749) (ne10304)

OPEN RELAY RACK SHELVES

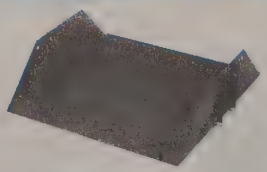


One-piece, 16-gauge steel shelves fit 19″ and 23″ wide panel spaces and 5.25″ panel heights. Flanged for added support. Nonventilated and ventilated versions. Select metallic-gray or a black textured finish. All mounting hardware included. NOTE: Even type numbers are nonventilated shelves; odd type numbers are ventilated shelves.

Metallic Gray		Black Textured				
Stock No.	Type	Stock No.	Type	Width	Depth	Each
92F2504	SA-1750-MG	**92F2505**	SA-1750-BT	17⅝″	15″	**49.60**
92F2506	SA-1751-MG	**92F2507**	SA-1751-BT	17⅝″	15″	**62.18**
92F2508	SA-1752-MG	**92F2509**	SA-1752-BT	17⅝″	20″	**59.30**
92F2510	SA-1753-MG	**92F2511**	SA-1753-BT	17⅝″	20″	**73.79**
92F2512	SA-1754-MG	**92F2539**	SA-1754-BT	21⅝″	15″	**59.73**
92F2540	SA-1755-MG	**92F2541**	SA-1755-BT	21⅝″	15″	**66.52**
92F2542	SA-1756-MG	**92F2543**	SA-1756-BT	21⅝″	20″	**73.41**
92F2544	SA-1757-MG	**92F2545**	SA-1757-BT	21⅝″	20″	**74.92**

(6964) (de52532)

CENTER-MOUNTED RELAY RACK SHELVES



- **Mounts Between Uprights on All Standard 19″ and 23″ Panel Widths**

16-gauge steel construction. **Types SA1765** and **SA1766** have 19″ panel widths. **Types SA1767** and **SA1768** have 23″ panel widths. All are 19D x 5.25″H.

Black Textured		Metallic Gray			
Stock No.	Type	Stock No.	Type	Description	Each
52F6497	SA-1765-BT	**52F6498**	SA-1765-MG	Nonventilated	**71.71**
52F6500	SA-1766-BT	**52F6499**	SA-1766-MG	Ventilated	**82.94**
91F3894	SA1767BT	**91F3895**	SA1767MG	Nonventilated	**76.33**
91F3897	SA1768MG	**91F3897**	SA1768MG	Ventilated	**85.86**

(7013) (ne07029)

ADAPTER MOUNTING BRACKETS

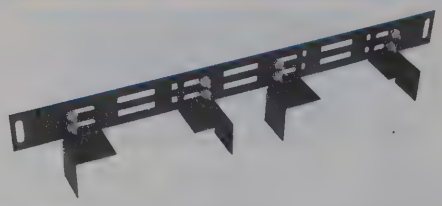
16-gauge steel brackets are used for mounting 19″ wide equipment into open relay racks with 23″ and 24″ wide panel spaces and enclosed cabinet racks with 24″ wide panel spaces. Mounting holes conform to EIA-310-C. Black textured finish. Mounting hardware included. **Sold in packages of 2.**

Stock No.	Type	Panel Height	Weight	Per Package
50F9838	AB-1851	1U (1.75″)	3 oz.	**9.23**
50F9839	AB-1852	2U (3.50″)	6 oz.	**10.78**
50F9840	AB-1853	3U (5.25″)	9 oz.	**12.34**
50F9841	AB-1854	4U (7.00″)	12 oz.	**13.45**
50F9842	AB-1855	5U (8.75″)	15 oz.	**14.22**
50F9843	AB-1856	6U (10.50″)	18 oz.	**15.78**

(6969) (de52601)

EQUIPMENT TIE-DOWN BRACKETS

NEW

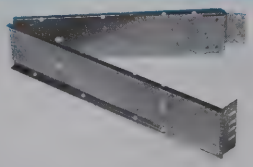


Secure equipment within cabinet rack. Available in two widths. Black finish. **Sold in packages of 2.**

Stock No.	Type	Panel W x H	Per Pkg.
91F3898	EB1781BT	19 x 1.75″	21.04
91F3900	EB1783BT	23 x 1.75″	21.96

(34485) (ne34485)

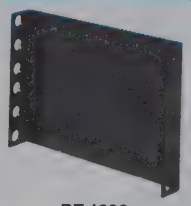
CABLE CARRIER/ORGANIZER



Type CC5190 permits up to 30″ of chassis extension. Mounts to rear panel mounting rails. Accommodates cabinet racks with 2 pairs of panel-mounting rails and 0.88″ clearance at the rear of the cabinet when closed. Ideal for ribbon or bundled cable.

95F6364 Type CC5190. **Each** **71.90**
(17327) (ne10597)

PANEL EXTENDERS



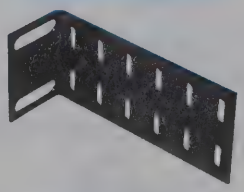
PE 1600

Heavy-gauge steel brackets extend panels 5″ beyond normal panel mounting rails. EIA universal spacing. Include all mounting hardware. Black finish. **Sold in packages of 2.**

Stock No.	Type	Panel Height	Per Pkg.
52F6514	PE 1600	3.5″	14.85
52F6515	PE 1601	5.2″	17.68
52F6516	PE 1602	7.0″	20.49
52F6517	PE 1603	8.7″	23.63
52F6518	PE 1604	10.5″	26.57
52F6519	PE 1605	12.2″	30.83

(17328) (ne10598)

CABLE BRACKET



Heavy-gauge steel bracket. Includes all mounting hardware. Panel space: 1U (1.75″). Black finish.

52F6508 Type CM 1223. **Each** **6.45**
(17329) (ne10599)

CABLE RINGS

CM 1220

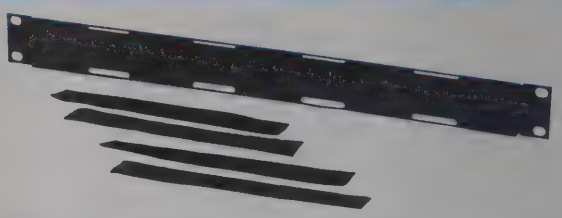
Heavy-gauge steel rings. Include all mounting hardware. Black finish.

Stock No.	Type	L x W x H	Each
52F6506	CM 1220	3.50 x 1.2 x 1.75″	6.34
52F6507	CM-1221	3.50 x 3.0 x 1.75″	7.00

(17330) (ne10600)

CABLE MANAGEMENT PANELS AND BRACKET

NEW

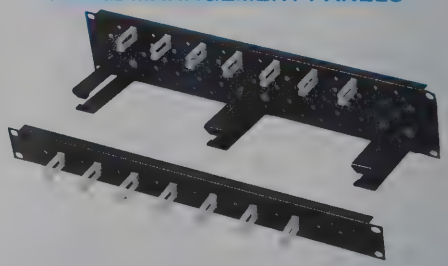


Cable management panels constructed of heavy-gauge steel and finished in a durable, black powdercoated finish. Panels include either four or five 8″-long Velcro™ straps and all mounting hardware. Bracket includes a 12″ Velcro™ strap and mounting hardware. *Order additional Velcro™ straps separately below.* **Sold in packages of 25.**

Stock No.	Type	Description	Each
83F3651	CM2201	19″ Panel	16.45
83F3652	CM 2202	23″ Panel	18.00
83F3650	CM 2200	Bracket	10.89
83F3653	CMS 2208 B	8″ Plain Velcro™ Strap, **Pkg. of 25**	20.45
83F3654	CMS 2212 B	12″ Plain Velcro™ Strap, **Pkg. of 25**	27.02
83F3655	CMS 2218 B	18″ Velcro™ Strap w/Buckle, **Pkg. of 25**	56.33

(34483) (ne34483)

CABLE MANAGEMENT PANELS



Cable management panels keep cable organized. Heavy 18-gauge formed steel panel. **Type CM 1225** includes 12 plastic cable clips and mounting hardware. **Type CM 1227** includes 24 plastic cable clips, 3 cable rings, and mounting hardware. Black finish.

Stock No.	Type	Panel W x H	Each
52F6509	CM 1225	19 x 1.75″	18.34
52F6510	CM 1227	19 x 3.50″	57.46

(17331) (ne10601)

CABLEWAY RINGS

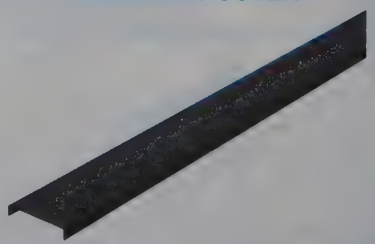
CM 1195

Steel cableway rings mount to side of open rack to provide vertical cableway. Can be used between 2 adjacent racks. Include all mounting hardware. Black finish.

Stock No.	Type	L x W	Each
52F6511	CM 1195	4 x 3″	8.34
52F6512	CM 1196	6 x 3″	9.23

(17332) (ne10602)

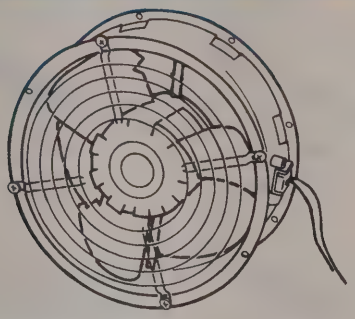
CABLEWAY COVER



Type CM 1197 formed steel cover mounts to the front and rear of cableway rings, *order separately on this page*, to protect cable. Offers a finshed look to cabling installations. For use on 7′ tall open racks. Includes all mounting hardware. Black finish. 83L x 3W x 0.5″H. **Sold in packages of 2.**

52F6513 Type CM 1197. **Per Pkg.** **72.28**
(17333) (ne10603)

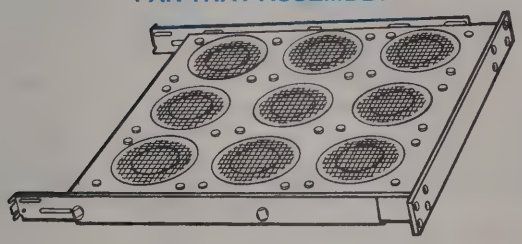
HIGH-CAPACITY EXHAUST FAN

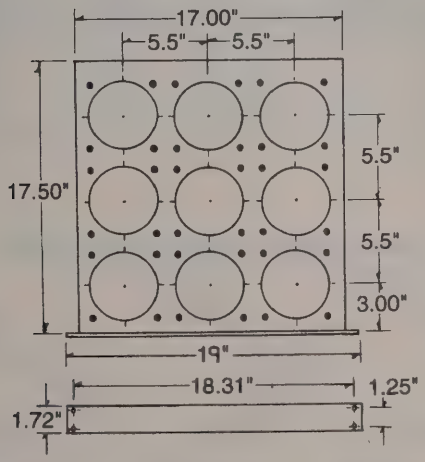


Lightweight, 10″ diameter fan mounts in top of ventilated Economizer™ cabinets. 115VAC fan includes finger guard, 36″ power cord, and mounting hardware. Aluminum housing. Noise level: 6.2 Bels. UL recognized, CSA certified. *Order optional Tem-Stat temperature controllers separately on this page.*

93F4057 Type FN-1282. **Each** **117.42**
(7145) (de52596)

FAN TRAY ASSEMBLY





- **Easy Installation**
- **Fits 1U (1.75″) Panel Height**
- **Choice of Fan Location**

Type FT-1170 fan tray assembly includes 9-position fan tray with preassembled front panel, a 9-outlet daisy chain cord, a 6′ power cord, adjustable support angles, and 9 knock-outs. Fan tray and support angles are constructed of 16-gauge steel. Front panel is 12-gauge steel. The fan tray and front panel available in your choice of white textured (**suffix WH**) or metallic-gray (**suffix MG**) finish. *Order fans for tray and finger guards separately below.*

89F1095 Type FT-1170WH. **Each** **174.23**
89F1096 Type FT-1170MG. **Each** **174.23**

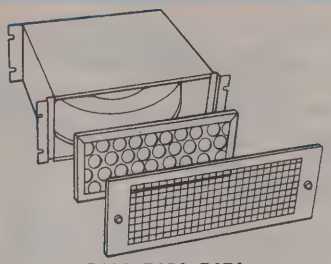
Type FN-1280 fans can be mounted in any pattern to suit individual cooling requirements. May be installed to blow up or down. Include one hardware cloth finger guard and mounting hardware. 110 volt, 0.21A. Airflow: 105 cfm. Operating temperature: –20°C to +60°C. UL recognized.

89F1097 Type FN-1280. **Each** **38.67**

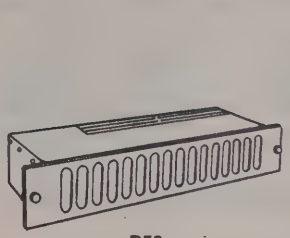
Type FG-1281 wireform finger guard is used for applications requiring finger guards on both sides of fan. Increases overall height of fan tray assembly to approximately 1.875″.

89F1098 Type FG-1281. **Each** **10.45**
(7169) (de53066)

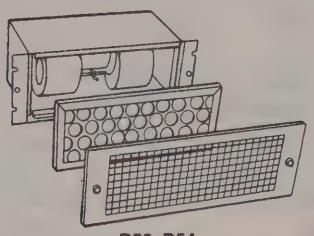
TRANS-AIRE BLOWERS AND REPLACEMENT FILTERS



B23A, B25A, B27A



B50



B52, B54

Designed for cooling electronic equipment in enclosures. All blowers are 115V, 50/60Hz, 19″ panel width with standard EIA notching for rack mounting. Dependable 20,000 hours continuous service. Include dust filter and 24″ power cord. UL listed.

Type B23A 2-speed blower requires only 3.5″ panel height. 1400/1150 rpm, 150/60-watt shaded-pole motor. Airflow: 180 cfm, high speed; 130 cfm, low speed. Permanently lubricated ball bearings. 3.5 x 19″ panel space. Depth: 12″.

91F1631 Type B23A. **Each** **354.90**

Type B25A 2-speed blower recommended for minimum back pressure. 1135/675 rpm, 410/225-watt P.S.C. motor. Airflow: 350 cfm, high speed; 215 cfm, low speed. Permanently lubricated ball bearings. 5.25 x 19″ panel space. Depth: 14.50″.

91F1632 Type B25A. **Each** **469.48**

Type B27A two-speed packaged blower with low noise level. Recommended for components that require maximum cooling. 1350/850 rpm, 580/370-watt P.S.C. motor. Airflow: 550 cfm, high speed; 345 cfm, low speed. Permanently lubricated ball bearings. 7 x 19″ panel space. Depth: 14.50″.

91F1630 Type B27A. **Each** **480.63**

Type B50 blower requires only 3.5″ panel height. Low audible noise level. 3100 rpm, 80-watt shaded-pole motor. Airflow: 150 cfm. Sleeve bearings. 3.5 x 19″ panel space. Depth: 6.375″.

91F1635 Type B50. **Each** **314.17**

Type B52 blower is designed for applications requiring higher back pressure. 2 extra-wide, small-diameter centrifugal blower wheels supply a large volume of clean filtered air. 3000 rpm, 70-watt shaded-pole motor. Airflow: 125 cfm. Permanently lubricated ball bearings. 5.25″ x 19″ panel space. Depth: 9″.

91F1633 Type B52. **Each** **372.82**

Type B54 dual, slow-speed, low-velocity centrifugal blower wheels. Low noise level 1550 rpm, 95-watt fan-cooled, rubber-mounted shaded-pole motor. Airflow: 300 cfm. Permanently lubricated ball bearings. 7 x 19″ panel space. Depth: 10.188″.

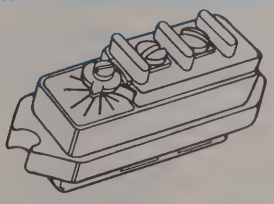
91F1634 Type B54. **Each** **372.82**

REPLACEMENT FILTERS

Stock No.	Type	For Blower	Each
91F904	BF24	B23A, B50	**7.78**
91F638	BF26	B25A	**8.45**
91F905	BF28	B27A	**6.78**
91F1698	BF-53	B52	**6.00**
91F1699	BF-55	B54	**6.23**

(7170) (de53067)

TEM-STAT TEMPERATURE CONTROL

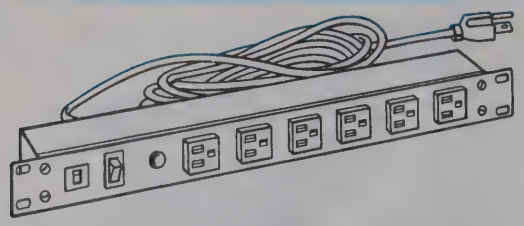


Tem-Stat controls react to gradual or sudden temperature changes in cabinets. When temperature reaches designated setting, contacts open or close (depending upon type) and remain open (or closed) until there is a 10°(±5°) decrease. UL listed, CSA certified.

Stock No.	Type	Contacts Type	Each
91F1636	TS-15	Normally Open — Closed on Temperature Rise	**23.35**
50F9836	TS-22	Normally Closed — Open on Temperature Rise	**24.44**

(7171) (de53068)

19″ RACK MOUNT POWER STRIP

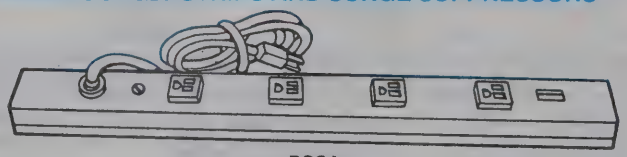


Easily installed to mounting surface of 19″ relay racks to provide instant power distribution from either the front or the rear of the unit. Units have 6 outlets rated 15A at 125VAC. 15′-14/3 SJT power cord. Combination on/off switch and pilot light on front panel. Steel housing with black finish; 1.75H x 19.00W x 2.37″D. **Type POS-193S** is surge protected. UL listed.

Stock No.	Type	Outlet Location	Surge Protected	Each
95F932	POS-192	Front	No	128.36
95F933	POS-193	Rear	No	113.48
95F934	POS-193S	Rear	Yes	131.80

(7168) (de53065)

POWER OUTLET STRIPS AND SURGE SUPPRESSORS



POS4

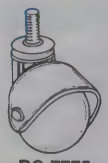
POS series power outlet strips can be used in cabinets, on walls, or along work and test benches. Housing color: silver-gray. No loose wires can come into contact with conductor wires. Strips snap into adjustable mounting clips. Grounded receptacles rated 15A, 125V. Thermal-type 15A circuit breaker with reset. Cord: 6′ 14-gauge 3-wire. UL recognized.

Stock No.	Type	Outlets	Surge Protector	Length	Each
90F396	POS4	4	No	17.50″	91.12
95F6381	POS4-S	4	Yes	17.50″	114.56
81F4472	POS-6	6	No	12.25″	70.29
81F4473	POS-66	6	Yes	12.25″	88.01
90F397	POS7	7	No	48.00″	91.12
95F6382	POS7-S	7	Yes	48.00″	114.56
90F398	POS9	9	No	60.00″	104.31
95F6383	POS-9-S	9	Yes	60.00″	123.87
90F399	POS11	11	No	72.00″	93.63
95F6384	POS-11S	11	Yes	72.00″	128.32

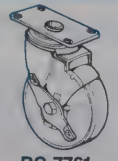
(7167) (de53064)

HEAVY-DUTY CASTERS AND LEVELERS

RC-7758



RC-7775



RC-7761, RC-7762

RL-7766, RL-7767, RL-7771

HEAVY-DUTY CASTERS

Designed to fit rack and cabinet enclosures. **Type RC-7775** swivel caster has ⅜-16 x 1″ threaded steel pin.

Stock No.	Type	Wheel Description	Height	Load Rating	Pkg. Qty	Each
91F094	RC-7758	Ball Bearing	3.25″	200 lb.	4	52.46
50F9845	RC-7762	Hard Rubber	4.00″	240 lb.	2	53.41
50F9844	RC-7761	Rubber w/Brake	4.00″	240 lb.	2	61.71
81F4474	RC-7775	Cushion Rubber	...	75 lb.	1	11.32

ADJUSTABLE STEM LEVELERS

⅜-16 thread. **Types RL-7766, RL-7767** include 2 height-adjusting nuts. 200 lb. load rating.

Stock No.	Type	Wheel Description	Height	Each
95F6365	RL-7771	¾″ Rubber Base	2.75″	3.45
91F103	RL-7767	¾″ Nylon Base	3.75″	4.34
91F102	RL-7766	1″ Rubber Base	4.00″	6.23

LEVELER KIT

Kit includes **type RL-7767** stem leveler, 8 nuts, washers and bolts, and 2 mounting brackets. For use on Economizer™ racks; *order separately on page 396.*

92F2538 Type RL-7770. **Each** **47.95**

(7148) (de52603)

CHROME-PLATED BRASS AND STEEL HANDLES

Fig. 1

Fig. 2

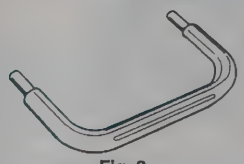


Fig. 3

Fig. 4

CHROME-PLATED STEEL — FIG. 1

Include 2 #10-32 x ⅜″ screws, except **type H-9114-B** which has 2 ¼″-28 x ½″ screws.

Stock No.	Type	Hand Clearance	Mounting Center	Diameter	Each
90F741	H-9110B	1.250″	6″	0.375″	7.98
90F742	H-9111B	0.938″	4″	0.375″	6.47
90F743	H-9112B	0.938″	6″	0.375″	7.88
90F744	H-9113B	0.938″	8″	0.375″	9.09
90F745	H-9114B	1.500″	8″	0.500″	13.54

CHROME-PLATED STEEL — FIG. 2

Include 2 ¼″-28 mounting nuts.

90F746	H-9115B	0.938″	4″	0.375″	8.59
90F732	H-9116B	0.938″	6″	0.375″	10.21

CHROME-PLATED STEEL — FIG. 3

Include 2 ¼″-28 hex mounting nuts.

90F733	H-9160B	1.688″	3.5″	0.375″	10.41
90F734	H-9161B	1.688″	5.25″	0.375″	9.70
90F735	H-9162B	1.688″	7″	0.375″	14.45
90F736	H-9163B	1.688″	8.75″	0.375″	13.34
90F737	H-9164B	1.688″	10.50″	0.375″	14.04
90F738	H-9165B	1.688″	12.25″	0.375″	15.86

CHROME-PLATED BRASS — FIG. 4

Include 2 #6-32 x ⅜″ mounting screws.

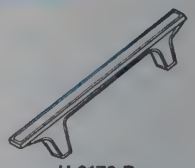
90F739	H-9166B	1″	1.906″	0.250″	5.26
90F740	H-9168B	1″	3.000″	0.250″	5.05

(7147) (de52600)

DIE-CAST ALUMINUM HANDLES

H-9174-B

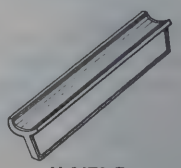
H-9170-B



H-9176-B

H-9177-B

H-9183-B



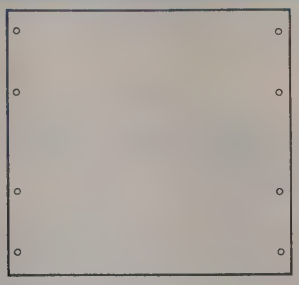
H-9179-B

Clear anodized finish. Each comes with 2 #8-32 x ⅜″ mounting screws except **type H-9170-B** which has 2 #8-32 x ⅝″ screws.

Stock No.	Type	Hand Clearance	Mounting Center	Each
69F198	H-9170-B	1.188″	2.750″	15.86
69F199	H-9174-B	1.094″	4.000″	10.00
69F200	H-9176-B	0.750″	3.250″	11.32
69F201	H-9177-B	0.750″	4.375″	11.32
69F203	H-9179-B	0.625″	4.000″	14.14
69F205	H-9183-B	1.094″	4.563″	14.04

(7146) (de52599)

ALUMINUM AND STEEL STANDARD PANELS



- **19″ Wide Without Surface Shield**
- **11-Gauge Steel or ⅛″ Thick Aluminum Alloy**
- **Standard Notching of 2 Opposite Edges**

Fit telephone and relay racks. Choice of white textured or metallic-gray finish. 24″ wide aluminum panels also available; *contact your local Newark sales office for details.*

1/8″ ALUMINUM PANELS

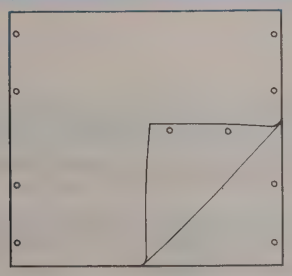
White Texture Stock No.	Metallic Gray Stock No.	Type	H x W	Weight (lbs.)	Each
91F1700	91F388	PA-1101	1.75 x 19″	0.375	11.78
91F1702	91F389	PA-1102	3.50 x 19″	0.750	16.45
91F1704	91F390	PA-1103	5.25 x 19″	1.125	20.00
91F1706	91F391	PA-1104	7.00 x 19″	1.750	26.09
91F1708	91F392	PA-1105	8.75 x 19″	2.000	31.55
91F1710	91F393	PA-1106	10.50 x 19″	2.500	40.11
91F1712	91F394	PA-1107	12.25 x 19″	2.750	44.03
91F1714	91F395	PA-1108	14.00 x 19″	3.250	48.98
91F1716	91F396	PA-1109	15.75 x 19″	3.625	49.82
91F1718	91F397	PA-1110	17.50 x 19″	4.000	54.73
91F1720	91F398	PA-1111	19.25 x 19″	4.250	59.16
91F1722	91F399	PA-1112	21.00 x 19″	5.000	66.90

11-GAUGE STEEL PANELS

White Texture Stock No.	Metallic Gray Stock No.	Type	H x W	Weight (lbs.)	Each
91F1574	91F435	PS-1250	1.75 x 19″	1.250	10.67
91F1576	91F436	PS-1251	3.50 x 19″	2.250	12.89
91F1578	91F437	PS-1252	5.25 x 19″	3.250	20.22
91F1580	91F438	PS-1253	7.00 x 19″	4.500	20.73
91F1582	91F439	PS-1254	8.75 x 19″	6.000	25.06
91F1584	91F440	PS-1255	10.50 x 19″	7.000	27.94
91F1586	91F441	PS-1256	12.25 x 19″	8.250	31.97
91F1588	91F442	PS-1257	14.00 x 19″	9.500	37.64
91F1590	91F443	PS-1258	15.75 x 19″	10.750	40.63
91F1592	91F444	PS-1259	17.50 x 19″	11.750	43.62
91F1594	91F445	PS-1260	19.25 x 19″	13.000	47.65
91F1596	91F446	PS-1261	21.00 x 19″	14.250	49.07

(6897) (de02641)

"SURFACE SHIELD" STANDARD PANELS

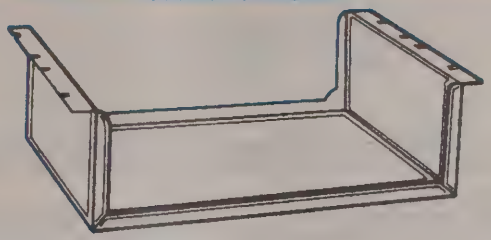


Mill finish aluminum alloy. White pressure-sensitive paper on one side. Standard notching on 2 opposite edges.

Stock No.	Type	H x W x D	Weight (lbs.)	Each
91F265	SFA1831	1.75 x 19 x 0.125″	0.375	10.56
91F266	SFA1832	3.50 x 19 x 0.125″	0.750	15.45
91F267	SFA1833	5.25 x 19 x 0.125″	1.125	19.78
91F268	SFA1834	7.00 x 19 x 0.125″	1.750	23.51
91F269	SFA1835	8.75 x 19 x 0.125″	2.000	25.78
91F270	SFA1836	10.50 x 19 x 0.125″	2.500	33.41
91F271	SFA1837	12.25 x 19 x 0.125″	2.750	38.67
91F272	SFA1838	14.00 x 19 x 0.125″	3.250	43.72
91F273	SFA1839	15.75 x 19 x 0.125″	3.625	49.29
91F274	SFA1840	17.50 x 19 x 0.125″	4.000	49.63
91F275	SFA1841	19.25 x 19 x 0.125″	4.500	55.10
91F276	SFA1842	21.00 x 19 x 0.125″	5.000	60.29

(6899) (de02644)

PANEL CHASSIS

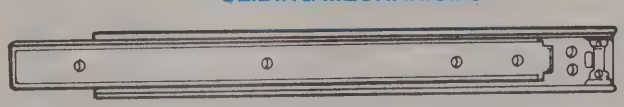


Fasten to mounting rail in racks. Use as vertical chassis where depth is limited. 0.050″ thick aluminum alloy. Natural finish. *Order additional mounting rails separately on page 398.*

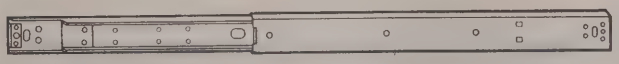
Stock No.	Type	Height	Panel Depth	Each
91F493	CB1370	1.75″	5.281″	23.30
91F494	CB1371	3.50″	5.281″	24.64
91F495	CB1372	5.25″	5.281″	30.62
91F496	CB1373	7.00″	5.281″	35.16
91F497	CB1374	8.75″	5.281″	37.22
91F498	CB1375	10.50″	5.281″	40.52
91F499	CB1376	12.25″	5.281″	45.37
91F479	CB1377	14.00″	5.281″	50.21

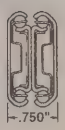
(6921) (de50388)

SLIDING MECHANISMS

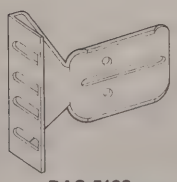


AS-5000-A

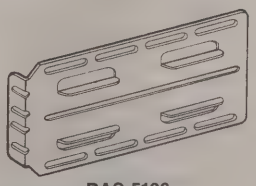




AS-5040-A



BAS-5108



BAS-5106

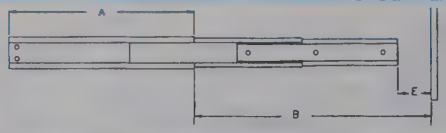
Zinc-plated, alloy steel telescoping and linear motion mechanisms with outer member, inner member, ball retainer and ball bearings. Stationary delrin guides for stabililzation in closed position. Front disconnect and positive stop. **Types AS-5000-A** through **AS-5004-A** are 2-piece slides with a ¾″ extension and a max. chassis width of 2″ less than rack panel width when used with **types BAS-5106** or **BAS-5107** mounting bracket kits; *order separately below.* **Types AS-5040-A** through **AS-5042-A**, and **AS-5044-A** are 3-piece slides with full extension and a max. chassis width of 2¾″ less than rack panel width when used with **types BAS-5106** or **BAS-5107** mounting bracket kits and 2″ less than rack panel width when used with **type BAS-5108** mounting bracket kit; *order separately below.*

Stock No.	Type	Slide Length	Travel	Load Rating (per pair)	Bracket Kit	Each
91F1607	AS-5000-A	12″	8″	140lbs.	BAS-5106	40.93
91F1608	AS-5001-A	16″	12″	120lbs.	or	49.07
91F1609	AS-5002-A	20″	15″	92lbs.	BAS-5107	51.61
50F9837	AS-5004-A	26″	19	70lbs.		54.63
91F1613	AS-5040-A	12″	12⅞″	119lbs.	BAS-5106,	96.47
91F1614	AS-5041-A	16″	16⅞″	106lbs.	BAS-5107	102.61
91F1615	AS-5042-A	20″	20⅞″	91lbs.	or	108.75
48F1072	AS-5044-A	26″	26⅞″	73lbs.	BAS-5108	114.80

96F9339 Type BAS-5106 Universal Mounting Bracket Kit. **Each** **66.52**
96F9340 Type BAS-5108 Recessed Mounting Bracket Kit. **Each** **71.43**
99F3957 Type TPD11CGRA(2) Economy Bracket Kit. **Each** **5.17**
(6898) (de02643)

CHASSIS TRAK® TELESCOPING SLIDES

HOW TO ORDER SOLID BEARING SLIDES



- **Dimension A is the slide length in closed position, B is the length of extension from the front of the cabinet, E is the minimum required setback from front of cabinet.**
- **Overall extended length of slide is A+B–E.**
- **Standard 19″ cabinets have 17.75″W opening. Pair of 0.38″ slides and 17″W chassis will fit 17.75″ cabinet opening.**

(7072) (de01508)

C-230 SERIES SOLID-BEARING SLIDES, 125-LB CAPACITY

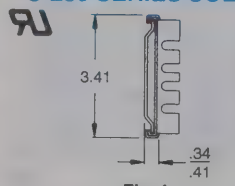


Fig. 1

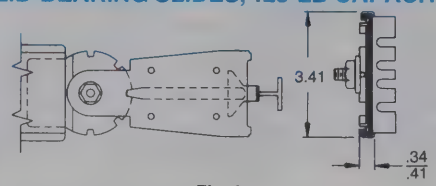


Fig. 2

3-section, fully extendable slides fit standard rack or enclosure and provide high resistance to shock and vibration. One pair of 2 interchangeable right-hand slides. UL recognized. To determine overall extended length of slide, *see How-to-Order information on this page.* **Sold in packages of 2.**

C-230 STANDARD NONPIVOT SLIDES–FIG.1

Stock No.	Type	Slide Lgth. A	Ext. Lgth. B	Min. Setback E	1-4	5-9
51F4050	C-230-S-118	18″	22″	4.38″	90.97	78.01
51F4051	C-230-S-120	20″	20″	0.50″	98.25	84.25
51F4052	C-230-S-122	22″	26″	4.50″	98.25	84.25
51F4053	C-230-S-124	24″	24″	4.50″	98.25	84.25
C-230 UP-AND-DOWN PIVOTING SLIDES–FIG. 2						
51F4054	C-230-D-118	18″	22″	7.69″	163.87	133.57
97F3054	C-230-D-120	20″	20″	7.69″	171.19	138.65
51F4055	C-230-D-122	22″	26″	9.69″	176.90	144.19
51F4056	C-230-D-124	24″	24″	9.69″	176.90	144.19

(7073) (de01509)

C-300 SERIES SOLID-BEARING SLIDES, 85-LB. CAPACITY

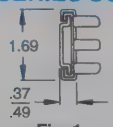


Fig. 1

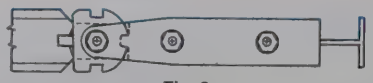


Fig. 2

Ideal for commercial/military applications. Minimum deflection and Poxylube® dry film lubricant for smooth sliding action. One pair of 2 interchangeable right-hand slides. UL recognized. *Order* **type B-308** *bracket kit below to mount in cabinets deeper than slide length.* To determine overall extended length of slide, *see How-to-Order information on this page.* **Sold in packages of 2.**

STANDARD NONPIVOT SLIDES–FIG. 1

Stock No.	Type	Slide Lgth. A	Ext. Lgth. B	Min. Setback E	1-4	5-9
51F4059	C-300S-110	10″	10.88″	N/A	55.93	47.97
51F4060	C-300S-112	12″	10.88″	N/A	55.93	47.97
51F4061	C-300S-114	14″	14.88″	N/A	60.43	51.83
51F4062	C-300S-116	16″	14.88″	N/A	60.43	51.83
51F4063	C-300S-118	18″	14.88″	N/A	60.43	51.83
51F4064	C-300S-120	20″	20.88″	N/A	65.99	56.59
51F4065	C-300S-122	22″	20.88″	N/A	65.99	56.59
51F4066	C-300S-124	24″	20.88″	N/A	65.99	56.59
51F4067	C-300S-126	26″	26.88″	N/A	73.08	62.67
51F4068	C-300S-128	28″	26.88″	N/A	73.08	62.67
97F7353	C-300-S-130	30″	26.88″	N/A	73.08	62.67
UP-AND-DOWN PIVOTING SLIDES–FIG. 2						
16F1904	C-300-D-118	18″	15.75″	1″	97.69	79.63
51F4070	C-300D-120	20″	21.75″	1″	109.11	88.94
51F4071	C-300D-122	22″	21.75″	1″	109.11	88.94
51F4072	C-300D-124	24″	21.75″	1″	109.11	88.94

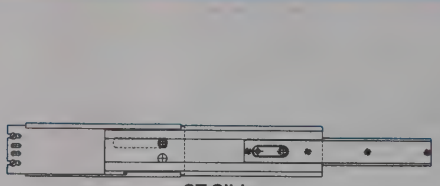
EXTENSION BRACKET KIT FOR C-300 SLIDES

7.25″ (184.2) bracket allows 6″ (152.4) of slide adjustment.

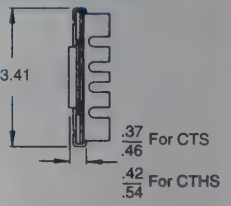
51F4073 Type B-308. **Pkg. of 2** **13.73**

(7074) (de01510)

CT SERIES NONPIVOT SLIDES



CT Slide



Full-extension slides fit any standard rack or enclosure. Automatic lockout and push-button lock release for easy chassis removal. **Types CTS** and **CTRS** slides are rated at 175 lbs. **Types CTHS** and **CTHRS** slides are rated at 275 lbs. Contains 1 pair of right-hand and left-hand slides and all mounting hardware. *Order* **type B-307** *bracket kit separately below to mount* **types CTS** *and* **CTRS** *in cabinets deeper than slide length. Order* **type B-810** *bracket kit separately below to mount* **types CTHS** *and* **CTHRS** *in cabinets deeper than slide length.* **Type CTRS** slides are identical to **type CTS** slides but with stainless steel ball bearing rollers. **Type CTHS** slides are identical to **type CTHRS** slide but with stainless steel ball-bearing rollers. To determine overall extended length of slide, *see How-to-Order information on this page.* **Sold in packages of 2.**

TYPE CTS NONPIVOT SLIDES

Stock No.	Type	Slide Lgth. A	Ext. Lgth. B	Min. Setback E	1-4	5-9
51F4077	CTS-116	16″	15.75″	...	123.00	103.10
51F4078	CTS-118	18″	21.63″	...	123.00	103.10
51F4079	CTS-120	20″	23.63″	...	130.24	109.17
51F4080	CTS-122	22″	25.63″	0.63″	130.24	109.17
51F4081	CTS-124	24″	28.53″	1.63″	130.24	109.17
TYPE CTRS NONPIVOT ROLLER BEARING SLIDES						
51F4082	CTRS-120	20″	23.63″	...	144.45	126.55
51F4083	CTRS-122	22″	25.63″	0.63″	144.45	126.55
51F4084	CTRS-124	24″	28.53″	1.63″	144.45	126.55
TYPE CTHS NONPIVOT SOLID BEARING SLIDES						
16F1905	CTHS-118	18″	21.63″	...	142.23	132.62
16F1906	CTHS-120	20″	23.63″	...	147.78	137.80
97F3062	CTHS-122	22″	23.63″	...	143.79	133.53
97F3063	CTHS-124	24″	24.25″	0.63″	147.78	137.80
TYPE CTHRS NONPIVOT SOLID BEARING SLIDES						
16F1907	CTHRS-118	18″	21.63″	...	186.36	173.57
16F1908	CTHRS-120	20″	23.63″	...	186.36	173.57
16F1909	CTHRS-122	22″	23.63″	...	186.36	173.57
16F1910	CTHRS-124	24″	24.25″	0.63″	204.91	190.84

EXTENSION BRACKETS FOR C-230 AND CT SERIES SLIDES

For mounting in cabinets deeper than slide length. **Sold in packages of 2.**

Stock No.	Type	Description	Per Pkg.
51F4057	B-307-1	4″ Extension for C-230, CTS, and CTRS Slides	13.73
51F4058	B-307-2	8″ Extension for C-230, CTS, and CTRS Slides	13.73
16F1911	B-810-1	4″ Extension for CTHS and CTHRS Slides	13.73

(7075) (de01512)

C-300 SERIES SLIDE KITS FOR PANASONIC® BT SERIES 19″ MONITORS

For use with Panasonic® industrial and commercial recorders and monitors, including AG 6500, AG 7300, and AG 7500. Package includes one pair of slides, brackets and all mounting hardware.

Type CC3001-99-0191 is a 22″ slide and bracket combination that fits 22″ to 28.5″ rail depth settings. Contains 2 interchangeable right-hand slides with open slot brackets.

51F4074 Type CC3001-99-0191. **Pkg. of 2** **96.57**

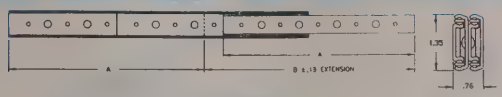
(7082) (de01533)

ADDITIONAL GENERAL DEVICES ITEMS SUCH AS SHELVES, DRAWERS AND CABLE CARRIERS CAN BE FOUND *on page 408.*

(10929) (ne09811)

CHASSIS TRAK® TELESCOPING SLIDES

LBS SERIES CHASSIS TRAK BALL-BEARING SLIDES



LBS-12

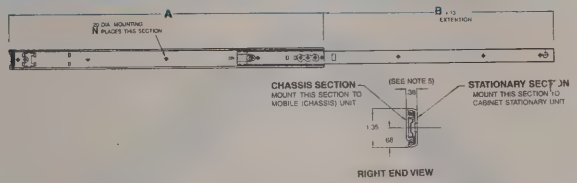
Slides provide ultra-smooth glide and long-life cycle. Includes hardware for mounting flat or on cabinet wall. For cabinet mounting, *order* **type CM1** *extension brackets separately on this page.* One kit per pair of slides. **Sold in packages of 2.**

38″ WIDE SLIDES — 85-LB. CAPACITY

Stock No.	Type	Dimensions A	Dimensions B	Per Pkg. 1-4	Per Pkg. 5-9
51F4085	LBS-11-16	16.00″	12.00″	31.54	27.58
51F4086	LBS-11-18	18.00″	13.50″	35.34	30.91
51F4087	LBS-11-20	20.00″	15.00″	35.34	30.91
51F4088	LBS-11-22	22.00″	16.50″	35.34	30.91
76″ WIDE SLIDES — 150-LB. CAPACITY					
51F4089	LBS-12-16	16.00″	17.00″	52.30	45.75
51F4090	LBS-12-18	18.00″	19.00″	60.96	53.33
51F4091	LBS-12-20	20.00″	21.00″	60.96	53.33
51F4092	LBS-12-22	22.00″	23.00″	60.96	53.33

(7077) (de01513)

CLB SERIES CHASSIS TRAK BALL-BEARING SLIDES

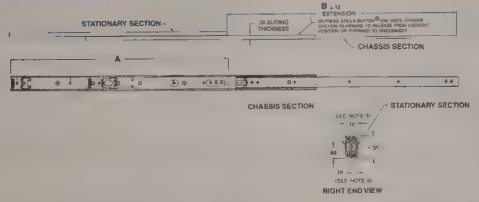

CHASSIS SECTION
MOUNT THIS SECTION TO MOBILE (CHASSIS) UNIT
STATIONARY SECTION
MOUNT THIS SECTION TO CABINET STATIONARY UNIT
RIGHT END VIEW

Provide quiet travel, quick-disconnect chassis removal and replacement, lockout for safe operation, and cushioned stop. Ideal for light to medium electronics applications. Contains one pair no-hand interchangeable slides. Capacities range 85-125 lbs. *Order* **type CM1** *extension brackets separately for cabinet mounting on this page.* **Sold in packages of 2.**

Stock No.	Type	Dimensions A	Dimensions B	Per Pkg. 1-4	Per Pkg. 5-9
51F4094	CLB-203-16	16.00″	12.00″	38.60	33.76
51F4095	CLB-203-18	18.00″	13.50″	44.19	38.66
51F4096	CLB-203-20	20.00″	15.00″	44.19	38.66
51F4097	CLB-203-22	22.00″	16.50″	44.19	38.66
51F4098	CLB-203-24	24.00″	17.00″	48.66	42.56

(7078) (de01514)

GREEN BUTTON® BALL BEARING SLIDES



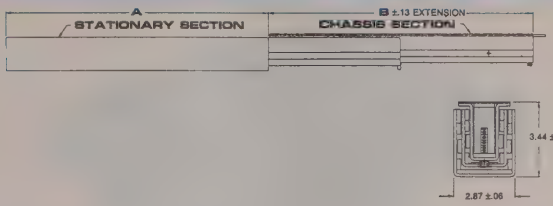
Green Button® ball bearing slides contain 1 pair of interchangeable slides. **Type CLB-305** has a capacity range from 90-120 lbs. and includes **type CM7** brackets for mounting. **Types CLB-307** and **CLB-315** have a capacity of 150 lbs. and require **type CM** extension brackets for mounting; *order separately on this page.* **Sold in packages of 2.**

TYPE CLB-305 BALL BEARING SLIDES

Stock No.	Type	Dimensions A	Dimensions B	Per Pkg. 1-4	Per Pkg. 5-9
52F7361	CLB-305-18-CM7	18.00″	19.00″	91.80	80.29
52F7362	CLB-305-20-CM7	20.00″	21.00″	91.80	80.29
52F7363	CLB-305-22-CM7	22.00″	23.00″	91.80	80.29
52F7364	CLB30524-CM7	24.00″	25.00″	101.23	88.55
TYPE CLB-307 BALL BEARING SLIDES					
16F1896	CLB-307-18	18.00″	19.00″	82.34	72.02
16F1897	CLB-307-20	20.00″	21.00″	82.34	72.02
16F1898	CLB-307-22	22.00″	23.00″	82.34	72.02
16F1899	CLB-307-24	24.00″	25.00″	90.09	78.80
TYPE CLB-315 BALL BEARING SLIDES					
16F1900	CLB-315-18	18.00″	19.00″	115.50	101.02
16F1901	CLB-315-20	20.00″	21.00″	115.50	101.02
16F1902	CLB-315-22	22.00″	23.00″	115.50	101.02
16F1903	CLB-315-24	24.00″	25.00″	127.33	111.37

(7220) (ne08355)

D-1054 SERIES HEAVY-DUTY BOTTOM MOUNT SLIDES

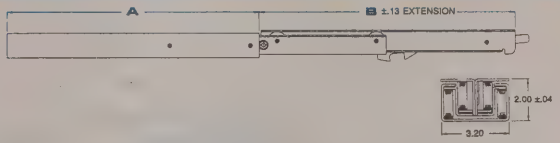


Slide operates on vertical rollers and ball bearings. Slide members are of 10-gauge CRS and 0.1875″ C.D. flat bar, coated with Poxylube® dry film lubricant. Other sizes available; *contact your local Newark sales office.*

Stock No.	Type	Dimensions A	Dimensions B	Load Capacity	1-4	5-9
95F1027	D-1054-18	18″	18″	1270 lbs.	396.14	366.65
95F1028	D-1054-20	20″	20″	1140 lbs.	396.14	366.65
95F1029	D-1054-22	22″	22″	1035 lbs.	409.73	379.24
95F1030	D-1054-24	24″	24″	950 lbs.	409.73	379.24

(7084) (de01535)

C-938 SERIES ROLLER-BEARING BOTTOM MOUNT SLIDES

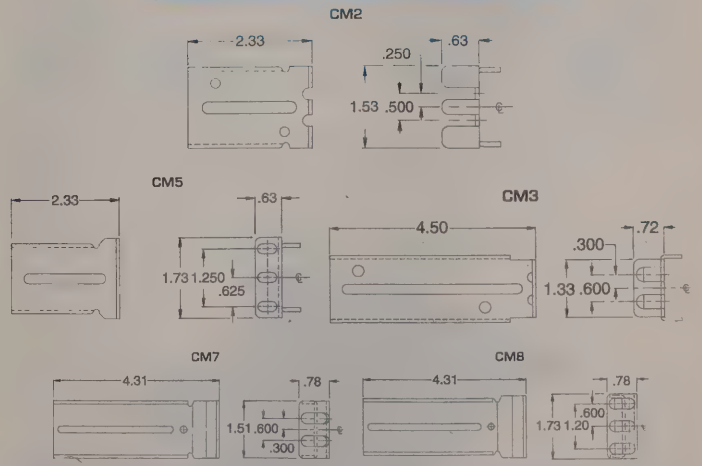


Slide members of 12-gauge CRS, zinc-plated and clear chromate sealed. Listed load capacity has 100% static load safety factor at full extension. Not designed for operation with loads exceeding listed values. Rollers lubricated with – 65°F to +350°F grease. Other sizes available; *contact your local Newark sales office.*

Stock No.	Type	Dimensions A	Dimensions B	Load Capacity	1-4	5-9
95F1037	C-938-20	20.00″	20.06″	220 lbs.	165.54	141.96
95F1038	C-938-22	22.00″	22.06″	200 lbs.	165.54	141.96
95F1039	C-938-24	24.00″	24.06″	180 lbs.	172.59	148.01
95F1040	C-938-26	26.00″	26.06″	165 lbs.	172.59	148.01
95F1042	C-938-30	30.00″	30.06″	140 lbs.	178.49	153.06

(7081) (de01532)

CM SERIES EXTENSION BRACKETS



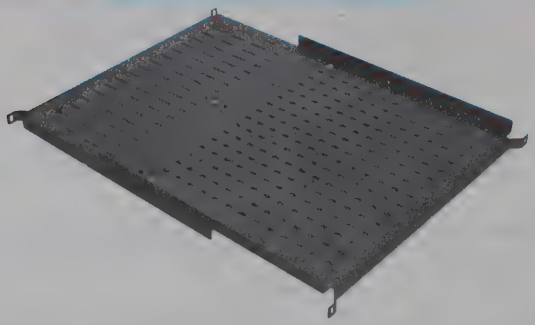
Provide mounting flexibility and maximum slide extension. Contains brackets, bar nuts, and screws for mounting 1 pair of slides to a cabinet. **Sold in packages of 4.**

Stock No.	Type	For Slide Types: LBS-11, LBS-12, CLB-315	For Slide Types: CLB-203, CLB-307	For Slide Types: CLB-305	Per Pkg.
51F4093	CM-1	1.00″ Ext.	1.36″ Ext.	...	10.37
97F3042	CM2	1.00″ Ext.	1.36″ Ext.	...	10.37
16F1893	CM3	3.16″ Ext.	3.53″ Ext.	...	10.37
97F3044	CM5	1.00″ Ext.	1.36″ Ext.	...	10.37
16F1894	CM7	...	...	1.77″ Ext.	10.37
16F1895	CM8	...	...	1.77″ Ext.	10.37

(7221) (ne08356)

SHELVES AND RACK ACCESSORIES

ADJUSTABLE FIXED SHELF

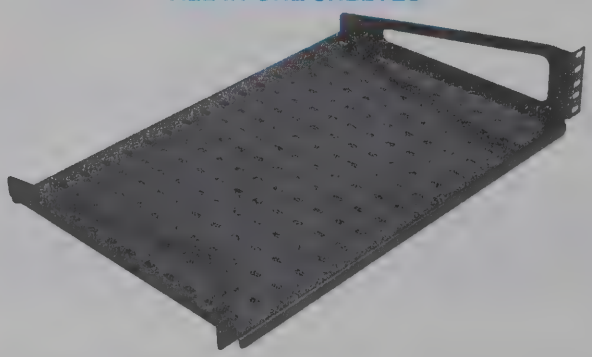


Type D-4451 adjustable fixed shelf is ideal for installing equipment that cannot be rack mounted. Adjusts to multiple mounting depths. Perforated for additional cooling. Sturdy 14-gauge steel construction. 150-lb. capacity. Fits 19″ panel width. Finished in black semigloss.

Stock No.	Type	1-4	5-9
01F690	D-4451	84.27	79.75

(17446) (ne10785)

ALL-IN-ONE SHELVES

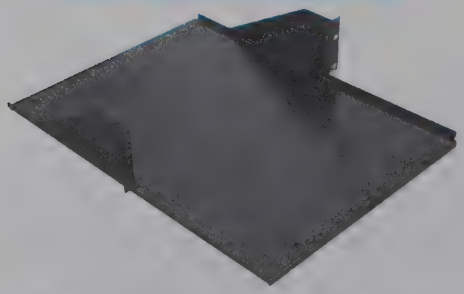


Types D-4455 and **D4456** all-in-one shelves mount equipment on the inside or outside of standard 19″ enclosures and racks. Rugged 14-gauge steel construction. Perforated to help keep equipment cool. Black semigloss finish.

Stock No.	Type	Height*	1-4	5-9
01F691	D-4455	1U	40.19	38.03
01F692	D-4456	2U	42.37	40.10

*1U = 1.75″
(17447) (ne10786)

FIXED RELAY RACK SHELVES

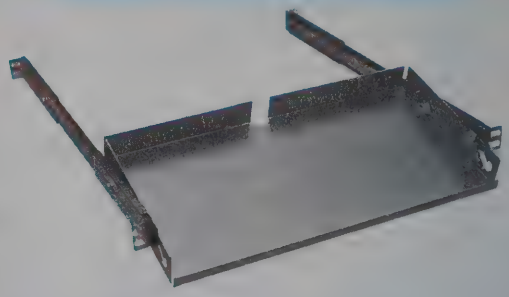


Type D-4458 heavy-duty 14-gauge steel shelves fit 19″ open relay racks. Available in 20″, 24″, and 30″ depths.

Stock No.	Type	Depth	1-4	5-9
01F693	D-4458-20	20″	57.59	54.50
01F694	D-4458-24	24″	71.97	68.10
01F695	D-4458-30	30″	74.44	70.44

(17448) (ne10787)

KB SERIES KEYBOARD DRAWERS



KB series sturdy 16-gauge steel keyboard drawers tilt down for easy access and securely store keyboard when not in use. Inside width is 17″. Multiple mounting depth slide lengths range from 10″ to 30″ in 2″ increments. CM4 brackets allow adjustable mounting depths. Bright zinc-plated finish.

Stock No.	Type	Mounting Depth	1-4	5-9
01F687	KB-203-20-CM4	20″	128.32	112.24
01F688	KB-203-24-CM4	24″	132.93	116.27

(17449) (ne10788)

CABLE CARRIERS AND RETRACTORS

Keep cables neat and orderly. Carriers, retractors, and roller guides help prevent damage such as pinched, tangled, cut, or bent cables.

Type C-4555 ribbon carrier extends up to 29″. 16-gauge steel construction, bright zinc-plated finish. **Type D-329** cable carrier offers three mounting points for heavier cables and features quick-disconnect for easy installation. 14-gauge steel construction. Extends up to 30″. Bright zinc-plated finish. **Type C-990** cable carrier features heavy roll form steel construction. Bright zinc-plated finish. Two-point mount extends to 30″. **Type C-4017** cable roller guide is for use with other carriers and guides.

Stock No.	Type	Description	1-4	5-9
51F4104	C-4555	Two-Point Mount Ribbon Carrier	39.03	34.13
51F4102	D-329	Two-Point Mount Cable Carrier	36.90	32.28
51F4103	C-990	Three-Point Mount Cable Carrier	46.13	40.35
51F4105	C-4017	Cable Roller Guide	17.40	15.23

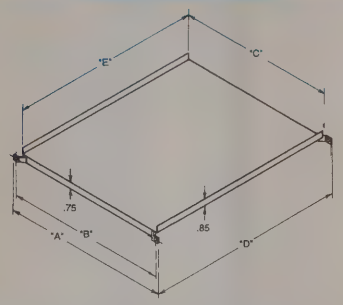
(7083) (de01534)

ADDITIONAL GENERAL DEVICES SHELVES ARE FOUND ON *on page 409.*

(17445) (ne10784)

CABINET ACCESSORIES

FIXED SHELVES

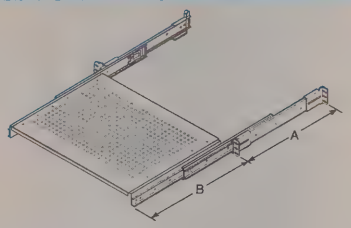


14-gauge cold rolled steel construction provides sturdy surface for equipment mounting. Finish: black semigloss. Mounting hardware included. Dimension C = 17.88″.

Stock No.	Type	Dimensions A	B	D	E	1-4	5-9
16F1889	D-6064-20	18.98″	18.31″	20.00″	19.00″	**52.97**	**50.13**
16F1890	D-6064-22	18.98″	18.31″	22.00″	21.00″	**53.52**	**50.65**
16F1891	D-6064-19X24	18.98″	18.31″	24.00″	23.00″	**60.19**	**56.95**

(7212) (ne08029)

PERFORATED SLIDING SHELVES

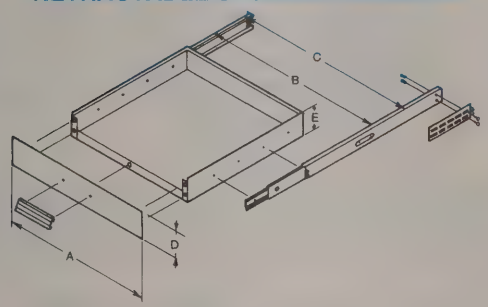


Perforated shelves aid airflow, keeping equipment cooler. Green Button® slides with quick-disconnect feature to eliminate pinched fingers and clothing while accessing equipment.

Stock No.	Type	Dimensions A	B	1-4	5-9
52F5540	C-71307-20-CM5	20.00″	21.00″	**150.58**	**142.95**
52F5541	C-71307-22-CM5	22.00″	23.00″	**150.58**	**142.95**
52F5542	C-71307-24-CM5	24.00″	25.00″	**165.00**	**156.64**
52F5543	C-71307-26-CM5	26.00″	27.00″	**165.00**	**156.49**
52F5544	C-71307-28-CM5	28.00″	29.00″	**165.00**	**156.64**
52F5545	C-71307-30-CM5	30.00″	31.00″	**176.18**	**167.24**

(7214) (ne08031)

RETRACTABLE STORAGE DRAWERS

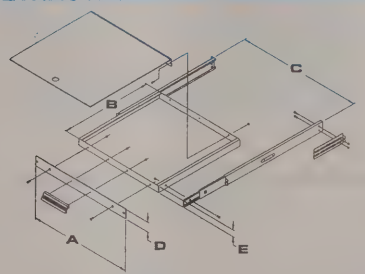


16-gauge cold rolled steel constructed drawers are designed for rack mount applications. Front panel is 12-gauge, cold rolled steel constructed. Includes **type C-300-S-120** slide assembly and **type B-308** extension brackets. Finish: black semigloss. Dimension C = 17.88″.

Stock No.	Type	Dimensions A	B	D	E	1-4	5-9
97F3105	D-4100-3	19.0″	17.0″	3.47″	3.00″	**132.56**	**125.44**
97F3106	D-4100-5	19.0″	17.0″	5.22″	4.75″	**136.22**	**128.90**
16F1892	D-4100-7	19.0″	17.0″	6.97″	6.50″	**139.89**	**132.37**

(7213) (ne08030)

RETRACTABLE WRITING SHELVES

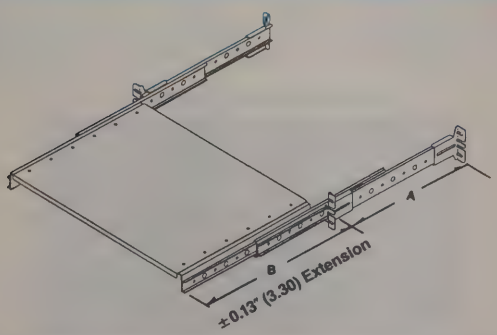


Storage box body of 16-gauge CRS with bright zinc finish. Writing surface is white plastic laminate. Front panel of 0.125″ aluminum, extruded aluminum pull-handle. Dimensions: A = 19.00″ (762.0), B = 17.00″ (431.8), C = 17.88″ (454.2). **Type D-4080** uses **type C-300-S-120C** slide assembly and **type B-309** extension bracket; **type D-4087** uses **type C-300-S-120F** slide assembly and **type B-308** bracket, *order separately; contact your local Newark sales office.*

Stock No.	Type	Dimensions D	E	1-4	5-9
95F1034	D-4080	1.72″	1.19″	**146.68**	**138.80**
95F1035	D-4087	3.47″	2.94″	**167.24**	**158.26**

(7086) (de01537)

C-7100 SERIES SLIDING PLATFORM/SHELVES



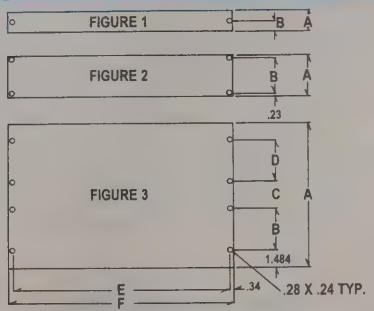
Sliding platform/shelf is ideal for rack-mounting test equipment, consoles, display monitors. 14-gauge CRS with zinc/bright chromate finish. Includes all mounting hardware.

Stock No.	Type	Dimensions A	B	Each
51F4099	C-7100-22-CM1	22.00″	23.00″	**104.10**
51F4100	C-7100-24-CM1	24.00″	25.00″	**116.58**
51F4101	C-7100-26-CM1	26.00″	27.00″	**116.58**

(7085) (de01536)

ALUMINUM BLANK PANEL ASSEMBLY

NEW



Get rid of awkward spaces between equipment with attractive ⅛″ aluminum blank filler panels. Etched and applied with a clear chromate conversion coating.

Stock No.	Type	Dimensions A	B	C	D	1-4	5-9
97F3103	D-4021-1	1.72	0.86	...	...	**12.33**	**10.78**
48F1709	D-4021-3	3.47	3.00	...	...	**14.42**	**12.61**
48F1710	D-4021-5	5.22	2.25	...	...	**16.88**	**14.77**
97F3104	D-4021-7	6.97	4.00	...	...	**20.06**	**17.56**
48F1711	D-4021-8	8.72	5.75	...	...	**21.88**	**19.14**
48F1712	D-4021-10	10.47	2.25	3.00	2.25	**24.37**	**21.31**
48F1713	D-4021-12	12.22	3.50	2.25	3.50	**26.85**	**23.48**
48F1714	D-4021-14	13.97	4.00	3.00	4.00	**29.34**	**25.67**

(34482) (ne34482)

REFK SERIES ECONOMY CABINET RACKS

REFK2404924CG1 (With Door)

REFK series knockdown racks have a standard 19″ panel width (22″ overall), 24″ usable depth (24.5″ overall). Unit is shipped complete with 4 infinitely adjustable combination rack mount rails (full EIA spacing), 4 leveling feet, and #10-32 clip nuts for rails; doors not included. Shipped in a flat pack container for damage-free receipt. Simple assembly using one bolt in each corner to lock the sides to the top and bottom. Heavy-duty 16-gauge steel top, bottom, and sides. Rails are made of 14-gauge black steel. Finished in a rugged, textured baked gray/beige enamel finish. Also available in black; *contact your local Newark sales office. Order flush solid and flush louvered doors separately on this page.*

Stock No.	Type	Panel Space	Weight (lbs.)	Each
83F3717	REFK1903524CG1	35″	103	321.94
83F3718	REFK1904224CG1	42″	111	324.66
01F1098	REFK1904924CG1	49″	126	394.83
83F9068	REFK1905624CG1	56″	136	419.12
01F1099	REFK1906324CG1	63″	145	437.35
01F1100	REFK1907024CG1	70″	160	485.95

(18731) (ne10947)

RSDF SERIES FLUSH SOLID DOORS

RSDF series are flush mount doors with reversible right or left opening (by inverting door). Feature lockable latch, magnetic catch, and spring-loaded hinge pins for instant installation or removal. Allows full access to space between panel rails when open. Paint matches **REFK series** racks in the same rugged textured baked gray/beige enamel finish, *order separately on this page.* Also available in black; *contact your local Newark sales office.*

Stock No.	Type	Panel Space	Weight (lbs.)	Each
83F3715	RSDF19035CG1	35″	13	103.55
83F3716	RSDF19042CG1	42″	18	122.07
01F1101	RSDF19049CG1	49″	26	135.34
83F9073	RSDF19056CG1	56″	30	135.34
01F1102	RSDF19063CG1	63″	33	135.23
01F1103	RSDF19070CG1	70″	37	147.00

(18734) (ne10950)

RSDL SERIES FLUSH LOUVERED DOORS

RSDL series are flush mount, open right-hand only with louvers facing down. Feature lockable latch, magnetic catch, and spring-loaded hinge pins for instant installation or removal. Allows full access to space between panel rails when open. Paint matches **REFK series** racks in the same rugged textured gray/beige baked enamel finish, *order separately on this page.* Also available in black, *contact your local Newark sales office.*

Stock No.	Type	Panel Space	Weight (lbs.)	Each
99F6830	RSDL19035CG1	35″	13	117.41
83F3714	RSDL19042CG1	42″	18	134.16
01F1104	RSDL19049CG1	49″	26	133.96
83F9074	RSDL19056CG1	56″	30	133.96
01F1105	RSDL19063CG1	63″	33	159.47
99F7571	RSDL19070CG1	70″	37	167.35

(18735) (ne10951)

TYPE 1425P CASTERS

Type 1425P casters feature smooth rolling twin nylon swivel wheels with zinc axles and hoods. 2.37″ diameter, with a mounted height of 2.75″. Nothing else to buy, they screw into leveling feet of **REFK series** racks with weldnuts provided. 400-lb. capacity per set. **Sold in sets of 4.**

94F828 Type 1425P. **Each** **138.36**

(18732) (ne10948)

C2RR SERIES HEAVY-DUTY WELDED RACKS

C2RR197023CG1

C2RR series welded racks (1200 lb. even load rating) have standard 19″ panel width (23″ overall). Choice of two depths: 23.6″ or 31.5″ usable depth. Unit is shipped complete (no assembly required) with removable side panels (¼-turn latches), 4 infinitely adjustable combination rack mount rails (full EIA spacing), 1 solid flush mount door, solid top, 4 leveling feet, and #10-32 clip nuts for rails. Heavy-duty 14-gauge steel frame, 16-gauge side panels. Rails are made of 14-gauge black steel. Rugged, textured baked gray/beige enamel finish. Also available in black; *contact your local Newark sales office.*

Stock No.	Type	Panel Space	Depth	Weight (lbs.)	Each
83F8962	C2RR194223CG1	42″	23.63″	205	662.55
66F8023	C2RR196323CG1	63″	23.63″	260	756.69
66F8025	C2RR197023CG1	70″	23.63″	295	919.62
83F8964	C2RR194231CG1	42″	31.50″	218	687.68
66F8024	C2RR196331CG1	63″	31.50″	280	1034.89
66F8026	C2RR197031CG1	70″	31.50″	315	853.83

(7196) (ne06212)

CDF SERIES FLUSH SOLID DOORS

CDF series doors are flush mount, reversible right or left opening (by inverting door). Feature lockable latch, magnetic catch, and spring-loaded hinge pins for instant installation or removal. Allows full access to space between panel rails when open. Paint matches **C2RR series** racks in the same rugged, textured, gray/beige baked enamel finish. *Ordered separately on this page* Also available in black; *contact your local Newark sales office.*

Stock No.	Type	Panel Space	Weight (lbs.)	Each
83F8972	CDF1942SCG1	42″	28	148.71
90F9647	CDF1963SCG1	63″	45	188.10
90F9648	CDF1970SCG1	70″	51	195.33

(18127) (ne10936)

CDF SERIES FLUSH LOUVERED DOORS

CDF series flush mount doors open right-hand only with louvers facing down. Feature lockable latch, magnetic catch, and spring-loaded hinge pins for instant installation or removal. Allows full access to space between panel rails when open. Paint matches **C2RR series** racks in the same rugged, textured, gray/beige baked enamel finish, *order separately on this page* Also available in black, *contact your local Newark sales office.*

Stock No.	Type	Panel Space	Weight (lbs.)	Each
83F8970	CDF1942LCG1	42″	28	175.57
90F9653	CDF1963LCG1	63″	45	218.22
90F9654	CDF1970LCG1	70″	51	226.26

(18128) (ne10937)

INSIDE BASE CASTERS

No drilling required; mount into existing holes in **C2RR series** racks, *order separately on this page* Swivel, ball bearing units and hard composition type wheels. Add only 0.75″ to height of cabinet by fitting up inside base of rack. **Sold in sets of 4.**

Stock No.	Type	Capacity (lbs.)	Wheel Diameter	Each
94F4790	1425B	360	3″	61.31
66F8038	1425BM	700	3″	163.98
83F9206	1425BH	1050	3″	232.10

(7198) (ne06214)

RACKS AND ACCESSORIES

WELDED OPEN RELAY RACKS

DNRR70HDW

DNRR70LDW

Type DNRR welded 19″ racks (20″ wide overall) are available in both light (12-gauge steel) and heavy duty (10-gauge steel) versions. No assembly required. Front flange is drilled and tapped (10-21) EIA .5 - 125 spacing. For use as a single, free standing unit for sturdy support of standard 19″ rack mount devices. Finished in rugged textured black baked enamel.

Stock No.	Type	Description	Panel Space	Weight (lbs.)	Each
95F2523	DNRR63LDW	Light Duty	63″	41	**174.40**
95F2524	DNRR70LDW	Light-Duty	70″	42	**155.90**
95F2525	DNRR77LDW	Light-Duty	77″	45	**162.74**
83F8977	DNRR63HDW	Heavy-Duty	63″	77	**212.19**
91F2181	DNRR70HDW	Heavy-Duty	70″	80	**190.08**
84F040	DNRR77HDW	Heavy-Duty	77″	82	**223.36**

(17752) (ne10443)

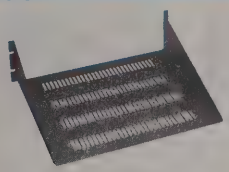
RAIL-MOUNTED DUAL MODEM SHELF

DNDMS19BK1

Type DNDMS dual modem shelf permits front and rear access to modems on 19″ relay racks. 16-gauge steel construction. Rugged textured black enamel finish. Requires mounting hardware.

16F2884 Type DNDMS19BK1. **Each** **61.99**
(17754) (ne10445)

RAIL-MOUNTED MODEM SHELVES



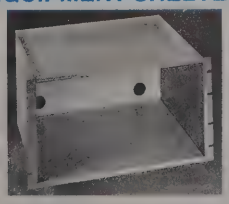
RASV190515BK1

Types RASV and **RASU** modem shelves feature formed 14-gauge steel construction. Mounts to front rail either as an internal shelf or external shelf/work area. Shelves are 15″ deep x 17.25″ and uses 5 ¼″ of panel space. Available in either vented or unvented. Rugged textured black enamel finish. Requires mounting hardware, *ordered separately on page 414.*

Stock No.	Type	Description	Each
91F2183	RASU190515BK1	Unvented	**66.62**
95F2528	RASV190515BK1	Vented	**75.22**

(7068) (de01172)

EQUIPMENT SHELVES



Type RASE are closed shelves with 1.5″ dia. holes in each bottom corner for cord access. Fabricated from 18-gauge steel. Inside dimensions: 17.2″ wide x 15″ deep. Opening height is only 1″ less than panel space. Finished in a smooth white baked enamel. Requires mounting hardware.

Stock No.	Type	Panel Height	Each
97F9749	RASE1900815WH2	8.75″	**78.90**
83F9023	RASE1901015WH2	10.50″	**81.62**
83F9024	RASE1901215WH2	12.25″	**91.58**

(34280) (ne34280)

OPEN WALL OR TABLE RACKS

Type 1459 economical open modular rack for 19″ panels on the front flange, suitable for wall or table mounting. Rear has key holes for ease of wall mounting. Predrilled for flat side panels. Comes with rubber feet for table mounting. All welded 16-gauge formed steel, finished in standard ASA 61 baked gray enamel.

RACKS

Stock No.	Type	Height	H x W x D	Each
97F9740	1459FGY2	22.75″	24.7 x 16.25 x 21.25″	**168.61**
97F9741	1459JGY2	33.25″	35.2 x 16.25 x 21.25″	**201.82**
97F9742	1459MGY2	47.25″	49.2 x 16.25 x 21.25″	**236.80**

SIDE PANELS (PAIRS)

Stock No.	Type	Each
97F9743	1459FQGY2	**100.08**
97F9744	1459JQGY2	**110.87**
98F9536	1459MQGY2	**140.38**

(7115) (de03873)

LIGHT-DUTY TABLETOP RACKS

Type RCBS light-duty 18-gauge steel economy 19″ table top rack. Rails are fixed both front and rear. Includes rubber feet, 2 lifting handles and 10-32 clip nuts. Overall width 20″, overall height 1″ over panel space. Rugged textured gray/beige or black baked enamel finish, *contact your local Newark sales office for details.*

13.0″ DEPTH

Black Stock No.	Type	Panel Space	Weight (lbs.)	Each
83F9025	RCBS1900313BK1	3.50″	13	**93.32**
83F9026	RCBS1900513BK1	5.25″	15	**100.41**
83F9029	RCBS1900713BK1	7.00″	16	**108.57**
83F9032	RCBS1900813BK1	8.75″	17	**123.03**
83F9035	RCBS1901013BK1	10.50″	18	**128.68**
83F9038	RCBS1901213BK1	12.25″	19	**124.21**
83F9041	RCBS1901413BK1	14.00″	20	**155.58**

17.5″ DEPTH

83F9027	RCBS1900517BK1	5.25″	16	**120.19**
83F9030	RCBS1900717BK1	7.00″	19	**124.21**
83F9033	RCBS1900817BK1	8.75″	22	**148.03**
83F9036	RCBS1901017BK1	10.50″	25	**156.84**
83F9039	RCBS1901217BK1	12.25″	28	**169.11**
83F9042	RCBS1901417BK1	14.00″	31	**172.81**

(7065) (de01063)

RACKS AND ACCESSORIES

HEAVY-DUTY TABLETOP RACKS

Type RCHS heavy-duty 18-gauge steel 19″ table top rack. Rails are fixed at both front and rear. Includes: 2 pair of fixed accessory rails (for rear support of heavier equipment), rubber feet, 2 lifting handles and 10-32 clip nuts. Overall width: 21″. Overall height: 2″ over panel space. Finish: rugged textured black baked enamel. Gray/beige finish is also available; *contact your local Newark sales office for details.*

17.5″ DEPTH

Stock No.	Type	Panel Height	Weight (lbs.)	Each
83F9044	RCHS1900817BK1	8.75″	28	160.51
83F9046	RCHS1901017BK1	10.50″	28	182.64
83F9050	RCHS1901417BK1	14.00″	30	186.98
83F9054	RCHS1901717BK1	17.50″	32	194.17
83F9058	RCHS1902217BK1	22.75″	38	211.42
83F9061	RCHS1902817BK1	28.00″	42	248.53
24.5″ DEPTH				
83F9048	RCHS1901024BK1	10.50″	28	245.94
83F9052	RCHS1901424BK1	14.00″	32	258.88
83F9056	RCHS1901724BK1	17.50″	43	267.52
83F9060	RCHS1902224BK1	22.75″	50	276.14
83F9063	RCHS1902824BK1	28.00″	56	287.63

(7066) (de01064)

ADJUSTABLE RACK SUPPORT ANGLES

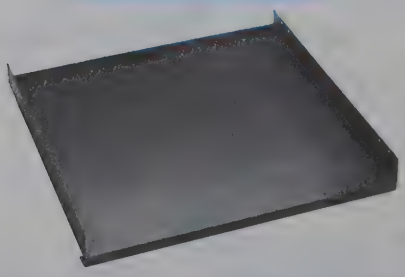
RASA16WH2

Type RASA support angles mount on 19″ rack accessory rails with either angle leg used as support, depending on requirements. Slots allow up/down or front/back adjustments. Made of 14-gauge steel. Dimensions: 1.75 x 1.75″. Finish: smooth, white baked enamal. *Order mounting hardware separately; contact your local Newark sales office.*

Stock No.	Type	Length	Each
66F8079	RASA16WH2	9.97″	26.50
66F8080	RASA22WH2	20.95″	29.93

(6997) (ne06221)

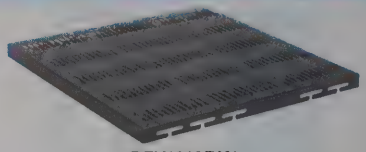
KEYBOARD DRAWER



Type RAKS drawer uses only 3.5″ of rack space for keyboards. Unique design maximizes available space between rails. Slides and hardware included. Finish: rugged textured black enamel.

66F8077 Type RAKS19BK1. **Each** **91.70**
(7000) (ne06230)

VENTED AND UNVENTED FIXED SHELVES



RFV1918BK1

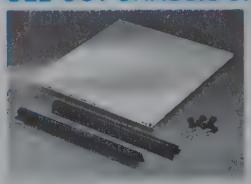
Type RFVS and **RFUS** shelves attach to both pairs of 19″ rack combination rails. **Type RFVS** (vented style) provides a sturdy shelf without obstructing upward heat movement. Sides are slotted for easy adjustment with most rail depth locations. Color: black. Finish: rugged textured baked enamel. Also available in gray/beige. *Contact your local Newark sales office.*

Stock No.	Type	Description	Depth	Each
84F063	RFUS1918BK1	Unvented	18″	40.16
84F064	RFUS1921BK1	Unvented	21″	42.56
84F065	RFUS1926BK1	Unvented	26″	45.58
84F061	RFVS1918BK1	Vented	18″	40.16
91F2190	RFVS1921BK1	Vented	21″	42.56
84F062	RFVS1926BK1	Vented	26″	45.58

(6999) (ne06229)

FIXED/PULL-OUT CHASSIS SHELVES

NEW

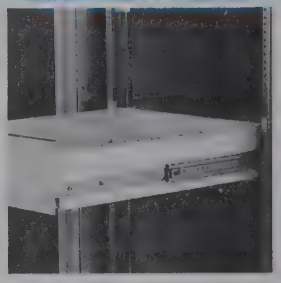


Type RASC shelf can be used as a permanently mounted support shelf or as a pull-out chassis. Will also accept **type RSLIDE** equipment slides *on this page* for pull-out applications. 18-gauge steel shelf and 14-gauge brackets. Shelf is 16.8″ wide and 0.5″ high. Finish: smooth white bake enamel.

Stock No.	Type	Shelf Depth	Bracket Depth	Each
98F3772	RASC-1912-WH2	11.9″	13.2″	63.48
94F4831	RASC-1916-WH2	15.9″	14.9″	71.32
94F4832	RASC-1922-WH2	21.9″	20.9″	81.31

(34281) (ne34281)

EQUIPMENT SLIDES

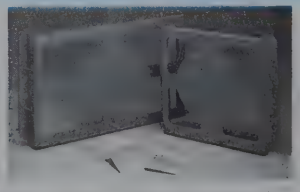


Type RSLIDE slides mount to the front 19″ rack panel space of both pairs comination rails, occupies only 1U of panel height 1.75″. Heavy-duty, ball-bearing type mechanism. Converts fixed shelf to a pull-out shelf. **Sold in packages of 2.**

Stock No.	Type	Panel Depth	Capacity	Per Pkg.
66F8017	RSLIDE16	16″	130 lbs.	119.08
66F8018	RSLIDE22	22″	120 lbs.	128.35

(7001) (ne06231)

LITERATURE POCKET KITS



Type PKT plastic pocket kits include pocket, high-strength 2-sided adhesive tape and surface preparation swab. Pockets are 6″ high and safety orange color.

Stock No.	Type	Width	Each
83F9019	PKT66	6″	11.72
83F9020	PKT99	9″	11.72

(34282) (ne34282)

RACK ACCESSORIES

ALUMINUM AND STEEL 19″ RACK PANELS

Type PBPA series are 0.125″ thick aluminum and **type PBPS** are economical, high strength 14-guage steel, standard 19″ panels. Come in black smooth baked enamel finish. Standard punching on both ends. Mounting hardware not included. Aluminum also available in gray/beige, ASA 61 gray, and unfinished; steel panels also available in gray/beige, *contact your local Newark sales office.*

ALUMINUM PANELS

Stock No.	Type	Panel Height	Each
97F9407	PBPA19001BK2	1.75″	9.42
94F4769	PBPA19003BK2	3.50″	13.88
50F8499	PBPA19005BK2	5.25″	19.82
94F4770	PBPA19007BK2	7.00″	24.77
50F8500	PBPA19008BK2	8.75″	30.20
50F8501	PBPA19010BK2	10.50″	34.02
50F8502	PBPA19012BK2	12.25″	40.80
50F8503	PBPA19014BK2	14.00″	45.93
84F089	PBPA19015BK2	15.75″	49.33
50F8504	PBPA19017BK2	17.50″	55.10
84F090	PBPA19019BK2	19.25″	63.86
16F2900	PBPA19021BK2	21.00″	68.45
50F8505	PBPA19022BK2	22.75″	72.61
84F091	PBPA19024BK2	24.50″	79.30
84F092	PBPA19026BK2	26.25″	85.15
50F8506	PBPA19028BK2	28.00″	90.96
84F093	PBPA19029BK2	29.75″	95.15
84F094	PBPA19031BK2	31.50″	94.09

STEEL PANELS

99F8233	PBPS19001BK2	1.75″	41.00
83F8985	PBPS19003BK2	3.50″	9.90
83F8987	PBPS19005BK2	5.25″	13.06
83F8989	PBPS19007BK2	7.00″	15.84
83F8991	PBPS19008BK2	8.75″	17.82
83F8993	PBPS19010BK2	10.50″	19.38
83F8995	PBPS19012BK2	12.25″	22.06
83F8997	PBPS19014BK2	14.00″	30.46
83F8999	PBPS19015BK2	15.75″	34.06
83F9001	PBPS19017BK2	17.50″	37.29
83F9003	PBPS19019BK2	19.25″	42.23
83F9005	PBPS19021BK2	21.00″	39.00
83F9007	PBPS19022BK2	22.75″	40.52
83F9009	PBPS19024BK2	24.50″	42.62
83F9011	PBPS19026BK2	26.25″	47.37
83F9013	PBPS19028BK2	28.00″	56.01
83F9015	PBPS19029BK2	29.75″	57.86
83F9017	PBPS19031BK2	31.50″	58.80

(17756) (ne10447)

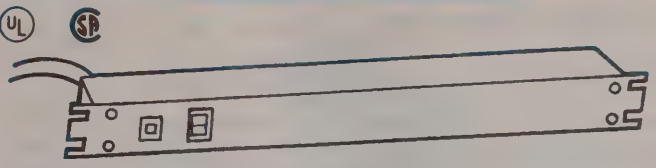
STORAGE DRAWER KITS

Type RDRW steel drawer kits mount in 19″ racks and come complete with slides, cam lock, and rear support brackets. Rugged textured baked black enamel finish. Also available in gray/beige; *contact your local Newark sales office.*

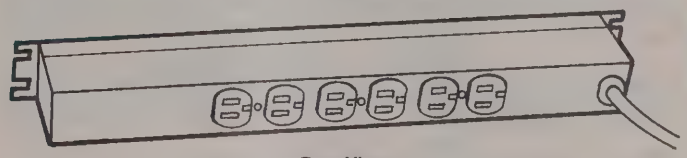
Stock No.	Type	Panel Height	Each
83F9065	RDRW1900316BK1	3.50″	163.73
83F9066	RDRW1900516BK1	5.25″	203.25
83F9067	RDRW1900716BK1	7.00″	218.31

(7002) (ne06232)

RACK MOUNT POWER BARS



Front View



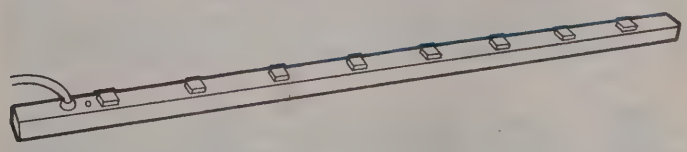
Rear View
1583H6A1

Heavy-duty steel units contain 6 receptacles, a 15A breaker, lighted on/off, U-ground cord and plug. fits all 19″ racks. Uses only 1 panel height (1.75″). Finished in a smooth baked enamel. UL recognized, CSA certified.

Stock No.	Type	Cord Lgth.	Color	Description	Each
94F4794	1582H6A1	6′	Gray	Front Receptacles	52.44
92F001	1582H6B1	15′	Gray	Front Receptacles	56.85
92F002	1582H6A1BK	6′	Black	Front Receptacles	52.44
92F003	1582H6B1BK	15′	Black	Front Receptacles	56.85
94F4841	1583H6A1	6′	Gray	Rear Receptacles	50.30
94F4842	1583H6B1	15′	Gray	Rear Receptacles	52.38
92F004	1583H6A1BK	6′	Black	Rear Receptacles	54.79
92F005	1583H6B1BK	15′	Black	Rear Receptacles	57.07
92F006	1582H6A1SBK	6′	Black	Front Receptacles/Surge Protector	80.90
92F007	1583H6A1SBK	6′	Black	Front Receptacles/Surge Protector	80.90

(7201) (ne06234)

VERTICAL RACK MOUNT POWER STRIPS



Ready-to-mount, vertical power distribution. 6′ or 15′ power cord. 1⅝″ x 1⅜″ aluminum profile. 125V, 15A with circuit breaker. UL listed, CSA certified.

Stock No.	Type	Length	No. of Outlets	On/Off Switch	Cord Length	Each
92F008	15853T6A1	36″	6	No	6″	50.01
92F009	15853T6B1	36″	6	No	15″	52.95
92F010	15853H6A1	36″	6	Yes	6″	52.95
83F8958	15854H7A1	42″	7	Yes	6″	52.37
83F8959	15854T7A1	42″	7	No	6″	49.54
83F8960	15854T7B1	42″	7	No	15″	52.37
92F011	1585T8A1	48″	8	No	15″	52.95
92F012	1585T8B1	48″	8	No	6″	55.89
92F013	1585H8A1	48″	8	Yes	15″	55.89
92F014	1586T10A1	60″	10	No	6″	55.89
92F015	1586T10B1	60″	10	No	15″	58.83
92F016	1586H10A1	60″	10	Yes	6″	58.83
92F017	1587T10A1	70″	10	No	15″	58.83
92F018	1587T10B1	70″	10	No	6″	61.78
92F019	1587H10A1	70″	10	Yes	15″	56.70
66F8075	1588T12A1	77″	12	No	6″	61.78
92F020	1588T12B1	77″	12	No	15″	64.72
92F021	1588H12A1	77″	12	Yes	6″	64.72

(7202) (ne06235)

NEW PRODUCTS ARE CONTINUALLY ADDED.
CALL NEWARK FOR CURRENT SELECTION.

RACK ACCESSORIES

MOUNTING HARDWARE

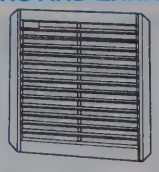
Sold in package quantities indicated.

Stock No.	Type	Description	Pkg. of	Each
16F1943	1421E25B	Nickel-Plated #10-32 x 0.5" Countersunk, Slotted, Oval Head Screw	25	3.94
94F4788	1421E100B	Nickel-Plated #10-32 x 0.5" Countersunk, Slotted, Oval Head Screw	100	9.37
95F2554	1421A25B	Nickel-Plated #10-32 x 0.75" Countersunk, Slotted Oval Head Screw	25	4.47
94F4837	1421A100B	Nickel-Plated #10-32 x 0.75" Countersunk, Slotted Oval Head Screw	100	16.65
99F4380	1421G	Nickel-Plated #10-32 x 0.37", Slotted, Binding Head Screw with Flat Nylon Washer	8	3.02
95F2558	1421A	#10-32 x 0.75" Phillips Oval Head Screw with Plastic Cup Washer	4	2.87
95F2555	1421E25W	Nickel-Plated Metal Cup Washer for Countersunk #10-32 Screws	25	3.15
98F2139	1421E100W	Nickel-Plated Metal Cup Washer for Countersunk #10-32 Screws	100	12.27
95F2556	1421A25W	Black Plastic Cup Washer for Countersunk #10-32 Screws	25	7.85
94F823	1421A100W	Black Plastic Cup Washer for Countersunk #10-32 Screws	100	29.10
96F5563	1421N25	10-32 Clip Nuts for Panel Rails	25	13.18
94F824	1421N100	10-32 Clip Nuts for Panel Rails	100	48.53

(7219) (ne08346)

FILTER FANS AND EXHAUST FANS

CE



Filter fans provide protection against overheating of electrical/electronic components. Exhaust filters can be used with a fan or alone for passive ventilation. A screwless "click and fit" system reduces installation time significantly. A black fire-retardant plastic grille enhances the appearance of the enclosure. Fans are 115V/60Hz. CE compliant.

INTAKE FAN INCLUDING FILTERS

Stock No.	Fan Type	Filter CFM*	Level %	dBA	Approx. Size	Each
97F9449	PF1000	14	67	39	4" x 4"	119.07
97F9450	PF2000	28	92	43	6" x 6"	140.72
97F9451	PF3000	56	92	55	10" x 10"	217.61
97F9452	PF4000	88	92	65	10" x 10"	196.99
97F9453	PF5000	248	92	69	13" x 13"	318.77
97F9454	PF6000	321	92	71	13" x 13"	331.42

*Data at normal voltage.

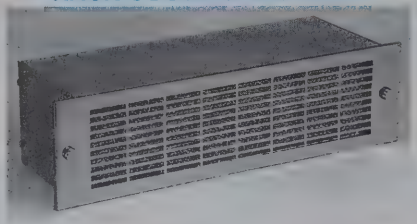
EXHAUST FILTER AND GRILLE ONLY

Stock No.	Filter Type	Filter Level %	Approx. Grille Size	Each
97F9455	PFA1000	67	4" x 4"	24.50
97F9456	PFA2000	92	6" x 6"	28.10
97F9457	PFA3000	92	10" x 10"	49.27
97F9458	PFA5000	92	13" x 13"	74.43

(7193) (ne03620)

RACK-COOLING BLOWERS

NEW



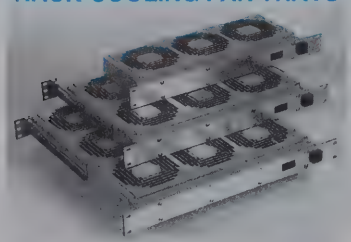
Type KP are packaged twin-intake blowers delivering air from more than 50% of its 17" width. Each contains a quadruplex centrifugal blower powered by a single precision ball-bearing motor. Operating temperature: -20°F to +250°F. Mount on standard 19" panel rails. Feature attractive stainless steel grilles, permanent filter, and exhaust guard. 115VAC operation.

Stock No.	Type	cfm	rpm	Panel Height	Depth	Weight (lbs.)	Each
83F8978	KP350A	160	1500	3.50"	10.50"	10	306.50
83F8979	KP529A	300	3000	5.25"	7.69"	18	320.22
83F8980	KP729A	470	3250	7.00"	10.25"	23	464.34

(34276) (ne34276)

RACK-COOLING FAN TRAYS

NEW



Type KTS fan trays deliver cooling air to troublesome hot spots by localizing fan placement in the rack. All models available include 3 fans per row and steel housing. Feature long life ball-bearing motors rated at up to 105 cfm per fan, low sound level, and removable rear support brackets (on 2- and 3-row models). 115VAC operation. Use only a single panel space (1.75"). Units mount in standard 19" racks and are 16.13" wide.

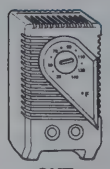
Stock No.	Type	Rows of Fans	cfm	Amps	Watts	Depth	Weight (lbs.)	Each
83F8981	KTS1300	1	315	0.51	40	6.88"	11	308.79
83F8982	KTS2330	2	630	1.02	80	12.13"	16	516.94
83F8983	KTS3333	3	945	1.53	120	17.13"	22	672.48

(34279) (ne34279)

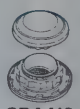
HEATERS, THERMOSTATS, AND BREATHER KITS

cULus CE

SHGL



SKT



SDA412

Type SHP heaters protect against low temperatures, condensation and corrosion in electrical/electronic enclosures by maintaining a stable temperature environment. Heaters are 115V/60Hz. **Type SHGL** heater fans are similar to **type SHP** heaters but have an axial fan for forced air circulation. **Type SKT** thermostats control and monitor air temperature. Type numbers with **suffix NC** (Normally Closed) for the control of heaters and heater fans. Type numbers with **suffix NO** (Normally Open) for the control of cooling units such as filter fans. Both are 2.4H x 1.3W x 1.4"D. **Type SDA412** breather kits (pressure compensation plugs) provide for controlled pressure compensation due to temperature variations (e.g., night/day operations) and protect against dust and humidity. Two plugs per cabinet in opposite locations are recommended. 2.16" diameter x 1.2" height. IP45 protection. CE complaint.

TYPE SHP HEATERS — UL RECOGNIZED

Stock No.	Type	Heating at 68°F	H x W x D	Each
97F9459	SHP045009	15W	2.6 x 2.8 x 2"	61.03
97F9460	SHP045019	30W	2.6 x 2.8 x 2"	63.16
97F9461	SHP045029	50W	5.5 x 2.8 x 2"	90.51
97F9462	SHP045039	80W	8.7 x 2.8 x 2"	115.13
97F9463	SHP045049	100W	8.7 x 2.8 x 2"	130.90

TYPE SHGL HEATER FANS — UL RECOGNIZED

97F9464	SHGL04600	250W	7.00 x 3.15 x 3.15"	261.51
97F9465	SHGL04601	400W	9.76 x .15 x 3.15"	277.03

TYPE SKT THERMOSTATS — UL RECOGNIZED

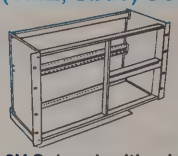
Stock No.	Type	Temp. Range	Switching Capacity	Each
97F9466	SKT011409NC	30°F-140°F	15A AC 120V	27.58
97F9467	SKT011419NO	30°F-140°F	15A AC 120V	27.58

66F8019 Type SDA412 Breather Kit. **Each** **9.36**

(7194) (ne03621)

SUBRACKS

EUROCARD (VME, Sbus) SUBRACK KITS



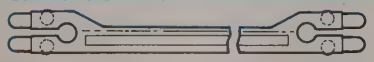
CCK220-6U Subrack with added CG1-220 Card Guide

Subracks constructed of aluminum designed in accordance with DIN 41914 specifications. **CG1 series** card guides *ordered separately on this page.* Card guide mounting holes are positioned at each HP on T-struts. All side panels deeper than 160mm include mounting holes for positioning front extrusions at 60mm increments. 84 HP adapter strip allows mixing backplanes and DIN connectors. Designed for a maximum of 21 slots. Kits and subassemblies can be custom configured to your specifications. Accessories available are: DIN connectors, dress panels, cage handles and decorative enclosures. For assembled versions, substitute "A" for the "K" in Mfr. Type No. Easy to assemble, hardware included. *Order prototyping boards and extender cards separately; contact your local Newark sales office.*

Stock No.	Type	Size	H x W x D	1-4
97F7959	CCK160-3U	160mm	5.21 x 19 x 9.44"	132.90
97F7960	CCK160-6U	160mm	10.46 x 19 x 9.44"	143.79

(7123) (de51907)

CG1 SERIES CARD GUIDES FOR EUROCARD SUBRACKS

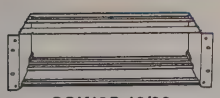


CG1 series card guides constructed of glass-filled Noryl. Standard guides designed for 0.062" thick boards. **Sold in packages of 12.**

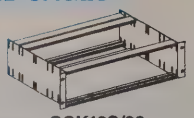
Stock No.	Type	Description	1-4
92F6693	CG1-160/12	Card Guide for 160mm Subrack	19.06
92F7016	CG1-220/12	Card Guide for 220mm Subrack	23.09

(7124) (de51908)

CCK SERIES CARD CAGES



CCK13S-16/90



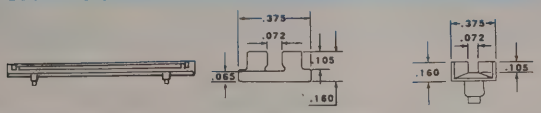
CCK13S/90

Types CCK12S and **CCK13S** 21 pairs of nylon, snap-in guides adjust in 0.25" (6.35) increments. **Type CCK13F/90** accepts **type CG2-65S** snap-in card guides, which adjust in 0.25" (6.35) increments. Also accepts **type CG2-65P** screw-mount card guides, which provide variable guide positioning along entire length of strut. Also accepts **type CM45A65** strut and cardmount modules. **Type CCK14F/90** accepts **type CG2-95P** screw-mount card guide, which provide variable guide positioning along entire length of strut. Also accepts **type CM45B95** cardmount modules. **Type CCK17F/90** accepts **type CG2-95P** screw-mount card guide, which provide variable guide positioning along entire length of strut. *Order card guides separately on this page.*

Stock No.	Type	Fits Cards H x W	Rack Size W x H x D	1-4
51F3493	CCK12S/90	4.5 x 5"	19.00 x 5.25 x 9.00"	127.42
83F618	CCK13S/90	4.5 x 7"	19.00 x 5.25 x 9.00"	128.03
51F3496	CCK13F/90	4.5 x 7"	19.00 x 5.25 x 9.00"	112.73
51F3497	CCK14F/90	4.5 x 10"	19.00 x 5.25 x 12.00"	121.22
51F3498	CCK17F/90	8.0 x 10"	19.00 x 8.75 x 12.00"	143.65

(7125) (de51944)

CARD GUIDES FOR CCK SERIES CARD CAGES



CG2 series flame retardant card guides feature tapered slots for insertion. Holes for mounting guides to struts are based on center-to-center multiples of 0.75" (19.05). Hardware included.

Stock No.	Type	Description	Length	Centers	Card Length	1-4
94F9361	CG2-45S	Nylon, Snap-In	3.17"	2.25"	4.50"	14.30
90F2828	CG2-65P	Plastic, Screw	5.42"	4.50"	6.50"	22.15
98F2284	CG2-95P	Plastic, Screw	8.14"	7.50"	9.50"	24.42
98F2871	CG2-65S	Nylon, Snap-In	5.42"	4.50"	6.50"	12.62
94F9360	CG2-95S	Nylon, Snap-In	8.43"	7.50"	9.50"	16.08

(7126) (de51945)

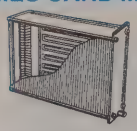
CONNECTOR-MOUNTED CARD GUIDE

For 0.063" (1.60) thick free-standing circuit boards. Aluminum alloy construction. Mounting hardware included. **Sold in packages of 2.**

Stock No.	Type	Fits Connector/Circuit Board	1-4
81F4766	BR27D	R644, R644-1, 3662, 3677, 3682	7.61

(7122) (de51904)

EFP SERIES CARD MODULES



For packaging circuit boards and insertion into **CMA** and **CCK series** racks, *ordered separately.* Mount into cages with jack screw on front panel. Aluminum anodized finish. These easy-assembly kits with full rear panels use aluminum frame-lock rails for top and bottom panels; grooves in panels are used to locate and support one or more 0.063" (1.60) boards. Card stops are provided for securing boards of varying lengths. Mounting hardware and instructions included.

Stock No.	Type	Body WxL	Card HxL	Fits Rack	1-4
38F1361	EFP204A66	2.0x6.69"	4.5x6.5"	CMA13-20/90	31.22
95F5083	EFP304A66	3.05x6.5"	4.5x6.5"	CCK13F/90	42.59

(7127) (de51946)

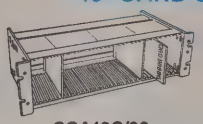
CMA SERIES CARD CAGES

CMA series card cages for 4.5" (114.30) high cards are factory assembled and designed for mounting **EFP series** modules *ordered separately on this page.* **Type CMA13-20/90** have 8 pairs of fixed-position, aluminum module mounting guides spaced at 2" (50.80) centers installed. **Type CMA13-20/90** for 4.5" (114.30) nominal width for cards to 5" (127.00) wide.

Stock No.	Type	Rack Size HxWxD	Fits Module Type	Qty.	1-4
98F2935	CMA13-20/90	5.25x19x9"	EFP204A66	8	192.24

(7128) (de51947)

19" CARD CAGE



CCA13C/90

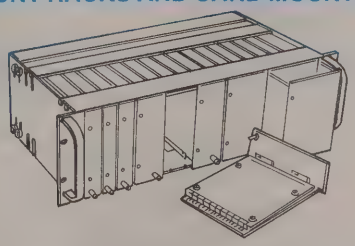
HA12

Type CCA13C/90 for 4.5" (114.30) high cards has nominal width of 4.5" (114.30) for cards up to 5" (127.00) wide. Allows placement of cards on continuous 0.15" (3.81) centers. Fits racks 19" (482.60)Wx5.25" (133.36)Hx9" (228.60)D. **Type CCA13S/90** for 4.5" (114.30) high cards has a nominal width of 6.5" (165.10) for cards up to 7" (177.80) wide. 21 pairs of nylon, snap-in cards guides installed on 0.0750" (1.905) centers. Guide positions are variable at 0.25" (6.350) increments. 19" (482.60)Wx5.25" (133.36)Hx12" (304.80)D. **Type CCA14S/90** same as **type CCA13S/90** except for cards up to 10" (254.0) wide. **Type CCA17S/90** for 8" (203.20) high cards has a nominal width of 9.6" (243.84) for cards up to 10" (254.00) wide. 21 pairs of nylon, snap-in card guides installed 0.075" (19.05) centers. Guide positions are variable at 0.25" (6.350) increments. 19" (482.60)Wx8.75" (222.26)Hx12" (304.80)D.

Stock No.	Type	Card Guides	1-4
90F3511	CCA13C/90	Aluminum, Continuous	150.71
51F3490	CCA13S/90	Nylon, Press-In	157.08
51F3491	CCA14S/90	Plastic, Riveted	163.65
51F3492	CCA17S/90	Nylon, Press-in	205.41

(7121) (de51902)

CARD MOUNT RACKS AND CARD MOUNT MODULES

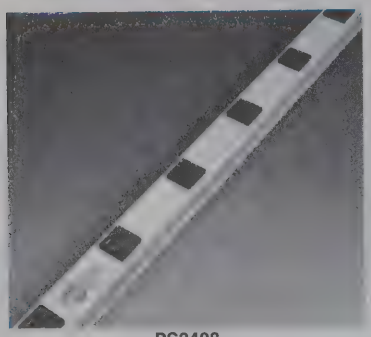


Assembled racks are designed for card mount modules (**type CM45A65**). 16 pairs of nylon, snap-in card guides installed at 1" (25.4) intervals. Guide positions are variable at 0.25"(6.35) increments. Card mount modules for applications requiring front panel components mounting, increased rigidity or varying card thicknesses. Card mount panel thickness; 0.063"(1.60). Removable front panel. Insertion and removal using 10/32 screws. Anodized aluminum. *Order card mount racks and modules separately.*

Stock No.	Type	Description	1-4
RACKS AND MODULES FOR 4.50" x 6.50" CARDS			
51F3494	CCM13S/90	Assembled Rack/Without Modules	204.72
38F1111	CM45A65-1	Module 1" Wide Front Panel	30.67
38F1112	CM45A65-2	Module 2" Wide Front Panel	32.77
RACKS AND MODULES FOR 4.50" x 9.50" CARDS			
51F3495	CCM14S/90	Assembled Rack/Without Modules	216.76
46F1322	CM45B95-1	Module 1" Wide Front Panel	55.93
46F1323	CM45B95-2	Module 2" Wide Front Panel	28.20

(35773) (ne35773)

NEW CABINET RACKS AND POWER STRIPS



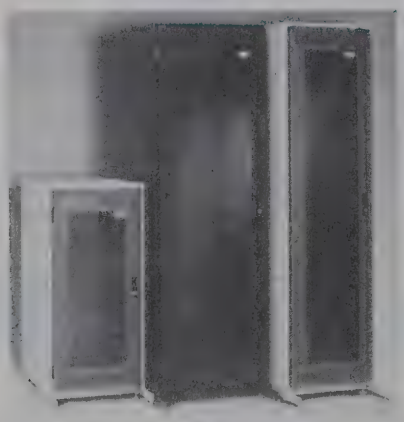
PS2408

POWER STRIPS

New power strips provide convenient multiple AC outlets wherever they're needed. Ideal for mounting inside rack enclosures, but can also be mounted on walls and workbenches. Hardwired models are ideal for applications that require permanent installation. Sturdy metal housing stands up to demanding network, lab or factory environments. Do not provide surge or line noise protection. UL listed.

Stock No.	Type	Outlets	Cord Length	Circuit Breaker Amps	On/Off Switch	Length	Each
48F4314	PS2408	8	15″	15″	Yes	24″	50.01
48F4315	PS3612	12	15″	15″	Yes	36″	56.27
48F4316	PS4816	16	15″	15″	Yes	48″	62.52
48F4317	PS4816-NS	16	15″	15″	N/A	48″	58.35
48F4318	PS6020	20	15″	15″	Yes	60″	68.77
48F4319	PS7224	24	15″	15″	Yes	72″	75.02
48F4320	PS7224-20	24	15″	20″	Yes	72″	83.35
		19″ RACK MOUNT					
48F4313	RS-1215	6-front, 6-rear	15″	15″	Yes	19″	62.52
		HARDWIRED					
48F4321	PS3612-HW	12	HW	N/A	Yes	36″	39.60
48F4322	PS7224-HW	24	HW	N/A	Yes	72″	58.35

(37172) (ne37172)



SRNET

SMARTRACK™ ENCLOSURES AND ACCESSORIES

High quality, free-standing cabinet racks organize ans secure rack mount servers and network/telecom equipnemt. Future lift-off sides, locking door with side panels, retractable stabilizers, and casters. Fully assembled. Compatible with all servers; exceed the requirements of all leading Original Equipment Manufacturers (OEMs) UL listed.

CABINET RACKS

Stock No.	Type	Total Rack Space	Description	H x W x D	Shpg. Wt. (lbs.)	Each
48F4284	SRNET	44U	Deluxe Enclosures w/Cable management	83.4 x 27.1 x 32.6″	300	2592.19
48F4285	SRNETEXP	44U	Deluxe Expansion Enclosure w/Cable mgmt. and Baying Hardware	83.4 x 27.1 x 32.6″	262	2542.18
48F4286	SR44U	44U	Enclosure w/Side Panels	83.4 x 27.1 x 32.6″	270	2092.09
48F4287	SR44UEXP	44U	Expasion Enclosure w/Baying Hardware	83.4 x 27.1 x 32.6″	232	2042.08
48F4288	SR24U	24U	Enclosure with Side Panels	48.4 x 22.1 X 32.6″	184	1852.04
48F4289	SR24UEXP	24U	Expansion Enclosure w/Baying Hardware	48.4 x 22.1 X 32.6″	163	1797.03

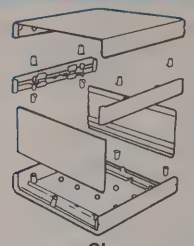
SMATRACK™ MOUNTING RAILS AND ACCESSORIES

Stock No.	Type	Description	Each
48F4304	SR02	Standard Fixed Shelf	101.69
48F4305	SR03	Heavy-Duty Fixed Shelf	129.61
48F4306	SR04	Sliding Shelf	201.71
48F4307	SR05	Light Duty Cantilever Shelf	65.02
48F4308	SR06	Keyboard/Mouse Tray-2U with Cable Mgmt. Arm	275.89
48F4309	SR06B	Keyboard/Mouse Tray (Black)-2U with Cable Mgmt. Arm	275.89
48F4303	SR07	30″ Angle Brackets/Zero-U Shelf	65.02
48F4301	SR01	Blanking Panel Kit-1U, 2U,4U,8U Panels	111.28
48F4302	SR01B	Blanking Panel Kit (Black)- 1U, 2U, 4U, 8U Panels	111.28
48F4300	SR00	Additional Hardware Kit (Mounting Screws, Nuts, etc.)	37.09
48F4310	SR12	Bolt-Down Kit	75.02
48F4311	SR13	Cable Management Kit-6 Loops w/Mounting Hardware	75.02
48F4312	SR14	PanelMount Dual Fan-3U, 120V; Mounts to Rails	275.89

(35776) (ne35776)

CAN'T LOCATE A PARTICULAR PRODUCT?
NEWARK STOCKS THOUSANDS OF ITEMS NOT LISTED IN THIS CATALOG. CALL US TODAY!

C, CL, AND CLLP SERIES ENCLOSURES



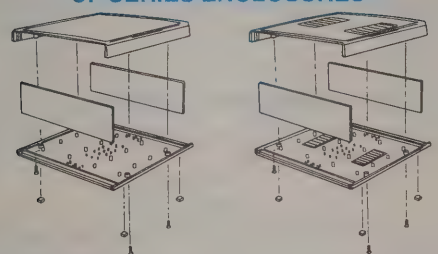
CL

Modular units with expandable sides. Provides flexibility to create 64 different models by changing the side expander, filler panels, spacers, and panels. Applications include test instruments, medical and scientific equipment, industrial control systems, and computer accessories. Colors: black (**suffixes BLACK, BK** in type number) and PC bone (**suffixes PC BONE, BO**). Handle and bail versions are also available; *contact your local Newark sales office.*

Stock No.	Type	H x W x D	PC Board	1-9	10-24
89F3763	K-C23-BLACK	3.69 x 8.50 x 9.25″	8 x 8.75″	**33.64**	**32.97**
89F3766	K-C23-PC BONE	3.69 x 8.50 x 9.25″	8 x 8.75″	**33.64**	**32.97**
89F3771	K-CH23-BLACK	2.44/3.69 x 8.50 x 9.25″	8 x 8.75″	**39.33**	**38.55**
89F3774	K-CH23-PC BONE	2.44/3.69 x 8.50 x 9.25″	8 x 8.75″	**39.33**	**38.55**

(7043) (ne09290)

CF SERIES ENCLOSURES



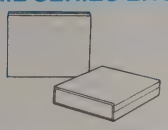
Standard Vented

CF series enclosures available in standard style or with top and bottom vent patterns **(type CFV)**. Consist of top, bottom, front, and rear panels. Accommodate PC board 7.75 x 8.50″. Colors: black (**suffixes BLACK, BK** in type number) and PC bone (**suffix BO**).

Stock No.	Type	H x W x D	1-9	10-24	25-49	50-99
89F3878	K-CF125-BLACK	1.65 x 8.36 x 9.11″	**24.74**	**24.25**	**23.75**	**21.03**
91F5231	K-CF-125-BO	1.65 x 8.36 x 9.11″	**24.74**	**24.25**	**23.75**	**21.03**
91F5232	K-CF-175-BK	2.15 x 8.36 x 9.11″	**30.16**	**29.56**	**28.96**	**25.64**
91F5233	K-CF-175-BO	2.15 x 8.36 x 9.11″	**25.36**	**24.85**	**24.35**	**21.56**
91F5234	K-CF-225-BK	2.65 x 8.36 x 9.11″	**26.40**	**25.87**	**25.34**	**22.44**
91F5235	K-CF-225-BO	2.65 x 8.36 x 9.11″	**26.40**	**25.87**	**25.34**	**22.44**
91F5236	K-CF-275-BK	3.15 x 8.36 x 9.11″	**27.43**	**26.88**	**26.33**	**23.32**
91F5237	K-CF-275-BO	3.15 x 8.36 x 9.11″	**27.43**	**26.88**	**26.33**	**23.32**
91F5238	K-CF-325-BK	3.65 x 8.36 x 9.11″	**35.68**	**34.97**	**34.25**	**30.33**
91F5239	K-CF-325-BO	3.65 x 8.36 x 9.11″	**35.68**	**34.97**	**34.25**	**30.33**
91F5240	K-CFV-125-BK	1.65 x 8.36 x 9.11″	**29.19**	**28.61**	**28.02**	**24.81**
91F5241	K-CFV-125-BO	1.65 x 8.36 x 9.11″	**29.19**	**28.61**	**28.02**	**24.81**
91F5242	K-CFV-175-BK	2.15 x 8.36 x 9.11″	**30.68**	**30.07**	**29.45**	**26.08**
91F5243	K-CFV-175-BO	2.15 x 8.36 x 9.11″	**30.68**	**30.07**	**29.45**	**26.08**
91F5244	K-CFV-225-BK	2.65 x 8.36 x 9.11″	**32.15**	**31.51**	**30.86**	**27.33**
91F5245	K-CFV-225-BO	2.65 x 8.36 x 9.11″	**32.15**	**31.51**	**30.86**	**27.33**
91F5246	K-CFV-275-BK	3.15 x 8.36 x 9.11″	**33.41**	**32.75**	**32.08**	**28.40**
91F5247	K-CFV-275-BO	3.15 x 8.36 x 9.11″	**33.41**	**32.75**	**32.08**	**28.40**
91F5248	K-CFV-325-BK	3.65 x 8.36 x 9.11″	**34.66**	**33.96**	**33.27**	**29.46**
91F5249	K-CFV-325-BO	3.65 x 8.36 x 9.11″	**34.66**	**33.96**	**33.27**	**29.46**

(17127) (ne10610)

DM AND CML SERIES ENCLOSURES

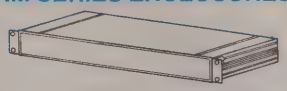


DM and **CML series** enclosures offer large size, style, and flexibility for a wide variety of desktop or benchtop equipment. Includes top, bottom, front, and rear panels. Colors: black (**suffixes BLACK, 000** in type number) and PC bone (**suffixes BONE, 039**).

Stock No.	Type	H x W x D	PC Board	1-9	10-24
92F6509	K-DM2-BLACK	2.38 x 10.40 x 11.46″	9.75 x 10.75″	**29.50**	**28.91**
92F6510	K-DM2-PC BONE	2.38 x 10.40 x 11.46″	9.75 x 10.75″	**29.50**	**28.91**
92F6511	K-DM3-BLACK	3.38 x 10.40 x 11.46″	9.75 x 10.75″	**34.68**	**33.98**
92F6513	K-DM4-BLACK	4.48 x 10.40 x 11.46″	9.75 x 10.75″	**34.68**	**33.98**
92F6514	K-DM4-PC BONE	4.48 x 10.40 x 11.46″	9.75 x 10.75″	**34.68**	**33.98**
93F9929	K-CML912-200-000	2.25 x 9.33 x 11.80″	8.75 x 10.75″	**28.34**	**27.78**
93F9920	K-CML912-200-039	2.25 x 9.33 x 11.80″	8.75 x 10.75″	**28.34**	**27.78**

(17126) (ne10609)

RM SERIES ENCLOSURES



RM series enclosures are rack mount or stand-alone units. Top and bottom cover, panels, and hardware included. Colors: black (**suffix BK** in type number) and PC bone (**suffix BO**).

Stock No.	Type	H x W x D	PC Board	1-9	10-24
91F5222	K-RM-178-BK	1.70 x 17.00 x 8.00″	16.5 x 7.5″	**40.99**	**40.17**
91F5223	K-RM-178-BO	1.70 x 17.00 x 8.00″	16.5 x 7.5″	**40.99**	**40.17**

(16926) (ne10618)

HP AND HPL SERIES ENCLOSURES

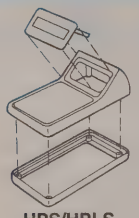
K-HP/K-HPL -9VB/-4AA Bottom

Units are 2 pieces, consisting of a top and a bottom cover. Ideally suited for larger hand-held test equipment, control, computer accessory and other products. Models available with battery compartments, sloped tops and elongated design. Applications include keypads, controllers, test equipment and computer accessories. Available in black and PC bone. **-000** in type number indicates black; **-039** in type number indicates PC bone. Additional options are available; *contact your local Newark sales office.*

Stock No.	Type	H x W x D	PC Board	1-9	10-24
89F3961	K-HP-BLACK	1.12 x 3.60 x 5.75″	3x5.25″	**6.48**	**6.35**
89F3950	K-HP-PC BONE	1.12 x 3.60 x 5.75″	3x5.25″	**6.48**	**6.35**
89F3955	K-HP-9VB-BLACK	1.29 x 3.60 x 5.75″	3x5.25″	**8.41**	**8.24**
93F9941	K-HP-4AA-039	1.29 x 3.60 x 5.75″	3x5.25″	**8.03**	**7.86**
89F3931	K-HPL-BLACK	1.12 x 4.00 x 7.50″	3.50x7″	**8.30**	**8.14**
89F3934	K-HPL-PC BONE	1.12 x 4.00 x 7.50″	3.50x7″	**6.45**	**6.32**
89F3925	K-HPL-9VB-BLACK	1.29 x 4.00 x 7.50″	3.50x7″	**10.72**	**10.50**
93F9942	K-HPL-4AA-000	1.29 x 4.00 x 7.50″	3.50x7″	**11.05**	**10.83**

(7040) (ne09286)

HPS AND HPLS SERIES ELECTRONIC ENCLOSURES



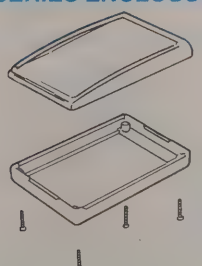
HPS/HPLS

Units are composed of 3 pieces: top and bottom cover, bezel, and display panel. Models available with battery compartments, sloped tops, and elongated design. Applications include keypads, controllers, test equipment, and computer accessories. Colors: black (**suffixes BLACK, 000** in type number) and PC bone (**suffixes BONE, 039**). Additional options are available; *contact your local Newark sales office.*

Stock No.	Type	H x W x D	PC Board	1-9
89F3941	K-HPS-9VB-BLACK	1.29/2.09 x 3.60 x 5.75″	3 x 5.25″	**10.87**
89F3930	K-HPS-9VB-PC BONE	1.29/2.09 x 3.60 x 5.75″	3 x 5.25″	**10.87**
89F3919	K-HPLS-BLACK	1.12 x 4.00 x 7.50″	3.5 x 7″	**9.32**
89F3909	K-HPLS-9VB-BLACK	1.29 x 4.00 x 7.50″	3.5 x 7″	**11.04**

(7039) (ne09285)

SH SERIES ENCLOSURES

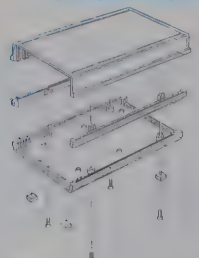


SH series enclosures consist of a sloped and radiused top cover and a bottom cover. Accommodate PC board 3.00 x 5.25″. Colors: black (**suffixes BLACK, 000** in type number) and PC bone (**suffixes BONE, 039**).

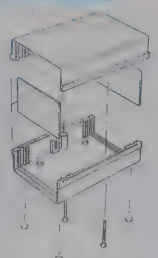
Stock No.	Type	H x W x D	1-9	10-24	25-49	50-99
93F9934	K-SH-000	1.12 x 3.60 x 5.75″	**6.48**	**6.35**	**6.22**	**5.51**

(17128) (ne10611)

CM SERIES ENCLOSURES



CM69



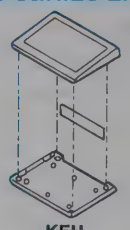
CM3-150

CM series enclosures accept PC boards with 20 to 50″ square areas. Units are 4 pieces, consisting of top, bottom, front, and rear panels. Colors: black (**suffix BK** in type number) and PC bone (**suffix BO**).

Stock No.	Type	H x W x D	PC Board	1-39	40-99
92F6493	K-CM3-100-BLACK	1.20 x 3.33 x 5.25″	2.75 x 4.50″	9.46	9.27
92F6494	K-CM3-100-PC BONE	1.20 x 3.33 x 5.25″	2.75 x 4.50″	9.46	9.27
89F4011	K-CM3-150-BLACK	1.75 x 3.33 x 5.25″	2.75 x 4.50″	9.62	9.43
89F4014	K-CM3-150-PC BONE	1.75 x 3.33 x 5.25″	2.75 x 4.50″	9.62	9.43
89F4015	K-CM5-125-BLACK	1.50 x 5.08 x 5.25″	4.50 x 4.75″	11.00	10.78
89F4018	K-CM5-125-PC BONE	1.50 x 5.08 x 5.25″	4.50 x 4.75″	11.00	10.78
89F4019	K-CM5-200-BLACK	2.25 x 5.08 x 5.25″	4.50 x 4.75″	12.62	12.37
89F4022	K-CM5-200-PC BONE	2.25 x 5.08 x 5.25″	4.50 x 4.75″	12.62	12.37
92F6495	K-CM6-150-BLACK	1.70 x 6.08 x 6.25″	5.50 x 5.75″	13.60	13.33
92F6496	K-CM6-150-PC BONE	1.70 x 6.08 x 6.25″	5.50 x 5.75″	13.87	13.60
89F4023	K-CM6-225-BLACK	2.50 x 6.08 x 6.25″	5.50 x 5.75″	14.22	13.94
89F4005	K-CM6-225-PC BONE	2.50 x 6.08 x 6.25″	5.50 x 5.75″	14.22	13.94
89F4006	K-CM6-300-BLACK	3.25 x 6.08 x 6.25″	5.50 x 5.75″	15.69	15.38
89F4009	K-CM6-300-PC BONE	3.25 x 6.08 x 6.25″	5.50 x 5.75″	15.69	15.38
93F9916	K-CM59-135-000	1.56 x 5.57 x 8.78″	5 x 8″	15.24	14.93
89F4010	K-CM69-120-BLACK	1.38 x 6.33 x 9.50″	5.75 x 9″	15.92	15.60
89F3999	K-CM69-120PC BONE	1.38 x 6.33 x 9.50″	5.75 x 9″	15.92	15.60
89F4000	K-CM69-180-BLACK	1.99 x 6.33 x 9.50″	5.75 x 9″	17.64	17.29
89F4003	K-CM69-180PC BONE	1.99 x 6.33 x 9.50″	5.75 x 9″	17.64	17.29
89F3990	K-CM69-240-BLACK	2.59 x 6.33 x 9.50″	5.75 x 9″	18.53	18.16
89F3993	K-CM69-240PC BONE	2.59 x 6.33 x 9.50″	5.75 x 9″	18.53	18.16
16F1931	K-CM79-125-000	1.25 x 7.45 x 9.36″	6.75 x 8.75″	16.01	15.68
16F1932	K-CM79-125-039	1.25 x 7.45 x 9.36″	6.75 x 8.75″	16.01	15.68
93F9918	K-CM86-175-000	2.00 x 8.08 x 6.25″	7.50 x 5.75″	13.98	13.70
93F9919	K-CM86-175-039	2.00 x 8.08 x 6.25″	7.50 x 5.75″	13.98	13.70
89F3994	K-CM86-225-BLACK	2.50 x 8.08 x 6.25″	7.50 x 5.75″	15.48	15.17
89F3983	K-CM86-225PC BONE	2.50 x 8.08 x 6.25″	7.50 x 5.75″	15.48	15.17

(7046) (ne09293)

KE AND KEU SERIES ENCLOSURES



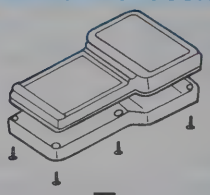
KEU

KEU series (keyboard/utility) enclosures are suited to desktop and benchtop applications. Sloped-top keyboard enclosures consist of a top and a bottom cover, aluminum keyboard panel and rear aluminum I/O panel. **"LP"** in type number indicates units have a molded-in recessed keyboard panel and matching color I/O panel. Applications include test equipment, medical and scientific devices, control panels, and timing devices. Colors: black (**suffixes BLACK**, **BK**, **000** in type number) and PC bone (**suffixes PC BONE**, **BO**, **039**).

Stock No.	Type	H x W x D	PC Board	1-9	10-24
16F1923	K-KEU-5LP-039	1.59 x 5.40 x 5.42″	4.75 x 4.75″	11.90	11.66
89F3913	K-KEU-7-BLACK	3.00 x 7.00 x 5.00″	6.5 x 4.5″	15.49	15.18
89F3904	K-KEU-7-PC BONE	3.00 x 7.00 x 5.00″	6.5 x 4.5″	16.50	16.17
92F6516	K-KEU-7-LP-BONE	1.30 x 7.00 x 5.00″	6.5 x 4.5″	10.31	10.11
89F3905	K-KEU-10-BLACK	4.00 x 10.00 x 8.03″	9.5 x 7.5″	28.34	27.78
89F4455	K-KEU-10-PC BONE	4.00 x 10.00 x 8.03″	9.5 x 7.5″	30.21	29.62
92F6517	K-KEU-10-LP-BLACK	2.04 x 10.00 x 8.03″	9.5 x 7.5″	13.42	13.15
92F6518	K-KEU-10-LP-BONE	2.04 x 10.00 x 8.03″	9.5 x 7.5″	13.42	13.15

(7042) (ne09289)

T SERIES ENCLOSURES



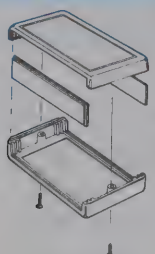
TT

T series enclosures consist of a top and bottom cover. Ideal for meters, test equipment, and other hand-held instruments. Colors: black.

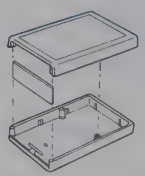
Stock No.	Type	H x W x D	PC Board	1-9	10-24
92F6489	K-TT-BLACK	1.15/1.50x4.44/3.29x8.52″	3.75 x 7.75″	10.31	10.11
91F1779	K-TT-9VB-BLK	1.15/1.50x4.44/3.29x8.52″	3.75/2.75 x 8″	10.93	10.71

(17026) (ne10617)

JM AND HM SERIES ELECTRONIC ENCLOSURES



JM22/JM42



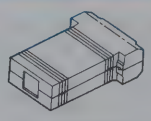
JM22/JM42

JM and **HM series** enclosures are the packaging solution for small size products. **Types JM22** and **JM42** are 4-piece units, consisting of a top and bottom cover and front and rear panels. **Type JM24** is a 2-piece unit, consisting of a top and a bottom cover. All others are 3-piece units, consisting of top and bottom covers and 1 panel. Applications include interfaces/junction boxes and computer accessories. Colors: black **(suffix BK)** and PC bone **(suffix BO)**. Belt clip is also available; *contact your local Newark sales office.*

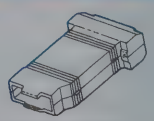
Stock No.	Type	H x W x D	PC Board	1-39	40-99
92F6461	K-JM12-IE-BLACK	0.80 x 1.60 x 2.40″	1 x 1.75″	3.06	3.00
93F9932	K-JM22-000	1.00 x 2.40 x 2.27″	1.75 x 1.75″	3.21	3.15
93F9933	K-JM22-039	1.00 x 2.40 x 2.27″	1.75 x 1.75″	3.21	3.15
92F6463	K-JM24-BLACK	1.00 x 2.40 x 3.80″	1.75 x 3.25″	3.83	3.76
89F3984	K-HM-BLACK	0.90 x 2.40 x 3.80″	1.75 x 3.25″	4.54	4.45
92F6467	K-HM-ET-BLACK	1.20 x 2.40 x 3.80″	1.75 x 3.25″	4.12	4.04
89F3981	K-HM-9VB-PC BONE	0.90 x 2.40 x 3.80″	1.75 x 3.25″	5.32	5.22
89F3972	K-HML-BLACK	0.90 x 2.75 x 4.60″	2.25 x 4″	6.11	5.99
93F9944	K-HML-ET-000	1.40 x 2.75 x 4.60″	2.25 x 4″	4.89	4.79
93F9946	K-HML-ET-9VB-000	1.50 x 2.75 x 4.60″	2.25 x 4″	5.90	5.79

(7038) (ne09284)

CN SERIES ELECTRONIC ENCLOSURES



K-CNM-0406



K-CNM-0607

CN series snap-together connector/interface housings feature top and bottom covers and molded-in connector openings. Includes applicable hardware. **CNS** - small; **CNM** - medium; **CNL** - large. Available in black (**BK**) and bone (**BO**).

Stock No.	Type	H x W x D	PC Board	1-39	40-99
92F6449	K-CNM-0000-BLACK	.80 x 1.68 x 2.50″	1.25 x 2.25″	2.07	2.03
66F801	K-CNM-0406-BLACK	.80 x 1.68 x 3.78″	1.25 x 3.50″	2.49	2.44
66F802	K-CNM-0607-BLACK	.80 x 1.68 x 3.13″	1.25 x 2.75″	2.90	2.84
92F6457	K-CNL-0406-BLACK	.80 x 1.67 x 4.24″	1.25 x 3.75″	2.49	2.44
91F5279	K-CNL-0406-BO	.80 x 1.67 x 4.24″	1.25 x 3.75″	2.49	2.44

(7037) (ne09283)

LH SERIES ENCLOSURES

LH series low-profile enclosures are composed of 4 pieces: top, bottom, front, and rear panels. Applications include LAN hubs, routers, extenders, and data communications connectors. Colors: black (**suffix BK**) and PC bone (**suffix BO**).

Stock No.	Type	H x W x D	PC Board	1-39	40-99
92F6496	K-CM6-150-PC BONE	1.50 x 5.07 x 5.08″	4.5 x 4.5″	13.87	13.60
92F6499	K-LH55-200-BLACK	2.25 x 5.07 x 5.08″	4.5 x 4.5″	9.22	9.03
92F6503	K-LH64-200-BLACK	2.25 x 6.08 x 4.26″	5.5 x 3.5″	10.25	10.05
92F6507	K-LH84-200-BLACK	2.25 x 8.08 x 4.26″	7.5 x 3.5″	13.87	13.60

(7044) (ne09291)

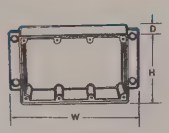
PROJECT BOXES

DIECAST ALUMINUM RFI/EMI PROTECTION ENCLOSURES

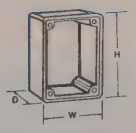
Shielded enclosures fulfill requirements for RF applications. Available with blue baked enamel finish per federal standard 595 #25109 over primer wash per DOD-P-15328, or with no finish. Boxes include aluminum cover with clear anodized finish per MIL-A-8625 and cover screws.

Stock No.	Type	H	W	D	Description	1-24
34F954	2397	1.13″	2.25″	0.88″	Blue Finish	**8.97**
35F3502	2400	1.13″	2.25″	0.88″	No Finish	**8.01**
34F955	2417	1.38″	2.25″	1.13″	Blue Finish	**8.96**
35F3507	2428	1.38″	2.25″	1.13″	No Finish	**8.48**
35F3508	2901	2.64″	4.75″	1.71″	Blue Finish	**21.18**
35F3510	2906	2.64″	4.75″	1.71″	No Finish	**17.92**
35F3511	3601	3.00″	2.63″	1.65″	Blue Finish	**15.25**
35F3514	3606	3.00″	2.63″	1.65″	No Finish	**14.86**
44F5357	4226	4.22″	8.32″	1.72″	Blue Finish	**52.91**
50F1472	4903	3.00″	6.00″	1.67″	Blue Finish	**31.41**
94F1056	5186	4.22″	8.32″	1.72″	No Finish	**49.38**
34F1262	3753	1.50″	1.13″	0.88″	Blue Finish	**8.69**
34F1263	3754	1.50″	1.13″	0.88″	No Finish	**8.35**

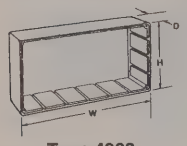
(6926) (de50493)



Type 2901



Type 3753



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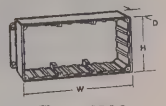


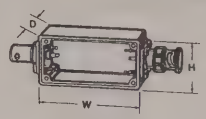
Type 4226

DIECAST ALUMINUM RFI/EMI ENCLOSURES

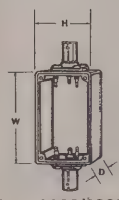
Feature component mounting capabilities. All rated 500VRMS, +150°C.

Stock No.	Type	H	W	D	Description	1-9
34F952	2390	1.13″	2.25″	0.88″	BNC Female Each End	**26.52**
34F953	2391	1.13″	2.25″	0.88″	BNC Female to BNC Male	**29.91**
34F966	2902	2.64″	4.75″	1.71″	BNC Female Each End	**40.75**
35F3503	3230	1.38″	2.25″	1.13″	BNC Female Each End	**26.26**
35F3504	3231	1.38″	2.25″	1.13″	BNC Male to BNC Female	**31.73**
35F3505	3232	1.38″	2.25″	1.13″	BNC Female "T"	**40.63**
35F987	3234	1.38″	2.25″	1.13″	Cross Connectors	**42.89**
35F3512	3602	3.00″	2.63″	1.65″	BNC Female Each End	**34.99**
35F3513	3603	3.00″	2.63″	1.65″	BNC Female to BNC Male	**39.18**
34F1260	3751	1.50″	1.13″	0.88″	BNC Female Each End	**32.19**
34F1261	3752	1.50″	1.13″	0.88″	BNC Female to BNC Male	**30.50**
35F986	3239	1.38″	2.25″	1.13″	Isolated BNC Female Each End	**42.33**

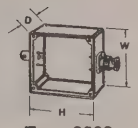
(6925) (de50492)



Type 2391



Type 3230/3239



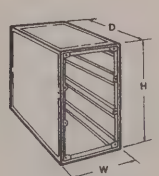
Type 3603

EXTRUDED ALUMINUM RFI/EMI SHIELDED ENCLOSURES WITH CARD GUIDES

Slotted to accept .062″ circuit boards and shielding dividers. Provide excellent RFI/EMI protection. Available with blue baked enamel finish per federal standard 595 #25109 over primer wash per DOD-P-15328, or with no finish. Include covers with clear anodized finish per MIL-A-8625 and screws.

Stock No.	Type	H	W	D	Description	1-9
34F947	3301	4.13″	2.68″	1.66″	Blue Finish	**32.97**
35F3516	3306	4.13″	2.68″	1.66″	No Finish	**30.23**
35F3517	3311	4.13″	2.68″	3.16″	Blue Finish	**38.04**
35F3520	3316	4.13″	2.68″	3.16″	No Finish	**36.03**
44F5325	3742	4.13″	2.68″	6.16″	Blue Finish	**46.92**

(6927) (de50494)



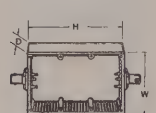
Type 3742

EXTRUDED ALUMINUM COMPONENT MOUNTING BOX WITH CARD GUIDES

Feature components mounting capabilities. All rated 500VRMS, +150°C.

Stock No.	Type	H	W	D	Description	1-4
35F3515	3302	4.13″	2.68″	1.66″	BNC Female Each End	**54.17**

(6928) (de50495)



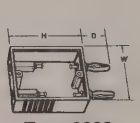
Type 3302

NONSHIELDED PHENOLIC ENCLOSURE

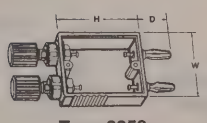
Create passive and active networks, voltage dividers, isolation networks or attenuators with these units. Include XP laminated paper base phenolic cover and screws. **Type 2259** rated 2500WVDC, 15 amps, +115°C. All others rated +150°C, with **types 2098** and **2224** also rated 5000WVDC and 15 amps.

Stock No.	Type	H	W	D	Description	1-9
34F950	2098	1.75″	1.44″	0.69″	Junior Size, Double Banana Jack/Double Banana Plug	**15.84**
35F3527	2103	2.25″	1.00″	1.00″	Queen Size, Black	**5.54**
35F3528	2104	2.38″	1.53″	1.53″	King Size, Black	**5.54**
35F3529	2105	1.75″	1.44″	0.69″	Junior Size, Black	**5.54**
34F951	2224	2.38″	1.53″	1.53″	King Size, Double Banana Jack/Double Banana Plug	**14.99**
44F5356	2259	1.75″	1.44″	0.69″	Junior Size, Binding Posts to Double Banana Plug	**19.74**

(6929) (de50496)



Type 2098



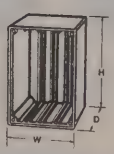
Type 2259

MOLDED THERMOPLASTIC ENCLOSURE WITH CARD GUIDES

Nylon box with cover is easily machined. Three slots are provided for .062″ circuit boards. Includes four self-tapping 2-32 cover screws. Rated +102°C.

Stock No.	Type	H	W	D	Color	1-24
30F1424	38-50-0	2.69″	1.81″	1.37″	Black	**5.96**
34F1264	3850-6				Blue	**5.96**

(6930) (de50497)

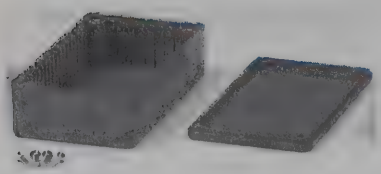


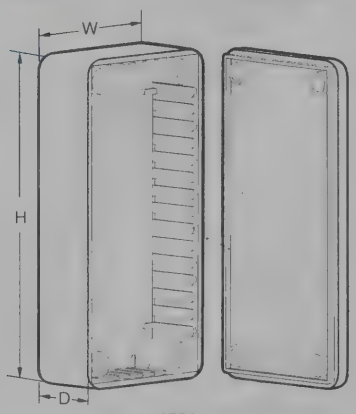
Type 3850

FRIENDLY, QUALITY SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

HIGH-IMPACT (FRABS) PLASTIC BOXES

Molded in smooth, thermoplastic/flame-retardant ABS (FRABS) plastic for easy drilling and punching. UL94V-0 flammability rating at 1.477mm with 60°C continuous-use temperature. Units feature interlocking flanged lid, 0.062″ PC card guides and threaded brass inserts with M3 × 0.5 × 10mm Phillips machine screws—ideal for opening/closing frequently.





1591

BLACK

Stock No.	Type	H × W × D	1-4	5-9
65F1763	1591L-BK	3.34 × 2.20 × 1.38″	5.25	4.88
65F1758	1591A-BK	3.93 × 1.97 × 0.82″	4.89	4.55
65F1759	1591B-BK	4.41 × 2.44 × 1.06″	5.29	4.92
65F1760	1591C-BK	4.72 × 2.55 × 1.41″	5.63	5.23
65F1761	1591D-BK	5.90 × 3.14 × 1.80″	8.94	8.58
65F1762	1591E-BK	7.47 × 4.33 × 2.24″	10.73	10.29
90F8207	1591GBK	4.75 × 3.69 × 1.18″	7.15	6.86
90F8210	1591HBK	6.52 × 2.78 × 0.98″	7.11	6.82
83F8762	1591MBK	3.34 × 2.20 × 0.83″	4.47	4.29
87F4236	1591SBK	4.33 × 3.23 × 1.58″	7.64	7.33
87F4237	1591TBK	4.72 × 3.15 × 2.17″	8.45	8.11
87F4238	1591UBK	4.72 × 4.72 × 2.17″	9.05	8.68
87F4239	1591VBK	4.72 × 4.72 × 3.54″	10.84	10.39

BLUE

65F1771	1591L-BU	3.34 × 2.20 × 1.38″	5.64	5.41
65F1766	1591A-BU	3.93 × 1.97 × 0.82″	5.26	5.05
65F1767	1591B-BU	4.41 × 2.44 × 1.06″	5.69	5.45
65F1768	1591C-BU	4.72 × 2.55 × 1.41″	6.05	5.80
65F1769	1591D-BU	5.90 × 3.14 × 1.80″	8.94	8.58
65F1770	1591E-BU	7.47 × 4.33 × 2.24″	10.73	10.29
83F8763	1591MBU	3.34 × 2.20 × 0.83″	4.47	4.29
87F4240	1591SBU	4.33 × 3.23 × 1.58″	7.64	7.33
87F4241	1591TBU	4.72 × 3.15 × 2.17″	8.45	8.11
87F4242	1591UBU	4.72 × 4.72 × 2.17″	9.05	8.68
87F4243	1591VBU	4.72 × 4.72 × 3.54″	10.84	10.39

GRAY

95F2545	1591LGY	3.34 × 2.20 × 1.38″	5.64	5.41
65F1774	1591A-GY	3.93 × 1.97 × 0.82″	5.26	5.05
65F1775	1591B-GY	4.41 × 2.44 × 1.06″	5.69	5.45
65F1776	1591C-GY	4.72 × 2.55 × 1.41″	6.05	5.80
65F1777	1591D-GY	5.90 × 3.14 × 1.80″	8.94	8.58
65F1778	1591E-GY	7.47 × 4.33 × 2.24″	10.73	10.29
95F2546	1591GGY	4.75 × 3.69 × 1.18″	7.15	6.86
95F2547	1591HGY	6.52 × 2.78 × 0.98″	7.11	6.82
83F8765	1591MGY	3.34 × 2.20 × 0.83″	4.47	4.29
95F2548	1591SGY	4.33 × 3.23 × 1.58″	7.64	7.33
95F2549	1591TGY	4.72 × 3.15 × 2.17″	8.45	8.11
95F2550	1591UGY	4.72 × 4.72 × 2.17″	9.05	8.68
95F2551	1591VGY	4.72 × 4.72 × 3.54″	10.84	10.39

(6990) (ne06090)

ECONOMY STYRENE PLASTIC BOXES

Molded in smooth, black styrene plastic, which is ideal for labels, silk screens, and decals. Boxes come with interlocking flanged lid, 0.062″ molded PC card guides, and self-tapping #4 × ½″ flathead screws. Average wall thickness 0.079″.

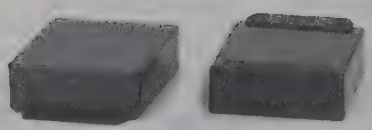
Stock No.	Type	H × W × D	1-4	5-9
87F2521	1591LSBK	3.34 × 2.20 × 1.38″	3.29	3.06
87F2522	1591ASBK	3.93 × 1.97 × 0.82″	3.05	2.84
87F2523	1591BSBK	4.41 × 2.44 × 1.06″	3.31	3.08
87F2524	1591CSBK	4.72 × 2.55 × 1.41″	3.51	3.26
87F2525	1591D-SBK	5.90 × 3.14 × 1.80″	5.21	4.84
87F2526	1591ESBK	7.47 × 4.33 × 2.24″	6.71	6.43
90F8206	1591GSBK	4.75 × 3.69 × 1.18″	4.47	4.29
83F8766	1591MSBK	3.34 × 2.20 × 0.83″	2.98	2.86
87F2527	1591SSBK	4.33 × 3.23 × 1.58″	4.79	4.60
87F2528	1591TSBK	4.72 × 3.15 × 2.17″	5.28	5.07

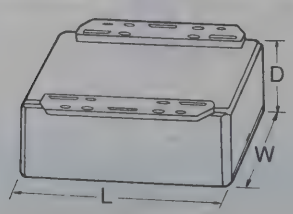
(6991) (ne06091)

NEW

1591 SERIES PLASTIC ENCLOSURES WITH FLANGES

Electronic instrument enclosures, ideally suited for mounting printed circuit boards, are available in either flame retardant ABS plastic (carries a UL flammability rating of 94V-0 at 0.06″ (1.47mm) thickness) or economical polystyrene (black only). Integral card guides molded in, accept 1.5mm (0.062″) PC cards. Designed to meet IP54 standard.





1591

BLACK ABS WITH FLANGE

Stock No.	Type	L x W x D	1-4	5-9
01F2223	1591LFBK	3.3 x 2.2 x 1.4″	6.09	5.84
01F2216	1591AFBK	3.9 x 2.0 x 0.8″	5.71	5.47
01F2217	1591BFBK	4.4 x 2.4 x 1.1″	6.13	5.88
01F2218	1591CFBK	4.7 x 2.6 x 1.4″	6.49	6.23
01F2219	1591DFBK	5.9 x 3.2 x 1.8″	9.43	9.05
01F2220	1591EFBK	7.5 x 4.3 x 2.2″	11.26	10.80
01F2221	1591GFBK	4.8 x 3.7 x 1.2″	7.64	7.33
01F2222	1591HFBK	6.5 x 2.8 x 1.0″	9.35	8.96
83F8764	1591MFBK	3.34 x 2.20 x 0.83″	4.92	4.72
01F2224	1591SFBK	4.3 x 3.2 x 1.6″	8.13	7.80
01F2225	1591TFBK	4.7 x 3.2 x 2.2″	8.94	8.58

(12434) (ne09829)

PLASTIC ENCLOSURES

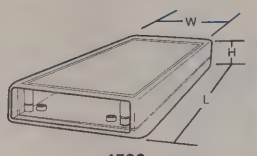
1593 SERIES HAND-HELD CASES

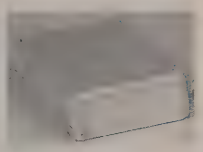
1593 series general-purpose ABS cases available in black and gray. Feature self-tapping screws, lap-joint design and a recess for membrane. **Type 1593K** open at both ends. All others open at one end and feature a 9V battery compartment.

Stock No.	Grey Type	L x W x H	1-4	Stock No.	Black Type	1-4
91F2014	1593K GY	2.6 x 2.6 x 1.1″	2.24	91F2015	1593K BK	2.24
91F2016	1593P GY	3.5 x 2.6 x 1.1″	3.20	91F2017	1593P BK	3.20
91F2018	1593Q GY	4.3 x 2.6 x 1.1″	3.60	91F2019	1593Q BK	3.60
83F8768	1593SGY	3.6 x 2.6 x 0.83″	2.98	83F8767	1593SBK	2.98
83F8770	1593TGY	4.4 x 2.6 x 0.83″	3.39	83F8769	1593TBK	3.39

(13040) (ne09824)

NEW



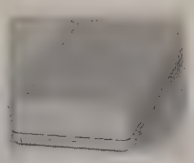


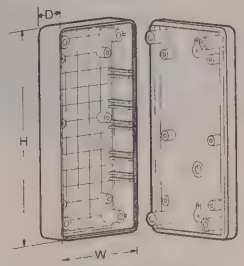
1593

HIGH-IMPACT (FRABS) PLASTIC HAND-HELD CASES

Molded in flame-retardant, high-impact ABS (FRABS) plastic, meets UL94V-0. Includes integral brass inserts and machine screws (M3 head) providing extra strength for repeated assembly and disassembly. Recessed top panel is ideal for membrane display; lap joint construction provides protection against dust and liquid. Extra-deep top and ultra-shallow base designed to enhance aesthetics and improve flexibility as a "hand-held" instrument. Twelve PCB bosses (six in both top and bottom) and vertical mounting slots (used with *optional* battery compartment dividers) are molded in. *Order battery dividers and belt clips separately; contact your local Newark sales office for details.*

Stock No.	Black Type	H x W x D	1-4	Stock No.	Grey Type	1-4
96F6731	1599BBK	5.12 x 2.56 x 0.98″	6.84	96F6732	1599BGY	6.84
96F6734	1599EBK	6.70 x 3.35 x 1.38″	8.31	96F6735	1599EGY	8.31
96F6737	1599HBK	7.66 x 4.33 x 1.77″	10.94	96F6738	1599HGY	10.94





1599 High-Impact

HIGH-IMPACT POLYSTYRENE HAND-HELD CASES

Same features as above except molded-in gray polystyrene plastic with self-tapping #4 x ½ flathead screws. Perfect where economy is important and where repetitive assembly and disassembly is not vital. Available in gray only. *Order battery dividers and belt clips separately; contact your local Newark sales office for details.*

Stock No.	Type	H x W x D	1-4	5-9
96F6733	1599BSGY	5.12 x 2.56 x 0.98″	5.58	5.35
96F6736	1599ESGY	6.70 x 3.35 x 1.38″	5.85	5.43
96F6739	1599HSGY	8.66 x 4.33 x 1.77″	7.22	6.92

(6989) (ne06089)

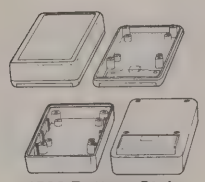
1599 SERIES BATTERY ENCLOSURES

1599 Series enclosures feature battery door. Molded-in PCB card standoffs and vertical card guides. Styled for use as a hand-held instrument enclosure. 2-piece, lap joint construction provides protection against dust accumulation and splashing water. Recessed top panel for membrane display or pad. 2 keyhole knockouts facilitate wall mounting. Includes 4 machine screws. Meet IEC enclosure IP54 classification. *Order enclosure battery holder kits separately on this page.*

Stock No.	Type	H x W x D*	1-4	5-9
BLACK ABS				
01F2255	1599BBKBAT	5.12 x 2.56 x 0.97″	9.26	8.88
01F2256	1599EBKBAT	6.69 x 3.34 x 1.33″	11.03	10.58
GRAY ABS				
01F2253	1599BGYBAT	5.12 x 2.56 x 0.97″	9.26	8.88
01F2254	1599EGYBAT	6.69 x 3.34 x 1.33″	11.03	10.58
GRAY STYRENE				
01F2257	1599BSGYBAT	5.12 x 2.56 x 0.97″	7.07	6.78
01F2258	1599ESGYBAT	6.69 x 3.34 x 1.33″	8.18	7.84

*Assembled depth - includes lid

(16927) (ne10612)



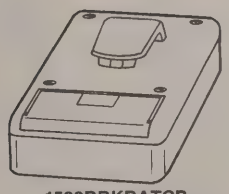
1599 Battery Style

1599 SERIES ENCLOSURES WITH CLIP

1599 Series enclosures with nylon clip for belt or pocket. Feature same characteristics as **1599 series** battery door enclosures without clip, order separately *on this page.* **Type 1599BBKBATCP** includes battery door on enclosure. Dimensions: 5.12H x 2.56W x 0.97″D. **Type 1599CLIP** is enclosure clip only. Clip features nylon screws for electrical insulation and strength.

Stock No.	Type	Description	1-4	5-9
01F2260	1599BBKCP	Black ABS	11.01	10.56
01F2261	1599BGYCP	Gray ABS	11.01	10.56
01F2259	1599BBKBATCP	Black ABS with Battery Door	11.52	11.05
97F9367	1599CLIP	Clip Only	0.96	0.92

(16937) (ne10613)



1599BBKBATCP

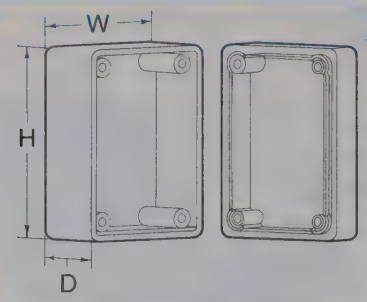
TYPES BH AND BS BATTERY HOLDER KITS

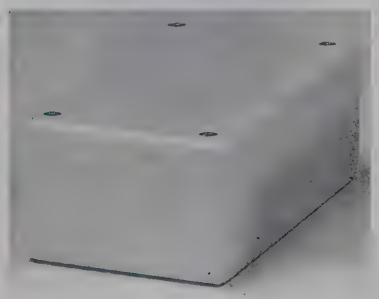
Types BH and **BS** battery holder kits designed for battery door enclosures; *order separately on this page.* Include all parts required to install battery (or batteries), including the battery holder, wires, divider, and foam anti-rattle pad.

Stock No.	Type	Holds	For Enclosure Sizes	1-4	5-9
01F2266	BH1AAWKIT	1 AA Cell	B, E	1.00	0.96
01F2267	BH2AAWKIT	2 AA Cells	B, E	1.00	0.96
01F2262	BH1AAAWKIT	1 AAA Cell	B, E	0.90	0.86
01F2263	BH2AAAWKIT	2 AAA Cells	B, E	1.11	1.07
01F2264	BH3AAAWKIT	3 AAA Cells	E	1.60	1.53
01F2265	BH4AAAWKIT	4 AAA Cells	E	1.90	1.82
01F2268	BS61KIT	1 9V Cell	B, E	0.75	0.72

(16936) (ne10614)

PLASTIC ENCLOSURES





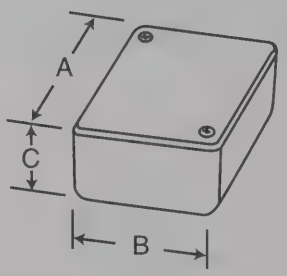
HEAVY-DUTY (FRABS) PLASTIC BOXES

Molded in matte-textured, thermoplastic/flame-retardant, high-impact ABS (FRABS) for easy punching and drilling. UL94V-0 flammability rating at 1.77mm with 60°C continuous-use temperature. These rugged boxes come with interlocking flanged lid and threaded brass inserts with M3 x 0.5 x 10mm machine screws, ideal for opening/closing frequently. Removable 0.062″ PC card guides also available; *contact your local Newark sales office.* Average wall thickness: 0.124″. Available in black, blue, and gray. Watertight versions also available; *contact your local Newark sales office.*

Stock No.	Type	H x W x D	1-4	5-9
BLACK				
90F8222	1594ABK	2.17 x 2.17 x 1.10″	6.71	6.43
90F8224	1594BBK	3.15 x 2.17 x 1.10″	7.01	6.72
90F8226	1594CBK	4.13 x 2.56 x 1.30″	8.62	8.27
90F8228	1594DBK	5.12 x 2.56 x 1.70″	10.26	9.84
90F8230	1594EBK	6.50 x 4.13 x 2.09″	12.62	12.11
BLUE				
90F8223	1594ABU	2.17 x 2.17 x 1.10″	6.71	6.43
90F8225	1594BBU	3.15 x 2.17 x 1.10″	7.01	6.72
90F8227	1594CBU	4.13 x 2.56 x 1.30″	8.62	8.27
90F8229	1594DBU	5.12 x 2.56 x 1.70″	10.26	9.84
90F8231	1594EBU	6.50 x 4.13 x 2.09″	12.62	12.11
GRAY				
96F4817	1594AGY	2.17 x 2.17 x 1.10″	6.71	6.43
96F4818	1594BGY	3.15 x 2.17 x 1.10″	7.01	6.72
96F4819	1594CGY	4.13 x 2.56 x 1.30″	8.62	8.27
96F4820	1594DGY	5.12 x 2.56 x 1.70″	10.30	9.88
96F4821	1594EGY	6.50 x 4.13 x 2.09″	12.62	12.11

(6986) (ne06085)

NEW



MINI PLASTIC - BOXES AND KEY RING KIT

Type 1551 mini-boxes are molded from economical ABS plastic, featuring satin-textured finish, 2 PC board standoffs molded into interior, lap joint lid construction and assembled with 2 self-tapping Philips screws. Available with or without ¾″ metal key ring, attached by a nylon clip; *order separately below.*

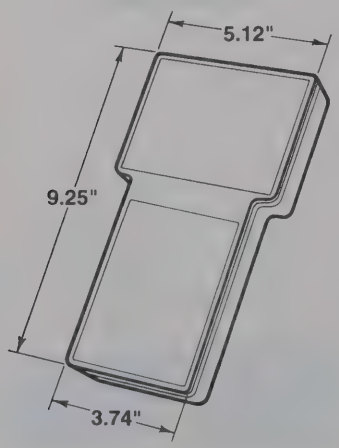
Gray Stock No.	Black Stock No.	Type	A x B x C	1-4	5-9
83F8733	83F8732	1551GGY	1.97 x 1.38 x 0.79″	1.07	1.02
83F8737	83F8736	1551HGY	2.36 x 1.38 x 0.79″	1.22	1.17
83F8741	83F8740	1551KGY	3.15 x 1.57 x 0.79″	1.28	1.23
MINI PLASTIC - BOXES WITH KEY RING					
83F8735	83F8734	1551GRGY	1.97 x 1.38 x 0.79″	2.09	2.00
83F8739	83F8738	1551HRGY	2.36 x 1.38 x 0.79″	2.15	2.07
83F8743	83F8742	1551KRGY	3.15 x 1.57 x 0.79″	2.26	2.17

KEY RING KIT

Type 1551KR key ring kit can be used on any small enclosure. Requires only a 0.156″ (4mm) round hole for mounting. Consists of a tough molded black nylon mounting post and a ¾″ plated metal key ring.

83F8742 Type 1551KRBK. **Each** **2.26**

(34480) (ne34480)



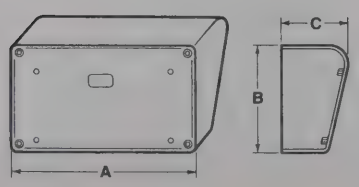
DISPLAY MODULE T PLASTIC HAND-HELD CASE AND ACCESSORIES

Molded in flame-retardant ABS (FRABS) thermoplastic (easy to drill and punch), UL9V-0 rating. 2-piece tongue-and-groove construction provides protection against dust and liquids designed to meet IEC enclosure IP54 classification. With optional gasket and sealing feet, the unit is designed to meet IEC enclosure IP65 classification. Units are assembled using machine kit screws into threaded brass inserts. Ideal for repetitive assembly and disassembly. Mounting bosses are molded in for display and PC board mounting. **"S"** in type number indicates solid display area, 4.8 x 4″ (122 x 87); **"C"** in type number indicates an open display area with a clear polycarbonate lens, 4.0 x 1.77″ or (102 x 45) with a plain Mylar mask kit. The keypad area is recessed, ideal for membrane panels 3.4 x 4.68″ (87 x 119) on both versions. Units are 1.19″ thick, including lid. Available in black or gray.

Stock No.	Type	Description	1-4	5-9
97F9433	1592ETSDBK	Case w/Solid Display Area	9.26	8.88
97F9434	1592ETSDGY	Case w/Solid Display Area	9.26	8.88
97F9435	1592ETCDBK	Case w/Open Display and Lens Kit	10.54	10.11
97F9436	1592ETCDGY	Case w/Open Display and Lens Kit	10.54	10.11
CASE ACCESSORIES				
97F9437	1592ETG	Gasket Kit (47″)	1.90	1.82
97F9438	1592ETM	Magnetic Strip Material	5.37	5.15
97F9439	1592ETRF	Rubber Feet	2.24	2.15

***Sold in packages of 17.** Color: **Suffix BK** indicates bnlack, **suffic GY** indicates gray.

(6912) (de03632)



PLASTIC (FRABS) INSTRUMENT CONSOLES

Molded in smooth ABS (FRABS) thermoplastic (easy to drill and punch), UL94V-0 rating. Unit features vertical 0.04″ aluminum panel (paper covered on one side), integral 0.062″ PC card guides, M3 x 0.5 x 8mm (0.31″) machine screws with brass inserts — ideal for opening and closing frequently, 4 rubber feet included. Note: **Suffix BK** in type numbers indicates black; **suffix GY** indicates gray.

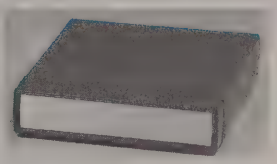
Stock No.	Type	A x B x C	1-4	5-9
97F9445	1595CBK	6.34 x 3.78 x 2.29″	10.71	10.27
98F553	1595CGY	6.34 x 3.78 x 2.29″	10.71	10.27
97F9586	1595EBK	8.47 x 5.12 x 2.96″	13.26	12.72
94F4797	1595EGY	8.47 x 5.12 x 2.96″	13.26	12.72

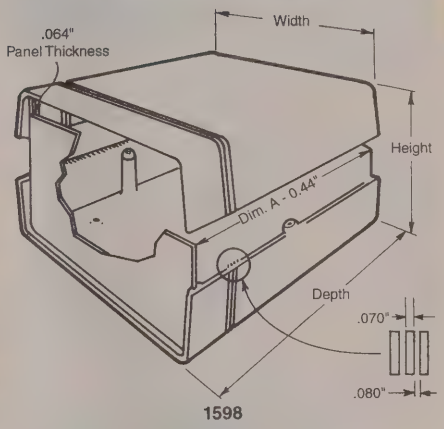
(6914) (de03634)

PLASTIC ENCLOSURES

PLASTIC (FRABS) INSTRUMENT CASES WITH ALUMINUM PANEL

Molded in flame-retardant ABS (FRABS) thermoplastic (easy to drill and punch) with matte-textured finish. UL 94V-0 flammability rating at 1.477mm and 60°C continuous temperature. 2-piece tongue-and-groove construction with 0.64″ thick brushed aluminum panels at front and rear. PC board mounts on Eurocard centers are molded in. Units are assembled with M3 x 0.5 x 10mm machine screws into threaded brass inserts. Ideal for repetitive assembly and disassembly. Available in black, blue, or gray.





BLACK

Stock No.	Type	H x W x D	1-4	5-9
87F2513	1598ABK	1.38 x 3.62 x 6.10″	10.37	9.94
87F2515	1598BBK	2.01 x 5.24 x 5.24″	10.58	9.83
87F2517	1598CBK	2.01 x 6.02 x 7.01″	14.22	13.64
87F2519	1598DBK	2.48 x 7.99 x 7.01″	16.15	15.01
90F8212	1598EBK	3.35 x 6.30 x 6.30″	17.07	16.37
90F8214	1598FBK	1.58 x 6.30 x 9.84″	16.96	15.76
90F8216	1598GBK	2.95 x 6.30 x 9.84″	20.50	18.26
90F8218	1598HBK	1.58 x 7.87 x 11.02″	21.52	19.17
90F8220	1598JBK	2.95 x 7.87 x 11.02″	26.66	23.75

BLUE

87F2514	1598ABU	1.38 x 3.62 x 6.10″	10.37	9.94
87F2516	1598BBU	2.01 x 5.24 x 5.24″	11.37	10.90
87F2518	1598CBU	2.01 x 6.02 x 7.01″	14.22	13.64
87F2520	1598DBU	2.48 x 7.99 x 7.01″	17.35	16.64
90F8213	1598EBU	3.35 x 6.30 x 6.30″	17.07	16.37
90F8215	1598FBU	1.58 x 6.30 x 9.84″	18.24	17.50
90F8217	1598GBU	2.95 x 6.30 x 9.84″	20.50	18.26
90F8219	1598HBU	1.58 x 7.87 x 11.02″	21.52	19.17
90F8221	1598JBU	2.95 x 7.87 x 11.02″	26.66	23.75

GRAY

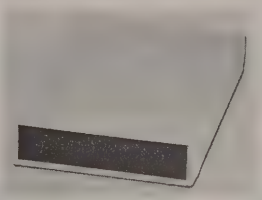
95F2652	1598AGY	1.38 x 3.62 x 6.10″	9.65	8.96
95F2653	1598BGY	2.01 x 5.24 x 5.24″	10.58	9.83
95F2654	1598CGY	2.01 x 6.02 x 7.01″	14.22	13.64
95F2655	1598DGY	2.48 x 7.99 x 7.01″	17.35	16.64
95F2656	1598EGY	3.35 x 6.30 X 6.30″	17.07	16.37
95F2657	1598FGY	1.58 x 6.30 x 9.84″	18.24	17.50
95F2658	1598GGY	2.95 x 6.30 x 9.84″	20.50	18.26
95F2659	1598HGY	1.58 x 7.87 x 11.02″	21.52	19.17
95F2660	1598JGY	2.95 x 7.87 x 11.02″	26.66	23.75

(6983) (ne06080)

ECONOMICAL STYRENE INSTRUMENT CASES WITH PLASTIC PANEL

NEW

Type 1598 styrene enclosures are molded with the same features as the plastic (ABS) versions except in matte-textured styrene plastic. Units are assembled with self-tapping screws, perfect where economy is important and where repetitive assembly and disassembly are not vital. Color: gray.



Stock No.	Type	L x W x H	1-4	5-9
01F2243	1598ASGYPBK	1.42 x 3.70 x 6.18″	7.22	6.92
01F2245	1598BSGYPBK	1.96 x 5.31 x 5.28″	8.09	7.76
01F2244	1598BBSGYPBK	1.42 x 6.06 x 7.05″	9.20	8.82
01F2246	1598CSGYPBK	2.04 x 6.10 x 7.09″	9.49	9.11
01F2247	1598DSGYPBK	2.52 x 8.11 x 7.09″	11.37	10.90
01F2248	1598ESGYPBK	3.38 x 6.30 x 6.30″	11.32	10.86
01F2249	1598FSGYPBK	1.58 x 6.30 x 9.84″	11.07	10.62
01F2250	1598GSGYPBK	3.00 x 6.30 x 9.84″	12.98	12.45
83F8771	1598HSGYPBK	1.58 x 7.87 x 11.02″	12.98	12.45
01F2252	1598JSGYPBK	3.00 x 7.87 x 11.02″	15.11	14.50

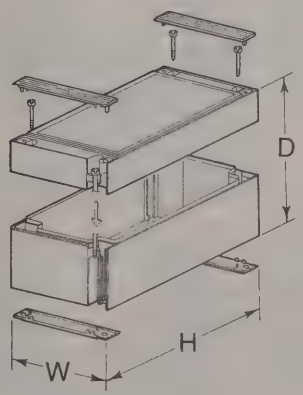
(34679) (ne34679)

OIL- AND WATERTIGHT TECHNOCASES

NEMA

- **Meets IEC529 and IEC Enclosure IP65 Classifications**
- **Meets DIN 40050 Standards**
- **User Chooses Which is Top or Bottom**
- **Meets NEMA Enclosure Types 4X, 4, 12, and 13**

High-impact cases are molded in UL94V-2 rated polycarbonate with recessed gasket for dust-, oil-, and watertight applications. Smooth finish is ideal for labels, silk screens, and decals. Units come with recessed polyurethane gasket, captive stainless steel screws, and snap-on screw covers for a clean, finished appearance. **Type R541** has stainless steel external mounting feet. Includes mounting screws. **Sold in packages of 4. Type R546** has internal plastic hidden lid hinges. Includes mounting screws. **Sold in packages of 2.**

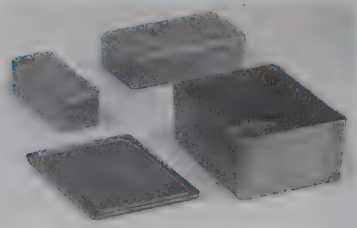


Stock No.	Type	H x W x D	1-4	5-9
95F2643	R210080000	3.15 x 3.15 x 2.36″	24.48	21.80
95F2644	R211080000	3.15 x 3.15 x 3.15″	23.17	20.64
95F2645	R210082000	3.15 x 4.72 x 2.36″	26.09	23.24
95F2646	R211082000	3.15 x 4.72 x 3.15″	27.92	24.87
95F2647	R210084000	3.15 x 6.30 x 2.36″	30.88	27.51
95F2648	R211084000	3.15 x 6.30 x 3.15″	32.88	29.29
95F2649	R210086000	3.15 x 9.45 x 2.36″	35.70	31.80
95F2650	R211086000	3.15 x 9.45 x 3.15″	38.05	33.89
95F2651	R210120000	4.72 x 4.72 x 2.36″	35.27	31.42
95F2634	R211120000	4.72 x 4.72 x 3.54″	37.60	33.49
95F2635	R210122000	4.72 x 7.87 x 2.36″	40.44	36.02
95F2636	R211122000	4.72 x 7.87 x 3.54″	43.23	38.51
95F2637	R210124000	4.72 x 9.45 x 2.36″	42.84	38.16
95F2638	R211124000	4.72 x 9.45 x 3.54″	45.54	40.56
95F2639	R210160000	6.30 x 6.30 x 2.36″	47.17	42.02
95F2640	R211160000	6.30 x 6.30 x 3.54″	49.72	44.29
95F2641	R210162000	6.30 x 9.45 x 2.36″	50.72	43.11
95F2642	R211162000	6.30 x 9.45 x 3.54″	55.68	47.33

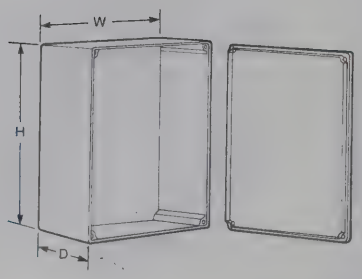
(6988) (ne06088)

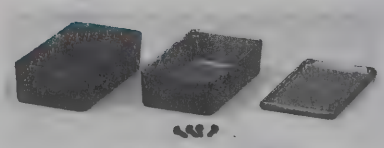
DIECAST ALUMINUM ENCLOSURES

DIE-CAST ALUMINUM BOXES



Natural Finish





Black Painted Finish

Aluminum alloy boxes with countersunk lid and tumbled surface have RF shielding capabilities, making them ideal for RF connectors. Type numbers with **suffixes D** and **E** have 2 center posts to provide an RF seal. Aluminum alloy allows for easy drilling and punching with the durability of metal. All units include four #6-32 Phillips screws. Select natural or black finish.

NATURAL FINISH

Stock No.	Type	H x W x D	1-4	5-9
81F3790	1590A	3.62 x 1.50 x 1.07″	6.93	6.44
81F3791	1590B	4.37 x 2.47 x 1.07″	7.92	7.36
81F3792	1590BB	4.68 x 3.69 x 1.18″	10.30	9.57
81F3793	1590C	4.68 x 3.69 x 2.06″	11.59	10.77
81F3794	1590D	7.39 x 4.70 x 2.06″	18.97	17.63
83F8748	1590DD	7.40 x 4.70 x 1.30″	17.94	17.21
81F3795	1590E	7.39 x 4.70 x 3.06″	20.92	18.64
81F3796	1590F	7.39 x 7.37 x 2.50″	28.13	25.06
81F3797	1590LB	1.98 x 1.98 x 1.07″	7.69	7.37
84F142	1590P1	6.01 x 3.24 x 1.81″	15.22	14.60
87F2484	1590S	4.33 x 3.23 x 1.58″	11.24	10.78
87F2485	1590T	4.72 x 3.15 x 2.17″	11.60	11.13
87F2486	1590U	4.72 x 4.72 x 2.17″	17.03	16.33
87F2487	1590V	4.72 x 4.72 x 3.54″	22.46	20.00

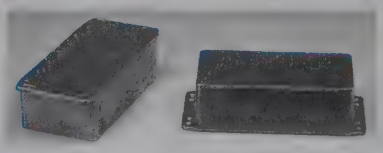
BLACK PAINTED FINISH

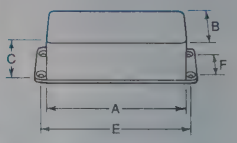
Stock No.	Type	H x W x D	1-4	5-9
95F2661	1590ABK	3.62 x 1.50 x 1.07″	9.37	8.71
95F2662	1590BBK	4.37 x 2.47 x 1.07″	11.50	11.03
95F2663	1590BBBK	4.68 x 3.69 x 1.18″	14.39	13.80
94F4795	1590CBK	4.68 x 3.69 x 2.06″	16.20	15.54
95F2664	1590DBK	7.39 x 4.70 x 2.06″	23.48	20.91
83F8749	1590DDBK	7.40 x 4.70 x 1.30″	20.66	18.40
95F2665	1590EBK	7.39 x 4.70 x 3.06″	25.11	22.37
95F2666	1590FBK	7.39 x 7.37 x 2.50″	33.76	30.07
94F1153	1590LBBK	1.98 x 1.98 x 1.07″	10.37	9.94
83F8755	1590P1BK	6.01 x 3.24 x 1.81″	18.03	17.29
95F2667	1590SBK	4.33 x 3.23 x 1.58″	14.60	14.01
95F2668	1590TBK	4.72 x 3.15 x 2.17″	15.09	14.47
95F2669	1590UBK	4.72 x 4.72 x 2.17″	20.43	19.60
95F2670	1590VBK	4.72 x 4.72 x 3.54″	26.95	24.00

(6985) (ne06082)

FLANGED LID-DIE-CAST ALUMINUM ENCLOSURES

NEW



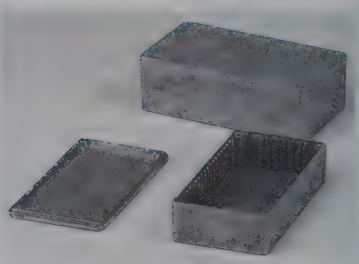


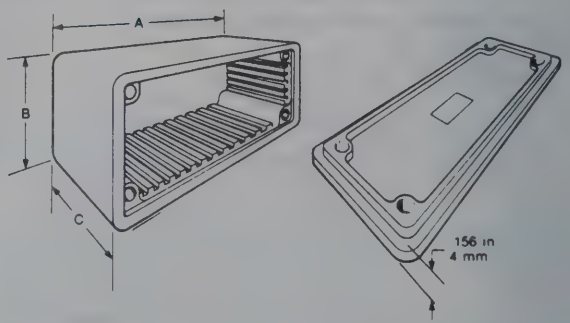
Type 1590 flanged lid die-cast enclosures allow for easy mounting to walls or shelves. These enclosures share the same body and features as the regular **type 1590** enclosures except the lid is extended and four countersunk holes are cast into the flanges. The flanged lid also allows for added security as the lid/enclosure screws are hidden against the wall or shelf.

Stock No.	Type	Dimensions A	B	C	1-4	5-9
83F8744	1590AFL	3.63″	1.52″	1.07″	8.20	7.86
83F8746	1590BFL	4.38″	2.40″	1.07″	9.37	8.98
83F8745	1590BBFL	4.70″	3.70″	1.18″	12.18	11.68
83F8747	1590CFL	4.70″	3.70″	2.06″	13.71	13.15
83F8751	1590DFL	7.39″	4.27″	2.06″	21.52	19.17
83F8750	1590DDFL	7.40″	4.70″	1.30″	19.73	18.92
83F8752	1590EFL	7.39″	4.72″	3.06″	23.03	20.51
83F8753	1590FFL	7.41″	7.41″	2.50″	30.95	27.56
83F8754	1590LBFL	1.98″	1.98″	1.07″	8.45	8.11
84F143	1590P1FL	6.01″	3.24″	1.81″	16.75	16.07
83F8756	1590SFL	4.33″	3.23″	1.58″	12.37	11.86
83F8757	1590TFL	4.72″	3.15″	2.17″	12.77	12.25
83F8758	1590UFL	4.72″	4.72″	2.17″	18.73	17.96
83F8759	1590VFL	4.72″	4.72″	3.54″	24.70	22.00

(34481) (ne34481)

DIE-CAST ALUMINUM PC CARD ENCLOSURES





- **Internal Slots on 0.2″ Centers Hold 0.062″-Thick PC Cards or Dividers**

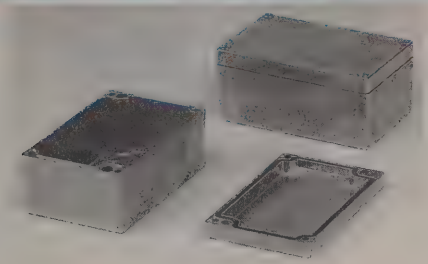
Die-cast boxes come with 3mm slot head screws, countersunk into lid and threaded in tapped holes. Rated to 600°C (1112°F). Interlocking flange lid.

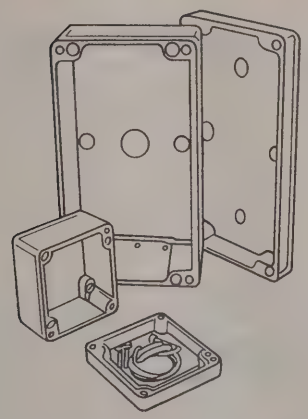
Stock No.	Type	Dimensions A	B	C	1-4	5-9
65F1782	1590L	4.00″	2.00″	0.844″	8.56	8.21
65F1783	1590M	4.40″	2.44″	1.060″	10.30	9.88
65F1784	1590N	4.75″	2.56″	1.400″	11.67	11.19
65F1785	1590P	6.00″	3.16″	1.840″	15.22	14.60
65F1786	1590R	7.50″	4.33″	2.220″	22.74	20.26

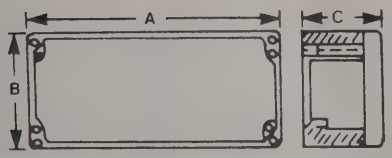
(7048) (ne50397)

METAL ENCLOSURES

WATERTIGHT DIECAST ALUMINUM ENCLOSURES





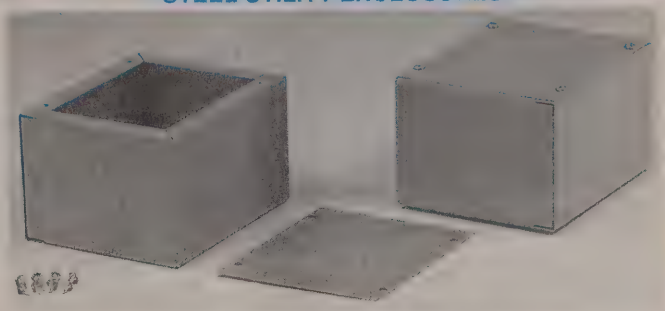


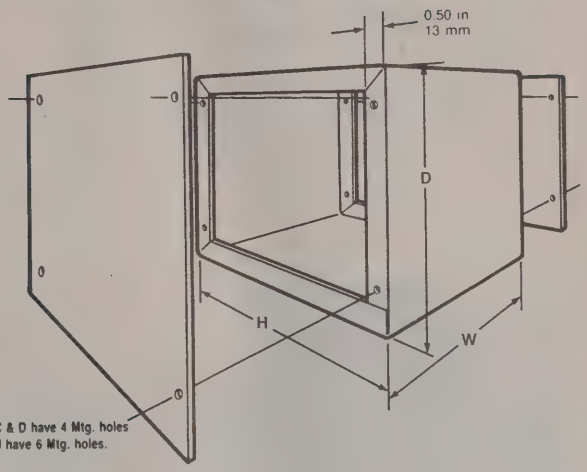
Type 1590Z watertight aluminum diecast enclosures are designed to meet IP65 (dust and hose proof). These enclosures are perfect for housing sensitive electrical, pneumatic, hydraulic and electronic assemblies. They feature natural finish, a recessed neoprene gasket and captive, recessed stainless steel lid screws.

Stock No.	Type	Dimensions A	B	C	1-4	5-9
83F8760	1590Z100	2.95″	3.15″	2.05″	34.21	30.47
87F2509	1590Z110	2.95″	3.15″	2.05″	34.21	30.47
87F2510	1590Z120	4.92″	3.15″	2.28″	44.01	39.20
87F2511	1590Z130	6.89″	3.15″	2.05″	49.60	44.18
83F8761	1590Z135	6.89″	3.15″	2.36″	52.95	45.01
87F2512	1590Z150	8.66″	4.72″	3.15″	95.60	81.27
88F2362	1590Z160	6.30″	6.30″	3.54″	86.27	82.13

(6923) (de50395)

STEEL UTILITY ENCLOSURES





Type 1415 enclosures are fabricated from 20-gauge (0.036″ thick) steel (sizes A to E) or 18-gauge (0.048″ thick) steel (sizes F to J). Units are painted with an ASA 61 gray baked enamel finish. Top and bottom panels are secured with 8 self-tapping screws (included).

Stock No.	Type	Metal Thickness	H × W × D	1-4	5-9
95F2595	1415A	20 Gauge/0.036″	4 × 2 × 4″	12.73	12.21
95F2596	1415B	20 Gauge/0.036″	4 × 3 × 5″	12.94	12.41
95F2597	1415C	20 Gauge/0.036″	6 × 4 × 5″	16.45	15.78
94F822	1415D	20 Gauge/0.036″	6 × 6 × 6″	25.22	24.19
95F2598	1415E	20 Gauge/0.036″	9 × 5 × 6″	26.19	23.33
95F2599	1415F	18 Gauge/0.048″	10 × 7 × 8″	39.62	35.29
95F2600	1415G	18 Gauge/0.048″	12 × 6 × 7″	39.42	35.11
95F2601	1415H	18 Gauge/0.048″	10 × 8 × 10″	51.01	45.44
95F2602	1415I	18 Gauge/0.048″	12 × 8 × 11″	55.25	46.96
95F2603	1415J	18 Gauge/0.048″	15 × 7 × 9″	56.32	50.16

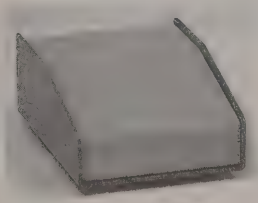
(6863) (de01150)

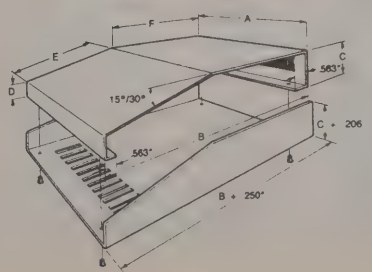
ALUMINUM DESKTOP CONSOLES

Type 1456 aluminum consoles are sold as complete units (top & bottom). The bottom section is fabricated from 0.081″ thick aluminum and painted an off white baked enamel. The top sloped panel is 0.064″ thick up to 14″ wide models (0.081″ thick over 14″ wide) and is painted with a textured blue baked enamel. Units include hardware and 4 self adhesive rubber feet.

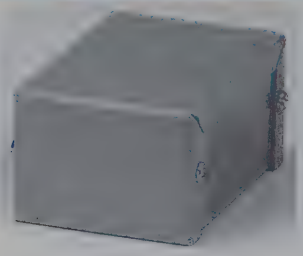
Stock No.	Type	Panel Slope	Console Dimensions A	B	C	D	E	F	1-4	5-9
87F2472	1456CE2WHBU	15°	4.0″	5.5″	2.0″	1.1″	3.3″	2.2″	18.26	17.23
83F8950	1456FE2WHBU	15°	6.5″	5.5″	2.0″	1.1″	3.3″	2.2″	19.68	18.60
87F2475	1456KH3WHBU	15°	10.0″	8.3″	3.0″	1.3″	6.3″	2.2″	27.21	24.24
83F8956	1456PL3WHBU	15°	14.0″	11.3″	3.0″	1.3″	6.3″	5.2″	30.98	29.29
87F2476	1456PL3WHBU	15°	14.0″	11.3″	3.0″	1.3″	6.3″	5.2″	32.88	29.29
87F2478	1456FE3WHBU	30°	6.5″	5.5″	3.0″	1.1″	3.7″	2.2″	20.88	18.60
83F8952	1456KE3WHBU	30°	10.0″	5.5″	3.0″	1.1″	3.7″	2.2″	23.91	22.60
83F8951	1456FG4WHBU	30°	10.0″	7.2″	4.0″	1.1″	5.7″	2.2″	21.46	20.29
83F8953	1456KG4WHBU	30°	10.0″	10.2″	4.0″	1.1″	5.7″	5.2″	25.64	24.24
83F8954	1456KK4WHBU	30°	10.0″	10.2″	4.0″	1.1″	5.0″	5.2″	28.14	26.60
83F8955	1456PK4WHBU	30°	14.0″	10.2″	4.0″	1.1″	5.7″	5.2″	5.22	4.93
83F8957	1456RK4WHBU	30°	17.0″	10.2″	4.0″	1.1″	5.7″	5.2″	35.89	33.93

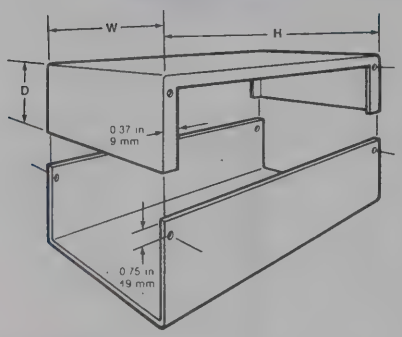
(6924) (de50396)





ALUMINUM UTILITY ENCLOSURES (PAINTED)



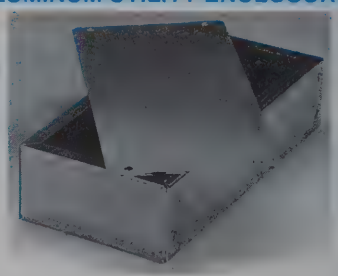


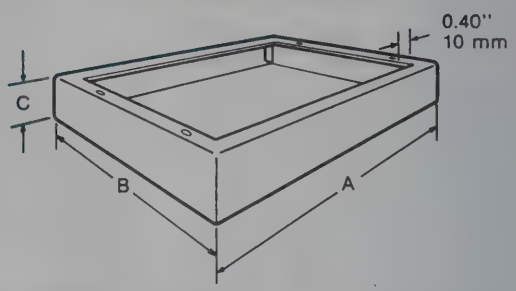
- 0.040″ (1.02″) Thick Aluminum
- ASA 61 Gray Baked Enamel (Outside)
- 4 Self-Tapping Screws Included

Stock No.	Type	H x W x D	1-4	5-9	10-24
95F2580	1411B	2.7 x 2.2 x 1.6″	5.32	5.11	4.81
95F2581	1411C	3.2 x 2.2 x 1.1″	5.41	5.19	4.89
95F2582	1411D	3.2 x 2.2 x 1.6″	5.43	5.21	4.91
95F2583	1411F	4.0 x 2.2 x 3.0″	5.96	5.72	5.39
94F180	1411G	4.0 x 2.2 x 1.6″	5.64	5.41	5.10
95F6181	1411H	4.0 x 2.2 x 2.2″	5.73	5.49	5.18
95F2584	1411K	5.0 x 2.2 x 2.2″	6.58	6.31	5.95
95F2585	1411L	5.0 x 4.0 x 3.0″	8.56	8.21	7.73
95F2586	1411M	6.0 x 3.0 x 3.0″	9.58	9.19	8.66
95F2587	1411N	5.0 x 3.0 x 2.2″	7.01	6.72	6.33
95F2588	1411P	6.0 x 5.0 x 4.0″	11.98	11.49	10.83
95F6182	1411Q	7.0 x 5.0 x 3.0″	11.69	11.21	10.56
95F2589	1411R	8.0 x 6.0 x 3.5″	19.16	18.37	17.31
95F2590	1411S	8.0 x 4.0 x 3.0″	17.56	16.84	15.87
95F2591	1411T	10.0 x 2.2 x 1.6″	19.24	18.45	17.39
95F2592	1411U	10.0 x 6.0 x 3.5″	22.37	19.93	18.27
95F2593	1411W	12.0 x 3.0 x 2.2″	21.43	19.09	17.51
94F821	1411X	12.0 x 7.0 x 4.0″	27.94	26.80	25.25
95F2594	1411Z	17.0 x 5.0 x 4.0″	29.09	25.91	23.76

(5862) (de01149)

ALUMINUM UTILITY ENCLOSURES





- Sturdy, Spot-Welded Construction
- Natural Finish

Order Aluminum cover plates separately on this page.

Stock No.	Type	Dimensions A	B	C	Fits Cover	Gauge	1-4	5-9	10-24
95F2604	1444-6	4″	4″	2″	1434-6	0.040″	9.26	8.88	8.37
95F2605	1444-8	6″	4″	2″	1434-8	0.040″	9.49	9.11	8.58
95F2606	1444-9	8″	4″	1″	1434-10	0.040″	9.90	9.49	8.95
95F2607	1444-10	8″	4″	2″	1434-10	0.040″	10.13	9.72	9.16
95F2608	1444-12	7″	5″	2″	1434-12	0.040″	10.39	9.96	9.39
95F2609	1444-14	9″	5″	2″	1434-14	0.040″	12.52	12.01	11.31
95F2610	1444-15	10″	6″	1″	1434-16	0.040″	10.92	10.47	9.87
95F2611	1444-16	10″	6″	2″	1434-16	0.040″	13.58	13.03	12.27
95F2612	1444-18	13.5″	5″	2″	1434-18	0.040″	14.37	13.78	12.98
95F2613	1444-20	17″	4″	3″	1434-20	0.040″	23.80	22.82	21.50
95F2614	1444-22	12″	8″	2″	1434-22	0.051″	23.67	22.70	21.39
95F2615	1444-24	12″	8″	3″	1434-22	0.051″	23.94	22.97	21.64
95F2616	1444-26	16″	8″	2″	1434-26	0.051″	23.86	22.88	21.56
95F2617	1444-28	16″	8″	3″	1434-26	0.051″	27.25	24.27	22.26
95F2618	1444-29	12″	10″	2″	1434-29	0.051″	22.84	20.35	18.66
95F2619	1444-30	17″	10″	2″	1434-30	0.051″	26.50	23.60	21.64
95F2620	1444-32	17″	10″	3″	1434-30	0.051″	31.01	27.62	25.33
95F2621	1444-33	17″	10″	4″	1434-30	0.051″	44.70	39.82	36.51

(6864) (de01151)

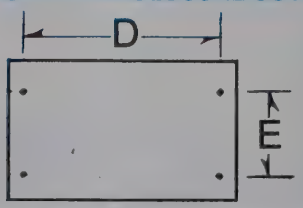
ALUMINUM UTILITY ENCLOSURES (UNPAINTED)

NEW

Stock No.	Type	H x W x D	1-4	5-9	10-24
83F8920	1411BU	2.7 x 2.2 x 1.6″	3.24	3.06	2.95
83F8921	1411CU	3.2 x 2.2 x 1.1″	3.46	3.27	3.15
83F8922	1411DU	3.2 x 2.2 x 1.6″	3.72	3.51	3.39
83F8923	1411FU	4.0 x 2.2 x 3.0″	4.18	3.95	3.80
83F8924	1411GU	4.0 x 2.2 x 1.6″	4.02	3.80	3.66
83F8925	1411HU	4.0 x 2.2 x 2.2″	4.32	4.08	3.93
83F8926	1411KU	5.0 x 2.2 x 2.2″	4.32	4.08	3.93
83F8927	1411LU	5.0 x 4.0 x 3.0″	6.66	6.29	6.06
83F8928	1411MU	6.0 x 3.0 x 3.0″	7.50	7.08	6.82
83F8929	1411NU	5.0 x 3.0 x 2.2″	5.30	5.00	4.82
83F8930	1411PU	6.0 x 5.0 x 4.0″	9.52	8.99	8.66
83F8931	1411QU	7.0 x 5.0 x 3.0″	6.40	6.04	5.82
83F8932	1411RU	8.0 x 6.0 x 3.5″	13.42	12.67	12.20
83F8933	1411SU	8.0 x 4.0 x 3.0″	12.00	11.33	10.91
83F8934	1411TU	10.0 x 2.2 x 1.6″	13.50	12.74	12.28
83F8935	1411UU	10.0 x 6.0 x 3.5″	16.86	15.91	15.33
83F8936	1411WU	12.0 x 3.0 x 2.2″	16.50	15.57	15.00
83F8937	1411XU	12.0 x 7.0 x 4.0″	20.54	19.42	18.11
83F8938	1411ZU	17.0 x 5.0 x 4.0″	23.08	21.82	20.34

(34476) (ne34476)

ALUMINUM UTILITY ENCLOSURE COVER PLATES



Aluminum plates fit **1444 series** aluminum utility enclosures. Pre-punched with 4 holes. Hardware not included. *Order* **1444 series** *aluminum utility enclosures separately on this page.*

Stock No.	Type	Fits Chassis Type	Dimensions D	E	1-4	5-9	10-24
95F2622	1434-6	1444-6	3.62″	3″	4.47	4.29	4.04
95F2623	1434-8	1444-8	5.62″	3″	4.79	4.60	4.33
95F2624	1434-10	1444-9, -10	7.62″	3″	4.56	4.37	4.12
95F2625	1434-12	1444-12	6.62″	3″	4.71	4.51	4.25
95F2626	1434-14	1444-14	8.62″	3″	4.79	4.60	4.33
95F2627	1434-16	1444-15, -16	9.62″	4″	7.20	6.90	6.50
95F2628	1434-18	1444-18	13.12″	3″	7.66	7.35	6.93
95F2629	1434-20	1444-20	16.62″	3″	7.75	7.43	7.00
95F2630	1434-22	1444-22, -24	11.62″	6″	10.13	9.72	9.16
95F2631	1434-26	1444-26, -28	15.62″	6″	10.13	9.72	9.16
95F2632	1434-29	1444-29	11.62″	8″	10.13	9.72	9.16
95F2633	1434-30	1444-30, -32, -33	16.62″	8″	10.75	10.31	9.72

(6865) (de01152)

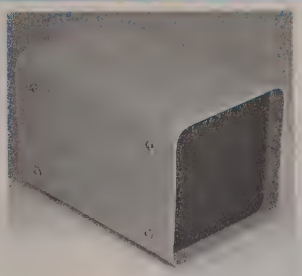
METAL INSTRUMENT ENCLOSURES

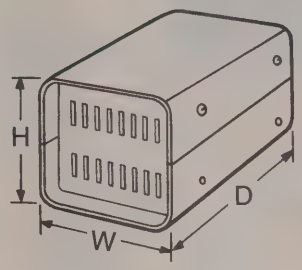
STEEL VENTILATED INSTRUMENT CASES

Case and bottom are 20-gauge steel, finished in satin off-white paint. Front panel is satin black and rear vented panel matches case color; both are 0.064″ thick aluminum for easy machining. Each unit comes complete with hardware and rubber feet.

Stock No.	Type	H x W x D	1-4	5-9
97F9446	1401AAA	4 x 4 x 6″	50.64	45.11
96F5507	1401AA	5 x 6 x 6″	47.25	42.09
94F4836	1401A	5 x 6 x 10″	43.89	39.09
97F9447	1401C	9 x 8 x 10″	56.76	48.25
94F176	1401E	8 x 8 x 8″	53.52	45.50
94F177	1401G	9 x 10 x 12″	71.35	60.65
96F5508	1401K	6.5 x 10 x 14″	72.97	62.03
97F9448	1401M	9 x 12 x 8″	76.23	64.80

(6910) (de03600)



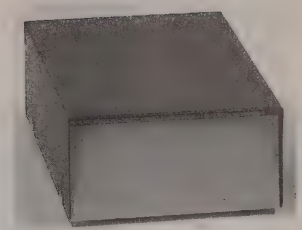


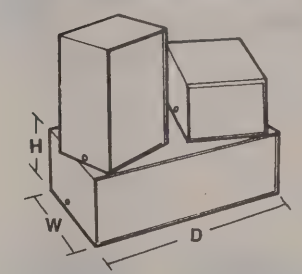
MINIATURE SLOPE-FRONT METAL INSTRUMENT CASES

20-gauge steel instrument cases with choice of sloping or vertical front panels by reversing case. Panels are satin off-white with offsetting textured black covers. Each unit comes complete with 6-32 nickel-plated Phillips screws and self-adhesive rubber feet.

Stock No.	Type	H x W x D	1-4	5-9
94F814	1454C	4 x 2.5 x 2.0″	12.33	11.82
50F8524	1454E	4 x 5.0 x 2.0″	14.09	13.52
94F4759	1454F	4 x 6.0 x 3.0″	15.84	15.19
50F8525	1454G	6 x 2.5 x 2.0″	15.84	15.19
50F8526	1454H	5 x 7.5 x 2.5″	15.84	15.19
94F815	1454J	4 x 3.0 x 4.0″	15.84	15.19
50F8527	1454K	8 x 3.5 x 2.5″	17.60	16.88
50F8528	1454L	5 x 6.0 x 4.0″	15.84	15.19
50F8529	1454M	4 x 3.0 x 6.0″	17.60	16.88

(6860) (de01066)



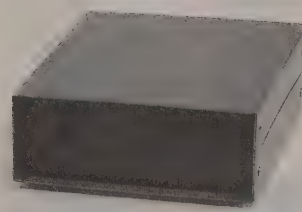


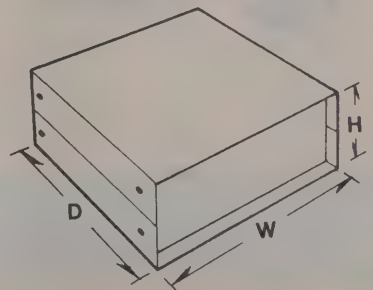
LOW-PROFILE METAL INSTRUMENT CASES

Case is split into two equal halves, constructed of 20-gauge steel with choice of satin black or gulf-blue finish. Front and back panels are 0.064″ thick aluminum (one satin black, the other satin off-white) for easy machining. Symmetrical design; either end can be front or rear. Each unit comes complete with hardware and rubber feet.

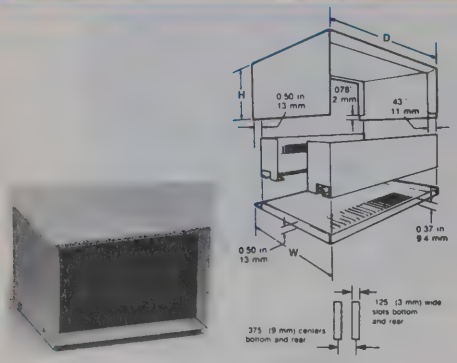
Black Stock No.	Blue Stock No.	Type	H x W x D	1-4	5-9
97F9411	50F8531	1458A3	3 x 4 x 4″	30.31	27.00
97F9412	50F8532	1458B4	4 x 6 x 4″	35.64	31.75
97F9413	94F4778	1458C3	3 x 6 x 6″	32.15	28.64
97F9414	50F8533	1458C4	4 x 6 x 6″	33.23	29.60
97F9415	94F820	1458D3	3 x 8 x 8″	38.86	34.62
97F9416	94F4779	1458D4	4 x 8 x 8″	41.01	36.53
97F9417	94F1144	1458D5	5 x 8 x 8″	44.21	39.38
97F9418	50F8534	1458E3	3 x 8 x 10″	40.72	36.27
97F9419	98F3483	1458E4	4 x 8 x 10″	43.99	39.18
97F9403	94F4781	1458E5	5 x 8 x 10″	46.89	41.76
97F9404	94F1147	1458G3	3 x 10 x 8″	44.48	39.62

(6861) (de01067)





METAL INSTRUMENT ENCLOSURES



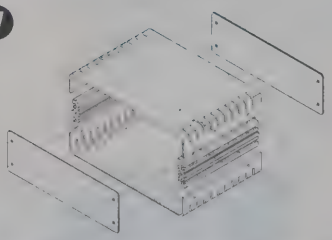
VENTILATED LOW-PROFILE INSTRUMENT CASES

Case and bottom are 20-gauge steel, finished in satin off-white paint. Front panel is satin black and rear panel matches case color; both are 0.064" thick aluminum for easy machining. Each unit comes complete with hardware and rubber feet.

Stock No.	Type	H x W x D	1-4	5-9
94F4757	1426K	4.0 x 5.0 x 6.0"	38.58	34.36
94F4838	1426M	4.0 x 6.0 x 8.0"	40.19	35.80
70B6385	14260	4.0 x 7.0 x 10.0"	45.01	40.09
94F4839	1426QB	5.5 x 11.7 x 11.0"	45.07	40.15
95F2576	1426S	4.0 x 6.0 x 12.0"	48.23	42.96
95F2577	1426V	4.0 x 8.0 x 12.0"	48.23	42.96
95F2578	1426W	4.0 x 10.0 x 12.0"	49.42	42.01
95F2579	1426Y	5.5 x 6.0 x 12.0"	48.23	42.96

(6922) (de50394)

NEW



ALUMINUM PC BOARD INSTRUMENT CASES

Type 1402 instrument enclosures are perfect for horizontal PC card mounting by sliding boards into side aluminum extrusions. Top and bottom half are fabricated from heavy 12-gauge aluminum, with an off-white baked enamel finish. Front and rear panels are easy to machine natural aluminum (paper-coated on one side). All hardware and 4 self-adhesive rubber feet are included.

NON-VENTILATED

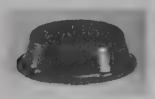
Stock No.	Type	L x W x H	1-4	5-9
83F8912	1402B	4.9 x 7.1 x 2.4"	36.56	34.56
83F8913	1402D	7.3 x 7.1 x 2.4"	39.98	37.80
83F8915	1402F	10.3 x 7.1 x 3.1"	47.42	44.08
83F8917	1402H	7.3 x 10.0 x 3.9"	46.83	44.27
83F8919	1402K	9.6 x 10.0 x 3.9"	54.05	50.24

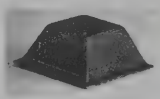
VENTILATED

99F9604	1402BV	4.9 x 7.1 x 2.4"	40.15	35.76
83F8914	1402DV	7.3 x 7.1 x 2.4"	41.29	39.04
83F8916	1402FV	10.3 x 7.1 x 3.1"	48.69	45.26
83F8918	1402HV	7.3 x 10.0 x 3.9"	47.69	44.33
88F1817	1402KV	9.6 x 10.0 x 3.9"	57.99	49.30

(34477) (ne34477)

NEW


1421T2


1421T3

1421T7

1421T8BK

1421T9BK

1421T4

RUBBER FEET

Type 1421 black rubber feet are self-adhesive except for 1421T9 which is a screw-on type (screws included) **Sold in packages of 24.**

Stock No.	Type	Dimensions	Style	1-4	5-9
83F8949	1421T2	0.5" x 0.14"	Flat Round	4.50	4.25
94F1453	1421T3	0.5" x 0.23"	Square	7.66	7.35
94F825	1421T4	0.81" x 0.30"	Square	10.52	10.09
94F4789	1421T7	0.75" x 0.51"	Round	24.50	21.82
83F9204	1421T8BK	0.5" x 0.14"	Square	4.00	3.78
83F9205	1421T9BK	0.88" x 0.40"	Round	23.08	21.82

(34479) (ne34479)

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CONVERTA-BOX SERIES ENCLOSURES

Rugged 0.05″ aluminum construction with natural finish. Welded base. 2-sided cover fastens with self-tapping screws.

Stock No.	Type	H x W x D	Weight	Each
91F554	CU-341-A	1.50 x 4 x 3″	½ lb.	11.82
91F555	CU-452-A	2 x 5 x 4″	¾ lb.	12.83
91F556	CU-482-A	2 x 8 x 4″	1¼ lbs.	14.55
91F557	CU-592-A	2.50 x 9.50 x 5″	1¾ lbs.	15.96
91F558	CU-622-A	2.50 x 12 x 6″	2¼ lbs.	21.10
91F559	CU-712-A	2.50 x 15 x 7″	3 lbs.	29.00

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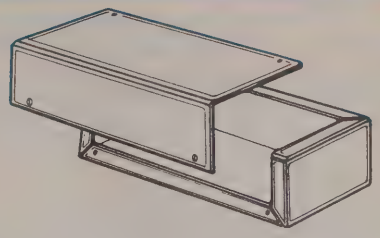

MINIBOXES

- **Two-Piece Design**
- **0.040″ Aluminum Alloy Construction**

Flanged for proper shielding. Built-in snap-lock or sheet metal screws included.

H x W x D	Weight	Smooth Gray Finish Stock No.	Smooth Gray Finish Type	Each	Natural Aluminum Finish Stock No.	Natural Aluminum Finish Type	Each
1.62 x 2.12 x 2.75″	¼ lb.	91F700	CU-2100B	5.16	91F572	CU3000A	3.25
1.62 x 2.12 x 3.25″	¼ lb.	91F701	CU-2101B	5.26	91F573	CU3001A	3.84
1.62 x 2.12 x 4″	¼ lb.	91F702	CU-2102B	5.46	91F574	CU3002A	4.15
2.25 x 2.25 x 4″	¼ lb.	91F703	CU-2103B	5.56	91F575	CU3003A	4.45
2.25 x 2.25 x 5″	¼ lb.	91F704	CU-2104B	6.37	91F576	CU3004A	5.36
3 x 4 x 5″	½ lb.	91F705	CU-2105B	8.29	91F577	CU3005A	6.87
2.12 x 3 x 5.25″	¼ lb.	91F706	CU-2106B	6.77	91F578	CU3006A	5.46
4 x 5 x 6″	¾ lb.	91F707	CU-2107B	11.62	91F579	CU3007A	9.80
3 x 5 x 7″	¾ lb.	91F708	CU-2108B	11.32	91F580	CU3008A	8.79
3.50 x 6 x 8″	1 lb.	91F709	CU-2109B	22.82	91F581	CU3009A	13.84
3.50 x 6 x 10″	1¼ lbs.	91F697	CU-2110B	24.24	91F582	CU3010A	17.38
4 x 7 x 12″	1¾ lbs.	91F698	CU-2111B	31.95	91F583	CU3011A	22.11
4 x 5 x 17″	2¼ lbs.	91F535	CU-2112B	33.77	91F584	CU3012A	23.83
1.62 x 2 x 10″	½ lb.	91F536	CU-2113B	10.81	91F585	CU3013A	8.79
2.25 x 2.50 x 12″	¾ lb.	91F537	CU-2114B	15.86	91F586	CU3014A	11.22

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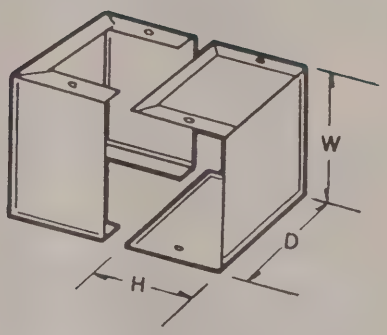
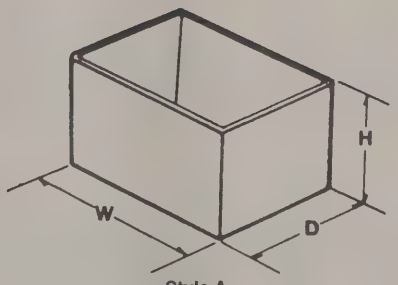


POTTING BOXES

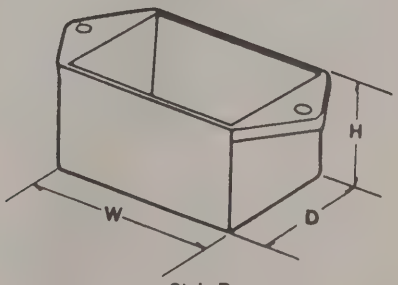
- **Black Finish**
- **Tough, Lightweight ABS Thermoplastic**
- **Flammability Rating: UL940V-0 @ 0.062″ Thickness**
- **Continuous Use Temperature at +70°C**

Style A is plain (no flange). *Order close-fitting box covers separately below*. **Sold in packages of 10.**

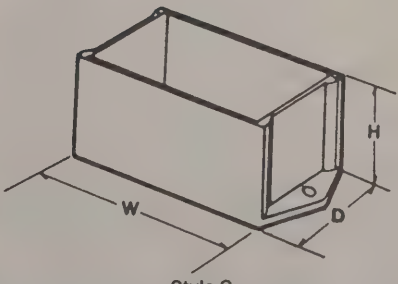
Stock No.	Type	Style	H x W x D	Per. Pkg.
83F3633	PB 1553 BF	C	½ x 3 x 2″	20.49
83F3634	PB 1554 BF	C	1 x 3 x 2″	20.49
50F815	PB-1558	A	1 x 2 x 1.50″	11.72
50F816	PB-1558-TF	B	1 x 2 x 1.50″	12.83
50F817	PB-1558-BF	C	1 x 2 x 1.50″	12.83
50F819	PB-1559	A	1.50 x 3 x 2″	17.07
50F820	PB-1559-TF	B	1.50 x 3 x 2″	18.39
50F821	PB-1559-BF	C	1.50 x 3 x 2″	18.39
95F994	PB-1574	A	1.50 x 2 x 2″	14.55
95F996	PB-1575	A	0.90 x 3 x 2″	14.25
95F998	PB-1576	A	1.50 x 3 x 3″	18.49
92F2527	PB-1577	A	0.75 x 1 x 1″	6.87
92F2529	PB-1578	A	2 x 4 x 2.12″	24.64
95F995	PB-1574-TF	B	1.50 x 2 x 2″	14.55
83F3635	PB 1574 BF	C	1½ x 2 x 2″	20.49
95F997	PB-1575-TF	B	0.90 x 3 x 2″	14.25
95F999	PB-1576-TF	B	1.50 x 3 x 3″	18.49
83F3636	PB 1576 BF	C	1½ x 3 x 3″	31.13
92F2528	PB-1577-TF	B	0.75 x 1 x 1″	6.87
83F3637	PB 1577 BF	C	¾ x 1 x 1″	10.61
92F2530	PB-1578-TF	B	2 x 4 x 2.12″	24.64
91F3925	PB-1579	A	0.8 x 1.5 x 1.2″	10.21
91F3926	PB-1579-TF	B	0.8 x 1.5 x 1.2″	10.21
91F3928	PB-1580	A	1 x 4 x 1.7″	16.06
91F3929	PB-1580-TF	B	1 x 4 x 1.7″	16.06
83F3639	PB 1581	A	.44 x 2 3/32 x 1¼″	8.99
83F3640	PB 1581 TF	B	.44 x 2 3/32 x 1¼″	8.99
83F3641	PB 1582	A	.09 x 4 x 2⅛″	31.13
83F3642	PB 1582 TF	B	.09 x 4 x 2⅛″	31.13
83F3643	PB 1583	A	2 x 4⅜ x 3⅛″	39.45
83F3644	PB 1583 TF	B	2 x 4⅜ x 3⅛″	39.45



Style A



Style B



Style C

CLOSE-FITTING POTTING BOX COVERS

Stock No.	Type	Description	Per Pkg.
50F818	PBC-1558-C*	1558 Series Cover	6.77
50F822	PBC-1559-C*	1559 Series Cover	7.88
95F6380	PBC-1574-C	1574 Series Cover	7.38
95F6370	PBC-1575-C	1575 Series Cover	7.68
95F6371	PBC-1576-C	1576 Series Cover	10.00
92F2531	PBC-1577-C	1577 Series Cover	4.04
92F2532	PBC-1578-C	1578 Series Cover	10.00
91F3927	PBC-1579-C	1579 Series Cover	5.96
91F3930	PBC-1580-C	1580 Series Cover	7.58
83F3647	PBC 1581 C	1581 Series Cover	5.56
83F3648	PBC 1583 C	1583 Series Cover	19.50

*For use with Style C boxes.

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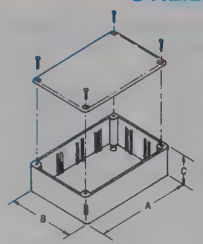
BUD

PLASTIC UTILITY BOXES

UTILIBOXES™



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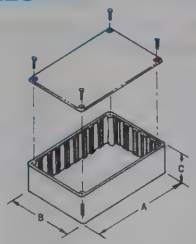

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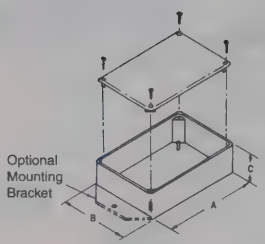

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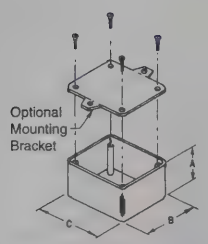

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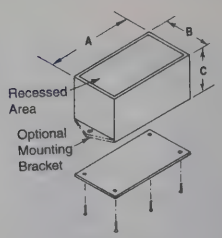
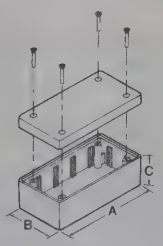
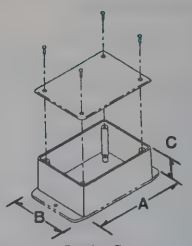


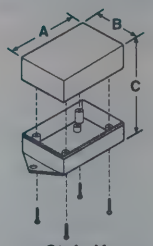
Style E



Style F



Style G



Style H

Design Features	Box Style	Design Features	Box Style
ABS plastic rated UL94V-0 at 0.080″ thickness; 70°C continuous use	A, C, E, G, H	ABS plastic	B, F
Card guides accept 0.062″ thick cards	A, B	Polystyrene	D
Includes close-fitting interlocking lid and assembly hardware.	A, C, D, E, F, G, H	Cover Panel: 0.050″ aluminum	B
Finish: Black. Other colors available; *contact your local Newark sales office.*	A, C, D, E, F, G, H	Lid includes special corner flange for optional bonding	C
Available with recessed tops (**types CUR** only)	A, E	Horizontal PC board mounting bosses	G, H

Style	Dimensions			Without Mounting Brackets		Each	With Mounting Brackets		Each
	A	B	C	Stock No.	Type		Stock No.	Type	
A	4.6″	3.1″	1.75″	44F8570	CU-281	7.10	52F9088	CU281MB	10.00
A	4.6″	4.6″	2.25″	44F8571	CU-282	7.49	52F9089	CU282MB	10.61
A	6.1″	4.6″	2.25″	44F8572	CU-283	9.07	52F9090	CU283MB	11.32
A	7.6″	4.4″	2.25″	44F8573	CU-284	10.45	52F9091	CU284MB	13.84
A	4.6″	3.1″	1.7″	48F5460	CU-3281	7.28	48F5464	CU-3281-MB	10.00
A	4.6″	4.6″	2.2″	48F5461	CU-3282	7.68	48F5465	CU-3282-MB	10.61
A	6.1″	4.6″	2.2″	48F5462	CU-3283	9.30	48F5466	CU-3283-MB	11.32
A	7.6″	4.4″	2.2″	48F5463	CU-3284	10.71	48F5467	CU-3284-MB	13.84
A	4.6″	3.1″	1.7″	52F6524	CUR 3281	7.28	52F6525	CUR 3281 MB	10.00
A	4.6″	4.6″	2.2″	52F6526	CUR 3282	7.68	52F6527	CUR 3282 MB	10.61
A	6.1″	4.6″	2.2″	52F6528	CUR 3283	9.30	52F6529	CUR 3283 MB	11.32
B	3.54″	1.77″	1.18″	90F6947	CU-1490	5.46	...	...	...
B	4.33″	2.17″	1.38″	90F6948	CU-1491	6.27	...	...	...
B	6.10″	3.54″	1.97″	90F6949	CU-1493	11.32	...	...	...
B	8.66″	5.32″	2.95″	90F6950	CU-1495	22.01	...	...	...
C	3.250″	2.375″	1.00″	51F3477	CU-382	4.54	51F3478	CU-382MB	4.75
C	4.125″	2.375″	1.00″	51F3479	CU-383	4.95	51F3480	CU-383MB	5.05
C	3.250″	2.750″	1.00″	51F3481	CU-384	5.05	51F3482	CU-384MB	5.26
C	4.500″	3.250″	1.25″	51F3483	CU-385	5.96	51F3484	CU-385MB	6.06
C	5.500″	3.750″	1.25″	51F3485	CU-386	6.87	51F3486	CU-386MB	6.97
D	0.785″	2.260″	1.51″	92F2521	CU-741	2.73	92F2522	CU-741-MB	2.73
D	1.00″	2.50″	3.00″	48F1075	CU-742	6.17	48F1076	CU-742-MB	6.27
D	1.00″	2.50″	5.00″	48F1077	CU-743	7.18	48F1078	CU-743-MB	6.87
D	1.60″	2.50″	3.00″	48F1079	CU-744	7.28	48F1080	CU-744-MB	6.57
D	1.60″	2.50″	5.00″	48F1081	CU-745	7.18	48F1082	CU-745-MB	7.18
E	3.0″	2.0″	0.9″	91F3935	CU-789	3.34	91F3936	CU-789-MB	3.34
E	3.0″	2.0″	1.5″	91F3937	CU-790	3.44	91F3938	CU-790-MB	3.44
E	3.0″	3.0″	1.5″	91F3939	CU-791	3.94	91F3940	CU-791-MB	3.94
E	4.0″	1.7″	1.0″	91F3935	CU-789	3.34	91F3936	CU-789-MB	3.34
E	4.0″	1.7″	1.0″	91F3937	CU-790	3.44	91F3938	CU-790-MB	3.44
E	4.0″	1.7″	1.0″	91F3939	CU-791	3.94	91F3940	CU-791-MB	3.94
E	4.0″	1.7″	2.0″	91F3941	CU-792	3.44	91F3942	CU-792-MB	3.44
E	4.0″	2.120″	2.0″	92F2523	CU-793	3.94	92F2524	CU-793-MB	3.94
E	4.0″	2.120″	0.9″	92F2525	CUR-793	3.94	92F2526	CUR-793-MB	3.94
E	4.0″	2.120″	2″	83F3318	CU 794	4.95	83F3319	CU 794 MB	4.95
E	4.37″	3.12″	1.5″	83F3320	CU 795	6.57	83F3321	CU 795 MB	6.57
F	3.7″	1.8″	1.9″	52F6530	CU 1872 B	2.02	...	...	...
F	5.3″	2.9″	1.5″	52F6532	CU 1874 B	2.73	...	...	...
G	5.500″	4.250″	1.75″	95F992	CU-387	7.28	95F993	CU-387-MB	7.38
G	4.5″	3.0″	1.37″	91F3931	CU-388	5.86	91F3932	CU-388-MB	5.96
G	5.0″	3.5″	1.5″	91F3933	CU-389	6.77	91F3934	CU-389-MB	6.87
H	3.00″	2.00″	1.49″	83F3304	CU 1470	5.16	83F3305	CU 1470 MB	5.16
H	3.00″	2.00″	2.09″	83F3306	CU 1471	5.56	83F3307	CU 1471 MB	5.56
H	3.00″	2.00″	2.09″	83F3308	CU 1472	6.47	83F3309	CU 1472 MB	6.47
H	4.00″	1.75″	1.27″	83F3310	CU 1473	5.16	83F3311	CU 1473 MB	5.16
H	4.00″	2.12″	1.49″	83F3312	CU 1474	6.37	83F3313	CU 1474 MB	6.37
H	4.00″	2.12″	2.59″	83F3314	CU 1475	7.18	83F3315	CU 1475 MB	7.18
H	4.37″	3.12″	2.70″	83F3316	CU 1476	7.78	83F3317	CU 1476 MB	7.78

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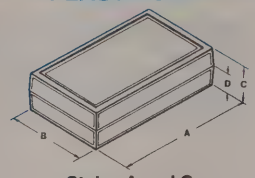
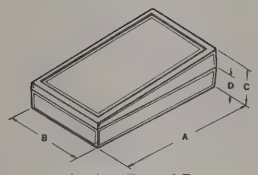
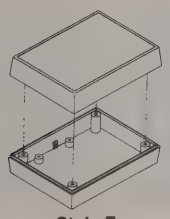
PLASTIBOX™



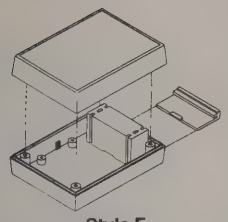
Styles A and C



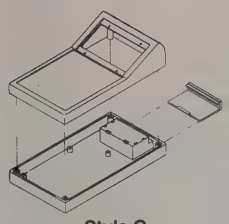
Styles B and D



Style F



Style F
With Battery Compartment



Style G

- **High Impact Plastic**
- **Scratch-Resistant Finish**

Styles A and B are made from ABS material, and have vertical card guides and bosses for mounting boards horizontally. **Type PS-11276** has no vertical card guide. Styles C and D are made from polystyrene material, and have rounded edges and corners, and plain interior without guides or bosses. All styles feature textured body with smooth top insert, except type numbers with (+) which have textured top insert, and 4 non-skid feet. Available in black and gray.

Stock No.	Type	Style	Color	Dimensions A	B	C	D	Each
51F3468	PS-11292-B	B	Black	5⅝″	3¼″	1½″	11/16″	8.56
51F3469	PS-11292-G	B	Gray	5⅝″	3 51/64″	1½″	11/16″	8.56
50F9857	PS-11276	C	Gray	6 19/64″	3¾″	1 13/32″	¾″	9.45
50F9858	PS-11279	D	Gray	6 19/64″	3¾″	1 27/64″	¾″	11.23
95F6359	PS11339B	A	Black	9½″	6 11/32″	1½″	11/16″	17.89
95F981	PS-11339G	A	Gray	9½″	6 11/32″	1½″	11/16″	17.89
95F6361	PSS11350B*	B	Black	4⅞″	6⅞″	2½″	11/16″	14.34
95F983	PSS-11350G	B	Gray	4⅞″	6⅞″	2½″	11/16″	14.34
90F6932	PT-11308-B+	A	Black	3⅝″	2¼″	1½″	11/16″	6.00
90F6962	PT-11308-G+	A	Gray	3⅝″	2¼″	1½″	11/16″	6.00
90F6938	PT-11388-B+	A	Black	5⅝″	3¼″	2½″	11/16″	10.89
90F6968	PT-11388-G+	A	Gray	5⅝″	3¼″	2½″	11/16″	10.89
90F6936	PT-11372-B+	A	Black	3⅝″	2¼″	2½″	11/16″	6.34
90F6966	PT-11372-G+	A	Gray	3⅝″	2¼″	2½″	11/16″	6.34
90F6934	PBS-11327-B†	A	Black	5⅝″	3¼″	1½″	11/16″	10.41
90F6964	PBS-11327-G†	A	Gray	5⅝″	3¼″	1½″	11/16″	10.41
51F3470	PBS-11294-B†	B	Black	5⅝″	3¼″	1½″	11/16″	10.41
51F3471	PBS-11294-G†	B	Gray	5⅝″	3¼″	1½″	11/16″	10.41
51F3473	PBS-11273†	C	Gray	6 19/64″	3¾″	1 13/32″	¾″	9.60
51F3475	PBS-11275†	D	Gray	6 19/64″	3¾″	1 27/64″	¾″	10.71

*Features end insert; †With battery compartment

STYLE F - PLASTIBOX

Style F is molded from sturdy ABS plastic. Features a top surface with popular recessed keypad area, battery compartment, internal PC board mounting bosses in both top and bottom covers and a two-piece clamshell design. Textured body with smooth top insert for silk screening. Easy to assemble. Hardware included. Available in black and gray.

Stock No.	Type	Color	L x W x H	Each
48F1088	PS-11521-B	Black	3.62 x 2.25 x 1.02″	3.14
48F1089	PS-11521-G	Gray	3.62 x 2.25 x 1.02″	3.14
48F1090	PBS11532-B	Black	4.37 x 3.25 x 1.52″	4.85
48F1091	PBS11532-G†	Gray	4.37 x 3.25 x 1.52″	4.85
48F1092	PS-11533-B†	Black	4.37 x 3.25 x 1.52″	4.85
48F1093	PS-11533-G	Gray	4.37 x 3.25 x 1.52″	4.85
48F1094	PS-11543-B	Black	5.62 x 3.25 x 1.52″	5.56
48F1095	PS-11543-G	Gray	5.62 x 3.25 x 1.52″	5.56
48F1096	PS-11553-B	Black	6.87 x 4.87 x 1.53″	6.87
48F1097	PS-11553-G	Gray	6.87 x 4.87 x 1.53″	6.87
48F1098	PT-11557-B	Black	6.87 x 4.87 x 2.52″	7.28
48F1099	PT-11557-G	Gray	6.87 x 4.87 x 2.52″	7.28

†With battery compartment

CONTINUED

PLASTIBOX™ (CONT.)

STYLE G - PLASTIBOX

Style G is molded from durable ABS plastic. Features internal PC board mounting bosses built into the bottom cover of the larger size, inclined display area and a two-piece clamshell design. Two options of display panels, solid and window, provide versatility. Recessed area in top suitable for keypad. Easy to assemble. Hardware included. Available in black and gray.

Stock No.	Type	Color	L x W x H	Keypad Height	Each
48F1100	PSP-11563-B	Black	5.91 x 3.74 x 1.94″	1.12″	7.28
48F1101	PSP-11563-G	Gray	5.91 x 3.74 x 1.94″	1.12″	7.28
48F1102	PSP-11572-B†	Black	7.44 x 4.11 x 2.40″	1.32″	9.40
48F1103	PSP-11572-G†	Gray	7.44 x 4.11 x 2.40″	1.32″	9.40
48F1104	PSP-11573-B	Black	7.44 x 4.11 x 2.40″	1.32″	8.69
48F1105	PSP-11573-G	Gray	7.44 x 4.11 x 2.40″	1.32″	8.69

†With battery campartment

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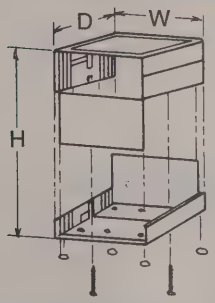
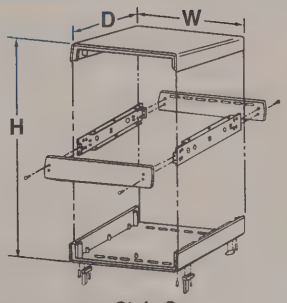
PLASTICASE™



Styles A and B



Style C

- **Styles A & B Impact Resistant Polystyrene**
- **Style C Impact Resistant ABS with Aluminum Panels**

Panel thickness 0.090″ except (††) which is 0.062″. Styles A and B have double-textured PC bone gray finish, molded-in card guides and include stainless steel screw and scratch-resistant rubber feet. Style C has black finish with clear anodized aluminum front and rear panels, internal steel channels and formed guide tabs to accept vertical or horizontal circuit boards.

Stock No.	Type	Style	H x W x D	Panel Size H x W x D	Each
87F284	PC11402††	A	1.53 x 5.08 x 5.30″	1.31 x 4.75 x .062″	13.44
51F3455	PC11403††	A	1.53 x 7.06 x 5.30″	1.31 x 6.73 x .062″	16.57
87F285	PC11404	A	1.55 x 6.33 x 9.62″	1.33 x 5.99 x .090″	19.80
87F286	PC11406	A	2.52 x 6.12 x 6.32″	2.31 x 5.75 x .090″	17.17
87F287	PC11408	A	2.52 x 8.10 x 6.32″	2.31 x 7.75 x .090″	20.69
50F9859	PC-11418††	B	2.06 x 5.08 x 5.30″	1.84 x 4.75 x .062″	15.46
50F9860	PC-11420††	B	2.06 x 7.06 x 5.30″	1.84 x 6.73 x .062″	18.39
87F288	PC11410	B	3.30 x 6.12 x 6.32″	3.09 x 5.75 x .090″	21.30
87F289	PC11412	B	3.30 x 8.10 x 6.32″	3.09 x 7.75 x .090″	24.64
87F290	PC11414	B	4.04 x 6.12 x 6.32″	3.83 x 5.75 x .090″	22.41
87F291	PC11416	B	4.04 x 8.10 x 6.32″	3.83 x 7.75 x .090″	26.17
90F6945	PC-11432*	C	1.61 x 3.54 x 5.71″	1.42 x 3.28 x .090″	21.30
90F6946	PC-11438**	C	4.02 x 9.72 x 8.66″	3.83 x 9.46 x .090″	49.92

* No Feet; ** Folding plastic feet supplied.

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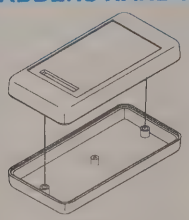
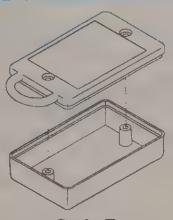
GRABBERS HAND-HELD PLASTIC BOXES

NEW



Style D



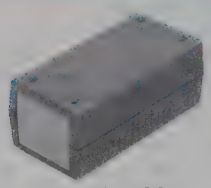
Style E

Constructed of durable ABS material. Both styles have a recessed area in top suitable for label or keypad and a two-piece clamshell design. **Type HH-3490** includes a convenient molded-in key ring which increases length to 2.55″. **Type HH-3470** has a cable slot. Color: black.

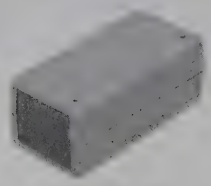
Stock No.	Type	Style	L x W x H	Each
48F1083	HH-3470	D	3.52 x 1.77 x 0.73″	3.34
48F1084	HH-3471	D	3.52 x 1.77 x.0.73″	3.34
48F1085	HH-3490*	E	2.10 x 1.30 x 0.58″	21.70

*Sold in packages of 10

(34674) (ne34674)



UL 94V-0 ABS



High-Impact ABS

POLYSTYRENE MOLDED ENCLOSURES

Molded plastic enclosures meet IEC 529 enclosure IP54 classification for instrumentation, telecommunications, and other applications from hand-held to desktop sizes. 2-part design with tongue-and-groove joint between top and bottom covers and end panels. Internal guide slots for vertical mounting of PC boards; internal bosses for horizontal PC board mounting. Scratch-resistant, lightly textured top and bottom covers. Four M-3 screws are countersunk in bottom cover, threaded into brass inserts in top cover. UL 94V-0 ABS top and bottom covers are dark gray with light gray end panels. High-impact ABS top and bottom covers are light gray with dark gray end panels.

UL94V-0 ABS			High-Impact ABS				
Stock No.	Type	Each	Stock No.	Type	Each	D x W x H	Weight (oz.)
95F969	PI-1900	3.24	83F5575	PI-1900-LG	2.93	3.54 x 1.97 x 0.63″	1.75
95F970	PI-1901	3.54	83F5576	PI-1901-LG	3.24	3.54 x 1.97 x 0.94″	1.75
95F971	PI-1902	3.74	83F5577	PI-1902-LG	3.34	3.54 x 1.97 x 1.26″	2.25
95F972	PI-1903	5.86	83F5578	PI-1903-LG	5.26	4.72 x 2.36 x 1.18″	2.75
95F973	PI-1904	6.67	83F5579	PI-1904-LG	6.37	4.72 x 2.36 x 1.57″	3.25
95F974	PI-1905	7.88	83F5580	PI-1905-LG	7.07	4.72 x 2.36 x 1.97″	4.00
95F975	PI-1906	8.39	83F5581	PI-1906-LG	7.48	5.91 x 3.15 x 1.18″	4.50
95F976	PI-1907	10.00	83F5582	PI-1907-LG	8.89	5.91 x 3.15 x 1.77″	5.25
95F977	PI-1908	11.52	83F5583	PI-1908-LG	10.10	5.91 x 3.15 x 2.36″	5.50
95F966	PI-1909	13.34	83F5584	PI-1909-LG	11.32	7.48 x 3.94 x 1.57″	7.00
95F967	PI-1910	14.75	83F5585	PI-1910-LG	12.83	7.48 x 3.94 x 2.36″	9.50
95F968	PI-1911	16.77	83F5586	PI-1911-LG	14.45	7.48 x 3.94 x 3.15″	10.50

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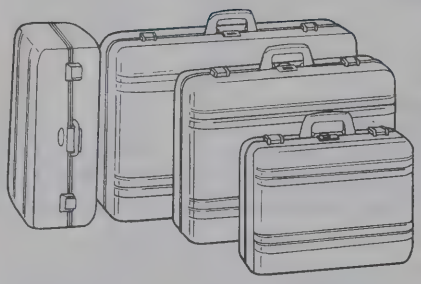

ZERO CENTURION® ELITE CARRYING CASES

- **Lightweight, Yet Durable, Heat-Treated Aluminum Exterior**
- **High-Strength, Injection-Molded Handle and Aluminum Feet**
- **Triple-Digit Combination Lock with High-Quality Latches**
- **Foam Cushion Inserts and Panel Support Brackets Available**

ZERO Centurion® Elite carrying cases feature high-strength, lightweight aluminum shells with styling ribs for increased structural integrity. Positive seat, bail-type, chrome-plated latches. Continuous aluminum stainless steel pin hinges. Silver/clear anodized aluminum heat-treated case shell. Double-band design characterizes the ZERO Centurion® Elite case. Textured black powder paint finish also available; *contact your local Newark sales office. Order foam cushion insert sets separately on this page and internal panel mounting bracket separately on this page.*

Stock No.	Type	H x W x L	Material Thickness	Weight	Each
85F027	100X-SI	9.00 x 5.00 x 12.00″	0.040″	3.3 lbs.	177.85
85F028	101X-SI	9.00 x 7.75 x 16.00″	0.051″	5.0 lbs.	224.03
85F026	103X-SI	13.00 x 6.00 x 18.00″	0.040″	5.4 lbs.	219.28
85F029	105X-SI	13.00 x 6.50 x 21.00″	0.040″	6.1 lbs.	244.74
85F030	106X-SI	17.00 x 7.50 x 21.00″	0.051″	8.4 lbs.	315.49
85F032	110X-SI	18.00 x 9.00 x 26.00″	0.051″	10.8 lbs.	358.31
85F031	129X-SI	20.00 x 9.94 x 29.00″	0.051″	13.8 lbs.	401.53

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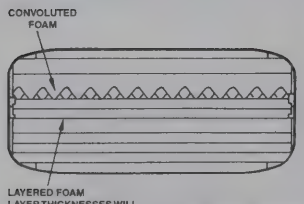

M44784 Blank Layered Foam Cushion Set

ZERO CENTURION® ELITE FOAM CUSHION SETS

Type M44784 foam cushion insert sets fit standard Centurion® elite carrying cases *order separately on this page.* Foam pack is made of gray, 2-lb. density polyurethane foam. Layered bottom and convoluted top. Protect delicate equipment.

Stock No.	Type	Fits Case Type	Each
85F034	M44784-100	100X-SI	13.56
85F035	M44784-101	101X-SI	19.77
85F033	M44784-103	103X-SI	23.59
85F036	M44784-105	105X-SI	31.92
85F037	M44784-106	106X-SI	44.60
85F039	M44784-110	110X-SI	66.41
85F038	M44784-129	129X-SI	76.65

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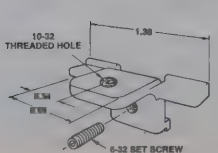


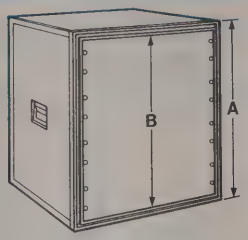
ZERO CENTURION® ELITE 100X PANEL SUPPORT BRACKET

Type ZP20653-1 panel support bracket for Centurion® Elite carrying cases *order separately on this page.* Allows panel to be mounted internally for additional storage and carrying flexibility.

85F040 (16838) Type ZP20653-1. **Each** **3.39** (ne09808)

PORTABLE CABINETS AND ENCLOSURES

CLASSIC II PORTABLE CABINETS



Portable, yet ideal for permanent installations. Frame constructed of 6063-T5 aluminum extrusions. Top, bottom and side panels: 0.050″ aluminum. Shipped assembled with two 16-gauge vertically adjustable chassis supports. Front and rear mounting rails tapped #10-32 on Western Electric spacing. Recessed brushed-chrome handles attached to steel flanges for extra support. Available with gray textured or royal blue textured finish. Clear inside depth (panel-to-panel): 20.563″; overall depth: 21.44″. Accept standard 19″ panels; *ordered separately on page 405.* Cabinet doors are available; *contact your local Newark sales office for details.*

GRAY TEXTURED

Stock No.	Type	Outside Height (A)	Panel Space (B)	Weight (lbs.)	Each
80W689	AGC-9267 GT	7.063″	5.25″	28	395.65
80W691	AGC-9268 GT	8.813″	7.00″	30	408.17
80W693	AGC-9269 GT	10.563″	8.75″	32	414.05
80W695	AGC-9270 GT	12.313″	10.50″	33	425.27
80W697	AGC-9271 GT	14.063″	12.25″	34	436.80
80W699	AGC-9272 GT	15.813″	14.00″	35	448.41
80W701	AGC-9273 GT	17.563″	15.75″	36	446.35
80W703	AGC-9274 GT	19.313″	17.50″	37	473.30
80W705	AGC-9275 GT	21.063″	19.25″	39	484.44
80W707	AGC-9276 GT	22.813″	21.00″	40	485.97
80W681	AGC-9277 GT	24.563″	22.75″	41	503.46
80W683	AGC-9278GT	26.313″	24.50″	42	517.89
80W685	AGC-9279 GT	28.063″	26.25″	43	536.90
80W687	AGC-9280 GT	29.813″	28.00″	45	540.71

ROYAL BLUE TEXTURED

91F1684	AGC-9267 RB	7.063″	5.25″	28	395.65
91F1685	AGC 9268 RB	8.813″	7.00″	30	408.17
91F1686	AGC-9269 RB	10.563″	8.75″	32	414.05
91F1687	AGC-9270 RB	12.313″	10.50″	33	425.27
91F1688	AGC-9271 RB	14.063″	12.25″	34	436.80
91F1689	AGC-9272 RB	15.813″	14.00″	35	448.41
91F1690	AGC-9273 RB	17.563″	15.75″	36	446.35
91F1691	AGC 9274 RB	19.313″	17.50″	37	473.30
91F1692	AGC-9275 RB	21.063″	19.25″	39	484.44
91F1693	AGC-9276 RB	22.813″	21.00″	40	485.97
91F1694	AGC-9277 RB	24.563″	22.75″	41	503.46
91F1695	AGC-9278 RB	26.313″	24.50″	42	517.89
91F1696	AGC-9279 RB	28.063″	26.25″	43	536.90
91F1697	AGC-9280 RB	29.813″	28.00″	45	540.71

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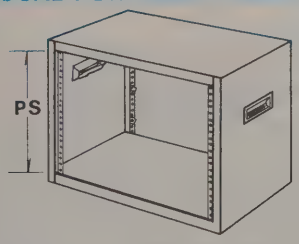
ECONOCAB PORTABLE ENCLOSURES



Economy cabinets constructed of 18-gauge welded steel. Stationary mounting rails accept 19″ wide panels; *ordered separately on page 405.* Include snap-in handles, feet, and panel-mounting hardware. Clear inside depth: 14.5″ (368.30). Overall width: 21.063″ (535). Overall depth: 15.5″ (393.70). Available in black or sand textured finish.

BLACK TEXTURED

Stock No.	Type	Panel Space (PS)	Overall Height	Weight (lbs.)	Each
95F6401	EC-9902BT	7″	9.063″	14	138.53
95F6402	EC-9903BT	8.75″	10.813″	14.75	141.20
98F7881	EC9904-BT	10.5″	12.563″	15.5	144.72
95F6404	EC-9905BT	12.25″	14.313″	16.25	152.24
95F6405	EC-9906BT	14″	16.063″	17	156.92

SAND TEXTURED

96F1985	EC9902S	7″	9.063″	14	138.53
95F6406	EC-9903S	8.75″	10.813″	14.75	141.20
95F6403	EC-9904S	10.5″	12.563″	15.5	144.72
95F6407	EC-9905S	12.25″	14.313″	16.25	152.24
95F6408	EC-9906S	14″	16.063″	17	156.92

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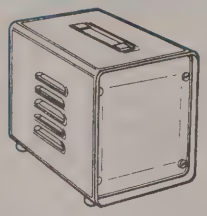
PORTACAB ALUMINUM ENCLOSURES

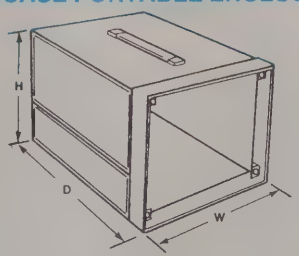


For bench or portable use. Front panel recessed 0.50″ and fits cabinet contour. Louvered sides. Welded back has opening. Reinforced, flexible metal handle recessed for stacking. Sturdy, lightweight 0.050″ aluminum body. Metallic-gray finish. Include 4 plastic feet.

Stock No.	Type	H × W × D	Rear Opening	Each
91F615	WA 1540	8 × 6.125 × 8″	2 × 4.50″	63.78
91F616	WA 1541	9 × 8.125 × 12″	2 × 6.50″	87.94
91F617	WA 1542	8 × 10.125 × 8″	2 × 8.50″	74.82
91F618	WA 1543	11 × 11.125 × 18″	2 × 9.50″	111.56
91F619	WA 1544	12 × 14.125 × 18″	2 × 12.50″	129.33

(7186) (ne01435)

SHOWCASE PORTABLE ENCLOSURES



Ideal as a portable enclosure or desktop instrument case in systems or racks. Lightweight, yet sturdy. Top, sides, and bottom constructed of 0.050″ aluminum; front panel 0.090″ aluminum. Rugged 0.050″ extruded aluminum frame. Side gussets provide added strength. Flexible recessed handle with ventilation slots beneath. Load from front or rear. Include front and rear panels and fold-away bail. Choice of 2 colors: black textured finish body with white frame or royal blue textured finish body with white frame.

BLACK TEXTURED FINISH WITH WHITE FRAME

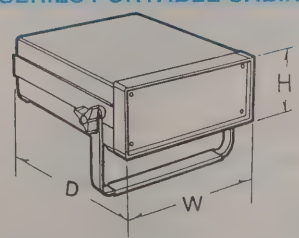
Stock No.	Type	H × W × D	Weight (lbs.)	Each
93F670	BB-1800 BT	6.44 × 5.50 × 11″	3.75	125.94
93F672	BB-1801 BT	6.44 × 8.31 × 11″	4	129.16
93F674	BB-1802 BT	8.19 × 5.50 × 11″	3.75	131.45
93F675	BB-1803 BT	8.19 × 8.31 × 11″	5.5	133.65
93F676	BB-1804 BT	8.19 × 11.06 × 11″	5.75	145.77
93F678	BB-1805 BT	9.94 × 5.50 × 11″	4.75	135.43
93F679	BB-1806 BT	9.94 × 8.31 × 11″	5.25	140.69
93F680	BB-1807 BT	9.94 × 8.31 × 15″	6.25	150.69
93F682	BB-1808 BT	9.94 × 11.06 × 11″	6	146.54
93F683	BB-1809 BT	9.94 × 11.06 × 15″	7	155.44

ROYAL BLUE TEXTURED FINISH WITH WHITE FRAME

93F671	BB-1800 RB	6.44 × 5.50 × 11″	3.75	125.94
93F673	BB-1801 RB	6.44 × 8.31 × 11″	4	129.16
93F677	BB-1804 RB	8.19 × 11.06 × 11″	5.75	145.77
93F681	BB-1807 RB	9.94 × 8.31 × 15″	6.25	150.69
94F4859	BB-1809-RB	9.94 × 11.06 × 15″	7	155.44

(7184) (ne01431)

TR SERIES PORTABLE CABINETS



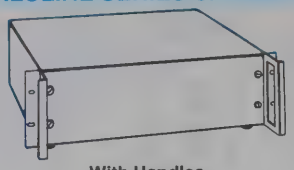
For use as desktop instrument cases, in systems or as portable enclosures. Accommodate accessory chassis or 0.063″ thick PC boards. Top and bottom are 0.050″ aluminum; front panel 0.090″ aluminum. Removable top and bottom for access to dust-free interior. Carrying handle also a tilting bail. Royal blue textured body with white frame. Include 4 rubber feet.

Stock No.	Type	H × W × D	Panel Space	Each
86F918	TR-6100RB	3.50 × 8.31 × 10.75″	3.25 × 8.05″	166.28
86F920	TR-6101RB	5.25 × 8.31 × 13.25″	5.00 × 8.05″	178.07
86F922	TR-6102RB	7.00 × 11.06 × 13.25″	6.75 × 10.83″	203.82
86F936	TR-6103RB	8.00 × 12.00 × 18.75″	7.75 × 11.05″	246.54

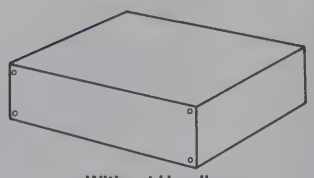
(7185) (ne01432)

RACK MOUNT CABINETS AND CHASSIS

VALULINE SERIES CABINETS



With Handles



Without Handles

- **Aluminum Construction, Natural Finish**
- **Stand Alone or Mount Standard 19″ Rack**

Include 2 detachable 11 gauge steel rack-mount brackets and 4 rubber feet.

WITH HANDLES

Stock No.	Type	H x W x D	Each
52F6475	HC 14097	1.75 x 17.0 x 8.00″	119.71
52F6476	HC 14098	1.75 x 17.0 x 13.0″	127.66
52F6479	HC 14099	3.50 x 17.0 x 8.00″	91.52
99F1010	HC-14100	3.50 x 12.75 x 13″	149.65
99F1011	HC-14101	3.50 x 17.0 x 13″	155.34
99F1012	HC-14102	5.25 x 12.75 x 13″	159.82
99F1013	HC-14103	5.25 x 17.0 x 13″	160.17
99F1014	HC-14104	7.00 x 17.0 x 13″	168.14
99F1015	HC-14105	8.75 x 17.0 x 13″	176.17
99F1016	HC-14106	10.5 x 17.0 x 13″	187.27
99F1017	HC-14107	10.5 x 17.0 x 15″	200.31
99F1018	HC-14108	12.25 x 17.0 x 15″	224.05
99F1019	HC-14109	14.0 x 17.0 x 15″	236.17

WITHOUT HANDLES

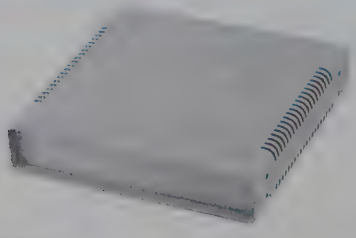
52F6473	NHC-14150	1.75 x 8.50 x 8.00″	61.80
52F6474	NHC 14151	1.75 x 17.0 x 8.00″	80.48
52F6477	NHC 14152	1.75 x 17.0 x 13.0″	89.02
52F6478	NHC 14153	3.50 x 8.50 x 8.00″	74.35
52F6480	NHC 14154	3.50 x 17.0 x 8.00″	90.96
52F6482	NHC 14155	3.50 x 17.0 x 13.0″	108.66
52F6484	NHC 14156	5.25 x 17.0 x 13.0″	127.78
52F6486	NHC 14157	7.00 x 17.0 x 13.0″	144.38

BAILS

Bail is attached to specially designed front feet. In upright position tilts the cabinet and fits into clearance provided by feet when in retracted position. Necessary hardware included. Available in widths 10″ and 15½″.

94F4860 Type BC14210 10″ Width. **Each** **14.89**
98F1909 Type BC14-215 15½″ Width. **Each** **18.22**
(7010) (ne07018)

SLIMCAB SERIES DESKTOP OR RACK CABINETS



- **Aluminum Construction**
- **Side Vented to Aid Cooling**

Ideal for modems. Mounting brackets needed for rack use; *order separately below.*

BLACK COLOR CABINETS

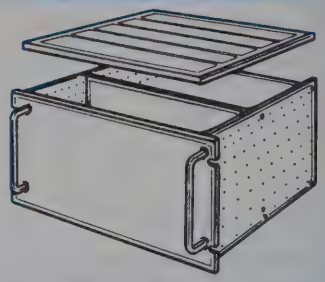
Stock No.	Type	Description	H x W x D	Each
52F6462	CS-11221-B	Cabinet	1.75 x 8.5 x 8.0″	57.63
52F6463	CS-11223-B	Cabinet	1.75 x 17.0 x 8.0″	78.69
52F6464	CS-11225-B	Cabinet	1.75 x 8.5 x 16.0″	78.41
52F6465	CS-11227-B	Cabinet	1.75 x 17.0 x 16.0″	98.67
52F6466	CS-11230-B	Bracket	...	20.45

SAND COLOR CABINETS

52F6457	CS-11221-S	Cabinet	1.75 x 8.5 x 8.0″	59.82
52F6458	CS-11223-S	Cabinet	1.75 x 17.0 x 8.0″	78.69
52F6459	CS-11225-S	Cabinet	1.75 x 8.5 x 16.0″	78.41
52F6460	CS-11227-S	Cabinet	1.75 x17.0 x 16.0″	98.67
52F6461	CS-11230-S	Bracket	...	20.45

(7009) (ne07017)

RACK MOUNT CHASSIS



- **Aluminum Construction, Natural Finish**

19″ long, 0.125″ thick mill finish aluminum front panel with "Surface Shield" protection which provides surface for laying out drilling and punching positions. 17.062″ long, 0.090″ thick aluminum side panels with mounting holes punched on 0.875″ grid for flexibility in mounting components. Adjustable 17″ long, 0.090″ thick aluminum rear panel. *Order internal chassis and chassis covers separately below. Order handles listed in tables below separately on page 404.* Uses **type AS-5002-A** sliding mechanism and **type BAS-5106** mounting brackets; *ordered separately on page 405.*

RACK MOUNT CHASSIS

Stock No.	Type	Height	Handles	Each
90F6951	RM-14212	5¼″	H-9160	53.29
90F6952	RM-14213	7″	H-9111	70.01
90F6953	RM-14214	8¾″	H-9112	84.07
90F6954	RM14215	10½″	H-9113	92.26

MATCHING RACK MOUNT INTERNAL CHASSIS

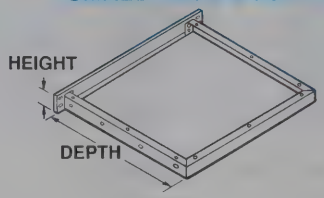
90F6955	C-14242	5¼″	H-9160	20.22
90F6956	C-14243	7″	H-9111	21.86
90F6957	C-14244	8¾″	H-9112	25.06
90F6958	C-14245	10½″	H-9113	28.15

RACK MOUNT CHASSIS COVERS

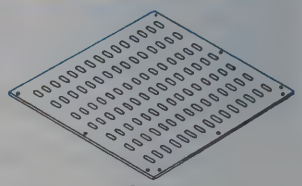
Stock No.	Type	Description	Each
90F6959	TBC-14252	Solid Cover	29.16
90F6960	TBC-14262	Ventilated Cover	32.61

(7033) (ne08371)

SMALL RACK MOUNT CHASSIS AND COVERS



Chassis



Cover

Types CH-14400 thru **CH-14414** all-aluminum rack mount chassis available to fit standard 19″ and 24″ wide cabinets. Natural finish. Chassis will accept **type AS-500X-A series** sliding mechanisms; *order separately on page 405.*

RACK MOUNT CHASSIS

Stock No.	Type	Fits Rack	Inside H x W x D	Each
52F6487	CH-14400	19″	1.72 x 17 x 4″	25.06
95F948	CH-14401	19″	1.72 x 17 x 8″	42.89
95F949	CH-14402	19″	1.72 x 17 x 16″	56.61
95F950	CH-14403	19″	3.47 x 17 x 8″	57.93
95F951	CH-14404	19″	3.47 x 17 x 16″	74.35
52F6492	C-14410	24″	1.72 x 22 x 4″	29.18
95F954	CH-14411	24″	1.72 x 22 x 8″	49.07
95F955	CH-14412	24″	1.72 x 22 x 16″	70.96
95F956	CH-14413	24″	3.47 x 22 x 8″	66.71
95F957	CH-14414	24″	3.47 x 22 x 16″	85.96

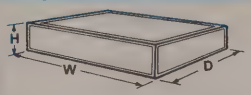
RACK MOUNT CHASSIS COVERS

52F6488	CH-14430	19″	1.72 x 17 x 4″	10.89
95F952	C14431	19″	0.050 x 17 x 8″	18.34
95F953	C14432	19″	0.050 x 17 x 16″	27.22
95F958	C14433	24″	0.050 x 22 x 8″	20.11
95F959	C14434	24″	0.050 x 22 x 16″	34.34
52F6493	C-14435	24″	1.72 x 22 x 4″	12.78
52F6489	C-14440	19″	1.72 x 17 x 4″	8.00
52F6490	C-14441	19″	1.72 x 17 x 8″	12.67
52F6491	C-14442	19″	1.72 x 17 x 16″	21.56
52F6495	C-14443	24″	1.72 x 22 x 8″	15.34
52F6496	C-14444	24″	1.72 x 22 x 16″	25.57
52F6494	C-14445	24″	1.72 x 22 x 4″	9.89

*Vented
(6874) (de01544)

CHASSIS AND UTILITY CABINETS

ALUMINUM CHASSIS



Welded at stress points for strength and rigidity. Sturdy aluminum alloy with natural finish. *Order chassis bottom plate separately on this page.*

Stock No.	Type	H x W x D	Gauge	Each
91F1320	AC1402†	1 x 4.5 x 3.5″	0.04″	8.59
91F1322	AC1404	2 x 5.0 x 4.0″	0.04″	10.10
91F1323	AC1405	1.5 x 6.0 x 4.0″	0.04″	8.99
90F940	AC430	3 x 6.0 x 4.0″	0.04″	11.32
90F941	AC431	2 x 6.0 x 4.0″	0.04″	9.20
91F1325	AC1407	1.5 x 8.0 x 4.5″	0.04″	11.11
90F943	AC402	2 x 7.0 x 5.0″	0.04″	10.00
90F944	AC429	3 x 7.0 x 5.0″	0.04″	12.83
90F945	AC403	2 x 9.5 x 5.0″	0.04″	12.12
90F939	AC401	2.5 x 8.5 x 5.0″	0.04″	12.83
90F946	AC421	3 x 9.5 x 5.0″	0.04″	15.26
90F947	AC404	3 x 10.0 x 5.0″	0.04″	15.36
91F1331	AC1413	2 x 8.0 x 6.0″	0.04″	11.42
91F1332	AC1414	3 x 14.0 x 6.0″	0.05″	22.01
90F949	AC433	3 x 17.0 x 6.0″	0.05″	25.76
90F950	AC405	2 x 7.0 x 7.0″	0.04″	10.51
90F951	AC406	2 x 9.0 x 7.0″	0.04″	12.63
90F952	AC407	2 x 11.0 x 7.0″	0.04″	14.65
90F953	AC408	3 x 12.0 x 7.0″	0.04″	19.40
90F954	AC409	2 x 13.0 x 7.0″	0.04″	15.96
90F955	AC411	3 x 15.0 x 7.0″	0.05″	25.35
91F1334	AC1416	2 x 17.0 x 7.0″	0.05″	25.56
90F956	AC423	3 x 17.0 x 7.0″	0.05″	26.06
91F1336	AC1418	2.5 x 10.0 x 8.0″	0.04″	18.49
91F1337	AC1419	2.5 x 12.0 x 8.0″	0.05″	23.02
90F957	AC424	3 x 12.0 x 8.0″	0.05″	23.33
90F959	AC412*	3 x 17.0 x 8.0″	0.05″	26.37
91F1339	AC1421	3 x 15.0 x 9.0″	0.05″	26.37
90F960	AC413	3 x 12.0 x 10.0″	0.05″	29.61
90F961	AC414	3 x 14.0 x 10.0″	0.05″	30.12
90F962	AC415*	2 x 17.0 x 10.0″	0.05″	26.88
90F963	AC416*	3 x 17.0 x 10.0″	0.05″	31.44
90F969	AC427*	4 x 17.0 x 10.0″	0.05″	45.33
91F1340	AC1422	5 x 17.0 x 10.0″	0.05″	49.16
91F1342	AC1424	3 x 12.0 x 12.0″	0.05″	32.05
90F966	AC418*	3 x 17.0 x 12.0″	0.05″	33.26
90F967	AC419*	2 x 17.0 x 13.0″	0.05″	33.97
90F968	AC420*	3 x 17.0 x 13.0″	0.05″	39.25
90F970	AC428*	4 x 17.0 x 13.0″	0.05″	47.66
91F1344	AC1426	4 x 17.0 x 13.0″	0.05″	56.61
91F1345	AC1427	3 x 17.0 x 14.0″	0.05″	44.32
91F1346	AC1428	4 x 17.0 x 15.0″	0.05″	55.95
91F1347	AC1429	6 x 17.0 x 15.0″	0.05″	79.26
91F1348	AC1430	3 x 17.0 x 17.0″	0.05″	48.03
91F1349	AC1431	4 x 17.0 x 17.0″	0.05″	56.24

*Holes for mounting brackets provided; †Not welded

(6920) (de50387)

CHASSIS SUPPORT BRACKETS

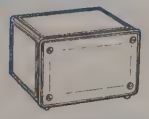
CBS-1352 CBS-1351

14-gauge steel, black. Support brackets come in pairs and include hardware.

Stock No.	Type	Bracket	Length	Inside Depth	Each
92F2513	CSB-1352	Support	13″	17″	27.63
92F2514	CSB-1353	Support	16″	20.5″	29.90
92F2515	CSB-1354	Support	23″	24″	32.38
92F2516	CSB-1355	Support	28″	29.25″	35.57
92F2517	CSB-1351	Adapter RR	5″	...	25.37

(6918) (de03871)

CONTOUR SERIES UTILITY CABINETS



Ideal for meters and other electronic components. Feature contoured, rounded corners and edges, removable flange panels, and louvered rear panel. 20-gauge steel construction. Body has gray textured finish; panels are white textured. Includes 4 rubber feet.

Stock No.	Type	H x W x D	Each
91F896	CU463GT	4.25 x 6.25 x 3.75″	36.31
91F897	CU465GT	4.25 x 6.25 x 5.75″	43.20
91F898	CU585GT	5.25 x 8.25 x 5.75″	45.43
91F899	CU587GT	5.25 x 8.25 x 7.75″	49.79
91F900	CU7125GT	7.25 x 12.25 x 5.75″	48.03
91F901	CU7127GT	7.25 x 12.25 x 7.75″	51.80

(6869) (de01405)

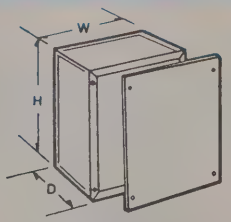
CHASSIS BOTTOM PLATES

Fit snugly and easily on the bottom of all **type AC** chassis, *ordered separately on this page.* Protect wiring and components. Constructed of 0.040″ thick aluminum with natural finish.

Stock No.	Type	Fits Chassis D x W	Each
91F1407	BPA1502	3.50″ x 4.50″	4.34
91F1409	BPA1504	4″ x 5″	4.34
91F1410	BPA1505	4″ x 6″	5.11
91F1412	BPA1507	4.50″ x 8″	6.78
90F860	BPA1589	5″ x 7″	5.00
90F861	BPA1590	5″ x 9.50″	5.11
90F862	BPA1591	5″ x 10″	5.00
91F1419	BPA1513	6″ x 8″	7.23
91F1420	BPA1514	6″ x 14″	8.78
91F1421	BPA1515	6″ x 17″	10.23
90F863	BPA1592	7″ x 7″	5.00
90F864	BPA1593	7″ x 9″	6.11
90F865	BPA1594	7″ x 11″	6.34
90F866	BPA1595	7″ x 12″	7.00
90F867	BPA1596	7″ x 13″	8.34
91F1422	BPA1516	7″ x 15″	9.11
91F1423	BPA1517	7″ x 17″	9.11
91F1424	BPA1518	8″ x 10″	8.89
91F1425	BPA1519	8″ x 12″	10.78
91F1426	BPA1520	8″ x 17″	11.11
91F1428	BPA1522	9″ x 15″	13.67
91F1429	BPA1523	10″ x 12″	10.78
91F1430	BPA1524	10″ x 14″	10.78
90F868	BPA1597	10″ x 17″	11.45
91F1433	BPA1527	12″ x 12″	11.67
91F1434	BPA1528	12″ x 17″	15.45
90F869	BPA1598	13″ x 17″	15.89
91F1435	BPA1529	14″ x 17″	16.34
91F1436	BPA1530	15″ x 17″	20.45
91F1437	BPA1531	17″ x 17″	21.04

(6919) (de50386)

ALUMINUM AND STEEL UTILITY CABINETS



Type AU is designed with sturdy, all-riveted 0.040″ aluminum construction. Feature removable front and back panels for easy accessibility. Ideal for mounting amplifiers, meters and test instruments. Available in natural aluminum or smooth gray (SG) finish. **Type CU** is an economical utility cabinet constructed of 20-gauge steel with metallic-gray finish. Sturdy, all-riveted body with removable front and back panels. Ideal for electronic equipment, monitors and frequency meters.

NATURAL ALUMINUM FINISH

Stock No.	Type	H x W x D	Weight	Each
91F547	AU1083	4 x 4 x 2″	¼ lb.	11.34
91F543	AU1028	4 x 5 x 3″	½ lb.	13.45
91F544	AU1029	5 x 6 x 4″	¾ lb.	15.67
91F545	AU1039	6 x 6 x 6″	1 lb.	21.24
91F546	AU1040	9 x 6 x 5″	1½ lbs.	23.10

SMOOTH GRAY FINISH

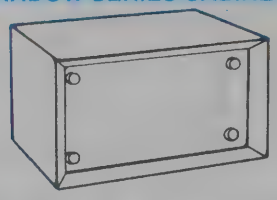
Stock No.	Type	H x W x D	Weight	Each
91F716	AU1083SG	4 x 4 x 2″	¼ lb.	15.89
91F717	AU1028MG	4 x 5 x 3″	½ lb.	19.00
91F718	AU1029MG	5 x 6 x 4″	¾ lb.	20.62
91F719	AU1039MG	6 x 6 x 6″	1 lb.	30.83
91F720	AU1040MG	9 x 6 x 5″	1½ lbs.	33.10

STEEL WITH METALLIC-GRAY FINISH

Stock No.	Type	H x W x D	Weight	Each
91F640	CU883-MG	4 x 4 x 2″	¾ lb.	12.33
91F641	CU728-MG	4 x 5 x 3″	1 lb.	12.53
91F642	CU729-MG	5 x 6 x 4″	1¾ lbs.	15.96
91F643	CU1098-MG	6 x 6 x 6″	2¼ lbs.	24.54
91F644	CU1099-MG	9 x 6 x 5″	3 lbs.	26.57
91F647	CU879-MG	10 x 8 x 7″	3¼ lbs.	40.16
91F649	CU1124-MG	12 x 7 x 6″	5 lbs.	38.81
91F645	CU880-MG	10 x 10 x 8″	6¼ lbs.	48.12
91F648	CU881-MG	12 x 11 x 8″	8½ lbs.	54.26
91F646	CU882-MG	15 x 9 x 7″	8¼ lbs.	53.12

(6948) (de52108)

SHADOW SERIES CABINETS

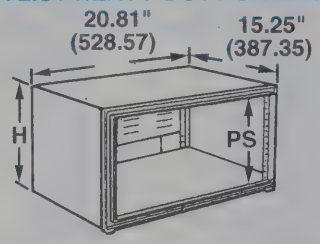


Extremely versatile—front, rear and bottom panels can be removed for installation or servicing. 1″ recessed front panel and beveled edges of cabinet body help prevent accidental movement of controls, knobs, and switches. 18-gauge steel top, sides, bottom; 16-gauge steel panels. Metallic-gray finish. Include 4 rubber feet. Aluminum chassis also available; *order separately on page 435.*

Stock No.	Type	H x W x D	Fits Chassis	Each
91F892	SB 2140	8 x 14.25 x 10″	AC-424	**89.98**
91F893	SB 2141	7.5 x 13.25 x 9″	AC-407	**81.05**
91F894	SB 2142	9.5 x 17.00 x 11″	AC-411	**101.30**
91F895	SB 2143	6 x 15.50 x 9″	AC-409	**77.84**

(7080) (de01530)

STYLIST HEAVY-DUTY CABINETS



Heavy-load bearing (500 lb. capacity) cabinets are self-supporting – no internal framework. 16-gauge steel construction. Full-width box flanges at top and bottom eliminate tilt/sway when fully loaded. Louvered rear panel with cable-access opening. Front framed with aluminum extrusion trim and black insert. Available with royal blue or gray textured finish. Include 4 self-adhesive rubber feet. Clear inside depth: 14.19″. Accept standard 19″ panels; *order separately on page 405.* Bustle-type doors available; *contact your local Newark sales office for details.*

ROYAL BLUE

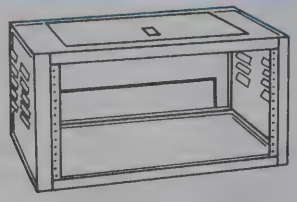
Stock No.	Type	H x W x D	Panel Space (PS)	Each
87F6428	S-1639-RB	7.06 x 20.81 x 15.25″	5.25″	**191.78**
86F925	S-1640 RB	8.81 x 20.81 x 15.25″	7.00″	**199.56**
86F927	S-1641 RB	10.56 x 20.81 x 15.25″	8.75″	**211.43**
91F024	S-1642-RB	12.31 x 20.81 x 15.25″	10.50″	**217.87**
91F026	S-1643-RB	14.06 x 20.81 x 15.25″	12.25″	**231.74**
91F027	S-1644-RB	15.81 x 20.81 x 15.25″	14.00″	**237.60**
86F931	S-1645 RB	17.56 x 20.81 x 15.25″	15.75″	**249.88**

GRAY TEXTURED

87F6429	S-1639-GT	7.06 x 20.81 x 15.25″	5.25″	**191.78**
86F924	S-1640-GT	8.81 x 20.81 x 15.25″	7.00″	**199.56**
86F926	S-1641-GT	10.56 x 20.81 x 15.25″	8.75″	**211.43**
91F025	S-1642-GT	12.31 x 20.81 x 15.25″	10.50″	**217.87**
86F928	S-1643-GT	14.06 x 20.81 x 15.25″	12.25″	**231.74**
86F929	S-1644-GT	15.81 x 20.81 x 15.25″	14.00″	**237.60**
86F930	S-1645-GT	17.56 x 20.81 x 15.25″	15.75″	**249.88**

(7089) (de01691)

DELUXE CABINET RACKS



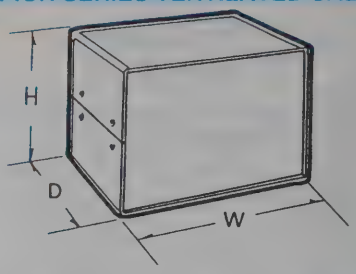
Welded, 16-gauge steel construction. Hinged top with sliding flush latch. Contoured front uprights. Louvered side panels. Mounting rails tapped #10-32 on EIA spacing. Panel space: 19″ wide. Top cover clearance: 10.25 x 15.50″. Metallic-gray finish.

Stock No.	Type	H x W x D**	Panel Space	Each
91F689	CR1726-MG	8.813 x 22 x 14.188″	7.00″	**145.30**
91F671	CR1741-MG	10.563 x 22 x 14.188″	8.75″	**159.60**
91F668	CR1740-MG	12.313 x 22 x 14.188″	10.5″	**164.11**
91F672	CR1742-MG	14.063 x 22 x 14.188″	12.25″	**176.32**
91F673	CR1739-MG	15.813 x 22 x 14.188″	14.00″	**216.19**
91F669	CR1743-MG*	19.313 x 22 x 14.188″	17.5″	**234.42**
91F676	CR1727-MG*	22.813 x 22 x 14.188″	21.00″	**251.47**

*Includes rear door; **Inside depth

(7090) (de01692)

CHAMPION SERIES VENTILATED CABINETS

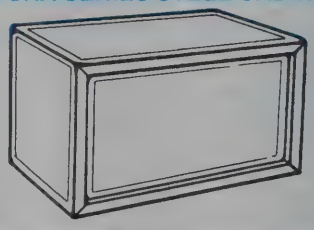


Designed for maximum interior space. Top, bottom, front and rear panels constructed of 0.050″ aluminum; ventilation slots on rear and bottom panels. Removable top and bottom for easy access to components. 8 self-threading screws for easy assembly. No exposed screws on front or rear panels. Top and bottom have black textured finish; front and rear are smooth white. 4 rubber feet included.

Stock No.	Type	H x W x D	Inside Width	Inside Depth	Each
87F1783	CS11202-BT	4 x 6 x 6″	5.38″	5.13″	**53.22**
87F1784	CS11204-BT	4 x 9 x 8″	8.38″	7.13″	**59.26**
87F1785	CS11206-BT	4 x 12 x 8″	11.38″	7.13″	**62.75**
87F1786	CS11208-BT	6 x 9 x 8″	8.38″	7.13″	**66.62**
87F1787	CS11210-BT	6 x 12 x 8″	11.38″	7.13″	**67.75**
87F1788	CS11212-BT	6 x 12 x 10″	11.38″	9.13″	**72.94**
87F1789	CS11214-BT	8 x 9 x 8″	8.38″	7.13″	**71.14**
87F1790	CS11216-BT	8 x 12 x 10″	11.38″	9.13″	**79.82**

(7069) (de01404)

FUTURA SERIES STEEL CABINETS

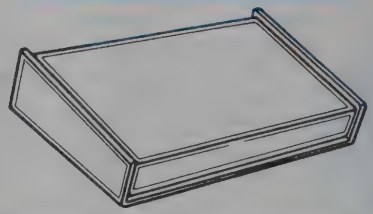


Versatile housing for small equipment and instruments. Straight front vertical panel. 1-piece, 18-gauge steel top and sides. Sides fit into flanges on base. Chassis may be attached to base, front or rear panels. Removable sides and top for easy access to interior. Royal blue textured finish body and rear panel; white textured finish front panel. Include 4 rubber feet.

Stock No.	Type	H x W x D	Front Panel	Each
91F1356	MD-1960	7 x 13 x 8″	Vertical	**64.63**
91F1357	MD-1961	8 x 14 x 9″	Vertical	**76.71**
91F1358	MD-1962	8 x 16 x 9″	Vertical	**83.60**

(7071) (de01436)

KEYBOARD ENCLOSURES



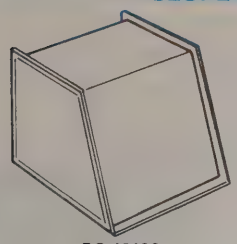
House the most popular keyboards. Sturdy, lightweight 0.090″ aluminum base with gray textured finish; 0.050″ aluminum cover with smooth white finish. Include 4 scratch-resistant rubber feet. **Type KB-13200** has two 0.50″ knockouts in rear; **types KB-13201** and **KB-13202** have two 0.875″ rear knockouts.

Stock No.	Type	Top Angle	H x W x D	Each
81F021	KB-13200	7° 46′	2.47 x 7.22 x 5.75″	**45.88**
81F020	KB-13201	7° 40′	2.75 x 12.85 x 7″	**78.03**
81F019	KB-13202	7° 32′	3 x 17.47 x 9″	**88.49**

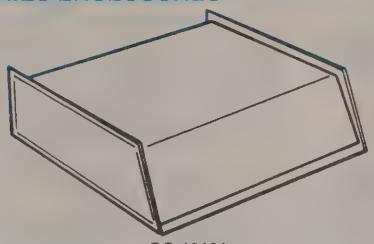
(7070) (de01433)

SAME-DAY SHIPMENT ON ORDERS PLACED BY 5:00 PM C.S.T.

SLOPE SERIES ENCLOSURES



SC-12100



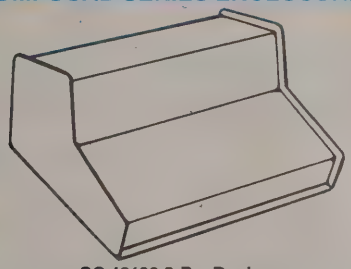
SC-12101

Sleek, contemporary design for excellent visibility of panel-mounted components. 2-piece construction: 0.090″ aluminum base with black textured finish and 0.050″ aluminum cover with smooth white finish. 20° front slope. **Type SC-12100** has single centered knockout in rear; **type SC-12101** has double knockout. Include 4 rubber feet.

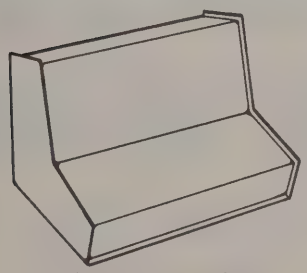
Stock No.	Type	Base H × W × D	Panel Space H × W × D	Each
91F237	SC-12100	4.25 × 4.94 × 5″	4.13 × 4.75 × 3.063″	**38.46**
91F238	SC-12101	3.25 × 11.94 × 10″	3.063 × 11.75 × 8.44″	**63.22**

(7181) (ne01400)

COMPUCAB SERIES ENCLOSURES



SC-13100 2-Pc. Design



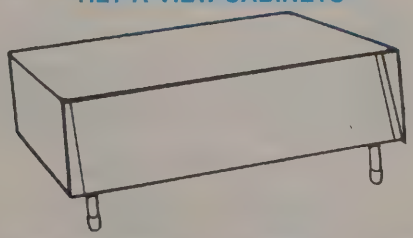
SC-13101 3-Pc. Design

Standard dual-slope enclosures with keyboard styling are ideal for a variety of instruments. 120° middle, 90° top and bottom front slopes. Sturdy 0.090″ aluminum base and sides have black textured finish; 0.050″ aluminum back panel and cover have smooth white finish. Maximum visibility, no exposed screws on front panel area. Knockouts in louvered rear panel. 4 rubber feet included.

Stock No.	Type	Base H x W x D	Panel Width Opening	Each
91F1730	SC-13100	5.344 x 9.94 x 8.69″	9.75″	**68.12**
91F1731	SC-13101	9.953 x 13.94 x 10.75″	13.75″	**123.22**

(7182) (ne01402)

TILT-A-VIEW CABINETS

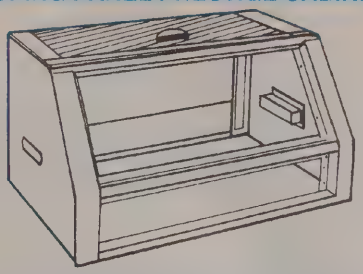


House meters, recorders, other instruments. Detachable 2″ rubber-tipped legs raise/lower cabinet. Mount walls, desktops or other cabinets. 2-piece construction provides easy interior access. Cabinet fasteners are positioned on lower portion—no fasteners appear on front or rear panels. 18-gauge steel construction. Gray textured finish cover; white textured finish body.

Stock No.	Type	H × W × D	Weight	Each
90F393	TV-2155	4.5 × 15 × 10″	8 lbs.	**70.29**
90F394	TV-2156	6.5 × 16 × 12″	11 lbs.	**83.22**
90F395	TV-2157	8.5 × 17 × 14″	15 lbs.	**93.05**

(7188) (ne01531)

SLOPING PANEL PRESTIGE CABINETS

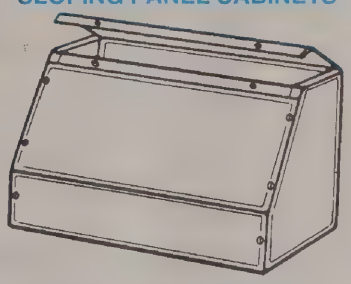


Rugged 16-gauge construction with safety-shielded slot handles. Perforated top opens completely. Install or remove 19″ panels by simply removing panel trim bar. 2.5 × 18″ rear opening for easy cable or control access. Metallic-gray finish.

Stock No.	Type	H × D	Panel Space		Each
			Vertical	Sloping	
91F743	C1555-MG	11.906 × 14.188″	3.5″	7.0″	**189.02**
91F745	C1557-MG	14.78 × 16.25″	3.5″	10.5″	**214.77**

(7187) (ne01529)

SLOPING PANEL CABINETS

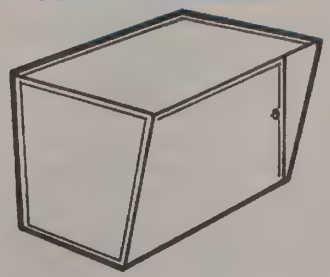


Removable front panel. Hinged top for easy access to components. Metallic-gray finish. *Order* **AC series** *chassis separately on page 435.*

Stock No.	Type	H × W × D	Fits Chassis	Each
91F791	C1584-MG	6½ × 7 1/16 × 7 5/16″	AC-402	**43.31**
91F792	C1587-MG	8 × 8 1/16 × 8″	AC-405	**47.12**
91F793	C1585-MG	6½ × 9 1/16 × 7 5/16″	AC-405	**41.76**
91F794	C1588-MG	8 × 10 1/16 × 8″	AC-406	**48.03**
91F795	C1586-MG	6½ × 11 1/16 × 7 5/16″	AC-1413	**46.71**
91F796	C1894-MG	8 × 14 1/16 × 8″	AC-409	**50.58**
91F797	C1892-MG	8 × 13 1/16 × 8½″	AC-407	**55.58**
91F798	C1896-MG	9 × 18 1/16 × 8 3/16″	AC-425	**70.48**
91F799	C1893-MG	10 × 18 1/16 × 10½″	AC-415	**81.99**

(7183) (ne01403)

COWL-TYPE CABINETS



Projecting cover minimizes glare on front panel from overhead lights. 0.040″ aluminum alloy construction. Cover has 2 box braces; bottom attaches with 4 self-tapping screws.

METALLIC-GRAY FINISH

Stock No.	Type	H × W × D	Base H × W × D	Each
91F884	SC-2130	6 × 10 × 7″	5.94 × 9.81 × 5.188″	**50.01**
91F885	SC 2131	7 × 12 × 8″	6.94 × 11.81 × 5.94″	**53.69**
91F886	SC 2132	3 × 8 × 5″	2.94 × 7.81 × 4″	**33.31**

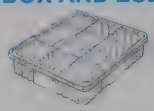
NATURAL FINISH

91F888	SC 3030	6 × 10 × 7″	5.94 × 9.81 × 5.188″	**31.45**
91F889	SC 3031	7 × 12 × 8″	6.94 × 11.81 × 5.94″	**40.93**
91F890	SC-3032	3 × 8 × 5″	2.94 × 7.81 × 4″	**21.76**

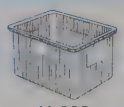
(7189) (ne01542)

AKRO-MODUBOX AND ESD MODUBOX CONTAINERS

NEW



11-304



11-306

ESD MODUBOX CONTAINERS

ESD containers are designed to dissipate electrostatic charges which can severely damage sensitive electronic components. Static dissipative range to 10^6 to 10^9 Ohms. Erogonomic design for ease in handling. Resistant to oil and grease. 300°F heat deflection.

Stock No.	Type	H x W x D	Each
48F2487	11105ESD	2 15/16 x 10 7/8 x 16 1/2	25.10
48F2488	11115ESD	4 15/16 x 10 7/8 x 16 1/2	31.02
48F2489	11304ESD	4 x 17 3/8 x 22 3/8	52.37
48F2490	11306ESD	6 x 17 3/8 x 22 3/8	60.66
48F2491	11312ESD	12 x 17 3/8 x 22 3/8	100.06

MATCHING DIVIDERS

Use With Type	SHORT			LONG		
	Stock No.	Type	1-9	Stock No.	Type	1-9
11105ESD	48F2492	21105ESD	3.85	48F2497	31105ESD	4.77
11115ESD	48F2493	21115ESD	4.25	48F2498	31115ESD	7.81
11304ESD	48F2494	21304ESD	6.32	48F2499	31304ESD	7.75
11306ESD	48F2495	21306ESD	8.60	48F2500	31306ESD	9.93
11312ESD	48F2496	21312ESD	14.94	48F2501	31312ESD	18.40

Modubox containers can be used to organize, store or move small parts, components, and assemblies. Made of impact-resistant polyethylene. Create an efficient, small item material handling system with standardized containers and a variety of options. *Order lids and dividers separately, contact your local Newark sales office.*

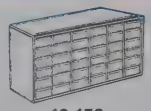
MODUBOXES

Stock No.	Type	H x W x D"	1-9	10-24
52F8932	11-304	4 x 22 3/8 x 17 3/8	12.12	11.82
52F8933	11-306	6 x 22 3/8 x 17 3/8	12.91	12.60
52F8934	11-312	12 x 22 3/8 x 17 3/8	18.62	18.17
52F8930	11-105	2 15/16 x 16 1/2 x 10 7/8	8.65	8.44
52F8931	11-115	4 15/16 x 16 1/2 x 10 7/8	10.70	10.44

(7228) (ne08941)

STACKABLE STORAGE CABINETS

10-155



10-156

- **Pedestal Bases "Nest" Into Recessed Tray Tops For Secure Stacking**

Versatile cabinets designed with recessed tray top and pedestal base for sturdy stacking. Also feature gray, high-impact polystyrene frames with see-through dividable drawers. Keyhole hanging slots for wall mounting. Number of drawers: **type 10-155** has 15; **type 10-156** has 36; **type 10-118** has 18; and type **10-160** has 60.

Stock No.	Type	Drawer Size HxWxD	Cabinet Size HxWxD	1-9	10-24
90F1313	10-155	1.25 x 2.75 x 5.75"	7.50 x 9.12 x 6.50"	12.14	11.84
90F1314	10-156	1.25 x 2.75 x 5.75"	8.62 x 18.25 x 6.37"	25.68	25.05
90F1315	10-118	2.50 x 2.75 x 5.75"	8.62 x 18.25 x 6.37"	25.68	25.05
93F7890	10-160	1.25 x 2.125 x 5.75"	13.875 x 14.625 x 6.438"	29.64	28.92

(7129) (de52289)

HEAVY-DUTY TOOL BOXES

09-116

Rugged, plastic tool boxes will not rust, dent or chip. Comes with pull-out tray.

Stock No.	Type	HxWxD	Color	1-9	10-24
44F1912	09-012	6.00 x 4.00 x 12.00"	Red	3.84	3.77
44F1913	09-113	7.00 x 6.00 x 13.00"	Red	10.97	10.71
44F1910	09-116	7.12 x 8.50 x 16.00"	Red	18.79	18.33

(7131) (de52291)

ATTACHED-LID STACKING CONTAINERS

- **High-Density Gray Polyethylene Construction**
- **Lids Snap Closed - Padlock Eye for Security**
- **Durable Stainless-Steel Hinge Pins**
- **Ergonomic Molded-In Handle Grips**

Stock No.	Type	Size	L x W x H	1-9	10-24
97F9953	39-085	8 1/2-Gal.	21 1/2 x 15 x 9"	13.09	12.88
97F9954	39-120	12-Gal.	21 1/2 x 15 x 12 1/2"	15.16	14.79
97F9955	39-170	17-Gal.	21 1/2 x 15 x 17"	18.55	18.10

* **Types 39-085** and **39-120** sold in cartons of 6. **Type 39-170** sold in cartons of 3.

(7108) (de03535)

AKROBINS® AND ESD AKROBINS® STACKING STORAGE BINS

NEW

30-210

30-250

ESD AKROBINS® WITH CarmelStat®

Stock No.	Type	Inside Dimensions (Inches) H	W	L	X	Each
48F2479	30210ESD	4 3/4	3 7/16	3 7/16	4	4.12
48F2480	30220ESD	6 3/4	3 7/16	3 7/16	6	5.80
48F2481	30224ESD	10 1/4	3 3/16	3 3/16	9	9.77
48F2482	30230ESD	10 1/4	4 3/8	4 3/8	9	13.67
48F2483	30235ESD	10 1/4	10	10	9	21.03
48F2484	30240ESD	14	6 9/16	6 9/16	12	31.78
48F2485	30250ESD	14	14 3/4	14 3/4	12	49.20

LOUVERED 36" BENCH RACK-SEE CHART BELOW *

Stock No.	Type	Description	Each
48F2486	98636ESD	Storage System	121.91

* QUANTITY OF SAME SIZE AKROBINS® REQUIRED TO FILL PANEL

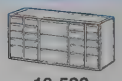
Type	Quantity	Type	Quantity
30210ESD	40	30230ESD	18
30220ESD	40	30240ESD	18
30224ESD	48	...	...

Heavy-duty polypropylene construction. Available in yellow, blue, red, and stone. Bin racks and carts for AKROBINS® also available, ordered separately. For Specifications and quantities, *Contact your local Newark sales office.*

Stock No.	Type	Inside Dimensions (Inches) H	W	L	X	Each
80W089	30-210 BLUE	2.81"	3.43"	4.75"	4.00"	0.87
80W090	30-220 BLUE	2.81"	3.43"	6.75"	6.00"	1.58
80W091	30-230 BLUE	4.75"	4.37"	10.25"	9.00"	3.95
46F7471	30-235 BLUE	4.75"	10.00"	10.25"	9.00"	6.07
46F7472	30-239 BLUE	6.75"	6.56"	10.00"	8.00"	6.55
80W092	30-240 BLUE	6.75"	6.56"	14.00"	12.00"	7.76
80W093	30-250 BLUE	6.75"	14.75"	14.00"	12.00"	10.61

(7133) (de52304)

ECONOMY PLASTIC STORAGE CABINETS



16-523

16-136

16-718

Stackable, ABS copolymer cabinets feature transparent styrene drawers with dividers for easy visibility of contents. Cabinet size: 8.62H x 18.25W x 6.37"D.

Stock No.	Type	No. of Drawers	Drawer size H x W x D	1-9	10-24
90F1310	16-136	36	1.25 x 2.75 x 5.75"	34.44	33.60
90F1311	16-523	23	16 are 1.25 x 2.75 x 5.75" 4 are 2.50 x 2.75 x 5.75" 3 are 2.50 x 5.62 x 5.75"	34.44	33.60
90F1309	10-118	18	2.50 x 2.75 x 5.75"	34.44	33.60

(7111) (de03569)

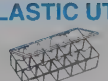
HEAVY-DUTY STEEL STORAGE CABINETS

Modular cabinets, with charcoal gray steel frames/drawer supports. Gray styrene drawers w/ transparent windows, 2 dividers and label holder. Keyhole slots to mount. Cabinet size: 11H x 17W x 11"D. **Type 19-109** features handy key-lock door.

Stock No.	Type	No. of Drawers	Drawer size H x W x D	Each
80W065	19-228	28	2.06 x 2.18 x 10.56"	59.88
80W062	19-320	20	2.12 x 3.18 x 10.56"	59.88
80W050	19-416	16	2.12 x 4.00 x 10.56"	59.88
80W063	19-715	15	3.06 x 3.18 x 10.56"	59.88
80W064	19-909	9	3.06 x 5.18 x 10.56"	59.88
50F1135	19-109	9	3.06 x 5.18 x 10.56"	107.90

(7112) (de03570)

PLASTIC UTILITY BOXES



05-406

05-505

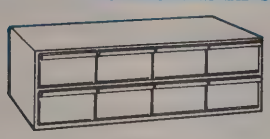
Transparent styrene utility boxes feature positive front-latching lids that snap securely to prevent spills. **Types 05-505, 05-406** offer adjustable partitions for a variety of interior compartments. **Type 05-206** has 6 permanent compartments.

Stock No.	Type	No. of Compartments	W x D x H"	Each
82F136	05-206	6	4 5/8 x 3 x 1 3/16"	0.92
82F135	05-406	6 to 18	8 5/16 x 4 5/8 x 1 3/8"	2.71
82F025	05-505	5 to 15	11 x 6 1/2 x 2 5/16"	4.57

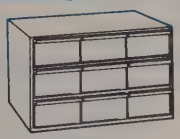
(7130) (de52290)

STORAGE CABINETS AND BINS

STACKABLE CABINETS



2376



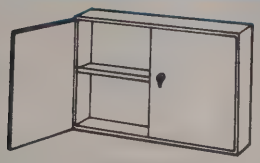
2377

Modular storage cabinets are manufactured of prime cold-rolled steel and finished in an acid- and rust-resistant baked enamel. These durable storage units are shipped fully assembled and can be easily stacked and secured using pre-drilled mounting holes. Drawer cabinets feature full-width handle and are slotted on one-inch centers. Drawers have runners for smooth, easy travel and cannot be pulled out accidentally. 2 high-impact plastic dividers, with special snap-in features to hold them in place, are provided with each drawer. Made in the U.S.A.

Stock No.	Type	Cabinet Size H x W x D	No. of Drawers	Drawers Size H x W x D	Each
92N4480	2376	7.375 x 22.75 x 11.625″	8	2.75 x 5.375 x 11.25″	89.99
92N4481	2377	10.875 x 17.25 x 11.625″	9	2.75 x 5.375 x 11.25″	95.99
92N4483	2379	7.375 x 33.75 x 11.625″	12	2.75 x 5.375 x 11.25″	119.99
92N4482	2378	10.875 x 33.75 x 11.625″	18	2.75 x 5.375 x 11.25″	139.99
92N4484	2380	14.375 x 33.75 x 11.625″	24	2.75 x 5.375 x 11.25″	199.99
92N4485	2381	17.75 x 33.75 x 11.625″	30	2.75 x 5.375 x 11.25″	259.99

(15537) (ne10515)

LOCKABLE STORAGE CABINETS



2384

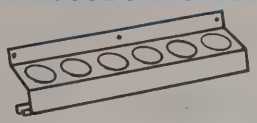
2385

Lockable storage cabinets are available in three sizes. **Type 2384** cabinet is divided into four sections and includes a lock and two keys. **Types 2385** and **2386** cabinets feature two adjustable shelves and a lock attachment. Padlock not provided. Keyhole slots allow easy wall mounting. Made in the U.S.A.

Stock No.	Type	Cabinet Size H x W x D	No. of Sections	Each
92N4488	2384	22.25 x 33.75 x 8.50″	4	149.99
92N4489	2385	30 x 13.75 x 12.75″	3-Adjustable	89.99
92N4490	2386	32.75 x 19.875 x 14.25″	3-Adjustable	109.99

(15538) (ne10516)

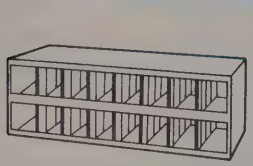
AEROSOL CAN CADDY



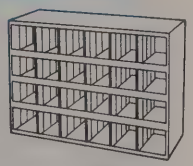
Aerosol can caddy is manufactured from prime steel and finished in durable rust- and acid-resistant baked gray enamel. Easy wall mount with 6 openings to store standard size aerosol cans. Size: 5.25H x 21.50W x 3.125″D. Made in the U.S.A.

92N4491 Type 2387. **Each** **13.99**
(15539) (ne10517)

12″DEEP STACKABLE BINS



2372



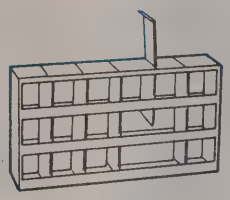
2373

Designed as heavy-duty units for storing a wide variety of small parts; extremely sturdy and are welded on specially designed machines. They are produced of prime cold-rolled steel and will not warp, twist, or sag. Each shelf has a fully hemmed 1⅛″ turn on the front providing space to hold labels for content identification. Dividers are hemmed in a teardrop design to avoid sharp edges. Vertical ribs provide added strength. Gray baked enamel. Made in the U.S.A.

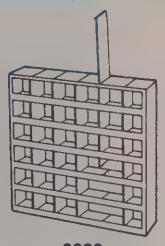
Stock No.	Type	Cabinet Size H x W x D	No. of Bins	Bin Size H x W x D	Each
92N4476	2372	11½ x 33¾ x 12″	16	5⅛ x 4 x 11⅞″	89.99
92N4477	2373	23⅞ x 33¾ x 12″	24	5½ x 5⅜ x 11⅞″	109.99
92N4478	2374	19¼ x 33¾ x 12″	32	4½ x 4 x 11⅞″	112.99
92N4479	2375	23⅞ x 33¾ x 12″	40	4½ x 4 x 11⅞″	115.99

(15535) (ne10513)

MULTIPURPOSE BINS



2382



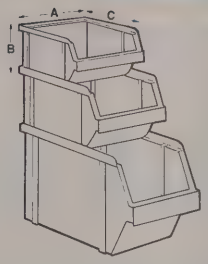
2383

All-steel multipurpose bins feature removable vertical dividers for the creation of multi-width compartments. Scooped shelves allow contents to be easily removed. These bins are ideal for the storage of fasteners, electrical connectors, fittings, and most other small components. Keyhole slots are provided for wall mounting. These bins are 23.75″ wide and can be easily attached to the end of back-to-back 12″ shelving. Gray baked enamel. Made in the U.S.A.

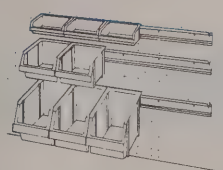
Stock No.	Type	Cabinet Size H x W x D	No. of Bins	Bin Size H x W x D	Each
92N4486	2382	12.25 x 23.75 x 4.75″	18	3.75 x 3.875 x 4.625″	54.99
92N4487	2383	23.75 x 23.75 x 4.75″	36	3.75 x 3.875 x 4.625″	79.99

(15536) (ne10514)

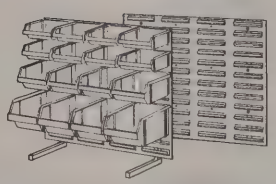
STORAGE BIN SYSTEMS



Storage Bins



Wall Rails



Desk Stand & Wall Panel

RotoRack

Create your own storage system using heavy-duty polypropylene bins. They may be stacked, mounted on steel wall rails and panels, mounted on a desk stand, or inserted into the circular RotoRack floor tower. Bins are available in blue or red and are durable, rustproof, and resist oil and common chemicals. **Type SBR1080** RotoRack provides a large amount of storage in a small amount of floor space and holds either 96 3″-deep bins, 72 3⅞″- deep bins, 64 5⅞″-deep bins, or a bin combination. RotoRack tower weight capacity is approximately 992 lbs. Made in the U.S.A.

STORAGE BINS

Stock No.	Type	Color	Bin Dimensions A	B	C	1-24	25-49
84N1470	SB1123-B/120BLUE	Blue	4⅞″	3″	6⅝″	2.61	2.35
84N1471	SB1125-R/120RED	Red	4⅞″	3″	6⅝″	2.61	2.35
84N1473	SB1247-B/240BLUE	Blue	4⅞″	3⅞″	8⅞″	3.96	3.57
84N1474	SB1248-R/240RED	Red	4⅞″	3⅞″	8⅞″	3.96	3.57
84N1476	SB1481-B/480BLUE	Blue	4⅞″	5⅞″	12″	4.99	4.50
84N1477	SB1482-R/480RED	Red	4⅞″	5⅞″	12″	4.99	4.50

STORAGE BIN SYSTEM ACCESSORIES

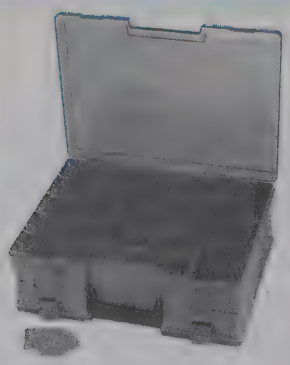
Bins not included; *order separately above.*

Stock No.	Type	Description	Size	Wt. (Lbs.)	Each
84N1478	BR1040	Wall Rail, Holds 4 Bins, Gray	19½″ Long	5	2.50
84N1480	WP1075	Wall Panel, Lt. Beige	17⅜ x 20½″	19	32.59
84N1479	DS1050	Desk Stand, Lt. Beige	17¼ x 20 x 8⅞″	7	39.99
84N1481	SBR1080	RotoRack Tower, Tan	18¼ x 57″	78	349.99

(31679) (ne31679)

STORAGE CASES, BOXES AND RACKS

SATCHEL-STYLE COMPARTMENT CASES



MADE IN USA

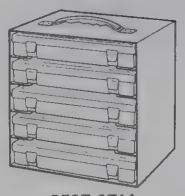
- **Handsome, Satchel-Style Cases with Translucent Lids, Molded from Rugged Copolymer Resin**
- **Comfortable Luggage-Style Handles; Positive Latches Keep Lids Securely Closed**
- **Adjustable Cases Have Removable Dividers for Custom Design**
- **Used By Professionals in Virtually Every Area of Sales or Service**

Type SC-748 is a 2-sided case and has 9 to 24 compartments per side. Boxes are molded from rustproof copolymer resins and feature tinted covers. **Type SC-724** is the same, but 1-sided only.

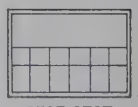
Stock No.	Type	H x W x D	Compartments	Each
		SMALL		
44N4956	SC-724	11.75 x 15.50 x 2.50″	9-24 Adjustable	17.99
44N4957	SC-748	11.75 x 15.50 x 5.00″	18-48 Adjustable	35.99
		LARGE		
16N079	8467-0332	13.00 x 18.50 x 3.00″	4-16 Adjustable	27.65
16N080	8467-0333	13.00 x 18.50 x 3.00″	21 Fixed	33.88
16N081	8467-0334	13.00 x 18.50 x 3.00″	24 Fixed	33.88

(7226) (ne08884)

PLASTIC COMPARTMENT BOXES AND STORAGE RACKS



8537-0714



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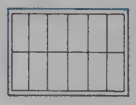

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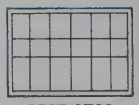


8537-0708
8537-0711

8537-0712

8537-0705
8537-0709

MADE IN USA

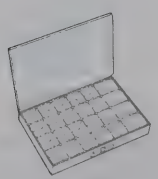
- **Ideal for Storing Small Parts and Electronic Components**

Storage boxes manufactured from high-strength, oil-resistant polypropylene. Feature 2 snap latches and heavy-duty, reinforced hinges that allow lid to stand open. Handy metal storage racks hold 5 storage boxes. Rack features durable gray baked enamel finish. Keyhole slots permit wall mounting of rack. Convenient handle on top of rack can be removed for stacking. Racks enable use of floor or table-top space.

Stock No.	Type	H x W x D	Compartments	Each
		SMALL		
16N2329	8537-0705	1.75 x 11 x 6.75″	6	7.99
16N2330	8537-0706	1.75 x 11 x 6.75″	12	7.99
16N2331	8537-0707	1.75 x 11 x 6.75″	13	7.99
16N2332	8537-0708	1.75 x 11 x 6.75″	18	8.99
16N2338	8537-0714	10.75 x 11.25 x 6.75″	Rack Only	34.99
		LARGE		
16N2333	8537-0709	2.31 x 13.13 x 9″	6	8.99
16N2334	8537-0710	2.31 x 13.13 x 9″	12	8.99
16N2335	8537-0711	2.31 x 13.13 x 9″	18	9.99
16N2336	8537-0712	2.31 x 13.13 x 9″	24	9.99
16N2337	8537-0713	13.25 x 13.50 x 9.12″	Rack Only	34.99

(7225) (ne08883)

SCOOP COMPARTMENT BOXES, SLIDING RACKS, AND BASES



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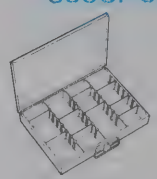

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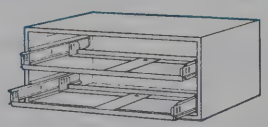

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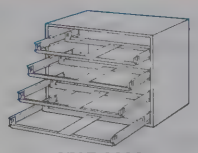

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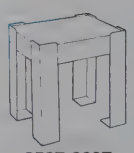


8537-0697

MADE IN USA

Durable rust- and acid-resistant steel boxes with gray baked-enamel finish. Feature high-impact plastic inserts with rounded design to ease part removal. **Types 8537-0701** and **8537-0694** adjustable boxes allow customizing the number and size of compartments with 9 removable dividers. Drawers ride on coated slides and tracks and have stops to prevent accidental pull-out. Slide racks enable easy storage and access to 2 or 4 boxes. Reinforced metal rack bases support loaded boxes in the open position without tilting.

Stock No.	Type	H x W x D	Description	Each
		SMALL		
16N2324	8537-0700	2.00 x 13.38 x 9.25″	8 Compartment Box	19.99
16N2322	8537-0699	2.00 x 13.38 x 9.25″	16 Compartment Box	19.99
16N2321	8537-0698	2.00 x 13.38 x 9.25″	20 Compartment Box	19.99
16N2325	8537-0701	2.00 x 13.38 x 9.25″	Adjustable Box	20.99
16N2326	8537-0702	6.25 x 15.25 x 11.75″	Slide Rack Only (Holds 2 Boxes)	69.99
16N2327	8537-0703	11.25 x 15.25 x 11.75″	Slide Rack Only (Holds 4 Boxes)	74.99
16N2328	8537-0704	15.13 x 15.50 x 12.13″	Rack Base	49.99
		LARGE		
16N2316	8537-0693	3.00 x 18.00 x 12.00″	6 Compartment Box	29.99
16N2315	8537-0692	3.00 x 18.00 x 12.00″	12 Compartment Box	27.99
16N2314	8537-0691	3.00 x 18.00 x 12.00″	24 Compartment Box	27.99
16N2317	8537-0694	3.00 x 18.00 x 12.00″	Adjustable Box	29.99
16N2318	8537-0695	8.13 x 20.00 x 15.75″	Slide Rack Only (Holds 2 Boxes)	78.99
16N2319	8537-0696	15.00 x 20.00 x 15.75″	Slide Rack Only (Holds 4 Boxes)	83.99
16N2320	8537-0697	15.13 x 20.38 x 16.00″	Rack Base	49.99

(7227) (ne08885)

STORAGE BOXES AND CABINETS

ADJUSTABLE COMPARTMENT SMALL PARTS BOXES

MADE IN USA

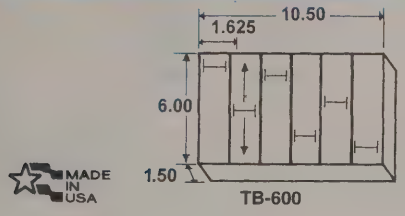
8467-0329

Made from translucent, chemical- and shatter-resistant polypropylene. Include removeable dividers which can be adjusted in 1″ intervals. Made in the U.S.A.

Stock No.	Type	Compartments	Dividers	L x W x D	1-24
16N074	8467-0327	3-14	12	0.438 x 7 x 4.125″	2.99
16N075	8467-0328	3-14	12	1.25 x 9.125 x 5″	4.29
16N076	8467-0329	6-18	12	1.75 x 11 x 6.75″	6.59
16N077	8467-0330	4-24	20	2.313 x 13.125 x 9″	8.29

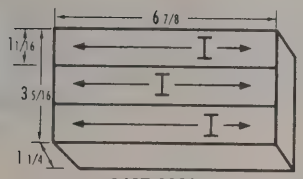
(7222) (ne08473)

INFINITE ADJUSTABLE COMPARTMENT BOXES

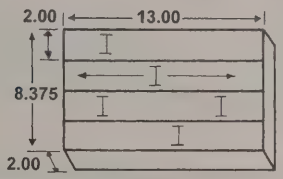


MADE IN USA

TB-600



8467-0331



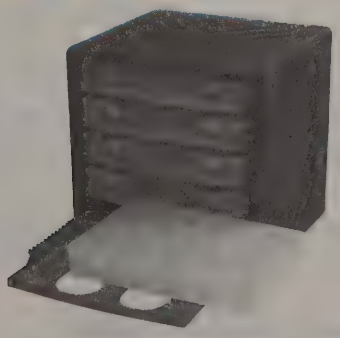
TB-900

Translucent, heavy-duty polypropylene boxes feature Infinite Divider System™ for interior space flexibility. Ideal for organizing hardware and other small items. Molded with heat-sealed hinges for durability. Dividers can be adjusted 0.125″ at a time to allow customized boxes. Made in the U.S.A.

Stock No.	Type	Description	1-9	10-24
16N078	8467-0331	3-7 Compartments, 4 Dividers	4.99	4.50
97N8305	TB-600	6-12 Compartments, 6 Dividers	9.59	8.64
97N8306	TB-900	4-20 Compartments, 16 Dividers	14.55	13.10

(7113) (de03593)

SATCHEL CABINET



MADE IN USA

Ruggedly constructed, textured polypropylene cabinets are scratch-resistant and dent-proof. Interlocking grid design allows cabinets to be stacked top-to-bottom and side-to-side. Holds 5 translucent multicompartment utility boxes that slide out like drawers. These boxes are lightweight and easy to remove and carry. They feature hinged lid and adjustable interior dividers for space flexibility. Ideal for organizing hardware, precision parts, electronic components, medcal and lab supplies. Made in the U.S.A.

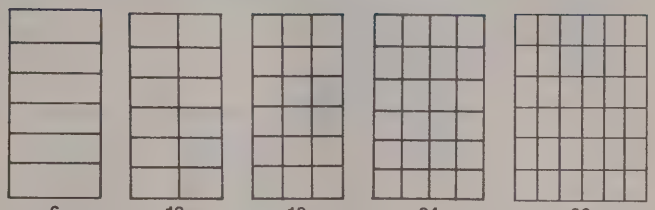
92N3711 Type 1709. **Each** **119.99**

(15541) (ne10519)

MULTICOMPARTMENT PARTS BOXES

MADE IN USA

K-824



- **Variety of Compartment Configurations**

Rugged utility boxes are ideal for organizing hardware, precision parts, electronic components, medical or lab supplies. Hinged overlapping lid fastens securely. 2 versions available: high-impact, transparent polystyrene construction; or conductive version constructed of black carbon-filled plastic for static-sensitive parts. Made in the U.S.A.

TRANSPARENT POLYSTYRENE UTILITY BOXES

Stock No.	Type	L x W x D	Compartments	1-9	10-24
44N4966	K-203	4.50 x 8.25 x 1.375″	6	3.99	3.60
44N4960	K-606	6.75 x 11.00 x 1.75″	6	6.99	6.30
44N4963	K-806	9.00 x 13.125 x 2.313″	6	12.99	11.70
44N4967	K-208	4.50 x 8.25 x 1.375″	12	3.99	3.60
44N4961	K-602	6.75 x 11.00 x 1.75″	12	6.99	6.30
44N4964	K-812	9.00 x 13.125 x 2.313″	12	12.99	11.70
44N4968	K-200	4.50 x 8.25 x 1.375″	18	3.99	3.60
44N4962	K-618	6.75 x 11.00 x 1.75″	18	6.99	6.30
44N4965	K-824	9.00 x 13.125 x 2.313″	24	14.29	12.87
44N4969	K-166	7.00 x 10.00 x 1.813″	36	8.99	8.10

CONDUCTIVE PLASTIC UTILITY BOXES

87N2413	CB-6001	6.75 x 11.00 x 1.75″	1	18.99	17.10
87N2415	CB-8001	9.00 x 13.125 x 2.313″	1	19.99	18.00
87N2414	CB-6018	6.75 x 11.00 x 1.75″	18	19.99	18.00
87N2416	CB-8024	9.00 x 13.125 x 2.313″	24	34.99	31.50

(7055) (de00223)

SMALL PARTS STORAGE CHESTS

MADE IN USA

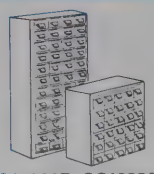
These deluxe professional units are designed to organize, store, and protect precision tools, hardware, and small parts. Used by mechanics, repairmen, and technicians. Features removeable drawers, padlock tab, dual positive latches, luggage handle, and sound-dampening rubber feet. Front panel folds down to open chest, and slides under bottom tray, out of the way. Some drawers have adjustable dividers, allowing 7 to 13 varied-size compartments. Oil- and chemical-resistant. **Type TCB-276** is 2-tone mahogany and birch tan, with 6 orange colored drawers. **Type TCB-277** is the same except with 7 drawers. Made in the U.S.A.

Stock No.	Mfr. Part No.	Drawers	H × W × D	Each
44N4958	TCB-276	6	15.00 × 19.50 × 10.375″	139.99
44N4959	TCB-277	7	15.00 × 19.50 × 10.375″	139.99

(7179) (ne00865)

STORAGE CABINETS

100 SERIES METAL-FRAME GENERAL-PURPOSE STORAGE CABINETS


SC10060B, SC10030A

SC10030AEF

SC10048C

8467-1032

MADE IN USA

Solid blue metal frames and welded shelves for maximum stability. High-density storage cabinets come with plastic compartmentalized drawers. Include one divider per drawer. **Type 8467-1032** tower system holds 12 large (21.875″) metal frame cabinets. Provides a large storage area that uses 3 square feet of floor space and is 70″ high. Tower turns on a ball-bearing base. Ideal for stockroom, sales floor, or workshop. *Order drawer dividers separately on this page.*

Stock No.	Type	Drawers	Drawer H x W x D	Overall Cabinet H x W x D	Each
87N2419	SC10030A	30	1.375 x 2.000 x 5.313″	11.25 x 12.13 x 5.750″	29.99
87N2420	SC10030AEF	24 4 2	1.375 x 2.000 x 5.313″ 2.250 x 5.312 x 5.313″ 2.250 x 11.00 x 5.313″	21.875 x 12.13 x 5.750″	49.99
87N2421	SC10048C	48	1.375 x 2.500 x 5.313″	21.875 x 12.13 x 5.750″	49.99
87N2422	SC10060B	60	1.375 x 2.000 x 5.313″	21.875 x 12.13 x 5.750″	49.99
16N084	8467-1032	Tower System		70 x 18 x 18″	159.99

(7174) (ne00799)

200 SERIES METAL-FRAME CONDUCTIVE STORAGE CABINETS

CSC20008F

CSC20016E

CSC20030A, CSC20060B

CSC20024D

1707

MADE IN USA

Metal-frame cabinets with welded shelf construction provide solid unit for protecting electrical components from static damage. Drawers and dividers are molded carbon-filled conductive plastic. Cabinets bleed off static charges at controlled rate when connected to earth ground, and meet military specification DOD-HDBK-263. Come with 1Mohm resistance static ground cord. Cabinet material conductivity unaltered by age, wear, environmental factors. **Type 1707** tower system holds 12 large (21.88″H) metal frame cabinets. Tower turns on a ball-bearing base. Ideal for stockroom, sales floor or workshop. Provides a large storage area that is 70″ high. *Order drawer dividers separately on this page.*

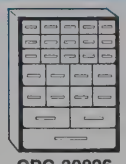
Stock No.	Type	Drawers*	Drawer H × W × D	Overall Cabinet H × W × D	Each
87N2423	CSC20008F	8	2.250 × 11.00 × 5.313 (57.15 × 279.40 × 134.95)	21.88 × 12.13 × 5.750 (555.75 × 308.10 × 146.05)	119.99
87N2424	CSC20016E	16	2.250 × 5.313 × 5.313 (57.15 × 134.95 × 134.95)	21.88 × 12.13 × 5.750 (555.75 × 308.10 × 146.05)	119.99
87N2425	CSC20024D	24	2.250 × 3.125 × 5.313 (57.15 × 79.38 × 134.95)	21.88 × 12.13 × 5.750 (555.75 × 308.10 × 146.05)	119.99
87N2417	CSC20030A	30	1.375 × 2.000 × 5.313 (34.93 × 50.80 × 134.95)	11.25 × 12.13 × 5.750 (285.75 × 308.10 × 146.05)	89.99
87N2418	CSC20060B	60	1.375 × 2.000 × 5.313 (34.93 × 50.80 × 134.95)	21.88 × 12.13 × 5.750 (555.75 × 308.10 × 146.05)	119.99
92N3709	1707	Tower System		70 × 18 × 18″	159.99

*48 drawer cabinet also available, *contact your local Newark sales office for details.*

(7175) (ne00800)

300 SERIES COPOLYMER-FRAME CONDUCTIVE STORAGE CABINETS

CPC-30020


CPC-30026

CPC-30030

CPC-30045

1706

MADE IN USA

Durable cabinets protect against static damage with copolymer shells and drawers and static ground wire. Rustproof, dentproof construction. Meet military specification DOD-HDT3K-263. **Type 1706** tower system holds 16 large (16.5″H) cabinets. Tower turns on a ball-bearing base. Ideal or stockroom, sales floor, or workshop. Provides a large storage area that is 70″ high. *Order drawer dividers separately on this page.*

Stock No.	Type	Drawers	Drawer H x W x D	Overall Cabinet H x W x D	Each
84N1453	CPC-30020	15 4 1	1.375 x 2.000 x 5.313″ (34.93 x 50.80 x 134.95) 2.250 x 2.500 x 5.313″ (57.15 x 63.50 x 134.95) 2.250 x 11.00 x 5.313″ (57.15 x 279.40 x 134.95)	11.25 x 12.00 x 6.00″ (285.75 x 304.80 x 152.40)	64.99
84N1454	CPC-30026	15 8 2 1	1.375 x 2.000 x 5.313″ (34.93 x 50.80 x 134.95) 2.250 x 2.500 x 5.313″ (57.15 x 63.50 x 134.95) 2.250 x 5.312 x 5.313″ (57.15 x 50.80 x 134.95) 2.250 x 11.00 x 5.313″ (57.15 x 279.40 x 134.95)	16.50 x 12.00 x 6.00″ (419.10 x 304.80 x 152.40)	86.99
84N1455	CPC-30030	30	1.375 x 2.000 x 5.313″ (34.93 x 50.80 x 134.95)	11.25 x 12.00 x 6.00″ (285.75 x 304.80 x 152.40)	64.99
84N1456	CPC-30045	45	1.375 x 2.000 x 5.313″ (34.93 x 50.80 x 134.95)	16.50 x 12.00 x 6.00″ (419.10 x 304.80 x 152.40)	86.99
92N3708	1706	Tower System		70 x 18 x 18″	199.99

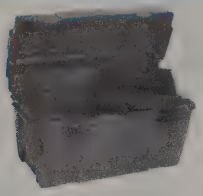
(7176) (ne00801)

DRAWER DIVIDERS FOR 100, 200 AND 300 SERIES STORAGE CABINETS

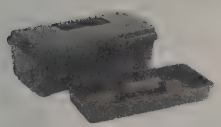
Stock No.	Type	Series	Description	For Use With Metal Cabinet	Std. Pkg.	1-9	10-24
84N1458	DSC-100A	100	1.375 × 2.000″ (34.93 × 50.80)	SC10030A, SC10060B	48	4.99	4.50
84N1459	DSC-100B	100	1.375 × 2.500″ (34.93 × 63.50)	SC10030AEF, SC10048C	48	4.99	4.50
95N2832	DC200-3	200	2.250 × 3.125″ (57.15 × 79.38)	CSC20024D	24	6.59	5.94
95N2834	DC300-1	300	1.375 × 2.000″ (34.93 × 50.80)	CPC30020, CPC30026, CPC30030, CPC30045	24	5.29	4.77
95N2835	DC300-2	300	2.250 × 5.313″ (57.15 × 134.95)	CPC30020, CPC30026	12	7.99	7.20

(7205) (ne07292)

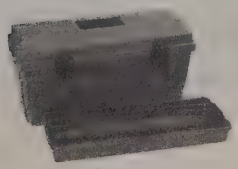
UTILITY STORAGE BOXES



TSC5200-1G



TC-304-2



TC-308-2

MADE IN USA

- **Seamless, Chemical- and Scratch-Resistant Polypropylene Construction**
- **Positive Locking Latches and Padlock Tabs**

Type TSC5200-1G is a 5200-cubic inch chest with a lift-out tray that stores on either side of the box, allowing room inside for oversized items. Tray is divided for organizing smaller items. Can hold a large variety of tools, supplies, and accessories. Waterproof. **Type TC-320-2C** is a utility tool box that transports and stores small static-sensitive tools, equipment, and components. Break-resistant, black carbon-filled, conductive copolymer materials. Features recessed handle and lift-out tray with handle. **Type TC-304-2** is the same, except not antistatic. **Type TC-306-2** features removable tray and 795 cubic inches storage space. **Type TC-308-2** is a repair shop tool chest with deep compartmentalized lift-out tray with hollow tray handle for more storage. Side pockets. Solid brass hinge, latch pins, and recessed heavy-duty handle. Color: charcoal-gray, except **type TC-320-2C** which is black. Made in the U.S.A.

SMALL- AND MEDIUM-SIZED UTILITY BOXES

Stock No.	Type	L x W x D	Each
84N1449	TC-304-2	14½ x 7½ x 5¼"	**11.79**
84N1450	TC-306-2	16⅝ x 8¾ x 7⅛"	**20.99**
	LARGE UTILITY BOX		
84N1451	TC-308-2	23 x 10½ x 11⅜"	**39.39**
	EXTRA-LARGE UTILITY BOX		
95N2829	TSC5200-1G	27½ x 14 x 13⅝"	**59.99**
	CONDUCTIVE UTILITY BOX		
84N1452	TC-320-2C	14½ x 7½ x 5¼"	**29.99**

(7177) (ne00859)

PORTABLE STORAGE CHEST

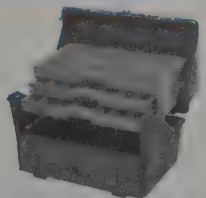
MADE IN USA

- **2 Removable Small Parts Boxes in Base**

Heavy-duty portable chest building box combines the utility of a large tool box with the storage capability of a parts cabinet. Includes 2 **type TB-900** Infinite divider boxes and trays. Constructed of durable, chemical-resistant polypropylene. Features built-in sturdy handle, no-spill latches, and padlock tabe. Size: 18½L x 12½W x 11¾"D. Color: safety yellow with black base. Made in the U.S.A.

16N082 Type 8467-0335. **Each** **43.55**
(7232) (ne09217)

TOOL AND PARTS CHEST



MADE IN USA

Ruggedly constructed multicompartment chest features 3 interchangeable drawers, 2 of which have adjustable dividers for 7 to 13 compartments. Simply push fingertip release and raise the cover and drawers to gain access to the large storage well. Size: 19½L x 11½W x 11¾D. Color: gray with orange drawers. Made in the U.S.A.

87N2412 Type TCP-303-3. **Each** **119.99**
(31677) (ne31677)

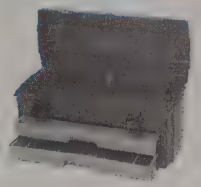
TOOL CHEST

MADE IN USA

Roomy tool chest offers 1170 cubic inches of usable space. Removable tray helps organize tools and features a comfortable handle for easy carrying. Lid opens to optimum angle for easier accessibility. Rustproof, dentproof copolymer plastic construction with rustproof, solid brass hinge pins. Size: 20 ¼L x 8⅞W x 8⅜"D. Color: gray. Made in the U.S.A.

87N2410 Type TCP-300-1. **Each** **25.29**
(31678) (ne31678)

WORKBENCH TOOL CHEST

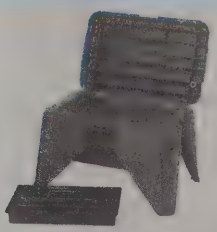


MADE IN USA

Double-drawer tool chest has 761 cubic inches of upper storage space and 608 cubic inches of drawer storage. Removable drawer dividers allow flexibility. 2-way drawer lock. Tip-back lid with carringhandle opens to optimum angle. Constructed of rustproof, dentproof plastic. Size: 21¾L x 10¾W x 9⅜"D. Color: gray. Made in the U.S.A.

87N2411 Type TCP-302-2. **Each** **64.99**
(7180) (ne00868)

STEP STOOL AND STORAGE BOX

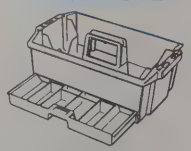


MADE IN USA

Oversized, industrial-grade combination step stool and storage box is excellent for maintenance, production and storage areas. Size: 21⅝L x 15W x 13¼"D. Weight: 9 lbs. Color: gray. Made in the U.S.A.

92N3710 Type 1708. **Each** **35.99**
(15543) (ne10665)

TOOL TOTE



Handy tool tote offers portable storage. Two deep-end pockets allow storage of accessory items. Tool racks on each end will hold standard hand tools. Bottom drawer opens from either side and contains 12 compartments. Size: 16⅝L x 6⅞W x 10¼"D. Weight: 2.2 lbs. Color: gray with light gray drawers.

92N3707 Type 1705. **Each** **13.59**
(15542) (ne10664)

UTILITY BOX CARRIERS

MADE IN USA

Innovative frames come with utility boxes for convenient hardware access and storage. Frames snap into folded position for transport or open position for wall storage. Rugged, translucent, polypropylene boxes slide in/out of frame easily. Comes with two 9-section boxes and two 5-section boxes. Made in the U.S.A.

Stock No.	Type	Frame L x W x D	1-9	10-24
97N8308	VP-210-2	14¼ x 10¾ x 1½"	**15.29**	**13.77**

(15540) (ne10518)

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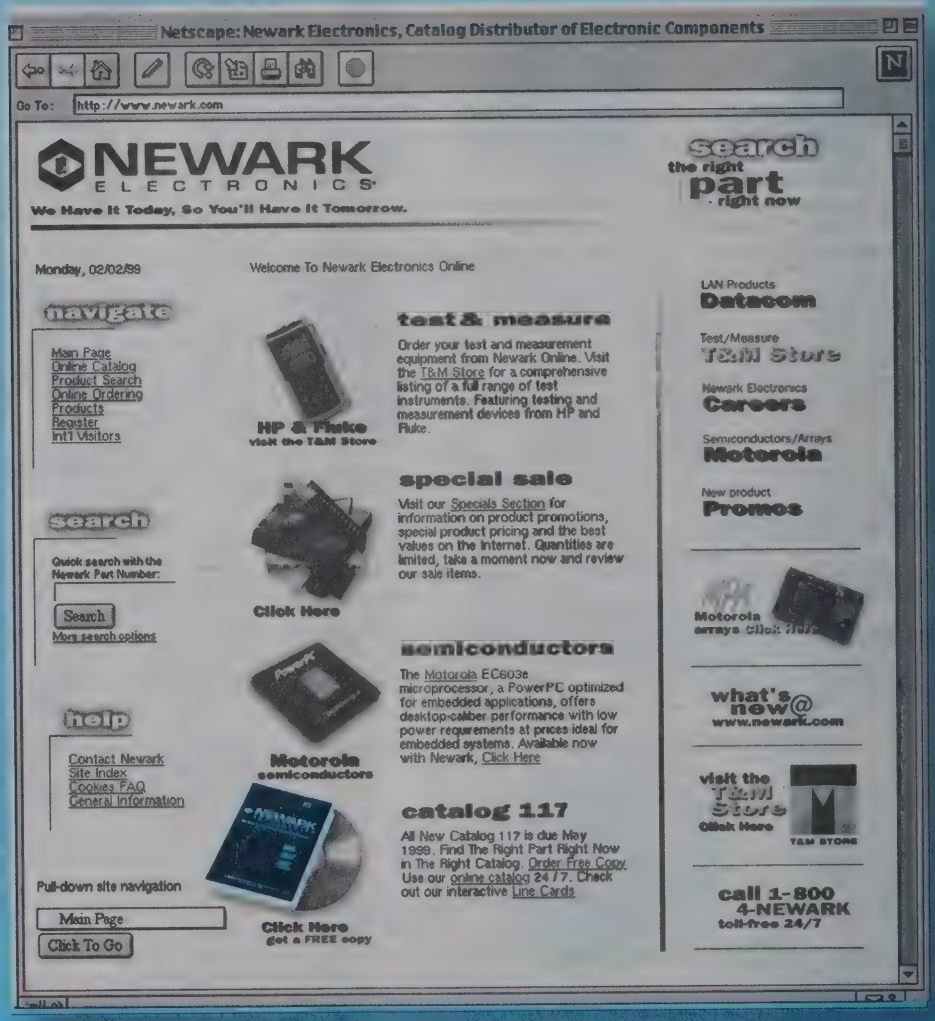
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Fans & Blowers

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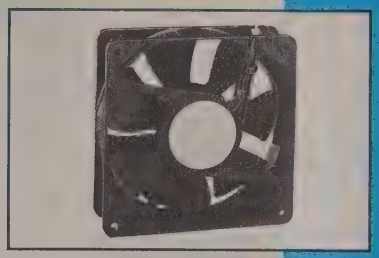
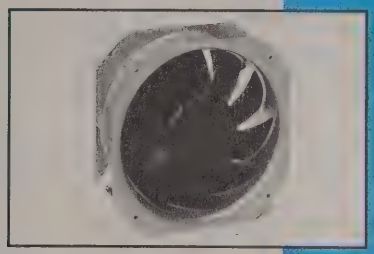
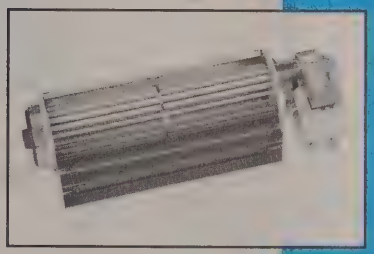
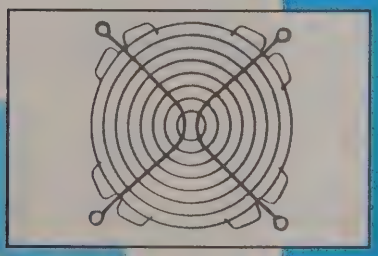
7

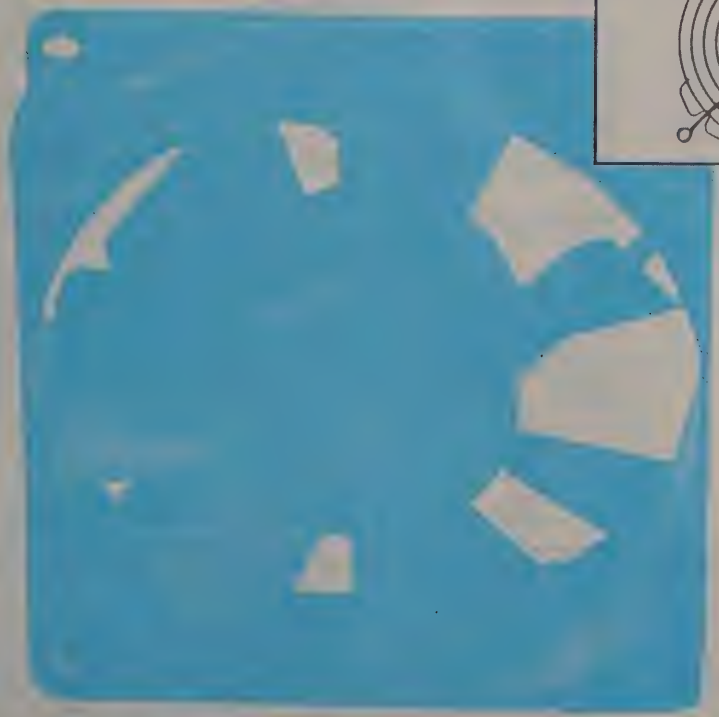
- Comair/Rotron
- ebm/Papst
- Fan-S/Qualtek
- Multicomp
- NMB Technologies Inc.











Products include...

AC Fans & Blowers

Cabinet Blowers

Centrifugal Blowers

DC Fans & Blowers

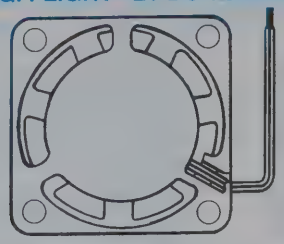
Fan Trays

Filters & Guards

Impellers

Power Cords

1.00″ (25) SQ. FLIGHT® LT DC TUBEAXIAL FANS



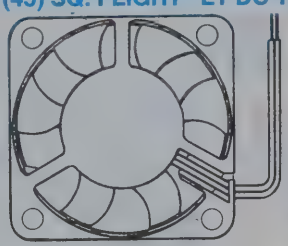
Flame-retardant, black polypropylene housing and PBT plastic reinforced glass propeller, rated UL94V-0. Ball bearing system. Connect by two 22 AWG lead wires. Operating temperature range: –10°C to +70°C. UL recognized, CSA certified.

1.00 SQUARE x 0.39″ DEEP (25 SQ. x 10)

Stock No.	Type	VDC	cfm	dBA	1-9	10-24	25-49	50-99
91F7438	CR0205LB-G 70	5	1.3	18.7	22.92	19.94	18.34	16.98
91F7439	CR0212LB-G 70	12	1.4	21.3	22.12	19.25	17.70	16.39

(17135) (ne10141)

1.57″ (40) & 1.77″ (45) SQ. FLIGHT® LT DC TUBEAXIAL FANS



Flame-retardant, black polypropylene housing and PBT plastic reinforced glass propeller, rated UL94V-0. Ball bearing system. Connect by two 22 AWG lead wires. Operating temperature range: –10°C to +70°C. UL recognized, CSA certified.

1.57 SQUARE x 0.39″ DEEP (40 SQ. x 10)

Stock No.	Type	VDC	cfm	dBA	1-9	10-24	25-49	50-99
91F7440	CR0405HB-G70	5	6.8	27.5	17.27	15.03	13.82	12.80
91F7442	CR0412HB-G70	12	6.8	27.5	17.27	15.03	13.82	12.80
91F7443	CR0412MB-G70	12	4.7	17.2	17.27	15.03	13.82	12.80

1.57 SQUARE x 0.79″ DEEP (40 SQ. x 20)

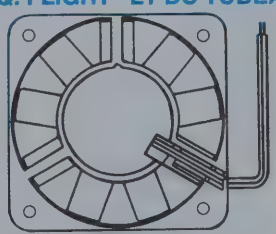
91F7449	CR0412HB-G50	12	6.0	31.2	15.33	13.34	12.27	11.36
91F7452	CR0424HB-G50	24	6.0	31.2	16.10	14.01	12.88	11.93
91F7453	CR0424MB-G50	24	5.1	27.6	16.10	14.01	12.88	11.93

1.77 SQUARE x 0.39″ DEEP (45 SQ. x 10)

91F7456	CR4512HB-G50*	12	8.3	26.1	12.69	11.04	10.15	9.40

*Not CSA certified
(17136) (ne10142)

2.05″ (52) SQ. FLIGHT® LT DC TUBEAXIAL FANS



Flame-retardant, black polypropylene housing and PBT plastic reinforced glass propeller, rated UL94V-0. Ball bearing system. Connect by two 22 AWG lead wires. Operating temperature range: –10°C to +70°C. UL recognized, CSA certified.

2.05 SQUARE x 0.39″ DEEP (52 SQ. x 10)

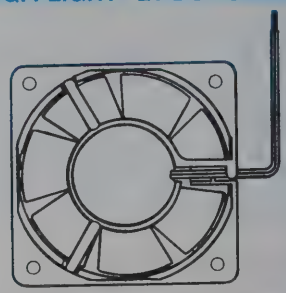
Stock No.	Type	VDC	cfm	dBA	1-9	10-24	25-49	50-99
91F7461	CR0505MB-G90	5	8.5	24.9	17.41	15.15	13.93	12.90
91F7462	CR0512HB-G90	12	9.8	28.6	16.61	14.45	13.29	12.31

2.05 SQUARE x 0.59″ DEEP (52 SQ. x 15)

91F7468	CR0512HB-D71	12	12.0	28.7	17.17	14.93	13.73	12.72

(17137) (ne10143)

2.36″ (60) SQ. FLIGHT® LT DC TUBEAXIAL FANS



Flame-retardant, black polypropylene housing and PBT plastic reinforced glass propeller, rated UL94V-0. Ball bearing system. Connect by two 22 AWG lead wires. Operating temperature range: –10°C to +70°C. UL recognized, CSA certified.

2.36 SQUARE X 0.59″ DEEP (60 SQ x 15)

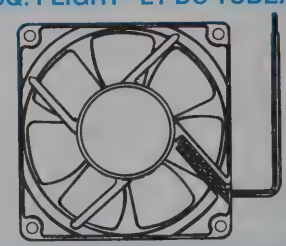
Stock No.	Type	VDC	cfm	dBA	1-9	10-24	25-49	50-99
91F7479	CR0605HB-D71GL	5	16.6	32.4	14.85	12.92	11.88	11.00
91F7480	CR0605MB-D71GL	5	14.2	28.8	14.85	12.92	11.88	11.00
91F7481	CR0612HB-D71GL	12	16.6	32.4	14.85	12.92	11.88	11.00
91F7483	CR0624HB-D71GL	24	16.6	32.4	14.85	12.92	11.88	11.00

2.36 SQUARE x 1.00″ DEEP (60 SQ. x 25)

91F7490	CR0612HB-A70GL	12	23.2	32.3	13.12	11.41	10.49	9.72
91F7491	CR0612MB-A70GL	12	18.0	24.0	13.12	11.41	10.49	9.72
91F7492	CR0612LB-A70GL	12	13.2	16.1	13.12	11.41	10.49	9.72
91F7493	CR0624HB-A70GL	24	23.2	32.3	13.12	11.41	10.49	9.72
91F7494	CR0624MB-A70GL	24	18.0	24.0	13.12	11.41	10.49	9.72

(17138) (ne10144)

3.15″ (80) SQ. FLIGHT® LT DC TUBEAXIAL FANS



Flame-retardant, black polypropylene housing and PBT plastic reinforced glass propeller, rated UL94V-0. Ball bearing system. Connect by two 22 AWG lead wires. Operating temperature range: –10°C to +70°C. UL recognized, CSA certified.

3.15 SQUARE x 0.59″ DEEP (80 SQ. x 15)

Stock No.	Type	VDC	cfm	dBA	1-9	10-24	25-49	50-99
91F7495	CR0805HB-D71	5	29.9	31.4	14.98	13.03	11.99	11.10
91F7498	CR0812MB-D71	12	22.4	22.9	14.98	13.03	11.99	11.10

3.15 SQUARE x 0.79″ DEEP (80 SQ. x 20)

91F7501	CR0812HB-C70	12	27.3	31.4	12.77	11.11	10.22	9.46

3.15 SQUARE x 1.00″ DEEP (80 SQ. x 25)

91F7505	CR0812UB-A71GL	12	50.6	39.1	12.03	10.46	9.62	8.91
91F7506	CR0812HB-A70GL	12	38.6	34.4	12.03	10.46	9.62	8.91
91F7507	CR0812MB-A70GL	12	31.4	28.3	12.03	10.46	9.62	8.91
91F7508	CR0812LB-A70GL	12	26.2	22.5	12.03	10.46	9.62	8.91
91F7509	CR0824UB-A71GL	24	50.6	39.1	12.03	10.46	9.62	8.91
91F7510	CR0824HB-A70GL	24	38.6	34.4	12.03	10.46	9.62	8.91
91F7511	CR0824MB-A70GL	24	31.4	28.3	12.03	10.46	9.62	8.91

(17139) (ne10145)

3.62″ (92) SQ. FLIGHT® LT DC TUBEAXIAL FANS

Flame-retardant, black polypropylene housing and PBT plastic reinforced glass propeller, rated UL94V-0. Ball bearing system. Connect by two 22 AWG lead wires. Operating temperature range: –10°C to +70°C. UL recognized, CSA certified.

3.62 SQUARE x 1.00″ DEEP (92 SQ. x 25)

Stock No.	Type	VDC	cfm	dBA	1-9	10-24	25-49	50-99
91F7517	CR0912UB-A71GL	12	60.5	43.0	14.69	12.78	11.76	10.89
91F7518	CR0912HB-A70GL	12	48.4	38.0	14.69	12.78	11.76	10.89
91F7520	CR0912LB-A70GL	12	35.9	29.3	14.69	12.78	11.76	10.89
91F7521	CR0924UB-A70GL	24	60.5	43.0	14.69	12.78	11.76	10.89
91F7522	CR0924HB-A70GL	24	48.4	38.0	14.69	12.78	11.76	10.89

(17140) (ne10146)

DC TUBEAXIAL FANS

FLIGHT® II BRUSHLESS DC TUBEAXIAL FANS

- **Stainless Steel Ball Bearings**
- **Low Noise Level**

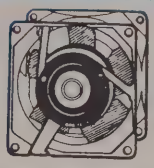
Flame-retardant, black plastic venturi and propeller, rated UL94V-0. Features solid-state circuitry and electronic locked rotor protection. Connect by two 22 AWG leads. Operating temperature range: 10C° to +70°C. UL recognized, CSA certified, TUV approved.

Stock No.	Type	Size (Square x Depth)	Weight	Nominal VDC	Range VDC	cfm	dBA	Watts	Run mA	1-9	10-24	25-49	50-99
50F9151	031156 (FS12B3)	2.36 x 1.00″ (60.0 x 25.4)	3.9 oz. (0.11kg)	12	6-14	18	33.9	1.7	142	**17.33**	**15.07**	**13.86**	**12.84**
50F9152	031157 (FS24B3)	2.36 x 1.00″ (60.0 x 25.4)	3.9 oz. (0.11kg)	24	12-28	18	33.9	1.9	80	**17.33**	**15.07**	**13.86**	**12.84**
46F6012	031158(FS12H3)	2.36 x 1.00″ (60.0 x 25.4)	3.9 oz. (0.11kg)	12	6-14	12	28.5	1.0	84	**16.21**	**14.10**	**12.97**	**12.01**
50F9154	031162 (FE12B3)	3.15 x 1.00″ (80.0 x 25.4)	4.6 oz. (0.13kg)	12	6-14	37	36.2	1.9	160	**17.27**	**15.03**	**13.82**	**12.80**
46F6013	031163(FE24B3)	3.15 x 1.00″ (80.0 x 25.4)	4.6 oz. (0.13kg)	24	12-28	37	36.2	2.2	90	**17.27**	**15.03**	**13.82**	**12.80**
50F9146	031164 (FE12H3)	3.15 x 1.00″ (80.0 x 25.4)	4.6 oz. (0.13kg)	12	6-14	27	28.9	1.1	90	**17.27**	**15.03**	**13.82**	**12.80**
50F9147	031165 (FE24H3)	3.15 x 1.00″ (80.0 x 25.4)	4.6 oz. (0.13kg)	24	12-28	27	28.9	1.2	98	**17.27**	**15.03**	**13.82**	**12.80**
87F2846	031168(FN12B3)	3.62 x 1.00″ (92.0 x 25.4)	5.2 oz. (0.15kg)	12	6-14	45	38.1	2.2	202	**18.13**	**15.77**	**14.50**	**13.43**
87F2847	031169(FN24B3)	3.62 x 1.00″ (92.0 x 25.4)	5.2 oz. (0.15kg)	24	12-28	45	38.1	2.4	100	**18.13**	**15.77**	**14.50**	**13.43**
50F9148	031170 (FN12C3)	3.62 x 1.00″ (92.0 x 25.4)	5.2 oz. (0.15kg)	12	6-14	37	34.3	1.6	125	**18.13**	**15.77**	**14.50**	**13.43**
50F9145	031174 (FT12B3)	4.73 x 1.00″ (120.0 x 25.4)	7.0 oz. (0.20kg)	12	6-14	86	42.9	4.1	346	**20.69**	**17.99**	**16.55**	**15.32**
46F6015	031175(FT24B3)	4.73 x 1.00″ (120.0 x 25.4)	7.0 oz. (0.20kg)	24	12-28	86	42.9	4.0	172	**20.69**	**17.99**	**16.55**	**15.32**
46F6014	031176(FT12M3)	4.73 x 1.00″ (120.0 x 25.4)	7.0 oz. (0.20kg)	12	6-14	61	34.3	1.3	114	**20.69**	**17.99**	**16.55**	**15.32**

(8913)

(de01036)

SPRITE® BRUSHLESS DC TUBEAXIAL FANS



- **Stainless Steel Ball Bearings**
- **Low Noise Level**

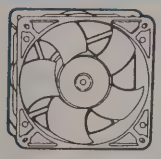
1-piece die-cast zinc alloy venturi, painted black with black polypropylene propeller, rated UL94V-0. Features solid-state circuitry, electronic locked rotor protection, and automatic restart capability. Connect by two 22 AWG leads. Operating temperature range: –10°C to +70°C. UL recognized, CSA certified, TUV approved.

Stock No.	Type	Size (Square x Depth)	Weight	Nominal VDC	Range VDC	cfm	dBA	Watts	Run mA	1-9	10-24	25-49	50-99
81F2773	028933(SD12B1)	3.14 x 1.645″ (79.8 x 41.8)	18oz. (0.51kg)	12	6 to 14	35	47.6	3.1	260	**29.28**	**25.47**	**23.42**	**21.69**
81F2774	028934(SD24B1)	3.14 x 1.645″ (79.8 x 41.8)	18oz. (0.51kg)	24	12 to 28	35	47.6	3.1	130	**29.28**	**25.47**	**23.42**	**21.69**
81F2775	028935(SD48B1)	3.14 x 1.645″ (79.8 x 41.8)	18oz. (0.51kg)	48	24 to 56	35	47.6	3.1	65	**29.28**	**25.47**	**23.42**	**21.69**

(8915)

(de01038)

MUFFIN® BRUSHLESS DC TUBEAXIAL FANS



- **Sintered Bronze Sleeve or Stainless Steel Ball Bearings**
- **Low Noise Level**

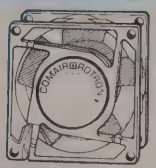
Flame-retardant black glass-filled nylon venturi and polypropylene propeller, rated UL94V-0. Features solid-state circuitry, electronic locked rotor protection, and automatic restart capability. Connect by two 22 AWG leads. Operating temperature range: -10°C to +70°C. UL recognized, CSA certified, TUV approved.

Stock No.	Type	Bearings	Size (Square x Depth)	Weight	Nominal VDC	Range VDC	cfm	dBA	Watts	Run mA	1-9	10-24	25-49	50-99
44F8978	032207(MC12A3)	Sleeve	4.73 x 1.26″ (120.0 x 32.0)	8.5oz. (0.24kg)	12	6-14	102	47.8	7.9	660	**20.51**	**17.85**	**16.41**	**15.20**
95F3252	032489(MC12B3)	Ball	4.73 x 1.26″ (120.0 x 32.0)	8.5oz. (0.24kg)	12	6-14	75	47.8	7.9	660	**23.29**	**20.26**	**18.63**	**17.25**
44F8979	032208(MC24A3)	Sleeve	4.73 x 1.26″ (120.0 x 32.0)	8.5oz. (0.24kg)	24	12-28	102	47.8	7.9	280	**20.51**	**17.85**	**16.41**	**15.20**
98F5175	030572(MC24B3)	Ball	4.73 x 1.26″ (120.0 x 32.0)	8.5oz. (0.24kg)	24	12-28	75	47.8	6.7	280	**23.29**	**20.26**	**18.63**	**17.25**
95F3253	030573(MC48B3)	Ball	4.73 x 1.26″ (120.0 x 32.0)	8.5oz. (0.24kg)	48	24-56	75	47.8	9.6	200	**23.29**	**20.26**	**18.63**	**17.25**

(8916)

(de01039)

SPRINT® BRUSHLESS DC TUBEAXIAL FANS



- **Sintered Bronze Sleeve Bearings**
- **Low Noise Level**

Flame-retardant black glass-filled nylon venturi and polypropylene propeller, rated UL94V-0. Features solid-state circuitry, electronic locked rotor protection, and automatic restart capability. Connect by two 22 AWG leads. Operating temperature range: –10°C to +70°C. UL recognized, CSA certified, TUV approved.

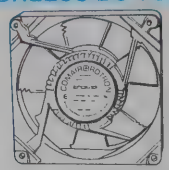
Stock No.	Type	Size (Square x Depth)	Weight	Nominal VDC	Range VDC	cfm	dBA	Watts	Run mA	1-9	10-24	25-49	50-99
44F6426	032107 (ST12A3)	3.15 x 1.25″ (80 x32.0)	6.3oz (0.18kg)	12	6-14	33	40.9	3.4	280	**18.64**	**16.21**	**14.91**	**13.81**
44F6427	032127 (ST24A3)	3.15 x 1.25″ (80 x32.0)	6.3oz (0.18kg)	24	12-28	33	40.9	3.3	140	**18.64**	**16.21**	**14.91**	**13.81**
89F3486	032396 (ST12T3H)*	3.15 x 1.25″ (80 x32.0)	6.3oz (0.18kg)	12	6-14	20 to 38	30 to 42.7	2.9 to 5.0	240 to 420	**31.49**	**27.40**	**25.20**	**23.33**
89F3487	032397 (ST24T3H)*	3.15 x 1.25″ (80 x32.0)	6.3oz (0.18kg)	24	12-28	20 to 34	30 to 40.2	2.3 to 3.8	95 to 160	**31.49**	**27.40**	**25.20**	**23.33**
89F3488	032398 (ST48T3H)*	3.15 x 1.25″ (80 x32.0)	6.3oz (0.18kg)	48	24-56	20 to 41	30 to 44.5	2.9 to 6.5	60 to 135	**31.49**	**27.40**	**25.20**	**23.33**

*Thermal speed control.

(8914)

(de01037)

GALAXY® BRUSHLESS DC TUBEAXIAL FANS



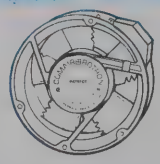
- 5.0 Square x 1.5″ Deep (127 Sq. x 38.1)
- Feathered Edge™ Propeller for Lower Noise
- Weight: 1.4 lbs. (0.62kg)
- UL Recognized, CSA Certified, TUV Approved

Die-cast zinc alloy venturi and black polycarbonate propeller, rated UL94V-0. Motor features stainless steel ball bearings. Connect by two 22 AWG leads. Operating temperature range: -10°C to +70°C.

Stock No.	Type	Nom. VDC	cfm	dBA	Watts	Run mA	1-9	10-24	25-49	50-99
95F3254	GL12C4V	12	125	48.2	10	850	53.11	46.20	42.49	39.35
95F3255	GL24C4V	24	125	48.2	10	420	53.11	46.20	42.49	39.35
16F1113	GL12B4	12	150	53.6	15	1250	52.77	45.91	42.22	39.09
16F1114	GL24B4	24	150	53.6	15	625	52.77	45.91	42.22	39.09
16F1115	GL48B4	48	150	53.6	15	310	52.77	45.91	42.22	39.09

(8917) (de01051)

PATRIOT® AND MAJOR® DC TUBEAXIAL FANS



- Feathered Edge™ Propeller for Lower Noise
- Weight: 1.84 lbs. (0.84kg)
- UL Recognized, CSA Certified, TUV Approved

Black, 1-piece die-cast aluminum venturi with polycarbonate propeller and terminal cover, rated UL94V-0. Motor features stainless steel ball bearings. Connect by two 0.120″ solder terminals. Operating temperature range: -10°C to +70°C.

PATRIOT® DC FANS - 6.75 (171.45) DIAMETER X 2.0″ (50.8) DEEP

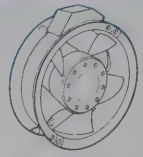
Stock No.	Type	Nom. VDC	cfm	dBA	Watts	Run mA	1-9	10-24	25-49	50-99
95F3260	PQ12C4	12	200	49.0	14.6	1215	69.40	60.37	55.52	51.41
95F3261	PQ24B4	24	235	51.2	20.3	850	68.97	59.99	55.17	51.09
95F3262	PQ48B4	48	235	51.2	20.1	420	68.08	59.22	54.47	50.43

MAJOR® DC FANS - 6.75H x 5.92W x 2.0″D (1.71.45 x 150.37 x 50.8)

Stock No.	Type	Nom. VDC	cfm	dBA	Watts	Run mA	1-9	10-24	25-49	50-99
95F3263	JQ12C4	12	200	49.0	14.6	1215	75.05	65.29	60.04	55.60
95F3264	JQ24C4	24	210	49.0	15.7	660	74.95	65.20	59.96	55.52
95F3265	JQ48B4	48	235	54.3	20.1	420	73.62	64.05	58.90	54.54
99F4075	JQ24B4	24	235	58.7	20.3	850	74.63	64.92	59.70	55.28

(8918) (de01052)

FALCON® SERIES DC AND AC TUBEAXIAL FANS



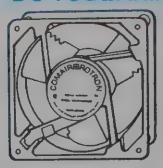
- 6.75 (171.45) Diameter x 2.16″ (5.5)
- Feathered Edge™ Propeller for Lower Noise
- 40 Watts (Type FD48B3: 35 Watts)
- UL Recognized, CSA Certified, TUV Approved

Black, 1-piece die-cast aluminum venturi and polycarbonate propeller, rated UL94V-0. Motor features dependable ball bearings. DC models connect by two 22 AWG leads. AC models connect by two 0.120″ solder terminals. 300 cfm, 57dBA. Operating temperature range: -10°C to +70°C.

Stock No.	Type	Voltage Range	Nominal Voltage	1-9	10-24	25-49	50-99
66F3398	031654(FD12B3)	6-14	12VDC	101.96	88.70	81.57	75.53
66F3399	031653(FD24B3)	12-28	24VDC	101.96	88.70	81.57	75.53
66F3400	031652(FD48B3)	24-56	48VDC	101.96	88.70	81.57	75.53
66F3402	031659(FA2B32)	...	115VAC	83.82	72.91	67.05	62.09
66F3401	031660(FA77B3)	...	230VAC	83.82	72.91	67.05	62.09

(9136) (ne07358)

MUFFIN® DC TUBEAXIAL FANS



- XL Series: 4.69 Square x 1.54″ Deep (119.12 Sq. x 39.11)
- XP series: 4.75 Square x 1.50″ Deep (120 Sq. x 38)
- Feathered Edge™ Propeller for Lower Noise
- Weight: 21.5 oz. (0.61kg)
- UL Recognized, CSA Certified, TUV Approved

Motor features dependable ball bearings. Choice of connection type: (†) 22 AWG leads or (‡) 0.120″ terminals. Operating temperature range: -10°C to +70°C.

XL SERIES - METAL VENTURI, POLYPROPYLENE PROPELLER

Stock No.	Type	Nom. VDC	cfm	dBA	Watts*	Run mA	1-9	10-24	25-49	50-99
95F2507	MD12B†	12	110	50	6	500	46.46	40.42	37.17	34.42
81F8119	MD12B2‡	12	110	50	6	500	46.46	40.42	37.17	34.42
95F2509	MD24B1†	24	110	50	6	250	46.46	40.42	37.17	34.42
81F8118	MD24B2‡	24	110	50	6	250	46.46	40.42	37.17	34.42
95F2508	MD48B1†	48	110	50	6	125	46.46	40.42	37.17	34.42
81F8117	MD48B2‡	48	110	50	6	125	46.46	40.42	37.17	34.42

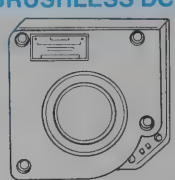
XP SERIES - PLASTIC VENTURI AND PROPELLER

Stock No.	Type	Nom. VDC	cfm	dBA	Watts*	Run mA	1-9	10-24	25-49	50-99
83F8421	MS12B3†	12	110	50	7	580	24.72	21.51	19.78	18.32
83F8422	MS24B3†	24	110	50	7	290	24.72	21.51	19.78	18.32
83F8423	MS48B3†	48	110	50	7	150	24.72	21.51	19.78	18.32

*At nominal voltage

(9137) (ne07359)

BISCUIT® BRUSHLESS DC BLOWERS



- 4.75 Square x 1.22″ Deep (120.65 Sq. x 30.99)
- Lightweight 10 oz. (0.28kg)
- UL Recognized, CSA Certified, TUV Approved

Black nylon housing and polypropylene impeller, rated UL94V-0. Sintered bronze sleeve bearings or stainless steel ball bearings. Connect by 22 AWG leads. 11 Watts, 25 cfm. Operating temperature range: -10°C to +70°C.

Stock No.	Type	Bearings	Nom. VDC	dBA	Run mA	1-9	10-24	25-49	50-99
44F8974	BD12A3	Sleeve	12	51.2	900	34.93	30.38	27.94	25.87
44F8975	BD24A3	Sleeve	24	51.2	480	34.93	30.38	27.94	25.87
98F7618	BD24B3	Ball	24	51.2	480	39.36	34.24	31.49	29.16

(9132) (ne01053)

SPINNAKER® BRUSHLESS DC BLOWERS

- 6.37 Square x 1.60″ Deep (161.80 Sq. x 40.64)
- Low Noise Level
- Weight: 2.1 lbs. (0.958kg)
- UL Recognized, CSA Certified, TUV Approved

1-piece, die-cast zinc alloy backplate with black polycarbonate housing and impeller, rated UL94V-0. Motor features stainless steel ball bearings. Connect by two 22 AWG leads. Operating temperature range: -10°C to +70°C.

Stock No.	Type	Nom. VDC	cfm	dBA	Watts	Run mA	1-9	10-24	25-49	50-99
44F8976	SPD24B1	24	60	57	30	1100	69.30	60.28	55.44	51.33
44F8977	SPD48B1	48	60	57	30	600	86.93	75.62	69.54	64.40

(8919) (de01054)

AC TUBEAXIAL FANS

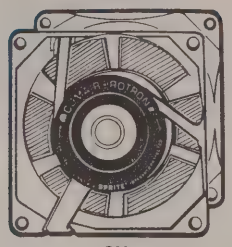
SPRITE® AC TUBEAXIAL FANS

- **3.14 Square x 1.645″ Deep (79.80 Sq. x 41.80)**
- **Low Noise Level**
- **Weight: 18 oz.**

Rugged die-cast zinc housing and plastic propeller. Feature impedance protection. Sintered bronze sleeve bearings except **types SU2B1, SU2B5,** and **SU3B5** which have stainless steel ball bearings. 1 phase, 50/60Hz. Connect by 12″ leads or 0.120″ solder terminals. Operating temperature range: -28°C to +70°C. UL recognized, CSA certified, VDE approved.

Stock No.	Type	Connect by	Nominal Volts	cfm	dBA	Watts	1-9	10-24	25-49	50-99
81F8102	028267(SU2A1)	Leads	115	34	39.5	11	25.73	22.38	20.58	19.06
81F8105	028279(SU2A5)	Terminals	115	34	39.5	11	27.38	23.82	21.90	20.28
95F2510	028268 (SU2B1)	Leads	115	34	39.5	11	38.25	33.28	30.60	28.34
98F2662	028410(SU2B5)	Terminals	115	34	39.5	11	39.36	34.24	31.49	29.16
81F2764	028269(SU3A1)	Leads	220/230	34	39.5	13	26.82	23.34	21.46	19.87
93F4573	028280(SU3A5)	Terminals	220/230	34	39.5	13	28.06	24.41	22.45	20.79
81F8108	028270(SU2C1)	Leads	115	20	26.2	6	27.06	23.54	21.65	20.05
52F6014	028460(SU3B5)	Terminals	220/230	30	43.1	12	40.47	35.21	32.38	29.98

(8920) (de01057)



SU

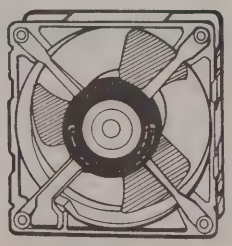
MUFFIN® AC TUBEAXIAL FANS

- **4.71 Square x 1.50″ Deep (119.60 Sq. x 38.10)**
- **Low Noise Level**
- **Weight: 17.2 oz.**

Flame-retardant, black plastic housing and propeller, rated UL94V-0. Zinc alloy spider with black finish. Feature impedance protection. **Types MU2A1** and **MU3A1** have sintered bronze sleeve bearings. **Types MU2B1** and **MU3B1** have stainless steel ball bearings. Connect by 0.120″ solder terminals. 1 phase, 50/60Hz. Operating temperature range: -28°C to +70°C. UL recognized, CSA certified.

Stock No.	Type	Nominal Volts	cfm	dBA	Watts	Line Amps	1-9	10-24	25-49	50-99
81F8100	028021(MU2A1)	115	105	43.4	14	0.16	25.16	21.89	20.13	18.64
81F8109	028027(MU2B1)	115	105	43.4	14	0.16	38.25	33.28	30.60	28.34
81F8107	028023(MU3A1)	220/230	105	45.1	14	0.09	25.83	22.47	20.67	19.14
44F998	028029(MU3B1)	220/230	105	45.1	14	0.09	38.91	33.85	31.13	28.83

(8921) (de01058)



MU

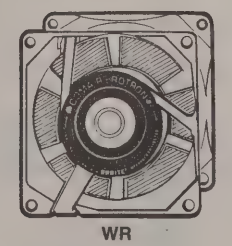
WHISPER® AC TUBEAXIAL FANS

- **4.71 Square x 1.50″ Deep (119.60 Sq. x 38.10)**
- **Low Noise Level**
- **Weight: 17.2 oz.**

Flame-retardant, black plastic housing and propeller, rated UL94V-0. Zinc alloy spider. Feature impedance protection. Sintered bronze sleeve bearings. 1 phase, 50/60Hz. Connect by 0.120″ solder terminals. Operating temperature range: -28°C to +70°C. UL recognized, CSA certified.

Stock No.	Type	Nominal Volts	cfm	dBA	Watts	Line Amps	1-9	10-24	25-49	50-99
81F8101	027117(WR2A1)	115	57	30.7	7	0.06	26.61	23.15	21.29	19.71
81F8104	027119(WR2H1)	115	80	37.8	11	0.11	27.94	24.31	22.36	20.70
95F2511	028171(WR3A1)	220/230	80	30.7	12	0.08	29.28	25.47	23.42	21.69

(8922) (de01059)



WR

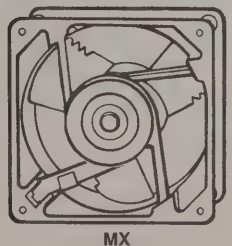
MUFFIN® XL AC TUBEAXIAL FANS

- **4.69 Square x 1.54″ Deep (119.13 Sq. x 39.12)**
- **Feathered Edge™ Propeller for Lower Noise**
- **Weight: 21 oz.**

Black zinc alloy venturi and spider with flame-retardant polypropylene propeller. Sintered bronze sleeve bearings or stainless steel ball bearings. 1 phase, 50/60Hz. Connect by 0.120″ solder terminals. Operating temperature range: -28°C to +70°C. UL recognized, CSA certified, VDE approved.

Stock No.	Type	Bear-ings	Nominal Volts	cfm	dBA	Watts	1-9	10-24	25-49	50-99
95F2514	028318(MX2A1)	Sleeve	115	108	47.9	15	26.51	23.06	21.20	19.64
98F2461	028420(MX2B1)	Ball	115	108	47.9	15	40.26	35.02	32.21	29.82
81F8103	028316(MX2A3)	Sleeve	115	115	50.0	15	26.51	23.06	21.20	19.64
81F8106	028422(MX2B3)	Ball	115	115	50.0	15	40.26	35.02	32.21	29.82
44F997	028324(MX3A3)	Sleeve	230	115	50.0	16	27.39	23.83	21.91	20.29
44F996	028423(MX3B3)	Ball	230	115	50.0	16	40.92	35.60	32.74	30.31

(8926) (de01076)



MX

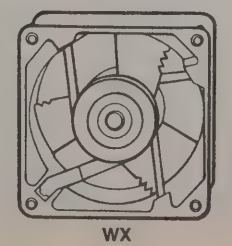
WHISPER® XL AC TUBEAXIAL FANS

- **4.69 Square x 1.54″ Deep (119.13 Sq. x 39.12)**
- **Feathered Edge™ Propeller for Lower Noise**
- **Weight: 21 oz.**

Black zinc alloy venturi and spider with flame-retardant polypropylene propeller. Sintered bronze sleeve bearings. 1 phase, 50/60Hz. Connect by 0.120″ solder terminals. Operating temperature range: -28°C to +70°C. UL recognized, CSA certified, VDE approved.

Stock No.	Type	Nominal Volts	cfm	dBA	Watts	Line Amps	1-9	10-24	25-49	50-99
81F2757	028778(WX2A1)	115	50	31.2	6	0.06	28.94	25.17	23.15	21.44
81F2758	028858(WX2H1)	115	80	37.1	13	0.15	28.17	24.50	22.54	20.87
81F2759	028860(WX3H1)	230	80	37.1	13	0.09	29.17	25.38	23.34	21.61

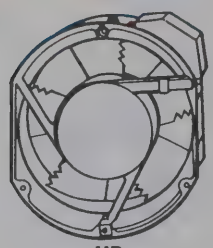
(8927) (de01077)



WX

AC TUBEAXIAL FANS AND BLOWERS

MAJOR® AND PATRIOT® AC TUBEAXIAL FANS



MR

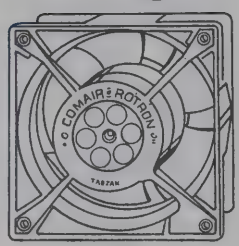
- **Major® Fan 6.75H x 5.92W x 2.00″ Deep (171.50 x 150.40 x 50.80)**
- **Patriot® Fan 6.75 Diameter x 2.00″ Deep (171.50 x 50.80)**
- **Feathered Edge™ Propeller for Lower Noise**
- **Weight: 1.84 lbs.**

1-piece black die-cast aluminum venturi with polycarbonate propeller and capacitor cover, rated UL94V-0. Stainless steel ball bearings. 1 phase, 50/60Hz. Connect by 0.120″ solder terminals. Operating temperature range: -10°C to +70°C. UL recognized, CSA certified, VDE approved.

Stock No.	Type	Nominal Volts	cfm	dBA	Watts	Line Amps	1-9	10-24	25-49	50-99
81F8113	028245(MR2B3)	115	235	55.8	31	0.26	62.99	54.79	50.39	46.66
44F916	028309(MR77B3)	230	235	55.8	30	0.14	65.19	56.71	52.15	48.29
81F8114	028254(PT2B3)	115	235	54	31	0.26	62.99	54.79	50.39	46.66
44F915	028312(PT77B3)	230	235	54	30	0.14	65.20	56.72	52.16	48.30

(8928) (de01078)

TARZAN® AC TUBEAXIAL FANS



TN

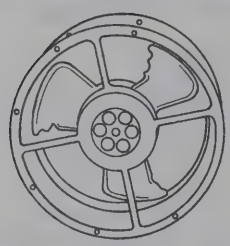
- **6.91 Square x 4.40″ Deep (175.5 Sq. x 111.8)**
- **Weight: 5 lbs.**

Flame-retardant, black plastic housing and propeller, rated UL94V-0. Feature automatic reset thermal protector and sealed ball bearings. 1 phase, 50/60Hz. Connect by 12″ leads or 0.120″ solder terminals. Operating temperature range: -18°C to +60°C. UL recognized, CSA certified.

Stock No.	Type	Connect by	Nominal Volts	cfm	dBA	Watts	1-9	10-24	25-49	50-99
44F6421	TN3C2	Leads	115	340	65.4	85	90.25	78.51	72.20	66.86
95F2513	TN3C3	Leads	220/230	340	65.4	85	94.03	81.80	75.22	69.66
81F8116	TN3A2	Terminals	115	340	65.4	85	92.37	80.35	73.89	68.42
81F2761	TN3A3	Terminals	220/230	340	65.4	85	94.14	81.89	75.31	69.73

(8923) (de01073)

CARAVEL® AC TUBEAXIAL FANS



CLE

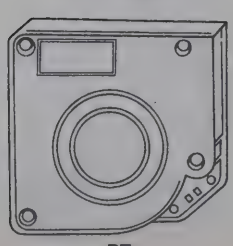
- **10.00 Diameter x 3.50″ Deep (254 Dia. x 88.9)**
- **Featured Edge™ Propeller for Lower Noise**
- **Weight: 4.4 lbs.**

Rugged die-cast aluminum housing and plastic propeller. Feature automatic reset thermal protector and sealed ball bearings. 1 phase, 50/60Hz. Connect by 12″ leads or 0.120″ solder terminals. Operating temperature range: -30°C to +60°C. UL recognized, CSA certified, CE compliant, TUV approved.

Stock No.	Type	Connect by	Nominal Volts	cfm	dBA	Watts	1-9	10-24	25-49	50-99
81F8115	020188(CLE2L2)	Leads	115	550	49.2	61	66.63	57.96	53.31	49.36
81F2763	020190(CLE3L2)	Leads	220/230	550	49.2	60	68.19	59.32	54.55	50.51
81F8112	020189(CLE2T2)	Terminals	115	550	49.2	61	68.85	59.89	55.08	51.00
44F6422	020191(CLE3T2)	Terminals	220/230	550	49.2	60	70.41	61.25	56.32	52.16

(8924) (de01074)

BISCUIT® AC BLOWERS



BT

- **4.75 Square x 1.56″ Deep (120.7 Sq. x 39.6)**
- **Low Noise Level**
- **Weight: 18 oz.**

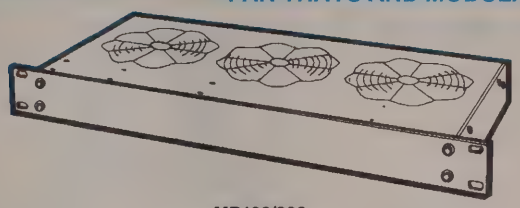
Flame-retardant, black plastic housing and impeller, rated UL94V-0. Feature electronic locked rotor protection, automatic restart, and impedance protection. Sintered bronze sleeve bearings. 1 phase, 50/60Hz. Connect by 0.120″ solder terminals. Operating temperature range: -18°C to +60°C. UL recognized, CSA certified.

Stock No.	Type	Nominal Volts	cfm	dBA	Watts	Line Amps	1-9	10-24	25-49	50-99
81F8111	028448(BT2A1)	115	22	49.6	16	0.17	35.14	30.57	28.11	26.03
81F2766	028449(BT3A1)	220/230	22	49.6	14	0.08	35.93	31.26	28.74	26.62

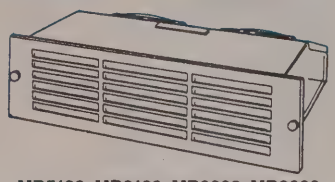
(8925) (de01075)

FAN TRAYS, BLOWERS AND ACCESSORIES

FAN TRAYS AND MODULAR CABINET BLOWERS



MB100/320



MB5100, MB9100, MB9200, MB9300

- **Types MB100 and MB1000 Fan Trays Use Muffin® AC Fans**
- **Type MB9100 Cabinet Blower Uses Muffin® AC Fans**
- **Types MB5200 and MB9200 Cabinet Blowers Use Feather® Fans**
- **Type MB9300 Cabinet Blowers Use Major® Fans**

Fan trays furnished with 3-prong grounded plug on 72″ power cable. Blowers furnished with 3-prong grounded plug on 44″ power cable. All units mount on EIA 19″ racks.

Stock No.	Type	Description	No. of Fans	Nom. Voltage	cfm	Bearing System	dBA	Watts	Line Amps	H x W x D	Each
50F9150	031038(MB100/320)	Fan Tray	3	115	300	Sleeve	51.5	44	0.54	1.75 x 17 x 8.08″	**221.87**
50F9534	036368(MB1000-520	Fan Tray	3	115	300	Sleeve	51.5	44	0.54	1.75 x 17 x 6.08″	**336.41**
50F9536	036366(MB1000-920	Fran Tray	9	115	900	Sleeve	55.3	130	1.6	1.75 x 17 x 18.06″	**508.66**
81F8121	020099(MB5200-100	Blower	2	115	320	Ball	57.5	44	0.4	5.22 x 17 x 14.05″	**280.41**
81F8122	024475(MB9100-100	Blower	3	115	235	Sleeve	51.1	44	0.54	5.22 x 17 x 3.89″	**188.61**
81F8120	024488(MB9200-100	Blower	2	115	370	Ball	54.7	44	0.4	8.72 x 17 x 4.14″	**273.13**
95F2512	027384(MB9300-100	Blower	2	115	350	Ball	58.6	68	0.54	6.97 x 17 x 4.14″	**253.77**

(9003) (de02798)

FAN ACCESSORIES

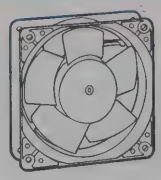
Accessory	Description	Stock No.	Rotron Part No.	For Fans* A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	Each
Filter Assembly	Mesh Filter, Clips, Frames	**81F8134**	477712											•		•								**13.33**
Filter Assembly	Mesh Filter, Clips, Frames	**81F2733**	551590								•			•	•	•	•							**16.35**
Replacement Filter Element (30PPI)	Polyurethane Foam Media - C - **Pkg. of 5**	**87F2841**	554139		•	•	•						•											**2.58**
Replacement Filter Element (45PPI)	Polyurethane Foam Media - **Pkg. of 5**	**87F2842**	554140		•	•	•						•											**2.58**
Filter Guard Assembly (30PPI)	Foam Filter, Guard, Retainer	**87F2843**	554141		•	•	•						•											**2.69**
Filter Guard Assembly (45PPI)	For All 3.15″ Sq. Fans	**87F2844**	554142		•	•	•						•											**2.69**
Replacement Filter Element (30PPI)	Polyurethane Foam Media - **Pkg. of 5**	**87F2845**	554146						•	•	•			•	•	•	•							**3.14**
Replacement Filter Element (45PPI)	Polyurethane Foam Media - **Pkg. of 5**	**87F2835**	554147						•	•	•			•	•	•	•							**3.14**
Filter Guard Assembly (30PPI)	Foam Filter, Guard, Retainer	**87F2836**	554148						•	•	•			•	•	•	•							**3.59**
Filter Guard Assembly (45PPI)	For All 4.7″ AC and DC Fans	**87F2837**	554149						•	•	•			•	•	•	•							**3.59**
Screen Guard	4.69″ Sq. Aluminum Mesh and Frame	**81F2735**	550214						•	•	•			•	•	•	•							**3.03**
Finger Guard (Metal)	3-Ring, Zinc-Plated Wire	**81F8127**	476042						•	•	•			•	•	•	•							**1.69**
Finger Guard (Metal)	3-Ring, Zinc-Plated Wire	**81F2746**	476136																			•		**6.27**
Finger Guard (Metal)	3-Ring, Zinc-Plated Wire	**81F8130**	476143		•	•	•						•											**1.57**
Finger Guard (Metal)	5-Ring, Zinc-Plated Wire	**81F8132**	476323																		•			**5.16**
Finger Guard (Metal) Rim Mount	6-Ring, Zinc-Plated Steel Wire	**81F2741**	476646																	•				**11.54**
Mounting Clips for Guard no. 476651	Flush Mount Clips	**81F8133**	476649																	•				**0.56**
Finger Guard (Metal) Panel Mount	6-Ring, Zinc-Plated Steel Wire	**81F2742**	476651																	•				**11.64**
Finger Guard (Metal)	6-Ring, 0.218″ Typ. Spacing, Plated Wire	**81F2739**	550272															•						**4.03**
Finger Guard (Plastic)	5-Ring, UL94V-0 Plastic, 0.25″ Spacing	**81F8128**	550481						•	•	•			•	•	•	•							**1.01**
Finger Guard (Plastic)	3-Ring, UL94V-0 Plastic, 0.25″ Spacing	**81F2736**	550648		•	•	•						•											**1.01**
Finger Guard (Metal)	6-Ring, 0.218″ Typ. Spacing, Plated Wire	**81F2740**	551199									•							•					**3.59**
Finger Guard (Metal)	6-Ring, Zinc-Plated Wire, 0.25″ Spacing	**81F2738**	552934						•	•	•			•	•	•	•							**2.52**
Finger Guard (Metal)	6-Ring, Zinc-Plated Wire, 0.25″ Spacing	**87F2838**	554172					•																**1.79**
Finger Guard (Metal)	4-Ring, Nickel Chrome, 0.25″ Spacing	**87F2839**	572621	•																				**2.81**
#6-32 Flush Mounting Clip	Black Spring Steel Clip	**81F8126**	477663									•		•		•		•	•					**0.17**
#6-32 Standoff Mounting Clip	Black Spring Steel Clip	**81F2744**	477670									•		•		•		•	•					**0.28**
#6-32 Mounting Clip	Black Spring Steel Clip	**81F8129**	550113								•				•		•							**0.15**
Straight-On Plug and Cord	18 AWG Wire, 24″-26″ Long, UL/CSA	**81F2748**	428023																	•				**5.38**
Right-Angle Plug and Cord	18 AWG Wire, 24″-26″ Long, UL/CSA	**81F8125**	428056				•				•	•	•	•	•	•	•	•	•		•	•	•	**1.35**
Straight-On Plug and Cord	18 AWG Wire, 24″-26″ Long, UL/CSA	**81F2747**	550440				•				•	•	•	•	•	•	•	•	•		•	•	•	**1.69**
Polarized Right-Angle Plug and Cord	18 AWG Wire, 24″-26″ Long	**87F2840**	571064				•				•													**2.14**

***A = Flight® 60; B = Flight® 80; C = Sprint® DC; D = Sprite® DC; E = Flight® 90; F = Flight® 120; G = Muffin® DC; H = Muffin® XL DC; I = Patriot® DC; J = Sprite®; K = Whisper®; L = Whisper® XL; M = Muffin®; N = Muffin® XL; O = Major® P = Patriot®/Falcon®; Q = Feather®; R = Caravel®; S = Tarzan®; T = Biscuit®**

(9111) (de53381)

DC TUBEAXIAL FANS

4100 AND 4400 SERIES BRUSHLESS DC TUBEAXIAL FANS



4100

- **Locked Rotor Protection**

4100 series fans have metal housing and plastic impeller. Air intake over stuts. **Type 4484F** fan has plastic housing and impeller. Air exhaust over struts. All fans have an electronically commutated DC motor and connect by two 0.110 x 0.02″ (2.80 x 0.5) flat pin terminals. Feature ball bearing system, except **types 4105GX, 4182NGX**, and **4184NGX** which are sleeve bearing. UL recognized, CSA certified, CE compliant, VDE approved. *Order* **type LZ120** *24″ (609.6) plug and cord set separately on page 455.*

4100 SERIES 4.7 SQUARE x 1.5″DEEP (119 SQ. x 38) DC FANS

Stock No.	Type	cfm	dBA	Voltage Range	1-9	10-24	25-49	50-99
44F4043	4105GX*	94	44	4.5-5.5	50.90	48.42	47.49	37.72
81F1352	4188NXM	94	44	36-56	55.61	53.47	52.95	42.03
44F7534	4182NGX	94	44	7-15	45.27	43.07	42.24	33.54
44F4036	4182NX	106	49	7-15	50.79	48.32	47.38	37.61
81F1351	4184NGX	94	44	12-30	45.27	43.07	42.24	33.52
44F4037	4184NX	106	49	12-29	50.79	48.32	47.38	37.61

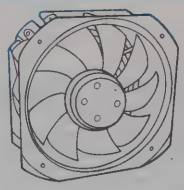
4400 SERIES 4.7 SQUARE x 1.0″ DEEP (119 SQ. x 25) DC FAN

44F4035	4484F	100	43	12-28	36.32	34.55	33.88	26.90

*Not UL recognized, CSA certified, or VDE approved

(9273) (de50112)

W1G200 AND W1G250 SERIES BRUSHLESS DC FANS



W1G200, W1G250

- **Ball Bearing System**
- **Terminal Block**
- **Locked Rotor Protection**

Metal housing and impeller. Feature electronically commutated DC motor. Air exhaust over struts. UL recognized, CSA certified, CE compliant, VDE approved.

W1G200 SERIES 8.9 SQUARE x 3.2″ DEEP (225 SQ. x 80) TUBEAXIAL FANS

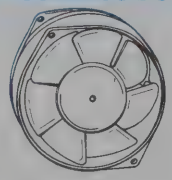
Stock No.	Type	cfm	dBA	Voltage Range	1-4	5-9
91F3989	W1G200-HH19-01	580	62	16-28	287.43	270.93
91F3990	W1G200-HH01-01	580	62	36-56	312.80	294.84

W1G250 SERIES 11.0 SQUARE x 3.2″ DEEP (280 SQ. x 80) TUBEAXIAL FAN

91F3991	W1G250-HH05-01	668	55	16-28	403.05	379.91

(14126) (ne10509)

W2G130 SERIES BRUSHLESS DC TUBEAXIAL FANS



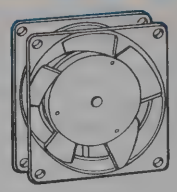
- **5.9 Diameter x 2.2″ Deep (150 Dia. x 55)**
- **Ball Bearing System**
- **Locked Rotor Protection**

Metal housing and impeller. Electrical connection: type numbers with **suffix 01** connect by 13″ (330) 20 AWG lead wires; type numbers with **suffix 20** connect by leads, Hall-Effect. Feature electronically commutated DC motor. Air exhaust over struts. UL recognized, CSA certified, CE compliant.

Stock No.	Type	cfm	dBA	Voltage Range	1-4	5-9
52F6783	W2G130-AA31-01	203	51	6-16	132.01	124.43
52F6784	W2G130-AA31-20	203	51	6-16	136.12	128.30
52F6785	W2G130-AA33-01	203	51	18-30	132.01	124.43
52F6786	W2G130-AA33-20	203	51	18-30	136.12	128.30
52F6787	W2G130-AA09-01	203	51	36-56	142.34	134.17
52F6788	W2G130-AA09-20	203	51	36-56	146.50	138.09

(9392) (ne07362)

3300 SERIES BRUSHLESS DC TUBEAXIAL FANS



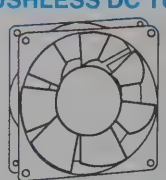
- **3.6 Square x 1.3″ Deep (92 Sq. x 32)**
- **Ball Bearing System**
- **Locked Rotor Protection**

Durable plastic housing and impeller. Connect by two 12.2″ (310) 22 AWG lead wires. Feature electronically commutated DC motor. Air exhaust over struts. UL recognized, CSA certified, CE compliant, VDE approved.

Stock No.	Type	cfm	dBA	Voltage Range	1-9	10-24	25-49	50-99
46F7149	3312L	33	29	6-15	28.44	27.05	26.53	21.07
46F7148	3312	47	37	6-15	28.44	27.05	26.53	21.07
46F7150	3314	47	37	12-28	28.44	27.05	26.53	21.07

(9274) (de50115)

400 SERIES BRUSHLESS DC TUBEAXIAL FANS



- **Sleeve Bearing System**
- **Locked Rotor Protection**

Durable plastic housing and impeller. Connect by two 12.2″ (310) 28 AWG lead wires. Feature electronically commutated DC motor. Air exhaust over struts. UL recognized, CSA certified, CE compliant, VDE approved.

1.6 SQUARE x 0.4″ DEEP (40 SQ. x 10) TUBEAXIAL FANS

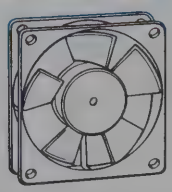
Stock No.	Type	cfm	dBA	Voltage Range	1-9	10-24	25-49	50-99
52F6778	412F	5	26	10.2-13.8	19.88	18.91	18.54	11.87
52F6779	412FH	6	28	10.2-13.8	20.89	19.87	19.49	12.45
52F6780	414F	5	26	20.4-27.6	19.88	18.91	18.54	11.87

1.6 SQUARE x 0.8″ DEEP (40 SQ. x 20) TUBEAXIAL FANS

52F6781	412	6	26	10.2-13.8	20.89	19.87	19.49	12.45
52F6782	414	6	26	20.4-27.6	20.89	19.87	19.49	12.45

(9391) (ne07360)

4300 SERIES BRUSHLESS DC TUBEAXIAL FANS



- **4.7 Square x 1.3″ Deep (119 Sq. x 32)**
- **Ball Bearing System**
- **Locked Rotor Protection**

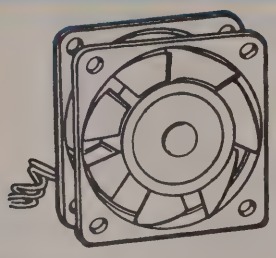
Durable plastic housing and impeller. Connect by two 12.2″ (310) 22 AWG lead wires except **type 4394** which connects by two 0.110 x 0.02″ (2.80 x 0.5) terminals. Feature electronically commutated DC motor. Air exhaust over struts. UL recognized, CSA certified, CE compliant, VDE approved.

Stock No.	Type	cfm	dBA	Voltage Range	1-9	10-24	25-49	50-99
46F7145	4312L	56	30	6-15	31.82	30.27	29.68	23.59
46F7146	4312M	82	39	6-15	31.82	30.27	29.68	23.59
46F7144	4312	100	45	6-15	31.82	30.27	29.68	23.59
46F7147	4314	100	45	12-28	31.82	30.27	29.68	23.59
52F6033	4394	100	45	12-28	35.81	34.07	33.41	26.53
16F7918	4318	100	45	36-53	34.80	33.10	32.46	25.79

(9275) (de50116)

DC TUBEAXIAL FANS, AC AND DC BLOWERS

600 SERIES BRUSHLESS DC TUBEAXIAL FANS



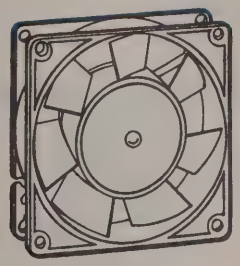
- **2.4 Square x 1.0″ Deep (60 Sq. x 25)**
- **Ball Bearing System**
- **Locked Rotor Protection**

Durable plastic housing and impeller. Feature electronically commutated DC motor. Clockwise rotation; air exhaust over struts. Connect by two 12.2″ (310) 22 AWG lead wires. UL recognized, CSA certified, CE compliant, VDE approved.

Stock No.	Type	cfm	dBA	Voltage Range	1-9	10-24	25-49	50-99
46F7151	612L	12	26	6-15	**28.38**	**27.00**	**26.48**	**21.01**
89F1701	612M	18	33	6-15	**28.38**	**27.00**	**26.48**	**21.01**
44F4033	612	24	40	6-15	**28.38**	**27.00**	**26.48**	**21.01**
44F4034	614	24	40	12-30	**28.38**	**27.00**	**26.48**	**21.01**

(9269) (de50108)

8400 SERIES BRUSHLESS DC TUBEAXIAL FANS



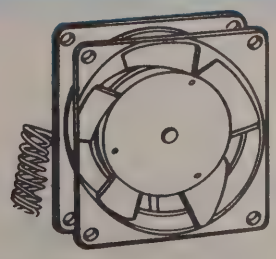
- **3.2 Square x 1.0″ Deep (80 Sq. x 25)**
- **Ball-Bearing System**
- **Locked Rotor Protection**

Durable plastic housing and impeller. Feature electronically commutated DC motor. Counter-clockwise rotation; air exhaust over struts. Power consumption in free air: **types 8412** and **8414**, 2.4W; **type 8412M**, 1.4W; **type 8412L**, 0.8W. Connect by two 12.2″ (310) 24 AWG lead wires. UL recognized, CSA certified, CE compliant, VDE approved.

Stock No.	Type	cfm	dBA	Voltage Range	1-9	10-24	25-49	50-99
90F8920	8412L	21	21	7-15	**20.72**	**19.71**	**19.33**	**15.34**
90F8921	8412M	27	29	7-15	**20.72**	**19.71**	**19.33**	**15.34**
90F8919	8412	33	35	7-15	**20.72**	**19.71**	**19.33**	**15.34**
90F8922	8414	33	35	12-28	**20.72**	**19.71**	**19.33**	**15.34**

(9271) (de50110)

8300 SERIES BRUSHLESS DC TUBEAXIAL FANS



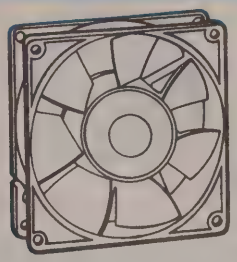
- **3.2 Square x 1.3″ Deep (80 Sq. x 32)**
- **Ball-Bearing System**
- **Locked Rotor Protection**

Durable plastic housing and impeller. Feature electronically commutated DC motor. Clockwise rotation; air exhaust over struts. Connect by two 12.2″ (310) 22 AWG lead wires. UL recognized, CSA certified, CE compliant, VDE approved.

Stock No.	Type	cfm	dBA	Voltage Range	Watts	1-9	10-24	25-49	50-99
46F7153	8312M	28	34	6-15	1.8	**28.04**	**26.68**	**26.16**	**20.75**
46F7154	8312	32	36	6-15	2.2	**28.04**	**26.68**	**26.16**	**20.75**
46F7155	8314	32	36	12-28	2.5	**28.04**	**26.68**	**26.16**	**20.75**

(9270) (de50109)

3400 SERIES BRUSHLESS DC TUBEAXIAL FANS



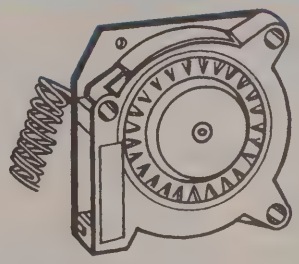
- **3.6 Square x 1.0″ Deep (92 Sq. x 25)**
- **Ball Bearing System**
- **Locked Rotor Protection**

Durable plastic housing and impeller. Feature electronically commutated DC motor. Counter-clockwise rotation viewed from rotor; air exhaust over struts. Connect by two 12.2″ (310) 24 AWG lead wires. UL recognized, CSA certified, CE compliant, VDE approved.

Stock No.	Type	cfm	dBA	Voltage Range	1-9	10-24	25-49	50-99
90F8916	3412L	36	27	7-15	**21.74**	**20.68**	**20.28**	**16.08**
90F8917	3412M	42	32	7-15	**21.74**	**20.68**	**20.28**	**16.08**
90F8915	3412	49	36	7-15	**21.74**	**20.68**	**20.28**	**16.08**
90F8918	3414	49	36	12-28	**21.74**	**20.68**	**20.28**	**16.08**

(9272) (de50111)

RL90 SERIES AC AND DC FLATPAK™ RADIAL BLOWERS



- **4.7H x 4.7W x 1.5″D (121 x 121 x 37)**
- **Shallow, Compact Design**
- **Flow Rate of 25 cfm***
- **Excellent for Spot Cooling**

Plastic housing on metal mounting plate and plastic impeller. **Type RL90-18/14N** features electronically commutated DC motor. **Types RL90-18/00** and **RL90-18/50** feature shaded-pole motor; 50/60Hz. Clockwise rotation viewed from rotor. Air enters through center of impeller and exhausts through port in housing. Mount in any position. Can be used for either pressurizing or evacuating. Connect by two 12.2″ (310) lead wires: 22 AWG for **type RL90-18/14N**; 18 AWG for **types RL90-18/00** and **RL90-18/50.** Power input: AC models, 20W; DC model, 5W. UL recognized, CSA certified, CE compliant, VDE approved.

Stock No.	Type	dBA	Volts	Bearing	1-9	10-24	25-49	50-99
57F1002	RL90-18/00	60	115AC	Sleeve	**57.60**	**55.38**	**54.84**	**43.55**
90F8758	RL90-18/50	60	230AC	Sleeve	**60.13**	**57.82**	**57.26**	**45.44**
44F4041	RL90-18/14N*	58	24DC	Ball	**61.07**	**58.72**	**58.15**	**46.17**

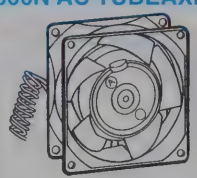
***Type RL90-18/14N:** 24 cfm

(9268) (de50107)

NEW PRODUCTS ARE CONTINUALLY ADDED.
CALL NEWARK FOR CURRENT SELECTION.

AC TUBEAXIAL FANS AND FAN TRAYS

TYPE 8800N AC TUBEAXIAL FAN



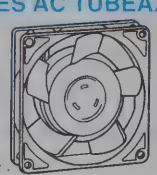
- 3.1 Square x 1.5″ Deep (80 Sq. x 38)
- Sleeve Bearing System
- Locked Rotor Protection

Metal housing and impeller. Connects by 17.3″ (439.4) 18 AWG lead wires with stripped, tinned ends. Features external rotor shaded-pole motor. Air exhaust over struts. 50/60Hz. UL recognized, CSA certified, CE compliant, VDE approved.

Stock No.	Type	cfm	dBA	Volts	1-9	10-24	25-49	50-99
81F1358	8800D/8800N	28	28	115	30.07	28.61	28.05	22.28

(9186) (de00753)

3900 SERIES AC TUBEAXIAL FANS



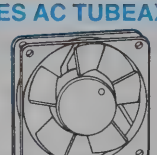
- 3.6 Square x 1.0″ Deep (92 Sq. x 25)
- Ball-Bearing System
- Locked Rotor Protection

Metal housing and plastic impeller. Connect via terminals with two 0.110 x 0.02″ (2.8 x 0.5) flat pin. Feature internal rotor shaded-pole motor. Air exhaust over struts. 50/60Hz. UL recognized, CSA certified, CE compliant, VDE approved.

Stock No.	Type	cfm	dBA	Volts	1-9	10-24	25-49	50-99
87F3632	3906M	31	34	115	42.96	40.87	40.08	31.83
87F3633	3956	41	40	230	42.34	40.28	39.50	31.36
87F3617	3906	41	40	115	40.20	38.25	37.51	29.79

(9187) (de00756)

9900 SERIES AC TUBEAXIAL FANS



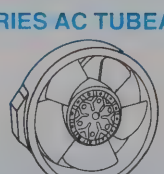
- 4.7 Square x 1.0″ Deep (119 Sq. x 25)
- Ball Bearing System
- Locked Rotor Protection

Metal housing and plastic impeller. Connect via terminals with two 0.110 x 0.02″ (2.8 x 0.5) flat pins. Feature internal rotor shaded-pole motor. Air exhaust over struts. 50/60Hz. UL recognized, CSA certified, CE compliant, VDE approved.

Stock No.	Type	cfm	dBA	Volts	1-9	10-24	25-49	50-99
87F3618	9956L	59	35	230	43.64	41.51	40.71	32.31
87F3619	9906L	59	35	115	41.50	39.48	38.72	30.73
87F3620	9956	79	42	230	40.88	38.89	38.14	30.26
87F3621	9906	79	42	115	38.74	36.85	36.14	28.68

(9188) (de00757)

W2E143 SERIES AC TUBEAXIAL FANS



- 6.8 Diameter x 2.0″ Deep (172 Dia. x 51)
- Ball Bearing System
- Locked Rotor Protection

Metal housing and impeller. Connect via two 0.110″ (2.8) spade terminals; **type W2E143-AA09-88** connects by Hall-Effect terminals. Feature external rotor permanent split capacitor motor. Air exhaust over struts. 50/60Hz. UL recognized, CSA certified, CE compliant, VDE approved.

Stock No.	Type	cfm	dBA	Volts	1-9	10-24	25-49	50-99
16F172	W2E143-AA15-01	260	58	115	102.34	98.40	97.44	62.20
16F173	W2E143-AA09-01	260	58	230	102.34	98.40	97.44	62.20
16F174	W2E143-AA09-88	260	60	230	122.49	115.46	...	...

(9395) (ne08146)

W2K121 SERIES AC TUBEAXIAL FANS

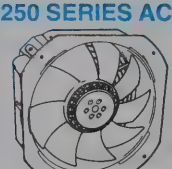
- 5.0 Square x 1.5″ Deep (127 Sq. x 38)
- Locked Rotor Protection

Metal housing and plastic impeller. Connect by terminals with two 0.118 x 0.02″ (3.0 x 0.5) flat pins, except type numbers with **suffix 01** or **03** which have 10.6″ (269.2) 22 AWG lead wires. Feature internal rotor shaded-pole motor. Air exhaust over struts. Type numbers with **suffix 13** or **01** have ball-bearing system; type numbers with **suffix 39** or **03** have sleeve-bearing system. 50/60Hz. UL recognized, CSA certified, CE compliant, VDE approved.

Stock No.	Type	cfm	dBA	Volts	1-9	10-24	25-49	50-99
16F175	W2K121-AB11-13	106	41	115	60.35	58.03	57.47	36.67
16F177	W2K121-AB07-13	106	41	230	60.35	58.03	57.47	36.67
16F179	W2K121-AA15-13	121	47	115	60.35	58.03	57.47	36.67
16F180	W2K121-AA15-39	121	47	115	42.96	40.87	40.08	25.58
16F181	W2K121-AA15-01	121	47	115	60.35	58.03	57.47	36.67
16F182	W2K121-AA15-03	121	47	115	42.96	40.87	40.08	25.58
16F183	W2K121-AA01-13	121	47	230	60.35	58.03	57.47	36.67
16F160	W2K121-AA01-39	121	47	230	42.96	40.87	40.08	25.58
16F161	W2K121-AA01-01	121	47	230	60.35	58.03	57.47	36.67

(9394) (ne08145)

W2E200 AND W2E250 SERIES AC TUBEAXIAL FANS



- Ball-Bearing System
- Terminal Block
- Locked Rotor Protection

Metal housing and impeller. Feature external rotor capacitor motor. Air exhaust over struts. Includes capacitor mounted on housing. 50/60Hz, except **type W2E250-HJ32-01** which is 60Hz. UL recognized, CSA certified, CE compliant, VDE approved.

W2E200 SERIES — 8.9 SQUARE x 3.2″ DEEP (225 SQ. x 80) AC FANS

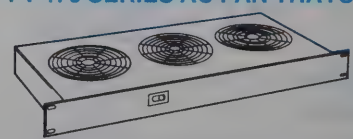
Stock No.	Type	cfm	dBA	Volts	1-4	5-9
91F3985	W2E200-HH82-01	500	56	115	142.56	134.37
91F3986	W2E200-HH64-01	500	56	230	142.56	134.37
91F3987	W2E200-HH86-01	607	61	115	142.56	134.37
91F3988	W2E200-HH38-01	607	61	230	142.56	134.37

W2E250 SERIES — 11.0 SQUARE x 3.2″ DEEP (280 SQ. x 80) AC FANS

Stock No.	Type	cfm	dBA	Volts	1-4	5-9
91F3983	W2E250-HJ32-01	1100	73	115	213.51	201.25
91F3984	W2E250-HJ28-01	1100	73	230	213.51	201.25

(17027) (ne10139)

FT-170 SERIES AC FAN TRAYS



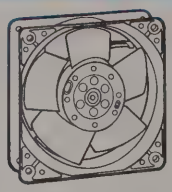
Fan tray with 3 AC fans ready for insertion into a cabinet rack or enclosure. Sheet metal housing. Electrical connection: 6′ cord with 3-prong molded plug. Sleeve bearing system. Feature power switch and fuse. Mounting: slides in standard 19″ cabinet rack. 50/60Hz. Size: 1.70H x 19.00W x 8.31″D (43 x 482.6 x 211).

Stock No.	Type	cfm	dBA	Volts	1-4	5-9
91F3981	FT-170-318-001	318	56	115	216.32	203.90
91F3982	FT-170-318-002	318	56	230	227.13	214.09

(17029) (ne10140)

AC TUBEAXIAL FANS AND ACCESSORIES

4600 SERIES SHADED-POLE AC TUBEAXIAL FANS



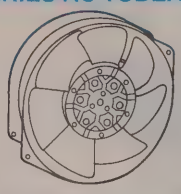
- **4.69″ Square x 1.5″ Deep (119 Sq. x 38)**
- **Impedance Protection**
- **Cool Running**
- **106 cfm**
- **50/60Hz**

All-metal construction. Air intake over struts. Connects by 0.118 x 0.02″ (3.0 x 0.5) terminals. Power input: 18W. Feature four 0.146″ (3.7) mounting holes except **types 4600N** and **4606N** which have 0.169″ (4.3) mounting holes. *Order* **type LZ120** *plug and cord set separately on this page.* UL recognized, CSA certified, CE compliant, VDE approved. **Type 4600XP** also has a 5-year warranty.

Stock No.	Type	dBA	VAC	Bearing	1-9	10-24	25-49	50-99
70B2402	4600N	50	115	Sleeve	25.73	24.48	24.01	19.07
57F2601	4600X	50	115	Sleeve	25.73	24.48	24.01	19.07
57F2600	4600XP	50	115	Sleeve	34.24	32.57	31.94	25.37
16F7919	4606N	51	115	Ball	40.94	38.94	38.19	30.31
57F1027	4606X	51	115	Ball	40.94	38.94	38.19	30.31
57F1043	4650X	50	230	Sleeve	29.51	28.07	27.53	21.85
81F1356	4656X	51	230	Ball	44.71	42.53	41.71	33.10

(9276) (de50117)

W2S130 SERIES AC TUBEAXIAL FANS



- **5.91″ Diameter x 2.17″ Deep (150 Dia. x 55)**
- **225 cfm**

All-metal construction. Feature ball-bearing system. UL recognized, CSA certified, CE compliant, VDE approved; except **type W2S130-AA03-49** which is not VDE approved.

AIR EXHAUST OVER STRUTS — 52dBA

Stock No.	Type	Connection*	VAC	Hz	1-9	10-24	25-49	50-99
92F8763	W2S130-AA25-01	A	115	50/60	69.90	67.21	66.55	42.50
16F164	W2S130-AA25-44	B	115	50/60	69.90	67.21	66.55	42.50
16F165	W2S130-AA25-51	C	115	50/60	81.87	78.72	77.95	49.75
16F166	W2S130-AA03-01	A	230	50/60	69.90	67.21	66.55	42.50
16F168	W2S130-AA03-51	C	230	50/60	81.87	78.72	77.95	49.75
16F169	W2S130-AA03-49	A	Dual	50/60	81.87	78.72	77.95	49.75

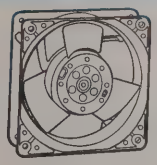
AIR INTAKE OVER STRUTS — 62dBA

16F170	W2S130-BM15-01	A	115	50/60	69.90	67.21	66.55	42.50
16F171	W2S130-BM03-01	A	230	50/60	69.90	67.21	66.55	42.50

*Connection by: A = 20 AWG 13″ (330) lead wires; B = 0.110″ (2.8) terminals; C = Hall-Effect terminals.

(9406) (ne08951)

4800 SERIES SHADED-POLE AC TUBEAXIAL FANS



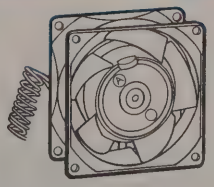
- **4.69″Square x 1.5″ Deep (119 Sq. x 38)**
- **Very Quiet**
- **Cool Running**
- **58 cfm**

All-metal construction. Air intake over struts. Connect 0.118 x 0.02″ (3.0 x 0.5) terminals. Power input: 9W. *Order* **type LZ120** *plug and cord set separately on this page.* Fans have dual sleeve, broached sintered iron bearings in addition to thrust bearing. UL recognized, CSA certified, CE compliant, VDE approved.

Stock No.	Type	dBA	VAC	Hz	1-9	10-24	25-49	50-99
57F1028	4800X	32	115	50/60	26.02	24.75	24.27	19.27
44F4005	4850X	32	230	50/60	28.27	26.89	26.37	20.94

(9277) (de50118)

8500 SERIES SHADED-POLE AC TUBEAXIAL FANS



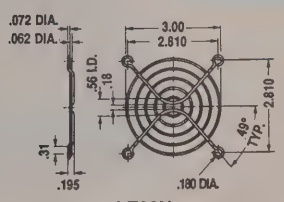
- **3.13″ Square x 1.5″ Deep (79.5 Sq. x 38)**
- **Quiet**
- **Impedance Protected**
- **36 cfm**
- **50/60Hz**

All-metal fans designed for general cooling purposes. Air exhaust over struts. Power input: 11W. Connect by two 12.2″ (310) lead wires. UL recognized, CSA certified, CE compliant, VDE approved. **Type 8500DP** also has a 5-year warranty.

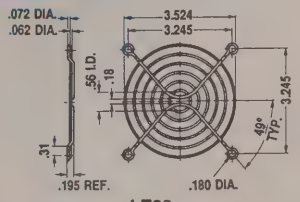
Stock No.	Type	dBA	VAC	Bearing	1-9	10-24	25-49	50-99
57F1038	8500N	34	115	Sleeve	26.58	25.28	24.80	19.70
44F6425	8500DP	34	115	Sleeve	34.97	33.26	32.62	25.90
81F1362	8550N	34	230	Sleeve	28.89	27.48	26.95	21.38
81F1361	8506N	35	115	Ball	42.23	40.17	39.40	31.31
81F1363	8556N	35	230	Ball	44.54	42.37	41.55	32.99

(9278) (de50119)

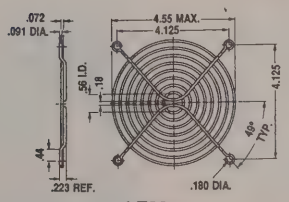
FAN ACCESSORIES



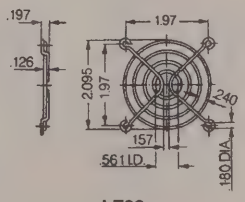
LZ22N



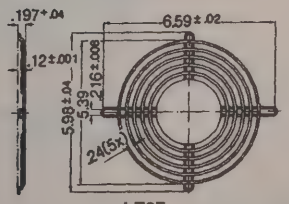
LZ23



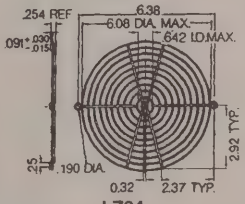
LZ30



LZ28



LZ27



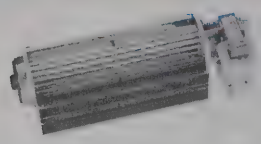
LZ24

Finger guards constructed of spot-welded, nickel-chrome-plated C1010 wire, except **type LZ27** is zinc-plated wire. **Type LZ40N** screen assembly acts as a finger and debris guard when appearance is important. **Type LZ120** plug and cord set is 24″ (609.6) long with integrally molded leads. Plug and cord constructed of 18 AWG wire sleeved in black PVC. **Type LZ60** filter consists of light metal frame with crimped-on aluminum mesh. **Type LZ40-1** brackets supplied in pairs.

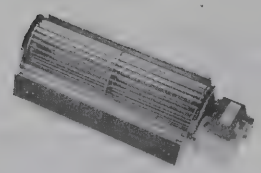
Stock No.	Type	Description	Series	1-9	10-24	25-49	50-99
16F7912	LZ23	Finger Guard	3000	3.38	3.22	3.16	2.53
57F1033	LZ30	Finger Guard	4000	3.49	3.32	3.26	2.63
57F1039	LZ22N	Finger Guard	8000	3.16	3.00	2.95	2.37
89F1702	LZ27	Finger Guard	7000	6.31	6.00	5.89	4.73
87F3625	LZ28	Finger Guard	600	2.93	2.79	2.74	2.21
57F1035	LZ24	Finger Guard	7000	6.31	6.00	5.89	4.73
57F1032	LZ-40N	Screen	4000	9.74	9.27	9.09	7.20
57F1034	LZ120	24″ Plug & Cord Set	4100, 4600, 4800, 6000, 6100	2.88	2.74	2.68	2.16
57F1031	LZ60	Filter	4000	4.68	4.45	4.36	3.47
57F1030	LZ-40-1	Brackets (Pair)	4100, 4600, 4800	0.90	0.86	0.74	0.63

(9279) (de50121)

NEW



QLK45



QLN65

AC AND DC CROSSFLOW BLOWERS

AC blowers feature galvanized steel housing and impeller, shaded-pole motor, and permanently lubricated, maintenance-free sleeve bearings. Connect by 0.250″ (6.3) spade terminals. UL recognized, CSA certified. Brushless DC blower features aluminum housing and impeller, ball bearing motor, reverse polarity, and locked rotor protection. Connect by two 11.8″ (300) leads. Mounting holes for easy installation. 60Hz. Operating temperature: 60°C max.

QLK45 SERIES LOW-PROFILE AC CROSSFLOW BLOWERS - 1.772″ (45) DIA. IMPELLER

Stock No.	Type	Volts	cfm	dBA	Watts	Motor Position	L x W x H	Each
83F5822	55442.40890	115VAC	75	50	29	Right	10.43 x 3.11 x 2.78″	43.14
83F5823	55442.70170	115VAC	125	53	40	Right	15.83 x 3.11 x 2.78″	53.37

QLZ06 SERIES AC CROSSFLOW BLOWERS - 2.362″ (60) DIA. IMPELLER

83F5824	55410.81390	120VAC	72	49	35	Right	10.24 x 3.78 x 3.27″	47.28
83F5825	55412.70210	115VAC	138	50	56	Left	15.55 x 3.78 x 3.27″	56.72

QLN65 SERIES AC CROSSFLOW BLOWERS - 2.559″ (65) DIA. IMPELLER

83F5826	55416.27070	115VAC	110	49	46	Left	10.67 x 4.27 x 3.54″	51.09
83F5827	55416.35031	115VAC	150	49	66	Right	15.98 x 4.27 x 3.54″	68.28

Q2G SERIES BRUSHLESS DC MINIATURE CROSSFLOW BLOWER - 1.181″ (30) DIA. IMPELLER

83F5821	Q2G030-EA21-01*	12VDC	40	48	6.1	Right	8.0 x 1.97 x 1.87″	87.95

* Not UL recognized or CSA certified

(29471) (ne29471)

BACKWARD CURVED MOTORIZED IMPELLERS AND INLET RINGS

The narrow profile of backward curved motorized impellers provides excellent space utilization. Can be used in either evacuating or pressurizing applications and mounted horizontally or vertically. Does not require a scroll housing, although an inlet ring, *ordered separately below*, is recommended on air inflow. 115VAC, 50/60Hz. CE compliant.

IMPELLER DIMENSIONS

Type	A	B	C	D	E	F	No. of Holes
R2E133-BB72-13	5.24″	2.34″	3.58″	3.56″	2.28″	M4	4 x 90°
R2E175-AE47-16	6.89″	1.85″	2.15″	5.16″	2.28″	M4	4 x 90°
R2E190-AE50-29	7.48″	2.46″	2.70″	5.16″	2.28″	M4	4 x 90°
R2E220-AA44-23	8.66″	2.48″	2.80″	6.26″	2.28″	M4	4 x 90°
R2E225-AR05-17	8.94″	3.50″	4.21″	6.02″	2.28″	M4	4 x 90°

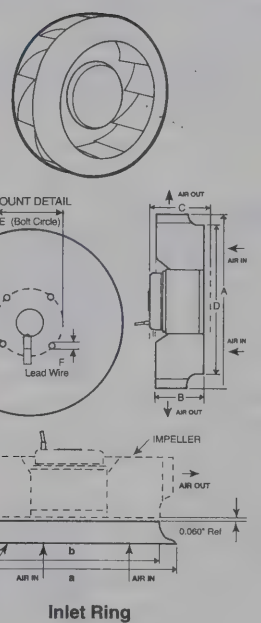
IMPELLERS

Stock No.	Type	cfm @ 0″	dBA	Watts	Wt. (lbs.)	Cap. (µF)	Construction	Each
92F6118	R2E133-AA30-13	180	53	30	2.0	4	Plastic	66.20
92F6119	R2E175-AE47-16	280	65	69	3.0	6	Galv. Steel	76.57
92F6120	R2E190-AE50-29	365	62	85	3.0	8	Plastic	70.84
92F6121	R2E220-AA44-23	530	70	100	3.5	10	Plastic	78.56
92F6122	R2E225-AR05-17	710	77	210	6.0	16	Plastic	139.20

INLET RINGS

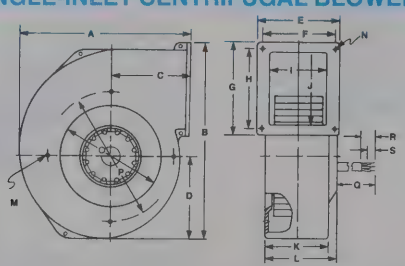
Stock No.	Type	For Impeller Type	Dimensions A	Dimensions B	Dimensions C	Each
92F6123	9566-2-4013	R2E133	5.08″	3.43″	0.51″	5.41
92F6124	9588-2-4013	R2E175 and R2E190	7.28″	5.12″	0.67″	7.49
92F6125	9597-2-4013	R2E225	8.27″	5.87″	1.10″	12.84
92F6126	9609-2-4013	R2E220	9,96″	6.10″	0.79″	14.02

(9370) (ne03996)



Inlet Ring

SINGLE-INLET CENTRIFUGAL BLOWERS



Single-inlet blowers are supplied with an external rotor motor located inside the forward curved impeller. Easy mounting is provided using the discharge flange or four tapped holes around the inlet. The housing is electrically grounded to the motor. Motor and impeller are an integral unit. Speed-controllable by voltage reduction. Operate at low voltages without overheating or reducing reliability. 115VAC, 50/60Hz. CE compliant.

DIMENSIONS IN INCHES

Type	Hsg.*	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
G2S097-DB	1	5.63	5.39	2.95	2.44	...	...	...	...	1.57	1.81	1.57	1.57	N/A	N/A	3.15	3.78	11.8	2.36	.315
G2E120-AR	...	6.85	7.48	3.23	3.23	4.53	3.94	3.26	2.68	3.99	1.97	3.23	3.86	M4	.276	3.94	5.20	17.7	3.35	.236
G2E140-AC	2	8.90	10.28	4.05	4.21	5.12	4.53	4.70	4.13	3.70	3.62	3.94	3.94	M4	.248	4.65	6.22	17.7	3.35	.236
G4E160-AB	2	8.90	10.28	4.05	4.21	5.12	4.53	4.70	4.13	3.70	3.62	3.94	3.94	M4	.248	5.12	6.89	17.7	3.35	.236

*HOUSING: 1 = Sheet metal housing. 2 = Sheet metal housing available on special order; *contact your local Newark sales office for details.*

Stock No.	Type	cfm @ 0″	dBA	Watts	Wt. (lbs.)	Capacitor (µF)	Each
92F6130	G2S097-DB61-08	26	37	23	1.8	...	66.86
92F6131	G2E120-AR54-43	152	62	105	4.5	6	109.13
92F6132	G2E140-AC13-42	251	67	200	7.5	16	142.88
92F6133	G4E160-AB15-09	262	67	94	7.0	7	204.75

(9261) (de04000)

DC TUBEAXIAL FANS

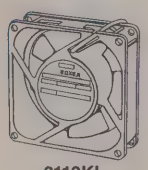
3110KL SERIES LOW-NOISE SLIM PEEWEE BOXER™ DC TUBEAXIAL FANS

Plastic housing and impeller, rated UL94V-0. Sealed ball bearings. Automatic restart. Locked rotor protection. Connect by two 12″ (304.80) lead wires. Flange mounting configuration. Operating temperature: –10°C to +70°C. UL recognized, CSA certified, VDE approved.

3.1 SQUARE x 1.0″DEEP (80 SQ. x 25) SLIM PEEWEE BOXER™ FANS

Stock No.	Type	cfm	VDC	Watts	dBA	1-9	10-24	25-49	50-99
50F5396	3110KL-04W-B30P00	32	12	2.04	28	10.63	9.99	9.59	9.26
50F5397	3110KL-04W-B40P00	35	12	2.40	31	10.63	9.99	9.59	9.26
50F5398	3110KL-04W-B50P00	39	12	2.76	34	10.63	9.99	9.59	9.26
50F5399	3110KL-05W-B30P00	32	24	1.92	28	10.63	9.99	9.59	9.26
50F5400	3110KL-05W-B40P00	35	24	2.44	31	10.63	9.99	9.59	9.26
50F5401	3110KL-05W-B50P00	39	24	2.88	34	10.63	9.99	9.59	9.26

(9108) (de52202)



3110KL

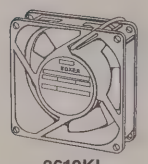
3610KL SERIES LOW-NOISE SLIM MINI-BOXER™ DC TUBEAXIAL FANS

Plastic housing and impeller, rated UL94V-0. Sealed ball bearings. Electronic locked rotor protection. Automatic restart. Connect by two 12″ (304.80) lead wires. Flange mounting configuration. Operating temperature: –10°C to +70°C. UL recognized, CSA certified, VDE approved.

3.6 SQUARE x 1.0″DEEP (92 SQ. x 25) SLIM MINI-BOXER™ FANS

Stock No.	Type	cfm	VDC	Watts	dBA	1-9	10-24	25-49	50-99
93F3058	3610KL-04W-B10P00	27	12	0.88	23	12.50	11.75	11.27	10.88
50F5402	3610KL-04W-B30P00	41	12	1.92	33	12.50	11.75	11.27	10.88
93F3056	3610KL-04W-B50P00	55	12	3.78	39	12.50	11.75	11.27	10.88
50F5405	3610KL-05W-B30P00	41	24	2.09	33	12.50	11.75	11.27	10.88
93F3057	3610KL-05W-B50P00	55	24	3.84	39	12.50	11.75	11.27	10.88

(9107) (de52201)



3610KL

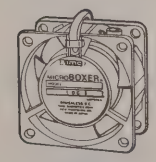
1606KL SERIES 40mm REDUCED-FOOTPRINT MICRO-BOXER™ DC FANS

Compact Boxer™ DC tubeaxial fans feature plastic housing and impeller, rated UL94V-0. Sealed ball bearings. Connect by two 7.8″ (198.12) lead wires. Rib mounting configuration. UL recognized, CSA certified, VDE approved.

1.6 SQUARE x 0.6″ DEEP (40 SQ. x 15) MICRO-BOXER™ FANS

Stock No.	Type	cfm	VDC	Watts	dBA	1-9	10-24	25-49	50-99
95F2795	1606KL-04W-B30L00	6	12	0.80	28	11.21	10.53	10.11	9.76
95F2796	1606KL-04W-B40L00	7	12	0.90	31	11.21	10.53	10.11	9.76
95F2797	1606KL-04W-B50L00	8	12	1.02	34	11.21	10.53	10.11	9.76

(9002) (de02505)



1606KL

2408NL AND 2410ML SERIES LOW-NOISE SLIM MICRO-BOXER™ DC FANS

Reinforced plastic housing and impeller, rated UL94V-0. Sealed ball bearings. Electronic locked rotor protection. Connect by two 12″ (304.80) 24 AWG red/black lead wires. Flange mounting configuration. Operating temperature: –10°C to +70°C. UL recognized, CSA certified, VDE approved.

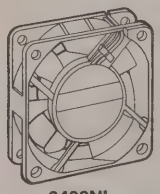
2408NL SERIES — 2.4 SQUARE x 0.8″ DEEP (60 SQ. x 20) SLIM MICRO-BOXER™ FANS

Stock No.	Type	cfm	VDC	Watts	dBA	1-9	10-24	25-49	50-99
92F2438	2408NL-04W-B10P00	9	12	0.60	20	12.14	11.40	10.95	10.57
50F5382	2408NL-04W-B30P00	12	12	0.96	24	12.14	11.40	10.95	10.57
50F5383	2408NL-04W-B40P00	14	12	1.10	26	12.14	11.40	10.95	10.57
92F2439	2408NL-04W-B50P00	16	12	1.32	28	12.14	11.40	10.95	10.57
50F5384	2408NL-05W-B30P00	12	24	1.08	24	12.14	11.40	10.95	10.57
50F5385	2408NL-05W-B40P00	14	24	1.20	26	12.14	11.40	10.95	10.57

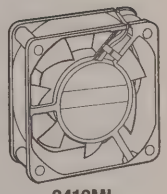
2410ML SERIES — 2.4 SQUARE x 1.0″ DEEP (60 SQ. x 25) SLIM MICRO-BOXER™ FANS

50F5386	2410ML-04W-B10P00	14	12	0.9	23	11.27	10.59	10.17	9.82
50F5388	2410ML-04W-B30P00	19	12	1.4	31	11.27	10.59	10.17	9.82
50F5389	2410ML-04W-B40P00	22	12	2.0	34	11.27	10.59	10.17	9.82
50F5391	2410ML-05W-B10P00	14	24	1.4	23	11.27	10.59	10.17	9.82
50F5393	2410ML-05W-B30P00	19	24	1.9	31	11.27	10.59	10.17	9.82
50F5394	2410ML-05W-B40P00	22	24	2.2	34	11.27	10.59	10.17	9.82

(9109) (de52203)



2408NL



2410ML

5920PL AND 6820PL SERIES DC TUBEAXIAL FANS

Large DC fans feature black aluminum alloy housing and reinforced plastic impeller, rated UL94V-0. Sealed ball bearings are used for superior reliability. Polarity protection and current shutdown. Connect by two 24 AWG red/black lead wires. Operating temperature: –10°C to +70°C. UL recognized, CSA certified, VDE approved.

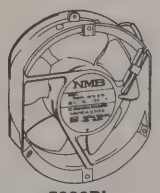
5920PL SERIES — 5.9H x 6.8W x 2.0″ D (150 x 173 x 51) TUBEAXIAL FANS

Stock No.	Type	cfm	VDC	Watts	dBA	1-9	10-24	25-49	50-99
52F6754	5920PL-04W-B10D00	170	12	10.1	45	60.93	57.26	54.95	53.06
52F6755	5920PL-04W-B20D00	190	12	13.2	48	60.93	57.26	54.95	53.06
52F6756	5920PL-04W-B30D00	210	12	16.8	51	60.93	57.26	54.95	53.06
52F6757	5920PL-04W-B40D00	230	12	19.2	54	60.93	57.26	54.95	53.06
52F6758	5920PL-05W-B10D00	170	24	9.1	45	60.93	57.26	54.95	53.06
52F6759	5920PL-05W-B20D00	190	24	11.5	48	60.93	57.26	54.95	53.06
52F6761	5920PL-05W-B40D00	230	24	17.5	54	60.93	57.26	54.95	53.06
52F6762	5920PL-07W-B10D00	170	48	9.6	45	60.93	57.26	54.95	53.06
52F6763	5920PL-07W-B20D00	190	48	12.0	48	60.93	57.26	54.95	53.06
52F6764	5920PL-07W-B30D00	210	48	14.4	51	60.93	57.26	54.95	53.06
52F6765	5920PL-07W-B40D00	230	48	16.3	54	60.93	57.26	54.95	53.06

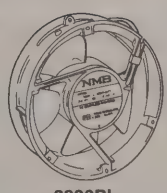
6820PL SERIES — 6.8 DIAMETER x 2.0″ DEEP (173 DIA. x 51) ROUND TUBEAXIAL FANS

52F6769	6820PL-04W-B40D00	230	12	19.2	52	62.85	59.06	56.68	54.73
52F6771	6820PL-05W-B20D00	190	24	11.5	45	62.85	59.06	56.68	54.73
52F6772	6820PL-05W-B30D00	210	24	15.1	49	62.85	59.06	56.68	54.73
52F6773	6820PL-05W-B40D00	230	24	17.5	52	62.85	59.06	56.68	54.73
52F6775	6820PL-07W-B20D00	190	48	12.0	45	62.85	59.06	56.68	54.73
52F6777	6820PL-07W-B40D00	230	48	16.3	52	62.85	59.06	56.68	54.73

(9135) (ns07264)



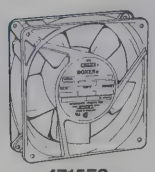
5920PL



6820PL

AC AND DC TUBEAXIAL FANS

4715FS SERIES BOXER™ AC TUBEAXIAL FANS



4715FS

Fan impeller made of UL94V-0 plastic. Venturi aluminum alloy with black-painted finish. Fans feature precision ball bearings for quiet, reliable operation. Operating temperature: –20°C to +70°C. Connect by 0.120″ (3.05) terminals. 50/60Hz. Dimensions: 4.7 square x 1.5″ deep (119.38 sq. x 38.10). Weight: 1 lb., 10 oz. UL recognized, CSA certified, VDE, and TUV approved.

Stock No.	Type	cfm	VAC	Watts	dBA	1-9	10-24	25-49	50-99
46F5124	4715FS-12T-B50D00	110	115	17	56	13.07	12.29	11.79	11.39
46F5125	4715FS-12T-B40D00	100	115	15	55	13.07	12.29	11.79	11.39
46F5126	4715FS-12T-B30D00	90	115	14.5	53	13.07	12.29	11.79	11.39
46F5127	4715FS-12T-B20D00	80	115	10	43	13.07	12.29	11.79	11.39
46F5128	4715FS-12T-B10D00	70	115	9.5	41	13.07	12.29	11.79	11.39
46F5129	4715FS-12T-B00D00	60	115	9	40	13.07	12.29	11.79	11.39
46F5130	4715FS-23T-B50D00	110	230	17	56	13.07	12.29	11.79	11.39
46F5133	4715FS-23T-B40D00	100	230	15	55	13.07	12.29	11.79	11.39
46F5134	4715FS-23T-B30D00	90	230	14.5	53	13.07	12.29	11.79	11.39
46F5135	4715FS-23T-B20D00	80	230	10	43	13.07	12.29	11.79	11.39
46F5136	4715FS-23T-B10D00	70	230	9.5	41	13.07	12.29	11.79	11.39

(9032) (de50122)

4715MS SERIES LOW-NOISE BOXER™ AC TUBEAXIAL FANS

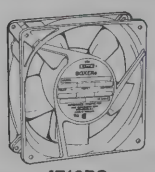
4715MS

Low-noise versions of **4715FS series** fans offer noise reductions of 4 to 16dBA below the standard models. Fan impeller made of UL94V-0 plastic. Venturi aluminum alloy with black-painted finish. Operating temperature: –20°C to +70°C. Connect by 0.120″ (3.05) terminals. 50/60Hz. Dimensions: 4.7 square x 1.5″deep (119.38 sq. x 38.10). Weight: 1 lb. 10 oz. UL recognized, CSA certified, VDE approved.

Stock No.	Type	cfm	VAC	Watts	dBA	1-9	10-24	25-49	50-99
90F6921	4715MS-12T-B50A00	102	115	13.0	41	13.07	12.29	11.79	11.39
90F6922	4715MS-12T-B40A00	95	115	13.0	39	13.07	12.29	11.79	11.39
90F6923	4715MS-12T-B30A00	88	115	10.0	37	13.07	12.29	11.79	11.39
90F6924	4715MS-12T-B20A00	67	115	7.0	30	13.07	12.29	11.79	11.39
90F6925	4715MS-12T-B10A00	49	115	5.5	28	13.07	12.29	11.79	11.39
90F6926	4715MS-23T-B50A00	102	230	14.0	41	13.07	12.29	11.79	11.39
90F6927	4715MS-23T-B40A00	95	230	13.0	39	13.07	12.29	11.79	11.39
90F6928	4715MS-23T-B30A00	88	230	11.0	37	13.07	12.29	11.79	11.39
90F6929	4715MS-23T-B20A00	67	230	7.5	30	13.07	12.29	11.79	11.39

(9033) (de50123)

4710PS SERIES BOXER™ AC TUBEAXIAL FANS



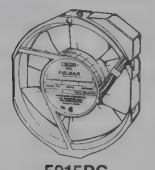
4710PS

4710 series units are smaller, lighter versions of **4715 series**. Fan impeller made of UL94V-0 plastic. Venturi aluminum alloy with black-painted finish. Precision ball bearings for quiet, reliable operation. Operating temperature: –20°C to +70°C. Connect by 0.120″ (3.05) terminals. 50/60Hz. Dimensions: 4.7 square x 1.0″ Deep (119.38 sq. x 25.40). Weight: 12 oz. UL recognized, CSA certified, VDE approved.

Stock No.	Type	cfm	VAC	Watts	dBA	1-9	10-24	25-49	50-99
46F5138	4710PS-12T-B30A00	77	115	11	38	12.91	12.14	11.65	11.25
46F5139	4710PS-12T-B20A00	57	115	8	30	12.91	12.14	11.65	11.25
46F5131	4710PS-23T-B30A00	75	230	10	38	12.91	12.14	11.65	11.25
46F5132	4710PS-23T-B20A00	56	230	7	30	12.91	12.14	11.65	11.25

(9034) (de50124)

5915PC SERIES BOXER™ AC TUBEAXIAL FANS



5915PC

Fan impeller made of UL94V-0 plastic. Venturi aluminum alloy with black-painted finish. Stainless steel ball bearings. Operating temperature: –25°C to +70°C. Permanent split capacitor motor. 50/60Hz. Dimensions: 5.9H x 6.75W x 1.5″D (149.86 x 171.45 x 38.10). UL recognized, CSA certified, VDE approved.

Stock No.	Type	cfm	VAC	Watts	dBA	1-9	10-24	25-49	50-99
46F5122	5915PC-12T-B10A00	110	115	18	38	40.51	38.08	36.54	35.28
46F5121	5915PC-12T-B20A00	170	115	22	50	40.51	38.08	36.54	35.28
46F5120	5915PC-12T-B30A00	220	115	32	56	40.51	38.08	36.54	35.28
92F1415	5915PC-23T-B10A00	110	230	18	38	40.51	38.08	36.54	35.28
92F1416	5915PC-23T-B20A00	170	230	26	50	40.51	38.08	36.54	35.28
46F5123	5915PC-23T-B30A00	220	230	35	56	40.51	38.08	36.54	35.28

(9035) (de50125)

4710NL AND 4715KL SERIES LOW-NOISE BOXER™ DC TUBEAXIAL FANS

4715KL

Fan impeller and venturi made of UL94V-0 plastic. Ball-bearing system. Connect by two 12″ (304.80) lead wires. Operating temperature: –10°C to +70°C. Electronic locked rotor protection. Automatic restart. UL recognized, CSA certified, VDE approved. **4710 series** is also TUV approved.

4.7 SQUARE x 1.0″ DEEP (119.38 SQ. x 25.40) BOXER™ FANS

Stock No.	Type	cfm	VDC	Watts	dBA	1-9	10-24	25-49	50-99
50F5407	4710NL-04W-B10D00	50	12	1.4	25	12.98	12.20	11.70	11.30
50F5409	4710NL-04W-B30P00	70	12	2.9	34	12.98	12.20	11.70	11.30
50F5411	4710NL-04W-B50D00	90	12	6.8	39	12.98	12.20	11.70	11.30
50F5412	4710NL-05W-B10D00	50	24	1.4	25	12.98	12.20	11.70	11.30
50F5414	4710NL-05W-B30D00	70	24	2.9	34	12.98	12.20	11.70	11.30
50F5416	4710NL-05W-B50D00	90	24	5.8	39	12.98	12.20	11.70	11.30

4.7 SQUARE x 1.5″ DEEP (119.38 SQ. x 38.10) BOXER™ FANS

92F2434	4715KL-04W-B10P00	83	12	3.3	37	15.60	14.66	14.07	13.59
46F5110	4715KL-04W-B20P00	97	12	4.8	41	15.60	14.66	14.07	13.59
46F5111	4715KL-04W-B30P00	108	12	6.6	43	15.60	14.66	14.07	13.59
92F2435	4715KL-04W-B40P00	118	12	8.4	47	15.60	14.66	14.07	13.59
46F5112	4715KL-05W-B20P00	97	24	5.0	41	15.60	14.66	14.07	13.59
46F5113	4715KL-05W-B30P00	108	24	7.4	43	15.60	14.66	14.07	13.59
92F2437	4715KL-05W-B40P00	118	24	8.4	47	15.60	14.66	14.07	13.59

(9110) (de52204)

AC FANS AND ACCESSORIES

2412PS SERIES MICRO BOXER™ AC TUBEAXIAL FAN

Same construction as Peewee Boxer™ fan. Ball bearing system. Airflow out over struts. Connect by two 12″ lead wires. 50/60Hz. Dimensions: 2.4 square x 1.2″ deep (60 sq. x 30). UL recognized, CSA certified, VDE approved.

Stock No.	Type	cfm	VAC	Watts	dBA	1-9	10-24	25-49	50-99
46F5105	2412PS-12W-B30A00	10	115	4	29	12.14	11.40	10.95	10.57

(9104) (de52172)

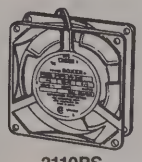
2412PS

3110PS SERIES SLIM PEEWEE BOXER™ AC TUBEAXIAL FAN

Same construction as Peewee Boxer™ fan. Airflow out over struts. Ball bearing system. Connect by two 12″ lead wires. 50/60Hz. Dimensions: 3.1 square x 1.0″ deep (80 sq. x 25). UL recognized, CSA certified, VDE approved, TUV approved.

Stock No.	Type	cfm	VAC	Watts	dBA	1-9	10-24	25-49	50-99
46F5104	3110PS-12W-B30A00	20	115	5	33	12.21	11.47	11.01	10.63

(9105) (de52173)



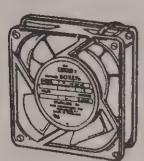
3110PS

3115FS SERIES PEEWEE BOXER™ AC TUBEAXIAL FANS

Fan impeller made of UL94V-0 plastic. Venturi aluminum alloy with black-painted finish. Choice of 0.120″ terminals or 12″ lead wires. Airflow out over struts. Reliable, quiet operation. Precision ball bearings. 50/60Hz. Operating temperature: –20°C to +70°C. Dimensions: 3.1 square x 1.5″ deep (80 sq. x 38). UL recognized, CSA certified, VDE approved, TUV approved.

Stock No.	Type	cfm	VAC	Watts	dBA	1-9	10-24	25-49	50-99
0.120″ TERMINALS									
46F5092	3115FS-12T-B00A00	18	115	4	31	12.61	11.86	11.38	10.99
46F5091	3115FS-12T-B10A00	22	115	6	36	12.61	11.86	11.38	10.99
46F5090	3115FS-12T-B20A00	27	115	7	40	12.61	11.86	11.38	10.99
46F5089	3115FS-12T-B30A00	32	115	8.5	44	12.61	11.86	11.38	10.99
46F5094	3115FS-23T-B20A00	28	230	7.5	40	12.61	11.86	11.38	10.99
46F5093	3115FS-23T-B30A00	33	230	8.0	44	12.61	11.86	11.38	10.99
12″ LEAD WIRES									
46F5099	3115FS-12W-B00	18	115	4	31	11.42	10.73	10.30	9.95
46F5098	3115FS-12W-B10	22	115	6	36	11.42	10.73	10.30	9.95
46F5097	3115FS-12W-B20	27	115	7	40	11.42	10.73	10.30	9.95
46F5096	3115FS-12W-B30	32	115	8.5	44	11.42	10.73	10.30	9.95
46F5101	3115FS-23W-B20	28	230	7.5	40	11.42	10.73	10.30	9.95
46F5100	3115FS-23W-B30	33	230	8.0	44	11.42	10.73	10.30	9.95

(9106) (de52174)



3115FS

3610PS SERIES SLIM MINI BOXER™ AC TUBEAXIAL FANS

Same construction as Peewee Boxer™ fan. Airflow out over struts. 50/60Hz. Dimensions: 3.6 square x 1.0″D (92 sq. x 25). UL recognized, CSA certified, VDE approved, TUV approved.

Stock No.	Type	cfm	VAC	Watts	dBA	1-9	10-24	25-49	50-99
SLIM MINI BOXER™ WITH 0.120″ TERMINALS									
46F5106	3610PS-12T-B30A00	35	115	9	38	12.59	11.84	11.36	10.97
46F5107	3610PS-12T-B20A00	30	115	6	35	12.59	11.84	11.36	10.97
46F5108	3610PS-12T-B10A00	22	115	5.5	25	12.59	11.84	11.36	10.97
46F5109	3610PS-23T-B30A00	35	230	9	39	12.59	11.84	11.36	10.97
46F5114	3610PS-23T-B20A00	30	230	6	35	12.59	11.84	11.36	10.97
46F5115	3610PS-23T-B10A00	22	230	6	26	12.59	11.84	11.36	10.97

(9103) (de52171)

3610PS

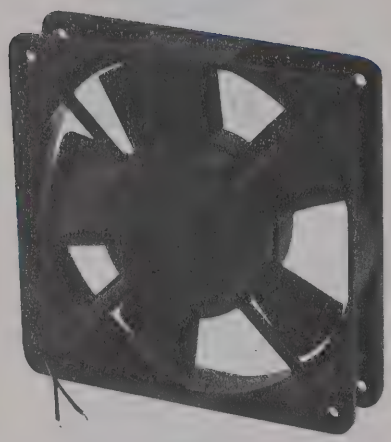
ACCESSORIES FOR AC AND DC FANS

Plugs and cords are for **2400, 3100, 3600, 4700, 5900,** and **6820 series** fans. UL recognized, CSA certified.

Stock No.	Type	Description	For Fan Series	Each
NICKEL-CHROME-PLATED FAN GUARDS				
81F3936	055010	Round Guard (9 Rings)	5900, 6820	2.43
81F3933	055013	Round Guard (6 Rings)	3600	1.09
46F5117	055015	Round Guard (8 Rings)	4700	1.34
81F3937	055018	Round Guard (6 Rings)	3100	1.18
95F2818	055019	Octagon Guard (6 Rings)	3100	1.34
46F5118	055023	Round Guard (4 Rings)	2400	0.89
PLUG AND CORD SETS				
60F1623	432000	24″ Plug and Cord	3100, 3600, 4700, 5900	1.17
95F2815	432002	48″ Plug and Cord	3100, 3600, 4700, 5900	1.68
95F2817	432020	36″ Plug and Cord w/Straight Plug	3100, 3600, 4700, 5900	1.09
95F2816	432021	36″ Plug and Cord w/90° (Right-Angle) Plug	3100, 3600, 4700, 5900	1.33
MOUNTING CLIPS				
81F3879	512011	Clip	4715FS	0.11
44F1682	512020	Clip	3115FS	0.11
46F5119	512021	Clip	3110PS, 4710PS	0.11

(9159) (de02499)

AC AND DC TUBEAXIAL FANS



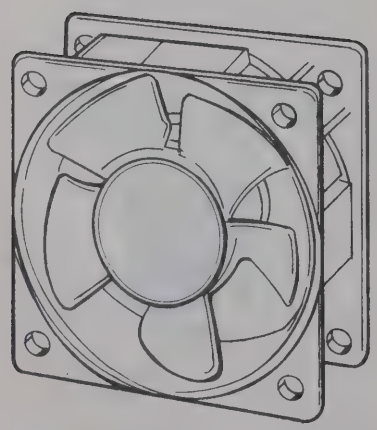
AC TUBEAXIAL FANS

Black die-cast aluminum housing and thermoplastic impeller, rated UL94V-0. Life-lubricated ball bearing system or oil-impregnated sintered sleeve bearing system. Reliable shaded-pole motor. Connect by two 24 AWG lead wires or two 0.272W x 0.020″ thick (6.9 x 0.5) terminals. All models are 50/60Hz. UL recognized.

Stock No.	Type	Con-nect†	Bear-ing‡	VAC	Watts	rpm	cfm	dBA	1-9	10-24	25-49
4.76 SQUARE x 1.50″ DEEP (120 SQ. x 38) HIGH-SPEED VERSION											
84N1519	MC1123HST	T	S	115	18	2900	105	48	12.95	11.40	10.36
84N1520	MC1123HBT	T	B	115	18	3050	107	50	13.95	12.28	11.16
92N4751	MC1123HSL	L	S	115	18	2900	105	48	14.50	12.76	11.60
84N1521	MC2123HST	T	S	220/240	19	2900	105	48	12.95	11.40	10.36
84N1522	MC2123HBT	T	B	220/240	19	3050	107	50	13.95	12.28	11.16
92N4752	MC2123HSL	L	S	220/240	19	2900	105	48	14.50	12.76	11.60
4.76 SQUARE x 1.50″ DEEP (120 SQ. x 38) LOW-SPEED VERSION											
84N1517	MC1123LST	T	S	115	11	2200	76	38	12.95	11.40	10.36
92N4753	MC1123LSL	L	S	115	11	2200	76	38	14.50	12.76	11.60
84N1518	MC2123LST	T	S	220/240	10	2200	76	38	12.95	11.40	10.36
92N4754	MC2123LSL	L	S	220/240	10	2200	76	38	14.50	12.76	11.60
4.76 SQUARE x 1.00″ DEEP (120 SQ. x 25) HIGH-SPEED VERSION											
84N1515	MC1122HBT*	T	B	115	18	2300	78	46	12.75	11.22	10.20
92N4755	MC1122HBL*	L	B	115	18	2300	78	46	15.50	13.64	12.40
84N1516	MC2122HBT*	T	B	220/240	18	2300	78	46	12.75	11.22	10.20
92N4756	MC2122HBL*	L	B	220/240	18	2300	78	46	15.50	13.64	12.40
3.62 SQUARE x 1.00″ DEEP (92 SQ. x 25)											
84N1511	MC1092HST	T	S	115	12	2750	36	39	12.75	11.22	10.20
84N1513	MC1092HSL	L	S	115	12	2750	36	39	12.75	11.22	10.20
84N1512	MC2092HST	T	S	220/240	14	2750	36	39	12.75	11.22	10.20
84N1514	MC2092HSL	L	S	220/240	14	2750	36	39	12.75	11.22	10.20
3.18 SQUARE x 1.50″ DEEP (80 SQ. x 38)											
92N4757	MC1083HSL	L	S	115	12	2750	30	35	14.50	12.76	11.60
3.18 SQUARE x 1.00″ DEEP (80 SQ. x 25)											
92N4758	MC1082HBL	L	B	115	11	2900	22	34.5	16.50	14.52	13.20
92N4759	MC2082HBL	L	B	220/240	13.5	2900	22	34.5	16.50	14.52	13.20

*Not UL recognized; †Connection: T = terminals, L = lead wires; ‡Bearings: S = sleeve, B = ball

(17528) (ne10147)



BRUSHLESS DC TUBEAXIAL FANS

Black die-cast aluminum housing and thermoplastic impeller, rated UL94V-0. Life-lubricated ball bearing system. Brushless shaded-pole motor. Connect by two 24 AWG lead wires. UL recognized.

Stock No.	Type	VDC	Watts	rpm	cfm	dBA	1-9	10-24	25-49
1.58 SQUARE x 0.394″ DEEP (40 SQ. x 10)									
84N1523	MCKD1204PFB2	12	0.9	6100	6	25	7.45	6.56	5.96
2.38 SQUARE x 1.00″ DEEP (60 SQ. x 25)									
92N4760	MCKDE1206PTB2*	12	1.4	4300	18	31.3	9.95	8.76	7.96
92N4761	MCKDE2406PTB2*	24	1.9	3800	17.6	31	9.95	8.76	7.96
3.18 SQUARE x 1.00″ DEEP (80 SQ. x 25)									
92N4762	MCKDE1208PTB2-6	12	2.0	2800	35	32.5	9.75	8.58	7.80
92N4763	MCKDE2408PTB2-6	24	2.9	2650	34.4	30	9.75	8.58	7.80
3.65 SQUARE x 1.00″ DEEP (92 SQ. x 25)									
92N4764	MCKDE1209PTB2-6	12	2.1	2600	45	34	9.75	8.58	7.80
92N4765	MCKDE2409PTB2-6	24	2.9	2500	44	33	9.75	8.58	7.80
4.76 SQUARE x 1.00″ DEEP (120 SQ. x 25)									
92N4766	MCKDE1212PTB2-6A†	12	3.6	2800	80	41	11.95	10.52	9.56
92N4767	MCKDE2412PTB2-6A†	24	4.8	2800	80	41	11.95	10.52	9.56

*26 AWG lead wires; †Not UL recognized

(17527) (ne10148)

CONTACT NEWARK FOR LARGE-QUANTITY PRICING.

FAN ACCESSORIES

METAL FAN GUARDS

Wire form finger guards designed to provide safe operation of tubeaxial fans. Constructed of nickel chrome plated wire. Conform to UL 0.25" (6.35) dia. plug gauge test. Offer maximum airflow. Easily attaches to either side of fan.

Stock No.	Type	For Fan Size	Guard Size	1-9
84N1504	MCFG-06	2.36 "(60)	2.11" (53.6)	1.99
84N1505	MCFG-08	3.18" (80)	2.99" (76)	2.19
84N1506	MCFG-09	3.65" (92)	3.52" (89.5)	2.29
84N1507	MCFG-12	4.76" (120)	4.55" (115.6)	2.49

(28348) (ne28348)

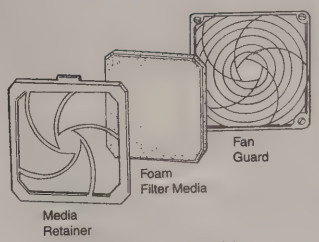
MCFG-09

PLASTIC FAN FILTER ASSEMBLIES

Filter assembly for tubeaxial fans consists of fan guard, foam filter media, and media retainer. Ideal for the removal of dust and contaminating particles. Easy installation. Plastic snap-on media retainer for minimal air restriction. Foam filter media allows free passage of air with minimum air resistance and pressure drop. Reduces fan noise and is cleaned by vacuuming or washing. High-impact plastic fan guard decreases noise level and features ¼" max. ring spacing and countersunk mounting holes. Replacement foam filter media is available; *contact your local Newark sales office for details.*

Stock No.	Type	PPI*	For Fan Size	Mtg. Hole on Center	Guard Size	1-9	10-24	25-49
92N4674	2481	30	2.38" (60)	1.97" (49.99)	2.4 x 2.4 x 0.25"	4.40	3.74	3.37
92N4675	2482	45	2.38" (60)	1.97" (49.99)	2.4 x 2.4 x 0.25"	4.40	3.74	3.37
92N4676	2483	30	3.18" (80)	2.81" (71.37)	3.29 x 3.29 x 0.39"	4.51	3.83	3.45
92N4677	2484	45	3.18" (80)	2.81" (71.37)	3.29 x 3.29 x 0.39"	4.14	3.52	3.17
92N4678	2485	30	3.65" (92)	3.25" (82.42)	3.80 x 3.80 x 0.39"	4.40	3.74	3.37
92N4679	2486	45	3.65" (92)	3.25" (82.42)	3.80 x 3.80 x 0.39"	4.40	3.74	3.37
92N4680	2487	30	4.76" (120)	4.13" (104.77)	4.87 x 4.87 x 0.42"	5.96	5.06	4.56
92N4681	2488	45	4.76" (120)	4.13" (104.77)	4.87 x 4.87 x 0.42"	5.28	4.49	4.04

*Pores per inch
(17531) (ne10151)



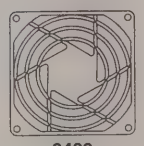
Fan Filter Assembly

PLASTIC FAN GUARDS

Designed for use with standard 3.18" (80), 3.65" (92), and 4.76" (120) tubeaxial fans. Offer maximum airflow. Attaches to either side of fan without creating pure tones due to blade passing frequencies. Tooled with ring spacing that is in compliance with UL ¼" probe requirements. Constructed of high-impact plastic, rated UL94V-0.

Stock No.	Type	For Fan Size	Mtg. Hole on Center	Guard Size	1-9	10-24	25-49
92N4682	2489	3.18" (80)	2.81" (71.37)	3.15 x 3.15 x 0.120"	1.30	1.10	0.99
92N4683	2490	3.18" (80)	2.81" (71.37)	3.15 x 3.15 x 0.257"	1.76	1.50	1.35
92N4684	2491	3.65" (92)	3.25" (82.42)	3.62 x 3.62 x 0.250"	2.02	1.72	1.55
92N4690	2497	4.76" (120)	4.13" (104.77)	4.53 x 4.53 X 0.100"	1.55	1.31	1.18
92N4685	2492	4.76" (120)	4.13" (104.77)	4.53 x 4.53 x 0.260"	1.40	1.19	1.07
92N4686	2493	4.76" (120)	4.13" (104.77)	4.65 x 4.65 x 0.279"	2.28	1.94	1.75

(17529) (ne10149)



2489

2490

2491

2497

2492

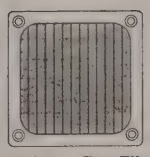
2493

ALUMINUM FAN FILTERS

Filters mount on any standard 3.18" (80), 3.65" (92), and 4.76" (120) tubeaxial fan or a panel. Provide maximum airflow with effective filtering. Available with mill finish to enhance EMI/RFI shielding or black anodized finish. Woven aluminum corrugated mesh screen with aluminum frame. Cleaned by washing in solvent.

Stock No.	Type	Finish*	For Fan Size	Mtg. Hole on Center	Filter Size	1-9	10-24	25-49
92N4671	2478	A	3.18" (80)	2.81" (71.37)	3.30 x 3.30 x 0.175"	5.13	4.36	3.92
92N4687	2494	M	3.18" (80)	2.81" (71.37)	3.30 x 3.30 x 0.175"	4.14	3.52	3.17
92N4672	2479	A	3.65" (92)	3.25" (82.42)	3.62 x 3.62 x 0.175"	5.96	5.06	4.56
92N4688	2495	M	3.65" (92)	3.25" (82.42)	3.62 x 3.62 x 0.175"	4.66	3.96	3.57
92N4673	2480	A	4.76" (120)	4.13" (104.77)	4.68 x 4.68 x 0.175"	6.16	5.24	4.71
92N4689	2496	M	4.76" (120)	4.13" (104.77)	4.68 x 4.68 x 0.175"	4.82	4.09	3.69

*Finish: A = Anodized (Black); M = Mill (No Finish)
(17530) (ne10150)



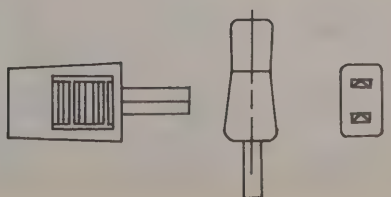
Aluminum Fan Filter

AC FAN POWER CORDS

AC power cord ideal for tubeaxial fans. Cord type: SPT-1, molded PVC. Color: black. Feature 2-conductor straight plug. Rating: 60°C max., 250VAC max. Choice of 3 popular lengths. UL recognized.

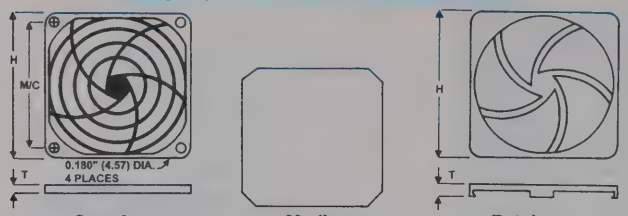
Stock No.	Type	AWG	Length	1-9
84N1508	MCA2-03	18	12" (300)	1.69
84N1509	MCA2-06	18	24" (600)	1.75
84N1510	MCA2-10	18	39" (1000)	1.99

(29784) (ne29784)



FAN ACCESSORIES

PLASTIC FAN FILTER ASSEMBLIES



Guard | Media | Retainer

Assemblies consist of guard, polyurethane foam filter media, and media retainer for tubeaxial fans. Guards are constructed of high-impact UL94V-0 material and decrease noise level due to their design. Polyurethane foam media has high surface area for filtration of dust particles and is designed to produce minimal pressure drop. Retainer constructed of UL94V-0 material, snaps on, and is designed for minimal air restriction. **Sold individually, except (*) sold in packages of 5.**

1½" (40) FAN SIZE

Stock No.	Type	Description	Size (Inches) H sq.	W	T	M/C	Each
16F084	09150-F30	Guard, Retainer, Media (30 PPI)	1.57	1.57	0.19	1.26	4.24
16F085	09150-F45	Guard, Retainer, Media (45 PPI)	1.57	1.57	0.19	1.26	4.24
16F087	09150-M45*	Foam Media (45 PPI)	1.29	1.29	0.09	...	13.50

2½" (60) FAN SIZE

Stock No.	Type	Description	Size (Inches) H sq.	T	M/C	Each
95F7334	09250-F/30	Guard, Retainer, Media	2.36	0.25	1.97	4.72
95F7335	09250-F/45	Guard, Retainer, Media	2.36	0.25	1.97	4.72
95F7337	09250-M/30*	30 PPI Media Only	...	...	...	3.15
95F7338	09250-M/45*	45 PPI Media Only	...	...	...	3.15

3⅛" (80) FAN SIZE

90F1254	09325F/30	Guard, Retainer, Media	3.29	0.39	2.81	4.79
87F3920	09325-F/45	Guard, Retainer, Media	3.29	0.39	2.81	4.44
87F3922	09325-M/30*	30 PPI Media Only	...	...	...	3.19
87F3923	09325-M/45*	45 PPI Media Only	...	...	...	3.19

3⅝" (92) FAN SIZE

95F7339	09362-F/30	Guard, Retainer, Media	3.80	0.39	3.25	4.64
87F3924	09362-F/45	Guard, Retainer, Media	3.80	0.39	3.25	4.64
87F3912	09362-M/30*	30 PPI Media Only	...	...	...	3.43
87F3913	09362-M/45*	45 PPI Media Only	...	...	...	3.43

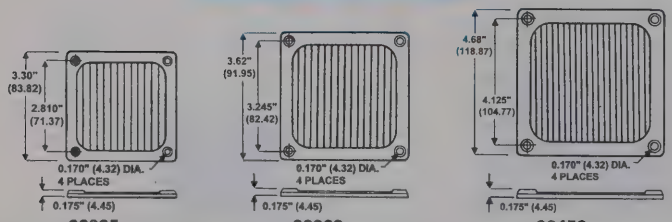
4½" (120) FAN SIZE

90F1255	09450F/30	Guard, Retainer, Media	4.87	0.42	4.13	6.03
87F3914	09450-F/45	Guard, Retainer, Media	4.87	0.42	4.13	5.58
87F3916	09450-M/30*	30 PPI Media Only	...	...	...	3.80
87F3917	09450-M/45*	45 PPI Media Only	...	...	...	3.80

PPI = pores per inch; M/C = mounting hole centers.

(9327) (de51754)

ALUMINUM FAN FILTERS



06325 | 06362 | 06450

Filters feature tightly-woven aluminum mesh screen convoluted approximately 0.125" (3.18) deep with approximately 0.188" (4.78) pitch. Durable aluminum frame. Mount directly to fan or a panel. Mill finish enhances EMI/RFI shielding.

80mm-3⅛" (80) FAN SIZE

Stock No.	Type	Finish	Each
87F3928	06325-B	Anodized (Black)	5.37
87F3929	06325-M	Mill (No Finish)	4.46

92mm-3⅝" (92) FAN SIZE

87F3930	06362-B	Anodized (Black)	5.94
87F3931	06362-M	Mill (No Finish)	4.93

120mm-4½" (120) FAN SIZE

87F3918	06450-B	Anodized (Black)	6.21
87F3919	06450-M	Mill (No Finish)	5.15

(9328) (de51755)

FAN GUARDS

For use with tubeaxial fan sizes 1½" (40) through 10" (254). ¼" maximum ring spacing for compliance with domestic and international safety agency requirements.

WIRE FORM GUARDS

Stock No.	Type	For Fan Size (mm)	(in.)	Mounting Hole Centers	No. of Rings	Thickness	Each
95F7343	08149	40	1½	1.26"	2	0.189"	2.60
16F083	08148	50	2	1.65"	4	0.189"	2.63
90F1247	08147	60	2½	1.97"	4	0.195"	2.79
87F3900	08132	80	3⅛	2.81"	5+	0.195"	2.58
95F7344	08172	80	3⅛	2.81"	5*	0.195"	2.57
87F3903	08134	92	3⅝	3.25"	6+	0.195"	3.02
95F7345	08174	92	3⅝	3.25"	6*	0.195"	2.70
87F3927	08141	120	4½	4.13"	7	0.205"	4.92
90F1258	08213	120	4½	4.13"	7	0.223"	3.72
87F3905	08128	120	4½	4.13"	8	0.280"	4.28
87F3906	08129	120	4½	4.13"	8	0.148"	3.60
87F3925	08130	120	4½	4.13"	8	0.223"	3.41
90F2317	08170	120	4½	4.13"	8	0.223"	3.26
90F2316	08150	127	5	4.46"	9	0.233"	4.86
90F2315	08126	150	6	6.38"	10	0.254"	6.46
98F1433	08127	254	10	6.85"	9	0.250"	10.13

*Ribs 0.063" (1.60) dia.; +Ribs 0.071" (180) dia.

PLASTIC GUARDS

Stock No.	Type	For Fan Size (mm)	(in.)	Mounting Hole Centers	Width	Thickness	Each
52F7184	09150-G	40	1½	1.26"	1.57"	0.250"	1.57
95F7336	09250-G	60	2½	1.97"	2.36"	0.250"	1.85
52F7185	09080-G	80	3⅛	2.81"	3.15"	0.120"	1.38
87F3921	09325-G	80	3⅛	2.81"	3.15"	0.257"	1.91
87F3911	09362-G	92	3⅝	3.25"	3.62"	0.250"	2.14
52F7186	09120-G	120	4½	4.13"	4.53"	0.260"	1.46
52F7187	09121-G	120	4½	4.13"	4.53"	0.260"	2.02
91F9620	09122-G	120	4½	4.12"	4.53"	0.100"	1.91
87F3915	09450-G	120	4½	4.13"	4.65"	0.279"	2.45

(9330) (de51757)

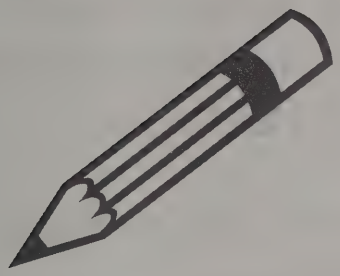
FAN POWER CORDS

Tubeaxial fan cords with strain reliefs. UL listed 7A/125VAC; CSA certified 7A/125VAC. Cord is SPT-1, 2-conductor, black, rated 105°C, 300V. Cords in 40", 50", 60", and 80" lengths available; *contact your local Newark sales office for details.*

Stock No.	Type	Plug Style	Length	Each
87F3907	07100-24	Straight	24"	2.31
90F1259	07100-36	Straight	36"	2.42
87F3908	07145-24	45°	24"	2.31
90F1992	07145-36	45°	36"	2.42
87F3909	07190-24	90°	24"	2.31
90F1993	07190-36	90°	36"	2.42
87F3910	07199-24	T	24"	2.31
90F1256	07199-36	T	36"	2.42

(9329) (de51756)

NOTES



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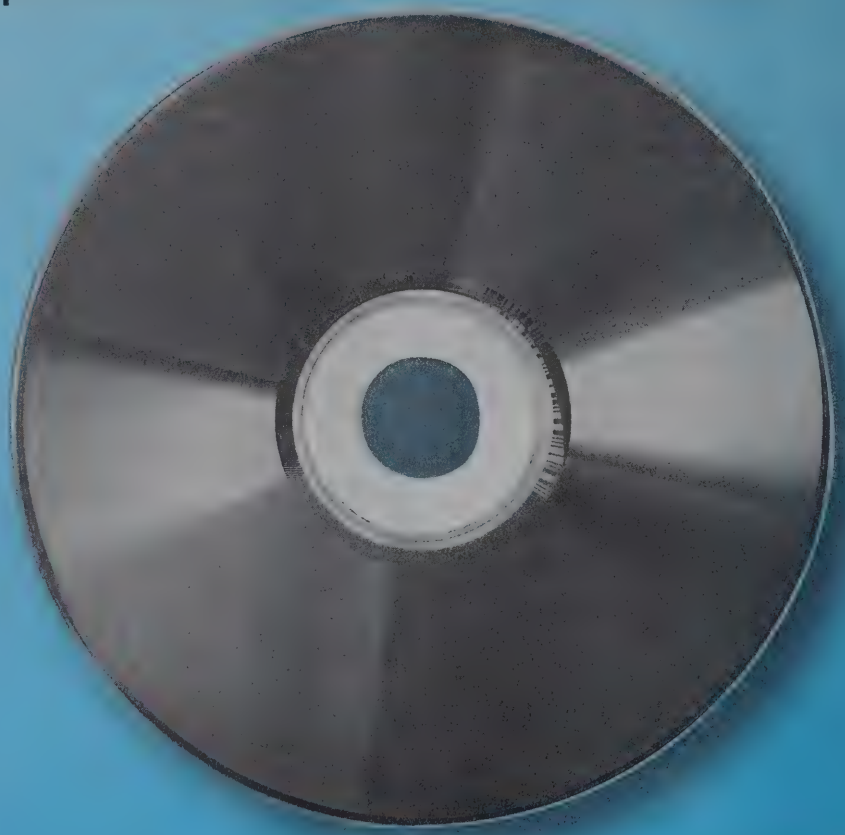

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Fasteners, Tape & Hardware

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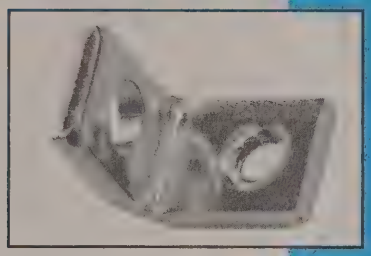

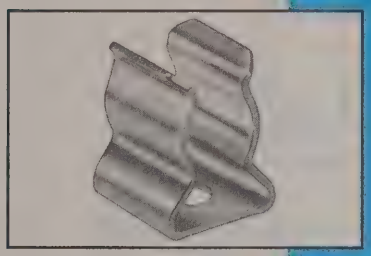

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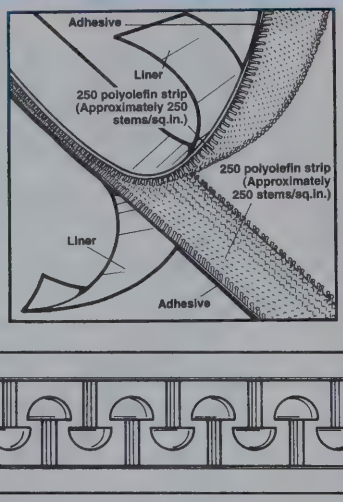
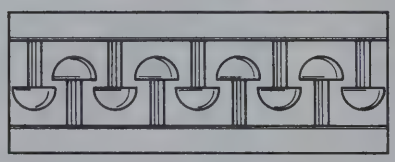
DUAL LOCK™ RECLOSABLE FASTENING SYSTEM





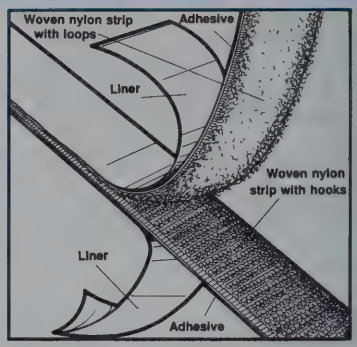
System features mushroom-shaped stems that interlock with one another with audible snap. Five times more holding power than hook and loop systems. Offer extreme design flexibility, faster product assembly and smoother, cleaner external appearance. **Type MP3541/3542** has general-purpose rubber adhesive that bonds to most surfaces. **Types MP3551/3552** and **MP3560** have premium acrylic pressure-sensitive very high bond (VHB) adhesive. Roll size: 1″ x 4.9 yards.

DUAL LOCK™ RECLOSABLE FASTENERS

Stock No.	Type	Color	1-9	10-24
93F6918	MP-3541/42	Black	44.25	42.04
93F6919	MP-3551/52	Black	61.95	58.85
93F6920	MP-3560	Clear	71.25	67.69

(9341) (de53331)

SCOTCHMATE™ HOOK AND LOOP FASTENING SYSTEM



Combination of hundreds of tiny, stiff hooks on one side of closure mesh with a surface of pliable loops on the other provides secure replacement for fasteners such as zippers, screws, bolts, snaps, hooks, and latches. Offers extreme design flexibility, faster product assembly, and smoother, cleaner external appearance. Plain-back types can be stapled, sewn or ultrasonically bonded in place. Pressure-sensitive types have general-purpose rubber adhesive that bonds to most surfaces. Roll size: 1″ x 4.9 yards.

PLAIN-BACK SCOTCHMATE™

Stock No.	Type	Color	1-9	10-24
93F6914	MP3401/3402WTE	White	17.69	16.81
93F6915	MP-3401/02 BLACK	Black	17.69	16.81
	PRESSURE-SENSITIVE SCOTCHMATE™			
93F6916	MP-3526/27 WHITE	White	31.22	29.67
93F6917	MP-3526/27 BLACK	Black	31.22	29.67

(9342) (de53332)

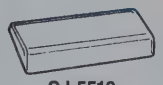
BUMPON™ PROTECTIVE BUMPERS

SJ-5003SP
SJ-5017SP
SJ-5027SP

SJ-5009SP

SJ-5012SP

SJ-5018SP
SJ-5023SP
SJ-5008SP



SJ-5510

Self-sticking, press-on polyurethane bumpers for fans, small appliances, furniture and glass shelves, telephones, computers, calculators, scales and speakers, cabinet doors, lids and drawers, chairs, walls, sliding doors and for stacking glass and metal sheets. Bonds with metal, wood, glass, steel, acrylic plastic, and aluminum. All black. **Sold in packages of 100.**

Stock No.	Type	Description	W x H	1-4	5-9
90F1537	SJ-5027SP(BLACK)	Hemisphere	0.63x0.31″	20.28	19.27
90F1532	SJ-5017SP (BLACK)	Hemisphere	0.75x0.38″	19.24	18.28
90F1528	SJ-5003SP (BLACK)	Hemisphere	0.44x0.20″	8.33	7.91
90F1534	SJ-5009SP (BLACK)	Circ. Depressed	0.88x0.40″	24.10	22.89
90F1529	SJ-5008SP (BLACK)	Tapered Square	0.50x0.12″	7.95	7.55
90F1533	SJ-5018SP(BLACK)	Tapered Square	0.50x0.23″	13.19	12.54
90F1536	SJ-5023SP(BLACK)	Tapered Square	0.81x0.30″	19.24	18.28
90F1530	SJ-5012SP (BLACK)	Cylindrical	0.50x0.14″	8.33	7.91

(9309) (de51358)

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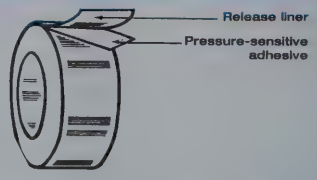
VHB™* ACRYLIC FOAM TAPE

NEW UL



Used to replace mechanical fastening for permanent assembly in many assemblies. The foam carrier of VHB™ foam tapes helps provide higher strength, handling, convenience, cushioning, damping, and impact resistance. VHB™+ foam tapes bond a wider range of materials, are more conformable, and have lower application temperatures. Constructed of closed-cell acrylic, except **types 4932** and **4952** which are synthetic and **type 4943F**, which is conformable. **Types 4930, 4945, 4950, 4941**, and **4979F** are UL listed. Roll size: ¾″ x 36 yards, except **types 4905, 4930**, and **4932**, which are ¾″ x 72 yards. Additional sizes of ½″ and 1″ are also available; *contact your local Newark sales office for details.* **Sold in packages of 3.**

VHB™

Stock No.	Type	Thick-ness	Color	1-9	10-24
83F8387	4905	0.020″	Clear	332.78	299.50
83F8389	4930	0.025″	White	297.50	267.75
83F8388	4910	0.040″	Clear	180.78	162.70
83F8393	4945	0.045″	White	166.95	150.26
83F8394	4949	0.045″	Black	190.65	171.58
83F8395	4950	0.045″	White	159.86	143.87
	VHB™+				
83F8390	4932	0.025″	White	347.82	313.04
83F8391	4941	0.045″	Dark Gray	178.07	160.27
83F8392	4943F	0.045″	Gray	189.52	170.57
83F8396	4952	0.045″	White	181.50	163.35
83F8397	4979F	0.062″	Black	193.29	173.96

*VHB = Very High Bond
(33080) (ne33080)

SCOTCH® SUPER 33+ VINYL PLASTIC ELECTRICAL TAPE

7-mil electrical tape stretches easily, sticks aggressively in temperatures ranging from 0°F to 220°F. Provides excellent resistance to flame, abrasion, moisture, alkalies, solvents, oil, ultraviolet rays, and many acids. Color: black. UL listed, CSA certified.

Stock No.	Type	Roll Size	1-9	10-24	25-49	50-99
36F899	33+ SUPER	¾″ x 20′	1.73	1.65	1.57	1.54
36F898	33+ SUPER	¾″ x 66′	4.43	4.21	4.00	3.92

(9246) (de02914)

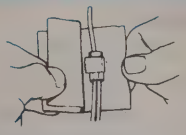
HIGHLAND® VINYL PLASTIC ELECTRICAL TAPE

Economy 7-mil tape for general electrical repair. Flexible, conformable, flame-retardant, moisture/abrasion-resistant. Roll size: ¾″ (19.1) x 66′ (20.12m).

Stock No.	Type	1-9	10-24	25-49	50-99
87F734	16720 HIGHLAND	2.02	1.92	1.83	1.78

(9221) (de01907)

SCOTCH® 2210, 2200 VINYL MASTIC PADS AND 2228, 2229 RUBBER MASTIC ROLLS



Type 2210 roll (90 mil) and **2200** pre-cut pads (125 mil) are self-fusing; rubber-based insulating compounds laminated to all-weather grade vinyl (PVC) backing. Mold around difficult shapes and insulate, moisture-seal, and pad connections to 600V. **Types 2228** (65 mil) and **2229** (125 mil) conformable 1kV laminated tape for insulating, padding and sealing electrical splice connections. Ethylene propylene rubber bonded to tacky, temperature- stable mastic.

Stock No.	Type	Size	1-9	10-24	25-49	50-99
87F733	2200 3 1/4X4 1/2	3¼ x 4½″ Pad	2.58	2.45	2.32	2.28
87F732	2200 6 1/2 X4 1/2	6½ x 4½″ Pad	4.07	3.86	3.68	3.61
95F6315	2228 2"X10'	2″ x 10′ Roll	20.84	19.79	18.80	18.43
01F364	2229(3 3/4"X10	3¾″ x 10′ Roll	25.50	24.22	23.01	22.56
87F728	2210 (4"X10')	4″ x 10′ Roll	39.88	37.90	36.00	35.28

(9247) (de02915)

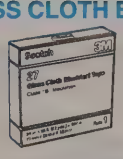
SCOTCH® 06147 AND 06149 ELECTRICAL MOISTURE SEALANT ROLL AND PAD

Roll and pre-cut pads apply quickly and easily to insulate, seal, and protect electrical/electronic connections. Self-fusing, rubber-based insulating mastic forms a moisture-tight seal around connections. Tough, elastic, vinyl backing provides additional protection against vibration (45-mil).

Stock No.	Type	Size	Std. Pkg.	1-9	10-24	25-49	50-99
93F2827	06147	2½″ x 10′ Roll	1 Roll	14.00	13.29	12.63	12.38
93F2828	06149	2½″ x 2½″ Pad	25 Pads	12.79	12.14	11.17	10.95

(9248) (de02916)

SCOTCH® 27 GLASS CLOTH ELECTRICAL TAPE



7-mil tape with thermosetting, pressure-sensitive adhesive performs at class B (130°C/266°F) temperatures. Provides heat-stable insulation around thermocouples and other hot-spot applications. UL recognized, CSA certified.

Stock No.	Type	Roll Size	1-9	10-24	25-49	50-99
36F905	27 (1/2"X66')	½″ x 66′	9.10	8.65	8.21	8.06
87F725	27 (3/4"X66')	¾″ x 66′	13.49	12.81	12.18	11.93

(9249) (de02917)

SCOTCH® 69 GLASS CLOTH ELECTRICAL TAPE

7.5-mil tape with thermosetting silicone adhesive performs at class H temperatures (180°C/356°F). Secure non-PSA insulation such as glass in high-temperature areas and splice wire rated 150°C, 180°C, SF and SFF.

Stock No.	Type	Roll Size	1-9	10-24	25-49	50-99
95F6312	69	½″ x 66′	11.63	11.05	10.50	10.29
95F6313	69	¾″ x 66′	17.43	16.56	15.74	15.43

(9224) (de01910)

SCOTCH® SUPER 88 VINYL PLASTIC ELECTRICAL TAPE

Premium-quality, heavy-duty 8.5-mil tape is flame-retardant and weather-resistant. Excellent low-temperature characteristics. Extra thickness provides added electrical properties, quicker insulation buildup, and abrasion resistance. Meets ASTM D-3005-72, type II and MIL-I-24391. Color: black. Roll size: ¾″ (19.1) x 66′ (20.1m). UL listed, CSA certified. Other widths and lengths available; *contact your local Newark sales office for details.*

Stock No.	Type	1-9	10-24	25-49	50-99
36F886	88SUPER(3/4"X66)	5.01	4.77	4.53	4.43

(9226) (de01936)

TEMFLEX™ 1700 VINYL PLASTIC ELECTRICAL TAPE

Economy-grade, 7-mil tape is UL listed and CSA certified at 80°C. Individually cellophane-wrapped. Roll size: ¾″ (19.1) x 60′ (18.29m).

Stock No.	Type	1-9	10-24	25-49	50-99
87F729	1700	1.59	1.52	1.43	1.41

(9223) (de01909)

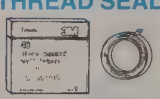
SCOTCH® 70 SILICONE RUBBER ELECTRICAL TAPE

Self-fusing, 12-mil, high-temperature tape composed of fully cured inorganic silicone rubber. Comes with easy-tear/easy-strip liner. Use as protective overwrap where class H (180°C/356°F) temperatures are encountered. Arc- and track-resistant. Color: blue-gray. Roll size: 1″ (25.4) x 30′ (9.14m).

Stock No.	Type	1-9	10-24	25-49	50-99
36F906	70	32.43	30.81	29.27	28.68

(9222) (de01908)

SCOTCH® THREAD SEALANT TAPE



Rolls on dry, molds into threads (bolts, fittings, pipe or screens) to form leak-proof seal. Works on most fluid and gas lines with no mess. Unaffected by oils, hydraulic fluid, freon. Never dries out; permanently lubricated joints never stick.

Stock No.	Type	Roll Size	1-9	10-24	25-49	50-99
87F727	48	½″ x 260′	3.59	3.41	3.23	3.17
87F726	48	¼″ x 260′	2.71	2.57	2.45	2.39

(9250) (de02918)

SCOTCH® 2242 AND 130C SPLICING COMPOUND TAPE

Type 2242 is a self-bonding, 30-mil, EPR-based rubber tape for moisture sealing coaxial connections. Compound is linerless and combines consistent performance and high conformability. Shelf-stable and compatible with butyl rubber, ethylene propylene rubber, polyethylene, and cross-linked polyethylene insulations. Stretches up to 1000%. Use on cables with overload temperatures to 226°F (130°C). Provides tight, void-free, moisture-resistant insulation without loss of electrical characteristics. **Type 130C** is a highly conformable, linerless EPR rubber high-voltage insulating tape providing excellent thermal dissipation of splicing heat. Meets industry standards for flame retardance. Use for low- and high-voltage applications.

Stock No.	Type	Roll Size	1-9	10-24	25-49	50-99
87F730	2242	¾″ x 15′	4.06	3.85	3.67	3.60
87F731	2242	½″ x 15′	7.79	7.39	7.02	6.89
94F8943	130C	¾″ x 30′	9.66	9.17	8.72	8.54
95F6314	130C	½″ x 30′	18.27	17.36	16.49	16.16

(9225) (de01911)

TYPE 425 ALUMINUM FOIL TAPE

Dead-soft aluminum foil tape with highly reflective backing to provide excellent radiation for both heat and light. Can be used for general sealing, metal patching, moisture barrier, heat reflecting. Long aging, both indoors and outdoors. Roll size: 2″ x 60 yards.

Stock No.	Type	1-9	10-24	25-49	50-99
93F6945	425	32.05	30.45	28.92	28.35

(9354) (de53402)

TYPE 6969 CLOTH DUCT TAPE

Silver polyethylene-coated tape is for use in moisture proofing, duct sealing, protecting, and general-purpose applications. Roll size: 2″ x 60 yards.

Stock No.	Type	1-9	10-24	25-49	50-99
93F6922	6969	10.02	9.52	9.04	8.86

(9356) (de53404)

TYPE 471 PLASTIC FILM LANE MARKING TAPE

Vinyl plastic tape is highly conformable and has vivid colors that withstand heavy abrasion. Resistant to most common solvents (avoid ketones, chlorinated hydrocarbons, esters). Roll length: 36 yards. **Type M-77** lane marking applicator available; *contact your local Newark sales office.*

Stock No.	Type	Color	Width	1-9	10-24	25-49	50-99
93F6338	471	Red	1″	9.96	9.46	8.99	8.81
93F6339	471	Red	2″	19.93	18.93	17.99	17.63
93F6341	471	Yellow	2″	19.93	18.93	17.99	17.63
93F6345	471	White	2″	19.93	18.93	17.99	17.63
93F6346	471	Blue	1″	9.96	9.46	8.99	8.81
93F6350	471	Green	1″	9.96	9.46	8.99	8.81

(9353) (de53401)

TYPE 5702 SAFETY STRIPE TAPE

Vinyl plastic tape with 2″-wide alternating colored stripes for marking floors and objects to identify safety areas or physical hazards. Rubber adhesive. Not recommended for use on vinyls or other plastics containing migrating-type plasticizers. **Type M-77** lane marking applicator available; *contact your local Newark sales office.*

Stock No.	Type	Color of Stripes	1-9	10-24	25-49	50-99
93F6357	5700	Black-and-White	28.92	27.47	26.11	25.58
93F6358	5702	Black-and-Yellow	28.92	27.47	26.11	25.58

(9355) (de53403)

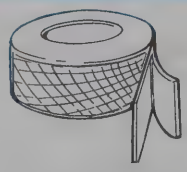
CITRUS BASE INDUSTRIAL CLEANER

Dissolves and flushes away dirt, grease, tar, most noncuring adhesive films, and similar substances. Contains no petroleum distillates and emulsifies when flushed with water. Contains no methylene chloride, 1,1,1-trichloroethane, or chlorofluorocarbons. VOC content does not comply with the California Air Resources Board Consumer Products Rule general-purpose cleaner limits. Consult other air quality regulations which may regulate product use.

00Z1152 Type CITRUS CLEANER. Aerosol Spray. 24-oz. **Each**..... **13.32**

(4570) (de53344)

ACRYLIC ADHESIVE FOAM TAPE



For general-purpose mounting and jointing. Features firm acrylic pressure sensitivity, high bond strength, good high temperature performance, solvent resistance and high shear holding power. **Types 4416** and **4408** are double-coated vinyl foam tape. The high degree of conformability makes these tapes well-suited to joining rough, mismatched surfaces; closed-cell foam design provides excellent water and air seals. **Types 4016** and **4008** are double-coated urethane foam tape. They are soft, conformable and have excellent low temperature properties. Roll size: 1″ x 36 yards.

Stock No.	Type	Description	1-9	10-24	25-49	50-99
50F4821	4416	Vinyl, 0.0625″T	53.15	50.50	47.98	47.01
50F4822	4408	Vinyl, 0.1250″T	63.28	60.12	57.12	55.97
98F1819	4016	Urethane, 0.0625″T	30.68	29.14	27.69	27.13
50F4820	4008	Urethane, 0.1250″T	45.56	43.29	41.12	40.30

(9197) (de01502)

TYPE 5490 EXTRUDED PTFE FILM TAPE

Semi-transparent fused PTFE film made of fluorocarbon resin for excellent chemical resistance. Antifriction, easy release surface. Ideal for wrapping rollers, plates, belts, and more. Silicone adhesive. Roll size: 1″ x 36 yards.

Stock No.	Type	1-9	10-24	25-49	50-99
93F6928	5490	68.14	64.72	61.49	60.26

(9348) (de53395)

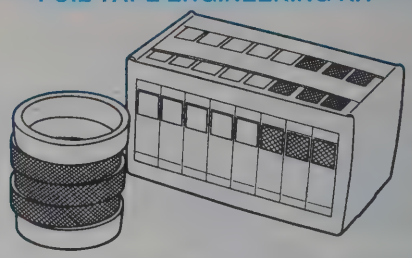
TYPE 1280 CIRCUIT BOARD PLATING TAPE

Red polyester-backed tape with special extra-heavy adhesive that provides superior straight stop-off line for masking of printed circuit boards during electroplating. Undercutting and leakage are reduced. For machine and hand application. Roll size: 2″ x 72 yards.

Stock No.	Type	1-9	10-24	25-49	50-99
93F6932	1280	25.35	24.09	22.89	22.42

(9345) (de53392)

FOIL TAPE ENGINEERING KIT



Sampler includes all nine 3M foil shielding tapes, including smooth and embossed aluminum, copper, and tin-plated copper, with conductive and non-conductive adhesives (**types 1170, 1181, 1182, 1183, 1194, 1245, 1267,** and **1345**). Replaceable tapes are packed in dispenser-type box. Roll size: ¾″ x 4 yards. Replacement tapes available; *contact your local Newark sales office. Order types 1181, 1245, and 1345 foil tapes separately on this page.*

Stock No.	Type	1-9	10-24
95F2858	FOIL TAPE KIT	75.02	69.80

(9350) (de53397)

SCOTCH® 1181, 1245, AND 1345 EMI/RFI FOIL SHIELDING TAPES

Copper foil electrical tapes shield against EMI/RFI radiation. Foil tapes are conductive through the adhesive and offer mechanical, electrical, and thermal values to meet shielding effectiveness/frequency requirements. **Type 1345** provides greatest shielding effectiveness and corrosion resistance.

Stock No.	Type	Roll Size	1-9	10-24	25-49
SMOOTH FINISH					
96F9287	1181	¼″ x 18′	8.22	7.78	7.62
96F9288	1181	½″ x 18′	16.44	15.56	15.26
44F3261	1181	1″ x 18′	39.62	35.28	34.50
EMBOSSED FINISH					
44F3256	1245	1″ x 18′	28.48	26.95	26.43
EMBOSSED TIN FINISH					
96F9290	1345	½″ x 18′	15.67	14.83	14.54
46F4361	1345	1″ x 18′	37.73	33.60	32.86

(9251) (de02919)

TYPE 5413 POLYIMIDE FILM TAPE

Polyimide KAPTON™ type H backing is flame, radiation and chemical resistant. Backing does not soften at elevated temperatures, providing excellent release when used at temperatures above 400°F. Roll length: 36 yards.

Stock No.	Type	Width	1-4	5-9	10-24	25-49
93F6930	5413	½″	48.14	45.73	42.08	41.23
93F6931	5413	¾″	71.92	68.32	62.86	61.60

(9347) (de53394)

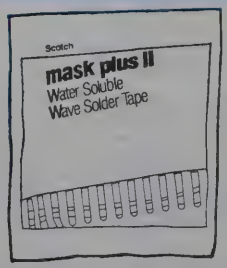
TYPE 5480 SKIVED PTFE FILM TAPE

PTFE fluorocarbon film and silicone adhesive give maximum wear life on hot melt coating equipment such as polyethylene extruders. The tape is applied to the rubber laminating roll on the extruder to prevent buildup on the laminating roll. Roll size: 1″ x 36 yards.

Stock No.	Type	1-9	10-24	25-49	50-99
93F6926	5480	53.43	50.76	48.22	47.26

(9349) (de53396)

TYPE 5414 WATER-SOLUBLE WAVE SOLDER TAPE



Designed to mask finger areas of circuit boards during wave soldering and then dissolve during typical in-line aqueous cleaning operations. When dissolved, tape is biodegradable, nontoxic, pollution-free, and neutral pH. Packed in moisture-proof foil bag with desiccant. Roll length: 36 yards.

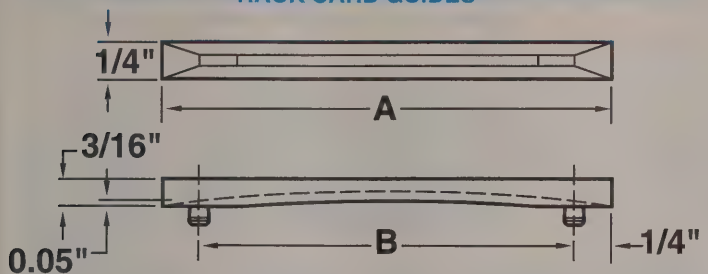
Stock No.	Type	Width	1-9	10-24	25-49	50-99
93F6933	5414	½″	22.76	21.63	20.54	20.13
93F6934	5414	¾″	34.16	32.45	30.84	30.22

(9346) (de53393)

NEW

CARD GUIDES

RACK CARD GUIDES

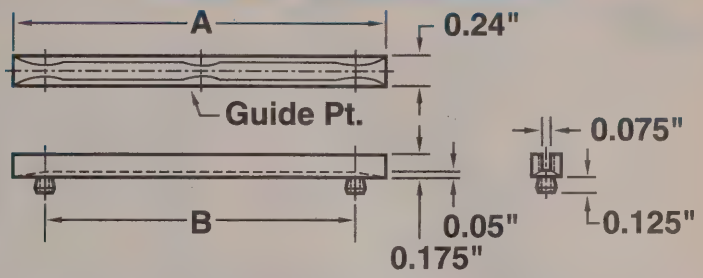


Snap front pin into 0.125″ (3.2) diameter hole. For quick installation insert rear pin into 0.120″ x 0.218″ (3.1 x 5.5) slot. Nylon 6/6, RMS-01; flame retardent nylon, RMS-19 available by special order. Accept 0.0625″ thick board. Color: natural. **Sold in packages of 100.**

Stock No.	Type	Dimensions A	Dimensions B	Per Package 1-4
92N4858	2643	0.118″ (76.2)	0.098″ (63.5)	55.62
92N4859	2644	0.154″ (101.6)	0.137″ (88.9)	59.16
92N4860	2645	0.236″ (152.4)	0.216″ (139.7)	73.10
92N4861	2646	0.334″ (215.9)	0.314″ (203.2)	84.94

(9211) (de01805)

HOLLOW PIN RACK CARD GUIDES

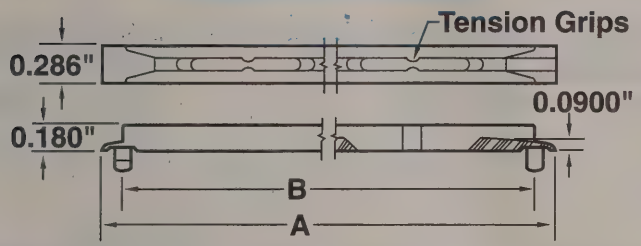


Convenient hollow pin design eases insertion. Nylon 6/6, RMS-01. Color: natural. **Sold in packages of 100.**

Stock No.	Type	Dimensions A	Dimensions B	Guide Points	Per Pkg.
92N4862	2647	2.500″ (63.50)	2.000″ (50.80)	2	45.29
92N4863	2648	3.000″ (76.20)	2.500″ (63.50)	3	46.83
92N4864	2649	3.500″ (88.90)	3.000″ (76.20)	3	48.42
92N4865	2650	4.000″ (101.60)	3.500″ (88.90)	3	49.82
92N4866	2651	4.500″ (114.30)	4.000″ (101.60)	4	56.23
92N4867	2652	5.000″ (127.00)	4.500″ (114.30)	4	58.96
92N4868	2653	5.500″ (139.70)	5.000″ (127.00)	5	58.96
92N4869	2654	6.000″ (152.40)	5.500″ (139.70)	5	61.53

(32383) (ne32383)

TENSION CARD GUIDES

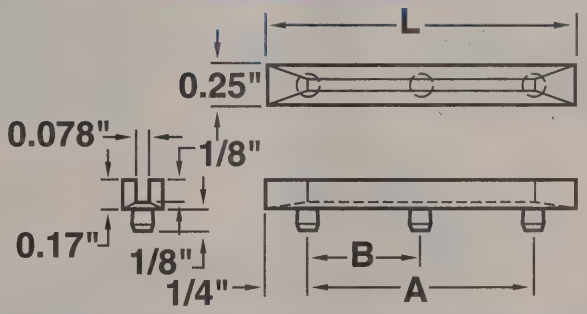


Feature funnel entry for easy board insertion, tension grips that apply spring pressure to hold boards, and slotted surface which provides ventilation. Snaps into 0.125″ to 0.131″ (3.2 to 3.3) diameter holes, in 0.062″ (1.6) max. board thickness. Accept 1⁄16″ (1.6) nominal board thickness. **Sold in packages of 100**

Stock No.	Type	Dimensions A	Dimensions B	No. of Grips	Per Pkg.
81N1649	PCG3925	3.925″ (99.7)	3.625″ (92.1)	2	48.36
81N1650	PCG6675	6.675″ (169.5)	6.375″ (161.9)	4	78.58

(32381) (ne32381)

NARROW CARD GUIDES

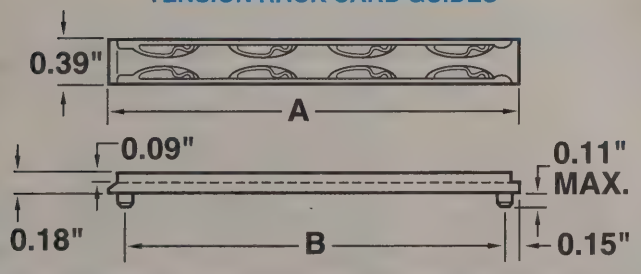


Card guide design allows for use in high-density applications. Snaps into 0.125″ (3.2) diameter holes. Narrow width 0.245″ (6.4) facilitates maximum airflow. No tools required for installation. Color: natural. **Sold in packages of 100.**

Stock No.	Type	Dimensions L ±.030″ (±0.8)	Dimensions A ±.024″ (±0.6)	Dimensions B ±.016″ (±0.4)	Per Pkg.
92N4874	2659	2.5″ (63.5)	2.0″ (50.8)	...	63.50
92N4875	2660	3.0″ (76.2)	2.5″ (63.2)	...	63.50
92N4876	2661	3.5″ (88.9)	3.0″ (76.2)	...	63.50
92N4877	2662	4.0″ (101.6)	3.5″ (88.9)	...	69.29
92N4878	2663	4.5″ (114.3)	4.0″ (101.6)	...	69.29
92N4879	2664	5.0″ (127.0)	4.5″ (114.3)	...	69.29
92N4880	2665	5.5″ (139.7)	5.0″ (127.0)	...	77.33
92N4881	2666	6.0″ (152.4)	5.5″ (139.4)	...	77.33
92N4882	2667	6.5″ (164.1)	6.0″ (152.4)	...	77.33
92N4883	2668	7.0″ (177.8)	6.5″ (164.1)	...	83.43
92N4884	2669	7.0″ (177.8)	6.5″ (177.1)	3.25″ (82.2)	83.43
92N4885	2670	7.5″ (190.5)	7.0″ (177.8)	...	83.43
92N4886	2671	8.0″ (203.2)	7.0″ (177.8)	3.5″ (88.5)	89.22
92N4887	2672	8.0″ (203.2)	7.5″ (190.5)	3.75″ (94.9)	89.22
92N4888	2673	8.5″ (215.5)	8.0″ (203.2)	...	89.22
92N4889	2674	8.5″ (215.5)	8.0″ (203.2)	4.0″ (101.6)	89.22

(32380) (ne32380)

TENSION RACK CARD GUIDES



Snap mounts to metal, plastic chassis or machine casing. Accept PC board 0.050″ to 0.100″ (1.3 to 2.5) thick. 128″ (3.25) over 0.131″ (3.33) and 0.215″ (5.46) over 0.218″ (5.54) in diameter. Recommended mounting holes: 0.06-0.07″ (1.5-1.8) panel thickness. Polycarbonate, RMS-23. Color: black. **Sold in packages of 100.**

Stock No.	Type	Dimensions A	Dimensions B	Per Pkg.
92N4870	2655	0.098″ (63.5)	0.086″ (55.9)	80.16
92N4871	2656	0.129″ (83.8)	0.118″ (76.2)	86.99
92N4872	2657	0.154″ (99.7)	0.142″ (92.1)	105.39
92N4873	2658	0.262″ (169.6)	0.250″ (161.9)	162.28

(32382) (ne32382)

CALL NEWARK FOR FAST, DEPENDABLE SERVICE.

PC BOARD HARDWARE AND KITS

VERTICAL MOUNT CARD GUIDES

NEW

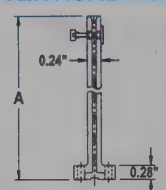
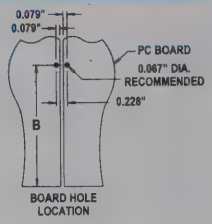


Fig. 1



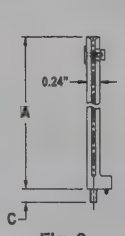
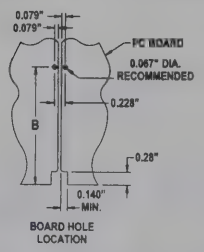


Fig. 2



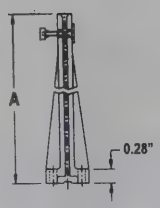


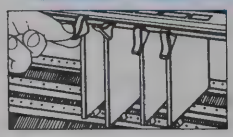
Fig. 3

Vertical mount card guides are for 0.062″ nominal PC board thickness. Two ribs in guide grooves reduce vibration and shifting. Double-channel design permits side-by-side mounting. Engage or disengage locking device by simply pressing with finger. Metal threaded inserts for secure screw mount installation. Constructed of glass-filled nylon 6.6. Color: gray. Hardware is included for chassis mounting. **Sold in packages of 100.**

Stock No.	Type	Fig.	Dimensions A	B	C	Pkg. of	Per Pkg. 1-4
92N4849	2634	1	2.56″	2.22″	...	100	238.75
92N4851	2636	1	3.54″	3.21″	...	100	264.50
92N4853	2638	1	5.31″	4.98″	...	100	280.75
92N4854	2639	1	6.30″	4.43″	...	100	322.75
92N4856	2641	1	4.73″	4.43″	...	100	306.50
92N4850	2635	2	2.76″	2.44″	0.22″	100	241.95
92N4852	2637	2	3.94″	3.62″	0.35″	100	251.75
92N4855	2640	3	4.73″	4.43″	...	100	322.75
92N4857	2642	3	6.30″	4.43″	...	100	412.95

(32379) (ne32379)

CIRCUIT BOARD EJECTORS



AMERLOK™ brand

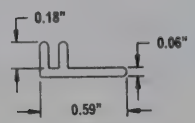
Tab provides finger-tip grip for board insertion/removal. Snap into two 0.109″ (2.77) diameter holes in 0.062″ (1.57) board. Nylon 6.6. **Sold in packages of 100.**

Stock No.	Type	Color	Pkg. of	Per Package 1-4	5-9
92N4892	2677	Black	100	44.65	37.96
92N4894	2679	Red	100	44.65	37.96
92N4895	2680	Orange	100	44.65	37.96
92N4896	2681	Yellow	100	44.65	37.96
92N4897	2682	Blue	100	44.65	37.96
92N4898	2683	Violet	100	44.65	37.96
92N4899	2684	Gray	100	44.65	37.96
92N4890	2675	Natural	100	44.65	37.96
92N4891	2676	Green	100	44.65	37.96

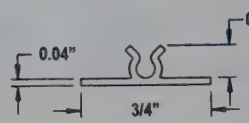
(9213) (de01807)

PC BOARD GUIDES

AMERLOK™ brand



PCBG-3



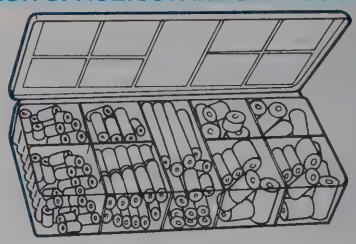
PCBG-4

Offers precision alignment of PC boards 1/16″ (1.6) thick. Color: gray. Type numbers with **suffix A** have adhesive base. **Sold in packages of ten 2′ lengths.**

Stock No.	Type	Pkg. of	Per Package 1-4	5-9
23N3974	PCBG-3	10	34.86	29.63
37N1643	PCBG-3A	10	59.62	50.68
37N1644	PCBG-4	10	29.32	24.92
37N1645	PCBG-4A	10	58.34	49.59

(9214) (de01808)

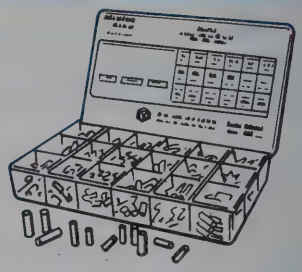
290-PC. NYLON SPACER/STANDOFF ASSORTMENT KIT



Kit contains 290 pieces including the most popular round and hex spacers and standoffs in threaded and self-tapping versions. Includes a variety of lengths, diameters, and screw sizes in handy storage box. Material: molded nylon.

92N4965 Type 2460. **Each** **72.44**
(17040) (ne10817)

775-PC. PLASTIC SPACER ASSORTMENT KIT

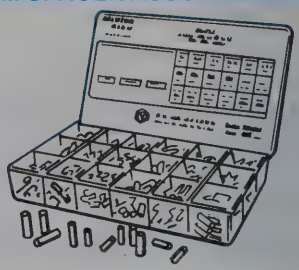


AMERLOK™ brand

Kit contains 350 self-tapping spacers and 425 thru-hole spacers: 50 each of **types HSS-44, HSS-46, HSS-64, HSS-66, HSS-68, RP4-250, RP4-500, RP4-750, RP6-250, RP6-500, RP6-750, RP8-500**, and **RP8-750**; 25 each of **types HSS-48, HSS-85, HSS-86, HSS-88** and **RP8-1000.**

23N3613 Type8404-HSS. **Each** **105.99**
(9300) (de50710)

450-PC. ALUMINUM SPACER ASSORTMENT KIT

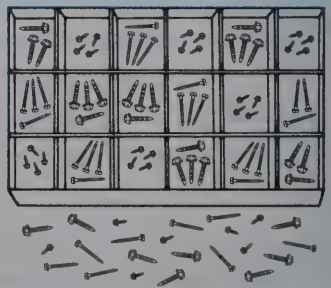


AMERLOK™ brand

Kit contains 25 each of **types RA-4-250A, RA-4-375A, RA-6-500A, RA-6-750A, RA-6-1000A, RA-8-1000A, RTA-4-250A, RTA-4-375A, RTA-6-500A, RTA-6-750A, RTA-6-1000A, RTA-8-1000A, HTA-4-250A, HTA-4-375A, HTA-6-500A, HTA-6-750A, HTA-6-1000A,** and **HTA-8-1000A.**

23N3614 Type 8404-RTA. **Each** **129.99**
(9301) (de50711)

SHEET METAL SCREW ASSORTMENT KITS



AMERLOK™ brand

All kits include steel sheet metal screws with zinc plating. Combo pan screws are case hardened, and hex washer "Tek" screws include self-drilling points.

Stock No.	Type	Description	Items/Sizes	Pieces	Each
92N3608	1687	Combo Pan Kit	16	330	47.56
92N3609	1688	Phillips Oval Kit	17	270	43.42
92N3610	1689	Hex Washer "Tek" Kit	18	215	34.11
92N3611	1690	Slotted Hex Washer Kit	18	215	36.18

(17042) (ne10809)

STANDOFFS AND SPACERS

THREADED FEMALE/FEMALE STANDOFFS

AMERLOK™ brand

Sold in packages of 100.

¼" OUTER DIA. HEX BRASS STANDOFFS – ZINC PLATED

Dim. L	4-40 Thread			6-32 Thread			8-32 Thread		
	Stock No.	Type	Each	Stock No.	Type	Each	Stock No.	Type	Each
0.250"	93N2159	HTB-4-250A	17.75	93N2164	HTB-6-250A	17.75	93N2169	HTB-8-250A	17.75
0.375"	93N2160	HTB-4-375A	20.75	93N2165	HTB-6-375A	20.75	93N2170	HTB-8-375A	20.75
0.500"	93N2161	HTB-4-500A	23.95	93N2166	HTB-6-500A	23.95	93N2171	HTB-8-500A	23.95
0.750"	93N2162	HTB-4-750A	39.95	93N2167	HTB-6-750A	39.95	93N2172	HTB-8-750A	39.95
1.000"	93N2163	HTB-4-1000A	41.45	93N2168	HTB-6-1000A	41.45	93N2173	HTB-8-1000A	41.45
1.500"	92N5291	2749	59.95	92N5287	2745	49.95	92N5296	2754	72.95
2.000"	92N5292	2750	82.95	92N5288	2746	67.95	92N5297	2755	72.95

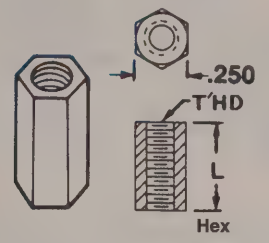
¼" OUTER DIA. HEX ALUMINUM STANDOFFS – IRIDITE FINISH, MEETS MIL-C-5541 SPECS.

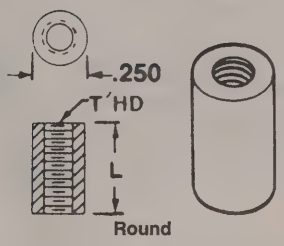
0.250"	93N2137	HTA-4-250A	16.45	93N2142	HTA-6-250A	16.45	93N2147	HTA-8-250A	16.45
0.375"	93N2138	HTA-4-375A	17.95	93N2143	HTA-6-375A	17.95	93N2148	HTA-8-375A	17.95
0.500"	93N2139	HTA-4-500A	21.45	93N2144	HTA-6-500A	21.45	93N2149	HTA-8-500A	21.45
0.750"	93N2140	HTA-4-750A	24.95	93N2145	HTA-6-750A	24.95	93N2150	HTA-8-750A	24.95
1.000"	93N2141	HTA-4-1000A	37.95	93N2146	HTA-6-1000A	37.95	93N2151	HTA-8-1000A	37.95

¼" OUTER DIA. ROUND ALUMINUM STANDOFFS – IRIDITE FINISH, MEETS MIL-C-5541 SPECS.

0.250"	93N2119	RTA-4-250A	14.95	93N2125	RTA-6-250A	15.95	93N2131	RTA-8-250A	15.95
0.375"	93N2120	RTA-4-375A	17.45	93N2126	RTA-6-375A	17.45	93N2132	RTA-8-375A	17.45
0.500"	93N2121	RTA-4-500A	18.95	93N2127	RTA-6-500A	18.95	93N2133	RTA-8-500A	18.95
0.750"	93N2122	RTA-4-750A	23.95	93N2128	RTA-6-750A	23.95	93N2134	RTA-8-750A	23.95
1.000"	93N2123	RTA-4-1000A	29.95	93N2129	RTA-6-1000A	29.95	93N2135	RTA-8-1000A	33.95
1.500"	93N2124	RTA-4-1500A	44.95	93N2130	RTA-6-1500A	44.95	93N2136	RTA-8-1500A	55.95

(9298) (de50708)





THREADED MALE/FEMALE STANDOFFS

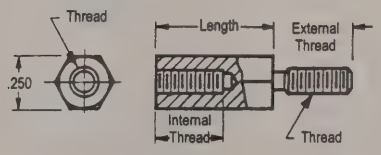
Sold in packages of 100.

¼" OUTER DIAMETER HEX ALUMINUM STANDOFFS — IRIDITE FINISH

Length	4-40 Thread*			6-32 Thread†			8-32 Thread‡		
	Stock No.	Type	Each	Stock No.	Type	Each	Stock No.	Type	Each
0.250"	92N5273	2731	22.45	92N5274	2732	24.95	...	...	...
0.375"	92N5255	2713	23.95	92N5261	2719	26.95	92N5267	2725	35.95
0.500"	92N5256	2714	34.95	92N5262	2720	27.45	92N5268	2726	36.95
0.625"	92N5257	2715	38.95	92N5263	2721	33.95	92N5269	2727	38.95
0.750"	92N5258	2716	39.95	92N5264	2722	34.45	92N5270	2728	41.75
0.875"	92N5259	2717	42.95	92N5265	2723	36.95	92N5271	2729	44.95
1.000"	92N5260	2718	44.95	92N5266	2724	38.95	92N5272	2730	47.95

¼" OUTER DIAMETER HEX BRASS STANDOFFS — ZINC PLATED

Length	4-40 Thread*			6-32 Thread†			8-32 Thread‡		
	Stock No.	Type	Each	Stock No.	Type	Each	Stock No.	Type	Each
0.250"	93N2190	HMFB-4-250A	27.95	93N2193	HMFB-6-250A	27.95	...	...	...
0.375"	93N2191	HMFB-4-375A	30.95	93N2194	HMFB-6-375A	30.95	92N5303	2761	30.95
0.500"	93N2192	HMFB-4-500A	37.95	93N2195	HMFB-6-500A	37.95	93N2203	HMFB-8-500A	37.95
0.625"	92N5298	2756	39.95	92N5301	2759	39.95	92N5302	2760	39.95
0.750"	92N5299	2757	43.95	93N2196	HMFB-6-750A	43.95	93N2204	HMFB-8-750A	43.95
1.000"	92N5300	2758	48.95	93N2197	HMFB-6-1000A	48.95	93N2205	HMFB-8-1000A	48.95



*Thread depth: 0.187" external/0.250" internal; †Thread depth: 0.250" external/0.375" internal; ‡Thread depth: 0.375" external/internal.

(17751) (ne10831)

ROUND CLEAR SPACERS

Sold in packages of 100.

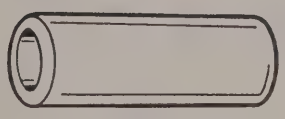
¼" OUTER DIAMETER BRASS SPACERS – NICKEL PLATED

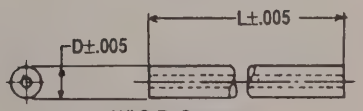
Length	#4 Screw			#6 Screw			#8 Screw		
	Stock No.	Type	Each	Stock No.	Type	Each	Stock No.	Type	Each
0.250"	93N2152	RB-4-250A	18.50	93N2154	RB-6-250A	15.50	...	...	...
0.375"	93N2153	RB-4-375A	19.50	93N2155	RB-6-375A	18.95	...	...	...
0.500"	...	...	...	93N2156	RB-6-500A	21.95	93N2157	RB-8-500A	21.95
0.750"	...	...	...	...	...	...	93N2158	RB-8-750A	25.50

¼" OUTER DIAMETER ALUMINUM SPACERS – IRIDITE FINISH, MEETS MIL-C-5541 SPECS.

Length	#4 Screw			#6 Screw			#8 Screw		
	Stock No.	Type	Each	Stock No.	Type	Each	Stock No.	Type	Each
0.250"	93N2106	RA-4-250A	10.95	93N2109	RA-6-250A	10.95	93N2114	RA-8-250A	12.50
0.375"	93N2107	RA-4-375A	16.95	93N2110	RA-6-375A	11.50	93N2115	RA-8-375A	15.95
0.500"	93N2108	RA-4-500A	17.95	93N2111	RA-6-500A	12.50	93N2116	RA-8-500A	13.95
0.625"	92N5643	2879	17.75	92N5644	2880	17.75	92N5645	2881	17.75
0.750"	92N5646	2882	20.95	93N2112	RA-6-750A	19.95	93N2117	RA-8-750A	18.50
0.875"	92N5647	2883	23.95	92N5648	2884	23.95	92N5649	2885	21.95
1.000"	92N5650	2886	26.95	93N2113	RA-6-1000A	24.95	93N2118	RA-8-1000A	24.95

(9296) (de50706)





¼" O.D. Spacers

LET NEWARK CONNECT™ AUTOMATICALLY REPLENISH YOUR INVENTORY.
CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR DETAILS.

PLASTIC/CERAMIC SPACERS AND STANDOFFS

¼" O.D. THREADED FEMALE/FEMALE HEX SPACERS – FIG. 1

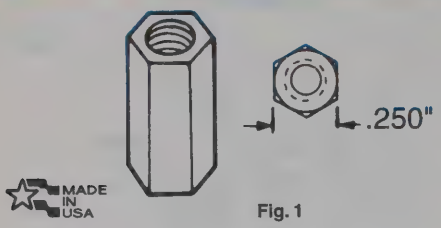


Fig. 1

Material: nylon 6/6, rated UL94V-0. Color: white. Made in the U.S.A. **Sold in packages of 100.**

Length	#4-40 Thread			#6-32 Thread			#8-32 Thread		
	Stock No.	Type	Per Pkg.	Stock No.	Type	Per Pkg.	Stock No.	Type	Per Pkg.
0.250"	92N4920	2415	16.55	92N4927	2422	16.55	92N4934	2429	16.55
0.375"	92N4921	2416	16.55	92N4928	2423	16.55	92N4935	2430	16.55
0.500"	92N4922	2417	17.59	92N4929	2424	17.59	92N4936	2431	17.59
0.625"	92N4923	2418	19.66	92N4930	2425	19.66	92N4937	2432	19.66
0.750"	92N4924	2419	20.69	92N4931	2426	20.69	92N4938	2433	20.69
0.875"	92N4925	2420	21.73	92N4932	2427	21.73	92N4939	2434	21.73
1.000"	92N4926	2421	22.76	92N4933	2428	22.76	92N4940	2435	22.76

(17036) (ne10813)

¼" O.D. THREADED MALE/FEMALE HEX SPACERS – FIG. 2

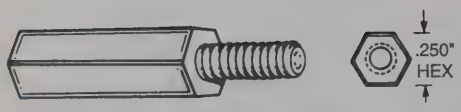


Fig. 2

Material: nylon 6/6, rated UL94V-2. Color: white. Order hex machine screw nuts separately; *contact your local Newark sales office for details.* **Sold in packages of 100.**

Length	#4-40 Thread			#6-32 Thread			#8-32 Thread		
	Stock No.	Type	Per Pkg.	Stock No.	Type	Per Pkg.	Stock No.	Type	Per Pkg.
0.250"	92N4941	2436	16.55	92N4948	2443	16.55	92N4955	2450	16.55
0.375"	92N4942	2437	16.55	92N4949	2444	16.55	92N4956	2451	16.55
0.500"	92N4943	2438	17.07	92N4950	2445	17.07	92N4957	2452	17.07
0.625"	92N4944	2439	17.59	92N4951	2446	17.59	92N4958	2453	17.59
0.750"	92N4945	2440	17.59	92N4952	2447	17.59	92N4959	2454	17.59
0.875"	92N4946	2441	18.11	92N4953	2448	18.11	92N4960	2455	18.11
1.000"	92N4947	2442	18.11	92N4954	2449	18.11	92N4961	2456	18.11

(17037) (ne10814)

¼" O.D. HEX STANDOFFS – FIG.3

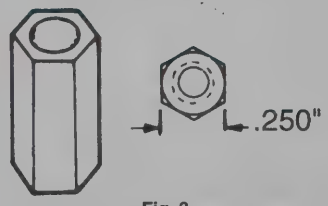


Fig. 3

For self-tapping screws. Material: PVC, rated UL94V-0. Color: gray. **Sold in packages of 100.**

Length	#4 Screw			#6 Screw			#8 Screw		
	Stock No.	Type	Per Pkg.	Stock No.	Type	Per Pkg.	Stock No.	Type	Per Pkg.
0.500"	93N1010	HSS-44	9.86	16N1025	HSS-64	12.51	92N4964	2459	5.17
0.625"	92N4962	2457	5.17	92N4963	2458	5.17	93N1014	HSS-85	18.68
0.750"	93N1011	HSS-46	10.93	93N1013	HSS-66	13.67	93N1015	HSS-86	20.99
1.000"	93N1012	HSS-48	12.88	93N4889	HSS-68	14.87	93N1016	HSS-88	26.79

(9299) (de50709)

¼" O.D. ROUND THREADED TAPPED SPACERS – FIG. 4

Fig. 4

Material: nylon 6/6, rated UL94V-2. Color: white. **Sold in packages of 100.**

Length	#4-40 Thread			#6-32 Thread			#8-32 Thread		
	Stock No.	Type	Per Pkg.	Stock No.	Type	Per Pkg.	Stock No.	Type	Per Pkg.
0.250"	92N4900	2395	13.45	92N4907	2402	13.45	92N4914	2409	13.45
0.375"	92N4901	2396	13.45	92N4908	2403	13.45	92N4915	2410	13.45
0.500"	92N4902	2397	14.48	92N4909	2404	14.48	92N4916	2411	14.48
0.625"	92N4903	2398	14.48	92N4910	2405	14.48	92N4917	2412	14.48
0.750"	92N4904	2399	14.48	92N4911	2406	14.48	...	...	...
0.875"	92N4905	2400	15.00	92N4912	2407	15.00	92N4918	2413	15.00
1.000"	92N4906	2401	15.52	92N4913	2408	15.52	92N4919	2414	15.52

(17038) (ne10815)

¼" O.D. ROUND SPACERS – FIG. 5

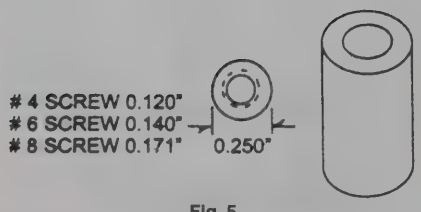


Fig. 5

For self-tapping screws. Rated UL94V-0. **Sold in packages of 100.**

WHITE NYLON

Length	#4 Screw			#6 Screw			#8 Screw		
	Stock No.	Type	Per Pkg.	Stock No.	Type	Per Pkg.	Stock No.	Type	Per Pkg.
0.125"	93N2174	RN-4-125A	6.95	93N2178	RN-6-125A	6.95	...	...	...
0.250"	93N2175	RN-4-250A	7.45	93N2179	RN-6-250A	7.45	93N2184	RN-8-250A	7.45
0.375"	93N2176	RN-4-375A	7.95	93N2180	RN-6-375A	7.95	93N2185	RN-8-375A	7.95
0.500"	93N2177	RN-4-500A	8.75	93N2181	RN-6-500A	8.75	93N2186	RN-8-500A	8.75
0.750"	93N2189	RN-4-750A	10.95	93N2182	RN-6-750A	10.95	93N2187	RN-8-750A	10.95
1.000"	...	...	...	93N2183	RN-6-1000A	12.95	93N2188	RN-8-1000A	12.95

GRAY PVC

0.250"	93N1001	RP4-250	10.27	93N1004	RP6-250	10.11	...	...	...
0.500"	93N1002	RP4-500	11.55	93N1005	RP6-500	11.39	93N1007	RP8-500	11.18
0.750"	93N1003	RP4-750	12.96	93N1006	RP6-750	12.80	93N1008	RP8-750	12.59
1.000"	...	...	...	...	...	...	93N1009	RP8-1000	14.08

(9297) (de50707)

COMMERCIAL-TYPE ¼" O.D. ROUND CERAMIC THREADED SPACERS - FIG. 6

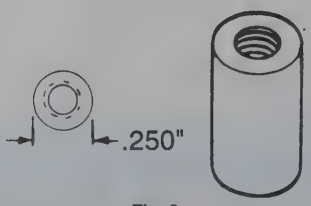


Fig. 6

Sold in packages of 25.

Stock No.	Type	Length	O.D.	Thread	Depth	Per Package		
						1-9	10-24	25-49
92N5227	2685	0.250"	0.250"	#6-32	Thru	39.95	33.96	28.77
92N5228	2686	0.500"	0.250"	#6-32	0.156"	39.95	33.96	28.77
92N5229	2687	0.375"	0.375"	#6-32	0.156"	37.85	32.18	27.26
92N5230	2688	0.500"	0.375"	#6-32	0.187"	38.95	33.11	28.05
92N5231	2689	0.500"	0.500"	#6-32	0.140"	42.50	36.13	30.60
92N5232	2690	0.750"	0.500"	#6-32	0.250"	44.95	38.21	32.37
92N5233	2691	1.000"	0.500"	#6-32	0.375"	46.95	39.91	33.81

(17842) (ne10832)

SNAP-IN MOUNTING BUTTONS

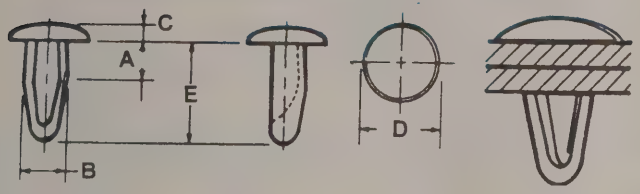
AMERLOK brand

Installs quickly without tools. Ideal for applications where metal screws or rivets can not be used. Barbed arrow locks securely, but is releasble from underside of PC board. Hole diameter: 0.156″ (4.0). Constructed of nylon 6/6. Color: natural. **Sold in packages of 100.**

Stock No.	Type	Panel Thickness	Per Pkg. 1-4
81N1632	SMB-501	1/32 - 3/32″	**15.45**
50N146	SPC4908	3/32 - 5/32″	**10.25**
50N147	SPC4909	3/16 - 7/32″	**15.75**
50N148	SPC4910	5/16 - 3/8″	**15.95**
50N149	SPC4911	3/8 - 7/16″	**16.25**
50N150	SPC4912	7/16 - 1/2″	**16.50**

(9215) (de01809)

MINI SNAP-IN MOUNTING BUTTONS

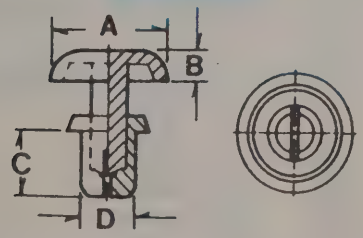


Easy to install. Fastens thin gauge material or mounts lightweight components. Button head suitable for front panels. Constructed of nylon 6/6. Color: natural. **Sold in packages of 100.**

Stock No.	Type	Dimensions A	B	C	D	E	Per Pkg. 1-9
81N2601	MB-1	0.08 - 0.10″	0.123 - 0.127″	0.04″	0.27″	0.33″	**7.58**
50N143	SPC4905	0.12 - 0.16″	0.131 - 0.141″	0.07″	0.41″	0.44″	**8.95**
50N144	SPC4906	0.10 - 0.16″	0.182 - 0.192″	0.09″	0.50″	0.43″	**9.95**
50N145	SPC4907	0.10 - 0.22″	0.247 - 0.253″	0.09″	0.50″	0.64″	**10.25**

(9216) (de01810)

SNAP RIVETS



To install simply press head and lock into position. No tools needed. Constructed of nylon 6/6. Color: black. **Sold in packages of 100.**

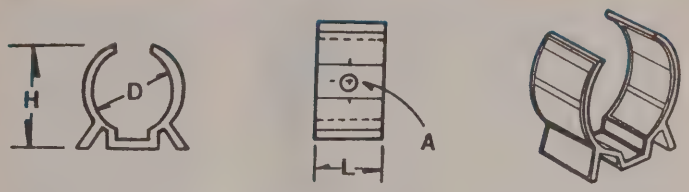
Stock No.	Type	Panel Thickness	Dimensions A	B	C	D	Per Pkg. 1-4
95N5146	SR-142B*	0.18″	0.197″	0.055″	0.17″	0.102″	**15.57**
95N5147	SR-135B**	0.20″	0.252″	0.063″	0.14″	0.118″	**12.26**
95N5148	SR-145B**	0.24″	0.252″	0.063″	0.18″	0.118″	**12.59**
95N5149	SR-155B**	0.24″	0.252″	0.063″	0.22″	0.118″	**12.38**
95N5151	SR-245B†	0.24″	0.252″	0.063″	0.18″	0.138″	**12.38**
95N5152	SR-255B†	0.28″	0.252″	0.063″	0.22″	0.138″	**13.33**
95N5150	SR-270B‡	0.35″	0.351″	0.071″	0.28″	0.157″	**14.83**

Hole diameter: *0.102 - 0.106″; **0.122 - 0.126″; †0.142 - 0.146″; ‡0.161 - 0.165″

(9217) (de01811)

ALL PRODUCTS LISTED ARE STOCKED.

COMPONENT CLAMPS

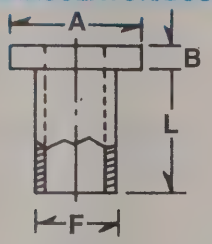


Fasten and insulate a wide variety of electrical and electronic components, accessories, and parts. Permit quick insertion and easy removal. For clamping components such as capacitors, resistors, lamps, batteries, and fuses. Made of black vinyl with high dielectric strength. Screw hole accepts fastening hardware. **Sold in packages of 100.**

Stock No.	Type	Dimensions D	L	H	A	Per Package 1-4	5-9
16N1035	CS-6	0.375″	0.500″	0.406″	0.094″	**37.43**	**31.82**
16N1036	CS-8	0.500″	0.500″	0.516″	0.094″	**39.04**	**33.19**
16N1037	CS-10	0.625″	0.500″	0.609″	0.094″	**49.40**	**41.54**
16N1038	CS-12	0.750″	0.500″	0.719″	0.156″	**45.21**	**38.43**

(9210) (de01804)

SCREW INSULATOR/BUSHINGS

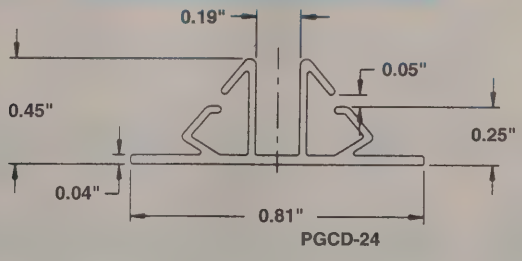


Used with high-strength, noninsulated screws. Wide flange isolates screw from mounting surface. Can also be used as a lightweight load bearing. Requires no lubrication. Constructed of nylon. Color: natural. **Sold in packages of 100.**

Stock No.	Type	Length Size	L	Dimensions A	B	F	Per Pkg. 1-9	10-49
28F1910	SIB-0403	#4	0.046″	0.252″	0.046″	0.140″	**11.80**	**10.03**
28F1912	SIB-0406	#4	0.093″	0.252″	0.046″	0.145″	**11.80**	**10.03**
28F1914	SIB-0416	#4	0.250″	0.252″	0.046″	0.145″	**11.80**	**10.03**
28F1915	SIB-0616	#6	0.250″	0.300″	0.046″	0.170″	**11.84**	**10.07**

(32985) (ne32985)

PC BOARD MOUNTING STRIPS



Horizontal mount for PC boards of any length or width. One-piece vinyl construction. Color: black. **Sold in packages of ten 2′ lengths.**

Stock No.	Type	Base Width	Per Package 1-4	5-9
81N1700	PGCS-24	0.813″ (20.65)	**54.94**	**46.70**
81N1701	PGCD-24	1.250″ (31.75)	**69.64**	**59.19**

(9218) (de01812)

SPACERS, STANDOFFS AND KITS

SNAP-IN PC BOARD SPACERS

AMERLOK T.M. brand

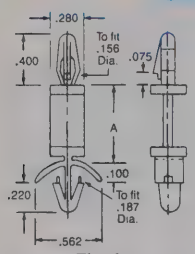


Fig. 1

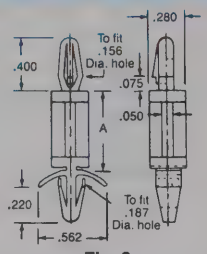


Fig. 2

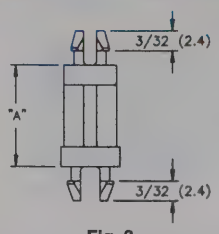


Fig. 3

Sold in packages of 100.

NYLON FLEXIBLE SUPPORTS – FIG. 1

Flexible supports allow access to under side of PC board for maintenance and repair. Locks to PC board and chassis. Material: nylon 6/6. Color: natural.

Stock No.	Type	Dimension A ±0.015″ (0.4)	Pkg. of	Per Pkg. 1-4
37N1659	FPCS-6	0.375″ (9.53)	100	16.27
37N1660	FPCS-8	0.500″ (12.70)	100	17.52
92N4837	2622	0.750″ (19.05)	100	23.15
92N4838	2623	1.000″ (25.40)	100	25.98

NYLON LOCKING PC BOARD SUPPORTS – FIG. 2

Ends lock by hand, no tools required. Strong grip. Material: nylon 6/6. Color: natural.

50N4751	PCS-3	0.188″ (4.78)	100	12.34
50N4752	PCS-4	0.250″ (6.35)	100	13.13
50N4753	PCS-6	0.375″ (9.53)	100	13.79
50N4754	PCS-8	0.500″ (12.70)	100	14.83
50N4755	PCS-10	0.625″ (15.88)	100	15.82
50N4756	PCS-12	0.750″ (19.05)	100	16.90
16N1014	PCS-14	0.875″ (22.22)	100	17.85
50N4757	PCS-16	1.000″ (25.40)	100	20.12
50N5421	PCS-20	1.250″ (31.75)	100	20.91

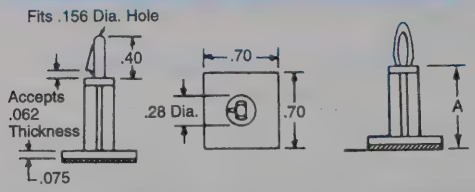
NYLON LOW-PROFILE SUPPORT POSTS – FIG. 3

Installs by hand and locks securely. Removable by pinching prong tips. Larger base on one side differentiates one end from the other. Material: nylon 6/6. Color: natural.

16N804	8476-0422	0.188″ (4.78)	100	13.58
16N805	8476-0423	0.250″ (6.35)	100	14.00
16N806	8476-0424	0.375″ (9.53)	100	14.25
16N807	8476-0425	0.500″ (12.70)	100	15.78
16N808	8476-0426	0.625″ (15.88)	100	16.85
16N809	8476-0427	0.750″ (19.05)	100	17.93
16N810	8476-0428	0.875″ (22.23)	100	19.01
16N811	8476-0429	1.000″ (25.40)	100	21.66

(9426) (ne53155)

ADHESIVE MOUNT SNAP-IN SPACERS



Fit 0.156″ diameter hole. Accept 0.062″ thickness panel. 1/32″ thick double-adhesive tape with release tab. Material: nylon 6/6. Color: natural. **Sold in packages of 100.**

Stock No.	Type	Dimension A ±0.015″ (0.4)	Pkg. of	Per Pkg. 1-4	Per Pkg. 5-9
81N2584	APCS-3	0.188″ (4.78)	100	48.94	41.60
81N2585	APCS-4	0.250″ (6.35)	100	49.64	42.20
81N2586	APCS-6	0.375″ (9.53)	100	50.35	42.80
81N2587	APCS-8	0.500″ (12.70)	100	51.51	43.78
81N2588	APCS-10	0.625″ (15.88)	100	52.62	44.73
81N2589	APCS-12	0.750″ (19.05)	100	53.78	45.72
92N4843	2628	0.875″ (22.23)	100	42.27	35.93
92N4844	2629	1.00″ (25.40)	100	43.67	37.12

(9428) (ne53157)

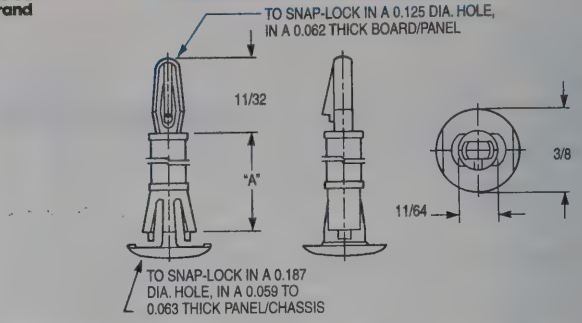
SNAP-IN SPACER ASSORTMENT KIT

Type 8404-PCS 300-piece kit contains 50 each of 1/4″, 3/8″, 1/2″, 3/4″, 1″, and 1 1/4″ heights. Snap-in spacers fit PC boards with 0.156″ holes.

23N3616 Type 8404-PCS. **Each** **59.99**

(9430) (ne53159)

REVERSE-LOCKING SPACERS

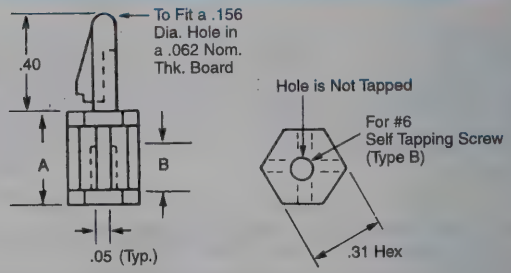

TO SNAP-LOCK IN A 0.125 DIA. HOLE, IN A 0.062 THICK BOARD/PANEL
11/32
"A"
3/8
11/64
TO SNAP-LOCK IN A 0.187 DIA. HOLE, IN A 0.059 TO 0.063 THICK PANEL/CHASSIS

Reverse-locking spacers insert into both holes from chassis underside. Spring lock support installs and releases by hand. Thin button head for minimal protrusion under chassis. Material: nylon 6/6. Color: natural. **Sold in packages of 100.**

Stock No.	Type	Dimension A	Pkg. of	Per Pkg. 1-4	Per Pkg. 5-9
92N4845	2630	0.250″ (6.35)	100	18.17	15.44
92N4846	2631	0.375″ (9.53)	100	19.08	16.22
92N4847	2632	0.500″ (12.70)	100	20.53	17.45
92N4848	2633	0.625″ (15.88)	100	21.95	18.65

(17041) (ne10812)

SCREW-FASTENED PC BOARD STANDOFFS

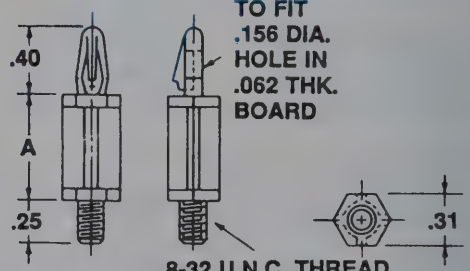


Insert #6 self-tapping screw through chassis and into support. Snap PC board over top of support's tapered head. Tension flange holds PC board in place; squeeze flange for board removal. Material: nylon. Color: natural. **Sold in packages of 100.**

Stock No.	Type	Dimensions A	Dimensions B	Pkg. of	Per Pkg. 1-4	Per Pkg. 5-9
23N3975	SPCS-4	0.250″ (6.35)	0.203″ (5.16)	100	22.57	19.18
23N3976	SPCS-6	0.375″ (9.53)	0.313″ (7.95)	100	22.94	19.50
23N3977	SPCS-8	0.500″ (12.70)	0.313″ (7.95)	100	23.35	19.85
23N3978	SPCS-12	0.750″ (19.05)	0.313″ (7.95)	100	25.84	21.96
95N4041	SPCS-14	0.875″ (22.23)	0.313″ (7.95)	100	27.20	23.12
92N4842	2627	1.0″ (25.40)	0.313″ (7.95)	100	32.99	28.04

(9427) (ne53156)

STUDDED PC BOARD SUPPORTS



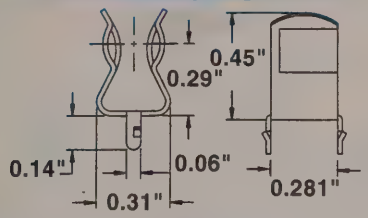
Studded supports for screw fastening. Reusable 1-piece PC board support with a #8-32 thread for speedy installation. Material: nylon. Color: natural. Require no tools. *Order* **type NH-0832-007-SN** *mounting nut separately on page 478.* **Sold in packages of 100.**

Stock No.	Type	Dimension A	Pkg. of	Per Pkg. 1-4	Per Pkg. 5-9
81N1671	TPCS-4	0.25″ (6.35)	100	23.40	19.89
81N1673	TPCS-8	0.50″ (12.70)	100	24.14	20.52
81N1674	TPCS-10	0.62″ (15.88)	100	25.51	21.68
92N4839	2624	0.75″ (19.05)	100	31.89	27.11
92N4840	2625	0.87″ (22.23)	100	33.64	28.60
92N4841	2626	1.00″ (25.40)	100	34.64	29.44

(9429) (ne53158)

FUSE CLIPS

NEW



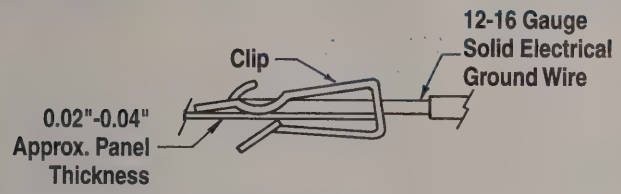
For use with ¼" (3AG) fuses. Easily snaps into printed circuit board or mounts with rivet. Material: 260 spring brass. Copper flash, tin-plated finish. **Sold in packages of 100.**

Stock No.	Type	Description	Per Pkg.
50N136	SPC4898	Standard	8.59
50N137	SPC4899	With Hole	8.59
50N138	SPC4900	With Legs	9.99
50N139	SPC4901	With Legs and Barbs	9.99
50N140	SPC4902	With Legs and Stops	9.99
50N141	SPC4903	With Legs, Barbs, and Stops	9.99

(37070) (ne37070)

ELECTRICAL GROUNDING CLIP

NEW



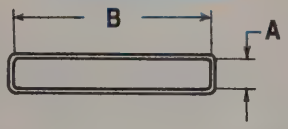
Designed for 12-16 gauge electrical wire. Serves as ground between the wire and sheet metal. Zinc-plated, heat-treated and backed finish. Approximate panel thickness: 0.02-04" (0.5-1.0). **Sold in packages of 100.**

50N142 Type SPC4904. **Each** **6.99**

(37071) (ne37071)

FUSE COVERS

NEW



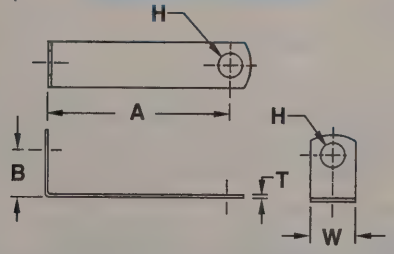
For use on fuse terminal blocks or PC board mount fuse clips. Material: flexible PVC, RMS-55. Rating: 105°C, 600V. Color: transparent blue. UL recognized. **Sold in packages of 100.**

Stock No.	Type	Dimensions A	Dimensions B	Per Pkg.
50N134	SPC4896	0.24"(6.0)	0.79" (20.0)	23.99
50N135	SPC4897	0.28" (7.0)	1.18" (30.0)	39.99
50N136	SPC4898	0.32" (8.0)	1.26" (32.0)	8.59
50N137	SPC4899	0.32" (8.0)	1.42" (36.0)	8.59

(37075) (ne37075)

BRACKET STRAPS

NEW



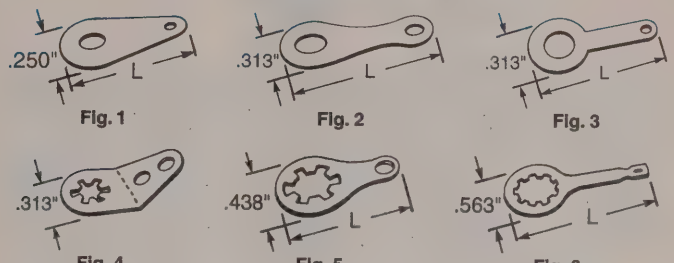
Wide selection of brackets for various mounting applications. CRS finish. Zinc-plated clear dichromate. Material-SBS: CRS; ABS aluminum. **Sold in packages of 100.**

Stock No.	Type	Dimensions A	B	W	T	H	Per Pkg.
92N4831	2616	1.50"	0.50"	0.38"	0.032"	0.203"	72.79
92N4832	2617	2.00"	0.50"	0.50"	0.032"	0.265"	102.47
92N4833	2618	2.50"	0.50"	0.50"	0.048"	0.265"	173.47
92N4834	2619	3.00"	0.50"	0.50"	0.062"	0.265"	240.21
92N4835	2620	4.00"	1.00"	0.75"	0.032"	0.406"	270.30
92N4836	2621	5.00"	1.00"	0.75"	0.032"	0.406"	307.98

(37073) (ne37073)

MATTE TINNED BRASS SOLDERING LUGS

AMERLOK™ brand



Sold in packages of 100.

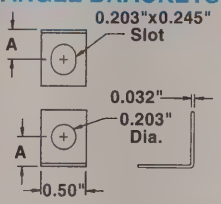
Stock No.	Type	Fig.	Screw Size	Length	Per Pkg. 1-9	Per Pkg. 10-24
50N436	11A-120-MT*	1	No. 4	0.531"	6.05	5.40
50N437	11A-144-MT*	1	No. 6	0.531"	11.25	9.84
50N468	11-169-MT*	1	No. 8	0.625"	8.61	7.53
50N445	46-169-MT	2	No. 8	0.875"	15.12	13.23
50N457	9-144-MT	3	No. 6	0.687"	7.19	6.29
50N438	141-169-MT	3	No. 8	0.812"	14.97	13.10
50N443	29-196-MT	3	No. 10	0.796"	10.64	9.31
50N450	505-144-MT	4	No. 6	0.640"	9.40	8.23
50N451	505-169-MT	4	No. 8	0.640"	8.96	7.84
50N452	681-264-MT	5	0.250"	0.812"	11.10	9.71
50N454	761-375-MT	6	0.375"	1.156"	11.02	9.64

*Tinned Copper

(9337) (de52326)

ANGLE BRACKETS

NEW



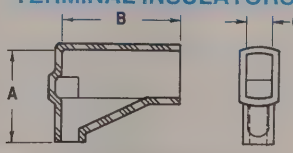
A wide variety of brackets for various mounting applications. CRS material. Clear zinc-plated finish. **Sold in packages of 100.**

Stock No.	Type	Dimension A	Per Pkg.
92N4826	2611	0.50" (12.7)	62.19
92N4827	2612	0.75" (19.1)	75.23
92N4828	2613	1.00" (25.4)	86.65
92N4829	2614	1.25" (31.8)	99.41
92N4830	2615	1.50" (38.1)	111.95

(37072) (ne37072)

TERMINAL INSULATORS

NEW



Feature a flag-type insulating sleeve. Material: soft PVC, RMS-55. Color: transparent blue. **Sold in packages of 100.**

Stock No.	Type	Dimensions A	B	C	Per Pkg.
50N130	SPC4892	0.45"(11.5)	0.55" (14.0)	0.12" (3.0)	10.99
50N131	SPC4893	0.45" (11.5)	0.55" (14.0)	0.12" (3.0)	10.99
50N132	SPC4894	0.53" (13.5)	0.69" (17.5)	0.18" (4.5)	11.99
50N133	SPC4895	0.53" (13.5)	0.69" (17.5)	0.18" (4.5)	11.99

(37074) (ne37074)

PLASTIC STAPLES

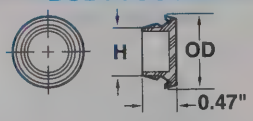
For use with romex, NM, coaxial and other cable. Smooth saddles prevent damage to cable insulation. Nails are zinc-plated to prevent rust. **Sold in packages of 100.**

Stock No.	Type	Fig.	Size	Style	Per Pkg.
92N4739	2546	1	⅜ x ½"	Plastic Cable	3.93
92N4740	2547	1	⅜ x ¾"	Plastic Cable	4.13
92N4741	2548	2	7/16"	Gray, Coaxial	6.20
92N4742	2549	2	⅛"	Black, Coaxial	5.17
92N4743	2550	2	⅛"	White, Coaxial	5.17
92N4744	2551	3	¼"	Black, Coaxial	4.44
92N4745	2552	3	¼"	White, Coaxial	4.44

(17545) (ne10719)

BODY PLUGS

NEW



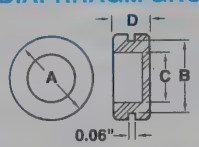
Smart design enables each size to cover a wide range of panel thicknesses. Diaphragm can be perforated to accommodate any size wire. Provides splashproof seal. Thermoplastic rubber, RMS-67 material. 0.03″ to 0.08″ (0.8 to 2.0) panel thickness. Color: black. **Sold in packages of 100.**

Stock No.	Type	Hole Size	Outside Diameter	Per Pkg.
50N107	SPC4869	0.39″ (10)	0.75″ (19)	15.99
50N108	SPC4870	0.71″ (18)	1.06″ (27)	33.99
50N109	SPC4871	1.18″ (30)	1.54″ (39)	69.99

(34971) (ne34971)

BLANK DIAPHRAGM GROMMETS

NEW



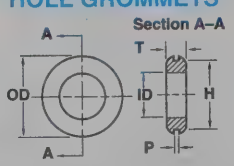
Lock into round, oval, threaded, punched or drilled holes. Flexible vinyl, RMS-25 material. Color: black. **Sold in packages of 100.**

Stock No.	Type	Dimensions				Per Pkg.
		A	B	C	D	
50N110	SPC4872	0.50″	0.39″	0.25″	0.26″	17.99
50N111	SPC4873	0.62″	0.49″	0.37″	0.25″	27.99
50N112	SPC4874	1.00″	0.87″	0.72″	0.31″	35.99
50N113	SPC4875	1.15″	1.00″	0.81″	0.31″	43.99

(34972) (ne34972)

HOLE GROMMETS

NEW



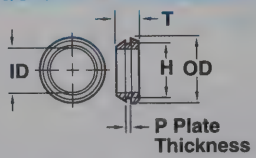
Install instantly and easily; simply snap into hole. Flexible vinyl, RMS-25 material. Color: black. **Sold in packages of 100.**

Stock No.	Type	Outside Diameter	Inside Diameter	Dimensions			Per Pkg.
				H	P	T	
50N122	SPC4884	0.375″	0.156″	0.25″	0.0625″	0.250″	7.59
50N123	SPC4885	0.438″	0.219″	0.31″	0.0625″	0.219″	9.29
50N124	SPC4886	0.563″	0.250″	0.37″	0.0937″	0.281″	10.29
50N125	SPC4887	0.563″	0.312″	0.44″	0.0625″	0.1875″	10.99
50N126	SPC4888	0.672″	0.375″	0.49″	0.0625″	0.281″	16.99
50N127	SPC4889	0.859″	0.625″	0.75″	0.0625″	0.219″	22.59
50N128	SPC4890	1.234″	0.734″	0.99″	0.0625″	0.312″	39.99
50N129	SPC4891	1.188″	0.859″	1.00″	0.0625″	0.312″	51.59

(34974) (ne34974)

QUICK-FIT GROMMETS

NEW



Protect wires and cables when passing through metal panels. Open grommet designed to snap neatly and quickly into position. Soft PVC, RMS-25 material. Color: black. **Sold in packages of 100.**

Stock No.	Type	Dimensions					Per Pkg.
		H	I.D.	O.D.	T	P	
50N114	SPC4876	0.39″	0.24″	0.53″	0.32″	0.06″	11.99
50N115	SPC4877	0.55″	0.39″	0.69″	0.32″	0.06″	20.99
50N116	SPC4878	0.71″	0.55″	0.85″	0.32″	0.06″	23.99
50N117	SPC4879	0.43″	0.28″	0.57″	0.33″	0.08″	16.99
50N118	SPC4880	0.55″	0.39″	0.69″	0.33″	0.08″	20.99
50N119	SPC4881	0.87″	0.71″	1.00″	0.33″	0.08″	37.99
50N120	SPC4882	0.39″	0.24″	0.53″	0.37″	0.12″	11.99
50N121	SPC4883	0.55″	0.39″	0.69″	0.37″	0.12″	20.99

(34973) (ne34973)

GROMMETS AND BUMPERS

AMERLOK™ brand

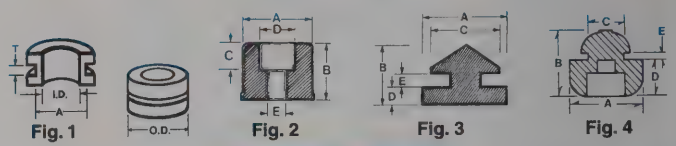


Fig. 1 Fig. 2 Fig. 3 Fig. 4

RUBBER GROMMETS – FIG. 1

Material: black SBR butadiene-styrene copolymer. Durometer hardness: 6015. **Sold in packages of 100.**

Stock No.	Type	Dimensions				Per Pkg.	
		A	T	I.D.	O.D.	1-9	10-24
31F2000	BG-901	0.250″	0.062″	0.125″	0.343″	6.18	5.65
31F2001	BG-2286	0.312″	0.062″	0.187″	0.437″	9.27	8.47
32F1349	BG-8051	0.312″	0.062″	0.187″	0.500″	11.19	10.23
50N6919	BG2902	0.375″	0.062″	0.250″	0.500″	14.36	13.13
31F2282	BG-921	0.375″	0.156″	0.281″	0.625″	9.38	8.57
32F1353	BG2903	0.375″	0.125″	0.250″	0.500″	13.51	12.35
50N6920	BG505	0.437″	0.062″	0.312″	0.625″	16.36	14.96
50N6921	BG230	0.500″	0.062″	0.375″	0.625″	10.87	9.94
31F2081	BG-1787	0.562″	0.062″	0.437″	0.750″	16.02	14.65
50N6922	BG-230-060	0.625″	0.062″	0.500″	0.812″	26.76	24.47
31F2080	BG-915	0.750″	0.062″	0.562″	1.000″	21.99	20.10
31F2083	BG-2285	0.875″	0.062″	0.625″	1.125″	30.17	27.58
31F2084	BG-1032	1.000″	0.078″	0.687″	1.312″	39.03	35.68

VINYL GROMMETS – FIG. 1

Sold in packages of 100, except (*) package of 50.

Stock No.	Type	Dimensions				Per Pkg.	
		A	T	I.D.	O.D.	1-4	5-9
50N6488	VG-022	0.250″	0.062″	0.125″	0.343″	7.02	6.11
50N6490	VG-040	0.500″	0.062″	0.375″	0.625″	9.09	7.91
50N6491	VG-052*	0.625″	0.062″	0.500″	0.812″	7.44	6.47

RUBBER BUMPERS

For mounting on all types of electronic equipment. Prevent vibration and protect surface under equipment. Material: black SBR butadiene-styrene copolymer. Durometer hardness: 6015. **Sold in packages of 100, except (*) package of 25.**

Stock No.	Fig.	Dimensions					Per Pkg.	
		A	B	C	D	E	1-9	10-24
43F475	2	0.500″	0.250″	0.187″	0.234″	0.125″	9.55	8.73
50N6492	2*	0.750″	0.250″	0.125″	0.250″	0.125″	9.05	7.87
50N6493	2*	0.625″	0.375″	0.218″	0.250″	0.125″	6.20	5.39
50N6494	2*	0.750″	0.375″	0.218″	0.250″	0.125″	7.23	6.29
32F1331	2	0.625″	0.500″	0.250″	0.312″	0.156″	23.76	21.72
31F2284	3	0.437″	0.265″	0.312″	0.093″	0.046″	11.53	10.54
31F2285	3	0.437″	0.359″	0.312″	0.187″	0.046″	9.40	8.59
50N6995	4*	0.625″	0.562″	0.375″	0.312″	0.040″	8.26	7.19

(9334) (de52321)

RUBBER ADHESIVE BUMPERS

AMERLOK™ brand

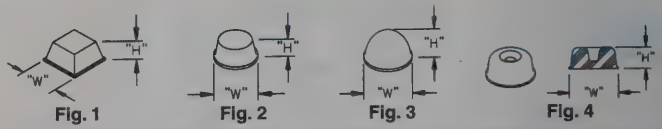


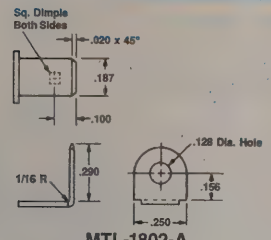
Fig. 1 Fig. 2 Fig. 3 Fig. 4

Clear polyurethane bumpers available in 4 styles. Use for appliances and electronic equipment. Nonstaining and nonmarring. Adhesive is rubber-based, pressure-sensitive, type BSI 95. **Sold in packages of quantity indicated.**

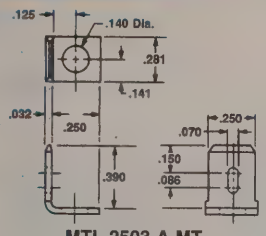
Stock No.	Type	Fig.	Description	Dimensions		Pkg. of	Per Package	
				H	W		1-4	5-9
92N4773	2558	1	Square	0.10″	0.40″	121	8.27	7.03
92N4774	2559	1	Square	0.12″	0.50″	100	5.85	4.97
92N4775	2560	1	Square	0.20″	0.50″	100	9.68	8.23
92N4776	2561	2	Cylindrical	0.14″	0.50″	100	6.21	5.28
92N4777	2562	2	Cylindrical	0.06″	0.50″	100	7.92	6.73
92N4778	2563	2	Cylindrical	0.25″	0.50″	100	12.41	10.55
92N4779	2564	2	Cylindrical	0.12″	0.81″	36	8.27	7.03
92N4780	2565	2	Cylindrical	0.19″	0.37″	100	8.54	7.26
92N4781	2566	2	Cylindrical	0.20″	0.44″	121	10.87	9.24
92N4782	2567	3	Dome	0.38″	0.70″	49	14.70	12.50
92N4783	2568	3	Dome	0.15″	0.375″	100	6.21	5.28
92N4784	2569	3	Dome	0.31″	0.62″	64	15.48	13.16
92N4813	2598	4	Dog Bowl	0.40″	0.88″	36	11.34	9.64

(16839) (NE10811)

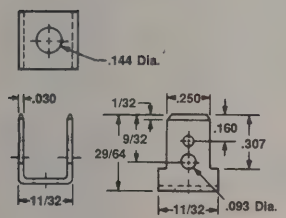
PC BOARD QUICK DISCONNECTS



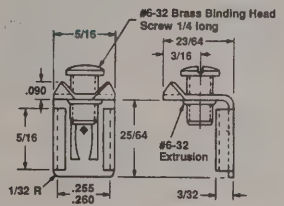
MTL-1802-A



MTL-2503-A-MT



MTL-2503-B-MT



FTL-2503-A-MT

Type MTL-1802-A is polished brass. **Types MTL-2503** and **FTL-2503** are matte tin-plated brass. **Sold in packages of 100.**

Stock No.	Type	Material	Per Package			
			1-9	10-24	25-49	50-99
23N3664	MTL-1802-A	0.020″ (0.508)	11.07	9.68	8.99	8.30
50N466	MTL-2503-A-MT	0.032″ (0.813)	14.99	13.12	12.18	11.24
50N467	MTL-2503-B-MT	0.032″ (0.813)	17.01	14.89	13.82	12.76
50N465	FTL-2503-A-MT	0.025″ (0.635)	23.58	20.59	19.09	...

(9241) (de02836)

PC BOARD MALE QUICK-DISCONNECT TABS

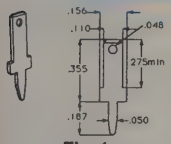


Fig. 1

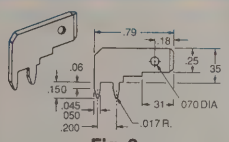


Fig. 2

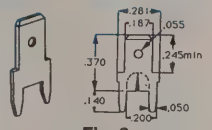


Fig. 3

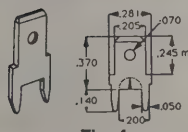


Fig. 4

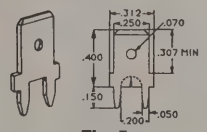


Fig. 5

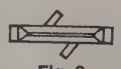


Fig. 6
Stable-Lok™

Economical space-saving tabs for terminating wire leads to printed circuit boards. Eliminates top-soldering. All tab sizes are interchangeable in pre-drilled boards. Recommended mounting hole 0.046″ diameter, #56 drill or 0.052″ diameter, #55 drill, depending upon board type and thickness. **Sold in packages of 100.**

Stock No.	Type	Fig.	Thickness	Per Package			
				1-24	25-49	50-99	100-249
50N257	PCT-1102-MT	1	0.020″	6.91	5.93	5.38	4.83
50N258	PCT-1103-MT	1	0.032″	4.92	4.24	3.86	3.45
50N264	PCTL2503-MT	2	0.032″	10.93	9.37	8.50	7.63

Type numbers with **MTSL suffix** include all of the above features plus Stable-Lok™* (**Fig. 6**), which limits rocking motion of tab and prevents breakage. **Sold in packages of 100.**

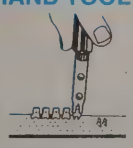
50N6937	PCT-1802-MTSL	3	0.020″	5.97	5.15	4.69	4.19
50N6938	PCT-1803-MTSL	3	0.032″	7.52	6.45	5.85	5.25
50N6939	PCT-2002-MTSL	4	0.020″	35.10	30.09	27.30	24.52
50N6940	PCT-2003-MTSL	4	0.032″	22.58	19.36	17.56	15.77
50N6941	PCT-2503-MTSL	5	0.032″	6.33	5.45	4.97	4.44

*Stable-Lok™ is a registered trademark covered by U.S. Patent No. 4,688,866.

(9242) (de02837)

UNIVERSAL HAND TOOL

AMERLOK™ brand



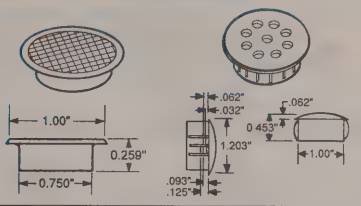
Type 8404-500 tool inserts PC Board disconnect male tabs into pre-drilled boards. Tabs can be inserted straight or peened over for greater retention. Accommodates tab sizes: 0.110″ (2.79), 0.187″ (4.75), 0.205″ (5.21), and 0.250″ (6.35) in all thicknesses.

16N1007 Type 8404-500. **Each** **140.51**

(9243) (de02838)

SNAP-IN VENT PLUGS

AMERLOK™ brand

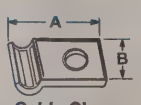


Stock No.	Type	Description	1-4	5-9
95N3644	VPMB	Brass-Plated Metal Wire Mesh	0.84	0.79
95N3645	VPMN	Nickel-Plated Metal Wire Mesh	0.87	0.82
50N6495	VPSI	Black Perforated Plastic	3.16	2.75

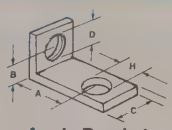
(9239) (de02554)

METAL CABLE CLAMPS AND ANGLE BRACKETS

AMERLOK™ brand



Cable Clamp



Angle Bracket

Cable clamp **type 116-MT** is brass with matte tin plating, **type 78-169MT** is steel with matte tin plating, and **type 139** is steel with zinc plating. All angle brackets feature matte tin plating over brass except **type numbers 248-144-144-MT** and **260-165-MT** which have matte tin plating over steel. **Sold in packages of 100.**

METAL CABLE CLAMPS

Stock No.	Type	Radius of Arc	Screw Size	Dimensions		Per Package			
				A	B	1-9	10-24	25-49	50-99
50N435	116-MT	0.047″	#6	0.438″	0.250″	15.86	13.88	12.89	11.90
50N456	78-169-MT	0.125″	#8	0.688″	0.375″	10.81	9.46	8.78	8.11
29F629	139	0.078″	#8	0.625″	0.375″	11.15	9.76	9.06	8.36

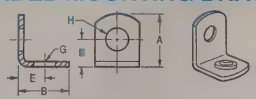
METAL ANGLE BRACKETS SPECIFICATIONS

Stock No.	Type	Dimensions				
		A	B	C	D	H
50N440	246-144-125-MT	0.203″	0.281″	0.281″	0.144″	0.125″
50N439	176-144-MT	0.156″	0.218″	0.312″	0.144″	6-32 Tap
50N453	736-135-MT	0.234″	0.250″	0.312″	6-32 Tap	0.145″
50N441	248-144-144-MT	0.500″	0.500″	0.375″	0.144″	0.144″
50N442	260-165-MT	0.296″	0.328″	0.500″	0.165″	6-32 Tap

Stock No.	Type	Screw Size	Per Package			
			1-9	10-24	25-49	50-99
50N440	246-144-125-MT	#4, 6	14.60	12.78	11.87	10.95
50N439	176-144-MT	#6	16.84	14.70	13.63	...
50N453	736-135-MT	#6	18.07	15.77	14.63	...
50N441	248-144-144-MT	#6	18.33	16.00	14.84	...
50N442	260-165-MT	#8	24.03	20.98	19.45	...

(9244) (de02839)

THREADED MOUNTING BRACKETS



Types 8459-0665, 8459-0666, 8459-0670, and **8459-0671** are 0.062″ steel. **Type 8459-0667** is 0.047″ brass. **Types 8459-0668** and **8459-0669** are 0.032″ brass. **Type 8459-0672** is 0.037″ brass. **Sold in packages of 100.**

SPECIFICATIONS

Stock No.	Type	Dimensions					
		A	B	D	E	G Dia.	H Dia.
16N947	8459-0665	0.343″	0.375″	0.203″	0.250″	4-40	0.130″
16N948	8459-0666	0.343″	0.375″	0.203″	0.250″	4-40	4-40
16N949	8459-0667	0.453″	0.312″	0.265″	0.187″	4-40	0.136″
16N950	8459-0668	0.375″	0.375″	0.218″	0.218″	6-32	0.140″
16N951	8459-0669	0.420″	0.343″	0.250″	0.197″	6-32	0.144″
16N952	8459-0670	0.562″	0.562″	0.412″	0.412″	6-32	6-32
16N953	8459-0671	0.578″	0.500″	0.328″	0.299″	6-32	0.165″
16N954	8459-0672	0.375″	0.422″	0.234″	0.250″	8-32	0.135″

Stock No.	Type	Plating	Per Package			
			1-9	10-24	25-49	50-99
16N947	8459-0665	Zinc	11.95	10.16	8.61	7.89
16N948	8459-0666	Zinc	15.95	13.56	11.49	10.53
16N949	8459-0667	Tin	25.95	22.06	18.69	17.13
16N950	8459-0668	Nickel	17.95	15.26	12.93	11.85
16N951	8459-0669	Tin	15.95	13.56	11.49	10.53
16N952	8459-0670	Nickel	49.43	42.02	35.59	32.63
16N953	8459-0671	Tin	23.95	20.36	17.25	15.81
16N954	8459-0672	Tin	25.95	22.06	18.69	17.13

(9396) (ne08224)

MACHINE SCREWS

AMERLOK brand

SBH SRH

SBH SERIES NICKEL-PLATED STEEL BINDER HEAD SCREWS – PKG. OF 100

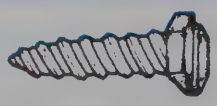
Stock No.	Type	Thread	Length	Per Pkg. 1-9	Per Pkg. 10-24
30F695	SBH-0256-016-SN	#2-56	1/4"	5.00	4.75
30F696	SBH-0256-032-SN	#2-56	1/2"	5.28	5.02
30F698	SBH-0440-016-SN	#4-40	1/4"	5.00	4.75
30F699	SBH-0440-032-SN	#4-40	1/2"	5.53	5.25
30F700	SBH-0440-048-SN	#4-40	3/4"	6.10	5.79
31F2196	SBH-0632-012-SN	#6-32	3/16"	4.30	4.08
31F2197	SBH-0632-016-SN	#6-32	1/4"	2.46	2.33
31F2198	SBH-0632-024-SN	#6-32	3/8"	5.45	5.18
30F701	SBH-0632-032-SN	#6-32	1/2"	4.96	4.71
30F703	SBH-0632-048-SN	#6-32	3/4"	5.48	5.20
30F704	SBH-0832-016-SN	#8-32	1/4"	4.96	4.71
30F705	SBH-0832-024-SN	#8-32	3/8"	5.48	5.20
30F706	SBH-0832-032-SN	#8-32	1/2"	5.75	5.46
30F707	SBH-0832-048-SN	#8-32	3/4"	6.33	6.01
30F708	SBH-1032-032-SN	#10-32	1/2"	7.34	6.97
30F709	SBH-1032-048-SN	#10-32	3/4"	7.94	7.55

SRH SERIES NICKEL-PLATED STEEL ROUND HEAD SCREWS – PKG. OF 100

31F2189	SRH-0256-032-SN	#2-56	1/2"	5.28	5.02
31F2190	SRH-0256-048-SN	#2-56	3/4"	6.22	5.91
31F2086	SRH-0440-016-SN	#4-40	1/4"	5.00	4.75
30F082	SRH-0440-024-SN	#4-40	3/8"	5.28	5.02
31F2087	SRH-0440-032-SN	#4-40	1/2"	5.16	4.90
31F2088	SRH-0440-048-SN	#4-40	3/4"	6.10	5.79
31F2091	SRH-0632-016-SN	#6-32	1/4"	4.53	4.30
30F083	SRH-0632-024-SN	#6-32	3/8"	4.71	4.48
31F2092	SRH-0632-032-SN	#6-32	1/2"	4.96	4.71
31F2093	SRH-0632-048-SN	#6-32	3/4"	5.48	5.20
31F2094	SRH-0632-064-SN	#6-32	1"	5.75	5.46
31F2192	SRH-0632-080-SN	#6-32	1 1/4"	6.03	5.73
31F2195	SRH-0632-128-SN	#6-32	2"	6.45	6.13
31F2096	SRH-0832-024-SN	#8-32	3/8"	5.48	5.20
31F2097	SRH-0832-032-SN	#8-32	1/2"	5.75	5.46
31F2098	SRH-0832-048-SN	#8-32	3/4"	6.33	6.01
31F2099	SRH-0832-064-SN	#8-32	1"	6.25	6.03
31F2193	SRH-0832-080-SN	#8-32	1 1/4"	6.98	6.63
31F2100	SRH-1032-032-SN	#10-32	1/2"	7.34	6.97
30F084	SRH-1032-048-SN	#10-32	3/4"	7.94	7.55
31F2101	SRH-1032-064-SN	#10-32	1"	8.32	7.90
31F2194	SRH-1032-096-SN	#10-32	1 1/2"	8.74	8.30

(9331) (de51922)

SHEET METAL TAPPING SCREWS



SSH-A04

Slotted hex head self-tapping screws are nickel plated. **Sold in packages of 100.**

Stock No.	Type	Screw Size	Length	Per Pkg. 1-4	Per Pkg. 5-9
30F092	SSH-A04-024-SN	No. 4	3/8"	5.38	5.19
31F2125	SSH-A06-016-SN	No. 6	3/8"	5.13	4.95
31F2126	SSH-A06-024-SN	No. 6	3/8"	5.38	5.19
31F2127	SSH-A06-032-SN	No. 6	1/2"	5.66	5.46
31F2129	SSH-A08-024-SN	No. 8	3/8"	5.94	5.73

(9240) (de02718)

FLAT HEAD RACK AND CABINET SCREWS

SFH-0632

Nickel-plated steel. **Sold in packages of 100.**

Stock No.	Type	Thread	Length	Per Pkg. 1-4	Per Pkg. 5-9
31F2176	SFH-0632-032-SN	#6-32	0.500" (12.70)	5.13	4.95
31F2177	SFH-0632-048-SN	#6-32	0.750" (19.05)	5.16	4.98
31F2066	SFH-0832-032-SN	#8-32	0.500" (12.70)	5.41	5.22
31F2313	SFH-1032-032-SN	#10-32	0.500" (12.70)	6.91	6.67

(9257) (de03113)

HEX MACHINE SCREW NUTS

NICKEL-PLATED STEEL–PKG. OF 100

Stock No.		Thread	Width	Per Pkg. 1-9	Per Pkg. 10-24
31F2207	NH-0256-004-SN	#2-56	3/16"	4.30	4.08
31F2208	NH-0348-004-SN	#3-48	3/16"	4.53	4.30
31F2106	NH-0440-006-SN	#4-40	1/4"	4.73	4.50
31F2107	NH-0632-006-SN	#6-32	1/4"	4.73	4.50
31F2209	NH-0632-007-SN	#6-32	5/16"	4.98	4.73
31F2108	NH-0832-006-SN	#8-32	1/4"	4.73	4.50
31F2210	NH-0832-007-SN	#8-32	5/16"	4.98	4.73
32F644	NH-0832-008-SN	#8-32	11/32"	4.77	4.53
31F2200	NH-1032-008-SN	#10-32	3/8"	5.25	4.99
31F2211	NH-2520-012-SN	1/4"-20	7/16"	6.79	6.45

NYLON–PKG. OF 100

50N5868	N-0256-004	#2-56	3/16"	17.09	16.24
50N5869	N-0440-006	#4-40	1/4"	17.19	16.33
50N5870	N-0632-007	#6-32	5/16"	17.27	16.40
50N5871	N-0832-007	#8-32	5/16"	17.36	16.49
50N5872	N-1032-008	#10-32	3/8"	17.44	16.57

(9233) (de02154)

WASHERS

WLI WLS WLE FSW WFL

SHOULDER WASHERS – BLACK VULCANIZED FIBER

Stock No.	Type	Screw Size	O.D.	Pkg. of	Per Pkg. 1-9	Per Pkg. 10-24
50N5863	FSW-04-018	No. 4	9/32"	100	6.28	5.96
50N5864	FSW-06-020	No. 6	5/16"	100	6.71	6.38
50N5865	FSW-08-024	No. 8	3/8"	100	7.15	6.79
50N5866	FSW-10-028	No. 10	7/16"	100	7.59	7.21
50N5867	FSW-25-032	1/4"	1/2"	100	10.57	10.04

FLAT WASHERS – NICKEL PLATED STEEL

31F2138	WFL-04-018-SN	No. 4	9/32"	100	2.52	2.39
31F2139	WFL-06-024-SN	No. 6	3/8"	100	2.68	2.55
31F2140	WFL-08-024-SN	No. 8	3/8"	100	2.68	2.55
31F2141	WFL-10-028-SN	No. 10	7/16"	100	2.88	2.74
32F612	WFL-25-040-SN	1/4"	5/8"	100	3.96	3.76

EXTERNAL TOOTH LOCKWASHERS – ZINC PLATED

30F644	WLE-04-016-SC	No. 4	17/64"	100	2.88	2.59
50N5874	WLE-06-017-SC	No. 6	9/32"	100	2.88	2.59
50N5875	WLE-08-018-SC	No. 8	21/64"	100	3.89	3.50
50N5876	WLE-10-021-SC	No. 10	3/8"	100	4.30	3.87

SPLIT TYPE LOCKWASHERS – ZINC PLATED STEEL

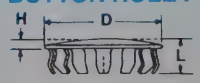
31F2160	WLS-04-017-SZ	No. 4	17/64"	100	2.37	2.26
31F2161	WLS-06-018-SZ	No. 6	9/32"	100	2.72	2.58
31F2163	WLS-10-024-SZ	No. 10	3/8"	100	3.02	2.86

INTERNAL TOOTH LOCKWASHERS – ZINC PLATED

31F2243	WLI-02-012-SC	No. 2	3/16"	100	2.52	2.27
31F2245	WLI-04-017-SC	No. 4	17/64"	100	2.88	2.59
31F2246	WLI-06-018-SC	No. 6	9/32"	100	3.23	2.91
31F2247	WLI-08-021-SC	No. 8	21/64"	100	3.60	3.24
31F2248	WLI-10-024-SC	No. 10	3/8"	100	3.96	3.56
31F2249	WLI-25-030-SC	1/4"	15/32"	100	4.30	3.87
50N5873	WLI-024-044-SC	3/8"	1 1/16"	100	5.96	5.36

(9305) (de51173a)

SNAP BUTTON HOLE PLUGS



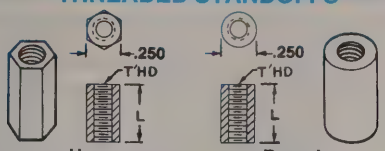
Cover holes in metal, wood, and more. **Type HP-14** size fits switch box knock-out holes. Nickel-plated steel. **Sold in packages of 100.**

Stock No.	Type	Hole Dia.	Panel Thickness	Dimensions D	Dimensions H	Dimensions L	Per Pkg. 1-4	Per Pkg. 5-9
31F085	HP-04	0.250"	0.031-0.062"	0.406"	0.062"	0.234"	17.68	15.37
32F646	HP-05	0.312"	0.046-0.078"	0.437"	0.062"	0.250"	26.71	24.93
31F2015	HP-06	0.375"	0.046-0.062"	0.500"	0.062"	0.234"	16.94	14.73
31F2016	HP-08	0.500"	0.031-0.062"	0.656"	0.078"	0.281"	22.51	19.58
31F2017	HP-10	0.625"	0.062-0.093"	0.812"	0.078"	0.296"	28.96	27.03
31F2018	HP-12	0.750"	0.062-0.093"	0.921"	0.078"	0.296"	31.02	26.98
32F648	HP-14	0.875"	0.062-0.093"	1.062"	0.062"	0.296"	33.58	31.34
31F086	HP-16	1.000"	0.093-0.125"	1.140"	0.093"	0.312"	35.23	30.64
32F649	HP-18	1.125"	0.031-0.125"	1.312"	0.093"	0.343"	52.47	49.55
32F650	HP-20	1.250"	0.062-0.093"	1.437"	0.093"	0.343"	56.27	53.14

(9335) (de52324)

SPACERS AND STANDOFFS

THREADED STANDOFFS



Hex Round

Threaded standoffs in hex or round style. Round style, zinc-plated brass threaded standoffs also available; *contact your local Newark sales office.* **Sold in packages of 100** except **type 2214, sold as each.**

ALUMINUM HEX THREAD-IRIDITE FINISH - PKG. OF 100

Stock No.	Type	Length	Thread	1-4
89F1946	2201	0.250″	4-40	18.16
89F1949	2202	0.375″	4-40	20.04
89F1952	2203	0.500″	4-40	22.17
89F1934	1808	0.625″	4-40	24.30
89F1937	2204	0.750″	4-40	26.43
89F1940	1809	0.875″	4-40	36.57
89F1943	2205	1.000″	4-40	40.71
89F1925	2206	1.500″	4-40	69.01
89F1928	2207	2.000″	4-40	79.78
89F1947	2208	0.250″	6-32	18.16
89F1950	2209	0.375″	6-32	20.04
89F1932	2210	0.500″	6-32	22.17
89F1935	1813	0.625″	6-32	24.80
89F1938	2211	0.750″	6-32	26.43
89F1941	1816	0.875″	6-32	28.06
89F1944	2212	1.000″	6-32	40.71
89F1926	2213	1.500″	6-32	69.01
89F1929	2214	2.000″	6-32	0.86
89F1948	2215	0.250″	8-32	18.16
89F1951	2216	0.375″	8-32	20.04
89F1933	2217	0.500″	8-32	22.17
89F1936	1827	0.625″	8-32	28.93
89F1939	2218	0.750″	8-32	31.06
89F1942	1828	0.875″	8-32	38.70
89F1945	2219	1.000″	8-32	40.71
89F1927	2220	1.500″	8-32	69.01
89F1930	2221	2.000″	8-32	79.78

ALUMINUM ROUND THREADED-IRIDITE FINISH - PKG. OF 100

Stock No.	Type	Length	Thread	1-4
89F1931	3478	0.250″	4-40	15.66
89F2638	3479	0.375″	4-40	18.16
89F2639	3480	0.500″	4-40	19.54
89F2640	1839	0.625″	4-40	28.81
89F2641	3481	0.750″	4-40	24.30
89F2642	1846	0.875″	4-40	35.82
89F2643	3482	1.000″	4-40	39.58
89F2644	3483	1.500″	4-40	66.75
89F2631	3484	2.000″	4-40	77.40
89F2632	3485	0.250″	6-32	15.66
89F2633	3486	0.375″	6-32	18.16
89F2634	3487	0.500″	6-32	19.54
89F2635	1847	0.625″	6-32	28.43
89F2636	3488	0.750″	6-32	24.30
89F2637	1848	0.875″	6-32	26.55
89F2624	3489	1.000″	6-32	39.58
89F2625	3490	1.500″	6-32	66.75
89F2626	3491	2.000″	6-32	77.40
89F2627	3492	0.250″	8-32	15.66
89F2628	3493	0.375″	8-32	18.16
89F2629	3494	0.500″	8-32	19.54
89F2630	1858	0.625″	8-32	22.42
89F2618	3495	0.750″	8-32	24.30
89F2619	1859	0.875″	8-32	26.55
89F2620	3496	1.000″	8-32	39.58
89F2621	3497	1.500″	8-32	66.75
89F2622	3498	2.000″	8-32	77.40

BRASS HEX THREAD-ZINC PLATED - PKG. OF 100

Stock No.	Type	Length	Thread	1-4
89F2591	1450A	0.250″	4-40	18.16
89F2592	1450B	0.375″	4-40	21.04
89F2593	1450C	0.500″	4-40	26.43
89F2594	1829	0.625″	4-40	35.82
89F2595	1450D	0.750″	4-40	41.71
89F2596	1830	0.875″	4-40	43.46
89F2597	1450E	1.000″	4-40	42.21
89F2570	1831	1.500″	4-40	109.33
89F2571	1832	2.000″	4-40	112.09
89F2567	1451A	0.250″	6-32	18.16
89F2568	1451B	0.375″	6-32	21.04
89F2569	1451C	0.500″	6-32	26.43
89F4508	1451D	0.625″	6-32	35.82
89F2693	1451E	0.750″	6-32	41.71
89F4509	1833	0.875″	6-32	43.46

CONTINUED

THREADED STANDOFFS (CONT.)

BRASS HEX THREAD-ZINC PLATED - PKG. OF 100 (CONT.)

Stock No.	Type	Length	Thread	1-4
89F2694	1635	1.000″	6-32	42.33
89F2560	1637	1.500″	6-32	86.79
89F2561	1639	2.000″	6-32	112.09
89F2680	1474A	0.250″	8-32	20.29
89F2681	1474B	0.375″	8-32	21.04
89F2682	1474C	0.500″	8-32	26.43
89F2683	1834	0.625″	8-32	35.82
89F2684	1474D	0.750″	8-32	41.71
89F2685	1836	0.875″	8-32	43.46
89F2672	1474E	1.000″	8-32	42.21
89F2673	1837	1.500″	8-32	109.33
89F2674	1838	2.000″	8-32	112.09

(9280) (de50211)

ROUND CLEAR SPACERS

BRASS ROUND-NICKEL PLATED - PKG. OF 100

Stock No.	Type	Length	Clearance Hole	1-4
89F2670	1909	0.125″	#4	19.04
89F2671	1454A	0.250″	#4	21.67
89F2659	1454B	0.375″	#4	23.05
89F2660	1454C	0.500″	#4	27.43
89F2661	1919	0.625″	#4	30.94
89F2662	1454D	0.750″	#4	31.44
89F2664	1454E	1.000″	#4	49.97
89F4507	1924	1.500″	#4	78.78
89F2652	1925	2.000″	#4	104.32
89F2653	1934	0.125″	#6	19.04
89F2654	1457A	0.250″	#6	21.67
89F2655	1457B	0.375″	#6	23.05
89F2656	1457C	0.500″	#6	27.43
89F2657	1935	0.625″	#6	30.94
89F2658	1457D	0.750″	#6	31.44
89F2646	1457E	1.000″	#6	49.97
89F2647	1937	1.500″	#6	78.78
89F2648	1938	2.000″	#6	104.20
89F2649	1942	0.125″	#8	19.04
89F2650	1480	0.250″	#8	21.67
89F2651	1481	0.375″	#8	23.05
89F2020	1482	0.500″	#8	27.43
89F2021	2032	0.625″	#8	30.94
89F2022	1483	0.750″	#8	31.44
89F2024	1484	1.000″	#8	49.85
89F2025	2034	1.500″	#8	78.78
89F2026	2035	2.000″	#8	104.20

ALUMINUM ROUND IRIDITE FINISH - PKG. OF 100

Stock No.	Type	Length	Clearance Hole	1-4
89F2623	2036	0.125″	#4	11.90
89F2695	3457	0.250″	#4	12.15
89F2612	3458	0.375″	#4	14.41
94F695	3459	0.500″	#4	16.41
89F2613	2314	0.625″	#4	18.04
89F2614	3460	0.750″	#4	19.54
89F2615	3402	0.875″	#4	24.42
89F2616	3461	1.000″	#4	25.30
89F2617	3462	1.500″	#4	51.98
89F2605	3463	2.000″	#4	68.76
89F2606	3403	0.125″	#6	11.90
89F2607	3464	0.250″	#6	12.15
89F2608	3465	0.375″	#6	14.41
89F2609	3466	0.500″	#6	16.41
89F2610	3429	0.625″	#6	18.04
89F2611	3467	0.750″	#6	19.54
89F2598	3438	0.875″	#6	24.42
89F2599	3468	1.000″	#6	25.30
89F2600	3469	1500″	#6	51.98
89F2601	3470	2.000″	#6	68.76
89F2602	4258	0.125″	#8	11.90
89F2603	3471	0.250″	#8	12.15
89F2604	3472	0.375″	#8	14.41
89F2584	3473	0.500″	#8	16.41
89F2585	4259	0.625″	#8	18.04
89F2586	3474	0.750″	#8	19.54
89F2587	4260	0.875″	#8	24.42
89F2588	3475	1.000″	#8	25.30
89F2589	3476	1.500″	#8	51.98
89F2590	3477	2.000″	#8	68.76

(9281) (de50212)

SPACERS AND STANDOFFS

ORGANIZER SPACER KITS

Kits include 100 pieces of each size indicated. **Type STH-22** 1500-piece 0.25″ (6.35) hex threaded iridite-finish aluminum spacers in 0.25″ (6.35), 0.375″ (9.53), 0.5″ (12.70), 0.75″ (19.05), 1″ (25.40) lengths. Thread sizes: 4-40, 6-32, 8-32. **Type STH-19** 750-piece 0.25″ (6.35) hex male/female nickel-plate brass spacers in 0.5″ (12.70), 0.75″ (19.05), 1″ (25.40), 1.25″ (31.75), 1.5″ (38.10) lengths. Thread sizes: 4-40, 6-32, 8-32.

Stock No.	Type	Description	1-4
89F1921	STH-22	¼″ Hex Threaded	289.97
89F1922	STH-19	¼″ Hex Male/Female	381.53

(9189) (de01068)

THREADED ROUND CERAMIC STANDOFFS

Sold in packages of 10.

Stock No.	Type	Length "L"	O.D.	Thread Size	Thread Depth "D"	1-9	10-24
83F8090	7710	0.250″	0.250″	6-32	THRU	14.25	14.01
83F8091	7711	0.500″	0.250″	6-32	0.156″	15.93	15.66
83F8092	7712	0.375″	0.375″	6-32	0.156″	13.41	13.19
83F8093	7713	0.500″	0.375″	6-32	0.187″	13.83	13.61
83F8094	7714	0.500″	0.500″	6-32	0.140″	15.09	14.84
83F8095	7715	0.750″	0.500″	6-32	0.250″	15.93	15.66
83F8096	7716	1.000″	0.500″	6-32	0.375″	16.77	16.50
83F8097	7717	1.500″	0.500″	6-32	0.562″	20.13	19.79
83F8098	7718	2.500″	0.500″	6-32	0.500″	25.57	25.15
83F8099	7719	2.500″	0.750″	¼-20	0.750″	36.46	35.86
83F8100	7720	4.000″	0.750″	¼-20	0.750″	44.00	43.27
83F8072	7661	0.500″	0.375″	6-32	0.156″	15.93	15.66
83F8073	7662	0.625″	0.375″	6-32	0.250″	16.35	16.08
83F8074	7663	0.625″	0.500″	8-32	0.187″	17.61	17.32
83F8075	7664	0.750″	0.375″	6-32	0.250″	17.61	17.32
83F8076	7665	0.750″	0.500″	8-32	0.250″	18.03	17.74
83F8077	7666	1.000″	0.375″	6-32	0.375″	18.03	17.74
83F8078	7667	1.000″	0.500″	8-32	0.375″	18.87	18.56
83F8079	7668	1.000″	0.750″	10-32	0.375″	29.76	29.27
83F8080	7669	1.250″	0.375″	6-32	0.375″	2.03	1.94
83F8081	7670	1.250″	0.500″	8-32	0.375″	2.12	2.02
83F8082	7671	1.250″	1.000″	¼-20	0.437″	4.69	4.47
83F8083	7672	1.500″	0.375″	6-32	0.375″	2.21	2.11
83F8084	7673	1.500″	0.500″	8-32	0.375″	2.39	2.28
83F8085	7674	1.500″	0.750″	10-32	0.375″	3.56	3.40
83F8086	7675	1.500″	1.000″	¼-20	0.500″	5.23	4.99
83F8087	7676	2.000″	0.375″	6-32	0.375″	22.63	22.26
83F8088	7677	2.000″	0.500″	8-32	0.375″	24.31	23.91
83F8089	7678	2.000″	0.750″	10-32	0.375″	36.46	35.86

(9400) (ne08381)

NYLON THREADED HEX STANDOFFS

O. D. for all versions: 0.250″. Standoffs also available as round PBE Grade Natural Color Phenolic. *Contact your local Newark sales office.* **Sold in packages of 100.**

NYLON HEX THREADED—UL94-V0

Stock No.	Type	Length	Thread	1-4
94F4404	1902A	0.250″	4-40	29.56
94F4407	1902B	0.375″	4-40	30.19
94F4192	1902-C	0.500″	4-40	31.56
94F9840	1902F	0.625″	4-40	37.32
94F4411	1902D	0.750″	4-40	40.45
16F2042	1902G	0.875″	4-40	42.08
94F4415	1902E	1.000″	4-40	40.58
94F4405	1903A	0.250″	6-32	29.56
94F4408	1903B	0.375″	6-32	30.19
94F4528	1903C	0.500″	6-32	31.56
16F2043	1903F	0.625″	6-32	37.32
94F4413	1903D	0.750″	6-32	40.45
16F2044	1903G	0.875″	6-32	42.08
94F4416	1903E	1.000″	6-32	40.58
94F4406	1904A	0.250″	8-32	29.56
94F4409	1904B	0.375″	8-32	30.19
94F4410	1904C	0.500″	8-32	31.56
16F2045	1904F	0.625″	8-32	37.32
94F4414	1904D	0.750″	8-32	40.45
16F2046	1904G	0.825″	8-32	42.08
94F4417	1904E	1.000″	8-32	40.58

NYLON HEX THREADED—UL94-V2 FLAME-RETARDANT

16F2053	8440A	0.250″	4-40	44.46

CONTINUED

NYLON THREADED HEX STANDOFFS (CONT.)

NYLON HEX THREADED—UL94-V2 FLAME-RETARDANT (CONT.)

Stock No.	Type	Length	Thread	1-4
16F2054	8440B	0.375″	4-40	45.46
16F2055	8440C	0.500″	4-40	47.22
16F2056	8440D	0.625″	4-40	55.48
16F2057	8440E	0.750″	4-40	56.48
16F2058	8440F	0.875″	4-40	58.49
16F2059	8440G	1.000″	4-40	61.12
16F2060	8441A	0.250″	6-32	44.46
16F2061	8441B	0.375″	6-32	45.46
16F2062	8441C	0.500″	6-32	47.22
16F2063	8441D	0.625″	6-32	55.48
16F2064	8441E	0.750″	6-32	56.48
16F2065	8441F	0.875″	6-32	58.49
16F2066	8441G	1.000″	6-32	61.12
16F2067	8442A	0.250″	8-32	44.46
16F2068	8442B	0.375″	8-32	45.46
16F2016	8442C	0.500″	8-32	47.22
16F2017	8442D	0.625″	8-32	55.48
16F2018	8442E	0.750″	8-32	56.48
16F2019	8442F	0.875″	8-32	58.49
16F2020	8442G	1.000″	8-32	61.12

(9398) (ne08379)

STANDOFFS
NYLON & PHENOLIC ROUND, CLEAR-HOLE SPACERS

PHENOLIC MATERIAL - PACKAGES OF 100

Stock No.	Type	Length	Clearance Hole	1-4
94F4219	360	0.250″	#4	15.66
94F4489	361	0.375″	#4	19.04
94F4492	362	0.500″	#4	22.92
94F4308	363	0.750″	#4	30.44
94F4336	364	1.000″	#4	37.45
16F2038	365	1.500″	#4	68.76
16F2039	366	2.000″	#4	81.53
94F4220	367	0.250″	#6	15.03
94F4434	368	0.375″	#6	18.79
94F4221	369	0.500″	#6	22.42
94F4435	370	0.750″	#6	30.19
94F4436	371	1.000″	#6	39.45
16F1974	372	1.500″	#6	68.13
16F1975	373	2.000″	#6	72.64
94F4488	1490	0.250″	#8	15.66
94F4491	1491	0.375″	#8	18.41
94F4493	1492	0.500″	#8	22.30
94F4441	1493	0.750″	#8	29.94
94F4442	1494	1.000″	#8	39.08
16F1980	374	1.500″	#8	61.62
16F1981	375	2.000″	#8	65.50
16F1987	453	0.250″	#10	14.28
16F1988	454	0.375″	#10	17.54
16F1989	455	0.500″	#10	21.42
16F1990	456	0.750″	#10	28.81
16F1991	457	1.000″	#10	36.70
16F1992	458	1.500″	#10	63.62
16F1993	459	2.000″	#10	84.91

NYLON MATERIAL - PACKAGES OF 100

16F2040	875	0.125″	#4	9.65
94F9907	876	0.250″	#4	10.65
16F2041	877	0.375″	#4	13.28
16F1971	878	0.500″	#4	14.66
94F4398	879	0.625″	#4	15.28
16F1972	880	0.750″	#4	16.54
94F4400	881	0.875″	#4	18.16
16F1973	882	1.000″	#4	19.79
16F1976	883	0.125″	#6	9.65
16F1977	884	0.250″	#6	10.65
94F9908	885	0.375″	#6	13.28
16F1978	886	0.500″	#6	14.66
94F4399	887	0.625″	#6	15.28
94F4288	888	0.750″	#6	16.54
94F4401	889	0.875″	#6	18.16
16F1979	890	1.000″	#6	19.79
16F1982	891	0.125″	#8	9.65
16F1983	892	0.250″	#8	10.65
94F4284	893	0.375″	#8	13.28
16F1984	894	0.500″	#8	14.66
16F1985	895	0.625″	#8	15.28
16F1986	896	0.750″	#8	16.54
94F4402	897	0.875″	#8	18.16
94F4285	898	1.000″	#8	19.79

(9401) (ne08382)

JACK SCREWS, CONNECTORS AND HARDWARE

D-SUB JACK SCREWS

D-subminiature connector mounting screw. Per MIL-C-24308/26.

ZINC PLATE AND GOLD IRIDITE

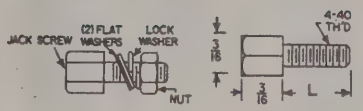
Length	Stock No.	Type	1-49
Jack Only			
0.250″	**50F4689**	7228	**0.23**
0.312″	**94F4263**	7230*	**16.16**
0.625″	**50F4691**	7232	**0.47**
Jack w/Hardware			
0.250″	**50F4690**	7229	**0.30**
0.312″	**94F874**	7231	**0.25**
0.625″	**50F4692**	7233	**0.54**

ZINC PLATE AND CLEAR CHROMATE

Length	Stock No.	Type	1-49
Jack Only			
0.250″	**16F1076**	7228-5	**0.23**
0.312″	**16F1078**	7230-5	**0.18**
0.625″	**16F1080**	7232-5	**0.47**
Jack w/Hardware			
0.250″	**16F1077**	7229-5	**0.30**
0.312″	**16F1079**	7231-5	**0.25**
0.625″	**16F1081**	7233-5	**0.54**

*Type 7230 sold in packages of 100.

(9283) (de50214)



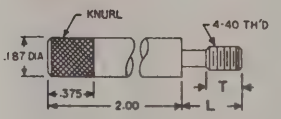
TURNABLE JACK SCREWS

Jack screws are available with or without screwdriver slots for mating and disconnecting computer connectors quick and easy. Material: steel-black zinc plated.

WITHOUT SLOT

Stock No.	Type	Dimensions T	Dimensions L	1-49
50F4693	2064	0.125″	0.250″	**1.18**
50F4696	2066	0.250″	0.437″	**1.18**
WITH SLOT				
50F4694	2065	0.125″	0.250″	**1.34**
50F4695	2067	0.250″	0.437″	**1.34**

(9284) (de50215)

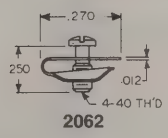


CONNECTOR MOUNTING HARDWARE

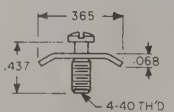
Standard clips and washers feature steel, zinc plate and gold iridite material. **Sold in packages of 100.**

Stock No.	Type	Description	1-4
16F2047	2062	"U" Clip	**28.68**
16F2048	2063	Saddle Washer	**32.31**
16F2049	2060	"Bow-Tie" Clip—4-40 x 1/4	**35.82**
16F2050	2061	"Bow-Tie" Clip—4-40 x 9/32	**39.45**

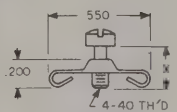
(9399) (ne08380)



2062



2063



2060, 2061

PC SCREW TERMINAL CONNECTORS

PC mount. Insert into pre-drilled or punched holes. Anti-rotational feature assures stability. Accept 14-22AWG solid/stranded wire. Rated 15A. 0.032″ (0.813) thick tin-plate brass terminal with nickel-plate steel 6-32 binding lead screw. Anti-wicking design. For high-density packaging. **Sold in packages of 100.**

SNAP-IN AND PC MOUNT TERMINAL CONNECTORS

Stock No.	Type	Description	1-4
95F3315	7690	Unassembled Horizontal	**24.68**
95F3317	7692	Captivated Assembled Horizontal	**29.31**
95F3316	7691	Unassembled Vertical	**24.17**
95F3318	7693	Captivated Assembled Horizontal	**27.93**
50F6733	8190	Unassembled Horizontal	**23.05**
95F3313	7700	Captivated Assembled Horizontal	**25.43**
94F4553	8191	Unassembled Vertical	**22.67**
95F3314	7701	Captivated Assembled Horizontal	**26.18**

(9191) (de01070)

7690, 7692

7691, 7693

8190, 7700

8191, 7701

AT NEWARK, THERE'S ALWAYS MORE THAN MEETS THE EYE!
CONTACT US FOR PRODUCTS NOT LISTED IN THIS CATALOG.

STANDOFFS

HEX MALE/FEMALE THREADED STANDOFFS

NICKEL PLATED BRASS HEX THREADED STANDOFFS–PKG. OF 100

Stock No.	Type	Length	Thread	1-4
95F3994	8713	0.250″	4-40	28.18
89F1989	7200	0.375″	4-40	31.06
89F1990	1944	0.500″	4-40	40.58
89F1991	1945	0.625″	4-40	41.21
89F1978	1946	0.750″	4-40	49.10
89F1979	7201	0.875″	4-40	49.72
89F1980	1947	1.000″	4-40	55.11
89F1981	7202	1.125″	4-40	59.62
89F1982	1948	1.250″	4-40	85.66
89F1983	1949	1.375″	4-40	87.67
89F1984	1950	1.500″	4-40	91.80
89F1973	7203	1.625″	4-40	92.68
89F1974	7205	1.750″	4-40	103.45
89F1975	1951	2.000″	4-40	104.20
95F3995	8716	0.250″	6-32	27.43
89F1976	7210	0.375″	6-32	32.06
94F686	1952	0.500″	6-32	35.07
94F687	1953	0.625″	6-32	44.46
89F1977	1954	0.750″	6-32	46.84
89F1967	7211	0.875″	6-32	53.73
89F1968	1644	1.000″	6-32	55.36
89F1969	7212	1.125″	6-32	58.86
94F688	1955	1.250″	6-32	0.75
89F1970	1956	1.375″	6-32	75.65
89F1971	1645	1.500″	6-32	76.52
89F1972	7214	1.625″	6-32	92.68
89F1960	7215	1.750″	6-32	103.45
89F1961	1646	2.000″	6-32	104.20
89F1962	7220	0.375″	8-32	37.20
89F1963	1957	0.500″	8-32	37.57
89F1964	1958	0.625″	8-32	52.35
89F1965	1959	0.750″	8-32	55.11
89F1966	7221	0.875″	8-32	60.24
89F1953	1960	1.000″	8-32	63.12
89F1954	7222	1.125″	8-32	68.63
89F1955	1961	1.250″	8-32	85.66
89F1956	1962	1.375″	8-32	87.67
89F1957	1963	1.500″	8-32	91.80
89F1958	7224	1.625″	8-32	92.68
89F1959	7225	1.750″	8-32	103.45
89F1924	1964	2.000″	8-32	104.20

IRIDITED ALUMINUM HEX THREADED STANDOFFS–PKG. of 100

95F3996	8714	0.250″	4-40	24.17
89F2013	8400	0.375″	4-40	27.43
89F2014	8401	0.500″	4-40	38.33
89F2015	8402	0.625″	4-40	41.21
89F2016	8403	0.750″	4-40	41.83
89F2017	8404	0.875″	4-40	45.46
89F2018	8405	1.000″	4-40	48.09
89F2019	8406	1.125″	4-40	58.86
89F2577	8407	1.250″	4-40	59.62
89F2578	8408	1.375″	4-40	70.76
89F2579	8409	1.500″	4-40	72.39
89F2580	8410	1.625″	4-40	74.52
89F2581	8411	1.750″	4-40	76.15
89F2582	8412	2.000″	4-40	78.53
98F3587	8717	0.250″	6-32	26.93
89F2583	8413	0.375″	6-32	28.56
89F2006	8414	0.500″	6-32	28.81
89F2007	8415	0.625″	6-32	36.32
89F2008	8416	0.750″	6-32	36.70
89F2009	8417	0.875″	6-32	39.95
89F2010	8418	1.000″	6-32	41.83
89F2011	8419	1.125″	6-32	43.21
89F2012	8420	1.250″	6-32	46.09
89F1999	8421	1.375″	6-32	52.35
89F2000	8422	1.500″	6-32	59.87
89F2002	8424	1.750″	6-32	63.87
89F2003	8425	2.000″	6-32	65.25
89F2004	8426	0.375″	8-32	37.57
89F2005	8427	0.500″	8-32	38.33
89F1992	8428	0.625″	8-32	41.21
89F1993	8429	0.750″	8-32	43.84
89F1994	8430	0.875″	8-32	48.72
89F1995	8431	1.000″	8-32	51.73
89F1996	8432	1.125″	8-32	70.39
89F1997	8433	1.250″	8-32	72.89
89F1998	8434	1.375″	8-32	78.53
89F1985	8435	1.500″	8-32	79.53
89F1986	8436	1.625″	8-32	80.15
89F1987	8437	1.750″	8-32	81.16
89F1988	8438	2.000″	8-32	81.91

CONTINUED

HEX MALE/FEMALE THREADED STANDOFFS (CONT.)

PASSIVATED STAINLESS STEEL HEX THREADED STANDOFFS–PKG. of 100

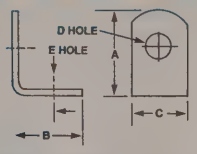
Stock No.	Type	Length	Thread	1-4
95F3997	8712	0.250″	4-40	149.79
95F3999	2087	0.375″	4-40	156.80
95F4002	2088	0.500″	4-40	163.69
95F4005	2089	0.625″	4-40	170.82
95F4008	2090	0.750″	4-40	177.59
95F4011	2091	0.875″	4-40	184.35
95F4014	2092	1.000″	4-40	184.10
95F4017	2093	1.125″	4-40	186.48
95F4020	2094	1.250″	4-40	193.62
95F4023	2095	1.375″	4-40	200.88
95F4037	2097	1.625″	4-40	207.39
95F4029	2098	1.750″	4-40	210.52
95F4032	2099	2.000″	4-40	218.91
95F3998	8715	0.250″	6-32	119.85
95F4000	2119	0.375″	6-32	121.86
95F4003	2120	0.500″	6-32	130.87
95F4006	2121	0.625″	6-32	137.39
95F4009	2122	0.750″	6-32	158.43
95F4012	2123	0.875″	6-32	163.69
95F4015	2124	1.000″	6-32	164.94
95F4018	2125	1.125″	6-32	201.76
95F4021	2126	1.250″	6-32	217.16
95F4024	2127	1.375″	6-32	202.38
95F4027	2128	1.500″	6-32	205.64
95F4036	2129	1.635″	6-32	206.27
95F4030	2130	1.750″	6-32	212.15
95F4033	2131	2.000″	6-32	220.42
95F4001	2149	0.375″	8-32	172.95
95F4004	2150	0.500″	8-32	176.21
95F4007	2151	0.625″	8-32	179.47
95F4010	2152	0.750″	8-32	190.86
95F4013	2153	0.875″	8-32	204.01
95F4016	2154	1.000″	8-32	208.02
95F4019	2155	1.125″	8-32	266.64
95F4022	2156	1.250″	8-32	276.20
95F4025	2157	1.375″	8-32	282.81
95F4028	2158	1.500″	8-32	286.91
95F4035	2159	1.625″	8-32	291.12
95F4031	2160	1.750″	8-32	294.76
95F4034	2161	2.000″	8-32	305.35

NYLON HEX THREADED STANDOFFS–PKG. of 100

16F1034	4800	0.250″	4-40	30.31
16F1035	4801	0.375″	4-40	29.18
16F1036	4802	0.500″	4-40	29.18
16F1037	4803	0.625″	4-40	30.94
16F1038	4804	0.750″	4-40	31.56
16F1039	4805	0.875″	4-40	32.19
16F1040	4806	1.000″	4-40	32.69
16F1041	4807	1.125″	4-40	33.07
16F1042	4808	1.250″	4-40	33.32
16F1043	4809	1.375″	4-40	33.94
16F1044	4810	1.500″	4-40	34.44
16F1045	4811	1.625″	4-40	35.07
16F1046	4812	1.750″	4-40	35.70
16F1047	4813	2.000″	4-40	36.32
16F1048	4814	0.250″	6-32	28.68
16F1049	4815	0.375″	6-32	29.18
16F1050	4816	0.500″	6-32	30.31
16F1051	4817	0.625″	6-32	30.94
16F1052	4818	0.750″	6-32	31.56
16F1053	4819	0.875″	6-32	32.19
16F1054	4820	1.000″	6-32	32.69
16F1055	4821	1.125″	6-32	33.07
16F1056	4822	1.250″	6-32	33.32
16F1057	4823	1.375″	6-32	33.94
16F1058	4824	1.500″	6-32	34.44
16F1059	4825	1.625″	6-32	35.07
16F1060	4826	1.750″	6-32	35.70
16F1061	4827	2.000″	6-32	36.32
16F1062	4828	0.250″	8-32	28.68
16F1063	4829	0.375″	8-32	29.18
16F1064	4830	0.500″	8-32	30.31
16F1065	4831	0.625″	8-32	30.94
16F1066	4832	0.750″	8-32	31.56
16F1067	4833	0.875″	8-32	32.19
16F1068	4834	1.000″	8-32	32.69
16F1069	4835	1.125″	8-32	33.07
16F1070	4836	1.250″	8-32	33.32
16F1071	4837	1.375″	8-32	33.94
16F1072	4838	1.500″	8-32	34.44
16F1073	4839	1.625″	8-32	35.07
16F1074	4840	1.750″	8-32	35.70
16F1075	4841	2.000″	8-32	36.32

BRACKETS, HANDLES AND TERMINALS

UNIVERSAL BRACKETS

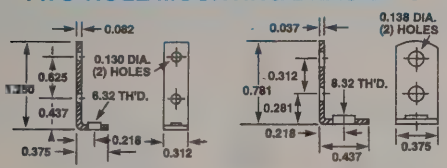


Brass and steel brackets with tapped (*) clear holes. **Sold in packages of 100.**

Stock No.	Type	A	B	C	D Hole	E Hole	1-4
94F871	612	0.343	0.375	0.250	0.128	4-40*	13.40
95F3310	621	0.343	0.375	0.250	4-40	4-40*	17.29
95F3298	633	0.375	0.375	0.281	0.140	0.140	6.52
95F3302	634	0.375	0.375	0.281	0.140	6-32*	18.04
95F3303	614	0.406	0.343	0.312	0.144	6-32*	17.29
95F3300	615	0.437	0.343	0.281	0.144	0.125	8.52
95F3311	616	0.453	0.312	0.250	0.136	4-40*	31.94
95F3301	4335	0.562	0.562	0.500	0.120	0.120	16.66
95F3306	4336	0.562	0.562	0.500	0.144	0.144*	16.66
95F3312	617	0.578	0.600	0.500	0.165	6-32*	31.44
95F3307	618	0.628	0.628	0.375	0.169	0.169	31.19
95F3308	619	0.687	0.687	0.375	0.144	0.144	15.03
94F862	4326	1.013	0.487	0.312	0.140	0.140	24.05
95F3309	620	1.156	0.656	0.375	0.169	0.169	27.18

(9252) (de02989)

TWO-HOLE MOUNTING BRACKETS



708 631

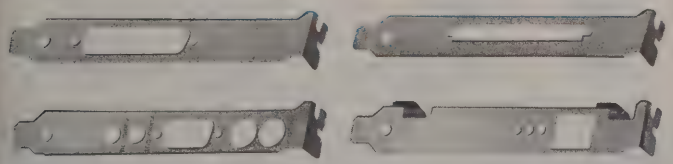
Brass and steel brackets with one threaded hole, two clear. **Sold in packages of 100.**

Stock No.	Type	Thread	1-4
95F3304	708	6-32	56.48
95F3305	631	8-32	30.81

(9253) (de02990)

STANDARD COMPUTER BRACKETS

NEW



Brackets are designed to fit all computers. Available for most common configurations. Holes and cutouts are made to match with all peripherals. Construction: 0.032″ steel, nickel plated.

Stock No.	Type	Description	Pins	1-4
83F7657	9200	EISA/ISA OR PCI	...	1.95
83F7658	9201	EISA/ISA OR PCI	...	1.95
83F7659	9202	EISA/ISA	...	2.27
83F7660	9203	PCI	...	2.27
83F7661	9204	PCI	...	2.27
83F7662	9220	Security Bracket	...	4.29
83F7663	9200-1	EISA/ISA	9	1.95
83F7664	9200-2	PCI	9	1.95
83F7665	9200-3	EISA/ISA	15	1.95
83F7666	9200-4	EISA/ISA	25	1.95
83F7667	9200-6	SCSI 1/PCI	50	1.95
83F7668	9200-7	SCSI/PCI	68	1.95
83F7669	9200-8	SCSI 2, 3, 4/PCI	50	1.95
83F7670	9200-9	SCSI 2, 3, 4/PCI	67	1.95
83F7671	9204-1	Sound, EISA/ISA	...	2.27
83F7672	9201-1	A/V, PCI	...	1.95
83F7673	9200-10	USB, EISA/ISA or PCI	...	1.95
83F7674	9203-1	Modem, PCI/ISDN	...	2.27
83F7675	9202-1	Modem, EISA/ISA	...	2.27
83F7676	9203-2	Network, PCI	...	2.27

(36470) (ne36470)

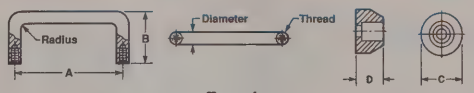
STANDARD TURRET TERMINAL BOARDS

Terminals brass per QQ-B-262, comp. 22, ½ hard, securely riveted and hot dip solder plated, per MIL-F-14072. Paper base electrical (PBE), per FED.LP-513, type XXXP natural, 250°F; or glass epoxy (GE), per MIL-P-18177, type G-10, 300°F. 13.125″ (333.38)L, 0.094″ (2.39) thick with two 25-terminal rows on 0.375″ (9.53) centers, except (*) one 25-terminal row.

Stock No.	Type	Width	Row Space	Material	1-4
35F1640	15031*	0.50″	...	PBE	6.72
35F1641	15036	1.50″	1.19″	PBE	12.48
35F1642	15236	1.50″	1.19″	GE	15.13
35F1643	15033	2.00″	1.50″	PBE	13.15
35F1644	15233	2.00″	1.50″	GE	15.56
35F1646	15234	2.50″	2.00″	GE	15.96
35F1647	15035	3.00″	2.50″	PBE	14.89

(9190) (de01069)

ROUND INSTRUMENTATION HANDLES



Ferrule

Choice of nickel plated brass per ASTM-B-16/QQ-N-290 or black anodize aluminum per QQ-A-325/MIL-A-8625. Diameter/radius: (*) 0.156″, (**) 0.250″, (+) 0.312″, (++) 0.375″, and (•) 0.187″. *Order ferrules separately.*

Dimensions A	Dimensions B	Stock No.	Type	Thread Size	1-4
		BRASS			
1.250″	1.000″	16F1994	9100•	4-40	3.11
1.500″	0.625″	16F1996	9101•	4-40	3.11
1.500″	0.750″	16F1998	9104•	4-40	3.42
1.750″	0.625″	16F1995	9102•	4-40	3.14
1.750″	0.750″	16F1999	9105•	4-40	3.30
2.000″	0.625″	16F1997	9103•	4-40	3.30
1.250″	1.000″	16F2000	9106•	6-32	3.42
1.500″	1.000″	16F2001	9107•	6-32	3.73
2.000″	1.000″	16F2002	9108•	6-32	3.64
3.000″	1.000″	16F2003	9109•	6-32	3.72
3.000″	1.000″	96F9870	7142	4-40	3.38
4.000″	1.500″	96F9882	7146	10-32	4.52
		ALUMINUM			
1.250″	1.000″	16F2004	9110•	4-40	2.57
1.500″	0.625″	16F2005	9111•	4-40	2.57
1.500″	0.750″	16F2008	9114•	4-40	2.83
1.750″	0.625″	16F2006	9112•	4-40	2.71
1.750″	0.750″	16F2009	9115•	4-40	2.84
2.000″	0.625″	16F2007	9113•	4-40	2.84
1.250″	1.000″	16F2010	9116•	6-32	2.83
1.500″	1.000″	16F2011	9117•	6-32	3.10
2.000″	1.000″	16F2012	9118•	6-32	3.13
3.000″	1.000″	16F2013	9119•	6-32	3.18
1.250″	1.000″	96F9895	7170*	4-40	2.57
2.000″	1.000″	96F9896	7171*	10-32	2.84
3.000″	1.000″	96F9897	7172*	4-40	2.88
3.000″	1.500″	94F4260	7173*	4-40	3.30
4.000″	1.500″	94F4425	7174**	4-40	3.58
3.000″	1.500″	96F9907	7175+	8-32	3.96
4.000″	1.500″	94F4261	7176+	10-32	4.15
4.000″	1.750″	96F9912	523+	10-32	4.15
5.000″	1.750″	96F9914	525+	10-32	4.35
6.000″	1.750″	96F9915	526++	10-32	4.42
4.000″	1.375″	96F9917	7180++	10-32	3.97
6.000″	1.375″	96F9918	7181++	10-32	4.42

FERRULES FOR ROUND HANDLES (ABOVE) — SOLD IN PACKAGE OF 10

Dim. C	Dim. D	Stock No.	Type	1-4
		BRASS		
0.375″	0.187″	96F9920	7193§	67.26
0.562″	0.250″	96F9921	7194	9.80
0.062″	0.125″	16F2014	9122§	67.26
0.062″	0.125″	16F2015	9123§	67.26
		ALUMINUM		
0.250″	0.125″	96F9922	7192	8.51
0.375″	0.187″	96F9923	7193§	97.69
0.562″	0.250″	96F9924	7194§	100.32
0.062″	0.125″	16F2069	9122§	97.69
0.062″	0.125″	16F2070	9123§	97.69

§Sold in packages of 100.

(9258) (de03441)

TERMINALS, HOLDERS AND CLIPS

COLOR-KEYED PC TEST POINTS

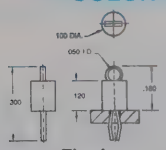


Fig. 1

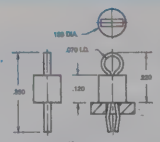


Fig. 2

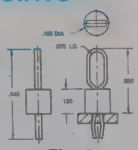


Fig. 3

Color-keyed PC test point terminations for high visibility and quick identification. Snap-fit mounting for positive retention for wave soldering. Wireform loop for safe, non-slip testing. Suitable for high-density packaging on 0.062″ and 0.093″ PC boards. Terminal material: Miniature (0.010 x 0.020″) is brass wire, tin plate; Compact (0.015 x 0.032″) is brass wire, tin plate; multipurpose (0.015 x 0.032″) is phos. brass wire, tin plate. Base material: Miniature is glass-filled nylon, meet UL94V-0; compact and multipurpose are valox, meet UL94V-0. **Sold in packages of 100.**

MINIATURE Fig. 1 W/ MOUNTING CENTER 0.100″ x 0.100″

Stock No.	Type	Base Color	Mounting Hole	1-4
52F7277	5000	Red	0.040″ Dia.	19.67
52F7278	5001	Black	0.040″ Dia.	19.67
52F7279	5002	White	0.040″ Dia.	19.67
52F7280	5003	Orange	0.040″ Dia.	19.67
52F7281	5004	Yellow	0.040″ Dia.	19.67
COMPACT Fig. 2 W/ MOUNTING CENTER 0.125″ x 0.125″				
52F7282	5005	Red	0.063″ Dia.	20.29
52F7283	5006	Black	0.063″ Dia.	20.29
52F7284	5007	White	0.063″ Dia.	20.29
52F7285	5008	Orange	0.063″ Dia.	20.29
52F7286	5009	Yellow	0.063″ Dia.	20.29
MULTIPURPOSE Fig. 3 W/ MOUNTING CENTER 0.125″ x 0.125″				
52F7287	5010	Red	0.063″ Dia.	20.29
52F7288	5011	Black	0.063″ Dia.	20.29
52F7289	5012	White	0.063″ Dia.	20.29
52F7290	5013	Orange	0.063″ Dia.	20.29
52F7291	5014	Yellow	0.063″ Dia.	20.29

(9393) (ne07391)

PC FUSE HOLDERS

4527 4527C 4245 3527

Snap-in PC board fuse holders for use where space is a factor. Tin-plated brass clips, UL94V-0 rated base. **Sold in packages of 100.**

Stock No.	Type	Size	Description	1-4
94F861	4245	3AG	Holder	59.74
95F3325	3527	5mm	Holder	60.12
16F2083	4527	5mm	Holder	36.70
16F2084	4527C	5mm	Cover only	15.28

(9256) (de02993)

FUSE CLIPS

3513 3517 3519 3529 3530 3531 3532 3535

Printed circuit types are available in snap-fit and press-fit for wave soldering. Rated 15 amps. Available with orientation tabs and end stops. Constructed of tin-plated brass. **Type 3513** is snap-in clip style. **Type 3532** same as **type 3531** without mounting ears. **Sold in packages of 100.**

Stock No.	Type	Fits Fuse	Mtg. Hole Separation	Mtg. Hole Diameter	1-4
95F3320	3513	3AG	0.300″ (7.6)	0.067″ (1.7)	11.15
95F3321	3517	5mm	0.270″ (6.9)	...	8.39
95F3324	3519	5mm	0.200″ (5.1)	0.049″ (1.2)	18.41
94F1480	3529	3AG	0.300″ (7.6)	0.067″ (1.7)	7.14
95F3319	3530	3AG	0.270″ (6.9)	0.068″ (1.7)	14.28
94F698	3531	3AG	...	0.130″ (3.3)	10.02
95F3323	3532	3AG	...	0.136″ (3.45)	10.02
94F4218	3535	3AG	...	0.135″ (3.4)	16.03

(9254) (de02991)

QUICK-DISCONNECT MALE TAB TERMINALS

NEMA

1211,1267

1212,1213 1285,1286 1282 1287, 1289 4903, 4904, 4906, 4907 1281 1266, 4966 4908

Male tabs mate with standard female quick disconnect connectors. Mating tab portion meets NEMA standards. Easily insert into punched or pre-drilled holes. Mounting holes all 0.052″ except **types 4903, 4904, 1267, 1285** and **1286**; 0.046″. Material: brass, tin-plated. **Sold in packages of 100.**

Stock No.	Type	Tab Size	1-4
16F2071	1211	0.110″ (2.79)	8.14
16F2072	1212	0.187″ (4.75)	7.02
16F2073	1213	0.205″ (5.21)	7.02
94F225	1266	0.250″ (6.35)	8.39
94F4155	1267	0.110″ (2.79)	7.52
16F2080	1281	0.250″ (6.35)	11.28
16F2074	1282	0.110/0.250″ (2.79/6.35)	7.02
94F227	1285	0.187″ (4.75)	5.76
94F228	1286	0.205″ (5.21)	6.02
94F1477	1287	0.250″ (6.35)	7.02
16F2075	1289	0.250″ (6.35)	7.14
16F2076	4903	0.110″ (2.79)	15.28
16F2077	4904	0.187″ (4.75)	14.66
16F2078	4906	0.110″ (2.79)	15.41
16F2079	4907	0.187″ (4.75)	14.78
16F2082	4908	0.250″ (6.35)	20.79
16F2081	4966	0.250″ (6.35)	8.39

(9192) (de01072)

PC FUSE CLIPS AND HOLDERS

NEW

3560 3522-2, 3544-2 4628, 4682C 4527, 4527C

3527, 3527C 3521 3561 3562 3565

3566 3564 3544 3550 3549

HOLDERS — PACKAGES OF 100

Stock No.	Type	Description	1-4
83F8237	3560	Modular PC "Auto" Blade	87.12
83F8247	3522-2	PC "Auto" Blade Fits 0.205″ x 0.025″	40.54
66F6702	3544-2	Modular PC "Auto" Blade Fits 0.110″ x 0.032″	44.59
83F8243	4628	PC 5mm, Slimline	35.46
83F8244	4628C	PC 5mm, Slimline Cover	14.77
16F2083	4527	PC 5mm, Low-Profile	36.70
16F2084	4527C	PC 5mm, Low-Profile Cover	15.28
95F3325	3527	PC 5mm, PC Snap-In	60.12
83F8245	3527C	PC 5mm, PC Snap-In Cover	23.72

CLIPS — PACKAGES OF 100

83F8246	3521	2AG/5mm	7.99
83F8238	3561	2AG/5mm	7.99
83F8239	3562	5mm/3AG, PC Multi-Fuse	11.86
83F8240	3565	9/32	9.68
83F8241	3566	13/32 PC	23.48
83F8242	3564	PC Mini "Auto" Blade	10.41
95F3326	3522	PC Automotive Blade Vert., Fits 0.110″ x 0.032″	10.77
66F6705	3544	PC Automotive Blade, Horiz. Fits 0.205″ x 0.025″	10.77
66F6704	3550	PC Automotive Blade, Vertical Fits 0.110″ x 0.032″	30.56
66F6706	3549	PC Automotive Blade, Horizontal. Fits 0.110″ x 0.032″	29.31

(36072) (ne36072)

BINDING POSTS

Insulating material is flame-retardant polycarbonate. Available in red and black (**suffix**: **102**=red and **103**=black). Connect with banana plug, spade lug, wire, alligator clip, or phone tip.
(9310) (de51500)

INSULATED BINDING POSTS

Polycarbonate head and washers. Body brass, gold plated. Hex rated, 30A; fluted rated, 15 amps. UL recognized (UL 1244).

Color	Fluted Head Stock No.	Fluted Head Type	Hex Head Stock No.	Hex Head Type	1-9
White	**39F841**	1517-101	**28F1232**	257-101	**7.01**
Red	**67F4000**	1517-102	**35F844**	257-102	**7.01**
Black	**67F4001**	1517-103	**35F749**	257-103	**7.01**
Green	**28F1220**	1517-104	**28F1223**	257-104	**7.01**
Blue	**28F1221**	1517-105	**28F1224**	257-105	**7.01**

(9311) (de51501)

MIL-P-55149/1 REV. 1 MINI-FLUTED HEAD BINDING POSTS

Polycarbonate heads and gold body. Rated 15 amps.

Stock No.	Type	MIL No.	1-9	10-24
46F1316	1514-102*	PBO1FA01	**6.41**	**5.04**
46F1317	1514-103†	PBO1FA02	**6.41**	**5.04**

*Red; †Black
(9312) (de51502)

FULLY INSULATED BINDING POSTS

1463

Polycarbonate body and head. Tin plated brass stud. **Type 1463** mounts in round hole. **Type 1464** mounts in "D" hole. Rated 15 amps.

Stock No.	Type	1-9	10-24
28F1247	1463-102*	**5.32**	**4.18**
28F1248	1463-103†	**5.32**	**4.18**
28F1199	1464-102*	**5.32**	**4.18**

*Red; †Black
(9313) (de51503)

INSULATED (HEAD ONLY) BINDING POSTS

Insulated, fluted polycarbonate head. Nickel-plated brass body. Rated 15 amps.

Stock No.	Type	1-9	10-24
87F3661	1482-102*	**4.04**	**3.17**
87F3662	1482-103†	**4.04**	**3.17**

*Red; †Black
(9314) (de51504)

MINIATURE BINDING POSTS

Polycarbonate fluted head. Gold-plated brass body.

Stock No.	Type	1-9	10-24
35F2745	3015-102*	**7.04**	**5.51**
39F1801	3015-103†	**7.04**	**5.51**

*Red; †Black
(9318) (de51508)

UNINSULATED BINDING POSTS

137 **159** **110**

Nickel-plated brass bodies and heads. Rated 15 amps.

Stock No.	Type	Description	1-9	10-24
35F628	137	Std. Octagon	**16.34**	**11.13**
81F4214	159	Compression	**2.31**	**1.82**
81F4215	110	Knob Style	**3.17**	**2.49**

(9316) (de51506)

MIL-P-55149/8 SPRING LOADED BINDING POSTS

Nylon washers; silicon rubber insulation. Rated 15 amps.

Stock No.	Type	MIL No.	1-9	10-24
87F3814	1837-102*	PBO8NA02	**28.93**	**21.70**
87F3815	1837-103†	PBO8NA01	**28.93**	**21.70**

*Red; †Black
(9317) (de51507)

SPRING LOADED BINDING POSTS

Nickel-plated brass body. Plastic top cap. Rated 15 amps.

Stock No.	Type	1-9	10-24
81F4212	2809-102*	**7.19**	**5.69**
81F4213	2809-103†	**7.19**	**5.69**

*Red; †Black
(9315) (de51505)

INSULATED DUAL BINDING POSTS ¾" CENTERS

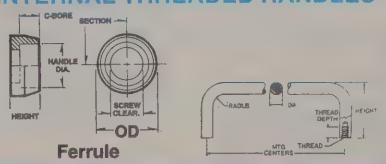
1810RB **269RB**

Polycarbonate heads, insulators. Body brass. **Type 269**, 30A; **Type 1810**, 15A. Color: red/black.

Stock No.	Type	Style	1-9	10-24
35F847	269RB	Hex	**8.50**	**6.72**
46F2329	1810RB	Fluted	**9.41**	**7.45**

(9319) (de51509)

INTERNAL THREADED HANDLES



Ferrule

ROUND-BRASS, CHROME-PLATED—INTERNAL THREAD

Diameter: 0.250″. Radius: 0.250″. Thread and Depth: 8-32 x 0.562″.

Stock No.	Type	Height	Mounting Centers	1-9
94F1623	1616	1.500″	2.000″	**6.44**
94F8972	1620		3.000″	**6.59**
50F4907	1624		4.000″	**7.05**
50F5312	1628		6.000″	**8.54**

Diameter: 0.312″. Radius: 0.312″. Thread and Depth: 10-32 x 0.562″.

50F4908	2056	1.500″	4.250″	**8.54**
94F8976	2051	1.500″	4.562″	**9.19**
94F8978	2052	1.750″	6.437″	**10.32**

ROUND ALUMINUM, BLACK ANODIZED—INTERNAL THREAD

Diameter: 0.156″. Radius: 0.187″. Thread and Depth: 4-40 x 0.375″.

84F758	1635	1.000″	1.250″	**5.85**

Diameter: 0.250″. Radius: 0.250″. Thread and Depth: 8-32 x 0.562″.

84F762	1623	1.500″	3.000″	**5.91**
84F757	1627		4.000″	**6.12**
84F763	1631		6.000″	**6.27**

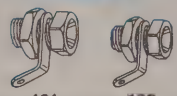
BRASS FERRULE—CHROME-PLATED

0.250″ handle diameter. #8 Screw Clearance. 0.187″ height.

Stock No.	Type	Outside Dia.	C'Bore Height	1-9
96F9031	1668	0.375″	0.625″	**0.65**

(9286) (de50275)

UNINSULATED BANANA AND TIP JACKS



101 **109**

Nickel-plated brass body. Supplied with mounting hardware and solder lug.

Stock No.	Type	Description	1-9	10-24
35F865	101	Std. Banana Jack L-1 3/32″ 1/4-32 thread 3/8 head	**1.29**	**0.99**
39F867	109	Std. Banana Jack L-1/2″ 1/4-32 thread 5/16 head	**1.38**	**1.02**

(9322) (de51512)

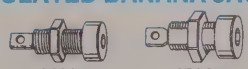
MILITARY TYPE MIL-C-39024/10 INSULATED TIP JACKS

Insulated tin-plated brass body. Metal shell. Gold-plated beryllium copper contact.

Stock No.	Type	Terminal	1-9	10-24
35F701	1501-102*	Turret	**3.97**	**3.04**
35F702	1501-103†		**3.97**	**3.04**

*Red; †Black
(9325) (de51515)

INSULATED BANANA JACKS



1508 **1509**

Nickel-plated brass body. Polycarbonate head. Rated 15 amps.

Stock No.	Type	Description	1-9
35F713	1508-102*	Std. Banana, Round Body	**1.29**
35F714	1508-103†		**1.29**
35F870	1509-102*	Std. Banana, Double D Body	**1.29**
35F869	1509-103†		**1.29**

*Red; †Black
(9323) (de51513)

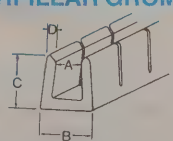
INSULATED TIP JACKS

Polycarbonate head. Nickel-plated brass body.

Stock No.	Type	Description	1-9
35F757	1506-102*	Eyelet-1/4″ hole	**2.32**
35F758	1506-103†	Eyelet-1/4″ hole	**2.32**

*Red; †Black
(9324) (de51514)

CATERPILLAR GROMMETS



Black 6/6 nylon. "U" shaped extrusion, with slits along length to make grommets fit any shape or any size diameter hole 1″ (25.40) or larger in chassis from 0.031 to 0.125″ (0.787 to 3.18) thick. **Sold in rolls of 25′.**

Stock No.	Type	Fits Chassis Thickness	1-9
96F7217	2692	0.032-0.052″	**27.57**
94F1637	2693	0.052-0.085″	**31.91**
96F7218	2694	0.084-0.125″	**34.14**

		Dimensions			
Stock No.	Type	A	B	C	D
96F7217	2692	0.052″	0.125″	0.190″	0.040″
94F1637	2693	0.085″	0.162″	0.200″	0.045″
96F7218	2694	0.125″	0.206″	0.220″	0.045″

(9289) (de50278)

SPACERS AND STANDOFFS

¼″ O.D. ALUMINUM SPACERS AND STANDOFFS

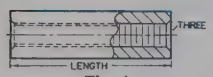


Fig. 1

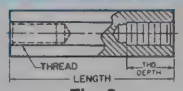


Fig. 2

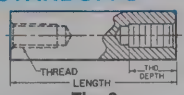


Fig. 3

Maximum standoff thread depths: tapped thru (Fig. 1) — all threads: 1″. Tap each end (Figs. 2 and 3) — 4-40: 0.250″; 6-32: 0.375″; 8-32: 0.437″. Irridite finish seals and protects aluminum surface. **Sold in packages of 100.**

ROUND CLEARANCE SPACERS–FIG. 1

Body Length	#4 Hole Stk. No.	#4 Hole Type	#6 Hole Stk. No.	#6 Hole Type	#8 Hole Stk. No.	#8 Hole Type	1-9
0.125″	67F4011	8480	67F4019	8500	...	...	13.33
0.250″	67F4012	8481	67F4020	8501	67F4028	8521	14.05
0.375″	67F4013	8482	67F4021	8502	67F4029	8522	15.00
0.500″	67F4014	8483	67F4022	8503	67F4030	8523	15.72
0.625″	67F4015	8484	67F4023	8504	67F4031	8524	19.29
0.750″	...	...	67F4024	8505	67F4032	8525	26.55
0.875″	67F4017	8486	...	...	...	...	27.74
1.000″	67F4018	8487	67F4026	8507	67F4034	8527	23.45
1.500″	13F225	8489	...	...	13F227	8529	20.42
2.000″	...	...	...	...	13F230	8531	26.37

ROUND THREADED STANDOFFS–FIG. 2

Body Length	4-40 Thread Stk. No.	4-40 Thread Type	6-32 Thread Stk. No.	6-32 Thread Type	8-32 Thread Stk. No.	8-32 Thread Type	1-9
0.250″	67F4061	8321	...	...	...	...	14.05
0.375″	67F4062	8322	67F4078	8342	...	...	14.64
0.500″	67F4063	8323	67F4079	8343	...	...	17.14
0.625″	67F4064	8324	67F4080	8344	...	...	22.98
0.750″	67F4065	8325	67F4081	8345	...	...	26.78
1.000″	67F4067	8327	67F4083	8347	...	...	33.09

HEX THREADED STANDOFFS–FIG. 3

0.250″	67F4109	8401	67F4117	8421	...	...	15.60
0.375″	67F4110	8402	67F4118	8422	...	...	16.55
0.500″	67F4111	8403	67F4119	8423	67F4127	8443	16.67
0.625″	67F4112	8404	67F4120	8424	67F4128	8444	22.98
0.750″	67F4113	8405	67F4121	8425	67F4129	8445	25.83
0.875″	67F4114	8406	67F4122	8426	67F4130	8446	29.40
1.000″	67F4115	8407	67F4123	8427	67F4131	8447	29.88

(9940) (de50350)

¼″ O.D. BRASS MALE/FEMALE STANDOFFS

SOLD IN PACKAGES OF 100

Body Length	4-40 Thread Stk. No.	4-40 Thread Type	6-32 Thread Stk. No.	6-32 Thread Type	8-32 Thread Stk. No.	8-32 Thread Type	1-9
0.250″	81F4262	8216	81F4278	8248	81F4294	8280	29.88
0.375″	81F4263	8217	81F4279	8249	...	...	31.66
0.500″	81F4264	8218	81F4280	8250	81F4296	8282	33.09
0.625″	81F4265	8219	81F4281	8251	81F4297	8283	33.45
0.750″	81F4266	8220	81F4282	8252	81F4298	8284	36.90
0.875″	81F4267	8221	81F4283	8253	81F4299	8285	37.62
1.000″	81F4268	8222	81F4284	8254	81F4300	8286	50.44

SOLD IN PACKAGES OF 25

1.125″	...	...	98F3605	8255	50F210	8287	15.72
1.250″	...	...	98F3555	8256	50F211	8288	18.01
1.375″	...	...	98F3245	8257	...	...	18.45
1.500″	...	...	98F3246	8258	98F3550	8290	20.30
1.625″	...	...	...	...	50F212	8291	20.86
1.750″	...	...	50F209	8260	98F2929	8292	21.61
2.000″	...	...	98F2696	8261	50F213	8293	22.14
2.500″	...	...	98F2928	8262	98F3460	8294	22.89
3.000″	...	...	98F2869	8263	98F3606	8295	23.09

(9941) (de50353)

¼″ O.D. BRASS SPACERS AND STANDOFFS

Maximum standoff thread depths: tap each end (Fig. 2 and 3) — 4-40: 0.250″; 6-32: 0.375″; 8-32: 0.437″. Round clearance spacers are also available in #4 hole, #6 hole, and #8 hole; *contact your local Newark sales office.* See ¼″ O.D. Aluminum Spacers and Standoff separately *on this page* for drawings. **Sold in packages of 100.**

ROUND THREADED STANDOFFS–FIG. 2

Body Length	4-40 Thread Stk. No.	4-40 Thread Type	6-32 Thread Stk. No.	6-32 Thread Type	8-32 Thread Stk. No.	8-32 Thread Type	1-9
0.500″	35F551	2372	35F554	2122	...	...	19.29
0.750″	35F552	2373	35F555	2123	...	...	31.66
1.000″	35F885	2374	35F562	2124	...	...	47.85

HEX THREADED STANDOFFS–FIG. 3

0.250″	67F4158	2330	35F871	2320	...	...	18.33
0.375″	67F4159	2331	67F4163	2321	...	...	19.29
0.500″	67F4160	2332	35F872	2322	67F4166	2327	21.07
0.750″	67F4161	2333	35F873	2323	67F4167	2328	24.64
1.000″	67F4162	2334	35F874	2324	67F4168	2329	37.97

(9294) (de50354)

ROUND THREADED NYLON STANDOFFS

Standoffs available in 4-40 and 6-32 threaded holes. 0.75″ (19.05) long, tap is 0.375″ (9.53) from each end, not continuous. **Sold in packages of 100.**

Length	4-40 Thread Stock No.	4-40 Thread Type	6-32 Thread Stock No.	6-32 Thread Type	1-9
0.250″	30F1457	4050	30F1458	4051	26.90
0.375″	30F1460	4053	30F1461	4054	29.64
0.500″	30F1463	4056	30F1464	4057	31.90
0.750″	30F1466	4059	30F1467	4060	37.26
1.000″	30F1469	4062	30F1470	4063	41.19

(9287) (de50276)

0.25″ (6.35) O.D. NYLON SPACERS

Made of type 6/6 nylon. **Sold in packages of 100.**

Length	#4 Hole Stk. No.	#4 Hole Type	#6 Hole Stk. No.	#6 Hole Type	#8 Hole Stk. No.	#8 Hole Type	1-9
0.125″	30F1433	4000	30F1434	4001	30F1435	4002	16.07
0.250″	30F1436	4006	30F1437	4007	30F1438	4008	17.74
0.375″	30F1439	4012	30F1440	4013	30F1441	4014	19.29
0.500″	30F1442	4018	30F1443	4019	30F1444	4020	20.95
0.625″	30F1445	4024	30F1446	4025	30F1447	4026	29.88

(9285) (de50273)

ROUND CERAMIC STANDOFFS

Made of grade L-5 Steatite material. Good in compression or tension. Perform well in high temperatures. Available commercial and military grades.

MILITARY TYPES

Stock No.	Type	Military Number	Thread	Length	O.D.	Thread Depth	1-9
98F3553	2600†	NL-523W01-004	6-32	0.500″	0.375″	0.156″	50.05
67F4208	2601†	NL-523W01-005	6-32	0.625″	0.375″	0.250″	51.54
98F3243	2602†	NL-523W01-006	6-32	0.750″	0.375″	0.250″	56.09
67F4210	2603§	NL-523W01-008	6-32	1.000″	0.375″	0.375″	3.21
67F4211	2604§	NL-523W01-010	6-32	1.250″	0.375″	0.375″	3.29
67F4212	2605§	NL-523W01-012	6-32	1.500″	0.375″	0.375″	3.46
67F4213	2606§	NL-523W01-016	6-32	2.000″	0.375″	0.375″	3.71
98F3468	2607*	NL-523W02-005	8-32	0.625″	0.500″	0.187″	17.52
98F3558	2608*	NL-523W02-006	8-32	0.750″	0.500″	0.250″	14.24
67F4216	2609§	NL-523W02-008	8-32	1.000″	0.500″	0.375″	3.29
67F4217	2610§	NL-523W02-010	8-32	1.250″	0.500″	0.375″	3.54
67F4218	2611§	NL-523W02-012	8-32	1.500″	0.500″	0.375″	3.71
67F4219	2612§	NL-523W02-016	8-32	2.000″	0.500″	0.375″	3.95
67F4220	2613§	NL-523W02-020	8-32	2.500″	0.500″	0.375″	4.70
50F4910	2615§	NL-523W03-008	10-32	1.000″	0.750″	0.375″	5.30
81F4346	2616§	NL-523W03-010	10-32	1.250″	0.750″	0.375″	5.37
81F4347	2617§	NL-523W03-012	10-32	1.500″	0.750″	0.375″	5.27
81F4348	2618§	NL-523W03-016	10-32	2.000″	0.750″	0.375″	5.81
94F1634	2622§	NL-523W04-010	¼-20	1.250″	1.000″	0.437″	7.14

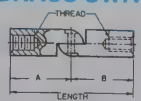
COMMERCIAL TYPES

Stock No.	Type	Thread	Length	O.D.	Thread Depth	1-9
67F4222	2640†	6-32	0.250″	0.250″	Thru	53.62
98F3040	2641†	6-32	0.500″	0.250″	0.156″	53.62
67F4224	2642†	6-32	0.375″	0.375″	0.156″	42.44
98F2931	2643†	6-32	0.500″	0.375″	0.187″	45.50
98F309	2644§	6-32	0.500″	0.500″	0.140″	2.18
98F677	2645†	6-32	0.750″	0.500″	0.250″	63.65
67F4228	2646§	6-32	1.000″	0.500″	0.375″	2.73
67F4229	2647§	6-32	1.500″	0.500″	0.437″	3.89
67F4231	2649§	¼-20	2.500″	0.750″	0.750″	7.99

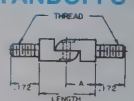
*Package of 5; †Package of 25; § Each

(9288) (de50277)

BRASS SWIVEL STANDOFFS



Female/Female



Male/Male

Tin-plated round brass swivels for hinging PC boards. **Sold in packages of 25.**

Stock No.	Type	Thd.	Length	O.D.	Dimension A	Dimension B	1-4
81F4226	3021*	4-40	¾″	3⁄16″	0.375″	0.172″	26.40
81F4227	3022*	4-40	1″	3⁄16″	0.625″	0.375″	26.40
98F2693	3023*	6-32	¾″	¼″	0.375″	0.172″	26.40
98F3716	3024*	6-32	1″	¼″	0.625″	0.375″	26.40
81F4232	3025*	8-32	¾″	¼″	0.375″	0.172″	35.21
81F4234	3026*	8-32	1″	¼″	0.625″	0.375″	26.40
81F4228	3027+	4-40	½″	3⁄16″	0.250″	...	26.40
50F203	3028+	6-32	½″	¼″	0.312″	...	26.40
81F4230	3029+	8-32	½″	¼″	0.312″	...	26.40

*Female/Female; +Male/Male

(9292) (de50352)

CONNECTORS AND BINDING POSTS

5-WAY® BINDING POSTS

Miniature Hex Nut Fluted Nut Double Assembly

Single- and double-assembly posts available in standard sizes rated 30A and miniature versions rated 15A, 1000V working. All fit panels 0.06-0.25″ (1.52-6.35) thick. Standard types fit 0.50″ (12.70) diameter panel hole; miniature posts fit 0.375″ (9.52) diameter. Captive thumbnuts with positive stop. Insulating parts are nylon. Current-carrying parts are gold-, nickel- or tin-plated brass. Some types meet MIL-P-20693A, Type IV specifications, see table below. Type number suffix indicates color: R = red, B = black, BL = blue, GN = green, WT = white, Y = yellow. Custom color ring and all-metal grounding styles also available; *call your local Newark sales office to order.*

SINGLE-ASSEMBLY BINDING POSTS

BP21 SERIES - MINIATURE FLUTED NUT TYPES - NO. 6-32 STUD (Meets MIL-P-20693A Type IV spec.)

Gold Plated				Nickel Plated				Tin Plated			
Stock No.	Type	Each	2-5	Stock No.	Type	Each	2-5	Stock No.	Type	Each	2-5
35F3000	BP21R-1PKG	5.08	4.77	96F1976	BP21RN-1 PKG	4.14	3.89	96F1982	BP21RT-1 PKG	3.84	3.61
35F3002	BP21B-1PKG	5.08	4.77	96F1977	BP21BN-1 PKG	4.14	3.89	96F1983	BP21BT-1 PKG	3.84	3.61
35F3005	BP21GN-1PKG	5.08	4.77	96F1979	BP21GNN-1 PKG	4.14	3.89	96F1967	BP21GNT-1 PKG	3.84	3.61
35F3001	BP21WT-1PKG	5.08	4.77	96F1980	BP21WTN-1 PKG	4.14	3.89	96F1968	BP21WTT-1 PKG	3.84	3.61
BP30 SERIES - STANDARD HEX NUT TYPES - NO. 8-32 STUD (Meets MIL-P-20693A Type IV spec.)											
35F3006	BP30R-1PKG	5.08	4.77	96F1970	BP30RN-1 PKG	4.14	3.89	96F1958	BP30RT-1PKG	3.84	3.61
35F3008	BP30B-1PKG	5.08	4.77	96F1971	BP30BN-1 PKG	4.14	3.89	96F1959	BP30BT-1 PKG	3.84	3.61
35F3009	BP30BL-1PKG	5.08	4.77	96F1972	BP30BLN-1 PKG	4.14	3.89	96F1960	BP30BLT-1 PKG	3.84	3.61
35F3011	BP30GN-1PKG	5.08	4.77	96F1973	BP30GNN-1 PKG	4.14	3.89	96F1961	BP30GNT-1 PKG	3.84	3.61
35F3007	BP30WT-1PKG	5.08	4.77	96F1974	BP30WTN-1 PKG	4.14	3.89	96F1962	BP30WTT-1 PKG	3.84	3.61
35F3010	BP30Y-1PKG	5.08	4.77	96F1975	BP30YN-1 PKG	4.14	3.89	96F1963	BP30YN-1 PKG	3.84	3.61
BP31 - STANDARD FLUTED NUT TYPES - NO. 8-32 STUD											
35F3012	BP31R-1PKG	5.08	4.77	96F1964	BP31RN-1 PKG	4.14	3.89	96F1952	BP31RT-1 PKG	3.84	3.61
35F3014	BP31B-1PKG	5.08	4.77	96F1965	BP31BN-1 PKG	4.14	3.89	96F1953	BP31BT-1 PKG	3.84	3.61

DOUBLE-ASSEMBLY BINDING POSTS WITH BLACK/RED THUMBNUTS

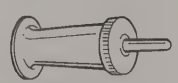
BP21 SERIES - MINIATURE FLUTED NUT (Meets MIL-P-20693A Type IV spec.)

Plate	Stud Size	Stock No.	Type	Each	2-5	6-10	11-15
Gold	6-32	35F3018	BP21-2BR-B PKG	11.12	10.45	9.85	9.58
Nickel	6-32	87F3425	BP21-2BRM-B PKG	8.89	8.35	7.87	7.65
Tin	6-32	87F3426	BP21-2BRT-B PKG	8.32	7.81	7.37	7.16
BP30 SERIES - STANDARD HEX NUT (Meets MIL-P-20693A Type IV spec.)							
Gold	8-32	35F3019	BP30-2BR-B PKG	11.12	10.45	9.85	9.58
Gold	10-32	87F3424	BP30-2BR10-B PKG	11.12	10.45	9.85	9.58
Nickel	8-32	87F3427	BP30-2BRN-B PKG	8.89	8.35	7.87	7.65
Nickel	10-32	87F3429	BP30-2BR10N-B PKG	8.89	8.35	7.87	7.65
Tin	8-32	87F3428	BP30-2BRT-B PKG	8.32	7.81	7.37	7.16
Tin	10-32	87F3430	BP30-2BR10T-B PKG	8.32	7.81	7.37	7.16

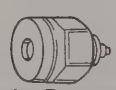
(9338) (de52841)

SUPERCON® ELECTRICAL CONNECTORS

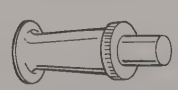
SUPERCON® connectors provide rapid and positive panelboard connections. They feature a functional plug design for handling ease and comfort. 25, 50 and 100-amp versions are rated 125-250 VAC/VDC current interrupting, 600V unenergized connect or disconnect use only; 250-amp types are rated 600V unenergized connect or disconnect use only. Wiring to the same plug can be soldered or solderless. Cable fastening screws permit a wide range of cable sizes. Type number suffix indicates color: **B** = black, **Y** = yellow, **R** = red, **BL** = blue, **GN** = green, **WT** = white. Wiring connections to threaded stud by wire wrap-around, lug or bus bar. 25, 50 and 100 ampere types are CSA certified.



Pin Plug Type PP



Socket Receptacle Type RS



Socket Plug Type PS

Pin Receptacle Type RP

25 AMPERE TYPES

Pin Plug		Socket Receptacle		Socket Plug		Pin Receptacle			
Stock No.	Type	Stock No.	Type	Stock No.	Type	Stock No.	Type	Each	2-5
06F060	PP25GB	06F048	RS25GB	06F066	PS25GB	06F054	RP25GB	19.41	18.57
06F061	PP25GY	06F049	RS25GY	06F067	PS25GY	06F055	RP25GY	19.41	18.57
06F062	PP25GR	06F050	RS25GR	06F068	PS25GR	06F056	RP25GR	19.41	18.57
06F063	PP25GBL	06F051	RS25GBL	06F069	PS25GBL	...	...	19.41	18.57
06F064	PP25GGN	06F052	RS25GGN	06F070	PS25GGN	06F058	RP25GGN	19.41	18.57
06F065	PP25GWT	06F053	RS25GWT	06F071	PS25GWT	06F059	RP25GWT	19.41	18.57
50 AMPERE TYPES									
06F030	PP50GB	06F000	RS50GB	06F024	PS50GB	06F006	RP50GB	22.10	20.81
06F031	PP50GY	...	...	...	...	...	...	22.10	20.81
06F032	PP50GR	06F002	RS50GR	06F026	PS50GR	06F008	RP50GR	22.10	20.81
06F033	PP50GBL	06F003	RS50GBL	06F027	PS50GBL	06F009	RP50GBL	22.10	20.81
06F034	PP50GGN	06F004	RS50GGN	06F028	PS50GGN	06F010	RP50GGN	22.10	20.81
06F035	PP50GWT	06F005	RS50GWT	06F029	PS50GWT	06F011	RP50GWT	22.10	20.81
100 AMPERE TYPES									
06F042	PP100GB	06F012	RS100GB	06F036	PS100GB	06F018	RP100GB	29.11	27.40
94F303	PP100GY	94F308	RS100GY	06F037	PS100GY	...	...	29.11	27.40
06F044	PP100GR	06F014	RS100GR	06F038	PS100GR	06F020	RP100GR	29.11	27.40
...	...	94F307	RS100GBL	06F039	PS100GBL	...	...	29.11	27.40
06F046	PP100GGN	06F016	RS100GGN	06F040	PS100GGN	06F022	RP100GGN	29.11	27.40
06F047	PP100GWT	06F017	RS100GWT	06F041	PS100GWT	06F023	RP100GWT	29.11	27.40
250 AMPERE TYPES									
06F097	PP250GB	06F095	RS250GB	06F672	PS250GB	06F675	RP250GB	47.53	43.95
70B6421	PP250GY	70B3881	RS250GY	70B9312	PS250GY	06F676	RP250GY	47.53	43.95
06F098	PP250GR	06F096	RS250GR	06F674	PS250GR	06F677	RP250GR	47.53	43.95
96F6286	PP250GBL	96F6287	RS250GBL	06F145	PS250GBL	...	...	47.53	43.95
98F3253	PP250GGN	96F6288	RS250GGN	...	...	...	...	47.53	43.95
98F3252	PP250GWT	94F6712	RS250GWT	06F147	PS250GWT	06F150	RP250GWT	47.53	43.95

(9942) (de52842)

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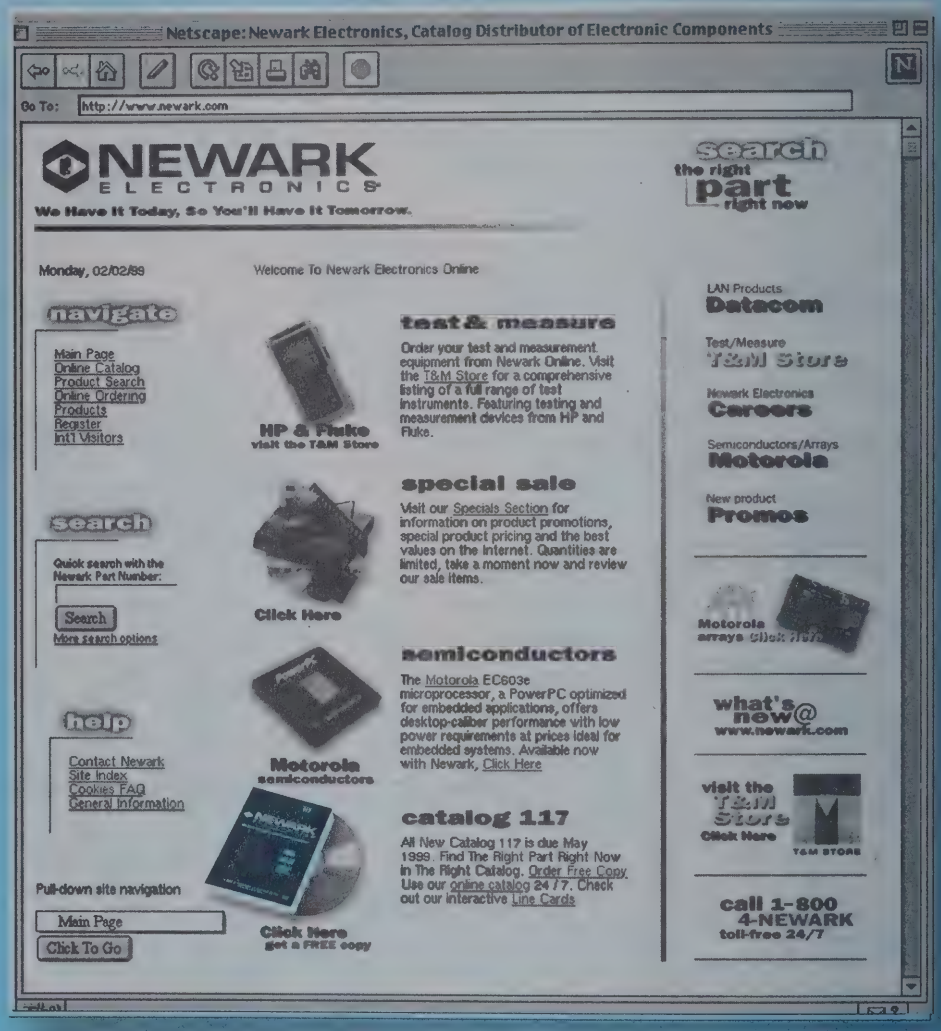
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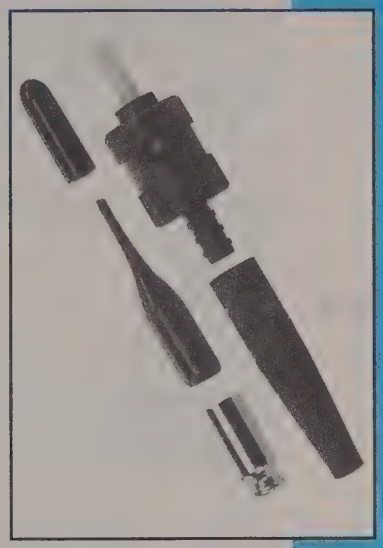

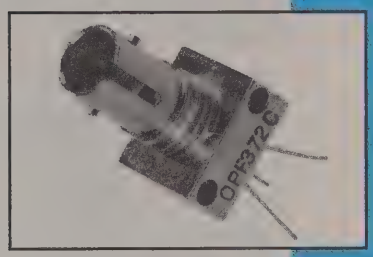

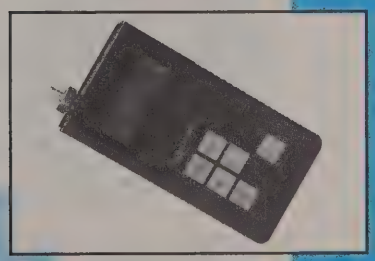

Products include...

- Accessories
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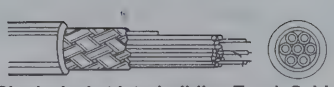
- Cable
- Cable Assemblies
- Connectors
- Kits
- LEDs
- Sensors/Switches/ Detectors
- Test Equipment
- Transmitters/ Receivers

INTERBUILDING TRUNK CABLE

For wide area networks, multi-building interconnection, and broadcast/video applications such as CATV super trunk and satellite uplink/downlinks. Constructed of multi-conductor optical fibers enclosed in loose, gel-filled buffer tubes. Polyethylene outer jacket is extruded over the entire assembly core for protection. Attenuation: 3.5dB/1.0km. Bandwidth: 160/150Mhz/km. Crush resistance: 125 lb./inch (single jacket); 250 lb./inch (heavy duty double jacket.) Temperature range: –400°C to +800C. NOTE: Export license may be required to ship this product outside the USA. **Sold by the foot.**



Single Jacket Interbuilding Trunk Cable

Heavy Duty Double Jacket Interbuilding Trunk Cable

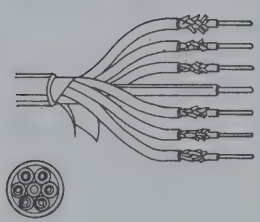
62.5/125/250 MICRON (CORE/CLAD/COATING) - ALL DIELECTRIC
MEETS IBM 3044 CHANNEL EXTENDER AND FDDI OPTICAL SPECIFICATIONS. NUMERICAL APERTURE: 0.275".
SINGLE JACKET

Type	No. of Fibres	O.D.	Stock No.	1-999	1000-4999	5000-9999
MLS6002-X-10	2	0.374"	83F7394	0.76	0.70	0.65
MLS6004-X-10	4	0.374"	83F7395	1.26	1.16	1.07
MLS6006-X-10	6	0.374"	83F7396	1.58	1.46	1.35
MLS6008-X-10	8	0.435"	83F7397	1.94	1.79	1.66
MLS6010-X-10	10	0.435"	83F7398	2.28	2.10	1.95
MLS6012-X-10	12	0.435"	83F7399	2.65	2.45	2.26
MLS6024-X-10	24	0.435"	83F7400	4.44	4.09	3.79
MLS6036-X-10	36	0.435"	83F7401	6.63	6.10	5.65
MLS6048-X-10	48	0.490"	83F7402	8.74	8.05	7.46
MLD6002-X-10	2	0.465"	83F7403	1.02	0.94	0.87
MLD6006-X-10	6	0.465"	83F7404	1.78	1.64	1.52
MLD6008-X-10	8	0.525"	83F7405	2.23	2.05	1.90
MLD6012-X-10	12	0.525"	83F7406	2.75	2.53	2.34

(9202) (de01739)

INDOOR/OUTDOOR TIGHT BUFFER BREAKOUT CABLE

Tight buffer construction for flexibility and crush resistance. Each fiber is surrounded by a layer of aramid yarn and a protective inner jacket. UL listed as type OFNR per NEC Article 770-6(b). Feature flame-retardant PVC inner and outer jackets and temperature range of –20°C to +75°C. Values listed in table are 850/1300nm. 62.5/125/250 (Core/Clad/Coating). Dual window fiber. Attenuation: 3.5dB/1.0km. Bandwidth: 160/500Mhz/km. NOTE: Export license may be required to ship this product outside the USA. **Sold by the foot.**



OFNR

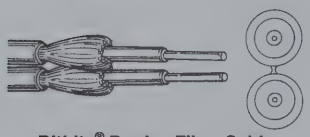
Stock No.	Type	No. of Fibers	O.D.	1-999	1000-4999	5000-9999
83F7407	MTB6002-X-6	2	0.236"	0.67	0.62	0.57
83F7408	MTB6004-X-6	4	0.285"	1.24	1.14	1.06
83F7409	MTB6006-X-6	6	0.363"	1.86	1.71	1.58
83F7410	MTB6008-X-6	8	0.437"	2.42	2.23	2.06
83F7411	MTB6012-X-6	12	0.450"	3.04	2.80	2.60
83F7412	MTB6018-X-6	18	0.583"	4.68	4.31	3.99
83F7413	MTB6024-X-6	24	0.676"	6.25	5.75	5.33
83F7414	MTB6036-X-6	36	0.769"	9.35	8.61	7.97
		OFNP				
83F7415	MTBP604-X-6	4	0.276"	1.57	1.45	1.34
83F7416	MTBP606-X-6	6	0.326"	2.28	2.10	1.95
83F7417	MTBP608-X-6	8	0.388"	3.03	2.79	2.59
83F7418	MTBP612-X-6	12	0.513"	4.53	4.18	3.87

(13133) (ne09916)

BITLITE® SINGLE AND DUPLEX CABLE

Operating temperature range for PVC: –10°C to +50°C. Operating temperature for Flamarrest: 0°C to +75°C. †Attenuation and bandwidth values listed in table below, are at 850nm/1300nm. Attenuation = 3.5db/1.0km. Bandwidth: 160/500Mhz/km. NOTE: Export license may be required to ship this product outside the USA. **Sold by the foot.**

BitLite® Single Fiber Cable



BitLite® Duplex Fiber Cable

62.5/125 MICRON (CORE/CLAD) HIGH-PERFORMANCE DUAL WINDOW FIBER, PVC JACKET, NEC TYPE OFNR.

Type	No. of Fibres	O.D.	Stock No.	1-999	1000-4999	5000-9999
PTS6001-X-3	1	0.118"	83F7419	0.20	0.19	0.17
PTZ6002-X-3	2	0.118x.242"	83F7420	0.40	0.37	0.34

62.5/125 MICRON (CORE/CLAD) DUAL WINDOW FIBER, FLAMARREST JACKET, NEC TYPE OFNP.

PTSP601-X-3	1	0.118"	83F7421	0.25	0.23	0.21
PTZP602-X-3	2	0.118x.242"	83F7422	0.46	0.42	0.39

(9462) (de52096)

LANLITE® PLENUM- AND RISER-RATED TRUNK CABLE

This LANLITE fiber optic cable contains buffered 62.5/125 micron fibers. The fibers are stranded with aramid yarn, which provides strength and impact resistance. The cable is UL listed for riser applications. Small diameter, light weight and flexibility provide easy installation and maintenance. Temp. range: –10°C to +50°C. Meets FDDI Optical Specifications and IBM 3044 Channel Extender Specifications. Attenuation: 3.4dB/1.0km. Bandwidth: 160/500Mhz/km. **Sold by the foot.**

LANLite. Trunk Cable

FLAME RETARDANT PVC JACKET, DUAL WINDOW FIBER(CORE/CLAD), NEC TYPE OFNR

Type	No. of Fibres	O.D.	Stock No.	1-999	1000-4999	5000-9999
PTD6002-X-3	2	0.175"	83F7423	0.43	0.40	0.37
PTD6004-X-3	4	0.185"	83F7424	0.82	0.76	0.70
PTD6006-X-3	6	0.210"	83F7425	1.13	1.05	0.97
PTD6008-X-3	8	0.230"	83F7426	1.62	1.49	1.38
PTD6012-X-3	12	0.250"	83F7427	2.24	2.06	1.91

FLAMARREST JACKET, DUAL WINDOW FIBER(CORE/CLAD), NEC TYPE OFNP

PTDP602-X-3	2	0.175"	83F7428	0.46	0.42	0.39
PTDP604-X-3	4	0.180"	83F7429	0.86	0.79	0.73
PTDP606-X-3	6	0.185"	83F7430	1.22	1.12	1.04
PTDP608-X-3	8	0.200"	83F7431	1.71	1.58	1.46
PTDP612-X-3	12	0.225"	83F7432	2.34	2.16	2.00

(9333) (de52097)

FIBER-OPTIC CABLE

SIMPLEX AND DUPLEX CABLE

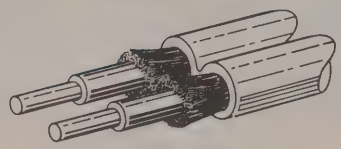
Fiber-optic cable comes in UL riser and plenum rated constructions. Operating temperature: –20°C to +70°C. 62.5µm fiber @ 850/1300nm. Attenuation: 3.5dB/1.0km. Bandwidth: 160MHz/500km. NOTE: An export license may be required to ship this product outside the USA. **Sold per foot in made-to-order spool sizes.**

RISER RATED TYPE OFNR

Stock No.	Type	No. of Fibers	Outer Diameter	Per Foot
91F6581	CT0011SNR	1	0.118″	0.22
91F6582	CT0021ZNR	2	0.114 x 0.235″	0.42
PLENUM RATED TYPE OFNP				
91F6583	CT0011SNU	1	0.118″	0.27
91F6584	CT0021ZNU	2	0.114 x 0.235″	0.47

(16843) (ne10069)

Simplex Cable



Duplex Cable

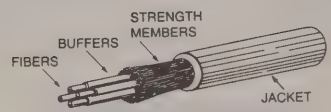
PREMISE DISTRIBUTION CABLE

Tight buffered fiber-optic cable comes in UL riser and plenum rated constructions for indoor applications. Operating temperature: –20°C to +80°C. 62.5/125µm fiber @ 850/1300nm. Attenuation: 3.5dB/1.0km. Bandwidth: 160MHz/500km. Each cable has 900mm buffered fibers, aramid yarn for strength, and a flame-retardant jacket. NOTE: An export license may be required to ship this product outside the USA. **Sold per foot in made-to-order spool sizes.**

RISER RATED TYPE OFNR

Stock No.	Type	No. of Fibers	Outer Diameter	Per Foot
91F6585	CT0021PNR	2	0.188″	0.42
91F6586	CT0041PNR	4	0.201″	0.78
91F6587	CT0061PNR	6	0.215″	1.07
91F6588	CT0121PNR	12	0.250″	2.07
PLENUM RATED TYPE OFNP				
91F6589	CT0021PNU	2	0.171″	0.48
91F6590	CT0041PNU	4	0.181″	0.81
91F6591	CT0061PNU	6	0.195″	1.14
91F6592	CT0121PNU	12	0.227″	2.17

(16844) (ne10070)



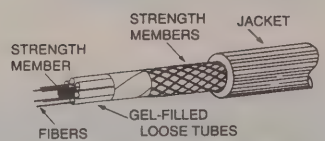
Premise Distribution Cable

OUTDOOR INTERBUILDING CABLE

Loose tube, gel-filled fiber-optic cable is for outdoor, building-to-building installations. Single jacket, double duct cable provides excellent environmental protection. Operating temperature: –40°C to +80°C. 62.5µm fiber @ 850/1300nm. Attenuation: 3.5dB/1.0km. Bandwidth: 160MHz/500km. NOTE: An export license may be required to ship this product outside the USA. **Sold per foot in made-to-order spool sizes.**

Stock No.	Type	No. of Fibers	Outer Diameter	Per Foot
91F6593	CT0044M1A	4	0.294″	0.98
91F6594	CT0064M1A	6	0.318″	1.36
91F6595	CT0124M1A	12	0.318″	2.23
91F6596	CT0244M1A	24	0.385″	4.16

(16845) (ne10071)



Outdoor Interbuilding Cable

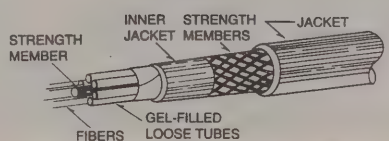
INDOOR/OUTDOOR CABLE

Loose tube, gel-filled indoor/outdoor fiber-optic cable is used for cable runs that come into buildings beyond the 50′ NEC limitations. Comes in UL riser and plenum rated constructions and provides excellent environmental protection. Operating temperature: –40°C to +80°C. Attenuation: 3.5dB/1.0km. Bandwidth: 160MHz/500km. NOTE: An export license may be required to ship this product outside the USA. **Sold per foot in made-to-order spool sizes.**

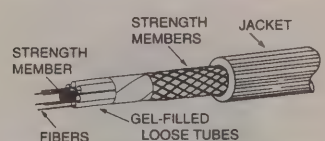
RISER RATED TYPE OFNR

Stock No.	Type	No. of Fibers	Outer Diameter	Per Foot
91F6597	CT0044M1M	4	0.304″	1.32
91F6598	CT0064H1M	6	0.304″	1.75
91F6599	CT0124M1M	12	0.304″	2.67
91F6600	CT0244M1M	24	0.375″	4.59
PLENUM RATED TYPE OFNP				
91F6601	CT0044M1D	4	0.232″	1.50
91F6602	CT0064M1D	6	0.256″	1.89
91F6603	CT0124M1D	12	0.256″	2.80
91F6604	CT0244M1D	24	0.323″	5.20

(16846) (ne10072)



Indoor/Outdoor Cable (Riser Rated)

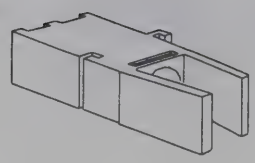


Indoor/Outdoor Cable (Plenum Rated)

OVERNIGHT SHIPMENT IS AVAILABLE WHEN YOU NEED IT.
CONTACT YOUR LOCAL NEWARK SALES OFFICE.

HFBR-0501 SERIES VERSATILE LINK PACKAGE

The most cost effective family of fiber-optics from Hewlett-Packard. The family consists of discrete transmitters and receivers based on 660nm technology. Optimized for 1mm plastic fiber and 200µm HCS™ fiber. Applications include industrial control, factory floor LANs, gaming and medical equipment.



TRANSMITTERS

Type	Data Rate (MBd)	Distance (m) (@ 25°C)	Wavelength (nm)	Fiber Type	1-9	10-24	25-49
HFBR-1521	5	30	660	Plastic	10.82	9.74	8.67
HFBR-1522	1	55	660	Plastic	10.82	9.74	8.67
HFBR-1523	40*	120	660	Plastic	10.82	9.74	8.67
HFBR-1524	1	20	660	Plastic	8.36	7.52	6.70
HFBR-1527	125	50	650	Plastic			
	32	1000	650	HCS™	11.16	10.05	8.94
HFBR-1528	10	50	650	Plastic			
	10	500	650	HCS™	10.82	9.74	8.67
HFBR-1531	5	30	660	Plastic	10.82	9.74	8.67

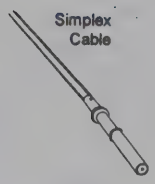
RECEIVERS

Type	Data Rate (MBd)	Distance (m) (@ 25°C)	Wavelength (nm)	Fiber Type	1-4	5-9	10-24
HFBR-2521	5	30	660	Plastic	11.52	10.83	10.18
HFBR-2522	1	55	660	Plastic	11.52	10.83	10.18
HFBR-2523	40*	120	660	Plastic	11.52	10.83	10.18
HFBR-2524	1	20	660	Plastic	9.41	8.47	7.54
HFBR-2526	125	50	650	Plastic			
	32	1000	650	HCS™	17.39	16.35	15.37
HFBR-2528	10	50	650	Plastic			
	10	500	650	HCS™	18.04	16.96	15.95
HFBR-2531	5	30	660	Plastic	11.52	10.83	10.18

*kBd

(9413) (ne09691)

PLASTIC AND HCS™ FIBER CABLE



CONNECTORED CABLE

Type	Length	Cable Type	1-4	5-9	10-24
HFBR-PNS001	1m	Simplex	5.22	4.70	4.18
HFBR-PNS005	5m	Simplex	10.91	9.82	8.74
HFBR-PNS010	10m	Simplex	17.20	16.16	15.20

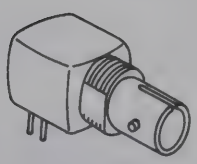
UNCONNECTORED CABLE

HFBR-PUS100	100m	Simplex	169.54	162.76	156.26
HFBR-PUS500	500m	Simplex	621.63	590.54	566.73

(9414) (ne09692)

MULTIMODE HFBR-0400 SERIES MINIATURE LINK PACKAGE

LAN standards: 20MBd ethernet and 32MBd token ring using **HFBR-1414/2416 series.** Signal rates range from dc to 175MBd with distances up to 3km. Consists of separate transmitter and receiver ports with standard connectors such as ST™, SMA, SC or FC.



HBFR-0400 TRANSMITTERS WITH THREADED ST™ CONNECTORS (820nm)

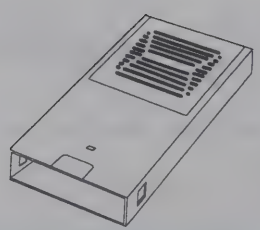
Type	Min. Output Power @ 25°C with 62.5/125 µm Cable	Input Current		1-4	5-9	10-24
		Peak	DC			
HFBR-1402	–19.0dBm	120mA	60mA	20.65	19.41	18.25
HFBR-1404	–15.0dBm	200mA	60mA	20.87	19.62	18.44
HFBR-1412T	–19.0dBm	200mA	60mA	20.65	19.41	18.25
HFBR-1414T	–15.0dBm	200mA	60mA	20.87	19.62	18.44

HBFR-0400 RECEIVERS WITH THREADED ST™ CONNECTORS

Type	Description	Max. Supply Voltage	Input Power	1-4	5-9	10-24
HFBR-2412T	5MBd TTL	7	120µW	19.57	18.39	17.29
HFBR-2414T	25MHz, Analog	7	55µW	19.57	18.39	17.29
HFBR-2416T	125MHz, Analog	6	175µW	21.41	20.13	18.92

(9466) (ne09693)

MULTIMODE HFBR-511x SERIES INDUSTRY-STANDARD FDDI MIC TRANSCEIVERS

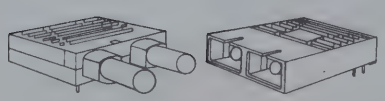


LAN standards: FDDI, fast ethernet. High-performance modules for 100Mbps/125MBd optical data applications, in three package styles. Features include full-compliance with the FDDI (Fiber Distributed Data Interface) PMD (Physical Media Dependent) standard, an MIC receptacle, and a field-changeable key. Applications include concentrators, bridges, routers, and FDDI network interface cards.

Type	Description	1-4	5-9	10-24
HFBR-5112	Narrow Version, 1 X 13	126.79	121.72	116.87
HFBR-5113	Standard Version, 1 X 13	126.79	121.72	116.87

(9416) (ne09694)

MULTIMODE HFBR-5200/5300 SERIES 1 x 9 TRANSCEIVER PACKAGE



LAN standards: fast ethernet, ATM. Highly integrated devices for duplex links from 10MBd and distances up to 4000 meters. "1 x 9" means that they have a footprint of one row of 9 pins. Available with duplex-SC or ST™ connectors.

Type	Data Rate	Wavelength	Distance (@ 0°C-70°C)	1-4	5-9	10-24
HFBR-5205	155MBd	1300nm	2000m	76.98	73.90	70.96

(9417) (ne09695)

FIBER-OPTIC COMPONENTS

SINGLE-MODE FIBER LASER TRANSCEIVERS

NEW

15km INTERMEDIATE REACH TRANSMISSION

Type	Description	Standards	Data Rate (MBd)	Wave length (nm)	Distance	1-2	3-4
HFCT-5205B	1X9 SMF, Black 0/70° C	ATM, SONET, SDH	155	1300 nm	15	269.50	235.90
HFCT-5205D	1X9 SMF, Blue 0/70° C	ATM, SONET, SDH	155	1300 nm	15	269.50	235.90
CATEGORY 1 (14.4KM) TRANSMISSION							
HFCT-5103B	1X9 SMF, Black 0/70° C	FDDI SMF-PMDI	125	1300 nm	14.4	269.50	235.90
HFCT-5103D	1X9 SMF, Blue 0/70° C	FDDI SMF-PMDI	125	1300 nm	14.4	269.50	235.90

(32798) (ne32798)

FIBER-OPTIC EVALUATION KITS

Type	Data Rate	Contents	1-2	3-4
HFBR-0410	dc-5MBd	**HFBR-1412/2412** Links, 3M Pre-Connectored 62.5/125 µm Glass Fiber	64.12	61.55
HFBR-0414	5-70MBd	**HFBR-1414T/2416T** Links, 3M Pre-Connectored 62.5/125 µm Glass Fiber	126.72	121.65
HFBR-0501	dc-1MBd	**HFBR-1524/2524** Link, 5M Plastic Optical Fiber, Connectors	30.78	29.55
HFBR-0527P	10-155MBd	**HFBR-1527/2526** Links, 2M Pre-Connectored Plastic Optical Fiber	207.21	196.85
HFBR-0528	dc-10MBd	**HFBR-1528/2528** Links, 2M Pre-Connectored Plastic Optical Fiber	71.36	68.50
HFBR-0305	ATM/SONET	**HFBR-5205** Transceiver; (1) 1 x 13 Adapter Card; (1) 3M Duplex SC to ST Connectored 62.5µm Cable	239.09	227.13
HFBR-0319	ATM/SONET	Test Board for Evaluating **HFBR-51xx/52xx** Transceivers	183.30	174.14
HFBR-0303	Fast Ethernet/FDDI	**HFBR-5103** Transceiver; (1) 1 x 13 and (1) 2 x 11 Adapter Cards; (1) 3M Duplex SC to MIC Connectored 62.5µm Cable	278.54	264.61

(9418) (ne09696)

TYPE HFBR-5903/5905 LED TRANSCEIVERS

Type HFBR-5903/5905 are Hewlett-Packard's next generation of LED-based transceivers, the small form factor MT-RJ, to service the Fast Ethernet and ATM OC-3 markets. The transceivers use the established MT ferrule design with RJ-45 style connector. The small form factor MT-RJ is half the size of a standard SC-duplex module. This allows system designers to double the port density on a typical system blade, which significantly reduces the cost-per-port to customers. Transceivers are in an industry-standard multi-source footprint with a common electrical-optical pinout functionality, operating at 3.3V.

Type	Description	Standard	Data Rate (Mb/s)	Wave-length (nm)	Distance @ 25°C (km)	1-4	5-9
HFBR-5903	2x5 MMF	Fast Ethernet	125	1300	2	84.08	80.71
HFBR-5905	2x5 MMF	ATM	155	1300	2	84.08	80.71

(29484) (ne29484)

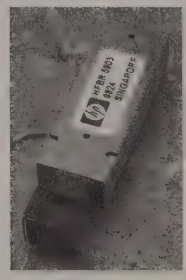
HFBR/HFCT-53D5 SERIES GIGABIT ETHERNET TRANSCEIVERS

HFBR/HFCT-53D5 series transceivers are designed for multimode and singlemode Gigabit Ethernet applications. Compliant with finalized IEEE 802.3z Gigabit Ethernet standard. Available in mezzanine height 1x9 pinout package with duplex SC connector. Multimode uses Hewlett-Packard's VCSEL (Vertical Cavity Surface Emitting Laser) technology. Singlemode uses an FP (Fabry-Perot) laser. Compatible with wavesolder and aqueous wash processes.

Type	Description	Data Rate (Gb/s)	Wave-length (nm)	Distance @ 25°C (m)	Fiber Type	1-2	3-4
HFBR-53D5	1x9 No Shield	1.25	850	200	62.5/125µm MMF		
				500	50/125µm MMF	166.32	158.01
HFBR-53D5EM	1x9 Protruding Shield	1.25	850	200	62.5/125µm MMF		
				500	50/125µm MMF	166.32	158.01
HFBR-53D5FM	1x9 Flushed Shield	1.25	850	200	62.5/125µm MMF		
				500	50/125µm MMF	166.32	158.01
HFCT-53D5	1x9 No Shield	1.25	1300	550	62.5/125µm MMF		
				10k	9/125µm SMF	385.00	365.75
HFCT-53D5EM	1x9 Protruding Shield	1.25	1300	550	62.5/125µm MMF		
				10k	9/125µm SMF	385.00	365.75
HFCT-53D5FM	1x9 Flushed Shield	1.25	1300	550	62.5/125µm MMF		
				10k	9/125µm SMF	385.00	365.75

(29480) (ne29480)

TYPE HDMP-1636A/-1646A SerDes TRANSCEIVER ICs



Type HDMP-1636A/-1646A transceivers are a single silicon bipolar integrated circuit, packaged in a plastic QFP. They are a low-power physical layer solution for 1.25Gbps Gigabit Ethernet or proprietary link interfaces. They also provide complete serialize/deserialize (SerDes) for copper transmission, incorporating both the Gigabit Ethernet transmit and receive functions in a single device. Compatible with the IEEE 802.3z specification.

Type	Description	Data Rate (Gb/s)	Parallel I/Os	Power Supply	Power Consumption	1-4	5-9
HDMP-1636A	10 x 10mm SerDes IC	1.25	10-Bit TTL	3.3V	630mW	16.47	15.82
HDMP-1646A	14 x 14mm SerDes IC	1.25	10-Bit TTL	3.3V	630mW	16.47	15.82

(29481) (ne29481)

ONE-STOP SHOPPING . . . WITH ONE CALL AND ONE PURCHASE ORDER.

FIBER-OPTIC COMPONENTS

FIBER-OPTIC BASE COMPONENTS

TO-46 | Metal TO-18 | Plastic TO-18 | HFD3380 | HFD3080

LED BASE COMPONENTS

Analog input. Current: 10mA-100mA (**type HFE4050**, 100mA). **Types HFE4000**, **HFE4003**, and **HFE4050** are packaged on 3-lead. TO-46 header with metal protective cap. **Types HFE4020** (3-lead) and **HFE4074** (4-lead) are packaged on TO-18 header with metal protective cap.

Type	Speed (MHz)	t_r/t_f Max. (ns)	P_O Typ. 50/125µm Cable (dBm)	1-9	10-24	25-49
HFE4000-014	85	8/10	–16.0	32.95	30.98	28.49
HFE4003-023	150	6/6	–18.2	32.97	30.99	28.51
HFE4020-313	85	6/6	–30.0	19.95	18.75	17.25
HFE4050-014	85	10/10	–11.5	31.77	29.86	27.47
HFE4074-323	100	6.3/6.3	–17.0	20.57	19.34	17.79

RECEIVER BASE COMPONENTS

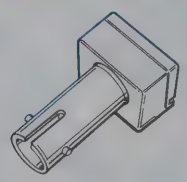
Speed (NRZ): **type HFD3020**, 10Mbps; **type HFD3023**, 5 Mbps; **type HFD3029-002**, 200 Kbps; **type HFD3038**, 125MHz. Package on plastic TO-18. **Types HFD3020**, **HFD3023**, **HFD3038** are 4-lead. **Types HFD3022** and **HFD3029** are 3- lead.

Type	Description	t_r/t_f Max. (ns)	Sensitivity Typ. 100µm Cable (µW)	1-9	10-24	25-49
HFD3020-002	TTL Rx	12/3	0.5	25.05	23.55	21.66
HFD3022-002	Photodiode	30/10	...	10.33	9.71	8.94
HFD3023-002	TTL Rx	9/9	2.0	16.34	15.36	14.13
HFD3029-002	TTL Rx (Noninverting)	12/3	1.0	12.72	11.96	11.00
HFD3038-002	Analog Rx (Single-ended)	4.5/4.5	0.8 Min.*	32.97	30.99	28.51
HFD3080-302	850 nm SC Connectorized Pin Plus PreAmp	300	0.9	63.80	59.97	55.17
HFD3038-003	850 nm Pin Plug PreAmp	300	1.3	36.24	34.07	31.34
HFD3380-302	Analog Rx (Differential)	4.5/4.5	0.8 Min.*	90.43	85.01	78.20

*62.5µm cable.

(9410) (ne09612)

FIBER OPTIC RECEIVER MODULES



- **Differential Data Outputs (ECL Compatible)**
- **Signal Quality Detect and Packet Detect Outputs (Open Collector)**
- **Adjustable Signal Quality Detect Level**
- **ST® Interface**
- **500Ω Output Drive Capability**
- **Monolithic Design — Less Board Space, High Reliability**

A PIN photodiode plus pre-amp is mounted in the fiber optic connector for maximum shielding, and provides amplification and current-to-voltage conversion.

Type	Speed (NRZ)	Sensitivity Typ. (dBm)	1-9	10-24	25-49
HFM1202-331	Ethernet	–35.0	46.44	43.66	40.16
HFM1222-331	Token Ring	–34.0	55.19	51.88	47.72

(9411) (ne09613)

NEXT GENERATION COMPONENTS

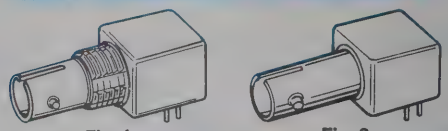


Fig. 1 Fig. 2

TRANSMITTER LEDs

Analog input. Current: 60mA. t_r/t_f (max.): 6.5ns/6.5ns. Crimped lead versions are also available; *contact your local Newark sales office.*

Type	Fig.	Barrel Style	P_O* Typ. (dBm)	1-9	10-24	25-49
HFE4225-022	2	ST Straight Plastic	–10	17.54	16.49	15.17
HFE4225-023	2	ST Straight Plastic	–9.0	17.54	16.49	15.17
HFE4226-022	1	ST Threaded Metal	–10	17.88	16.81	15.46
HFE4226-023	1	ST Threaded Metal	–9.0	17.88	16.81	15.46
HFE4227-022	1	ST Threaded Plastic	–10	17.55	16.49	15.17
HFE4227-023	1	ST Threaded Plastic	–9.0	17.54	16.49	15.17
HFE4874-222	2	ST-LP2 Straight Metal	–10	20.27	19.05	17.53
HFE4874-223	2	ST-LP2 Straight Metal	–9.0	20.87	19.62	18.05
HFE4879-222	1	ST-LP2 Threaded Metal	–10	20.27	19.05	17.53
HFE4879-223	1	ST-LP2 Threaded Metal	–9.0	20.87	19.62	18.05

* 62.5/125µm cable

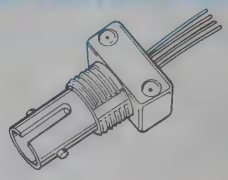
RECEIVERS

Analog receivers. Speed (NRZ): 125MHz. t_r/t_f (max.): 4.5ns/4.5ns. Crimped lead versions are also available; *contact your local Newark sales office.*

Type	Fig.	Barrel Style	Responsivity Typ. (62.5µm)	1-9	10-24	25-49
HFD3223-002	2	ST Straight Metal	7.5	19.31	18.15	16.70
HFD3224-002	2	ST Straight Plastic	7.5	19.31	18.15	16.70
HFD3228-002	1	ST Threaded Plastic	7.5	19.31	18.15	16.70
HFD3902-202	2	ST-LP2 Straight Metal	7.5	19.72	18.54	17.05

(9408) (ne09570)

MOUNTED COMPONENTS



TRANSMITTER LEDs

Analog input (except **type HFE4839,** TTL). Come in 3-lead, low-profile ST package.

Type	Speed (MHz)	t_r/t_f Max. (ns)	P_O Typ. (50/125µm Cable)	Current (mA)	1-9	10-24	25-49
HFE4834-015	85	8/10	–14.6dBm	10-100	58.30	54.80	50.41
HFE4839-014	20	20/20	–16.0dBm	N/A	83.23	78.24	71.97
HFE4854-013	85	8/10	–14.0dBm	100	40.51	38.09	35.03
HFE4854-014	85	8/10	–11.5dBm	100	40.83	38.39	35.31
HFE4856-013	85	8/10	–17.0dBm	50	28.68	26.96	24.80

RECEIVERS

Speed (NRZ): **type HFD 3858** and **HFD3859**, 10Mbps; **type HFD3880**, 200kbps; **type HFD3894**, 125MHz. Come in 3-lead low-profile ST package (except **HFD3894**, 4-lead).

Type	Speed (NRZ)	Device Type	t_r/t_f Max. (ns)	Sensitivity Typ. 100µm Cable (µW)	1-9	10-24	25-49
HFD3854-002	...	Photodiode	30/...	...	34.96	32.87	30.23
HFD3855-002	...	Photodiode	30/...	...	20.42	19.19	17.66
HFD3858-002	10Mbps	TTL Rx	12/3	0.5	61.23	57.56	52.95
HFD3859-002	10Mbps	TTL Rx	12/3	0.5	33.18	31.19	28.69
HFD3874-002	...	Photodiode	1.2/1.2	...	32.69	30.73	28.26
HFD3880-002	200kbps	TTL Rx (Noninv.)	12/3	1.0	21.57	20.27	18.65
HFD3894-003	125MHz	Analog Rx (Diff.)	4.5/4.5	0.8 Min.*	36.58	34.39	31.63

*62.5µm cable

(9409) (ne09571)

NEWARK HAS WHAT YOU NEED.
WITH SO MUCH IN STOCK, YOU HAVE THE COMPONENTS YOU NEED AT YOUR FINGERTIPS.

LIGHTCRIMP® EPOXYLESS ST STYLE CONNECTORS

Simple crimp-on ST style connectors terminate fiber cables without epoxy. Keyed, bayonet coupling for secure mating. Choice of stainless steel or ceramic ferrule. All feature 125µm fiber size. Stainless steel and ceramic style feature connector, aluminum body, zinc coupling nut and long black strain relief boot. Buffer diameter: 900/1000. Termination kits, *ordered separately below*, include tools and materials to prepare and terminate LIGHTCRIMP® XTC ST style connectors. **Types 502835-1** and **503568-1** PRO-CRIMPER™ II hand tools and ST style die set, *ordered separately below.*

STAINLESS STEEL FERRULE

Stock No.	Type	Mode	Insert Loss	1-2	3-4	5-9	10-24
95F2093	504034-1	Multi	0.4dB	11.26	10.13	9.62	8.66

CERAMIC FERRULE

98F9450	504001-1	Multi	0.3dB	14.57	13.53	11.59	10.45

ACCESSORIES

Stock No.	Type	Description	1-2
66F4036	503330-1	Termination Kit	831.60
66F6950	503330-2	Termination Kit with Microscope	1875.00
66F6951	502835-1	PRO-CRIMPER™ II Hand Tool with ST Die Set*	179.44
66F6952	502834-1	ST Die Set only*	100.80
66F6953	503568-1	PRO-CRIMPER™ II Hand Tool with ST Die Set+	179.44
66F6954	503567-1	ST Die Set only+	100.80

* For plastic ferrule; + For steel and ceramic ferrule.

(9421) (ne51314)

ST STYLE CONNECTORS

Epoxy type ST style connectors in choice of stainless steel, ceramic or polymer ferrule. Single crimp termination for cables up to 3mm diameter. Keyed bayonet allows quick connect/disconnect. Ceramic and polymer with connector have polymer body and coupling nut with short black boot. Stainless steel with connector has aluminum body, die cast coupling nut and long black boot. Ceramic with connector has nickel brass body, die cast coupling nut and bend limiting boot. All feature 125µm fiber size, except **type 502579-2**, which is 126µm. **Type 503746-1** termination kit, *ordered separately below*, includes all tools and materials to prepare and terminate epoxy type ST style connectors. Also available **type 58433-4** PRO-CRIMPER™ II hand tool and ST style die set, *ordered separately below.*

STAINLESS STEEL FERRULE

Stock No.	Type	Mode	Connector	1-2	3-4	5-9	10-24
66F6964	504008-3	Multi	2	8.32	7.90	7.51	6.75

CERAMIC FERRULE

66F6963	503571-1	Multi	1	7.74	7.36	6.99	6.29
50F720	501380-1*	Multi	2	7.79	7.40	7.03	6.33

POLYMER FERRULE

96F9692	503415-1	Multi	1	5.21	4.95	4.71	4.24

* Black boot

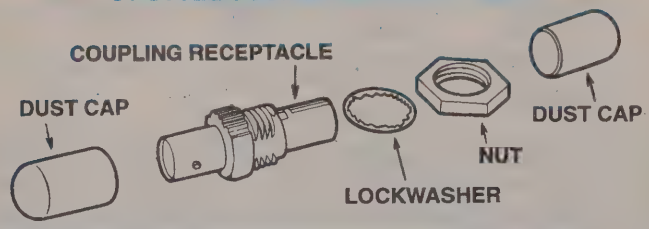
ACCESSORIES

Stock No.	Type	Description	Each
66F4037	503746-1	Termination/Tool Kit	597.05
93F5677	58433-4	PRO-CRIMPER™ II Hand Tool with ST Die Set	86.00
66F6965	58424-1	ST Die Set only	42.30

(9420) (ne51313)

AT NEWARK, THERE'S ALWAYS MORE THAN MEETS THE EYE!
CONTACT US FOR PRODUCTS NOT LISTED IN THIS CATALOG.

ST STYLE COUPLING RECEPTACLES

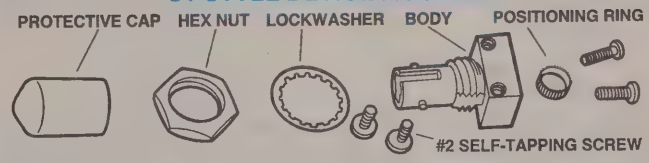


Joins two ST style connectors in free-hanging or panel mount applications. Used for singlemode and multimode applications. Includes lockwasher, nut, two dust caps.

Stock No.	Type	Alignment Sleeve	Application Mode	1-2	3-4	5-9	10-24
50F3049	501381-1	Polymer	Multi	4.66	4.43	4.21	3.79
95F2097	504021-1	Metal	Single/Multi	5.17	4.91	4.67	4.20
66F6966	502750-1	Ceramic	Single/Multi	6.40	6.12	4.51	...

(9422) (ne51315)

ST STYLE DEVICE MOUNTS



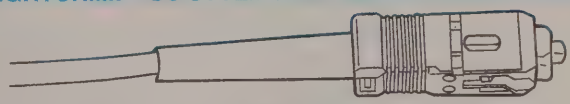
Designed to accept multimode TO-18, TO-46, and TO-52 active devices. **Type 501474-1** standard height 0.410″ and **type 502585-2** low profile, 0.280″ high. Mount to PC board or through panel. Nickel-plated die-cast zinc. Includes positioning ring, mounting screws and dust cap.

Stock No.	Type	1-24	25-49	50-99	100-249
95F2098	501474-1	10.29	8.39	7.78	7.00

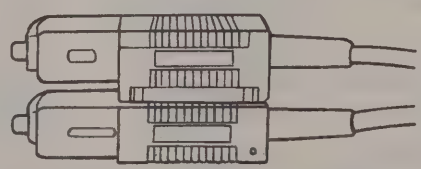
Stock No.	Type	1-2	3-4	5-9	10-24
66F6624	502585-2	8.21	7.80	7.41	6.67

(9423) (ne51316)

LIGHTCRIMP® SC STYLE EPOXYLESS CONNECTORS



Simplex



Duplex

Simple crimp-on SC style multimode connectors require no epoxy during assembly and termination. Accommodate buffer sizes of 250µm (coated fiber) and 900µm (tight buffer) and are used with 125µm glass fiber cable. Fully compatible with all SC style multimode connectors. Feature ceramic ferrule, beige thermoplastic plug body, connector housing, and strain relief boot. Choice of simplex or duplex design. Termination/tool kits, *ordered separately on this page*, include all tools and materials required to prepare and terminate LIGHTCRIMP® epoxyless SC style connectors. Also available **type 503699-1** PRO-CRIMPER™ II hand tool and LIGHTCRIMP® SC style die set, *ordered separately below.*

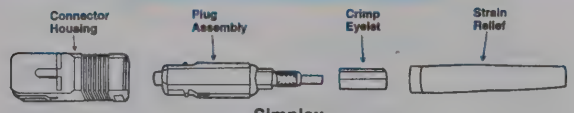
Stock No.	Type	Epoxyless SC Connectors	1-2	3-4	5-9	10-24
66F6955	503692-1	Simplex	15.75	14.18	13.47	12.12
66F6956	503693-1	Duplex	31.26	28.13	25.32	22.79

ACCESSORIES

Stock No.	Type	Description	Each
66F6957	503706-1	Termination/Tool Kit	716.60
66F6958	503706-2	Termination/Tool Kit with Premium Microscope	1458.65
66F6961	503699-1	PRO-CRIMPER™ II Hand Tool with SC Die Set	258.04
66F6962	503698-1	SC Die Set Only	201.49

(9379) (ne06206)

SC STYLE CONNECTORS



Simplex

Singlemode simplex and multimode duplex SC style connectors are compatible with all SC connectors. Compliant with Bellcore 326 and JIS C-5973 Standard TIA 568 fiber channel. Field installable. Features zirconia ceramic ferrule and PC finish. Includes connector housing in blue (singlemode) or beige (multimode), plug assembly, crimp eyelet and strain relief. **Type 503746-5** termination/tool kit, *ordered separately below,* includes all tools and materials required to prepare and terminate SC style connectors. Also available **type 58433-4** PRO-CRIMPER™ II hand tool with SC style die set, *ordered separately below.*

Stock No.	Type	Mode	Fiber Dia. µm	Insert Loss	1-24	25-49	50-99	100-249
01F287	504646-2	Single*	126	0.2	9.86	8.87	7.98	7.19
01F288	504657-1	Multi+	125	0.3	22.46	20.21	17.78	16.00

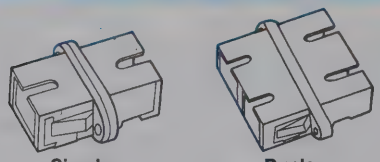
* Simplex; + Duplex

ACCESSORIES

Stock No.	Type	Description	1-24
66F6930	503746-5	Termination/Tool Kit	570.47
93F5677	58433-4	PRO-CRIMPER™ II Hand Tool with SC Die Set	86.00
66F6965	58424-1	SC Die Set only	42.30

(9374) (ne06200)

SC STYLE COUPLING RECEPTACLES



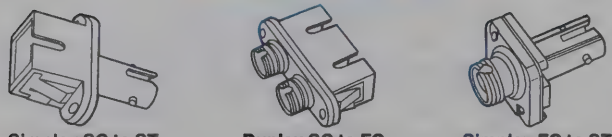
Simplex **Duplex**

Simplex or duplex receptacles for use with all SC style connectors. Feature metal alignment sleeves and dust covers. Duplex receptacle will accept either two individual connectors or one duplex connector. Use multimode or singlemode with same receptacle. Choice of blue or beige.

Stock No.	Type	Description	1-2	3-4	5-9	10-24
66F6931	502632-8	Simplex, Blue	13.90	12.51	11.89	10.70
99F5295	502632-9	Simplex, Beige	14.82	13.76	11.79	10.63
66F6932	502776-8	Duplex, Blue	25.14	22.63	20.36	18.33
66F6933	502776-9	Duplex, Beige	25.14	22.63	20.36	18.33

(9375) (ne06201)

HYBRID ADAPTERS



Simplex SC to ST **Duplex SC to FC** **Simplex FC to ST**

Use for multimode or singlemode to adapt various connector interfaces. Simplex or duplex design. Housing available in black, blue or beige plastic or nickel plated die cast. Metal alignment sleeve.

Stock No.	Type	Style	Housing	1-2	3-4	5-9	10-24
66F6967	502780-1*	SC to ST	Black	12.79	11.51	10.93	9.84
66F6934	503137-1+		Black	21.40	19.26	17.33	15.60
66F6968	502780-2*		Blue	16.11	14.50	13.77	12.39
66F6935	503137-2+		Blue	21.40	19.26	17.33	15.60
66F6969	502780-3*		Beige	16.11	14.50	13.77	12.39
66F6936	503137-3+		Beige	21.40	19.26	17.33	15.60
66F6970	503638-1*		Die Cast	18.25	16.42	15.60	14.04
66F6971	502781-1*	SC to FC	Black	12.79	11.51	10.93	9.84
66F6937	503135-1+		Black	21.40	19.26	17.33	15.60
66F6972	502781-2*		Blue	16.11	14.50	13.77	12.39
66F6938	503135-2+		Blue	21.40	19.26	17.33	15.60
66F6973	502781-3*		Beige	16.11	14.50	13.77	12.39
66F6939	503135-3+		Beige	21.40	19.26	17.33	15.60
66F6974	503480-1*		Die Cast	22.08	19.87	17.88	16.10
66F6975	503640-1*	FC to ST	Die Cast	18.25	16.42	15.60	14.04

* Simplex; + Duplex

(9376) (ne06202)

FSD CONNECTOR PLUGS AND RECEPTACLES

503347-5

Type 503347-5 FSD (fixed shroud duplex) connector plug for light-duty 125µm multimode fiber cable. Features polymer ferrule, PBT molding compound housing and nut, polypropylene strain relief, and thermoplastic rubber dust cap with A, B, and M keys. Meets FDD IPMD-ANSI X3.166 specifications. **Type 503345-2** FDDI-compatible FSD-MC (multi-exit connector) singlemode plug is a lower profile version of the **type 503347-5** FSD plug. It allows tighter spacing and zipcord type cable can exit at 180°.

Stock No.	Type	Connector Style	1-2	3-4	5-9	10-24
96F9694	503347-5	FSD	20.33	18.30	17.38	15.64
66F6985	503345-2	FSD-MC	36.50	32.85	29.57	26.61

FIELD KEYABLE FSD RECEPTACLES

FDDI to ST style receptacles are available in **type 502809-1** singlemode (black) with ceramic sleeve and **type 502808-2** multimode (beige) with metal sleeve. Keys can be inserted and changed by user. Conforms to FDDI PMD.

Stock No.	Type	Mode	1-2	3-4	5-9	10-24
66F6986	502809-1	Single	24.76	22.28	20.06	18.05
66F6987	502808-2	Multi	18.75	16.88	16.03	14.43

DUPLEX ASSEMBLY FIXTURE KITS

Used to hold ferrules during assembly, epoxy curing and polishing. Includes polishing bushing.

50F3073 Type 501795-1. **Each** **123.23**
66F6988 Type 503366-1. **Each** **141.71**

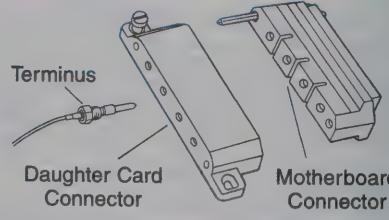
TERMINATION KIT AND TOOLS

Type 503746-6 termination/tool kit includes duplex assembly fixture kit plus all tools and materials required to prepare and terminate FSD connector plugs.

Stock No.	Type	Description	Each
66F4038	503746-6	Termination/Tool Kit	863.80
66F6989	58519-1	PRO-CRIMPER™ II Hand Tool with FSD Die Set	213.68
66F1446	58510-1	FSD Die Set only	143.25

(9424) (ne51319)

LIGHTPLANE CONNECTOR SYSTEM



Offers optical interconnection of daughter card to motherboard. Available in 2, 4 and 8 positions. Centerline space 0.492" (12.5). Motherboard connector features ceramic alignment sleeves and polarization key. Daughterboard floats and alignment pins on mother card aid mating. SC interface from motherboard. 126µm singlemode and 125µm multimode daughter card terminus for 900µm buffered fiber, *ordered separately below.*

DAUGHTER CARD CONNECTORS

Stock No.	Type	Positions/Description	1-2	3-4	5-9
66F6978	503185-3	2	34.50	31.05	27.95
66F6979	503185-2	4	36.22	32.60	29.34
66F6980	503185-1	8	37.96	34.16	30.75

MOTHERBOARD CONNECTORS

66F6981	503682-3	2	71.50	64.35	57.91
66F6982	503682-2	4	92.21	87.59	83.22
66F6983	503682-1	8	157.31	149.44	...

DAUGHTER CARD TERMINUS

66F6984	503186-2	126µ Single	27.60	24.84	22.36
66F7003	503412-1	125µ Multi	24.20	21.78	19.60

(9378) (ne06205)

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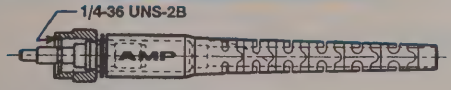
FSMA CONNECTORS



Compatible with 905 FSMA-I or 906 FSMA-II style connectors. Multimode. Terminates 125µm dia. fiber. Design parameters conform to NATO and IEC interface standards. Nickel plated brass body. For 3.1mm jacket outer diameter. **Type 503746-2** termination/tool kit, *ordered separately below,* includes all tools and materials required to prepare and terminate FSMA-I and -II style connectors. *Order* **type 58520-1** PRO-CRIMPER™ II hand tool with FSMA die set *separately below.*

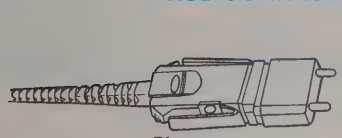
Stock No.	Type	FSMA Connectors	1-2	3-4	5-9	10-24
92F9039	504566-1	905 (FSMA-I)	11.51	10.36	9.84	8.86
95F2102	504014-1	905 (FSMA-II)	13.06	11.76	11.17	10.05

ACCESSORIES

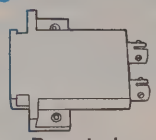
Stock No.	Type	Description	1-2
92F8333	503746-2	Termination/Tool Kit	597.56
66F6976	58520-1	PRO-CRIMPER™ II Hand Tool with FSMA Die Set	305.80
66F6977	58502-1	FSMA Die Set only	138.00

(9425) (ne51321)

RSD CONNECTORS



Plug



Receptacle

RSD (retractable shroud duplex) multimode 125µm plug and RSD ST style receptacle are compatible with IBM ESCON type connectors. Plug works with LDD (light duty dual) cable. **Type 503001-1** RSD assembly fixture kit, *ordered separately below,* is used to hold ferrules during assembly, epoxy curing, and polishing. Kit includes polishing bushing. **Type 58519-1** PRO-CRIMPER™ II hand tool with RSD die set, *ordered separately below.*

Stock No.	Type	RSD Connectors	1-2	3-4	5-9	10-24
66F6990	503002-6	Plug	36.32	32.69	29.42	26.48
66F6991	502826-2	Receptacle	28.00	25.20	22.68	20.41

ACCESSORIES

Stock No.	Type	Description	1-2
66F6992	503001-1	Assembly Fixture Kit	141.71
66F6989	58519-1	PRO-CRIMPER™ II Hand Tool with RSD Die Set	213.68
66F1446	58510-1	RSD Die Set only	143.25

(9377) (ne06203)

FIBER-OPTIC MULTIMODE CABLE ASSEMBLIES, 125µm

Cable is OFNR or OFNP rated and features 62.5/125µm fiber. All cable is black except Duplex SC style to SC style assemblies which are orange and FSD to FSD assemblies and FSD to ST style assemblies which are beige.

ST STYLE TO ST STYLE—CERAMIC FERRULE

Stock No.	Type	Cable Type**	Cable Lgth.	1-2	3-4	5-9
83F7578	503995-1+	LDD	1M	24.18	22.25	20.03
83F7579	503995-2+	LDD	2M	25.80	23.22	20.90
83F7580	503995-3+	LDD	3M	27.42	24.68	22.21
83F7581	503995-4+	LDD	5M	30.68	27.62	24.85
83F7582	503995-5+	LDD	10M	38.79	34.92	31.42

ST STYLE TO ST STYLE—POLYMER FERRULE

83F7583	503994-1+	LDD	1M	19.20	17.67	15.90
83F7584	503994-2+	LDD	2M	20.78	19.12	17.21
83F7585	503994-3+	LDD	3M	22.35	20.57	18.51
83F7586	503994-4+	LDD	5M	25.50	22.95	20.66
83F7587	503994-5+	LDD	10M	33.38	30.05	27.04

SC STYLE TO SC STYLE—CERAMIC FERRULE (SIMPLEX)

66F6806	503165-1*	LDS	1M	36.63	32.97	29.67
66F6807	503165-2*	LDS	2M	38.12	34.31	30.88
66F6808	503165-3*	LDS	3M	39.62	35.66	32.09
66F6809	503165-5*	LDS	5M	44.11	39.70	35.72
66F6810	1-503165-0*	LDS	10M	51.84	46.65	41.98

SC STYLE TO SC STYLE—CERAMIC FERRULE (DUPLEX)

83F7553	504971-1+	LDD	1M	39.41	35.47	31.93
83F7554	504971-2+	LDD	2M	41.57	37.42	33.68
83F7555	504971-3+	LDD	3M	44.37	39.94	35.94
83F7556	504971-4+	LDD	5M	47.12	42.41	38.17

CONTINUED

FIBER-OPTIC MULTIMODE CABLE ASSEMBLIES, 125µm (CONT.)

SC STYLE TO SC STYLE—CERAMIC FERRULE (DUPLEX) (CONT.)

Stock No.	Type	Cable Type**	Cable Lgth.	1-2	3-4	5-9
83F7557	504971-5+	LDD	10M	54.05	48.65	43.78

FSD TO FSD—POLYMER FERRULE

83F7573	504625-1+	LDD	1M	36.15	32.54	29.29
83F7574	504625-2+	LDD	2M	38.06	34.26	30.83
83F7575	504625-3+	LDD	3M	39.97	35.98	32.38
83F7576	504625-4+	LDD	5M	43.79	39.42	35.47
83F7577	504625-5+	LDD	10M	53.33	48.00	43.20

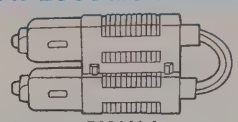
FSD TO ST STYLE—POLYMER FERRULE

83F7563	504609-1+	LDD	1M	29.12	26.21	23.59
83F7564	504609-2+	LDD	2M	31.03	27.93	25.14
83F7565	504609-3+	LDD	3M	32.94	29.65	26.69
83F7566	504609-4+	LDD	5M	36.75	33.08	29.77
83F7567	504609-5+	LDD	10M	46.30	41.67	37.51

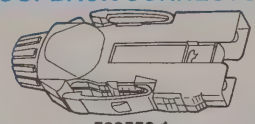
* Simplex Connector; + Duplex Connector; ** Cable Type: LDS = Light-Duty Single, LDD = Light-Duty Dual (zip style)

(9382) (ne06253)

LOW-LOSS MULTIMODE LOOPBACK CONNECTORS



503141-1



502556-1

Used for equipment testing, **type 503141-1** SC style loopback connector features 0.5" ferrule centerline with maximum insertion loss of 0.6 dB. **Type 502556-1** FSD loopback connector has ceramic ferrule and glass fiber to provide a maximum loss of 1.5 dB. Used as a test unit in fiber-to-fiber applications, such as patch panel, wall outlet or wiring closet.

Stock No.	Type	Multimode Loopback	1-2	3-4	5-9	10-24
66F6998	503141-1	SC Connector	57.73	51.95	46.76	42.08
66F6999	502556-1	FSD Connector	84.62	76.16	68.54	61.69

(9360) (ne06251)

FIBER-OPTIC TOOLS AND ACCESSORIES

Stock No.	Type	Description	1-2
92F5794	228838-1	Technician's Guide	41.31
66F7009	504064-1	Sapphire-Tip Scribe Tool	45.00
50F3075	501195-4	TRA-CON Epoxy Bipax, High-Impact	103.71
93F5676	502134-2	Epoxy Curing Oven, 110VAC	559.91

POLISHING FILM AND TOOLS

Type 228433 8½ x 11" sheets of polishing film to polish up to 100 connectors. **Sold in packages of 10.** *Order polishing tools separately below.*

50F706	228433-8	5µm Film for FSMA, FSD	14.25
50F721	228433-7	1µm Film for FC	14.25
50F727	228433-5	0.3µm Film for ST, SC	14.25
66F7002	503304-2	Polishing Tool for Plastic	7.15
66F7004	503304-1	Polishing Tool for Steel, Ceramic	5.40

CONSUMABLE KITS

Contains general-purpose epoxy, applicators, polish film and pads for 100 connectors.

98F7531	502306-1	ST, FSD, FSMA	235.61
66F7000	502306-2	SC, Singlemode ST	222.79
66F7001	502306-3	LIGHTCRIMP®	221.59

MICROSCOPES

Type 502970-1 portable, hand-held inspection microscope provides 100x power magnification and operates on AC (110V) or battery power. Features high-quality optics and built-in illumination. Kit includes tripod stand, AC adapter, FSMA, FSD, ST, FC, D4 and SC adapters and carrying case.

95F2105	502970-1	Inspection Microscope Kit	1022.39

Compact, 100x power hand-held microscope available with or without fiber-optic connector adapters. Built-in illumination. Battery operated.

66F7006	504088-1	Microscope with ST Adapter	36.00
66F7007	503958-1	Microscope with SC Adapter	36.00
66F7008	504086-1	Microscope with SMA Adapter	36.00

(9381) (ne06252)

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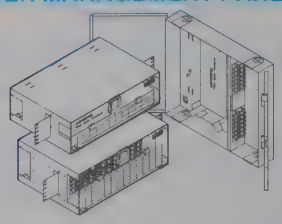
FIBER MANAGEMENT PANELS



The **948 series** fiber management panels provide an excellent location for patching, splicing, and distributing fiber optic cables. Panels are often used in equipment rooms, headends, cross-connects and building entrances. They are available as components or fully loaded. Fully loaded distribution panels consist of adapter 6-packs, pigtails, and splice trays. Both wall and rack mount versions are available below. Other panel configurations are also available; *contact your local Newark sales office for details.*

DISTRIBUTION PANELS (UNLOADED)

Stock No.	Type	Description	1-2	3-4
83F8784	948-101DY-00A00	12-Port Wall Mount Panel	278.01	261.01
83F8785	948-201DY-00A00	24-Port Wall Mount Panel	237.91	216.14
83F8786	948-401DY-00A00	48-Port Wall Mount Panel	286.43	260.22
83F8787	948-601DY-00A00	72-port Wall Mount Panel	306.05	278.04
83F8788	948-202DY-00A00	24-Port Rack Mount Panel	479.76	435.85
83F8789	948-402DY-00A00	48-Port Rack Mount Panel	706.89	642.20
83F8790	948-602DY-00A00	72-Port Rack Mount Panel	762.10	692.35

PATCH PANELS (UNLOADED)

83F8791	948-101PY-00A00	12-Port Wall Mount Panel	234.72	220.36
83F8792	948-201PY-00A00	24-Port Wall Mount Panel	275.91	259.04
83F8793	948-401PY-00A00	48-Port Wall Mount Panel	237.62	215.87
83F8794	948-601PY-00A00	72-Port Wall Mount Panel	237.62	215.87
83F8795	948-202PY-00A00	24-Port Rack Mount Panel	286.58	260.35
83F8796	948-402PY-00A00	48-Port Rack Mount Panel	333.17	302.67
83F8797	948-602-PY-00A00	72-Port Rack Mount Panel	333.17	302.67

6-PACK ADAPTER MODULES (LOADED)

83F8798	948-100-2111	SC Single-Mode Adapter	84.25	75.81
83F8799	948-100-2122	FC Single-Mode Adapter	102.87	92.57
83F8800	948-100-2114	ST Single-Mode Adapter	58.31	52.47
83F8801	948-100-2127	SC Multimode Adapter	80.92	72.82
83F8802	948-100-2124	ST Multimode Adapter	49.96	42.76

SPLICE TRAYS (11.75")

83F8803	948-2366	(24) Fusion Splices	34.46	29.49
83F8804	948-2367	(24) Fusion Splices w/Heat Shrink	27.08	23.17
83F8805	948-2368	(12) Mechanical Splices	34.46	29.49
83F8806	948-2370*	Mounting Brackets	36.92	31.59

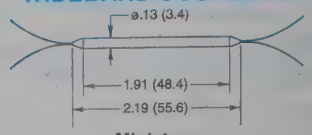
FULLY LOADED PANELS

83F8807	948-111DA-21C03*	12-Fiber Wall Mount Distribution Panel	580.14	527.04
83F8808	948-211DA-21C03*	24-Fiber Wall Mount Distribution Panel	944.06	857.66
83F8809	948-212DA-21C03*	24-Fiber Rack Mount Distribution Panel	1163.84	1057.32
83F8810	948-111PA-00A00	12-Fiber Wall Mount Patch Panel, SC 6-packs	239.99	218.03
83F8811	948-211PA-00A00	24-Fiber Wall Mount Patch Panel, SC 6-packs	412.74	374.97
83F8812	948-212PA-00A00	24-Fiber Rack Mount Patch Panel, SC 6-packs	486.37	441.86
83F8813	948-412PA-00A00	48-Fiber Rack Mount Patch Panel, SC 6-packs	754.59	685.53
83F8814	948-612PA-00A00	72-Fiber Rack Mount Patch Panel, SC 6-packs	980.47	890.73

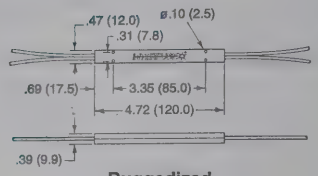
*Mounting brackets are required for Amphenol splice trays in wall mount distribution panels only

(33081) (ne33081)

WIDEBAND COUPLERS



Miniature



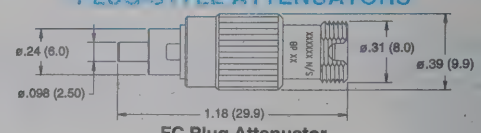
Ruggedized

Wideband couplers precisely distribute light signals between single-mode fibers with low insertion loss and stable environmental performance in miniature and ruggedized packages. Couplers exhibit constant coupling ratios over a wide range of operating wavelengths. Coupling ratio: 50% (3dB). Port configuration: 1 x 2.

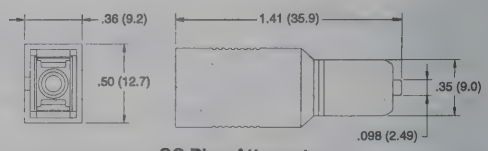
Stock No.	Type	Package Option	Insertion Loss (dB)	1-2	3-4
91F6444	9457001000	Miniature	3.5	268.65	255.21
91F6445	9457011000	Miniature	4.0	204.68	194.44
91F6446	9457021000	Miniature	4.5	165.33	157.07
91F6447	945-70000-11101	Ruggedized	3.5	277.27	263.41
91F6448	945-70100-11101	Ruggedized	4.0	258.80	245.86
91F6449	945-70200-11101	Ruggedized	4.5	242.57	230.44

(13432) (ne10086)

PLUG-STYLE ATTENUATORS



FC Plug Attenuator



SC Plug Attenuator

FC and SC plug attenuators are mechanically intermateable with NTT type PC and SC products, which conform to JIS C 5970 and JIS C 5973 respectively. Compact design fits easily into existing patch panels. Back reflection: –48dB typical. Also available in D4 configuration; *contact your local Newark sales office.*

FC PLUG ATTENUATORS

Stock No.	Type	Attenuation*	Color	1-2	3-4
91F6423	944-130-5005	5	Yellow	204.24	194.03
91F6424	944-130-5010	10	Blue	204.24	194.03
91F6425	944-130-5015	15	Red	204.24	194.03
91F6426	944-130-5020	20	Unmarked	204.24	194.03

SC PLUG ATTENUATORS

91F6427	954-130-5005	5	Yellow	204.24	194.03
91F6428	954-130-5010	10	Blue	204.24	192.57
91F6429	954-130-5015	15	Red	204.24	194.03
91F6430	954-130-5020	20	Unmarked	204.24	194.03

*Attenuation values of 1 to 4dB are also available; *contact your local Newark sales office*

(13434) (ne10160)

NEWARK MAKES IT EASY.

MORE PAYMENT OPTIONS! USE YOUR MAJOR CREDIT CARD, CORPORATE PURCHASING CARD, PUT IT ON YOUR ACCOUNT, OR PLACE A C.O.D. ORDER.

905 AND 906 SERIES SMA CONNECTORS

905

906

Offer complete electrical isolation with no short-circuiting and EMP, RFI/EMI immunity. Buffer diameter: 2.46mm. Crimp ferrule inner diameter: 4.42mm. **905-150 series** and **906-122 series** are stainless steel and require **type 927-100-2054** termination kit. **905-400, 906-500 SMArt series** are ceramic and require **type 927-100-2051** or **type 927-100-2054** termination kit. *Order termination kits separately on page 502.*

905-150 SERIES

Stock No.	Type	Fiber Size (Microns)	Typ. Insertion Loss (dB)	Each
90F9543	905-150-5001	50/62.5/85-125	<2.0	6.42
90F9544	905-150-5002	100/140	<2.0	8.35
90F9545	905-150-5003	200/230	<2.0	6.42
90F9546	905-150-5004	X/430	<2.0	9.05
90F9547	905-150-5005	X/640	<2.0	8.28

905/906 SMArt SERIES

87F785	905-400-5007	100/140	<0.8	15.92
87F776	905-405-5007	50/62.5/85-125	<0.8	15.92
87F779	906-500-5007	100/140	<0.4	16.69
87F780	906-505-5007	50/62.5/85-125	<0.5	16.69

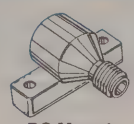
906-122 SERIES

87F777	906-122-5000	100/140	<0.8	19.62
87F778	906-122-5004	50/62.5/85-125	<1.0	11.34

(9193) (de01480)

905 SERIES SMA RECEPTACLES

Flange Mount



PC Mount

Stock No.	Type	Mounting	Each
39F3697	905-117-5000	Flange, TO-5 Can or Insert	7.87
39F3698	905-118-5000	PC Screw, TO-5 Can or Insert	9.27
87F782	905-138-5002	Screw/Bulkhead, TO-18/46, SE4352	9.27

(9198) (de01519)

944 SERIES FC/PC CONNECTORS

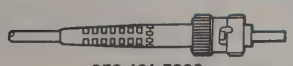
944

NTT-style, single-mode, 1-piece connectors require **type 927-100-2052** termination kit, *order separately on page 502.* 0.039″ (1.00) maximum buffer diameter. <0.27 typical insertion loss (dB). 0.137″ (3.48) crimp ferrule inner diameter.

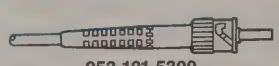
Stock No.	Type	Fiber Size (Microns)	Each
50F835	944-601-5006	9/125	20.06

(9195) (de01482)

953 SERIES AT&T ST® and ST II® COMPATIBLE CONNECTORS



953-101-5000



953-101-5300

Offer complete electrical isolation, no short-circuiting and EMP, RFI/EMI immunity. ST®-compatible multimode fiber-optic connectors have glass-reinforced polymeric body and coupling nut. Choose **953-101-5000 series** for ceramic ferrule or **953-102-5000 series** for stainless steel ferrule. **953-101-5300 series** ST II®-compatible multimode fiber-optic connectors have die cast metal body and coupling nut with ceramic ferrule. All **953 series** feature PVC relief boot, 0.053″ (1.37) maximum buffer diameter, 0.174″ (4.42) maximum crimp ferrule inner diameter and require **type 927-100-2053** termination kit, *order separately on page 502.*

953-101-5000 SERIES ST®-COMPATIBLE - CERAMIC FERRULE

Stock No.	Type	Fiber Size (Microns)	Typical Insertion Loss (dB)	Each
90F9548	953-101-5006*	9/125	0.19	15.92
90F9549	953-101-5010	50/62.5/85-125	0.15	7.12

953-102-5000 SERIES ST®-COMPATIBLE - STAINLESS STEEL FERRULE

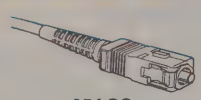
90F9517	953-102-5001	50/62.5/85-125	<0.5	10.59
90F9518	953-102-5002	100/140	<0.5	9.36

953-101-5300 SERIES ST II®-COMPATIBLE - CERAMIC FERRULE

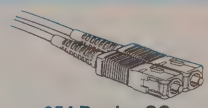
93F6128	953-101-5310	50/62.5/85-125	0.15	13.39

*Single Mode
(9194) (de01481)

954 SERIES SC AND DUPLEX SC CONNECTORS



954 SC



954 Duplex SC

1-piece single-mode and multi-mode SC connectors are ceramic and require **type 927-100-2055** termination kit, *ordered separately on page 502.* 0.039″ (1.00) maximum buffer diameter. 0.137″ (3.48) crimp ferrule inner diameter.

SINGLE-MODE

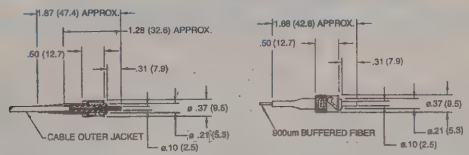
Stock No.	Type	Ferrule Hole Dia. (Microns)	Typ. Insertion Loss (dB)	Coupling Sleeve	Each
50F5322	954-101-5006	126	<0.19	Blue	12.73
95F4769	954-101-5206	126	<0.19	Blue/Duplex	37.11

MULTI-MODE

50F5323	954-101-5010	128	<0.15	Beige	19.51
96F9927	954-101-5011	144	<0.15	Beige	21.87
93F6595	954-101-5210	128	<0.15	Beige/Duplex	24.13
95F4771	954-101-5211	144	<0.15	Beige/Duplex	23.90

(9196) (de01483)

953 SERIES FIBERGRIP™ EPOXYLESS CONNECTOR

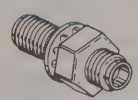


ST®-compatible connector allows fiber termination in a variety of situations without the use of epoxy, glue, or adhesives. Unique collet retention mechanism provides reliable, high-performance terminations in less than 5 minutes. Buffer diameter: 1.37mm. Crimp ferrule inner diameter: 4.42mm. Insertion loss: <0.25dB typical. *Order Fibergrip™ tool separately below.*

Stock No.	Type	Fiber Size (Microns)	Each
91F6443	953-105-5010	50/62.5/85-125	7.15
Stock No.	**Type**	**Description**	**Each**
83F5620	927-100-5058	Tool	448.50

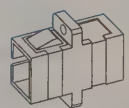
(12547) (ne10062)

JACK-TO-JACK FEED-THRU BULKHEAD ADAPTERS



905 Series SMA

944 Series FC/PC Flange Mount



954 Series SC to SC

905 SERIES

Stock No.	Type	Description	Each
39F3696	905-120-5000	SMA, D-Hole	9.49

944 SERIES

90F9583	944-120-6000*	FC/PC Flange	13.61
96F9930	944-125-6002+	FC/PC D-Hole	15.19
96F9931	944-125-6003*	FC/PC D-Hole	17.08

953 SERIES

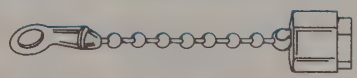
90F9582	953-120-5000*	ST®, D-Hole	6.19
96F9928	953-120-5003*	ST®, Die Cast Body	6.76
93F6130	953-122-5002+	ST®, Polymer Body, Multimode	6.92
93F6596	953-122-5003+	ST®, Die Cast Body, Multimode	7.65

954 SERIES

50F5332	954-120-5000*	SC/SC	14.13
96F9929	954-120-5001+	SC/SC	10.65
50F5333	954-944-5000*	SC/FC	28.69
93F6132	954-120-5200*	SC/SC, Single Mode, Duplex	27.17
95F4773	954-953-5200*	SC/ST, Single Mode, Duplex	31.11
95F4775	954-953-5201+	SC/ST, Single Mode, Duplex	18.83
95F4774	954-122-5210+	SC/SC, Multimode, Duplex	14.95
95F4776	954-953-5210+	SC/ST, Multimode, Duplex	17.86

* Ceramic alignment sleeve +Phosphor bronze alignment sleeve
(9199) (de01520)

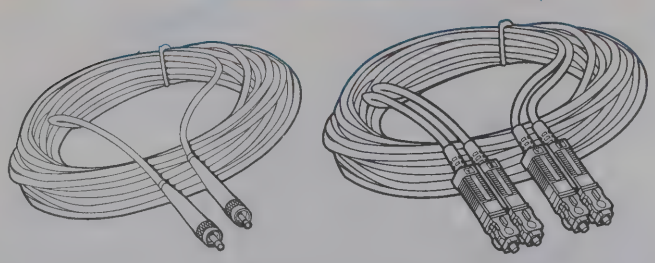
SMA AND ST® DUST CAPS WITH CHAIN



Stock No.	Type	Fits	Each
90F9585	905-163	**905/906 Series** SMA for Adapters & Receptacles	8.23
90F9586	953-1061	**953 Series** ST® for Adapters	10.10

(9361) (ne01521)

FIBER-OPTIC SIMPLEX AND DUPLEX PATCH CORD CABLE ASSEMBLIES



SMA connectors terminated on each end of a multimode, simplex fiber or duplex fiber cable with low-insertion loss connector. Mechanically and optically intermateable with other SMA-type products. PVC jacket, 3mm outer diameter, kevlar-strengthened, 0.9mm tight buffer. Single-mode and multimode duplex SC cable assemblies' design incorporates 2 conventional SC bodies into a dual coupling sleeve or shell. Ideal for point-to-point, computer-to-computer, or workstation-to-workstation applications. Durability: <20dB change after 500 mating cycles. Operating temperature: –40°C to +85°C.

MULTIMODE SIMPLEX PATCH CORDS
TERMINATED WITH 905 SMART CERAMIC CONNECTORS *

Stock No.	Type	Fiber (Core/Clad)	Length M	Length Feet	1-9	10-24
90F9575	907-11025-10001	62.5/125	1	3.2	66.66	59.99
90F9576	907-11025-10005	62.5/125	5	16.4	24.44	...
90F9577	907-11025-10010	62.5/125	10	32.8	82.15	73.92
90F9552	907-11013-10001	50/125	1	3.2	66.66	59.99

TERMINATED WITH 906 SMART CERAMIC CONNECTORS *

90F9556	907-11029-10001	62.5/125	1	3.2	66.66	59.99
90F9558	907-11029-10010	62.5/125	10	32.8	82.15	73.92
90F9559	907-11029-10030	62.5/125	30	98.4	116.57	104.90
90F9560	907-11015-10001	50/125	1	3.2	74.07	63.39

MULTIMODE SIMPLEX ST PATCH CORDS
TERMINATED WITH 953 SERIES ST®-COMPATIBLE CONNECTORS*

90F9564	943-31255-10001	62.5/125	1	3.2	37.32	31.94
90F9565	943-31255-10005	62.5/125	5	16.4	44.96	38.47
90F9566	943-31255-10010	62.5/125	10	32.8	49.11	44.19
90F9567	943-31255-10030	62.5/125	30	98.4	83.53	75.16
90F9525	943-31155-10010	50/125	10	32.8	54.51	46.65
90F9526	943-31155-10030	50/125	30	98.4	83.53	75.16

SINGLE-MODE SIMPLEX PATCH CORDS
TERMINATED WITH SC CONNECTORS†

50F5328	942-31066-10001	9/125	1	3.2	35.24	32.04
50F5329	942-31066-10005	9/125	5	16.4	38.66	35.14
50F5342	942-31066-10030	9/125	30	98.4	78.11	71.01

MULTIMODE DUPLEX PATCH CORDS
TERMINATED WITH 905 SMART CERAMIC CONNECTORS *

Stock No.	Type	Fiber (Core/Clad)	Length M	Length Feet	1-9	10-24
90F9527	907-21018-10001	62.5/125	1	3.2	162.46	152.53
90F9529	907-21018-10010	62.5/125	10	32.8	89.96	...
90F9571	907-21019-10001	50/125	1	3.2	133.32	119.97
90F9573	907-21019-10010	50/125	10	32.8	164.30	147.85

MULTIMODE DUPLEX ST PATCH CORDS
TERMINATED WITH 953 SERIES ST®-COMPATIBLE CONNECTORS*

90F9509	943-32255-10001	62.5/125	1	3.2	49.95	...
90F9510	943-32255-10005	62.5/125	5	16.4	59.72	...
90F9511	943-32255-10010	62.5/125	10	32.8	71.92	...
90F9512	943-32255-10030	62.5/125	30	98.4	120.75	...
90F9513	943-32155-10001	50/125	1	3.2	75.20	...
90F9514	943-32155-10005	50/125	5	16.4	59.73	...
90F9533	943-32155-10030	50/125	30	98.4	118.31	...

SC DUPLEX PATCH CORD CABLE ASSEMBLIES
SINGLE-MODE†

Stock No.	Type	Length Meters	Length Feet	1-9	10-24
95F4778	942-34066-10001	1	3.2	157.71	126.77
95F4779	942-34066-10005	5	16.4	169.61	138.67
95F4780	942-34066-10010	10	32.8	184.49	153.55
95F4781	942-34066-10030	30	98.4	244.01	213.06

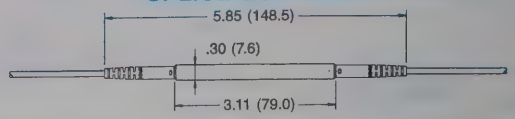
MULTIMODE†

95F4782	943-34266-10001	1	3.2	132.48	92.84
95F4783	943-34266-10005	5	16.4	142.00	102.37
95F4784	943-34266-10010	10	32.8	153.90	114.27
95F4785	943-34266-10030	30	98.4	201.51	161.88

* 1dB attenuation † 0.5dB attenuation

(9219) (de01850)

SPLICE GUARD KIT

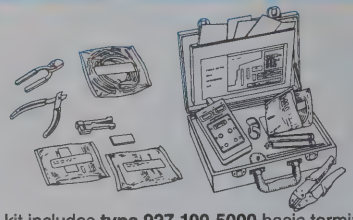


927 series splice guards are an in-line protection device for fusion splices on cabled fiber. The splice protection sleeve requires no heating or messy adhesives to be installed. Can be installed anywhere fiber-optic cables are used. When assembled, splice guards will give maximum support from axial pull along with side pull protection, meeting or exceeding industry standards. Ideal for minimizing bulky and awkward storage devices. Splice guard kit includes splice guard protection halves, high-performance strain relief boots, crimp ferrules and splice protector (no heat). *Order closing tool separately below.*

Stock No.	Type	Description	Each
91F7143	942-100-3000	Splice Guard Kit	31.55
91F7144	927-1621	Closing Tool	194.42

(12533) (ne10060)

927 SERIES ST® DESIGNER'S TERMINATION KIT



ST® compatible kit includes **type 927-100-5000** basic termination kit containing jacket and buffer strippers, curing oven, crimp tool, scribe tool, snips, polishing board and training video. Also includes **type 927-100-2053 953 series** add-on termination kit containing cleave tool, polishing tool, instructions and cable preparation template. Plus a consumable kit containing materials (connectors and cable) to perform 6 practice ST® fiber-optic terminations. All packaged in durable carrying case.

95F4777 Type 927-100-5041. **Each**..... **1099.69**

(9200) (de01522)

BASIC TERMINATION KIT

Provides basic tools for fiber-optic connector termination. Includes jacket and buffer strippers, curing oven, scribe tool, crimp tool, snips, polishing board and training video in durable carrying case. Requires one or more add-on termination and consumable kits, *order separately on this page.*

90F9587 Type 927-100-5000. **Each** **950.13**

(9362) (ne01523)

927 SERIES ADD-ON TERMINATION KITS

Includes tools for specific connector types: cleave tool, polishing tool, instructions and cable preparation template. Use with basic termination kit, *order separately on this page.*

Stock No.	Type	For Connector Type	Each
90F9534	927-100-2050	**905 Series** SMArt, Ceramic	495.62
90F9535	927-100-2051	**906 Series** SMArt, Ceramic	692.81
90F9516	927-100-2054	**905/906 Series** SMA, Steel	154.87
90F9536	927-100-2052	**944 Series** FC/PC, Ceramic or Steel	692.81
90F9537	927-100-2053	**953 Series** ST®, Ceramic or Steel	577.34
50F5341	927-100-2055	**954 Series** SC, Ceramic or Steel	692.81

(9363) (ne01524)

CONSUMABLE KITS

For use with basic termination kit, *order separately on this page.* Consumable kits for stainless steel SMA connectors include 15µm, 3µm, and 1µm lapping film, epoxy, alcohol wipes and cleaning wire. Consumable kits for ceramic ferrule connectors include 12µm and 3µm lapping film, epoxy, syringes, alcohol wipes and cleaning wire.

FOR STAINLESS STEEL SMA CONNECTORS

Stock No.	Type	Terminations	Each
90F9538	927-1300-0150	150	249.54

FOR CERAMIC FERRULE CONNECTORS

90F9542	927-1301-0150	150	94.09
90F9530	927-1301-0300	300	163.70
90F9531	927-1301-0500	500	222.69
90F9532	927-1301-1000	1000	409.81

(9201) (de01525)

CURING OVENS

927 series curing ovens offer controlled curing at factory-set low temperatures, reducing connector loss and eliminating fiber cracking. These ovens allow for hands-free operation to enable the installer to prepare additional connectors for curing. Field termination time is reduced. Each unit is encased in UL94V-0 rated noncombustible Valox that can be handled safely at any time during the curing process.

Stock No.	Type	Description	Each
91F7145	927-100-2081	ST/FC Curing Oven	339.07
91F7146	927-100-2082	SC/SMA Curing Oven	339.07
91F7147	927-100-2084	Multiport Curing Oven	339.07

(12534) (ne10061)

ST®-COMPATIBLE FIELD-MOUNTABLE CONNECTORS

Compatible with the AT&T ST connector system as well as the Premise Distribution System (PDS) products and others ST connector products. Hot-melt, fast-curing adhesive and epoxy styles have zirconia ceramic ferrules and nickel-plated zinc housings. Boots are constructed of nonflammable Estane®. Operating temperature: –40°C to +85°C. *Order couplings separately on this page.*

ST® CONNECTORS

Stock No.	Type	Style	Fiber Size	1-9
84F1175	6100	MM HM	125µm	**8.47**
83F8365	6100B	MM HM	125µm	**6.30**
83F8366	6100R	MM HM	125µm	**6.30**
83F8367	6102HOL	MM HM PP	125µm	**7.88**
50F379	6105	MM	125µm	**8.35**
91F3452	8100-YS	SM HM	125µm	**17.28**
50F373	8106	SM	126µm	**18.20**
50F374	8107	SM	127µm	**18.20**
		FC/PC3 CONNECTORS		
92F1455	6200	MM HM	125µm	**10.44**
92F1458	6202	MM	125µm	**10.44**
92F1449	8203	SM	126µm	**10.33**
92F1450	8204	SM	127µm	**14.27**
		CRIMPLOK™ SC CONNECTORS		
92F1456	6300	MM HM	125µm	**10.15**
92F1457	6306	MM	125µm	**10.15**
83F8368	8300	SM HM	126µm	**13.23**
92F1447	8306	SM	126µm	**13.79**
92F1448	8307	SM	127µm	**13.79**

(9234) (de02207)

FIBER-OPTIC COUPLINGS

NEW

Couplings are designed to join connectors in fiber distribution units. Have nickel-plated zinc housings with beryllium copper sleeves. Operating temperature: –40°C to +85°C. *Order connectors separately on this page.*

ST® COUPLINGS

Stock No.	Type	Color	Style	1-9
83F3530	6112	Metal	Simplex/Multimode	**3.26**
83F9133	6113 DPX MM	Metal	Duplex/Multimode	**10.19**
83F9134	8113 DPX SM	Metal	Duplex/Single Mode	**18.38**
83F9135	8119 SPX SM	Metal	Simplex/Single Mode	**8.93**
		FC/PC3 COUPLINGS		
92F1459	6210	Metal	Simplex/Multimode	**30.18**
83F9136	8211-APC	Metal	...	**7.88**
83F9137	8211-R/APC	Metal	...	**7.88**
		SC COUPLINGS		
83F9138	6310 SPX MM	Beige	Simplex/Multimode	**3.94**
83F9139	6313 DPX MM	Beige	Duplex/Multimode	**6.30**
92F1454	8310	Blue	Simplex/Multimode	**13.05**
83F9140	8313 DPX SM	Blue	Duplex/Single Mode	**11.82**
83F9141	8310-G SM	Green	Single Mode	**7.88**

(32976) (ne32976)

CRIMPLOK™ CONNECTORS

6900

6901

Crimplok™ multimode connectors combine the speed of nonadhesive connectors with the performance characteristics of epoxy and hot melt connectors. Designed for indoor use, especially in LANs and premise applications. For direct termination on 250µm coated fiber, 900µm unjacketed, and 2.5 and 3.0mm jacketed cables. Fiber size: 125µm.

Stock No.	Type	Style	1-9
16F3622	6900	SC MM	**10.32**
16F3623	6901	ST MM	**8.87**

(9403) (ne08660)

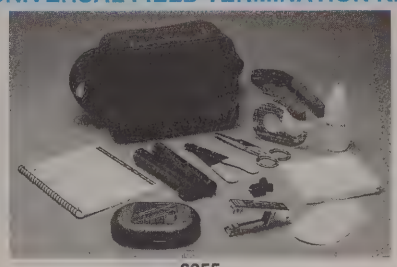
TYPE 5016-FO FIBER-OPTIC WARNING LABELS

Orange, reflective, high-tack adhesive-backed tape suitable for use at low temperatures. Imprinted "CAUTION FIBER OPTIC" on 6" spacings. **Sold in rolls of 288 labels.**

Stock No.	Type	1-9
95F9717	5016-FO LABELROLL	**86.06**

(9237) (de02228)

UNIVERSAL FIELD TERMINATION KIT



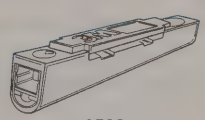
6355

Type 6355 Universal field termination kit includes cable preparation and one-step polishing tools and materials, lightweight oven preset to the proper operating temperature, cooling fixture, and connector holders.

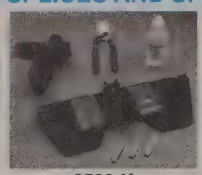
Stock No.	Type	Description	1-4
48F1621	6355	Universal Field Termination Kit	**1344.20**
92F1444	6192-A	One-Step Hot Melt Polishing Film (50 Sheets Per Pkg.)	**31.52**
92F1446	6192-B	Polishing Film for One-Step Machine (50 Sheets Per Pkg.)	**21.74**

(9235) (de02211)

FIBRLOK™ II OPTICAL FIBER SPLICES AND SPLICE KITS



2529



2529-K

Type 2529 universal splice aligns centers of 2 fibers - either single-mode or multimode. Splices pigtail fibers or building cable fibers that have 125µm glass O.D., 900µm tight buffer coating. **Splices are sold in packages of 6. Type 2529-K** is designed for splicing any combination of 250 to 900µm coated fibers. Fully compatible with original Fibrlok™ optical fiber splices, splice trays and organizers; kits use the same "strip, clean, cleave and splice" procedure. May be used with either single-mode or multimode fibers with a glass cladding diameter of 125µm.

Stock No.	Type	Description	1-9
92F1531	2529	Universal Splice	**62.50**
92F6361	2529-K	Universal Splice Kit	**1274.22**

(9238) (de02241)

CRIMPLOK™ TERMINATION KIT

Designed for use at the termination point of the horizontal field, typically the terminal workstation. Portable and capable of performing the Crimplok™ termination in seconds without the support of a table or electricity at the installation site. Kit contains fiber preparation tools commonly used for terminations. Stored in a durable nylon pouch with an adjustable belt.

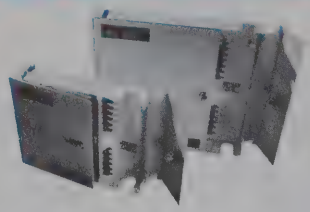
Stock No.	Type	1-9
16F3624	6955	**553.32**

(9404) (ne08661)

NEW

FIBER-OPTIC PRODUCTS

M.O.R.E.™ WALL MOUNT DISTRIBUTION ENCLOSURES



Enclosures for fiber-optic patching and splicing offer 6-port build-out style adapter panels with optional splice capability for fiber-optic networks. Units are equipped with grooming aids for cable management and mounting hardware. The enclosures are available in 12- and 24-port configurations and can be stacked to allow the distribution of one fiber cable among various cabinets. *Order SixPax™ adapter panel modules separately on this page and splice trays separately on this page.*

Stock No.	Type	Ports	1-2
83F4612	86881-0101	12	224.35
83F4613	86881-0102	24	287.96

(28337) (ne28337)

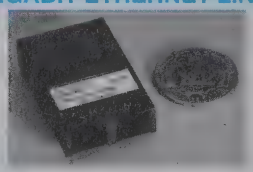
SIXPAX™ 86800 SERIES ADAPTER PANEL MODULES

Ideal for modular installation into any style of cable management system that supports 6- or 12- port panel design for cable organization. Each SixPax™ panel accommodates 6 to 12 ports (12-pack for SCs only) for patching fiber-optic cable. Panels come with labeling kits to accommodate port numbering schematic and incorporate a plunger-style mounting mechanism (no screws are necessary) for easy installation. Each panel measures 5.1″H by 1.14″W and is constructed of a precision-molded polymer. **Type 86804-1650** has a polymer body; **type 86804-1600** has a metal body. *Order enclosures for panel modules separately on this page.*

Stock No.	Type	Ports	Adapter	Description	1-9
83F4604	86800-0000	...	...	Blank	14.36
83F4605	86800-8600	6	SC	Zirconia Sleeve	57.57
83F4606	86803-8600	6	SC	Phosphorous Bronze Sleeve	42.28
83F4607	86804-1650	6	ST	Polymer Sleeve	24.47
83F4608	86804-1600	6	ST	Polymer Sleeve	31.60

(28334) (ne28334)

GIGABIT ETHERNET LINK



Link is a compact optical transceiver capable of serial gigabit transmission over inexpensive multimode fiber for distances up to 550m. Transmits data at speeds of 100Mbps to 1.25Gbps, enabling use in Gigabit Ethernet, Fibre Channel, ATM and proprietary data interconnect systems. Features an industry-standard 1x9 pin configuration and dual SC connectors. Complies with all Gigabit Ethernet (IEEE 802.3z) standards. Also features single +5V power supply and is ECL/PECL compatible.

Stock No.	Type	Description	1-2
83F7353	86990-9020	AC Coupled	252.86
83F7354	86990-9021	DC Coupled	252.86

(32978) (ne32978)

LC HIGH-DENSITY CONNECTORS

High-density LC connector is used for fiber-optic applications. Provides enhanced transmission characteristics over other fiber-optic connectors. Doubles the density of current SC connectors and reduces the space required on panels, outlets, and closets by 50% throughout the network. The LC uses an RJ-45-style housing. The connector is keyed for optical alignment that delivers repeatable performance and reliability and incorporates a ceramic ferrule with an outer diameter of 1.25mm. LC duplex multimode adapter is also available; *order separately below.*

Stock No.	Type	Description	1-9	10-24
83F4610	86941-0424	LC Multimode, RJ-45 Form-Factor Connector, 900µm Boot Beige Housing	16.16	15.35
83F4611	86941-0426	LC Duplex Multimode Adapter Ceramic Sleeve Beige Housing	20.59	19.56

(28336) (ne28336)

XPRESS ST® TERMINATION KITS

Provide low-cost and reliable ST terminations for fiber-optic LANs. Combine the telecommunication industry proven zirconia ceramic ferrule and connector technologies with a one-part adhesive. Requiring no measuring, mixing, or applicator, the adhesive is applied directly to the fiber. It provides an almost instantaneous bond between the fiber and ceramic ferrule when contact is made with the accelerant in the ferrule. The accelerant is delivered into the connector by simply dipping the ferrule into the solution. Termination kit includes 12 connectors (boots for 3mm and 900µm cable), 1 tube of adhesive, accelerant, stripping template, and abbreviated termination procedures. *Order termination tool kit separately below.*

Stock No.	Type	Description	1-2
00Z1907	86000-2000	ST Termination Kit	97.44
83F5795	86719-0000	ST Termination Tool Kit	1135.55

(28332) (ne28332)

SC DUPLEX CONNECTORS AND ADAPTERS

SC duplex connector system maintains fiber-optic cabling polarity in telecommunication and datacom networks. Combines 2 widely accepted, NTT-SC standard connectors in a common duplex housing. The housing provides smooth insertion and removal of the connector pairs while maintaining polarity of the cable. Features easy-to-assemble 1-piece connector body and reliable Bellcore 326 connector design. Low insertion loss: <0.34dB typ. (multimode).

SC DUPLEX CONNECTORS

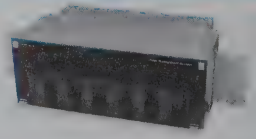
Stock No.	Type	Mode	Color	Description	1-9	10-24
83F4602	86066-0000	Multi	Beige	Zirconia PC+ Ferrule	18.21	17.30
83F4603	86066-5000	Single	Blue	Zirconia PC Ferrule, 126µm	22.09	20.99

SNAP MOUNT DUPLEX ADAPTERS

Stock No.	Type	Color	Description	1-9	10-24
83F7349	86167-0610	Beige	SC/SC Phosphor Bronze	14.43	13.71
83F7350	86166-0600	Blue	SC/SC Zirconia Ceramic	19.61	18.63
83F7351	86167-1610	Beige	SC/ST Phosphor Bronze	14.71	13.98
83F7352	86166-1600	Blue	SC/ST Zirconia Ceramic	19.88	18.89

(28333) (ne28333)

FIBER-OPTIC CABLE MANAGEMENT SHELF



Shelf is used for termination of indoor distribution cable or direct termination of outside plant cable. Also can be used to house 12 broadband coupler or WDM modules. Commonly used with 72 or 144 fiber splice shelves. Features hinged transparent front door and lightweight aluminum construction for easy installation. Can be mounted in 19″ or 23″ equipment frames and holds 12 SixPax™ adapter panels; *order separately on this page.*

Stock No.	Type	H x W x D	1-2
83F7355	86551-4000	7 x 17 x 11″	632.14

(32977) (ne32977)

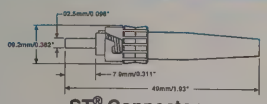
SPLICE TRAY KITS

Splice tray kits come equipped with standoff bracket for mounting, hardware, universal splice chip, and installation procedures. Splice kit for **type 86881-0101** enclosures includes 1 tray for up to 12 splices. Splice kit for **type 86881-0102** enclosures includes 2 trays for up to 24 splices. *Order* **types 86881-0101** and **type 86881-0102** *enclosures separately on this page.*

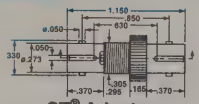
Stock No.	Type	Description	For Use With Type	1-2	3-4
83F4614	86881-0103	12-Port Splice Tray	86881-0101	67.15	60.38
83F4615	86881-0104	24-Port Splice Tray	86881-0102	134.29	120.73

(29075) (ne29075)

ST® CONNECTORS



ST® Connector



ST® Adapter

Feature a keyed, bayonet-latching coupling mechanism for precise, consistent alignment with every connection. Low insertion loss. Durable and field-installable. Available in either single-mode or multimode types and fully intermateable with other ST®-style fiber-optic connectors. Quick installation. Ferrule: zirconia. Housing: PBT.

ST® CONNECTORS

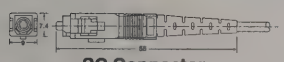
Stock No.	Type	Mode	Cable OD	Boot Color	1-9	10-24
48F2606	FC1D1C5XAD1	SM	3mm	Yellow	7.00	6.30
48F2607	FC2D1C5XAB1	MM	3mm	Black	4.00	3.60
48F2608	FC2D1C5XBB1	MM	0.9mm	Black	4.00	3.60

ST® ADAPTERS

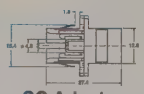
Stock No.	Type	Mode	Sleeve	1-9	10-24
48F2609	FBA1DCXB1	SM	Ceramic	6.00	5.40
48F2610	FBA2DAXB1	MM	Plastic	3.13	2.82
48F2611	FBA3DBXB1	SM/MM	Phosphor Bronze	3.75	3.38

(41671) (ne41671)

SC CONNECTORS



SC Connector



SC Adapter

SC Adapter

Features keyed, precision-molded plastic housing that enables precise, consistent alignment with every connection. NTT compatible pull-proof design for stable performance in a variety of applications. Keyed for maximum repeatability. Low insertion loss, low back reflection. 125µm fiber dia. Complies with JIS mating specifications.

SC CONNECTORS

Stock No.	Type	Description	Boot	1-9	10-24
48F2612	FC1E1A51AC1	SC-SM, APC	3mm, Green	12.00	10.80
48F2613	FC1E1A51BC1	SC-SM, APC	0.9mm, Green	12.00	10.80
48F2614	FC1E1C51AB1	SC-SM, PC	3mm, Blue	8.50	7.65
48F2615	FC1E1C51BB1	SC-SM, PC	0.9mm, Blue	8.50	7.65
48F2616	FC2E1C51AE1	SC-MM, PC	3mm, Black	6.00	5.40
48F2617	FC2E1C51AF1	SC-MM, PC	3mm, Red	6.00	5.40
48F2618	FC2E1C51BE1	SC-MM, PC	0.9mm, Black	6.00	5.40
48F2619	FC2E1C51BF1	SC-MM, PC	0.9mm, Red	6.00	5.40

SC ADAPTERS

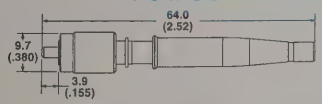
Stock No.	Type	Mounting Type	Color	Sleeve	1-9	10-24
48F2620	FBA1EC1A1	SC, Flanged	Blue	Ceramic	9.50	8.55
48F2621	FBA1EC2A1	SC, Flanged	Green	Ceramic	12.00	10.80
48F2622	FBA3EB1A1	MM, Flanged	Blue	Phos. Bronze	6.00	5.40
48F2623	FBA3GB1A1	Un. Flanged Duplex	Blue	Phos. Bronze	12.00	10.80

SC DUPLEX HOLDERS

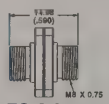
Stock No.	Type	Color	1-9	10-24
48F2624	FC2GE	Black	0.87	0.78

(41672) (ne41672)

FC II CONNECTORS



FC II Connector



FC Adapter

Proprietary isolated ferrule design provides exceptional nonoptical disconnect. Precision screw machined materials maintain high level of repeatability and resistance to corrosion. Intermateable with all FC/PC-type connectors. Low insertion and high-return loss. Field- or factory-installable. Simplified termination procedure. Meet JIS mating specifications.

FC II CONNECTORS

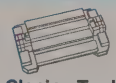
Stock No.	Type	Description	Min. Ferrule Hold ID	1-9	10-24
48F2637	68401-101	SM, Ceramic	126µm	7.50	6.75
48F2638	68401-201	MM, Ceramic	127µm	6.00	5.40
48F2639	68407-101	SM, Ceramic, APC	126µm	9.50	8.55

FC ADAPTERS

Stock No.	Type	Dim. W	Sleeve	1-9	10-24
48F2640	68350-101	2.3K	Ceramic	7.00	6.30
48F2641	68350-301	2.3K	Phosphor Bronze	6.00	5.40
48F2642	68381-101	2.18K	Phosphor Bronze	6.90	6.21
48F2643	68381-103	2.05K	Ceramic	7.80	7.02
48F2644	68381-104	2.18K	Ceramic	7.80	7.02

(41675) (ne41675)

FUSION SPLICE PROTECTION SLEEVES AND ACCESSORIES



Closing Tool

FSSC-1-G

FSSC-12-G

High-quality proven protection sleeve used immediately after the fusion process protects your system's highest fragility point during handling, storage, and life-cycle environmental constraints. Standard and ribbon sleeves have been tested to Bellcore GR 1380. All other sleeves are proportionately downsized using exact materials, formulations, equipment and processes.

SLEEVES

Stock No.	Type	Description	Length	1-9	10-24
48F2645	FSPS-12-40-QP	Ribbon Sleeve	40mm	2.98	2.68
48F2646	FSPS-12-40-QQ	Ribon Sleeve	40mm	3.78	3.40
48F2647	FSPS-1-40-C	Standard Sleeve	40mm	0.89	0.81
48F2648	FSPS-1-60-C	Standard Sleeve	60mm	0.89	0.81
48F2649	MCRO-1-20-C	Micro Sleeve	20mm	1.35	1.22
48F2650	MCRO-1-40-C	Micro Sleeve	40mm	1.35	1.22
48F2651	MINI-1-25-C	Mini Sleeve	25mm	1.35	1.22
48F2652	MINI-1-40-C	Mini Sleeve	40mm	1.35	1.22
48F2653	SLSL-1-40-C	Slim Sleeve	40mm	0.98	0.88
48F2654	SLSL-1-60-C	Slim Sleeve	60mm	0.98	0.88
48F2655	FSPS-1-40-NH	No Heat Sleeve	40mm	1.35	1.22
48F2656	FSPS-1-60-NH	No Heat Sleeve	60mm	1.35	1.22

TOOLS AND STORAGE MODULES

Stock No.	Type	Description	1-2	3-4	5-9
48F2657	NHCT-1-60	No Heat Closing Tool	169.94	156.37	148.52
48F2658	FSSC-1-G	Single Fiber Storage Module	3.98*	3.58*	3.22*
48F2659	FSSC-12-G	Ribbon Fiber Storage Module	3.98*	3.58*	3.22*

*Price column quantities are as follows: **1-9**, **10-24**, and **25-49**

(41676) (ne41676)

CABLE ASSEMBLIES

Feature low back reflections (for single mode assemblies), superior optical performance, floating ferrules on the single mode and multimode SC and FC connectors. Environmentally stable. Conform to Bellcore requirements GR-000326-CORE, Issue II. Offer a choice of single mode SC and FC field installable connectors that can be used for 900mm buffered fiber up to 3.0mm cable. Multimode connector choices include ST® and SC connectors. Applications include: CATV, high-speed digital systems, data transport, telephony and communications.

CABLE ASSEMBLIES (MULTIMODE)

Stock No.	Type	Length	Connector Type	1-4	5-9
48F2625	FJ1CCXD3D3M001	1m	ST®/ST®	20.00	19.00
48F2626	FJ1CCXD3D3M003	3m	ST®/ST®	22.86	21.71
48F2627	FJ1CCXD3D3M005	5m	ST®/ST®	24.04	22.83
48F2628	FJ1CCXE3E3M001	1m	SC/SC	24.40	23.18
48F2629	FJ1CCXE3E3M003	3m	SC/SC	25.49	24.22
48F2630	FJ1CCXE3E3M005	5m	SC/SC	26.76	25.43

CABLE ASSEMBLIES (SINGLE MODE)

48F2631	FJ1FAXB2B2M001	1m	FC/FC	42.43	40.32
48F2632	FJ1FAXB2B2M003	3m	FC/FC	43.66	41.49
48F2633	FJ1FAXB2B2M005	5m	FC/FC	44.89	42.66
48F2634	FJ1FAXE2E2M001	1m	SC/SC	38.62	36.70
48F2635	FJ1FAXE2E2M003	3m	SC/SC	39.85	37.87
48F2636	FJ1FAXE2E2M005	5m	SC/SC	41.08	39.04

(41674) (ne41674)

SINGLE-MODE SPLITTERS

Single-mode single wavelength and Wideband™ Splitters offer low excess loss, stable splitting ratios, and superb environmental characters. Uniformity for 50% single wavelength splitter is 0.6 dB. 50% dual wavelength splitter achieves 0.8dB uniformity. Splitters are bidirectional, combing light from fibers into one, or splitting light from one fiber into two. Operating temperature: 40°C to +85°C. SM Mode. Over 10 years proven field reliability. Typical change in insertion loss over the operating temperature range (dB) <±0.1. Conforms to Bellcore TR-NWT-1209.

Stock No.	Type	Description	1-2	3-4
48F2662	FFA15AA50AXX01	50/50 Dual Wavelength	159.94	147.17
48F2663	FFA15AA40AXX01	40/60 Dual Wavelength	159.94	147.17
48F2664	FFA15AA30AXX01	30/70 Dual Wavelength	159.94	147.17
48F2665	FFA15AA20AXX01	20/80 Dual Wavelength	159.94	147.17
48F2666	FFA15AA10AXX01	10/90 Dual Wavelength	159.94	147.17
48F2667	FFA15AA05AXX01	05/95 Dual Wavelength	159.94	147.17

(41678) (ne41678)

FIBER-OPTIC PANELS

CPS series fiber panels offer user-fiendly solutions for smaller fiber count installations requiring splicing termination of connectors onto outside plant or intra-building cables at customer premise or central office locations. Both types are wall and rack mountable and feature a unique hinge arrangement that provides a wide door swing radius to maximize available work space.

Stock No.	Type	Panel Style	Connectors	1-2	3-4
48F2660	A22DZABZA	CPS-12	ST®/MM	154.23	141.92
48F2661	A22EZABZA	CPS-12	SC/MM	168.51	155.06

(41677) (ne41677)

FIBER-OPTIC CABLE ENCLOSURE SYSTEMS

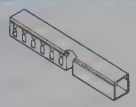


Fig. 1

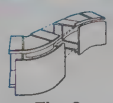


Fig. 2

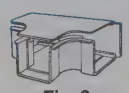
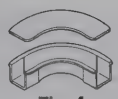


Fig. 3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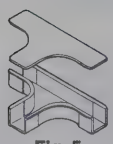
Fig. 5

Fig. 6

Fig. 7

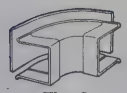
Fig. 8

Fig. 9

Fig. 10

Fig. 11

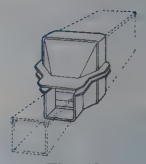
Fig. 12

Designed to route and protect fiber-optic cable while guarding against accidental cuts, kinks, and associated signal loss. Complete lay-in capability allows ease of access to cable and jumpers. PVC/acrylic alloy connectors, rated UL94V-0, provide a 2″ bend radius which provides effective signal transmission while utilizing minimum space. Connectors contain an inside flange for cable retention during cover removals. 6′ protective channels with quick-release Velcro® covers are constructed of rigid, nonflammable polyvinyl chloride, rated UL94V-0; UL recognized, CSA certified. Color: gray. **Duct and cover are sold in packages of 24′ in four 6′ lengths.** All other components are sold individually.

Fig.	Description	2 x 2 System Stock No.	2 x 2 System Type	2 x 2 System Each	4 x 4 System Stock No.	4 x 4 System Type	4 x 4 System Each
1	Solid Duct w/Cover (**Per Pkg.**)	97N9531	SSD-2X2	182.83	97N9532	SSD-4X4	349.75
1	Slotted Duct w/Cover (**Per Pkg.**)	97N9536	SSL-2X2	182.83	97N9537	SSL-4X4	349.75
2	Vertical Offset Connector (Inward & Outward Set)	97N9491	SOC-2X2	150.70	97N9502	SOC-4X4	222.16
3	Vertical "T" Connector (Top Load)	97N9492	SCVR-2X2	185.72	97N9503	SCVR-4X4	247.41
...	Vertical "T" (Top Load) with 4″ to 2″ Reducer	...	...	...	97N9504	SCVRD-4X4	243.64
4	90° Elbow Connector	97N9497	SECR-2X2	166.23	97N9505	SECR-4X4	221.62
5	Horizontal "T" Connector	97N9498	SCHR-2X2	182.08	97N9506	SCHR-4X4	225.63
...	Horizontal "T" Connector with 4″ to 2″ Reducer	...	...	...	97N9507	SCHRD-4X4	249.36
6	4-Way Cross	97N9494	SCXR-2X2	159.44	97N9508	SCXR-4X4	237.52
7	90° Elbow Connector (Inward Opening)	97N9496	SECR1-2X2	154.67	97N9509	SECR1-4X4	217.23
8	90° Elbow Connector (Outward Opening)	97N9495	SECR0-2X2	165.77	97N9510	SECR0-4X4	221.49
9	Junction	97N9522	SSC-2X2	2.94	97N9523	SSC-4X4	7.66
10	End Cap	97N9527	SCEC-2X2	8.74	97N9528	SCEC-4X4	13.67
11	Firestop	97N9525	SFS-2X2	34.49	97N9526	SFS-4X4	101.35
12	4″ to 2″ Reducer	...	...	...	97N9518	SRD-4X2	67.32

(18033) (ne10723)

FIBER-OPTIC SUPPORT SYSTEM

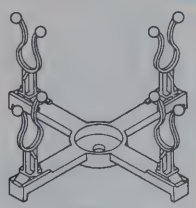
Fig. 1

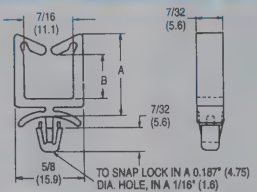

Fig. 2

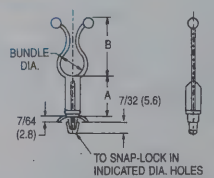

Fig. 3

Designed for use in fiber-optic patch panels. The system locates, supports, and orients fiber-optic cable loops. The system consists of a 4.1″ diameter mounting base and snap-in clips; *ordered separately below.* Base and clips are nylon 6.6 material. Color: white. **Bases are sold in packages of 10. Clips are sold in packages of 100.**

BASES

Stock No.	Type	Fig.	Description	Per Pkg.
92N4785	2570	1	Adhesive Base	22.65
92N4786	2571	1	Screw Mount Base	18.43

CLIPS

Stock No.	Type	Fig.	Dimensions A	Dimensions B	Mounting Hole	Per Pkg.
16N969	8408-0406	2	0.51″ (13.0)	0.19″ (4.8)	0.187″ (4.75)	10.52
16N970	8408-0407	2	0.71″ (18.0)	0.39″ (9.9)	0.187″ (4.75)	10.85
16N971	8408-0408	2	1.07″ (27.2)	0.75″ (19.1)	0.187″ (4.75)	14.66
16N972	8408-0409	2	1.37″ (34.8)	1.07″ (27.2)	0.187″ (4.75)	15.86
92N4787	2572	3	0.50″ (12.7)	1.45″ (36.8)	0.187″ (4.75) ±0.003″	32.09
92N4788	2573	3	1.25″ (31.8)	1.45″ (36.8)	0.187″ (4.75) ±0.003″	37.47

(18034) (ne10724)

FIBER-OPTIC CONNECTOR CLEANING DISPENSER SYSTEM

Hand-held, fiber-optic connector cleaning system for the removal of dust, dirt, oil, and grease from fiber and ferrule end faces. Non-woven, lint-free film is advanced into the dispenser window, where three figure-eight strokes of the connector to the film cleans the connector surface. Replaces gasses, alcohol swabs, napkins, and wipes for cleaning. The film is kept clean and dry until dispensed into an open window, which holds the film in place during the cleaning process. Used material is dispensed out the back of the unit, where it can then be torn off at the perforation, and thrown away. Each dispenser contains 10 feet of 1.5″ strips of "Ultra-White" film. Each 1.5″ strip can clean up to six connectors, allowing up to 400 connectors to be cleaned per dispenser.

Stock No.	Type	Description	Each
92N4770	3365	FiberClean Dispenser System	22.26
92N4771	3366	FiberClean Refill	18.12

(31776) (ne31776)

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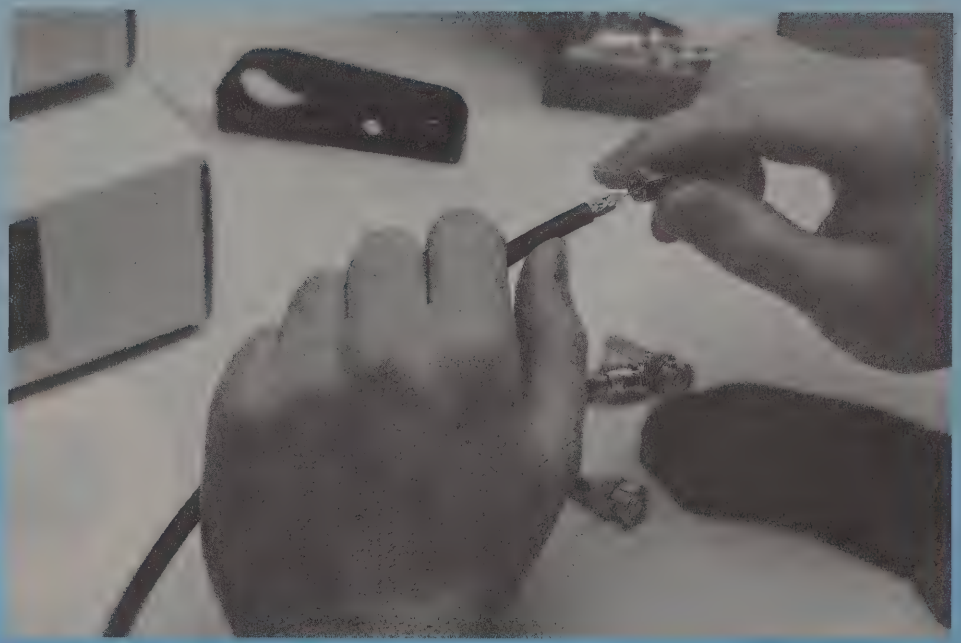

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Fuses & Circuit Breakers

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10

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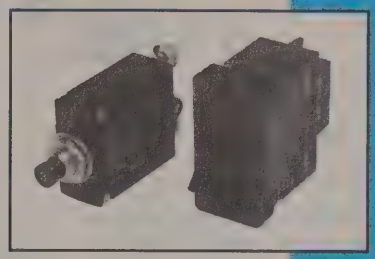
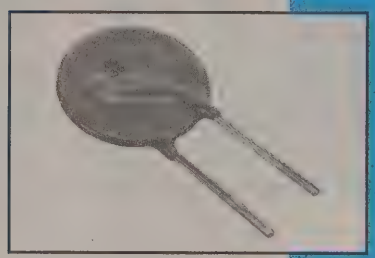
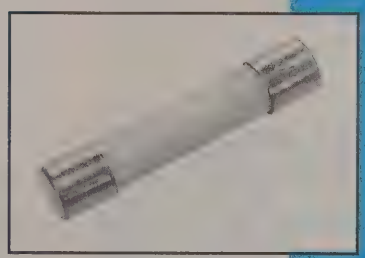
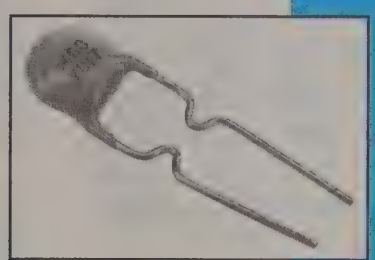
- Thermodisc
- Wickmann









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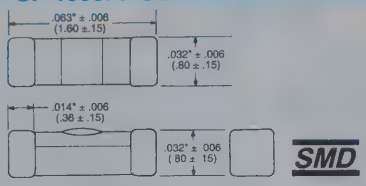
BUSS® SP-1608FF SERIES SMT CHIP FUSES

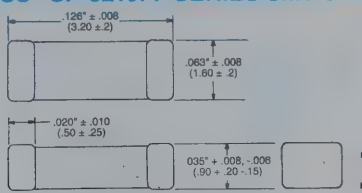


Glass. Rated 24 VDC. 10 amp ratings. UL recognized (File E19180, Guide JDYX2). CSA component accepted (File 53787, Class 1422-30). UL recognized, CSA certified. Also available on tape and reel; *contact your local Newark sales office for additional ratings.*

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
52F119	SP-1608FF-250MA	¼	1.15	1.10	1.10	1.05
52F120	SP-1608FF-375MA	⅜	1.15	1.10	1.10	1.05
52F121	SP-1608FF-500MA	½	1.15	1.10	1.10	1.05
52F122	SP-1608FF-750MA	¾	0.60	0.54	0.51	0.49
52F123	SP-1608FF-1A	1	0.60	0.54	0.51	0.49
52F124	SP-1608FF-1.5A	1½	1.15	1.10	1.10	1.05
52F125	SP-1608FF-2A	2	0.60	0.54	0.51	0.49
52F126	SP-1608FF-2.5A	2½	0.60	0.54	0.51	0.49

(2438) (ne06181)

BUSS® SP-3216FF SERIES SMT CHIP FUSES

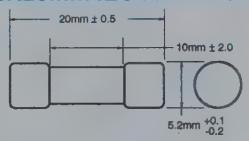


Glass. Rated 32 volts AC, 63 volts DC (250mA-3A); 32 volts AC, 32 volts DC (4-5A). 12 amp ratings. UL recognized, all ratings (File E19180, Guide JDYX2). CSA certified (1.5-3A) (File 53787, Class 1422-01), CSA component accepted (250-750mA, 1A, 4-5A) (File 53787, Class 1422-30). Also available on tape and reel; *contact your local Newark sales office for additional ratings.*

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
52F129	SP-3216-FF-250MA	¼	0.60	0.54	0.51	0.49
52F130	SP-3216-FF-375MA	⅜	1.15	1.10	1.10	1.05
52F131	SP-3216-FF-500MA	½	0.60	0.54	0.51	0.49
52F132	SP-3216-FF-750MA	¾	0.60	0.54	0.51	0.49
52F133	SP-3216-FF-1A	1	0.60	0.54	0.51	0.49
52F134	SP-3216-FF-1.5A	1½	0.60	0.54	0.51	0.49
52F135	SP-3216-FF-2A	2	0.60	0.54	0.51	0.49
52F136	SP-3216-FF-2.5A	2½	1.15	1.10	1.10	1.05
52F137	SP-3216-FF-3A	3	1.15	1.10	1.10	1.05
52F138	SP-3216-FF-4A	4	0.60	0.54	0.51	0.49

(2439) (ne06182)

BUSS® S505 SERIES 5X20mm IEC MINIATURE FUSE LINKS



S505

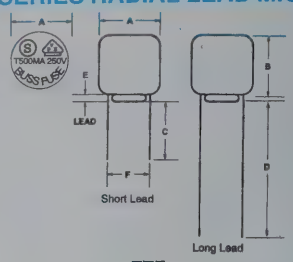
S505 series are time-delay, high-breaking capacity IEC miniature fuse links. Ceramic tube with nickel-plated brass end caps. 250VAC or less. Meet IEC 127 specifications, sheet V. UL recognized. VDE, SEMKO, IMQ and BSI approved.

Stock No.	Type	Rated Current	Voltage Drop mV	1-49	50-99	100-249	250-499
91F4749	S505-1-1/4A	1.25A	150	2.78	2.51	2.36	2.25
91F4751	S505-2-1/2A	2.5A	100	2.29	2.07	1.95	1.85
91F4752	S505-6.30A	6.3A	75	2.26	2.05	1.93	1.84
91F4753	S505-8A	8A	75	1.47	1.38	1.29	1.21
91F4754	S505-10A	10A	72	1.47	1.38	1.29	1.21

(12126) (ne10256)

NEW PRODUCTS ARE BEING ADDED TO OUR INVENTORY EVERY DAY.
CALL NEWARK FOR INFORMATION ON WHAT'S CURRENTLY IN STOCK.

BUSS® ETF SERIES RADIAL LEAD MICROFUSES



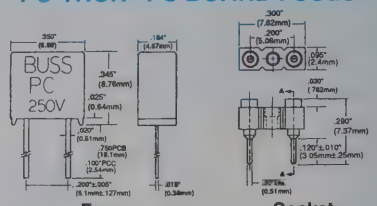
ETF

ETF series time-lag, 250VAC radial-leaded microfuses. Meet IEC 127-3 specifications, standard sheet 4 (Type T). UL recognized, CSA certified. VDE and SEMKO approved.

Stock No.	Type	Rating	Voltage Drop* (mV)	1-49	50-99	100-249	250-499
91F4755	ETF-1.6	1.6A	120	0.45	0.42	0.39	0.36
91F4756	ETF2	2A	100	0.45	0.42	0.39	0.36
91F4757	ETF2.5	2.5A	100	0.78	0.74	0.71	0.69
91F4758	ETF3.15	3.15A	100	0.45	0.42	0.39	0.36
91F4759	ETF4	4A	100	0.45	0.42	0.39	0.36

*Measured at 75% normal ambient.
(12127) (ne10257)

PC-TRON® PC BOARD FUSES



Fuse **Socket**

Subminiature fuses limit energy let-through. 250V, except * denotes 125V. *Order fuse socket below.*

PCB SERIES, 0.75" (19.05) LEADS

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
46F8578	PCB-1/2	½	2.10	1.96	1.89	1.75
46F8579	PCB-3/4	¾	2.10	1.96	1.89	1.75
46F8580	PCB-1	1	2.10	1.96	1.89	1.75
46F8581	PCB-1 1/2	1½	3.11	2.81	2.65	2.52
46F8582	PCB-2	2	2.10	1.96	1.89	1.75
46F8583	PCB-2 1/2	2½	3.11	2.81	2.65	2.52
46F8584	PCB-3	3	2.10	1.96	1.89	1.75

PCC SERIES, 0.10" (2.54) LEADS

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
46F8585	PCC-1/2	½	2.13	1.99	1.92	1.77
46F8586	PCC-3/4	¾	2.10	1.96	1.89	1.75
46F8587	PCC-1	1	2.10	1.96	1.89	1.75
46F8588	PCC-1 1/2	1½	3.11	2.81	2.65	2.52
46F8589	PCC-2	2	2.10	1.96	1.89	1.75
46F8591	PCC-3	3	2.10	1.96	1.89	1.75
46F8593	PCE-5	5	2.10	1.96	1.89	1.75

SOCKET FOR PC-TRON® FUSES

46F8594 Type BK/PCS. **Each**..... **0.37**
(2321) (de02112)

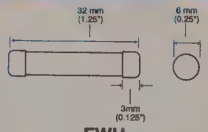
MICROTRON® FAST-ACTING PC B FUSES

Subminiature, rated 125V @ 50A, except * denotes 60V. Body sealed for wave soldering. Body: 0.295 x 0.120" diameter. Fit footprints with 0.4" (10.16) centerline holes.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
87F1529	MCR-1/16	1/16	1.59	1.48	1.43	1.32
87F1530	MCR-1/8	⅛	1.59	1.48	1.43	1.32
87F1531	MCR-1/4	¼	1.59	1.48	1.43	1.32
87F1532	MCR-3/8	⅜	1.59	1.48	1.43	1.32
87F1533	MCR-1/2	½	1.59	1.48	1.43	1.32
87F1534	MCR-3/4	¾	1.23	1.15	1.10	1.02
87F1535	MCR-1	1	1.23	1.15	1.10	1.02
87F1536	MCR-1-1/2	1½	1.23	1.15	1.10	1.02
87F1537	MCR-2	2	1.23	1.15	1.10	1.02
87F1538	MCR-2-1/2	2½	1.23	1.15	1.10	1.02
87F1539	MCR-3	3	1.23	1.15	1.10	1.02
87F1541	MCR-4	4	1.23	1.15	1.10	1.02
87F1542	MCR-5	5	1.23	1.15	1.10	1.02
87F1543	MCR-7A	7	1.23	1.15	1.10	1.02
87F1544	MCR-10	10	1.82	1.64	1.55	1.47

(2320) (de02111)

BUSS® FWH SERIES HIGH-SPEED SEMICONDUCTOR FUSES



FWH

FWH series ¼ x 1¼" ceramic semiconductor fuses. Ferrule style, 6x32mm. 500V, 0.25A-30A. High-speed fuses protect SCRs, diodes, and other semiconductor devices.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
91F4736	FWH-.500A6F	0.5	9.19	8.32	7.82	7.45
91F4737	FWH-001A6F	1	9.19	8.32	7.82	7.45
91F4738	FWH-002A6F	2	9.19	8.32	7.82	7.45
91F4739	FWH-3.15A6F	3.15	9.19	8.32	7.82	7.45
91F4740	FWH-6.30A6F	6.3	9.19	8.32	7.82	7.45
91F4742	FWH-010A6F	10	9.19	8.32	7.82	7.45
91F4744	FWH-015A6F	15	9.19	8.32	7.82	7.45

(13049) (ne09890)

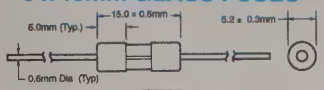
5 x 15mm CERAMIC FUSE

Light ballast protection fuse is 250V rated, fast-acting. UL listed, CSA certified.

Stock No.	Type	1-49	50-99	100-249	250-499
91F3096	C517-3A	0.43	0.41	0.39	0.36

(16628) (ne09880)

5 x 15mm GLASS FUSES



C518

5 x 15mm fast-acting, axial-leaded PC Board fuses are 2AG equivalent, 250V rated. UL listed, CSA certified.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
91F3097	C518-2A	2A	0.41	0.39	0.36	0.34
91F3098	C518-2.5A	2.5A	0.41	0.39	0.36	0.34
91F3099	C518-3A	3A	1.91	1.80	1.68	1.57
91F3100	C518-3.5A	3.5A	0.41	0.39	0.36	0.34
91F3102	C518-5A	5A	0.41	0.39	0.36	0.34
91F3103	C518-100MA	100mA	0.48	0.45	0.42	0.39
91F3104	C518-125MA	125mA	0.54	0.51	0.48	0.45
91F3106	C518-375MA	375mA	0.54	0.51	0.48	0.45
91F3107	C518-500MA	500mA	0.41	0.39	0.36	0.34
91F3108	C518-750MA	750mA	0.54	0.51	0.48	0.45

(16628) (ne09881)

5 x 15mm TIME-DELAY FUSES

C519

5 x 15mm time-delay fuses. 2AG size, 250V rated, glass. UL listed, CSA certified.

Stock No.	Type	Amp	1-49	50-99	100-249	250-499
91F3109	C519-125MA	125mA	0.35	0.33	0.30	0.28
91F3110	C519-250MA	250mA	0.35	0.33	0.30	0.28
91F3111	C519-350MA	350mA	0.31	0.29	0.28	0.26
91F3112	C519-375MA	375mA	0.31	0.29	0.28	0.26
91F3113	C519-500MA	500mA	0.35	0.33	0.30	0.28
91F3115	C519-750MA	750mA	0.35	0.33	0.30	0.28
91F3116	C519-1A	1A	0.35	0.33	0.30	0.28
91F3117	C519-2A	2A	0.31	0.29	0.28	0.26
91F3118	C519-3A	3A	0.31	0.29	0.28	0.26
91F3120	C519-5A	5A	0.35	0.33	0.30	0.28
91F3121	C519-7A	7A	0.35	0.33	0.30	0.28

(16633) (ne09882)

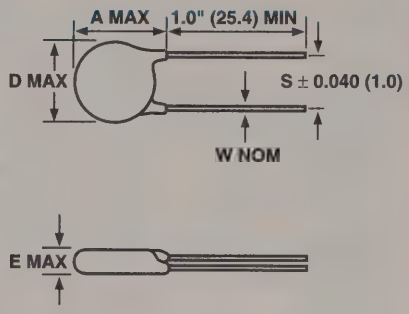
5 x 15mm FAST-ACTING FUSES

5 x 15mm fast-acting fuses. 2AG size, 250V rated, glass. UL listed, CSA certified.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
91F3122	C520-100MA	100mA	0.35	0.33	0.30	0.28
91F3124	C520-250MA	250mA	0.41	0.39	0.36	0.34
91F3125	C520-375MA	375mA	0.28	0.26	0.25	0.23
91F3126	C520-500MA	500mA	0.26	0.24	0.23	0.21
91F3127	C520-750MA	750mA	0.26	0.24	0.23	0.21
91F3128	C520-2A	2A	0.28	0.26	0.25	0.23
91F3129	C520-2.5A	2.5A	0.41	0.39	0.36	0.34
91F3131	C520-3.5A	3.5A	0.28	0.26	0.25	0.23
91F3132	C520-4A	4A	0.28	0.26	0.25	0.23
91F3133	C520-5A	5A	0.26	0.24	0.23	0.21

(16639) (ne09883)

METAL OXIDE VARISTORS



Through-hole mount metal oxide varistors feature a highly exponential variation on a current over a narrow range of applied voltage. Operating temperature: -40°C to +85°C. Storage temperature: -50°C to 125°C. Current/energy derating: -2.5%/C°. DC. Leakage current: 200 µA max. UL listed, CSA certified and VDE approved.

5mm SERIES

Stock No.	Type	Maximum Ratings: Continuous Voltage AC Vrms	Continuous Voltage DC V	Transient Energy 10 x 1000us J	Transient Peak Current 8 x 20us A	1-49
48F1788	MOV05140EVA	14	18	0.4	100	0.33
48F1789	MOV05200EXA	20	26	0.6	100	0.33
48F1790	MOV05250AAA	25	31	0.8	100	0.33
48F1791	MOV05500DWA	50	66	2.0	400	0.33
48F1792	MOV05131AIA	130	175	4.0	400	0.30
48F1793	MOV05151AJA	150	200	5.0	400	0.30
48F1794	MOV05251ALA	250	320	8.0	400	0.30
48F1795	MOV05271EPA	270	350	9.0	400	0.41

7mm SERIES

48F1796	MOV07110AAA	11	14	0.8	250	0.34
48F1797	MOV07140EZA	14	18	0.9	250	0.34
48F1798	MOV07170ACA	17	22	1.0	250	0.34
48F1799	MOV07200ADA	20	26	1.2	250	0.34
48F1800	MOV07250AEA	25	31	1.5	250	0.34
48F1801	MOV07350FAA	35	45	2.2	250	0.34
48F1802	MOV07131ANA	130	175	11.0	1200	0.33
48F1803	MOV07151APA	150	200	13.0	1200	0.33
48F1804	MOV07231AQA	230	300	20.0	1200	0.33
48F1805	MOV07251ARA	250	330	21.0	1200	0.33
48F1806	MOV07301DVA	300	390	25.0	1200	0.44

10 mm SERIES

Stock No.	Type	Maximum Ratings: Continuous Voltage AC Vrms	Continuous Voltage DC V	Transient Energy 10 x 1000us J	Transient Peak Current 8 x 20us A	1-49
48F1807	MOV10140WA	14	18	2.0	500	0.61
48F1808	MOV10250DYA	25	31	3.5	500	0.61
48F1809	MOV10300DZA	30	38	4.5	500	0.61
48F1810	MOV10131EDA	130	175	14.0	2500	0.56
48F1811	MOV10151EFA	150	200	17.0	2500	0.56
48F1812	MOV10231CTA	230	300	35.0	2500	0.56

14mm SERIES

48F1813	MOV14170AJA	17	22	5.0	1000	0.64
48F1814	MOV14200AKA	20	26	6.0	1000	0.64
48F1815	MOV14250ECA	25	31	7.0	1000	0.64
48F1816	MOV14131ELA	130	175	38.0	4500	0.58
48F1817	MOV14151CWA	150	200	45.0	4500	0.58
48F1818	MOV14181CXA	180	230	55.0	4500	0.58

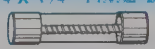
20mm SERIES

48F1819	MOV20140APA	14	18	13.0	2000	1.49
48F1820	MOV20200AQA	20	26	20.0	2000	1.49
48F1821	MOV20131FXA	130	175	70.0	6500	1.23
48F1822	MOV20151FZA	150	200	80.0	6500	1.23
48F1823	MOV20211DRA	210	270	110.0	6500	1.23
48F1824	MOV20251DFA	250	330	130.0	6500	1.23

(39870) (ne39870)

BUSS® ¼ x 1" & ¼ x 1¼" FUSES

BUSS® MDL ¼ x 1¼" TIME-DELAY FUSES

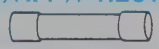


Glass, dual-element. UL listed, CSA certified, rated 250V; except * denotes UL recognized, 32V. **Sold in multiples of 5.**

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
27F822	MDL-1/100	1/100	2.25	2.10	2.03	1.88
27F823	MDL-1/32	1/32	2.25	2.10	2.03	1.88
27F824	MDL-1/16	1/16	1.77	1.65	1.59	1.47
27F825	MDL-1/10	1/10	1.77	1.65	1.59	1.47
28F045	MDL-1/8	1/8	1.57	1.47	1.42	1.31
27F826	MDL-15/100	15/100	1.77	1.65	1.59	1.47
27F569	MDL-3/16	3/16	1.77	1.65	1.59	1.47
27F827	MDL-2/10	2/10	1.77	1.65	1.59	1.47
28F046	MDL-1/4	1/4	1.02	0.96	0.92	0.85
27F828	MDL-3/10	3/10	1.14	1.07	1.03	0.95
27F570	MDL-3/8	3/8	1.14	1.07	1.03	0.95
27F829	MDL-4/10	4/10	1.14	1.07	1.03	0.95
27F830	MDL-1/2	1/2	0.93	0.87	0.84	0.78
27F831	MDL-6/10	6/10	1.03	0.96	0.93	0.86
27F571	MDL-3/4	3/4	1.03	0.96	0.93	0.86
27F832	MDL-8/10	8/10	1.03	0.96	0.93	0.86
27F833	MDL-1	1	0.93	0.87	0.84	0.78
27F572	MDL-1 2/10	1 2/10	0.93	0.87	0.84	0.78
27F834	MDL-1 1/4	1 1/4	0.84	0.78	0.75	0.70
27F573	MDL-1 1/2	1 1/2	0.84	0.78	0.75	0.70
27F835	MDL-1 6/10	1 6/10	0.93	0.87	0.84	0.78
27F574	MDL-1 8/10	1 8/10	0.93	0.87	0.84	0.78
27F836	MDL-2	2	0.84	0.78	0.75	0.70
27F837	MDL-2 1/2	2 1/2	0.93	0.87	0.84	0.78
27F838	MDL-2 8/10	2 8/10	0.93	0.87	0.84	0.78
27F576	MDL-3	3	0.84	0.78	0.75	0.70
27F839	MDL-3 2/10	3 2/10	0.93	0.87	0.84	0.78
27F577	MDL-3 1/2	3 1/2	0.93	0.87	0.84	0.78
27F840	MDL-4	4	0.84	0.78	0.75	0.70
27F841	MDL-5	5	0.84	0.78	0.75	0.70
94F2247	MDL-6	6	0.84	0.78	0.75	0.70
27F842	MDL-6 1/4	6 1/4	0.93	0.87	0.84	0.78
27F578	MDL-7	7	0.93	0.87	0.84	0.78
27F843	MDL-8	8	0.84	0.78	0.75	0.70
27F844	MDL-10*	10	1.10	1.03	0.99	0.92
27F579	MDL-12*	12	1.23	1.15	1.10	1.02
28F047	MDL-15*	15	1.10	1.03	0.99	0.92
27F845	MDL-20*	20	1.09	1.02	0.98	0.91
27F846	MDL-25*	25	1.23	1.15	1.10	1.02
27F847	MDL-30*	30	1.23	1.15	1.10	1.02

(2325) (de02126)

BUSS® GBB ¼ x 1-¼" RECTIFIER FUSES



Very fast-acting, ceramic. Rated 250VAC, 125VDC.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
27F2477	GBB-1	1	5.16	4.85	4.54	4.23
27F2478	GBB-2	2	5.03	4.73	4.42	4.12
27F2479	GBB-3	3	5.16	4.85	4.54	4.23
27F2480	GBB-4	4	4.80	4.51	4.22	3.93
27F2481	GBB-5	5	6.77	6.13	5.76	5.49
27F2486	GBB-10	10	4.19	3.94	3.68	3.43
30F178	GBB-15	15	4.95	4.65	4.35	4.05
30F179	GBB-20	20	4.80	4.51	4.22	3.93

(2324) (de02125)

BUSS® MDL-V ¼ x 1¼ TIME-DELAY FUSES

Glass, rated 250V. Leads: 1.5 x 0.032" (38.10 x 0.813) diameter. Available from 1/16-8A. UL listed, CSA certified.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
91F4777	MDL-V-1/8	1/8	1.96	1.84	1.73	1.61
91F4778	MDL-V-1/2	1/2	1.27	1.19	1.11	1.04
91F4779	MDL-V-1	1	1.27	1.19	1.11	1.04
91F4780	MDL-V-1-1/2	1 1/2	1.14	1.07	1.00	0.94
91F4781	MDL-V-2	2	1.14	1.07	1.00	0.94
91F4782	MDL-V-2-1/4	2 1/4	1.16	1.08	1.04	0.97
91F4783	MDL-V-3	3	1.14	1.07	1.00	0.94
91F4784	MDL-V-3-2/10	3 2/10	1.28	1.20	1.12	1.04
91F4785	MDL-V-4	4	1.14	1.07	1.00	0.94
91F4786	MDL-V-5	5	1.14	1.07	1.00	0.94
91F4787	MDL-V-6	6	1.14	1.07	1.00	0.94
91F4788	MDL-V-7	7	1.28	1.20	1.12	1.04
91F4789	MDL-V-10	10	1.46	1.37	1.28	1.19
91F4790	MDL-V-12	12	1.50	1.41	1.32	1.23

(2420) (ne02127)

BUSS® AGC-V ¼ x 1¼" FAST-ACTING 250V FUSES

Glass. Leads: 1.5 x 0.032" (38.10 x 0.813) diameter.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
91F4762	AGC-V-1/4	1/4	0.83	0.78	0.73	0.68
91F4763	AGC-V-1/2	1/2	0.66	0.62	0.58	0.54
91F4764	AGC-V-3/4	3/4	0.69	0.65	0.61	0.57
91F4765	AGC-V-1	1	0.58	0.54	0.51	0.47
91F4766	AGC-V-1-1/2	1 1/2	0.66	0.62	0.58	0.54
91F4767	AGC-V-2-1/4	2 1/4	0.66	0.62	0.58	0.54
91F4768	AGC-V-3	3	0.58	0.54	0.51	0.47
91F4769	AGC-V-4	4	0.66	0.62	0.58	0.54
91F4770	AGC-V-5	5	0.66	0.62	0.58	0.54
91F4771	AGC-V-6	6	0.66	0.62	0.58	0.54
91F4772	AGC-V-7	7	0.69	0.65	0.61	0.57
91F4773	AGC-V-8	8	0.58	0.54	0.51	0.47
91F4774	AGC-V-9	9	0.58	0.54	0.51	0.47
91F4775	AGC-V-10	10	0.58	0.54	0.51	0.47
91F4776	AGC-V-12	12	1.01	0.86	0.76	0.72

(2323) (de02124)

BUSS® AGC ¼ x 1¼ FAST-ACTING FUSES

Glass. Rated 250V, except * denotes 32V. Available from 1/100-35A. UL listed, CSA certified; UL recognized 12-30A.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
28F050	AGC-1/32	1/32	3.95	3.68	3.55	3.29
28F051	AGC-1/16	1/16	1.21	1.13	1.09	1.01
93F9190	AGC-1/10	1/10	1.13	1.05	1.02	0.94
28F052	AGC-1/8	1/8	1.13	1.05	1.02	0.94
93F9191	AGC-175/1000	175/1000	1.21	1.13	1.09	1.01
27F581	AGC-2/10	2/10	1.21	1.13	1.09	1.01
27F580	AGC-3/16	3/16	1.21	1.13	1.09	1.01
28F053	AGC-1/4	1/4	0.60	0.56	0.54	0.50
27F582	AGC-3/10	3/10	0.65	0.61	0.59	0.54
28F054	AGC-3/8	3/8	0.70	0.66	0.63	0.59
28F055	AGC-1/2	1/2	0.40	0.38	0.36	0.34
27F583	AGC-6/10	6/10	0.46	0.43	0.41	0.38
28F056	AGC-3/4	3/4	0.41	0.38	0.37	0.34
28F057	AGC-1	1	0.32	0.30	0.29	0.27
27F584	AGC-1 1/4	1 1/4	0.56	0.50	0.47	0.45
28F058	AGC-1 1/2	1 1/2	0.56	0.50	0.47	0.45
27F585	AGC-1 3/4	1 3/4	0.56	0.50	0.47	0.45
28F059	AGC-2	2	0.32	0.30	0.29	0.27
27F586	AGC-2 1/4	2 1/4	0.56	0.50	0.47	0.45
27F587	AGC-2 1/2	2 1/2	0.49	0.44	0.42	0.40
27F880	AGC-3	3	0.32	0.30	0.29	0.27
27F881	AGC-4	4	0.40	0.38	0.36	0.34
27F882	AGC-5	5	0.40	0.38	0.36	0.34
27F883	AGC-6	6	0.40	0.38	0.36	0.34
27F884	AGC-7 1/2	7 1/2	0.49	0.44	0.42	0.40
96F6101	AGC-8	8	0.32	0.30	0.29	0.27
27F885	AGC-10	10	0.32	0.30	0.29	0.27
94F2182	AGC-12	12	0.38	0.35	0.34	0.31
27F886	AGC-15	15	0.32	0.30	0.29	0.27
28F048	AGC-20	20	0.32	0.30	0.29	0.27
27F887	AGC-25	25	0.32	0.30	0.29	0.27
27F888	AGC-30	30	0.32	0.30	0.29	0.27
27F588	AGC-35	35	0.38	0.35	0.34	0.31

(2419) (ne02123)

BUSS® ABC ¼ x 1¼" FAST-ACTING FUSES

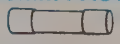
Ceramic. Rated 250V, UL listed, CSA certified; except * denotes 125V, UL recognized

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
94F2176	ABC-¼	¼	0.92	0.85	0.82	0.76
94F2175	ABC-½	½	0.92	0.85	0.82	0.76
93F9193	ABC-¾	¾	0.92	0.85	0.82	0.76
98F2211	ABC-1	1	0.82	0.76	0.74	0.68
27F952	ABC-2	2	0.76	0.71	0.68	0.63
27F953	ABC-3	3	0.76	0.71	0.68	0.63
94F2177	ABC-4	4	0.82	0.76	0.74	0.68
27F954	ABC-5	5	0.70	0.65	0.63	0.58
27F955	ABC-6	6	0.74	0.69	0.67	0.62
94F2463	ABC-7	7	0.40	0.37	0.36	0.33
27F956	ABC-8	8	0.70	0.65	0.63	0.58
27F957	ABC-10	10	0.70	0.65	0.63	0.58
27F958	ABC-12	12	0.70	0.65	0.63	0.58
27F959	ABC-15	15	0.70	0.65	0.63	0.58
27F960	ABC-20	20	1.11	1.04	1.00	0.93
27F961	ABC-25*	25	1.18	1.10	1.06	0.98
27F962	ABC-30*	30	1.11	1.04	1.00	0.93

(2422) (ne02125)

TIME DELAY/TIME-LAG AND FAST-ACTING FUSES

BUSS® GDA 5 x 20mm FAST-ACTING FUSES



Ceramic, high-interrupting, rated 250V. Meet IEC 127, Sheet 1.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
46F056	GDA-100MA	100mA	1.61	1.50	1.44	1.34
46F061	GDA-315MA	315mA	1.61	1.50	1.44	1.34
46F063	GDA-500MA	500mA	1.49	1.39	1.34	1.24
46F064	GDA-630MA	630mA	1.49	1.39	1.34	1.24
46F066	GDA-1A	1.0	1.49	1.39	1.34	1.24
46F068	GDA-1.6A	1.6	1.49	1.39	1.34	1.24
46F069	GDA-2A	2.0	1.49	1.39	1.34	1.24
46F070	GDA-2.5A	2.5	1.49	1.39	1.34	1.24
46F071	GDA-3.15A	3.15	1.49	1.39	1.34	1.24
46F072	GDA-4A	4.0	1.49	1.39	1.34	1.24
46F073	GDA-5A	5.0	1.49	1.39	1.34	1.24
46F074	GDA-6.3A	6.3	1.49	1.39	1.34	1.24

(2314) (de02105)

BUSS® GDB 5 x 20mm FAST-ACTING FUSES

Glass, 250V, low-interrupting. Meet IEC 127, Sheet 2. Other amps available.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
46F077	GDB-50MA	50mA	1.93	1.81	1.74	1.61
46F079	GDB-80MA	80mA	1.93	1.81	1.74	1.61
46F080	GDB-100MA	100mA	1.93	1.81	1.74	1.61
46F082	GDB-160MA	160mA	1.41	1.31	1.26	1.17
46F083	GDB-200MA	200mA	1.41	1.31	1.26	1.17
46F084	GDB-250MA	250mA	1.41	1.31	1.26	1.17
46F085	GDB-315MA	315mA	1.41	1.31	1.26	1.17
46F086	GDB-400MA	400mA	1.41	1.31	1.26	1.17
46F087	GDB-500MA	500mA	1.18	1.10	1.06	0.98
46F088	GDB-630MA	630mA	1.18	1.10	1.06	0.98
46F089	GDB-800MA	800mA	1.18	1.10	1.06	0.98
46F090	GDB-1A	1.0	1.18	1.10	1.06	0.98
46F091	GDB-1.25A	1.25	1.18	1.10	1.06	0.98
46F092	GDB-1.6A	1.6	1.18	1.10	1.06	0.98
46F093	GDB-2A	2.0	1.18	1.10	1.06	0.98
46F094	GDB-2.5A	2.5	1.18	1.10	1.06	0.98
46F095	GDB-3.15A	3.15	1.18	1.10	1.06	0.98
46F096	GDB-4A	4.0	1.18	1.10	1.06	0.98
46F097	GDB-5A	5.0	1.18	1.10	1.06	0.98
46F098	GDB-6.3A	6.3	1.18	1.10	1.06	0.98

(2315) (de02106)

BUSS® GMA 5 x 20mm FAST-ACTING FUSES

Glass, rated 250V, except * denotes 125V. UL listed, CSA certified.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
46F027	GMA-63MA	63mA	1.23	1.15	1.10	1.02
46F028	GMA-100MA	100mA	1.23	1.15	1.10	1.02
46F029	GMA-125MA	125mA	1.23	1.15	1.10	1.02
46F030	GMA-200MA	200mA	0.75	0.70	0.68	0.63
46F031	GMA-250MA	250mA	0.75	0.70	0.68	0.63
46F034	GMA-500MA	500mA	0.75	0.70	0.68	0.63
46F035	GMA600MA	600mA	0.75	0.70	0.68	0.63
46F037	GMA-750MA	750mA	0.75	0.70	0.68	0.63
46F038	GMA-800MA	800mA	0.75	0.70	0.68	0.63
46F039	GMA-1	1.0	1.11	1.01	0.95	0.90
46F042	GMA-1.5	1.5	1.11	1.01	0.95	0.90
46F043	GMA2A	2.0	0.75	0.70	0.68	0.63
46F044	GMA-2.5	2.5	1.11	1.01	0.95	0.90
46F045	GMA3A	3.0	0.75	0.70	0.68	0.63
46F046	GMA4A*	4.0	0.75	0.70	0.68	0.63
46F047	GMA-5*	5.0	1.11	1.01	0.95	0.90
46F048	GMA6A*	6.0	0.75	0.70	0.68	0.63
46F049	GMA7A*	7.0	0.75	0.70	0.68	0.63
46F050	GMA8A*	8.0	0.75	0.70	0.68	0.63
46F051	GMA10A*	10.0	0.75	0.70	0.68	0.63
46F052	GMA15A*	15.0	0.75	0.70	0.68	0.63

(2317) (de02108)

AT NEWARK, THERE'S ALWAYS MORE THAN MEETS THE EYE!
CONTACT US FOR PRODUCTS NOT LISTED IN THIS CATALOG.

BUSS® GMC 5 x 20mm TIME-LAG FUSES

High-interrupting, glass. Rated 250V, except * denotes 125V. UL listed, CSA certified.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
87F1592	GMC-250MA	250mA	1.89	1.76	1.70	1.57
87F1593	GMC-500MA	500mA	1.19	1.11	1.07	1.00
87F1594	GMC750MA	750mA	1.19	1.11	1.07	1.00
87F1595	GMC-800MA	800mA	1.19	1.11	1.07	1.00
87F1596	GMC-1A	1.0	1.19	1.11	1.07	1.00
87F1597	GMC-1.5A	1.5	1.19	1.11	1.07	1.00
87F1598	GMC-1.6A	1.6	1.19	1.11	1.07	1.00
87F1599	GMC-2A	2.0	1.19	1.11	1.07	1.00
87F1600	GMC-2.5A	2.5	1.19	1.11	1.07	1.00
87F1601	GMC-3A	3.0	1.19	1.11	1.07	1.00
87F1603	GMC-4A*	4.0	1.19	1.11	1.07	1.00
87F1604	GMC-5A*	5.0	1.19	1.11	1.07	1.00
87F1605	GMC-6A*	6.0	1.19	1.11	1.07	1.00
87F1606	GMC-7A*	7.0	1.19	1.11	1.07	1.00
87F1607	GMC-8A*	8.0	1.19	1.11	1.07	1.00
87F1608	GMC-10A*	10.0	1.19	1.11	1.07	1.00

(2318) (de02109)

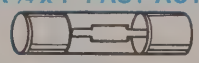
BUSS® GDC 5 x 20mm TIME-LAG FUSES

Glass, rated 250V. Meet IEC 127, Sheet 3.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
46F099	GDC-32MA	32mA	2.40	2.24	2.16	2.00
46F101	GDC-50MA	50mA	2.40	2.24	2.16	2.00
46F105	GDC-125MA	125mA	2.40	2.24	2.16	2.00
46F106	GDC-160MA	160mA	2.31	2.16	2.08	1.92
46F107	GDC-200MA	200mA	2.31	2.16	2.08	1.92
46F108	GDC-250MA	250mA	2.31	2.16	2.08	1.92
46F110	GDC-400MA	400mA	2.31	2.16	2.08	1.92
46F111	GDC-500MA	500mA	1.49	1.39	1.34	1.24
46F113	GDC-800MA	800mA	1.49	1.39	1.34	1.24
46F114	GDC-1A	1.0	1.49	1.39	1.34	1.24
46F115	GDC-1.25A	1.25	1.49	1.39	1.34	1.24
46F116	GDC-1.6A	1.6	1.49	1.39	1.34	1.24
46F117	GDC-2A	2.0	1.49	1.39	1.34	1.24
46F118	GDC-2.5A	2.5	1.49	1.39	1.34	1.24
46F120	GDC-4A	4.0	1.49	1.39	1.34	1.24
46F121	GDC-5A	5.0	1.49	1.39	1.34	1.24
46F122	GDC-6.3A	6.3	1.49	1.39	1.34	1.24

(2316) (de02107)

BUSS® AGX ¼ x 1" FAST-ACTING FUSES

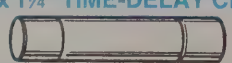


Glass. Rated 250V, UL listed, CSA certified; except * denotes 125V UL listed.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
27F977	AGX-1/16	1/16	1.50	1.40	1.35	1.25
27F978	AGX-1/10	1/10	1.29	1.20	1.16	1.08
27F979	AGX-1/8	1/8	1.14	1.06	1.03	0.95
27F982	AGX-2/10	2/10	1.93	1.75	1.64	1.57
27F981	AGX-1/4	1/4	0.74	0.69	0.66	0.61
27F983	AGX-3/8	3/8	0.74	0.69	0.66	0.61
27F984	AGX-4/10	4/10	0.74	0.69	0.66	0.61
27F985	AGX-1/2	1/2	0.74	0.69	0.66	0.61
27F987	AGX-1	1	0.51	0.48	0.46	0.43
27F988	AGX-1 1/2	1 1/2	0.75	0.68	0.64	0.61
27F989	AGX-2	2	0.39	0.36	0.35	0.32
94F2187	AGX-3*	3	0.51	0.48	0.46	0.43
28F049	AGX-5*	5	0.43	0.40	0.38	0.35

(2326) (de02130)

BUSS® MDA ¼ x 1¼" TIME-DELAY CERAMIC FUSES



Rated 250V, except * denotes 125V. UL listed, CSA certified; † UL recognized.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
94F6768	MDA-1/2	1/2	2.16	2.02	1.94	1.80
27F589	MDA-1	1	1.69	1.58	1.53	1.41
96F6102	MDA-1-1/4	1 1/4	2.16	2.02	1.94	1.80
94F2102	MDA-1-1/2	1 1/2	2.16	2.02	1.94	1.80
27F590	MDA-2	2	1.69	1.58	1.53	1.41
28F013	MDA-2 1/2	2 1/2	1.54	1.44	1.39	1.29
28F015	MDA-3	3	1.28	1.19	1.15	1.06
28F017	MDA-4	4	1.28	1.19	1.15	1.06
28F018	MDA-5	5	1.28	1.19	1.15	1.06
94F6771	MDA-6	6	1.61	1.50	1.44	1.34
28F019	MDA-6 1/4	6 1/4	1.61	1.50	1.44	1.34
28F020	MDA-7	7	1.61	1.50	1.44	1.34
28F021	MDA-10	10	1.28	1.19	1.15	1.06
27F591	MDA-12	12	1.28	1.19	1.15	1.06
28F022	MDA-15	15	1.28	1.19	1.15	1.06
28F023	MDA-20†	20	1.28	1.19	1.15	1.06
28F024	MDA-25*†	25	1.61	1.50	1.44	1.34
28F025	MDA-30*†	30	1.28	1.19	1.15	1.06

(2421) (ne02128)

BUSS® TYPE KTK 13/32 x 1½" FAST-ACTING FERRULE TYPE FUSES

Melamine, Limitron® fuses rated 600V for circuits with high available short-circuit currents. Interrupting rating: 100,000AIC. UL listed, CSA certified.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
28F190	KTK-1/10	1/10	11.66	10.55	9.92	9.45
50F2991	KTK 2/10	2/10	12.17	11.01	10.36	9.86
28F193	KTK-1/4	¼	10.26	9.29	8.73	8.32
28F195	KTK-1/2	½	10.08	9.13	8.58	8.17
28F197	KTK-1	1	9.08	8.22	7.73	7.36
28F198	KTK-11/2	1½	10.26	9.29	8.73	8.32
28F199	KTK-2	2	9.08	8.22	7.73	7.36
28F200	KTK-3	3	9.08	8.22	7.73	7.36
28F201	KTK-4	4	9.55	8.64	8.13	7.74
28F202	KTK-5	5	9.08	8.22	7.73	7.36
28F203	KTK-6	6	9.08	8.22	7.73	7.36
94F2098	KTK-7	7	11.03	9.99	9.39	8.95
28F204	KTK-8	8	9.55	8.64	8.13	7.74
28F205	KTK-10	10	9.08	8.22	7.73	7.36
94F2456	KTK-12	12	10.99	9.95	9.36	8.91
28F206	KTK-15	15	9.08	8.22	7.73	7.36
28F207	KTK-20	20	9.39	8.50	7.99	7.61
28F208	KTK-25	25	9.39	8.50	7.99	7.61
28F209	KTK-30	30	9.39	8.50	7.99	7.61

(2329) (de02145)

BUSS® FNQ SERIES 13/32 x 1½" TIME-DELAY FUSES

For motor control transformers and other circuits with inrush currents. Rated 500V. Interrupting rating: 10,000AIC. UL listed, CSA certified, except * denotes UL listed only.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
27F2454	FNQ-1/4	¼	15.03	13.61	12.80	12.19
27F2455	FNQ-1/2	½	11.74	10.63	10.00	9.52
27F2456	FNQ-1	1	11.21	10.15	9.54	9.09
27F2457	FNQ-1-6/10	1 6/10	11.74	10.63	10.00	9.52
27F2458	FNQ-2	2	11.21	10.15	9.54	9.09
27F2459	FNQ-2-1/2	2½	11.74	10.63	10.00	9.52
96F6104	FNQ-3	3	11.21	10.15	9.54	9.09
27F2460	FNQ-3-2/10	3 2/10	11.74	10.63	10.00	9.52
27F2461	FNQ-4	4	11.21	10.15	9.54	9.09
27F2462	FNQ-5	5	11.21	10.15	9.54	9.09
96F6105	FNQ-6	6	11.21	10.15	9.54	9.09
94F2207	FNQ-7	7	11.74	10.63	10.00	9.52
27F2464	FNQ-8	8	11.21	10.15	9.54	9.09
27F2465	FNQ-10	10	11.21	10.15	9.54	9.09
27F2466	FNQ-12	12	11.21	10.15	9.54	9.09
27F2467	FNQ-15	15	11.21	10.15	9.54	9.09
94F2204	FNQ-20*	20	11.21	10.15	9.54	9.09
94F2205	FNQ-25*	25	11.21	10.15	9.54	9.09
96F6106	FNQ-30*	30	11.21	10.15	9.54	9.09

(2350) (de02220)

BUSS® TYPE FNM 13/32 x 1½" TIME-DELAY FUSES

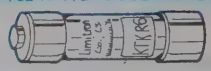
Fiber, dual-element Fusetron® fuses for circuits with high inrush currents. Rated 250V, except * 125V and † 32V. Fuse opening time: 4 hours, minimum @ 110% load; 1 hour, maximum @ 135% load. UL listed, CSA certified.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
27F863	FNM-1/2	½	4.48	4.06	3.82	3.64
94F2516	FNM-6/10	6/10	4.48	4.06	3.82	3.64
27F864	FNM-1	1	4.22	3.82	3.59	3.42
27F866	FNM-2	2	3.89	3.52	3.31	3.15
27F872	FNM-2 1/2	2½	4.40	3.98	3.74	3.56
96F6103	FNM-3	3	4.06	3.68	3.46	3.29
27F867	FNM-3 2/10	3/10	4.17	3.78	3.55	3.38
27F868	FNM-4	4	4.06	3.68	3.46	3.29
27F869	FNM-5	5	3.89	3.52	3.31	3.15
27F873	FNM-6 1/4	6¼	4.17	3.78	3.55	3.38
94F2203	FNM-7	7	4.17	3.78	3.55	3.38
27F874	FNM-8	8	4.06	3.68	3.46	3.29
27F870	FNM-10	10	3.89	3.52	3.31	3.15
27F875	FNM-12*	12	4.40	3.98	3.74	3.56
27F876	FNM-15*	15	3.89	3.52	3.31	3.15
98F1097	FNM-20†	20	4.06	3.68	3.46	3.29
94F2202	FNM-30†	30	4.06	3.68	3.46	3.29

(2333) (de02149)

ALL PRODUCTS LISTED ARE STOCKED.

BUSS® TYPE KTK-R 13/32 x 1½" FAST-ACTING MIDGET FUSES



Melamine, Limitron® 600V fuses with 200,000AIC rejection. Class CC. UL listed for branch circuit protection. CSA certified.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
87F1609	KTK-R-½	½	10.48	9.49	8.92	8.50
87F1610	KTK-R-1	1	9.99	9.05	8.51	8.10
87F1611	KTK-R-1½	1½	9.99	9.05	8.51	8.10
87F1612	KTK-R-2	2	9.99	9.05	8.51	8.10
87F1613	KTK-R-3	3	9.99	9.05	8.51	8.10
87F1615	KTK-R-5	5	9.99	9.05	8.51	8.10
87F1522	KTK-R-6	6	10.48	9.49	8.92	8.50
87F1524	KTK-R-8	8	10.68	9.67	9.09	8.66
87F1526	KTK-R-10	10	9.99	9.05	8.51	8.10
87F1528	KTK-R-15	15	9.99	9.05	8.51	8.10
94F2243	KTK-R-20	20	9.99	9.05	8.51	8.10
95F3862	KTK-R-25	25	10.68	9.67	9.09	8.66
95F3863	KTK-R-30	30	9.99	9.05	8.51	8.10

(2330) (de02146)

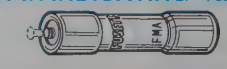
BUSS® FNQ-R SERIES 13/32 x 1½" TIME-DELAY REJECTION FUSES

Built-in rejection feature for control transformers and motor branch circuits. Designed to UL 508 and NEC 430-72 standards. Interrupting rating: 200,000AIC. Rated 600V. Ratings available from ¼-10A.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
87F2358	FNQ-R-¼	¼	13.34	12.08	11.36	10.82
87F2359	FNQ-R-½	½	11.92	10.79	10.15	9.67
87F2361	FNQ-R-1	1	11.63	10.53	9.90	9.43
87F2363	FNQ-R-1½	1½	11.88	10.75	10.11	9.63
87F2352	FNQ-R-2½	2½	13.34	12.08	11.36	10.82
87F2353	FNQ-R-3	3	11.88	10.75	10.11	9.63
87F2355	FNQ-R-5	5	11.88	10.75	10.11	9.63
95F3877	FNQ-R-6	6	13.34	12.08	11.36	10.82
87F2356	FNQ-R-7½	7½	14.12	12.78	12.02	11.45
95F3876	FNQ-R-8	8	13.34	12.08	11.36	10.82
87F2359	FNQ-R-12	12	11.92	10.79	10.15	9.67
91F6000	FNQ-R-15	15	11.92	10.79	10.15	9.67
91F6001	FNQ-R-20	20	12.39	11.22	10.55	10.04
91F6002	FNQ-R-25	25	12.39	11.22	10.55	10.04
91F6003	FNQ-R-30	30	12.39	11.22	10.55	10.04

(2351) (de02221)

BUSS® FNA PIN INDICATING 13/32 x 1½" FUSES

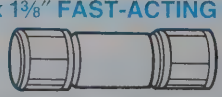


Time-delay fuses for use in electronic circuits with high inrush currents. Silver-plated indicating pin for positive signal activation. UL listed, CSA certified. Mount in **type HPF-C** panel-mount holder; *order separately below.* Ratings available up to 30A; *contact your local Newark sales office.*

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
250-VOLT FUSES						
28F332	FNA-1/2	½	7.99	7.24	6.80	6.48
125-VOLT FUSES						
28F335	FNA-1	1	7.24	6.55	6.16	5.87
28F339	FNA-1 6/10	1 6/10	8.44	7.64	7.18	6.84
28F341	FNA-2	2	8.26	7.48	7.03	6.70
28F345	FNA-3	3	8.39	7.60	7.14	6.80
28F349	FNA-4 1/2	4½	11.83	11.24	9.00	8.71
28F350	FNA-5	5	8.26	7.48	7.03	6.70
96F6107	FNA-6	6	10.12	9.17	8.62	8.21
28F356	FNA-10	10	8.26	7.48	7.03	6.70
HPF-C PANEL-MOUNT FUSE HOLDER						
28F028	HPF-C	...	7.39	6.94	6.50	6.05

(2347) (de02217)

BUSS® BBS 13/32 x 1⅜" FAST-ACTING FERRULE FUSES



For control, gaseous vapor fixture, HID ballasts, electronic circuits. Fuses available from 2/10 - 5A. Voltage rating: 600 VAC. UL listed, CSA certified.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
70B8498	BBS-1	1	3.75	3.40	3.19	3.04
94F2502	BBS-2	2	4.00	3.62	3.40	3.24
70B1128	BBS-3	3	4.00	3.62	3.40	3.24

(2373) (de03464)

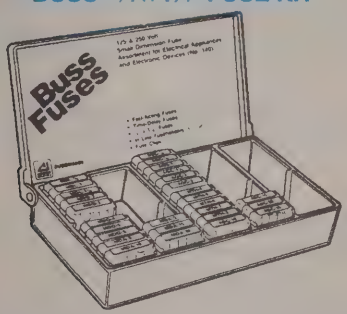
CHIP FUSE KIT

NEW

Chip fuse kit contains an assortment of Bussmann chip fuses. Includes the 1608FF package, and, 3216FF, 3216LV, and 3216CP packages. Ampere ratings: from 250mA to 4A. Voltage ratings range from 32 to 125 volts. Provides a convenient assortment which design engineers can use to test for the protection of electronic components.

48F3959 Type CHIPKIT1. **Each** **165.00**
(35775) (ne35775)

BUSS® ¼ x 1¼" FUSE KIT



140-fuse assortment includes ½A to 30A fuses, plus 2 fuse holders, fuseclips and 1 fuse puller. Rugged nylon case with positive closure. Ideal for factory or field-service use.

89F1893 Type 140. **Each** **154.07**
(2327) (de02143)

BUSS® 270-PIECE FUSE KIT

Diverse kit contains 59 different products including 270 fuses: ¼ x 1¼" and 5 x 20mm fuses in the ⅛ to 30A range; small dimension 125V and 250V fuses; fast-acting, time-delay and pigtail-lead fuses; 7 fuse holders and fuse clips. Clear-plastic case. Comes with complete application and cross-reference data.

87F2357 Type 270. **Each** **369.23**
(2331) (de02147)

BUSS® 5 x 20mm FUSE KIT

220-piece kit contains 5 x 20mm fuses in 630mA to 10A range, plus 2 fuse holders, 2 fuse blocks and 1 fuse puller. Tough, yellow case with positive closure. Ideal for factory or field-service use.

95F3864 Type 220. **Each** **265.73**
(2332) (de02148)

AUTO FUSE HOLDERS

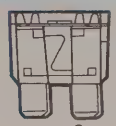
HHD

In-line holders for blade-type auto fuses. Rated 30A. #12-gauge lead wire attached.

Stock No.	Type	Description	1-49	50-99	100-249	250-499
97F7607	HHD	For ATC® Fuses	1.53	1.44	1.34	1.25

(2375) (de03469)

BUSS® AUTOMOTIVE FUSES



ATC®

ATC® SERIES BLADE-TYPE AUTO FUSES

Color-coded by amp rating. 32VDC, UL listed.

Stock No.	Type	Color/Amps	1-99	100-499	500-999	1000-2499
97F7596	ATC-3 VIOLET	Violet/3	0.61	0.55	0.52	0.49
97F7598	ATC-5 TAN	Tan/5	0.59	0.54	0.51	0.48
97F7599	ATC-7 1/2 BROWN	Brown/7½	0.61	0.55	0.52	0.49
97F7600	ATC-10 RED	Red/10	0.59	0.54	0.51	0.48
97F7601	ATC-15 BLUE	Blue/15	0.59	0.54	0.51	0.48
97F7602	ATC-20 YELLOW	Yellow/20	0.59	0.54	0.51	0.48
97F7603	ATC-25 WHITE	White/25	0.59	0.54	0.51	0.48
97F7604	ATC-30 GREEN	Green/30	0.59	0.54	0.51	0.48

(2374) (de03468)

BUSS® GLR SERIES FAST-ACTING IN-LINE FUSES

300V-rated fuses for fluorescent fixtures. UL listed, CSA certified. Mount in **type A** fuse holder with push-in wire termination or **HLR** with pre-attached 6" (152.40), #18-gauge leads; *order fuse holders separately below.*

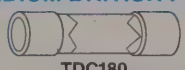
Stock No.	Type	Amps	1-49	50-99	100-249	250-499
28F302	GLR-1 1/2	1½	1.67	1.51	1.42	1.35
28F304	GLR-2	2	1.67	1.51	1.42	1.35
28F308	GLR-5	5	1.67	1.51	1.42	1.35
28F034	GLR-10	10	1.74	1.58	1.48	1.41

FUSE HOLDERS FOR GLR SERIES

Stock No.	Type	Description	1-49	50-99	100-249	250-499
28F032	HLR	Holder & Leads	1.37	1.27	1.23	1.14

(2349) (de02219)

¼ x 1" FAST/MEDIUM BRITISH PLUG TOP FUSE



TDC180

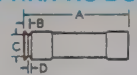
Ceramic. Rated 240V. Weight: 2.5g. **Sold in packages of 5.**

Stock No.	Type	Amps	1-49	50-99
52F7560	TDC180-3A	3	1.07	0.97
52F7561	TDC180-5A	5	1.07	0.97
52F7562	TDC180-10A	10	1.07	0.97
52F7563	TDC180-13A	13	1.07	0.97

(2491) (ne08879)

BUSS® FUSES AND FUSE HOLDERS

BUSS® FRN/FRS DUAL-ELEMENT TIME-DELAY FUSES



0-60 Amps

70-100 Amps

For rejection fuse clips or ordinary fuse clips. Fit existing fused equipment. Fusetron® fuse link element handles heavy overloads, short circuits and has a thermal cutout element for light overloads. Interrupt rating: 200,000A RMS symmetrical. UL listed, CSA certified.

0-60 AMP FUSE DIMENSIONS

Type	Amp Rating	A	B	C	D
FRN-R	0-30	2″	5/32″	3/8″	5/64″
	35-60	3″	3/16″	5/8″	3/32″
FRS-R	0-30	5″	3/16″	5/8″	3/32″
	35-60	5½″	¼″	7/8″	3/32″

70-100 AMP FUSE DIMENSIONS

FRN-R	70-100	5⅞″	½″	23/64″	9/32″
FRS-R	70-100	7⅞″	½″	23/64″	9/32″

FRN-R SERIES 250V FUSES

Available from ½A to 100A; *contact your local Newark sales office.*

Stock No.	Type	Amps	1-49	50-99	100-249	250-299
28F250	FRN-R1	1	5.97	5.41	5.08	4.84
28F253	FRN-R2	2	5.71	5.17	4.86	4.63
94F2210	FRNR-3	3	5.48	4.96	4.67	4.45
28F256	FRN-R4	4	5.48	4.96	4.67	4.45
28F257	FRN-R5	5	5.24	4.74	4.46	4.25
28F258	FRN-R6-1/4	6¼	5.79	5.25	4.93	4.70
94F2213	FRNR-7	7	5.86	5.31	4.99	4.75
28F259	FRN-R8	8	5.48	4.96	4.67	4.45
28F260	FRN-R10	10	5.24	4.74	4.46	4.25
28F262	FRN-R15	15	4.24	3.84	3.61	3.44
28F264	FRN-R20	20	4.24	3.84	3.61	3.44
28F265	FRN-R25	25	4.24	3.84	3.61	3.44
28F266	FRN-R30	30	4.24	3.84	3.61	3.44
28F267	FRN-R35	35	7.75	7.01	6.60	6.28
28F268	FRN-R40	40	7.75	7.01	6.60	6.28
28F270	FRN-R50	50	7.75	7.01	6.60	6.28
28F271	FRN-R60	60	7.75	7.01	6.60	6.28
28F275	FRN-R100	100	17.45	15.80	14.86	14.15

FRS-R SERIES FUSETRON® 600V FUSES

Available from 1A to 100A; *contact your local Newark sales office.*

27F2403	FRS-R2	2	11.39	10.31	9.70	9.23
90F6102	FRS-R-3	3	10.59	9.59	9.02	8.59
27F2406	FRS-R4	4	10.59	9.59	9.02	8.59
27F2407	FRS-R5	5	10.59	9.59	9.02	8.59
94F2447	FRSR-6	6	10.59	9.59	9.02	8.59
27F2408	FRS-R6-1/4	6¼	11.12	10.07	9.47	9.02
94F2448	FRSR-7	7	11.12	10.07	9.47	9.02
27F2409	FRS-R8	8	10.59	9.59	9.02	8.59
27F2411	FRS-R10	10	10.59	9.59	9.02	8.59
94F2529	FRSR-12	12	10.59	9.59	9.02	8.59
27F2412	FRS-R15	15	9.41	8.52	8.01	7.63
27F2413	FRS-R20	20	9.41	8.52	8.01	7.63
27F2414	FRS-R25	25	9.41	8.52	8.01	7.63
27F2415	FRS-R30	30	9.41	8.52	8.01	7.63
27F2416	FRS-R35	35	16.14	14.61	13.74	13.09
27F2417	FRS-R40	40	16.14	14.61	13.74	13.09
94F2446	FRSR-45	45	16.14	14.61	13.74	13.09
27F2418	FRS-R50	50	16.14	14.61	13.74	13.09
27F2419	FRS-R60	60	16.14	14.61	13.74	13.09
27F2420	FRS-R100	100	33.39	30.23	28.43	27.07

(2334) (de02150)

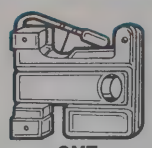
BUSS® SC SERIES FERRULE FUSES

For branch circuits and supplementary protection. 13/32″ fuse diameter; length varies with electrical rating. NOTE: 1-3A fuses are non-time delay; 6-60A are time delay. All rated 300VAC. Interrupting rating: 100,000AIC. UL listed, Class G. CSA certified.

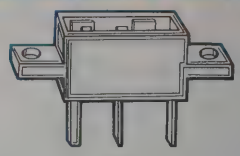
Stock No.	Type	Amps	Length	1-49	50-99	100-249	250-499
27F2421	SC-1	1	1 5/16″	5.17	4.68	4.40	4.19
27F2422	SC-3	3	1 5/16″	5.17	4.68	4.40	4.19
95F3886	SC-5	5	1 5/16″	4.86	4.40	4.14	3.94
27F2423	SC-6	6	1 5/16″	4.86	4.40	4.14	3.94
27F2424	SC-10	10	1 5/16″	4.86	4.40	4.14	3.94
27F2425	SC-15	15	1 5/16″	3.57	3.24	3.04	2.90
27F2426	SC-20	20	1 13/32″	3.75	3.40	3.19	3.04
27F2427	SC-25	25	1 5/8″	8.57	7.76	7.30	6.95
27F2428	SC-30	30	1 5/8″	6.68	6.05	5.69	5.42
27F2429	SC-40	40	2¼″	7.41	6.71	6.31	6.01
27F2430	SC-50	50	2¼″	8.39	7.60	7.14	6.80
27F2431	SC-60	60	2¼″	7.26	6.57	6.18	5.89

(2348) (de02218)

GMT SERIES FAST-ACTING INDICATING FUSES



GMT



HLT

Indicating fuses are designed for telecommunications, computer and control circuit applications. Feature visual spring indication and alarm circuit activation. UL recognized, 125VAC, 60VDC. Mount in **HLT, HLS** fuseholders; *order below.*

Stock No.	Type	Color	1-49	50-99	100-249	250-499
28F315	GMT-18/100A	Yellow	3.33	3.02	2.84	2.84
28F316	GMT-1/4A	Violet	3.17	2.87	2.70	2.70
28F317	GMT-1/2A	Red	3.00	2.71	2.55	2.55
28F319	GMT-3/4A	Brown	3.33	3.02	2.84	2.84
28F320	GMT-1A	Gray	3.15	2.85	2.68	2.68
28F321	GMT-1 1/3A	White	3.00	2.71	2.55	2.55
28F322	GMT-2A	Orange	3.17	2.87	2.70	2.70
28F323	GMT-3A	Blue	3.00	2.71	2.55	2.55
28F324	GMT-5A	Green	3.00	2.71	2.55	2.55
28F325	GMT-7 1/2A	Blk/White	3.33	3.02	2.84	2.84
28F326	GMT-10A	Red/White	3.15	2.85	2.68	2.68
95F5184	GMT-12A	Yellow/Grn	2.31	2.09	1.97	1.97

FUSEHOLDERS FOR GMT FUSES

Stock No.	Type	Description	1-49	50-99	100-249	250-499
28F360	HLT	Panel-Mount	2.49	2.32	2.24	2.24
95F3885	HLS	PC-Board	3.05	2.87	2.68	2.68

(2336) (de02190)

BUSS® FW SERIES HIGH-SPEED SEMICONDUCTOR FUSES

High-speed fuses protect SCRs, diodes and other semiconductor devices. Available in 4 voltage ratings: 150, 250, 500, 750VAC; ampere ratings 1 to 1000A. Partial listing shown; *contact your local Newark sales office for additional ratings.*

FWX SERIES 250-VOLT FUSES

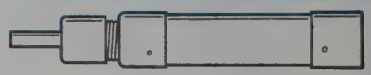
Stock No.	Type	Amps	1-49	50-99	100-249	250-499
95F3871	FWX-20A14F	20	9.95	9.00	8.47	8.06
95F3873	FWX-30A	30	9.95	9.00	8.47	8.06
95F3874	FWX-60A	60	34.68	31.40	29.52	28.12
95F3875	FWX-100A	100	45.22	40.94	38.50	36.67

FWH SERIES 500-VOLT FUSES

50F2992	FWH50A	50	27.04	24.48	23.02	21.92
50F3613	FWH-60A	60	27.04	24.48	23.02	21.92
50F3614	FWH-80A	80	32.97	29.85	28.07	26.73
94F2217	FWH-100A	100	32.97	29.85	28.07	26.73
94F2218	FWH-125A	125	50.37	45.61	42.88	40.84
94F2450	FWH-150A	150	50.37	45.61	42.88	40.84
94F2219	FWH-200A	200	50.37	45.61	42.88	40.84

(2423) (ne02223)

TYPE 70 INDICATING TELECOMM FUSES

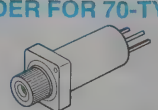


Visual-indicating fuses with remote electrical alarm capability. Color-coded for amp ratings. UL recognized. 125VAC, 300VDC ratings. *Order fuseholder separately on this page.*

Stock No.	Type	Color Code	1-49	50-99	100-249	250-499
28F387	70G-1/2	Red	4.64	4.20	3.95	3.76
28F390	70A-1-1/3	White	4.88	4.42	4.16	3.96
28F127	70B-2	Orange	5.22	4.72	4.44	4.23
28F140	70D-5	Green/Blk	5.28	4.78	4.50	4.28

(2338) (de02192)

FUSEHOLDER FOR 70-TYPE FUSES



Panel-mount holder, rated 300V, 12A. Copper alloy, tin-plated terminals. UL recognized. UL94V-O flammability rating. Comes with 2 screws.

Stock No.	Type	1	2-5	6-12	13-25
70B8422	15087	28.15	25.49	23.97	22.82

(2339) (de02193)

FUSE HOLDERS

HTB SERIES FUSE HOLDERS

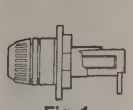


Fig. 1

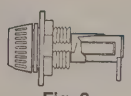


Fig. 2

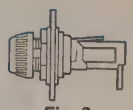


Fig. 3

Fig. 4

Designed to international specifications per IEC #257 and accept either 5 x 20mm (**suffix M**) or ¼ x 1¼" (**suffix I**) fuses. All models are panel-mountable. Rear panel-mount version allows pre-wiring before insertion in panel. UL recognized, CSA certified, SEMKO approved, VDE approved. Additional models available; *contact your local Newark sales office.*

Stock No.	Type	Fig.	Desc.‡	1-49	50-99	100-249	250-499
46F3253	HTB-22I	1	L/P,S/C	2.61	2.45	2.29	2.13
46F3254	HTB-22M	1	L/P,S/C	2.61	2.45	2.29	2.13
46F3257	HTB-26I	1	L/P,Q/C	2.92	2.74	2.57	2.39
46F3255	HTB-24I*	1	L/P,S/C	2.61	2.45	2.29	2.13
46F3259	HTB-28I*	1	L/P,Q/C	2.92	2.74	2.57	2.39
46F3261	HTB-42I	2	H/P,S/C	2.61	2.45	2.29	2.13
46F3263	HTB-44I*	2	H/P,S/C	2.61	2.45	2.29	2.13
46F3265	HTB-46I	2	H/P,Q/C	2.92	2.74	2.57	2.39
46F3267	HTB-48I*	2	H/P,Q/C	2.92	2.74	2.57	2.39
46F3269	HTB-62I	3	F/P,S/C	2.61	2.45	2.29	2.13
46F3271	HTB-64I*	3	F/P,S/C	2.61	2.45	2.29	2.13
46F3273	HTB-66I	3	F/P,Q/C	2.92	2.74	2.57	2.39
87F1551	HTB-34I*	4	L/P,S/C	2.61	2.45	2.29	2.13
87F1553	HTB-36I	4	L/P,Q/C	2.92	2.74	2.57	2.39
87F1555	HTB-38I*	4	L/P,Q/C	2.92	2.74	2.57	2.39

* Right angle rear terminal ‡L/P = Low-Profile; S/C = Solder Connect; Q/C = Quick Connect H/P = High-Profile; F/P = Front Panel; S = Solder.

(2357) (de02510)

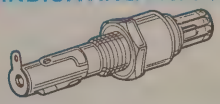
HKP SERIES ¼" FUSE HOLDERS

Accept ¼" x 1¼" fuses with bayonet type knobs in panels to 0.313" (7.95) thick. Rated 30A/250V except (*) 15A/250V. UL recognized, CSA certified.

Stock No.	Type	Description	1-49	50-99	100-249	250-499
27F820	HKP	Solder Terminal	2.06	1.94	1.81	1.69
28F031	HKP-HH*	¼" Q.C.	2.51	2.36	2.20	2.05
27F592	HKP-CC	Short Behind Panel	2.85	2.68	2.51	2.34
27F819	HJM	For ¼" x 1" fuse	2.61	2.45	2.29	2.13

(2354) (de02507)

HK SERIES LAMP INDICATING ¼ x 1-¼" FUSE HOLDERS

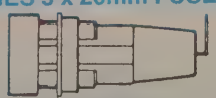


Vibration-resistant holders fit panels to 3⁄16" (4.76) thick. All have bayonet knobs except **types HKL-X, HKX** have flat-sided knobs. Incandescent lamp, except **HKL, HKL-X** are neon. Rated 20A, except **HKL, HKL-X** are 15A. **Type HKL** is UL recognized, CSA certified.

Stock No.	Type	Volts	Lens Color	1-49	50-99	100-249	250-499
27F813	HKL	90-250	Clear	9.39	8.82	8.25	7.68
27F814	HKL-X	90-250	Clear	11.50	10.80	10.11	9.41
27F812	HKR	22-30	Amber	18.15	17.05	15.95	14.85
28F451	HKT	13-22	Amber	18.15	17.05	15.95	14.85
28F453	HKX	22-33	Amber	18.98	17.83	16.68	15.53

(2344) (de02203)

HTC SERIES 5 x 20mm FUSE HOLDER


HTC-35M

Panel-mount fuse holder saves space. **Type HTC-35M** rated 6.3A, 250V. UL recognized, CSA certified, SEMKO approved. Meet IEC 257, PC2 standards.

Stock No.	Type	Description	1-49	50-99	100-249	250-499
93F5379	HTC-35M	Threaded Cap	2.36	2.22	2.07	1.93

(2359) (de02512)

PCB BLOCK FUSE HOLDERS

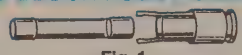


Fig. 1

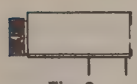


Fig. 2

Fig. 3

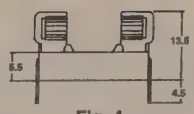


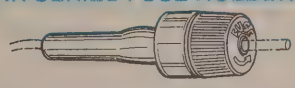
Fig. 4

Designed to UL, CSA, SEMKO standards. **HB type** accepts 5 x 20mm (suffix **M**) or ¼ x 1¼" (suffix **I**) fuse with proper carrier. **HTC type** accepts 5 x 20mm fuses. Rated 250V. †V/M=vertical mount; H/M=horizontal mount.

Stock No.	Type	Fig.	Description†	1-49	50-99	100-249	250-499
46F021	HBV-I	1	V/M w/pins	3.65	3.43	3.20	2.98
46F022	HBV-M	1	V/M w/pins	3.78	3.55	3.32	3.09
46F023	HBW-I	1	V/M	3.78	3.55	3.32	3.09
93F5382	HTC-45M	2	V/M	2.59	2.43	2.28	2.12
46F019	HBH-I	3	H/M	3.05	2.87	2.68	2.50
95F1467	HTC-15M	4	Fuse Block	0.72	0.68	0.63	0.59

(2358) (de02511)

HR SERIES FUSE HOLDERS



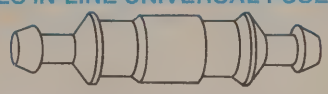
Holders mount in panels up to 0.313" thick. Bayonet-type knob. Rated 30 amps, 32V. 8" (203.20) of #14 wire pre-attached. Universal model holds ¼" x ⅞ to 1¼" fuses.

FUSE HOLDERS WITH 14 LEADS

Stock No.	Type	Fuse Size	1-49	50-99	100-249	250-499
95F799	HRK	¼ x ⅞-1¼"	2.86	2.43	2.15	2.06

(2343) (de02201)

HHB SERIES IN-LINE UNIVERSAL FUSE HOLDERS



Versatile nylon fuse holders for dry environments. Designed for ¼" diameter x ⅞ to 1¼" fuses. Accept #12 to #18-gauge wire. Rated 30 amps @ 32V. **Type HHB** has in-line crimp terminal; **HHB-R408** has red, 8" (203.20) #14 leads.

Stock No.	Type	1-49	50-99	100-249	250-499
46F3290	HHB	1.22	1.15	1.07	1.00
95F1460	HHB-R408	1.60	1.45	1.36	1.30

(2342) (de02200)

Electronic Terms and Measurements

Resistance
Opposition to current flow. Basic unit is the ohm (Ω).

1 kilohm – kΩ	1,000 or $1x10^3$ ohms
1 Megohm – MΩ	1,000,000 or $1x10^6$ ohms

Voltage
Electromotive force. Basic unit is the volt (V).

1 millivolt – mV	1/1,000 or $1x10^{-3}$ volt
1 microvolt – µV	1/1,000,000 or $1x10^{-6}$ volts

Current
Movement of electricity. Basic unit is the ampere (A).

1 milliampere – mA	1/1,000 or $1x10^{-3}$ ampere
1 microampere – µA	1/1,000,000 or $1x10^{-6}$ ampere

Frequency
Number of cycles per second. Basic unit is the hertz (Hz).

1 kilohertz – kHz	1,000 or $1x10^3$ hertz
1 Megahertz – MHz	1,000,000 or $1x10^6$ hertz
1 Gigahertz – GHz	1,000,000,000 or $1x10^9$ hertz

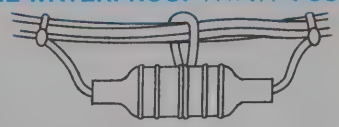
Time
Basic unit is the second (s).

1 millisecond – ms	1/1,000 or $1x10^{-3}$ second
1 microsecond – µs	1/1,000,000 or $1x10^{-6}$ second
1 nanosecond – ns	1/1,000,000,000 or $1x10^{-9}$ second

(38570) (Filler01)

FUSE HOLDER, FUSEBLOCKS AND CLIPS

HFB IN-LINE WATERPROOF ¼ x 1¼" FUSE HOLDER

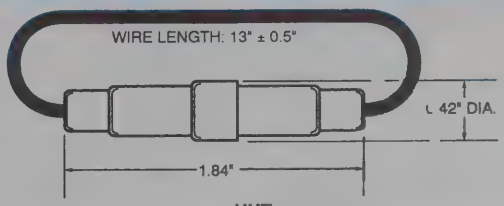


Withstands water, salt spray, ultraviolet light and ozone. Accepts #12 to #18-gauge wire. Yellow for high visibility. 30 amps @ 32V.

Stock No.	Type	1-49	50-99	100-249	250-499
46F3289	HFB	5.11	4.80	4.49	4.18

(2341) (de02199)

IN-LINE FUSE HOLDER FOR 5x15mm OR 5x20mm FUSES



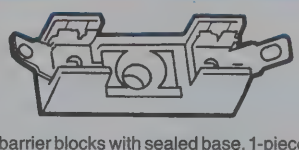
HHT

Type HHT is a black 2-piece screw-together assembly in-line fuse holder. Supplied with 13" long red 16AWG wire. Electrical ratings: 5 x 15mm rated 5 amps at 32V; 5 x 20mm rated 10 amps at 32V.

Stock No.	Type	1-49	50-99	100-249	250-499
91F4760	HHT	1.73	1.63	1.52	1.42

(13233) (ne09889)

S-8000 ¼ x 1¼" FUSE BLOCKS



Individual thermoplastic barrier blocks with sealed base, 1-piece mounting clips. Multiple units may be subdivided to desired number of poles. UL recognized, CSA certified.

Stock No.	Type	Poles	Clip	1-49	50-99	100-249	250-499
25-AMP SOLDER TERMINALS							
46F001	S-8001-1	1	0°	1.08	1.01	0.95	0.88
46F002	S-8002-1	1	40°	1.08	1.01	0.95	0.88
87F1573	S-8002-12	12	40°	12.03	11.30	10.57	9.84
20-AMP ¼" QUICK-CONNECT TERMINALS							
46F005	S-8201-1	1	0°	1.08	1.01	0.95	0.88
46F006	S-8202-1	1	40°	1.08	1.01	0.95	0.88
87F1574	S-8202-12	12	40°	12.03	11.30	10.57	9.84
30-AMP SCREW TERMINALS							
46F008	S-8301-1	1	0°	2.08	1.95	1.83	1.70
98F6158	S-830102	2	0°	5.55	5.03	4.73	4.50
87F1575	S-8301-12	12	0°	22.19	20.85	19.50	18.16

(2345) (de02204)

FUSE CLIPS

Fig. 1

Fig. 2

Fig. 3

Fig. 4

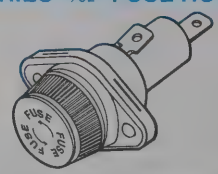
Fig. 5

Tin-plate, spring bronze except (*) silver-plate beryllium copper.

Stock No.	Type	Fig.	Description	1-99	100-499	500-999	1000-2499
27F595	1A1119-10	1	PCB, 3AG	0.29	0.27	0.25	0.23
95F1464	1A1907-06*	1	PCB, 3AG	0.43	0.40	0.38	0.35
95F1465	1A4534-01	2	PCB, 3AG, Kicked Term.	0.23	0.22	0.20	0.19
90F6091	5956-16	3	Rivet/Eyelet, 13/32"	0.29	0.27	0.25	0.23
98F1954	1A339910	4	PCB, 5x20mm	0.07	0.07	0.06	0.06
95F1466	1A3400-09	5	PCB, 13/32"	0.65	0.61	0.57	0.53

(2356) (de02509)

HP SERIES 13/32" FUSE HOLDERS



For 13/32" diameter fuses in various lengths. 1-piece side terminal and threaded insert eliminates 2-piece solder fabrication. Combination ¼" quick-connect/solder terminals. **Type HPF** have screw-type knob; **type HPS** have bayonet knob.

Stock No.	Type	Rating	Fuse	1-12	13-30	31-60	61-99
94F2236	HPS	30A, 600V	13/32", 1½"	6.15	5.78	5.41	5.04
95F1462	HPF-RR	30A, 600V	KTK-R	7.62	7.16	6.70	6.24
94F6452	HPM	30A, 600V	13/32", Flange	13.33	12.52	11.72	10.91
46F3288	HPF-EE	15A, 300V	SC0 to 15	5.89	5.53	5.18	4.82
46F3285	HPF	30A, 600V	1½" long	4.49	4.22	3.94	3.67

(2355) (de02508)

HEB & HFA WATERPROOF IN-LINE FUSE HOLDERS

HEB HFA

For exposed locations. Copper crimp. Accept various wire sizes.

Stock No.	Type	Wire Range	Rated	1-49	50-99	100-249	250-499
HEB 13/32 x 1½" WATERPROOF FUSE HOLDERS							
95F800	HEB-AA	#12-8	30A @ 600V	10.56	8.98	7.95	7.59
95F1461	HEB-BB	#10-4	30A @ 600V	14.45	13.09	12.30	11.72
HFA ¼ x 1¼" WATERPROOF FUSE HOLDERS							
28F043	HFA	#16-12	20A @ 250V	14.19	13.33	12.47	11.61

(2377) (de03471)

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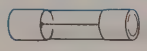
5 x 20mm FAST-ACTING FUSES

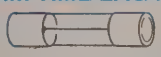


Fast-acting, 250V glass fuses. SEMKO approved through 6.3 amps; BSI approved 0.50 through 6.3 amps. Designed to IEC 127, Sheet 2. **Sold in packages of 10.**

Stock No.	Type	Amps	Per Pkg. 1-10	Per Pkg. 11-20
92N5114	MCFO5G-100MA	0.1	9.06	7.70
92N5115	MCFOFG-125MA	0.125	9.06	7.70
92N5116	MCFO5G-160MA	0.16	7.20	6.12
92N5117	MCFO5G-200MA	0.2	7.20	6.12
92N5118	MCFO5G-250MA	0.25	7.20	6.12
92N5119	MCFO5G-315MA	0.315	7.20	6.12
92N5120	MCFO5G-400MA	0.4	3.06	2.60
92N5121	MCFO5G-500MA	0.5	2.75	2.33
92N5122	MCFO5G-630MA	0.63	3.06	2.60
92N5123	MCFO5G-800MA	0.8	3.06	2.60
92N5124	MCFO5G-1A	1	2.75	2.33
92N5133	MCFO5G-1.25A	1.25	2.75	2.33
92N5129	MCF05G-1.6A	1.6	2.75	2.33
92N5125	MCFO5G-2A	2	2.75	2.33
92N5131	MCFO5G-2.5A	2.5	2.75	2.33
92N5134	MCFO5G-3.15A	3.15	2.75	2.33
92N5126	MCFO5G-4A	4	2.75	2.33
92N5127	MCFO5G-5A	5	2.75	2.33
92N5132	MCFO5G-6.3A	6.3	3.06	2.60
92N5128	MCFO5G-8A	8	2.75	2.33
92N5130	MCFO5G-10A	10	2.75	2.33

(16627) (ne10531)

5 x 20mm TIME LAG FUSES



250V glass fuses. UL recognized, SEMKO and BSI approved through 6.3 amps. Designed to IEC 127, Sheet 3. **Sold in packages of 10.**

Stock No.	Type	Amps	Per Pkg. 1-10	Per Pkg. 11-20
92N5135	MCFO6G-32MA	0.032	9.84	8.36
92N5136	MCFO6G-40MA	0.040	9.06	7.70
92N5137	MCFO6G-50MA	0.050	11.34	9.64
92N5138	MCFO6G-63MA	0.063	5.44	4.62
92N5139	MCFO6G-80MA	0.080	5.44	4.62
92N5140	MCFO6G-100MA	0.1	5.02	4.27
92N5141	MCFO6G-125MA	0.125	5.02	4.27
92N5142	MCFO6G-160MA	0.160	5.02	4.27
92N5143	MCFO6G-200MA	0.2	5.02	4.27
92N5144	MCFO6G-250MA	0.25	5.02	4.27
92N5145	MCFO6G-315MA	0.315	3.06	2.60
92N5146	MCFO6G-400MA	0.4	3.06	2.60
92N5147	MCFO6G-500MA	0.5	3.06	2.60
92N5148	MCFO6G-630MA	0.63	3.06	2.60
92N5149	MCFO6G-800MA	0.8	2.85	2.42
92N5150	MCFO6G-1A	1	2.85	2.42
92N5159	MCFO6G-1.25A	1.25	2.85	2.42
92N5154	MCFO6G-1.6A	1.6	2.95	2.51
92N5151	MCFO6G-2A	2	2.85	2.42
92N5156	MCFO6G-2.5A	2.5	2.85	2.42
92N5157	MCFO6G-3.15A	3.15	2.95	2.51
92N5152	MCF06G-4A	4	2.95	2.51
92N5153	MCFO6G-5A	5	2.95	2.51
92N5158	MCFO6G-6.3A	6.3	2.95	2.51
92N5155	MCFO6G-10A	10	3.06	2.60

(16630) (ne10532)

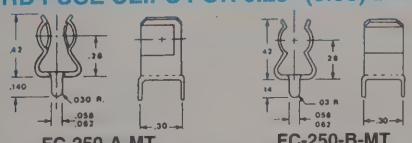
13/32" FUSE HOLDERS

For 13/32" diameter fuses in various lengths. 1-piece side terminal and threaded insert eliminates 2-piece solder fabrications. Combination ¼" quick-connect/solder terminals. Bayonet knob. **Sold individually.**

Stock No.	Type	Rating	Description	1-10	11-20
92N5197	MCHPS	30A, 600V	13/32 x 1½"	4.95	4.21

(16640) (ne10537)

PC BOARD FUSE CLIPS FOR 0.25" (6.35) DIA. FUSES



FC-250-A-MT FC-250-B-MT

Tin-plated brass. Matte finish. **Sold in packages of 100.**

Stock No.	Type	Per Pkg. 1-9	Per Pkg. 10-24	Per Pkg. 25-49
50N463	FC250-A-MT	16.41	14.36	13.33
50N464	FC250-B-MT	16.41	14.36	13.33

(9245) (de02841)

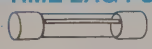
3AG FAST-ACTING FUSES

¼ x 1¼" glass fuses are UL listed and CSA certified through 6 amps. UL recognized 8 through 10 amps. Rated at 250V. **Sold in packages of 10.**

Stock No.	Type	Amps	Per Pkg 1-10	Per Pkg 11-20
92N5160	MCFO1G-250MA	0.25	5.96	5.06
92N5161	MCFO1G-300MA	0.3	6.47	5.50
92N5162	MCFO1G-375MA	0.375	4.92	4.18
92N5163	MCFO1G-500MA	0.5	4.40	3.74
92N5164	MCFO1G-750MA	0.75	4.40	3.74
92N5165	MCFO1G-1A	1	2.85	2.42
92N5175	MCFO1G-1.25A	1.25	2.85	2.42
92N5172	MCFO1G-1.6A	1.6	2.85	2.42
92N5166	MCFO1G-2A	2	2.85	2.42
92N5174	MCFO1G-2.5A	2.5	2.85	2.42
92N5167	MCFO1G-3A	3	2.85	2.42
92N5168	MCFO1G-4A	4	3.06	2.60
92N5169	MCFO1G-5A	5	3.06	2.60
92N5170	MCFO1G-6A	6	3.06	2.60
92N5171	MCFO1G-8A	8	3.21	2.73
92N5173	MCFO1G-10A	10	3.89	3.30

(16634) (ne10533)

3AG TIME LAG FUSES



¼ x 1¼" glass fuses for circuits with high-inductive surge. Rated 250V, except (†) denotes 32V maximum. UL listed, CSA certified through 6.25 amps; UL recognized 8 through 10 amps. **Sold in packages of 10.**

Stock No.	Type	Amps	Per Pkg. 1-10	Per Pkg. 11-20
92N5176	MCFO2G-125MA	0.125	17.55	14.92
92N5177	MCFO2G-300MA	0.3	5.23	4.45
92N5178	MCFO2G-400MA	0.4	5.13	4.36
92N5179	MCFO2G-500MA	0.5	5.13	4.36
92N5180	MCFO2G-800MA	0.8	5.13	4.36
92N5181	MCFO2G-1A	1	5.13	4.36
92N5187	MCFO2G-1.6A	1.6	5.13	4.36
92N5182	MCFO2G-2A	2	5.13	4.36
92N5189	MCFO2G-2.5A	2.5	5.13	4.36
92N5183	MCFO2G-3A	3	5.13	4.36
92N5184	MCFO2G-4A	4	6.16	5.24
92N5185	MCFO2G-5A	5	6.16	5.24
92N5190	MCFO2G-6.25A	6.25	6.32	5.37
92N5186	MCFO2G-8A	8†	6.47	5.50
92N5188	MCFO2G-10A	10†	5.23	4.45

(16635) (ne10534)

¼" FUSE HOLDERS

Accept ¼ x 1¼" fuses with bayonet-type knobs in panels to 0.313" (7.95) thick. Rated 30A/250V, except (*) 15A/250V. UL recognized, CSA certified. **Sold individually.**

Stock No.	Type	Description	1-10	11-20
92N5191	MCHKP	Solder Terminal	1.65	1.41
92N5192	MCHKP-HH*	¼" Q.C.	1.75	1.49

Q.C. = Quick Connect
(16636) (ne10535)

FUSE HOLDERS

Fig. 1 Fig. 2 Fig. 3

Designed to international specifications per IEC 257 and accept ¼ x 1¼" fuses. All models are panel mountable. UL recognized, CSA certified, VDE and SEMKO approved. **Sold individually.**

Stock No.	Type	Fig.	Description‡	1-10	11-20
92N5198	MCHTB-22I	1	L/P, S.C.	2.55	2.17
92N5195	MCHTB-28I	1	L/P, Q.C.	2.55	2.17
92N5193	MCHTB-44I	2	L/P, S.C.	2.55	2.17
92N5199	MCHTB-48I	2	H/P, Q.C.	2.55	2.17
92N5194	MCHTB-34I	3	L/P, S.C.	2.55	2.17
92N5196	MCHTB-36I	3	L/P, Q.C.	2.55	2.17

‡ L/P = Low-Profile; H/P = High-Profile; S.C. = Solder Connect; Q.C. = Quick Connect
(16638) (ne10536)

FUSE PULLERS

Fully-insulated, reinforced, high-dielectric plastic. Use on fuses up to 100A, 250V, and 60A. Test capacity from 100 to 600V, AC or DC. Color: yellow.

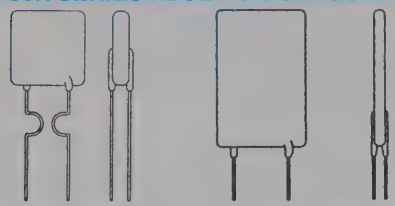
Stock No.	Type	Description	1-4
92N3778	2040	Midget for Small Fuses 9/32" to ½" Dia.; 5" Long	6.16
92N3779	2041	Pocket for 0 to 100A, 250V, and 600V; 7½" Long	10.30

(16642) (ne10539)

Littelfuse®

RESETTABLE FUSES

30R SERIES RESETTABLE FUSES



30R090-30R250 30R300-R900

30R series radial-leaded PTC resettable fuses. Voltage rating: 30V. Thermalset coating. Lead material: **type 30R090-250** tin-plated copper-clad steel; **type 30R300-900** tin-plated copper, 20 AWG (0.032″ dia.). Devices are marked with amperage rating, voltage rating and date code. Lead solderability meets MIL-STD-202, Method 208E.

Stock No.	Type	I_{hold} (A)	I_{trip} (A)	I_{sc} (A)	P_d max. (W)	1-49	50-99	100-249	250-499
85F270	30R090	0.90	1.80	40	0.6	0.61	0.51	0.45	0.40
85F271	30R110	1.10	2.20	40	0.7	0.61	0.51	0.45	0.40
85F272	30R135	1.35	2.70	40	0.8	0.61	0.51	0.45	0.40
85F273	30R160	1.60	3.20	40	0.9	0.63	0.53	0.47	0.41
85F274	30R185	1.85	3.70	40	1.0	0.67	0.56	0.50	0.44
85F275	30R250	2.50	5.00	40	1.2	0.71	0.60	0.53	0.47
85F276	30R300	3.00	6.00	40	2.0	0.76	0.63	0.56	0.49
85F277	30R400	4.00	8.00	40	2.5	0.80	0.66	0.59	0.52
85F278	30R500	5.00	10.00	40	3.0	0.84	0.70	0.62	0.55
85F279	30R600	6.00	12.00	40	3.5	0.88	0.73	0.65	0.58
85F280	30R700	7.00	14.00	40	3.8	0.92	0.77	0.68	0.60
85F281	30R800	8.00	16.00	40	4.0	0.97	0.81	0.71	0.63
85F282	30R900	9.00	18.00	40	4.2	1.03	0.86	0.76	0.67

I_{hold} = Hold Current: maximum current that the device will sustain for 4 hours minimum without switching at 20°C
I_{trip} = Trip Current: minimum current that will switch the device into a high resistance state at 20°C

(14127) (ne10252)

60R SERIES RESETTABLE FUSES

60R

60R series radial-leaded PTC resettable fuses. Voltage rating: 60V. Lead material: **type 60R010** tin-coated constantan, 24 AWG (0.020″ dia.); **type 60R017-40** tin-plated, copper-clad steel, 24 AWG (0.020″ dia.); **type 60R050-090**: tin-plated copper, 24 AWG (0.020″ dia.); **type 60R110-375**: tin-plated copper, 20 AWG (0.032″ dia.) Thermoset coating. Devices are marked with amperage rating, voltage rating and date code. Lead solderability meets MIL-STD-202, Method 208E.

Stock No.	Type	I_{hold} (A)	I_{trip} (A)	I_{sc} (A)	P_d max. (W)	1-49	50-99	100-249	250-499
85F253	60R010	0.10	0.20	40	0.38	0.50	0.42	0.37	0.33
85F254	60R017	0.17	0.34	40	0.48	0.55	0.45	0.40	0.36
85F255	60R020	0.20	0.40	40	0.41	0.55	0.45	0.40	0.36
85F256	60R025	0.25	0.50	40	0.45	0.55	0.45	0.40	0.36
85F257	60R030	0.30	0.60	40	0.49	0.55	0.45	0.40	0.36
85F258	60R040	0.40	0.80	40	0.56	0.57	0.47	0.42	0.37
85F259	60R050	0.50	1.00	40	0.77	0.59	0.49	0.43	0.38
85F260	60R065	0.65	1.30	40	0.88	0.61	0.51	0.45	0.40
85F261	60R075	0.75	1.50	40	0.92	0.61	0.51	0.45	0.40
85F262	60R090	0.90	1.80	40	0.99	0.63	0.53	0.47	0.41
85F263	60R110	1.10	2.20	40	1.50	0.65	0.54	0.48	0.42
85F264	60R135	1.35	2.70	40	1.70	0.65	0.54	0.48	0.42
85F265	60R160	1.60	3.20	40	1.90	0.67	0.56	0.50	0.44
85F266	60R185	1.85	3.70	40	2.10	0.69	0.58	0.51	0.45
85F267	60R250	2.50	5.00	40	2.50	0.76	0.63	0.56	0.49
85F268	60R300	3.00	6.00	40	2.80	0.80	0.66	0.59	0.52
85F269	60R375	0.75	7.50	40	3.20	0.80	0.66	0.59	0.52

I_{hold} = Hold Current: maximum current device will sustain for 4 hours minimum without switching at 20°C
I_{trip} = Trip Current: minimum current that will switch the device into a high resistance state at 20°C

(14128) (ne10253)

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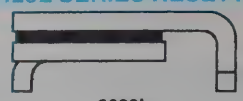
2029L AND 3425L SERIES RESETTABLE FUSES



2029L
3425L

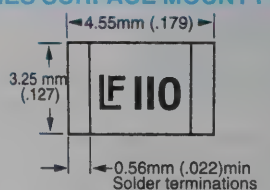
2029L and **3425L series** surface mount PTC resettable fuses. Lead solderability meets EIA specification RS186-9E. Lead material: tin-plated brass meets MIL-T-10727B.

Stock No.	Type	I_{hold} (A)	I_{trip} (A)	Volts (V)	I_{sc} (A)	P_d max. (W)	1-49	50-99	100-249	250-499
85F283	2029L030PR	0.3	0.6	60	10	1.7	0.79	0.76	0.75	0.74
85F286	2029L050PR	0.5	1.0	60	10	1.7	0.79	0.76	0.75	0.74
85F287	2029L075PR	0.75	1.5	30	40	1.7	0.79	0.76	0.75	0.74
85F288	2029L100PR	1.1	2.2	30	40	1.7	0.74	0.71	0.70	0.69
85F289	2029L125PR	1.25	2.5	15	40	1.7	0.74	0.71	0.70	0.69
85F290	3425L150DR	1.5	3.0	15	40	1.9	0.79	0.76	0.75	0.74
85F291	3425L200DR	2.0	4.0	15	40	1.9	0.79	0.76	0.75	0.74
85F292	3425L250DR	2.5	5.0	15	40	1.9	0.79	0.76	0.75	0.74

(14129) (ne10254)

1812L SERIES SURFACE MOUNT PTC FUSES

NEW



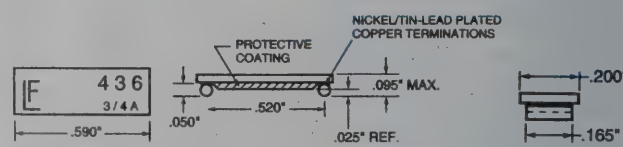
1812 Series resettable devices utilize a unique polymer-based: PTC positive temperature coefficient material to protect electrical circuits against overcurrent conditions.

Stock No.	Type	I_{hold} (A)	I_{trip} (A)	V_{max} (Vdc)	I_{max} (A)	$P_d$max. (W)	1-49	50-99
48F1825	1812020PR	0.20	0.40	30.0	10	0.8	0.52	0.50
48F1826	1812050PR	0.50	1.00	15.0	40	0.8	0.52	0.50
48F1827	1812075PR	0.75	1.50	13.2	40	0.8	0.52	0.50
48F1828	1812110PR	1.10	2.20	6.0	40	0.8	0.52	0.50

(35880) (ne35880)

SMTELECOM™ FUSES

NEW



Provide surface mount overcurrent protection from lightening and power cross. Meet UL 1459/1950 power cross requirements stand-alone. 250V operating current. Comply with Bellcorre GR-1089 CORE and FCC 47, part 68 surge specification. UL recognized.

Stock No.	Type	Ampere Rating (A)	Nom. Cold Resistance (Ω)	Nom. Melting I^2t (A^2sec.)	1-49	50-99
48F1829	0436.750PR	¾	0.850	1.143	0.71	0.67
48F1830	0436001.PR	1	0.475	2.606	0.71	0.67
48F1831	04361.25PR	1¼	0.305	3.658	0.71	0.67
48F1832	043601.5PR	1½	0.210	5.921	0.71	0.67

(35879) (ne35879)

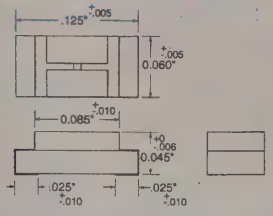
CONVERSION TABLE

Metric to U.S.	U.S. to metric
1 centimeter = 0.39 inch	1 inch = 2.54 centimeters
1 millimeter = 0.039 inch	1 inch = 25.4 millimeters
1 meter = 3.28 feet	1 foot = 0.305 meter
1 gram = 0.035 ounce	1 ounce = 28.35 grams
1 kilogram = 2.2 pounds	1 pound = 454 grams
1 milliliter = 0.034 fl. ounce	1 pound = 0.45 kilogram
1 liter = 0.264 gallon	1 fl. ounce = 29.57 milliliters
	1 gallon = 3.79 liters

(38573) (Fitter02)

ALF® II SMF VERY FAST-ACTING THIN-FILM FUSES

SMD

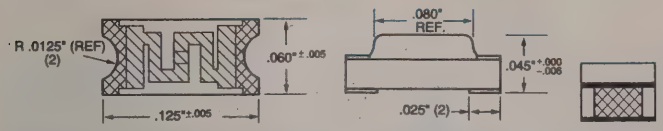


Surface-mount fuses. Supplied on 8mm reels for use with automatic placement equipment. All tape and reel specifications are in compliance with EIA-RS481 (equivalent to IEC 286 part 3). Call your local Newark sales office for complete line of fast-acting thin-film fuses.

Stock No.	Type	Amps	Volts	1-49	50-99	100-249	250-499
91F3134	R429.125	⅛	125	0.61	0.58	0.56	0.55
91F3135	R429.750	¾	63	0.61	0.58	0.56	0.55
66F4332	R429001	1	63	0.57	0.54	0.54	0.52
52F6601	R42902.5	2½	32	0.57	0.54	0.54	0.52
52F6602	R429003	3	32	0.57	0.54	0.54	0.52
52F6603	R429004	4	24	0.57	0.54	0.54	0.52
91F3136	R429005	5	24	0.61	0.58	0.56	0.55
91F3137	R429007	7	24	0.61	0.58	0.56	0.55

(9372) (ne06172)

1206 SMF SLO-BLO® THIN-FILM FUSES

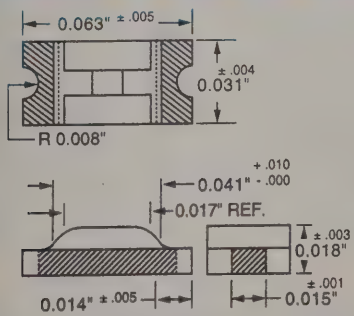


1206 SMF Slo-Blo® thin-film fuses with an operating temperature range of –55°C to +125°C. Interrupting ratings: 50A, 63V AC/DC (0.5A-1.5A); 35A, 63V AC/DC. Withstands 10-55 Hz per MIL-STD-202F, Method 201A and 10-2000 Hz at 20G's per MIL-STD-202F, Method 204D, Condition D. UL recognized, CSA certified.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
91F3945	R430.500	0.5	1.46	1.32	1.20	1.11
91F3946	R430001	1.0	1.46	1.32	1.20	1.11
91F3947	R43001.5	1.5	1.46	1.32	1.20	1.11
91F3948	R430002	2.0	1.46	1.32	1.20	1.11

(12548) (ne09879)

0603 SIZE VERY FAST-ACTING THIN-FILM FUSES

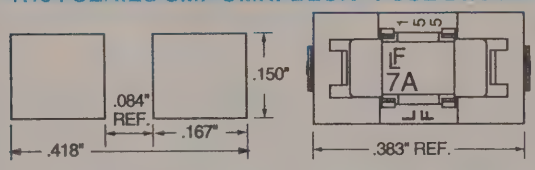


Super-small size saves valuable board space while providing power density. Ideal for circuit protection of disk drives, PCMCIA cards and cellular phones. Opening time: 4 hours min. @ 100%; 5 seconds max. @ 200%; 0.2 seconds max. @ 300%. Meets military specification: MIL-STD-202F. UL recognized, CSA certified.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
52F6597	431.500	½	0.50	0.48	0.48	0.46
52F6598	431.001	1	0.50	0.48	0.48	0.46
52F6599	43101.5	1½	0.50	0.48	0.48	0.46
52F6600	431002	2	0.50	0.48	0.48	0.46

(9386) (ne07075)

R154 SERIES SMF OMNI-BLOK® FUSE BLOCK



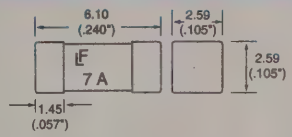
Permits quick and easy replacement of NANO²™ surface-mount fuses. Add **T** to the type number for Slo-Blo. *Contact your local Newark sales office for a complete line of Omni-blok® fuse blocks.*

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
66F4348	R154.750	¾	0.71	0.67	0.67	0.65
66F4349	R154001	1	0.71	0.67	0.67	0.65
52F9164	R154001T	1	2.77	2.65	2.42	2.31
52F9165	R15401.5T	1½	2.77	2.65	2.42	2.31
52F9166	R154002T	2	2.77	2.65	2.42	2.31
52F9167	R15402.5T	2½	2.77	2.65	2.42	2.31
52F9168	R154003T	3	2.77	2.65	2.42	2.31
52F9169	R15403.5T	3½	2.45	2.08	1.98	1.87
52F9170	R154004T	4	2.77	2.65	2.42	2.31
52F9171	R154005T	5	2.77	2.65	2.42	2.31

(9373) (ne06173)

NANO²™ SMF VERY FAST-ACTING FUSES

SMD



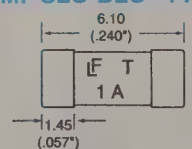
Subminiature surface-mount fuses. Blow time: 4 hours min. @ 100%; 5 seconds max. @ 200% (⅛-10A); 20 seconds max. @ 200% (15A). 125V. * denotes 65V. UL recognized, CSA certified.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
97F8278	R451.250	¼	0.79	0.65	0.58	0.51
97F8279	R451.500	½	0.79	0.65	0.58	0.51
97F8280	R451001	1	0.69	0.57	0.51	0.45
97F8281	R451002	2	0.69	0.57	0.51	0.45
97F8282	R451003	3	0.69	0.57	0.51	0.45
97F8284	R451005	5	0.66	0.63	0.62	0.60
97F8286	R451015	15*	1.08	0.90	0.79	0.70

(9366) (ne03500)

NANO²® SMF SLO-BLO® TYPE FUSES

NEW



Subminiature surface-mount fuses. Blow time: 4 hours minimum @ 100%; 60 seconds maximum. Voltage rating: 125V. UL recognized, CSA certified.

Stock No.	Type	Ampere Rating (A)	Nom. Cold Resistance (Ω)	Nom. Melting I^2t (A^2sec.)	1-49	50-99
48F2429	R452.375	⅜	1.60	0.101	1.14	1.09
48F2430	R452.500	½	0.940	0.240	1.14	1.09
48F2431	R452.750	¾	0.460	0.904	1.03	0.98
97F8287	R452001	1	0.270	1.98	1.18	0.89
97F8288	R45201.5	1½	0.116	3.65	0.94	0.90
97F8289	R452002	2	0.0760	8.20	0.94	0.90
97F8290	R45202.5	2½	0.0540	15.0	0.94	0.90
97F8291	R452003	3	0.0414	20.16	1.18	0.89
48F2432	R45203.5	3½	0.0224	26.53	1.03	0.98
97F7293	460-3340-010300	4	0.0186	34.40	0.57	0.44
97F8294	R452005	5	0.0136	53.72	0.93	0.78

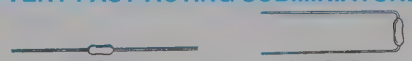
(35672) (ne35672)

IF YOU DON'T SEE THE PRODUCT YOU NEED LISTED HERE - CALL!

1-800-4-NEWARK

(1-800-463-9275)

PICO II® VERY FAST-ACTING SUBMINIATURE FUSES



251 Series 252 Series

250VAC version ultra-small fuses are encapsulated and epoxy coated. Blow time: 4 hours, minimum at 100%; 1 second maximum at 200%. Interrupting rating: 125V @ 300A DC, 50A AC, except (*) denotes 32V maximum. **251 series** axial leads. **252 series** radial leads. UL recognized, CSA certified. Body: 0.028 x 0.095″ (0.711 x 2.41). Leads: 1.5″ (38.1). **Also available in tape and reel.** *Order PC mount fuse holders separately on this page.*

251 SERIES AXIAL-LEAD FUSES

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
94F2146	251.062	1/16	0.99	0.75	0.70	0.62
28F128	251.125	1/8	0.88	0.67	0.63	0.55
28F129	251.250	1/4	0.88	0.67	0.63	0.55
28F130	251.375	3/8	0.88	0.67	0.63	0.55
28F131	251.500	1/2	0.88	0.67	0.63	0.55
28F132	251.750	3/4	0.69	0.52	0.49	0.43
28F133	251001	1	0.69	0.52	0.49	0.43
28F134	25101.5	1 1/2	0.69	0.52	0.49	0.43
28F135	251002	2	0.69	0.52	0.49	0.43
28F136	251003	3	0.69	0.52	0.49	0.43
28F137	251004	4	0.69	0.52	0.49	0.43
28F138	251005	5	0.69	0.52	0.49	0.43
96F7724	251007	7	0.69	0.52	0.49	0.43
20F604	251010	10	0.69	0.52	0.49	0.43
96F7725	251015	15*	1.36	1.03	0.97	0.84

252 SERIES RADIAL-LEAD FUSES

94F5922	252.062	1/16	0.99	0.75	0.70	0.62
27F1072	252.125	1/8	0.88	0.67	0.63	0.55
27F1073	252.250	1/4	0.88	0.67	0.63	0.55
27F1074	252.500	1/2	0.88	0.67	0.63	0.55
27F1075	252001	1	0.69	0.52	0.49	0.43
20F601	25201.5	1 1/2	0.69	0.52	0.49	0.43
27F1076	252002	2	0.69	0.52	0.49	0.43
20F602	252003	3	0.69	0.52	0.49	0.43
20F603	252004	4	0.69	0.52	0.49	0.43
27F1077	252005	5	0.69	0.52	0.49	0.43
94F5923	252007	7	0.69	0.52	0.49	0.43
20F605	252010	10	0.69	0.52	0.49	0.43

(9178) (de00225)

PICO II VERY FAST-ACTING FUSES

263 series subminiature fuses. Blow time: 4 hours, min. @ 100%; 1 second, max. @ 200%. Interrupting rating: 50A @ 250 VAC. Leads withstand 7 lb. axial pull. Green, UL94V0 epoxy-coated body withstands auto insertion, wave soldering, board washing. Operating range: –55° to +125°C. UL recognized, CSA certified.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
95F2033	263.062	1/16	1.33	1.11	0.98	0.87
95F2034	263.125	1/8	1.06	0.88	0.78	0.69
95F2035	263.250	1/4	1.06	0.88	0.78	0.69
95F2036	263.375	3/8	1.06	0.88	0.78	0.69
95F2037	263.500	1/2	1.06	0.88	0.78	0.69
95F2038	263.750	3/4	0.88	0.73	0.65	0.57
95F2025	263001	1	0.88	0.73	0.65	0.57
95F2026	26301.5	1 1/2	0.88	0.73	0.65	0.57
95F2027	263002	2	0.88	0.73	0.65	0.57
95F2028	26302.5	2 1/2	0.88	0.73	0.65	0.57
95F2029	263003	3	0.88	0.73	0.65	0.57
95F2031	263004	4	0.88	0.73	0.65	0.57
95F2032	263005	5	0.88	0.73	0.65	0.57

(9231) (de02032)

FUSE HOLDERS FOR PICO II® & MICROFUSE

Vertical Horizontal Chassis

All accept Microfuse and Pico II® fuses. Rated 5A at 125V maximum. **Type 281001** chassis mount fuse holder molded black thermoset body and push-on retaining nut. All others are PC mount holders white thermoplastic body.

Stock No.	Type	Mounting	Plating	1-49	50-99	100-249	250-499
28F106	281001	Chassis	Silver	1.91	1.59	1.41	1.25
20F615	281005	Vertical	Silver	2.14	1.78	1.58	1.40
20F616	281007	Horizontal	Silver	1.71	1.43	1.26	1.12
98F3951	281008	Vertical	Tin	1.78	1.48	1.31	1.16
95F832	281010	Horizontal	Tin	1.86	1.55	1.37	1.22

(9179) (de00226)

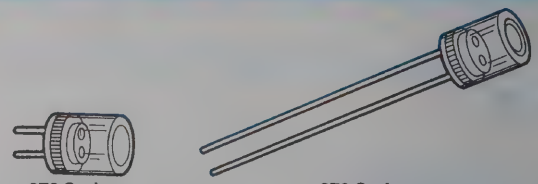
PICO II SLO-BLO® FUSES

473 series subminiature time-delay fuses. Blow time: 4 hours, minimum @ 100%; 60 seconds, maximum @ 200%. Interrupting rating: 50 amps @ 125 volts AC/DC. Withstand 10 lb. axial pull. Gold, UL94V0 epoxy-coated body withstands wave soldering, auto insertion, board washing. Operating range: –55° to +125°C. UL recognized, CSA certified. **Sold in packs of 5.**

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
95F2039	473.500	1/2	2.76	2.09	1.97	1.72
95F2041	473001	1	2.76	2.09	1.97	1.72
95F2042	47301.5	1 1/2	2.76	2.09	1.97	1.72
95F2043	473002	2	2.76	2.09	1.97	1.72
95F2044	47302.5	2 1/2	2.76	2.09	1.97	1.72
95F2045	473003	3	2.76	2.09	1.97	1.72
95F2047	473004	4	2.76	2.09	1.97	1.72
95F2048	473005	5	2.76	2.09	1.97	1.72
95F2049	473007	7	2.76	2.09	1.97	1.72

(9229) (de02029)

MICROFUSE VERY FAST-ACTING SUBMINIATURE FUSES



273 Series 279 Series

Subminiature fuses offer low resistance and high reliability for space-critical applications. Transparent cap for fuse status indication. Blow time: 100%, 4 hour minimum; 200%, 5 second maximum. Interrupting rating: 10,000 A at 125VAC/DC. **273 series** plug-in fuses have 0.170″ (4.32) leads. **279 series** have 1″ (25.4) radial leads. Both series available in metal housing. UL recognized, CSA certified. *Order fuse holders separately on this page.*

273 SERIES "PLUG-IN" STYLE FUSES

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
28F060	273.002	1/500	12.00	9.11	8.56	7.47
28F061	273.005	1/200	12.00	9.11	8.56	7.47
28F062	273.010	1/100	12.00	9.11	8.56	7.47
28F064	273.031	1/32	12.00	9.11	8.56	7.47
28F065	273.050	1/20	3.31	2.51	2.36	2.06
28F066	273.062	1/16	3.31	2.51	2.36	2.06
28F067	273.100	1/10	3.31	2.51	2.36	2.06
28F068	273.125	1/8	3.31	2.51	2.36	2.06
28F069	273.200	2/10	4.69	3.56	3.35	2.92
28F070	273.250	1/4	3.31	2.51	2.36	2.06
28F071	273.300	3/10	3.31	2.51	2.36	2.06
28F072	273.400	4/10	3.31	2.51	2.36	2.06
28F073	273.500	1/2	3.31	2.51	2.36	2.06
28F074	273.600	6/10	4.69	3.56	3.35	2.92
28F075	273.700	7/10	4.69	3.56	3.35	2.92
28F125	273.750	3/4	3.31	2.51	2.36	2.06
28F076	273.800	8/10	4.69	3.56	3.35	2.92
28F077	273001	1	3.31	2.51	2.36	2.06
28F078	27301.5	1 1/2	3.31	2.51	2.36	2.06
28F079	273002	2	3.31	2.51	2.36	2.06
28F080	273003	3	3.31	2.51	2.36	2.06
28F081	273004	4	3.31	2.51	2.36	2.06
28F082	273005	5	3.31	2.51	2.36	2.06

279 SERIES RADIAL-LEAD FUSES

28F088	279.050	1/20	6.30	4.78	4.49	3.92
28F090	279.100	1/10	6.30	4.78	4.49	3.92
28F092	279.200	2/10	6.30	4.78	4.49	3.92
28F093	279.250	1/4	6.30	4.78	4.49	3.92
28F100	279001	1	6.30	4.78	4.49	3.92
28F102	279002	2	6.30	4.78	4.49	3.92
28F103	279003	3	6.30	4.78	4.49	3.92
28F104	279004	4	6.30	4.78	4.49	3.92
28F105	279005	5	6.30	4.78	4.49	3.92

(9177) (de00224)

NEWARK STOCKS MORE PRODUCTS THAN ANY OTHER ELECTRONICS DISTRIBUTOR!

2AG FAST-ACTING SUBMINIATURE FUSES

225 Series 224 Series

Same performance as standard 3AG in ⅓ space. Amp rating at 110%, 4 hour min.; 135%, 1 hour max.; 200%, 1 second max. Interrupting ratings: 10,000A @ 125VAC (⅛-10A). 35A @ 250VAC (⅛-1A). 100A @ 250VAC (1.5-3.5A). UL listed, CSA certified.

225 SERIES CARTRIDGE STYLE FUSES

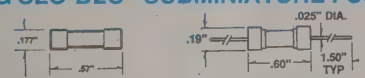
Stock No.	Type	Amps	Volts	1-49	50-99	100-249	250-499
46F1534	225.250	¼	250	0.78	0.59	0.56	0.49
46F1536	225.500	½	250	0.54	0.41	0.39	0.34
46F1537	225.750	¾	250	0.54	0.41	0.39	0.34
46F1538	225001	1	250	0.54	0.41	0.39	0.34

224 SERIES AXIAL-LEAD FUSES

50F3399	224.125	⅛	250	1.03	0.78	0.74	0.64
94F5920	224.250	¼	250	1.03	0.78	0.74	0.64
94F5879	224.500	½	250	0.79	0.60	0.56	0.49
50F3402	224001	1	250	0.79	0.60	0.56	0.49
50F3404	22401.5	1½	250	0.79	0.60	0.56	0.49
50F3403	224002	2	250	0.79	0.60	0.56	0.49
94F5921	224003	3	250	0.79	0.60	0.56	0.49
50F3406	22403.5	3½	250	0.79	0.60	0.56	0.49
50F3407	224004	4	125	0.79	0.60	0.56	0.49
50F3408	224005	5	125	0.79	0.60	0.56	0.49
50F3410	224007	7	125	0.79	0.60	0.56	0.49
50F3411	224008	8	125	0.79	0.60	0.56	0.49
50F3412	224010	10	125	0.79	0.60	0.56	0.49

(9181) (de00228)

2AG SLO-BLO® SUBMINIATURE FUSES



229 Series 230 Series

Same performance as standard 3AG design in less than ⅓ space. Amp rating at 110%, 4 hour min.; 135%, 1 hour max.; 200%, 3 second min., 1 minute max. Indicating version available. Interrupting ratings: 10,000A @ 125VAC (¼-3.5A). 400A @ 125VAC (4-7A). 35A @ 250VAC (¼-1A). 100A @ 250VAC (1.5-3.5A). UL listed, CSA certified.

229 SERIES CARTRIDGE STYLE FUSES

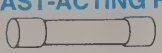
Stock No.	Type	Amps	Volts	1-49	50-99	100-249	250-499
46F3384	229.250	¼	250	0.65	0.49	0.46	0.41
46F3386	229.500	½	250	0.65	0.49	0.46	0.41
46F3387	229.750	¾	250	0.65	0.49	0.46	0.41
46F3388	229001	1	250	0.65	0.49	0.46	0.41

230 SERIES AXIAL-LEAD FUSES

50F3413	230.375	⅜	250	0.90	0.68	0.64	0.56
50F3414	230.500	½	250	0.90	0.68	0.64	0.56
98F1411	230.750	¾	250	0.90	0.68	0.64	0.56
50F3416	230001	1	250	0.90	0.68	0.64	0.56
50F3417	23001.5	1½	250	0.90	0.68	0.64	0.56
50F3418	230002	2	250	0.90	0.68	0.64	0.56
50F3420	23003.5	3½	250	0.90	0.68	0.64	0.56
50F3421	230004	4	125	0.90	0.68	0.64	0.56
94F5881	230005	5	125	0.90	0.68	0.64	0.56
50F3422	230007	7	125	0.90	0.68	0.64	0.56

(9180) (de00227)

3AG FAST-ACTING FUSES



High-interrupting, ceramic ¼ x 1¼" fuses. UL listed, CSA certified through 15 amps; UL recognized 20 to 30 amps. Rated 250V, except † denotes 125V maximum.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
93F5223	314.500	½	0.83	0.63	0.60	0.52
20F617	314001	1	0.78	0.59	0.56	0.49
20F618	314002	2	0.78	0.59	0.56	0.49
20F619	314003	3	0.78	0.59	0.56	0.49
20F620	314004	4	0.78	0.59	0.56	0.49
28F170	314005	5	0.74	0.56	0.53	0.46
20F621	314007	7	0.74	0.56	0.53	0.46
27F670	314008	8	0.74	0.56	0.53	0.46
27F671	314010	10	0.55	0.42	0.39	0.34
27F672	314012	12	0.74	0.56	0.53	0.46
27F673	314015	15	0.74	0.56	0.53	0.46
27F674	314020	20	1.11	0.84	0.79	0.69
20F622	314025	25†	1.11	0.84	0.79	0.69
20F623	314030	30†	1.11	0.84	0.79	0.69

(9167) (de00011)

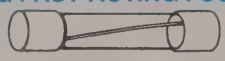
3AG SLO-BLO® FUSES

Glass, ¼ x 1 ¼" max. fuses for circuits with high-inductive surge. Rated 250V, except † denotes 32V max. UL listed, CSA certified to 7 amps; UL recognized 8-30 amps.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
27F680	313.010	1/100	3.92	2.97	2.80	2.44
27F681	313.031	1/32	2.68	2.03	1.91	1.67
27F682	313.062	1/16	1.74	1.32	1.24	1.08
27F683	313.100	1/10	1.74	1.32	1.24	1.08
27F915	313.125	⅛	1.74	1.32	1.24	1.08
27F684	313.150	15/100	1.74	1.32	1.24	1.08
27F666	313.175	7/40	1.74	1.32	1.24	1.08
27F916	313.187	3/16	1.74	1.32	1.24	1.08
27F685	313.200	2/10	1.74	1.32	1.24	1.08
27F687	313.300	3/10	1.05	0.80	0.75	0.66
27F917	313.375	⅜	1.05	0.80	0.75	0.66
27F688	313.400	4/10	1.05	0.80	0.75	0.66
27F690	313.600	6/10	1.00	0.76	0.71	0.62
27F699	313.700	7/10	1.00	0.76	0.71	0.62
27F918	313.750	¾	1.00	0.76	0.71	0.62
27F691	313.800	8/10	1.00	0.76	0.71	0.62
27F692	313001	1	1.00	0.76	0.71	0.62
27F693	3131.25	1¼	0.76	0.58	0.54	0.48
27F705	31301.5	1½	0.76	0.58	0.54	0.48
27F919	31301.6	1 6/10	0.76	0.58	0.54	0.48
27F694	313002	2	0.76	0.58	0.54	0.48
94F5888	3132.25	2¼	0.76	0.58	0.54	0.48
27F695	31302.5	2½	0.76	0.58	0.54	0.48
27F920	313003	3	0.76	0.58	0.54	0.48
27F706	31303.2	3 2/10	0.76	0.58	0.54	0.48
27F696	313004	4	0.76	0.58	0.54	0.48
27F697	313005	5	0.76	0.58	0.54	0.48
27F700	3136.25	6¼	0.76	0.58	0.54	0.48
20F636	313007	7	0.76	0.58	0.54	0.48
27F701	313008	8†	0.76	0.58	0.54	0.48
27F702	313010	10†	1.12	0.85	0.80	0.70
94F5887	313012	12†	1.12	0.85	0.80	0.70
27F703	313015	15†	1.12	0.85	0.80	0.70
27F704	313020	20†	1.12	0.85	0.80	0.70
94F5938	313025	25†	1.12	0.85	0.80	0.70

(9357) (ne00007)

3AG FAST-ACTING FUSES



¼ W 1¼" glass fuses are UL listed and CSA certified; UL recognized 8 through 30 amps. Rated at 250V, except * denotes 32V maximum.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
94F5934	312.010	1/100	7.76	5.89	5.54	4.83
27F650	312.062	1/16	0.81	0.62	0.58	0.50
98F605	312.100	1/10	0.81	0.62	0.58	0.50
27F651	312.125	⅛	0.81	0.62	0.58	0.50
94F5936	312.150	15/100	0.81	0.62	0.58	0.50
27F664	312.187	3/16	0.81	0.62	0.58	0.50
94F5937	312.200	2/10	0.81	0.62	0.58	0.50
27F652	312.250	¼	0.50	0.38	0.36	0.31
27F667	312.300	3/10	0.50	0.38	0.36	0.31
27F653	312.375	⅜	0.50	0.38	0.36	0.31
27F654	312.500	½	0.34	0.26	0.25	0.21
27F655	312.750	¾	0.34	0.26	0.25	0.21
27F656	312001	1	0.22	0.16	0.15	0.14
27F657	31201.5	1½	0.22	0.16	0.15	0.14
93F5214	31201.6	1 6/10	0.22	0.16	0.15	0.14
27F658	312002	2	0.22	0.16	0.15	0.14
93F5216	3122.25	2¼	0.22	0.16	0.15	0.14
27F857	31202.5	2½	0.22	0.16	0.15	0.14
27F659	312003	3	0.22	0.16	0.15	0.14
27F660	312004	4	0.34	0.26	0.24	0.21
27F661	312005	5	0.34	0.26	0.24	0.21
27F662	312006	6	0.34	0.26	0.24	0.21
27F858	312007	7	0.34	0.26	0.24	0.21
27F665	312008	8	0.46	0.35	0.33	0.29
27F859	312010	10	0.46	0.35	0.33	0.29
91F3167	312012*	12	0.24	0.18	0.17	0.15
91F3168	312015*	15	0.24	0.18	0.17	0.15
91F3169	312020*	20	0.24	0.18	0.17	0.15
91F3170	312030*	30	0.24	0.18	0.17	0.15
91F3171	312035*	35	0.24	0.18	0.17	0.15

(9358) (ne00009)

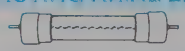
3AG SLO-BLO® AXIAL LEAD FUSES

Glass fuses are same as **313 series** except with 1.5" (32.39) long pigtails. Rated 250V. UL listed, CSA certified. Measure 0.275"D (6.99) x 1.275"L (32.39).

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
27F734	315.250	¼	1.32	1.00	0.94	0.82
27F737	315.500	½	1.24	0.94	0.88	0.77
27F932	315001	1	1.24	0.94	0.88	0.77
27F934	31501.5	1½	1.24	0.94	0.88	0.77

(9165) (de00008)

3AG FAST-ACTING AXIAL LEAD FUSES

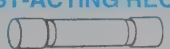


Glass fuses are same as **312 series** except with 1.5″ (38.10) long pigtail leads. Rated 250V. UL listed, CSA certified. Measure 1.275″L (32.39) x 0.275″D (6.99).

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
27F742	318.500	½	0.92	0.70	0.66	0.57
27F943	318001	1	0.67	0.50	0.47	0.41
28F187	31801.5	1½	0.67	0.50	0.47	0.41
27F945	318002	2	0.67	0.50	0.47	0.41
27F946	318003	3	0.67	0.50	0.47	0.41
27F948	318005	5	0.70	0.53	0.50	0.44
20F625	318006	6	0.70	0.53	0.50	0.44
20F627	318007	7	0.70	0.53	0.50	0.44

(9166) (de00010)

3AG VERY FAST-ACTING RECTIFIER FUSES



Ceramic, ¼ W 1¼″ fuses protect silicon-controlled rectifiers and similar solid-state devices. UL recognized. Rated 250VAC, 65VDC except † denotes 65V maximum.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
28F171	322001	1	4.20	3.19	3.00	2.62
28F173	322002	2	4.20	3.19	3.00	2.62
28F175	322004	4	4.20	3.19	3.00	2.62
28F176	322005	5	4.20	3.19	3.00	2.62
28F178	322007	7	4.20	3.19	3.00	2.62
28F179	322008	8	4.20	3.19	3.00	2.62
28F181	322010	10	4.20	3.19	3.00	2.62
28F184	322020	20†	4.20	3.19	3.00	2.62
28F186	322030	30†	4.20	3.19	3.00	2.62

(9168) (de00012)

8AG FAST-ACTING INSTRUMENT FUSES

¼ x 1″ glass fuses are rated 250V, except † denotes 125V maximum. *Call Newark for a complete list of amp ratings.*

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
27F603	361.062	1/16	1.82	1.38	1.29	1.13
27F604	361.125	⅛	1.35	1.03	0.96	0.84
27F605	361.250	¼	0.83	0.63	0.60	0.52
27F606	361.375	⅜	0.83	0.63	0.60	0.52
27F607	361.500	½	0.83	0.63	0.60	0.52
27F608	361.750	¾	0.83	0.63	0.60	0.52
27F609	361001	1	0.49	0.37	0.35	0.31
27F610	36101.5	1½	0.49	0.37	0.35	0.31
27F611	361002	2	0.49	0.37	0.35	0.31
27F612	361003	3†	0.50	0.38	0.36	0.31
27F615	361004	4†	0.50	0.38	0.36	0.31
27F613	361005	5†	0.50	0.38	0.36	0.31

(9169) (de00013)

8AG FAST-ACTING FUSES

¼ x 1″ glass fuses. UL listed up to 6 amps. CSA certified ¼ to 5 amps. * is 250V.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
20F630	362.125	⅛*	1.00	0.76	0.71	0.62
28F189	362.250	¼*	0.61	0.47	0.44	0.38
28F191	362.500	½*	0.61	0.47	0.44	0.38
27F1080	362001	1*	0.64	0.48	0.46	0.40
28F192	36201.5	1½*	0.39	0.30	0.28	0.24
27F1081	362002	2*	0.39	0.30	0.28	0.24

(9170) (de00014)

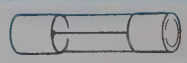
215 SERIES 5 x 20mm SLO-BLO® FUSES

215 series Slo-Blo® fuses with 1500A interrupting rating. Available in cartridge and axial lead formats. Available in ratings of 0.02A to 10A. Designed to international IEC standards for use globally. Meet IEC 127-2, Sheet V specifications for time-lag fuses. UL recognized, CSA certified. SEMKO approved thru 6.3A. BSI and VDE approved 0.05-6.3A. MITI approved 1-5A.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
91F3174	215.315	0.315	1.20	0.91	0.86	0.75
91F3175	215.400	0.400	1.20	0.91	0.86	0.75
91F3176	215.500	0.500	1.20	0.91	0.86	0.75
91F3177	215.630	0.630	1.20	0.91	0.86	0.75
91F3178	215.800	0.800	1.20	0.91	0.86	0.75
91F3179	2151.60	1.6	1.20	0.91	0.86	0.75
91F3180	2152.50	2.5	1.20	0.91	0.86	0.75

(12551) (ne09888)

216 SERIES 5 x 20mm HIGH-BREAKING, FAST-ACTING FUSES



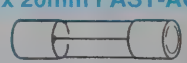
216 series ceramic, fast-acting fuses with 1500A interrupting capacity. UL recognized 0.5 to 10 A. SEMKO approved through 6.3 A. Designed to IEC 127, Sheet 1.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
51F3510	216.050	0.050	1.50	1.14	1.07	0.93
94F5869	216.100	0.100	1.20	0.91	0.86	0.75
51F3530	216.400	0.400	1.20	0.91	0.86	0.75
51F3531	216.500	0.500	1.20	0.91	0.86	0.75
94F5902	216.630	0.630	1.20	0.91	0.86	0.75
94F5903	216.800	0.800	1.20	0.91	0.86	0.75
51F3513	2161.25	1.25	1.20	0.91	0.86	0.75
94F5904	2163.15	3.15	1.20	0.91	0.86	0.75
51F3515	216010	10*	1.50	1.14	1.07	0.93

* Approvals do not include ratings above 6.3A.

(9171) (de00124)

217 SERIES 5 x 20mm FAST-ACTING FUSES



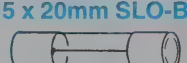
217 series glass, fast-acting 250V fuses. SEMKO approved through 6.3 amps; BSI approved 0.50 to 6.3 amps. Designed to IEC 127, Sheet 2. UL recognized and CSA certified.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
51F3516	217.032	0.032	1.40	1.07	1.00	0.87
94F5908	217.500	0.500	0.25	0.19	0.18	0.16
94F2005	217.063	0.630	1.40	1.07	1.00	0.87
98F246	217.800	0.800	0.25	0.19	0.18	0.16
94F5877	2171.25	1.25	0.25	0.19	0.18	0.16
94F5911	21701.6	1.6	0.25	0.19	0.18	0.16
94F5874	21702.5	2.5	0.25	0.19	0.18	0.16
94F5913	2173.15	3.15	0.25	0.19	0.18	0.16
94F5909	217004	4	0.25	0.19	0.18	0.16
94F5912	21706.3	6.3	0.25	0.19	0.18	0.16
94F5910	217008	8*	0.95	0.72	0.67	0.59
94F5873	217010	10*	0.95	0.72	0.67	0.59

* Approvals do not include ratings above 6.3A.

(9172) (de00125)

218 SERIES 5 x 20mm SLO-BLO® FUSES



218 series glass, Slo-Blo® 250V fuses. UL recognized, SEMKO and BSI approved through 6.3A. Designed to IEC 127, Sheet 3.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
94F5914	218.100	0.100	1.09	0.82	0.77	0.68
51F3526	218.125	0.125	1.09	0.82	0.77	0.68
94F5915	218.250	0.250	1.09	0.82	0.77	0.68
94F5871	218.315	0.315	1.09	0.82	0.77	0.68
94F5872	218.400	0.400	1.09	0.82	0.77	0.68
94F5916	218.500	0.500	0.74	0.56	0.53	0.46
98F1977	218.630	0.630	0.74	0.56	0.53	0.46
94F5917	218.800	0.800	0.74	0.56	0.53	0.46
94F5918	2181.25	1.25	0.74	0.56	0.53	0.46
94F5919	2183.15	3.15	0.74	0.56	0.53	0.46
51F3532	218005	5	0.74	0.56	0.53	0.46
51F3533	218010	10*	1.17	0.88	0.83	0.73

* Approvals do not include ratings above 6.3A.

(9173) (de00126)

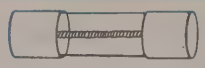
235 SERIES 5 x 20mm FAST-ACTING FUSES

Fast-acting 5 x 20mm glass fuses are UL listed, CSA certified. 250V rating, except (*) denotes 125V maximum. Blow time: 110%, 4 hours minimum; 135%, 1 hour maximum; 200% 5 seconds maximum.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
87F5332	235.100	1/10	0.50	0.38	0.36	0.31
87F5334	235.200	2/10	0.50	0.38	0.36	0.31
87F5335	235.250	¼	0.50	0.38	0.36	0.31
87F5338	235.500	½	0.27	0.21	0.19	0.17
87F5342	235001	1	0.22	0.17	0.16	0.14
87F5343	2351.25	1¼	0.22	0.17	0.16	0.14
87F5344	23501.6	1.6/10	0.22	0.17	0.16	0.14
87F5345	235002	2	0.22	0.17	0.16	0.14
87F5346	235003	3	0.22	0.17	0.16	0.14
87F5347	235004*	4	0.22	0.17	0.16	0.14
87F5348	235005*	5	0.22	0.17	0.16	0.14
87F5349	235006*	6	0.22	0.17	0.16	0.14

(9174) (de00127)

239 SERIES 5 x 20mm SLO-BLO® FUSES



Slo-Blo® 5 x 20mm glass fuses are UL listed, CSA certified. 250V rating, except (*) denotes 125V maximum. Blow time: 110%, 4 hour minimum; 135% 1 hour maximum; 200% 5 seconds minimum.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
87F5351	239.250	¼	0.93	0.71	0.67	0.58
87F5353	239.400	4/10	0.93	0.71	0.67	0.58
87F5354	239.500	½	0.72	0.54	0.51	0.45
87F5357	239.800	8/10	0.72	0.54	0.51	0.45
87F5358	239001	1	0.72	0.54	0.51	0.45
87F5359	23901.6	1 6/10	0.72	0.54	0.51	0.45
87F5360	239002	2	0.72	0.54	0.51	0.45
87F5361	23902.5	2½	0.72	0.54	0.51	0.45
87F5362	239003	3	0.72	0.54	0.51	0.45
87F5363	239004*	4	0.72	0.54	0.51	0.45

(9175) (de00128)

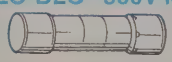
KLK SERIES FAST-ACTING AC MIDGET FUSES

Fast-acting, current-limiting fuses with high-interrupting rating: 100,000 amps @ 600VAC. Ideal for control circuits, street lighting, H.I.D. lighting and computers. UL listed, CSA certified 3/10 through 30 amps.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
81F2142	KLK-1	1	10.84	8.22	7.73	6.75
81F2143	KLK-1-1/2	1½	12.24	9.29	8.73	7.62
81F2144	KLK-2	2	10.84	8.22	7.73	6.75
81F2145	KLK-3	3	10.84	8.22	7.73	6.75
81F2147	KLK-5	5	10.84	8.22	7.73	6.75
81F2148	KLK-6	6	10.84	8.22	7.73	6.75
81F2149	KLK-8	8	11.40	8.64	8.13	7.10
81F2150	KLK-10	10	10.84	8.22	7.73	6.75
81F2151	KLK-15	15	10.84	8.22	7.73	6.75
81F2152	KLK-20	20	11.21	8.50	7.99	6.98
81F2153	KLK-25	25	11.21	8.50	7.99	6.98
81F2154	KLK-30	30	11.21	8.50	7.99	6.98

(9359) (ne00615)

FLQ SERIES SLO-BLO® 500V MIDGET FUSES



Time-delay fuses offer supplemental protection for small motors, control transformers, solenoids, circuits with high inrush currents. Interrupting rating: 10,000A @ 500VAC. UL/CSA 500V ratings permit use on 480V circuits. 13/32 x 1½".

Stock No.	Type	Amps	1-12	13-30	31-60	61-99
81F2156	FLQ-1/4	¼	15.13	11.48	10.79	9.42
81F2158	FLQ-1	1	13.38	10.15	9.54	8.33
81F2160	FLQ-2	2	13.38	10.15	9.54	8.33
81F2161	FLQ-2-1/2	2½	12.99	9.85	9.26	8.09
98F080	FLQ3	3	13.38	10.15	9.54	8.33
81F2162	FLQ-3-2/10	3 2/10	14.02	10.63	10.00	8.73
81F2163	FLQ-4	4	13.38	10.15	9.54	8.33
81F2164	FLQ-5	5	13.38	10.15	9.54	8.33
81F2165	FLQ-6-1/4	6¼	17.20	13.04	12.27	10.71
81F2166	FLQ-8	8	13.38	10.15	9.54	8.33
81F2167	FLQ-10	10	13.38	10.15	9.54	8.33
81F2168	FLQ-12	12	13.38	10.15	9.54	8.33
81F2169	FLQ-15	15	13.38	10.15	9.54	8.33
95F833	FLQ-25	25	13.38	10.15	9.54	8.33
70B8394	FLQ-30	30	13.38	10.15	9.54	8.33

(9182) (de00613)

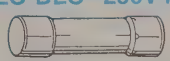
KLDR 13/32 x 1½" BRANCH CIRCUIT SLO-BLO® FUSES

Class CC time-delay fuses protect control transformers and other components with high magnetizing currents during first half-cycle. Interrupting rating: 200,000 amps AC. Voltage rating: 600 VAC. Rejection feature added to one fuse cap. UL listed, CSA certified. For information on the complete line of KLDR SLO-BLO® fuses, *contact your local Newark sales office.*

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
87F5378	KLD-R 1/2	½	14.23	10.79	10.15	8.86
87F5379	KLD-R 6/10	6/10	15.56	11.80	11.09	9.69
87F5380	KLD-R 3/4	¾	15.56	11.80	11.09	9.69
87F5382	KLD-R 1	1	13.89	10.53	9.90	8.65
87F5385	KLD-R 1-1/2	1½	14.18	10.75	10.11	8.83
87F5388	KLD-R 2	2	14.18	10.75	10.11	8.83
87F5394	KLD-R 3-1/2	3½	17.65	13.39	12.59	10.99
95F2054	KLDR-5	5	14.18	10.75	10.11	8.83
95F2062	KLDR-10	10	15.18	11.52	10.83	9.45

(9230) (de02031)

FLM SERIES SLO-BLO® 250V MIDGET FUSES

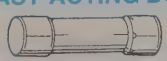


Time-delay fuses same as **FLQ** series except interrupting rating: 10,000 amps @ 250VAC. UL listed, CSA certified. 13/32 x 1½".

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
81F2124	FLM-1/2	½	4.96	3.76	3.53	3.09
81F2125	FLM-1	1	5.03	3.82	3.59	3.13
81F2127	FLM-2	2	4.64	3.52	3.31	2.89
81F2128	FLM-2-1/2	2½	4.88	3.70	3.48	3.04
81F2129	FLM-3-2/10	3 2/10	4.98	3.78	3.55	3.10
81F2130	FLM-4	4	4.85	3.68	3.46	3.02
81F2131	FLM-5	5	4.64	3.52	3.31	2.89
81F2132	FLM-6-1/4	6¼	4.98	3.78	3.55	3.10
81F2133	FLM-8	8	4.85	3.68	3.46	3.02
81F2134	FLM-10	10	4.64	3.52	3.31	2.89
81F2135	FLM-12	12	5.25	3.98	3.74	3.27
81F2136	FLM-15	15	4.64	3.52	3.31	2.89
94F1984	FLM-20	20	4.85	3.68	3.46	3.02

(9184) (de00617)

KLK-D SERIES FAST-ACTING DC MIDGET FUSES

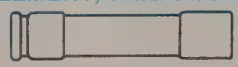


Same as **KLK series** fuses, *ordered separately on this page*, except interrupting rating: 10,000 amps @ 600VDC; 100,000 amps @ 600VAC. UL listed, CSA certified.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
95F839	KLKD-1/2	½	14.60	11.08	10.41	9.09
95F841	KLKD-1	1	14.42	10.93	10.28	8.98
95F848	KLKD-5	5	14.60	11.08	10.41	9.09
95F851	KLKD-8	8	15.26	11.58	10.89	9.50
98F7341	KLKD-10	10	14.60	11.08	10.41	9.09

(9360) (ne00616)

FLNR-ID AND FLSR-ID SERIES DUAL-ELEMENT, TIME-DELAY FUSES



- **Service Entrance Switches**
- **Switchboard Main and Feeder Switches**
- **Motor Control Center Mains and Motor Branch Circuits**
- **Individual Fused Combination Motor Controllers**
- **Distribution Panel Boards**
- **Industrial Control Panels**
- **Protection of Fully-Rated Panel Boards and Load Centers**
- **All General-Purpose Circuits**

FLNR-ID and **FLSR-ID series** indicator fuses provide visual blown fuse indication at a glance. The patented state-of-the-art solid-state design provides maximum reliability and superior performance characteristics in a true dual-element design. The use of indicator fuses reduces down-time, nuisance fuse opening, increases safety, and can save production time. **FLNR-ID series** voltage: 250VAC; 125VDC. **FLSR-ID series** voltage: 600VAC; 300VDC.

FLNR-ID SERIES

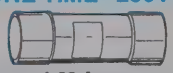
Stock No.	Type	Amps	1-49	50-99	100-249	250-499
52F9151	FLNR35ID	35	9.51	7.22	6.79	5.92
52F9152	FLNR50ID	50	9.51	7.22	6.79	5.92
52F9153	FLNR70ID	70	21.47	16.28	15.31	13.37
52F9154	FLNR100ID	100	21.47	16.28	15.31	13.37
52F9155	FLNR150ID	150	28.80	27.36	22.28	21.54
52F9163	FLNR400ID	400	51.90	49.30	40.14	38.82
52F9172	FLNR225ID	225	60.70	57.66	46.95	45.40

FLSR-ID SERIES

52F9156	FLSR35ID	35	19.27	14.61	13.74	12.00
52F9157	FLSR50ID	50	19.27	14.61	13.74	12.00
52F9158	FLSR75ID	75	44.92	34.07	32.04	27.97
52F9159	FLSR100ID	100	39.86	30.23	28.43	24.82
52F9160	FLSR150ID	150	79.74	60.48	56.87	49.65
52F9161	FLSR225ID	225	100.17	95.16	77.48	74.93
52F9162	FLSR400ID	400	100.17	95.16	77.48	74.93

(9407) (ne09201)

NLN "ONE TIME" 250V FUSES



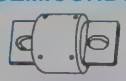
1-60 Amps

For general-purpose feeder and branch circuits. Interrupting rating: 50,000A @ 250VAC. UL listed: Class K5. CSA certified.

Stock No.	Type	Amp	Size	1-49	50-99	100-249	250-499
81F2213	NLN-3	3	9/16 x 2"	1.58	1.31	1.16	1.03
81F2214	NLN-6	6	9/16 x 2"	1.58	1.31	1.16	1.03
81F2215	NLN-10	10	9/16 x 2"	1.53	1.28	1.13	1.00
81F2216	NLN-15	15	9/16 x 2"	1.34	1.12	0.99	0.88
81F2217	NLN-20	20	9/16 x 2"	1.34	1.12	0.99	0.88
81F2218	NLN-25	25	9/16 x 2"	1.58	1.31	1.16	1.03
81F2219	NLN-30	30	9/16 x 2"	0.76	0.63	0.56	0.49
81F2223	NLN-50	50	13/16 x 3"	2.37	1.98	1.75	1.55
81F2224	NLN-60	60	13/16 x 3"	2.25	1.87	1.66	1.47

(9183) (de00614)

L25S SERIES SEMICONDUCTOR FUSES



L25S Series

Designed for supplementary protection of semiconductor devices such as silicon-controlled rectifiers (SCRs), diodes, thyristors, triacs, transistors and similar solid-state components. AC interrupting rating: 200,000 RMS amperes. **L25S series:** 250VAC rating. Short circuit protection only, not for overload.

Stock No.	Type	Voltage Rating	1-49	50-99	100-249	250-499
81F4155	L25S-35	35	32.80	27.33	24.21	21.40
81F4156	L25S-40	40	32.80	27.33	24.21	21.40
81F4158	L25S-50	50	32.80	27.33	24.21	21.40
81F4159	L25S-60	60	32.80	27.33	24.21	21.40

(9176) (de00129)

FUSE BLOCKS FOR 3AG FUSES

Fig. 1 Fig. 2 Fig. 3

SCREW TERMINALS, UL RECOGNIZED TO 15 AMPS

Stock No.	Type	Fig.	Description	1-49	50-99	100-249	250-499
27F756	356001	1	1 pole	3.93	3.27	2.90	2.56
27F769	356002	1	2 pole	8.34	6.95	6.15	5.44
94F2136	356012	1	12 pole	47.19	39.32	34.83	30.78

SOLDER TERMINALS, UL RECOGNIZED TO 15 AMPS

Stock No.	Type	Fig.	Description	1-49	50-99	100-249	250-499
27F754	357001	2	1 pole	1.74	1.45	1.28	1.13
27F758	357002	2	2 pole	3.65	3.05	2.70	2.38

QUICK CONNECT TERMINALS, UL RECOGNIZED TO 15 AMPS

Nickel-plated spring brass clips, tin-plated brass terminals. Molded black phenolic base.

Stock No.	Type	Fig.	Description	1-49	50-99	100-249	250-499
20F611	350327	3	1 pole 3/16" terminals	3.11	2.59	2.29	2.03
20F613	350329	3	1 pole 1/4" terminals	3.44	2.87	2.54	2.25
20F614	350330	3	2 pole 1/4" terminals	5.57	4.64	4.11	3.63

(9303) (de51142)

WATERPROOF IN-LINE FUSE HOLDERS

LEB Shown with Optional WPB1 insulating Boots

- **Ideal for Utility Pole Circuit Protection**

LEB series rugged fuse holders are designed for outdoor use, including wet and corrosive conditions. Accept 13/32 x 1½" Midget fuses. Rating: 600 volts, 30A maximum. UL recognized, CSA certified. **Type WPB1** insulating boots protect conductor terminals – *order separately. Call your local Newark sales office for a complete line of fuse holders.*

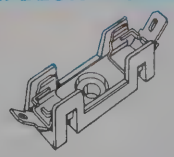
Stock No.	Type	Conductors Per Terminal		Each
		Load Side	Line Side	
95F2063	LEB-AA	1 #12-8, 2 #12	1 #12-8, 2 #12	12.31

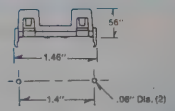
OPTIONAL WPB1 INSULATING BOOTS–SET OF 2

95F2067 Type WPB1. Per Pair..... 2.20

(9232) (de02037)

OMNI-BLOK® HOLDERS FOR 3AG OR 2AG FUSES





PC Board Type
(Single Pole units only)

1-piece clip/terminal assures low contact resistance. Multiple pole units may be broken to desired number of poles. Dielectric strength: 1500 volts minimum. Base: thermoplastic, glass reinforced, UL 94V0 rating. UL recognized, CSA certified to 300 volts.

354 SERIES HOLDERS FOR SIZE 3AG FUSES

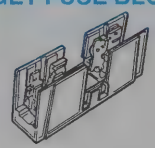
Stock No.	Terminal	Poles	1-49	50-99
81F4191	354001-GY/Solder	1	0.53	0.44
81F4192	354002-GY/Solder	2	1.04	0.87
81F4193	354012-GY/Solder	12	10.50	8.75
81F4194	354601-GY/3/16" Q.C.	1	0.53	0.44
81F4196	354612-GY/3/16" Q.C.	12	12.14	10.12
81F4197	354801-GY/1/4" Q.C.	1	0.53	0.44
81F4198	354802-GY/1/4" Q.C.	2	1.04	0.87
81F4199	354812-GY/1/4" Q.C.	12	10.50	8.75
44F851	354101-GY PC Board	1	0.81	0.68
46F1529	354901-GY/1/4" Q.C.	1	0.53	0.44
46F1531	354912-GY/1/4" Q.C.	12	11.13	9.28

254 SERIES HOLDERS FOR SIZE 2AG FUSES

87F5366	254001-Solder	1	0.99	0.83
87F5368	254008-Solder	8	6.86	5.83
87F5369	254208-.100" Q.C.	8	7.64	6.37
91F3192	520003	3	0.51	0.42
91F3193	520004	4	0.51	0.42
91F3194	520005-GY	5	1.10	1.04
91F3195	520006-GY	6	0.55	0.46
91F3196	520101	1	0.54	0.45

(9307) (de51234)

MIDGET FUSE BLOCKS



Compact, 600-volt fuse blocks for 13/32 x 1½" midget fuses. Locking blocks together permits any number of poles. Screw and box lug terminals rated 30A. QC terminals rated 20A. Dielectric strength: 1200V minimum. Clip/terminals: tin-plated copper alloy. Box lug: copper. UL 94V0 rated thermoplastic base. Types with **C** suffix: copper box lug terminals; **SQ** suffix: Screw/QC.

Stock No.	Type	Poles	1-49	50-99	100-249	250-499
90F8832	L60030M-1C	1	5.98	4.99	4.42	3.90
90F8833	L60030M-2C	2	11.77	9.81	8.69	7.68
90F8834	L60030M-3C	3	17.84	14.86	13.16	11.64
90F8835	L60030M-1SQ	1	2.67	2.23	1.97	1.74
90F8836	L60030M-2SQ	2	4.67	3.89	3.45	3.05
90F8837	L60030M-3SQ	3	6.14	5.12	4.54	4.01

(9185) (de00618)

PC BOARD & RIVET/EYELET MOUNT FUSE CLIPS

Fig. 1 Fig. 2 Fig. 3 Fig. 4 Fig. 5 Fig. 6 Fig. 7 Fig. 8

Clips are tin-plated spring brass except (*) denotes silver-plated beryllium copper and (**), nickel-plated spring brass. Use beryllium copper for currents greater than 15 amps.

Stock No.	Type	Fig.	Description	1-49	50-99	100-249	250-499
94F2128	100056	1	PC Board, 5mm Fuse	0.10	0.09	0.08	0.07
27F772	101001**	2	Rivet/Eyelet, 3AG Fuse	0.07	0.06	0.05	0.05
27F773	101002**	3	Rivet/Eyelet, 3AG Fuse	0.10	0.08	0.07	0.06
27F1084	101003	4	Rivet/Eyelet, 3AG Fuse	0.12	0.10	0.09	0.08
27F1085	102071	5	PC Board, 3AG Fuse	0.08	0.07	0.06	0.05
27F1086	102074	6	PC Board, 3AG Fuse	0.11	0.09	0.08	0.07
20F606	102078	6	PC Board, Bowed Tab, 3AG	0.14	0.12	0.11	0.09
27F774	105002**	3	Rivet/Eyelet, 5AG&Midget	0.18	0.15	0.13	0.12
46F1532	111501	8	PC Board, 2AG or 5mm Fuse	0.11	0.09	0.08	0.07
27F1087	121001*	2	Rivet/Eyelet, 3AG Fuse	0.27	0.23	0.20	0.18
27F1088	121002*	3	Rivet/Eyelet, 3AG Fuse	0.32	0.27	0.24	0.21
20F608	122083*	5	PC Board, 3AG Fuse	0.35	0.29	0.26	0.23
20F609	122087*	6	PC Board, 3AG Fuse	0.40	0.34	0.30	0.26
20F610	122090*	7	Low Profile PC Board, 3AG	0.52	0.43	0.38	0.34

(9304) (de51143)

345 SERIES SHOCK-SAFE FUSE HOLDERS

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Meet IEC standards 257 and 65 for shock safety and fit either 3AG and 5 x 20mm fuses. 3AG units have gray knobs with white lettering; 5 x 20mm units have black knobs. All UL recognized, CSA certified. SEMKO and VDE approved. All panel mount in thickness to 0.31″ (7.87). *Order individually or in packages of 100.*

FRONT PANEL, LOW PROFILE, SLOT KNOB STYLE - FIG. 1

Stock No.	Type	Fuse Size	Bottom Terminal	1-49	50-99	100-249	250-499
81F4177	345601	¼″x1¼″ (3AG)	Rt. Angle	2.65	2.20	1.95	1.73
81F4178	345611	¼″x1¼″ (3AG)	Straight	2.65	2.20	1.95	1.73
81F4179	345621	5 x 20mm	Rt. Angle	3.24	2.70	2.39	2.12
81F4180	345631	5 x 20mm	Straight	3.24	2.70	2.39	2.12

FRONT PANEL, HIGH PROFILE, SLOT KNOB STYLE - FIG. 2

81F4181	345602	¼″x1¼″ (3AG)	Rt. Angle	2.65	2.20	1.95	1.73
81F4182	345612	¼″x1¼″ (3AG)	Straight	2.65	2.20	1.95	1.73
81F4183	345622	5 x 20mm	Rt. Angle	3.24	2.70	2.39	2.12
81F4184	345632	5 x 20mm	Straight	3.24	2.70	2.39	2.12

FRONT PANEL MOUNT FINGER GRIP KNOB STYLE - FIG. 3

81F4185	345603	¼″x1¼″ (3AG)	Rt. Angle	2.65	2.20	1.95	1.73
81F4186	345613	¼″x1¼″ (3AG)	Straight	2.65	2.20	1.95	1.73
81F4187	345623	5 x 20mm	Rt. Angle	3.24	2.70	2.39	2.12
81F4188	345633	5 x 20mm	Straight	3.24	2.70	2.39	2.12

REAR PANEL MOUNT FINGER GRIP KNOB STYLE - FIG. 4

Allows prewiring before insertion into panel. Two mounting nuts included.

44F852	345903	¼″x1¼″(3AG)	Rt. Angle	2.89	2.41	2.13	1.89
44F853	345913	¼″x1¼″(3AG)	Straight	2.89	2.41	2.13	1.89
44F854	345923	5 x 20mm	Rt. Angle	3.37	2.81	2.49	2.20
44F855	345933	5 x 20mm	Straight	3.05	2.54	2.25	1.99

(9302) (de51140)

342 PANEL-MOUNT 3AG FUSE HOLDERS

Fig. 1

Fig. 2

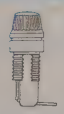


Fig. 3

Fig. 4

Fig. 5

Fig. 6

3AG fuse holders rated 20A up to 250V. Fluted or knurled knobs. Include neoprene washer metal hex nut. Panel thickness to 0.250″. UL recognized, CSA certified. **QC** terminals: Quick Connect.

Stock No.	Type	Fig.	Terminals	1-49	50-99	100-249	250-499
27F752	342001	...	Solder	4.35	3.62	3.21	2.84
27F779	342004	2	Solder	2.36	1.97	1.74	1.54
27F780	342004P*	2	Solder	2.51	2.09	1.86	1.64
70B3464	342006†	1	Solder	19.87	16.56	14.66	12.96
27F720	342012	4	Solder	2.79	2.33	2.06	1.82
27F668	342014	1	Solder	2.25	1.87	1.66	1.47
27F669	342022	3	Solder	2.36	1.97	1.74	1.54
28F150	342028	2	3⁄16″ QC	2.67	2.22	1.97	1.74
28F151	342038	5	3⁄16″ QC	2.67	2.22	1.97	1.74
28F152	342048	3	3⁄16″ QC	2.67	2.22	1.97	1.74
28F153	342058	6	3⁄16″ QC	2.54	2.11	1.87	1.65
27F794	342828	2	¼″ QC	2.67	2.22	1.97	1.74
27F795	342838	5	¼″ QC	2.78	2.32	2.05	1.81
27F796	342848	3	¼″ QC	2.93	2.44	2.17	1.91
27F797	342858	6	¼″ QC	2.78	2.32	2.05	1.81

* Drip-Proof †Watertight

342 FUSE HOLDERS

Stock No.	Type	Fig.	Terminals	1-49	50-99	100-249	250-499
87F4291	342004	2	Solder	2.36	1.97	1.74	1.54
87F4292	342014	1	Solder	2.25	1.87	1.66	1.47
87F4295	342838	5	¼″ QC	2.78	2.32	2.05	1.81

(9203) (de01740)

IF YOU DON'T SEE THE PRODUCT YOU NEED LISTED HERE - CALL!

1-800-4-NEWARK

(1-800-463-9275)

INTERNATIONAL SHOCK-SAFE FUSE HOLDERS

Fig. 1 Low-Profile Fingergrip Knob

Fig. 2 Rear-Mount Fingergrip Knob

Fig. 3 High-Profile Screwdriver Slot Knob

Fig. 4 Low-Profile Screwdriver Slot Knob

Shock-safe design eliminates the possibility of electrical shock, per IEC Standards 65 and 257. Universal fuse holder body accepts 3AG, 5 x 20mm, and 2AG fuse sizes depending on knob selected. Choice of three terminal styles: dual purpose 3⁄16″ solder/quick-connect, 3⁄16″ NEMA quick-connect, and ¼″ NEMA/DIN quick-connect. UL recognized, CSA certified, VDE approved and SEMKO approved. *Contact your local Newark sales office for drip-proof option available on screwdriver slot knob style, straightback terminal style and 2AG fuse holders.*

FOR 3AG FUSES

Stock No.	Type	Fig.	Terminal	1-49	50-99	100-249	250-499
90F9480	3453LF1	1	3⁄16″ Solder/Quick-Connect	1.94	1.62	1.43	1.26
90F9481	3453LF3	1	3⁄16″ NEMA Quick-Connect	2.07	1.72	1.53	1.35
90F9482	3453LF7	1	¼″ NEMA/DIN Quick-Connect	2.07	1.72	1.53	1.35
90F9489	3453RF1	2	3⁄16″ Solder/Quick-Connect	2.07	1.72	1.53	1.35
90F9491	3453RF7	2	¼″ NEMA/DIN Quick-Connect	2.19	1.83	1.62	1.43
90F9142	3453HS1	3	3⁄16″ Solder/Quick-Connect	1.94	1.62	1.43	1.26
90F9479	3453HS7	3	¼″ NEMA/DIN Quick-Connect	2.07	1.72	1.53	1.35
90F9483	3453LS1	4	3⁄16″ Solder/Quick-Connect	1.94	1.62	1.43	1.26
90F9485	3453LS7	4	¼″ NEMA/DIN Quick-Connect	2.07	1.72	1.53	1.35

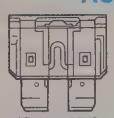
FOR 5 x 20 mm FUSES

90F9495	3455LF1	1	3⁄16″ Solder/Quick-Connect	2.07	1.72	1.53	1.35
90F9497	3455LF7	1	¼″ NEMA/DIN Quick-Connect	2.34	1.95	1.73	1.52
90F9498	3455LS1	4	3⁄16″ Solder/Quick-Connect	2.07	1.72	1.53	1.35
90F9500	3455LS7	4	¼″ NEMA/DIN Quick-Connect	2.34	1.95	1.73	1.52

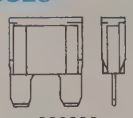
(9306) (de51233)

AUTOMOTIVE FUSES

NEC


Type 257

Type 297


299020

AUTOFUSE® FAST-ACTING ATO® FUSES

257 series compact fuses rated 32V and color-coded for easy amp identification. UL listed.

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
94F5883	257003/AT03	3	0.42	0.35	0.31	0.27
95F2050	257004/ATO4	4	0.42	0.35	0.31	0.27
94F5927	25707.5	7½	0.42	0.35	0.31	0.27
94F5925	257010	10	0.42	0.35	0.31	0.27
99F8135	257015	15	0.30	0.25	0.22	0.20
94F5884	257020	20	0.42	0.35	0.31	0.27
95F2051	257025	25	0.42	0.35	0.31	0.27
94F5926	257030/ATO30	30	0.42	0.35	0.31	0.27

MINI® FUSE AUTOMOTIVE FUSES

297 series fuses have same features as ATO® type fuses except in a smaller design. Heat-resistant housing ideal for engine compartments and other high-temperature areas. Color-coded. UL listed. *Order in-line fuse holders separately; contact your local Newark sales office.*

Stock No.	Type	Amps	1-49	50-99	100-249	250-499
95F2010	297003	3	0.35	0.29	0.26	0.23
95F2011	297005	5	0.35	0.29	0.26	0.23
95F2012	29707.5	7½	0.35	0.29	0.26	0.23
95F2013	297010	10	0.35	0.29	0.26	0.23
95F2014	297015	15	0.35	0.29	0.26	0.23
95F2015	297020	20	0.35	0.29	0.26	0.23
95F2016	297025	25	0.35	0.29	0.26	0.23
95F2024	297030	30	0.35	0.29	0.26	0.23

MINI™ BLADE FUSE

299000 series Maxi™ blade fuses replace the commonly used fusible wire or fusible link to protect a high current segment or system of the wiring harness. For easy-access, under-the-hood fuse box installations.

Stock No.	Type	Curr. Rat. (A)	Nom. Cold Resist. (mΩ)	Volt. Drop @ Rated Curr. (mV)	Min. Melting (I^2t)	Max. Clear. (A^2s)	1-49	50-99	100-249
91F3197	299020	20	3.1	76	1100	1550	0.96	0.80	0.71
91F3198	299030	30	2.0	77	4070	5620	0.96	0.80	0.71
91F3199	299040	40	1.4	75	8450	11900	0.96	0.80	0.71
91F3200	299050	50	1.1	73	11300	16300	0.96	0.80	0.71
91F3201	299060	60	0.9	77	15300	21900	0.96	0.80	0.71
91F3202	299070	70	0.7	73	6900	10100	1.73	1.44	1.28
91F3203	299080	80	0.6	79	8800	12700	1.73	1.44	1.28

(9364) (ne02030)

Littelfuse®

FUSE HOLDERS AND FUSE KITS

155 SERIES 3AG IN-LINE FUSE HOLDERS

Bayonet-knob holders for use at 32 volts or less with fuses rated up to 20A when proper spring installed. Include 19″ red vinyl 14AWG wire.

Stock No.	Type	Includes Fuse	1-49	50-99	100-249	250-499
27F792	155009	307009	0.86	0.71	0.63	0.56
27F793	155014	307014	0.86	0.71	0.63	0.56
27F766	155020A	307020	3.88	3.23	2.86	2.53

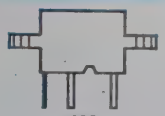
Includes 15″ loop of # 14 AWG wire and 3 springs for 3AG and SFE type fuses.

27F1071 Type 150145. **Each** **3.93**

(9204) (de01741)

481 SERIES INDICATING/ALARM FUSES & HOLDERS

481



482 Panel Mount

482 PCB Mount

481 series fuses available in 180mA to 15A ratings. Flamability rating: UL94V-0

Stock No.	Type	Amp	Color	1-49	50-99	100-249	250-499
91F3183	481.250	¼	Violet	2.65	2.52	2.26	2.19
91F3184	481.500	½	Red	1.78	1.35	1.27	1.11
91F3185	481001	1	Gray	1.78	1.35	1.27	1.11
91F3189	481005	5	Green	1.78	1.35	1.27	1.11

482 SERIES FUSEHOLDER

Available in 1-pole through 20-pole in PCB mount or panel mount.

Stock No.	Type	Description	1-49	50-99	100-249	240-499
48F1853	04820001ZXP	Panel Mount	0.95	0.90	0.90	0.60
48F1833	04820001ZXB	PCB Mount	0.95	0.90	0.90	0.60

(9205) (de01742)

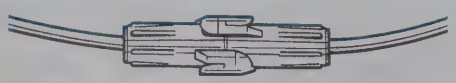
MINI® FUSE EASY-CRIMP IN-LINE FUSE HOLDERS

Compact in-line design for easy wire insertion. Use with **Mini® fuse** automotive fuses. –40° to +105°C range.

Stock No.	Type	Maximum Rating	Use With Wire Size	1-49	50-99	100-249	250-499
95F853	153002	20 Amps	#16-22 AWG	0.78	0.65	0.57	0.51
95F854	153003	30 Amps	#10-14 AWG	0.78	0.65	0.57	0.51

(9228) (de02023)

TWIST-LOCK 3AG & SFE IN-LINE FUSE HOLDERS



155120A

For use at 32V or less with fuses rated to 20A. Black, UL94V2 thermoplastic housing. **Type 155120A** holder includes SFE 20 fuse and 19″(482.60) loop of #14AWG wire. **155120U** ¼ x 1¼″ holder is unassembled– *order 3AG fuse and #14AWG wire separately.*

Stock No.	Type	1-49	50-99	100-249	250-499
95F2515	155120A	3.37	2.81	2.49	2.20
96F7723	155120U	0.41	0.34	0.30	0.27

(9227) (de02022)

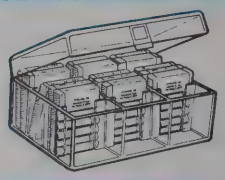
ATO® MINI IN-LINE AUTO FUSE HOLDERS

In-line fuse holders with protective cover. **Type FHAC001** rated thru 20A; **FHAC002** rated thru 30A.

Stock No.	Type	Wire	1-49	50-99	100-249	250-499
95F855	FHAC001	16-Gauge Black	2.01	1.67	1.48	1.31
95F856	FHAC002	12-Gauge Orange	2.31	1.93	1.71	1.51

(9209) (de01748)

FUSE ASSORTMENT KITS



ELECTRONIC FUSE KIT

Ideal for schools, hospitals, plants, R&D labs and maintenance departments. Features 280 popular fuses in a wide assortment of 3AG (¼-8A), 2AG glass (½-3A), 5 x 20mm (½-6.3A), 3AB ceramic (10-30A), fast-acting and slo-blo fuses. Also includes 10 variations of fuse clips, fuse blocks, panel mount and in-line fuse holders. Comes with plastic storage case and cross reference information.

90F9123 Type 094376. **Each** **406.64**

ECONOMICAL FUSE KIT

Features 150 popular fuses in an assortment of 3AG (½-10A), 5 x 20mm (½-6.3A), and 3AB ceramic (10-20A), fast-acting and slo-blo fuses. Plus 5 variations of fuse holders, fuse clips and fuse blocks. Includes a rugged, clear plastic storage case.

90F9124 Type 094377. **Each** **152.38**

PC MOUNT FUSE KIT

Features the most popular PC mountable fuses, fuse holders, fuse blocks and fuse clips available. Ideal for engineering departments and R&D labs. Each kit contains an assortment of 200 picofuses (⅛-7A), microfuses (¼-5A), 3AG pigtail (¼-5A), 2AG pigtail (¼-7A) and 3 AB ceramic pigtail (10-20A), fast-acting and slo-blo fuses. Plus 10 variations of PC mountable fuse holders, fuse blocks and fuse clips. Includes a rugged, clear plastic storage case.

90F9125 Type 094378. **Each** **389.70**

AUTOMOTIVE FUSE KIT

Ideal for automotive maintenance departments. Each kit contains an assortment of 300 ATO blade fuses (3-30A), SFE and 3AG glass fuses (4-30A) and GBC ceramic fuses (5-25A) for use in all American, European and Japanese vehicles. Also includes 10 variations of fuse blocks and in-line fuse holders. Packaged in a sturdy, clear plastic storage case.

90F9126 Type 094379. **Each** **94.77**

APPLIANCE SERVICE FUSE KIT

Contains an assortment of 150 of the most popular fuses used in the appliance repair industry: 3AG (½-10A), 5 x 20mm (½-6.3A) and 3AB ceramic (10-20A), fast-acting and slo-blo fuses. Plus an assortment of 12 appliance switches, indicator lights, fuse holders and fuse blocks. Packaged in a sturdy, clear plastic storage case.

90F9127 Type 094380. **Each** **203.26**

INDUSTRIAL FUSE CADDY KIT

Contains an assortment of 75 universally popular 3AG fast-acting and slo-blo fuses (15 boxes of 5 fuses each). Packaged in a handy, durable plastic caddy case. Caddy case also available separately.

27F677 Type 094037 Fuse Kit. **Each** **62.12**

27F809 Type 896-75 Caddy Case Only. **Each** **2.79**

SURFACE MOUNT KIT

This kit provides unsurpassed access to the most advanced surface mount circuit protection devices on the market today. It allows you to have the right product...the right size...the right rating you need...when you need it. This kit includes both fuses and resettable PTCs.

48F1873 Type 00940381 **Each** **307.99**

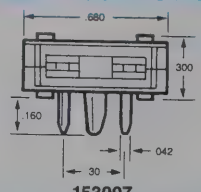
RESETTABLE PTC DESIGN KIT

This kit provides wide assortment of resttable PTC products. The PTC is a unique polymer device that trips during an overload to limit current flow in the circuit and resets after the overload current is removed. This kit contains both surface mount and radical leaded product, of various voltage and current ratings.

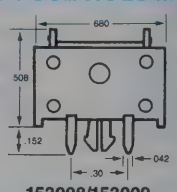
48F1874 Type 00940463 **Each** **176.50**

(9308) (de51235)

MINI® FUSE PC BOARD FUSE HOLDERS



153007



153008/153009

PC board holders for MINI® Fuse 32V blade-type auto fuses. Available horizontal, vertical or stackable vertical-mount. UL recognized 15A, CSA certified 10A.

Stock No.	Type	Description	1-49	50-99	100-249	250-499
97F8266	153007	Horizontal Mount	0.87	0.72	0.64	0.57
97F8267	153008	Vertical Mount Single/Stackable (End)	0.87	0.72	0.64	0.57
97F8268	153009	Vertical Mount Stackable Holder	0.87	0.72	0.64	0.57

(9259) (de03489)

Raychem

POLYSWITCH RESETTABLE FUSES

RGE SERIES THRU-HOLE DEVICES

RGE series R-line devices can be used in a wide variety of automotive, computer, and general electronics applications. Feature high-current carrying capability (up to 11 amps) in a small package with fast trip times. Maximum operating voltage (Vrms): 16V. Hold current 25°C. UL recognized, CSA certified, TUV approved.

Stock No.	Type	I_H(A)	1-49	50-99	100-199	200-499
91F5916	RGE300	3.00	0.75	0.68	0.60	0.54
91F5917	RGE500	5.00	0.78	0.70	0.63	0.56
91F5918	RGE700	7.00	0.88	0.80	0.71	0.64
91F5919	RGE900	9.00	0.99	0.89	0.79	0.71
91F5920	RGE1100	11.00	1.09	0.98	0.87	0.79

(16629) (ne10666)

RUE SERIES THRU-HOLE DEVICES

RUE series thru-hole R-line devices are designed to be used in a wide variety of general electronics applications. **RUE series** devices complement the **RXE series** by providing a smaller form factor with lower resistance and higher hold current capability (up to 9 amps). Maximum operating voltage (Vrms): 30V. UL recognized, CSA certified, TUV approved.

Stock No.	Type	I_H(A)	1-49	50-99	100-199	200-499
92F9127	RUE090	0.90	0.65	0.59	0.53	0.48
92F9128	RUE110	1.10	0.65	0.59	0.53	0.48
92F9129	RUE135	1.35	0.65	0.59	0.53	0.48
92F9131	RUE185	1.85	0.73	0.66	0.59	0.54
92F9132	RUE250	2.50	0.78	0.70	0.64	0.57
92F9133	RUE400	4.00	0.86	0.77	0.70	0.63
92F9134	RUE600	6.00	0.96	0.87	0.78	0.71
92F9135	RUE900	9.00	1.12	1.00	0.91	0.82

(16637) (ne10668)

RXE SERIES THRU-HOLE DEVICES

Unlike traditional fuses, which must be replaced after they blow, Polyswitch PTC (positive temperature coefficient) devices reset after the cause of the fault current and power to the circuit is removed. Resettable overcurrent circuit protection up to 60V @ 40A or 600V @ 3A. PolySwitch resettable fuses are low in resistance and are available in through-hole and surface-mount configurations. Solid-state construction. Applications: audio speakers, solenoids/valves, fire and security alarm systems, medical equipment, motors, test instruments, power supplies, industrial controls, automotive small-motor and electronic circuits. UL recognized, CSA certified, TUV approved. *Contact your local Newark sales office for additional products.*

Stock No.	Type	Max. Operating Voltage (Vrms)	I_H(A)	1-49	50-99	100-199	200-499
92F9112	RXE017	60	0.17	0.60	0.54	0.49	0.44
92F9113	RXE020	60	0.20	0.60	0.54	0.49	0.44
92F9114	RXE025	60	0.25	0.60	0.54	0.49	0.44
92F9115	RXE030	60	0.30	0.60	0.54	0.49	0.44
92F9116	RXE040	60	0.40	0.63	0.56	0.51	0.46
92F9117	RXE050	60	0.50	0.65	0.59	0.53	0.48
92F9118	RXE065	60	0.65	0.65	0.59	0.53	0.48
92F9120	RXE110	60	1.10	0.70	0.63	0.57	0.52
92F9121	RXE135	60	1.35	0.70	0.63	0.57	0.52
92F9122	RXE160	60	1.60	0.73	0.66	0.59	0.54
92F9123	RXE185	60	1.85	0.75	0.68	0.62	0.55
92F9124	RXE250	60	2.50	0.83	0.75	0.68	0.61
92F9126	RXE375	60	3.75	0.86	0.77	0.70	0.63

(9371) (ne06161)

TR SERIES THRU-HOLE DEVICES

Applications include PBX and key telephone systems, modems, point-of-sale terminals, T1/ISDN, and customer premises equipment. UL recognized, CSA certified.

Stock No.	Type	Rated Current (20°C) Max. Operating Voltage (V)	I_H(A)	1-49	50-99	100-199	200-499
91F5921	TR250-080U	250	0.080	0.70	0.63	0.56	0.51
92F9138	TR250-120	250	0.120	0.78	0.70	0.64	0.57
52F8439	TR250-120-2	250	0.120	0.83	0.75	0.68	0.61
52F8440	TR250-180U	250	0.180	0.88	0.80	0.72	0.65
52F8441	TR600-150-2	600	0.150	1.27	1.14	1.04	0.93
91F5922	TR600-150-RA-B-0.	600	0.150	1.32	1.19	1.06	0.95
52F8442	TR600-160	600	0.160	1.22	1.10	1.00	0.90

(9388) (ne07298)

miniSMD™ SURFACE MOUNT DEVICES

The miniSMD™ devices' small size make them excellent choices for computers and peripherals, disk drives, adapter cards, DC-to-DC converters, portable electronics and phones, and other high-density electronics. UL recognized, CSA certified, TUV approved.

Stock No.	Type	Max. Operating Voltage/Interrupt Current Ratings: Vdc	A	I_H(A)	1-49	50-99	100-199	200-499
91F5929	miniSMDC035	6	40	0.35	0.73	0.66	0.58	0.53
52F564	miniSMD050-2	15	40	0.50	0.79	0.73	0.67	...
52F565	miniSMD075-2	13.2	40	0.75	0.79	0.73	0.67	...
91F5930	miniSMDC050-2	15	40	0.50	0.99	0.89	0.79	0.71
91F5931	miniSMDC075-2	13.2	40	0.75	0.57	0.52	0.46	0.41
91F5932	miniSMDC110-2	6	40	1.10	0.57	0.52	0.46	0.41

(9390) (ne07300)

SMD SERIES SURFACE MOUNT DEVICES

Applications include computers and peripherals, disk drives, Ethernet cards, local area networks, and PC cards. Meet MIL-T-10727B specifications. UL recognized, CSA certified, TUV approved.

Stock No.	Type	Max. Operating Voltage/Interrupt Current Ratings	I_H(A)	1-49	50-99	100-199	200-499
52F8447	SMD030-2	60V/10A or 12V/60A or 5V/125A	0.30	0.78	0.70	0.64	0.57
52F8448	SMD050-2	60V/10A or 12V/60A or 5V/125A	0.50	0.78	0.70	0.64	0.57
52F8449	SMD075-2	30V/40A or 12V/60A or 5V/125A	0.75	1.32	1.19	1.08	0.97
92F9136	SMD100-2	30V/40A or 12V/60A or 5V/125A	1.10	0.75	0.68	0.60	0.54
52F8450	SMD125-2	15V/40A or 12V/60A or 5V/125A	1.25	1.27	1.14	1.04	0.93
52F8451	SMD150-2	15V/40A or 12V/60A or 5V/125A	1.50	0.78	0.70	0.64	0.57
91F5933	SMD200-2	15V/40A or 12V/60A or 5V/125A	2.00	0.78	0.70	0.63	0.56
91F5934	SMD250-2	15V/40A or 12V/60A	2.50	0.75	0.68	0.60	0.54
91F5935	SMD260-2	6V/40A	2.60	0.75	0.68	0.60	0.54

(9389) (ne07299)

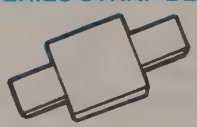
LTP SERIES STRAP DEVICES

LTP series strap devices provide reliable, noncycling protection for rechargeable batteries and have a slim, low-profile design that makes them easy to install. Offer additional protection at elevated temperatures. Maximum operating voltage (Vrms): 24V. UL recognized.

Stock No.	Type	I_H(A)	I Max. (A)	1-49	50-99	100-199	200-499
91F5923	LTP100	1.00	100	0.78	0.70	0.63	0.56
91F5924	LTP180	1.80	100	0.78	0.70	0.63	0.56
91F5925	LTP190	1.90	100	0.78	0.70	0.63	0.56
91F5926	LTP260	2.60	100	0.88	0.80	0.71	0.64

(16632) (ne10667)

SRP SERIES STRAP DEVICES



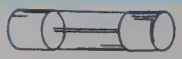
For use in rechargeable battery packs. UL recognized, CSA certified, TUV approved.

Stock No.	Type	Max. Operating Voltage/Interrupt Current Ratings: VDC	A	I_H(A)	1-49	50-99	100-199	200-499
91F5927	SRP120	15	100	1.20	0.83	0.75	0.67	0.60
91F5928	SRP175	15	100	1.75	0.83	0.75	0.67	0.60
52F8437	SRP200	24	100	2.00	0.83	0.75	0.68	0.61
52F8438	SRP350	24	100	3.50	0.88	0.80	0.72	0.65

(9387) (ne07297)

FUSES, FUSE HOLDERS AND CIRCUIT BREAKERS

5 x 20mm LOW- AND HIGH-BREAKING FUSES



Manufactured according to IEC 127. Breaking capacity: 35A/250VAC (low breaking) and 1500A/250VAC (high breaking). UL recognized, VDE, SEMKO, and SEV approved. **FSU** and **SSU series** fuses meet UL 1459; GR1089; and ITU-T K.20 for telecom applications. Other rated currents are available (all available pigtailed); *contact your local Newark sales office..*

FSF SERIES QUICK-ACTING FUSES (LOW BREAKING)

Stock No.	Type	Amps	1-49	50-99
04F972	0034.1513	500mA	0.55	0.44
04F973	0034.1514	630mA	0.55	0.44
04F974	0034.1515	800mA	0.55	0.44
04F975	0034.1516	1A	0.55	0.44
04F960	0034.1519	2A	0.55	0.44
04F961	0034.1520	2.5A	0.55	0.44
04F962	0034.1521	3.15A	0.55	0.44
04F963	0034.1522	4A	0.55	0.44
04F964	0034.1523	5A	0.55	0.44
04F965	0034.1524	6.3A	0.55	0.44

FST SERIES TIME-DELAY FUSES (LOW BREAKING)

04F955	0034.3114	500mA	0.65	0.52
04F956	0034.3115	630mA	0.65	0.52
04F957	0034.3116	800mA	0.65	0.52
04F958	0034.3117	1A	0.65	0.52
04F943	0034.3120	2A	0.65	0.52
04F944	0034.3121	2.5A	0.65	0.52
04F945	0034.3122	3.15A	0.65	0.52
04F946	0034.3123	4A	0.65	0.52
04F947	0034.3124	5A	0.65	0.52
04F948	0034.3125	6.3A	0.65	0.52

FSU SERIES TELECOM TIME-DELAY FUSES (LOW BREAKING)

91F7245	2010.0011	250mA	0.52	0.49
91F7248	2010.0014	500mA	0.52	0.49
91F7251	2010.0017	1A	0.52	0.49

SP SERIES QUICK-ACTING FUSES (HIGH BREAKING)

04F949	0001.1001	500mA	0.95	0.76
04F934	0001.1004	1A	0.95	0.76
04F937	0001.1007	2A	0.95	0.76
04F938	0001.1008	2.5A	0.89	0.75
04F940	0001.1010	4A	0.95	0.76
04F941	0001.1011	5A	0.95	0.76

SSU SERIES TELECOM QUICK-ACTING FUSES (HIGH BREAKING)

91F7252	2020.0001	500mA	1.30	1.23
91F7255	2020.0004	1A	1.30	1.23

(2396) (de50761)

OPEN DESIGN FUSE CLIPS/BLOCKS

Fig. 1

Fig. 2

Fig. 3

Fuse clips/blocks are UL recognized, CSA certified, VDE, SEV, and SEMKO approved.

Stock No.	Type	Fuse Size	Pin Spacing	Fig.	1-49	50-99
04F1003	0751.0099	¼" or 5mm	5mm	1	0.62	0.49
96F8317	0031.8201	5 x 20mm	22.5mm	2	0.62	0.50
85F224	0031.8221	5 x 20mm	Surface Mount	2	0.88	0.66
92F1964	0031.8231	¼" or 5mm	5 x 20mm	3	1.33	1.07

(2398) (de50764)

5x20mm/250V SHOCK-SAFE FUSE HOLDERS

Fig. 1

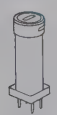


Fig. 2

Fig. 3

Fig. 4

FPG series fuse holders meet IEC standard 257. All UL recognized, CSA certified, VDE, SEMKO, and SEV approved.

Stock No.	Type	Fuse Carrier	Fig.	Mount	1-49	50-99
92F1940	3101.0050	Bayonet/Slotted	1	PCB++	2.69	2.15
92F1941	3101.0040	Bayonet/Slotted	2	PCB+++	2.69	2.15
92F1942	3101.0010	Bayonet/Slotted	3	Screw-On	2.35	1.88
92F1943	3101.0015	Bayonet/Grip	3	Screw-On	2.69	2.15
92F1946	3101.0110	Bayonet/Slot (Watertight)+	3	Screw-On	4.45	3.56
92F1944	3101.0030	Bayonet/Slotted+	4	Push-In	2.35	1.88
92F1945	3101.0035	Bayonet/Grip+	4	Push-In	2.69	2.15

+Quick Disconnect; ++Horizontal; +++Vertical.
(2400) (de50766)

250V MICROFUSES

250VAC microfuses break at 35A. Manufactured according to IEC 127-3/111. UL recognized, VDE, SEMKO, and SEV approved. All fuses are directly solderable into PC boards or can be plugged into **type 0031.7601** fuse holder; *ordered separately.* **MSU series** microfuses meet UL 1459; GR1089; and ITU-T K.20 for telecom applications. Quick-acting microfuses and other rated currents are available; *contact your local Newark sales office.*

MST SERIES TIME-LAG MICROFUSES (LOW BREAKING)

Stock No.	Type	Amps	1-49	50-99
16F2131	0034.6608	200mA	1.07	0.81
16F2143	0034.6611	400mA	0.53	0.41
16F2146	0034.6614	800mA	0.53	0.41
16F2148	0034.6616	1.25A	0.93	0.70
16F2149	0034.6617	1.6A	0.93	0.70
16F2150	0034.6618	2A	0.93	0.70
16F2151	0034.6619	2.5A	0.93	0.70
16F2152	0034.6620	3.15A	0.93	0.70
16F2154	0034.6622	5A	0.93	0.70

MSU SERIES TELECOM TIME-LAG MICROFUSES (LOW BREAKING)

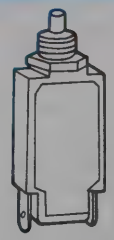
91F7238	2040.0609	250mA	0.75	0.70
91F7240	2040.0611	400mA	0.75	0.70
91F7241	2040.0612	500mA	0.75	0.70
91F7243	2040.0614	800mA	0.75	0.70
91F7244	2040.0615	1A	0.75	0.70

250V FUSE HOLDER

Stock No.	Type	1-49	50-99
04F1105	031.7601	0.89	0.66

(2399) (de50765)

T11 SERIES THERMAL CIRCUIT BREAKERS



Trip-free single-pole circuit breakers; push to reset. 6.3 x 0.8mm quick-connect terminals. **T11-211** has 6mm long threaded neck with hexagonal nut. **T11-311** has 8mm long threaded neck with hexagonal nut. Options include: shunt terminal up to 6A; silver contacts meet UL 1077 up to 12A ratings; and trip band indicator. UL recognized, CSA certified, VDE approved. Protective dust cover also available; *contact your local Newark sales office.*

THREADED NECK MOUNTING 3/8-27 UNS THREAD

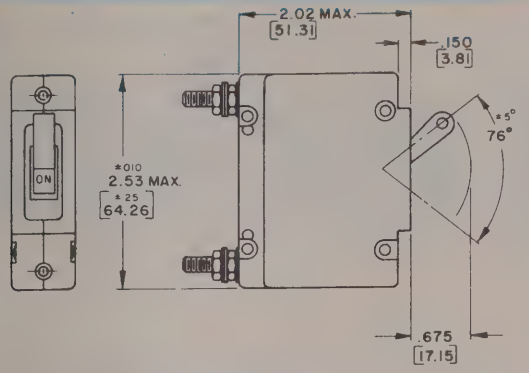
Stock No.	Type	Rating	1-49	50-99	100-249	250-499
91F6094	T11-311-0,5	0.5mA	7.80	6.24	5.93	5.63
91F6095	T11-311-1,0	1A	7.80	6.24	5.93	5.63
91F6096	T11-311-1,5	1.5A	7.80	6.24	5.93	5.63
91F6097	T11-311-2,0	2A	7.80	6.24	5.93	5.63
91F6098	T11-311-3,0	3A	7.80	6.24	5.93	5.63
91F6099	T11-311-4,0	4A	7.80	6.24	5.93	5.63
91F6100	T11-311-5,0	5A	7.80	6.24	5.93	5.63
91F6101	T11-311-10	10A	7.80	6.24	5.93	5.63
16F2155	T11-311-5	0.5mA	12.77	6.72	5.81	4.85
16F2156	T11-211-1	1A	12.77	6.72	5.81	4.85
16F2157	T11-211-1.5	1.5A	12.77	6.72	5.81	4.85
16F2158	T11-211-2.0	2A	12.77	6.72	5.81	4.85
16F2159	T11-211-3.0	3A	12.77	6.72	5.81	4.85
16F2160	T11-211-4.0	4A	12.77	6.72	5.81	4.85
16F2161	T11-211-5.0	5A	12.77	6.72	5.81	4.85
16F2162	T11-311-10	10A	12.77	6.72	5.81	4.85

(16831) (ne09932)

NEW PRODUCTS ARE BEING ADDED TO OUR INVENTORY EVERY DAY.
CALL NEWARK FOR INFORMATION ON WHAT'S CURRENTLY IN STOCK.

MAGNETIC CIRCUIT BREAKERS

UPL SERIES MAGNETIC CIRCUIT BREAKERS



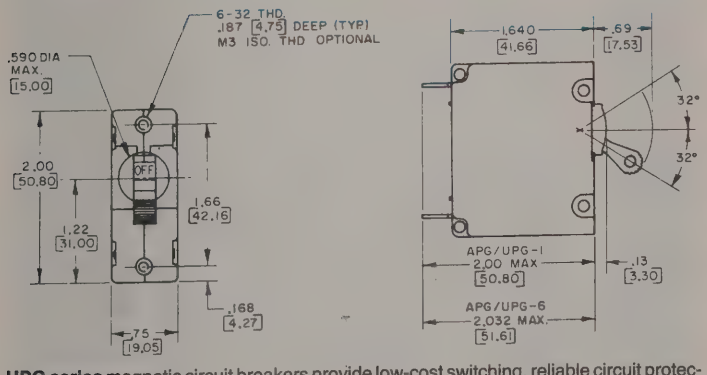
UPL series magnetic circuit breakers provide reliable, low-cost switching, circuit protection and accurate circuit control. All types listed below are DC, 50/60Hz medium delay and are rated 65VDC/250VAC. All types listed below are an internal series configuration. UL recognized, CSA certified.

1 POLE

Stock No.	Type	Rated Current (Amps)	1-9	10-24	25-49	50-99
91F9467	UPL1-1-72-502	5.0	27.12	20.34	17.63	15.46
91F9468	UPL1-1-72-103	10.0	27.12	20.34	17.63	15.46
91F9469	UPL1-1-72-153	15.0	27.12	20.34	17.63	15.46
91F9470	UPL1-1-72-203	20.0	27.12	20.34	17.63	15.46
91F9471	UPL1-1-72-253	25.0	27.12	20.34	17.63	15.46
91F9472	UPL1-1-72-303	30.0	27.12	20.34	17.63	15.46
91F9474	UPL1-1-72-503	50.0	27.12	20.34	17.63	15.46
2 POLES						
91F9477	UPL11-1-72-103	10.0	71.37	53.53	46.39	40.68
91F9480	UPL11-1-72-253	25.0	71.37	53.53	46.39	40.68
91F9481	UPL11-1-72-303	30.0	71.37	53.53	46.39	40.68
91F9483	UPL11-1-72-503	50.0	71.37	53.53	46.39	40.68

(15832) (ne10219)

UPG SERIES MAGNETIC CIRCUIT BREAKERS



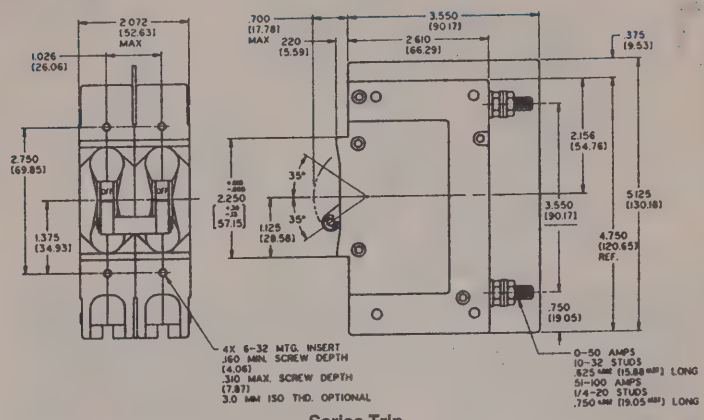
UPG series magnetic circuit breakers provide low-cost switching, reliable circuit protection, and accurate circuit control. All types listed below are DC, 50/60Hz long delay, and are rated 65VDC/250VAC. **Suffix -01** indicates black handle with white markings. UL recognized, CSA certified.

1 POLE

Stock No.	Type	No. of Handles	1-9	10-24	25-49	50-99
91F9486	UPG6-1-72-502-01	1/unit	21.12	15.84	13.73	12.04
91F9487	UPG6-1-72-103-01	1/unit	21.12	15.84	13.73	12.04
91F9489	UPG6-1-72-203-01	1/unit	21.12	15.84	13.73	12.04
91F9490	UPG6-1-72-253-01	1/unit	21.12	15.84	13.73	12.04
91F9491	UPG6-1-72-303-01	1/unit	21.12	15.84	13.73	12.04
2 POLES						
91F9525	UPGH66-1-72-10301	1/pole	50.20	37.65	32.63	28.62
91F9528	UPGH66-1-72-25301	1/pole	50.20	37.65	32.63	28.62
91F9529	UPGH66-1-72-30301	1/pole	50.20	37.65	32.63	28.62

(15831) (ne10218)

209 SERIES MAGNETIC CIRCUIT BREAKERS



Series Trip

209 series E-frame circuit breakers combine power switching with accurate, reliable circuit protection in one compact unit. Ideal for branch circuit applications such as EDP, air conditioners, panel boards, and lighting controls. Available in both 50/60Hz medium delay (62 type) and DC medium delay (52 type). Maximum current: 100 amps. All types listed below have a series trip configuration. UL listed, VDE approved, CSA certified.

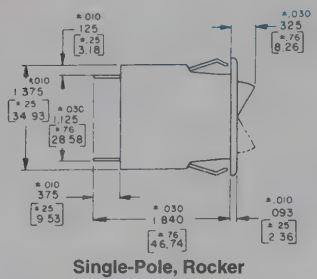
1 POLE

Stock No.	Type	Amp/Max. Volt.	1-9	10-24	25-49	50-99
91F9493	209-1-1-62-4-8-10	10/240VAC	31.68	23.76	20.59	18.06
91F9495	209-1-1-62-4-8-20	20/240VAC	31.68	23.76	20.59	18.06
91F9496	209-1-1-62-4-8-25	25/240VAC	31.68	23.76	20.59	18.06
91F9497	209-1-1-62-4-8-30	30/240VAC	31.68	23.76	20.59	18.06
91F9499	209-1-1-62-4-8-40	40/240VAC	31.68	23.76	20.59	18.06
91F9501	209-1-1-62-4-8-50	50/240VAC	31.68	23.76	20.59	18.06
91F9502	209-1-1-62-4-9-60	60/240VAC	37.68	28.26	24.49	21.48
91F9504	209-1-1-62-4-9-80	80/240VAC	37.68	28.26	24.49	21.48
91F9506	209-11-62-4-9-100	100/240VAC	37.68	28.26	24.49	21.48
91F9508	209-1-1-52-2-8-10	10/125VDC	31.68	23.76	20.59	18.06
91F9510	209-1-1-52-2-8-20	20/125VDC	31.68	23.76	20.59	18.06
91F9511	209-1-1-52-2-8-25	25/125VDC	31.68	23.76	20.59	18.06
91F9512	209-1-1-52-2-8-30	30/125VDC	31.68	23.76	20.59	18.06
91F9514	209-1-1-52-2-8-40	40/125VDC	31.68	23.76	20.59	18.06
91F9516	209-1-1-52-2-8-50	50/125VDC	31.68	23.76	20.59	18.06
91F9517	209-1-1-52-2-8-60	60/125VDC	37.68	28.26	24.49	21.48
91F9519	209-1-1-52-2-8-80	80/125VDC	37.68	28.26	24.49	21.48
91F9521	209-11-52-2-9-100	100/125VDC	37.68	28.26	24.49	21.48
2 POLE						
91F9531	209-2-1-62-4-8-10	10/240VAC	71.63	53.72	46.56	40.83
91F9533	209-2-1-62-4-8-20	20/240VAC	71.63	53.72	46.56	40.83
91F9534	209-2-1-62-4-8-25	25/240VAC	71.63	53.72	46.56	40.83
91F9535	209-2-1-62-4-8-30	30/240VAC	71.63	53.72	46.56	40.83
91F9537	209-2-1-62-4-8-40	40/240VAC	71.63	53.72	46.56	40.83
91F9539	209-2-1-62-4-8-50	50/240VAC	71.63	53.72	46.56	40.83
91F9540	209-2-1-62-4-9-60	60/240VAC	83.63	62.73	54.36	47.67
91F9542	209-2-1-62-4-9-80	80/240VAC	83.63	62.73	54.36	47.67
91F9544	209-21-62-4-9-100	100/240VAC	83.63	62.73	54.36	47.67
91F9546	209-2-1-52-2-8-10	10/125VDC	71.63	53.72	46.56	40.83
91F9548	209-2-1-52-2-8-20	20/125VDC	71.63	53.72	46.56	40.83
91F9549	209-2-1-52-2-8-25	25/125VDC	71.63	53.72	46.56	40.83
91F9550	209-2-1-52-2-8-30	30/125VDC	71.63	53.72	46.56	40.83
91F9552	209-2-1-52-2-8-40	40/125VDC	71.63	53.72	46.56	40.83
91F9554	209-2-1-52-2-8-50	50/125VDC	71.63	53.72	46.56	40.83
91F9555	209-2-1-52-2-9-60	60/125VDC	83.63	62.73	54.36	47.67
91F9557	209-2-1-52-2-9-80	80/125VDC	83.63	62.73	54.36	47.67
91F9559	209-21-52-2-9-100	100/125VDC	83.63	62.73	54.36	47.67

(15830) (ne10217)

OVERNIGHT SHIPMENT IS AVAILABLE WHEN YOU NEED IT.
CONTACT YOUR LOCAL NEWARK SALES OFFICE.

SNAPAK® MAGNETIC CIRCUIT BREAKERS



Single-Pole, Rocker

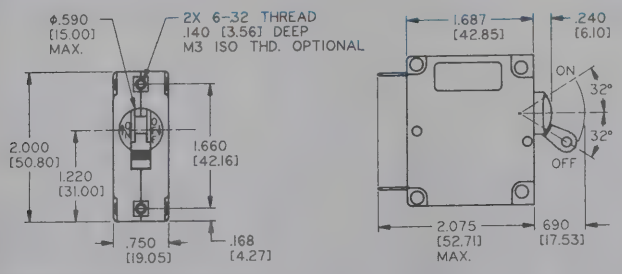
SNAPAK® offers power switching and accurate, reliable circuit protection in a single snap-acting magnetic circuit breaker. SNAPAK® combines the functions of three separate components: power switch, fuse, and fuseholder that allows for less assembly, lower inventory, and greater panel density through less clutter. SNAPAK® can be operated at either DC or 50/60Hz. Voltages on units up to 7.5 amps are 50VDC/250VAC. Voltages above 7.5 amps are 32VDC/125VAC. All types listed are series circuit breakers with rocker action. Body color: black; handle color: white. UL recognized, CSA certified, CE compliant, VDE approved.

1 POLE

Stock No.	Type	Rated Current (Amps)	1-9	10-24	25-49	50-99
91F9406	R11-2-1.00AB06CVV	1.00	9.62	8.73	8.59	8.42
91F9407	R11-2-2.00AB06CVV	2.00	9.62	8.73	8.59	8.42
91F9408	R11-2-5.00AB06CVV	5.00	9.62	8.73	8.59	8.42
91F9409	R11-2-10.0AB06CVV	10.0	9.62	8.73	8.59	8.42
91F9410	R11-2-15.0AB06CVV	15.0	9.62	8.73	8.59	8.42
91F9411	R11-2-20.0AB06CVV	20.0	9.62	8.73	8.59	8.42
2 POLE						
91F9412	R21-2-1.00AB06CVV	1.00	22.75	20.65	20.33	19.91
91F9413	R21-2-2.00AB06CVV	2.00	22.75	20.65	20.33	19.91
91F9414	R21-2-5.00AB06CVV	5.00	22.75	20.65	20.33	19.91
91F9415	R21-2-10.0AB06CVV	10.0	22.75	20.65	20.33	19.91
91F9416	R21-2-15.0AB06CVV	15.0	22.75	20.65	20.33	19.91
91F9417	R21-2-20.0AB06CVV	20.0	22.75	20.65	20.33	19.91

(15827) (ne10214)

IEG SERIES MAGNETIC CIRCUIT BREAKERS



IEG series magnetic circuit breakers provide low-cost power switching, reliable circuit protection, and accurate circuit control. Types listed below are **Prefix IEG** in type number denotes one toggle handle per unit, **Prefix IEGH** in type number denotes one toggle handle per pole. Available in both DC long delay and 50/60Hz long delay. AC units are 250VAC. DC units are rated at 80VDC. UL recognized, CSA certified, CE compliant, VDE approved.

1 POLE

Stock No.	Type	Rated Current (Amps)	1-9	10-24	25-49	50-99
91F9418	IEG61-62-5.00-01V	5.00	21.95	16.46	14.27	12.51
91F9419	IEG61-62-10.0-01V	10.0	21.95	16.46	14.27	12.51
91F9420	IEG61-62-15.0-01V	15.0	21.95	16.46	14.27	12.51
91F9422	IEG61-62-25.0-01V	25.0	21.95	16.46	14.27	12.51
91F9423	IEG61-62-30.0-01V	30.0	21.95	16.46	14.27	12.51
92F077	IEG61-62-50.0-01V	50.0	21.95	16.46	14.27	12.51
91F9424	IEG61-52-5.00-01V	5.00	21.95	16.46	14.27	12.51
91F9425	IEG61-52-10.0-01V	10.0	21.95	16.46	14.27	12.51
91F9426	IEG61-52-15.0-01V	15.0	21.95	16.46	14.27	12.51
91F9428	IEG61-52-25.0-01V	25.0	21.95	16.46	14.27	12.51
91F9429	IEG61-52-30.0-01V	30.0	21.95	16.46	14.27	12.51
92F078	IEG61-52-50.0-01V	50.0	21.95	16.46	14.27	12.51
2 POLES						
91F9431	IEGH6616210.0-01V	10.0	51.50	38.62	33.47	29.35

CONTINUED

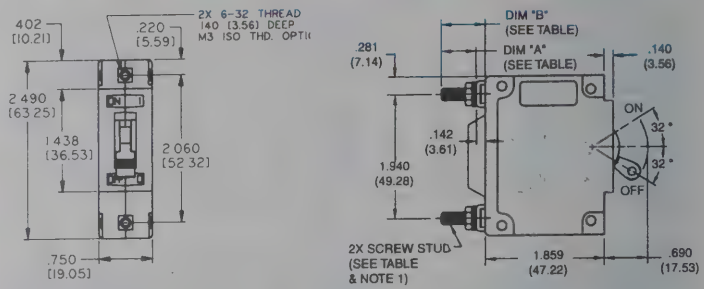
IEG SERIES MAGNETIC CIRCUIT BREAKERS (CONT.)

2 POLES (CONT.)

Stock No.	Type	Rated Current (Amps)	1-9	10-24	25-49	50-99
91F9434	IEGH6616225.0-01V	25.0	51.50	38.62	33.47	29.35
91F9435	IEGH6616230.0-01V	30.0	51.50	38.62	33.47	29.35
92F079	IEGH6616250.0-01V	50.0	51.50	38.62	33.47	29.35
91F9437	IEGH6615210.0-01V	10.0	51.50	38.62	33.47	29.35
91F9440	IEGH6615225.0-01V	25.0	51.50	38.62	33.47	29.35
91F9441	IEGH6615230.0-01V	30.0	51.50	38.62	33.47	29.35
92F080	IEGH6615250.0-01V	50.0	51.50	38.62	33.47	29.35

(15828) (ne10215)

IEL SERIES MAGNETIC CIRCUIT BREAKERS



IEL series magnetic circuit breakers provide low-cost power switching, reliable circuit protection, and accurate circuit control. Types listed below have one toggle handle per unit. **Prefix IELHK** in type number denotes unit with stud terminals. Available in both DC long delay and 50/60Hz long delay. AC units are 250VAC; DC units are 80VDC. UL recognized, CSA certified, CE compliant, VDE approved.

1 POLE

Stock No.	Type	Rated Current (Amps)	1-9	10-24	25-49	50-99
91F9442	IELK1162-10.0-01V	10.0	29.14	21.85	18.94	16.61
91F9443	IELK1162-20.0-01V	20.0	29.14	21.85	18.94	16.61
91F9444	IELK1162-25.0-01V	25.0	29.14	21.85	18.94	16.61
91F9445	IEKL1162-30.0-01V	30.0	29.14	21.85	18.94	16.61
91F9447	IELK1162-50.0-01V	50.0	29.14	21.85	18.94	16.61
91F9448	IEKL1152-10.0-01V	10.0	29.14	21.85	18.94	16.61
91F9449	IEKL1152-20.0-01V	20.0	29.14	21.85	18.94	16.61
91F9450	IELK1152-25.0-01V	25.0	29.14	21.85	18.94	16.61
91F9451	IELK1152-30.0-01V	30.0	29.14	21.85	18.94	16.61
91F9453	IELK1152-50.0-01V	50.0	29.14	21.85	18.94	16.61
2 POLES						
91F9454	IELHK11-1-62-10.0	10.0	74.47	55.85	48.41	42.45
91F9455	IELHK11-1-62-20.0	20.0	74.47	55.85	48.41	42.45
91F9456	IELHK11-1-62-25.0	25.0	74.47	55.85	48.41	42.45
91F9457	IELHK11-1-62-30.0	30.0	74.47	55.85	48.41	42.45
91F9458	IELHK11-1-62-40.0	40.0	74.47	55.85	48.41	42.45
91F9459	IELHK11-1-62-50.0	50.0	74.47	55.85	48.41	42.45
91F9460	IELHK11-1-52-10.0	10.0	74.47	55.85	48.41	42.45
91F9461	IELHK11-1-52-20.0	20.0	74.47	55.85	48.41	42.45
91F9462	IELHK11-1-52-25.0	25.0	74.47	55.85	48.41	42.45
91F9463	IELHK11-1-52-30.0	30.0	74.47	55.85	48.41	42.45
91F9464	IELHK11-1-52-40.0	40.0	74.47	55.85	48.41	42.45
91F9465	IELHK11-1-52-50.0	50.0	74.47	55.85	48.41	42.45

(15826) (ne10216)

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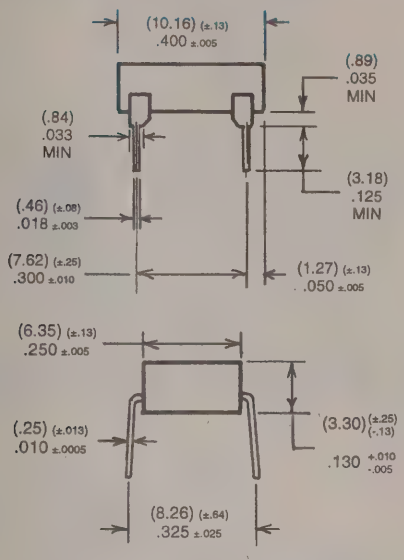
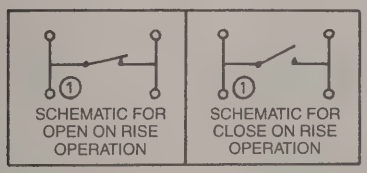
6600 SERIES PC BOARD THERMOSTATS



Standard 8-Pin DIP Configuration

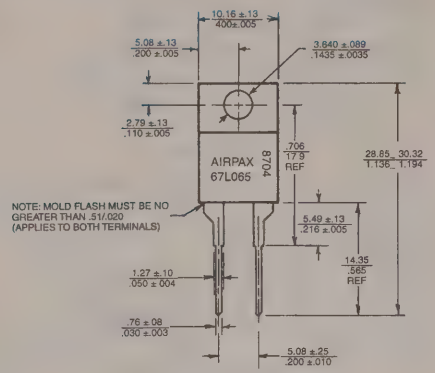


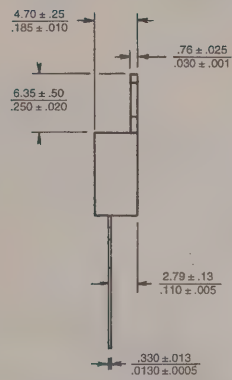
6600 series are miniature bimetallic snap-acting thermostats ideally suited for use on PC boards. Provide fast, positive response and excellent repeatability at 48VDC at 1amp switching capability, over its operating temperature range of 40°C to 120°C (104°F to 248°F). Available in fan switches (Close on Rise) and limit switches (Open on Rise). High temperature epoxy sealed. UL recognized, CSA certified.

Stock No.	Type	Function	1-24	25-99	100-249	250-499
91F9372	66F040	Closes	7.09	6.10	5.25	4.83
91F9373	66L040	Opens	7.09	6.10	5.25	4.83
91F9374	66F045	Closes	7.09	6.10	5.25	4.83
91F9375	66L045	Opens	7.09	6.10	5.25	4.83
91F9376	66F050	Closes	7.09	6.10	5.25	4.83
91F9377	66L050	Opens	7.09	6.10	5.25	4.83
91F9378	66F055	Closes	7.09	6.10	5.25	4.83
91F9379	66L055	Opens	7.09	6.10	5.25	4.83
91F9380	66F060	Closes	7.09	6.10	5.25	4.83
91F9381	66L060	Opens	7.09	6.10	5.25	4.83
91F9382	66F065	Closes	7.09	6.10	5.25	4.83
91F9383	66L065	Opens	7.09	6.10	5.25	4.83
91F9384	66F070	Closes	7.09	6.10	5.25	4.83
91F9385	66L070	Opens	7.09	6.10	5.25	4.83
91F9386	66F075	Closes	7.09	6.10	5.25	4.83
91F9387	66L075	Opens	7.09	6.10	5.25	4.83
91F9388	66F080	Closes	7.09	6.10	5.25	4.83
91F9389	66L080	Opens	7.09	6.10	5.25	4.83
91F9390	66F085	Closes	7.09	6.10	5.25	4.83
91F9391	66L085	Opens	7.09	6.10	5.25	4.83
91F9392	66F090	Closes	7.09	6.10	5.25	4.83
91F9393	66L090	Opens	7.09	6.10	5.25	4.83
91F9394	66F095	Closes	7.09	6.10	5.25	4.83
91F9395	66L095	Opens	7.09	6.10	5.25	4.83
91F9396	66F100	Closes	7.09	6.10	5.25	4.83
91F9397	66L100	Opens	7.09	6.10	5.25	4.83
91F9398	66F105	Closes	7.09	6.10	5.25	4.83
91F9399	66L105	Opens	7.09	6.10	5.25	4.83
91F9400	66F110	Closes	7.09	6.10	5.25	4.83
91F9401	66L110	Opens	7.09	6.10	5.25	4.83
91F9402	66F115	Closes	7.09	6.10	5.25	4.83
91F9403	66L115	Opens	7.09	6.10	5.25	4.83
91F9404	66F120	Closes	7.09	6.10	5.25	4.83
91F9405	66L120	Opens	7.09	6.10	5.25	4.83

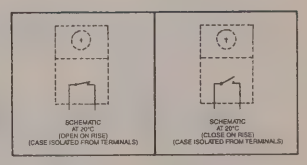
(16028) (ne10008)

6700 SERIES PC BOARD THERMOSTATS





Standard Tozzo Package



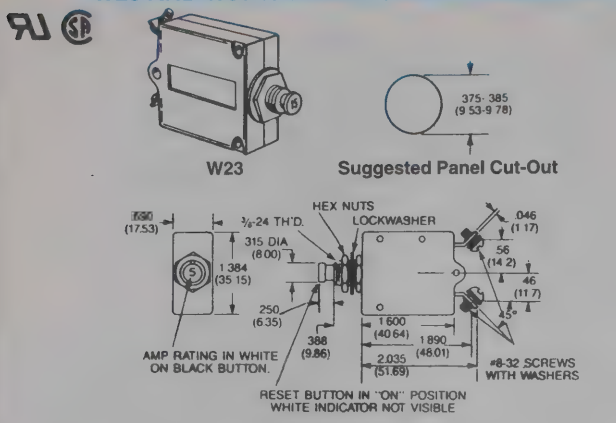
6700 series provide accurate and durable sensing and switching in a single miniature bimetallic snap-acting thermostat. Developed for thermal management applications on power supplies or use on PC boards. SPST switch assembly. 1-amp switching capability at 48VDC over its operating temperature range of 40°C to 130°C (104°F to 266°F). Mechanical life: 1 million operations. Available in fan switches (Close on Rise) and limit switches (Open on Rise). UL recognized, CSA certified. (VDE approved product available on request).

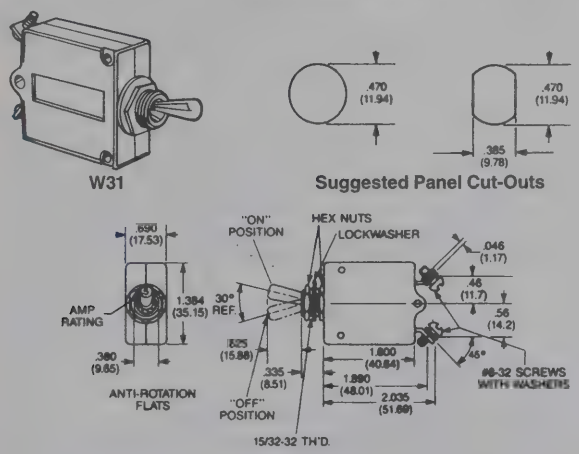
Stock No.	Type	Function	1-24	25-99	100-249	250-499
91F9334	67F040	Closes	7.09	6.10	5.25	4.83
91F9335	67L040	Opens	7.09	6.10	5.25	4.83
91F9336	67F045	Closes	7.09	6.10	5.25	4.83
91F9337	67L045	Opens	7.09	6.10	5.25	4.83
91F9338	67F050	Closes	7.09	6.10	5.25	4.83
91F9339	67L050	Opens	7.09	6.10	5.25	4.83
91F9340	67F055	Closes	7.09	6.10	5.25	4.83
91F9341	67L055	Opens	7.09	6.10	5.25	4.83
91F9342	67F060	Closes	7.09	6.10	5.25	4.83
91F9343	67L060	Opens	7.09	6.10	5.25	4.83
91F9344	67F065	Closes	7.09	6.10	5.25	4.83
91F9345	67L065	Opens	7.09	6.10	5.25	4.83
91F9346	67F070	Closes	7.09	6.10	5.25	4.83
91F9347	67L070	Opens	7.09	6.10	5.25	4.83
91F9348	67F075	Closes	7.09	6.10	5.25	4.83
91F9349	67L075	Opens	7.09	6.10	5.25	4.83
91F9350	67F080	Closes	7.09	6.10	5.25	4.83
91F9351	67L080	Opens	7.09	6.10	5.25	4.83
91F9352	67F085	Closes	7.09	6.10	5.25	4.83
91F9353	67L085	Opens	7.09	6.10	5.25	4.83
91F9354	67F090	Closes	7.09	6.10	5.25	4.83
91F9355	67L090	Opens	7.09	6.10	5.25	4.83
91F9356	67F095	Closes	7.09	6.10	5.25	4.83
91F9357	67L095	Opens	7.09	6.10	5.25	4.83
91F9358	67F100	Closes	7.09	6.10	5.25	4.83
91F9359	67L100	Opens	7.09	6.10	5.25	4.83
91F9360	67F105	Closes	7.09	6.10	5.25	4.83
91F9361	67L105	Opens	7.09	6.10	5.25	4.83
91F9362	67F110	Closes	7.09	6.10	5.25	4.83
91F9363	67L110	Opens	7.09	6.10	5.25	4.83
91F9364	67F115	Closes	7.09	6.10	5.25	4.83
91F9365	67L115	Opens	7.09	6.10	5.25	4.83
91F9366	67F120	Closes	7.09	6.10	5.25	4.83
91F9367	67L120	Opens	7.09	6.10	5.25	4.83
91F9368	67F125	Closes	7.09	6.10	5.25	4.83
91F9369	67L125	Opens	7.09	6.10	5.25	4.83
91F9370	67F130	Closes	7.09	6.10	5.25	4.83
91F9371	67L130	Opens	7.09	6.10	5.25	4.83

(16029) (ne10009)

THERMAL CIRCUIT BREAKERS

W23 AND W31 THERMAL CIRCUIT BREAKERS





W23 and **W31 Series** circuit breakers are single pole, thermal devices. Both units may also be used as a switch. **W31** features toggle actuation and **W23** push/pull. Each breaker has trip-free feature which allows contacts to open on an overload even with toggle or button held in On position. **W23** and **W31** will carry 100% of rated load continuously but must trip at 135% of rated load at 25°C within one hour. Both units UL Recognized under file E69543 and CSA certified under file LR15734. Trip times listed are at 200% rating. **W31** Units have anti-rotation flats but also mount in round hole. See suggested panel cut-outs.

W23 SERIES PUSHBUTTON CIRCUIT BREAKERS — 11-30 SEC. TRIP TIME

Stock No.	Type	Amps	1-24	25-49	50-99
95F9218	W23-X1A1G-2	2.0	31.79	28.61	25.76

W23 SERIES PUSHBUTTON CIRCUIT BREAKERS — 6-22 SEC. TRIP TIME

44F941	W23-X1A1G-5	5.0	19.66	17.70	15.93
44F942	W23-X1A1G-7.5	7.5	19.66	17.70	15.93
44F943	W23-X1A1G-10	10.0	19.66	17.70	15.93
44F944	W23-X1A1G-15	15.0	19.66	17.70	15.93
44F946	W23-X1A1G-25	25.0	19.66	17.70	15.93
44F947	W23-X1A1G-30	30.0	19.66	17.70	15.93
77B4524	W23-X1A1G-35	35.0	19.66	17.70	15.93
44F948	W23-X1A1G-40	40.0	19.66	17.70	15.93
44F949	W23-X1A1G-50	50.0	19.66	17.70	15.93

W31 SERIES TOGGLE-ACTUATED CIRCUIT BREAKERS — 11-30 SEC. TRIP TIME

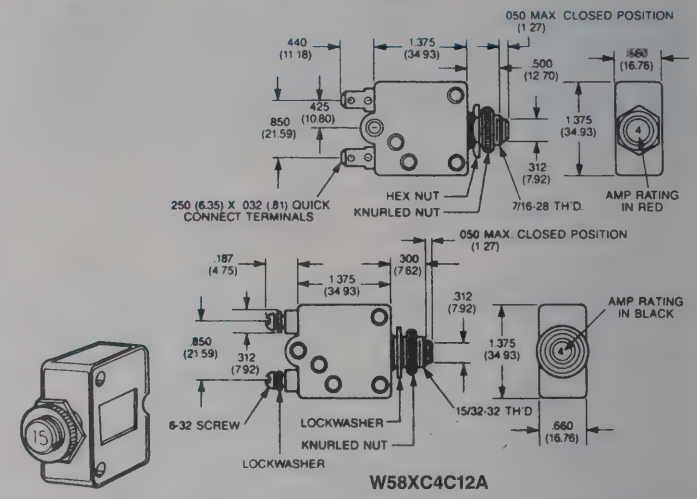
87F615	W31-X2M1G-1	1.0	36.11	32.50	29.26
87F616	W31-X2M1G-2	2.0	36.11	32.50	29.26
87F617	W31-X2M1G-3	3.0	36.11	32.50	29.26

W31 SERIES TOGGLE-ACTIVATED CIRCUIT BREAKERS — 6-22 SEC. TRIP TIME

87F619	W31-X2M1G-5	5.0	23.70	21.33	19.21
87F620	W31-X2M1G-7.5	7.5	23.70	21.33	19.21
87F607	W31-X2M1G-10	10.0	23.70	21.33	19.21
87F608	W31-X2M1G-15	15.0	23.70	21.33	19.21
87F609	W31-X2M1G-20	20.0	23.70	21.33	19.21
87F610	W31-X2M1G-25	25.0	23.70	21.33	19.21
87F611	W31-X2M1G-30	30.0	23.70	21.33	19.21
87F612	W31-X2M1G-35	35.0	23.70	21.33	19.21
87F613	W31-X2M1G-40	40.0	23.70	21.33	19.21
87F621	W31-X2M1G-50	50.0	23.70	21.33	19.21

(2394) (de50457)

W58 SERIES RECESSED BUTTON THERMAL CIRCUIT BREAKERS



W58XC4C12A

Single pole, thermal type features recessed reset button. Cannot be manually pulled out to disconnect circuit. Reset button extends when overload occurs and breaker opens; red band appears for visible trip indication. Continuously carries 100% rated load. May trip between 101% and 144% of rated load, must trip at 145% at 25°C. Trip times listed in table are at 200% rating. Quick-Connect and #6-32 screw terminals are available. UL recognized, CSA certified.

QUICK CONNECT TERMINALS, 10-45 SEC. TRIP TIME

Stock No.	Type	Amps	1-24	25-49	50-99
56F870	W58-XB1A4A-1	1.0	8.78	8.34	7.93
56F871	W58-XB1A4A-2	2.0	8.78	8.34	7.93
56F872	W58-XB1A4A-3	3.0	8.78	8.34	7.93
56F873	W58-XB1A4A-4	4.0	8.78	8.34	7.93

QUICK-CONNECT TERMINALS, 6-30 SEC. TRIP TIME

56F874	W58-XB1A4A-5	5.0	5.62	5.34	5.08
57F275	W58-XB1A4A-6	6.0	5.62	5.34	5.08
56F875	W58-XB1A4A-7	7.0	5.62	5.34	5.08
57F276	W58-XB1A4A-8	8.0	5.62	5.34	5.08
56F876	W58-XB1A4A-10	10.0	5.62	5.34	5.08
57F277	W58-XB1A4A-12	12.0	5.62	5.34	5.08
56F877	W58-XB1A4A-15	15.0	5.62	5.34	5.08
56F878	W58-XB1A4A-20	20.0	5.62	5.34	5.08
57F278	W58-XB1A4A-25	25.0	5.62	5.34	5.08
57F279	W58-XB1A4A-30	30.0	5.62	5.34	5.08
57F280	W58-XB1A4A-35	35.0	5.62	5.34	5.08

#6-32 SCREW TERMINALS, 10-45 SEC. TRIP TIME

57F281	W58-XC4C12A-1	1.0	12.62	11.98	11.39
57F282	W58-XC4C12A-2	2.0	12.62	11.98	11.39
57F283	W58-XC4C12A-3	3.0	12.62	11.98	11.39

#6-32 SCREW TERMINALS, 6-30 SEC. TRIP TIME

57F285	W58-XC4C12A-5	5.0	9.50	9.02	8.58
57F289	W58-XC4C12A-10	10.0	9.50	9.02	8.58
57F292	W58-XC4C12A-15	15.0	9.50	9.02	8.58
94F1903	W58-XC4C12A-20	20.0	9.50	9.02	8.58
57F294	W58-XCAC12A-30	30.0	9.50	9.02	8.58

*Not UL recognized, CSA certified.

(2395) (de50458)

OVERNIGHT SHIPMENT IS AVAILABLE WHEN YOU NEED IT.
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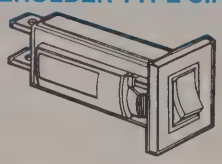
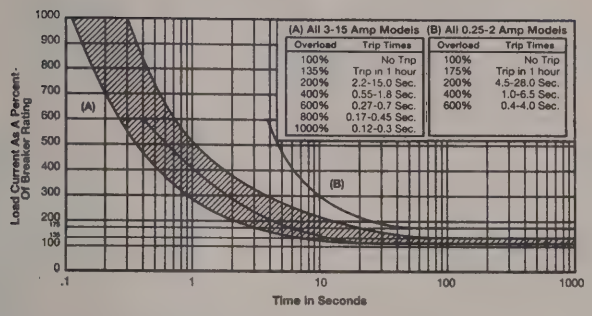
THERMAL CIRCUIT BREAKERS

W28 SERIES FUSEHOLDER TYPE CIRCUIT BREAKERS




(A) All 3-15 Amp Models
Overload | Trip Times
100% | No Trip
135% | Trip in 1 hour
200% | 2.2-15.0 Sec.
400% | 0.55-1.8 Sec.
600% | 0.27-0.7 Sec.
800% | 0.17-0.45 Sec.
1000% | 0.12-0.3 Sec.
(B) All 0.25-2 Amp Models
Overload | Trip Times
100% | No Trip
175% | Trip in 1 hour
200% | 4.5-28.0 Sec.
400% | 1.0-6.5 Sec.
600% | 0.4-4.0 Sec.
(A)
(B)
Load Current As A Percent Of Breaker Rating
Time In Seconds

- **Approved to Many International Standards**
- **Replaces Slow Blow Glass Cartridge Fuse**
- **Labor-Saving Snap-in Mounting**
- **Button Extends for Visual Trip Indicator**
- **Pushbutton to Reset Breaker**

TYPE W28 SPECIFICATIONS

Calibration: Will continuously carry 100% of rating. 3-15 amp models-may trip between 101% and 134%, but must trip at 135% of rating within one hour at +25°C. 0.25-2 amp models- may trip between 101% and 174%, but must trip at 175% of rating within one hour at +25°C.
Dielectric Strength: Over 1,500 volts RMS.
Maximum Operating Voltages: 32VDC; 250VAC, 50/60 Hz.
Interrupt Capacity: 1,000 amps at 250VAC, 50/60 Hz and 32VDC in accordance with UL standard 1077.
Resettable Overload Capacity: Six times rated current for 0.25 through 2 amp models. Ten times rated current for 3 through 15 amp models.
Reset Time: 180 seconds max. for 0.25 through 2 amp models. 10 to 60 seconds for 3 through 15 amp models.
Termination: 0.250″ (6.35) quick connects. Soldering to terminals is not recommended.
Mounting: Snaps into panel from front. See recommended panel cutouts.
Approximate Weight: 0.35 oz. (10 g).

The **W28 series** is a single pole, thermal circuit breaker featuring a reset button which cannot be manually pulled to disconnect the load. On an overload, the reset button opens and a white indicator extends for visual trip indication. Ideal for replacement of slow-blow glass cartridge fuses. The **W28 series** snaps in panels up to 0.062″ (1.57) thick. **XQ** in type number indicates push-to-reset-button; **SQ** indicates switchable rocker. Switchable version has 30,000 cycle switch rating. Maximum operating voltage is 250VAC or 32VDC. Trip times shown in table are at 200% of load and +25°C. UL recognized (File E69543), CSA certified (File LR30671) and VDE, DEMKO and SEV approved.

CIRCUIT BREAKERS WITH 4.5-28 SEC. TRIP TIME

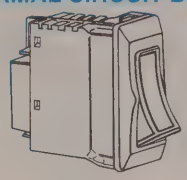
Stock No.	Type	Amps	1-24	25-49	50-99
75F005	W28-XQ1A-0.25	0.25	3.56	3.38	3.21
75F006	W28-XQ1A-0-50	0.5	3.56	3.38	3.21
75F007	W28-XQ1A-1	1	3.56	3.38	3.21
75F008	W28-XQ1A-2	2	3.70	3.52	3.34

CIRCUIT BREAKERS WITH 2.2-15 SEC. TRIP TIME

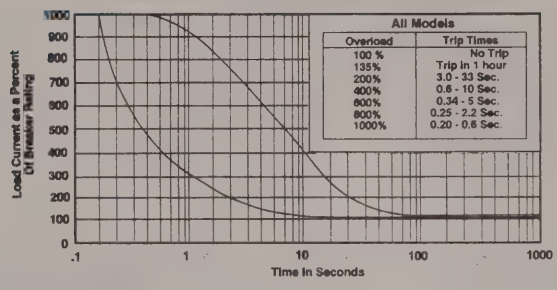
75F009	W28-XQ1A-3	3	1.98	1.88	1.79
90F1228	W28-XQ1A-4	4	1.98	1.88	1.79
75F010	W28XQ1A-5	5	1.98	1.88	1.79
90F1229	W28-XQ1A-6	6	1.98	1.88	1.79
75F011	W28-XQ1A-7	7	1.98	1.88	1.79
75F012	W28-XQ1A-8	8	1.98	1.88	1.79
75F013	W28-XQ1A-10	10	1.98	1.88	1.79
75F014	W28-XQ1A-12	12	1.98	1.88	1.79
75F015	W28-XQ1A-15	15	1.98	1.88	1.79
52F6738	W28-SQ11A-15	15	2.12	2.02	1.92

(2495) (ne52164)

W33 THERMAL CIRCUIT BREAKERS



TIME VS. CURRENT TRIP VALUES @ 25 C.


All Models
Overload | Trip Times
100 % | No Trip
135% | Trip in 1 hour
200% | 3.0 - 33 Sec.
400% | 0.6 - 10 Sec.
600% | 0.34 - 5 Sec.
800% | 0.25 - 2.2 Sec.
1000% | 0.20 - 0.6 Sec.
Load Current as a Percent Of Breaker Rating
Time In Seconds

- **2 to 20 Amp Ratings**
- **One or Two Pole Sensing**
- **Lighted or Non-Lighted Rocker Actuator**
- **Convenient, Snap-In Mounting**
- **Single-Pole "On-Off" Switch**
- **Trip-Free Operation**

TYPE W33 SPECIFICATIONS

Calibration: Breaker will continuously carry 100% of rated load. It may trip between 101% and 135% of rated load, but must trip at 135% within one hour at +25°C.
Dielectric Strength: Over 2,000 volts rms.
Maximum Operating Voltages: 50VDC; 250VAC to 400 Hz.
Interrupt Capacity: 1,000 amps at 50VDC; 250VAC, 60 Hz; 125/250VAC, 400 Hz; 1,500 amps at 125/250VAC, 60 Hz.
Resettable Overload Capacity: Ten times rated current.
Termination: Poles 1&2: .250″ (6.35) quick connect/solder terminals. Opt. Aux. Sw.: .110″ (2.79) quick connect terminals.
Mounting: Snaps into panel from front.
Cutout Size: Fits 0.875 x 1.750 (22.22 x 44.45) panel opening from .032-.250″ (0.813-6.35) thick.
Actuator: Rocker or lighted rocker.
Shock: 30g tested to IEC 68-2-27, test Ea.
Vibration: 8g tested to IEC 68-2-6, test Fc.
Endurance Cycling: 50,000 operations at rated load; 1,000 operations at 200% rated load.

Current sensing thermal circuit breakers feature models with a single pole breaker and a single pole "on-off" switch and indicator light in one convenient, snap-in mount package (**-S** in type number). Other models (**-T** in type number) feature both poles 1 and 2 series trip overload sensing. Available with black or white rocker (non-lighted) or with lighted rocker (120VAC neon light with resistor). 0.250 x 0.032″ (6.350 x 0.813) quick connect/solder terminals. Fit 0.875 x 1.750″ (22.22 x 44.45) panel opening from 0.032 - 0.0250″ (0.813 - 6.350) thick. Trip time @ 200% rating (all models): 3.0 - 33 seconds. International I/O rocker marking. UL recognized (File E695430), CSA certified (File LR15734). Meets requirements of IEC.

NON-LIGHTED ROCKER ACTUATOR - BLACK

Stock No.	Type	Amps	1-24	25-49	50-99
93F6688	W33-S1N1Q-5	5	8.41	7.98	7.59
93F6690	W33-S1N1Q-15	15	8.41	7.98	7.59
93F6691	W33-S1N1Q-20	20	8.41	7.98	7.59

NON-LIGHTED ROCKER ACTUATOR - WHITE

93F6704	W33-T2N1Q-20	20	9.31	8.84	8.41

LIGHTED ROCKER ACTUATOR - AMBER

93F6697	W33-S4B1Q-5	5	9.31	8.84	8.41
93F6698	W33-S4B1Q-10	10	9.59	9.11	8.66
93F6699	W33-S4B1Q-15	15	9.59	9.11	8.66
93F6705	W33-T4B1Q-5	5	10.44	9.91	9.42
93F6706	W33-T4B1Q-10	10	10.44	9.91	9.42
93F6707	W33-T4B1Q-15	15	10.44	9.91	9.42

(2424) (ne02489)

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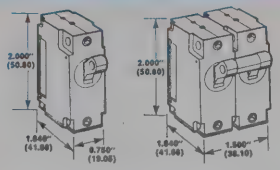
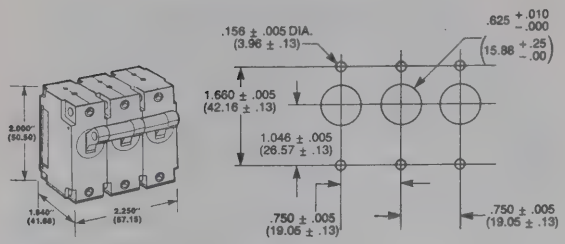
CIRCUIT BREAKERS

MAGNETIC HYDRAULIC CIRCUIT BREAKERS





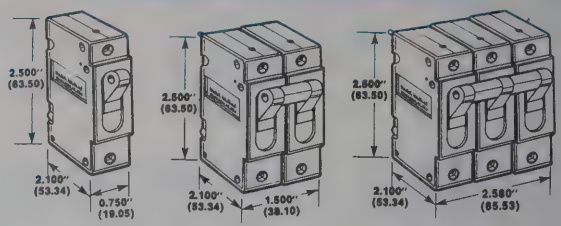
W6 series circuit breakers are available in 1, 2, and 3 pole models with ratings to 50 amps. **W67** = 1-pole; **W68** = 2-pole; **W69** = 3-pole. Operating voltage: 277VAC or 65VDC. All units utilize a trip-free construction. Operating temperature: –40°C to +85°C. **W6 series** terminates in 0.032 x 0.250" (0.81x6.35) quick connect terminals. Units mount with #6-32 screws and feature a time delay curve tailored for motor start applications (Curve 10). UL capacity in amps: 3500–5000. UL recognized, CSA certified. VDE approved units are available; *contact your local Newark sales office.*

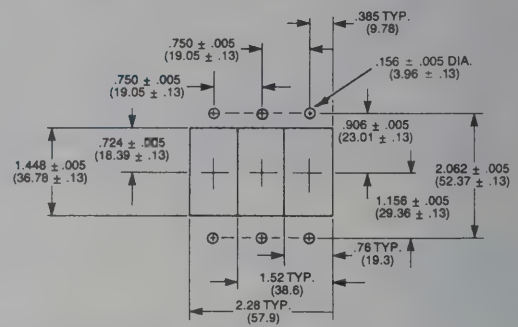
Stock No.	Type	Amps	Trip Time 200% of Load	1-24	25-49	50-99
57F245	W67-A2Q12-5	5		27.99	25.19	22.68
56F806	W67-X2Q12-2	2		20.80	18.72	16.86
56F807	W67-X2Q12-3	3		20.80	18.72	16.86
56F809	W67-X2Q12-5	5	2.2-20 sec. 60 Hz	20.80	18.72	16.86
56F879	W67-X2Q12-7	7		20.80	18.72	16.86
56F880	W67-X2Q12-10	10		20.80	18.72	16.86
56F881	W67-X2Q12-15	15		20.80	18.72	16.86
56F882	W67-X2Q12-20	20		20.80	18.72	16.86
56F884	W67-X2Q12-30	30		20.80	18.72	16.86
57F248	W67-X2Q13-1	1		20.80	18.72	16.86
57F249	W67-X2Q13-2	2		20.80	18.72	16.86
57F254	W67-X2Q13-10	10	15-1.5 sec. 60 Hz	20.80	18.72	16.86
57F255	W67-X2Q13-15	15		20.80	18.72	16.86
57F256	W67-X2Q13-20	20		20.80	18.72	16.86
57F258	W67-X2Q13-30	30		20.80	18.72	16.86
77B4549	W67-X2Q50-10	10	30 ms max.	20.80	18.72	16.86
93F3138	W67-X2Q52-15	15	2.2-20 sec.	20.80	18.72	16.86
93F3139	W67-X2Q52-20	20		20.80	18.72	16.86
93F3140	W67-X2Q52-30	30		20.80	18.72	16.86
50F9221	W67-X2Q110-15	15	9-100 sec. 60 Hz	23.38	21.04	18.95
50F9222	W67-X2Q110-20	20		23.38	21.04	18.95
50F9224	W67X2Q110 30	30		22.92	20.63	18.57
56F888	W68-X2Q12-3	3		49.45	44.51	40.07
56F890	W68-X2Q12-5	5		49.45	44.51	40.07
56F891	W68-X2Q12-7	7		49.45	44.51	40.07
56F892	W68X2Q12-10	10	2.2-20 sec. 60 Hz	49.45	44.51	40.07
56F893	W68-X2Q12-15	15		49.45	44.51	40.07
56F894	W68-X2Q12-20	20		49.45	44.51	40.07
56F895	W68-X2Q12-25	25		49.45	44.51	40.07
56F896	W68-X2Q12-30	30		49.45	44.51	40.07
90F1232	W68-X2Q110-10	10		54.56	49.10	44.21
56F993	W69-X2Q12-5	5		77.66	69.89	62.93
56F995	W69-X2Q12-10	10		77.66	69.89	62.93
56F996	W69-X2Q12-15	15	2.2-20 sec. 60 Hz	77.66	69.89	62.93
56F997	W69-X2Q12-20	20		77.66	69.89	62.93
56F998	W69-X2Q12-25	25		77.66	69.89	62.93
56F999	W69-X2Q12-30	30		77.66	69.89	62.93
50F9226	W69-X2Q110-20	20	9-100 sec. 60 Hz	85.40	76.86	69.20
50F9227	W69-X2Q110-30	30		85.40	76.86	69.20

(9460) (de51441b)

CONTACT NEWARK FOR LARGE-QUANTITY PRICING.

W91, W92 & W93 SERIES STANDARD MAGNETIC HYDRAULIC CIRCUIT BREAKERS





W9 series circuit breakers are available in 1, 2, and 3 pole models with ratings to 50 amps. **W91** = 1-pole; **W92** = 2-pole; **W93** = 3-pole. Operating voltage: 277VAC or 65VDC. All units utilize a trip free construction. Operating temperature: –40°C to +85°C. **W9 series** terminates in #10-32 studs. Mount with #6-32 screws and feature a time delay curve tailored for motor start applications (curve 10). UL capacity in amps: 3500–5000. UL recognized, CSA certified. VDE approved units are available; *contact your local Newark sales office.*

Stock No.	Type	Amps	Trip Time 200% of Load	1-24	25-49	50-99
56F762	W91-X112-1	1		24.26	21.83	19.66
56F763	W91-X112-2	2		24.26	21.83	19.66
56F766	W91-X112-5	5		24.26	21.83	19.66
56F767	W91-X112-7	7	2.2-20 sec. 60 Hz	24.26	21.83	19.66
56F768	W91-X112-10	10		24.26	21.83	19.66
56F769	W91-X 112-15	15		24.26	21.83	19.66
56F770	W91-X112-20	20		24.26	21.83	19.66
56F774	W91-X112-40	40		25.91	23.32	20.99
56F775	W91-X112-50	50		25.91	23.32	20.99
57F220	W91-X113-5	5		24.26	21.83	19.66
57F221	W91-X113-10	10	.15-1.5 sec. 60 Hz	24.26	21.83	19.66
57F222	W91-X113-15	15		24.26	21.83	19.66
13F3620	W91-X152-10	10		24.26	21.83	19.66
13F3621	W91-X152-15	15	.60-8.0 sec. DC	24.26	21.83	19.66
13F3622	W91-X152-20	20		24.26	21.83	19.66
13F3624	W91-X152-30	30		24.26	21.83	19.66
13F3626	W91-X152-50	50		25.91	23.32	20.99
56F790	W92-X112-1	1		58.12	52.31	47.10
56F791	W92-X112-2	2		58.12	52.31	47.10
56F792	W92-X112-3	3		58.12	52.31	47.10
56F794	W92-X112-5	5		58.12	52.31	47.10
56F795	W92-X112-7	7		58.12	52.31	47.10
56F796	W92-X112-10	10	2.2-20 sec. 60 Hz	58.12	52.31	47.10
56F797	W92-X112-15	15		58.12	52.31	47.10
56F798	W92-X112-20	20		58.12	52.31	47.10
56F799	W92-X112-25	25		58.12	52.31	47.10
56F810	W92-X112-30	30		58.12	52.31	47.10
56F812	W92-X112-40	40		58.12	52.31	47.10
56F813	W92-X112-50	50		58.12	52.31	47.10
57F237	W92-X113-15	15	.15-1.5 sec. 60 Hz	58.12	52.31	47.10
90F1226	W92-X1110-20	20		62.56	56.31	50.69
56F832	W93-X112-5	5		91.05	81.94	73.77
56F834	W93-X112-10	10		91.05	81.94	73.77
56F835	W93-X112-15	15		91.05	81.94	73.77
56F836	W93-X112-20	20	2.2-20 sec. 60 Hz	91.05	81.94	73.77
56F837	W93-X112-25	25		91.05	81.94	73.77
56F838	W93-X112-30	30		91.05	81.94	73.77
56F840	W93-X112-40	40		92.70	83.43	75.11
56F841	W93-X112-50	50		92.70	83.43	75.11
50F9233	W93-X1110-20	20	9-100 sec. 60 Hz	97.80	88.02	79.25
50F9234	W93-X1110-30	30		97.80	88.02	79.25

(16427) (ne10544)

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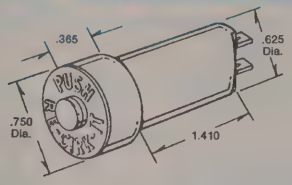
CIRCUIT BREAKERS/PROTECTORS

KD1 SERIES THERMAL CIRCUIT BREAKERS



Replace slow-blow glass fuses and fuseholders. Units mount in the same space as a 0.625″ (15.88) fuseholder and provide resettable capability after tripping. A trip indicator button provides visual indication of trip condition and can't be manually switched to OFF position. Uses include sump pumps, industrial power supplies, medical equipment, copiers, and vending machines. UL recognized, CSA certified, VDE approved at 250VAC or 32VDC and to 10A at 50VDC. *Clip retainer listed separately below.*

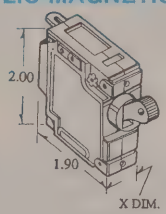
Stock No.	Type	Amps	Trip Time @ 200%	Each	2-9	10-24
29F1601	KD1-1	1.00	2.5-24 sec. @ 25°C	11.89	11.71	8.67
29F1602	KD1-2	2.00		11.89	11.71	8.67
44F914	KD1-2.5	2.50		6.17	6.08	4.52
29F1603	KD1-3	3.00		6.17	6.08	4.52
29F1604	KD1-4	4.00		6.17	6.08	4.52
29F1605	KD1-5	5.00		6.17	6.08	4.52
29F1606	KD1-6	6.00		6.17	6.08	4.52
29F1607	KD1-7	7.00		6.17	6.08	4.52
29F1608	KD1-8	8.00		6.17	6.08	4.52
29F1609	KD1-9	9.00		6.17	6.08	4.52
29F1610	KD1-10	10.00		6.17	6.08	4.52
81F1731	KD1-12	12.00		6.17	6.08	4.52
29F1611	KD1-15	15.00		6.17	6.08	4.52

CLIP RETAINER FOR KD1 SERIES

Stock No.	Type	Description	1-99	100-249	250-999
90F1344	006-10417	Clip Retainer	0.20	0.19	0.15

(2391) (de50271)

JA/S SERIES HYDRAULIC-MAGNETIC CIRCUIT BREAKERS



"X DIM."
1-Pole - 0.75″
2-Pole - 1.50″
3-Pole - 2.25″

JA/S series circuit breakers are available in one-, two- and three-pole models. Breaker terminals are 0.32″ x 0.250″ push-on type. Mounting with #6-32 screws. Units with **D3** in type number are rated AC/DC and are suitable for 250V, 50/60Hz and 65VDC. Breakers with **A8** in type number are rated at 250V, 50/60Hz and provide high inrush withstanding for momentary initial surges. Time Delay Curve 10 recommended for motor start applications. Units are UL recognized, CSA certified and meet VDE 0806 and IEC-380 standards. Operating temperature range: –40° to +85°C. Other ampere ratings available; *contact your local Newark sales office.*

JA1S 1-POLE

Stock No.	Type	Amps	Trip Time @ 200% (sec.)	Each	2-9	10-24
87F1903	JA1S-D3-A-0001-02E	1	1.7-18	19.32	19.04	14.85
87F1904	JA1S-D3-A-0002-02E	2		19.32	19.04	14.85
87F1905	JA1S-D3-A-0003-02E	3		19.32	19.04	14.85
87F1906	JA1S-D3-A-0005-02E	5		19.32	19.04	14.85
87F1907	JA1S-D3-A-0010-02E	10		19.32	19.04	14.85
87F1908	JA1S-D3-A-0015-02E	15		19.32	19.04	14.85
87F1909	JA1S-D3-A-0020-02E	20		19.32	19.04	14.85
87F1913	JA1S-D3-A-0030-02E	30		19.32	19.04	14.85
87F1916	JA1S-A8-A-0015-10E	15	10-120	21.29	20.97	16.36

JA2S 2-POLE

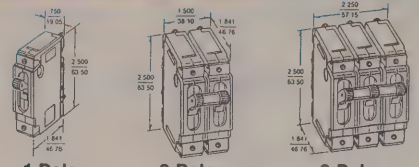
87F1923	JA2S-D3-A-0005-03E	5	0.15-1.9	53.06	52.31	47.99
87F1920	JA2S-D3-A-0015-03E	15		53.06	52.31	47.99
87F1921	JA2S-D3-A-0020-03E	20		53.06	52.31	47.99
50F7489	JA2S-D3-A-0010-02E	10	1.7-18	53.06	52.31	47.99
87F1924	JA2S-A8-A-0015-20E	15	10-120	56.92	56.11	51.47
87F1925	JA2S-A8-A-0020-10E	20	10-120	56.92	56.11	51.47

JA3S 3-POLE

87F1927	JA3S-D3-A-0030-02E	30	1.7-18	87.03	85.80	78.70

(2309) (de01495)

AM/S SERIES HYDRAULIC-MAGNETIC CIRCUIT BREAKERS



1-Pole 2-Pole 3-Pole

AM/S series lightweight circuit breakers available in one-, two- and three-pole models. Operating temperature range: –40°C to +85°C. Features knurled handle for positive grip. Units with **D3** in type number are rated AC/DC and are suitable for 250V, 50/60Hz and 65VDC. Breakers with **A8** in type number are rated at 250V, 50/60Hz and provide high inrush withstanding for momentary initial surges. Time Delay Curve 10 recommended for motor start applications. Electrical ratings: UL 489 listed from 0.1 to 100 amperes at 80VDC with 10,000 ampere interrupting capability; 0.1 to 20 amperes at 120VAC with 10,000 ampere interrupting capability; 0.1 to 50 amperes at 120/240VAC with 5,000 ampere interrupting capability. Units are available in 10-32 ¼-20 and 6mm metric connecting terminal studs, as well as 10-32 screws and banana mate terminals. Other ampere ratings available; *contact your local Newark sales office.*

AM1S SERIES 1-POLE CIRCUIT BREAKERS

Stock No.	Type	Amps	Trip Time @ 200% (sec.)	Each	2-9	10-24
90F2127	AM1S-D3-A-0005-02E	5	1.7-18	24.39	24.03	18.75
90F2128	AM1S-D3-A-0010-02E	10		24.39	24.03	18.75
90F2130	AM1S-D3-A-0015-02E	15		24.39	24.03	18.75
90F2132	AM1S-D3-A-0020-02E	20		24.39	24.03	18.75
90F2134	AM1S-D3-A-0025-02E	25		24.39	24.03	18.75
90F2131	AM1S-D3-A-0015-03E	15	0.15-1.9	24.39	24.03	18.75
90F2133	AM1S-D3-A-0020-03E	20		7.27	...	...
90F2137	AM1S-D3-A-0030-03E	30		24.39	24.03	18.75
90F2144	AM1S-A8-A-0015-10E	15	10-120	26.86	26.47	20.65
90F2145	AM1S-A8-A-0020-10E	20		26.86	26.47	20.65

AM2S SERIES 2-POLE CIRCUIT BREAKERS

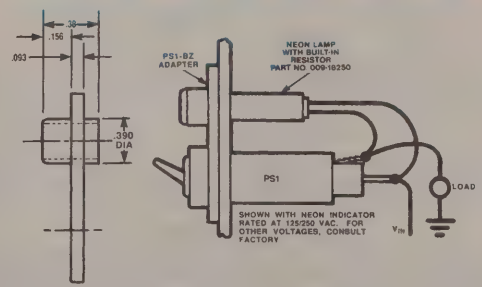
Stock No.	Type	Amps	Trip Time @ 200% (sec.)	Each	2-4	5-9
90F2148	AM2S-D3-A-0010-02E	10	1.7-18	66.19	65.25	59.86
90F2150	AM2S-D3-A-0015-02E	15		66.19	65.25	59.86
90F2152	AM2S-D3-A-0020-02E	20		66.19	65.25	59.86
90F2154	AM2S-D3-A-0030-02E	30		66.19	65.25	59.86
90F2158	AM2S-D3-A-0050-02E	50		66.19	65.25	59.86
90F2149	AM2S-D3-A-0010-03E	10	0.15-1.9	66.19	65.25	59.86
90F2153	AM2S-D3-A-0020-03E	20		66.19	65.25	59.86
90F2155	AM2S-D3-A-0030-03E	30		66.19	65.25	59.86

AM3S SERIES 3-POLE CIRCUIT BREAKERS

90F2162	AM3S-D3-A-0010-02E	10	1.7-18	108.42	106.89	98.05
90F2166	AM3S-D3-A-0020-02E	20		108.42	106.89	98.05
90F2168	AM3S-D3-A-0030-02E	30		108.42	106.89	98.05
90F2171	AM3S-D3-A-0050-02E	50		108.42	106.89	98.05

(2310) (de01496)

COMBINATION FUSE AND ON/OFF SWITCH



Accept standard ¼ x 1¼″ fuses. *Order adapter for 5 x 20mm international fuses separately from table below.* Normally open or normally closed design. Two terminals save interconnecting wiring. Rated 20A, 120VAC; 15A, 250VAC; 20A, 32VDC. Circuit protection characteristics depend on fuse. Fuses and clip retainers available separately; *contact your local Newark sales office for details.*

FUSE SWITCH AND ADAPTER/BEZEL

Stock No.	Type	Description	Each	2-9	10-24
87F1900	PS1	Fuse Switch, Includes Fuseholder and Retainer Clip	4.22	4.16	3.57
87F1901	PS1-BZ	OFF Indicator Adapter/Bezel	1.03	1.01	0.88

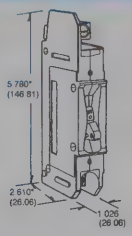
FUSE ADAPTER AND NEON LAMP

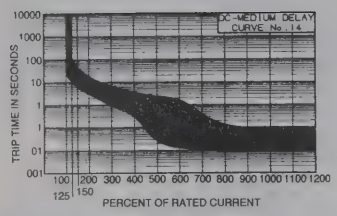
Stock No	Type	Description	1-9	10-24	25-49
87F1902	009-18249	5 x 20mm International Fuse Adapter	0.56	0.49	0.48
90F2169	009-18250	125/250V Neon Lamp	4.10	3.50	3.43

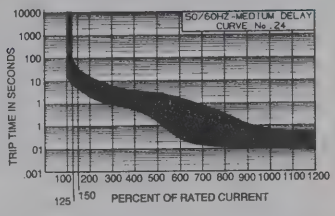
(2392) (de50272)

CIRCUIT BREAKERS

E SERIES MAGNETIC CIRCUIT BREAKERS







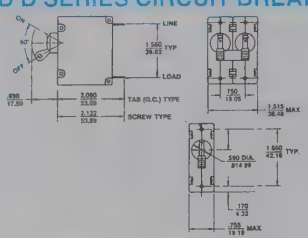
E series magnetic circuit breakers protect branch circuit wiring, panel boards, air conditioners, motors, motor controllers, and numerous other applications. Temperature stable mechanism is not affected by environmental temperature, eliminating the need for derating and preventing heat-induced nuisance tripping. Trip-free mechanism prevents manually holding contacts closed to override an overcurrent or fault condition. All are medium delay. Series trip circuit. Maximum application for DC types: 125VDC, 100A. Box-type pressure connectors accept 1-14 AWG copper or 1-12 AWG aluminum conductors. UL listed, CSA certified. AC types also available; *contact your local Newark sales office.*

SINGLE POLE

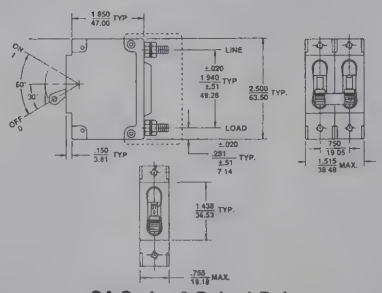
Stock No.	Type	Amps	Voltage Type	1-9	10-24	25-49
95F8971	EA1B01466032EBC	60	DC	29.91	22.81	18.53
95F8973	EA1B01481032EBC	100	DC	29.91	22.81	18.53

(2369) (de02686)

B, C, AND D SERIES CIRCUIT BREAKERS



BA Series 2-Pole; 1-Pole



CA Series 2-Pole; 1-Pole

All types are of a series trip construction with 6-32 front-panel mounting inserts and dual I-O/ON-OFF marking on black handle actuator. The **D series** also features standard 35x7.5mm or 35x15mm symmetrical DIN rail mounting and has 10-32 screw/pressure plate terminations. The **B series** has 0.250" (6.35) quick-connect terminations, the **C series** has 10-32 stud terminations, All units are supplied with all purpose, AC/DC medium trip delay rated 65VDC/277VAC and are UL recognized, CSA certified; **B series** and **C series** are VDE approved. 3-pole units are available on **B** and **C series**; *contact your local Newark sales office.*

BA1-SERIES 1-POLE MAGNETIC CIRCUIT BREAKERS

Stock No.	Type	Amps	1-9	10-24	25-49
89F5603	BA1-B034425121D	2.5	20.15	15.37	12.49
89F5604	BA1-B034450121D	5	20.15	15.37	12.49
89F5591	BA1-B034610121D	10	20.15	15.37	12.49
89F5592	BA1-B034615121D	15	20.15	15.37	12.49
89F6060	BA1B034620121D	20	20.15	15.37	12.49

BA2 SERIES 2-POLE MAGNETIC CIRCUIT BREAKERS

89F5594	BA2-B034450121D	5	51.47	39.26	31.90

CONTINUED

B, C, AND D SERIES CIRCUIT BREAKERS (CONT.)

BA2 SERIES 2-POLE MAGNETIC CIRCUIT BREAKERS (CONT.)

Stock No.	Type	Amps	1-9	10-24	25-49
89F5595	BA2-B034610121D	10	51.47	39.26	31.90
89F5596	BA2-B034615121D	15	51.47	39.26	31.90
89F5597	BA2-B034620121D	20	51.47	39.26	31.90

CA1-SERIES 1-POLE MAGNETIC CIRCUIT BREAKERS

50F7235	CA1B034450121D	5	25.96	19.80	16.09
50F7236	CA1B034610121D	10	25.96	19.80	16.09
50F7237	CA1B034615121D	15	25.96	19.80	16.09
50F7238	CA1B034620121D	20	25.96	19.80	16.09
50F7239	CA1B034630121D	30	25.96	19.80	16.09

CA2 SERIES 2-POLE MAGNETIC CIRCUIT BREAKERS

50F7243	CA2B034610121D	10	71.17	54.29	44.11
50F7244	CA2B034615121D	15	71.17	54.29	44.11
50F7245	CA2B034620121D	20	71.17	54.29	44.11
50F7246	CA2B034630121D	30	71.17	54.29	44.11
50F7247	CA2B034640121D	40	71.17	54.29	44.11

DA1 SERIES 1-POLE MAGNETIC CIRCUIT BREAKERS

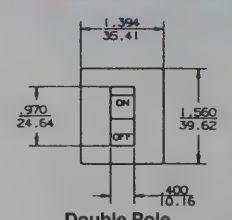
50F7256	DA1B034450121C	5	28.95	22.09	17.95
50F7257	DA1B034610121C	10	28.95	22.09	17.95
50F7258	DA1B034615121C	15	28.95	22.09	17.95
50F7259	DA1B034620121C	20	28.95	22.09	17.95

DA2 SERIES 2-POLE MAGNETIC CIRCUIT BREAKERS

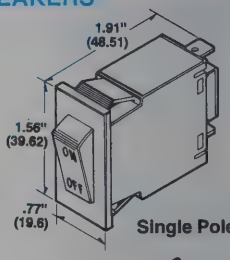
50F7263	DA2B034610121C	10	75.94	57.92	47.06
50F7264	DA2B034615121C	15	75.94	57.92	47.06
50F7265	DA2B034620121C	20	75.94	57.92	47.06

(2406) (de51061)

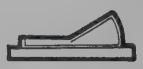
M SERIES CIRCUIT BREAKERS



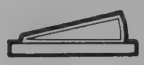
Double Pole



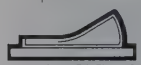
Single Pole



Angled Rocker



Flat Rocker



Curved VISI Rocker

M series magnetic circuit breakers provide precise circuit protection with two-step actuation that cleans contacts while providing high positive contact pressure. Large contact gap provides dependable arc extinguishing. Have series trip (current coil) circuit. All are 50/60Hz, medium delay with vertical markings. Non-illuminated types have black flat rocker; illuminated have angle style rocker. VISI rockers (non-illuminated) feature red legend and black rocker. Front-panel snap-in mounting units fit into standard panel cutouts. Push-on 0.25" (6.35) quick connect tab terminals. UL recognized, CSA certified. 2.5 amp and 5.0 amp are also available; *contact your local Newark sales office.*

SINGLE POLE-ANGLED ROCKER, RED LED

Stock No.	Type	Amps	1-9	10-24	25-49
95F8967	MF1B346101DB7BC	10.0	18.52	14.13	11.48
95F8968	MF1B346151DB7BC	15.0	18.52	14.13	11.48
95F8969	MF1B346201DB7BC	20.0	18.52	14.13	11.48
95F8970	MF1B346251DB7BC	25.0	18.52	14.13	11.48

RED NEON, WITHOUT RESISTOR

95F8988	MF1B346101BB7BC	10.0	18.52	14.13	11.48
95F8989	MF1B346151BB7BC	15.0	18.52	14.13	11.48
95F8990	MF1B346201BB7BC	20.0	18.52	14.13	11.48

SINGLE POLE-FLAT ROCKER, NON-ILLUMINATED

95F8994	MB1B346101A27BC	10.0	18.52	14.13	11.48
95F8995	MB1B346151A27BC	15.0	18.52	14.13	11.48
95F8996	MB1B346201A27BC	20.0	18.52	14.13	11.48
95F8997	MB1B346251A27BC	25.0	18.52	14.13	11.48

SINGLE POLE-VISI-ROCKER INDICATE ON

97F9157	MD1B346101A36BC	10.0	21.70	16.55	13.45
97F9158	MD1B346151A36BC	15.0	21.70	16.55	13.45

TWO POLE-FLAT ROCKER NON-ILLUMINATED

95F9000	MB2B346101A27BC	10.0	39.77	30.34	24.65
95F8983	MB2B346151A27BC	15.0	39.77	30.34	24.65
95F8984	MB2B346201A27BC	20.0	39.77	30.34	24.65
95F8985	MB2B346251A27BC	25.0	39.77	30.34	24.65

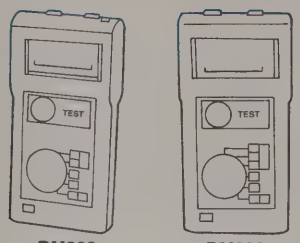
TWO POLE-VISI-ROCKER INDICATE ON

97F9149	MD2-B346101A36BC	10.0	41.46	31.63	25.70
97F9152	MD2B346151A36BC	15.0	41.46	31.63	25.70
97F9153	MD2B346201A36BC	20.0	41.46	31.63	25.70
97F9154	MD2B346251A36BC	25.0	41.46	31.63	25.70

(2368) (de02685)

DIGITAL INSULATION AND CONTINUITY TESTERS — MEGGER

NEW



BM222 BM223

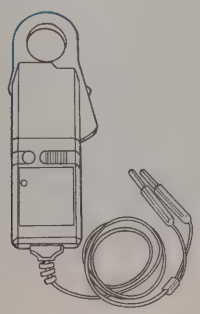
BM220 series combine an analog bar graph with a clear 3-digit display. **Type BM222** offers dual insulation test voltages; **type BM223** offers triple insulation test voltages. Buzzer for continuity testing. 200mA short-circuit continuity current. Automatic power down after 5 minutes. Tests insulation at rated voltage into a 1mA load. Insulation range: 0.01MΩ to 999MΩ. Continuity range: 0.01Ω to 99.9Ω. Voltage ranges: 25-450VAC, 450V-600VAC. IEC 1010-1, Category III.

Stock No.	Type	Insulation Test Voltage	1-4	5-9
46WX1373	BM222	500V, 1000V	414.24	403.90
46WX1374	BM223	250V, 500V, 1000V	458.83	447.37

(40871) (ne40871)

CURRENT CLAMP PROBES — LEM HEME

NEW



High-performance AC/DC current probes for use with multimeters and recording equipment. Compact clip-on design conforms to IEC 1010 safety standard and allows non-intrusive measurement of current from 5mA to 1000A peak. Accuracy: ±1%. Load impedance: 10kΩ. Maximum conductor size: 0.75″ (19mm). Frequency range: **type PR20**: DC to 20kHz; **type PR200**: DC to 10kHz. Operating temperature: 0° to +50°C. Supplied with 9V battery.

Stock No.	Type	Measuring Range		1-4	5-9
		AC (RMS)	DC		
08WX7008	PR20	20A	30A	274.75	267.90
08WX7009	PR200	20A-200A	30A-300A	224.64	219.02

(40870) (ne40870)

MICROTEMP® THERMAL FUSES — THERMODISC

NEW

Non-resettable axial fuses are designed to provide upper-limit temperature protection on all industrial appliances. Microtemp® thermal cut-off opens immediately when the internal temperature reaches the maximum rated temperature. Fuse is not resettable and should be replaced after opening. Rating: 10A @ 250VAC. Breakdown voltage when open: 1200VAC. Body length: 0.58″ (14.7). Body diameter: 0.16″ (4.0). Lead diameter: 0.04″ (1.0).

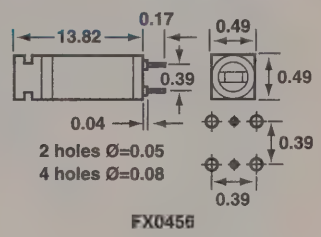
Stock No.	Type	Opening Temperature	1-24	25-99	100-499
09WX6679	G4A01072C	72°C	0.64	0.61	0.54
09WX6680	G4A01084C	84°C	0.64	0.61	0.54
09WX6681	G4A01098C	98°C	0.64	0.61	0.54
09WX6682	G4A01121C	121°C	0.64	0.61	0.54
09WX6683	G4A01167C	167°C	0.64	0.61	0.54
09WX6684	G4A01184C	184°C	0.64	0.61	0.54
46WX2026	G4A01229C	229°C	0.70	0.67	0.55

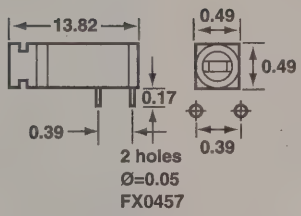
(40873) (ne40873)

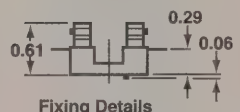
FUSE HOLDERS — BULGIN

Electrical+Electronic Components

NEW







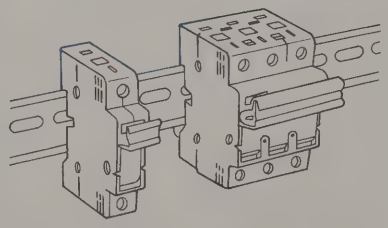
Touchproof/bayonet cap fuse holders are available in low-profile, horizontal, and vertical styles and are UL listed, CSA certified, SEMKO and VDE approved. **Type FX0360** 20 x 5mm open-style base mount fuse holder includes glass-filled nylon base and central countersunk mounting hole.

Stock No.	Type	Description	1-99	100-249	250-499
06WX9430	FX0357	Low-Profile	1.63	1.52	1.44
06WX9432	FX0360	Open/Base Mount	0.74	0.68	0.63
06WX9419	FXO456	Vertical	1.88	1.60	1.57
06WX9444	FX0457	Horizontal	1.88	1.60	1.57

(40876) (ne40876)

DIN RAIL MOUNT FUSE HOLDERS — COOPER Bussmann

NEW



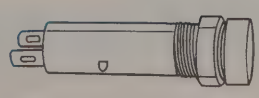
DIN mount fuse holders are available in single- and triple-contact configurations. Terminal capacity: 16mm^2. Rating: 32A @ 400V. **Type 32010** dimensions: 3.07H x 0.69W x 2.89″D (78.0 x 17.5 x 73.50), including lever. **Type 3205032** dimensions: 3.07H x 2.07W x 2.89″D (78.0 x 52.5 x 73.50), including lever.

Stock No.	Type	Description	1-9	10-24	25-49
08WX5637	32010	Single Contact	4.21	3.89	3.68
08WX5638	3205032	Triple Contact	15.44	14.29	13.50

(40875) (ne40875)

20mm x 5mm FUSE HOLDER — WICKMANN

NEW

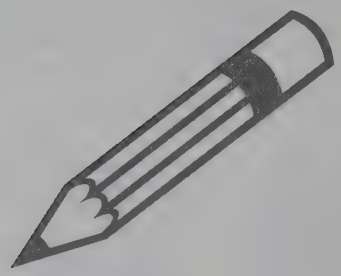


Thermoplastic construction, rated UL94V-0. Fuse body and carrier ordered separately. Breakdown voltage: 4kV @ 50Hz. Operating temperature: -25°C to +70°C. Color: black.

Stock No.	Type	Description	1-49	50-99	100-499
06WX7440	19800 FUSEHOLDER	Fuse Body	1.07	0.85	0.74
06WX7441	19815 FUSECARRIER	20 x 5mm Carrier	0.64	0.51	0.44

(40872) (ne40872)

NOTES



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Electronic Terms and Measurements

Resistance
Opposition to current flow. Basic unit is the ohm (Ω).

1 kilohm — kΩ	1,000 or $1x10^3$ ohms
1 Megohm — MΩ	1,000,000 or $1x10^6$ ohms

Voltage
Electromotive force. Basic unit is the volt (V).

1 millivolt — mV	1/1,000 or $1x10^{-3}$ volt
1microvolt — µV	1/1,000,000 or $1x10^{-6}$ volt

Current
Movement of electricity. Basic unit is the ampere (A).

1 milliampere — mA	1/1,000 or $1x10^{-3}$ ampere
1 microampere — µA	1/1,000,000 or $1x10^{-6}$ ampere

Frequency
Number of cycles per second. Basic unit is the hertz (Hz).

1 kilohertz — kHz	1,000 or $1x10^3$ hertz
1 Megahertz — MHz	1,000,000 or $1x10^6$ hertz
1 Gigahertz — GHz	1,000,000,000 or $1x10^9$ hertz

Time
Basic unit is the second (s).

1 millisecond — ms	1/1,000 or $1x10^{-3}$ second
1 microsecond — µs	1/1,000,000 or $1x10^{-6}$ second
1 nanosecond — ns	1/1,000,000,000 or $1x10^{-9}$ second

Temperature Conversion

°C	°F
100	212
80	175
60	140
40	105
35	95
30	85
25	75
20	70
15	60
10	50
5	40
0	32

Conversion Table

Metric to U.S.	U. S. to metric
1 centimeter = 0.39 inch	1 inch = 2.54 centimeters
1 millimeter = 0.039 inch	1 inch = 25.4 millimeters
1 meter = 3.28 feet	1 foot = 0.305 meter
1 gram = 0.035 ounce	1 ounce = 28.35 grams
1 kilogram = 2.2 pounds	1 pound = 454 grams
1 milliliter = 0.034 fl. ounce	1 pound = 0.45 kilogram
1 liter = 0.264 gallon	1 fl. ounce = 29.57 milliliters
	1 gallon = 3.79 liters

Operating Life for Capacitors

Where operating life is given at a certain temperature, for every drop of 10°C life expectancy will double.

If life expectancy is 1,000 hours at 105°C
this would double to 2,000 hours at 95°C
and double again to 4,000 hours at 85°C

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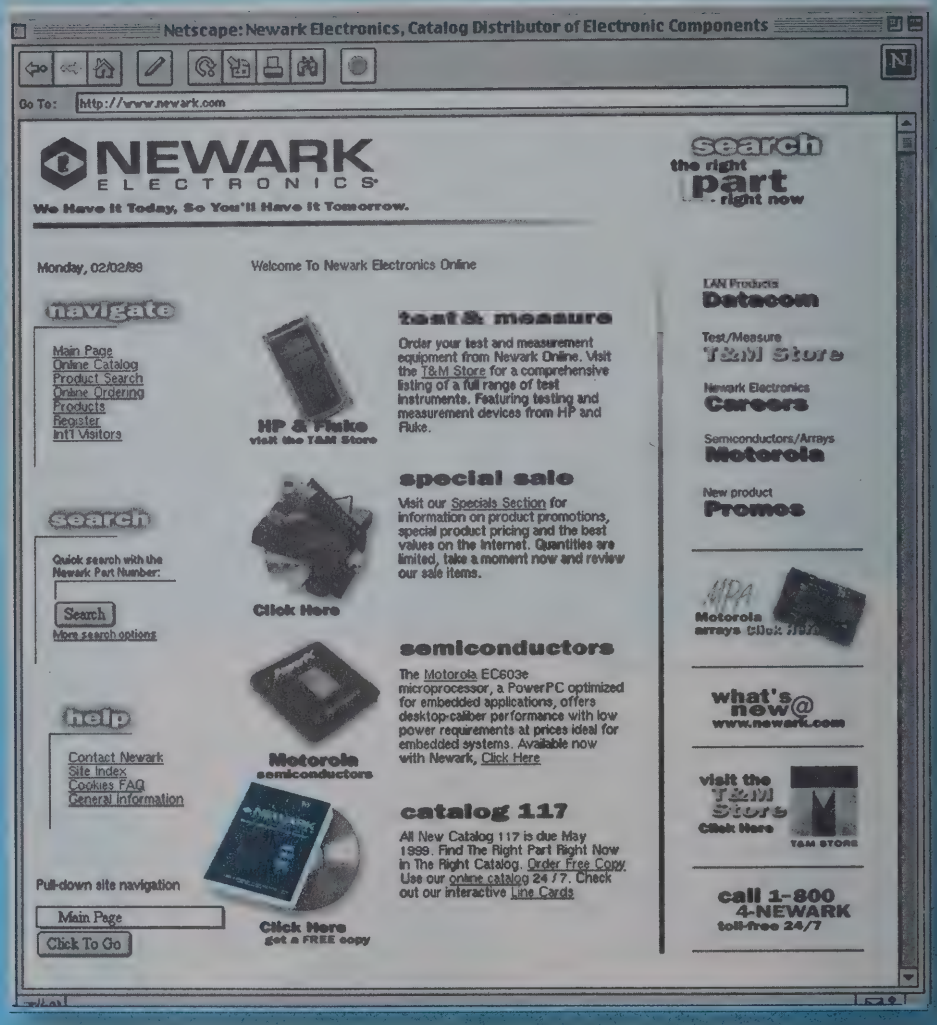
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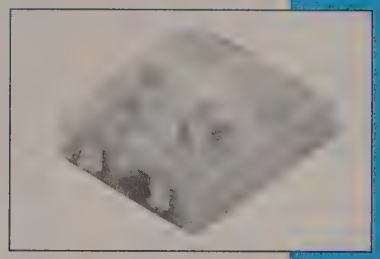
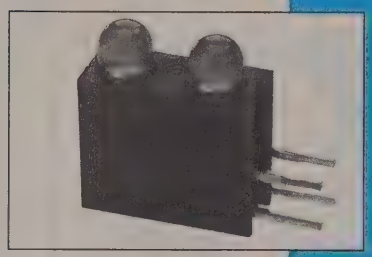
Lamps & Light Sources

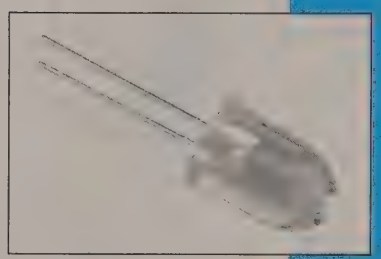
Pages 546—573

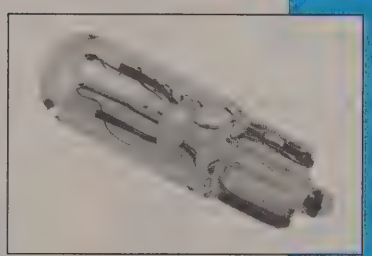
11

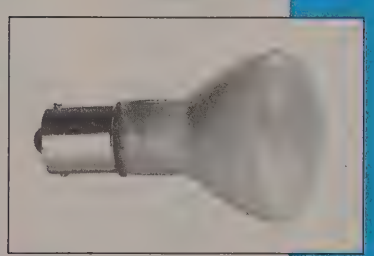
- Bivar
- Chicago Miniature Lamp, Inc.
- Dialight
- Imlec/Inter-Market
- Lighting Components & Design/Leecraft
- Osram/Sylvania
- SPC Technology
- Visual Communications Company (VCC)
- Wiko











Products include...

Discrete LEDs

Incandescent & Neon Indicators

Lamp Sockets

LED Circuit Board Indicators

LED Panel Mount Indicators

Miniature Lamps

Panel Mount Indicators

Product Selection Guide—Lamps

LAMP TERMINOLOGY

Type:
- Lamp identification trade number

Bulb:
- Letter indicates type of bulb
- Number indicates max. diameter of bulb in 1/8ths of an inch
- Example: T-1 designates Tubular style bulb
  1 x 1/8" = 1/8" diameter

MOL: Maximum Overall Length

MOD: Maximum Outside Diameter (Includes bulb and base)

MSCP: Mean Spherical Candlepower
- Method of rating the total (brightness) output
- To convert to lumens, multiply by 12.57
- Tolerance is ±25%, unless noted

Amps: Current rating
- Conversion to watts: watts = amps x volts

NOTE: Calculations of characteristics shown in the tables below are approximate only between 95% and 110% of rated voltage lamp types with 5,000 hours life or less. Certain lamp types will vary widely for calculated values. This chart will not apply to lamps with lives in excess of 5,000 hours or to halogen cycle lamps.

UNDERRATED BULB VOLTAGES less than 100%

Volts	Amps	MSCP	Life
99%	99.4%	98.5%	112.8%
98%	98.9%	93.2%	127.4%
97%	96.3%	89.9%	144.1%
96%	97.8%	85.7%	163.2%
95%	97.2%	83.6%	185.1%
90%	94.4%	69.2%	354.1%
85%	91.4%	56.6%	703.0%
80%	88.5%	45.8%	1455.2%
75%	85.4%	36.5%	3156.9%
70%	82.2%	28.7%	7224.8%

OVERRATED BULB VOLTAGES greater than 100%

Volts	Amps	MSCP	Life
101%	100.5%	103.5%	88.7%
102%	101.1%	107.2%	78.8%
103%	101.6%	110.9%	70.1%
104%	102.2%	114.7%	62.5%
105%	102.7%	118.5%	55.7%
110%	105.4%	139.6%	31.9%
115%	108.0%	163.1%	18.7%
120%	110.5%	189.3%	11.2%
125%	113.1%	218.4%	6.9%
130%	115.5%	250.5%	4.3%

BULB TYPES

A-Standard

B-Arbitrary Designation

C-Candelabra

G-Globe Shape

R-Arbitrary Designation

S-Straight Side

T-Tubular

BASE TYPES

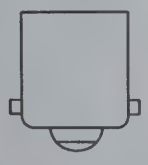
Bases provide electrical contact to the lamp and, in most cases, also support the lamp in the fixture. For miniature and subminiature lamps, bayonet or wedge base types are generally preferred over screw types when vibration is present. In addition, wedge bases reduce socket size and complexity.

Sub-Midget Flanged

S.C. Midget Flanged

Midget Screw

Midget Grooved

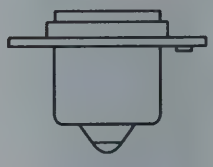


S.C. Bayonet

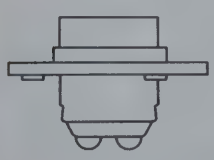
D.C. Bayonet

Candelabra Screw

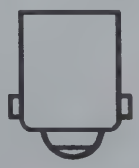
Miniature Screw



S.C. Prefocus

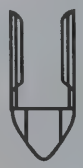


D.C. Prefocus



Miniature Bayonet

Wire Terminal (Down Position)



Tel. Slide

Wedge

2-Pin

Fig. 1
B-Bulb,
S.C. Miniature
Flanged
Base

Fig. 2
T-Bulb,
Wire Terminal
Base

Fig. 3
T-Bulb,
Midget or
Miniature
Screw Base

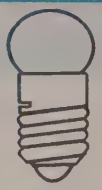


Fig. 4
G-Bulb,
Midget or
Miniature
Screw Base

Fig. 5
T-Bulb,
Midget or
Sub-Midget
Flanged
Base

Fig. 6
T-Bulb,
Wedge Base

Fig. 7
T-Bulb,
Miniature
Bayonet
Base

Fig. 8
G-Bulb,
Miniature
Bayonet
Base

Fig. 9
GTL-Bulb,
Miniature
Screw Base

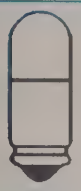


Fig. 10
T-Bulb,
Midget
Grooved
Base

Fig. 11
R-Bulb,
S.C. Bayonet
Base

Fig. 12
S-Bulb,
S.C. Bayonet
Base

Fig. 13
G-Bulb,
D.C. Bayonet
Base

Fig. 14
T-Bulb,
Miniature
Screw Base

Fig. 15
T-Bulb,
Midget
Flanged
Base

Fig. 16
S-Bulb,
D.C. Prefocus
Base

Fig. 17
T-Bulb,
2-Pin Base

Fig. 18
T-Bulb,
Wire Terminal
Base

Fig. 19
S-Bulb,
Candelabra
Screw Base

Fig. 20
S-Bulb,
S.C. Bayonet
Base

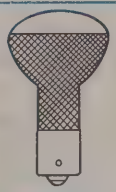


Fig. 21
R-Bulb,
S.C. Bayonet
Base

Fig. 22
B-Bulb,
S.C. Miniature
Flanged Base

Fig. 23
T-Bulb,
Miniature
Bayonet
Base

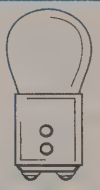


Fig. 24
S-Bulb,
D.C. Bayonet
Base

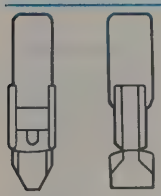


Fig. 25
T-Bulb,
Telephone
Slide Base
No. 5

Fig. 26
T-Bulb,
Telephone
Slide Base
No. 6

Fig. 27
T-Bulb,
Telephone
Slide Base
No. 3

Fig. 28
T-Bulb
(Neon), Wire
Terminals

Fig. 29
T-Bulb,
Telephone
Slide Base
No. 5

Fig. 30
T-Bulb,
Telephone
Slide Base
No. 3

Fig. 31
Annunciator
Lamp,
Miniature
Bayonet
Base

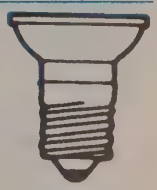


Fig. 32
Annunciator
Lamp,
Candelabra
Screw Base

Fig. 33
G-Bulb,
Miniature
2-Pin Base

Fig. 34
C-Bulb,
Candelabra
Screw Base

Fig. 35
S-Bulb,
Intermediate
Screw Base

Fig. 36
T-Bulb,
Rigid
Loops/End
Cap

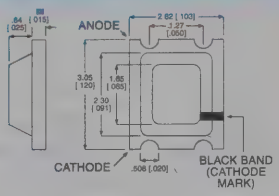
Fig. 37
T-Bulb,
Wedge Base

Fig. 38
T-Bulb,
2-Pin Base

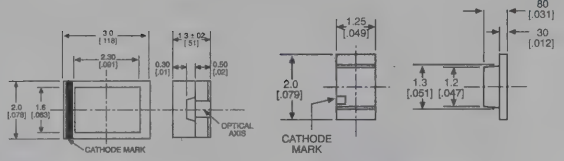
Fig. 39
T-Bulb,
S.C. Bayonet
Base

Fig. 40
T-Bulb,
Miniature
Bayonet
Base

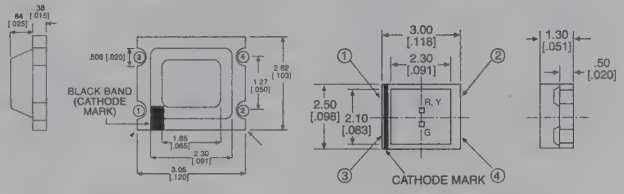
597 SERIES SURFACE MOUNT LEDs



597-3xxx-1xx



597-3xx1-5xx 597-3xxx-4xx



597-77x1-1xx 597-77x1-5xx

Compatible with automatic placement equipment and infrared reflow processes. **Sold on 8mm tape in multiples of 20 pieces.** Meet EIA-481-1 standard. Help to eliminate mixed technology PC board processing. Compatible with Dialight's Optopipe™ series light pipes.

Stock No.	Type	Color	Typ. Lum. (mcd)	VF	1-49	50-99
83F4421	597-3111-402	Al Ga As Red	17	1.7	8.81	8.11
83F4422	597-3201-402	Orange	9	2.2	9.21	8.47
83F4423	597-3311-402	Green	7.5	2.1	8.81	8.11
83F4424	597-3401-402	Yellow	6	2.2	8.81	8.11
83F4425	597-3111-502	Al Ga As Red	16	1.75	5.79	5.33
83F4426	597-3301-502	Green	16	2.2	4.87	4.48
83F4427	597-3401-502	Yellow	6.3	2.1	5.79	5.33
83F4428	597-7701-502	Red/Green	6.3/20	2/2.2	11.58	10.65
83F4429	597-7721-502	Yellow/Green	6.3/20	2.1/2.2	14.21	13.07
83F4430	597-7701-102	Red/Green	4/12	2/2	14.99	13.80
83F4431	597-7721-102	Yellow/Green	8/12	2.1/2	14.99	13.80
83F4432	597-3001-102	Red	4	2	10.52	9.68
83F4433	597-3111-102	Red	8**	1.7*	11.05	10.17
83F4434	597-3301-102	Green	12	2	10.52	9.68
83F4435	597-3401-102	Yellow	8	2.1	10.52	9.68

* @ I_F = 10mA

(28882) (ne28882)

559 SERIES LED INDICATORS-0.250″ MTG. HOLE

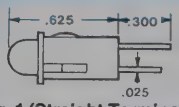


Fig. 1 (Straight Terminals)

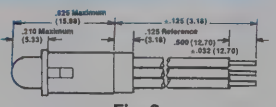


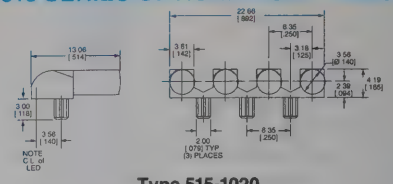
Fig. 2

559 series snap-in mount LED indicators are available in three-leaded bicolor (fig. 2) and 2, 5 and 12 volt models. Feature 14″ wire leads. 0.250″ (6.35mm) mounting hole. Straight terminals and 6″ (152.40) wire leads are also available on 559 series LED indicators; *contact your local Newark sales office for details.*

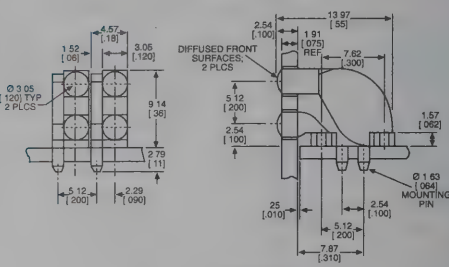
Stock No.	Type	Color	VF	mA	mcd	Fig.	1-49	50-99
96F2260	559-0102-007	Red	5	13	2	1	1.96	1.81
96F2288	559-0202-007	Green	5	12	8	1	1.96	1.81
96F2290	559-0302-007	Yellow	5	10	8	1	1.96	1.81
98F6528	559-0103-007	Red	12	13	2	1	1.96	1.81
96F2293	559-2101-007	Red	2	10	7	1	1.51	1.39
96F2294	559-2201-007	Green	2	10	10	1	1.51	1.39
96F2295	559-2301-007	Yellow	2	10	6.3	1	1.51	1.39
96F2285	559-3001-007	R/G	1.75/2.0	10	14/6	1	2.32	2.13
96F2286	559-3501-007	R/G	2.1	10	6.5	2	3.76	3.46
96F2278	559-5101-007	Red	2.1	20	34	1	3.02	2.78
96F2279	559-5201-007	Green	2.1	20	34	1	3.30	3.04
96F2283	559-5601-007	Green	2.3	20	120	1	3.30	3.04
96F2284	559-5701-007	Yellow	2.2	20	140	1	3.30	3.04
83F5443	559-5901-007	Amber	2.02	20	3100	1	2.76	2.54
83F5444	559-6001-007	Blue	3.6	20	650	1	9.44	8.69
83F5445	559-6101-007	Red	1.9	20	2100	1	2.76	2.54
83F5446	559-6201-007	Green	3.5	20	2200	1	9.44	8.69
83F5447	559-6301-007	Orange	1.9	20	1300	1	2.76	2.54
83F5448	559-6401-007	White	3.5	20	600	1	9.44	8.69

(2603) (de52683)

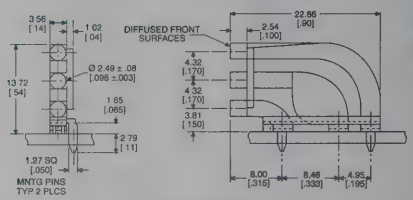
515 SERIES OPTICAL LIGHT PIPES



Type 515-1020



Type 515-1061



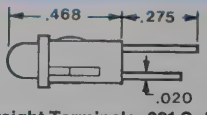
Type 515-1064

Light pipes are secured to the front panel by an ultrasonic welding process. Designed to transmit the light of a specific MicroLED LED. Shape is defined by a CAD ray tracing program to optimize its light transmission efficiency. Light pipes are required when (a) LEDs are located a distance from or are emitting light in a different direction from the front panel; (b) arrays (rows and/ or columns) of SMT indicators are required on the front panel; (c) unique shapes for the indicators are needed; (d) additonal protection against ESD (electrostatic discharge) is desired, as the LED is isolated by the polycarbonate light pipe material. UL94V-0 compliance. Operating temperature: –30°C to +100°C. All types have 3mm LEDs except **type 515-1064** which is 2.5mm.

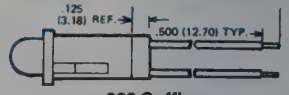
Stock No.	Type	Description	For Use With	1-49	50-99
83F4416	515-1020	4-Array	597-3111-4xx, 597-3201-4xx, 597-3311-4xx, 597-3401-4xx	1.60	1.47
83F4417	515-1069	3-Array	597-3111-4xx, 597-3201-4xx, 597-3311-4xx, 597-3401-4xx	1.17	1.07
83F4418	515-1071	2-Array	597-3111-4xx, 597-3201-4xx, 597-3311-4xx, 597-3401-4xx	1.17	1.07
83F4419	515-1061	Bi-Level	597-3111-5xx, 597-3211-5xx, 597-3301-5xx, 597-3321-7xx, 597-3401-5xx, 597-3601-7xx, 597-3901-7xx, 597-7701-7xx, 597-7721-5xx	0.61	0.56
83F4420	515-1064	Tri-High, Narrow Pitch	597-3111-5xx, 597-3211-5xx, 597-3301-5xx, 597-3321-7xx, 597-3401-5xx, 597-3601-7xx, 597-3901-7xx, 597-7701-7xx, 597-7721-5xx	1.17	1.07

(28883) (ne28883)

558 SERIES LED INDICATORS-0.156″ MTG. HOLE



Straight Terminals -001 Suffix



-003 Suffix

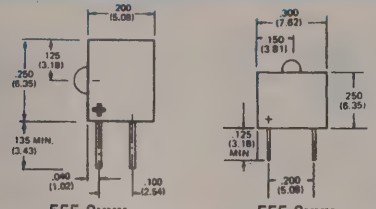
558 series snap-in mount LED indicators. Require no additional mounting hardware for 0.031″ to 0.062″ thick panels. Power requirements range from 2 to 20 mA. Housing is black polycarbonate. Feature 14″ wire leads **(-007 suffix)**. 0.156″ (3.96mm) mounting hole. For **558 series** with 6″ (152.40) wire leads, change type no. suffix from **-007** to **-003**. For **558 series** with straight terminals, change type no. suffix from **-007** to **-001**.

Stock No.	Type	Color	VF	mA	mcd	1-49	50-99
96F2253	558-0101-007	Red	2	10	10	1.75	1.61
96F2255	558-0201-007	Green	2	10	16	1.75	1.61
96F2257	558-0301-007	Yellow	2	10	6.3	1.75	1.61
96F2254	558-0102-007	Red	5	13	2.5	2.11	1.94
96F2256	558-0202-007	Green	5	12	8	2.11	1.94
96F2258	558-0302-007	Yellow	5	10	8	2.11	1.94
83F5441	558-3101-007	Red/Green	1.8/2.1	20	12.6/3.7	2.27	2.08
83F5442	558-3201-007	Yellow/Green	2.1/2.1	20	6.3/4.3	2.27	2.08

(2602) (de52682)

CIRCUIT BOARD INDICATORS

555 SERIES SINGLE 2mm SUBMINIATURE



555-2xxx 555-3xxx

The **555 top view** and **right angle single series** feature 2mm standard efficiency and resistor LED. They are fully compatible with the **555 quad series.**

Stock No.	Type	LED Color	VF Typ.	mA	Typ. Lum.	1-49	50-99	100-249
25F1727	555-2001	Red	1.6	20	1.2	1.03	0.94	0.86
25F895	555-2003	Red	5.0	6	1.9	1.15	1.06	0.96
25F897	555-2004	Red	5.0	17	5.2	1.15	1.06	0.96
25F901	555-2006	Red	14	10	3.1	1.15	1.06	0.96
25F893	555-2007	Red	5.0	3	0.9	1.15	1.06	0.96
81F4931	555-2008	Red	24	3	0.9	1.15	1.06	0.96
81F4932	555-2301	Green	2.4	20	1.0	1.05	0.97	0.88
81F4934	555-2303	Green	5.0	4.7	2.5	1.21	1.11	1.01
81F4933	555-2401	Yellow	2.2	20	2.0	1.05	0.97	0.88
81F4935	555-2403	Yellow	5.0	4.7	2.1	1.21	1.11	1.01
44F2097	555-3001	Red	1.6	20	1.2	1.51	1.39	1.26
25F896	555-3003	Red	5.0	6	1.9	1.65	1.52	1.38
25F898	555-3004	Red	5.0	17	5.2	1.65	1.52	1.38
25F902	555-3006	Red	14	10	3.1	1.65	1.52	1.38
25F894	555-3007	Red	5.0	3	0.9	1.65	1.52	1.38
44F2099	555-3008	Red	24	3	0.9	1.65	1.52	1.38

(2590) (de51620)

550 SERIES 5mm SINGLE LED INDICATORS

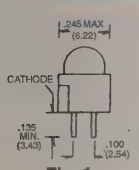


Fig. 1

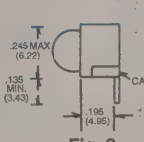


Fig. 2

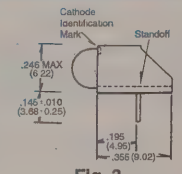


Fig. 3

High luminous intensity solid state light source available in red, green or yellow and 2 leaded bicolor. Right angle housing offers ease of assembly and pre-trimmed leads compatible with dual or quad **550 series**.

Stock No.	Type	Color	VF	mA	mcd	Fig.	1-49	50-99
25F882	550-0204	Green	2.1	20	12.3	1	0.84	0.77
25F886	550-0205	Green	2.1	20	12.3	2	0.69	0.64
50F1574	550-0207	Green	2.1	20	12.3	3	0.69	0.64
25F883	550-0304	Yellow	2.1	20	12.3	1	0.84	0.77
25F887	550-0305	Yellow	2.1	20	12.3	2	0.69	0.64
50F1575	550-0307	Yellow	2.1	20	12.3	3	0.69	0.64
25F884	550-0404	Red	2.0	20	12.3	1	0.84	0.77
25F888	550-0405	Red	2.0	20	12.3	2	0.69	0.64
25F892	550-0407	Red	2.0	20	12.3	3	0.69	0.64
25F885	550-0504	Red	5.0	13	2.0	1	1.17	1.08
25F889	550-0505	Red	5.0	13	2.0	2	0.96	0.89
50F1575	550-0307	Red	5.0	13	2.0	3	0.69	0.64
50F6172	550-1107	Red	1.8	2	2.0	3	0.90	0.83
50F6174	550-1307	Green	1.8	2	1.8	3	0.90	0.83
44F2090	550-2205	Green	2.1	10	10.0	2	0.75	0.69
50F1579	550-2207	Green	2.1	10	10.0	3	0.75	0.69
44F2094	550-2307	Yellow	2.1	10	6.3	3	0.75	0.69
44F2089	550-2404	Red	2.2	10	7.0	1	1.00	0.92
44F2095	550-2407	Red	2.2	10	7.0	3	0.75	0.69
81F4928	550-3004	Red/Grn	1.8/2.1	20	60/20	1	1.92	1.77
50F1582	550-3007	Red/Grn	1.75/2.0	10	14/6	3	1.69	1.56

(2597) (de51767)

550 SERIES 5mm SINGLE 3 LEADED BICOLOR LED INDICATORS

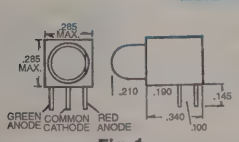


Fig. 1

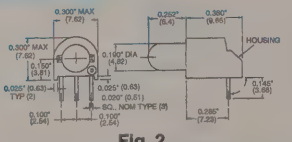


Fig. 2

High luminous intensity 3 leaded bicolor LED. The three leaded design simplifies use of the devices in both the bicolor and tri-color modes. These devices conserve valuable board space by offering multiple colors from a single unit.

Stock No.	Type	LED Color	VF Typ.	mA	Typ. Lum.	Fig.	1-49	50-99
50F6175	550-3505	Red/Grn	2.1/2.3	10	5/8	1	2.01	1.85
96F2300	550-3605	Yel/Grn	2.1/2.1	10	5/8	1	2.01	1.85
96F2301	550-3509	Red/Grn	2.1/2.3	10	5/8	2	2.01	1.85

(2523) (de02172)

551 SERIES SINGLE 3mm LED INDICATORS

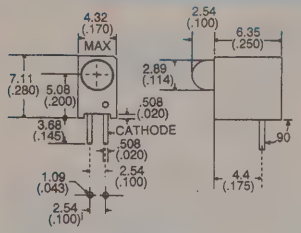


Fig. 1

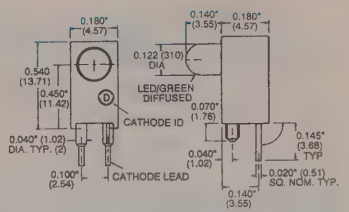


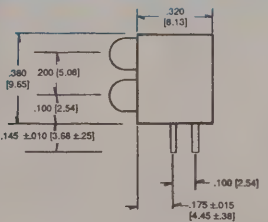
Fig. 2

The 551 Single series offers high efficiency, low current and integral resistor LED in packages that put the LED center line at a height of 0.200, 0.250, and 0.450 inches. Some indicators also available in quad block.

Stock No.	Type	LED Color	VF Typ.	mA	Typ. Lum.	Fig.	1-49	50-99	100-249
50F1583	551-0207	Green	2.1	10	16.0	1	0.69	0.64	0.58
50F1584	551-0307	Yellow	2.1	10	6.3	1	0.69	0.64	0.58
50F1585	551-0407	Red	2.0	10	10.0	1	0.69	0.64	0.58
50F1586	551-0507	Red	5.0	10	4.0	1	1.05	0.97	0.88
50F6191	551-1107	Red	1.8	2	1.8	1	0.90	0.83	0.76
50F6192	551-1207	Yellow	1.9	2	1.6	1	0.90	0.83	0.76
50F6193	551-1307	Green	1.8	2	1.6	1	0.90	0.83	0.76
96F2304	551-0203	Green	2.1	10	16.0	2	0.75	0.69	0.63
96F2306	551-0403	Red	2.0	10	10.0	2	0.75	0.69	0.63
96F2310	551-3007	Rd/Grn	2.0	10	5.0	1	1.65	1.52	1.38

(2591) (de51623)

553 SERIES 3mm BILEVEL INDICATORS

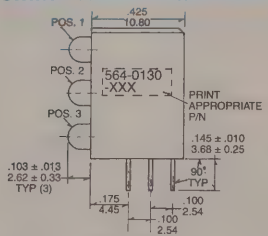


Bilevel solid state light source available in red, green or yellow; with or without integral resistors. Also available in standard and super efficient versions. The **553 series** design conserves PC board space and right angle housing offers ease of assembly. Leads are pretrimmed.

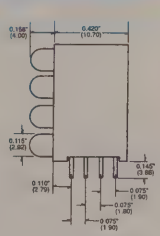
Stock No.	Type	LED Color	VF Typ.	mA	Typ. Lum.	1-49	50-99
50F6026	553-0111	Red/Red	2.0	10	10.0	1.53	1.41
50F6027	553-0122	Grn/Grn	2.1	10	16.0	1.53	1.41
50F6028	553-0211	Red/Red	1.8	2	1.8	1.69	1.56
50F6029	553-0222	Grn/Grn	1.8	2	1.6	1.69	1.56
50F6030	553-0311	Red/Red	5.0	10	4.0	1.80	1.66
96F2296	553-0711	R-G/R-G	2.0	10	5.0	2.26	2.08
96F2297	553-0744	Y-G/Y-G	2.1	20	4.3/6.3	2.26	2.08

(2521) (da02170)

3mm TRI- AND QUAD-LEVEL INDICATORS



Type 564



Type 568

Solid-state tri-level (**type 564**) and quad-level (**type 568**) light source available in red, green or yellow; with or without integral resistors (**type 564**). Also available in standard and super-efficient versions. Design conserves PC board space and right angle housing offers ease of assembly. Leads are pre-trimmed.

TRI-LEVEL INDICATORS

Stock No.	Type	LED Color	VF Typ.	mA	Typ. Lum.	1-49	50-99
50F6033	564-0100-132	Rd/Yl/Gr	2.3/2.2/2.2	10	10/10/8.5	2.55	2.35
50F6046	564-0200-132	Rd/Yl/Gr	1.8/1.9/1.8	2.0	1.8/1.6/1.6	2.82	2.60

QUAD-LEVEL INDICATORS

Stock No.	Type	LED Color	VF Typ.	mA	Typ. Lum.	1-49	50-99
97F7635	568-0102-222	G/G/G/G	2.3	10	8.5	3.16	2.91
97F7637	568-0701-111	R-G/R-G/R-G/R-G	2.0	10	5.0	4.70	4.32

(2567) (de03666)

LED PANEL MOUNT INDICATORS

605 SERIES FOR 5mm MOUNTING HOLE

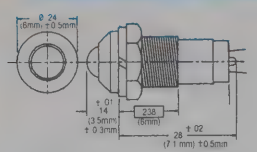


Fig. 1

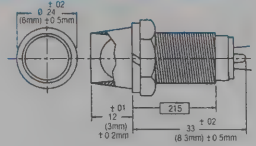


Fig. 2

Stock No.	Type	Color	VF	mA	mcd	Fig.	1-49	50-99	100-249
50F6103	605-1111-110	Red	2	10	1.2	1	2.43	2.24	2.03
50F6104	605-1211-110	Green	2	15	0.8	1	2.92	2.69	2.45
50F6105	605-1311-110	Yellow	2	15	2.0	1	2.92	2.69	2.45
50F6106	605-2111-110	Red	2	10	1.2	2	2.43	2.24	2.03

(2675) (de52718)

606 SERIES FOR 6mm MOUNTING HOLE

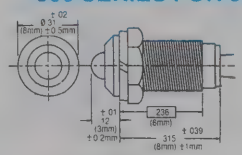


Fig. 1

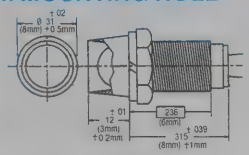


Fig. 2

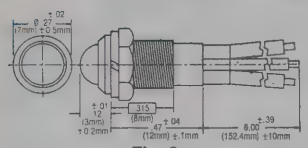


Fig. 3

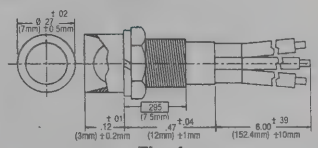


Fig. 4

All indicators are supplied with integral resistor, except types with –110 suffix.

Stock No.	Type	Color	VF	mA	mcd	Fig	1-49	50-99	100-249
50F6109	606-1111-110	Red	2	5	2.4	1	2.43	2.24	2.03
50F6110	606-1211-110	Green	2	15	3	1	2.92	2.69	2.45
50F6111	606-1311-110	Yellow	2	10	3.7	1	2.92	2.69	2.45
50F6115	606-2111-110	Red	2	5	2.4	2	2.43	2.24	2.03
50F6116	606-2211-110	Green	2	15	3	2	2.74	2.52	2.29
50F6117	606-2311-110	Yellow	2	10	3.7	2	2.92	2.69	2.45
50F6112	606-1415-110	R/G	2	5/20	0.6/1.0	3	5.77	5.31	4.83
50F6113	606-1415-120	R/G	6	5/20	0.6/1.0	3	6.97	6.42	5.84
50F6118	606-2415-110	R/G	2	5/20	0.6/1.0	4	5.77	5.31	4.83
50F6119	606-2415-120	R/G	6	5/20	0.6/1.0	4	6.97	6.42	5.84
50F6120	606-2415-130	R/G	12	5/20	0.6/1.0	4	6.97	6.42	5.84

(2676) (de52719)

607 SERIES FOR 7mm MOUNTING HOLE

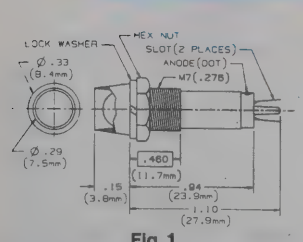


Fig. 1

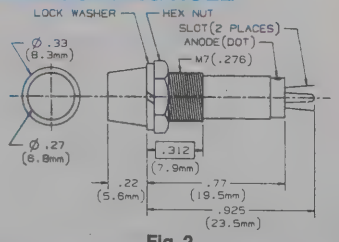


Fig. 2

All indicators have an integral resistor *except* types with -110 suffix.

Stock No.	Type	Color	VF	mA	mcd	Fig.	1-49	50-99	100-249
50F6121	607-2112-110	Red	2	15	8.0	*	2.89	2.66	2.42
50F6124	607-2212-110	Green	2	15	8.0	*	3.19	2.94	2.67
50F6127	607-2312-110	Yellow	2	15	2.2	*	3.40	3.13	2.85
50F6122	607-2112-120	Red	6	15	8.0	1	3.65	3.36	3.06
50F6125	607-2212-120	Green	6	15	8.0	1	4.22	3.88	3.53
50F6128	607-2312-120	Yellow	6	15	2.2	1	4.22	3.88	3.53
50F6123	607-2112-130	Red	12	15	8.0	1	3.65	3.36	3.06
50F6126	607-2212-130	Green	12	15	8.0	1	4.22	3.88	3.53
50F6129	607-2312-130	Yellow	12	15	2.2	1	4.22	3.88	3.53
50F6131	607-3132-130	Red	12	15	8.0	2	2.75	2.53	2.30
50F6133	607-3232-130	Green	12	15	8.0	2	3.08	2.84	2.58

*Same as Fig. 1 except length – 0.67.

(2677) (de52720)

608 SERIES FOR 8mm MOUNTING HOLE

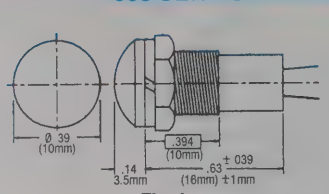


Fig. 1

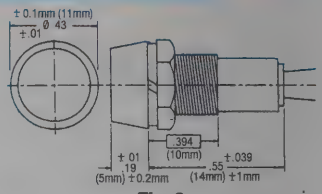


Fig. 2

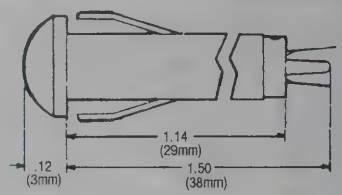


Fig. 3

Forward voltage is 2V. Current is 15mA.

Stock No.	Type	Color	mcd	Fig.	1-49	50-99	100-249
50F6136	608-1131-110	Red	20	1	2.12	1.95	1.78
50F6137	608-1231-110	Green	15	1	2.43	2.24	2.03
50F6138	608-1331-110	Yellow	4	1	2.59	2.38	2.17
50F6139	608-3131-110	Red	20	2	2.12	1.95	1.78
50F6140	608-3231-110	Green	15	2	2.43	2.24	2.03
50F6141	608-3331-110	Yellow	4	2	2.59	2.38	2.17

608 SERIES 0.315" (8.00mm) LED SNAP-IN, FIG. 3

All indicators are supplied with an integral resistor. Forward voltage is 6V. Current is 15mA.

Stock No.	Type	Color	LED	1-49	50-99	100-249
50F6092	608-1132-220	Red	20	2.92	2.69	2.45
50F6093	608-1232-220	Green	20	3.08	2.84	2.58
50F6094	608-1332-220	Yellow	10	3.08	2.84	2.58

(2608) (de52721)

609 SERIES FOR 9mm MOUNTING HOLE

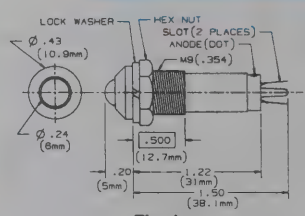


Fig. 1

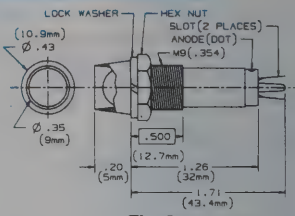


Fig. 2

All indicators are supplied with integral resistor.

Stock No.	Type	Color	VF	mA	mcd	Fig.	1-49	50-99	100-249
50F6154	609-1112-120	Red	6	15	20	1	3.90	3.59	3.26
50F6156	609-1212-120	Green	6	15	15	1	4.22	3.88	3.53
50F6160	609-2112-120	Red	6	15	20	2	3.90	3.59	3.26
50F6162	609-2212-120	Green	6	15	15	2	4.22	3.88	3.53
50F6155	609-1112-130	Red	12	15	20	1	3.90	3.59	3.26
50F6157	609-1212-130	Green	12	15	15	1	4.22	3.88	3.53
50F6161	609-2112-130	Red	12	15	20	2	3.65	3.36	3.06
50F6163	609-2212-130	Green	12	15	15	2	3.96	3.64	3.31
50F6165	609-2312-130	Yellow	12	15	4	2	4.22	3.88	3.53

(2609) (de52722)

610 SERIES FOR 10mm MOUNTING HOLE

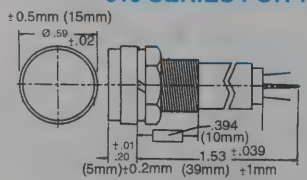


Fig. 1

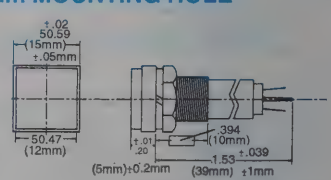


Fig. 2

All indicators are supplied with integral resistor. Forward voltage is 6V. Current is 10mA.

Stock No.	Type	Color	mcd	Fig.	1-49	50-99	100-249
50F6166	610-3132-120	Red	250	1	3.16	2.91	2.64
50F6167	610-3232-120	Green	15	1	3.38	3.11	2.83
50F6168	610-3332-120	Yellow	12	1	3.38	3.11	2.83
50F6169	610-4132-120	Red	250	2	3.16	2.91	2.64
50F6170	610-4232-120	Green	15	2	3.16	2.91	2.64
50F6171	610-4332-120	Yellow	12	2	3.38	3.11	2.83

(2610) (de52723)

031 SERIES INDICATORS, 1″ MOUNTING HOLE

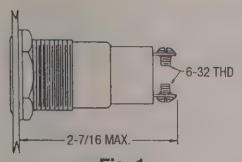


Fig. 1
Cartridge

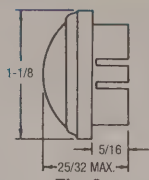


Fig. 2

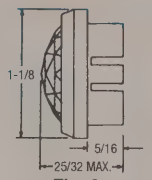


Fig. 3

Uses friction fit cap. Candelabra screw bases accept incandescent or neon lamps (convex or faceted) for low voltage or line voltage applications. 2 to 120V operation. **Type 031-0914-01-101** terminal: screw with side positions. **Type 031-3101-01-101** terminal: screw with protruding positions.

031 SERIES CARTRIDGES, FIG. 1

Stock No.	Type	Lens Fig.	Lamp Type	1-24	25-49	50-99
65F1075	31-4001-01-102	2 and 3	S-6 Candelabra	11.01	10.45	9.79
45F606	31-3101-01-102	2 and 3	S-6 Candelabra	11.64	11.04	10.35

031 SERIES LENS CAPS

Stock No.	Type	Color	Fig.	1-24	25-49	50-99
50F6058	031-0111-300	Red	2	7.14	6.77	6.34
50F6059	031-0112-300	Green*	2	7.14	6.77	6.34
50F6060	031-0113-300	Amber	2	7.62	7.23	6.77
50F6061	031-0135-300	White	2	7.78	7.38	6.91
50F6062	031-0137-300	Clear	2	7.62	7.23	6.77
50F6063	031-0431-300	Red	3	6.22	5.90	5.53
50F6064	031-0432-300	Green*	3	7.78	7.38	6.91
50F6065	031-0433-300	Amber	3	7.78	7.38	6.91
50F6066	031-0435-300	White	3	7.78	7.38	6.91

*Not recommended for neon.
(2606) (de52710)

051 AND 080 SERIES SPLASH-PROOF INDICATORS, 1″ MOUNTING HOLE

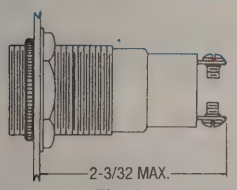


Fig. 1

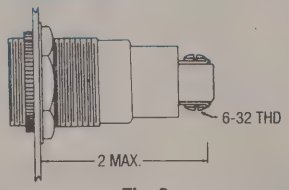


Fig. 2

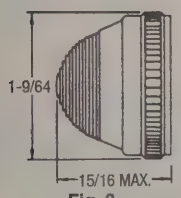


Fig. 3

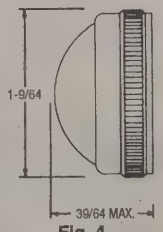


Fig. 4

Uses S6 candelabra screw base incandescent, convex, torpedo lens style lamp. Watertight. 2 to 120V operation. **Type 051-3101-01-303** terminal: screw with protruding positions. **Type 080-0901-05-303** terminal: screw with side positions.

051 AND 080 SERIES CARTRIDGES

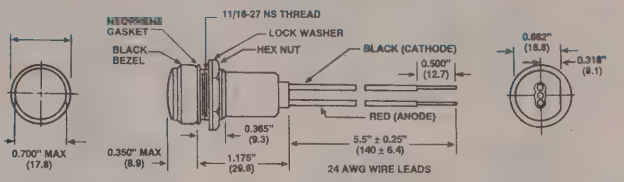
Stock No.	Type	Fits Lens Fig.	Fig.	1-24	25-49	50-99
50F6068	051-3101-01-303	3	1	16.35	15.20	13.60
50F6069	080-0901-05-303	4	2	18.60	17.28	15.47

051 AND 080 SERIES LENS CAPS

Stock No.	Type	Color	Fig.	1-24	25-49	50-99
50F6070	080-0531-303	Red	3	5.59	5.13	4.41
50F6071	080-0532-303	Green	3	5.97	5.48	4.71
50F6072	080-0533-303	Amber	3	6.37	5.84	5.02
50F6073	080-0535-303	White	3	6.37	5.84	5.02
50F6074	080-0537-303	Clear	3	6.37	5.84	5.02
50F6075	080-0111-303	Red	4	6.31	5.99	5.61
50F6076	080-0112-303	Green	4	6.31	5.99	5.61
50F6077	080-0113-303	Amber	4	6.31	5.99	5.61
50F6079	080-0117-303	Clear	4	6.31	5.99	5.61

(2607) (de52711)

557 SERIES WATERTIGHT LED PANEL MOUNT INDICATORS



557 series indicators for 0.688″ (17.48) mounting hole feature 100,000-hour life, uniform illumination, watertight, tamperproof design and 6″ (152.40) wire leads. Suited for instrument panels, electrical/electronic control panels and where highly visible indication is critical. Housing material: polycarbonate with black aluminum bezel. Operating temperature: –25°C to +85°C.

Stock No.	Type	Color	V_F	mA	fl(Intensity)	1-49	50-99
93F4195	557-1101-203	Red	4.3*	40	100	10.99	10.11
93F4196	557-1201-203	Green	4.3*	50	150	10.99	10.11
93F4197	557-1301-203	Yellow	4.3*	50	100	10.99	10.11
96F2321	557-1501-203	Red**	4.3*	40	1000	14.29	13.15
93F4198	557-1402-203	R/G	5	80	200/100	14.14	13.01
93F4199	557-1103-203	Red	12	20	100	11.82	10.87
93F4200	557-1203-203	Green	12	25	150	11.82	10.87
93F4201	557-1303-203	Yellow	12	25	100	11.82	10.87
93F4205	557-1505-203	Red**	24	20	1000	15.52	14.28
93F4202	557-1104-203	Red	28	20	100	11.82	10.87
93F4203	557-1204-203	Green	28	25	150	11.82	10.87
93F4204	557-1304-203	Yellow	28	25	100	11.82	10.87
83F5449	557-1412-203	R/G**	5	70/16	400/1000	17.91	16.48
83F5450	557-1432-203	Y/G**	5	70/16	400/1000	17.88	16.45
83F5451	557-1502-203	Red**	5	80	1000	15.00	13.80
83F5452	557-1602-203	Green**	5	16	1000	16.59	15.27
83F5453	557-1702-203	Yellow**	5	80	1000	15.00	13.80
83F5454	557-1802-203	Blue**	5	16	250	16.59	15.27
16F2310	557-1503-203	Red**	12	20	1000	15.52	14.28
83F5455	557-1603-203	Green**	12	16	1000	16.59	15.27
83F5456	557-1703-203	Yellow**	12	20	1000	15.00	13.80
83F5457	557-1803-203	Blue**	12	16	250	16.59	15.27
83F5458	557-1605-203	Green**	24	16	1000	16.59	15.27
83F5459	557-1705-203	Yellow**	24	20	1000	15.00	13.80
83F5460	557-1805-203	Blue**	24	16	250	16.59	15.27

*Requires external resistor. **Colors are superbright.
(2604) (de52708)

556 SERIES WATERTIGHT LED PANEL MOUNT INDICATORS

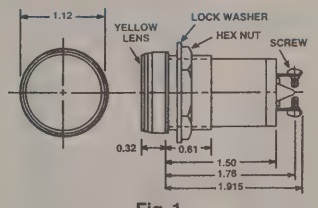


Fig. 1

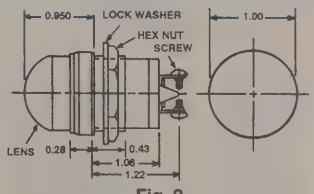


Fig. 2

556 series indicators for 1″ (25.40) mounting hole feature 100,000-hour life, uniform illumination, watertight, tamperproof design for use indoors or out. Suited for instrument panels, electrical/electronic control panels and where highly visible indication is critical. Rugged metal housing. Operating temperature: –25°C to +85°C. Domed or flat lens.

FLAT LENS—FIG. 1

Stock No.	Type	Color	VF	mA	fl (Intensity)	1-49	50-99
96F2325	556-1104-304	Red	24	40	1500	43.95	40.44
96F2326	556-1204-304	Green	24	40	760	43.95	40.44
96F2327	556-1304-304	Amber	24	40	1800	43.95	40.44
96F2328	556-1105-304	Red	125	21	1500	43.95	40.44
96F2329	556-1205-304	Green	125	24	760	43.95	40.44
96F2311	556-1305-304	Amber	125	21	1800	43.95	40.44

DOMED LENS—FIG. 2

96F2312	556-3103-304	Red	12	81	100	43.95	40.44
96F2315	556-3104-304	Red	24	40	100	43.95	40.44
96F2316	556-3204304	Green	24	40	55	43.95	40.44
96F2317	556-3304-304	Amber	24	40	75	43.95	40.44
96F2318	556-3105-304	Red	125	21	100	43.95	40.44
96F2319	556-3205-304	Green	125	24	55	43.95	40.44
96F2320	556-3305-304	Amber	125	21	75	43.95	40.44

(2605) (de52709)

SPLASH-PROOF PANEL MOUNT INDICATORS

052, 081, 095, AND 135 SERIES LENS CAPS FOR 081 SERIES BASE

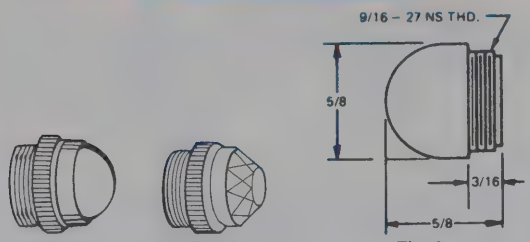


Fig. 1 Fig. 2 Fig. 3

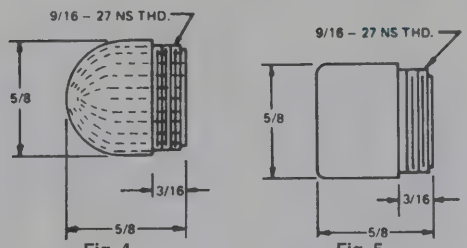


Fig. 4 Fig. 5

Stock No.	Type	Color	Fig.
50F6201	081-0111-303	Red	1
50F6202	081-0112-303	Green*	1
50F6203	081-0113-303	Amber	1
50F6204	081-0135-303	White	1
50F6205	081-0137-303	Clear	1
50F6206	081-0431-303	Red	2
50F6207	081-0432-303	Green*	2
50F6208	081-0433-303	Amber	2
50F6210	081-0437-303	Clear	2
50F6211	095-3171-003	Red	3
50F6217	095-3172-003	Green*	3
50F6218	095-3173-003	Amber	3
50F6219	095-3175-003	White	3
50F6220	095-3137-003	Clear	3
50F6221	052-3191-003	Red	4
50F6222	052-3192-003	Green*	4
50F6223	052-3193-003	Amber	4
50F6224	052-3195-003	White	4
83F5461	052-3198-003	Light Green	4
50F6212	135-3271-003	Red	5
50F6213	135-3272-003	Green*	5
50F6214	135-3273-003	Amber	5
50F6215	135-3275-003	White	5
50F6216	135-3237-003	Clear	5

*Green lens caps not recommended for use with neon lamps.

Stock No.	Type	1- 24	25- 49	50- 99
50F6201	081-0111-303	3.66	3.36	2.89
50F6202	081-0112-303	3.92	3.60	3.09
50F6203	081-0113-303	3.92	3.60	3.09
50F6204	081-0135-303	3.92	3.60	3.09
50F6205	081-0137-303	3.92	3.60	3.09
50F6206	081-0431-303	4.05	3.71	3.19
50F6207	081-0432-303	4.32	3.96	3.41
50F6208	081-0433-303	4.05	3.71	3.19
50F6210	081-0437-303	4.32	3.96	3.41
50F6211	095-3171-003	3.34	3.06	2.63
50F6217	095-3172-003	3.57	3.27	2.81
50F6218	095-3173-003	3.57	3.27	2.81
50F6219	095-3175-003	3.92	3.60	3.09
50F6220	095-3137-003	3.17	2.91	2.50
50F6221	052-3191-003	3.50	3.21	2.76
50F6222	052-3192-003	3.50	3.21	2.76
50F6223	052-3193-003	3.50	3.21	2.76
50F6224	052-3195-003	3.75	3.44	2.95
83F5461	052-3198-003	3.05	2.81	2.55
50F6212	135-3271-003	2.46	2.26	1.94
50F6213	135-3272-003	2.46	2.26	1.94
50F6214	135-3273-003	2.46	2.26	1.94
50F6215	135-3275-003	2.63	2.41	2.07
50F6216	135-3237-003	2.46	2.26	1.94

(2594) (de51684)

081 AND 095 SERIES INDICATORS, 1 1/16″ MOUNTING HOLE BASES

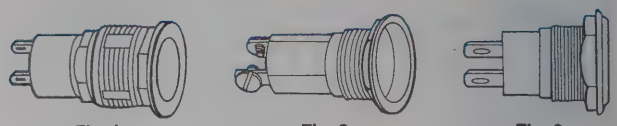


Fig. 1 Fig. 2 Fig. 3

Use with a variety of lens caps to provide maximum lighting for specific applications. *Order lamps separately on page 551. Uses incandescent neon, cluster based LED or multi-chip based LED lamps.*

Stock No.	Type	Lens Fig.	Use With Lamp Type	Voltage	Fig.	1- 24	25- 49
50F6194	081-0410-01-303	1 to 5	T-3¼ Bayonet Inc	2-120	1	8.24	7.82
50F6196	081-0408-01-343	2,1	B1A Neon	110-125	1	10.45	9.92
50F6197	081-1308-01-343	2,1	B1A Neon	110-125	2	11.16	10.58
50F6198	081-0463-01-313	2,1	B2A Neon	110-125	1	10.09	9.57
50F6199	081-1363-01-313	2,1	B2A Neon	110-125	2	12.15	11.29
50F6200	081-1059-01-303	1 to 5	T2 Inc	6-120	3	7.62	7.23
83F5462	095-0408-09-343	3, 4, 5	B1A Neon	110-125	1	9.93	9.14
83F5463	095-1308-09-343	3, 4, 5	B1A Neon	110-125	2	11.40	10.49
83F5464	095-0463-09-313	3, 4, 5	B2A Neon	110-125	1	10.60	9.75
83F5465	095-1363-09-313	3, 4, 5	B2A Neon	110-125	2	11.90	10.95

(2593) (de51683)

101 SERIES INDICATORS, 15/32″ MOUNTING HOLE BASES

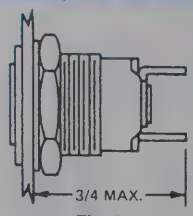


Fig. 1

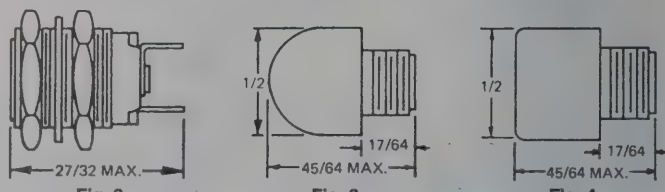


Fig. 2 Fig. 3 Fig. 4

Use T-1¾ incandescent midget flange base lamp with stovepipe or cylindrical lens. Panel thickness: 1/4″. Watertight. **Type 101-8430-09-203** is front mountable, fixed flange. **Type 101-3830-09-203** is front or back mountable, movable flange.

101 SERIES CARTRIDGES (FIT FIGS. 3 & 4 LENSES)

Stock No.	Type	Voltage	Fig.	1-24	25-49	50-99
50F6048	101-8430-09-203	1.35-28	1	6.51	6.17	5.78
50F6049	101-3830-09-203	1.35-28	2	10.24	9.71	9.10

101 SERIES LENS CAPS

Stock No.	Type	Color	Fig.	1-24	25-49	50-99
50F6050	101-0971-003	Red	3	2.97	2.72	2.34
50F6051	101-0972-003	Green	3	2.97	2.72	2.34
50F6052	101-0973-003	Amber	3	3.17	2.91	2.50
50F6053	101-0975-003	White	3	3.17	2.91	2.50
50F6054	140-1471-003	Red	4	3.75	3.44	2.95
50F6055	140-1472-003	Green	4	3.75	3.44	2.95
50F6056	140-1473-003	Amber	4	3.75	3.44	2.95
50F6057	140-1475-003	White	4	3.75	3.44	2.95

(2595) (de51685)

AT NEWARK, YOUR ORDER IS OUR FIRST PRIORITY.

ULTRAMINIATURE INDICATORS

LED, INCANDESCENT AND NEON DATALAMP INDICATORS

Cartridges have aluminum housing with nickel silver pins, offset for polarization. IC compatible. LED's internal fresnel ring pattern allows maximum light distribution. Housing: black anodized. Incandescent and neon housings have clear anodized finish. High brightness neon units have a 5000-hour minimum life; standard brightness, 25,000 hours. Cartridges accept holders, connectors, and speed clips. Cartridges with stovepipe lenses (Fig. 2) and long cylindrical lenses are available; *contact your local Newark sales office.*

507 SERIES LED CARTRIDGES—FIG. 1

Stock No.	Type	Color	VF	mA	LED (Mcd)	1-24	25-49	50-99
25F1430	507-4757-3331-500	Red	5	15	10	5.55	5.09	4.37
25F1463	507-4857-3332-500	Green	5	20	50	6.72	6.38	5.98
25F1464	507-4957-3333-500	Amber	5	20	35	6.72	6.38	5.98
25F1432	507-4759-3331-500	Red	10	15	10	5.55	5.09	4.37
25F1467	507-4859-3332-500	Green	10	20	50	6.87	6.52	6.11
25F1433	507-4760-3331-500	Red	14	20	10	5.55	5.09	4.37
25F1469	507-4860-3332-500	Green	14	20	50	6.72	6.38	5.98
25F1470	507-4960-3333-500	Amber	14	20	35	6.72	6.38	5.98
25F1434	507-4761-3331-500	Red	28	20	10	6.57	6.23	5.84
25F1471	507-4861-3332-500	Green	28	20	50	6.72	6.38	5.98
25F1472	507-4961-3333-500	Amber	28	20	35	6.72	6.38	5.98
91F5323	507-5064-3334-500	Blue	5	10	...	11.75	11.15	10.45
91F5324	507-5066-3334-500	Blue	10	20	...	11.75	11.15	10.45
91F5325	507-5067-3334-500	Blue	14	10	...	11.75	11.15	10.45

507 SERIES INCANDESCENT CARTRIDGES

Stock No.	Type	Color	VF	mA	CP	Life (Hrs.)	Fig.	1-24	25-49	50-99
45F500	507-3910-1431-600	Red	10	14	0.004	50000	1	6.19	5.68	4.88
25F1172	507-3911-1431-600	Red	10	40	0.080	10000	1	6.55	6.00	5.16
25F1173	507-3911-1432-600	Green	10	40	0.080	10000	1	6.55	6.00	5.16
25F1134	507-3913-1471-600	Red	14	80	0.500	1500	1	6.12	5.61	4.83
25F1135	507-3913-1472-600	Green	14	80	0.500	1500	1	6.79	6.44	6.03
25F1138	507-3913-1475-600	White	14	80	0.500	1500	1	6.55	6.00	5.16
25F1168	507-3914-1471-600	Red	14	80	0.300	15000	1	5.80	5.31	4.57
25F1169	507-3914-1472-600	Green	14	80	0.300	15000	1	5.80	5.31	4.57
25F1170	507-3914-1473-600	Amber	14	80	0.300	15000	1	5.80	5.31	4.57
25F1171	507-3914-1475-600	White	14	80	0.300	15000	1	6.12	5.61	4.83
25F1140	507-3917-1471-600	Red	28	40	0.340	4000	1	5.80	5.31	4.57
25F1141	507-3917-1472-600	Green	28	40	0.340	4000	1	5.80	5.31	4.57
25F1142	507-3917-1473-600	Amber	28	40	0.340	4000	1	5.80	5.31	4.57
25F1144	507-3917-1475-600	White	28	40	0.340	4000	1	6.12	5.61	4.83
25F1176	507-3918-1471-600	Red	28	40	0.300	7000	1	5.80	5.31	4.57
25F1177	507-3918-1472-600	Green	28	40	0.300	7000	1	5.43	4.98	4.28
25F1178	507-3918-1473-600	Amber	28	40	0.300	7000	1	5.80	5.31	4.57
25F1179	507-3918-1475-600	White	28	40	0.300	7000	1	5.80	5.31	4.57
25F1093	507-3917-0371-600	Red	28	40	0.340	4000	3	5.80	5.31	4.57
25F1094	507-3917-0372-600	Green	28	40	0.340	4000	3	6.19	5.68	4.88
25F1096	507-3917-0375-600	White	28	40	0.340	4000	3	5.80	5.31	4.57
60F1229	507-5820-0747-600	Clear	12	170	2.100	5000	4	15.21	14.13	12.65
60F1230	507-5821-0747-600	Clear	28	40	1.200	5000	4	9.95	9.44	8.84
60F1233	507-5824-0747-600	Clear	120	25	1.500	5000	4	10.24	9.71	9.10

507 SERIES NEON CARTRIDGES—FIG. 5

Stock No.	Type	Color	VAC/DC	Resistor	Brightness	1-24	25-49	50-99
25F1180	507-4537-0931-640	Red	105-125	100K	Standard	6.47	5.93	5.10
25F1181	507-4537-0933-640	Amber	105-125	100K	Standard	6.12	5.61	4.83
25F1182	507-4537-0935-640	White	105-125	100K	Standard	6.13	5.82	5.45
25F1184	507-4537-0937-640	Clear	105-125	100K	Standard	6.47	5.93	5.10
25F1190	507-4538-0931-610	Red	110-125	47K	High	6.12	5.61	4.83
25F1191	507-4538-0933-610	Amber	110-125	47K	High	6.12	5.61	4.83
25F1192	507-4538-0935-610	White	110-125	47K	High	6.48	6.15	5.76
25F1194	507-4538-0937-610	Clear	110-125	47K	High	6.48	6.15	5.76

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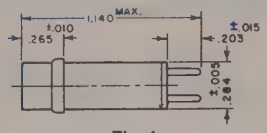

Fig. 1

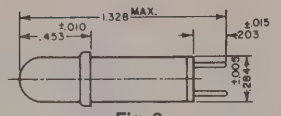

Fig. 2

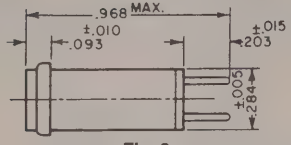

Fig. 3

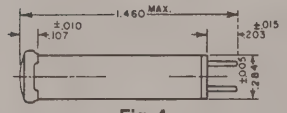

Fig. 4

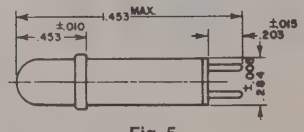

Fig. 5

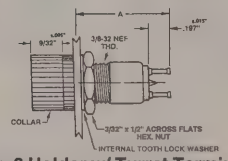

Fig. 6 Holder w/ Turret Terminal

CARTRIDGE HOLDERS FOR 507 SERIES DATALAMPS —Fig. 6

Order **507 series** *datalamps, cartridge connectors, speed clips, and caps separately on this page.*

Stock No.	Type	Fits Figure	Dimension A	1-24	25-49	50-99
25F1167	508-7538-504	1, 2, 3	0.891" (22.63)	6.51	6.17	5.78
25F1291	508-8738-504	1, 2, 3	0.891" (22.63)	6.22	5.90	5.53
25F1485	250-8738-14-504	1, 2, 3	1.031" (26.19)	5.80	5.31	4.57
25F1292	508-8745-504	5	0.984" (24.99)	6.51	6.17	5.78
25F1486	250-8745-14-504	5	1.125" (28.58)	6.12	5.61	4.83
28F1801	250-8758-33-504	4	1.428" (36.27)	8.61	8.17	7.66

* Holder without collar.

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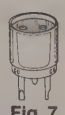
Fig. 7 Cartridge Connector

CONNECTORS AND SPEED CLIPS FOR 507 SERIES DATALAMPS (FIT ALL TYPES)

Stock No.	Type	Fig.	1-24	25-49	50-99
25F1252	515-0012	7	4.21	3.86	3.32
25F1251	515-0050	8	2.63	2.41	2.07
25F1253	515-0051	9	1.18	1.03	0.92
28F1803	515-0074	10	2.29	2.09	1.80

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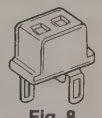
Fig. 8 Cartridge Connector

Fig. 9 Speed Clip

250 SERIES CAPS FOR 250 SERIES HOLDERS—FIG. 11

Stock No.	Type	Color	1-24	25-49	50-99
25F1523	250-3331-500	Red	2.46	2.26	1.94
28F1805	250-3332-500	Green*	2.46	2.26	1.94
28F1806	250-3333-500	Amber	2.46	2.26	1.94
28F1807	250-3335-500	White	2.63	2.41	2.07

*Not recommended for neon units.

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Fig. 10 Cartridge Connector

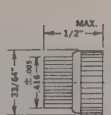

Fig. 11

INCANDESCENT AND NEON INDICATORS

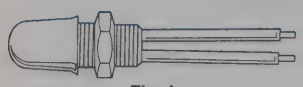
Fig. 1

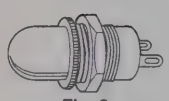
Fig. 2

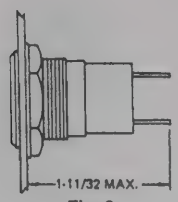

Fig. 3

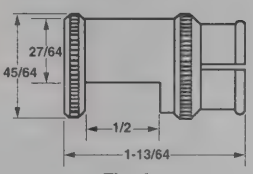

Fig. 4

Fig. 5

Fig. 6

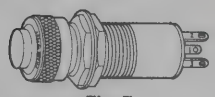
Fig. 7

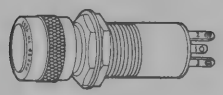
Fig. 8

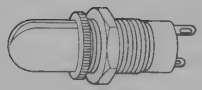
Fig. 9

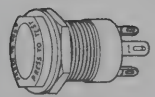
Fig. 10

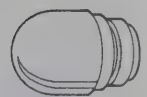
Fig. 11

MIL SPEC PANEL-MOUNT INDICATORS

Military type panel-mount indicators are QPL listed per MIL-L-780 (MS25041 & MS25331). The MIL-L-3661 number permits the ordering of a complete assembly, or separate lens cap and base, with the MIL designation for the base only marked on the lamp holder. The MS number specifies a complete assembly and the full MS number (less lamp) is marked on the lamp holder. Available in red, green, amber, blue, clear and white. Uses 5V non-replaceable incandescent lamp.

252 SERIES 0.193″ MOUNTING HOLE

Stock No.	Type	MIL No.	Color	Fig.	1-24	25-49	50-99
25F1295	252-9951-0971	LHC82/1RT2	Red	1	17.77	16.51	14.78
25F1294	252-9951-0972	LHC82/1GT2	Green	1	16.78	15.59	13.95
25F1297	252-9951-0973	LHC82/1YT2	Amber	1	16.95	15.75	14.10
25F1293	252-9951-0974	LHC82/1BT2	Blue	1	19.36	17.99	16.11

162 SERIES 15/32″ MOUNTING HOLE

Uses T-1¾ (Type 521-0327) midget flange base incandescent lamp. 1.35-28V indicators.

Stock No.	Type	MIL No.	Color	Fig.	1-24	25-49	50-99
25F1205	162-8430-0931-502	MS25256-6	Red	2	11.64	11.04	10.35
25F1204	162-8430-0932-502	MS25256-4	Green	2	11.64	11.04	10.35
25F1203	162-8430-0933-502	MS25256-2	Amber	2	11.64	11.04	10.35
25F1208	162-8430-0934-502	MS25256-12	Blue	2	12.00	11.15	9.99
25F1206	162-8430-0937-502	MS25256-8	Clear	2	12.00	11.15	9.99
25F1207	162-8430-0935-502	MS25256-10	White	2	14.35	13.34	11.94

021 SERIES, 1 1/16″ MOUNTING HOLE, SHIELDED

Uses T-3¼ (Type 521-0757) miniature bayonet base incandescent lamp. **Type 021-0410-29-301** is a 2-120V indicator.

Stock No.	Type	MIL No.	Color	Fig.	1-24	25-49	50-99
65F1070	21-0410-29-301	*	...	3	7.62	7.23	6.77
65F1072	21-2900-300	*	...	4	6.99	6.63	6.21

* Both types meet MIL-L-7806 and MIL-L-3361B

800 SERIES 15/32″ MOUNTING HOLE

Non-dimming press-to-test, use T-1¾ (Type 521-0327) midget flange base incandescent lamp or based LED lamp. 1.35-28V indicators.

Stock No.	Type	MIL No.	Color	Fig.	1-24	25-49	50-99
25F988	800-1030-0331-504	MS25041-6	Red	5	25.02	23.25	20.81
25F989	800-1030-0332-504	MS25041-7	Green	5	26.72	24.83	22.22
25F990	800-1030-0333-504	MS25041-8	Amber	5	25.02	23.25	20.81
25F1515	800-1030-0334-504	MS25041-11	Blue	5	26.72	24.83	22.22
25F987	800-1030-0337-504	MS25041-5	Clear	5	25.02	23.25	20.81

801 SERIES 15/32″ MOUNTING HOLE

Press-to-test with dimmer, use T-1¾ **(Type 521-0327)** midget flange base incandescent lamp or based LED lamp. 1.35-28V indicators.

25F984	801-1030-0331-504	MS25041-2	Red	6	32.22	29.94	26.81
25F985	801-1030-0332-504	MS25041-3	Green	6	32.22	29.94	26.81
25F986	801-1030-0333-504	MS25041-4	Amber	6	32.22	29.94	26.81
25F1514	801-1030-0334-504	MS25041-10	Blue	6	34.41	31.98	28.63
25F983	801-1030-0337-504	MS25041-1	Clear	6	34.41	31.98	28.63

803 SERIES 5/8″ MOUNTING HOLE

Press-to-test, use T-3¼ (Type 521-0757) miniature bayonet base incandescent lamp. 2-55V indicators.

Stock No.	Type	MIL No.	Color	Fig.	1-24	25-49	50-99
25F995	803-1710-0331-504	MS25331-6	Red	7	30.88	28.69	25.69
25F996	803-1710-0332-504	MS25331-7	Green	7	33.86	31.46	28.17
25F997	803-1710-0333-504	MS25331-8	Amber	7	33.86	31.46	28.17
94F764	803-1710-0337-504	MS25331-5	Clear	7	36.17	33.61	30.09

804 SERIES 5/8″ MOUNTING HOLE

Press-to-test with dimmer, use T-3¼ (Type 521-0757) miniature bayonet base incandescent lamp. 2-55V indicators.

25F991	804-1710-0331-504	MS25331-2	Red	8	38.41	35.69	31.95
25F992	804-1710-0332-504	MS25331-3	Green	8	38.41	35.69	31.95
25F993	804-1710-0333-504	MS25331-4	Amber	8	38.41	35.69	31.95

137 SERIES 15/32″ MOUNTING HOLE

Use C7A (Type 521-9047) neon glow lamp with built-in 62 resistor. Indicators are 105-125 VAC/DC.

Stock No.	Type	MIL No.	Color	Fig.	1-24	25-49	50-99
25F1201	137-8836-0931-552	MS25257-4	Red	9	16.96	15.76	14.11
25F1200	137-8836-0933-552	MS25257-2	Amber	9	16.96	15.76	14.11
25F1202	137-8836-0937-552	MS25257-6	Clear	9	16.96	15.76	14.11

812 SERIES 15/32″ MOUNTING HOLE

Press-to-test, use T-1¾ (Type 521-0327) midget flange base incandescent lamp. **Type 812-1030-09-506** is a 1.35-28V indicator.

Stock No.	Type	Color	Fig.	1-24	25-49	50-99
25F1600	812-1030-09-506	...	10	12.88	11.97	10.72
25F1610	812-0971	Red	11	6.99	6.63	6.21
25F1611	812-0972	Green	11	6.99	6.63	6.21
25F1612	812-0973	Amber	11	6.69	6.35	5.94

(2588) (de51618)

NEW PRODUCTS ARE BEING ADDED TO OUR INVENTORY EVERY DAY.
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NEON AND INCANDESCENT INDICATORS

103 SERIES OILTIGHT BASES & LENSES

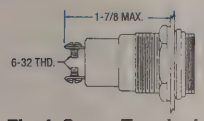

Fig. 1. Screw Terminal

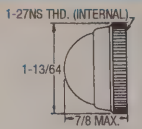

Fig. 2. Dome Lens

Fig. 3. Torpedo Lens

Oil-tight indicators are manufactured with a rubber gasket installed between the plastic lens and metal holder, as well as with a rubber O-ring which fits tightly on to a notch in the base. These make assembly virtually impervious to oil, water and dust. The lens holder is brass with either satin chrome or white nickel finish, and the base is white nickel-plated brass. **103 series** base models can be used with either dome or torpedo lens. Torpedo faceted lens **type 103-1331-403** also available. *Order lamps separately; contact your local Newark sales office.*

103 SERIES BASE - 1" MOUNTING HOLE, FIG. 1

Stock No.	Type	Lamp Type	1-24	25-49	50-99
45F590	103-3101-05-103	S6 Candelabra	15.45	14.36	12.86
65F1095	103-3202-05-103	S6 Bayonet	15.00	13.94	12.48
65F1096	103-3227-05-103	C7 Bayonet	17.61	16.36	14.65
45F589	103-3502-05-103	S6 Double Contact Bayonet	15.28	14.20	12.71

103 SERIES CAP - UNFROSTED

Stock No.	Type	Color	Fig	1-24	25-49	50-99
45F608	103-1231-403	Red	2	6.99	6.63	6.21
65F1098	103-1232-403	Green	2	6.99	6.63	6.21
45F609	103-1233-403	Amber	2	7.46	7.08	6.63
45F602	103-1235-403	White	2	7.46	7.08	6.63
65F1099	103-0531-403	Red	3	6.69	6.35	5.94
65F1100	103-0532-403	Green	3	6.51	6.17	5.78
65F1101	103-0533-403	Amber	3	7.14	6.77	6.34
65F1102	103-0535-403	White	3	7.14	6.77	6.34

(2674) (de02940)

125 SERIES OILTIGHT INDICATORS

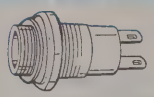

Fig. 1. Solder Terminal

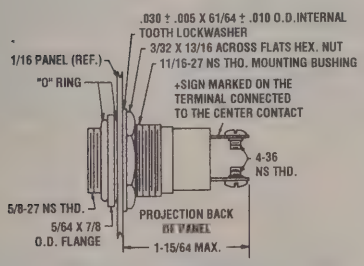
.030 ± .005 X 61/64 ± .010 O.D. INTERNAL TOOTH LOCKWASHER
1/16 PANEL (REF.)
3/32 X 13/16 ACROSS FLATS HEX. NUT
11/16-27 NS THD. MOUNTING BUSHING
"O" RING
+SIGN MARKED ON THE TERMINAL CONNECTED TO THE CENTER CONTACT
4-36 NS THD.
5/8-27 NS THD.
5/64 X 7/8 O.D. FLANGE
PROJECTION BACK OF PANEL
1-15/64 MAX.

Fig. 2. Screw Terminal

Fig. 3. Stovepipe Lens Cap

Fig. 4. Stovepipe Lens Cap (Internal Fluting)

125 SERIES BASE - 11/16" MOUNTING HOLE

Stock No.	Type	Lamp Type	Volts AC	Fig.	1-24	25-49
45F566	125-0410-11-103	T-3¼ MB INC*	2-120	1	9.62	9.13
25F906	125-1310-11-103	T-3¼ MB INC*	2-120	2	10.24	9.71
45F567	125-0408-11-143	B1A neon	105-125†	1	11.48	10.89
25F907	125-1308-11-143	B1A neon	105-125†	2	14.72	13.68
45F618	125-0463-11-113	B2A neon	110-125	1	11.64	11.04
65F1106	125-1363-11-113	B2A neon	110-125	2	12.60	11.71

* Can also use cluster based LED or multichip based LED lamps. † are AC/DC.

125 SERIES CAP - UNFROSTED

Stock No.	Type	Color	Fig.	1-24	25-49
45F582	125-1131-403	Red	3	5.43	4.98
45F583	125-1132-403	Green**	3	5.59	5.13
45F584	125-1133-403	Amber	3	5.59	5.13
45F586	125-1135-403	White	3	6.55	6.00
45F588	125-1137-403	Clear	3	5.43	4.98
45F568	125-1191-403	Red	4	5.43	4.98
45F569	125-1192-403	Green**	4	5.59	5.13
45F570	125-1193-403	Amber	4	5.59	5.13
45F572	125-1195-403	White	4	6.55	6.00
45F574	125-1197-403	Clear	4	5.43	4.98

** Not recommended for neon applications.

(2537) (de02941)

249 SERIES LED AND NEON PANEL MOUNT INDICATORS

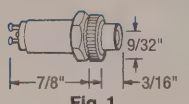

Fig. 1

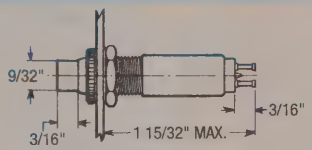

Fig. 3

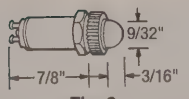

Fig. 2

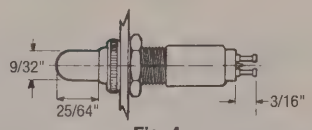

Fig. 4

249 series indicators offer high efficiency LEDs, standard, or high brightness neon lamps in black anodized aluminum housing. LED product offers long life for low voltage applications. Neon products supplied with integral resistors for line voltage requirements. **249 series** units are complete assemblies including base, lamp and lens in one. For **249 series** LED with short stovepipe lens (see Fig. 2), change the 8th and the 9th digits in the type no. from **33** to **37.** To order 3.6 volt devices, change the 6th and 7th digits to **67.**

0.375" (9.53mm) MTG. HOLE, LED PANEL MOUNT, FIG. 1

Stock No.	Type	Color	VF	1-24	25-49	50-99
91F5326	249-4164-3334-504	Blue	5	15.26	14.18	12.70
91F5327	249-4166-3334-504	Blue	10	15.26	14.18	12.70
91F5328	249-4167-3334-504	Blue	14	15.26	14.18	12.70
91F5329	249-4168-3334-504	Blue	28	16.30	15.15	13.56
25F1435	249-7868-3331-504	Red	5	9.25	8.78	8.23
25F1546	249-7968-3332-504	Green	5	9.40	8.92	8.36
25F1547	249-8068-3333-504	Yellow	5	9.25	8.78	8.23
25F1454	249-7870-3331-504	Red	10	9.25	8.78	8.23
25F1525	249-7970-3732-504	Green	10	10.83	10.27	9.63
25F1455	249-7871-3331-504	Red	14	9.25	8.78	8.23
25F1533	249-7971-3332-504	Green	14	9.25	8.78	8.23
25F1534	249-8071-3333-504	Yellow	14	9.73	9.23	8.65
25F1436	249-7872-3331-504	Red	28	9.25	8.78	8.23
25F1535	249-7972-3332-504	Green	28	9.40	8.92	8.36
25F1536	249-8072-3333-504	Yellow	28	9.25	8.78	8.23

0.375" (9.53mm) MTG. HOLE, NEON PANEL MOUNT, FIG. 3

To order **249 series** neon with stovepipe lens (see Fig. 4), change the 8th and 9th digits in the type number from **14** to **09. Types 249-7841** have standard brightness and rate 105VAC. Others have high brightness and rate 110VAC.

Stock No.	Type	Color	1-24	25-49	50-99
25F1161	249-7841-1431-574	Red	11.16	10.58	9.92
25F1162	249-7841-1433-574	Amber	11.92	11.31	10.60
25F1163	249-7841-1435-574	White	12.81	11.90	10.66
20F891	249-7866-1431-514	Red	11.16	10.58	9.92
20F892	249-7866-1433-514	Amber	11.16	10.58	9.92
20F893	249-7866-1435-514	White	12.81	11.90	10.66
20F894	249-7866-1437-514	Clear	11.70	10.87	9.73

(2539) (de02943)

177 SERIES OILTIGHT INDICATORS

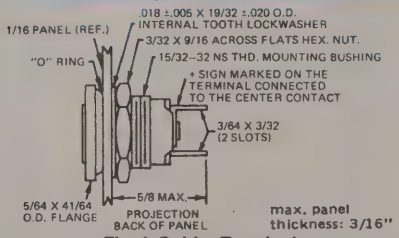
.018 ±.005 X 19/32 ±.020 O.D. INTERNAL TOOTH LOCKWASHER
1/16 PANEL (REF.)
3/32 X 9/16 ACROSS FLATS HEX. NUT.
"O" RING
15/32-32 NS THD. MOUNTING BUSHING
+ SIGN MARKED ON THE TERMINAL CONNECTED TO THE CENTER CONTACT
3/64 X 3/32 (2 SLOTS)
5/64 X 41/64 O.D. FLANGE
5/8 MAX.
PROJECTION BACK OF PANEL
max. panel thickness: 3/16"

Fig. 1. Solder Terminal

Fig. 2. Stovepipe Lens Cap

177 SERIES BASE - 15/32" MOUNTING HOLE, FIG. 1

Stock No.	Type	Lamp Type	Voltage	1-24	25-49	50-99
25F1637	177-8430-09-503	T-1¾ MF INC	1.35-28	6.22	5.90	5.53

177 SERIES LENS CAP - UNFROSTED, FIG. 2

Stock No.	Types	Color	1-24	25-49	50-99
25F1638	177-0931-003	Red	3.50	3.21	2.76
25F1639	177-0932-003	Green	3.50	3.21	2.76
25F1640	177-0933-003	Amber	3.50	3.21	2.76
25F1642	177-0935-003	White	4.32	3.96	3.41
25F1644	177-0937-003	Clear	3.50	3.21	2.76

(2538) (de02942)

PANEL MOUNT INDICATORS

NON-RELAMPABLE 0.5″ (12.70) DIAMETER INDICATORS

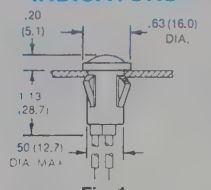

Fig. 1

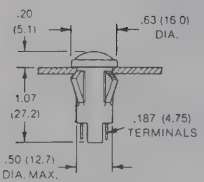

Fig. 2

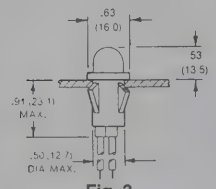

Fig. 3
Wire Leads Shown

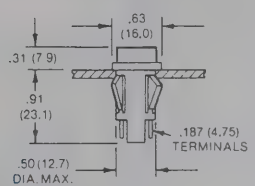

Fig. 4
Q.C. Terminals Shown

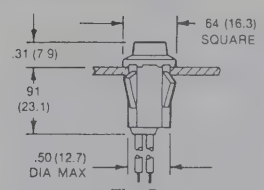

Fig. 5
Wire Leads Shown

Neon and incandescent indicators snap-fit into 0.500″/0.505″ (12.70/12.83) diameter hole in panels 0.020/0.100″ (0.51/2.54) thick. All have 4.4/4.8″ (112/122.9) long, 22AWG wire leads **except** types with "**Q**" in the type number which have 0.187″ (4.75) tinned-brass quick-connect terminals. Polished stainless steel bezel, white nylon housing. Wire lead models **types 1030** and **1050** feature black leads; **types 1031** and **1051** feature one black lead and one red lead. Wire lead or Q.C. terminal lead incandescent indicators (**type 1090**-not shown) rated at 12V and 28V are also available. **Types 1050C/1051C** feature wire leads (Q.C. terminals shown). **Types 1050QA/1051QA** feature Q.C. terminals (wire leads shown). *Contact your local Newark sales office to order* **type 1090** *incandescent indicators.*

NEON INDICATORS WITH BUILT-IN RESISTOR

Stock No.	Type	Fig.	Lens Color	Volts (VAC)	Each
93F3552	1030D1	1	Red	105-125	2.18
93F3553	1030D3	1	Amber	105-125	2.18
93F3555	1030D4	1	White	105-125	2.18
93F3556	1030QD1	2	Red	105-125	2.36
93F3557	1030QD3	2	Amber	105-125	2.36
93F3558	1030QD4	2	White	105-125	2.36
93F3559	1031D1	1	Red	208-250	2.18
93F3560	1031QD1	2	Red	208-250	2.36
93F3532	1050A1	3	Red	105-125	2.18
93F3534	1050A2	3	Clear	105-125	2.18
93F3533	1050A3	3	Amber	105-125	2.18
93F3535	1050A4	3	White	105-125	2.18
93F3544	1050C1	5	Red	105-125	2.18
93F3546	1050C2	5	Clear	105-125	2.18
93F3545	1050C3	5	Amber	105-125	2.18
93F3526	1050N1	5	Red	105-125	2.36
93F3527	1050N3	5	Amber	105-125	2.36
93F3528	1050N4	5	White	105-125	2.36
93F3536	1050QA1	4	Red	105-125	2.36
93F3538	1050QA2	4	Clear	105-125	2.36
93F3537	1050QA3	4	Amber	105-125	2.36
93F3539	1050QA4	4	White	105-125	2.36
93F3542	1050QC1	4	Red	105-125	2.36
93F3549	1050QC2	4	Clear	105-125	2.36
93F3543	1050QC3	4	Amber	105-125	2.36
93F3529	1050QN1	4	Red	105-125	2.78
93F3530	1050QN3	4	Amber	105-125	2.82
93F3531	1050QN4	4	White	105-125	2.82
93F3540	1051A1	3	Red	208-250	2.18
93F3550	1051C1	4	Red	208-250	2.18
93F3541	1051QA1	4	Red	208-250	2.36
93F3551	1051QC1	4	Red	208-250	2.36

(2562) (de03380)

NON-RELAMPABLE 5/16″ INDICATORS

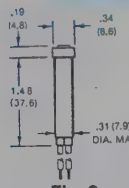

Fig. 6

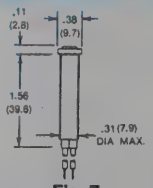

Fig. 7

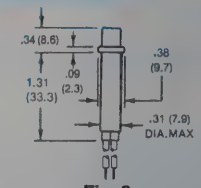

Fig. 8

Neon and LED solid-state indicators mount in 0.313″ (7.95) min. diameter hole with push-on speednut (included). All have 4.4/4.8″ (112/122.9) long, 22AWG wire leads **except** types with **Q** in the type number which have 0.187″ (4.75) tinned brass quick-connect terminals. Neon indicators (**types 2110, 2120** and **2150**): 105-125VAC. **Type 2150** has polished stainless steel bezel. Wire lead models feature black leads. LED solid state indicators (**type 2191**): 12V and 24V, as indicated by suffix in type number. Polished stainless steel bezel. Wire lead models feature red (+) anode lead.

NEON INDICATORS WITH BUILT-IN RESISTOR

Stock No.	Type	Fig.	Lens Color	Each
93F3576	2110A1	6	Red	2.15
93F3578	2110A2	6	Clear	2.15
93F3577	2110A3	6	Amber	2.15
93F3579	2110A4	6	White	2.15
93F3569	2120A1	7	Red	2.15
93F3570	2120A3	7	Amber	2.15
93F3571	2120A4	7	White	2.15
93F3572	2150A1	8	Red	2.31
93F3574	2150A2	8	Clear	2.31
93F3573	2150A3	8	Amber	2.31
66F5960	2152A5	8	Green	4.08
93F3575	2150A4	8	White	2.31
93F3505	2150QA1	8	Red	2.48
93F3506	2150QA3	8	Amber	2.48
93F3507	2150QA4	8	White	2.71
66F5961	2152QA5	8	Green	4.28

LED SOLID-STATE INDICATORS

93F3493	2191L1-12V	8	Red	3.27
93F3496	2191L1-24V	8	Red	3.27
93F3494	2191L5-12V	8	Green	3.27
93F3497	2191L5-24V	8	Green	3.27
93F3495	2191L7-12V	8	Yellow	3.27
93F3498	2191L7-24V	8	Yellow	3.27
93F3499	2191QL1-12V	8	Red	3.43
93F3502	2191QL1-24V	8	Red	3.43
93F3500	2191QL5-12V	8	Green	3.43
93F3503	2191QL5-24V	8	Green	3.43
93F3501	2191QL7-12V	8	Yellow	3.43
93F3504	2191QL7-24V	8	Yellow	3.43

(2563) (de03381)

NON-RELAMPABLE RECTANGULAR NEON INDICATORS

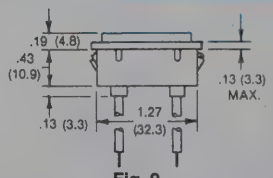

Fig. 9

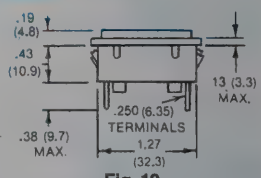

Fig. 10

Neon indicators with resistor snap fit into .032/.100″ (0.813/2.54) thick panel. All have 4.4/4.8″ (112/122.9) long, 22AWG wire leads **except** types with **Q** in type number which have tinned-brass quick-connect terminals. Polycarbonate lens. Polished stainless steel bezel. 105-125VAC. UL recognized, CSA certified.

Stock No.	Type	Fig.	Lens Color	Each
93F3580	2330D1	9	Red	2.60
93F3581	2330D3	9	Amber	2.60
93F3582	2330D4	9	White	2.60
93F3583	2330QD1	10	Red	2.63
93F3584	2330QD3	10	Amber	2.63
93F3585	2330QD4	10	White	2.91

(2564) (de03382)

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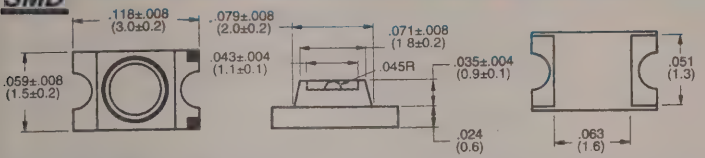
SURFACE MOUNT AND CIRCUIT BOARD INDICATORS

CMD11-21 SERIES SURFACE MOUNT LED

SMD



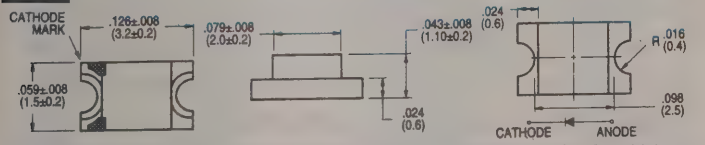
Integral lensing for narrow-angle light dispersion. Consistent high brightness. All types have clear lenses. Viewing angle: 20°. Forward voltage rating: 20mA. Tape and reel packaged for high-speed autoinsertion. Compact form enables high density placement. Industry standard 1206 package. Power dissipation: 105. Average forward current: 25 (**type CMD11-21VGC**) and 30 (**types CMD11-21VRC** and **CMD11-21VYC**).

Stock No.	Type	Color	I_V (mcd)	V_f	Each
84F144	CMD11-21VRC	Red	6.0	2.8	0.35
84F145	CMD11-21VYC	Yellow	6.0	2.8	0.35
84F146	CMD11-21VGC	Green	7.5	2.8	0.35

(19526) (ne10551)

CMD15-21 AND 22 SERIES SURFACE MOUNT LED

SMD



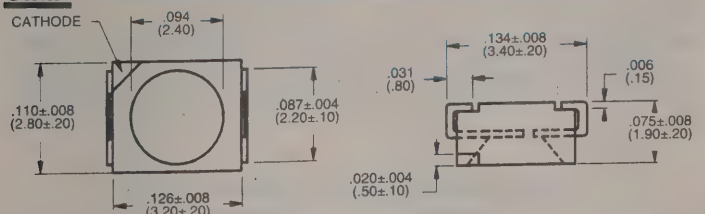
All types have clear lenses, except **types CMD15-21VRD,VGD,** and **VYD** which are diffused. Tape and reel packaged for high-speed autoinsertion. Reverse voltage (IR=100µA). **Types CMD15-22** are also available in green; *contact your local Newark sales office.*

Stock No.	Type	Color	I_V (mcd)	V_f	Each
84F152	CMD15-21SRC	Super Red	15.0	2.4	0.38
84F153	CMD15-21VRC	H.E. Red	6.0	2.8	0.31
84F154	CMD15-21VYC	Yellow	6.0	2.8	0.31
84F155	CMD15-21VGC	Green	10.0	2.8	0.31
84F156	CMD15-21UBC	Blue	45.0	5.5	4.33
84F157	CMD15-21UGC	Green	12.0	2.8	0.38
84F158	CMD15-21VRD	H.E. Red	4.0	2.8	0.31
84F159	CMD15-21VGD	Green	6.5	2.8	0.31
84F160	CMD15-21VYD	Yellow	4.0	2.8	0.31
84F161	CMD15-22VRVGC	H.E. Red	6.0	2.8	0.59
84F162	CMD15-22RUGC	Red	15.0	2.4	0.73

(19528) (ne10553)

CMD67-21 SERIES SURFACE MOUNT LEDs

SMD



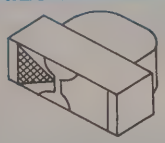
Provide consistent high brightness. All types have clear lenses. Tape and reel packaged for high-speed autoinsertion. Industry-standard T x P package. Viewing angle: 120°. Reverse voltage (IR+100µA): 5.0. Average forward current: 30mA (except **type CMD67-21VGC** which is 20).

Stock No.	Type	Color	I_V (mcd)	V_f	Each
84F163	CMD67-21VGC	Green	25.0	2.8	0.42
84F164	CMD67-21VYC	Yellow	10.0	2.8	0.42
84F165	CMD67-21VRC	H.E. Red	10.0	2.8	0.42
84F166	CMD67-21SRC	Bright Red	40.0	2.4	0.53
84F167	CMD67-21URC	Bright Red	62.0	2.4	0.83

(19529) (ne10554)

CMD12-21 SERIES SURFACE MOUNT LED

SMD

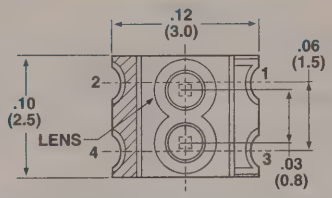


Provide consistent high brightness. All types have clear lenses. Tape and reel packaged for high-speed autoinsertion. Right-angle mountability. Viewing angle: 120°. Reverse voltage (IR+100µA): 4.0. Average forward current: 30mA.

Stock No.	Type	Color	I_V (mcd)	V_f	Each
84F147	CMD12-21SRC	Red	12.4	2.4	0.50
84F148	CMD12-21VRC	H.E. Red	5.0	2.8	0.39
84F149	CMD12-21VYC	Yellow	3.0	2.8	0.39
84F150	CMD12-21VGC	Green	8.8	2.8	0.39
84F151	CMD12-21UGC	Green	14.9	2.8	0.39

(19527) (ne10552)

7011X SERIES LEDs

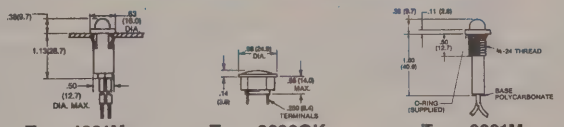


All types have non-diffused clear lenses. Rated current: 20mA. Continuous forward current: 30mA max. Peak forward current: 70mA. Reverse voltage: 4V. Viewing angle: 100%. Operating temperature: -30°C to 85°C.

Stock No.	Type	Emitted Color	Typ. mcd	V_F	Each
48F4222	7011X1/5	Red/Green	17.0/7.5	1.7/2.1	0.75
48F4223	7011X1/7	Red/Yellow	17.0/12.0	1.7/2.1	0.75
48F4224	7011X5/7	Green/Yellow	7.5/6.0	2.1/2.2	0.75

(35378) (ne35378)

NON-RELAMPABLE INDICATORS



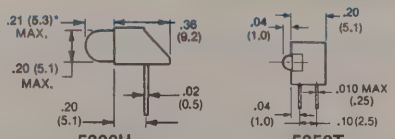
Type 1091M | Type 2620QK | Type 6091M

Non-relampable solid state lamps with polycarbonate lens. Solid state indicator lights (**types 1091M** and **6091M**) feature built-in current-limiting resistor and rectifier diode. No. 22 AWG wire leads. Stainless-steel bezel. **Type 1091M** snap-fits into 0.500/0.505″ diameter hole in panels 0.020/0.100″ thick. **Type 6091M** mounts in a 0.38″ min. diameter hole. Supplied with internal tooth-lock washer and hex nut.

Stock No.	Type	Voltage	Color	Each
92F3604	1091M1-6V	6	Red	3.59
92F3605	1091M5-6V	6	Green	3.59
92F3607	1091M1-12V	12	Red	3.59
92F3608	1091M5-12V	12	Green	3.59
92F3609	1091M7-12V	12	Yellow	3.59
95F9384	1091M1-24V	24	Red	3.53
95F9385	1091M5-24V	24	Green	3.53
95F9386	1091M7-24V	24	Yellow	3.53
95F9388	1091M1-125VAC	125	Red	4.13
95F9387	1091M5-125VAC	125	Green	4.13
95F9389	1091M7-125VAC	125	Yellow	4.13
95F9390	2620QK1	105-125VAC	Red	3.39
95F9391	2620QK3	105-125VAC	Amber	3.39
95F9392	2620QK4	105-125VAC	White	3.39
95F9393	2622QK5	105-125VAC	Green	4.49
95F9394	6091M1-24V	24	Red	5.89
95F9395	6091M5-24V	24	Green	5.89
95F9396	6091M7-24V	24	Yellow	5.89

(2549) (de03180)

5300H SERIES CIRCUIT BOARD INDICATORS



5300H | 5350T

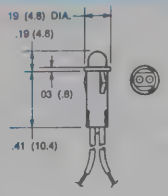
T-1¾ (5mm) LED lamp assembly features block mounting. **Types 5300H1/5** and **5300H5/1** have bi-colored LED (red and green chip) within a single lamp. Black nylon housing.

Stock No.	Type	Color	MCD	Current mA	Each
93F3512	5300H1	Red	30.0	20	0.63
93F3513	5300H5	Green	30.0	20	0.63
93F3514	5300H7	Yellow	25.0	20	0.63
93F7854	5300H1/5	Red/Grn	6.0	10	1.52

(2556) (de03374)

CIRCUIT BOARD AND PANEL MOUNT INDICATORS

5110F SERIES PANEL MOUNT INDICATORS

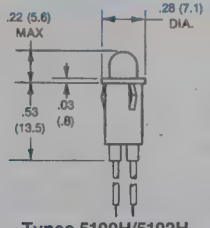


Type 5110F indicator features wire leads and T-1 LED with diffused lens to allow wide angle viewing. Snap-fits in 0.155/0.158" (3.93/4.01) diameter hole in panels 0.031/0.062" (0.78/1.57) thick. 6", 26AWG leads stripped 0.250" (6.35). Black nylon housing.

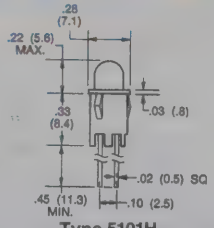
Stock No.	Type	Color	MCD	Current (mA)	Each
93F7470	5110F1	Red	6	10	1.73
93F7864	5110F3	Amber	5	10	1.73
93F7865	5110F5	Green	12	20	1.73
93F7866	5110F7	Yellow	20	20	1.73
92F3595	5110F1LC	Red	2	2	2.11
92F3598	5110F1-5V	Red	8	13	2.06
92F3600	5110F5-5V	Green	8	12	2.06
92F3601	5110F1-12V	Red	3	13	2.06
92F3602	5110F3-12V	Amber	4	10	2.28
92F3603	5110F5-12V	Green	12	12	2.28

(2559) (de03377)

5100H SERIES PANEL MOUNT INDICATORS



Types 5100H/5102H



Type 5101H

Indicator **type 5100H** snap-fits in 0.249/0.254" (6.33/6.45) diameter mounting hole in panels 0.031/0.062" (0.78/1.57) thick. Features 6" (152.4) wire leads 24AWG insulated, bonded strands, stripped 0.250" (6.35). **Type 5100H1/5** is bi-color. Lights red or green by reversing polarity. **Type 5102H** features built-in resistor chip (5V or 12V) to operate directly off 5-volt or 12-volt supply without external resistor. **Type 5101H** features wire-wrap 0.45" (11.3) terminals. Black nylon housing.

Stock No.	Type	Color	MCD	Current (mA)	Each
93F3481	5100H1	Red	30	20	1.68
93F7878	5100H3	Amber	20	20	1.68
93F3482	5100H5	Green	30	20	1.68
93F3483	5100H7	Yellow	25	20	1.68
93F7863	5100H1/5	Red/Grn	6	20	2.59
93F3484	5102H1-5V	Red	6	10	1.91
93F3485	5102H5-5V	Green	10	12	1.91
93F3486	5102H3-5V	Amber	7	10	1.91
93F3487	5102H1-12V	Red	4	13	1.91
93F3488	5102H5-12V	Green	4	13	1.91
93F3489	5102H3-12V	Amber	4	13	1.91
93F3490	5101H1	Red	20	20	1.27
93F3491	5101H5	Green	30	20	1.27
93F3492	5101H7	Yellow	25	20	1.50

(2558) (de03376)

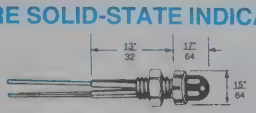
CIRCUIT BOARD INDICATOR KITS

Type EK-3 and **type EK-5** engineer's kits feature sockets, relampable incandescent lamp assemblies and incandescent and neon non-relampable assemblies of assorted styles, colors, and voltages. **Type EK-3** contains assorted lamp types mentioned above and type **EK-5** features LED products only. **EK-3** case dimensions: 8.4L x 5.0W x 1.5"H. **EK-5** case dimensions: 6.2L x 4.5W x 1.5"H.

95F5375 Type EK-5 Engineer's Kit. **Each** **48.60**

(2550) (de03181)

SUBMINIATURE SOLID-STATE INDICATOR LIGHTS

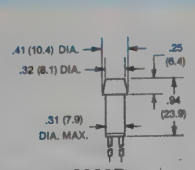


Submidget style with built-in bright LED; 70° viewing angle. Resistant to shock and vibration. Can be powered with low electrical energy supply or driven directly with solid-state circuitry. Operate on 1.8 to 2.8VCD. Maximum DC current: 50mA. Mount 0.193" (4.90) diameter "D" hole in panels to 0.188" (4.78) thick, on 0.344" (8.74) centers. 6" (152.40) wire leads, 105°C PVC insulation. Yellow also available; *contact your local Newark sales office.*

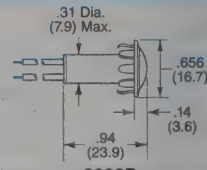
Stock No.	Type	Color	mcd	Each
94F3646	6039-004-304G	Green	3.2	6.77
39F3420	6039-004-304R	Red	2.0	6.77

(11227) (ne08919)

NONRELAMPABLE INCANDESCENT INDICATOR LIGHTS



2990D



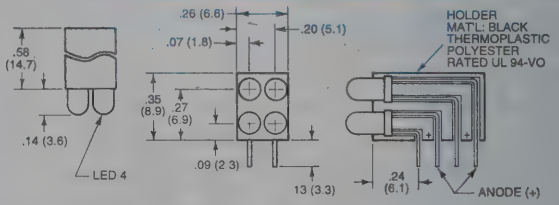
2990P

Mounting hole: **types 2990D** = 0.31 (7.9) min. dia. and **types 2990P** = 0.50 (12.7) min. dia. Polycarbonate lens. Amber and blue colors are also available; *contact your local Newark sales office.*

Stock No.	Type	Lens Color	Each
84F168	2990D1-6V	Red	3.04
84F169	2990D1-12V	Red	3.04
84F170	2990D1-28V	Red	3.04
84F174	2990D4-6V	White	3.04
84F175	2990D4-12V	White	3.04
84F176	2990D4-28V	White	3.04
84F177	2990D5-6V	Green	3.04
84F178	2990D5-12V	Green	3.04
84F179	2990D5-28V	Green	3.04
84F183	2990P1-12V	Red	3.88
84F184	2990P1-28V	Red	3.88
84F187	2990P4-12V	White	3.88
84F188	2990P4-28V	White	3.88
84F189	2990P5-12V	Green	3.88
84F190	2990P5-28V	Green	3.88

(19533) (ne10555)

T-1 LEDs PC BOARD QUAD ARRAY

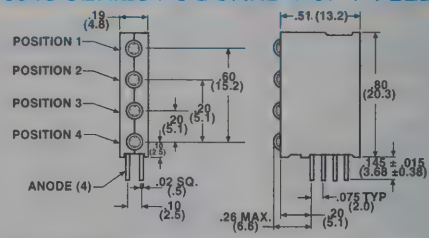


4 T-1 LEDs mounted in single block. High density — only 0.26" wide. Rated current is 10mA. Black mounting block for high contrast ratio. Meets UL 94V-0 and Bellcore flammability specifications. Mixed color combinations, low current, 5V, 12V, bi-color, and blue LEDs are also available; *contact your local Newark sales office.*

Stock No.	Type	Color	Intensity (mcd)	Each
92F3618	5684F1,1,1,1	Red	10.0	4.00
92F3620	5684F5,5,5,5	Grn	8.5	4.00
92F3621	5684F7,7,7,7	Yel	10.0	4.00

(2573) (de03922)

5694S SERIES PC BOARD 4-UP T-1 LEDs



5694S series LEDs are high density with right angle mounting. Four T-1 LEDs are stack mounted in a single block. Feature high brite and super bright light output. Standoffs prevent flux entrapment. Black plastic mounting block for high contrast ratio. Meets UL 94V-0 and Bellcore flammability specifications. Forward voltage: 3.0V max. Continuous forward current: 30mA max.

Stock No.	Type	Color	Intensity (mcd)	V_F	Current	Each
48F3578	5694S1;1;1;1	Red	6	2.2V	10mA	3.35
48F3579	5694S5;5;5;5	Green	12	2.3V	20mA	3.35
48F3580	5694S7;7;7;7	Yellow	20	2.2V	20mA	3.35

(35598) (ne35598)

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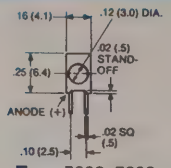
INDICATORS

MINIATURE CIRCUIT BOARD INDICATORS



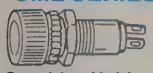
Type 5600, 5602

Type 5600 miniature circuit board indicators feature high brite and super brite LEDs and diffused lens. Black nylon housing. **Type 5600** indicators feature T-1 (3mm) block assembly. Suffix **"-5V"** features built-in 5-volt resistor.

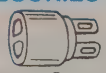
Stock No.	Type	Color	MCD	Current (mA)	Each
95F9418	5600F1	Red	6.0	10.0	**0.63**
95F9419	5600F5	Green	12.0	20.0	**0.63**
95F9455	5602F1-5V	Red	8.0	10.0	**0.86**
95F9456	5602F5-5V	Green	8.0	12.0	**0.86**

(2614) (de53108)

CML SERIES ACCESSORIES



Cartridge Holder



Indicator Connector

Cartridge indicator pins plug into indicator connector, providing simple installations, changes, replacements. All fit cartridge indicator **Types CML53, CML63** and **CML64.**

Stock No.	Type	Terminals	Each
35F022	CML-10203-1	Solder Cup	**10.51**
35F020	CML-10202-1	Turret	**11.38**
28F2620	CML-10204-1	Flat Solder Lug	**10.15**

Stock No.	Type	Description	Each
94F400	CM21-1	Socket for T¾ and T-1 Bi-Pin Lamps	**6.61**
25F1766	CM21-2	Socket for T-1¼, T-1½ and T-1¾ Bi-Pin Lamps	**7.39**

(2568) (de03789)

GEMLITE INDICATORS

Base

Lens

0.218″ panel thickness. Accept T-1 sub-midget flange lamp. *Order lamp separately, contact your local Newark sales office.* Mount in 0.312″ diameter hole.

TRANSLUCENT CYLINDRICAL LENS

For Gemlite base, *ordered separately below.* Red, yellow, green and white. When ordering add first letter of color choice to type number.

Stock No.	Type	Each
04F2489	160A-604G	**2.02**
	BASE ONLY	
75F047	5160-458	**12.81**

(9617) (de51826)

900 SERIES INSTRUMENT LIGHTS

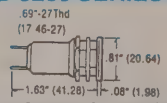
Type 900-200

Type 900-200 fixed hood, solder lug terminals. Mounts hole 0.688″ mm in diameter to 0.406″ panel thickness. Uses T-3¼ miniature bayonet lamp.

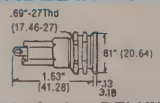
Stock No.	Type	Description	Each
39F3462	900-200	Fixed Hood, Solder Lug Terminals	**20.92**

(2599) (de51832)

5100 AND 5200 SERIES RELAMPABLE INDICATORS



5100 Series–STANDARD



5200 Series–DELUXE

Standard indicators must be assembled. UL recognized, CSA certified. Compatible with **Type 25P** lenses; *order separately on this page. Order lamps separately.*

T-3 ¼ INDICATORS

Stock No.	Type	Max. Volts	Max. Amps	Terminals	Each
28F2592	5100-822	125	0.170	Solder Lugs	**4.33**
81F4007	5100-823	125	0.170	Screw Lugs	**7.27**
81F4008	5100-824	125	0.170	Quick Connect 0.250″ Lugs	**6.92**
50F9507	5200-222	125	0.170	Solder Lugs	**7.99**
94F1812	5200-232	125	1.800	Solder Lugs	**18.20**
94F1813	5200-242	250	1.800	Solder Lugs	**18.56**

(2598) (de51830)

5100, 5200 SERIES POLYCARBONATE LENSES

Fig. 1 Transparent

Fig. 2 Translucent

Fig. 3 Fluted

Fig. 4 Transparent

Fig. 5 Translucent

Fig. 6 Fluted

Use transparent or fluted lens with neon lamps; *ordered separately, contact your local Newark sales office.* **Figures 1, 3, 4,** and **6** are available in red, amber, clear and green. **Figures 2** and **5** available in red, green, white and yellow. SKUs in table are red in color. *Specify color when ordering.*

Stock No.	Type	Fig.	Design	Each
02F3682	25P-306R	1	Dome	**1.38**
02F3684	25P-307R	2	Dome	**1.38**
02F3690	25P-326R	3	Fluted Dome	**1.38**
02F3694	25P-606R	4	Cylindrical	**1.38**
02F3696	25P-607R	5	Cylindrical	**1.38**
02F3702	25P-626R	6	Fluted Cylindrical	**1.38**

(9461) (de51831)

462X AND 463X SERIES RELAMPABLE INDICATORS

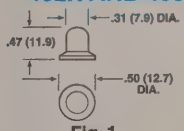


Fig. 1

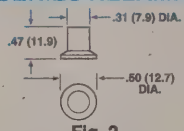


Fig. 2

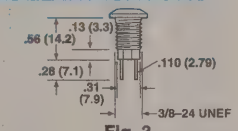


Fig. 3

Uses sub-miniature T-1¾ wedge-base lamps. Complete assembly consists of **type 4611** socket, lamp, and lens, all ordered separately. **Type 4611** black nylon socket supplied with zinc finished hex nut and internal tooth lock washer. Polycarbonate, twist on lens is positively held. Polished stainless steel bezel.

Stock No.	Type	Lens Color	Fig.	Each
48F3560	4621	Red	1	**0.68**
48F3561	4622	Clear	1	**0.68**
48F3562	4623	Amber	1	**0.68**
48F3563	4624	White	1	**0.68**
48F3564	4625	Green	1	**0.68**
48F3565	4626	Blue	1	**0.68**
48F3566	4627	Yellow	1	**0.68**
48F3567	4632	Clear	2	**0.68**
48F3568	4634	White	2	**0.68**
48F3569	4635	Green	2	**0.68**
48F3570	4636	Blue	2	**0.68**
48F3571	4637	Yellow	2	**0.68**
66F5954	4611	...	3	**1.65**

(35480) (ne35480)

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MINIATURE INCANDESCENT LAMPS

INCANDESCENT LAMPS

Fig. 1 Fig. 2 Fig. 3 Fig. 4 Fig. 5 Fig. 6 Fig. 7 Fig. 8

Sold in packages of 10.

Stock No.	Type	Design Volts	Design Amps	Average Life (Hrs.)	Fig.	Lamp Size	Per Pkg.
96F5651	PR2	2.38	0.500	15	1	B-3½	7.77
96F5652	PR3	3.57	0.500	15	1	B-3½	7.97
96F5654	PR6	2.47	0.300	30	1	B-3½	7.97
96F5711	1893	14.00	0.330	3,000	2	T-3¼	7.21
96F5780	43	2.50	0.500	3,000	2	T-3¼	11.29
96F5710	1892	14.40	0.120	1,000	2	T-3¼	10.51
96F5709	1891	14.00	0.240	500	2	T-3¼	7.21
96F5737	313	28.00	0.170	500	2	T-3¼	10.51
96F5846	755	6.30	0.150	20,000	2	T-3¼	10.68
96F5781	44	6.30	0.250	3,000	2	T-3¼	4.92
96F5783	47	6.30	0.150	3,000	2	T-3¼	4.56
96F5847	756	14.00	0.080	15,000	2	T-3¼	12.64
96F5848	757	28.00	0.080	7,500	2	T-3¼	9.73
96F5857	8-3995	130.00	0.200	2,000	2	T-3¼	54.47
96F5707	1866	6.30	0.250	5,000	2	T-3¼	9.14
96F5706	1864	28.00	0.170	1,500	2	T-3¼	10.51
96F5696	1819	28.00	0.040	3,000	2	T-3¼	10.70
96F5859	1816	13.00	0.330	1,000	2	T-3¼	8.72
96F5693	1813	14.40	0.100	1,000	2	T-3¼	7.97
96F5694	1815	14.00	0.200	3,000	2	T-3¼	13.30
96F5704	1847	6.30	0.150	7,500	2	T-3¼	6.43
96F5695	1818	24.00	0.170	250	2	T-3¼	26.24
96F5705	1850	5.00	0.090	1,500	2	T-3¼	22.75
96F5699	1822	36.00	0.100	1,000	2	T-3¼	13.74
96F5697	1820	28.00	0.100	1,000	2	T-3¼	9.53
96F5701	1828	37.50	0.050	3,000	2	T-3¼	25.29
96F5702	1829	28.00	0.070	1,000	2	T-3¼	8.95
96F5703	1835	55.00	0.050	5,000	2	T-3¼	28.79
96F5678	1495	28.00	0.300	500	2	T-4½	20.63
94F792	1434	3.70	2.750	100	2	T-5	10.90
96F5664	12	6.30	0.150	5,000	3	G-3½	11.46
96F5713	19	14.40	0.100	1,000	3	G-3½	15.74
96F5671	13	3.70	0.300	15	4	G-3½	18.87
96F5787	50	7.50	0.220	1,000	4	G-3½	12.83
96F5789	509K	24.00	0.180	1,000	4	G-6	36.36
96F5858	8-967	120.00	0.025	5,000	5	T-2	59.14
96F5667	120MB	120.00	0.025	5,000	5	T-2	13.81
96F5731	28MB	28.00	0.040	5,000	5	T-2	17.11
96F5723	24MB	24.00	0.073	10,000	5	T-2	17.11
96F5870	8362	14.00	0.080	15,000	6	T-1¾	13.22
96F5753	335	28.00	0.040	4,000	6	T-1¾	11.85
96F5776	399	28.00	0.040	10,000	6	T-1¾	12.83
96F5698	1821	28.00	0.170	500	6	T-3¼	26.86
96F5777	40	6.30	0.150	3,000	6	T-3¼	8.56
96F5700	1823	48.00	0.100	1,000	6	T-3¼	23.92
96F5761	37	14.00	0.090	1,500	7	T-3¼	12.86
96F5873	86	6.30	0.200	20,000	7	T-1¾	11.18
96F5872	85	28.00	0.040	10,000	7	T-1¾	11.18
96F5832	73	14.00	0.080	15,000	7	T-1¾	11.18
96F5680	161	14.00	0.19	1,500	8	T-3¼	8.56
96F5809	656	28.00	0.060	5,000	8	T-3¼	7.97
96F5728	259	6.30	0.250	10,000	8	T-3¼	6.21
96F5714	194	14.00	0.270	1,500	8	T-3¼	6.01

(2611) (de52815)

MINIATURE INCANDESCENT LAMPS

Fig. 1 Fig. 2 Fig. 3 Fig. 4

Sold in packages of 10.

Stock No.	Type	Design Volts	Design Amps	Average Life (Hrs.)	Fig.	Lamp Size	Per Pkg.
96F5791	53	14.40	0.120	1,000	1	G-3½	9.67
96F5790	51	7.50	0.220	1,000	1	G-3½	9.34
96F5759	356	28.00	0.170	500	1	G-3½	21.02
96F5676	1450	24.00	0.035	3,000	1	G-3½	15.74
96F5717	219	6.30	0.250	5,000	1	G-3½	24.90
96F5792	55	7.00	0.410	500	1	G-4½	20.40
96F5670	1251	28.00	0.230	2,000	1	G-6	35.19
96F5735	307	28.00	0.660	300	2	S-8	21.02
96F5879	93	12.80	1.040	500	2	S-8	18.48
96F5719	2232	28.00	0.643	2,000	2	S-8	64.19
96F5677	1493	6.50	2.750	100	2	S-8	50.58
96F5662	1156	12.80	2.100	600	2	S-8	11.21
96F5876	88	6.80	1.910	300	2	S-8	15.96

CONTINUED

MINIATURE INCANDESCENT LAMPS (CONT.)

Stock No.	Type	Design Volts	Design Amps	Average Life (Hrs.)	Fig.	Lamp Size	Per Pkg.
96F5718	222	2.25	.250	5	3	GTL-3	9.14
96F5769	385	28.00	0.040	50,000	4	T-1¾	10.90
96F5771	387	28.00	0.040	10,000	4	T-1¾	5.62
96F5774	394	12.00	0.040	10,000	4	T-1¾	12.24
96F5767	381	6.30	0.200	20,000	4	T-1¾	15.35
96F5834	7333	5.00	0.060	25,000	4	T-1¾	11.29
96F5835	7335	5.00	0.115	40,000	4	T-1¾	11.29
96F5836	7341	28.00	0.065	5,000	4	T-1¾	11.46
96F5768	382	14.00	0.080	15,000	4	T-1¾	10.99
96F5746	328	6.00	0.200	1,000	4	T-1¾	11.29
96F5762	370	18.00	0.040	10,000	4	T-1¾	14.40
96F5755	338	2.70	0.060	6,000	4	T-1¾	12.24
96F5758	349	6.30	0.200	5,000	4	T-1¾	10.90
96F5757	345	6.00	0.040	10,000	4	T-1¾	11.85
96F5860	376	28.00	0.060	25,000	4	T-1¾	9.53
96F5748	330	14.00	0.080	1,500	4	T-1¾	7.97
96F5742	327	28.00	0.040	4,000	4	T-1¾	6.01
96F5740	3150	5.00	0.060	5,000	4	T-1¾	16.52

(13739) (ne09997)

MINIATURE INCANDESCENT LAMPS

Fig. 1 Fig. 2 Fig. 3 Fig. 4 Fig. 5 Fig. 6

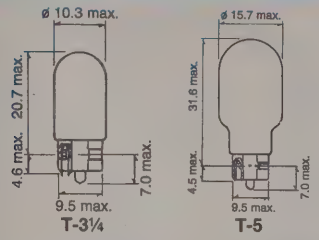
Sold in packages of 10.

Stock No.	Type	Design Volts	Design Amps	Average Life (Hrs.)	Fig.	Lamp Size	Per Pkg.
96F5773	388	28.00	0.040	10,000	1	T-1¾	13.81
96F5775	398	6.30	0.200	5,000	1	T-1¾	12.83
96F5752	334	28.00	0.040	4,000	1	T-1¾	11.46
96F5770	386	14.00	0.080	15,000	1	T-1¾	13.42
96F5754	336	14.00	0.080	1,500	1	T-1¾	13.42
96F5645	8-374	2.50	0.350	10,000	2	TL-1¾	68.66
96F5826	7153	5.00	0.115	40,000	3	T-¾	18.28
96F5816	6833	5.00	0.060	25,000	3	T-¾	17.69
96F5827	7153AS15	5.00	0.115	40,000	3	T-¾	19.06
96F5829	7219	12.00	0.060	16,000	3	T-1	21.97
96F5824	7152	5.00	0.115	40,000	3	T-1	14.79
96F5822	715	5.00	0.115	40,000	3	T-1	14.40
96F5813	683	5.00	0.060	40,000	3	T-1	13.03
96F5811	680	5.00	0.060	60,000	3	T-1	13.42
96F5817	6838	28.00	0.024	16,000	3	T-1	20.63
96F5812	682	5.00	0.060	60,000	4	T-1	23.34
96F5819	685	5.00	0.060	40,000	4	T-1	26.86
96F5818	6839	28.00	0.024	16,000	4	T-1	25.46
96F5852	7839	28.00	0.024	16,000	5	T-1	26.24
96F2459	7680	5.00	0.060	60,000	5	T-1	22.95
96F5850	7683	5.00	0.060	40,000	5	T-1	18.48
96F5856	8-2402	28.00	0.024	4,000	5	T-1	76.07
96F5851	7715	5.00	0.115	40,000	5	T-1	22.19
96F5849	7632	28.00	0.040	1,000	5	T-1¼	30.16
96F5862	7646	14.00	0.080	1,000	5	T-1¼	30.16
96F5854	7876	28.00	0.060	25,000	5	T-1¾	13.42
96F5833	7328	6.00	0.200	1,000	5	T-1¾	14.59
96F5844	7387	28.00	0.040	10,000	5	T-1¾	11.66
96F5837	7361	5.00	0.060	25,000	5	T-1¾	18.59
96F5841	7374	28.00	0.040	50,000	5	T-1¾	14.79
96F5863	7373	14.00	0.100	10,000	5	T-1¾	13.08
96F5840	7371	12.00	0.040	10,000	5	T-1¾	13.81
96F5843	7382	14.00	0.080	15,000	5	T-1¾	13.22
96F5864	7327	28.00	0.040	4,000	5	T-1¾	11.46
96F5842	7381	6.30	0.200	20,000	5	T-1¾	13.03
96F5665	10ESB	10.00	0.035	5,000	6	T-2	44.44
96F5865	12ESB	12.00	0.040	15,000	6	T-2	38.57
96F5722	24ESB	24.00	0.040	8,000	6	T-2	46.11
96F5730	28ESB	28.00	0.040	6,000	6	T-2	44.16
96F5805	6PSB	6.00	0.140	20,000	6	T-2	46.67
96F5666	12PSB	12.00	0.170	12,000	6	T-2	32.14
96F5724	24PSB	24.00	0.073	10,000	6	T-2	24.04
96F5732	28PSB	28.00	0.040	5,000	6	T-2	44.16
96F5668	120PSB	120.00	0.025	5,000	6	T-2	28.79

(13740) (ne50147)

ALL PRODUCTS LISTED ARE STOCKED.

ALBA XENON AND ARGON LAMPS



T-3 ¼ and T-5 wedge base gas-filled lamps. **Sold in packages of 10.**

T-3 ¼ WEDGE BASE LAMPS

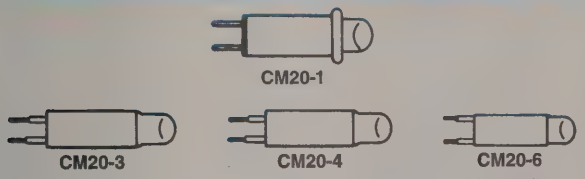
Stock No.	Type	mA	Rated Voltage	Filament Shape	Life (Hrs.)	Watts	Gas Type	Each
16F2115	1250X-2	370	13.5	C-2V	2,000	5	Xenon	**9.78**
16F2116	5/135	370	13.5	C-2V	500	5	Argon	**10.98**
16F2118	2450X	208	24	C-2V	500	5	Xenon	**9.78**
16F2120	2470X	300	24	C-2F	12,000	7.2	Xenon	**9.78**
16F2119	2860X	215	28	C-2F	1,000	6	Xenon	**9.78**

T-5 WEDGE BASE LAMPS

16F2122	912	1,000	12.8	C-2R	1,000	12	Argon	**20.63**
16F2123	921	1,400	12.8	C-2R	500	18	Argon	**13.70**
16F2121	1522X	350	22	C-2V	3,000	7.7	Xenon	**13.70**
16F2117	1524X	300	24	C-2F	2,500	7.2	Xenon	**13.70**

(2660) (ne08917)

CM20 SERIES SUBMINIATURE LENS-END LITES

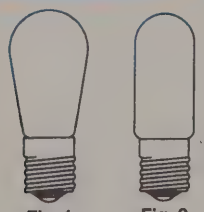


Types CM20-1 and **CM20-17** have clear anodized aluminum cartridge bodies, stainless steel terminals and nylon insulation; **types CM20-3, CM20-4, CM20-6, CM20-20** have gold anodized aluminum shell, 24AWG stranded wire leads and insulation is type B, per MIL-W-16878. **Type CM20-1** produces ⅛" diameter spot when projected ¾" from bulb, with minimum intensity 750 foot-candles. **CM20-4** same as **CM20-3** except spot is ⅛" diameter. **CM20-6, CM20-20** axially aligned lamps.

Stock No.	Type	Lamp Size	Volts	Amps ±10%	Life (Hrs.)	Each
25F1720	CM20-1	TL-1¾	2.5	.350	10,000	**20.82**
25F1722	CM20-3	TL-1¾	2.5	.350	10,000	**34.01**
25F1723	CM20-4	TL-1¾	2.5	.350	10,000	**26.24**
25F1725	CM20-6	TL-1½	6.0 5.1	.200 .180	1,000 10,000	**17.94**

(2600) (de51935)

ELECTRICAL INDUSTRY LAMPS

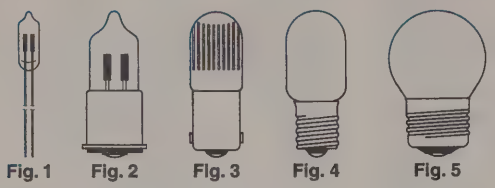


Sold in packages of 10.

Stock No.	Type	Design Volts	Design Watts	Average Life (Hrs.)	Fig.	Each
96F2403	3S6/120V	120	3.0	3,000	1	**36.01**
96F5796	6S6/120V	120	6.0	1,500	1	**14.40**
96F5797	6S6/130V	130	6.0	1,500	1	**20.07**
96F5798	6S6/145V	145	6.0	1,500	1	**35.38**
96F5799	6S6/155V	155	6.0	1,500	1	**35.38**
96F5800	6S6/30V	30	6.0	1,500	1	**39.49**
96F5658	10S6DC/230V*	230	10.0	1,500	1	**35.82**
96F5801	6S6DC/120V*	120	6.0	1,500	1	**24.90**
96F5802	6S6DC/130V*	130	6.0	1,500	1	**33.62**
96F2404	6S6DC/30V*	30	6.0	1,500	1	**21.08**
96F5803	6T4-½/120V	120	6.0	1,500	2	**46.73**

* Denotes double contact bayonet base.
(2526) (de02292)

NEON LAMPS



Sold in packages of 10.

Stock No.	Type	Design Current mA	Series Resistor Ohms	Series Resistor Watts	Fig.	Lamp Size	Each
96F2407	2ML (NE-38S)	0.30	100K	¼	1	T-1¼	**12.17**
96F5642	A1H	1.20	47K	¼	2	T-1¾	**39.39**
96F5647	C9A (NE-2J)	1.90	30K	¼	2	T-1¾	**32.65**
96F2415	B2A-R (NE-51HR)	1.20	47K	¼	3	T-3¼	**46.45**

Sold individually.

Stock No.	Type	Design Current mA	Series Resistor Ohms	Series Resistor Watts	Fig.	Lamp Size	Each
27F254	B7A (NE-45)	2.00	30K	¼	4	T-4 ½	**8.32**
81F193	J5A (NE-30)	8.00	7.5K	¼	5	S-11	**16.18**

Stock No.	Type	Design Current mA	Series Resistor Ohms	Series Resistor Watts	Fig.	Lamp Size	Each
25F811	A1C	1.20	47K	¼	1	T-2	**0.55**
27F253	C2A (NE-24)	1.90	30K	¼	1	T-2	**0.57**
27F252	C7A (NE-2D)	0.70	100K	¼	2	T-1¾	**3.55**
27F256	B1A (NE-51)	0.30	220K	¼	3	T-3¼	**1.35**
27F257	B2A (NE-51H)	1.20	47K	¼	3	T-3¼	**1.35**

Type 25T8DC standard voltage lamp has a T-8 size bulb. 115-125V, 25.0W, D.C. bayonet base. Life hours: 1,000.

96F5725 Type 25T8DC. **Pkg. of 10** **29.96**
(2527) (de02293)

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INCANDESCENT LAMPS

RADION™ BRAND INCANDESCENT LAMPS

Sold in packages of 10 (unless noted +, sold individually). * EFC indicates end foot candle. ‡ 0.100″ pin spacing. *For bulb and base illustrations, lamp terminology and complete lamp illustrations see the product selector guide at the beginning of the section.* Some lamps available in **pkg. of 100**; *contact your local Newark sales office.*

Stock No.	Type	Bulb	Base	Fig.	Volts	Amps	MSCP	Avg. Life Hrs.	MOL	Per Pkg.
50N8050	PR-2	B-3 1/2	S.C. Mini Flange	1	2.38	0.50	0.80	15	1.25″	5.95
50N8051	PR-3	B-3 1/2	S.C. Mini Flange	1	3.57	0.50	1.50	15	1.25″	5.95
52N6752	PR4	B-3 1/2	S.C. Mini Flange	1	2.33	0.27	0.40	10	1.25″	5.95
96F7950	PR6	B-3 1/2	S.C. Mini Flange	1	2.47	0.30	0.45	30	1.25″	5.95
81N5354	PR-13	B-3 1/2	S.C. Mini Flange	1	4.75	0.50	2.20	15	1.25″	5.95
50N8052	PR-18	B-3 1/2	S.C. Mini Flange	1	7.20	0.55	4.20	5	1.25″	5.95
50N8053	2	T-3/4	Wire Terminal	18	5.00	0.02	0.03	10000	0.20″	14.95
50N8210	6PSB	T-2	#5 Slide Base	25	6.00	0.14	550EFC*	20000	1.11″	10.95
84N666	8-3995	T-3 1/4	Mini Bayonet	7	130.00	0.025	0.30	2000	1.19″	29.95
84N664	10ESB	T-2	#5 Slide Base	25	10.00	0.035	450EFC*	1000	0.92″	10.95
96F7956	12	G-3 1/2	Mini 2-Pin	33	6.30	0.15	0.35	5000	0.94″	15.95
50N8212	12ESB	T-2	#5 Slide Base	25	12.00	0.04	650EFC*	7500	0.92″	10.95
16N7507	12MB	T-2 1/2	Mini Bayonet	7	12.00	0.17	0.35	12000	1.19″	12.95
50N8211	12PSB	T-2	#5 Slide Base	25	12.00	0.17	2000EFC*	12000	1.11″	7.95
50N174	12RB	T-2	Mini Bayonet	31	12.00	0.17	2000EFC*	12000	1.22″	32.95
16N7508	12RC	T-2	Candelabra Screw	32	12.00	0.17	2000EFC*	12000	1.22″	32.95
50N183	13	G-3 1/2	Mini Screw	4	3.70	0.30	0.98	15	0.94″	7.95
50N8054	14	G-3 1/2	Mini Screw	4	2.47	0.30	0.50	15	0.94″	7.95
50N8213	16ESB	T-2	#5 Slide Base	26	16.00	0.04	800EFC*	7500	0.92″	10.95
84N642	17	T-1 3/4	Sub. Mini Wedge	6	28.00	0.065	0.65	5000	0.80″	5.95
84N643	19	G-3 1/2	Mini 2-Pin	33	14.40	0.100	0.90	1000	0.94″	15.95
50N8215	24CSB	T-2	#5 Slide Base	26	24.00	0.017	100EFC*	15000	0.92″	13.95
50N8217	24E3	T-2	#3 Slide Base	30	24.00	0.035	600EFC*	7000	1.69″	7.95
50N8216	24ESB	T-2	#5 Slide Base	26	24.00	0.040	850EFC*	8000	0.92″	10.95
16N7512	24MB	T-2 1/2	Mini Bayonet	23	24.00	0.07	0.50	10000	1.19″	14.95
50N8214	24PSB	T-2	#5 Slide Base	25	24.00	0.073	3000EFC*	10000	1.11″	7.95
50N8220	28ESB	T-2	#5 Slide Base	26	28.00	0.040	1500EFC*	6000	0.92″	10.95
16N7511	28MB	T-2 1/2	Mini Bayonet	7	28.00	0.04	0.29	5000	1.19″	14.95
50N8219	28PSB	T-2	#5 Slide Base	25	28.00	0.04	1600EFC*	5000	1.11″	7.95
50N8218	24X	T-2	#3 Slide Base	27	24.00	0.035	600EFC*	8000	1.69″	8.95
96F7970	27	G-4 1/2	Mini Screw	4	4.90	0.30	1.40	30	1.06″	7.95
50N8055	32	T-1	Sub. Midget Flanged	15	12.00	0.06	0.13	10000	0.38″	23.95
50N8056	37	T-1 3/4	Sub. Mini Wedge	6	14.00	0.09	0.50	1500	0.80″	5.95
96F7959	40	T-3 1/4	Mini Screw	3	6.30	0.15	0.52	3000	1.19″	7.95
50N8057	43	T-3 1/4	Mini Bayonet	7	2.50	0.50	0.50	3000	1.19″	9.95
50N8058	44	T-3 1/4	Mini Bayonet	7	6.30	0.25	0.90	3000	1.19″	4.95
50N8059	46	T-3 1/4	Mini Screw	3	6.30	0.25	0.90	3000	1.19″	7.95
50N8060	47	T-3 1/4	Mini Bayonet	7	6.30	0.15	0.50	3000	1.19″	4.95
50N8061	48	T-3 1/4	Mini Screw	3	2.00	0.06	0.04	1000	1.19″	12.95
50N8221	48D	T-2	#3 Slide Base	30	48.00	0.021	100EFC*	20000	1.69″	9.95
96F7960	48ESB5	T-2	#5 Slide Base	26	48.00	0.04	3000EFC*	5000	0.92″	10.95
50N8222	48PSB	T-2	#5 Slide Base	25	48.00	0.053	1800EFC*	10000	1.11″	10.95
50N8062	49	T-3 1/4	Mini Bayonet	7	2.00	0.06	0.04	1000	1.19″	9.95
50N8063	50	G-3 1/2	Mini Screw	4	7.50	0.22	1.00	1000	0.94″	7.95
50N8064	51	G-3 1/2	Mini Bayonet	8	7.50	0.22	1.00	1000	0.94″	7.95
50N8065	53	G-3 1/2	Mini Bayonet	8	14.40	0.12	1.00	1000	0.94″	7.95
50N8066	55	G-4 1/2	Mini Bayonet	8	7.00	0.41	2.00	500	1.06″	5.95
50N8223	55C	T-2	#3 Slide Base	30	55.00	0.05	1400EFC*	5000	1.69″	9.95
84N644	56	T-1 3/4	Sub. Mini Wedge	6	5.00	0.115	0.15	20000	0.80″	5.95
50N8067	57	G-4 1/2	Mini Bayonet	8	14.00	0.24	2.00	500	1.06″	5.95
16N7513	60MB	T-2 1/2	Mini Bayonet	7	60.00	0.05	0.73	7500	1.19″	14.95
16N7509	60PSB	T-2	#5 Slide Base	25	60.00	0.05	1800EFC*	7500	1.11″	13.95
16N7510	60RB	T-2	Mini Bayonet	23	60.00	0.05	1800EFC*	7500	1.22″	39.95
96F7941	67	G-6	S.C Bayonet	8	13.50	0.59	4.00	5000	1.44″	6.95
50N8068	73	T-1 3/4	Sub. Mini Wedge	6	14.00	0.08	0.30	15000	0.80″	5.95
50N8069	74	T-1 3/4	Sub. Mini Wedge	6	14.00	0.10	0.70	500	0.80″	5.95
84N645	79	T-1 3/4	Sub. Mini Wedge	6	6.00	0.20	0.60	1000	0.80″	5.95
50N8070	85	T-1 3/4	Sub. Mini Wedge	6	28.00	0.04	0.30	7000	0.80″	3.95
50N8071	86	T-1 3/4	Sub. Mini Wedge	6	6.30	0.20	0.40	20000	0.80″	4.95
50N187	88	S-8	D.C. Bayonet	13	6.80	1.91	15.00	300	2.00″	15.95
50N176	89	G-6	S.C Bayonet	8	13.00	0.58	6.00	750	1.44″	6.95
96F7943	90	G-6	D.C. Bayonet	8	13.00	0.58	6.00	750	1.44″	6.95
16N7515	90MB	T-2 1/2	Mini Bayonet	23	90.00	0.03	0.37	5000	1.19″	14.95
96F7944	93	S-8	S.C Bayonet	20	12.80	1.04	15.00	700	2.00″	6.95
50N8072	112	TL-3	Mini Screw	9	1.20	0.22	...	5	0.93″	5.95
52N6745	120MB	T-2 1/2	Mini Bayonet	23	120.00	0.03	0.36	7500	1.19″	11.95
84N656	120MB/6	T-2 1/2	Mini Bayonet	23	120.00	0.052	...	3000	1.19″	15.95
50N8225	120PSB	T-2	#5 Slide Base	25	120.00	0.025	1200EFC*	10000	1.11″	32.95
16N7546	120RB	T-2	Mini Bayonet	31	120.00	0.025	1000EFC*	7500	1.22″	83.90
16N7514	120RC	T-2	Candelabra Screw	32	120.00	0.025	1000EFC*	7500	1.22″	32.95
50N8073	131	G-3 1/2	Mini Screw	4	1.30	0.10	0.03	50	0.94″	7.95
50N8074	161	T-3 1/4	Wedge	6	14.00	0.19	1.00	1500	1.06″	5.95
50N8075	162	G-2	Mini Screw	4	7.00	0.063	0.09	3000	0.55″	12.95
96F7966	168	T-3 1/4	Wedge	6	14.00	0.350	3.00	1500	1.06″	5.95
52N6747	193	T-3 1/4	Wedge	6	14.00	0.33	2.00	15000	1.06″	5.95
50N8076	194	T-3 1/4	Wedge	6	14.00	0.27	2.00	2500	1.06″	4.95
50N170	211-2	T-3	Double End Caps	36	12.80	0.97	12.00	1000	1.72″	9.95
84N646	219	G-3 1/2	Mini Bayonet	8	6.30	0.25	0.50	5000	0.94″	7.95
50N8077	222	TL-3	Mini Screw	9	2.25	0.25	...	5	0.93″	5.95
50N8078	239	T-3 1/4	Mini Bayonet	7	6.30	0.36	0.67	5000	1.19″	6.95
50N8079	259	T-3 1/4	Wedge	6	6.30	0.25	0.65	5000	1.06″	4.95
50N8080	303	G-6	S.C Bayonet	8	28.00	0.30	6.00	500	1.44″	12.95
50N171	307	S-8	S.C Bayonet	20	28.00	0.67	21.00	300	2.00″	6.95
50N8081	313	T-3 1/4	Mini Bayonet	7	28.00	0.17	3.50	500	1.19″	6.95
50N8082	327	T-1 3/4	Midget Flanged	5	28.00	0.04	0.34	4000	0.63″	5.25
50N8083	328	T-1 3/4	Midget Flanged	5	6.00	0.20	0.34	1000	0.63″	6.95
50N8084	330	T-1 3/4	Midget Flanged	5	14.00	0.08	0.50	1500	0.63″	6.95
50N8086	334	T-1 3/4	Midget Grooved	10	28.00	0.04	0.34	4000	0.63″	11.95
50N8087	334LSV	T-1 3/4	Midget Grooved	10	28.00	0.06	0.34	4000	0.63″	16.95

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INCANDESCENT LAMPS

RADION™ BRAND INCANDESCENT LAMPS (CONT.)

Stock No.	Type	Bulb	Base	Fig.	Volts	Amps	MSCP	Avg. Life Hrs.	MOL	Per Pkg.
50N8088	335	T-1 3/4	Mini Screw	14	28.00	0.04	0.34	4000	0.72″	10.95
84N647	337	T-1 3/4	Midget Grooved	10	6.00	0.20	0.60	1000	0.63″	11.95
50N8226	338	T-1 3/4	Midget Flanged	5	2.70	0.06	0.04	6000	0.63″	6.95
50N8089	342	T-1 3/4	Mini Screw	14	6.00	0.04	0.03	10000	0.72″	10.95
50N8090	344	T-1 3/4	Midget Flanged	5	10.00	0.014	0.002	50000	0.63″	9.95
50N8091	345	T-1 3/4	Midget Flanged	5	6.00	0.04	0.030	10000	0.63″	9.95
50N8092	349	T-1 3/4	Midget Flanged	5	6.00	0.20	0.550	5000	0.63″	9.95
96F7958	356	G-3 1/2	Mini Bayonet	8	28.00	0.17	3.500	500	0.94″	7.95
50N8093	367	T-1 3/4	Midget Flanged	5	10.00	0.04	0.080	5000	0.63″	9.95
50N8094	370	T-1 3/4	Midget Flanged	5	18.00	0.04	0.150	10000	0.63″	9.95
50N8228	376	T-1 3/4	Midget Flanged	5	28.00	0.06	0.34	25000	0.63″	7.95
50N8095	377	T-1 3/4	Midget Flanged	5	6.30	0.07	0.23	1000	0.63″	8.95
50N8096	378	T-1 3/4	Midget Screw	14	6.30	0.20	0.40	20000	0.72″	11.95
50N8097	379	T-1 3/4	Midget Grooved	10	6.30	0.20	0.40	20000	0.63″	11.95
50N8098	380	T-1 3/4	Midget Flanged	5	6.30	0.04	0.02	20000	0.63″	8.95
50N8099	381	T-1 3/4	Midget Flanged	5	6.30	0.20	0.40	20000	0.63″	8.95
50N8100	382	T-1 3/4	Midget Flanged	5	14.00	0.08	0.30	15000	0.63″	8.95
50N8101	385	T-1 3/4	Midget Flanged	5	28.00	0.04	0.15	10000	0.63″	8.95
50N8102	386	T-1 3/4	Midget Grooved	10	14.00	0.08	0.30	15000	0.63″	11.95
50N8103	387	T-1 3/4	Midget Flanged	5	28.00	0.04	0.30	7000	0.63″	4.99
50N8104	388	T-1 3/4	Midget Grooved	10	28.00	0.04	0.30	7000	0.63″	11.95
50N8105	394	T-1 3/4	Midget Flanged	5	12.00	0.04	0.12	10000	0.63″	8.95
50N8106	398	T-1 3/4	Midget Grooved	10	6.30	0.02	0.55	5000	0.63″	11.95
50N8107	399	T-1 3/4	Midget Screw	14	28.00	0.04	0.30	7000	0.72″	11.95
84N648	464	T-3 1/4	Wedge	6	28.00	0.17	3.00	1500	1.06″	5.95
50N8108	515	T-1 1/4	Wire Terminal	2	5.00	0.115	0.15	40000	0.44″	6.95
96F7961	555	T-3 1/4	Wedge	6	6.30	0.25	0.90	3000	1.06″	5.95
50N8109	656	T-3 1/4	Wedge	6	28.00	0.06	0.62	2500	1.06″	5.95
84N649	657	T-3 1/4	Wedge	6	28.00	0.08	0.62	15000	1.06″	5.95
84N650	658	T-3 1/4	Wedge	6	14.00	0.08	0.31	15000	1.06″	5.95
84N651	680	T-1	Std. Wire Term.	2	5.00	0.06	0.03	60000	0.25″	10.95
50N186	682	T-1	Sub. Midget Flanged	15	5.00	0.06	0.03	60000	0.38″	14.95
50N8110	683	T-1	Std. Wire Term.	2	5.00	0.06	0.05	25000	0.25″	10.95
50N8111	683AS15	T-1	Std. Wire Term.	2	5.00	0.06	0.05	25000	0.25″	12.95
50N8121	685	T-1	Sub. Midget Flanged	15	5.00	0.06	0.05	25000	0.38″	14.95
50N8122	715	T-1	Std. Wire Term.	2	5.00	0.12	0.15	40000	0.25″	10.95
50N8123	715AS15	T-1	Std. Wire Term.	2	5.00	0.12	0.15	40000	0.25″	13.95
50N8124	718	T-1	Sub. Midget Flanged	15	5.00	0.12	0.15	40000	0.38″	14.95
50N8125	755	T-3 1/4	Mini Bayonet	7	6.3	0.15	0.33	20000	1.19″	8.95
50N8126	756	T-3 1/4	Mini Bayonet	7	14.00	0.08	0.31	15000	1.19″	8.95
50N8127	757	T-3 1/4	Mini Bayonet	7	28.00	0.08	0.62	7500	1.19″	7.95
16N8748	787+	T-2 1/4	G-4 Two Pin	38	6.0	10W	16.00	100	1.00″	14.95
50N188	912	T-5	Wedge	6	12.8	1.00	12.00	1000	1.49″	6.95
50N8128	1133	RP-11	Mini Bayonet	11	6.2	3.91	32.00	200	2.25″	12.95
52N6751	1141	S-8	S.C Bayonet	20	12.80	1.44	21.00	500	2.00″	6.95
96F7954	1156	S-8	S.C Bayonet	20	12.80	1.44	21.00	1200	2.00″	6.95
96F7955	1157	S-8	D.C. Index	24	12.80	2.10/.59	32/3	1200/5000	2.00″	5.95
52N6750	1251	G-6	S.C Bayonet	8	28.00	0.23	3.00	2000	1.44″	10.95
52N6748	1383	R-12	S.C Bayonet	21	13.00	1.50	...	300	2.00″	39.95
92N4433	1487	T-3 1/4	Mini Screw	3	14.00	0.20	1.40	3000	1.19″	10.95
50N8129	1490	T-3 1/4	Mini Bayonet	7	3.20	0.16	0.20	3000	1.19″	6.95
50N8130	1493	S-8	D.C. Bayonet	13	6.5	2.75	23.00	100	2.00″	15.95
96F7965	1619	S-8	S.C Bayonet	12	6.7	1.90	15.00	500	2.00″	15.95
50N8131	1630+	S-8	D.C. Prefocus	16	6.5	2.75	23.0	100	2.00″	11.95
50N8132	1683	S-8	S.C Bayonet	12	28.00	1.02	32.00	500	2.00″	15.95
50N8134	1768	T-1 3/4	Mini Screw	14	6.00	0.20	0.60	1000	0.72″	9.95
50N8135	1769	T-1 3/4	Mini Screw	14	2.5	0.20	0.22	500	0.72″	9.95
50N8136	1775	T-1 3/4	Mini Screw	14	6.3	0.075	0.23	1000	0.72″	10.95
50N8137	1813	T-3 1/4	Mini Bayonet	7	14.40	0.10	0.86	1000	1.19″	6.95
50N8138	1815	T-3 1/4	Mini Bayonet	7	14.00	0.20	1.40	3000	1.19″	6.95
50N8139	1816	T-3 1/4	Mini Bayonet	7	13.00	0.33	3.00	1000	1.19″	6.95
50N8140	1818	T-3 1/4	Mini Bayonet	7	24.00	0.17	3.30	250	1.19″	9.95
50N8141	1819	T-3 1/4	Mini Bayonet	7	28.00	0.04	0.34	2500	1.19″	7.95
50N8143	1821	T-3 1/4	Mini Screw	3	28.00	0.17	3.40	500	1.19″	10.95
50N8144	1822	T-3 1/4	Mini Bayonet	7	36.00	0.10	2.10	1000	1.19″	9.95
84N653	1823 (LAMP)	T-3 1/4	Mini Screw	3	48.00	0.10	3.20	1000	1.19″	10.95
96F7967	1828	T-3 1/4	Mini Bayonet	7	37.50	0.05	0.65	3000	1.19″	9.95
50N8145	1829	T-3 1/4	Mini Bayonet	7	28.00	0.07	1.00	1000	1.19″	6.95
50N8146	1835	T-3 1/4	Mini Bayonet	7	55.00	0.05	1.10	5000+	1.19″	9.95
50N8147	1847	T-3 1/4	Mini Bayonet	7	6.30	0.15	0.38	5000	1.19″	6.95
50N8148	1850	T-3 1/4	Mini Bayonet	7	5.00	0.09	0.25	1500	1.19″	9.95
50N8149	1864	T-3 1/4	Mini Bayonet	7	28.00	0.17	3.00	1500	1.19″	6.95
50N8150	1866	T-3 1/4	Mini Bayonet	7	6.30	0.25	0.65	5000	1.19″	6.95
50N8151	1869	T-1 3/4	Wire Terminal	2	10.00	0.014	0.002	50000	0.52″	7.95
50N8152	1891	T-3 1/4	Mini Bayonet	7	14.00	0.24	2.00	500	1.19″	6.95
84N654	1892 (LAMP)	T-3 1/4	Mini Bayonet	7	14.40	0.12	0.75	1000	1.19″	6.95
50N8153	1893	T-3 1/4	Mini Bayonet	7	14.00	0.33	2.00	7500	1.19″	6.95
96F7968	1895	G-4 1/2	Mini Bayonet	8	14.00	0.27	2.00	2000	1.06″	5.95
92N4429	2057	S-8	D.C. Index	24	12.8/14.0	2.10/.48	32/2	1200/5000	2.00″	7.95
50N8154	2102	T-1 3/4	Wire Terminal	2	18.00	0.04	0.15	10000	0.52″	6.95
50N8155	2114	T-1 1/4	Wire Terminal	2	6.00	0.06	0.13	3000	0.44″	6.95
50N8112	2158	T-1 3/4	Wire Terminal	2	3.00	0.015	0.004	10000	0.52″	6.95
50N8113	2162	T-1 3/4	Wire Terminal	2	14.00	0.10	0.50	10000	0.52″	6.95
50N8114	2174	T-1 3/4	Wire Terminal	2	12.00	0.40	0.10	1000	0.52"	6.95
50N8115	2176	T-1 3/4	Wire Terminal	2	24.00	0.05	0.50	1000	0.52"	6.95
50N8116	2180	T-1 3/4	Wire Terminal	2	6.30	0.04	0.02	20000	0.52"	6.95
50N8117	2181	T-1 3/4	Wire Terminal	2	6.30	0.20	0.40	20000	0.52"	6.95
50N8118	2182	T-1 3/4	Wire Terminal	2	14.00	0.08	0.30	40000	0.52"	6.95
50N8119	2185	T-1 3/4	Wire Terminal	2	28.00	0.04	0.15	10000	0.52"	6.95
50N8120	2187	T-1 3/4	Wire Terminal	2	28.00	0.04	0.30	7000	0.52"	5.95
50N8156	2200	T-1 3/4	Wire Terminal	2	5.00	0.06	0.05	25000	0.52"	6.95

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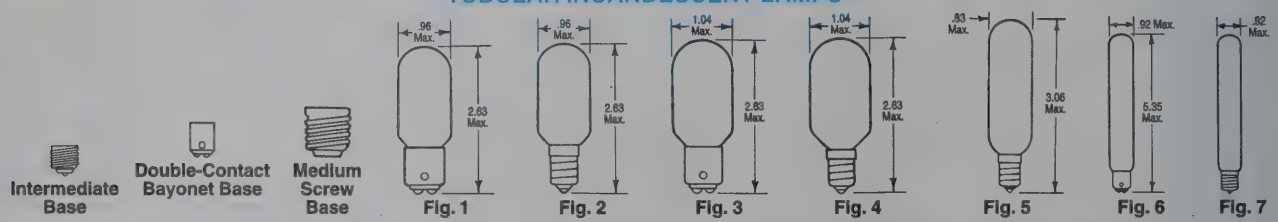
INCANDESCENT LAMPS

RADION™ BRAND INCANDESCENT LAMPS (CONT.)

Stock No.	Type	Bulb	Base	Fig.	Volts	Amps	MSCP	Avg. Life Hrs.	MOL	Per Pkg.
50N8157	2203	T-1 3/4	Wire Terminal	2	5.00	0.115	0.15	40000	0.52"	6.95
92N4430	3057	S-8	Plastic Wedge	...	12.80/14.00	2.10/.48	10.67	1200/5000	2.00"	18.95
50N8158	3149	T-1 3/4	Bi-Pin	17	5.00	0.06	0.15	5000	0.63"	14.95
92N4431	3157	S-8	Plastic Wedge	...	12.80/14.00	2.10/.59	32/3	1200/5000	2.00"	18.95
50N8159	6833	T-3/4	Wire Terminal	18	5.00	0.06	0.05	25000	0.20"	14.95
50N8160	6838	T-1	Std. Wire Term.	2	28.00	0.024	0.15	4000	0.25"	9.95
50N8161	6839	T-1	Sub. Midget Flgd	5	28.00	0.024	0.15	4000	0.38"	15.95
50N8164	7216	T-1	Std. Wire Term.	2	5.00	0.125	0.22	5000	0.25"	7.95
50N8165	7218	T-1	Std. Wire Term.	2	10.00	0.027	0.1	10000	0.25"	7.95
50N8166	7219	T-1	Std. Wire Term.	2	12.00	0.06	0.15	10000	0.25"	7.95
50N8167	7327	T-1 3/4	Bi-Pin	17	28.00	0.04	0.34	4000	0.63"	9.95
50N8168	7328	T-1 3/4	Bi-Pin	17	6.00	0.20	0.60	1000	0.63"	11.95
50N8169	7330	T-1 3/4	Bi-Pin	17	14.00	0.08	0.50	1500	0.63"	11.95
50N8170	7333	T-1 3/4	Midget Flanged	5	5.00	0.06	0.05	25000	0.63"	8.95
50N8171	7335	T-1 3/4	Midget Flanged	5	5.00	0.115	0.15	40000	0.63"	8.95
50N8172	7341	T-1 3/4	Midget Flanged	5	28.00	0.065	0.65	5000	0.63"	8.95
50N8173	7349	T-1 3/4	Bi-Pin	17	6.30	0.200	0.55	5000	0.63"	11.95
50N8174	7361	T-1 3/4	Bi-Pin	17	5.00	0.060	0.05	25000	0.63"	11.95
50N8175	7362	T-1 3/4	Bi-Pin	17	5.00	0.115	0.15	40000	0.63"	11.95
50N8176	7367	T-1 3/4	Bi-Pin	17	10.00	0.040	0.08	5000	0.63"	11.95
50N8177	7371	T-1 3/4	Bi-Pin	17	12.00	0.040	0.12	10000	0.63"	11.95
50N8178	7373	T-1 3/4	Bi-Pin	17	14.00	0.100	0.50	10000	0.63"	11.95
50N8179	7374	T-1 3/4	Bi-Pin	17	28.00	0.040	0.15	10000	0.63"	11.95
50N8180	7377	T-1 3/4	Bi-Pin	17	6.30	0.075	0.23	1000	0.63"	11.95
50N8181	7380	T-1 3/4	Bi-Pin	17	6.30	0.040	0.02	20000	0.63"	11.95
50N8182	7381	T-1 3/4	Bi-Pin	17	6.30	0.200	0.40	20000	0.63"	11.72
50N8183	7382	T-1 3/4	Bi-Pin	17	14.00	0.08	0.30	15000	0.63"	10.95
50N8184	7387	T-1 3/4	Bi-Pin	17	28.00	0.04	0.30	7000	0.63"	9.95
50N8185	7515	T-1 1/4	Bi-Pin	17	5.00	0.115	0.15	40000	0.60"	14.95
50N8186	7632	T-1 1/4	Bi-Pin	17	28.00	0.04	0.32	1000	0.60"	14.95
50N8187	7646	T-1 1/4	Bi-Pin	17	14.00	0.08	0.50	1000	0.60"	14.95
50N8188	7680	T-1	Bi-Pin	17	5.00	0.06	0.03	60000	0.38"	13.95
84N660	7683	T-1	Bi-Pin	17	5.00	0.06	0.05	25000	0.38"	13.95
50N8227	7714	T-1	Bi-Pin	17	5.00	0.075	0.09	25000	0.38"	13.95
50N8189	7715	T-1	Bi-Pin	17	5.00	0.115	0.15	40000	0.38"	13.95
50N8190	7839	T-1	Bi-Pin	17	28.00	0.025	0.15	4000	0.38"	16.95
50N8191	7876	T-1 3/4	Bi-Pin	17	28.00	0.06	0.34	25000	0.63"	11.95
50N8192	8362	T-1 3/4	Mini Screw	3	14.00	0.08	0.30	15000	0.63"	10.95
50N8193	8369	T-1 3/4	Mini Screw	3	28.00	0.065	0.65	15000	0.63"	10.95
50N8195	8640	T-1 1/4	Wire Terminal	2	14.00	0.08	0.50	1000	0.44"	6.95
50N8194	8627	T-1 1/4	Wire Terminal	2	28.00	0.04	0.32	1000	0.44"	6.95
50N8196	8918	T-1 3/4	Midget Flanged	5	14	0.10	0.5	10000	0.63"	8.95

(2582) (de50249)

TUBULAR INCANDESCENT LAMPS



Tubular incandescent cylindrical lamps for a variety of applications. *For base illustrations see the product selector guide at the beginning of the section.*

Stock No.	Type	Fig.	Volts	Watts	Finish	Base	Per Pkg.
16N7517	15T6C-130V	5	130	15	Clear	Candelabra Screw	1.58
16N7518	15T6C-145V	5	145	15	Clear	Candelabra Screw	1.58
16N7519	15T7N-130V	5	130	15	Clear	Intermediate Screw	1.58
16N7520	15T7C-130V	2	130	15	Clear	Candelabra Screw	1.58
16N7521	15T7DC-130V	1	130	15	Clear	Double Contact Bayonet	1.58
16N7522	20T6-V2N-130V	7	130	20	Clear	Intermediate Screw	2.66
16N7523	20T6-1/2F-130V	7	130	20	Frosted	Intermediate Screw	2.75
16N7524	20T6-1/2DC-130V	6	130	20	Clear	Double Contact Bayonet	2.66
16N7525	20T6-1/2DC/F-130V	6	130	20	Frosted	Double Contact Bayonet	2.75
16N7526	25T6C-120V	5	120	25	Clear	Candelabra Screw	1.58
16N7527	25T6/1/2N-130V	7	130	25	Clear	Intermediate Screw	2.66
16N7528	25T6-1/2N/F-130V	7	130	25	Frosted	Intermediate Screw	2.75
16N7529	25T6-1/2DC-130V	6	130	25	Clear	Double Contact Bayonet	2.66
16N7530	25T6-1/2DC/F-130V	6	130	25	Frosted	Double Contact Bayonet	2.75
16N7531	25T8C-120V	4	120	25	Clear	Candelabra Screw	1.70
16N7532	25T8N-130V	4	130	25	Clear	Intermediate	1.70
16N7533	25T8DC-130V	3	130	25	Clear	Double Contact Bayonet	1.70
16N7534	25T10-130V	...	130	25	Clear	Medium Screw	2.66
16N7535	25T10/F-130V	...	130	25	Frosted	Medium Screw	2.75
16N7536	40T6-1/2N-130V	7	130	40	Clear	Intermediate Screw	2.66
16N7537	40T6-1/2N/F-130V	7	130	40	Frosted	Medium Screw	2.75
16N7538	40T10-130V	...	130	40	Clear	Medium Screw	2.66
16N7539	40T10/F/130V	...	130	40	Frosted	Medium Screw	2.75

(2662) (ne09374)

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NEON LAMPS, INCANDESCENT AND ROUGH SERVICE BULBS

NEON GLOW LAMPS

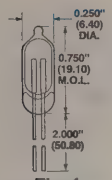


Fig. 1 Wire Leads

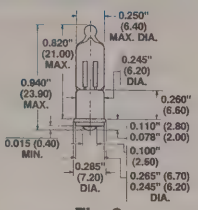


Fig. 2 Midget Flange Base

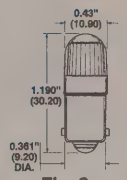


Fig. 3 Min. Bayonet Base

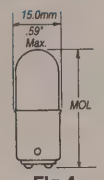


Fig.4 D.C. Bayonet

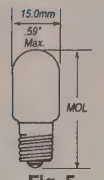


Fig. 5 Candelabra Screw

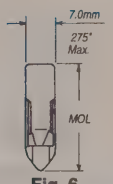


Fig. 6 Telephone Slide#5

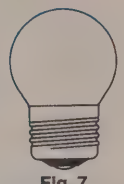


Fig. 7 Medium Screw

Neon glow lamps are used for indicators and circuit control applications. Two closely spaced electrodes cause neon gas to ionize and glow when voltage is applied. Since they have no filament, lamps withstand considerable shock vibration. Neon lamps are ideal for line-voltage AC as well as for 90V and up DC applications. They are rugged and long-lived; properly specified neon lamps will outlast the equipment in which they are incorporated. Neon lamps have tinned leads, and are ideal for use on printed circuit boards. External resistors not included except resistor included in base.

Stock No.	Type	Bulb Type	Fig.	Max. Overall Length	Current mA	Max. Breakdown Volts AC	Max. Breakdown Volts DC	Circuit Volts	Average Life Hours	Series Resistor	Std. Pkg.	Per Pkg.
50N8198	A1B	T-2	1	1.000″	0.3	65	90	120	25,000	220K	10	3.95
50N8203	A9A(NE-2E)	T-2	1	1.000″	0.7	65	90	120	25,000	100K	10	3.95
50N8197	A1A(NE-2)	T-2	1	1.000″	0.7	65	90	120	25,000	100K	10	4.95
50N8201	C7A(NE-2D)	T-2	2	0.940″	0.7	65	90	120	25,000	100K	10	15.95
50N8204	B1A(NE-51)	T-3¼	3	1.186″	0.3	65	90	120	15,000	220K	10	7.95
50N8207	B1A-R (NE-51R)	T-3¼	3	1.186″	0.3	65	90	120	15,000	150K*	10	13.95
16N7492	2ML(NE38S)	T-1¼	1	0.395″	0.3	65	90	105-125	12,000	100K SC	10	11.95
16N7493	K1A5(NE84)	T-2	6	1.03″	1.9	95	135	105-125	25,000	30K SC	10	35.95
16N7494	B7A(NE45)	T-4¼	5	1.54″	2.0	65	90	105-125	5,000	None *	10	49.95
16N7495	B9A(NE48)	T-4¼	4	1.5″	2.0	65	90	105-125	7,500	30K	10	49.95
16N7497	J5A(NE30)	S-11	7	2.25″	8.0	60	85	105-125	10,000	7.5K	01	15.95
50N8199	A1C	T-2	1	1.000″	½	95	135	120	25,000	47K	10	4.95
50N8200	C2A(NE-24)	T-2	1	1.000″	¼	95	135	120	25,000	30K	10	4.95
50N8202	C9A(NE-25)	T-2	2	0.940″	¼	95	135	120	25,000	30K	10	13.95
50N8205	B2A(NE-51H)	T-3¼	3	1.186″	1.2	95	135	120	20,000	47K	10	7.95
50N8206	B2A-R(NE-51HR)	T-3¼	3	1.186″	1.2	95	135	120	20,000	22K	10	13.95

*30K ohm resistor built in base.

(2625) (ne03169)

STANDARD INCANDESCENT BULBS

For use with indicators. **Sold in packages of 10.** *For base illustrations see the product selector guide at the beginning of the lamps section.*

Stock No.	Type	Watts	Base	Volts	Per Pkg.
16N7498	3S6/5 120V	3	Candelabra Screw	120	12.95
16N7502	6S6/30V	6	Candelabra Screw	30	12.95
16N7505	6S6DC/30V	6	Double-Contact Bayonet	30	13.95
52N6749	6S6/120V	6	Candelabra Screw	120	12.95
16N7499	6S6/130V	6	Candelabra Screw	130	12.95
16N7504	6S6DC/130V	6	Double-Contact Bayonet	130	13.95
16N7500	6S6/145V	6	Candelabra Screw	145	12.95
16N7501	6S6/155V	6	Candelabra Screw	155	12.95
16N7540	7C7/120V	7	Candelabra Screw	120	7.95
16N7542	7C7DC/120V	7	Double-Contact Bayonet	120	12.95
16N7541	10C7-120V-CS	10	Candelabra Screw	120	12.95
16N7543	10C7DC/120V	10	Double-Contact Bayonet	120	12.95
16N7503	10S6DC/230V	10	Double-Contact Bayonet	230	14.95
96F7953	10S6/230V	10	Candelabra Screw	230	12.95

(12633) (ne10381)

ROUGH SERVICE BULBS

Rough service bulbs are made with strong and well-supported filaments to resist vibrations, shocks, and bumps. "Gator Skin" bulbs are shatterproof due to a thin rubberized coating. All bulbs are standard, frosted, household screw-based bulbs for use in droplight, elevators, and other critical applications. **Sold in packages of 2.**

Stock No.	Type	Watts	Bulb	Volts (AC)	Lumens	Avg. Life Hours	Per Pkg.
16N7566	50A/RS	50	A19	130	500	2500	4.13
52N6753	75A/RS	75	A19	130	750	2500	4.13
16N7567	100A/RS	100	A19	130	1100	2500	4.13
	"GATOR SKIN" BULBS						
92N4426	50A/RS/TF	50	A19	130	500	2500	5.17
92N4427	75A/RS/TF	75	A19	130	750	2500	5.17
92N4428	100A/RS/TF	100	A19	130	1100	2500	5.17

(12632) (ne10380)

MEDICAL LAMPS

MICROSCOPE LAMPS

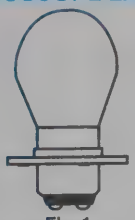


Fig. 1

Fig. 2

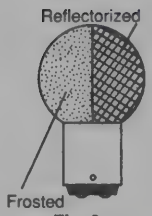


Fig. 3

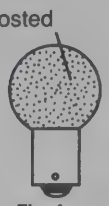


Fig. 4

Fig. 5

For base illustrations see the product selector guide at the beginning of the section.

Stock No.	Type	Fig.	Amps (Watts)	Width (Max.)	Length (Max.)	Base	Each
92N4819	1460	1	2.75	26.5mm	50mm	D.C. Prefocus	10.95
92N4820	1460X	1	2.75	26.5mm	50mm	D.C. Prefocus	11.95
50N8131	1630	1	2.75	26.5mm	50mm	D.C. Prefocus	11.95
92N4821	1631X	1	2.75	26.5mm	50mm	D.C. Prefocus	11.95
92N4822	EL-2B	4	(12)	18mm	32mm	Mini Bayonet	7.95
92N5682	EI-722	3	(30)	30mm	53mm	D.C Bayonet	7.95
92N5683	EI-737	2	(20)	30mm	53mm	D.C Bayonet	15.95
92N5684	8100	5	(30)	35mm	65mm	E14	15.95

(13436) (ne10388)

OPHTHALMIC LAMPS

These ophthalmic lamps have 50 watt, T-8 bulbs and a BA15d base. Designed for projection applications for eye-chart projectors.

Stock No.	Type	Volts	Avg. Life (Hrs.)	Lumen Ouput	Each
92N5685	CAX	115-125	60	860	6.95
92N5686	CAX-130V	115-125	130	665	6.95
92N5687	CAX-KR	130	85	1005	8.95
92N5688	CAX-130V-KR	130	200	790	8.95

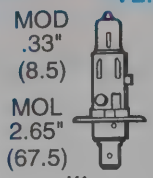
(13437) (ne10389)

DIAGNOSTIC AND SURGICAL LAMPS

Stock No.	Type	Cross Reference	Volts	Watts	Each
92N5565	A1-010-28	Skytron - A1-010-28	24	40	54.95
92N5566	A1-420-10	Skytron - A1-420-10	24	60	59.95
92N5567	A1-510-01	Skytron - A1-510-01	24	50	56.95
92N5568	B1-010-28	Skytron - B1-010-28	24	50	47.95
92N5569	B5-011-32	Skytron - B5-011-32	24	100	54.95
92N5570	P129362-228	Amsco - P129362-228	22.8	220	34.95
92N5571	Q235T4/3-33V	Amsco - P129249-001	33.0	235	34.95
92N5579	778	Welch Allyn, 01111	6.0	20	14.95
16N8748	787	Welch Allyn, 01110	6.0	10	14.95
92N5580	788	Welch Allyn, 01111	6.0	20	13.45
92N5581	789	Welch Allyn, 01115	12.0	14	13.45
92N5582	04900	Welch Allyn, 04900	3.5	20	14.95

(13438) (ne10390)

VEHICLE/MEDICAL LAMPS



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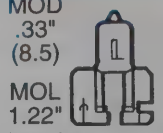

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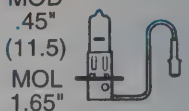
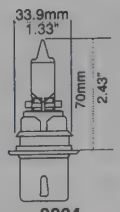
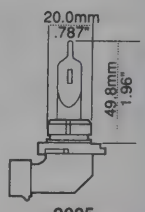


H3

H4



9004



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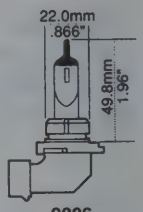

9006

Stock No.	Type	Volts	Watts	Avg. Life (Hrs.)	Description	Each
92N5689	01000	6.0	55	150	H1-Type/P14.5S1 Base	5.95
92N5690	01003	12.0	55	225	H1-Type/P14.5S1 Base	5.95
92N5691	01004	12.0	100	50	H1-Type/P14.5S1 Base	5.95
92N5692	01005	12.0	55	225	H2-Type/X511 Base	5.95
92N5693	01006	6.0	55	150	H3-Type	5.95
92N5694	01007	12.0	55	225	H3-Type	5.95
92N5695	01008	24.0	70	225	H3-Type	6.95
92N5696	01009	12.0	60/55	150/300	H4-Type/P43t Base	8.95
92N5697	01010	24.0	75/70	150/300	H4-Type/P43t Base	8.95
92N5698	01015	12.0	100	50	H3-Type	5.95
92N5699	01018	12.0	100/90	100/200	H4-Type/P43t Base	9.95
92N5700	01019	12.0	100/55	100/200	H4-Type/P43t Base	9.95
92N5701	01021	12.0	100/80	100/200	H4-Type/P43t Base	9.95
92N5702	01023	12.0	100	50	H2-Type/X511 Base	8.95
92N5703	01027	24.0	70	225	H1-Type/P14.5S1 Base	6.95
92N5704	01030	24.0	70	150	H2-Type/X511 Base	8.95
92N5705	01031	12.0	35	150	H3-Type	6.95
16N7516	9004	12.0	65/45	150/320	Axial Prefocus Base	5.95
92N5706	9005	12.8	65	150	Right Angle Prefocus Base	5.95
92N5707	9006	12.8	55	120	Right Angle Prefocus Base	5.95

(13440) (ne10392)

GERMICIDAL LAMPS

Stock No.	Type	Watts	Each
92N5572	GTL3	3	15.52
92N5573	G4T5	4	22.76
92N5574	G6T5	6	22.76
92N5575	G8T5	8	22.76
92N5576	G10T8	10	34.15
92N5577	G15T8	15	38.29
92N5578	G20T10	20	46.57

(13439) (ne10391)

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LAMP SOCKETS

MINIATURE BAYONET SOCKETS WITH SOLDERING LUGS

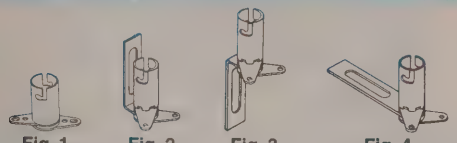
Fig. 1 Fig. 2 Fig. 3 Fig. 4

Fig. 5 Fig. 6 Fig. 7 Fig. 8 Fig. 9

Sockets accept miniature bayonet-based lamps. Designed for low-voltage incandescent lamps, 6 volts to 28 volts. Termination is to two solder lugs insulated from the mounting bracket. Brackets are 0.025/0.032″ (0.635/0.813) thick cadmium-plated steel. Rating: 75 watts @ 125V.

Stock No.	Type	Fig.	1-24	25-99	100-249	250-499
81N2560	LSL-11	1	1.86	1.58	1.42	1.28
81N2561	LSL-11-128U	2	2.06	1.75	1.58	1.42
81N2562	LSL-11-128D	3	2.06	1.75	1.58	1.42
81N2563	LSL-11-463	4	2.06	1.75	1.58	1.42
81N2564	LSL-11-586U	5	2.06	1.75	1.58	1.42
81N2565	LSL-11-102D	6	2.06	1.75	1.58	1.42
81N2566	LSL-11-125D	7	2.06	1.75	1.58	1.42
81N2567	LSL-11-167U	8	2.27	1.93	1.74	1.56
81N2568	LSL-11-151U	9	2.27	1.93	1.74	1.56

(2670) (ne50101)

MINIATURE SCREW SOCKETS

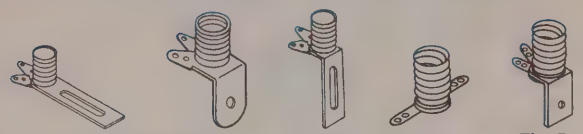
Fig. 1 Fig. 2 Fig. 3 Fig. 4 Fig. 5

Sockets have soldering lugs and accept miniature screw-based lamps. Solder lug terminals insulated from mounting bracket. Mounting brackets are 0.025/0.032″ (0.635/0.813) cadmium-plated steel. For low voltage incandescent lamps, 6 volts to 28 volts. **Type 90747-D** is a midget screw socket.

Stock No.	Type	Fig.	1-24	25-99	100-249	250-499
81N2576	LSL-10-463	1	2.06	1.75	1.58	1.42
96F8036	12-369-D	2	2.06	1.75	1.58	1.42
81N2575	LSL-10-128D	3	2.06	1.75	1.58	1.42
96F8039	10-50A	4	2.06	1.75	1.58	1.42
96F8044	90-747-D	5	2.58	2.19	1.97	1.78
92N4183	2241	6	2.06	1.75	1.58	1.42

(2627) (ne04411)

MINIATURE BAYONET SOCKETS WITH WIRE LEADS

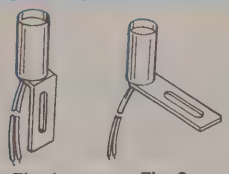
Fig. 1 Fig. 2

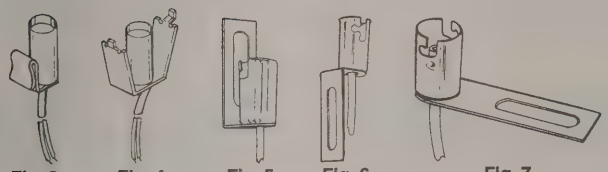
Fig. 3 Fig. 4 Fig. 5 Fig. 6 Fig. 7

Single contact miniature bayonet sockets with molded black nylon housings. Insulated and break resistant. **LSW series** sockets are terminated to two 22 AWG, 6″ (152.4) long wire leads. Mounting brackets insulated from socket. Brackets are 0.025/0.032″ (0.635/0.813) cadmium-plated steel. Rating: 75 watts @ 125V. **Type 38-B-01-27-6S** has no bracket.

Stock No.	Type	Fig.	1-24	25-99	100-249	250-499
81N2570	LSW-111-128D	1	3.10	2.63	2.37	2.14
81N2571	LSW-111-463	2	3.10	2.63	2.37	2.14
81N2572	LSW-111-586U	3	3.10	2.63	2.37	2.14
81N2573	LSW-111-151U	4	3.10	2.63	2.37	2.14
These sockets feature a grounded socket case with one wire lead.						
92N4181	2239	5	2.06	1.75	1.58	1.42
92N4180	2238	6	2.06	1.75	1.58	1.42
92N4182	2240	7	2.06	1.75	1.58	1.42

(2671) (ne50103)

WEDGE BASE LAMPHOLDERS

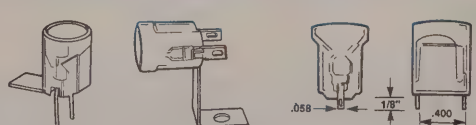

Fig. 1 Fig. 2 Fig. 3

Fig. 4 Fig. 5 Fig. 6

40 series miniature wedge base lampholders accommodate T-3 ¼ or T-5 wedge base lamps. Insulated steel mounting bracket 0.025 x ⅜″ wide. For low voltage applications. Insulated nylon base. **Type 40-732** has two 22AWG 6″ leads. Solder lug terminals on **type 40-730** are 0.25″ long and 0.11″ wide. Color: natural.

Stock No.	Type	Fig.	1-24	25-99	100-249	250-499
96F8045	40-732	1	1.34	1.14	1.02	0.92
96F8046	40-730	2	1.03	0.87	0.79	0.71

PRINTED CIRCUIT BOARDS

Type LSP-11-530DPC Board mounted miniature bayonet socket mounts in two 0.070″diameter holes on 0.375″ centers. Shell base height: 43⁄64″. **Type 2263** is the same, but has a shell base height of ½″. **Type 90-365-D** is a midget groove base.

96F8047	40-734	3	1.03	0.87	0.79	0.71
81N2569	LSP-11-530D	4	1.55	1.31	1.18	1.07
92N4205	2262	5	1.55	1.31	1.18	1.07
92N4204	2263	5	1.55	1.31	1.18	1.07
96F8028	90-365D	6	3.62	3.07	2.77	2.49

(2628) (ne04412)

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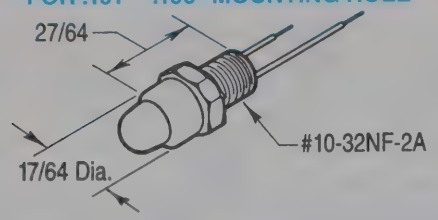
NEON AND LED INDICATORS

L58 SERIES SOLID STATE LED INDICATORS FOR .191″ - .196″ MOUNTING HOLE

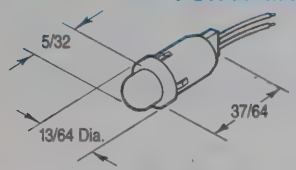


Subminiature indicators have 6″ leads, chrome bezel, hex nut. To 3⁄16″ panel thickness. Diffused 60° viewing angle. Types listed have 6″ color-coded insulated wire leads. Indicators with bare wire terminal also available; *contact your local Newark sales office.*

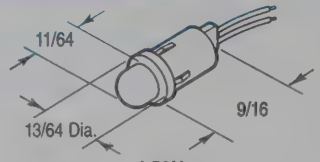
Stock No.	Type	Lens Color	Volts (VDC)	1- 24	25- 99
60F1325	L58D-R2-W	Red	2	8.13	5.64
60F1326	L58D-G2-W	Green	2	8.13	5.64
10F7464	L58D-R6-W	Red	6	9.24	6.42
10F7465	L58D-G6-W	Green	6	9.24	6.42
10F7467	L58D-R12-W	Red	12	9.24	6.42
10F7468	L58D-G12-W	Green	12	9.24	6.42
10F7469	L58D-Y12-W	Yellow	12	9.24	6.42
10F7470	L58D-R24-W	Red	24	9.24	6.42
10F7471	L58D-G24-W	Green	24	9.24	6.42
10F7472	L58D-Y24-W	Yellow	24	9.24	6.42

(2513) (de01212)

L59 AND L59U SERIES SNAP-MOUNT LED INDICATORS FOR ¼″ MOUNTING HOLE



L59



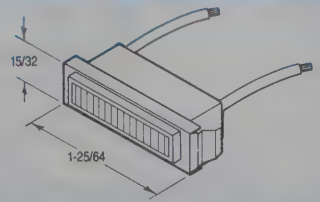
L59U

Subminiature **L59 Series** LED indicators with black nylon housing and bezel. Press fit ¼″ hole to 0.062″ max. panel thickness. Dome-shape lens. Typical luminous intensity for red LEDs is 16.0 MCD; 24.0 MCD for green LEDs; 16.0 MCD for yellow. Long life, solid state reliability. Types listed have 6″ insulated wire leads. 2-volt and 6-volt indicators and indicators with bare wire terminals also available; *contact your local Newark sales office.* **L59UD Series** indicators feature built-in integral bezel and diffused wide viewing angle LED. Termination: 6″-coded wire leads; red = anode(+), black = cathodel(-). Snap fit in ¼″ (6.35mm) mounting hole. Panel range: 0.115″-0.130″ (2.90mm-3.30mm).

Stock No.	Type	Lens Color	Volts (VDC)	1- 24	25- 99
60F1355	L59D-Y2-W	Yellow	2	2.92	1.94
10F7458	L59D-R12-W	Red	12	4.24	3.26
10F7459	L59D-G12-W	Green	12	4.24	3.26
10F7460	L59D-Y12-W	Yellow	12	4.24	3.26
10F7461	L59D-R24-W	Red	24	4.24	3.26
10F7462	L59D-G24-W	Green	24	4.24	3.26
10F7463	L59D-Y24-W	Yellow	24	4.24	3.26
16F754	L59UD-R12-W	Red	12	3.77	2.33
16F755	L59UD-G12-W	Green	12	3.77	2.33
16F756	L59UD-Y12-W	Yellow	12	3.77	2.33
16F757	L59UD-R24-W	Red	24	3.77	2.33
16F758	L59UD-G24-W	Green	24	3.77	2.33
16F759	L59UD-Y24-W	Yellow	24	3.77	2.33

(2511) (de01209)

31 SERIES RECTANGULAR NEON INDICATORS FOR 1.281″ x .395″ MOUNTING HOLE



31 series single indicator units have chrome-plated bezels, snap-fit in panel thickness to 0.090″; rated 125V, ⅓ W, 25,000 hour life. UL listed, CSA certified. 6V, 14V, 28V, and 250V units, amber, blue and clear colors, and wire leads and 3⁄16″ tab terminals also available; *contact your local Newark sales office.*

NEON LAMP AND ¼″ TAB TERMINALS

Stock No.	Type	Lens Color	1-24	25-99
25F1395	31-2111T	Red	7.18	4.98
16F787	31-2112T	Green	5.73	5.23
25F1398	31-2115T	White	7.18	4.98

(2622) (ne01237)

32 SERIES PRESSFIT INDICATORS FOR ½″ PANEL MOUNTING HOLE

Fig. 1 Dome Lens

Fig. 2 Flat Cylindrical Lens

Features: Neon, Incandescent and LED indicators; choice of lens: flush, square, flat cylindrical or dome (hi-hat and square lens is available), 6″ wire leads or 3⁄16″ brass tab terminals (T). **32R** Neon indicators supplied with current limiting resistors for 125V, ⅓W with 25,000-hour life. 28V=.04A with 7,000-hours life (32,000-hour life at 24V). 14V=0.10A with 10,000-hours life. 6V-.20A with 5,000-hours life. **32RG1 Series** for 6V, **32RG3 Series** for 14V and **32RG18 Series** for 28V also available. Other colors and voltages are available; *contact your local Newark sales office.* UL listed, CSA certified.

125V NEON INDICATORS WITH DOME LENS & BEZEL

Stock No.	Type	Lens Color	1-24	25-99
94F5487	32R-2211	Red	7.12	4.95
16F743	32R-2212	Green	5.72	5.22
16F744	32R-2213	Amber	4.75	4.34
94F5488	32R-2211T	Red	7.31	5.07
16F745	32R-2212T	Green	5.80	5.30

125V NEON INDICATORS WITH FLAT CYLINDRICAL LENS & BEZEL

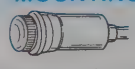
25F1331	32R-2111	Red	7.12	4.95
94F5485	32R-2112	Green	8.57	5.96
16F742	32R-2113	Amber	4.75	4.34
16F777	32R-2115	White	6.35	4.34
25F1333	32R-2111T	Red	7.31	5.07
94F5486	32R-2112T	Green	8.70	6.05

125V NEON INDICATORS WITH FLUSH LENS & BEZEL

16F746	32R-2311	Red	4.75	4.34
16F747	32R-2312	Green	5.72	5.22
16F748	32R-2313	Amber	4.75	4.34
94F5240	32R-2311T	Red	7.31	5.07
16F749	32R-2312T	Green	5.80	5.30

(2516) (de01235)

L32R-CL SERIES DAYBRIGHT LED INDICATORS FOR ½″ MOUNTING HOLE



LED Indicator lights have a 360° viewing angle and daybright visibility. Features: flat cylindrical lens, black nylon housing, and 6″ wire leads. Other voltage options, colors, lens styles and terminations available; *contact your local Newark sales office.* UL recognized, CSA certified.

Stock No.	Type	Lens Color	Volts (V)	1-24	25-99
91F3978	L32R-ACL24-1113	Amber	24	14.04	10.68
91F3979	L32R-GCL24-1112	Green	24	14.04	10.68
91F3980	L32R-RCL24-1111	Red	24	14.04	10.68

(13154) (ne09999)

L79 SERIES LED INDICATORS FOR 5⁄16″ MOUNTING HOLE

L79 series LED indicators are constructed with a threaded housing with a built-in reflector. Each unit has a high brightness diffused LED, 2 color-coded 6″ wire leads. 125VAC unit has a bipolar LED and 2 6″ white wire leads. Lights mount into a 5⁄16″ diameter mounting hole with a max. panel thickness of 0.250″. A hex nut and lockwasher are supplied. Current: 20mA typical. Clear LEDs, 2V, 6V and other colors are available, *contact your local Newark sales office.*

Stock No.	Type	Len Color	Volts	1-24	25-99
83F7617	L79D-G12-W	Green	12VDC	9.57	7.62
83F7618	L79D-G24-W	Green	24VDC	9.57	7.62
83F7619	L79D-R125-W	Red	125VAC	9.57	7.62
83F7620	L79D-R12-W	Red	12VDC	9.57	7.62
83F7621	L79D-R24-W	Red	24VDC	9.57	7.62

(32202) (ne32202)

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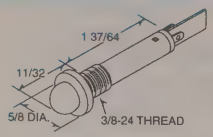
NEON, INCANDESCENT AND LED INDICATORS

75 AND L75 SERIES INDICATORS FOR 3/8" MOUNTING HOLE



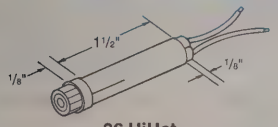
75 series oil-tight indicators feature dome lens and nickel-plated bezel. Neon indicators have current-limiting resistors for 125V and 250V, and are 1/3 watt with 25,000 life hours. Termination: 6" wire leads, stripped 1/2" or 3/16" Q.C. terminals, designated by T suffix. Other available options include 6V, 14V and 28V indicators and blue, white and clear indicators. L75 Series solid-state indicators feature color-code wire leads. Red = anode (+), black = cathode(–); or one tinned 3/16" terminal to identify the anode(+) and one non-tinned terminal denoting cathode(–). Amber indicators, and 2V and 6V indicators also available. *Contact your local Newark sales offices for ordering information.*

NEON INDICATORS

Stock No.	Type	Lens Color	Volts	1-24	25-99	100-249
16F733	75R-2211	Red	125V	3.43	3.13	3.04
16F734	75R-2212	Green	125V	4.85	4.43	4.30
16F735	75R-2213	Amber	125V	3.43	3.13	3.04
16F736	75R-2211T	Red	125V	3.21	2.93	2.84
16F737	75R-2212T	Green	125V	4.57	4.18	4.06
16F738	75R-2213T	Amber	125V	3.21	2.93	2.84
16F739	75HR-2211	Red	250V	3.43	3.13	3.04
16F768	75HR-2212T	Green	250V	3.73	3.41	3.31
SOLID STATE LED INDICATORS						
16F769	L75R-R12-2211	Red	12VDC	4.04	3.69	3.58
16F773	L75R-R24-2211	Red	24VDC	4.87	4.45	4.32
16F775	L75R-R24-2211T	Red	24VDC	4.61	4.21	4.09
16F776	L75R-G24-2212T	Green	24VDC	4.61	4.21	4.09

(2654) (ne08888)

MINIATURE TINEON INDICATORS FOR 5/16" PANEL MOUNTING HOLE



36 HiHat

41 Flush

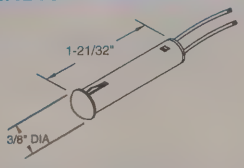
Miniature tineon indicators available with resistor (**36 series**) and without resistor (**41 series**). Speed nut supplied. **36EN series** features 125V, 1/3W, 25,000 hour life. **36HEN** features 250V, 1/3W, 25,000 hour life. Both have high brightness neon lamp with aluminum bezel. Front mounts 5/16" D hole. 6" wire leads, 20 gauge with insulated plastic. White nylon housing. **41 series** also front mount 5/16" D hole. **41ENG3 series** features 14V, 0.4A, 10,000 hour life. **41ENG18 series** features 28V, 0.4A, 7,000 hour life. UL listed, CSA certified. 6V units are available.

36EN AND 36HEN SERIES WITH BEZEL AND FLUSH LENS

Stock No.	Type	Lens Color	1-24	25-99
60F1254	36EN-2311	Red	7.50	5.20
16F789	36EN-2312	Green	6.55	5.98
60F1255	36EN-2313	Amber	7.50	5.20
16F717	36HEN-2311	Red	5.25	3.61
16F719	36HEN-2312	Green	6.20	4.24
41ENG SERIES WITH BEZEL AND FLUSH LENS				
25F1405	41ENG3-2311	Red	9.24	6.42
25F1406	41ENG3-2312	Green	9.24	6.42
25F1407	41ENG3-2313	Amber	9.24	6.42
94F5499	41ENG18-2311	Red	8.57	5.96
16F709	41ENG18-2312	Green	5.72	5.22
94F5256	41ENG18-2313	Amber	8.57	5.96

(2621) (ne01236)

39 SERIES NEON INDICATORS FOR 5/16" MOUNTING HOLE

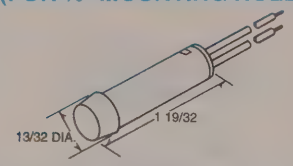


39 Series indicators feature 1-piece housing with snap-fit mounting ears; semi-dome lens; panel range: .020" - .060" maximum. 6" wire leads, stripped 1/2" or 3/16" Q.C. tab terminals. **Suffix "T"** in type number denotes 3/16" terminals. Neon indicators feature current-limiting resistors for 125V and 250V, and 1/3W with 25,000-hour life. 6V, 14V, and 28V incandescent and LED units are available; *contact your local Newark sales office.*

Stock No.	Type	Lens Color	Volts	1-24	25-99
16F782	39-0382	Green	125	5.28	4.82
16F783	39-0381T	Red	125	3.96	3.61
16F784	39-0382T	Green	125	5.28	4.82
16F724	39H-0381	Red	250	3.96	3.61
16F725	39H-0382	Green	250	5.28	4.82
16F726	39H-0381T	Red	250	3.96	3.61

(2656) (ne08906)

34 SERIES NEON; INCANDESCENT OR LED INDICATORS (FOR 3/8" MOUNTING HOLE)



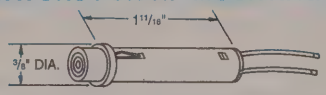
34 Series 3/8" press fit panel mount indicator lights feature one-piece housing with cylindrical flat top lens. Panel range: 0.020" min. Mounting hole: 3/8". Neon indicators feature current-limiting resistors for 125V and 250V, and are 1/3 watt with 25,000 life hours. Termination: 6" wire leads, stripped 1/2". 28V incandescent indicators are 0.04A with 7,000 life hours (32,000 hours at 24V.) 6V units and 14V amber incandescent indicators available. L34 series LED solid-state indicators feature color code wire leads; red = anode(+), black = cathode(–). Other 2V and 6V LED indicators also available; *contact your local Newark sales office for ordering information.*

NEON INDICATORS

Stock No.	Type	Lens Color	Volts	1-24	25-99
16F796	34-0581	Red	125V	4.06	3.16
16F797	34-0582	Green	125V	5.24	4.05
16F798	34-0583	Amber	125V	4.06	3.16
16F799	34H-0581	Red	250V	4.46	3.45
INCANDESCENT INDICATORS					
16F801	34G18-0581	Red	28V	4.28	3.32
16F803	34G18-0582	Green	28V	4.28	3.32
SOLID-STATE LED INDICATORS					
16F764	L34-G12-0582	Green	12VDC	4.63	3.59
16F765	L34-R24-0581	Red	24VDC	4.63	3.59
16F766	L34-G24-0582	Green	24VDC	4.63	3.59
16F767	L34-Y24-0586	Yellow	24VDC	4.63	3.59

(2643) (ne08322)

L39UR SERIES SOLID-STATE AND 39UR SERIES NEON LED INDICATORS FOR 5/16" MOUNTING HOLE

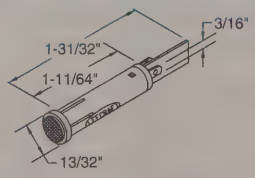


L39UR series indicators feature chrome bezels with 6" wire leads. Snap-fits 5/16" hole in panel thicknesses 0.030-0.052". Hi-hat lens. Long life, solid state reliability. **39UR series** 5/16" snap-fit panel mount indicators feature housing with snap-fit mounting ears, nickel-plated bezel, and hi-hat lens (flush style lens also available). Panel range: 0.020" minimum to 0.060" maximum. Termination: 6" wire leads, stripped 1/2". Neon indicators feature current-limiting resistors for 125V and 250V. 1/3W with 25,000-hour life. 6V, 14V, and 28V incandescent units available. Flush lens available.

Stock No.	Type	Lens Color	Volts	1- 24	25- 99
10F7476	L39UR-R12-2111	Red	12DC	6.68	4.63
10F7477	L39UR-G12-2112	Green	12DC	6.68	4.63
10F7479	L39UR-R24-2111	Red	24DC	6.68	4.63
10F7480	L39UR-G24-2112	Green	24DC	6.68	4.63
10F7481	L39UR-Y24-2116	Yellow	24DC	6.68	4.63
16F684	39UR-2111	Red	125	3.81	2.97
16F685	39UR-2112	Green	125	4.88	3.78
16F686	39UR-2113	Amber	125	3.81	2.97

(2512) (de01210)

45 SERIES NEON AND INCANDESCENT INDICATORS FOR 5/16" MOUNTING HOLE



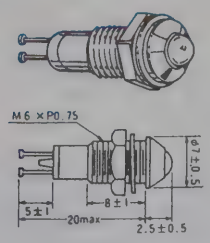
45RN series neon indicators feature hi-hat lens with bezels, and 3/16" brass tab terminals **(T3). Type 45RNG18** have 7,000-hour life at 28V; 32,000-hour life at 24V. Speed nut included. UL recognized, CSA certified. 6V, 14V and 250V units, 1/8" tab terminals, and LED units also available; *contact your local Newark sales office for details.*

125 VOLT 1/3 WATT, NEON WITH BUILT-IN RESISTOR

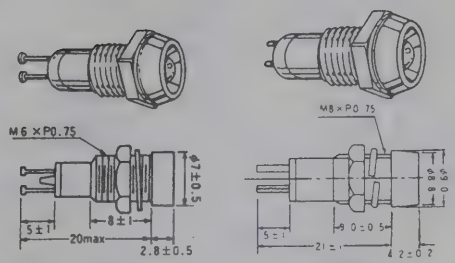
Stock No.	Type	Lens Color	Life (Hrs.)	1-24	25-99
60F3600	45RN-2111T3	Red	25,000	10.76	7.48
60F3601	45RN-2113T3	Amber	25,000	10.76	7.48
60F3602	45RN-2115T3	White	25,000	10.76	7.48
60F3610	45RNG3-2111T3	Red	10,000	11.53	8.00
28 VOLT 0.04 AMP. INCANDESCENT					
60F3616	45RNG18-2111T3	Red	7,000	11.17	7.76
60F3617	45RNG18-2112T3	Green	7,000	11.17	7.76
60F3619	45RNG18-2114T3	Blue	7,000	11.17	7.76
60F3620	45RNG18-2115T3	White	7,000	11.17	7.76

(2515) (de01214)

400 SERIES LED INDICATOR LIGHTS



406



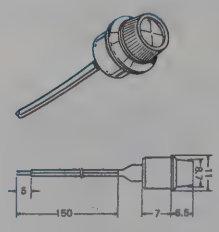
407 440

Type 406 LED indicator features macrodome lens. Voltage range from 2-24V with built-in resistor. Panel hole: 0.244″(6.2) - 2 volt models. All lamps chrome-plated brass bodies except items with **BO** in type number are black anodized brass. **Type 407** has large dish-shaped reflector around LED to produce a larger illumination area. Panel hole: 0.244″(6.2) - 2 volt models. **Types 406** and **407** 5, 12 and 24 volt models feature 0.280″ (7.11) cutout size and solder tab terminations. **Type 440** is a larger version of **type 407** to provide even greater illumination. Panel hole: 0.335″ (8.5). All types feature black anodized body.

Stock No.	Type	Color	Volts	Intensity (mcd)	1-24
35F3717	LED-406R	Red	2	0.60	5.38
87F916	LED-406R-5	Red	5	10.0	6.45
87F917	LED-406R-12	Red	12	10.0	6.45
87F918	LED-406R-24	Red	24	10.0	6.45
23F5503	LED-406RBO	Red	2	0.60	5.66
87F920	LED-406-RBO-12	Red	12	10.0	6.74
87F921	LED-406-RBO-24	Red	24	10.0	6.74
35F3720	LED-406G	Green	2	1.0	5.70
87F932	LED-406G-5	Green	5	10.0	6.88
87F933	LED-406G-12	Green	12	10.0	7.74
87F942	LED-406Y-12	Yellow	12	1.6	7.31
35F3718	LED-407R	Red	2	0.50-0.60	5.38
87F922	LED-407R-5	Red	5	10.0	6.45
87F923	LED-407R-12	Red	12	10.0	6.45
87F924	LED-407R-24	Red	24	10.0	6.45
87F925	LED-407-RBO	Red	2	0.50-0.60	5.66
87F926	LED-407-RBO-5	Red	5	10.0	6.74
87F927	LED-407-RBO-12	Red	12	10.0	6.74
87F928	LED-407-RBO-24	Red	24	10.0	6.74
50F7367	LED-407 R/G	Red/Green	2	1.0	8.31
35F3721	LED-407G	Green	2	1.0	5.70
87F936	LED-407G-5	Green	5	10.0	7.74
87F937	LED-407G-12	Green	12	10.0	7.74
87F940	LED-407-GBO-12	Green	12	10.0	7.66
35F3724	LED-407Y	Yellow	2	0.60-2.5	6.59
87F963	LED-407Y-12	Yellow	12	0.20-1.6	7.31
23F5501	LED-440G	Green	2	15.0	6.02
23F5500	LED-440R	Red	2	15.0	5.09
23F5502	LED-440Y	Yellow	2	2.50	5.78

(2517) (de01497)

100 AND 101 SERIES MODULAR INDICATOR LIGHT ASSEMBLIES



101 - Top Hat 100 - Flush

100 and 101 series assemblies are modular lights that are mounted with a rubber bushing, snap into a 9mm diameter panel cutout, without nuts or washers. 6″ (152.40) wire leads. A variety of light sources– incandescent, neon, green glow and LED– fit into the bushing. A complete color selection of lens assemblies are slipped in from the top. Lens assemblies may be mounted independently from light source and mated in the final assembly. Lens colors/light sources are interchangeable.

LAMP ASSEMBLIES

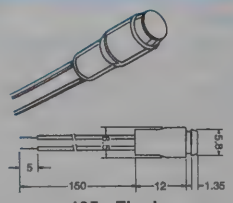
Stock No.	Type	Description	Volts	mA	Avg. Life (Hrs.)	1-24
39F3526	F614	Incandescent	12-14	80	30,000	1.98
39F3527	F628	Incandescent	24-28	40	30,000	1.98
39F3528	N5115	Neon	100-120	1.5	10,000	2.81
39F3529	G5115	Green Glow	100-120	1.5	10,000	3.59
39F3530	L617RL	Red LED	2.0 Typ	10	...	2.51
39F3543	L617GL	Green LED	1.9 Typ	10	...	2.58

LENS/BUSHING ASSEMBLIES

Flush Style Lens/100			Top Hat Style Lens/101			
Stock No.	Type	Color	Stock No.	Type	Color	1-24
39F3531	101-R	Red	39F3537	101-R	Red	1.26
39F3532	101-Y	Yellow	39F3538	101-Y	Yellow	1.26
39F3533	101-G	Green	39F3539	101-G	Green	1.26
39F3536	101-C	Clear	39F3542	101-C	Clear	1.26

(2518) (de01498)

105 SERIES MODULAR INDICATOR LIGHT ASSEMBLIES



105 - Flush

Modular design concept similar to **100/101 series** only smaller. Lens is pressed into 5mm hole in front panel without nuts or washers. T-1 lamps can be used with any lens, thus meeting technical design requirements. Light sources include incandescent or neon, and a variety of lens colors are available. 6″ (152.40) wire leads. *Order lamps separately; contact your local Newark sales office.*

LAMP ASSEMBLIES

Stock No.	Type	Description	Volts	mA	Avg. Life (Hrs.)	1-24
35F3710	F305	Incandescent	4-6	60	50,000	2.73
35F3711	F314	Incandescent	12-14	40	10,000	2.81
35F3712	F328	Incandescent	24-28	24	10,000	3.94
35F3713	N3115	Neon	100-120	1	10,000	4.37
50F7364	N3240	Neon	220-240	1	10,000	4.73

105 SERIES FLUSH STYLE LENS

Stock No.	Type	Color	1-24
35F3700	105-R	Red	0.83
35F3701	105-Y	Yellow	0.83
35F3704	105-W	White	0.83

(2519) (de01499)

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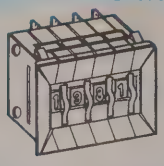
THUMBWHEELS AND INDICATOR LIGHTS

MF SERIES MINIATURE FRONT MOUNT THUMBWHEEL SWITCHES



MF series snap-in panel mounts in 1.22″H (30.99) cutout; requires no mounting hardware. Available 10- and 16-position codes. Matte black with white legend on black wheel. 1.3H x 0.312″W (33.02 x 7.92). *Order* **MCN series** *connector separately on this page. Order* **MFH series** *hardware separately; contact your local Newark sales office.*

Stock No.	Type	Description	Each
39F3304	MF-12	10-Position Decimal	15.47
39F3305	MF-21	10-Position BCD	16.85
39F3306	MF-21A	10-Position BCD Extended Board	19.75
28F1649	MF-57(0/15)	16-Position BCD Comp. 0-15	27.27
39F3311	MF-EP	Pair End Plates	3.73

(2499) (de00141)

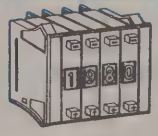
IF SERIES INTERMEDIATE FRONT MOUNT THUMBWHEEL SWITCHES

Larger version of **MF series**. **IF series** is a rugged construction front mount switch with large digits. Unit requires snap-in mounts in 1.9″ (48.26) high cutout and requires no mounting hardware. 2.125H x 0.5″W (53.98 x 12.7). *Order* **ICN series** *connector separately on this page. Order* **IH series** *hardware separately; contact your local Newark sales office.*

Stock No.	Type	Description	Each
39F3259	IF-12	10-Position Decimal	18.37
39F3261	IF-21	10-Position BCD	19.06
39F3262	IF-21A	10-Position BCD Extended Board	20.62
39F3263	IF-22	10-Position BCD Complement	23.13
39F3264	IF-22A	10-Position BCD Comp./Ext. Board	27.62
39F3267	IF-EP	Pair End Plates	5.81

(2500) (de00142)

AI SERIES PUSHBUTTON FRONT MOUNT SWITCHES



10- or 16-position **AI series** indexers are bi-directional push indexing switches, with snap-together banking. Snap-in panel mount in 1.22″ (30.99) high cutout. Pushbuttons above and below legend allow adding or subtracting from count. 1.3H x 0.312″W (33.02 x 7.92). *Order* **MCN series** *connector separately on this page.*

Stock No.	Type	Description	Each
50F7372	AI-12	10-Position Decimal	16.50
50F7381	AI-21	10-Position BCD	16.30
50F7374	AI-21A	10-Position BCD Extended Board	16.30
50F7377	AI-56(0-15)	16-Position BCD 0-15	19.89
50F7378	AI-56(0-91A-F)	16-Position BCD 0-F	19.89
50F7380	AI-EP	Pair End Plates	3.40
50F7379	AI-BB	Blank Body	2.65

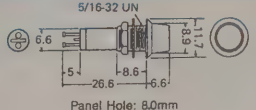
(2498) (de00140)

10-POSITION CONNECTORS

Stock No.	Type	Description	Each
28F1644	MCN-10	Fits MF, AI	13.90
28F1645	ICN-10/81954FN11	Fits IF	23.13

(2501) (de00144)

301 SERIES GLOW LAMP INDICATOR LIGHTS



Panel Hole: 8.0mm

Made of translucent plastic. Operate on 110V-120V. Average life: 10,000 hours. 1.5mA current. Circular flush lens. Panel hole: 0.315″ (8.00).

NEON LAMPS

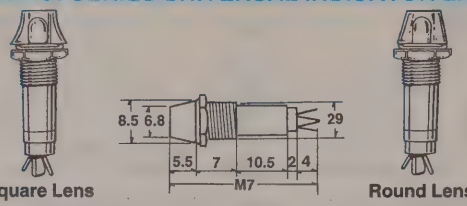
Stock No.	Type	Lens	1-24
87F892	NER-301Y	Yellow	5.16
87F896	NER-301R	Red	5.16
87F904	NERL-301R*	Red	5.23

GLOW LAMPS

Stock No.	Type	Lens	1-24
87F910	GER-301G	Green	5.59
87F914	GERL-301G*	Green	5.66

*6″ (152.40) leads.
(2658) (ne08909)

150 AND 151 SERIES UNIVERSAL INDICATOR LIGHTS



Square Lens Round Lens

150 and **151 series** indicator lights are versatile, high-impact plastic units which provide excellent visibility. Mounted in a 0.281″ (7.14) hole with nut and washer supplied. Digits after dash denote voltage.

INCANDESCENT LAMPS

Stock No.	Square Type	Stock No.	Round Type	Lens	1-24	25-49	50-99
...	...	50F7397	F151-24C	Clear	3.01	2.83	2.73
23F5509	F150-12R	23F5518	F151-12R	Red	3.01	2.83	2.73
...	...	23F5520	F151-12G	Green	3.01	2.83	2.73
23F5512	F150-24R	23F5521	F151-24R	Red	3.01	2.83	2.73
23F5513	F150-24A	23F5522	F151-24A	Amber	3.01	2.83	2.73
23F5514	F150-24G	23F5523	F151-24G	Green	3.01	2.83	2.73
...	...	50F7394	F151-12B	Blue	3.01	2.83	2.73

NEON LAMPS*

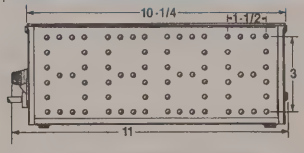
23F5524	NR150-110R	23F5527	NR151/110R	Red	4.53	4.26	4.11
23F5525	NR150-110A	23F5528	NR151/110A	Amber	4.53	4.26	4.11
23F5526	NR150-110C	23F5529	NR151/110C	Clear	4.53	4.26	4.11
50F7398	NR150-110G	50F7403	NR151-110G	Green	4.53	4.26	4.11

LED LAMPS

...		23F5542	L151-12R	Red	3.94	3.71	3.58
23F5536	L150-24R	23F5545	L151-24R	Red	3.94	3.71	3.58
23F5537	L150-24G	23F5546	L151-24G	Green	4.80	4.52	4.36
23F5538	L150-24Y	23F5547	L151-24Y	Yellow	4.80	4.52	4.36

* Also available in 220V.
(2502) (de00533)

LED DIGITAL COUNTERS



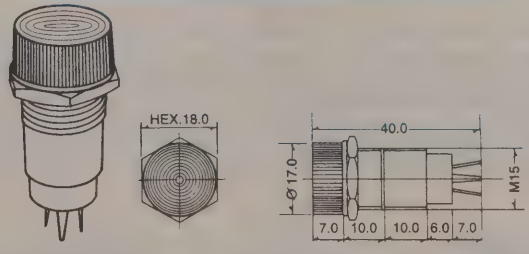
FRONT

Four 3.00″H (76.2) digits count up to 9999. Reset on separate switch closure. 115VAC, 60Hz 5 watts (1/10 amps). **Type AD350** analog-to-digital display is similar to **type DCL300**. Accepts 0 to 5VDC analog input signal. Has calibration adjustment.

Stock No.	Type	Digits	Dot Color	Each
87F968	DCL300	4	Red	402.93
87F969	AD350	3½	Red	402.93

(2503) (de00537)

1501 SERIES LARGE INDICATOR LIGHTS



1501 series indicator lights mount in 15mm panel hole with nut and washer provided. Solder terminals standard. LED light source and top hat style lens for units listed. Other lens style, colors and light sources available; *contact your local Newark sales office.*

Stock No.	Type	Lens	Volts	mA	mcd	1-99
52F9235	L1501-12G	Green	12	20	20	4.12
52F9236	L1501-24G	Green	24	20	20	4.12
52F9237	L1501-12R	Red	12	20	500	3.94
52F9238	L1501-24R	Red	24	20	500	3.94
52F9239	L1501-12Y	Yellow	12	15	3.0	4.12
52F9240	L1501-24Y	Yellow	24	15	3.0	4.12

(2659) (ne08910)

MINIATURE LAMPS AND LAMP ASSEMBLIES

INDICATOR LAMP ASSEMBLIES

Type 30151

Types 30152 and 30153

Tinnerman Clip: 0.63″ x 0.91″

Indicator lamp assemblies contain a single socket and a T-2 indicator lamp. **Type 30151** rectangular socket is UL recognized and intended for use with T-2 indicator lamp only. **Type 30153** round socket is also compatible with T-2 lamps and additionally can be used with either polycarbonate of pyrex end caps or square or round lens caps. Single socket assemblies are supplied with 0.63″ x 0.91″ tinnerman clips that hold the assemblies firmly to the panel. Single socket assemby dimensions — Socket: 1.14″ (28.96) M.O.L. Mounting Hole: 0.50″ (12.70 diameter, Lenses (round and square): 0.70″ x 0.48″ (17.78 x 12.19) high. **T-2 indicator lamps sold in packages of 10.**

SINGLE SOCKET FOR T-2 SLIDE BASE

Type 30152 assembly dimensions — Socket: 1.31″ (33.27) M.O.L. Mounting Hole: 0.50″ (12.70) diameter. Lenses (round and square): 0.70″ x 0.48″ (17.78 x 12.19) high. *Select T-2 lamp and either a polycarbonate or pyrex end cap or a lens cap to comprise complete lamp assembly; contact your local Newark sales office.* **Sold in packages of 10.**

Type SGL/SKT/30152 single socket assembly for T-2 slide base pilot lamp.

35F2815 Type SGL/SKT/30152. **Each** **1.57**

SINGLE SOCKETS FOR USE WITH T-2 INDICATOR LAMP ASSEMBLIES

Stock No.	Type	Description	Each
35F2898	30151	Rectangular Flange Socket for T-2 Lamp	0.82
35F2816	30153	Round Flange Socket for T-2 Lamp	0.77

T-2 INDICATOR LAMPS FOR 30151 AND 30153 ASSEMBLIES

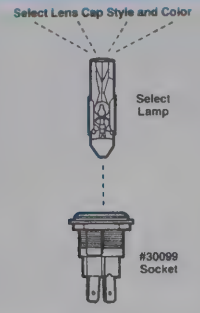
Stock No.	Type	Volts	Amps	Life Hours	EFC	Each
96F6544	16ESB	16.0	0.040	7,500	800	15.43
96F6619	24CSB	24.0	0.017	15,000	100	17.80
96F6621	24ESB	24.0	0.040	8,000	850	15.43
96F6628	28ESB	28.0	0.040	6,000	1,500	14.17
96F6662	48ESB	48.0	0.040	5,000	3,000	13.61

SQUARE LENS CAPS FOR 30151, 30152, 30153 ASSEMBLIES

Stock No.	Type	Lens Color	Each
35F2823	30170	Red	0.71
35F2827	30174	Green	0.71

(14430) (ne10404)

UNIVERSAL LAMP HOUSING FOR PILOT LAMP

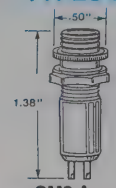


Type 30099 assembly dimensions -- Socket: 0.91″ (23.11) (front of panel to end of terminals). Mounting Hole: 0.719″ (18.26) diameter. Lenses: 0.63″ (16.00) diameter, 0.38″ (9.65) height. *Select T-2 lamp and lens cap to comprise complete lamp assembly on page 571.*

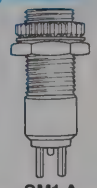
Type PLH/30099 universal lamp housing for T-2 slide base pilot lamp.

35F2829 Type PLH/30099. **Each** **2.44**
(2580) (de08326)

TYPES SM1A, SM2A



SM2 A
30096 Socket


SM1 A
30098 Socket

SMA SOCKETS FOR USE WITH SM1 INDICATOR LAMPS

Stock No.	Type	Length	Mount	Terminals	Each
35F2934	SM1A/30098	1.17″	0.372″	Solder	6.36

SMA SOCKETS FOR USE WITH SM2 PILOT LAMPS

Stock No.	Type	Length	Mount	Terminals	Each
35F2936	SM2A/30096	1.38″	0.372″	Solder	6.36

T-2 INDICATOR LAMPS FOR USE WITH SM1A SOCKETS

Stock No.	Type	Volts	Amps	Life (Hrs.)	Each
96F6723	918IC	12	.040	10,000	27.61
96F6724	926IC	16	.040	7,500	20.29
96F6725	933IC	24	.017	15,000	27.05
96F6727	934IC	24	.040	8,000	27.05
96F6728	938IC	28	.040	6,000	27.05

T-2 PILOT LAMPS FOR USE WITH SM2A SOCKETS

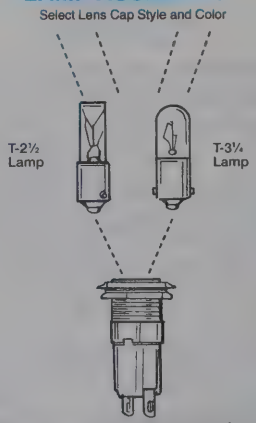
Stock No.	Type	Volts	Amps	Life (Hrs.)	Each
96F6679	6PC	6	.140	20,000	24.71
96F6571	12PC	12	2.0	12,000	25.07
96F6623	24PC	12	1.7	10,000	25.07
96F6630	28PC	12	1.1	5,000	22.89
96F6578	120PC	12	3.0	7,500	21.97

LENSES FOR TYPES SM1A, SM2A

Stock No.	Transparent Type	Stock No.	Translucent Type	Lens Color	Each
35F2938	30141	...	...	Clear	1.47
35F2939	30142	35F2942	30147	Red	1.47
35F2941	30144	35F2944	30149	Green	1.47

(14429) (ne10405)

TYPE 31099 T-2½ OR T-3¼ MINIATURE BAYONET BASE LAMP ASSEMBLY



Select Lens Cap Style and Color

Type 31099 assembly dimensions -- Socket: 1.68″ (42.67) (front of panel to end of terminals). Mounting Hole: 0.719″ (18.26) diameter. Lenses: 0.63″ (16.00) diameter, 0.38″ (9.65) height. *Select T-2½ or T-3¼ lamp and lens cap to comprise complete lamp assembly on page 571.*

Type PLH/BAY/31099 universal lamp housing for miniature bayonet base lamps.

44F1326 Type PLH/BAY/31099. **Each** **5.09**
(2581) (de08327)

THIS NEWARK CATALOG IS AVAILABLE ON CD-ROM!
CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR DETAILS.

MINIATURE, AV AND HIGH-INTENSITY LAMPS

MINIATURE LAMPS

OSRAM SYLVANIA

Lamps are listed by type number. Refer to drawings on product selector guide at the beginning of the section. **Sold in packages of 10 except (*) which are packages of 24 and (**) which are sold individually;** *please contact your local Newark sales office.*

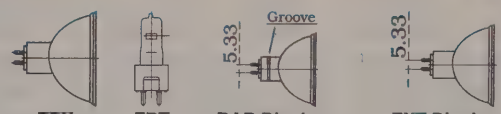
Stock No.	Type	Volts	Amps	Life Hours	Size	Fig.	Per Pkg.
96F6559	10C7-115	115/125	10W	10,000	C7	34	17.25
96F6563	10S6/10230V	115/120	6W	1,500	S6	19	33.59
96F6565	1156	12.8	2.10	1,200	S8	20	11.07
96F6567	12	6.3	.150	5,000	G3-½	33	11.07
96F6574	12RB	12.0	0.17	12,000	...	31	35.41
96F6576	120MB	120	.025	7,500	T2-½	7	16.88
96F6577	120MB/6	120.0	.052	3,000	T2-½	23	16.72
96F6580	120PSB	120	.025	7,500	T2	29	10.90
96F6573	12PSB*	12	.170	12,000	T2	29	7.80
96F6575	12RC	12	.170	12,000	T2	32	36.50
96F6586	1487	14	.2	3,000	T3-¼	3	14.54
96F6544	16ESB	16	.040	7,500	T2	29	15.43
96F6589	1815	14	.200	3,000	T3-¼	7	11.80
96F6658	44	13	.330	1,000	T3-¼	7	5.09
96F6591	1819	28	.040	2,500	T3-¼	7	9.09
96F6592	1820	28	.100	1,000	T3-¼	7	9.09
96F6593	1822	36	.100	1,000	T3-¼	7	24.34
96F6595	1829	28	.070	1,000	T3-¼	7	7.07
96F6596	1835	55	.050	5,000+	T3-¼	7	16.52
96F6599	1864	28	.170	1,500	T3-¼	7	10.18
96F6603	194	14	.270	2,500	T3-¼	6	5.62
95F9246	2005	13	12W	30	HAL/T2¼	38	7.45
95F9245	211-2	12.8	.97	1,000	T3	36	1.24
96F6617	2187	28	.040	7,000	T1-¾	18	6.35
96F6618	222	2.25	.250	5	TL3	9	10.18
96F6620	24E	24	.035	7,000	T2	30	8.72
96F6622	24MB	24	.070	10,000	T2-½	23	16.16
96F6624	24PSB	24	.073	10,000	T2	29	7.80
96F6625	24X	24.0	.035	8,000	T2	...	9.28
92F2668	2741	24	.05	1,000	T1-¾	6	8.00
96F6628	28ESB	28	.040	6,000	T2	29	14.17
96F6629	28MB	28	.040	5,000	T2-½	23	17.08
96F6632	28PSB	28	.040	5,000	T2	29	7.80
96F6639	313	28	.170	500	T3-¼	7	16.16
96F6642	327	28	.040	4,000	T1-¾	5	5.98
96F6643	328	6.0	.200	1,000	T1-¾	5	7.44
96F6644	330	14	.800	1,500	T1-¾	5	21.80
96F6645	334	28	.040	4,000	T1-¾	10	13.81
96F6651	382	14	.080	15,000	T1-¾	5	9.45
96F6652	385	28	.040	10,000	T1-¾	5	11.07
96F6653	386	14	.080	15,000	T1-¾	10	14.17
96F6654	387	28	.040	7,000	T1-¾	5	5.98
96F6655	388	28	.040	7,000	T1-¾	10	13.45
96F6633	3S6/5 120V	120	3W	...	S6	19	29.23
96F6657	40S11N LAMP	115-125	40W	500	S11	35	33.96
96F6659	464	28	.170	1,500	T3-¼	6	10.18
96F6661	48C	48	.035	7,000	T2	30	15.07
96F6664	48PSB	48	.050	10,000	T2	29	12.16
96F6674	53	14.4	.120	1,000	G3-½	8	9.62
96F6675	55	7.0	.410	500	G4-½	8	10.18
96F6677	56	5.0	.115	20,000	T1-¾	5	9.09
96F6688	60MB	60	.050	7,500	T2-½	23	17.44
96F6690	60PSB	60	.050	...	T2	29	15.43
92F2702	64111	12	5W	240	HAL/T2¾	39	63.02
95F9261	64151	12	55W	225	HAL/T3¼	...	4.58
99F6291	64156	24	70	225	...	...	85.91
96F6693	656	28	.060	2,500	T3-¼	6	7.63
96F6694	657	28	.080	7,500	T3-¼	6	7.63
96F6695	658	14	.080	15,000	T3-¼	6	9.09
96F6680	6PSB	6.0	.140	550	T2	29	15.07
96F6682	6S6 120V	120	.05	1,500	S6	19	12.16
96F6685	6S6-145V=	145	6W	1,500	S6	19	29.60
96F6683	6S6 155VOLT	155	6W	1,500	S6	19	29.60
96F6686	6S6DC 120V	120	6W	1,500	S6	13	16.72
96F6701	73	14	.080	15,000	T1-¾	6	7.63
96F6704	7382	14	.080	15,000	T1-¾	17	11.80
96F6705	7387	28	.040	7,000	T1-¾	17	10.71
96F6707	755	6.3	.150	20,000	T3-¼		5.26
96F6708	756	14	.080	15,000	T3-¼	7	12.72
96F6709	757	28	.080	7,500	T3-¼	7	8.00
96F6711	79	6.0	.200	1,000	T1-¾	6	8.72
96F6713	85	28	.040	7,000	T1-¾	6	4.00
96F6714	86	6.3	.200	20,000	T1-3/4	6	5.26
96F6716	90	13	.580	750	G6	13	13.25
96F6722	912	12.8	1.00	1,000	T5	6	12.36
96F6725	93	12.8	1.040	700	S8	12	12.72
96F6551	NE-2H/C2A	...	...	25,000	NEON/T2	28	7.07
96F6554	NE51H-B2A	...	...	20,000	NEON/T3¼	7	9.25
96F6557	PR2	2.38	.500	15	B3-½	1	7.63

‡ Special prick punch base

(10024) (de04100)

AUDIO VISUAL, DENTAL AND MR-16 DISPLAY LAMPS

WIKO



EPV FDT BAB Display EXT Display

ANSI coded lamps: A/V lamp applications incl. slide and filmstrip projectors, overhead projectors (OHP) and viewers. Dental lamp applications incl. dental examination and operatory equipment. MR16 display lamps are 12V rim-mount halogen and provide cost effective white light and constancy of color. Smooth light-beam performance and GU5.3 base (IEC standard) compatible with MR16 sockets. Bulb: T-3. MR16 units listed (except **type ENL**) available with front glass; *contact your local Newark sales office.*

A/V LAMPS

Stock No.	Type	Volts	Watts	Description	Each
96F4327	BLC	120	30	Viewer	8.82
96F4328	BRL	12	50	Projector	13.64
96F4330	DDL	20	150	Microfilm	26.30
97F9349	DYS/DYV/BHC	120	600	OHP	25.39
92F5211	DZE	24	150	Microfilm	20.87
96F4333	EFR	15	150	8mm	47.16
96F4334	EHJ	24	250	Slide	31.30
96F4335	EJA	21	150	Fiber Opt.	43.03
96F4336	EJY	19	80	Proj./Fiber Opt.	45.69
96F4337	EKE	21	150	8mm	40.50
66F5943	EKZ	10.8	30	Projector	42.47
97F9350	ELC	24	250	16mm/Printer	29.88
97F9351	ELH	120	300	Slide	30.62
97F9352	ENH	120	250	Slide/Video	46.77
97F9353	ENX	82	360	OHP	32.14
83F4209	ENX-5	86	360	Projector	30.59
96F4343	ESB/FHE	6	20	Projector	18.36
97F9354	EVD	36	400	OHP	41.00
97F9356	EYB	82	360	OHP	26.07
83F4210	EYB-5	86	360	Projector	24.81
96F4339	FCR	12	100	Proj./Video	16.60
96F4330	DDL	24	150	Projector	26.30
83F4211	FLK	115	575	Stage/Studio	69.95
16F674	FXL	82	410	Projector	28.20

DENTAL LAMPS

96F4351	EPV	14.5	90	GX5.3	25.42
96F4350	FDT	12	100	GY9.5 Base	20.28
83F4212	JCR/M12V75W	12	75	G5.3 Base	41.70
83F4213	JCR/M14V35W	12	35	GZ4, Base	45.99
83F4214	WQ150T4/CL/25	12	150	R7s Base	26.72

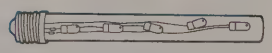
MR16 DISPLAY LAMPS

Stock No.	Type	Volts	Watts	Description	Each
16F675	BAB	12	20	Flood	7.02
16F681	EXN	12	50	Flood	7.02
16F670	EYF	12	75	Narrow Spot	7.02
16F677	EYP	12	42	Flood	7.02

(2612) (de52848)

EXIT SIGN REPLACEMENT LAMP

WIKO



Exit Miser exit sign replacement lamps are available in all base sizes. 5W @ 115 volts. Circuit voltage: 110/130V AC. Overall length: 6". 150,000 hours useful life. Will not scorch or blacken exit sign diffuser.

Stock No.	Type	Base	Each
83F4216	EM-CS	Candelabra Screw	41.49
83F4217	EM-M	Medium Screw	41.49
83F4215	EM-DCB	Double Contact Bayonet	41.49
97F9359	EM-IM	Intermediate Screw	43.59

(2578) (de04409)

DOUBLE-ENDED HALOGEN LAMPS

WIKO

Bulb size: 4 11/16. First part of type indicates watts, second indicates volts.

Stock No.	Type	Stock No.	Type	Each
96F4370	WQ200T3/CL/120	96F4375	WQ500T3/CL/120	6.86
96F4372	WQ300T3/CL/120	96F4376	WQ500T3/CL/130	6.86

(2530) (de02656)

PANEL LENSES AND INTERCONNECTS

CLIPLITE® & CUBELITE® LENS MOUNTS FOR T1 & T1¾ LEDS

SML190 SMB200 SPC125 CLF280 CLB300

Standard and low profile, provide 180 degrees viewing angle. Colors: red, green, amber, yellow and clear. Hole size T1, 0.171″, on 0.250″ centers. Panel thickness T1: **SML190**, 0.031-0.062″; **SMB200**, 0.062-0.125″. Hole size T1¾, 0.250″ on 0.375″ centers. Panel thickness, **CLF280**, 0.062-0.125″. **CLB300**, 0.031-0.0250″. *Order spacer* **SPC125** *for use with* **CLB** *on panels less than 0.188″.* **Sold in packages of 10 and 1000.** (Add **suffix PKG** to type number when ordering packages of 10.) *Order lenses and mounts separately; contact your local Newark sales office.*

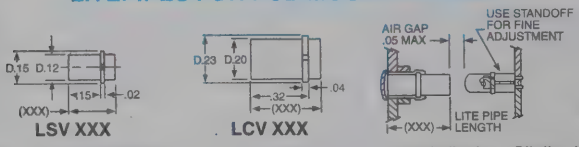
Type	Color	Stock No.	Pkg. of 10 1-4	Pkg. of 10 5-9	Stock No.	Pkg. of 1000 1-4	Pkg. of 1000 5-9
SML190RTP	Red	50F6517	2.39	2.27	50F6612	170.16	135.20
SML190ATP	Amber	50F6519	2.39	2.27	50F6614	170.16	135.20
SML190GTP	Green	50F6518	2.39	2.27	50F6613	170.16	135.20
SML190YTP	Yellow	50F6520	2.39	2.27	50F6615	170.16	135.20
SML190CTP	Clear	50F6521	2.39	2.27	50F6616	170.16	135.20
SMB200RTP	Red	50F6522	2.39	2.27	...	...	...
SMB200ATP	Amber	50F6524	2.39	2.27	50F6619	170.16	135.20
SMB200GTP	Green	50F6523	2.39	2.27	50F6618	170.16	135.20
SMB200YTP	Yellow	50F6525	2.39	2.27	50F6620	170.16	135.20
SMB200CTP	Clear	50F6526	2.39	2.27	50F6621	170.16	135.20
CLF280RTP	Red	50F6497	2.61	2.49	50F6592	181.50	146.02
CLF280ATP	Amber	50F6499	2.61	2.49	50F6594	181.50	146.02
CLF280GTP	Green	50F6498	2.61	2.49	50F6593	181.50	146.02
CLF280YTP	Yellow	50F6500	2.61	2.49	50F6595	181.50	146.02
CLF280CTP	Clear	50F6501	2.61	2.49	50F6596	181.50	146.02
CLB300RTP	Red	50F6502	2.61	2.49	50F6597	181.50	146.02
CLB300ATP	Amber	50F6504	2.53	2.42	50F6599	181.50	146.02
CLB300GTP	Green	50F6503	2.61	2.49	50F6598	181.50	146.02
CLB300YTP	Yellow	50F6505	2.61	2.49	50F6600	181.50	146.02
CLB300CTP	Clear	50F6506	2.61	2.49	50F6601	181.50	146.02

SPC 125 SPACER

Use with **CLB** lens mount on panels <0.188″. **Sold in packages of 10 and 1000.**

50F6590 Type SPC 125 PKG **Pkg. of 10 Each** 0.57
50F6591 Type SPC 125 **Pkg. of 1000 Each** 34.03
(2547) (de03086)

LITEPIPES FOR PCB MOUNTED LEDs



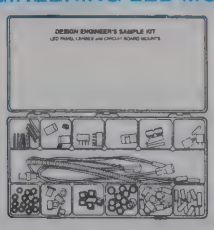
LSV XXX LCV XXX

Designed to transmit light from PCB mounted LED to panel display. Cliplite lenses provide the mounting for Litepipes and produce a 180° viewing angle. Use **SMC170** for **LSV** (3mm) litepipe and **CLB300** for **LCV** (5mm) litepipe. For added security use retaining rings **RNG165** (3mm) and **RNG 268** (5mm). **Sold in packages of 10 and 1000. Add suffix PKG to type number when ordering packages of 10.**

Type	Color	Stock No.	Pkg. of 10 1-4	Pkg. of 10 5-9	Stock No.	Pkg. of 1000 1-4	Pkg. of 1000 5-9
LSV020CTP	Clear	48F4139	2.96	2.83	48F4127	208.24	167.20
LSV040CTP	Clear	48F4140	2.96	2.83	48F4128	208.24	167.20
LSV060CTP	Clear	48F4141	2.96	2.83	48F4129	208.24	167.20
LSV080CTP	Clear	48F4142	2.96	2.83	48F4130	208.24	167.20
LSV100CTP	Clear	48F4143	2.96	2.83	48F4131	208.24	167.20
LSV120CTP	Clear	48F4144	2.96	2.83	48F4132	208.24	167.20
LCV036CTP	Clear	48F4145	2.96	2.83	48F4133	208.24	167.20
LCV056CTP	Clear	48F4146	2.96	2.83	48F4134	208.24	167.20
LCV076CTP	Clear	48F4147	2.96	2.83	48F4135	208.24	167.20
LCV096CTP	Clear	48F4148	2.96	2.83	48F4136	208.24	167.20
LCV116CTP	Clear	48F4149	2.96	2.83	48F4137	208.24	167.20
LCV136CTP	Clear	48F4150	2.96	2.83	48F4138	208.24	167.20

(38270) (ne38270)

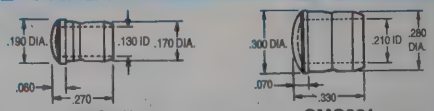
DESIGN ENGINEERING LED MOUNTING KIT



Hardware includes panel lenses, litepipes, mounts, solderless panel connectors, PCB mounts, sockets (vertical and right angle), locking headers, and standoffs. Kit also contains prewired solderless interconnect assemblies for 3mm and 5mm LEDs.

16F6495 Type KIT (LED Mounting Kit). **Each** 25.22
(2640) (ne08303)

CLIPLITE® PANEL LENSES FOR PCB MOUNTED LEDs



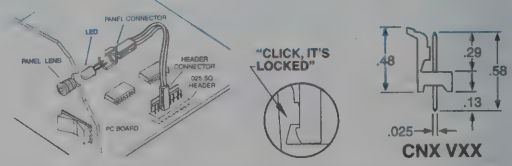
SMC170 CMC321

T1 and T1¾ size low profile panel lenses provide 180° viewing angle. **SMC170** for T1 LEDs. Hole size: 0.171″ on 0.250″ centers, panel thickness 0.031″-0.090″. **CMC321** for T1¾ LEDs. Hole size: 0.283″ on 0.375″ centers, panel thickness 0.031″-0.125″. Use retaining ring **RNG165** for **SMC170** and **RNG268** for **CMC321**.**RNG234** internal diameter 0.270″ (0.36″ external). Length: 0.08″. **RNG165** internal diameter 0.165″ (0.240″ external). Length: 0.50″. **Sold in packages of 10 and 1000.** (Add **suffix PKG** to type number when ordering packages of 10.) Also available in blue.

Type	Color	Stock No.	Pkg. 10 1-4	Pkg. 10 5-9	Stock No.	Pkg. 1000 1-4	Pkg. 1000 5-9
SMC170RTP	Red	92F3261	2.39	2.27	92F3262	170.16	135.20
SMC170ATP	Amber	92F3263	2.39	2.27	92F3264	170.16	135.20
SMC170GTP	Green	92F3265	2.39	2.27	92F3266	170.16	135.20
SMC170YTP	Yellow	92F3267	2.39	2.27	92F3268	170.16	135.20
SMC170CTP	Clear	92F3278	2.39	2.27	92F3279	170.16	135.20
CMC321RTP	Red	92F3269	2.61	2.49	92F3270	181.50	146.02
CMC321ATP	Amber	92F3271	2.61	2.49	92F3272	181.50	146.02
CMC321GTP	Green	92F3273	2.61	2.49	92F3274	181.50	146.02
CMC321YTP	Yellow	92F3275	2.61	2.49	92F3276	181.50	146.02
CMC321CTP	Clear	92F3277	2.61	2.49	92F3260	181.50	146.02
RNG165	Black	92F1276	0.57	0.54	92F1277	34.03	32.45
RNG234	Black	16F6482	0.57	0.54	...	...	...

(2566) (de03652)

CONXRITE® INTERCONNECTS WITH LOCKING HEADERS



CNX VXX

Designed to replace labor-intensive hard-wiring of panel-mounted LEDs to PCB. **Type CNXBE** and **CNXBX** connector assemblies use SMC 170 (3mm) lens; **type CNXCE** and **CNXCX** connector assemblies use a CMC 321 (5mm) lens. *Order lenses separately; contact your local Newark sales office.* Thin panels (0.032″) use retaining ring **type RNG 132** for 3mm and **type RNG 234** for 5mm assemblies. **CNXBE** and **CNXCE** designates unit is supplied with panel and header connector. **BX** and **CX** designates unit is supplied with panel connector and bare wire leads. **CHXV** and **H** series locking headers provide positive locking between PCB and interconnect assmebly. **Products listed are sold in packages of 10. Packages of 1000 are also available; order same type without "PKG" suffix.**

Stock No.	Type	Length	Pkg. of 10 1-4	5-9	10-49	50-99
16F6471	CNXBE2104PKG	4″	18.72	17.85	15.92	14.14
16F6472	CNXBE2108PKG	8″	18.72	17.85	15.92	14.14
16F6473	CNXBE2112PKG	12″	18.72	17.85	15.92	14.14
16F6474	CNXBE2118PKG	18″	21.90	20.88	18.62	16.61
16F6475	CNXBE2124PKG	24″	27.34	26.07	23.25	20.57
48F4151	CNXBX2104PKG	4″	11.95	11.39	9.97	8.83
48F4152	CNXBX2108PKG	8″	11.95	11.39	9.97	8.83
48F4153	CNXBX2112PKG	12″	11.95	11.39	9.97	8.83
48F4154	CNXBX2118PKG	18″	13.70	13.07	11.43	10.15
48F4155	CNXBX2124PKG	24″	17.87	17.04	14.90	13.20
16F6476	CNXCE2104PKG	4″	18.72	17.85	15.92	14.14
16F6477	CNXCE2108PKG	8″	18.72	17.85	15.92	14.14
16F6478	CNXCE2112PKG	12″	18.72	17.85	15.92	14.14
16F6479	CNXCE2118PKG	18″	21.90	20.88	18.62	16.61
16F6480	CNXCE2124PKG	24″	27.34	26.07	23.25	20.57
48F4156	CNXCX2104PKG	4″	11.95	11.39	9.97	8.83
48F4157	CNXCX2108PKG	8″	11.95	11.39	9.97	8.83
48F4158	CNXCX2112PKG	12″	11.95	11.39	9.97	8.83
48F4159	CNXCX2118PKG	18″	13.70	13.07	11.43	10.15
48F4160	CNXCX2124PKG	24″	17.87	17.04	14.90	13.20
16F6481	RNG132PKG	...	0.57	0.54	0.49	0.43
16F6482	RNG234PKG	...	0.57	0.54	0.54	...

Stock No.	Type	Mounting	Pkg of 10 1-4	5-9
48F4161	CNXV02NTP PKG	Vertical 2-Pin	2.42	2.30
48F4162	CNXV03NTP PKG	Vertical 3-Pin	3.62	3.45
48F4163	CNXH02NTP PKG	Horizontal 2-Pin	2.74	2.62
48F4164	CNXH03NTP PKG	Horizontal 3-Pin	4.11	3.92

(2641) (ne08304)

LED ASSEMBLIES AND ACCESSORIES

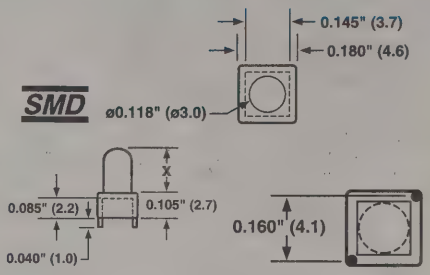
VERTICAL SMD LED LIGHT PIPES

NEW

VLP series light pipes are ideally suited for applications where light from a SMD LED needs to be carried directly to a front panel or enclosure. Pipes are engineered of 94V-0 rated clear polycarbonate material for maximum light transmission. Light pipes will also protect circuits from accidental damage from ESD by isolating the PCB from potential contact. Face type: **suffix R in type number** = round, **suffix F** = flat. *Additional elevations available; contact your local Newark sales office.* **Sold in packages of 100**

Stock No.	Type	Overall Height	X = Height	1-4	5-9
83F7217	VLP-200-R	0.200″ (5.1)	0.095″ (2.4)	21.91	18.31
83F7218	VLP-200-F	0.200″ (5.1)	0.095″ (2.4)	21.91	18.31
83F7219	VLP-250-R	0.250″ (6.4)	0.145″ (3.7)	21.91	18.31
83F7220	VLP-250-F	0.250″ (6.4)	0.145″ (3.7)	21.91	18.31
83F7221	VLP-300-R	0.300″ (7.6)	0.195″ (5.0)	21.91	18.31
83F7222	VLP-300-F	0.300″ (7.6)	0.195″ (5.0)	21.91	18.31
83F7223	VLP-350-R	0.350″ (8.9)	0.245″ (6.2)	23.66	19.78
83F7224	VLP-350-F	0.350″ (8.9)	0.245″ (6.2)	23.66	19.78
83F7225	VLP-400-R	0.400″ (10.2)	0.295″ (7.5)	23.66	19.78
83F7226	VLP-400-F	0.400″ (10.2)	0.295″ (7.5)	23.66	19.78
83F7227	VLP-450-R	0.450″ (11.4)	0.345″ (8.8)	23.66	19.78
83F7228	VLP-450-F	0.450″ (11.4)	0.345″ (8.8)	23.66	19.78
83F7229	VLP-500-R	0.500″ (12.7)	0.395″ (10.0)	23.66	19.78
83F7230	VLP-500-F	0.500″ (12.7)	0.395″ (10.0)	23.66	19.78

(35988) (ne35988)



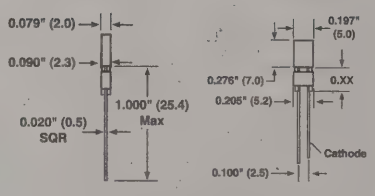
VERTICAL RECTANGULAR LED ASSEMBLIES

NEW

RL series LED assemblies reduce assembly time and improve quality by providing uniform elevation and spacing. Use with 2 x 5mm LEDs. **Suffix RD** in type number=red, **suffix GD**=green, **suffix YD**=yellow and **suffix BC**=red/green. Typ. 1F:10mA. **Sold in Packages of 100.**

Stock No.	Type	Peak (nm)	T. VF	T. mcd	1-4	5-9
83F7271	RL1-100-5RD	660	1.7	1.5	42.98	39.91
83F7272	RL1-100-5GD	565	2.2	3.0	44.52	41.34
83F7273	RL1-100-5YD	585	2.1	3.0	47.88	44.46
83F7274	RL1-100-5BC	635-565	2.0	4.5	65.80	61.10
83F7275	RL1-150-5RD	660	1.7	1.5	42.98	39.91
83F7276	RL1-150-5BC	635-565	2.0	4.5	65.80	61.10
83F7277	RL1-200-5RD	660	1.7	1.5	42.98	39.91
83F7278	RL1-200-5GD	565	2.2	3.0	44.52	41.34
83F7279	RL1-200-5YD	585	2.1	3.0	47.88	44.46
83F7280	RL1-200-5BC	635-565	2.0	4.5	65.80	61.10
83F7281	RL1-250-5RD	660	1.7	1.5	42.98	39.91
83F7282	RL1-250-5GD	565	2.2	3.0	44.52	41.34
83F7283	RL1-250-5YD	585	2.1	3.0	47.88	44.46
83F7284	RL1-250-5BC	635-565	2.0	4.5	65.80	61.10
83F7285	RL1-300-5RD	660	1.7	1.5	42.98	39.91
83F7286	RL1-300-5GD	565	2.2	3.0	44.52	41.34
83F7287	RL1-300-5YD	585	2.1	3.0	47.88	44.46
83F7288	RL1-300-5BC	635-565	2.0	4.5	65.80	61.10

(35989) (ne35989)

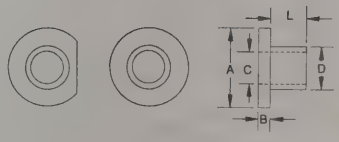


HIGH TEMPERATURE SHOULDER WASHERS

Works with style TO-3, TO-3P, TO-66, TO-218, TO-220 and TO-247 insulators; *ordered separately.* Max. service temperature: 260°C. **Sold in packages of 100.**

Stock No.	Type	Dimensions					1-4	5-9	10-49
		A	B	C	D	L			
16F4714	SW-125-150	0.280″ (7.11)	0.042″ (1.07)	0.112″ (2.84)	0.150″ (3.81)	0.125″ (3.2)	16.12	13.47	9.79
16F4715	SW-185-150	0.280″ (7.11)	0.042″ (1.07)	0.112″ (2.84)	0.150″ (3.81)	0.185″ (4.70)	16.12	13.47	9.79
16F4716	SW-125-140	0.280″ (7.11)	0.042″ (1.07)	0.112″ (2.84)	0.140″ (3.56)	0.125″ (3.18)	16.12	13.47	9.79
16F4717	SW-031-190	0.312″ (7.92)	0.047″ (1.19)	0.146″ (3.71)	0.190″ (4.83)	0.031″ (0.79)	16.12	13.47	9.79
16F4718	SW-031-177	0.312″ (7.92)	0.047″ (1.19)	0.144″ (3.66)	0.177″ (4.50)	0.031″ (0.79)	16.12	13.47	9.79
16F4719	SW-031-145	0.280″ (7.11)	0.047″ (1.19)	0.118″ (3.00)	0.145″ (3.68)	0.031″ (0.79)	16.12	13.47	9.79
16F4720	SW-032-135	0.215″ (5.46)	0.040″ (1.02)	0.116″ (2.95)	0.135″ (3.43)	0.032″ (0.81)	16.12	13.47	9.79

(2850) (ne08387)



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Electronic Terms and Measurements

Resistance
Opposition to current flow. Basic unit is the ohm (Ω).

1 kilohm — kΩ	1,000 or $1x10^3$ ohms
1 Megohm — MΩ	1,000,000 or $1x10^6$ ohms

Voltage
Electromotive force. Basic unit is the volt (V).

1 millivolt — mV	1/1,000 or $1x10^{-3}$ volt
1microvolt — µV	1/1,000,000 or $1x10^{-6}$ volt

Current
Movement of electricity. Basic unit is the ampere (A).

1 milliampere — mA	1/1,000 or $1x10^{-3}$ ampere
1 microampere — µA	1/1,000,000 or $1x10^{-6}$ ampere

Frequency
Number of cycles per second. Basic unit is the hertz (Hz).

1 kilohertz — kHz	1,000 or $1x10^3$ hertz
1 Megahertz — MHz	1,000,000 or $1x10^6$ hertz
1 Gigahertz — GHz	1,000,000,000 or $1x10^9$ hertz

Time
Basic unit is the second (s).

1 millisecond — ms	1/1,000 or $1x10^{-3}$ second
1 microsecond — µs	1/1,000,000 or $1x10^{-6}$ second
1 nanosecond — ns	1/1,000,000,000 or $1x10^{-9}$ second

Temperature Conversion

°C	°F
100	212
80	175
60	140
40	105
35	95
30	85
25	75
20	70
15	60
10	50
5	40
0	32

Conversion Table

Metric to U.S.	U. S. to metric
1 centimeter = 0.39 inch	1 inch = 2.54 centimeters
1 millimeter = 0.039 inch	1 inch = 25.4 millimeters
1 meter = 3.28 feet	1 foot = 0.305 meter
1 gram = 0.035 ounce	1 ounce = 28.35 grams
1 kilogram = 2.2 pounds	1 pound = 454 grams
1 milliliter = 0.034 fl. ounce	1 pound = 0.45 kilogram
1 liter = 0.264 gallon	1 fl. ounce = 29.57 milliliters
	1 gallon = 3.79 liters

Operating Life for Capacitors

Where operating life is given at a certain temperature, for every drop of 10°C life expectancy will double.

If life expectancy is 1,000 hours at 105°C
this would double to 2,000 hours at 95°C
and double again to 4,000 hours at 85°C

NEWARK ELECTRONICS®

Optoelectronics, LEDs & Displays

Pages 578—600

12

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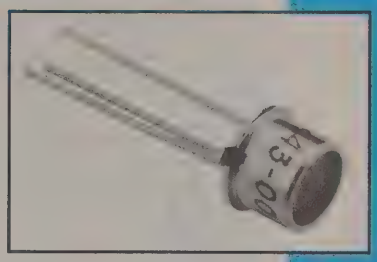

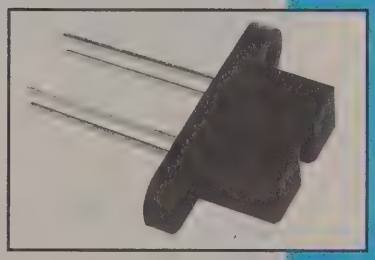

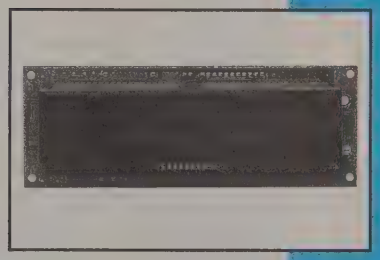

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OPTOCOUPLERS

HIGH-SPEED TRANSISTOR OUTPUT OPTOCOUPLERS

1MBd TRANSISTOR OUTPUT

Fig. 1

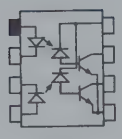


Fig. 2

Type	Fig.	I_F (mA)	CTR Min. (%)	t_{PROP} (µs)	CMR Min. (V/µs)	Package	1-9	10-24	25-99
6N135	1	16	7	2	1000	PDIP	1.56	1.39	1.24
HCPL-0453	1*	16	7	1	15k	S0-8	2.39	2.13	1.89
HCNW136	1	16	19	1	1000	PDIP (400 mil)	1.95	1.74	1.54
HCPL-4502	1	16	19	1	100	PDIP	1.63	1.45	1.29
HCPL-4503	1	16	19	1	15k	PDIP	2.19	1.95	1.74
HCPL-4504	1	12	26	1	10k	PDIP	2.28	2.05	1.83
HCPL-J454	1	12	26	1	10k	PDIP	3.10	2.79	2.48
HCPL-4506†	1	10	44	0.4	15k	PDIP	2.85	2.57	2.28
HCPL-2530	2	16	7	2	1000	PDIP (Dual Channel)	3.31	2.98	2.65
HCPL-0530	2	16	7	1	1k	S0-8 Dual	3.58	3.22	2.87
HCPL-2531	2	16	19	1	1000	PDIP (Dual Channel)	3.47	3.12	2.78
HCPL-0531	2	16	19	1	1k	S0-8 Dual	3.76	3.39	3.01

*PIN 7 not connected. †630 V Peak VDE 0884 with option 060
(9464)

(ne08779)

HIGH-SPEED DARLINGTON OUTPUT OPTOCOUPLERS

100kBd DARLINGTON OUTPUT

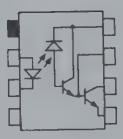


Fig. 1

Fig. 2

Type	Fig.	I_F (mA)	CTR Min. (%)	t_{phL} (µs)	tpLh (V/µs)	Package	1-9	10-24	25-99
6N138	1	1.6	300	15	50	PDIP	1.63	1.45	1.29
6N139	1	0.5	400	30	50	PDIP	1.83	1.63	1.45
HCPL-0701	1	0.5	400	30	50	SO-8	1.97	1.76	1.56
HCNW139	1	0.5	400	30	90	PDIP (400 mil)	2.61	2.32	2.06
HCPL-2730	2	1.6	300	20	90	PDIP (Dual Channel)	3.47	3.12	2.78
HCPL-2731	2	0.5	400	30	115	PDIP (Dual Channel)	3.85	3.47	3.09
HCPL-0731	2*	0.5	400	100	...	SO-8 Dual	4.19	3.77	3.36

*PIN 7 not connected.
(17129)

(ne10477)

LOGIC GATE OPTOCOUPLERS

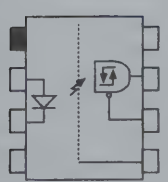


Fig. 1

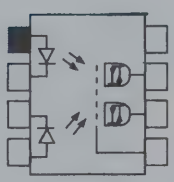


Fig. 2

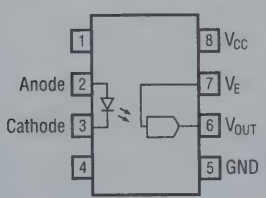


Fig. 3

Type	Fig.	Output (MBd)	I_F (mA)	t_{PROP} (µs)	CMR Min. (V/µs)	Package	1-9	10-24	25-99
HCPL-2200	1	5	1.6	0.3	1k	PDIP	4.65	4.18	3.72
HCPL-2201	1	5	1.6	0.3	1k	PDIP	3.94	3.55	3.16
HCPL-0201	1	5	1.6	0.3	1k	SO-8	4.26	3.84	3.41
HCPL-2211	1	5	1.6	0.3	5k	PDIP	5.15	4.63	4.13
HCPL-2212	1*†	5	1.6	0.3	10k	PDIP	5.15	4.63	4.13
HCPL-0211	1	5	1.6	0.3	5k	SO-8	6.70	6.03	5.37
HCPL-2300	1	8	0.5 Max.	200ns Max.	1k	PDIP	7.72	6.95	6.19
HCPL-2231	2	5	1.8	0.3	1k	PDIP (Dual Channel)	8.88	8.00	7.12
HCPL-2232	1	5	1.8	0.3	10k	PDIP	13.96	12.57	11.18
6N137	3	10	5	0.1	100	PDIP	1.95	1.74	1.54
HCPL-0600	1	5	5	0.1	100	SO-8	2.10	1.87	1.66
HCPL-2601	1	10	5	0.1	5k	PDIP	2.29	2.04	1.81
HCPL-2611	3	10	5	0.1	10k	PDIP	2.33	2.09	1.86
HCPL-061A	3	10	2	0.1	5k	SO-8	2.44	2.20	1.95
HCPL-261N	3	10	2	0.1	10k	PDIP	2.94	2.65	2.36
HCPL-061N	3	10	2	0.1	10k	SO-8	3.19	2.87	2.56
HCPL-2400	3	20	4 Max.	60ns Max.	1k	PDIP	6.58	5.93	5.27
HCPL-2630	2	10	5	0.1	100	PDIP (Dual Channel)	4.51	4.06	3.61
HCPL-0630	2	10	5	.1	100	SO-8 Dual	4.90	4.41	3.92
HCPL-2631	2	10	5	0.1	5k	PDIP (Dual Channel)	5.31	4.78	4.25
HCPL-2430	2	20	4 Max.	60ns Max.	1k	PDIP (Dual Channel)	15.49	13.94	12.40
HCPL-0631	2	10	5	.1	5k	SO-8 Dual	5.79	5.21	4.64
HCPL-4661	2	10	5	0.1	10k	PDIP (Dual Channel)	8.34	7.50	6.68
HCPL-0661	2	10	5	.1	10k	SO-8	9.09	8.18	7.28
HCPL-263A	2	10	2	0.1	5k	PDIP (Dual Channel)	5.58	5.02	4.47
HCPL-263N	2	10	2	0.1	10k	PDIP (Dual Channel)	8.77	7.89	7.02
HCPL-063N	2	10	2	0.1	10k	SO-8 (Dual Channel)	9.54	8.59	7.64
HCPL-7710	3	10	...	.04	10k	PDIP	6.95	6.25	5.57
HCPL-0720	3	10	...	.04	10k	SO-8	6.76	6.08	5.41
HCPL-0721	3	10	...	.04	10k	SO-8	8.50	7.65	6.81
HCPL-0710	3	12	0.001 Max.	40ns Max.	10k	SO-8	7.52	6.77	6.02
HCPL-7720	3	10	...	.04	10k	PDIP	6.25	5.63	5.01
HCPL-7721	3	10	...	.04	10k	PDIP	7.86	7.07	6.29

*630 V Peak VDE 0884 with Option 060
†Pin 6 Not Connected
(2666)

(ne09577)

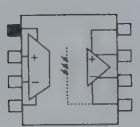


Fig. 1

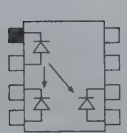


Fig. 2

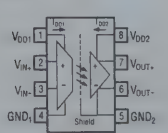


Fig. 3

MINIATURE ISOLATION AMPLIFIER OPTOCOUPLERS

Type	Fig.	Nonlinearity	BW (Hz)	Gain Tolerance	Package	1-9	10-24	25-99
HCPL-788J	3	0.40%	30k	5%	S0-16	9.86	8.88	7.90
HCPL-7800	3	0.35%	85k	5%	PDIP (300 mil)	8.54	7.69	6.84
HCPL-7820	1	0.15%	200k	3%	PDIP	7.97	7.18	6.39
HCPL-7840	1	0.2%	100k	5%	PDIP	5.01	4.51	4.02
HCNR200	2	0.07%	1.5M	15%	PDIP (400 mil)	3.03	2.73	2.43
HCNR201	2	0.07%	1.5M	5%	PDIP (400 mil)	4.88	4.39	3.91

(2668)

(ne09579)

VISIT NEWARK'S WEB SITE AT www.newark.com

OPTOCOUPLERS AND INFRARED DEVICES

HERMETIC AND HIGH-RELIABILITY OPTOCOUPLERS

Hermetically sealed. Class H DSCC SMD devices are available. Darlington output, low input current, 100kBd.

INTELLIGENT POWER MODULE AND GATE DRIVE INTERFACE HERMETIC OPTOCOPLER

Type	Fig.	Description	Package	1-9	10-24	25-99
HCPL-5300	4	Single Channel	8-Pin DIP	61.46	58.99	56.04

HIGH GAIN

Type	Fig.	Description	Package	1-9	10-24	25-99
6N140A	1	4-Channel	16-Pin DIP	70.37	67.55	64.17
HCPL-6750	1	4-Channel	16-Pin Flat Pak	92.60	88.89	85.35

LOGIC GATE

Wide V_{cc}, from 4.5 to 20V. High CMR 5MBd

Type	Fig.	Description	Package	1-9	10-24	25-99
HCPL-6250	2	4-Channel	16-Pin Flat Pak	140.23	134.62	129.25

HERMETICALLY - SEAL ANALOG ISOLATION AMPLIEFER

Type	Fig.	Description	Package	1-9	10-24	25-99
HCPL-7850	5	Single Channel	8-Pin DIP	94.73	90.40	87.32

POWER MOSFET - 90V 1.0 ohm.

Type	Fig.	Description	Package	1-9	10-24	25-99
HSSR-7110	3	Sincle Channel	8-Pin DIP	95.09	91.29	87.65

(19031) (ne10981)

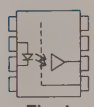


Fig. 1

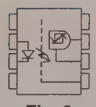


Fig. 2

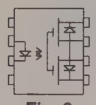


Fig. 3

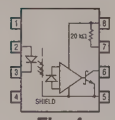


Fig. 4

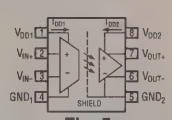


Fig. 5

APPLICATION SPECIFIC OPTOCOUPLERS

Type	Fig.	Description	1-9	10-24	25-99
HCPL-0560	1	Bi-Directional 1MBd	3.76	3.39	3.01
HCPL-0561	2	Bi-Directional 1 MBd	3.76	3.39	3.01
HCPL-2400	2	Logic Gate 10 MBd	6.58	5.93	5.27
HCPL-2602	3	Line Termination for Receivers;10MBd	5.79	5.21	4.64
HCPL-3700	4	Voltage/Current Detection	5.26	4.74	4.22
HCPL-3760	4	Voltage/Current Detection;Low-Current	7.86	7.07	6.29
HCPL-4100	5	Current Loop Transmitter; 20mA	8.59	7.73	6.88
HCPL-4200	6	Current Loop Receiver; 20mA	8.59	7.73	6.88
HCPL-4562	7	Analog/Video Amp; BW=2.0MHz	2.51	2.23	1.99

(2669) (ne09580)

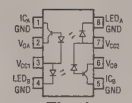


Fig. 1

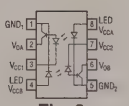


Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

Fig. 7

IrDA INFRARED COMPONENTS

IrDA INFRARED TRANSCEIVERS

Type	Data Rate (Baud)	Distance (m)	Supply Voltage (V)	Idle Current (mA)	Shut-down Pin	Receiver Latency (ms)	Operating Temp. (°C)	Package Size W x H (mm)	Mounting Options	1-24	25-99	100-999
HSDL-1001#001	115 Kb/S	0 to 1	3	.18 @ 5.5V	Yes	0.1	0° to +70°	8.75 x 15 x 7	Top	...	...	...
HSDL-1001#004	115 Kb/S	0 to 1	3	.18 @ 5.5V	Yes	0.1	0° to +70°	8.75 x 15 x 7	Front	...	...	...
HSDL-1100#008	4 Mb/S	0 to 1	5	3 @5.25V	No	0.2	0° to +70°	8.75 x 15 x 7	Top	7.70	6.93	6.17
HSDL-1100#007	4 Mb/S	0 to 1	5	3@5.25V	No	0.2	0° to +70°	8.75 x 15 x 7	Front	7.70	6.93	6.17
HSDL-3600#007	4 Mb/S	0 to 1	3	2.5	Yes	0.2	-20 to +85°	4.0 x 12.2 x 5.1	Front	3.88	...	...
HSDL-3600#008	4 Mb/S	0 to 1	3	2.5	Yes	0.2	-20 to +85°	4.0 x 12.2 x 5.1	Top	3.88	...	...
HSDL-3610#007	115 Kb/S	0 to 1	5	2.5	Yes	0.2	-20 to +85°	4.0 x 12.2 x 5.1	Front	2.75	...	...
HSDL-3610#008	115 Kb/S	0 to 1	5	2.5	Yes	0.2	-20 to +85°	4.0 x 12.2 x 5.1	Top	2.75	...	...

INFRARED EMITTERS

Type	t_r/t_f (ns)	Viewing Angle	On Axis Intensity	V_F (V)	Operating Temperature (°C)	Package Size	1-24	25-99	100-999
HSDL-4220	40	30°	38 (mW/sr)	1.50	0 to +70	T-1 ¾ (5mm)	0.90	0.81	0.72
HSDL-4230	40	17°	75 (mW/sr)	1.50	0 to +70	T-1 ¾ (5mm)	0.90	0.81	0.72

INFRARED 3/16 ENCODE/DECODE ICs

Type	Output Current (mA)	Supply Voltage (V)	Operating Temperature (°C)	Package	1-24	25-99	100-999
HSDL-7000	10	–2.7 to +5.0	–10 to +85	8-Pin SMT	2.96	2.67	2.37
HSDL-7001	...	0.5 to +7.0	–10 to +85	16-Pin SMT	2.86	2.58	2.29

(9854) (ne07180)

INFARED TRANSCEIVER EVALUATION KITS

Hewlett Packard's IrDA1.1 **HSDL-8010** evaluation kit provides the necessary information and components to assist in designing an optimum 4Mpr IrDa infared system into your product. The Design Guide and evaluation boards help you to understand the IrDa protocal stack and the benefits of IrDA, the features and function of the **HSDL-1100** transceiver module, and the correct way to design your board and optical port for optimum performance. In addition the kit allows you to establish a test link in order to experiment with angles and distance, as well as evaluate EMI effects in link performance. The kit also contains information on upcoming Hewlett Packard new products.

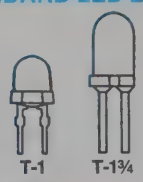
Type	Description	Contents	1-4	5-9
HSDL-8000	IrDA 115.2kbps Evauation Kit	2 Complete PCBs with HSDL-1001 IrDA Transceiver and HSDL-7001 Encoder/Decoder IC.HSDL-4220 and HSDL-4230 Infared Emitters are provided for Extended Distance Applications.	51.30	49.24
HSDL-8010	IrDA 4Mbps Evaluation Kit	Complete PC board with HSDL-1100 IrDA Transceiver. IrDA Data Link Design Guide.	38.47	36.93

(36377) (ne36377)

HEWLETT® PACKARD

LED LAMPS

STANDARD LED LAMPS



Lenses are either clear (C) or diffused (D).

T-1 (3mm)

Type	Color	Lens	Luminous Intensity I_V (mcd)	Viewing Angle	1-24	25-99	100-999
HLMP-K101	AlGaAs Red	D	45*	60°	0.26	0.23	0.21
HLMP-K105	AlGaAs Red	C	65*	45°	0.26	0.23	0.21
HLMP-K150	AlGaAs Red	D	2.0‡	60°	0.42	0.37	0.33
HLMP-1000	Red	D	1*	45°	0.37	0.33	0.29
HLMP-1301	H-E Red	D	5.5**	45°	0.21	0.19	0.17
HLMP-1302	H-E Red	D	7.0**	60°	0.31	0.28	0.25
HLMP-1401	Yellow	D	6**	60°	0.21	0.19	0.17
HLMP-1503	Green	D	5**	60°	0.21	0.19	0.17
HLMP-1523	Green	D	7.0**	60°	0.31	0.28	0.25
HLMP-1340	H-E Red	C	45*	45°	0.34	0.30	0.27
HLMP-1440	Yellow	C	1.6*	45°	0.34	0.30	0.27
HLMP-1540	Green	C	1.6*	45°	0.34	0.30	0.27
HLMP-1700	H-E Red	D	1.8†	50°	0.50	0.44	0.39
HLMP-1719	Yellow	D	1.6†	50°	0.50	0.44	0.39
HLMP-1790	Green	D	1.6†	50°	0.50	0.44	0.39

T-1¾ (5mm)

HLMP-C116	TS AlGaAs	C	2000	15°	0.47	0.42	0.37
HLMP-C124	TS AlGaAs	C	1000	25°	0.47	0.42	0.37
HLMP-C115	AlGaAs	C	600	15°	0.44	0.40	0.35
HLMP-C215	H-E Red	C	300	15°	0.37	0.33	0.29
HLMP-C315	Yellow	C	300	15°	0.37	0.33	0.29
HLMP-C415	Orange	C	300	15°	0.37	0.33	0.29
HLMP-C515	Green	C	300	15°	0.37	0.33	0.29
HLMP-C615	Emerald Green	C	45	15°	0.37	0.33	0.29
HLMP-D101	AlGaAs Red	D	70*	65°	0.26	0.23	0.21
HLMP-D105	AlGaAs Red	C	240*	24°	0.37	0.33	0.29
HLMP-D150	AlGaAs Red	D	3.0*	65°	0.42	0.37	0.33
HLMP-3301	H-E Red	D	7.0**	60°	0.21	0.19	0.17
HLMP-3401	Yellow	D	8.0**	60°	0.21	0.19	0.17
HLMP-3507	Green	D	5.2**	60°	0.21	0.19	0.17
HLMP-3750	H-E Red	C	125*	24°	0.34	0.30	0.27
HLMP-3850	Yellow	C	140*	24°	0.34	0.30	0.27
HLMP-3950	Green	C	120*	24°	0.34	0.30	0.27
HLMP-4700	H-E Red	D	2.0†	50°	0.50	0.44	0.39
HLMP-4719	Yellow	D	1.8†	50°	0.50	0.44	0.39
HLMP-4740	Green	D	1.8†	50°	0.50	0.44	0.39

RECTANGULAR (2 x 5mm)

HLMP-S100	AlGaAs Red	D	7.5*	110°	0.55	0.49	0.43
HLMP-S200	H-E Red	D	3.5*	110°	0.44	0.40	0.35
HLMP-S500	Green	D	4.0*	110°	0.44	0.40	0.35

* @ I_F @ 20 mA ** I_F @ 10 mA. †I_F @ 2mA. ‡I_F @ 1mA.

(2637) (ne07159)

SUBMINIATURE SOLID STATE DOME LAMPS

Lens: Tinted/Diffused. Package size: 1.7 mm.

Type	Color	Typical Iv @ 10mA	Typical Vf @ 10mA	1-24	25-99	100-999
HLMP-6300	High-Efficiency Red	10mcd	1.8V	0.47	0.42	0.37
HLMP-6400	Yellow	9mcd	2.0V	0.47	0.42	0.37
HLMP-6500	Green	7mcd	2.1V	0.47	0.42	0.37

* @ I_F = 10 mA

(2638) (ne07179)

HIGH BRIGHTNESS SMT LAMPS

Types HLMA-QH00 and **HLMA-QL00** are dome. **Types HLMA-PH00** and **HLMAA-PL00** are flat top. Lenses are untinted/non-diffused.

Type	Color	Viewing Angle	Typical Iv @ 20mA	Typical Vf @ 10mA	1-24	25-99	100-999
HLMA-QH00	Red-orange	15°	500 mcd	1.9V	0.52	0.46	0.41
HLMA-QL00	Amber	15°	500 mcd	1.9V	0.52	0.46	0.41
HLMA-PH00	Red-Orange	125°	75 mcd	1.9V	0.50	0.45	0.40
HLMA-PL00	Amber	125°	75 mcd	1.9V	0.50	0.45	0.40

(ne07158)

HIGH-PERFORMANCE LED LAMPS

Forward voltage: 2.4V (20mA). Operating temperature: –40 to +100°C. Storage temperature: –55 to +100°C. **Types HLMA-KH00/HLMA-KL00** are T-1 (3mm) lamps.

Type	Color	Wavelength (nm)	Luminous Intensity I_V (mcd) Min.	Luminous Intensity I_V (mcd) Typ.	View Angle Typ.	1-24	25-99	100-999
HLMA-KH00	Red-orange	615	35	200	45°	0.64	0.57	0.50
HLMA-KL00	Amber	592	35	200	45°	0.78	0.70	0.62

(2633) (ne07155)

HIGH-PERFOMANCE LEDs in T-1¾ (5mm) OVAL PACKAGE

Feature superior high-temperature and moisture-resistant materials: InGaN/AlInGaP/AlInGaPII. Perpendicular and parallel lead-frame orientation, with and without standoffs. Available in blue, green, amber, or red, with clear or light tints. Wide viewing angles: 35,° minor axis; 70°, major axis.

Type	Color	Dominant Wavelength λ_d (nm)	Viewing Angle	Minimum Intensity @ 20mA I_V (mcd)	1-24	25-99	100-999
HLMP-BL11	Amber	590	35° x 70°	205	0.50	0.45	0.40
HLMP-BG11	Red	626	35° x 70°	205	0.50	0.45	0.40
HLMP-BL16	Amber	592	35° x 70°	345	0.63	0.56	0.50
HLMP-BD16	Red	630	35° x 70°	345	0.63	0.56	0.50
HLMP-BM11	True Green	526	35° x 70°	590	1.77	1.57	1.40
HLMP-BB11	True Blue	472	35° x 70°	205	1.77	1.57	1.40

(29482) (ne29482)

HIGH-PERFORMANCE LEDs IN T-1¾ (5mm) ROUND PACKAGE

Available in true blue, true green, and blue-green. Highly efficient, cost-effective material: InGaN. Well-defined spatial radiation patterns at specific viewing cone angles. With or without standoffs. Ideal for outdoor applications.

Type	Color	Viewing Angle	Minimum Intensity @ 20mA (mcd)	1-24	25-99	100-999
HLMP-CB15	True Blue	15°	765	1.94	1.75	1.55
HLMP-CB30	True Blue	30°	270	1.94	1.75	1.55
HLMP-CM15	True Green	15°	1650	2.00	1.78	1.59
HLMP-CM30	True Green	30°	765	2.00	1.78	1.59
HLMP-CE23	Traffic-Light Blue-Green	23°	1000	1.53	1.36	1.21
HLMP-CE30	Traffic-Light Blue-Green	30°	765	1.53	1.36	1.21

(29483) (ne29483)

SURFACE MOUNT CHIP LEDs

Viewing angle: 155°. Types ending in **-C650** are 3.2 x 1.6mm low-profile (1.1mm) package. Types ending in **-C670** are 2.0 x 1.25mm low-profile (1.1mm) package.

Type	Color	Footprint (mm)	Luminous Intensity I_V (mcd)*	Forward Voltage*	1-24	25-99	100-999
HSMH-C650	AlGaAs Red	3.2 x 1.6	16	1.8V	0.26	0.23	0.21
HSMS-C650	H-E Red	3.2 x 1.6	5	1.9V	0.24	0.21	0.19
HSMY-C650	Yellow	3.2 x 1.6	5	2.1V	0.24	0.21	0.19
HSMG-C650	Green	3.2 x 1.6	9	2.2V	0.24	0.21	0.19
HSMH-C670	AlGaAs Red	2.0 x 1.25	16	1.8V	0.26	0.23	0.21
HSMS-C670	H-E Red	2.0 x 1.25	5	1.9V	0.24	0.21	0.19
HSMY-C670	Yellow	2.0 x 1.25	5	2.1V	0.24	0.21	0.19
HSMG-C670	Green	2.0 x 1.25	9	2.2V	0.24	0.21	0.19

*Typical @ 20 mA

Types HSMG-C660 and **HSMS-C660** have clear lenses. All others have diffused lenses. Viewing angle: 165°. **Types HSMG-C660** are right-angle packages. All others are top mount.

Type	Color	Footprint (mm)	Wavelength (nm)	Luminous Intensity I_V (mcd)*	1-24	25-99	100-999
HSMG-H670	Green	2.0 x 1.25 x 1.1	571	9	0.21	0.19	0.17
HSMS-H670	H-E Red	2.0 x 1.25 x 1.1	626	5	0.21	0.19	0.17
HSMG-H690	Green	1.6 x 0.8 x 0.6	571	9	0.21	0.19	0.17
HSMS-H690	H-E Red	1.6 x 0.8 x 0.6	626	5	0.21	0.19	0.17
HSMG-C660	Green	3.0 x 2.0 x 1.0	571	9	0.26	0.23	0.21
HSMS-C660	H-E Red	3.0 x 2.0 x 1.0	626	5	0.26	0.23	0.21
HSMA-S670	Amber	2.0 x 1.25 x 0.8	590	65	0.47	0.42	0.37
HSMD-S670	Orange	2.0 x 1.25 x .0.8	605	65	0.47	0.42	0.37
HSMC-S670	Red-Orange	2.0 x 1.25 x 0.8	626	50	0.47	0.42	0.37

@ I_F = 20 mA

(2635) (ne07157)

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LED DISPLAYS AND LIGHT BARS

7-SEGMENT RIGHT-HAND DECIMAL DISPLAYS

Type numbers ending in "1" are Common Anode; Type numbers ending in "3" are Common Cathode. DIP package.

Type	Fig.	Color	Intensity Per Segment (Typ.)	1-9	10-24	25-49
HDSP-A103	1	AlGaAs Red	600µcd @ 1mA	3.56	3.20	2.85
HDSP-A153	1	AlGaAs Red	14µcd @ 20mA	3.56	3.20	2.85
HDSP-7501	1	High-Eff. Red	980µcd @ 5mA	2.83	2.54	2.26
HDSP-7503	1	High-Eff. Red	980µcd @ 5mA	2.83	2.54	2.26
HDSP-7801	1	Green	3000µcd @ 10mA	2.83	2.54	2.26
HDSP-7803	1	Green	6800µcd @ 20mA	2.83	2.54	2.26
5082-7611	2	High-Eff. Red	800µcd @ 5mA	2.78	2.50	2.23
5082-7613	2	High-Eff. Red	800µcd @ 5mA	2.78	2.50	2.23
HDSP-3533	2	High-Eff. Red	7100µcd @ 100mA1/8df	3.21	2.89	2.57
HDSP-3601	2	Green	2700µcd @ 10mA	2.78	2.50	2.23
5082-7651	3	High-Eff. Red	1115µcd @ 5mA	2.78	2.50	2.23
5082-7653	3	High-Eff. Red	1115µcd @ 5mA	2.78	2.50	2.23
HDSP-4601	3	Green	4000µcd @ 10mA	2.78	2.50	2.23
HDSP-H101	4	AlGaAs Red	700µcd @ 1mA	3.56	3.20	2.85
HDSP-H103	4	AlGaAs Red	700µcd @ 1mA	3.56	3.20	2.85
HDSP-H151	4	AlGaAs Red	16µcd @ 20mA	3.56	3.20	2.85
HDSP-5501	4	High-Eff. Red	2800µcd @ 10mA	2.85	2.57	2.28
HDSP-5503	4	High-Eff. Red	2800µcd @ 10mA	2.85	2.57	2.28
HDSP-5531	4	High-Eff. Red	6000µcd @ 100mA1/8df	3.28	2.95	2.63
HDSP-5601	4	Green	2500µcd @ 10mA	2.85	2.57	2.28
HDSP-5603	4	Green	2500µcd @ 10mA	2.85	2.57	2.28
HDSP-5701	4	Yellow	1800µcd @ 10mA	2.85	2.57	2.28
HDSP-5521	5	High-Eff. Red	2800µcd @ 10mA	5.13	4.61	4.11
HDSP-5523	5	High-Eff. Red	2800µcd @ 10mA	5.13	4.61	4.11
HDSP-5621	5	Green	2500µcd @ 10mA	5.13	4.61	4.11
Type	**Fig.**	**Color**	**Intensity Per Segment (Typ.)**	**1-4**	**5-9**	**10-24**
HDSP-0762	6	High-Eff. Red	140µcd @ 1mA	35.27	33.86	32.17

(2619) (ne00720)

Fig. 1
0.30″ (7.62) Mini
0.50H × 0.30W × 0.24″D

Fig. 2
0.30″ (7.62)
0.75H × 0.40W × 0.18″D

Fig. 3
0.43″ (10.92)
0.75H × 0.50W × 0.25″D

Fig. 4
0.56″ (14.2)
0.67H × 0.49W × 0.31″D

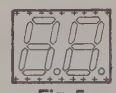


Fig. 5
0.56″ (14.2) (Dual Digit)
0.67H × 1.00W × 0.31″D

Fig. 6
0.40″ (10.2)
0.053H x 0.40W x 0.11″D

ALPHANUMERIC LED DISPLAY

Low power on-board CMOS IC contains memory, ASCII decoder and driver circuitry. DIP packaging, TTL compatible, wave solderable, end-stackable.

4 CHARACTER SMART, DECODES 128 ASCII CHARACTERS

Type	Fig.	Color	Description	1-4	5-9	10-24
HDLG-2416	1	Green	0.20″ (5.00) 5 × 7 Dot Matrix	21.31	20.46	19.44
HDLO-2416	1	High Eff. Red		21.31	20.46	19.44
HDLS-2416	1	AlGaAs Red		26.63	25.57	24.29
8 CHARACTER SMART, DECODES 128 ASCII CHARACTERS						
HDSP-2111	2	Yellow	0.20″ (5.00) 5 × 7 Flexible Dot Matrix 0.77″ (19.6) Pkg. Ht.	46.37	44.51	42.28
HDSP-2112	2	High Eff. Red		46.37	44.51	42.28
HDSP-2113	2	Green		46.37	44.51	42.28
HDSP-2531	3	Yellow	0.18″ (4.57) 5 × 7 Flexible Dot Matrix 0.45″ (11.4) Slimline Pkg. Ht.	48.70	46.74	44.41
HDSP-2533	3	Green		48.70	46.74	44.41
HDSP-2534	3	AlGaAs Red		60.28	57.86	54.96
4 AND 8 CHARACTER SMART, SERIAL INPUT, INDIVIDUAL DOT CONTROL						
HCMS-2965	4	AlGaAs Red	4 Character 0.2″ (5.00), 5 × Flexible Dot Matrix, 8 Character	31.96	30.68	29.15
HCMS-2973	5	Green		48.70	46.74	44.41

(9463) (ne00721)

Fig. 1
0.79H x 0.99W x 0.26″D

Fig. 2
0.771H x 1.677W x 0.209″D

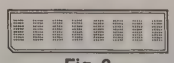


Fig. 3
0.45H x 1.69W x 0.209″D

Fig. 4
0.45H x 0.845W x 0.209″D

Fig. 5
0.45H x 1.69W x 0.209″D

LED LIGHT BARS

Designed for fixed message annunciation. Flush mountable. Centers: 0.100″ (2.540). Diffused lens.

Type	Color	No. of Pins	Dimensions L x W x H	Light Emitting Areas No.	Light Emitting Areas Size	Package	1-24	25-99	100-999
HLMP-2300	Red	4	0.4 x 0.195 x 0.245″	1	0.35 x 0.15″	SIP	1.39	1.24	1.10
HLMP-2350	Red	8	0.8 x 0.195 x 0.245″	1	0.75 x 0.15″	SIP	2.07	1.84	1.64
HLMP-2600	Red	8	0.4 x 4.00 x 0.245″	2	0.35 x 0.15″	DIP	2.07	1.84	1.64
HLMP-2620	Red	16	0.8 x 4.00 x 0.245″	4	0.35 x 0.15″	DIP	2.85	2.57	2.28
HLMP-2685	Red	16	0.8 x 4.00 x 0.245″	1	0.35 x 0.75″	DIP	2.85	2.57	2.28
HLMP-2400	Yellow	4	0.4 x 0.195 x 0.245″	1	0.35 x 0.15″	SIP	1.39	1.24	1.10
HLMP-2450	Yellow	8	0.8 x 0.195 x 0.245″	1	0.75 x 0.15″	SIP	2.07	1.84	1.64
HLMP-2720	Yellow	16	0.8 x 4.00 x 0.245″	4	0.35 x 0.15″	DIP	2.85	2.57	2.28
HLMP-2755	Yellow	8	0.4 x 4.00 x 0.245″	1	0.35 x 0.35″	DIP	2.07	1.84	1.64
HLMP-2785	Yellow	16	0.8 x 4.00 x 0.245″	1	0.35 x 0.75″	DIP	2.85	2.57	2.28
HLMP-2500	Green	4	0.4 x 0.195 x 0.245″	1	0.35 x 0.15″	SIP	1.39	1.24	1.10
HLMP-2550	Green	8	0.8 x 0.195 x 0.245″	1	0.75 x 0.15″	SIP	2.07	1.84	1.64
HLMP-2820	Green	16	0.8 x 4.00 x 0.245″	4	0.35 x 0.15″	DIP	2.85	2.57	2.28
HLMP-2855	Green	8	0.4 x 4.00 x 0.245″	1	0.35 x 0.35″	DIP	2.07	1.84	1.64
HLMP-2885	Green	16	0.8 x 4.00 x 0.245″	1	0.35 x 0.75″	DIP	2.85	2.57	2.28

(2620) (ne00722)

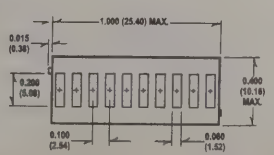
10-ELEMENT BAR GRAPH ARRAY

NEW

LED arrays are designed to display information in easily recognizable bar graph form. Packages are end stackable and capable of displaying long strings of information. Use of these bar graph arrays eliminates the alignment, intensity and color matching problems associated with discrete LED's. Pins: 20. Dimensions: 0.200H x 0.400W x 1.00″L.

Type	Color	Light Emitting Area No./Size	Intensity Typical Per LED	1-9	10-24	25-99
HDSP-4830	HER	10 Areas/ 0.20 x 0.060″	250 µcd @ 20mA	4.56	4.10	3.65
HDSP-4840	Yellow	10 Areas/ 0.20 x 0.060″	1900 µcd @ 10mA	5.42	4.88	4.34

(32797) (ne32797)



HEWLETT® PACKARD

SENSOR AND BARCODE PRODUCTS

GENERAL-PURPOSE CMOS MOTION CONTROL ICs

HCTL-1100 is a general purpose motion control CMOS IC that provides closed loop control of DC, DC Brushless and Step Motors, using a digital incremental encoder for feedback. 5V operation. TTL compatible. 24-bit position counter. 4 control modes. Programmable digital filter and brushless motor commutator. 40-pin plastic DIP package. Row spacing: 0.600″. Operating temperature range: –20°C to +85°C. **HCTL-2000/2016** are CMOS ICs that interface digital incremental encoders to microprocessor systems. The ICs include a 4X quadrature decoder, binary up/down counter and tristate bus interface. 5V operation. TTL compatible. Operates at clock frequencies up to 14MHz. 16-pin plastic DIP package. Row spacing: 0.300″. Operating temperature range: –40°C to +85°C. **HCTL-2000** has a 12 bit binary counter; **HCTL-2016** has a 16-bit binary counter. **HCTL-2020** has all features of **HCTL-2016** as well as quadrature output signals and cascade output signals.

Type	Description	Pkg.	1-4	5-9	10-24
HCTL-1100	Motion Controller, 100kHz-2MHz Clock	PDIP	45.49	43.67	41.48
HCTL-1100#PLC	Motion Controller, 100kHz-2MHz Clock	PLCC	45.49	43.67	41.48
HCTL-2000	12-Bit Quadrature Decoder/Counter	PDIP	18.33	17.23	16.20
HCTL-2016	16-Bit Quadrature Decoder/Counter	PDIP	18.33	17.23	16.20
HCTL-2016#PLC	16-Bit Quadrature Decoder/Counter	PDIP	18.33	17.23	16.20
HCTL-2020	16-Bit Quadrature Decoder/Counter	PDIP	20.96	19.70	18.52
HCTL-2020#PLC	16-Bit Quadrature Decoder/Counter	PLCC	20.96	19.70	18.52

(2506) (de00903)

2- AND 3-CHANNEL ENCLOSED ENCODERS

Types HEDS-5500/5540 and **HEDS-5600/5640** are high-performance optical increment encoders. 2-/3-channel digital outputs and single 5V supply input are accessed through five 0.025″ square pins on 0.1″ centers. Shaft diameter: 0.25″. **Type HEDS-5505** has thru-hole housing. **Types HEDS-5600/5640** feature external mounting ears. Operating temperature: –40°C to +100°C. TTL compatible. Quick assembly. No mechanical or electrical adjustments are needed. Ideal for high-volume applications, including printers, plotters, tape drives, and positioning tables.

Type	Outputs	Counts Per Resolution	1-4	5-9	10-24
HEDS-5500#A05	2-Channel	500	41.75	40.08	38.07
HEDS-5500#A06	2-Channel	500	41.75	40.08	38.07
HEDS-5500#A11	2-Channel	500	41.75	40.08	38.07
HEDS-5500#F06	2-Channel	256	41.75	40.08	38.07
HEDS-5500#I06	2-Channel	512	41.75	40.08	38.07
HEDS-5500#G06	2-Channel	360	41.75	40.08	38.07
HEDS-5505#A06	2-Channel	500	41.75	40.08	38.07
HEDS-5540#A06	3-Channel	500	47.14	45.25	42.99
HEDS-5600#A06	2-Channel	500	41.75	40.08	38.07
HEDS-5640#A06	3-Channel	500	47.14	45.25	42.99

(9883) (ne08278)

OPTICAL REFLECTIVE SENSORS

Hewlett Packard's family of sensor products are fully integrated modules for applications which require optical-reflective sensing. Packaged in a TO-5 metal sealed package and available in three wavelengths and resolutions.

Type	Wavelength	Resolution	1-4	5-9	10-24
HEDS-1300	700nm	0.190mm	29.36	28.19	26.78
HBCS-1100	700nm	0.190mm	27.94	26.83	25.48

(2507) (de00905)

DIGITAL BAR CODE WANDS

Polycarbonate wands are rugged enough to operate in direct sunlight and have a low continuous current drain of less than 5mA @ 5V. Also available in a box with a data sheet; *contact your local Newark sales office.*

Type	Connector Type	Switch	ES Immunity	1-4	5-9	10-24
HBCS-A300	5-Pin 240° DIN	No	10kV	84.27	80.89	76.85
HBCS-A308	9-Pin DIN	No	10kV	81.42	78.16	74.25

(2509) (de00907)

2- AND 3-CHANNEL OPTICAL ENCODER MODULES

Types HEDS-9000/9100 are high-performance, optical-incremental encoder modules. When used in conjunction with a codewheel, the modules detect rotary position. Supply input: 5V. Five 0.025″ square pins located on 0.1″ centers. Operating temperature: –40°C to +100°C. **Types HEDS-9040/9140** use an highly collimated light source and a unique photodetector array to provide the same high-performance found in the 2-channel encoder series. Order codewheels separately; *contact your local Newark sales office.*

Type	Channels	Used with Codewheel*	Optical Radius (mm)	Resolution (cpr)	1-4	5-9	10-24
HEDS-9000#A00	2	HEDS-6100	23.36	500	28.05	26.94	25.59
HEDS-9000#B00	2	HEDS-6100	23.36	1000	28.05	26.94	25.59
HEDS-9100#B00	2	HEDS-5120	11.00	1000	32.24	30.95	29.40
HEDS-9100#I00	2	HEDS-5120	11.00	512	28.05	26.94	25.59
HEDS-9040#B00	3	HEDS-6140	23.36	1000	36.99	35.52	33.74
HEDS-9140#A00	3	HEDS-6140	11.00	500	36.99	35.52	33.74

* Order codewheels separately; *contact your local Newark sales office.*

LARGE DIAMETER (56mm) HOUSED OPTICAL ENCODERS

Type HEDS-65xx/HEDL-65xx are high-performance 2- and 3-channel optical-incremental encoders. Each encoder contains a lensed LED source, an integrated circuit with detectors and output circuitry, and a codewheel which rotates between the emitter and detector integrated circuit. Operating temperature: –40°C to +100°C. Single +5V supply. Shaft size: 0.25″. **Type HEDS-6540** feature third channel index pulse. **Type HEDL-6540** feature a line driver option for noisy environments or long distances.

Type	Channels	Description	Resolution (cpr)	1-4	5-9	10-24
HEDS-6500#B06	2	...	1000	95.57	91.74	88.08
HEDS-6500#J06	2	...	1024	95.57	91.74	88.08
HEDS-6540#B06	3	Index Pulse	1000	109.89	105.50	101.29
HEDS-6540#J06	3	Index Pulse	1024	109.89	105.50	101.29
HEDL-6540#B06	3	Index Pulse/Line Driver	1000	131.86	126.59	121.54

REFLECTIVE OPTICAL SURFACE MOUNT ENCODERS

Type HEDR-8000 encoders use reflective technology to sense rotary or linear position. This sensor consists of an LED light source, and a photodetector IC in a single SO-8 surface mount package. Feature 2-channel quadrature outputs. Operating temperature: –10°C to +85°C. Supply voltage: 5V.

Type	Resolution	Package	1-4	5-9	10-24
HEDR-8000#2K0	70-75 lines/inch	SO-8	15.31	14.39	13.53

(9944) (de00904)

SMARTWAND BAR CODE READER: DIGITAL WAND WITH BUILT-IN DECODER

The SmartWand is an intelligent peripheral, designed to easily add bar code scanning capability to any host system which can support a +5V serial asynchronous interface. The SmartWand may be programmed optically by scanning bar code labels. The SmartWand comes with a 9-pin D-sub connector. Supported Bar Code symbologies include: Code 3 of 9; Interleaved 2 of 5; UPC/EAN/JAN; Codabar; Code 128; Code 11 and MSI Code.

METAL CASE WITHOUT LED

Type	Description	1-2	3-4	5-9
HBSW-8300	SmartWand	278.94	264.99	254.30

(17235) (ne10459)

KEYWAND BAR CODE READER KIT: PC INTERFACE WAND

Scan data directly into a personal computer via the keyboard interface, without hardware modifications. All electronics are self-contained within the compact wand for clutter-free operation.

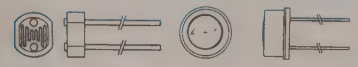
Type	Description	1-2	3-4	5-9
HBKW-1240	KeyWand Kit includes a KeyWand Bar Code Reader, a User's Programming Manual, Wand Holder, and Interface Adapters.	306.03	290.73	279.01
HBKW-1220	KeyWand for PS/2, 6 PIN, Mini-DIN	278.94	264.99	254.30

(17236) (ne10460)

NEWARK MAKES IT EASY.
MORE PAYMENT OPTIONS! USE YOUR MAJOR CREDIT CARD, CORPORATE PURCHASING CARD, PUT IT ON YOUR ACCOUNT, OR PLACE A C.O.D. ORDER.

OPTOELECTRONIC COMPONENTS

CdS PHOTOCONDUCTIVE CELLS



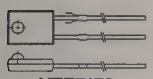
Economy solutions for many light level sensing applications: **Type VT43N3** for street lights; **type VT90N2** for night lights; **type VT935G** for toys and cameras; **type VT90N2** for low light detection; **type VT33N1** for photocopiers; **type VT50N3** for flame detection.

Stock No.	Type	Group	Resistance (Ohms) 10lx 2850k Min.	10lx 2850k Max.	Dark Min.	Dark Sec.	1-49	50-99
99F4264	VT20N1	...	8k	24k	200k	5	4.34	3.79
96F9261	VT20N2	...	16k	52k	500k	5	4.34	3.79
99F5100	VT30N1	...	6k	18k	200k	5	4.64	4.04
96F9262	VT33N1	...	20k	60k	200k	5	5.65	4.93
96F9263	VT43N3	...	16	48	500k	30	2.93	2.48
96F9264	VT50N3	...	16k	48k	1M	5	5.15	4.50
99F3724	VT80N1	...	4k	12k	100k	5	2.42	2.05
99F4265	VT90N1	...	6k	18k	200k	5	0.35	0.29
01F124	VT90N2	...	12k	36k	500k	5	0.35	0.29
95F9039	VT935G*	A	10k	27k	1M	10		
		B	20k	38k	1M	10		
		C	31k	50k	1M	10	2.06	1.74

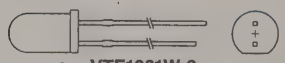
*This device meets one of the three specification groups listed. The actual mix of parts will vary in each order.
(3771) (de00206t)

INFRARED EMITTERS

VTE1163



VTE7172



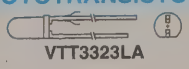
VTE1281W-2

Often used with solid-state phototransistor or photodarlington detectors with internal gains from 100 to over 100,000. Wavelength: 880nm.

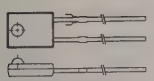
Stock No	Type	Package	Total Power P_O (mW)		Half Power Beam Angle $\Theta_{1/2}$	1-49	50-99
52F8759	VTE1163	TO-46	54	80	±10°	3.47	3.03
92F3662	VTE1281W-2	T-1¾	10	25	±35°	0.77	0.65
01F125	VTE7172	Lateral	...	20	±25°	1.43	1.21

(3772) (de00206u)

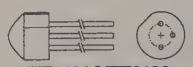
PHOTOTRANSISTORS



VTT3323LA



VTT7122



VTT9102/VTT9103

Stock No.	Type	Light Current I_C Min. (mA)	Light Current I_C Max. (mA)	Dark Current I_{CEO}* Max. (nA)	Dark Current I_{CEO}* V_{CE}† (V)	Emitter Breakdown $V_{BR(ECO)}$	1-49	50-99
95F9022	VTT3323LA	2.0	...	100	10	5.0	1.84	1.56
95F9023	VTT7122	1.0	...	100	10	5.0	0.73	0.62
52F8908	VTT9102	6.0	18.0	100	5	4.0	2.47	2.09
52F8909	VTT9103	13.0	...	100	5	4.0	2.51	2.13

* @ H = 0; † @ H = 0, I_E = 100µA
(3773) (de00206v)

PHOTODIODES WITH SOLDERABLE CONTACTS

Stock No.	Type	Active Area In² (mm²)	Open Circuit Voltage V_{OC}* Typ. (V)	Dark Current I_D† Max. (µA)	1-24	25-49
92F3665	VTS3085	0.032 (21)	0.33	0.1	3.71	3.14
92F3666	VTS3082	0.144 (93)	0.33	0.2	10.76	9.41
95F9032	VTS3080	0.607 (392)	0.33	1.0	60.90	53.29

*@2850K; †@H = 0, V_R = 100mV
(3777) (de00206z)

OPTICAL SWITCHES

VTR16D1 VTL13D7-20 VTR17D1 VTR24F1

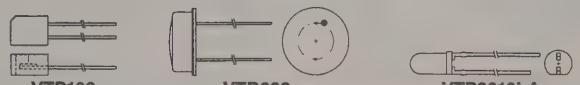
Optical switches for sensing in such applications as printers and typewriters, floppy drives, copiers, etc. Sealed case.

Stock No.	Type	Light Current Min. (mA)	Light Current @ V_{ce} (V)*	Dark Current Max. (nA)	Dark Current @ V_{ce} (V)†	Sat. Max. (V)	1-49	50-99
97F1141	VTR16D1	0.3	5.0	100	5	...	4.90	4.27
97F1142	VTR17D1	0.3	5.0	100	5	...	6.93	6.05
52F8762	VTL13D7-20	0.225	5.0	100	10	0.4	6.60	5.76
52F8763	VTR24F1	2.0	5.0	...	...	1.2	7.26	6.33

* @ I_F = 20mA; † @ I_F = 0mA
(3775) (de00206x)

SILICON PHOTODIODES

VTB1113 VTP11885 VTB8441B



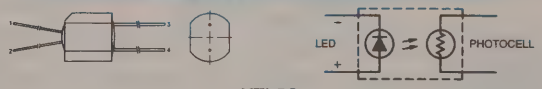
VTP100 VTB606 VTP3310LA

Optical switches for sensing in such applications as bar code scanners, brightness controls, encoders, copier toner density, optical communications, headlight dimmers, etc. **Suffix B** in type number denotes device incorporates an infrared rejection filter.

Stock No.	Type	Package	Short Current Min. (µA)	Short Current Typ. (µA)	Dark Current Max.	Dark Current @ V_R	1-49	50-99
99F4716	VTB-1013B	TO-46	.8	1.3	20pA	2V	8.87	7.76
95F9026	VTB1113	TO-46 Hermetic	3.0	6.0	20pA	2V	4.36	3.80
97F1127	VTB5051B	TO-5 Hermetic	8	13	250pA	2V	27.10	23.71
95F9028	VTB8441B	8mm Ceramic	4	5	100pA	2V	4.57	3.87
95F9027	VTP100	Flt. Sidelooker	35	55	30nA	10V	1.81	1.53
95F9029	VTP1188S	Lens Ceramic	...	200	30nA	10V	2.46	2.08
95F9030	VTP3310LA	Long T-1	24	36	35nA	50V	1.05	0.89
97F1128	VTB6061	TO-8 Hermetic	260	350	2nA	2V	21.29	18.63

(3776) (de00206y)

VACTROL® ANALOG OPTOISOLATORS



VTL5C

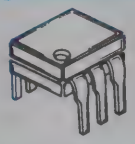
Provide low noise, infinitely variable resistor as output element. Resistance is inversely proportional to input drive current. Applications include: audio limiting and compression, automatic gain control, linear and DC isolators, SCR and TRIAC drives, logic interfacing and noiseless switching.

Stock No.	Type	Output Resistance On Input Current (mA)	Output Resistance On Light Adapted Max. (Ω)	Decay To 100 KΩ Max. (ms)	1-49	50-99
43F885	VTL5C1	40	500	50	5.68	4.95
43F886	VTL5C2	40	500	500	4.95	4.32
43F887	VTL5C3	40	2000	35	4.95	4.32
43F888	VTL5C4	10	200	1500	5.02	4.38
43F889	VTL5C6	40	3500	50 (to 1MΩ)	4.95	4.32
43F890	VTL5C7	2	1500	1000	4.95	4.32
97F1140	VTL5C8	16	2000	60	4.95	4.32
95F9033	VTL5C9	2	750	50	5.61	4.90
97F1139	VTL5C3/2	40	3000	50	5.28	4.61
98F3997	VTL5C4/2	10	500	1500	5.28	4.61

(3774) (de00206w)

SAME-DAY SHIPMENT ON ORDERS PLACED BY 5:00 PM C.S.T.

OPTOCOUPLERS IN 6-PIN DIP



6-pin dual in-line package (DIP) devices use infrared emitting diodes that are optically coupled to a wide selection of output (Transistor, Darlington, Triac, and Schmitt trigger) silicon detectors. These devices provide at least 7500V of isolation between the input and output and are 100% VISO tested. UL listed. VDE approved.

TRANSISTOR OUTPUT WITH NO BASE CONNECTION

Pinout: 1-Anode, 2-Cathode, 3-N.C., 4-Emitter, 5-Collector, 6-Base

Type	Current Transfer Ratio (CTR) Min. (%)	@ I_F (mA)	V_{CE} (V)	$V_{CE(sat)}$ Max. (V)	@ I_F (mA)	I_C (mA)	t_r/t_f or t_{on}*/t_{off}* Typ. (µs)	@ I_C (mA)	V_{CC} (V)	$V_{(BR)CEO}$ Min. (V)	1-99	100-249	250-499
MOC8111-M	20	10	10	0.4	10	0.5	3.2/4.7	2	10	30	0.75	0.64	0.56
MOC8112-M	50	10	10	0.4	10	0.5	3.2/4.7	2	10	30	0.35	0.30	0.26
MOC8113-M	100	10	10	0.4	10	0.5	3.2/4.7	2	10	30	0.83	0.71	0.62

DARLINGTON OUTPUT WITH NO BASE CONNECTION

Pinout: 1-Anode, 2-Cathode, 3-N.C., 4-Emitter, 5-Collector, 6-N.C. **Suffix T** indicates 0.4" wide SOIC package.

MOC119-M	300	10	2	1	10	10	1/2	2.5	10	30	0.67	0.59	0.53
MOC8030-M	300	10	1.5	...	...	...	1/2	...	50	80	1.00	0.88	0.79
MOC8030T-M	300	10	1.5	...	...	...	1/2	...	50	80	1.03	0.90	0.81
MOC8020-M	500	10	5	...	...	...	1/2	...	50	50	1.00	0.88	0.79
MOC8050-M	500	10	1.5	...	...	...	1/2	...	50	80	1.00	0.88	0.79
MOC8050T-M	500	10	1.5	...	...	...	1/2	...	50	80	1.03	0.90	0.81
MOC8021-M	1000	10	5	...	...	...	1/2	...	50	50	1.00	0.88	0.79

TRIAC DRIVER OUTPUT - ZERO CROSSING

Pinout: 1-Anode, 2-Cathode, 3-N.C., 4-Main Terminal, 5-Substrate, 6-Main Terminal

Type	Peak Blocking Voltage Min. (V)	LED Trigger Current-I_{FT} (V_{TM}= 3V) Max. (mA)	Zero Crossing Inhibit Voltage (@ Rated I_{FT}) Max. (V)	Operating Voltage (VAC)	dv/dt Typ. (V/µs)	1-24	25-99	100-249
MOC3031-M	250	15	20	125	2000	0.84	0.74	0.66
MOC3032-M	250	10	20	125	2000	0.86	0.76	0.68
MOC3033-M	250	5	20	125	2000	0.88	0.78	0.69
MOC3041-M	400	15	20	125/280	2000	0.86	0.76	0.68
MOC3042-M	400	10	20	125/280	2000	0.88	0.78	0.69
MOC3043-M	400	5	20	125/280	2000	0.91	0.80	0.71
MOC3061-M	600	15	20	125/280	1500	0.87	0.77	0.69
MOC3062-M	600	10	20	125/280	1500	0.89	0.79	0.71
MOC3063-M	600	5	20	125/280	1500	0.91	0.81	0.73
MOC3163-M	600	5	15	125/280	1000	1.64	1.46	1.31
MOC3081-M	800	15	20	125/280/320	1500	1.75	1.56	1.40
MOC3082-M	800	10	20	125/280/320	1500	1.75	1.56	1.40

SCHMITT TRIGGER OUTPUT

Pinout: 1-Anode, 2-Cathode, 3-N.C., 4-Output, 5-Ground, 6-VCC

Type	Threshold Current On Max. (mA)	Threshold Current Off Min. (mA)	$I_{F(OFF)}/I_{F(ON)}$ Min./Max. (mA)	V_{CC} Min./Max.	t_r/t_f Typ. (µs)	1-24	25-99	100-249
MOC5007-M	1.6	0.3	0.5/0.9	3/16	0.1	1.25	1.12	1.00
MOC5008-M	4	0.3	0.5/0.9	3/16	0.1	1.25	1.12	1.00
MOC5009-M	10	0.3	0.5/0.9	3/16	0.1	1.25	1.12	1.00

(9945) (ne09496)

SURFACE MOUNT OPTOCOUPLERS

SO-8

TRANSISTOR OUTPUT

Pinout: 1-Anode, 2-Cathode, 3-N.C., 4-N.C., 5-Emitter, 6-Collector, 7-Base, 8-N.C.

Type	Marking	Current Transfer Ratio (CTR) Min. (%)	@ I_F (mA)	$V_{CE(sat)}$ V_{CE} (V)	Max. (V)	@ I_F (mA)	t_r/t_f I_C (mA)	Typ. (µs)	@ I_F (mA)	V_{CC} (V)	$V_{(BR)CEO}$ Min (V)	1-99	100-249	250-499
MOC205-M	206	63-125	10	10	0.4	10	2	1.6	2	10	70	0.83	0.71	0.62
MOC207-M	207	100-200	10	10	0.4	10	2	1.6	2	10	70	0.83	0.71	0.62
MOC215-M	215	20	1	5	0.4	1	0.1	3.2	2	10	30	0.75	0.64	0.56
MOC216-M	216	50	1	5	0.4	1	0.1	3.2	2	10	30	0.78	0.66	0.58

TRANSISTOR OUTPUT (DUAL CHANNEL)

MOCD213-M	D213	100	10	10	0.4	10	2	3.2	2	10	70	1.10	0.97	0.86
MOCD217-M	D217	100	1	5	0.4	1	0.1	3.2	2	10	30	1.10	0.97	0.86

DARLINGTON OUTPUT

Pinout: 1-Anode, 2-Cathode, 3-N.C., 4-N.C., 5-Emitter, 6-Collector, 7-Base, 8-N.C.

MOC223-M	223	500	1	5	1	1	0.5	2	5	10	30	0.83	0.71	0.62

DARLINGTON OUTPUT (DUAL CHANNEL)

MOCD223-M	D223	500	1	5	1	1	0.5	2	5	10	30	1.05	0.92	0.82

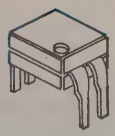
(2663) (ne09497)

OPTOCOUPLERS

Pkg. 295

Pkg. 296

Pkg. 297


Pkg. 298

All optoisolators are UL recognized under file number E50151 and E90700. VDE approved optocouplers are listed under file 0884/8.87. (*) denotes Current Transfer Ratio @ ≤5mA I_F (%). Isolation voltage: 5.3 kV (except **types H24**, 3.75 kV). Package: 296 (except **types H24**, 297).

PHOTO TRANSISTOR OUTPUT

Stock No.	Type	CTR @ 10mA I_F Min.	BV_{CEO} Min. (Volts)	t_r/t_f Typ. (ns)	1-99	100-499	500-999
46F7752	CNY17-1	40.0	70	5/5	0.37	0.31	0.27
46F7810	CNY17-2	63.0	70	5/5	0.37	0.31	0.27
46F7811	CNY17-3	100.0	70	5/5	0.43	0.36	0.31
46F7812	CNY17-4	160.0	70	5/5	0.37	0.31	0.27
95F9940	CNY17F-1	40.0	70.0	5/5	0.37	0.31	0.27
95F9942	CNY17F-3	100.0	70.0	5/5	0.37	0.31	0.27
81F9608	H11A1	50.0	30	2/2	0.43	0.36	0.31
81F9609	H11A2	20.0	30	2/2	0.43	0.36	0.31
81F9610	H11A3	20.0	30	2/2	0.43	0.36	0.31
16F9251	H11A5	30.0	30	2/2	0.49	0.41	0.35
16F9252	H11A817	50.0	35	2.4/2.4	0.32	0.27	0.23
16F9253	H11A817A	80.0	35	2.4/2.4	0.34	0.29	0.25
16F9254	H11A817B	130.0	35	2.4/2.4	0.34	0.29	0.25
16F9256	H11A817D	300.0	35	2.4/2.4	0.40	0.34	0.30
84F1534	H11AG1	300.0*	30	5/5	0.69	0.61	0.55
50F9930	H24A1	100.0	30	9/4	2.14	1.90	1.71
84F226	H24A2	20.0	30	9/4	1.96	1.74	1.57
32F1484	4N25	20.0	30	2.5/2.6	0.34	0.29	0.25
32F1485	4N26	20.0	30	2.5/2.6	0.34	0.29	0.25
13F9742	4N27	10.0	30	2.5/2.6	0.34	0.29	0.25
32F1486	4N28	10.0	30	2.5/2.6	0.34	0.29	0.25
32F1490	4N35	100.0	30	2.5/2.6	0.34	0.29	0.25
32F1491	4N36	100.0	30	2.5/2.6	0.34	0.29	0.25
32F1492	4N37	100.0	30	2.5/2.6	0.34	0.29	0.25
32F1435	MCT2	20.0	30	10/27	0.34	0.29	0.25
32F1436	MCT2E	20.0	30	2.5/2.6	0.40	0.34	0.29
44F4561	MCT210	150.0	30	4/5	0.56	0.48	0.42
HIGH-VOLTAGE PHOTO TRANSISTOR OUTPUT							
81F9614	H11D1	20.0	300	5/5	0.72	0.62	0.54
81F9615	H11D2	20.0	300	5/5	0.72	0.62	0.54
81F9617	H11D4	10.0	200	5/5	0.64	0.55	0.48
PHOTO DARLINGTON OUTPUT							
81F9611	H11B1	500.0	25	125/100	0.40	0.34	0.30
81F9612	H11B2	200.0	25	125/100	0.46	0.38	0.33
81F9613	H11B3	100.0	25	125/100	0.43	0.36	0.31
84F227	H24B1	1000.0	30	100/60	3.05	2.73	2.48
84F228	H24B2	400.0	30	100/60	2.96	2.66	2.41
44F4554	4N30	100.0	30	5/40	0.34	0.29	0.25
44F4555	4N31	50.0	30.0	5/40	0.34	0.29	0.25
32F1488	4N32	500.0	30	5/100	0.34	0.29	0.25
32F1489	4N33	500.0	30	5/100	0.34	0.29	0.25
HIGH-VOLTAGE PHOTO DARLINGTON OUTPUT							
46F7743	H11G1	1000.0	100	5/100	0.64	0.55	0.48
46F7744	H11G2	1000.0	80	5/100	0.62	0.53	0.46
AC INPUT ISOLATORS							
50F9537	H11AA1	20.0	30	5/5	0.56	0.48	0.42
50F9538	H11AA2	10.0	30	5/5	0.59	0.50	0.44
50F9539	H11AA4	100.0	30	5/5	0.60	0.53	0.47
16F9249	H11AA814	20.0	35	2.4/2.4	0.56	0.48	0.42
16F9250	H11AA814A	50.0	35	2.4/2.4	0.62	0.53	0.46

(2673) (de02818)

SCHMITT TRIGGER OUTPUT OPTOCOUPLERS

Isolation voltage: 5.3kV. Package: 296.

Stock No.	Type	Turn On Current I_{FON} Max.	Hysteresis I_{OFF}/I_{ON} Ratio Min./Max.	Output Voltage Max.*	Operating Voltage Min./Max.	1-24	25-49	50-99
84F211	H11L1	1.6mA	0.5/0.9	0.4V	3V/16V	0.86	0.76	0.68
50F9909	H11L3	5mA	0.5/0.9	0.4V	3V/16V	0.84	0.74	0.66
50F9910	H11N1	3.2mA	0.65/0.95	0.5V	4V/15V	4.90	4.39	3.98
50F9911	H11N2	5mA	0.65/0.95	0.5V	4V/15V	4.35	3.90	3.54
84F212	H11N3	10mA	0.65/0.95	0.5V	4V/15V	2.72	2.44	2.21

* @ $I_F=I_{FON}$ max.

(2544) (de02956)

DUAL OPTOCOUPLERS

Transistor output optocouplers. Isolation voltage: 2.5 kV min. Package: 295.

Stock No.	Type	Typical Data Rate (NRZ)	1-99	100-249	250-499
32F1439	MCT6	15kBit/s	0.67	0.57	0.50
46F7722	MCT61	10kBit/s	0.70	0.59	0.52
46F7723	MCT62	5kBit/s	0.65	0.57	0.51
48F4730	MCT9001	10kBit/s	0.72	0.62	0.54

(2540) (de02952)

HIGH-SPEED OPTOCOUPLERS

LOGIC OUTPUT

LED input (**types HCPL2530/31** and **HCPL2630-31** are dual LED). Isolation voltage: 2.5kV min. Package: 295. **Type MID400** is an AC line monitor.

Stock No.	Type	Output	Data Rate Typ. (Bits/s)	1-99	100-249	250-499
46F7734	6N135	Transistor	1M	0.86	0.76	0.68
46F7735	6N136	Transistor	1M	0.88	0.78	0.69
13F9751	6N137	10 TTL Loads, O.C.	10M	1.05	0.92	0.82
46F7732	6N138	Darlington	100k	0.96	0.84	0.75
46F7733	6N139	Darlington	100k	1.05	0.92	0.82
87F190	HCPL-2530	Dual Transistor	1M	1.69	1.50	1.35
87F191	HCPL-2531	Dual Transistor	1M	1.94	1.72	1.55
46F6596	HCPL-2601	8 TTL Loads, O.C.	10M	1.57	1.40	1.26
81F9604	HCPL-2630	8 TTL Loads, O.C., Dual Logic	10M	2.40	2.15	1.95
46F6620	HCPL-2631	8 TTL Loads, O.C., Dual Logic	10M	2.61	2.34	2.13
46F6622	HCPL-2731	Darlington	100k	2.05	1.82	1.64
13F9744	MID400	10 TTL Loads	...	2.72	2.44	2.21

LOGIC-TO-LOGIC

LSTTL input. **Types 74OL6000/6001** are TTL totem pole output. **Types 74OL6010/6011** are CMOS open-collector output. Isolation voltage: 5.3kV min. Package 296.

Stock No.	Type	Logic Function	1-24	25-49	50-99
92F2475	74OL6000	Buffer	2.72	2.44	2.21
92F2476	74OL6001	Inverter	2.72	2.44	2.21
92F2477	74OL6010	Buffer	2.72	2.44	2.21
92F2478	74OL6011	Inverter	2.72	2.44	2.21

(2541) (de02953)

BILATERAL ANALOG FET OPTOCOUPLERS

Isolation voltage: 5.3 kV. Off-state resistance: 300MΩ min. Package: 296.

Stock No.	Type	On-State Resist. Max.	Breakdown Voltage	1-24	25-49	50-99
84F207	H11F1	200Ω	30	2.72	2.44	2.21
50F9908	H11F2	330Ω	30	2.40	2.15	1.95
84F208	H11F3	470Ω	15	1.60	1.42	1.28

(2542) (de02954)

TRIAC DRIVER OUTPUT OPTOCOUPLERS

Isolation voltage: 5.3kV. Static dV/dt: 12.0V/µs typ. Package: 296.

Stock No.	Type	I_F Trigger Max.	Blocking Voltage Min.	1-99	100-249	250-499
92F2468	MOC3011	10mA	250V	0.62	0.53	0.46
92F2470	MOC3020	30mA	400V	0.60	0.50	0.43
92F2471	MOC3021	15mA	400V	0.56	0.48	0.42
92F2472	MOC3022	10mA	400V	0.64	0.55	0.48

(2543) (de02955)

PHOTO SCR OUTPUT OPTOCOUPLERS

Isolation voltage: 5.3kV. Package: 296.

Stock No.	Type	I_F Trigger Max.	I_D @ 100°C Max. (µA)	Block Voltage Min.	1-99	100-249	250-499
84F204	H11C1	11mA	50	200V	0.96	0.84	0.75
84F205	H11C2	11mA	50	200V	0.91	0.80	0.71
84F241	H11C3	14mA	50	200V	0.86	0.76	0.68
84F206	H11C4	11mA	150	400V	1.00	0.88	0.79
50F9912	H11C5	11mA	150	400V	0.96	0.84	0.75
95F9947	H11C6	14mA	150	400V	0.91	0.80	0.71
93F1836	4N39	14mA	50	200V	0.96	0.84	0.75
93F1837	4N40	14mA	150	400V	1.03	0.91	0.82

(2545) (de02957)

INFRARED EMITTING DIODES

Fig. 1 Fig. 2 Fig. 3 Fig. 4 Fig. 5 Fig. 6

PLASTIC

I_R/V_R: 10µA/5V max. (except **type F5F1**, 10µA/6V max.). V_F/I_F: 1.7V/20mA max. (except **types QEC112/113** and **QED233**, 1.5V/20mA max.) and **type F5F1** 1.7V/60mA max.

940nm GaAs IN T-1 (3mm)—FIG. 1

Stock No.	Type	Emission Angle @ ½ Power	Radiant Intensity* Min./Max. (mW/sr)	1-99	100-249	250-499
52F8753	QEC112	±8°	6/30	0.43	0.36	0.31
93F2610	QEC113	±8°	14/...	0.46	0.38	0.33

940nm GaAs IN SIDELOOKER (0.070″)—FIG. 6

50F9938	F5F1	±35°	0.28/...	0.29	0.24	0.21

880nm AlGaAs IN T-1 (3mm)—FIG. 1

52F8755	QEC122	±8°	27/94	0.81	0.68	0.60

940nm GaAs IN T-1 ¾ (5mm)—FIG. 2

93F2614	QED233	±20°	10/53	0.43	0.36	0.31

880nm AlGaAs IN TO-46—FIG. 3

93F2615	QED423	±30°	18/...	0.68	0.57	0.50
93F2617	QED523	±15°	40/...	0.68	0.57	0.50

* I @ 100mA pulsed

HERMETIC

940nm GaAs IN METAL CAN TO-18

I_R/V_R: 10µA/3V max. V_F/I_F: 1.70V/100mA max.

Stock No.	Type	Fig.	Emission Angle @ ½ Power	Output Power** Min. (mW)	1-24	25-49	50-99
84F229	LED55C	5	±10°	5.40	1.71	1.52	1.37
84F236	1N6264	5	±10°	6	2.61	2.34	2.13
50F9935	1N6265	4	±40°	6	2.61	2.34	2.13

880nm GaAs IN METAL CAN TO-18

I_R/V_R: 10µA/3V max. V_F/I_F: 1.80V/100mA max.

84F203	F5D3	5	±10°	10.50	1.82	1.62	1.46
84F201	F5D1	5	±10°	12.00	1.94	1.72	1.55
84F1920	F5E1	4	±40°	12.00	1.94	1.72	1.55
50F9937	F5E3	4	±40°	10.50	1.82	1.62	1.46

**I_F = 100mA

(2629) (ne07046)

INFRARED PHOTOSENSORS

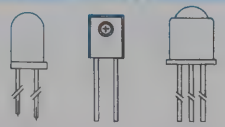


Fig. 1 Fig. 2 Fig. 3

Collector-emitter breakdown voltage: 30V min.

PHOTOTRANSISTOR IN T-1 ¾ (5mm)

Stock No.	Type	Fig.	Reception Angle @ ½ Power	$I_{C(ON)}$ Min. (mA)	$I_{C(ON)}$ @Ee (mW/cm²)	1-24	25-99	100-249
93F2639	QSD123	1	±12°	4.0	0.5	0.49	0.41	0.35

PHOTODARLINGTON IN SIDELOOKER PACKAGE (0.070″)

50F9951	L14R1	2	±35°	5.0	0.3	0.46	0.38	0.33

HERMETIC SILICON-METAL CAN

84F231	L14F1	3	±8°	3.00	0.05	2.00	1.78	1.60
84F232	L14F2	3	±8°	3.00	0.05	1.89	1.68	1.51
84F233	L14G1	3	±10°	6.0	3.0	1.48	1.32	1.19
50F9944	L14G2	3	±10°	3.00	3	1.37	1.22	1.09
84F234	L14G3	3	±10°	12.00	3	1.60	1.42	1.28
50F9948	L14P2	3	±10°	8.00	0.3	1.69	1.50	1.35

(2665) (ne09568)

OPTOLOGIC™ PHOTOSENSORS

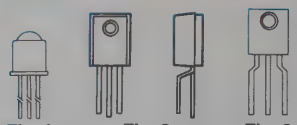


Fig. 1 Fig. 2 Fig. 3

Positive going threshold irradiance (Ee+): 0.25mW/cm². Hysteresis ratio: 1.2 typ. Operating supply voltage: 4.5V-16V. Supply current: 12mA max. Operating temperature: –40°C to +85°C. Output current: 50mA. Supply voltage: 18V. Power dissipation: 100 mW, derate linearly at 4.00 mW/°C above 25°C (**type QSA**: 250 mW, derate linearly at 2.50 mW/°C).

Stock No.	Type	Output Configuration	Fig.	1-24	25-49	50-99
96F8787	QSA158	Buffer Open Collector	1	2.81	2.52	2.28
96F8788	QSA159	Inverter Open Collector	1	2.81	2.52	2.28
52F8732	L14LTB	Buffer Totem Pole	2	0.91	0.81	0.73
52F8733	L14LTI	Inverter Totem Pole	2	0.91	0.81	0.73
52F8734	L14LOB	Buffer Open Collector	2	0.91	0.81	0.73
52F8735	L14LOI	Inverter Open Collector	2	0.91	0.81	0.73
92F2447	QSE158	Buffer Open Collector	3	0.91	0.81	0.73
92F2448	QSE159	Inverter Open Collector	3	0.91	0.81	0.73

(2630) (ne07048)

OPTICAL INTERRUPTER SWITCHES

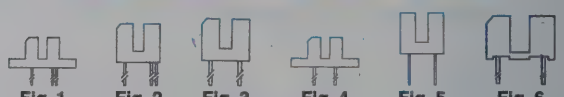


Fig. 1 Fig. 2 Fig. 3 Fig. 4 Fig. 5 Fig. 6

OPTOLOGIC™

Slot width: 3.15mm. Operating temperature: –40°C to +85°C. Positive threshold current: 15mA max. Hysteresis ratio: 1.2 typ. Input Diode: Continuous forward current: 50mA; Reverse voltage: 5.0V; Power dissipation: 100 mW (derate linearly at 1.67 mW/°C above 25°C). Output Optologic™: Output current (not to exceed 150 mW total power): 50mA; Supply voltage: 4.5 to 16V; Output voltage: 30V; Power dissipation: 150 mW (derate linearly at 2.50 mW/°C above 25°C). Supply current: 12mA max.

Stock No.	Type	Output Configuration	Fig.	1-24	25-99	100-249
52F8736	H21LTB	Buffer Totem Pole	1	1.60	1.42	1.28
52F8738	H21LTI	Inverter Totem Pole	1	1.60	1.42	1.28
52F8739	H21LOB	Buffer Open Collector	1	1.60	1.42	1.28
52F8737	H21LOI	Inverter Open Collector	1	1.60	1.42	1.28
52F8742	H22LOB	Buffer Open Collector	2	1.60	1.42	1.28
52F8743	H22LOI	Inverter Open Collector	2	1.60	1.42	1.28

PHOTOTRANSISTOR

Collector emitter breakdown voltage: 30V min. Test conditions (I_F/V_{CC}): **H21A1**, **H22A1**, **OPB804**: 20mA/5V; **MOC70P1/P2/P3**: 20mA/10V; **H21B1**, **H21B2**: 10mA/1.5V. Lead spacing: **H21/H22**, 0.284″; **OPB804**, 0.300″; **MOC70P1/P2/P3**, 0.38″.

Stock No.	Type	Fig.	Slot Width (mm)	$I_{C(ON)}$ Min. (mA)	1-24	25-99	100-249
84F213	H21A1	4	3.15	1.00	0.88	0.78	0.69
84F250	H21A2	4	3.15	2.00	0.93	0.82	0.73
84F214	H21A3	4	3.15	4.00	0.94	0.83	0.75
84F219	H22A1	3	3.15	1.00	0.88	0.78	0.69
84F220	H22A2	3	3.15	2.00	0.93	0.82	0.73
84F221	H22A3	3	3.15	4.00	0.94	0.83	0.75
96F8780	OPB804	5	3.81	0.50	1.17	1.03	0.92
52F8745	MOC70P2	6	5.08	2.0	0.88	0.78	0.69

PHOTODARLINGTON

84F215	H21B1	4	3.15	7.50	1.10	0.97	0.88
84F216	H21B2	3	3.15	7.50	1.14	1.01	0.91
84F217	H21B3	4	3.15	25.0	2.23	1.98	1.79
84F218	H21B6	4	3.15	25.0	3.70	3.32	3.01
84F222	H22B1	3	3.15	7.5	1.10	0.97	0.88
84F223	H22B2	3	3.15	14.0	1.14	1.01	0.91

(2632) (ne07083)

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DISCRETE LED LAMPS, BAR GRAPHS AND DISPLAYS

T-1¾ SOLID-STATE LED LAMPS

Fig. 1 Fig. 2

STANDARD RED LED

Stock No.	Type	Lens Color*	Fig.	Intensity (mcd/mA)	Beam Angle	1-99	100-499	500-999
32F1457	MV5053	Red Diff.	1	1.6/20	80°	0.19	0.15	0.13
32F1458	MV5054A1	Red Diff.	1	2.0/10	24°	0.19	0.15	0.13
32F1450	MV5021A	Clear Diff.	2	1.6/20	90°	0.37	0.31	0.27
32F1452	MV5023A	Red Diff.	2	1.6/20	90°	0.37	0.31	0.27
32F1453	MV5024A	Red Diff.	2	3.0/20	60°	0.37	0.31	0.27
AlGaAs RED (SUPER BRIGHT) LED								
92F2462	MV8111	Clear	1	370/20	12°	0.34	0.28	0.24
92F2463	MV8112	Clear	1	940/20	12°	0.37	0.30	0.26
92F2465	MV8114	Clear	1	2400/20	12°	0.68	0.57	0.50
92F2444	MV8104	Clear	1	1500/20	20°	0.54	0.46	0.39
HIGH-EFFICIENCY RED LED								
46F7761	HLMP-3300	Red Diff.	1	3.5/10	65°	0.25	0.20	0.17
46F7762	HLMP-3301	Red Diff.	1	7.0/10	65°	0.23	0.19	0.17
32F1465	MV5153	Amber Diff.	1	15.0/20	65°	0.34	0.28	0.24
32F1480	MV5753	Red Diff.	1	15.0/20	65°	0.19	0.15	0.13
87F648	MV5754A	Red Diff.	1	25.0/20	24°	0.19	0.15	0.13
32F1479	MV5752	Red Clear	1	100.0/20	28°	0.19	0.15	0.13
66F2898	HLMP-3750A	Orange Clear	2	2.2/30	24°	0.22	0.18	0.15
HIGH-EFFICIENCY GREEN LED								
81F3732	MV64531	Green Diff.	1	25.0/20	75°	0.40	0.33	0.28
44F651	MV5453	Green Diff.	1	20.0/20	75°	0.19	0.15	0.13
44F652	MV5454A	Green Diff.	1	30.0/20	24°	0.19	0.15	0.13
81F3730	MV64521	Green Clear	1	100.0/20	35°	0.34	0.29	0.25
GREEN LED								
66F2900	HLMP-3950A	Green	2	2.2/30	24°	0.22	0.18	0.15
HIGH-EFFICIENCY GREEN/RED (BI-COLOR) LED								
81F9804	MV5491A	White Diff.	1	6.0/20	100°	0.46	0.39	0.34
YELLOW LED								
32F1473	MV5352	Yellow Clear	1	90.0/20	28°	0.22	0.18	0.15
32F1474	MV5353	Yellow Diff.	1	15.0/20	65°	0.22	0.18	0.15
50F469	MV5354A	Yellow Diff.	1	25.0/20	24°	0.19	0.15	0.13

* Lenses are clear, diffused, or transparent

(2533) (de02809)

RECTANGULAR SOLID-STATE LED LAMPS

High efficiency red and green LED lamps.

Stock No.	Type	Lens Color*	Intensity (mcd/mA)	Beam Angle	1-99	100-499	500-999
44F4568	MV57123	Red	4.0/20	100°	0.25	0.20	0.17
87F397	HLMP-0301	Red	5.0/20	100°	0.29	0.24	0.21

*Diffused

(2672) (de02813)

LED LAMPS WITH INTEGRAL RESISTOR

T-1¾ lamps have stand-offs.

Stock No.	Type	Color	Package	Volts	I_F (mA)	1-99	100-499	500-999
50F2826	MR5060	Red	T-1	5V	13	0.40	0.34	0.29
50F2827	MR5360	Yellow	T-1	5V	10	0.46	0.38	0.33
50F2828	MR5460	Green	T-1	5V	12	0.40	0.34	0.29
50F2829	MR3050	Red	T-1¾	5V	13	0.34	0.29	0.25
50F2830	MR3350	Yellow	T-1¾	5V	10	0.34	0.29	0.25
50F2831	MR3450	Green	T-1¾	5V	12	0.34	0.29	0.25
50F2832	MR3051	Red	T-1¾	12V	13	0.34	0.29	0.25
50F2821	MR3351	Yellow	T-1¾	12V	13	0.34	0.29	0.25
50F2822	MR3451	Green	T-1¾	12V	13	0.34	0.29	0.25

(2596) (de51694)

NUMERIC SEGMENT DISPLAYS

56 frame displays. Segment color (diffused): red, except **type MAN6440**, white.

Stock No.	Type	Description	1-24	25-49	50-99
81F9249	MAN6440	Common Cathode; RHDP; 2 Digit	1.63	1.47	1.33
32F1499	MAN6710	Common Anode: RHDP; 2 Digit	1.71	1.52	1.37
32F1502	MAN6760	Common Anode; RHDP	1.00	0.89	0.80
10F8513	MAN6960	Common Anode; RHDP	1.37	1.22	1.09

(34475) (ne34475)

T-1 SOLID STATE LED LAMPS

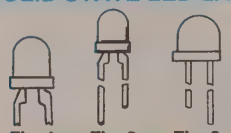


Fig. 1 Fig. 2 Fig. 3

STANDARD RED LED

Stock No.	Type	Lens Color	Fig.	Intensity (mcd/mA)	Beam Angle	1-99	100-499	500-999
13F9718	MV5074C	Red Clear	2	2.5/20	70°	0.25	0.20	0.17
32F1462	MV5075C	Red Diffused	2	1.5/20	90°	0.25	0.20	0.17
AlGaAs RED LED								
90F5860	HLMP-K101	Red Diffused	1	45/20	60°	0.31	0.25	0.22
90F5861	HLMP-K105	Water Clear	1	65/20	45°	0.31	0.25	0.22
90F5862	HLMP-K150	Red Diffused	1	2.0/1	60°	0.34	0.29	0.25
90F5863	HLMP-K155	Water Clear	1	3.0/1	45°	0.34	0.29	0.25
HIGH-EFFICIENCY RED LED								
13F9733	MV5774C	Red Diffused	2	9.0/20	90°	0.25	0.20	0.17
13F9734	MV5777C	Red Diffused	3	7.0/20	180°	0.25	0.20	0.17
81F3726	MV57640	Red Diffused	1	2.0/10	90°	0.22	0.18	0.15
HIGH-EFFICIENCY GREEN LED								
87F391	HLMP-1521	Green Clear	1	12.0/20	45°	0.25	0.20	0.17
46F7772	HLMP-1540	Pale Green Cl.	1	60.0/20	45°	0.22	0.18	0.15
87F393	HLMP-1790	Green Diffused	1	2.0/2	50°	0.22	0.18	0.15
44F653	MV5474C	Green Diffused	2	9.0/20	90°	0.28	0.23	0.19
YELLOW LED								
13F9731	MV5374C	Yellow Diffused	2	9.0/20	90°	0.28	0.23	0.19
46F7771	HLMP-1440	Pale Yellow Cl.	1	60.0/20	45°	0.22	0.18	0.15

(2534) (de02810)

LED LAMPS & BARGRAPHS

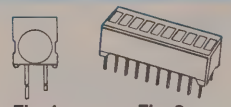


Fig. 1 Fig. 2

HIGH-EFFICIENCY RED LED

Feature diffused lenses. All except **type MV54124A** have grey face.

Stock No.	Type	Lens Color	Fig.	Intensity (mcd/mA)	Beam Angle	1-24	25-49	50-99
13F9737	MV57164	Red	2	1.0/10	130°	1.53	1.37	1.24
HIGH-EFFICIENCY GREEN LED								
46F6590	MV54124A	Green	1	6.0/20	100°	0.29	0.24	0.21
44F4570	MV54164	Clear	2	1.0/20	130°	1.74	1.56	1.42

10-SEGMENT BARGRAPHS

Multicolor LED source with white, diffused lens. Forward voltage: 3.0V max. Luminous intensity: 1800µcd min. (510µcd typ.).

Stock No.	Type	Electrical Schematic (10-Element)	1-24	25-49	50-99
91F4665	MV5A164	R, R, R, Y, Y, Y, Y, G, G, G	2.83	2.54	2.30
91F4666	MV5B164	R, R, Y, Y, G, G, Y, Y, R, R	3.05	2.73	2.48
91F4667	MV5C164	G, G, G, G, G, G, Y, Y, Y, R	2.83	2.54	2.30
91F4668	MV5D164	G, G, G, G, G, R, R, R, R, Y	2.94	2.64	2.39
91F4669	MV5E164	G, Y, Y, Y, Y, Y, Y, R, R, R	2.83	2.54	2.30

(2536) (de02812)

LIGHT BARS

SINGLE IN-LINE 4 PIN

Stock No.	Type	Luminous Intensity Iv (mcd) Min.	Luminous Intensity Iv (mcd) Typ.	Segment Color (Diffused)	1-24	25-99	100-249
46F6627	HLMP-2300	6.0	23.0	White	0.91	0.80	0.71
46F6628	HLMP-2400	6.0	20.0	White	0.91	0.80	0.71
46F6629	HLMP-2500	5.0	25.0	Green	0.91	0.80	0.71
SINGLE IN-LINE 8 PIN							
46F6630	HLMP-2350	13.0	45.0	White	1.25	1.12	1.00
46F6584	HLMP-2550	11.0	50.0	Green	1.25	1.12	1.00
DUAL IN-LINE 8 PIN							
46F6585	HLMP-2655	13.0	43.0	White	1.78	1.58	1.42
46F6586	HLMP-2755	13.0	35.0	White	1.78	1.58	1.42
DUAL IN-LINE 16 PIN							
46F6611	HLMP-2685	22.3	80.0	White	2.18	1.95	1.77
46F6613	HLMP-2885	22.0	100.0	Green	2.18	1.95	1.77
46F6612	HLMP-2785	26.0	70.0	White	2.18	1.95	1.77

(34474) (ne34474)

SLOTTED OPTICAL SWITCHES

HERMETIC TRANSISTOR OUTPUT

Stock No.	Type	Fig.	Collector Current $I_{C(ON)}$ @ I_F (mA)	(mA)	Sensor Aperture L x W	Aperture Gap Depth	Width	1-99	100-999	1000-4999
87F6513	HOA1873-002	2	1.8	20	0.050″ dia.	0.250″	0.100″	8.09	5.67	4.53
87F6515	HOA1875-002	3	0.6	30	0.050″ dia.	0.250″	0.200″	7.38	5.16	4.13
87F6448	HOA1877-002	4	0.5	30	0.050″ dia.	0.500″	0.375″	7.38	5.16	4.13
HERMETIC DARLINGTON OUTPUT										
90F8596	HOA1873-003	2	4.0	20	0.050″ dia.	0.250″	0.100″	8.21	5.75	4.59
90F8591	HOA1874-002	6	1.8	20	0.050″ dia.	0.315″	0.120″	8.48	5.94	4.75
90F8598	HOA1875-003	3	1.8	30	0.050″ dia.	0.250″	0.200″	7.47	5.23	4.18
90F8600	HOA1877-003	4	1.5	30	0.050″ dia.	0.500″	0.375″	7.47	5.23	4.18
PLASTIC TRANSISTOR OUTPUT										
90F8603	HOA0825-003	6	0.5	20	0.060″ dia.	0.330″	0.165″	2.74	1.92	1.54
87F6503	HOA0875-T51	2	0.5	20	0.060 x 0.010″	0.345″	0.125″	2.72	1.91	1.53
90F8615	HOA1870-031	7	0.3	20	0.040 x 0.006″	0.250″	0.070″	6.40	4.48	3.59
87F6514	HOA1873-012	2	1.8	20	0.060″ dia.	0.250″	0.100″	2.84	1.99	1.59
96F6342	HOA1879-015	6	1.8	20	0.040 x 0.010″	0.325″	0.125″	4.15	2.91	2.33
87F6450	HOA1881-012	8	1.8	20	0.060″ dia.	0.295″	0.125″	5.22	3.66	2.92
90F8616	HOA1884-012	9	1.8	20	0.060 x 0.020″	0.315″	0.125″	3.67	2.57	2.05
87F6512	HOA1872-012	1	1.8	20	0.060″ dia.	0.250″	0.100″	3.67	2.57	2.05
92F7071	HOA1882-012	3	1.8	20	0.060″ dia.	0.220″	0.200″	2.47	1.74	1.39
01F758	HOA1887-012	12	1.8	20	0.060 x 0.010″	0.125″	0.250″	5.52	3.87	3.09
PLASTIC DARLINGTON OUTPUT										
90F8557	HOA1870-033	7	2.0	20	0.040 x 0.006″	0.250″	0.070″	6.46	4.53	3.62
90F8558	HOA1872-013	1	4.0	20	0.060″ dia.	0.250″	0.100″	3.73	2.62	2.09
98F027	HOA1873-013	2	4.0	20	0.060″ dia.	0.250″	0.100″	2.89	2.03	1.62
01F759	HOA1887-013	12	4.0	20	0.060 x 0.010″	0.125″	0.250″	5.79	4.06	3.25

PLASTIC OPTOSCHMITT OUTPUT

Stock No.	Type	Fig.	Operating Voltage (V)	Sensor Aperture L x W	Gap Depth	Width	1-99	100-999	1000-4999
95F9370	HOA7720-M22	11	4.5-5.5	0.070 x 0.020″	0.295″	0.118″	7.92	5.55	4.44
95F9371	HOA7730-M22	11	4.5-5.5	0.070 x 0.020″	0.295″	0.118″	7.92	5.55	4.44

Stock No.	Type	Fig.	$I_{FT(ON)}$ Max (mA)	Sensor Aperture L x W	Gap Depth	Width	1-99	100-999	1000-4999
87F6708	HOA2001-001	2	10	0.060″ dia.	0.305″	0.120″	3.72	2.61	2.08
90F8559	HOA2003-001	2	20	0.040 x 0.010″	0.325″	0.125″	5.10	3.58	2.86
90F8560	HOA2004-001	9	20	0.040 x 0.020″	0.315″	0.125″	3.77	2.64	2.47
01F760	HOA2005-001	12	20	0.060 x 0.010″	0.250″	0.125″	6.46	4.53	3.62
90F8568	HOA6970-T51	2	15	0.050 x 0.010″	0.330″	0.130″	3.88	2.71	2.18
90F9734	HOA6971-T51	2	15	0.060 x 0.010″	0.345″	0.125″	3.88	2.71	2.18
90F8575	HOA6990-N55	10	15	0.060 x 0.050″	0.345″	0.125″	6.10	4.27	3.42
90F8582	HOA6990-T51	8	15	0.060 x 0.010″	0.345″	0.125″	6.16	4.31	3.45
90F8584	HOA6991-T51	8	15	0.060 x 0.010″	0.345″	0.125″	6.16	4.31	3.45
90F8586	HOA6992-T51	8	15	0.060 x 0.010″	0.345″	0.125″	6.16	4.31	3.45
90F8588	HOA6993-T51	8	15	0.060 x 0.010″	0.345″	0.125″	6.16	4.31	3.45
96F6367	HOA6994-T51	8	15	0.050 x 0.010″	0.355″	0.130″	6.16	4.31	3.45

(3812) (de04447)

Fig. 1

Fig. 2

Fig. 3

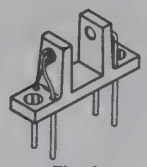


Fig. 4

Fig. 5

Fig. 6

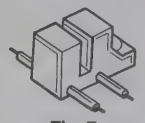


Fig. 7

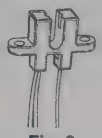


Fig. 8

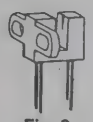


Fig. 9

Fig. 10

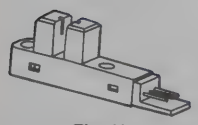


Fig. 11

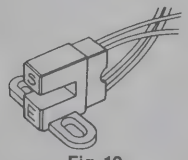


Fig. 12

REFLECTIVE SENSORS

PLASTIC TRANSISTOR OUTPUT

Stock No.	Type	Fig.	Light Current I_L @ I_F (mA)	(mA)	Target Distance	1-99	100-999	1000-4999
89F5784	HOA0149-001	6	1.0	40	0.150″	3.30	2.32	1.85
87F6452	HOA0708-001	1	0.2	40	0.150″	3.68	2.58	2.06
87F6508	HOA1397-002	2	0.7	20	0.050″	3.30	2.32	1.85
90F8550	HOA1405-002	7	0.8	30	0.200″	3.79	2.65	2.13
96F6323	HLC1395-002	8	0.6	10	0.040″	2.09	1.88	1.36
PLASTIC DARLINGTON OUTPUT								
87F6454	HOA0709-001	1	1.0	40	0.150″	3.68	2.58	2.06
87F6487	HOA0709-011	1	1.0	40	0.150″	4.00	2.80	2.24
87F6707	HOA1397-032	2	7.0	20	0.050″	3.39	2.37	1.89
HERMETIC TRANSISTOR OUTPUT								
87F6507	HOA1180-002	3	0.16	30	0.500″	12.16	8.51	6.81
87F6510	HOA1404-002	4	0.8	30	0.200″	9.30	6.52	5.21
90F8552	HOA2498-002	5	0.16	30	0.500″	7.25	5.08	4.06
HERMETIC DARLINGTON OUTPUT								
90F8554	HOA1180-003	3	2.0	30	0.500″	12.35	8.65	6.92
96F9193	HOA1406-001	9	2.5	40	0.200″	18.70	13.09	10.48
90F8555	HOA1404-003	4	2.0	30	0.200″	9.35	6.55	5.23
96F9194	HOA1406-003	7	2.0	40	0.200″	19.01	13.30	10.64

(3813) (de04448)

Fig. 1

Fig. 2

Fig. 3

Fig. 4

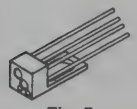


Fig. 5

Fig. 6

Fig. 7

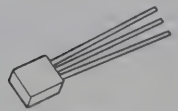


Fig. 8

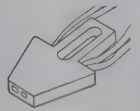


Fig. 9

AT NEWARK, YOUR ORDER IS OUR FIRST PRIORITY.

INFRARED DIODES AND SENSORS

INFRARED EMITTING DIODES

The letter "P" in the type number denotes plastic housing.

Stock No.	Type	Fig.	Beam Angle	V_F Max. (V)	V_F Max. @ I_F (mA)	Output Min. H (mW/cm²)	Output Min. @ I_F (mA)	Peak Wavelength (nm)	1-99	100-999	1000-4999
87F6444	SE1450-003L	2	24°	1.6	50	0.70mW	50	935	3.74	3.37	2.43
89F5759	SE1470-003L	2	24°	1.8	50	1.10	20	880	4.30	3.87	2.80
87F6447	SE2470-002	3	18°	1.8	50	6.00	50	880	2.19	1.54	1.10
87F6488	SE3455-003	4	90°	1.7	100	4.80mW	100	935	2.95	2.06	1.47
87F6489	SE3470-003	4	90°	1.9	100	10.50mW	100	880	3.35	2.35	1.68
90F8506	SE5450-013	5	20°	1.7	100	1.00	100	935	2.95	2.06	1.47
87F6491	SE5455-002	5	20°	1.7	100	3.50mW	100	935	2.95	2.06	1.47
50F5059	SE5470-001	5	20°	1.9	100	7.0mW	100	880	3.06	2.15	1.54
50F5061	SE5470-003	5	20°	1.9	100	2.6	100	880	3.21	2.25	1.61
50F5062	SE5470-004	5	20°	1.9	100	3.5	100	880	3.35	2.35	1.68
87F6494	SEP8505-003	7	15°	1.5	20	2.00	20	935	1.02	0.92	0.67
89F5761	SEP8705-002	7	15°	1.7	20	1.40	20	880	1.09	0.98	0.71
89F5762	SEP8705-003	7	15°	1.7	20	2.70	20	880	1.13	1.01	0.74
87F6498	SEP8706-002	6	50°	1.7	20	0.45	20	880	0.91	0.81	0.59
90F8509	SEP8706-003	6	50°	1.7	20	0.65	20	880	0.96	0.87	0.62
93F7707	SEP8736-002	8	10°	1.7	20	1.2	20	880	1.02	0.92	0.67

Fig. 1

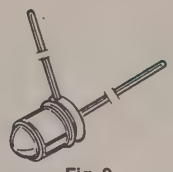


Fig. 2

Fig. 3

VERTICAL CAVITY SURFACE EMITTING LASER DIODE

The VCSEL diode is a high performance 850 nm laser intended for low current, high precision, high power applications.

Stock No.	Type	Fig.	Beam Angle	V_F Max (V)	V_F Max @I_F (mA)	Output Type mW/Cm²	Output Type @I_F (mA)	Peak Wave Length (nm)	1-99	100-999	1000-4999
48F3816	SV5637-001	5	2°	1.75	10	1.25	10	850	9.69	6.78	4.85

Fig. 4

Fig. 5

PHOTODIODE DETECTORS

Stock No.	Type	Fig.	Acceptance Angle	$I_{C(on)}$ Min. @V_R = 20V (µA)	Rated @ H (mW/cm²)	1-99	100-999	1000-4999
90F8521	SD1420-002L	2	24°	5.0	5	3.42	3.08	2.22
90F8522	SD2420-002	3	48°	7.0	20	2.37	1.66	1.19
90F8523	SD3421-002	4	90°	10.0	5	5.73	4.02	2.87
90F8524	SD5421-002	5	18°	40.0	5	5.73	4.02	2.87
16F2217	SDP8276-001	6	50°	4.0	1	0.91	0.81	0.59

Fig. 6

Fig. 7

PHOTOTRANSISTOR DETECTORS

Stock No.	Type	Fig.	Acceptance Angle	$I_{C(on)}$ Min. @V_{CC} = 5V (mA)	Rated @ H (mW/cm²)	1-99	100-999	1000-4999
87F6471	SD1440-003	1	24°	3.0	5.0	2.83	2.55	1.84
87F6472	SD1440-003L	2	24°	3.0	5.0	3.34	3.01	2.18
90F8525	SD2440-002	3	48°	2.0	20.0	1.88	1.32	0.95
90F8526	SD3443-003	4	90°	2.0	5.0	3.18	2.22	1.59
89F5767	SD5443-002	5	18°	4.0	5.0	3.10	2.18	1.56
87F6476	SD5443-003	5	18°	8.0	5.0	3.10	2.18	1.56
96F6394	SDP8314-301	5	12°	4.0	5.0	2.05	1.85	1.34
87F6481	SDP8405-002	7	20°	7.00	5.0	0.91	0.81	0.59
87F6484	SDP8406-003	6	50°	3.40	1.0	0.75	0.68	0.49
93F7710	SDP8436-002	8	18°	4.00	1.0	0.96	0.87	0.62

Fig. 8

Fig. 9

LOW-LIGHT REJECTION PHOTOTRANSISTORS

Stock No.	Type	Fig.	Acceptance Angle	$I_{C(on)}$ Min. @V_{CC} = 5V (mA)	Rated @ H (mW/cm²)	1-99	100-999	1000-4999
01F757	SDP8475-201	9	20°	4.0	0.5	0.95	0.85	0.62
01F756	SDP8476-201	6	50°	1.0	1.0	0.78	0.71	0.51

PHOTODARLINGTON DETECTORS

Stock No.	Type	Fig.	Acceptance Angle	$I_{C(on)}$ Min. @V_{CC} = 5V (mA)	Rated @ H (mW/cm²)	1-99	100-999	1000-4999
90F8535	SD1410-003L	2	24°	4.00	0.2	3.42	3.08	2.22
90F8537	SD2410-003	3	48°	6.00	1.0	2.48	1.74	1.24
90F8539	SD3410-003	4	90°	4.00	2.0	3.25	2.27	1.63
90F8540	SD5410-002	5	12°	4.00	0.2	3.25	2.27	1.63
90F8541	SD5410-003	5	12°	8.00	0.2	3.30	2.32	1.65
90F8542	SDP8106-001	6	50°	1.00	1.0	0.88	0.79	0.57

(3838) (de51454)

SCHMITT TRIGGER DETECTORS

Stock No.	Type	Fig.	Output Circuit	Max. Radiant Threshold (mW/cm²)	Operating Range V_{CC} (V)	1-99	100-999	1000-4999
87F6478	SD5600-001	1	Buffer - 10kΩ PU	2.5	4.5 - 16.0	3.90	2.74	1.96
90F8543	SD5610-001	1	Inverter - 10kΩ PU	2.5	4.5 - 16	3.90	2.74	1.96
95F5325	SDP8371-001	3	Buffer - OC	0.065*	4.0 - 15.0	2.56	2.30	1.66
90F8548	SDP8600-001	2	Buffer - 10kΩ PU	2.5	4.5 - 12.0	1.65	1.49	1.08

*Release point maximum.
(3839) (de51455)

Fig. 1

Fig. 2

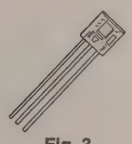


Fig. 3

ENCODER SENSORS

Stock No.	Type	Fig.	Output Type	$I_{F(ON)}$ Max. (mA)	Operating Range V_{CC} (V)	1-99	100-999	1000-4999
93F4637	HOA0901-012	1	2 Channel	15	4.5 - 5.5	5.62	3.94	3.16
93F4639	HOA0902-012	1	Speed/Dir	15	4.5 - 5.5	6.83	4.78	3.83

(3840) (de51457)

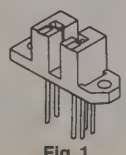


Fig. 1

INFRARED EMITTING DIODES

935nm GaAs

Stock No.	Type	Fig.	Beam Angle	Output Power Min. (mW/cm)	V_F Max. (V)	I_F Max. (mA)	1-99	100-249	250-499
08F2916	OP124	5	24°	1.00 mW	1.5	50	1.39	1.24	1.11
08F2917	OP131	1	18°	3.00 mW	1.75	100	1.91	1.70	1.53
08F2918	OP132	1	18°	4.00 mW	1.75	100	1.91	1.70	1.53
08F2920	OP133	1	18°	5.00 mW	1.75	100	1.91	1.70	1.53
08F2922	OP140A	3	40°	0.40	1.6	20	0.79	0.69	0.62
08F2941	OP165A	2	18°	1.95	1.6	20	0.88	0.78	0.69
08F2945	OP166A	2*	18°	1.95	1.6	20	1.00	0.88	0.79
				890nm GaAlAs					
08F2950	OP231	1	18°	1.50	2.0	100	2.12	1.88	1.69
08F2952	OP232	1	18°	2.00	2.0	100	2.12	1.88	1.69
08F2954	OP233	1	18°	3.00	2.0	100	2.12	1.88	1.69
08F2957	OP240A	3	40°	0.60	1.8	20	0.79	0.69	0.62
08F2969	OP265A	2	18°	2.70	1.8	20	1.00	0.88	0.79
08F2978	OP290A	4	65°	210	4.0	1.5A	0.84	0.74	0.66
52F4490	OP293B	4	60°	13.0	2.0	1.5A	0.86	0.73	0.64
08F2987	OP295B	4	15°	33.0	4.0	1.5A	0.84	0.74	0.66
08F2986	OP295A	4	15°	44.0	4.0	1.5A	0.84	0.74	0.66
91F1833	OP296B	4	15°	2.6	2.0	100	0.84	0.74	0.66
91F1834	OP297B	4	15°	0.50	1.75	20	0.84	0.74	0.66
08F2991	OP297A	4	15°	0.70	1.75	20	0.84	0.74	0.66
08F2993	OP298A	4	25°	3.0	2.0	1.5A	0.86	0.73	0.64

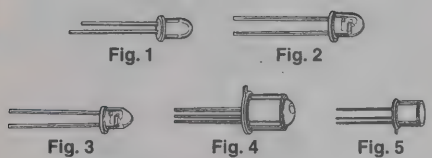
(3835) (de51018)

PHOTOSENSORS

All are phototransistors. **Types OP505** and **OP506** are narrow reception.

Type	Fig.	Beam Angle	$I_{C(ON)}$ Min. (mA)	V_{CE} (V)	E_e (mW/cm²)	1-99	100-249	250-499
OP505D	1	18°	0.55	5.0	0.5	0.70	0.59	0.52
OP505C	1	18°	1.10	5.0	0.5	0.72	0.62	0.54
OP505A	1	18°	4.30	5.0	0.5	0.72	0.62	0.54
OP506A	1*	18°	4.30	5.0	0.5	0.81	0.71	0.64
OP593A	2	130°	3.0	5.0	1.7	0.86	0.73	0.64
OP598A	3	25°	7.5	5.0	1.7	0.86	0.73	0.64
OP803SL	4	25°	4.0	5.0	5.00	2.23	1.98	1.79
OP804SL	4	25°	7.0	5.0	5.00	2.23	1.98	1.79
OP805SL	4	25°	15.0	5.0	5.00	2.23	1.98	1.79
OP802WSL	5	25°	2.5	5.0	5.00	1.96	1.74	1.57

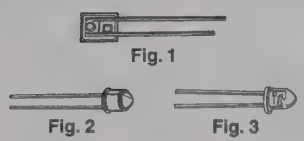
*0.100" (5.08) lead spacing
(3836) (de51020)



PHOTODIODES

Type	Fig.	Beam Angle	I_L Min. (µA)	V_R (V)	Ee (mW/cm²)	1-99	100-249	250-499
OP950	1	95°	8	5	1	0.86	0.73	0.64
OP955	1	90°	8	5	1	0.84	0.74	0.66
OP993	3	118°	12.5	5	1.7	0.81	0.71	0.64
OP999	2	18°	6.5	5	0.25	0.88	0.78	0.69

(13169) (ne10458)



OPTOISOLATORS

Type	CTR Min. (%)	V_{CE} (V)	V_{BRCEO} (V)	I_C Min. (mA)	Isolation Min. (kVDC)	1-24	25-49	50-99
OPI1264A	25	5	30	2.5	10.0	2.18	1.95	1.77
OPI1264B	50	5	30	5.0	10.0	2.22	1.99	1.81
OPI1264C	100	5	30	10.0	10.0	2.26	2.03	1.84

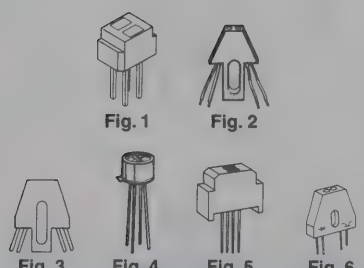
(3837) (de51021)

REFLECTIVE OBJECT SENSORS

PHOTOTRANSISTOR REFLECTIVE OBJECT SENSORS

Type	Fig.	$I_{C(ON)}$ MIN (mA)	Test Conditions			1-9	10-24	25-49
			I_F (mA)	V_{CE} (V)	Distance Inches(mm)			
OPB607A	1	25.0	20.0	5.0	0.110	1.44	1.28	1.15
OPB700	2	0.025	40.0	5.0	0.200	7.66	6.91	6.28
OPB700AL	2	0.025	40.0	5.0	0.200	8.35	7.52	6.84
OPB701	2	2.0	40.0	5.0	0.200	9.45	8.52	7.75
OPB701AL	2	2.0	40.0	5.0	0.200	10.13	9.13	8.31
OPB703	3	0.200	40.0	5.0	0.150	2.31	2.07	1.88
OPB710	4	0.150	50.0	5.0	0.250	5.94	5.35	4.87
OPB710F	4	0.150	50.0	5.0	0.250	6.20	5.58	5.08
OPB711	5	0.350	20.0	5.0	0.080	2.66	2.38	2.16
OPB712	5	20.0	20.0	5.0	0.080	3.00	2.70	2.44
OPB730	4	1.0	50.0	5.0	0.250	6.20	5.58	5.08
OPB730F	4	1.0	50.0	5.0	0.250	6.45	5.81	5.29
OPB742	6	0.010	40.0	5.0	0.150	2.29	2.05	1.86
OPB745	6	1.00	40.0	5.0	0.150	2.85	2.56	2.32

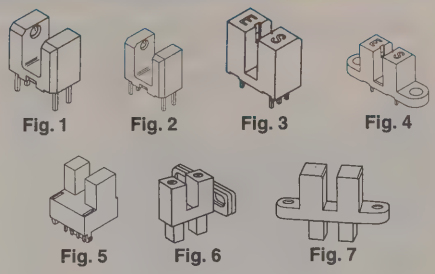
(3893) (ne07025)



PHOTOLOGIC® SLOTTED OPTICAL SWITCHES

Type	Fig.	Output Tyle	$I_C(+)$ MAX (mA)	Supply Voltage (V)	Slot Gap	Slot Depth	Sensor Aperture	Lead Space	1-24	25-49	50-99
OPB616	1	Buffer/OC	3.0	4.5-16	0.150	0.240	...	0.275	2.54	2.26	2.03
OPB628	2	Invert/OC	3.0	4.5-16	0.190	0.285	...	0.320	2.54	2.26	2.03
OPB961N51	3	Buffer/OC	15.0	5	0.125	0.345	0.010	0.320	4.61	4.13	3.75
OPB960T51	4	Buffer/TP	15.0	5	0.125	0.345	0.010	0.320	4.61	4.13	3.75
OPB973T55	4	Invert/OC	15.0	5	0.125	0.345	0.050	0.320	4.40	3.94	3.57
OPB665T	4	Buffer/10K	10.0	4.5-16	0.125	0.345	0.010	0.320	3.45	3.07	2.76
OPB667T	4	Invert/10K	10.0	4.5-16	0.125	0.345	0.010	0.320	3.45	3.07	2.76
OPB930W55	6	Buffer/TP	15.0	5	0.125	0.315	0.050	Wired	8.29	7.44	6.75
OPB941W55	6	Buffer/OC	15.0	5	0.125	0.315	0.050	Wired	8.22	7.38	6.69
OPB981T51	7	Buffer/OC	15.0	5	0.125	0.345	0.010	Wired	7.27	6.53	5.92

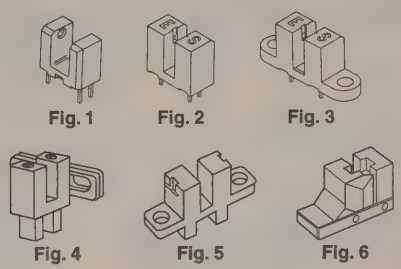
(9385) (ne07022)



PHOTOTRANSISTOR SLOTTED OPTICAL SWITCHES

Type	Fig	$I_{C(ON)}$ MIN (mA)	Test Conditions I_F (mA)	Test Conditions V_{CE} (V)	Slot Gap	Slot Depth	Sensor Aperture	Lead Space	1-24	25-49	50-99
OPB610	1	1.0	5.0	5.0	0.150	0.240	...	0.275	1.30	1.16	1.04
OPB620	1	1.0	5.0	5.0	0.190	0.280	...	0.320	1.30	1.16	1.04
OPB804	2	0.5	20.0	10.0	0.150	0.330	0.050	0.300	1.64	1.46	1.31
OPB848	2	1.0	20.0	10.0	0.100	0.250	0.060	0.300	1.75	1.56	1.40
OPB660N	2	0.6	10.0	5.0	0.125	0.345	0.010	0.320	1.94	1.72	1.55
OPB818	2	0.1	20.0	10.0	0.200	0.250	.025 dia.	0.400	1.96	1.74	1.57
OPB360T51	3	0.5	20.0	10.0	0.125	0.345	0.010	0.320	2.29	2.05	1.86
OPB660T	3	0.6	10.0	5.0	0.125	0.345	0.010	0.320	1.94	1.72	1.55
OPB815L	3	1.0	20.0	10.0	0.375	0.430	0.050	0.530	2.55	2.29	2.07
OPB800L55	3	0.5	20.0	10.0	0.375	0.350	0.050	0.570	2.35	2.11	1.91
OPB830W55	4	0.5	20.0	10.0	0.125	0.315	0.050	Wired	4.16	3.73	3.38
OPB829A	5	1.8	20.0	0.6	0.125	0.315	None	Wired	3.79	3.40	3.08
OPB821	6	0.5	20.0	5.0	0.080	0.255	0.040	Wired	3.20	2.87	2.60

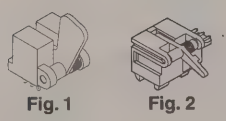
(3891) (ne07023)



OPTICAL FLAG SWITCHES

Type	Fig.	Output Type	IF(+) MAX. (mA)	Spring Torque	Operating Positiong (Max. Degrees)	Supply Voltage	Lead Space	1-24
OPB685	1	Buffer/OC	10.0	1gm	8	4.5-16	0.275	4.18
OPB696B	2	Buffer/OC	Fixed	1gm	21	8-13.5	Conn.	5.55

(3892) (ne07024)



HALLOGIC® HALL EFFECT SENSORS

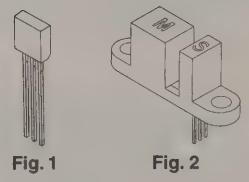
Sensors meet the demands of motion sensing in harsh environments. All case styles are plastic lateral. Operate point @ T_A = 25°C, unless otherwise indicated.

Type	Fig.	Gauss Operate Point Min.	Operate Point Typ.	Operate Point Max.	Release Point Min.	Release Point Typ.	Release Point Max.	Hysteresis Min.	Hysteresis Typ.	Hysteresis Max.	1-24	25-99	100-249
OH090U	1	0	90	180	–100	65	100	10	25	100	2.50	2.22	2.00
OHS3140U	1	45[1]	...	270[1]	25	...	250	20	...	...	2.83	2.52	2.27

(1) T_A = –40°C to 125°C

Type	Fig.	Supply Current I_{cc}	Supply Voltage V_{cc}	1-24	25-49	50-99
OHB900	2	7mA Max.	24V	7.87	7.06	6.40

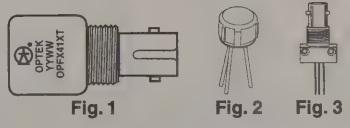
(9369) (ne03630)



FIBER-OPTIC (850nm) LIGHT EMITTING DIODES

Type	Fig.	Power Output (µW) Min.	Power Output (µW) Typ.	Test Conditions I_F	Test Conditions Fiber	Output Rise Time Typ.	1-24	25-49	50-99
OPF1414T	1	–19.0 dBm	–16.0 dBm	60mA	62.5µm core	4.0ns	22.80	20.30	18.30
OPF370A	2	25.0 dBm	29.0 dBm	100mA	50µm core	6.0ns	16.92	15.24	13.87
OPF372A	3	25.0 dBm	29.0 dBm	100mA	50µm core	6.0ns	34.32	31.03	28.32

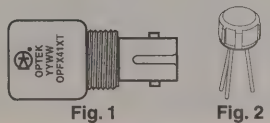
(9384) (ne07020)



FIBER-OPTIC PIN PHOTODIODES & RECEIVERS

Type	Fig.	Flux Responsivity (mV/µW) Min.	Flux Responsivity (mV/µW) Typ.	Output Rise Time (ns) Typ.	1-9	10-24	25-49
OPF2416T	1	5.3	7.0	3.3	26.05	23.19	20.91
OPF480	2	0.45	0.55	1.0	9.08	8.18	7.44

(9405) (ne08775)



NEWARK ELECTRONICS® IS AN ISO 9002 COMPANY.

ULTRA BRIGHT LED LAMPS

Feature clear lenses. Lamps are InGaAlP unless otherwise indicated.

5mm (T-1¾) PACKAGE

Stock No.	Type	Peak (nm)	LED Color	I_V† (mcd)	View Angle	1-24	25-99	100-249
92F2643	AND180HAP	612	Amber	6000	8°	1.45	1.37	1.27
92F2639	AND157HAP	612	Amber	2600	22°	1.45	1.37	1.27
92F2644	AND183HGP	574	Green	3000	8°	1.63	1.54	1.42
92F2640	AND158HGP	574	Green	370	22°	1.63	1.54	1.42
92F2645	AND183HPGP	644	Pure Green	700	8°	1.63	1.54	1.42
92F2646	AND180HRP	644	Red/Clear	6000	8°	1.45	1.37	1.27
92F2641	AND157HRP	660	Red/Clear	1900	22°	1.45	1.37	1.27
52F6144	AND180HSP	623	Red/Clear	8000	8°	1.45	1.37	1.27
92F2647	AND180HYP	590	Yellow	8000	8°	1.45	1.37	1.27
16F1795	ANDS4E38XX	590	Yellow	3500	17°	1.48	1.40	1.29
92F2642	AND157HYP	570	Yellow	2000	22°	1.45	1.37	1.27

10mm (T-3) PACKAGE

16F1796	AND190HRP	644	Red/Clear	15000	4°	5.38	5.04	4.52
16F1798	AND190HYP	590	Yellow/Clear	18000	4°	4.88	4.58	4.10

FLAT SURFACE MOUNT PACKAGE

Stock No.	Type	Peak (nm)	LED Color	I_V† (mcd)	View Angle	1-99	100-249	250-499
95F4077	AND4RA*	660	Red	40	150°	0.75	0.69	0.63
96F8864	AND4GA***	570	Green	15	150°	0.70	0.58	0.52

DOME SURFACE MOUNT PACKAGE

16F1802	AND5SA**	635	Red	25	40°	0.68	0.55	0.49
16F1804	AND5YA	590	Yellow	300	40°	0.88	0.77	0.73
16F1805	AND5GA***	570	Green	75	40°	0.67	0.61	0.56

* GaAlAs ** GaAsP ***GaP †Typ. @ 20mA

(3808) (de03637)

MULTI-COLOR LED LAMPS

Peak wavelength (red/green): 660nm/567nm (**type AND116SG**, 635nm/565nm). Full viewing angle: 30° (**type AND116SG**, 80°). Feature clear lenses, except **type AND116SG** which has milky diffused lens.

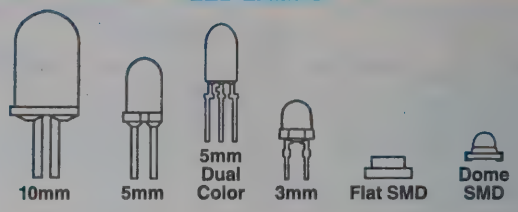
5mm PACKAGE (T-1¾)

Stock No.	Type	Peak (nm)	LED Color	I_V† (mcd)	View Angle	1-24	25-99	100-249
90F7051	AND126SG	635/565	Dual R/G,	5/4.5	30°	0.83	0.72	0.69
87F346	AND116SG	635/565	Dual R/G,	7/5	30°	0.83	0.72	0.69
93F4511	AND178RAG	660/567	Dual R/G, CA	500/150	50°	1.35	1.28	1.18
95F4081	AND176RAG	660/567	Dual R/G, CC	500/150	50°	1.35	1.28	1.18

†Typ. @ 20mA

(3804) (de02697)

LED LAMPS



(3952) (ne09670)

VERY HIGH INTENSITY DISCRETE LED LAMPS

Clear lens provides uniform light intensity over viewing area. Usable from 0.5mA to 50mA, 200mA peak. Yellow and orange (InGaAlP material) LEDs have typical intensities up to 13,000mcd and 18,000mcd. Green LEDs are excellent for outdoor and underwater applications. All products are usable for outdoor signals, messages, signs, and low-current applications.

3mm (T-1) PACKAGE

Stock No.	Type	Peak (nm)	LED Color	I_V Typ. @ 20mA (mcd)	View Angle	1-24	25-99	100-249
92F2650	AND262GC	567	Green	50	70°	0.80	0.74	0.67
94F8337	AND125CR	660	Red	400	60°	0.72	0.66	0.60
92F2651	AND262RA	660	Red	150	70°	1.15	1.01	0.96
92F2652	AND262YA	590	Yellow	80	70°	1.58	1.49	1.38

5mm (T-1¾) PACKAGE

96F8867	AND180TOP	620	Orange	4100	8°	1.58	1.49	1.38
93F4508	AND180AOP	620	Orange	3000	8°	1.58	1.49	1.38
95F4086	AND156AOP	620	Orange	800	30°	1.58	1.49	1.38
93F4506	AND240GCP	567	Green	780	20°	0.68	0.55	0.49
87F350	AND180CRP	660	Red	4100	8°	0.86	0.78	0.71
94F8346	AND130CR	660	Red	2300	15°	0.86	0.78	0.71
90F7065	AND155CRP	660	Red	1280	30°	0.68	0.55	0.49
83F5611	AND120CRP	660	Red	1280	22°	0.44	0.36	0.32
83F8483	AND134CRP	660	Red	680	50°	0.47	0.39	0.34
96F8868	AND180TYP	590	Yellow	4100	8°	1.78	1.68	1.55
93F4507	AND180AYP	590	Yellow	2500	8°	1.58	1.49	1.38
95F4085	AND156AYP	590	Yellow	350	30°	1.58	1.49	1.38

10mm (T-3) PACKAGE

96F8870	AND190WOP	620	Orange	18000	4°	6.48	6.07	5.66
93F4510	AND190AOP	620	Orange	13000	4°	5.48	5.13	4.60
50F3824	AND190GCP	567	Green	1500	4°	2.86	2.68	2.40
50F3823	AND190CRP	660	Red	13000	4°	3.31	3.10	2.78
50F3825	AND191CRP	660	Red	720	20°	3.84	3.59	3.22
96F8869	AND190VYP	590	Yellow	13000	4°	6.74	6.31	5.89

(3994) (de04326)

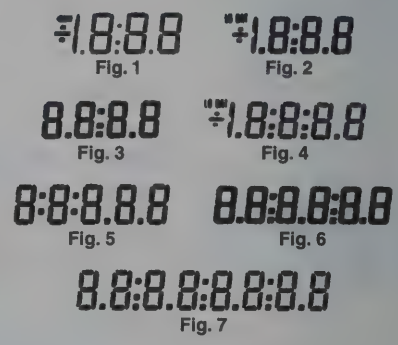
LCD DIRECT DRIVE PANEL DISPLAYS IN TWISTED NEMATIC

Features ultra-low power consumption. Reflective mode, 18:1 contrast ratio. Dual-in-line pins with 0.1" (2.54) spacing. Operating temperature range: –30°C to +85°C. 100,000 hr. expected life.

Stock No.	Type*	No. of Digits	Digit Height	Fig.	Glass Size	1-9	10-24	25-49
44F4116	FE0201W-DU	3.5	0.5" (12.70)	1	2.0 x 1.2" (50.80 x 30.48)	9.14	8.57	7.99
70B6711	FE0203W-EU	3.5	0.5" (12.70)	2	2.0 x 1.2" (50.80 x 30.48)	10.67	9.99	9.32
44F4118	FE0203W-DU	3.5	0.5" (12.70)	2	2.0 x 1.2" (50.80 x 30.48)	9.14	8.57	7.99
44F4117	FE0202W-DU	4.0	0.5" (12.70)	3	2.0 x 1.2" (50.80 x 30.48)	9.14	8.57	7.99
44F4122	FE0502W-DU	4.0	0.7" (17.78)	3	3.7 x 1.5" (69.85 x 38.11)	25.56	24.48	23.52
44F4119	FE0206W-DU	4.5	0.5" (12.70)	4	2.0 x 1.2" (50.80 x 30.48)	10.10	9.46	8.82
44F4123	FE0601W-DU	4.5	0.5" (12.70)	4	2.0 x 1.2" (50.80 x 30.48)	39.37	37.70	36.22
44F4120	FE0208W-DU	5.0	0.4" (10.16)	5	2.0 x 1.2" (50.80 x 30.48)	12.67	12.10	11.36
44F4121	FE0401W-DU	6.0	0.5" (12.70)	6	2.75 x 1.2" (69.85 x 30.48)	21.06	20.11	18.88

* **DU suffix** indicates reflective mode; **EU suffix** which indicates transflective option for backlighting is also available; *contact your local Newark sales office.*

(3878) (ne06056)



NEWARK HAS WHAT YOU NEED.

WITH SO MUCH IN STOCK, YOU HAVE THE COMPONENTS YOU NEED AT YOUR FINGERTIPS.

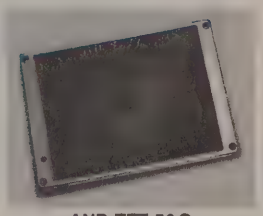
TFT MONITORS AND LCD DISPLAYS

TFT COLOR MONITORS

SMALL TFT COLOR MONITORS

TFT color monitors are complete active-matrix color LCD monitors. Include CCFL (cold cathode fluorescent lamp) backlighting and inverter, with single power supply requirements. Input signals are composite NTSC (TV) and analog RGB. Applications: portable computers, copiers, facsimile equipment, private telephone exchanges (PBX), point-of-sale (POS) terminals, and oscilloscopes. Driving voltage: **Type AND-TFT-5** and **AND-TFT-6**, 9.5V; **type AND-TFT-64MQ**, 12V.

Stock No.	Type	Diagonal Size	Pixel Count W x H (mm)	Pixel Size W x H (mm)	Viewing Area W x H x D (mm)	Overall Dimensions W x H x D (mm)	Each
52F8867	AND-TFT-5SQ	5″	240 x 234	0.32 x 0.42	101.6 x 74.7	120 x 90 x 18	530.61
52F8868	AND-TFT-6SQ	6″	320 x 234	0.39 x 0.38	121.0 x 90.8	159 x 116 x 134	787.46
83F8476	AND-TFT-64MQ	6.4″	320 x 234	0.416 x 0.416	130.6 x 97.3	159 x 129 x 20	524.46



AND-TFT-5&Q

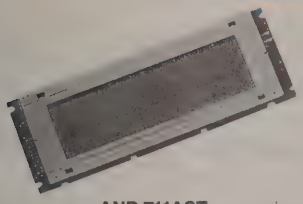
COLOR ACTIVE-MATRIX TFT LIQUID CRYSTAL DISPLAY MODULES

TFT LCD modules include LCD panel with twin CCFL (cold cathode fluorescent lamp) backlighting. NOTE: An inverter is required to power the CCFL. **Type AND10C209A** is VGA (640 x 480) resolution.

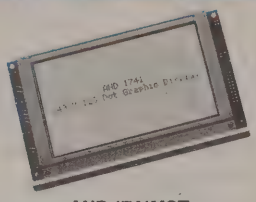
Stock No.	Type	Diagonal Size	Active Area W x H (mm)	Overall Dimensions W x H x D (mm)	No. of Colors	Luminance (cd/m^2)	Each
52F8871	AND10C209A-HB	10.4″	211.2 x 158.4	265.0 x 188.8 x 12.0	256k	250	1435.92
83F8477	AND10C209A-DHB	10.4″	211.2 x 158.4	265.0 x 188.8 x 12.0	256k	500	1089.96
83F8478	AND12C275A-HB	12.1″	246.0 x 184.5	290 x 220 x 15	256k	250	1127.16
83F8484	AND12C275A-DHB	12.1″	246.0 x 184.5	290 x 220 x 15	256k	500	1368.96

(14431) (nec7459)

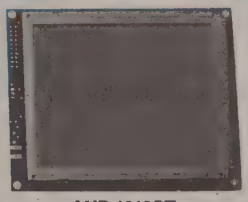
SUPER TWIST INTELLIGENT GRAPHICS LIQUID CRYSTAL DISPLAYS



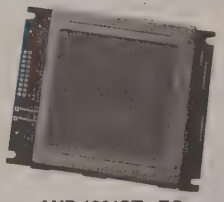
AND 711AST



AND 1741MST



AND 1013ST



AND 1391ST - EO

Complete line of monochrome intelligent graphics displays come with controller and video memory on-board. Feature a wide array of viewing options, including super twist reflective and transflective, film compensated, "white page" with CCFL (cold cathode fluorescent lamp), and electroluminescent. CCFL are either black on white (**-MST suffix**) or blue on white (**-BST suffix**) super twist nematic. Applications include: portable computers, copiers, facsimile equipment, private telephone exchanges (PBX), point-of-sale (POS) terminals, and oscilloscopes. Sizes range from 120 x 64 pixels to 240 x 128 pixels. Displays are supported by comprehensive application notes and AND's technical support hot-line.

Stock No.	Type	Pixel Count W x H	Pixel Size W x H (mm)	Viewing Area W x H (mm)	Overall Dimensions W x H x D (mm)	Driving Voltage (V)	Backlight	Contrast Ratio	Each
89F3440	AND1021ST	120 x 64	0.44 x 0.56	62 x 43	85 x 70 x 20	+5/–8.5	...	4:1	127.85
89F3441	AND1021ST-E0	120 x 64	0.44 x 0.56	62 x 43	85 x 70 x 20	+5/–8.5	Electroluminescent	4:1	163.57
83F8479	AND1261WGST	128 x 64	0.43 x 0.43	60 x 33	75 x 53 x 6.8	+5/–8.0	...	6:1	69.27
83F8480	AND1261WGST-LED	128 x 64	0.43 x 0.43	60 x 33	75 x 53 x 8.9	+5/–8.0	LED	6:1	91.27
90F7063	AND1391ST-E0	128 x 128	0.40 x 0.40	62 x 62	85 x 100 x 14	+5/–8.0	Electroluminescent	4:1	210.55
92F2656	AND1013ST-30	160 x 128	0.56 x 0.56	101 x 82	129 x 104.5 x 14	+5/–8.5	Transflective Reflector	4:1	191.75
89F3438	AND1013ST-E0	160 x 128	0.56 x 0.56	101 x 82	129 x 104.5 x 14	+5/–8.5	Electroluminescent	4:1	229.83
89F3433	AND711AST-30	240 x 64	0.49 x 0.49	132 x 39	180 x 65 x 12	+5/–8.5	Transflective Reflector	4:1	150.40
90F7062	AND711AST-E0	240 x 64	0.49 x 0.49	132 x 39	180 x 65 x 12	+5/–8.5	Electroluminescent	4:1	207.17
83F8481	AND1742MST	240 x 128	0.51 x 0.51	134 x 76	180 x 110 x 15	+5	CCFL	6:1	248.70
83F8482	AND3222MST	320 x 240	0.36 x 0.43	128 x 10	66 x 134 x 15	+5/–18.0	CCFL	6:1	273.80
50F3820	AND1741BST	240 x 128	0.47 x 0.47	126 x 70	170 x 106 x 14	+5/–14	CCFL	6:1	246.25
50F3819	AND1741MST	240 x 128	0.47 x 0.47	126 x 70	170 x 106 x 14	+5/–14	CCFL	12:1	262.65

(6517) (nec7458)

LCD CHARACTER DISPLAYS WITH BUILT-IN CONTROLLER/RAM-STN AND TN

Close dot-to-dot spacing for excellent readability. Has 160 alphanumeric characters, symbols and 'kana' letters, and 8 custom characters. Direct interface to 4- or 8-bit CPU. 11 control commands. 5 x 7 dot format plus cursor line. Power: single 5V. Operating temperature: 0°C to +50°C. All types are gray-mode Supertwist (GST) with LED backlight as an option.

Stock No.	Type	Line x Characters	Character Size (mm)	Dimensions Viewing (mm)	Dimensions Overall (mm)	1-4	5-9	10-24
91F4656	AND671GST	1 x 16	3.07 x 5.73	64.5 x 13.8	80 x 36 x 12	15.90	15.19	14.26
91F4657	AND491GST	2 x 16	2.95 x 3.80	64.5 x 13.8	80 x 36 x 12	20.88	19.94	18.72
91F4658	AND481GST	2 x 16	2.78 x 4.27	62.0 x 16.0	85 x 30 x 12	20.88	19.94	18.72
91F4659	AND731GST	4 x 16	2.95 x 4.15	61.8 x 25.2	87 x 60 x 12	31.66	30.32	29.13
91F4660	AND501GST	2 x 20	3.20 x 4.85	83.0 x 18.6	116 x 37 x 12	23.73	22.73	21.84
91F4661	AND721GST	4 x 20	2.95 x 4.15	76.0 x 25.2	98 x 60 x 12	37.34	35.77	34.36
91F4662	AND771GST	2 x 24	3.20 x 4.85	94.5 x 17.8	118 x 36 x 12	22.19	21.20	19.90
91F4663	AND591GST	2 x 40	3.20 x 4.85	154.4 x 15.8	182 x 33.5 x 12	40.52	38.80	37.28
91F4664	AND791GST	4 x 40	2.78 x 4.27	147.0 x 29.5	190 x 54 x 11	85.76	75.72	70.31

(3877) (ne06055)

AND491GST

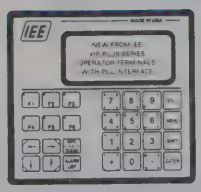
NEWARK PROVIDES OPTIMUM SERVICE.

SAME-DAY SHIPMENT WHEN YOU PLACE YOUR ORDER BY 5:00 PM C.S.T.

FRONT PANEL ASSEMBLIES

PLC OPERATOR INTERFACE CONTROL PANEL

NEW



V.I.P.-PLUS™ operator interface panel offers expanded I/O capability that includes built-in software drivers for many PLC manufacturers. Terminal configuration is accomplished with a computer based software program that allows set-up for PLC type, message blocks, alarm display, functional key selection, time channel settings, and LED indicator modes. Standard operating temperature: -20°C to +70°C, with extended temperature range as an option. Power and mounting hardware is included. Accessories also available; *contact your local Newark sales office.*

Stock No.	Type	H x W x D	Description	Each
48F2264	4904-200-057F1	6.890 x 7.480 x 1.864″	4 x 20 Vacuum Florescent Display, Full Alphanumeric Keypad Input and 6 User-Definable Function Keys	1096.70

(36570) (ne36570)

V.I.P.™ MINI-TERMINALS

V.I.P.™ mini-terminals are interactive display systems which integrate a vacuum fluorescent display with a metal dome keypad. They operate from a 5.0VDC power supply and have an RS-232-C interface to the host system. The module is easily sealed to user's front panel. Switch legend strips slide out, and legends are user-defined. These interactive terminals are suitable for a variety of man-machine applications such as small machine tools, process controls, and test equipment.

Stock No.	Type	H x W x D	Description	Each
51F3685	3900-A2-A01-07	7.62 x 8.10 x 1.50″ (193.55 x 205.74 x 38.1)	2x20 display, 4x5 keypad, RA connectors, green filter, blank slide-in switch legends, data package	579.50
51F3686	3901-A2-A01-07	7.62 x 8.10 x 1.75″ (193.55 x 205.74 x 44.45)	Same as above, but includes rear cover, straight-back connectors	599.99
98F2988	3900-A3-A01-07	6.07 x 11.25 x 1.65″ (154.18 x 285.75 x 41.91)	2x40 display, 2x11 keypad, RA connectors, green filter, blank slide-in switch legends, data package	605.69
50F7923	3902-03-A01-07	6.00 x 11.40 x 2.50″ (152.4 x 289.56 x 63.5)	2x40 display, 2x11 keypad, black die-cast bezel, rear cover, straight-back connectors, green filter, blank slide-in legend strips, enhanced software and data package	692.21
97F9232	3902-04-A09-07	6.00 x 11.40 x 1.73″ (289.56 x 152.4 x 43.9)	4x20 display, Keypad 2x4″ and 5x5″, green filter, front mount, up to 127 canned messages.	837.94

(3846) (de51720)

LED DISPLAY SOCKETS

These sockets feature wire-wrap terminals for decoded or nondecoded inputs. They accept 0.3″ or 0.6″ pin row spacing DIP-type LED displays. Available in widths to accommodate up to 8 LED displays.

For use with **DMH22463** and **DMH23441 series** bezel/filters. 0.3″ pin row spacing.

Stock No.	Type	Description	Width	1-9
69F139	DMH22464-02	Holds 2 LED Displays	1.74″	15.65
69F140	DMH22464-03	Holds 3 LED Displays	2.24″	18.86
69F141	DMH22464-04	Holds 4 LED Displays	2.74″	24.50
69F142	DMH22464-05	Holds 5 LED Displays	3.24″	29.82
69F143	DMH22464-06	Holds 6 LED Displays	3.74″	33.78

For use with **DMH24036 series** bezel/filters. 0.6″ pin row spacing.

Stock No.	Type	Description	Width	1-9
69F146	DMH24038-01	Holds 1 LED Displays	1.90″	20.86
69F147	DMH24038-02	Holds 2 LED Displays	2.80″	29.91

(3868) (de52167)

LED DISPLAY BEZEL/FILTERS

Available in three window heights and assorted widths to accommodate various LED display character dimensions. One-piece construction, with mounting hardware included. **Types DMH-22463R** and **DMH-23441R** have red polarized filter. **Type DMH-24036M** has magenta plex filter.

Stock No.	Type	Description	Width	1-9
69F132	DMH22463R-02	For 2 LED Displays of 0.27″ and 0.3″ Character Height	1.18″	11.12
69F133	DMH22463R-03	For 3 LED Displays of 0.27″ and 0.3″ Character Height	1.68″	11.59
69F134	DMH22463R-04	For 4 LED Displays of 0.27″ and 0.3″ Character Height	2.18″	11.96
69F135	DMH22463R-05	For 5 LED Displays of 0.27″ and 0.3″ Character Height	2.68″	12.24
69F136	DMH22463R-06	For 6 LED Displays of 0.27″ and 0.3″ Character Height	3.18″	14.85
69F154	DMH23441R-02	For 2 LED Displays of 0.43″, 0.5″, 0.54″, and 0.56″ Character Height	1.18″	12.97
69F155	DMH23441R-03	For 3 LED Displays of 0.43″, 0.5″, 0.54″, and 0.56″ Character Height	1.68″	14.15
69F156	DMH23441R-04	For 4 LED Displays of 0.43″, 0.5″, 0.54″, and 0.56″ Character Height	2.18″	14.65
69F157	DMH23441R-05	For 5 LED Displays of 0.43″, 0.5″, 0.54″, and 0.56″ Character Height	2.68″	16.66
69F158	DMH23441R-06	For 6 LED Displays of 0.43″, 0.5″, 0.54″, and 0.56″ Character Height	3.18″	16.50
69F160	DMH23441R-08	For 8 LED Displays of 0.43″, 0.5″, 0.54″, and 0.56″ Character Height	4.18″	20.52
69F161	DMH24036M-01	For 1 LED Displays of 0.63″, 0.8″, 1.02″ Character Height	1.16″	18.20
69F162	DMH24036M-02	For 2 LED Displays of 0.63″, 0.8″, 1.02″ Character Height	2.06″	19.76
69F163	DMH24036M-03	For 3 LED Displays of 0.63″, 0.8″, 1.02″ Character Height	2.96″	23.37
69F164	DMH24036M-04	For 4 LED Displays of 0.63″, 0.8″, 1.02″ Character Height	3.86″	29.15
69F165	DMH24036M-05	For 5 LED Displays of 0.63″, 0.8″, 1.02″ Character Height	4.76″	38.22
69F166	DMH24036M-06	For 6 LED Displays of 0.63″, 0.8″, 1.02″ Character Height	5.66″	50.60

(3953) (ne52166)

7-SEGMENT DISPLAY DECODER/DRIVERS

Stock No.	Type	Description	1-9
12F1025	DMD1760-01	Parallel BCD Input, LH Decimal	36.53
12F1027	DMD1760-03	Parallel BCD Input, RH Decimal	40.79

(3876) (ne02490)

BEZEL ASSEMBLIES FOR LIQUID CRYSTAL DISPLAYS

Bezels frame all popular LCD glass sizes. One-piece construction, no seams. Self-aligning mounting. Viewing screen will accommodate image area with maximum of 8 digits, 0.5″ (12.70) high, or 6 digits, 0.7″ (17.78) high. *Display sockets sold separately on this page.*

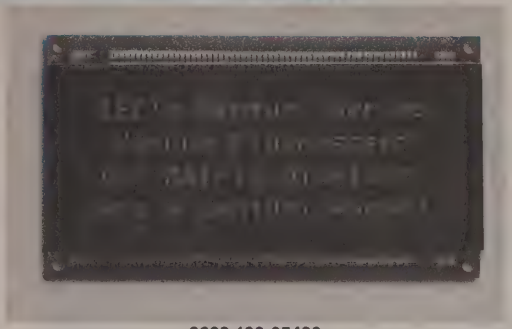
Stock No.	Type	Bezel Opening	Clear Viewing Area	Each
44F4127	DMH5050	2.180″	1.700 x 0.60″	21.33
44F4128	DMH5060	3.180″	2.500 x 0.60″	22.30

(3955) (ne52184)

VACUUM FLUORESCENT DISPLAYS

FLIP™ CENTURY™ SERIES VACUUM FLUORESCENT DISPLAYS

3702-020-05220



3602-100-05420

Key Features:
- 100% Surface Mount Technology
- Interface to Intel or Motorola Host Processors
- Emulate Hitachi 44780 Data Input (Dot Matrix Only)
- Parallel 8-Bit or Serial EIA-232 Data to 19.2Kb
- Low 5VDC Power
- Standard Temperature Range: –20°C to +70°C
  Extended Range Available: –40°C to +85°C
- Hardware and Software Self-Test Modes

Software Control Features:
- Selectable Character Sets: ASCII, European, Katakana, Cyrillic, and Hebrew (Dot Matrix Only)
- Segmented Displays Have Standard ASCII 64-Character Set
- 10 User-Defined, Downloadable Characters (Dot Matrix Only)
- Vertical and Horizontal Scroll Modes
- 8 Software- and Hardware-Controlled Dimming Levels
- Variable Blink Fields and Rates
- Bell Alarm Output (Dot Matrix Only)

Stock No.	Type	Character Format	Display Format	Character Height	Package Size			Max. Current	1-2
					Length	Width	Depth		
96F3203	3602-100-05420	5 x 7 Dot Matrix	4 x 20	5mm	5.00″	2.78″	0.92″	890mA	299.43
96F3204	3602-105-05220	5 x 7 Dot Matrix	2 x 20	5mm	5.00″	2.25″	0.88″	405mA	199.24
96F3205	3602-122-09220	5 x 7 Dot Matrix	2 x 20	9mm	7.75″	2.58″	1.00″	675mA	220.87
96F3206	3602-124-09420	5 x 7 Dot Matrix	4 x 20	9mm	7.75″	3.40″	1.00″	1300mA	351.80
96F3207	3702-020-05220	14-Segment	2 x 20	5mm	5.65″	1.98″	0.82″	270mA	174.19
96F3210	3702-024-09116	14-Segment	1 x 16	9mm	6.70″	2.30″	0.90″	360mA	195.83

(6641) (nec9351)

FLIP™ NO-FRILLS™ AND NINETY SERIES™ VACUUM FLUORESCENT DISPLAY MODULES

FLIP™ **type 3601-8x-xxxx** No-Frills™ modules feature 5x7 dot matrix characters, an on-board microprocessor, and operation from a single 5.0VDC power supply. UL recognized. **Type 3601-9x-xxx** Ninety Series™ modules are manufactured using SMT and have a 14-pin connector with 0.100″ (2.54) centers. They feature software dimming, accented European characters, and can display several user-defined downloadable characters. Very compact. UL recognized. *Data converters sold separately on this page.*

Stock No.	Type	Line x Character	Character Height	Display Size H x W	1-2
87F458	3601-84-040	1 x 40	0.20″ (5.05)	2.20 x 9.45″	207.21
87F459	3601-85-040	2 x 20	0.20″ (5.05)	3.10 x 5.0″	163.95
89F073	3601-86-080	2 x 40	0.20″ (4.50)	2.50 x 7.85″	285.77
87F478	3601-87-032	2 x 16	0.20″ (5.05)	2.00 x 4.40″	224.29
51F3681	3601-90-080	4 x 20	0.20″ (5.05)	2.40 x 5.00″	299.43
90F2289	3601-95B-40	2 x 20	0.20″ (5.05)	2.25 x 5.00″	146.87
51F3678	3601-97-032	2 x 16	0.20″ (5.05)	2.60 x 3.90″	178.75
51F3682	3601-96-080	2 x 40	0.18″ (4.6)	2.03 x 7.85″	299.43

(3870) (de52179)

FLIP™ 5x7 DOT MATRIX VACUUM FLUORESCENT ASCII MODULES

FLIP™ vacuum fluorescent display modules are microprocessor controlled. Data interfacing is via an 8-bit bidirectional TTL-ASCII data bus or serial input using 1200 baud jumper-selectable TTL (or RS-232-C for selected models) serial data formatted as an 11-bit word. By use of simple commands or ASCII control codes, data can be selectively written to or read from any character location, alternative European character sets can be selected, or the status of the data latch can be determined. Only a 5VDC power supply is required, and the display's bright blue-green light is easily filtered to colors varying from yellow to green to blue (even red, in low ambient light applications). Display life is typically 80-100,000 hours to half-brightness. Operating temperature: 0°C to +55°C. UL recognized.

Stock No.	Type	Line x Character	Character Height	Display Size H x W	Description	1-2
81F9348	3601-14-020	1 x 20	0.35″ (9.0)	2.65 x 9.55″ (67.3 x 242.57)	Full Features, Serial & Parallel I/O	263.00
87F464	3601-24-080	4 x 20	0.44″ (11.3)	4.75 x 10.00″ (120.65 x 254.00)	Large Characters; Parallel Only	692.21
90F2278	3601-26-240	6 x 40	0.20″ (5.1)	4.17 x 10.50″ (105.92 x 266.70)	Small Pkg.; Full Features; Serial and Parallel I/O	1275.12
51F3684	3601-30-040	2 x 20	0.44″ (11.3)	2.75 x 10.80″ (69.9 x 274.30)	Large Characters; Serial Only	465.65
90F2280	3601-34-080	4 x 20	0.44″ (11.3)	4.75 x 10.00″ (120.65 x 254.00)	Large Characters; Serial Only	669.44
44F8608	3601-44-040	2 x 20	0.20″ (5.05)	2.00 x 6.30″ (50.8 x 160.00)	Full Features, Compact 2 Board Design	472.48
87F468	3601-48-048	2 x 24	0.18″ (4.50)	1.65 x 5.35″ (42.0 x 136.00)	Full Features, Compact 2 Board Design	485.01
51F3675	3601-51-080	2 x 40	0.24″ (6.1)	2.50 x 8.70″ (63.50 x 220.98)	Ultra-Compact SMD Pkg. User-Defined Characters	327.89
81F9357	3700-04-016	1 x 16	0.37″ (9.35)	2.30 x 8.50″ (58.40 x 215.90)	Simple Board Design, Full Features	204.93
81F9359	3701-07-032	1 x 32	0.24″ (6.00)	2.30 x 9.55″ (58.40 x 242.57)	Simple Board Design, Full Features	248.20

(3869) (de52178)

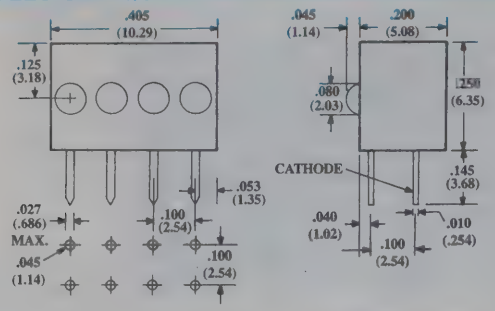
FLIP™ SERIAL DATA CONVERTERS

Type 31785 serial data converter modules will convert EIA 32-C or 20mA current loop data to a parallel output suitable for many standard FLIP™ display modules.

Stock No.	Type	Description	1-2
89F2030	31785-02	NF/SDCM™ Serial Data Converter Module with RS-232-C input for **types 3601-8x-xxx**	131.93
51F3690	31785-22	NF/SDCM™ Serial Data Converter Module with RS-232-C input for **types 3601-9x-xxx**	124.86

(3845) (de51719)

2mm LED CBI® QUAD CIRCUIT BOARD INDICATORS



Small 2mm design conserves board space. Highly reliable, vibration- and shock-resistant unit is available with a variety of LEDs; *contact your local Newark sales office.* Viewing angle: ±20°. Test current for standard efficiency units: 20mA. Test voltage for integral resistor units: 5V. Housing material meets UL94V-0.

STANDARD EFFICIENCY

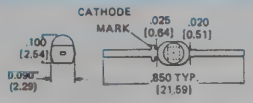
Stock No.	Type	Color	Wave Length (nm)	mcd	V_F	1-49	50-99	100-249
60F2737	555-4001	Red	650	1.2	1.6	4.15	3.82	3.48
81F4936	555-4301	Green	565	1.0	2.4	4.81	4.42	4.02

INTEGRAL RESISTOR-5V

Stock No.	Type	Color	Wave Length (nm)	mcd	mA	1-49	50-99	100-249
60F2738	555-4003	Red	650	1.9	6.0	4.70	4.32	3.93
60F2739	555-4007	Red	650	0.9	3.0	4.70	4.32	3.93
81F4937	555-4303	Green	565	2.5	4.7	4.81	4.42	4.02
81F4939	555-4403	Yellow	583	2.1	4.7	4.81	4.42	4.02

(2642) (ne08318)

521 SERIES 2mm SUBMINIATURE LED LAMPS

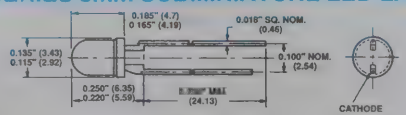


For use in applications where space is at a premium. LED color of types listed is red, diffused. Forward voltage is 1.6V.

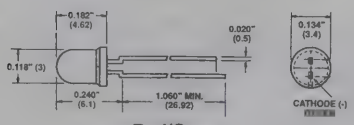
Stock No.	Type	mcd	mA	Viewing Angle	1-49	50-99
25F867	521-9186	6.0	20	±45°	0.51	0.47
44F2085	521-9195	2.0	10	±25°	0.51	0.47

(2582) (de03211)

521 SERIES 3mm SUBMINIATURE LED LAMPS



Single Color



Red/Green

3mm subminiature LED lamps available in red/green and yellow/green bicolors where limited space is available. Single LEDs provide multiple colors. Low current (2 mA) also available where power is limited. Viewing angle ±30°. Snap mount C for all types except **521-9459**.

Stock No.	Type	Color LED/Lens	V_F	mcd	mA	1-49	50-99
28F1784	521-9210	G/Diff.	2.3	8.5	10	0.61	0.56
28F1785	521-9211	Y/Diff.	2.2	10.0	10	0.61	0.56
44F2080	521-9215	R/Diff.	5.0	4.0	10	0.94	0.87
25F875	521-9216	R/Diff.	2.2	10.0	10	0.61	0.56
96F2331	521-9459	R/G Diff.	2.0	5.0	10	1.32	1.22
96F2332	521-9324	R/Diff.	1.8	1.8	2	0.94	0.87
96F2333	521-9325	Y/Diff.	1.9	1.6	2	0.94	0.87
96F2334	521-9326	G/Diff.	1.8	1.6	2	0.94	0.87

(2553) (de03212)

521 SERIES 5mm SUBMINIATURE LED LAMPS

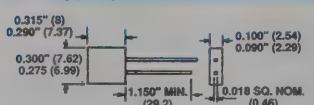


Fig. 1

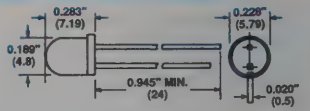


Fig. 2

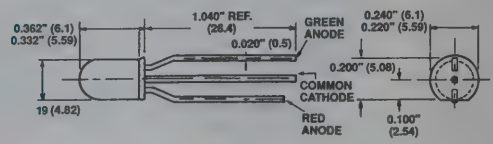


Fig. 3

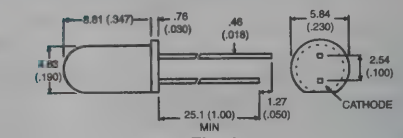


Fig. 4

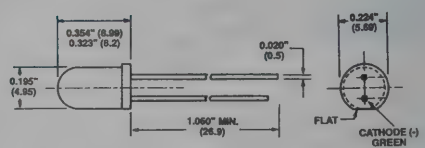


Fig. 5

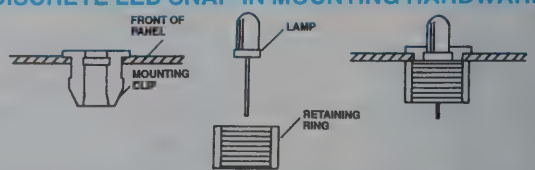
5mm subminiature LED lamps available in diffused, non-diffused and water-clear high brightness lens. Two- and three-leaded bicolors, resistor for 5 volt operation and 2mm x 7mm rectangular LEDs also available. Viewing angle ±30°.

Stock No.	Type	Color LED/Lens	V_F	mcd	Fig.	Snap Mount	1-49	50-99
25F860	521-9173	G/Diff.	2.1	10	2	B	0.67	0.62
28F1787	521-9174	Y/Diff.	2.1	6.3	2	B	0.67	0.62
25F865	521-9183	R/Diff.	5.0	8.0	4*	A	0.84	0.77
28F1789	521-9240	R/Diff.	2.0	6.3	4	B	0.42	0.39
28F1793	521-9246	R/Diff.	2.2	7	4	A	0.63	0.58
28F1794	521-9247	R/Nondiff.	2.2	60	4	A	0.63	0.58
28F1795	521-9248	Y/Diff.	2.2	8	4	A	0.63	0.58
28F1796	521-9249	Y/Nondiff.	2.2	50	4	A	0.63	0.58
28F1797	521-9250	G/Diff.	2.3	5.2	4	A	0.63	0.58
28F1798	521 9251	G/Nondiff.	2.3	70	4	A	0.63	0.58
44F2086	521-9264	R/Diff.	1.9	5	1	-	0.84	0.77
44F2100	521-9265	Y/Diff.	2.1	5	1	-	0.84	0.77
44F2101	521-9266	G/Diff.	2.3	2.5	1	-	0.84	0.77
50F6023	521-9270	G/Diff.	2.4	8	4	B	0.63	0.58
50F6024	521-9271	Y/Diff.	2.4	6	4	B	0.63	0.58
46F4632	521-9320	R/Diff.	1.8	2	4	A	0.84	0.77
46F4633	521-9321	Y/Diff.	1.9	1.8	4	A	0.84	0.77
96F2335	521-9327	G/Diff.	1.8	1.8	4	A	0.84	0.77
96F2337	521-9445	R/Diff.	2.0	6.3	2	B	0.42	0.39
96F2336	521-9450	R/G Diff.	2.1/2.3	5/8	3	-	1.51	1.39
96F2330	521-9462	R/G Diff.	1.8/2.1	90/40	5	B	1.32	1.22
96F2340	521-9464	R/WC	2.2	125	4	A	0.94	0.87
96F2339	521-9465	G/WC	2.3	120	4	A	0.94	0.87
96F2341	521-9466	Y/WC	2.2	140	4	A	0.94	0.87

*Lead diameter: 0.25″

(2554) (de03213)

DISCRETE LED SNAP-IN MOUNTING HARDWARE



Mounting hardware for rear mounting of **521 series** LEDs. Check chart below for correct product. Note recommended mounting hole and panel thickness below.

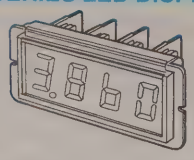
Stock No.	Type	Recommended Mtg. Hole	Max. Panel Thickness
28F1799	515-0004	0.265″ (6.73)	7/64″ (2.78)
25F879	515-0005	0.265″ (6.73)	7/64″ (2.78)
50F6025	515-0006	0.165″ (4.19)	0.100″ (2.54)

Stock No.	Type	1-24	25-49
28F1799	515-0004	0.84	0.74
25F879	515-0005	0.84	0.74
50F6025	515-0006	0.84	0.74

(2555) (de03214)

LED DISPLAYS

739 SERIES LED DISPLAYS



739 Series are completely assembled red arrays available with decoder driver, latch, or counter. Characters are 0.600″ high, red, and in 7 segment format. **-02** in type number indicates 2 displays, **-03** indicates 3 displays, and so on.

Stock No.	Type	Panel Cutout	1-49	50-99	100-249
60F1197	739-0260-601	1.114 x 1.587″	206.56	190.07	172.89
60F1198	739-0360-601	1.114 x 2.275″	297.64	273.88	249.12
60F1199	739-0460-601	1.114 x 2.963″	388.75	357.71	325.37

(3796) (de02056)

730 SERIES INDIVIDUAL DISPLAYS

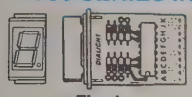


Fig. 1

Fig. 2

Fig. 3

These red discrete displays used in complete assembly units may be ordered separately with appropriate Bezel Assembly Kit (see below). All units for 5 volt operation unless otherwise noted. 0.600″ character height.

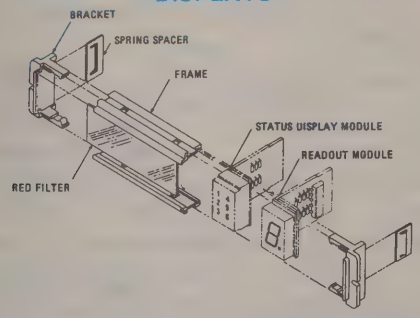
Stock No.	Type	Fig.	Description
60F1186	730-6007	1	Display with D/D† & RH Decimal
28F1782	730-6009	2	Numeric Display with RH Decimal, Discrete (2V)
60F1187	730-6010	3	Plus/Minus Module, Discrete (2V)
28F1783	730-6020	1	Display with D/D†, Latch, RH Decimal
94F1840	730-6030	1	Hexadecimal Display, D/D†, Latch

† Decoder/Driver

Stock No.	Type	1-49	50-99
60F1186	730-6007	64.38	59.24
28F1782	730-6009	38.11	35.07
60F1187	730-6010	32.38	29.79
28F1783	730-6020	75.13	69.13
94F1840	730-6030	94.55	87.00

(3797) (de02057)

BEZEL ASSEMBLY KITS FOR 730 SERIESNUMERIC DISPLAYS



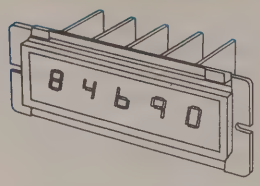
Kit includes frame, brackets, filter, spring spacer and assembly instructions. Last digit in type number indicates the number of displays on the unit.

FOR USE WITH 730 SERIES 0.600″ HIGH CHARACTER DISPLAYS

Stock No.	Type	1-49	50-99
60F1188	733-6002	31.23	28.73
60F1189	733-6003	29.24	26.90
60F1190	733-6004	33.51	30.84
60F1191	733-6005	40.40	37.17
60F1192	733-6006	44.12	40.60
60F1193	733-6007	40.98	37.71

(3798) (de02058)

749 SERIES LED DISPLAYS

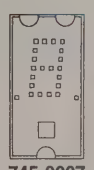


749 series are completely assembled red arrays available with decoder driver, latch, or counter. Features include 0.300″ and 0.270″ character height. 7 segment, hexadecimal or alphanumeric format available.

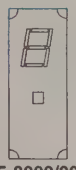
Stock No.	Type	No. of Displays	Panel Cutout	1-49	50-99
60F1173	749-1502-001	2	0.922 x 1.663″	170.19	156.60
60F1174	749-1503-001	3	0.922 x 2.226″	206.56	190.07
60F1175	749-1504-001	4	0.922 x 2.787″	267.30	245.96

(3799) (de02059)

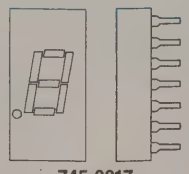
740 AND 745 SERIES INDIVIDUAL DISPLAYS



745-0007



745-0008/0009



745-0017

Stock No.	Type	Char. Hght.	Description
25F903	745-0007	0.270″	Hex Display with Decoder Driver, Latch, R + LH Decimal
25F904	745-0008	0.270″	Numeric Display with Decoder Driver, Latch, LH Decimal
25F905	745-0009	0.270″	Numeric Display with Decoder Driver, Latch, Counter, LH Decimal
28F1780	745-0017	0.300″	Discrete Display Common Anode 7 segment*

* 1.6 Volts

Stock No.	Type	1-49	50-99
25F903	745-0007	74.05	68.14
25F904	745-0008	91.10	83.83
25F905	745-0009	85.08	78.28
28F1780	745-0017	8.60	7.91

(3800) (de02060)

EDGE CARD CONNECTORS FOR 730, 740 DISPLAYS

Stock No.	Type	Terminals	1-24	25-49
60F1182	501-0700-005	Flat Solder Blade	10.45	9.92
60F1183	501-0700-009	Printed Circuit/Wire Wrap	9.15	8.68

(3801) (de02061)

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T-1 (3mm) LED LAMPS

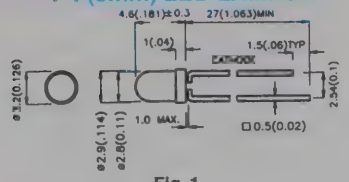


Fig. 1

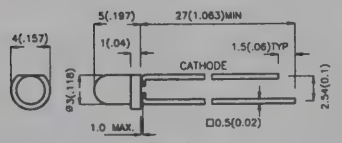


Fig. 2

Colored lenses are diffused. Water-type lenses are clear. H-E is high efficiency. S-B is super bright.

STANDARD LAMPS—FIG. 1

Stock No.	Type	Color	Lens Color	Viewing Angle	mcd/mA Typ.	1-49	50-99	100-249
92N5329	MCL-934MBD	Blue	Blue	60°	20/20	6.20	5.27	4.75
92N5330	MCL-934MBC	Blue	Water	20°	35/20	6.20	5.27	4.75
92N5347	MCL-934HD	Bright Red	Red	60°	4/10	0.38	0.32	0.29
92N5348	MCL-934SRC-B	S-B Red	Water	50°	350/20	0.78	0.66	0.60
92N5349	MCL-934SRC-G	S-B Red	Water	50°	1300/20	0.78	0.66	0.60
92N5350	MCL-934GD	S-B Green	Green	60°	8/10	0.38	0.32	0.29
92N5351	MCL-934SGC	S-B Green	Water	50°	150/20	0.38	0.32	0.29
92N5352	MCL-934YD	Yellow	Yellow	60°	25/10	0.38	0.32	0.29

[illegible]—FIG. 1

Lenses are diffused.

Stock No.	Type	Color	Viewing Angle	mcd/mA Typ.	1-49	50-99	100-249
92N5363	MCL-937EGW	H-E Red/Green	60°	15/20	0.81	0.69	0.62
92N5364	MCL-937EYW	H-E Red/Yellow	60°	15/20	0.81	0.69	0.62
92N5365	MCL-937GYW	Green/Yellow	60°	15/20	0.81	0.69	0.62

LAMPS WITH INTEGRAL RESISTOR—FIG. 1

Viewing angle: 60°.

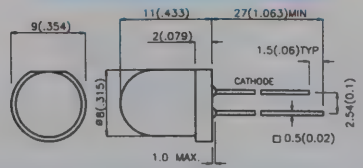
Stock No.	Type	Color	Lens Color	mcd/V Typ.	1-49	50-99	100-249
92N5353	MCL-934ID5V	H-E Red	Red	8/5	0.47	0.40	0.36
92N5354	MCL-934ID12V	H-E Red	Red	8/12	0.47	0.40	0.36
92N5355	MCL-934GD5V	S-B Green	Green	8/5	0.47	0.40	0.36
92N5356	MCL-934GD12V	S-B Green	Green	8/12	0.47	0.40	0.36
92N5357	MCL-934YD5V	Yellow	Yellow	8/5	0.47	0.40	0.36
92N5358	MCL-934YD12V	Yellow	Yellow	8/12	0.47	0.40	0.36
92N5359	MCL-934SGD5V	S-B Green	Green	12.5/5	0.47	0.40	0.36
92N5360	MCL-934SGD12V	S-B Green	Green	12.5/12	0.47	0.40	0.36
92N5361	MCL-934SRD5V	S-B Red	Red	70/5	0.47	0.40	0.36
92N5362	MCL-934SRD12V	S-B Red	Red	70/12	0.47	0.40	0.36

BLINKING LAMPS—FIG. 2

Stock No.	Type	Color	Lens Color	Viewing Angle	mcd/mA Typ.	1-49	50-99	100-249
92N5378	MCL-36BID	H-E Red	Red	60°	15/20	1.19	1.02	0.91
92N5379	MCL-36BGD	S-B Green	Green	60°	8/20	1.19	1.02	0.91
92N5380	MCL-36BYD	Yellow	Yellow	60°	8/20	1.19	1.02	0.91

(17434) (ne10469)

8mm ROUND LED LAMPS

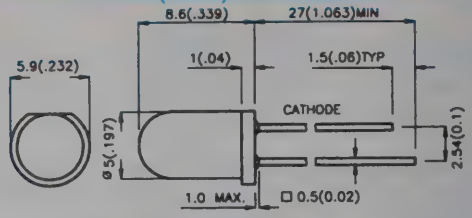


H-E is high efficiency. S-B is super bright. Colored lenses are diffused. Water-type lenses are clear.

Stock No.	Type	Color	Lens Color	Viewing Angle	mcd/mA Typ.	1-49	50-99
92N5369	MCL-793ID	H-E Red	Red	60°	110/20	0.45	0.38
92N5370	MCL-793SRC-E	S-B Red	Water	40°	2500/20	1.25	1.06
92N5371	MCL-793SRD-E	S-B Red	Red	60°	500/20	1.50	1.28
92N5372	MCL-793GD	S-B Green	Green	60°	55/20	0.45	0.38
92N5373	MCL-793YD	Yellow	Yellow	60°	45/20	0.45	0.38

(17436) (ne10471)

T-1¾ (5mm) LED LAMPS



Colored lenses are diffused. Water type lenses are clear. H-E is high efficiency. S-B is super bright.

STANDARD LAMPS

Stock No.	Type	Color	Lens Color	Viewing Angle	mcd/mA Typ.	1-49	50-99	100-249
92N5327	MCL-53MBD	Blue	Blue	60°	35/20	6.20	5.27	4.75
92N5328	MCL-53MBC	Blue	Water	16°	70/20	6.20	5.27	4.75
92N5331	MCL-53HD	Bright Red	Red	60°	4/10	0.38	0.32	0.29
92N5332	MCL-53SRC-B	S-B Red	Water	50°	350/20	0.38	0.32	0.29
92N5333	MCL-53SRC-E	S-B Red	Water	50°	1300/20	0.78	0.66	0.60
92N5334	MCL-53GD	S-B Green	Green	60°	25/10	0.47	0.40	0.36
92N5335	MCL-53SGC	S-B Green	Water	50°	150/20	0.38	0.32	0.29
92N5336	MCL-53YD	Yellow	Yellow	60°	25/10	0.38	0.32	0.29

BI-COLOR LAMPS

Lenses are diffused.

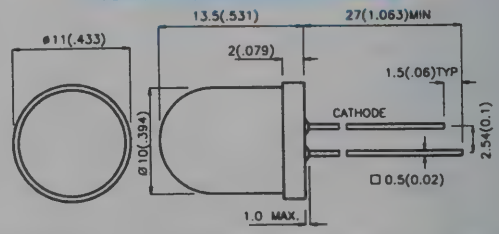
Stock No.	Type	Color	Viewing Angle	mcd/mA Typ.	1-49	50-99	100-249
92N5366	MCL-57EGW	H-E Red/Green	60°	15/20	0.81	0.69	0.62
92N5367	MCL-57EYW	H-E Red/Yellow	60°	15/20	0.81	0.69	0.62
92N5368	MCL-57GYW	Green/Yellow	60°	15/20	0.81	0.69	0.62

BLINKING LAMPS

Stock No.	Type	Color	Lens Color	Viewing Angle	mcd/mA Typ.	1-49	50-99	100-249
92N5381	MCL-56BID	H-E Red	Red	60°	30/20	1.35	1.15	1.03
92N5382	MCL-56BGD	S-B Green	Green	60°	15/20	1.35	1.15	1.03
92N5383	MCL-56BYD	Yellow	Yellow	60°	15/20	1.35	1.15	1.03

(17435) (ne10470)

10mm ROUND LED LAMPS



H-E is high efficiency. S-B is super bright. Colored lenses are diffused. Water-type lenses are clear.

Stock No.	Type	Color	Lens Color	Viewing Angle	mcd/mA Typ.	1-49	50-99	100-249
92N5374	MCL-813ID	H-E Red	Red	60°	110/20	0.45	0.38	0.34
92N5375	MCL-813SRC-E	S-B Red	Water	40°	2500/20	1.50	1.28	1.15
92N5376	MCL-813SRD-E	S-B Red	Red	60°	500/20	1.25	1.06	0.95
92N5377	MCL-813GD	S-B Green	Green	60°	55/20	0.45	0.38	0.34

(17437) (ne10472)

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CYLINDRICAL LED LAMPS

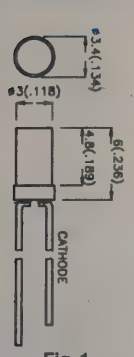


Fig. 1

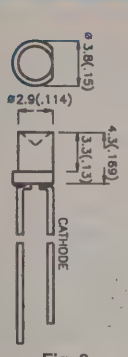


Fig. 2

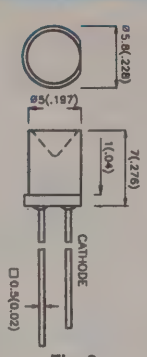


Fig. 3

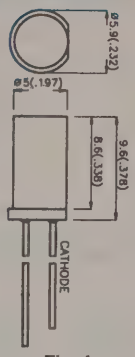


Fig. 4

Lenses are diffused unless marked (*), which are transparent. Lead length: 1.063″ (27) max. Lead spacing: 0.1″ (2.54). Lead diameter: 0.06″ (1.5).

T-1 FLAT TOP—FIG. 1

Viewing angle: 100°.

Stock No.	Type	Color	Lens Color	mcd/mA Typ.	1-49	50-99	100-249
92N5384	MCL-424HDT	Bright Red	Red	7/10	0.32	0.28	0.25
92N5385	MCL-424IDT	H-E Red	Red	7/10	0.32	0.28	0.25
92N5386	MCL-424GDT	Bright Green	Green*	4/10	0.32	0.28	0.25
92N5387	MCL-424YDT	Yellow	Yellow*	4/10	0.32	0.28	0.25

T-1 BEVEL TOP—FIG. 2

Viewing angle: 130°.

92N5388	MCL-474IT	H-E Red	Red	10/10	0.32	0.28	0.25
92N5389	MCL-474GT	S-B Green	Green	7/10	0.32	0.28	0.25
92N5390	MCL-474YT	Yellow	Yellow	4/10	0.32	0.28	0.25

T-1¾ FLAT TOP—FIG. 3

Viewing angle: 140°.

92N5391	MCL-493IT	H-E Red	Red*	4/10	0.32	0.28	0.25
92N5392	MCL-493GT	Bright Green	Green*	3/10	0.32	0.28	0.25
92N5393	MCL-493YT	S-B Green	Yellow*	3/10	0.32	0.28	0.25

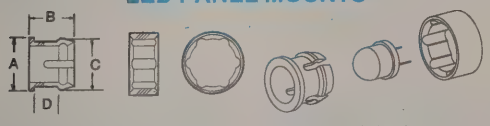
T-1¾ BEVEL TOP—Fig. 4

Viewing angle: 100°.

92N5394	MCL-483HDT	Bright Red	Red	5/10	0.32	0.28	0.25
92N5395	MCL-483IDT	H-E Red	Red	7/10	0.32	0.28	0.25
92N5396	MCL-483GDT	Pure Green	Green	3/10	0.32	0.28	0.25
92N5397	MCL-483YDT	Yellow	Yellow	3/10	0.32	0.28	0.25
92N5398	MCL-483EDT	H-E Red	Orange	7/10	0.32	0.28	0.25

(17442) (ne10474)

LED PANEL MOUNTS



Securely mount an LED to a panel with a thickness (D) of 0.32-0.125″ (0.8-3.2). Snap-together ring and clip holds a T-1¾ (5mm) LED. Material: nylon 6/6. Color: black. **Sold in packages of 100.**

Stock No.	Type	Fits	Dimensions A	B	C	Each
92N4814	2599	T-1	0.21″ (5.3)	0.21″ (5.3)	0.174-0.180″ (4.4-4.6)	18.99
92N4815	2600	T-1¾	0.30″ (7.6)	0.26″ (6.6)	0.267-0.273″ (6.8-6.9)	19.99

(17444) (ne10476)

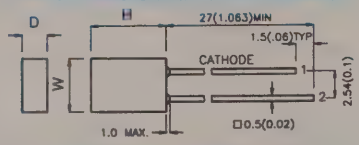
LED TESTER

Quickly evaluate LEDs. Check viewing angles, brightness and color. Great for prototyping. Test surface mount and leaded LEDs. 20mA-50mA. 9V battery not included.

92N4300 Type 2787. **Each** 9.99

(17443) (ne10475)

RECTANGULAR LED LAMPS



Viewing angle: 110°. Lenses are diffused. H-E is high efficiency. S-B is super bright.

1.9mm x 3.9mm, HEIGHT: 7mm

Stock No.	Type	Color	Lens Color	mcd/mA Typ.	1-49	50-99	100-249
92N5399	MCL-144YDT	Yellow	Yellow	4/10	0.28	0.24	0.22
92N5400	MCL-144-GDT	Green	Green	4/10	0.28	0.24	0.22
92N5401	MCL-144EDT	Orange	Orange	4/10	0.28	0.24	0.22
92N5402	MCL-144HDT	Bright Red	Red	7/10	0.28	0.24	0.22
92N5403	MCL-144IDT	H-E Red	Red	4/10	0.28	0.24	0.22

2mm x 5mm, HEIGHT: 7mm

92N5404	MCL-113IDT	H-E Red	Red	6/10	0.28	0.24	0.22
92N5405	MCL-113GDT	S-B Green	Green	4/10	0.28	0.24	0.22
92N5406	MCL-113YDT	Yellow	Yellow	4/10	0.28	0.24	0.22

2.3mm x 7mm, HEIGHT: 8mm

92N5407	MCL-153IDT	H-E Red	Red	1/10	0.28	0.24	0.22
92N5408	MCL-153GDT	S-B Green	Green	2.5/10	0.28	0.24	0.22
92N5409	MCL-153YDT	Yellow	Yellow	2.5/10	0.28	0.24	0.22

2.5mm x 5mm, HEIGHT: 9.6mm

92N5410	MCL-383IDT	H-E Red	Red	10/10	0.34	0.29	0.26
92N5411	MCL-383EDT	H-E Red	Orange	10/10	0.34	0.29	0.26
92N5412	MCL-383GDT	S-B Green	Green	4/10	0.34	0.29	0.26
92N5413	MCL-383YDT	Yellow	Yellow	4/10	0.57	0.49	0.44
92N5414	MCL-383HDT	S-B Red	Orange	10/10	0.34	0.29	0.26
92N5415	MCL-383SRDT	S-B Red	Red	60/20	0.34	0.29	0.26

5mm x 5mm, HEIGHT: 9.7mm

92N5416	MCL-1553IDT	H-E Red	Red	8/10	0.37	0.31	0.28
92N5417	MCL-1553GDT	S-B Green	Green	7/10	0.37	0.31	0.28
92N5418	MCL-1553YDT	Yellow	Yellow	4/10	0.37	0.31	0.28
92N5419	MCL-1553SRDT	S-B Red	Red	45/10	0.78	0.66	0.60

(17438) (ne10473)

LED SPACERS

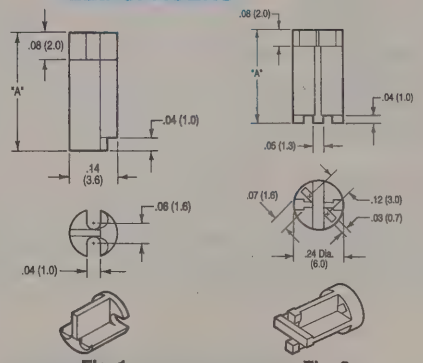


Fig. 1 Fig. 2

MADE IN USA

Spacers are natural color nylon 6/6, RMS-01. **Sold in packages of 100.**

Stock No.	Type	Fits	Size - "A"	1-24	25-49
16N820	8476-0438	T-1¾	0.187 (4.8)	18.29	15.55
16N821	8476-0439	T-1¾	0.250 (6.4)	18.49	15.72
16N822	8476-0440	T-1¾	0.375 (9.5)	18.79	15.98
16N823	8476-0441	T-1¾	0.500 (12.7)	19.19	16.32
16N824	8476-0442	T-1¾	0.625 (15.9)	19.49	16.57
16N825	8476-0443	T-1¾	0.750 (19.1)	19.99	17.00
16N826	8476-0444	T-1¾	0.875 (22.2)	20.49	17.42
16N827	8476-0445	T-1¾	1.000 (25.4)	20.99	17.85

(2645) (ne08324)

PLASTIC BEZELS

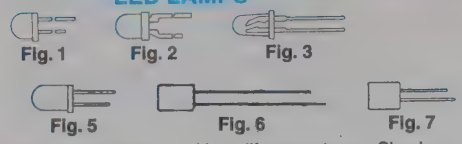
Housing for LED lamps. Tolerance is ±25mm (0.1″)

Stock No.	Type	Description	1-9	10-24	25-49
84N544	MCRTF-5010	Plastic Bezel for 5mm LED	0.37	0.33	0.30
84N545	MCRTF-8080	Plastic Bezel for 8mm LED	0.51	0.46	0.41
84N546	MCRTF-1090	Plastic Bezel for 10mm LED	0.59	0.53	0.48

(32796) (ne32796)

LEDS, KITS AND ACCESSORIES

LED LAMPS



IC-compatible lamps offer cool operation and long life expectancy. Shock-proof, solid lens, epoxy construction. Intense light sources available to 150 MCD luminosity. Leads are silver-plated, eliminating soldering problems. Viewing angles available to 180°. *Order panel-mount grommets separately on this page.*

T-1 LAMPS

Stock No.	Type	Emitted Color	Lens Type/ Color	View Angle	Typical mcd/mA	Fig.	1-24
81F5759	CMD5074C	Red	N.D. Red	70°	2.5/20	4	0.37
67F4505	CMD5075C	Red	Diff. Red	90°	1.5/20	4	0.41
27F145	CMD5374C	Yellow	Diff. Yel	90°	9.0/20	4	0.54
27F142	CMD5474C	H.E. Grn	Diff. Grn	90°	9.0/20	4	0.52
27F141	CMD5774C	H.E. Red	Diff. Red	90°	9.0/20	4	0.52
81F5764	CMD5777C	H.E. Red	Diff. Red	180°	7.0/20	1	0.54

T-100 LAMPS

94F1311	CMD54643	H.E. Grn	Diff. Grn	90°	5.0/20	2	0.41
44F5409	CMD57640	H.E. Red	Diff. Red	90°	2.0/10	2	0.37
46F5006	HLMP1340	H.E. Red	N.D. P.T.	45°	60.0/20	2	0.59
46F5017	HLMP1540	H.E. Green	N.D. P.T.	45°	60.0/24.0	2	0.59

T-1 3/4 LAMPS

27F089	CMD5752	H.E. Red	N.D. Red	28°	100.0/20	5	0.48
27F174	CMD5053	Red	Diff. Red	80°	0.5/20	4	0.33
27F176	CMD5055	Red	Diff. Red	150°	0.1/20	4	0.85
27F109	CMD5153	H.E. Red	Diff. Amb	65°	15.0/20	4	0.59
27F132	CMD5353	Yellow	Diff. Yel	65°	15.0/20	4	0.37
27F129	CMD5354A	Yellow	Diff.Yel	24°	25.0/20	4	0.39
44F5438	CMD5453	H.E. Grn	Diff. Grn	75°	20.0/20	4	0.37
27F093	CMD5753	H.E. Red	Diff. Red	65°	10.0/20	4	0.35
27F092	CMD5754A	H.E. Red	Diff. Red	24°	25.0/20	4	0.37
44F5395	CMD64531	H.E. Grn	Diff. Grn	75°	20.0/20	5	0.63
44F5447	FLV110	Red	Diff. Red	70°	3.0/20	5	0.44
44F8659	HLMP3300	H.E. Red	Diff. Red	65°	3.5/10	5	0.52
46F5020	HLMP3301	H.E. Red	Diff. Red	65°	7.0/10	5	0.76
44F8661	HLMP3316	H.E. Red	N.D. Red	35°	18.0/10	5	0.85
46F5022	HLMP3850	Yellow	N.D. P.T.	24°	150.0/20	5	0.63
46F5023	HLMP3950	H.E. Grn	N.D. P.T.	24°	150.0/20	5	0.63
46F5024	HLMP4700	H.E. Red	Diff. Red	35°	2.0/2	5	0.50
46F5025	HLMP4719	Yellow	Diff. Yel	35°	2.0/2	5	0.50
90F7442	CMD3750	H.E. Red	N.D. P.T.	24°	150.0/20	5	0.63
67F4507	CMD5054A-1	Red	Diff. Red	24°	1.0/10	5	0.37
27F110	CMD5352	Yellow	N.D. Yel	28°	90.0/20	5	0.50
44F5437	CMD5452	H.E. Grn	N.D. Grn	35°	25.0/20	5	0.50
10F7973	CMD50154	Red	Diff. Red	50°	1.5/10	3	0.72
10F7975	CMD54154	H.E. Grn	Diff. Grn	50°	12.0/10	3	0.78

RECTANGULAR LAMPS

46F5000	CMD54123	H.E. Grn	Diff. Grn	100°	4.0/20	6	0.39
46F5007	CMD57123	H.E. Red	Diff. Red	100°	4.0/20	6	0.35
44F5416	HLMP0300	H.E. Red	Diff. Red	100°	2.5/20	7	0.63
28F2551	CMD53124A	Yellow	Diff. Yel	100°	6.0/20	8	0.59
90F7444	CMD54124A	H.E. Grn	Diff. Grn	100°	6.0/20	8	0.59
28F2550	CMD57124A	H.E. Red	Diff. Red	100°	6.0/20	8	0.61

Diff. = Diffused/N.D. = Non-Diffused/P.T. = Pale Tint/H.E. = High Efficiency
(3872) (de52950)

MOUNTING ACCESSORIES

Mount **CMD series** lamps on panels up to 0.125″(3.18) thickness. **CMP-22** and **CMP-52** require drilling to mount.

Stock No.	Type	Fits Lamp	Lamp Size	1-24	25-49	50-99
27F177	CMP22	CMD5X2X	T-1¾	0.18	0.16	0.15
27F185	CMP52	CMD5X5X	T-1¾	0.18	0.16	0.15
10F7970	CMP65	CMD5X124	Rect.	0.33	0.30	0.27
90F7445	CMP100	CMD5X6XX	T-100	0.18	0.16	0.15

4999 SERIES PANEL-MOUNTING GROMMETS

Mount T-¾ LEDs in panel thicknesses up to 0.187″ (2.54).

27F200 Type 4999-002 (Silver). **Each** 1.56
27F201 Type 4999-003 (Black). **Each** 2.84
(3873) (de52952)

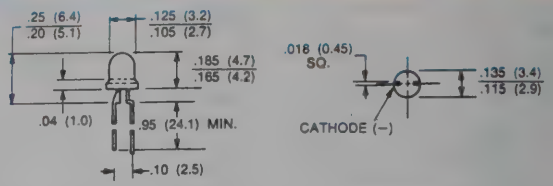
LED SPACERS

For T-1¾ and T-1 LEDs with leads spaced at 0.100″(2.54).

Stock No.	Type	Size	1-24	25-99	100-249
44F5290	624200	0.200″ (5.08)	0.18	0.16	0.15
44F5289	624250	0.250″ (6.35)	0.18	0.16	0.15
44F5288	624375	0.375″ (9.53)	0.18	0.16	0.15
44F5287	624500	0.500″ (12.70)	0.18	0.16	0.15
44F5286	624625	0.625″ (15.88)	0.18	0.16	0.15
44F5285	624750	0.750″ (19.05)	0.18	0.16	0.15

(3874) (de52953)

4303F-SERIES SUPER BRITE SOLID STATE LED LAMPS

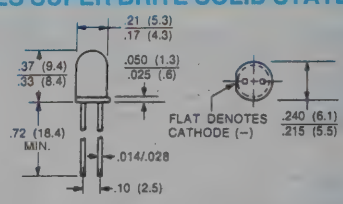


LED lamps feature 3mm T-1 Super Brite LEDs with high intensity light output and a 90° viewing angle. Continuous forward current: 30mA max. Rated current: **type 4303F1**: 10mA; **types 4303F5, 4303F7: 20mA.**

Stock No.	Type	Emitted Color	Lens Type/ Color	Typical mcd/mA	1-24	25-99
93F3523	4303F1	Red	Diff./Red	6/10	0.23	0.21
93F3524	4303F5	Green	Diff./Green	12/20	0.23	0.21
93F3525	4303F7	Yellow	Diff./Yellow	20/20	0.23	0.21

(35777) (ne35777)

4304H-SERIES SUPER BRITE SOLID STATE LED LAMPS

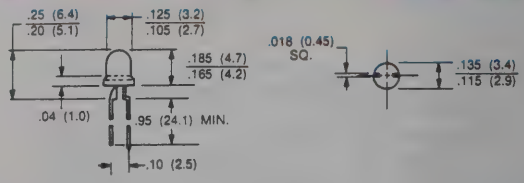


LED lamps feature 5mm T-1¾ Super Brite LEDs with high intensity light output and wide viewing angle. Rated current: 20mA. Forward voltage: **type 4304H1**: 2V; **type 4304HS**: 2.2V; **type 4304H7**: 2.1V. Continuous forward current: **type 4304H1**: 30mA max.; **types 4304H5** and **4304H7**: 35mA max.

Stock No.	Type	Emitted Color	Lens Type/ Color	View Angle	Typical mcd/mA	1-24	25-99
93F3521	4304H1	Red	Diff./Red	65°	30/20	0.23	0.21
93F3522	4304H5	Green	Diff./Green	75°	30/20	0.23	0.21
93F7471	4304H7	Yellow	Diff./Yellow	65°	25/20	0.34	0.30

(35779) (ne35779)

4301F1/5 BI-COLOR SUPER BRITE LED LAMPS

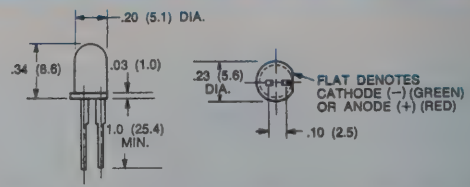


LED lamps feature Super Brite 3mm T-1 LEDs with uniform color output and wide viewing angle. Dual chip. Typical luminous intensity (mcd): 10. Rated current: 20mA. Forward voltage: typical: 2.1V; max: 3.0. Continuous forward current: 25mA max.

Stock No.	Type	Emitted Color	Lens Type/ Color	Viewing Angle	1-24	25-99
95F9398	4301F1/5	Red/Green	Diff./Clear	100°	0.77	0.69

(35875) (ne35875)

4301H1/5 HIGH BRITE BI-COLOR LED LAMPS

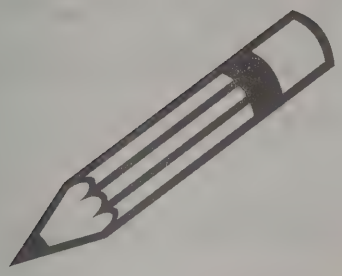


LED lamps feature 5mm T-1¾ dual color LEDs with red and green in the same two lead package. Chips are brightness matched - green and red light output is uniform. Typical luminous intensity (mcd): red: 6.0; green: 7.0. Rated current: 10mA. Forward voltage: 2.2V typ.; 2.8V max. Continuous forward current: 25mA max.

Stock No.	Type	Emitted Color	Lens Type/ Color	Viewing Angle	1-24	25-99
88F3726	4301H1-5	Red/Green	Diff./Clear	50°	0.96	0.69

(35870) (ne35870)

NOTES



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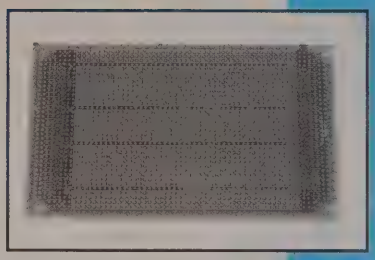

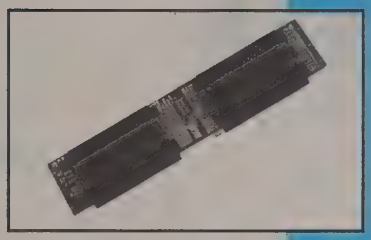

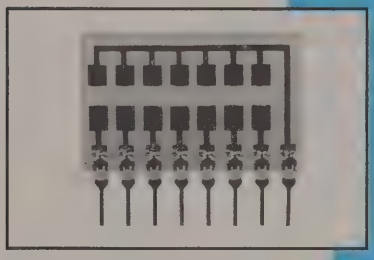

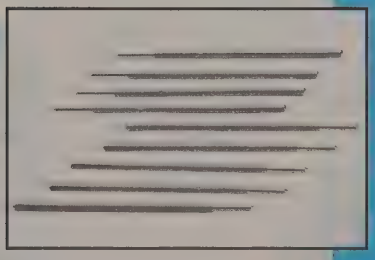

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NEW

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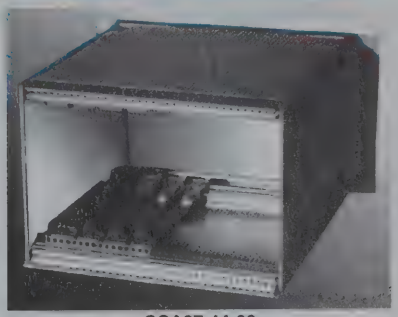
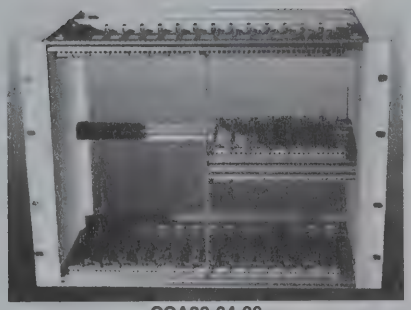
COMPACT PCI CARD CAGES



CCA27-44-00



CCA28-84-00

Type CCA27-44-00
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- **Vented Top & Bottom Covers**
- **Rear Solid Panel**

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Stock No.	Type	Width	Depth	Height	1-4
83F7693	CCA27-44-00	7.4″	8.5″	3U	**234.00**
83F7694	CCA28-84-00	19″	10″	6U	**258.00**

(37274) (ne37274)

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2600-300

Type 2600-300
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Type 4626-2
- **Mounts in Standard 3U DIN Based Subrack**
- **Utilizes the MPS Connector**
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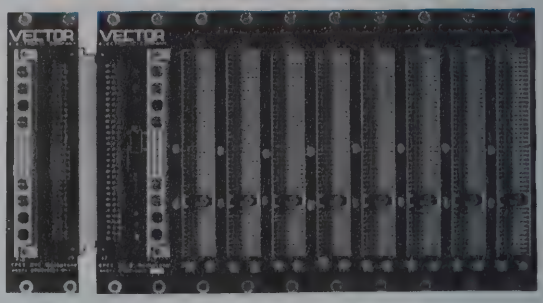
Type 2600-300 power supply develops high output power level in a 3U form factor and is capable of 300 Watt output with high efficiency. Multiple outputs on +5V, +3.3V, and ±12V are individually regulated. **Type4626-2** adapter board for cPCI 300 Watt power supply.

Stock No.	Type	Description	Voltage	1-2
83F7699	2600-300	Power Supply	+5V +3.3V +12V -12V	**654.50**
83F7700	4626-2	Power Supply Adapter Board	...	**241.89**

(37272) (ne37272)

COMPACT PCI BACKPLANE AND ADAPTER



CPIBP8-6, CPCIBP8-3-1

Type CCA27-44-00
- **8 Slot 6U Height**
- **32/64 Bit Configuration**
- **CPU Slot on the Right**
- **Backplane Design is Compact PCI Specification 2.0 Compliant**

Type CPCIBP8-6 is multilayer, 6U, 8 slot with MPS connector for power supply. **CPDCIBP8-3-1** is an adapter for mounting a second power supply.

Stock No.	Type	Description	1-2
83F7697	CPCIBP8-6	Multilayer, 6U, 8 Slot with MPS Connector for Power Supply	**660.00**
83F7698	CPCIBP8-3-1	Adapter for Mounting a Second Supply	**535.34**

(37275) (ne37275)

COMPACT PCI LOAD BOARDS

CPCI-3U-25-L, CPCI-6U-25-L

- **Provides 25 Watt Resistive Load for Switching Power Supplies**
- **Provides Standard Jacks for Remote Meter Readout for Exact Calibration**

Type CPC13U and **CPC16U** Boards for 3U and 6U system provide 25 watt resistive load for switching power supplies.

Stock No.	Type	Description	1-4
83F7695	CPCI3U-25L	Resistive Load Board For 3U System	**270.00**
83F7696	CPCI6U-25L	Resistive Load Board For 6U System	**300.00**

(37273) (ne37273)

NEW PRODUCTS ARE CONTINUALLY ADDED.
CALL NEWARK FOR CURRENT SELECTION.

CIRCBORD PRINTED CIRCUIT PROTOTYPING BOARDS

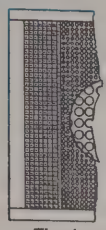


Fig. 1

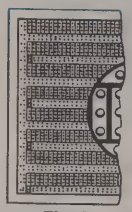


Fig. 2

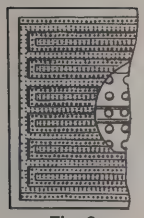


Fig. 3

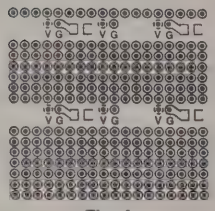


Fig. 4

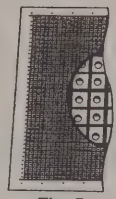


Fig. 5

- **Eliminate Need for Edge Connectors**
- **Bus and Circuit Patterns Are Solder-Coated**
- **Epoxy Glass or Epoxy Glass Composite Material**

These 0.062″ (1.57) thick printed circuit boards feature 0.042″ (1.07) diameter holes on 0.1″ (2.54) grid. Flame retardant. Accept wire wrap socket pins; *order* **type R32** *separately on page 303.* **Type 8001**; Mount up to 20, 16-pin DIP devices. **Type 8002**: Mount up to 36, 16-pin DIP IC components with 0.3″, 0.6″ and 0.9″ lead spacing. **Type 8003**: Mount up to 60, 16-pin DIP IC devices. **Type 8004**: Accommodate up to 50, 16-pin DIP IC devices. 0.085″ diameter clearance areas around hole. **Type 8006**: Board can be cut into smaller units. 154, 16-pin DIP IC capacity. **Type 8007**: Pad-per-hole pattern on component side, overall ground plane pattern on wiring side. 0.080″ diameter isolated solder pad around holes, component side. 60 16-pin capacity. **Type 8008**: mounts up to 21, 16-pin DIP IC devices. **Type 8010**: 16-pin DIP capacity: 124. **Type 8011**: Capacity for mounting 103, 16-pin DIP IC devices. **Type 8012**: Capacity for mounting 283, 16-pin DIP IC devices. **Types 8008-8012** all have 0.042″ diameter holes on 0.1″ grid and 0.080″ diameter, isolated solder pad around each hole. **Type 3677-6**: Etched circuit pattern on wiring side only. Mount up to 21, 16-pin DIP IC devices. **Type 45P80-1**: Accommodate 80, 16-pin devices. **Type 106P106-1**: Square solder pad around each hole, both sides. 275, 16-pin DIP devices. **Type 106P180-4**: Ground plane 2 sides, pad-per-hole. **Type 106P70-4**: Ground plane and pad-per-hole.

GROUND PLANE CIRCUIT PATTERN—FIG. 1

Stock No.	Type	Material	WxL	16-Pin DIPs	1-4
44F3800	8004	CEM-1 Epoxy Glass Composite	4.5x6.5″	50	28.42
97F7953	106P70-4	Plated-Thru-Holes	10.6x7″	175	114.03
95F5084	106P-180-4	FR4, Epoxy Glass	10.6x18″	400	160.61

3-HOLE SOLDER PAD CIRCUIT PATTERN—FIG. 2

38F1249	8001	CEM-1 Epoxy Glass Composite	4.5x6.5″	20	27.09
87F660	3677-6	CEM-1 Epoxy Glass Composite	4.5x8.08″	21	20.88

INTERLEAVED BUS CIRCUIT PATTERN—FIG. 3

38F1250	8002	CEM-1 Epoxy Glass Composite	4.5x6.5″	36	30.05

PADS AND PLANES CIRCUIT PATTERN—FIG. 4

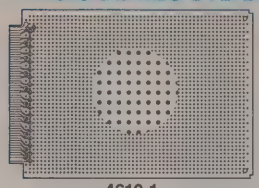
94F9382	8008	FR4 Epoxy Glass	4.5x6.5″	70	41.76

PAD-PER-HOLE CIRCUIT PATTERN—FIG. 5

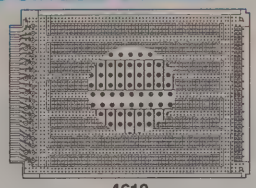
44F3799	8003	CEM-1 Epoxy Glass Composite	4.5x6.5″	60	25.79
46F1193	8007	CEM-1 Epoxy Glass Composite	4.5x6.5″	60	28.87
81F5767	45P80-1	CEM-1 Epoxy Glass Composite	4.5x8.08″	103	31.50
81F5768	106P106-1	CEM-1 Epoxy Glass Composite	10.6x10.6″	275	77.69
94F9384	8010	FR4 Epoxy Glass	4.0x13″	124	87.47
44F3801	8006	FR4 Epoxy Glass	5.0x13.25″	154	49.83
94F9386	8012	FR4 Epoxy Glass	9.2x11″	283	74.72

(3858) (de51894)

4610 SERIES STD BUS CIRCUIT BOARDS



4610-1



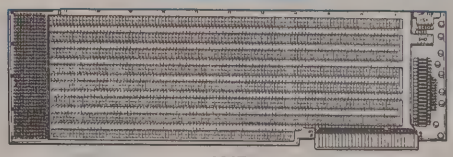
4610

4610 series all have 0.042″ (1.07) diameter precision-drilled holes on 0.1″ (2.54) grid. STD Bus standard: 5 volt bus terminates to pins 1 and 2; ground terminates to pins 3 and 4. **Type 4610-1** has capacity for mounting 59, 16-pin DIP IC devices. **Type 4610-2** has power and ground buses on wiring side only, component side has contacts only. Capacity for mounting 35, 16-pin DIP IC devices. **Type 4610-3** has 0.080″ (2.03) D, isolated solder pads around holes, both sides. Capacity for mounting 52, 16-pin DIP IC devices. *All accept* **type 3690-16** *extender cards ordered separately on page 606. Order card racks separately; contact your local Newark sales office.*

Stock No.	Type	Circuit Pattern	1-4
10F8207	4610	3-Hole Solder pad	39.49
10F8209	4610-1	Contacts Only	41.46
10F8208	4610-2	Interleaved Buses	41.46
81F4774	4610-3	Pad-Per-Hole	58.46

(6663) (de51844)

4617 SERIES CIRCUIT BOARDS FOR IBM AT, PC AND XT COMPUTERS



4617

4617 series boards plug into any IBM AT slot with dual connectors; have pads to mount dual row 0.1″ (2.54) spaced header. All boards listed below are 0.063″ (1.60) thick epoxy glass per MIL-P-13949 type GF. Feature marked edge identification, with gold-plated contacts on 0.1″ (2.54) centers. Power and ground buses terminate to connectors, and pads on board and bracket accept DB9-, 15-, 25- or 37-pin I/O connector. Holes are 0.042″ (1.07) diameter on 0.1″ (2.54) grid. Use solder or wire-wrap press-in terminals. Universal mounting bracket, card guide, layout planing sheets included. **Type 4617** *uses* **type 3690-26** *extender card, ordered separately on page 606.*

BOARDS WITH 3-HOLE SOLDER PADS/BUSES

Stock No.	Type	Fits IBM Model	Holds 16-Pin DIPs	1-4
46F2448	4617	AT, ISA	39	79.00

BOARDS WITH VOLTAGE PLANES

Type 4617-4 for higher frequency construction, features solid voltage and ground planes on opposite sides. Boards are filled with 0.55″ (1.40) diameter holes spaced 0.1″ x 0.1″ (2.54 x 2.54), with etched clearance areas surrounding them. Connections from device leads to voltage or ground made by direct soldering or placing eyelet in hole, and soldering flange to tinned circuit plane. Component leads soldered into eyelets are connected to circuit side on which eyelet flange is soldered.

Stock No.	Type	Fits IBM Model	Holds 16-Pin DIPs	1-4
87F1076	4617-4	AT, ISA	130	79.00

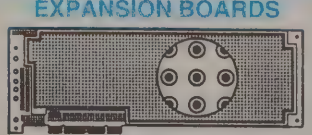
BOARDS WITH PAD-PER-HOLE PATTERN

These boards with plated-thru holes feature pads on a 0.1″ (2.54) grid which allow unlimited component placement. Full size. They accept any width DIP device, and have power and ground buses on each around the edges. **Type 4617-3** *uses* **type 3690-26** *extender card, ordered separately on page 606.*

Stock No.	Type	Fits IBM Model	Holds 16-Pin DIPs	1-4
46F2450	4617-3	AT, ISA	96	79.00

(3849) (de51836)

PCI-BUS AND VESA LOCAL BUS (VL-BUS) 32-BIT EXPANSION BOARDS



4624-3 PCI-Bus

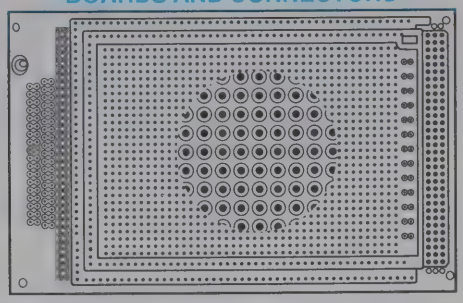
Pad-per-hole and peripheral buses for power and ground. FR4 epoxy glass boards have 0.042″ (1.7) diameter plated-thru holes on 0.1″ (2.54) grid. 32-bit ISA format. Universal etched tab geometry fits 3.3V and 5.0V tab notch patterns. Accept up to 79 DIPs plus PGAs. **Type 4624-3** PCI-bus board has 120 nickel/gold-plated contacts on 0.050″ (1.27) centers. Conforms to PCI local bus specification rev. 2.0. Mounting brackets included. Size: 12.28″ (311.9) wide x 4.20″ (106.7) high.

Stock No.	Type	Description	1-4
97F7966	4624-3	PCI-Bus Board	213.07

(3806) (de03507)

PROTOTYPING BOARDS AND EXTENDERS

EUROCARD (VME) 0.063″ (1.60) THICK PROTOTYPING BOARDS AND CONNECTORS

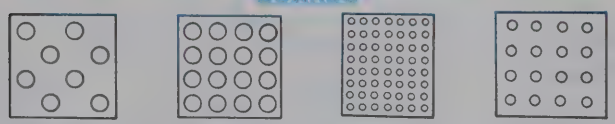


Signal pattern Eurocards have a bus connector, I/O, and signal pattern area. Bus connector area accepts 96-pin wire wrap connectors that allow direct connection to power and ground buses by wiring or using specially designed eyelets supplied with board. I/O area provides for mounting D-sub and flat ribbon cable connectors. Bus connector area has 0.055″ diameter (1.40) holes to accept eyelets, and I/O area has 0.043″ diameter (1.09) holes. Eurocards may be used as VME or Multibus II prototype boards. 0.1″ x 0.1″ (2.54 x 2.54) grid allows nonrestrictive placement of components. Units with type number **suffix -1** are pad-per-hole pattern, with holes in signal area drilled on a 0.1″ (2.54) grid, plated thru with pad on both board sides. Power and ground buses surround signal area; 0.043″ diameter (1.09) holes. **Suffix -3** are power and ground plane pattern, with 1 board side covered with a ground plane; other, a power plane. 0.055″ diameter (1.40) holes. *Order DIN connectors separately; contact your local Newark sales office.*

Stock No.	Type	Description	Outline DxH	16 Pin DIP Capacity	1-4
46F2751	E160-3U-1	Pad-Per-Hole	160mmx3U	35	39.86
46F2739	E160-3U-3	Power/Ground Plane	160mmx3U	45	39.86
46F2740	E160-6U-1	Pad-Per-Hole	160mmx6U	100	63.88
46F2742	E160-6U-3	Power/Ground Plane	160mmx6U	105	67.07
46F2743	E220-6U-1	Pad-Per-Hole	220mmx6U	140	84.58
46F2745	E220-6U-3	Power/Ground Plane	220mmx6U	168	81.38
87F1064	E280-9U-3	Power/Ground Plane	280mmx9U	340	111.96

(3852) (de51846)

VECTORBORD® GENERAL PURPOSE PROTOTYPING BOARDS



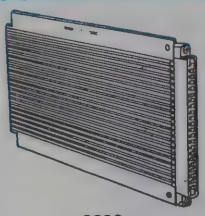
Pattern G Pattern H Pattern M Pattern P

Accept push-in or wire-wrap terminals. All boards are 0.063″ (1.60) thick, except **type 169P44XXXP** which is 0.047″ (1.19) thick and Pattern M boards which are 0.037″ (0.94) thick. **C1** suffix in type number indicates copper clad 1 side; **C2** suffix indicates 2 sides.

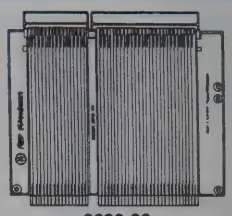
Stock No.	Type	Pattern	Hole Size	Hole Centers	W x L	1-4
XXXP PHENOLIC						
38F410	64P44XXXP	P	0.042″	0.1″	4.5 x 6.5″	6.75
38F411	169P44XXXP	P	0.042″	0.1″	4.5 x 17″	14.68
EPOXY GLASS						
38F1053	169P59/032	P	0.042″	0.1″	6 x 17″	18.21
38F1336	85H85WE	H	0.062″	0.1″	8.51 x 8.51″	18.31
38F1383	170H85WE	H	0.062″	0.1″	8.51 x 17″	28.35
38F1070	170H48WE	H	0.062″	0.1″	4.8 x 17″	14.88
38F1386	169P59-047	P	0.042″	0.1″	6 x 17″	18.21
38F408	85H48WE	H	0.062″	0.1″	4.8 x 8.51″	12.31
34F1223	64P44WE	P	0.042″	0.1″	4.5 x 6.5″	6.75
34F1224	84P44WE	P	0.042″	0.1″	4.5 x 8.5″	7.67
34F1225	169P44WEC1	P	0.042″	0.1″	4.5 x 17″	18.21
34F1226	169P44WE	P	0.042″	0.1″	4.5 x 17″	12.77
34F1227	169P79WE	P	0.042″	0.1″	8 x 17″	19.99
34F1228	169P84WE	P	0.042″	0.1″	8.5 x 17″	24.33
34F1229	169P84WEC1	P	0.042″	0.1″	8.5 x 17″	31.36
97F7956	126M76-032	M	0.025″	0.05″	4.0 x 6.5″	53.97
87F661	336M76-032	M	0.025″	0.05″	4.0 x 17″	70.84
97F7957	336M76-032C1	M	0.025″	0.05″	4.0 x 17″	55.31
EPOXY GLASS COMPOSITE						
38F1050	42G24WE	G	0.062″	0.1″ x 0.2″	4.8 x 8.51″	17.67
38F464	85G24WE	G	0.062″	0.1″ x 0.2″	4.8 x 17″	17.67
38F1051	85G42WE	G	0.062″	0.1″ x 0.2″	8.51 x 17″	20.96
38F1376	64P44	P	0.042″	0.1″	4.5 x 6.5″	6.75
38F1377	169P44	P	0.042″	0.1″	4.5 x 17″	12.16
38F1378	169P44C1	P	0.042″	0.1″	4.5 x 17″	14.77
38F1379	169P44C2	P	0.042″	0.1″	4.5 x 17″	19.09
38F409	169P84	P	0.042″	0.1″	8.5 x 17″	21.39
89F659	169P99	P	0.042″	0.1″	10 x 17″	28.78

(3851) (de51845)

3690 SERIES VECTORBORD® EXTENDER CARDS



3690



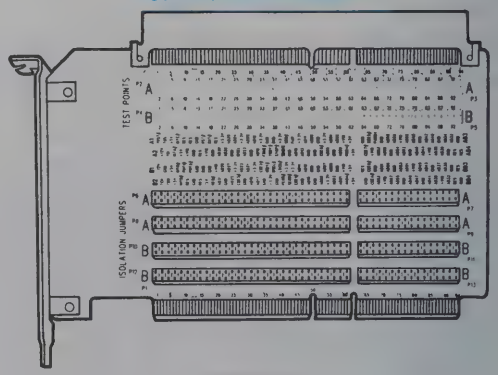
3690-26

Gold-plated connector mounted on top of extender. Epoxy glass composite except (*) epoxy glass or (+) FR4 epoxy. **Type 3690-26-1** multilayer design for high performance applications and 12 50V decoupling capacitors.

Stock No.	Type	Fits Circuit Board, Bus, Subrack Series	Contacts	Spacing	1-4
34F1240	3690	3662, 3662WE, 3662-5, 3662-9, 3677-2, 3677WE2, 3682-2, 3682-4, 4112-4, 4112-5, 838AWE1GN, 838WE, 838WE1GN	44	.156″	43.36
34F1242	3690-6	Series 14 Subracks, 3662-2, 3682, 4112 RCA Cosmac Bus	44	.156″	51.00
65F694	3690-12	CCK100 Subracks, 8800, S100 Bus	100	.125″	82.45
34F1243	3690-16	Series 13 Subracks, 4610 Series, SDT Bus	56	.125″	53.70
46F2451	3690-26	IBM AT Bus	36/62	.100″	82.45
50F2722	3690-26-1	Multilayer IBM AT Bus+	36/62	.100″	227.84

(3802) (de02321)

PCI TEST EXTENDER



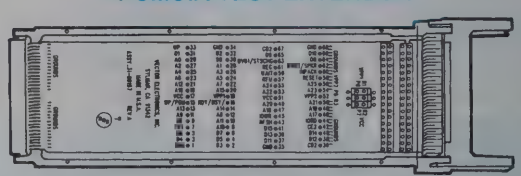
3690-34-5

3960-34-3V test extender for 32-bit or 64-bit PCI requirements. Contains test points for each signal line. Includes instructions. **3960-34-5V** multilayer test extender for 32-bit or 64-bit PCI requirements. Contains test points for each signal line. Instructions included. Sized and pin-compatible for 5 volt. (3.3 volt available; *contact your local Newark sales office).*

Stock No.	Type	Description	1-4
97F7955	3690-34-3V	Test Extender	310.50
99F4325	3690-34-5V	Multilayer Test Extender	310.50

(3886) (ne06283)

PCMCIA TEST EXTENDER



Multilayer test extender suitable for TYPE I and TYPE II output. 64-pin connector numbering. Test points for all signal lines.

Stock No.	Type	Description	1-4
66F9787	3690-35	PCMCIA Test Extender	167.67

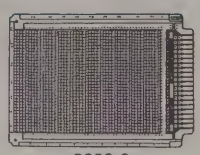
(3888) (ne06285)

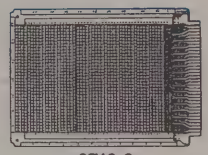
CIRCUIT BOARDS

GENERAL PURPOSE WIRE-WRAP 0.063″ (1.60) THICK CIRCUIT BOARDS

- **0.042″ (1.07) Diameter Holes on 0.1″ (2.54) Grid**
- **Flame Retardant Epoxy Glass Composition (except 3662-9, 3719-6 Epoxy Glass)**

Type 3662-9 pad-per-hole with buses pattern mounts 48 16-pin DIP devices horizontally, or 45 16-pin devices vertically. Drilled, plated-thru holes with 0.080″D (2.03) pads. Low resistance peripheral power and ground buses. **Type 3682-2** buses only pattern mounts 24 16-pin or 0.3″ (7.62), 0.6″ (15.24), 0.9″ (22.86) width DIP devices. Interposed power and ground buses on wiring side; bus outlines on component side. **Type 3719-6** pad-per hole and buses pattern mounts 40 16-pin DIP devices. Unlimited component placement. Low resistance peripheral power and ground buses. Drilled, plated-thru holes with 0.080″D (2.03) pads both sides. **Type 3797-2 -3** hole solder pads and buses pattern mounts 4 16-pin DIP devices. Interposed power and ground buses and hole marking legend on wiring side. 30 contacts on 0.156″ (3.96) centers.


3662-9


3719-6

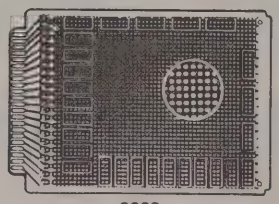
Stock No.	Type	Board Size	Contacts		Mating Connector		1-4
			No.	Spacing	Solder Eye	Wrap Tail	
81F4779	3662-9	4.5 x 6.5″	44	0.156″	R644	R644-3	**47.46**
38F1370	3682-2	4.5 x 6.5″	44	0.156″	R644	R644-3	**31.36**
81F4780	3719-6	4.5 x 6.5″	72	0.100″	R636-2	R636-1	**51.76**
38F1100	3797-2	2.73 x 4.5″	30	0.156″	R630	...	**21.54**

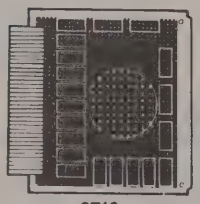
(3856) (de51892)

GENERAL PURPOSE WIRE WRAP 0.063″ (1.60) THICK CIRCUIT BOARDS

- **0.042″ (1.07) Diameter Holes on 0.1″ (2.54) Grid**
- **Epoxy Glass Composition**

Type 3662 contacts only pattern allows unlimited component placement. 22 numbered edge contacts are on front side; 21 plus grounding contact on reverse side. Mounts 50 16-pin DIP devices. **Type 3662-2** contacts only pattern allows unlimited component placement. 22 numbered edge contacts on front side; 21 plus grounding contact on reverse side. Mounts 90 16-pin DIP devices. **Type 3662-5** contacts only pattern allows unlimited component placement. 22 numbered edge contacts on front side; 21 plus grounding contact on reverse side. Hole marking legend both sides. **Type 3719-4** contacts only pattern mounts 90 16-pin DIP devices and has unlimited component placement. Hold marking legend. *Order extender cards separately. Contact your local Newark sales office.*


3662


3719

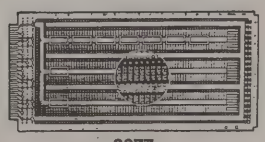
Stock No.	Type	Board Size	Contacts		Mating Connector		Mating Extender	1-4
			No.	Spacing	Solder Eye	Wrap Tail		
38F1366	3662	4.5 x 6.5	44	0.156″	R644	R644-3	3690	**24.33**
38F1105	3662-2	4.5 x 9.6	44	0.156″	R644	R644-3	3690-6	**30.46**
38F1134	3662-5	4.5 x 4.5	44	0.156″	R644	R644-3	3690	**20.46**
38F1104	3719-4	4.5 x 9.6	72	0.100″	R636-2	R636-1	3690-2	**31.36**

(3853) (de51878)

GENERAL PURPOSE SOLDER 0.063″ (1.60) THICK CIRCUIT BOARDS

- **0.042″ (1.07) Diameter Holes on 0.1″ (2.54) Grid**
- **Epoxy Glass Composition**

Type 3677 3-hole solder pads and buses pattern mounts 21 16-pin DIP devices. Interposed power and ground buses on wiring side. Bus outline, hole identification component side. **Type 3677-2** 3-hole solder pads and buses has interposed power and ground buses. Hole marking legend. **Type 4112-4** 3-hole solder pads, zig-zag buses and ground plane pattern. Alternate holes supply ± voltages. **Type 4112-5** same as **Type 4112-4** except for size. *Order extender cards separately on page 606.*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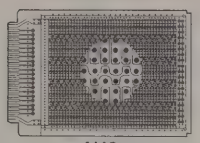

4112

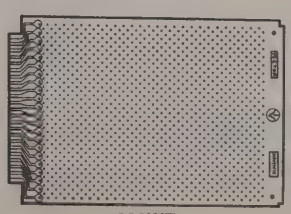
Stock No.	Type	Board Size	Contacts		Mating Connector		Mating Extender	1-4
			No.	Spacing	Solder Eye	Wrap Tail		
38F1367	3677	4.5 x 9.6″	44	0.156″	R644	R644-3	3690-6	**31.36**
38F1368	3677-2	4.5 x 6.5″	44	0.156″	R644	R644-3	3690	**27.84**
38F1138	4112-4	4.5 x 6.5″	44	0.156″	R644	R644-3	3690	**35.72**
38F1137	4112-5	4.5 x 4.5″	44	0.156″	R644	R644-3	3690	**33.13**

(3854) (de51879)

GENERAL PURPOSE 0.063″ (1.60) THICK CIRCUIT BOARD

- **0.063″ (1.60) Diameter Holes on Alternate Intersections of 0.1″ (2.54) Grid for Transistor Mounting**

Type 838WE PC contacts only board constructed of epoxy glass composite. Tin alloy plated 44-pin edge contacts, 22 per side on 0.156″ centers. *Order extender cards separately on page 606.*


838WE

Stock No.	Type	Board Size	Contacts		Mating Connector		Mating Extender	1-4
			No.	Spacing	Solder Eye	Wrap Tail		
38F1080	838WE	4.5 x 6.5″	22/22	0.156″	R644	R644-3	3690	**28.92**

(3855) (de51880)

8136 SERIES WIRE WRAP BOARDS

FASTPAK² Panel

Hi-Pak™ Panel

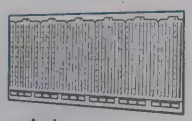
Wire wrap panels feature large power and ground planes of 2 oz. copper to provide optimum performance and minimize noise problems associated with typical breadboards. Finished to MIL specs. Available in two field patterns. Hi-Pak™ (type number with **suffix -01**) is a high-density universal pattern that allows devices with 0.3″, 0.4″, 0.6″, and 0.9″ lead spacing to be inserted anywhere on the board for optimal circuit performance. VCC and ground pins located at every other column for design flexibility. Power and ground busses beside each column of socket pins facilitate VCC and ground commitment of any pins. FASTPAK™ (type numbers with **suffix -02** or **-03**) is a universal pattern that incorporates SMD decoupling capacitors under each DIP location to ensure better operating performance for high power and high speed ICs. Continuous power and ground planes surround each pin. Boards with **-02 suffix** in type number have premounted 0.1µF SMD decoupling capacitors and no PGA area. Boards with **-03 suffix** in type number have premounted 0.1µF SMD decoupling capacitors and PGA area with SMD decoupling capacitors. Fully assembled. Flame-retardant, glass epoxy.

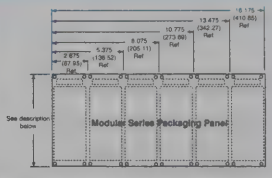
Stock No.	Type	Description	ICs	Each
95F9646	8136-VME616-01C	6U x 160mm VME Bus, Hi-Pak™	100	520.81
87F6627	8136-VME616-02C	6U x 160mm VME Bus, FASTPAK™	126	736.36
98F3801	8136VME61603C	6U x 160mm VME Bus, FASTPAK™ with PGA	114 & 2 PGAs	785.38
16F6344	8136-VXI634-04C	6U x 340mm VXI Bus, FASTPAK™ with PGA, 4-Layer Construction	224 & 8 PGAs	2389.95
87F6634	8136-IAT-37-02	IBM® PC/AT™, FASTPAK™ with one 37-Pin D-Sub Header (RS-232 Female)	128	842.79
16F6347	8136-IAT-37-03C	IBM® PC/AT™, FASTPAK™ with PGA and 1 37-Pin D-Sub Header (RS-232 Female)	108 & 2 PGAs	938.75

(3929) (ne08535)

UNIVERSAL SERIES MODULAR WIRE WRAP BOARDS

8136-UG1-54





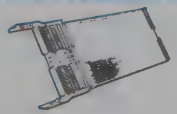
- **Fully assembled, ready-to-run**
- **Flame retardant glass epoxy**
- **High current power termination studs**

Standard universal logic pattern features 9 columns per group, each column having 50 socket pins each that accept .3″, .6″, & .9″ IC's. Full size board is 6.875″ wide x 16.175″ long and contains 6 groups sharing common GND and VCC planes of 2 oz. copper each.

Stock No.	Type	ICs	Length	Style	Each
14F2805	8136-UG1-9	24	2.675″ (67.95)	1	191.09
14F2806	8136-UG1-18	48	5.375″ (136.52)	1	382.05
14F2807	8136-UG1-27	72	8.075″ (205.11)	1	598.56
14F2808	8136-UG1-36	96	10.775″ (273.69)	1	740.47
14F2810	8136-UG1-54	144	16.175″ (410.85)	1	1114.09
14F2811	8136-UG6-9	24	2.675″ (67.95)	2	191.09
14F2812	8136-UG6-18	48	5.375″ (136.52)	2	375.94
83F7203	8136-UG6-27	72	8.075″ (205.11)	2	497.95
83F7204	8136-UG6-36	96	10.775″ (273.69)	2	641.74
14F2816	8136-UG6-54	144	16.175″ (410.85)	2	980.41
14F2817	8136-UG119-9	24	2.675″ (67.95)	3	202.10
14F2818	8136-UG119-18	48	5.375″ (136.52)	3	407.34
14F2819	8136-UG119-27	72	8.075″ (205.11)	3	592.20
83F6755	8136-UG119-36	96	10.775″ (273.69)	3	855.48
14F2822	8136-UG119-54	144	16.175″ (410.85)	3	1058.55
70B8803	8136-UG155-9	24	2.675″ (67.95)	4	202.10
70B678	8136-UG155-18	48	5.375″ (136.52)	4	400.37
83F6756	8136-UG155-27	72	8.075″ (205.11)	4	636.22
83F6757	8136-UG155-36	96	10.775″ (273.69)	4	843.99
83F6758	8136-UG155-45	96	13.475″ (342.27)	4	1055.45
70B8802	8136-UG155-54	144	16.175″ (410.85)	4	1045.35
14F2768	8136-PG21-30	30	2.675″ (67.95)	2	223.68
83F6759	8136-SCH4-36	96	10.775″ (273.69)	2	1221.61
83F6754	8136-SCH4-45	120	13.475″ (342.27)	2	1527.25
14F2929	8136-SCH4-54	144	16.175″ (410.85)	2	580.81

(3815) (de50093)

VME & VXI EXTENDER BOARDS



Extender boards assist test engineers in debugging computer systems. Fully assembled. Flame-retardant, glass epoxy.

Stock No.	Type	Description	Each
95F9649	8136-VMEXT322	3U VME Bus for 160mm and 220mm Deep Subracks with Features per VMEXT622	462.88

CONTINUED

VME & VXI EXTENDER BOARDS (CONT.)

Stock No.	Type	Description	Each
93F2974	8136-VMEXT622	6U VME Bus for 160mm and 220mm Deep Subracks. 4-Layer Construction, Controlled Impedance, Signal Line DIP Switches, Power Switch for Live Insertion, DIN Connectors for Termination or Analyzers	831.57
16F6348	8136-VMEXT922	Similar to VMEXT622 except 9U (J1/J2/J3)	1452.37
95F9651	8136-VMEXT940	Similar to VMEXT922 except 400mm Deep	1042.91
16F6349	8136-VXIXT634	6U VXI Bus with 8-Layer Construction, Controlled Impedance, Signal fLine DIP Switches, 5 Pwr and Gnd Layers for Low Inductance Distribution, Poer Switches for live insertion, DIN Connectors for termination or Analyzers	2007.24
51F3124	8136-EXT17	Multibus, Standard Performance 2-Layer	285.31
95F9642	36-IATEXH	IBM® PC/AT™ 4-Layer Construction, Controlled Impedance, Signal Line DIP Switches, Power Switch/Live Insertion	1109.84

(3930) (ne08536)

VME CARD CAGES AND POWERED CHASSIS

8170 series aluminum card cages feature a variety of heights, depths, and widths. Powered chassis provide a turnkey systems packaging solution to the design engineer. Assembled, ready-to-run systems combine a high-performance backplane, tightly regulated power supply with fully wired harness, a cooling unit, and subrack (card cage). Available for rack mount or tabletop use. Kits also available; *contact your local Newark sales office.*

Stock No.	Type	Description	Each
16F6354	8170-VME616-K1A	20-Position VME Bus Rack Mount Card Cage, 6U H x 160mm D w/Handles.	258.41
16F6355	8170-VME616-K2A	9-Position VME Bus Rack Mount Card Cage, 6U H x 160mm D w/Handles.	184.76
16F6356	8170-AVME944	Compact, Rack-Mountable Chassis with 400-Watt Front-Mounted Power-Supply and 15-Slot Backplane; 14.75H x 19W x 10″D; Weight: 26 lbs.; Cooling: 300 cfm	3291.51
16F6357	8170-AVME945	Chassis Alternative to Motorola MVME945 with 400-Watt Internal Power Supply, 12-Slot Backplane; Accepts Mass Storage Modules; 12.25H x 19W x 19″D; Weight: 29 lbs.; Cooling: 300 cfm	3131.49
16F6358	8170-VME616-DS-7	Tabletop VME Bus Development Chassis Provides Full Access to 7-Slot Backplane and 200-Watt Power Supply Outputs; 13Hx 8.67W x 8.67″D; Weight: 12 lbs.; Cooling: 70 cfm	1959.39

(3931) (ne08537)

VME & COMPACT PCI BACKPLANES

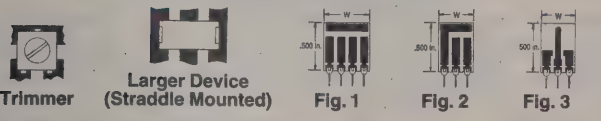
8160 series backplanes feature standard power cube terminals. VME bus J1/J2 monolithic backplanes with 6-layer construction provide controlled impedance, low crosstalk. Two power and ground planes with power cubes for even power distribution. Five user-definable auxiliary power busses for special applications. On-board termination. Available in sizes from 3 to 21 slots. Compact PCI backplanes conform to latest cPCI spec.; 32-, 64-bit compatible; supports 66 mhz transfers & 5.0v and 3.3v signaling; may be ordered with 'M' type power connector or power cubes; available in 3U/6U heights with 3 to 8 slots; compatible with C-MAC cPCI bridge for expansion past 8 slots.

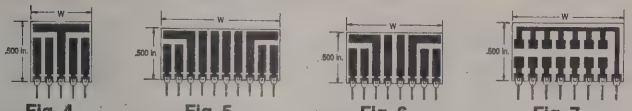
Stock No.	Type	Description	Each
16F6350	8160-VME003E-A	3-Slot VME Bus J1/J2	415.71
16F6351	8160-VME005E-A	5-Slot VME Bus J1/J2	526.30
98F3117	8160-ME015E-A	15-Slot VME Bus J1/J2	1156.53
95F9653	8160-VME021E-A	21-Slot VME Bus J1/J2	1528.45
83F7205	60-CPCI308-A	3U, 8 Slot cPCI Bus, w/Power Cubes, 64 Bit	621.30
83F7206	60-CPCI608-C	6U, 8 Slot cPCI Bus, w/BPI/O Bus & Power Cubes, 64 Bit	1208.40

(3928) (ne08523)

SURFACE MOUNT AND THRU-HOLE BREADBOARDS

6000 SERIES SURFACE MOUNT BOARDS AND THRU-HOLE BREADBOARDS





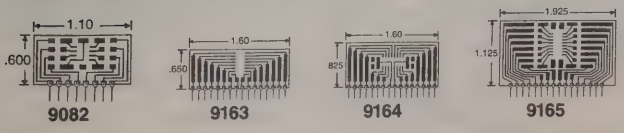
Miniature breadboard modules for SMD devices. Many models feature pins on 0.100″ centers for use with out breadboards and sockets. Several models feature large foil areas that accept a wide range of device footprints or can be modified to create new footprints. **6000 series** is for 2 and 3 terminal devices. **6000, 6100, 6400, 6500,** and **6800 series** all provide universal pads in various configurations. **6400 series** accepts SOT-89 devices. **6900 series** accepts 1206 or mini-melf packages with a common pin. Figures 1-7 show the basic pattern for each 6000 series model. The pattern is repeated in models with higher pin count (see table).

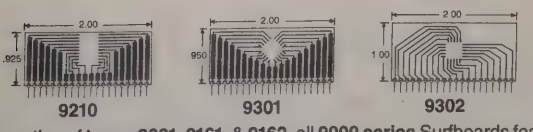
Stock No.	Type	Fig.	Pins	Width (W)	1-9	10-24	25-49
52F1415	6004	1	4	0.400″	1.49	1.42	1.35
52F1416	6006	1	6	0.600″	1.79	1.70	1.62
52F1417	6007	1	7	0.700″	1.99	1.89	1.80
52F1418	6008	1	8	0.800″	2.19	2.08	1.98
52F1419	6010	1	10	1.00″	2.69	2.56	2.43
52F1420	6012	1	12	1.20″	3.19	3.03	2.88
52F1421	6103	2	3	0.300″	1.29	1.23	1.17
52F1422	6106	2	6	0.600″	1.79	1.70	1.62
52F1423	6109	2	9	0.900″	2.29	2.18	2.07
52F1424	6112	2	12	1.20″	3.19	3.03	2.88
52F1425	6115	2	15	1.50″	3.69	3.51	3.34
52F1426	6303	3	3	0.300″	1.29	1.23	1.17
52F1427	6306	3	6	0.600″	1.79	1.70	1.62
52F1428	6309	3	9	0.900″	2.29	2.18	2.07
52F1429	6405	4	5	0.500″	1.69	1.61	1.53
52F1430	6410	4	10	1.00″	2.69	2.56	2.43
52F1431	6415	4	15	1.50″	3.69	3.51	3.34
52F1432	6510	5	10	1.00″	2.69	2.56	2.43
52F1433	6520	5	20	2.00″	4.49	4.27	4.06
52F1434	6808	6	8	0.800″	2.19	2.08	1.98
52F1435	6816	6	16	1.60″	3.59	3.41	3.25
52F1436	6908	7	8	0.800″	2.19	2.08	1.98
52F1437	6916	7	16	1.60″	3.59	3.41	3.25

Type MK-6000 master kit includes 2 each of the 23 board models above.

52F1438 Type MK-6000. **Each** **99.00**
(11226) (de06500)

9000 SERIES SURFACE MOUNT BOARDS AND THRU-HOLE BREADBOARDS





With the exception of **types 9081, 9161,** & **9162,** all **9000 series** Surfboards feature pins on 0.100″ centers. Boards are 0.031″ FR-4 w/solder coated 1 oz. cu circuits one side.

Stock No.	Type	Pins	Capacity	1-9	10-24	25-49
52F1439	9081	N/A	1 to 8-pin SOIC	1.39	1.32	1.26
52F1441	9161	N/A	1 to 16-pin SOIC	1.79	1.70	1.62
52F1442	9162	N/A	1 to 16-pin SOIC	1.89	1.80	1.71
52F1440	9082	8	1 to 8-pin SOIC	3.59	3.41	3.25
52F1443	9163	16	1 to 16-pin SOIC	5.49	5.22	4.96
52F1444	9164	16	1 to 16-pin SOIC	5.69	5.41	5.14
52F1445	9165	16	1 to 16-pin SOIC	5.99	5.69	5.41
52F1446	9210	20	1 to 20-pin (w) SOIC	6.49	6.17	5.86

CONTINUED

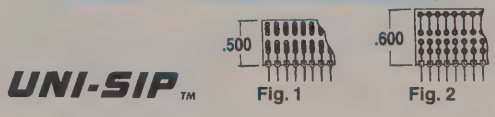
9000 SERIES SURFACE MOUNT BOARDS AND THRU-HOLE BREADBOARDS (CONT.)

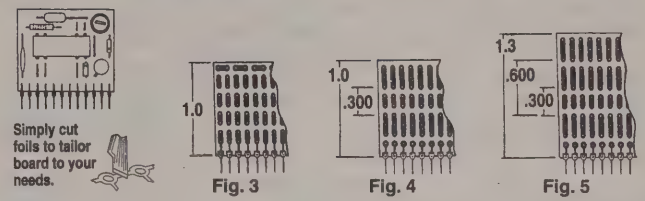
Stock No.	Type	Pins	Capacity	1-9	10-24	25-49
52F1447	9301	20	1 to 20-pin PLCC	6.49	6.17	5.86
52F1448	9302	20	1 to 20-pin PLCC	6.49	6.17	5.86

Type MK-9000 master kit includes 5 each of **types 9081, 9161, 9162,** and **9082** and 2 each of **types 9163, 9164, 9165, 9210, 9301,** and **9302.**

52F1449 Type MK-9000. **Each** **99.00**
(3814) (de06501)

UNI-SIP™ THRU-HOLE MODULES





UNI-SIP™ breadboard modules feature pins on 0.100″ centers with useful hole patterns and pad designs. Ideal for building prototype and production modules. 0.037″ diameter holes. **3000** and **4000 series** accept 0.300″ wide ICs; **5000 series** accommodates both 0.300″ and 0.600″ wide ICs.

Stock No.	Type	Fig.	Pins	Width	1-9	10-24	25-49
52F1388	US-1006	1	6	0.600″	0.79	0.75	0.72
52F1389	US-1007	1	7	0.700″	0.89	0.85	0.81
52F1390	US-1008	1	8	0.800″	0.99	0.94	0.90
52F1391	US-1009	1	9	0.900″	1.09	1.04	0.99
52F1392	US-1010	1	10	1.000″	1.19	1.13	1.08
52F1393	US-2006	2	6	0.600″	0.89	0.85	0.81
52F1394	US-2007	2	7	0.700″	0.99	0.94	0.90
52F1395	US-2008	2	8	0.800″	1.09	1.04	0.99
52F1396	US-2010	2	10	1.000″	1.39	1.32	1.26
52F1397	US-2012	2	12	1.200″	1.59	1.51	1.44
52F1398	US-3008	3	8	0.800″	1.49	1.42	1.35
52F1399	US-3010	3	10	1.000″	1.79	1.70	1.62
52F1400	US-3012	3	12	1.200″	2.09	1.99	1.89
52F1401	US-3014	3	14	1.400″	2.39	2.27	2.16
52F1402	US-4007	4	7	0.700″	1.29	1.23	1.17
52F1403	US-4008	4	8	0.800″	1.49	1.42	1.35
52F1404	US-4010	4	10	1.000″	1.79	1.70	1.62
52F1405	US-4012	4	12	1.200″	2.09	1.99	1.89
52F1406	US-4014	4	14	1.400″	2.39	2.27	2.16
52F1407	US-4016	4	16	1.600″	2.69	2.56	2.43
52F1408	US-5008	5	8	0.800″	1.69	1.61	1.53
52F1409	US-5010	5	10	1.000″	1.99	1.89	1.80
52F1410	US-5012	5	12	1.200″	2.39	2.27	2.16
52F1411	US-5014	5	14	1.400″	2.69	2.56	2.43
52F1412	US-5016	5	16	1.600″	2.99	2.84	2.70
52F1413	US-5020	5	20	2.000″	3.69	3.51	3.34

Type MK-US-260 52-piece master kit includes 2 each of all 26 models above.

52F1414 Type MK-US-260. **Each** **79.00**
(3890) (ne06502)

APPLICATION-SPECIFIC SURFACE MOUNT ADAPTERS

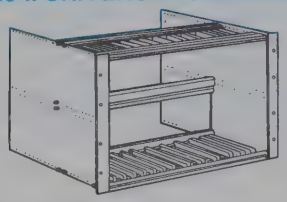
33000 series adapters for several popular discrete devices and small pin count ICs. These adapters provide direct pin out of device leads to SIP pins on 0.100″ centers.

Stock No.	Type	Accepts These Devices	Pins	1-9
48F4861	33003	SC-70 SOT-323, NEC Pkg.-30	3	0.86
48F4862	33006	SX-70-6, SOT-363	6	1.76
48F4863	33008	SUPERSOT-8 (Fairchild)	8	2.38
48F4864	33010	MICROMAX-10 (Maxim)	10	2.74
48F4865	33105	SOT-89-5	5	1.54
48F4866	33108	UMAX-8, MSOP-8, TSSOP-8	8	2.38
48F4867	33113	TO-263AB, 3-LEAD D Pkg.*	6	2.42
48F4868	33115	5-LEAD DD Pkg.	5	2.02
48F4869	33117	7-LEAD DD Pkg.	7	2.74
48F4870	33143	SOT-143	4	1.30
48F4871	33205	SOT-23-5, SC-59-5	5	1.58
48F4872	33206	SOT-23-6, SOT 23-L, SC-59-6, TSSOP-6	6	1.76
48F4873	33208	SSOP-8	8	2.38
48F4874	33213	TO-263AB 3-LEAD D Package	3	2.94
48F4875	33223	SOT-223	3	1.08
48F4876	33343	SOT-343	4	1.30
48F4877	33623	SOT-223*	6	1.96

* 2 output pins per device are provided for higher current applications.
(42471) (ne42471)

VME BACKPLANES AND SUBRACKS

KM6-II UNIVERSAL SUBRACKS

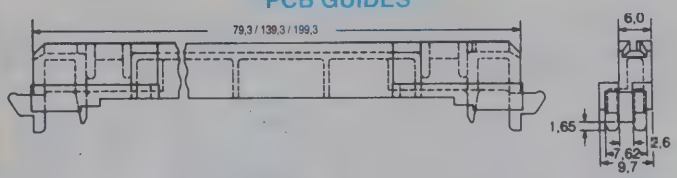


Strong and versatile subracks are easy to assemble. Feature tie bars that are of a large section for rigidity and are secured using 2 fixing screws into counterbored holes; the screws act as location dowels, giving a high degree of accuracy. Capable of housing Eurocards of different sizes in a variety of configurations. 19″ Eurocard compatible (IEC 297-3); backplane compatible. The 240 or 360mm endplates incorporate a series of punched holes so that the tie bars can be assembled at any required position. 360mm endplates have a pattern of additional holes for fixing the chassis system. Supplied without front handles. The conductive finish promotes electrical conductivity. All extrusions: aluminum alloy BS 1474 6063T6. End plates: 2 and 2.5mm aluminum BS 1470 5251-H24 (NS4 H6). Tapped strips: MS zinc pass. Finish: conductive, except rack mounting angles and handles, which are anodized. Conform to IEC 297-3.

Stock No.	Type	Dimensions H	W	D	1-4
16F7773	950-202594G	3U	84 HP	360mm	81.25
16F7774	950-202595E	6U	84 HP	360mm	129.37

(3935) (ne08648)

PCB GUIDES

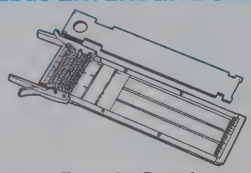


For 1.6mm thick Eurocards. Material: luranyl 2452/1 or equivalent. Color: green. **Sold in packages of 10.**

Stock No.	Type	Board Length	1-9
16F7767	950-232662J	160mm	4.61
16F7769	950-232663G	220mm	6.27

(3934) (ne08647)

VMEbus EXTENDER BOARDS



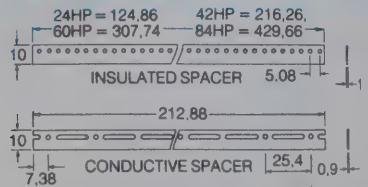
Extender Board

Extender boards feature multilayer design and full ground plane plus individual signal track screening. Signal pin-out identification is silk-screened onto outer layers. Jumper links allow signal line interrogation. Facility for logic analyzer or terminator module connection. Includes card eject/support mechanism. Conversion kit combines J1 and J2 extender boards to 6U high.

Stock No.	Type	Description	1-4
16F7762	243-26487G	J1 Extender Board	327.96
16F7763	243-26499H	J2 Extender Board	327.96
16F7764	188-27542E	6U Conversion Kit	20.40

(3933) (ne08646)

BACKPLANE INSULATING SPACER STRIPS



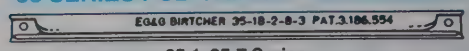
Insulating type spacer strips are available in 1- and 2- level versions, each having half shears to aid assembly. The 2-level version is used on center rear tie bars. The 84 HP strips can be easily cut down for smaller widths. Material: 0.04″ insulating/gray PVC, rated UL94V-0; conductive, 1mm MS zinc and passivate.

Stock No.	Type	Description	1-9
16F7765	950-10014H	1-Level Insulating Spacer	1.87
16F7766	950-10015E	2-Level Insulating Spacer	2.69

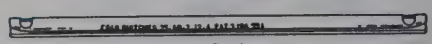
(3937) (ne08650)

35 SERIES PCB-TAINER™ RETAINERS

NEW



35-1, 35-7 Series



35-6 Series

Without flared entry for 0.063″ board thickness. Perfect where metal guides required. Spring loaded to clamp PC boards. Moderate heat transfer and vibration applications. Electrically and thermally conductive. 0.008″ thick beryllium copper, ¼H per QQ-C-533 and finished with cadmium plate per QQ-P-416, type II, class 2. Thermal resistance, 12°/C/W/in. Install with rivets, screws or adhesives.

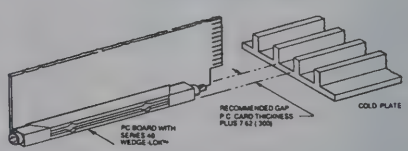
Stock No.	Type	Length	1-9	10-24
90F7594	35-1B-2-4-3	2.0″	4.21	3.34
90F7595	35-1B-2-5-3	2.5″	4.83	3.89
90F7596	35-1B-2-6-3	3.0″	5.39	4.33
90F7597	35-1B-2-7-3	3.5″	6.00	4.81
90F7598	35-1B-2-8-3	4.0″	6.55	5.25
90F7599	35-6B-2-6-3	3.0″	5.39	4.33
90F7600	35-6B-2-7-3	3.5″	6.00	4.81
90F7601	35-6B-2-9-3	4.5″	7.19	5.74
90F8327	35-7B-2-4-3	2.0″	4.68	3.75
90F8313	35-7B-2-6-3	3.0″	5.75	4.60
90F7603	35-7B-2-8-3	4.0″	5.75	4.60
90F7604	35-7B-2-9-3	4.5″	6.00	4.81
90F7602	35-7B-2-10-3	5.0″	6.55	5.25

(42070) (ne42070)

40 AND 42 SERIES WEDGE-LOK™ RETAINERS

NEW

40 Series
· Zero Entry Force



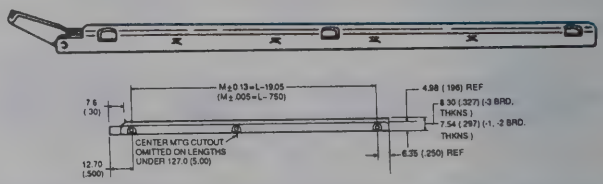
Zero insertion force locking retainers for heavy shock, vibration and heat dissipation in cold plate/heat sinking applications. Provide maximum clamping action for PC boards. Housing wedges constructed of aluminum alloy 6061-T6 QQ-A-200/8 and finished with chemical film per MIL-C-5541. Stainless steel 0.09″ hex, socket head cap screw with passivate finish per MIL-S-5002. Thermal resistance: 2°C/W/in. Can be mounted to PC board or cold plate with rivets, screws or adhesives.

Stock No.	Type	Length	Max. Expanded Width	Max. Retention Force (lb.)	1-9	10-24
90F7629	40-8	4″	0.330″	250	8.82	7.50
90F7628	40-10	5″	0.330″	250	8.95	7.61
90F7630	42-10	5″	0.290″	94	8.86	7.52

(42071) (ne42071)

24 SERIES ZERO INSERTION FORCE LEVER-ACTUATED LOK-TAINER™ RETAINERS

NEW


M ± 0.13 = L - 19.05
(M ± .005 = L - .750)
4.98 (.196) REF
8.30 (.327) (-3 BRD. THKNS.)
7.54 (.297) (-1, -2 BRD. THKNS.)
CENTER MTG. CUTOUT OMITTED ON LENGTHS UNDER 127.0 (5.00)
12.70 (.500)
6.35 (.250) REF

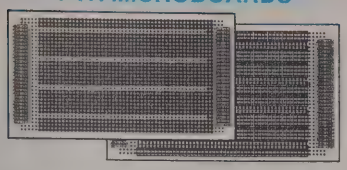
Provide quick removal of PC boards — no tools required. Resist shock and vibration. Ideal for wide temperature range environments and moderate heat dissipation applications. Retention force: 40-45 lbs. Beryllium copper housing, ¼H per QQ-C-533. Finished with cadmium plate per QQ-P-4116, Type II, class 2. Rugged steel lever. Left or right hand action. Easy installation with any 0.655″ diameter rivet or eyelet. Center mounting hole and cutout is eliminated on lengths under 5″. *Order optional* **71 series** *board extractors separately; contact your local Newark sales office.*

Stock No.	Type	Length	Hand Action	1-9	10-24
90F7612	24BX-2-7-3-L	3.5″	Left	18.54	14.95
90F7613	24BX-2-7-3-R	3.5″	Right	18.54	14.95
90F7614	24BX-2-9-3-L	4.5″	Left	21.57	17.04
90F7615	24BX-2-9-3-R	4.5″	Right	21.57	17.04
90F7609	24BX-2-10-3-L	5.0″	Left	23.42	18.89
90F8337	24BX-2-10-3-R	5.0″	Right	23.42	18.89
90F7610	24BX-2-12-3-L	6.0″	Left	26.19	21.03
90F7611	24BX-2-12-3-R	6.0″	Right	26.19	21.03

(42072) (ne42072)

PROTOTYPING BOARDS AND ACCESSORIES

PTH MICROBOARDS



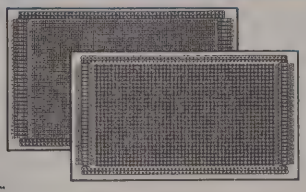
- **DIN 41494 Compatible**
- **Medium Packing Density**
- **DIN 41612 Connector Position, Up to 96/96 Ways, Front and Rear**
- **Solder-Resistant Protection to Component Side of Board**
- **2Vcc Power Rails and 0-Volt Ground Plane**

Specifically designed for microprocessor applications in which high reliability, freedom from crosstalk, and interface capability are requirements. Fully compatible with **KM6-II series**, *order separately on page 610*, and equally suited to soldered or wire-wrapped interconnections. While a PTH board is soldered, capillary action draws the solder around the component leads forming extremely solid, reliable joints, which is important in high-vibration applications. A copper colander 0-volt ground plane is provided on the component side of the board. It is recommended that the component side be used for interwiring with looms lying flat on the ground plane surface, reducing crosstalk from signal lines coupling directly to the ground plane. Board material: epoxy glass. PTH: BS 4584 EP-GC-Cu 3 FR4. Maximum working temperature: 155°C. Nominal board thickness: 1.6mm. Laminate copper thickness: 35µm. Plated copper: 25µm. Tin-lead: 10µm. Hole grid: 2.54 x 2.54mm. Hole dia.: 1.02mm. Bare boards are UL recognized, file no. E116551; approved to BS9762.

Stock No.	Type	Board Dimensions	Rows/Pads	1-4
16F7748	222-2991F	100 x 160mm	4/44	**58.48**
16F7749	222-2992B	100 x 220mm	4/67	**82.29**
16F7750	222-2993J	233.4 x 160mm	11/44	**128.33**

(3938) (ne08651)

PTH SQUARE PAD BOARDS



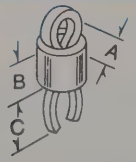
- **DIN 41494 Compatible**
- **Maximum Packing Density**
- **DIN 41612 Connector Position, Up to 96/96 Ways, Front and Rear**
- **Total Flexibility Using Hard Wire or Wire-Wrapping Techniques**
- **Solder-Resistant Protection to Component Side of Board**

By having plated thru-holes, these boards are able to provide the same high density and flexibility as the square pad Eurocards but for hard wiring applications. Compatible with **KM6-II series**, *order separately on page 610*. A high level of interfacing may be achieved with boards able to accept 96/96 way DIN 41612 connectors. 2 power rails are provided along the length of the board and a colander ground plane affords maximum screening to the component side of the board. Base material: epoxy glass. Hole grid: 2.54 x 2.54mm. Hole dia.: 1.02mm. Bare boards are UL recognized, file no. E116551; approved to BS9762.

Stock No.	Type	Board Dimensions	No. of Pads		1-4
			W	L	
16F7751	222-26492L	100 x 160mm	32mm	48mm	**45.03**
16F7752	222-53134H	100 x 220mm	32mm	71mm	**73.48**
16F7753	222-53135E	233.4 x 160mm	70mm	48mm	**98.85**
16F7754	222-53136B	233.4 x 220mm	70mm	71mm	**145.92**

(3939) (ne08652)

TERMINAL ASSEMBLIES

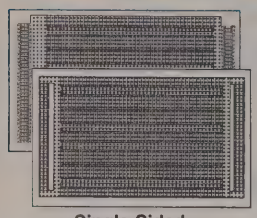


Designed to act as a terminal on PC boards for attachment of scope probe, etc. Spring design allows the terminal to be inserted into a plated thru-hole board without damaging the hole plating. Terminal will remain in place when the board is reversed for soldering. The sintered glass bead has a recommended maximum working temperature of 475°C. Color: black. **Sold in packages of 100.**

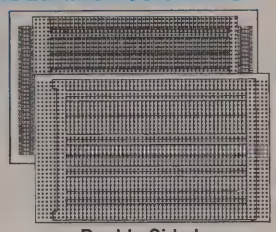
Stock No.	Type	Hole Dia.	Dimensions			1-4
			A	B	C	
16F7755	20-2137D	1.02mm	2.0-2.2mm	2.9-3.1mm	2.3-2.5mm	**14.91**
16F7756	20-2136J	1.32mm	1.1-1.3mm	3.1-3.3mm	3.2-3.4mm	**14.91**

(3940) (ne08653)

SINGLE- AND DOUBLE-SIDED MICROBOARDS



Single-Sided



Double-Sided

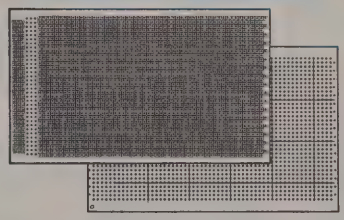
- **DIN 41494 Compatible**
- **Medium Packing Density**
- **DIN 41612 Connector Pattern, Up to 64/96 Ways, Front and Rear**
- **Both Boards Have 2 Power Planes**
- **Grid Print to Aid Component Layout**
- **Microbus Backplane Compatible**

The single-sided microboards are low-cost Eurocards with no 0-volt ground plane on the component side. The double-sided microboards have solder-resistant protection to component side of board and 0-volt ground plane screen. Compatible with **KM6-II series**, *order separately on page 610*. Board material: epoxy glass. Double/single-sided copper: BS 4584 part 16. Maximum working temperature: 155°C. Nominal board thickness (including copper): 1.6mm. Copper thickness: 35µm. Hole grid: 2.54 x 2.54mm. Hole dia.: 1.02mm.

Stock No.	Type	Description	Board Dimensions	Rows/Pads	1-4
16F7757	10-27563H	Single-Sided	100 x 160mm	4/46	**22.36**
16F7758	10-2845B	Double-Sided	100 x 160mm	4/46	**26.82**

(3941) (ne08654)

SQUARE PAD BOARD



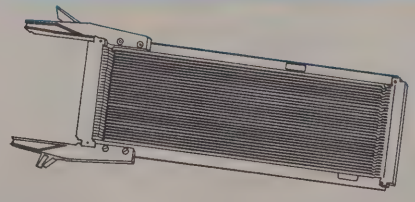
- **DIN 41494 Compatible**
- **Maximum Packing Density**
- **DIN 41612 Connector Pattern Up to 96/96 Ways**
- **Total Flexibility Using Hard Wire or Wirewrapping Techniques**
- **Grid References to Both Sides of Board**
- **Microbus Backplane Compatible**

Any size of wirewrapping DIP socket or terminal pin can be accepted in either X and Y planes. Vcc and 0-volt rails may be daisy chained from post to post around the board, eliminating the need to stake pins in power rails. Compatible with **KM6-II Series**, *order separately on page 610*. N.B. component grids compatible with connectors. Board material: epoxy glass. Double-sided copper: BS 4584 part 16. Maximum working temperature: 155°C. Nominal board thickness: 1.6mm. Copper thickness: 35µm. Hole grid: 2.54 x 2.54mm. Hole dia.: 1.02mm.

Stock No.	Type	Board Dimensions	No. of Pads		1-4
			W	L	
16F7759	03-0026J	100 x 160mm	34mm	54mm	**21.53**

(3942) (ne08655)

DOUBLE-SIDED EXTENDER BOARDS



- **Eurocard Compatible**
- **Solder-Resistant Coating to Prevent Solder Bridging and Finger Staining**

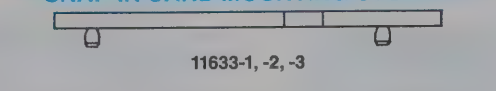
Enable testing of single- and double-height Eurocards, both 160 and 220mm deep, using DIN 41612 type B and C connectors. Plug directly into a subrack connector with the unique support/ejector mechanism at the front supporting the board under test. Terminal assemblies (supplied with the boards) may be fitted to the board to allow easy attachment of scope probes typically for measuring voltage levels.

Stock No.	Type	Frame Height	Connectors Fitted			1-2
			Plug	Socket	Version	
16F7760	09-2459K	3U	1 off	1 off	96/96	**170.76**
16F7761	09-2460E	6U	2 off	2 off	96/96	**376.86**

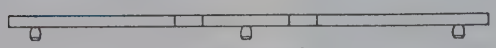
(3943) (ne08656)

CIRCUIT BOARD ACCESSORIES

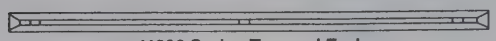
SNAP-IN CARD MOUNTING SYSTEM



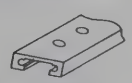
11633-1, -2, -3



11633-4, -5, -6



11633 Series Tapered End



40790

40791

Mounting system consists of snap-in card guides and punched, fixed-space mounting bars. Snap-in card guides mount on prepunched 1/16″ or 3/32″ metal plates or on the special mounting bars ordered separately. **Type 11633** card guides have tapered ends. Guide tracks are 0.075″ wide x 0.125″ or 0.075″ deep to securely hold cards in place. High-grade nylon guides are self-lubricating, nonconductive, and provide excellent isolation from shock and vibration **Type 11633**. Guide thickness: 0.175″. Precision-punched 17″ mounting bars are constructed of extruded aluminum and feature two mounting holes on each end to eliminate twisting. Punched with 0.500″, 0.600″, 0.700″ and 0.750″ centers.

SNAP-IN CARD GUIDES

Stock No.	Type	Overall Length	Space Between Snap-In Tabs	Each
51F3048	11633-1	2.5″	1.5″	0.24
51F3049	11633-2	4.5″	3.5″	0.25
51F3050	11633-3	6.5″	5.5″	0.27
51F3053	11633-6	8.0″	7.0″	0.27
51F3051	11633-4	10.0″	9.0″	0.30
51F3052	11633-5	12.0″	11.0″	0.34

MOUNTING BARS FOR SNAP-IN GUIDES

Stock No.	Type	No. of Positions	Mounting Hole		Each
			Spacing	Size	
STANDARD MOUNTING - FOR ALL FILES: FRONT, MIDDLE OR REAR MOUNT					
51F3073	40790-1	34	0.500″	0.177 x 0.225″	9.01
51F3076	40790-2	27	0.600″	0.177 x 0.225″	7.71
51F3079	40790-3	21	0.750″	0.177 x 0.225″	7.71
51F3082	40790-4	23	0.700″	0.177 x 0.225″	7.71
51F3074	40790-101	34	0.500″	0.180″ Dia.	7.71
51F3077	40790-102	27	0.600″	0.180″ Dia.	7.71
51F3080	40790-103	21	0.750″	0.180″ Dia.	7.71
CONNECTOR MOUNTING - FOR ALL FILES WITH CONNECTORS					
51F3085	40791-1	34	0.500″	#4-40 Thread	18.24
51F3086	40791-2	27	0.600″	#4-40 Thread	16.69
51F3087	40791-3	21	0.750″	#4-40 Thread	15.52
51F3088	40791-4	23	0.700″	#4-40 Thread	17.57

(42671) (ne42671)

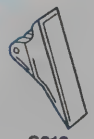
PC CIRCUIT BOARD CARD EJECTORS

S200,-202,-205

S203

S208

S209



S212

Ejectors can be used with most circuit card support systems. Attach to 0.062″ thickness cards. With roll pin.

Stock No.	Type	Description	H x W x D	Each
51F3089	S200	Std. Single-Action Lever, Wide Grasp	1.125 x 0.375 x 0.500″	0.25
51F3090	S202	Slimline Single-Action Lever, Narrow Grasp	1.125 x 0.250 x 0.500″	0.25
51F3091	S203	Low-Profile 0.125″ Single-Action Lever	1.093 x 0.250 x 0.375″	0.25
51F3092	S205	0.031″ Offset Single-Action Lever, Med. Grasp	1.125 x 0.312 x 0.500″	0.25
51F3094	S208	Low-Profile Tabbed, Easy Lift Handle	1.062 x 0.250 x 0.500″	0.41
51F3095	S209	Injector - Ejector	1.550 x 0.370 x 0.650″	0.41
51F3097	S212	Single-Action for Larger Cards	1.250 x 0.312 x 0.520″	0.25

(42672) (ne42672)

EUROCARD/VME E-Z-JECT™ EJECTOR SYSTEMS

E-Z-JECT™ Handle

3U

Use with Eurocard cages (IEC), such as VMEbus, to make card removal easy by providing leverage against guide mounting surface for positive extraction. The patented E-Z-Ject™ handle provides a quick and easy method of removing daughterboards or plug-in modules from Eurocard format card cages, using 96-pin DIN connectors. The E-Z-Ject™ design complies with IEC and VME specifications governing front panel and board mount components. Choice of three ejector kits. **Types 32027, 32028** have upper mounting hole, **types 32010, 32020** have lower mounting hole in center bracket panel. **Types 32094, 32226** and **32091** for tall components; **types 32152, 32011** and **32128** for wire wrap components.

UNASSEMBLED E-Z-JECT™ EJECTOR KITS

Stock No.	Type	Kit Includes:	Size U=1.75″ Hp=0.200″ Height	Width	Each
51F2978	S216-311	E-Z-Ject Handle, ID Plate, Bracket, Retainers and Screws (No Front Panel)	3U	4Hp	5.07
51F2979	S216-611		6U	4Hp	6.11
51F2980	S216-911		9U	4Hp	7.75

UNASSEMBLED E-Z-JECT™ PANEL KITS

Stock No.	Type	Kit Includes:	Size U=1.75″ Hp=0.200″ Height	Width	Each
51F2981	32025	Blank Front Panel, E-Z-Ject Handle, ID Plate, Bracket, Retainers and Screws	3U	4Hp	11.52
51F2982	32028		6U	4Hp	13.57
51F2983	32030		6U	4Hp	13.57
51F2984	32094		6U	8Hp	16.54
51F3669	32152		6U	8Hp	21.64
51F2985	32035		9U	4Hp	15.12
51F2987	32226		9U	8Hp	22.94

FULLY ASSEMBLED E-Z-JECT™ PANEL KITS

Stock No.	Type	Kit Includes:	Size U=1.75″ Hp=0.200″ Height	Width	Each
51F3670	32005	E-Z-Ject Handle, Retainers and Bracket Assembled to Blank Anodized Front Panel with ID Plate and Screws	3U	4Hp	13.84
51F2988	32010		6U	4Hp	13.04
51F2989	32027		6U	4Hp	13.12
51F2990	32091		6U	8Hp	19.25
51F2991	32011		6U	8Hp	22.32
51F2992	32014		9U	4Hp	17.75
51F2993	32128		9U	8Hp	32.11

(42670) (ne42670)

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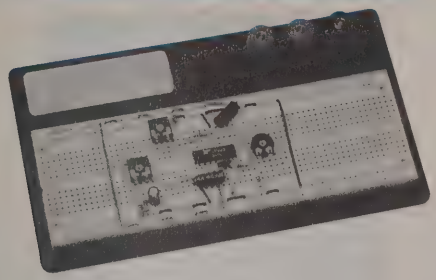
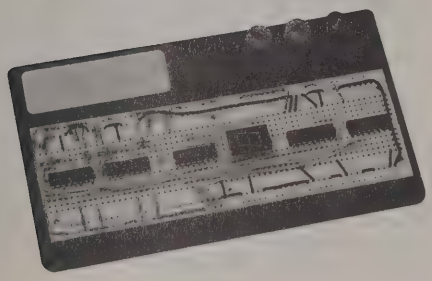
PROTOTYPING EQUIPMENT

PROTOTYPING PROJECT KITS

NEW



2347



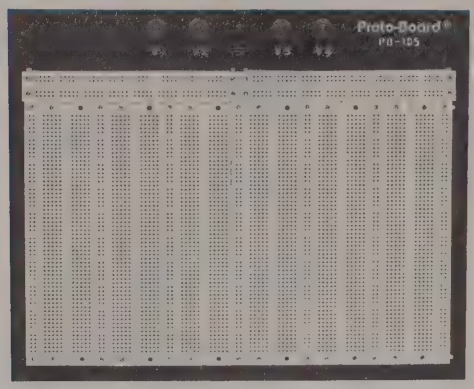
2349

Ideal tool for learning circuit design and improving one's knowledge of electronics. Hands-on understanding that's perfect for science classes, hobbyists, ham radio operators, and technology programs. For use with **type 2344** prototyping breadboard lab station; *order separately on page 614.* Choice of 7 different project kits. Each kit contains an easy-to-read tutorial and a complete set of necessary components, so there is no need to hunt for parts. *Order breadboards separately on this page.*

Stock No.	Type	Project Kit Topics	Each
92N4389	2345	Opto-Devices, Including LEDs, Alpha/Numeric Displays, and Optocouplers	**29.99**
92N4390	2346	Clocks, Including Multivibrators, Voltage Controlled Oscillators, and Tone Generators	**12.99**
92N4391	2347	Function Generators, Including IC Designations, Frequency of Operation, Output Amplitude, and DC Output Levels	**19.99**
92N4392	2348	Gates (Logic Building Blocks), Including Digital Circuits, OR, AND, NOR, and NAND Gates	**17.99**
92N4393	2349	Counters Including Flip-Flips, Synchronous, Asynchronous, Ripple, and Ring Counters	**17.99**
92N4394	2350	Medium-Scale Integration, Including Multiplexing, Memory, Comparator, ROM, RAM, and Timing Charts	**34.99**
92N4395	2351	Analog Circuits, Including Phase-Locked Loop, Loop Behavior, OP Amps, and Active Filters	**15.99**

(29695) (ne29695)

SOLDERLESS PROTOTYPE SYSTEMS



2025

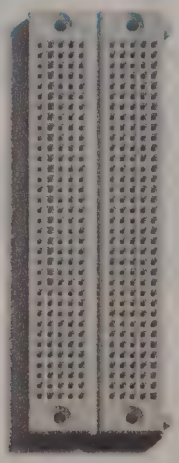
Choose from 5 different breadboard types that can be used for various prototyping circuit applications. Feature QT sockets and bus strips mounted on rugged back panels. The preferred wire size for all types is 22 AWG. Initial contact resistance is less than 0.5 milliohm; after multiple uses, this reduces to less than 0.4 milliohm.

Stock No.	Type	Binding Posts	IC* Cap.	Ter-minals	Tie Pts.	Width	Each
92N3784	2021	3	8	...	840	4.0″	**16.99**
92N3785	2022	1	12	248	1240	4.5″	**28.99**
92N3786	2023	4	24	450	2250	6.0″	**43.99**
92N3787	2024	4	32	612	3060	8.0″	**63.99**
92N3788	2025	5	48	912	4560	11.4″	**94.99**

*IC capacity based on 14-pin ICs

(19226) (ne11105)

QUICK TEST SOCKET BREADBOARDS

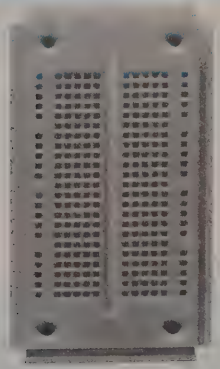


Patented tab/keyway feature for unlimited expansion of boards. Vinyl back prevents shorting. Accept all components with leads up to 0.033″. Conductive spring clips inside the board grab component leads and connecting wire securely. Parts plug in/pull out without soldering or damage. Molded-in mounting holes permit front mounting to backplate or other surfaces. 22 AWG wire preferred. **Type 2028** is 1.32″ wide and **type 2029** is 0.36″ wide.

92N3791 Type 2028. **Each** **4.99**
92N3792 Type 2029. **Each** **2.85**

(19230) (ne11109)

SOLDERLESS BREADBOARDS



Boards feature vinyl backs that prevent shorting. Offer unlimited expansion that allows a user to combine boards. Accept all components with wire leads up to 0.033″. Molded-in mounting holes permit front mounting to backplate or other surfaces. The preferred wire size is 22 AWG. **Type 2026** is 2.2″ wide and **type 2027** is 2.1″ wide.

92N3789 Type 2026. **Each** **10.87**
92N3790 Type 2027. **Each** **7.99**

(19229) (ne11108)

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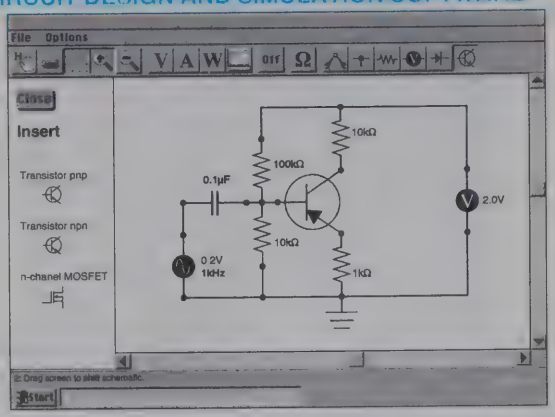
CIRCUIT DESIGN AND SIMULATION SOFTWARE

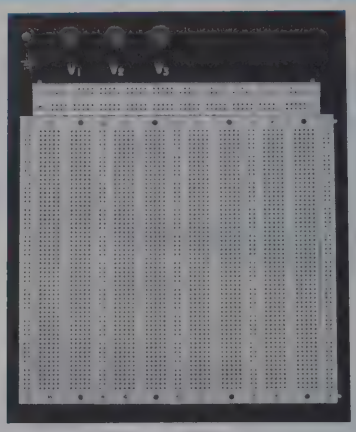
NEW



Easy-to-use circuit design software that works as a simulated prototyping lab. Create AC and DC circuits with "click and drag" component placement and on-line help. Select from a complete list of active and passive components that can be inserted on a grid, similar to a breadboard. Analyze circuits accurately by using 5 virtual instruments: voltmeter, ammeter, wattmeter, oscilloscope, and ohmmeter. Pre-designed circuit library included. System requirements: IBM® PC-386, 4MB RAM, SVGA graphics, Windows® 3.1 or Windows® 95.

92N5939 Type 3279. **Each** **99.50**
(28574) (ne28574)

POWERED BREADBOARD SYSTEMS



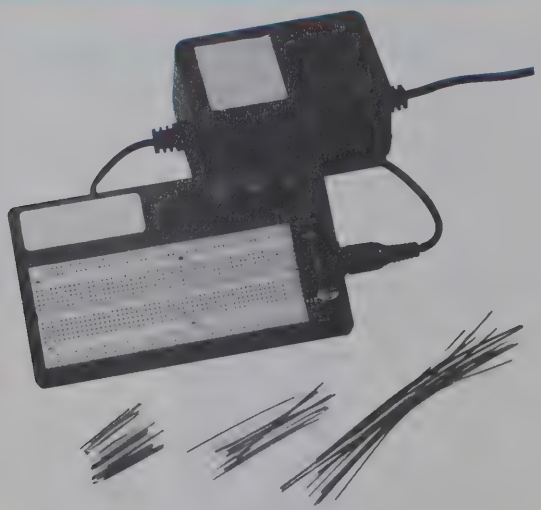
2031

Powered boards have 4 binding posts, 450 terminals, 2250 tie points, and handle 24-pin ICs. Ideal for various prototyping circuit applications. Preferred wire size: 22 AWG. Initial contact resistance is less than 0.5 milliohm; after multiple uses this reduces to less than 0.4 milliohm. **Type 2030** features 3 separate power supplies: 5VDC @ 1A set, +5.5-18VDC @ 0.5A adjustable, and -5.5-18VDC @ 0.5A adjustable. Voltages adjust easily with screwdriver. **Type 2031** features 3 separate power supplies: 5VDC @ 1A, +12VDC @ 0.25A, and –12VDC @ 0.25A. Includes an external, plug-in power pack.

92N3793 Type 2030. **Each** **239.99**
92N3794 Type 2031. **Each** **149.99**
(19228) (ne11107)

PROTOTYPING BREADBOARD LAB STATION

NEW



Ideal for prototyping circuit application. Station includes: **type 2021** solderless breadboard; DC power pack power supply rated +5VDC @ 1A, +12VDC @ 250m, –12VDC @ 250mA; a power connector to connect power supply to breadboard; and **type 2032** jumper wire kit containing 25 precut pieces of color-coded, 22 AWG, insulated solid hook-up wire.

92N4388 Type 2344. **Each** **89.99**
(29694) (ne29694)

JUMPER WIRE KIT

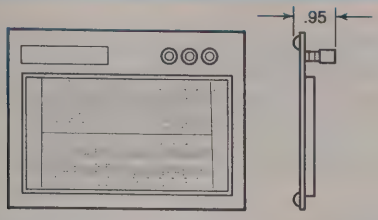
Kit comes in a plastic case containing precut/prestripped/preformed 22 AWG insulated solid hook-up wire. 25 pieces each of 14 color-coded lengths from 0.1″ - 5.0″.

92N3795 Type 2032. **Each** **14.99**
(19231) (ne11110)

IF YOU DON'T SEE THE PRODUCT YOU NEED LISTED HERE - CALL!
1-800-4-NEWARK
(1-800-463-9275)

BREADBOARDS, TEST CLIPS AND ACCESSORIES

300 SERIES SOLDERLESS BREADBOARDS

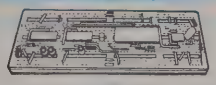


For easy, solderless plug-in circuit building. Terminal positions contain electrically connected tie-points spaced on a continuous 0.100″ matrix to accept any component with 0.100″ lead spacing. Five-way binding posts provide interface for connections from power supplies, signal generators or other equipment. Steel base has baked enamel finish. Rubber feet reduce sliding during bench work. Jumper wires included.

Stock No.	Type	Width	Tie Points	Binding Posts	1-9
92F1460	922306	5.4″ (137.2)	610	2	14.50
92F1461	922309	7.0″ (177.8)	840	3	21.22
92F1462	922318	7.75″ (196.6)	1824	3	39.13
92F1463	922327	8.0″ (203.2)	2712	4	50.32
92F1464	922336	10.25″ (260.4)	3648	4	90.20
92F1465	922345	12.44″ (315.9)	4520	4	100.69
92F1466	922354	14.69″ (373.1)	5424	4	111.89

(3807) (de03598)

MINI-BREADBOARDS

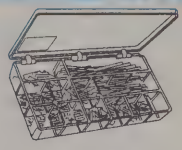


Type 923252 combines 0.1 x 0.1″ solderless tie point matrix with eight 25-tie-point distribution buses each for power, ground, signal lines. 6.5L x 2.25″W. **Type 923253** combines solderless tie point matrix with four 35-tie-point distribution buses each for power, ground, signal lines. 4.9L x 2.25″W.

Stock No.	Type	1-9	10-24
65F120	923252	20.92	19.88
81F1388	923253	14.58	13.85

(3791) (de00846)

350-PIECE JUMPER WIRE KIT



Kit contains 25 each of 14 wire lengths, *which can also be ordered separately below.* PVC insulated 22 AWG solid tinned copper.

65F2290 Type 923351-I Kit. **1-9** **23.27**

Stock No.	Type	Insulation	Length	Pkg. Qty.	1-9
87F4054	923345-01	None	0.1″ (2.54)	200	5.19
87F4055	923345-02	Red	0.2″ (5.08)	200	5.19
87F4056	923345-03	Orange	0.3″ (7.62)	200	5.19
87F4057	923345-04	Yellow	0.4″ (10.16)	200	5.19
87F4058	923345-05	Green	0.5″ (12.70)	200	5.19
87F4059	923345-06	Blue	0.6″ (15.24)	150	5.19
87F4060	923345-07	Violet	0.7″ (17.78)	150	5.19
87F4047	923345-08	Gray	0.8″ (20.32)	150	5.98
87F4048	923345-09	White	0.9″ (22.86)	150	6.15
87F4049	923345-10	Brown	1.0″ (25.40)	100	5.19
87F4050	923345-20	Red	2.0″ (50.80)	100	5.19
87F4051	923345-30	Orange	3.0″ (76.20)	75	5.19
87F4052	923345-40	Yellow	4.0″ (101.60)	75	5.19
87F4053	923345-50	Green	5.0″ (127.00)	75	4.90

(3792) (de00849)

PROBE IT CLIPS

Hook exposed only when cap pressed. Solder to stranded hook-up wire. Phosphor bronze contact, nylon body. Dimensions with hook retracted.

Stock No.	Type	Description	Colors	1-9
50F1787	923848	Micro Assortment	1 Each of 6	8.25
50F1788	923850	Mini Assortment	1 Each of 6	7.90
50F1784	923840-RD	Standard Probe It	Red	7.83
50F1783	923840-BK	(2 per Package)	Black	7.83

(3793) (de00851)

PLCC, DIP AND SOIC TEST CLIPS

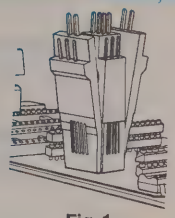


Fig. 1

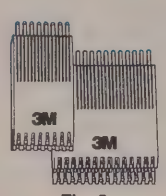


Fig. 2

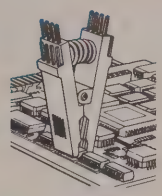


Fig. 3

PLCC SURFACE MOUNT TEST CLIPS—FIG. 1

Wedge design provides faster, easier attachment to plastic leaded chip carrier (PLCC). Helical compression spring and insulated contact combs assure integrity in contact when testing. Narrow body design allows component testing of devices with 0.050″ (1.27) center-to-center lead spacing. Side stackable at 0.200″ (5.08) row-to-row spacing between devices. 0.025″ (0.635) square contact pins on 0.100″ (2.54) centers. Available in alloy or gold-plated leads.

ALLOY PLCC TEST CLIPS

Stock No.	Type	Pins	1-9
46F2102	923670-20	20	27.18
87F4067	923670-28	28	28.99
87F4065	923670-44	44	37.47
46F2104	923670-68	68	43.53

GOLD-PLATED PLCC TEST CLIPS

46F2103	923675-20	20	30.21
87F4068	923675-28	28	36.26
87F4066	923675-44	44	40.36
95F7322	923675-52	52	42.80
46F2105	923675-68-I	68	48.03
50F3143	923675-84	84	51.92

ALLOY DIP TEST CLIPS—FIG. 2

Standard		Connector Compatible				
Stock No.	Type	Stock No.	Type	Pins	Dim.	1-9
65F126	923695	65F2301	923690-08	8	0.3″	7.02
65F127	923698	65F2302	923690-14	14	0.3″	7.26
65F128	923700	65F2303	923690-16	16	0.3″	7.37
65F130	923703	65F2305	923690-18	18	0.3″	11.16
65F131	923704	65F2306	923690-20	20	0.3″	11.78
...	...	95F7324	923689-24	24	0.3″	32.29
65F133	923714	65F2308	923690-24	24	0.6″	16.14
87F4069	923717	87F6087	923689-28	28	0.3″	19.91
65F134	923718	65F2309	923690-28	28	0.6″	19.91
87F4070	923719	87F6086	923690-32	32	0.6″	21.15
65F136	923722	65F2311	923690-40	40	0.6″	23.63

GOLD-PLATED DIP TEST CLIPS—FIG. 2

46F2122	923743-14	46F2125	923743-14	14	0.3″	9.38
46F2123	923743-16	46F2126	923739-16	16	0.3″	9.69
46F2124	923743-20	46F2127	923739-20	20	0.3″	14.77
87F4071	923742-28	87F6088	923738-28	28	0.3″	24.88

SOIC TEST CLIPS—FIG. 3

Small outline integrated circuit (SOIC) test clips are designed for smaller components and higher densities. Industry standard 0.025″ (0.635) square contact pins on 0.050″ (12.7) centers. Centers are staggered to allow easy attachment of female socket connectors or wire wrapping and help prevent shorting of adjacent probes. Stacking of SOIC's as close as 0.050″ (12.7) end-to-end. Available in alloy or gold plating.

ALLOY 764 SOIC TEST CLIPS

Stock No.	Type	Description	1-9
46F2108	923660-16	16-pin wide grip 0.440″W (11.18)	9.75
46F2113	923660-18	18-pin wide grip 0.490″W (12.45)	10.90
46F2114	923660-20	20-pin wide grip 0.540″W (13.72)	11.08
46F2115	923660-24	24-pin wide grip 0.640″W (16.26)	12.27
46F2116	923660-28	28-pin wide grip 0.720″W (18.29)	13.26

GOLD-PLATED SOIC TEST CLIPS

46F2117	923665-16	16-pin wide grip 0.440″W (11.18)	10.84
46F2118	923665-18	18-pin wide grip 0.490″W (12.45)	12.11
46F2119	923665-20	20-pin wide grip 0.540″W (13.72)	12.32
46F2120	923665-24	24-pin wide grip 0.640″W (16.26)	13.62
46F2121	923665-28	28-pin wide grip 0.720″W (18.29)	14.73

(3805) (de03087)

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CONTACTS AND SOCKETS/RECEPTACLES

REPLACEABLE SPRING-LOADED POGO® CONTACTS AND SOCKETS

Pylon replaceable spring-loaded POGO® contacts provide high performance in testing and interconnect applications utilizing spring probe technology. Biasing-Ball construction maximizes wiping contact of plunger to inner diameter of probe body. Gold-cladded lining on inner diameter and/or gold plated contact body provides superior surface conditioning for consistently low contact resistance over life (typically 1,000,000 cycles). Gold plated plunger and socket. Stroke full/working: + is 0.075″/0.050″; † is 0.100″/0.070″; * is 0.125″/0.080″; ‡ is 0.170″/0.110″; ** is 0.250″/0.170″. **Sold in packages of 10.**

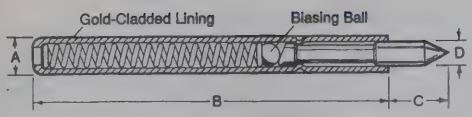


Fig. 1 Point

Fig. 2 Radius

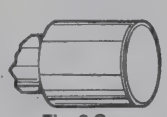


Fig. 3 Cup

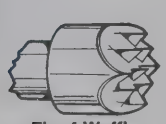


Fig. 4 Waffle

Fig. 5 Pyramid

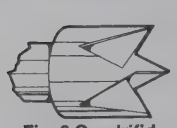


Fig. 6 Quadrifid

Fig. 7 Tulip

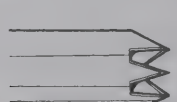


Fig. 8 Reduced Quadrifid

Fig. 9

Fig. 10

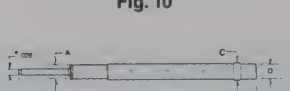


Fig. 11

0.050″ CENTERLINE SPACING/3 AMPS MAX. ELECTRICAL RESISTANCE 30mΩ

Stock No.	Type	Fig.	Tip Description*	Dimensions (in.) A	B	C	D	E	Sp. Force Initial/ Final Oz.	1-9
50F5567	P2662AG-1C1S†	1	60° Contact	.027	.580	.130	.021	.170	1-2.2	22.65
50F5568	P2662AG-1R1S†	2	Radius Contact	.027	.580	.130	.021	.170	1-2.2	22.65
50F5569	P2662AG-1Q1S†	6	.021″ Quad Contact	.027	.580	.130	.021	.170	1-2.2	16.78
50F5570	P2662AG-2V1S†	3	120° Cup Contact	.027	.580	.130	.040	.170	1-2.2	16.78
84F969	S2662A-3ED	9	Extended Socket	.022	.690	.041	.036	...	...	27.66
50F5571	P2662BG-1C1S+	1	60° Contact	.027	.470	.105	.021	.145	1-2.2	26.42
50F5572	P2662BG-1R1S+	2	Radius Contact	.027	.470	.105	.021	.145	1-2.2	26.42
50F5573	P2662BG-2V1S+	3	120° Cup Contact	.027	.470	.105	.040	.145	1-2.2	26.42
50F5574	P2662BG-1Q1S+	6	.021″ Quad Contact	.027	.470	.105	.021	.145	1-2.2	26.42
84F970	S2662B-6ED	9	Extended Socket	.022	.580	.041	.036	...	...	10.26
91F7150	PR261-1	9	Equiv. to S2662B 6ED (SC)	.022	.690	.037	.034	...	...	7.49
91F7149	PR261-0	9	Equiv. to S2662B 6ED(C)	.022	.690	.037	.034	...	...	7.01

0.075″ CENTERLINE SPACING/3 AMPS MAX. ELECTRICAL RESISTANCE 30mΩ

84F964	P2663G-1C1S†	1	60° Contact	.042	.670	.140	.030	.190	1.5-4.2	17.55
50F5575	P2663G-1R1S†	2	Radius Contact	.042	.670	.140	.030	.190	1.5-4.2	17.55
50F5576	P2663G-1V1S†	3	120° Cup Contact	.042	.670	.140	.050	.190	1.5-4.2	17.55
50F5577	P2663G-1W1S†	4	.060″ Waffle Contact	.042	.670	.140	.060	.190	1.5-4.2	18.44
50F5578	P2663G-1P1S†	5	Pyramid Contact	.042	.670	.140	.060	.190	1.5-4.2	13.00
84F971	S2663-1ED	9	Extended Socket	.038	.760	.059	.054	...	...	11.80

0.100″ CENTERLINE SPACING/5 AMPS MAX. ELECTRICAL RESISTANCE 10mΩ

50F5579	P2664G-1C1S*	1	60° Contact	.054	.720	.125	.040	.185	1.9-4.5	17.38
50F5580	P2664G-1W1S*	4	.070″ Waffle Contact	.054	.720	.175	.070	.235	1.9-4.5	18.25
50F5581	P2664G-1P1S*	5	Pyramid Contact	.054	.720	.175	.060	.235	1.9-4.5	18.25
50F5582	P2664G-4V1S*	3	120° Cup Contact	.054	.720	.175	.070	.235	1.9-4.5	17.38
50F5583	P2664G-1R1S*	2	Radius Contact	.054	.720	.175	.040	.235	1.9-4.5	17.38
84F972	S2664-1ED	9	Extended Socket	.047	.820	.073	.067	...	...	19.83
91F7155	PR541-1	9	Equiv. to S2664-1/2ED (SC)	.048	.950	.070	.066	...	...	8.22
91F7154	PR541-0	9	Equiv. to S2664-1/2ED (C)	.048	.930	.070	.066	...	...	8.22
84F973	S2664-1EWWD	10	Extended Socket	...	1.33	.073	.067	...	...	22.83
91F7156	PR541-2	10	Equiv. to S2664-1/2EWWD+	...	1.32	.070	.066	...	...	8.58
84F974	S2664-2EWWD	10	Extended Socket	...	1.33	.073	.067	...	...	5.73
84F975	S2664-1ETD	11	Extended Socket Rd Tail	...	1.050	.073	.067	...	...	21.02
91F7157	PR541-3	11	Equiv. to S2664-1ETD (RP)	...	1.320	.070	.066	...	...	8.34
94F1618	S2664-2ED	9	Extended Socket	.047	.820	.073	.067	...	...	22.23
50F5584	P3158G-1C1S‡	1	60° Contact	.054	.720	.250	.040	.310	2.5-8.5	15.71
50F5585	P3158G-3C1S‡	1	34° Contact	.054	.720	.250	.040	.310	2.5-8.5	18.16
50F5586	P3158G-1Q1S‡	6	.060″ Quad Contact	.054	720	.250	.060	.310	2.5-8.5	16.50
50F5587	P3158G-1R1S‡	2	Radius Contact	.054	.720	.250	.040	.310	2.5-8.5	15.71
50F5588	P3158G-1P1S‡	5	Pyramid Contact	.054	.720	.250	.070	.310	2.5-8.5	16.50
50F5589	P3158G-1V1S‡	3	120° Cup Contact	.054	.720	.250	.070	.310	2.5-8.5	15.71
50F5590	P3158G-1W1S‡	4	.070″ Waffle Contact	.054	.720	.250	.070	.310	2.5-8.5	16.50
50F5591	P3158G-2Q1S‡	8	.040″ Reduced Quad	.054	.720	.250	.040	.310	2.5-8.5	16.50
50F5592	P5160G-1V1S**	3	120° Cup Contact	.054	1.000	.310	.060	.370	2.5-8.5	15.95
84F965	P5160G-3C1S**	1	34° Contact	.054	1.000	.310	.040	.370	2.5-8.5	18.41
84F966	P5160G-2W1S**	4	.060″ Waffle Contact	.054	1.000	.310	.060	.370	2.5-8.5	17.55
84F967	P5160G-1Q1S**	6	Quad Contact	.054	1.000	.310	.060	.370	2.5-8.5	17.55
84F968	P5160G-2L1S**	7	Tulip Contact	.054	1.000	.310	.055	.370	2.5-8.5	17.55
50F5593	P5160G-2C1S**	1	60° Contact	.054	1.000	.310	.040	.370	2.5-8.5	17.55
50F5594	P5160G-1R1S**	2	Radius Contact	.054	1.000	.310	.025	.370	2.5-8.5	21.06
50F5595	P5160G-4Q1S**	8	.040″Reduced Quad	.054	1.000	.310	.040	.370	2.5-8.5	17.55
50F5596	P5160G-3P1S**	5	Pyramid Contact	.054	1.000	.310	.060	.370	2.5-8.5	17.55
50F5606	S5160-1ED	9	Extended Socket	.047	1.100	.073	.067	...	...	6.70
91F7152	PR54-1	9	Equiv. to S5160-1ED (SC)	.039	1.190	.072	.066	...	...	7.61
91F7151	PR54-0	9	Equiv. to S5160-1ED (C)	.048	1.150	.072	.066	...	...	7.13
91F7153	PR54-2	10	Equiv. to S5160-1/3EWWD+	...	1.570	.072	.066	...	...	8.34
50F5607	S5160-1EWWD	10	Extended Socket	...	1.610	.073	.067	...	...	8.82
50F5608	S5160-3EWWD	10	Extended Socket	...	1.610	.073	.067	...	...	23.52

0.125″ CENTERLINE SPACING/7 AMPS MAX. ELECTRICAL RESISTANCE 10mΩ

50F5609	P2665G-1C1S**	1	60° Contact	.080	.960	.330	.066	.420	1.4-3.8	21.76
50F5610	P2665G-1W1S**	4	.090″ Waffle Contact	.080	.960	.330	.090	.420	1.4-3.8	22.04
50F5611	P2665G-1R1S**	2	Radius Contact	.080	.960	.330	.066	.420	1.4-3.8	21.76
50F5612	P2665G-1V1S**	3	120° Cup Contact	.080	.960	.330	.090	.420	1.4-3.8	21.76
50F5613	P2665G-1P1S**	5	Pyramid Contact	.080	.960	.330	.100	.420	1.4-3.8	22.04
84F977	S2665-6ED	9	Extended Socket	.055	1.076	.102	.096	...	...	16.37
91F7159	PR80-1	9	Equiv. to S2665-6ED (SC)	.047	1.200	.098	.093	...	...	9.18
91F7158	PR80-0	9	Equiv. to S2665-6ED (C)	.047	1.200	.098	.093	...	...	8.70

0.187″ CENTERLINE SPACING/7 AMPS MAX. ELECTRICAL RESISTANCE 10mΩ

50F5615	P2757G-1C1S**	1	60° Contact	.116	.890	.320	.098	.410	2.0-5.0	33.33
50F5616	P2757G-3W1S**	4	.120″ Waffle Contact	.116	.890	.320	.120	.410	2.0-5.0	34.99
50F5617	P2757G-1R1S**	2	.120″ Radius Contact	.116	.890	.320	.120	.410	2.0-5.0	33.33
84F976	S2757-2ED	9	Extended Socket	.055	1.053	.138	.133	.410	...	17.75

*Tip description: (C) = Crimp; (SC) = Solder Cup; (RP) = Round Post; + = Wire Wrap
(3818)

(de50236)

VISIT NEWARK'S WEB SITE AT www.newark.com

CONTACTS AND SOCKETS

NON-REPLACEABLE SPRING-LOADED POGO® CONTACTS

Constructed of an outer tubular body and an inner spring-loaded plunger. Contacts have rugged, 1-piece machined bodies. Materials: gold-plated beryllium copper. For applications in test and interface assemblies where multiple connections must be made. **Sold in packages of 10.**

0.050″ CENTERLINE/0.030″ TRAVEL—MAX. CURRENT 2 AMPS*

Type AS solder pot termination (diameter 0.025 x 0.045″ DP). Gold-plated plunger and socket. **Type AAS** solder pot termination (diameter 0.022 x 0.050″ DP). Gold-plated plunger and gold-lined socket with no plating.

Stock No.	Type	Dimensions A	B	C	D	E	Tip Description Contact	Spring Force Initial/ Final oz.	1-9
46F3775	A-S-C	.035″	.200″	.030″	.015″	.037″	60° Point	.7-1.6	**23.33**
46F3776	A-S-R	.035″	.200″	.030″	.015″	.037″	Radius	.7-1.6	**23.33**
89F1446	A-A-S-C	.030″	.280″	.030″	.021″	...	60° Point	.5-2.5	**35.59**
95F8680	A-A-S-R	.030″	.280″	.030″	.021″	...	Radius	.5-2.5	**28.24**

0.075″ CENTERLINE/0.045″ TRAVEL—MAX. CURRENT: 5 AMPS*

Solder pot termination (diameter 0.027 x 0.080″ DP). Gold-plated plunger and gold-lined socket with no plating.

46F3777	C-S-C	.042″	.350″	.045″	.026″	.045″	60° Point	.5-4.6	**29.67**
46F3778	C-S-R	.042″	.350″	.045″	.026″	.045″	Radius	.5-4.6	**29.67**

0.100″ CENTERLINE/0.065″ TRAVEL—MAX. CURRENT: 5 AMPS*

Solder pot termination (diameter 0.046 x 0.100″ DP). Gold-plated plunger and gold-lined socket with no plating.

46F3779	E-S-C	.062″	.430″	.065″	.045″	.065″	60° Point	1.5-3	**32.83**
46F3781	E-S-R	.062″	.430″	.065″	.045″	.065″	Radius	1.5-3	**32.83**
94F061	E-S-F	.062″	.430″	.065″	.045″	.065″	0.045″Flat	1.5-3	**32.83**
46F3780	E-S-W	.062″	.430″	.110″	.070″	.065″	0.070″ Waffle	1.5-3	**34.46**
95F8681	E-S-V	.062″	.430″	.115″	.090″	.065″	120° Cup	1.5-3	**31.26**

0.125″ CENTERLINE/0.100″ TRAVEL—MAX. CURRENT: 5 AMPS*

Solder pot termination (diameter 0.043 x 0.150″ DP). Gold-plated plunger and socket.

94F3339	F-S-C	.066″	.680″	.100″	.045″	.085″	60° Point	2-8	**42.18**
46F3782	F-S-W	.066″	.680″	.154″	.090″	.085″	.090″ Waffle	2-8	**42.18**
94F3340	F-S-R	.066″	.680″	.100″	.045″	.085″	Radius	2-8	**42.18**

0.156″ CENTERLINE/0.139″ TRAVEL—MAX. CURRENT: 5 AMPS*

Solder pot termination (diameter 0.062 x 0.110″ DP). Gold-plated plunger and socket.

46F3783	P2532-0	.088″	.673″	.199″	.125″	.093″	120° Cup	1-3	**24.03**
46F3784	P2532-1	.088″	.673″	.139″	.059″	.093″	Radius	1-3	**32.43**
94F3341	P2532-2	.088″	.673″	.139″	.059″	.093″	60° Point	1-3	**32.43**

0.187″ CENTERLINE/0.250″ TRAVEL—MAX. CURRENT: 5 AMPS*

Solder pot termination (diameter 0.100 x 0.188″ DP). Gold-plated plunger and socket.

46F3786	P2550-0	.120″	1.078″	.375″	.122″	.125″	60° Point	1-4	**35.30**
46F3788	P2550-8	.120″	1.078″	.315″	.156″	.125″	.156″ Flat	1-4	**35.30**
46F3789	P2550-9	.120″	1.078″	.320″	.125″	.125″	.125″ Waffle	1-4	**35.30**

LOW-OHM SERIES (<10mΩ)—MAX. CURRENT: 10 AMPS*

Type P2447 0.300″ travel; **type P3325** 0.100″ travel. Low resistance is achieved by making POGO® plunger and terminal in a single unit and eliminating the resistance of spring and body. **Type P2447** has nickel-plated plunger; **type P3325** has gold-plated plunger.

94F062	P2447-1C	.153″	.700″	.300″	116″	.156″	60° Point	6-18	**68.26**
94F063	P2447-1W	.153″	.700″	.445″	185″	.156″	.185″ Waffle	6-18	**96.76**
95F8684	P3325-0	.082″	.545″	.100″	.061″	.085″	Radius	5-10	**35.22**
95F8685	P3325-1	.082″	.545″	.150″	.090″	.085″	120° Cup	5-10	**35.22**

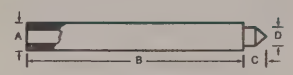
"THE BRUTE" (<5mΩ)/0.250″ TRAVEL—MAX. CURRENT: 25 AMPS*

Gold-plated plunger and socket.

98F2365	P4301-1F	.187″	1.500″	.250″	.155″	...	Flat	16-32	**86.10**

*Continuous
(3820)

(de50240)



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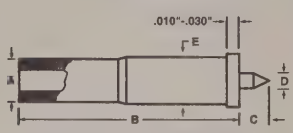
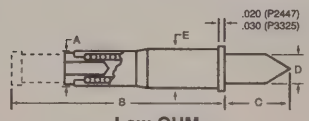
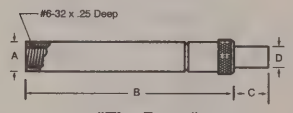


AS, CS, ES, FS, P2550, P2532



Low-OHM



"The Brute"

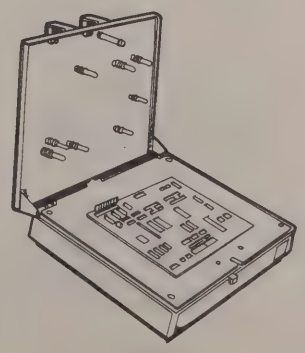
MECHANICAL TEST FIXTURES FOR LOW-VOLUME PC BOARD RUN

Fixtures are ideal for testing bare and loaded printed circuit boards with approximately 100 test points. They provide access to test points located on the solder side of a loaded PC board, or on one side of a bare board. Supplied in blank form for customer finishing. *Order non-replaceable spring-loaded POGO® contacts separately on this page. Order POGO® contacts and sockets separately on page 616.*

Stock No.	Type	Maximum Board Size	Pan Depth	1-9
46F3790	P112590-1	6½″ x 3½″ (165.1 x 88.9)	2″	**598.14**
46F3791	P112590-2	10½″ x 4½″ (266.7 x 114.3)	2″	**703.70**
46F3792	P112590-7	10½″ x 4½″ (266.7 x 114.3)	4″	**727.15**
46F3793	P112590-3	13½″ x 7½″ (342.9 x 19.5)	2″	**686.10**
46F3794	P112590-4	15½″ x 10½″ (393.7 x 266.7)	2″	**870.80**
91F6092	P112590-6	6.5″x 3.5″ (165 x 89)	4″	**688.93**
98F4673	P112590-8	13.5″ x 7.5″ (343 x 191)	4″	**434.69**
98F3355	P112590-9	15.5″ x 10.5″ (394 x 267)	4″	**942.48**
91F6093	P112590-10	19.5″ x 10.5″ (495 x 267)	4″	**721.99**

(3819)

(de50239)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SPRING CONTACT PROBES AND SOCKETS

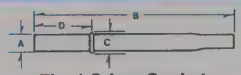


Fig. 1 Crimp Socket

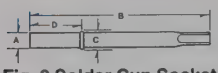
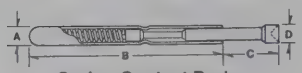


Fig. 2 Solder Cup Socket

Fig. 3 Wire Wrap Socket



Spring Contact Probe

SPRING CONTACT PROBES AND SOCKETS

3A continuous current. Working stroke 0.070″. Full stroke 0.100″. **Sold in packages of 10.**

SPRING CONTACT PROBES - 0.050″ (SIZE 0) CENTERLINE SPACING

Stock No.	Type	Fig.	Dimensions A	B	C	D	Tip	1-9	10-24
90F2868	SOA2.2G	4	0.027″	0.520″	0.140″	0.035″	90° Cup	22.36	14.46
90F2869	SOB2.2G	5	0.027″	0.520″	0.140″	0.021″	30° Spear Point	22.36	14.46
90F2870	SOE2.2G	7	0.027″	0.520″	0.140″	0.035″	90° Convex	22.36	14.46
90F2871	SOH2.2G	8	0.027″	0.520″	0.140″	0.035″	Waffle	22.36	14.46
90F2872	SOJ2.2G	9	0.027″	0.520″	0.140″	0.021″	Spherical Radius	22.36	14.46
90F2873	SOT602.2G	11	0.027″	0.520″	0.140″	0.035″	60° Chisel	22.36	14.46
90F2874	SOU2.2G	12	0.027″	0.520″	0.140″	0.021″	4-Point Crown	22.36	14.46
SOCKETS- 0.05″ (SIZE 0) CENTERLINE SPACING									
90F2875	R-O-CR*	1	0.034″	0.697″	0.038″	0.125″	Crimp	4.03	3.37
90F2876	R-O-SC*	2	0.034″	0.697″	0.038″	0.125″	Solder Cup	6.26	5.00

*Mounting hole size 0.035″/0.0365″; Drill size #64.
(3825) (de50377)

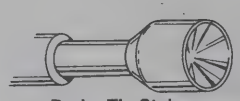
NEW

0.050″ (SIZE SJO) CENTERLINE SPACING PROBES & SOCKETS

3A continuous current. Working Stroke: 0.170″. Full stroke: 0.250″. **Sold in packages of 10.**

Stock No.	Type	Fig.	Dimensions A	B	C	D	Spring Contact Style	1-9	10-24
83F8137	SJ0A5.5G	4	0.031″	1.430″	0.290″	0.035″	Probe w/90°C Cup Tip	26.35	12.60
83F8138	SJ0B5.5GS	5	0.031″	1.430″	0.290″	0.019″	Probe w/30°C Spear Point Tip	27.43	13.65
83F8139	SJ0J5.5G	9	0.031″	1.430″	0.290″	0.019″	Probe w/Spherical Radius Tip	26.35	12.60
83F8140	SJ0TL5.5GS	11	0.031″	1.430″	0.290″	0.035″	Probe w/60° C Chisel Tip	27.43	13.65
83F8141	RJ0CR*	1	0.375″	1.600″	0.040″	0.310″	Socket w/Crimp Tip	12.10	6.62
83F8142	RJOSC*	2	0.375″	1.600″	0.040″	0.310″	Socket w/Solder Cup Tip	12.17	7.35

* Mounting Hole Size: 0.385"/0.039". Drill Size: #61. @ 0 .170" Travel.
(36871) (ne36871)


Probe Tip Styles
Fig. 4 90° Cup

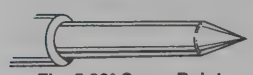


Fig. 5 30° Spear Point

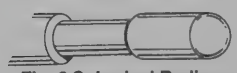


Fig. 6 Spherical Radius

0.075″ (SIZE 1) CENTERLINE SPACING SPRING CONTACT PROBES & SOCKETS

3A continuous current. Working stroke 0.070″. Full stroke 0.100″. Preloaded spring force rated stroke @ 0.070″ travel: 1.5 oz./3.8 oz. **Sold in packages of 10.**

Stock No.	Type	Fig.	Dimensions A	B	C	D	Spring Contact Style	1-9	10-24
90F2877	S-1-A-3.8G	4	0.040″	0.490″	0.180″	0.060″	Probe w/90° Cup Tip	15.65	7.61
90F2878	S-1-B-3.8G	5	0.040″	0.490″	0.180″	0.026″	Probe w/30° Spear Point Tip	15.65	7.61
90F2879	S-1-E-3.8G	7	0.040″	0.490″	0.180″	0.060″	Probe w/90° Convex Tip	15.65	7.61
90F2880	S-1-H-3.8G	8	0.040″	0.490″	0.180″	0.060″	Probe w/Waffle Tip	15.65	7.61
90F2881	S-1-J-3.8G	9	0.040″	0.490″	0.180″	0.026″	Probe w/Spherical Radius Tip	15.65	7.61
90F2882	S-1-K-3.8G	10	0.040″	0.490″	0.180″	0.060″	Probe w/45° Chisel Tip	15.65	7.61
90F2883	R-1-CR*	1	0.052″	0.695″	0.057″	0.150″	Socket w/Crimp Tip	4.92	3.05
90F2884	R-1-SC*	2	0.052″	0.695″	0.057″	0.150″	Socket w/Solder Cup Tip	5.70	3.81
90F2885	R-1-WW*	3	0.052″	1.070″	0.057″	0.150″	Socket w/Wire Wrap Sq. Post Tip	6.60	3.92

*Mounting hole size 0.055″/0.057″; Drill size 1.45mm. † @ 0.070″ travel.
(3827) (de50379)

NEW

0.075" (Size SL1) CENTERLINE SPACING SPRING CONTACT PROBES & SOCKETS

3A continuous current. Working Stroke: 0.170″. Full stroke: 0.250″. Sold in packages of 10.

Stock No.	Type	Fig.	Dimensions A	B	C	D	Spring Contact Style	1-9	10-24
83F8143	SL1A3.8G	4	0.395″	0.980″	0.250″	0.055″	Probe w/90°C Cup Tip	24.19	9.98
83F8144	SL1B3.8G	5	0.395″	0.980″	0.250″	0.029″	Probe w/30°C Spear Point Tip	24.19	9.98
83F8145	SL1H3.8G	8	0.395″	0.980″	0.250″	0.048″	Probe w/Waffle Tip	24.19	9.98
83F8146	SL1J3.8G	9	0.395″	0.980″	0.250″	0.029″	Probe w/Spherical Radius Tip	24.19	9.98
83F8147	SL1T3.8G	11	0.395″	0.980″	0.250″	0.048″	Probe w/60°C Chisel Tip	24.19	9.98
83F8148	RL1CR	1	0.052″	1.170″	0.058″	0.300″	Socket w/Crimp Tip	6.59	3.68
83F8149	RL1SC	2	0.052″	1.170″	0.058″	0.300″	Socket w/Solder Cup Tip	7.34	4.52
83F8150	RL1WW	3	0.052″	1.170″	0.058″	0.300″	Socket w/Wire Wrap Sq. Post Tip	7.45	4.62

* Mounting Hole Size: 0.055"/0.057". Drill Size: 1.45mm @ 0 .170" Travel.
(36872) (ne36872)

0.100″ (SIZE 2) CENTERLINE SPACING SPRING CONTACT PROBES & SOCKETS

3A continuous current. Working stroke 0.100″. Full stroke 0.160″. **Sold in packages of 10.**

PROBES—PRELOADED SPRING FORCE RATED STROKE @ .0.100 TRAVEL: 1.6 OZ./4 OZ.

Stock No.	Type	Fig.	Dimensions A	B	C	D	Tip	1-9	10-24
90F2886	S-2-A-4G	4	0.054″	0.730″	0.240″	0.075″	90° Cup	10.85	8.48
90F2887	S-2-B-4G	5	0.054″	0.730″	0.240″	0.040″	30° Spear Point	10.85	8.48
90F2888	S-2-D-4G	6	0.054″	0.730″	0.240″	0.050″	Spherical Radius	10.85	8.48
90F2889	S-2-E-4G	7	0.054″	0.730″	0.240″	0.075″	90° Convex	10.85	8.48
90F2890	S-2-H-4G	8	0.054″	0.730″	0.240″	0.075″	Waffle	10.85	8.48
SOCKETS									
90F2899	R-2-CR*	1	0.066″	0.930″	0.071″	0.230″	Crimp	4.48	2.83
90F2900	R-2-SC*	2	0.066″	0.930″	0.071″	0.230″	Solder Cup	4.70	2.29
90F2901	R-2-WW*	3	0.066″	1.315″	0.071″	0.230″	Wire Wrap Sq. Post	4.70	2.29

*Mounting hole size 0.068″/0.070″; Drill size #50. † @ 0.100″ travel.
(3826) (de50378)

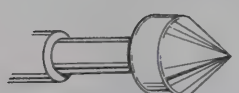


Fig. 7 90° Convex

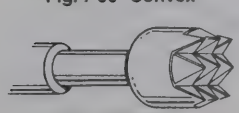


Fig. 8 Waffle

VISIT NEWARK'S WEB SITE AT www.newark.com

SPRING CONTACT PROBES AND SOCKETS

0.100″ (SIZE 25) CENTERLINE SPACING SPRING PROBES AND SOCKETS

3A continuous current. Full stroke 0.250″. Working stroke 0.170″. **Sold in packages of 10.**

PROBES–PRELOADED SPRING FORCE RATED STROKE @ 0.170″ TRAVEL: 1.5 oz./4 oz.

Stock No.	Type	Fig.	Dimensions A	B	C	D	Tip	1-9	10-49
90F2902	S-25-A-4G	4	0.054″	0.980″	0.330″	0.060″	90° Cup	10.85	8.48
90F2903	S-25-B-4G	5	0.054″	0.980″	0.330″	0.040″	30° Spear Point Probe	10.85	8.48
90F2904	S-25-D-4G	6	0.054″	0.980″	0.330″	0.050″	Spherical Radius Probe	10.85	8.48
90F2905	S-25-E-4G	7	0.054″	0.980″	0.330″	0.060″	90° Convex Probe	10.85	8.48
90F2906	S-25-H-4G	8	0.054″	0.980″	0.330″	0.060″	Waffle Probe	10.85	8.48
90F2907	S-25-K-4G	10	0.054″	0.980″	0.330″	0.060″	45° Chisel Probe	10.85	8.48
90F2908	S-25-U-4G	12	0.054″	0.980″	0.330″	0.040″	0.040″ Crown Probe	11.96	9.57
90F2909	S-25-W-4G	13	0.054″	0.980″	0.330″	0.050″	0.050″ Crown Probe	10.85	8.48
PROBES–PRELOADED SPRING FORCE RATED STROKE @ 0.170″ TRAVEL: 1.5 oz./6.7 oz.									
90F2911	S-25-SP-6.7G	14	0.054″	0.980″	0.330″	0.040″	Chiseled Spear	11.96	9.57
90F2913	S-25-B-6.7G	5	0.054″	0.980″	0.330″	0.040″	30° Spear Point Probe	10.85	8.48
90F2915	S-25-H-6.7G	8	0.054″	0.980″	0.330″	0.060″	Waffle Probe	10.85	8.48
90F2916	S-25-W-6.7G	13	0.054″	0.980″	0.030″	0.050″	0.050″ Crown Probe	10.85	8.48
SOCKETS									
90F2918	R-25-CR*	1	0.066″	1.165″	0.071″	0.300″	Crimp	6.82	3.48
90F2919	R-25-SC*	2	0.066″	1.165″	0.071″	0.300″	Solder Cup	7.05	3.70
90F2920	R-25-WW*	3	0.066″	1.540″	0.071″	0.300″	Wire Wrap Sq. Post	7.05	3.70

* Mounting hole size 0.068″/0.070″; Drill size #50.

(3824) (de50376)

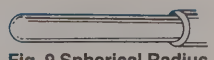


Fig. 9 Spherical Radius

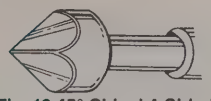


Fig. 10 45° Chisel 4-Sided

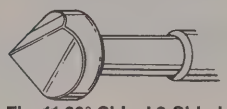


Fig. 11 60° Chisel 3-Sided

0.125″ (SIZE 3) CENTERLINE SPACING SPRING PROBES AND SOCKETS

5A continuous current. Full stroke 0.250″. Working stroke 0.170″. **Sold in packages of 10.**

PROBES–PRELOADED SPRING FORCE RATED STROKE @ 0.170″ TRAVEL: 1.4 oz./4 oz.

Stock No.	Type	Fig.	Dimensions A	B	C	D	Tip	1-9	10-49
90F2921	S-3-A-4G	4	0.080″	0.970″	0.340″	0.100″	90° Cup	20.12	10.87
90F2922	S-3-B-4G	5	0.080″	0.970″	0.340″	0.068″	30° Spear Point	20.12	10.87
90F2923	S-3-J-4G	9	0.080″	0.970″	0.340″	0.068″	Spherical Radius	20.12	10.87
90F2924	S-3-E-4G	7	0.080″	0.970″	0.340″	0.100″	90° Convex	20.12	10.87
90F2925	S-3-H-4G	8	0.080″	0.970″	0.340″	0.100″	Waffle	20.12	10.87
PROBES–PRELOADED SPRING FORCE RATED STROKE @ 0.170″ TRAVEL:2.9 oz./7 oz.									
50F1288	S-3-A-7-G	4	0.080″	0.970″	0.340″	0.100″	90° Cup	20.12	10.87
50F1289	S-3-B-7-G	5	0.080″	0.970″	0.340″	0.068″	30° Spear Point	20.12	10.87
50F1290	S-3-J-7-G	9	0.080″	0.970″	0.340″	0.068″	Spherical Radius	20.12	10.87
50F1291	S-3-E-7-G	7	0.080″	0.970″	0.340″	0.100″	90° Convex	20.12	10.87
50F1292	S-3-H-7-G	8	0.080″	0.970″	0.340″	0.100″	Waffle	20.12	10.87
SOCKETS									
90F2926	R-3-CR*	1	0.093″	1.215″	0.098″	0.300″	Crimp	7.05	4.89
90F2927	R-3-SC*	2	0.093″	1.215″	0.098″	0.300″	Solder Cup	7.61	5.44
90F2928	R-3-WW*	3	0.093″	1.590″	0.098″	0.300″	Wire Wrap Sq. Post	8.16	5.98

*Mounting hole size 0.094″/0.096″; Drill size #41.

(3823) (de50375)

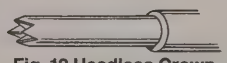


Fig. 12 Headless Crown

Fig. 13 0.050″ Crown

0.156″ (SIZE 4) CENTERLINE SPACING SPRING PROBES AND SOCKETS

5A continuous current. Full stroke 0.250″. Working stroke 0.170″. **Sold in packages of 10.**

PROBES–PRELOADED SPRING FORCE RATED STROKE @ 0.170″ TRAVEL: 2.0 oz./5 oz.

90F2929	S-4-A-5G**	4	0.093″	0.970″	0.360″	0.156″	90° Cup	26.16	13.81
90F2930	S-4-B-5G	5	0.093″	0.970″	0.360″	0.079″	30° Spear Point	26.16	13.81
90F2931	S-4-D-5G	6	0.093″	0.970″	0.360″	0.090″	Spherical Radius	26.16	13.81
90F2932	S-4-H-5G**	8	0.093″	0.970″	0.360″	0.156″	Waffle	26.16	13.81
PROBES–PRELOADED SPRING FORCE RATED STROKE @ 0.170″ TRAVEL: 2.8 oz./7 oz.									
50F1293	S-4-A-7-G**	4	0.093″	0.970″	0.360″	0.156″	90° Cup	26.16	13.81
50F1294	S-4-B-7-G	5	0.093″	0.970″	0.360″	0.079″	30° Spear Point	26.16	13.81
50F1295	S-4-D-7-G	6	0.093″	0.970″	0.360″	0.090″	Spherical Radius	26.16	13.81
50F1296	S-4-H-7-G**	8	0.093″	0.970″	0.360″	0.156″	Waffle	26.16	13.81
SOCKETS									
90F2933	R-4-CR*	1	0.106″	1.220″	0.111″	0.300″	Crimp	10.62	5.87
90F2934	R-4-SC*	2	0.106″	1.220″	0.111″	0.300″	Solder Cup	11.18	6.42
90F2935	R-4-WW*	3	0.106″	1.595″	0.111″	0.300″	Wire Wrap Sq. Post	11.74	6.96

*Mounting hole size 0.110″; Drill size #35. **0.187″ centers.

(3822) (de50374)

0.187″ (SIZE 5) CENTERLINE SPACING SPRING PROBES AND SOCKETS

5A continuous current. Full stroke 0.250″. Working stroke 0.170″. **Sold in packages of 10.**

PROBES–PRELOADED SPRING FORCE RATED STROKE @ 0.170″ TRAVEL: 2.8 OZ./16.4 oz.

90F2936	S-5-A-16.4G	4	0.125″	1.070″	0.350″	0.156″	90° Cup	32.87	16.63
90F2937	S-5-B-16.4G	5	0.125″	1.070″	0.350″	0.110″	30° Spear Point	32.87	16.63
90F2938	S-5-H-16.4G	8	0.125″	1.070″	0.350″	0.156″	Waffle	32.87	16.63
SOCKETS									
90F2939	R-5-CR*	1	0.140″	1.295″	0.144″	0.300″	Crimp	17.78	10.33
90F2940	R-5-SC*	2	0.140″	1.295″	0.144″	0.300″	Solder Cup	18.56	11.09
90F2941	R-5-WW*	3	0.140″	1.670″	0.144″	0.300″	Wire Wrap Sq. Post	18.89	11.41

*Mounting hole size 0.141″/0.143″; Drill size 9/64″.

(3821) (de50373)

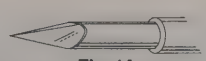


Fig. 14

ETCHED CIRCUIT PRODUCTS

DRY FILM PHOTO RESIST

DF series 0.0013″ thick dry film is a rugged emulsion during all stages of processing. Dry film laminated to the copper surface of panels is protected by a Mylar cover sheet. A latent image is visible after exposure. Cover sheet is removed prior to developing. Developer and stripper are mild caustic/aqueous chemistries.

DF PHOTOSENSITIZED KEPROCLAD — 6 PIECES/PKG

Stock No.	Type	Foil Oz.	Foil Sides	NEMA Matl.	Size	Description	1-2
44F2657	KC1-46B/192-0785	1	1	CEM1	4 x 6″	Dry Pack	44.00
44F2658	KC1-712B/192-0795	1	1	CEM1	7 x 12″	Developer	117.85
44F2659	KC2-46B/192-0905	1	2	CEM1	4 x 6″	& Stripper	55.71
44F2661	KC1-46G/192-0380	1	1	FR-4	4 x 6″	Add Only	47.23
44F2662	KC1-66G/192-0390	1	1	FR-4	6 x 6″	Etchant to	61.30
44F2663	KC1-712G/192-0405	1	1	FR-4	7 x 12″	Complete	128.06
44F2664	KC2-46G/192-0430	1	2	FR-4	4 x 6″	Board	58.13
44F2665	KC2-712G/192-0455	1	2	FR-4	7 x 12″	Process	160.53

DF PHOTOSENSITIZED ECONOPAK — 5 PIECES/PKG

Stock No.	Type	Foil Oz.	Foil Sides	NEMA Matl.	Size	1-2
21F366	DF1-12125G	1	1	FR-4	12 x 12″	141.68
21F367	DF2-12125G	1	2	FR-4	12 x 12″	178.41

DF PROCESSING CHEMICALS AND SUPPLIES

Stock No.	Type	Description	1-4
00Z635	DFD-12G	Dry Developer (Makes 12 gal.)	20.48
00Z720	AZK-F-1 QT	Defoamer for DFD-12G Developer	30.91
00Z320	DFS-12G	Dry Stripper (Makes 12 gal.)	26.16
21F372	DFR-4715	Dry Film Photo Resist, 0.0015″	162.42
		Replacement Film for BTL-121	

(3830) (de50750)

KPR TYPE 4 PHOTO RESIST

S series liquid resist is roller coated and infra-red cured on the copper surface, ensuring uniform coating thickness. Consistent exposure times and sharp images parallel to dry film results. Developer and stripper are solvent chemistries. Complete instructions included with all products.

KPR PHOTOSENSITIZED ECONOPACK — 5 PIECES/PKG

Stock No.	Type	Foil Oz.	Foil Sides	NEMA Matl.	Size	1-2
78F058	S1-365B	1	1	CEM1	3 x 6″	17.43
78F059	S1-465B	1	1	CEM1	4.5 x 6″	26.17
78F060	S1-7105B	1	1	CEM1	7 x 10″	63.58
78F161	S1-465G	1	1	FR-4	4 x 6″	25.70
19F3221	S1-665G	1	1	FR-4	6 x 6″	38.55
19F2037	S1-7105G	1	1	FR-4	7 x 10″	63.61
78F162	S2-465G	1	2	FR-4	4 x 6″	31.09
19F3224	S2-665G	1	2	FR-4	6 x 6″	46.63
19F3225	S2-12125G	1	2	FR-4	12 x 12″	150.50
78F186	S12-465G	2	1	FR-4	4 x 6″	27.32
78F188	S12-7105G	2	1	FR-4	7 x 10″	67.80
78F193	S22-12125G	2	2	FR-4	12 x 12″	178.10

KPR PROCESSING CHEMICALS AND SUPPLIES

Stock No.	Type	Solution	Quantity	1-4
00Z305	KD-1G	Developer	1 gal.	50.40
00Z719	PRSK-1G	Stripper	1 gal.	141.81

(3832) (de50752)

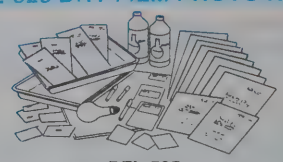
ETCHED CIRCUIT PRODUCTS

Stock No.	Type	Description	1-2
83F6799	BTE-302	Glass Bead Etcher	799.25
80W475	BTE-202	Double-Side Spray Etcher	1402.64
80W476	BTX-200A	Ultraviolet Exposure Frame	815.33
78F150	MS-6	Hand Tool for Cutting Circuit Laminate	624.89
98F2127	PE-2	#2 Photo Flood Lamp for Exposing Photosensitive Materials	15.61
83F6798	EASY-PC PRO	Software for the Production of Circuit Board Layouts	281.75
83F6797	BX-101	15-Watt Blacklight (UV) Flouresecent Tube, 18″ Long	32.44

(31172) (ne31172)

NEWARK STOCKS MORE PRODUCTS THAN ANY OTHER ELECTRONICS DISTRIBUTOR!

TYPE DFL-525 DRY FILM PHOTO RESIST KIT



DFL-525

Kit includes: approximately 7 square feet of copper clad photosensitized with DFR-4713 dry film photoresist; assortment of FR-4 glass epoxy and CEM-1 epoxy composite laminates, both single and double-sided; two 10 x 12″ plastic chemical trays; developing solution; 2 qt. etching solution; cleaning pads; photo printing frame and clamps; exposure lamp and complete instructions. Designed for lab or professional prototype use.

00Z1481 Type DFL-525. **1-4** **241.89**
(3828) (de50748)

PROFESSIONAL PHOTO RESIST ETCHED CIRCUIT KITS

Produce three 3 x 6″ circuit boards using **type DFP-101-B** professional photo-etch methods kit. CEM-1 Epoxy Composite boards are pre-sensitized and require only sunlight or #2 photoflood lamp to expose. May be handled in subdued incandescent light. Kit includes: one 3¼ x 7½″ plastic etching tray; one 3¼ x 7½″ aluminum developing tray; 3 x 6″ print frame glass; 8 oz. etching solution (ferric chloride); three 3 x 6″ one-sided dry film photosensitized epoxy composite copper clad; three 3 x 6″ sheets mechanical negative; cleaning pad; resist marking pen; instructions. **Type DFP-101-G** is the same as above, but with FR-4 glass epoxy copper clad.

00Z1482 Type DFP-101-B. **1-4** **29.30**
00Z1483 Type DFP-101-G. **1-4** **29.99**
(3829) (de50749)

PHOTO REVERSING KIT

Type FK-701. Make line negatives from artwork prepared on transparent film or reverse negatives to positives with just two simple steps. Photosensitized film is contact exposed, then developed by rinsing with hot water. No darkroom, tanks, trays or chemicals required. Includes two pieces 10 x 24″ 2-mil reversing film and sponge pads to assist in developing.

00Z1502 Type FK-701. **1-2** **28.06**

PHOTO REVERSING REPLENISHMENT SUPPLIES

Stock No.	Type	Description	1-2
19F2045	RF-1024	2 Mil Reversing Film, 10 x 24″	15.07
19F2046	RF-2024	2 Mil. Reversing Film, 20 x 24″	24.29

(3833) (de50753)

IMMERSION TIN PLATING KIT

Type ITP-801A. Three minute immersion at room temperature deposits essentially pure, bright, shiny tin plating, approximately 0.00001″ thick on oxide-free copper surface of etched PC boards. Plating with tin improves solderability and retards oxidation, providing extra storage life to unassembled PC boards. Includes all necessary materials to plate 25 square feet of etched PC board material.

00Z770 Type ITP-801A. **1-2** **48.55**

TIN PLATING REPLENISHMENT SUPPLIES

Stock No.	Type	Description	1-4
00Z771	ITP-1QT	Immersion Tin Solution, 1 qt.	36.51
00Z772	ITP-1G	Immersion Tin Solution, 1 gal.	94.41

(3834) (de50754)

UNSENSITIZED COPPER CLADS

P series copper clads are pre-cleaned and sealed in moisture and dust proof poly bags. Unsensitized copper clads are ready for direct application of manual etch resists. Same etchants are used for all copper clad panels.

UNSENSITIZED ECONOPACK — 5 PIECES/PKG

Stock No.	Type	Foil Oz.	Foil Sides	NEMA Matl.	Size	1-2
78F050	P1-465B	1	1	CEM1	4.5 x 6″	17.36
78F051	P1-7105B	1	1	CEM1	7 x 10″	42.39
78F054	P2-465B	1	2	CEM1	4.5 x 6″	19.31
78F159	P1-465G	1	1	FR-4	4.5 x 6″	17.56
19F3217	P1-12125G	1	1	FR-4	12 x 12″	85.13
19F3219	P2-12125G	1	2	FR-4	12 x 12″	89.81

UNSENSITIZED BULKPACK — 12 PIECES/PKG

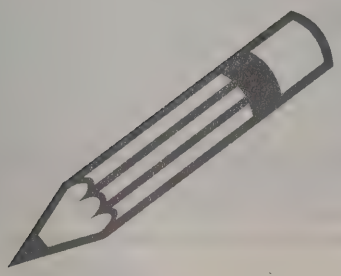
78F104	P1-1224G	1	1	FR-4	12 x 24″	232.10
78F105	P2-1224G	1	2	FR-4	12 x 24″	251.03

ETCHANTS, CLEANERS AND MARKING PEN FOR COPPER CLADS

Stock No.	Type	Description	1-4
00Z301	E-1G	Etch, Ferric Chloride, 1 gal.	31.91
00Z302	SP-1G	Etch, Sodium Persulphate, 1 gal.	31.98
00Z303	SP-4G	Etch, Sodium Persulphate, 4 gal.	63.66
00Z321	CU3-1QT	Cleaner, Chemical, 1 qt.	33.03
44F2666	RMP-700A	Resist Marking Pen, Manual Process	3.17

(3831) (de50751)

NOTES



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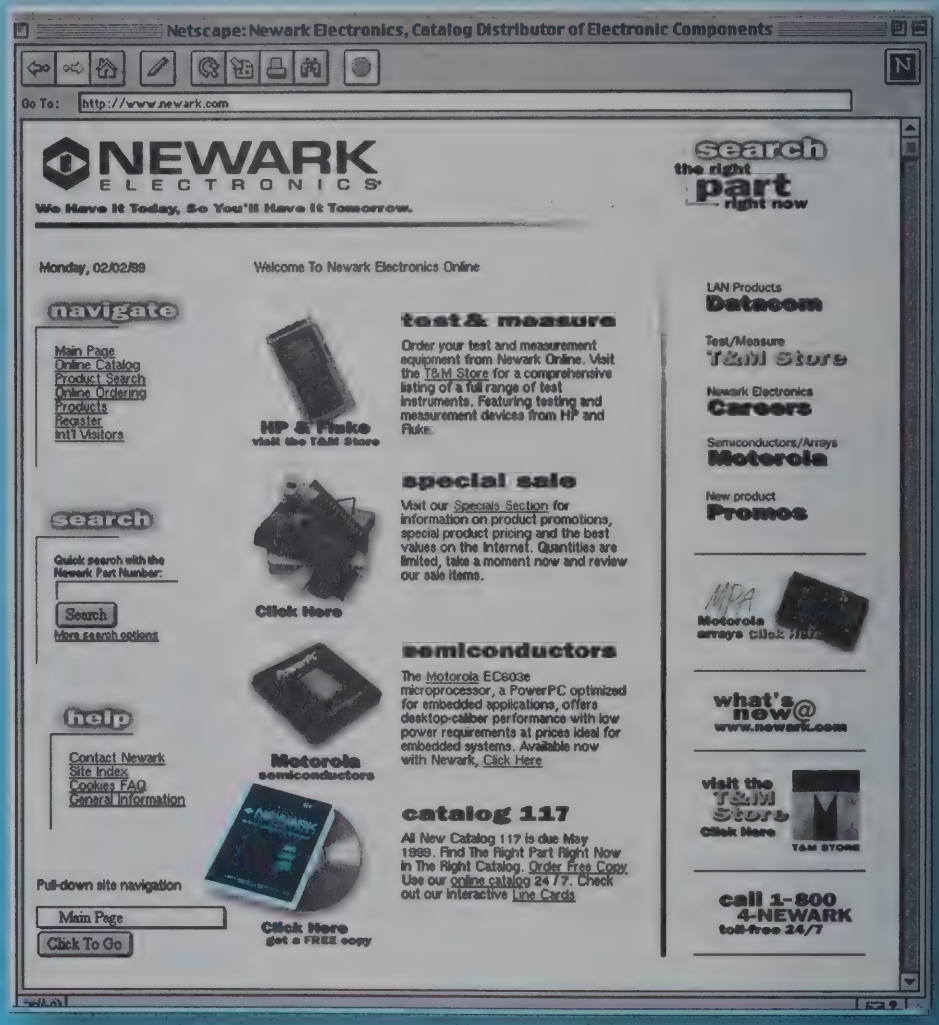
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Power Supplies & Power Protection

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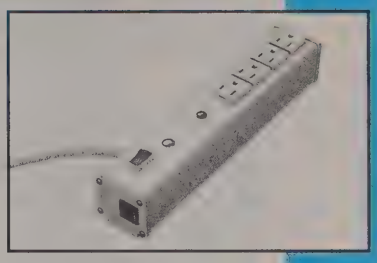

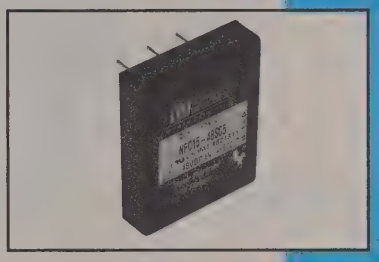

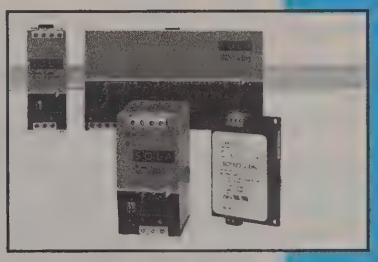

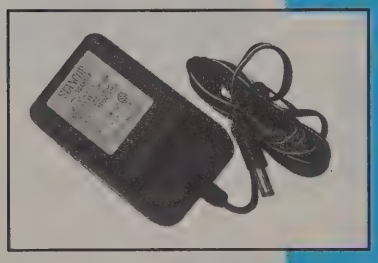

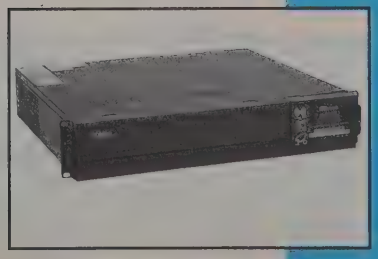

Products include...

- Power Conditioning Products
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- Power Supplies
  - Converters
  - DIN Rail Mount
  - External
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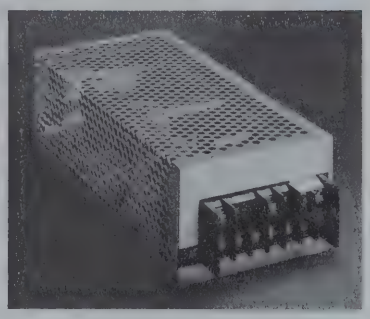
LAMBDA Electronics Inc.

POWER SUPPLIES

JWS SERIES SINGLE OUTPUT POWER SUPPLIES



- Input: 265VAC; 47-63Hz; 120-330VDC
- Power Factor and Harmonic Correction
- DIN Rail Mounting Capability
- UL Recognized, CSA Certified, CE Mark

Stock No.	Type	Power	Output	1-9	10-24	25-49	50-94
48F3062	JWS3002	120W	2V@60A	418.95	397.95	381.15	349.00
48F3063	JWS3003	198W	3.3V@60A	418.95	397.95	381.15	349.00
48F3064	JWS3005	300W	5V@60A	418.95	397.95	381.15	349.00
48F3065	JWS30012	324W	12V@27A	418.95	397.95	381.15	349.00
48F3066	JWS30015	330W	15V@22A	418.95	397.95	381.15	349.00
48F3067	JWS10012/A	102W	12V@8.5A	212.93	202.23	193.67	175.74
48F3068	JWS10015/A	105W	15V@7A	212.93	202.23	193.67	175.74
48F3069	JWS10024/A	108W	24V@4.5A	212.93	202.23	193.67	175.74
48F3070	JWS1003/A	66W	3.3V@20A	212.93	202.23	193.67	175.74
48F3071	JWS1005/A	100W	5V@20A	212.93	202.23	193.67	175.74
48F3072	JWS15048/A	158.4W	48V@3.3A	277.13	263.22	252.52	229.27
48F3073	JWS5012/A	51.6W	12V@4.3A	138.03	131.61	126.26	114.13
48F3074	JWS5015/A	52.5W	15V@3.5A	138.03	131.61	126.26	114.13
48F3075	JWS5024/A	52.8W	24V@2.2A	138.03	131.61	126.26	114.13
48F3076	JWS503/A	33W	3.3V@10A	138.03	131.61	126.26	114.13
48F3077	JWS505/A	50W	5V@10A	138.03	131.61	126.26	114.13
48F3078	JWS7548/A	76.8w	48V@1.6A	179.76	171.20	163.71	148.47

(34991) (ne34991)

JFS SERIES SINGLE OUTPUT POWER SUPPLIES

- Input: 265VAC; 47-63Hz; 120-330VDC
- Power Factor and Harmonic Correction
- DIN Rail Mounting Capability
- UL Recognized, CSA Certified, CE Mark

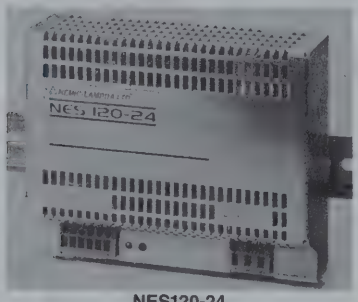
Stock No.	Type	Power	Output	1-9	10-24	25-49	50-94
48F3059	JFS0500-24	500W	24V@20A	787.50	717.15	644.70	553.00
48F3060	JFS1000-24	1000W	24V@41A	1139.25	1082.55	1027.95	920.00
48F3061	JFS1000-48	1000W	48V@20A	1139.25	1082.55	1027.95	920.00

DIN RAIL BRACKETS

Stock No.	Type	Description	Each
48F5277	L-DIN500	For Type JFS-050024	13.75
48F5278	L-DIN1000	For Type JFS-100024, JFS-100048	13.75

(34992) (ne34992)

NEW



NES120-24

DRP-480-3H

NES/DRP SERIES DIN RAIL MOUNTABLE POWER SUPPLIES

- Single and 3-Phase AC Input
- Power Factor and Harmonic Correction
- UL recognized, CSA certified, CE mark
- Mounts to 35 x 7.5mm or 35 x 15mm Rail

Input: NES models: 85-265VAC, 47-63Hz; DRP **-1 types**: single phase: 110/230VAC; **-3H types** 3-phase: 480VAC

Stock No.	Type	Power	Output	1-9	10-24	25-49	50-99
48F3079	NES 120-24	120W	24V@5A	225.77	203.30	185.11	163.62
48F3080	NES 60-24	60W	24V@2.5A	163.71	147.66	133.75	121.20
48F3054	DRP-120-1	120W	24@5A	270.71	243.96	221.49	199.98
48F3055	DRP-240-1	240W	24@10A	364.35	327.60	298.20	276.00
48F3056	DRP-240-3H	480W	24@10A	364.35	327.60	298.20	276.00
48F3057	DRP-480-3H	480W	24V@20A	457.80	411.60	373.80	333.00
48F3058	DRP-60-1	60W	24V@2.5A	202.23	181.90	165.85	146.45

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DIN RAIL MOUNT POWER SUPPLIES

UNIVERSAL ENCAPSULATED SWITCHERS-30 WATT

AC/DC switching power supplies are small rugged design with DIN rail and chassis mounting capabilities. AC and DC optional switchers designed for industrial systems, monitoring equipment, and instruments. AC input voltage: 85 to 265VAC. DC input voltage: 100 to 375VDC. Input frequency: 50 to 400Hz. Holdup time: >50ms. Dimensions: 4.71 x 2.55 x 1.2″. Operating temperature: -40° to +65°C. UL listed, CE compliant, VDE approved. 5-year Warranty.

Stock No.	Type	Description	Output Voltages V1 VDC	V1 A	V2 VDC	V2 A	V3 VDC	V3 A	Min. Load V1A	Efficiency (%)	Each
83F2959	SCP30S3.3-DN	3.3V	3.3	6.0	...	...	...	...	0	≥62	134.11
83F2960	SCP30S5-DN	5V	5	6.0	...	...	...	...	0	≥70	127.92
83F2961	SCP30S12-DN	12V	12	2.5	...	...	...	...	0	≥75	126.88
83F2962	SCP30S15-DN	15V	15	2.0	...	...	...	...	0	≥75	126.88
83F2963	SCP30S24-DN	24V	24	1.3	...	...	...	...	0	≥77	126.88
83F2964	SCP30S48-DN	48V	48	0.6	...	...	...	...	0	≥77	126.88
83F2965	SCP30D12-DN	Dual O/P ± 12V	12	1.2	-12	1.2	...	...	0.12	≥68	143.39
83F2966	SCP30D15-DN	Dual O/P ± 15V	15	1.0	-15	1.0	...	...	0.15	≥68	143.39
83F6485	SCP30D512-DN	Dual O/P 5V and 12V	5	3.0	12	1.2	...	...	0.3	≥68	154.95
83F2967	SCP30D524-DN	Dual O/P 5V and 24V	5	3.0	24	0.6	...	...	0.3	≥68	147.52
83F2968	SCP30T512-DN	Triple O/P 5/12/12V	5	3.0	-12	0.6	+12	0.6	0.3	≥68	155.77
83F2969	SCP30T515-DN	Triple O/P 5/15/15V	5	3.0	-15	0.5	+15	0.5	0.3	≥68	155.77

(29676) (ne29676)

SDN SERIES DIN RAIL MOUNT POWER SUPPLIES

Power supplies have snap-on DIN rail or chassis mount capabilities. Fully enclosed metal housing with easily acccessible screw terminals. Parallel operation is possible via its voltage-drop method. Extended temperature: –60°C without derating. Nominal input voltage frequency: 47-63Hz. Nominal output voltage; tolerance: ±2% overall, ripple: <20 mVpp including spikes. Global safety specifications: EN60950, EN60204 UL 1950, UL 508 listed, CSA certified, CE complaint. H x D: 4.88 x 4.04″. Chassis mount brackets **sold in packages of 2**. *Order* **type SDN-PMBRK** *chassis mount brackets separately below.* 2-year warranty.

Stock No.	Type	Nominal Input Voltage(Range)	Nominal Input Current/Inrush Current	Holdup Time	Nominal Output Voltage	Nominal Output Current (Power)	Peak Current	W	Each
83F2945	SDN2.5-24-100	AC 115/230V(85-132/176-264VAC)	1.3A/0.7A typ.<25A	>20MS (196VAC)	24VDC	2.5A (60W)	...	1.97″	147.60
83F2946	SDN5-24-100	AC 115/230V(85-132/176-264VAC)	2.6A/1.4A typ. <15A	>20MS (196VAC)	24VDC	5A (120W)	6A Peak For <1 min @≥ 45° C	2.91″	227.58
83F2947	SDN10-24-100	AC 115/230V(85-132/176-264VAC)	6.0A/2.8A <30A	>20MS	24VDC; 21.6 30.8 Adj.	10A (240W)	12.5A Peak For <1 min @≥ 45°C	5.39″	331.37
83F2948	SDN20-24-200	AC 230V (184...264VAC)	5A typ.<33A	>20MS	24VDC; 21.6 30.8 Adj.	20A (480W)	25A Short-Term Straight Characteristic, Hiccup at V_A <14V	8.94″	560.85
83F2949	SDN20-24-480	30 AC480V(408-576VAC)	3 x 1.5A <15A	>11MS	24VDC; 21.6 30.8 Adj.	20A (480W)	25A Short-Term Straight Characteristic, Hiccup at V_A <14V	8.94″	464.68
83F2950	SDN30-24-480	30 AC340 576VAC (340...576VAC)	3 x 2 0A <15A	>11MS	24VDC; 21.6 30.8 Adj.	30A (720W)	Straight Characteristic, Hiccup at V_A <10V	8.94″	615.13

Stock No.	Type	Description	Per Pkg.
83F2952	SDN-PMBRK	Chassis Mount Brackets	5.72

(29675) (ne29675)

UNIVERSAL ENCAPSULATED LINEAR POWER SUPPLIES

Encapsulated linear power supplies are available in dual and triple outputs or as single 24V or 30V output in series. Applications include sensitive electronics and analog circuitry. Rugged enclosed package with screw terminals and DIN rail clips for easy installation and maintenance. DIN rail or chassis mount. AC input voltage: 115/230VAC ±10%. Input frequency: 47-63Hz. Operating temperature: 4 watt, -25° to +70°C; 10 watt, -20° to +50°C. Dual output units can be combined for a total output voltage of 24V or 30V. Dimensions: 4.31 x 2.0 x 0.9″ (4Watt), 4.71 x 2.55 x 1.29″ (10Watt). UL listed, CE compliant, VDE approved. 5-year warranty.

Stock No.	Type	Description	Watts	Output Voltages V1 VDC	V1 A	V2 VDC	V2 A	V3 VDC	V3 A	Each
83F2953	SCL4D12-DN	Dual O/P ±12V	4	12	0.15	-12	0.15	...	...	61.90
83F2954	SCL4D15-DN	Dual O/P ±15V	4	15	0.13	-15	0.13	...	...	61.90
83F2955	SCL10D12-DN	Dual O/P ±12V	10	+12	0.4	-12	0.4	...	...	95.94
83F2956	SCL10D15-DN	Dual O/P ±15V	10	+15	0.3	-15	0.3	...	...	95.94
83F2957	SCL10T512-DN	Triple O/P, 5V± 12V	10	5	0.25	+12	0.35	-12	0.35	104.19
83F2958	SCL10T515-DN	Triple O/P, 5V± 15V	10	5	0.2	+15	0.28	-15	0.28	104.19

(29674) (ne29674)

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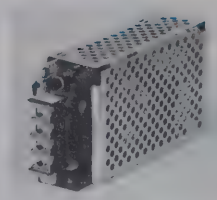
SWITCHING POWER SUPPLIES

LOW-COST SINGLE AND MULTI-OUTPUT SWITCHING POWER SUPPLIES

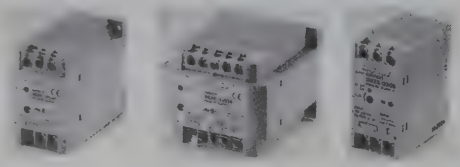


Type S8E economical, enclosed switching power supplies in single or multi-outlet versions. Input voltage: 85-132VAC, 47-450Hz. Built-in overload protection. FCC Class A. Convection cooled. LED operation indicator. UL recognized, CSA certified.

Stock No.	Type	Power Rating	Output Voltage/Current V1	V2	V3	H x W x D	Each
52F4212	S8E1-02524D	25W	24V/1.1A	...	...	2.75 x 1.37 x 5.31″ (70 x 35 x 135)	89.00
16F3272	S8E1-05012D	50W	12V/4.2A	...	...	2.75 x 1.45 x 6.81″ (70 x 37 x 173)	111.52
52F4213	S8E1-05024D	50W	24V/2.2A	...	...	2.75 x 1.45 x 6.81″ (70 x 37 x 173)	111.52
52F4214	S8E3-03031D	30W	5V/3A	12V/1.2A	−12V/0.3A	2.75 x 1.45 x 6.81″ (70 x 37 x 173)	97.58
52F4215	S8E3-05031D	50W	5V/5A	12V/1.5A	−12V/0.5A	2.75 x 1.45 x 6.81″ (70 x 37 x 173)	117.95

(3605) (ne08820)

GENERAL PURPOSE DIN RAIL MOUNTABLE SWITCHING POWER SUPPLIES



Type S82 compact, enclosed general purpose switching power supplies are DIN rail mountable. Input voltage: 3, 7.5, and 15W versions = 85-264VAC, 47-450Hz; 30, 50 and 100 Watt versions = 85-132VAC or 170-264VAC, 47-450Hz, selectable. Built-in overload protection. Convection cooled. FCC class B (all but 100 Watt version); FCC class A (100W version). Operation indicator. UL recognized, CSA certified, CE compliant, VDE approved.

Stock No.	Type	Power Rating	Output Voltage/Current	H x W x D	Each
16F3265	S82S-0324	3W	24V/0.13A	2.95 x 1.48 x 2.56″ (75 x 37 x 65)	56.83
16F3266	S82S-0724	7.5W	24V/0.3A	2.95 x 1.48 x 2.56″ (75 x 37 x 65)	64.34
16F3267	S82K-01505	15W	5V/2.5A	2.95 x 1.46 x 2.56″ (75 x 37 x 65)	89.00
52F4202	S82K-01512	15W	12V/1.2A	2.95 x 1.77 x 3.78″ (75 x 45 x 96)	89.00
52F4203	S82K-01524	15W	24V/0.6A	2.95 x 1.77 x 3.78″ (75 x 45 x 96)	89.00
52F4205	S82K-03024	30W	24V/1.3A	2.95 x 3.54 x 3.78″ (75 x 90 x 96)	134.04
52F4206	S82K-05024	50W	24V/2.1A	2.95 x 3.54 x 3.78″ (75 x 90 x 96)	144.76
52F4207	S82K-10024	100W	24V/4.2A	2.95 x 5.70 x 3.78″ (75 x 145 x 96)	211.24

(3606) (ne08821)

GENERAL PURPOSE OPEN-FRAME SWITCHING POWER SUPPLIES

Type S82J economical and compact, open-frame switching power supplies feature built-in overload protection, and operation indicators. Input voltage: 85-132VAC, 47-450Hz. Convection cooled. FCC class A. UL recognized, CSA certified, CE compliant and VDE approved. Mounting brackets included.

Stock No.	Type	Power Rating	Output Voltage/Current	H x W x D	Each
16F8285	S82J-0124	10W	24V/0.5A	3.8 x 1.4 x 3.9″ (97 x 35 x 100)	197.30
16F3268	S82J-0212	25W	12V/2.1A	3.8 x 1.6 x 5.3″ (97 x 40 x 134)	90.07
16F3269	S82J-0512	50W	12V/4.2A	3.8 x 1.6 x 6.7″ (97 x 40 x 171)	125.46
52F4200	S82J-0524	50W	24V/2.1A	3.8 x 1.6 x 6.7″ (97 x 40 x 171)	125.46
48F1110	S82J-5024	50W	24V/4.5A	3.8 x 1.6 x 6.7″ (97 x 40 x 171)	207.20
48F1111	S82J-6024	100W	24V/4.5A	3.8 x 1.6 x 6.7″ (97 x 40 x 171)	207.20
48F1112	S82J-30024	300W	24V/14A	3.6x 4.7 x 7.1″ (92 x 120 x 181)	455.84
48F1113	S82J-60024	600W	24V/27A	3.6 x 6.7 x 6.7″ (92 x 170 x 169)	725.20

(3607) (ne08822)

300W

HIGH-POWER, ENCLOSED SWITCHING POWER SUPPLIES

600W

Type S82D power supplies are ideal for high-power applications. Input voltage: 85-132VAC or 170-264VAC (47-450Hz), switch selectable. Built-in fan keeps unit cool. Equipped with overvoltage and overload protection. Built-in remote sensing function corrects voltage drop in load wiring. Remote control function allows unit to be turned ON or OFF with an external signal. UL recognized, CSA certified.

Stock No.	Type	Power Rating	Output Voltage/Current	H x W x D	Each
52F4189	S82D-3024	300W	24V/14A	3.6 x 4.7 x 8.8″ (92 x 120 x 224)	834.22
52F4190	S82D-6024	600W	24V/27A	3.6 x 7.5 x 10″ (92 x 190 x 254)	1286.72

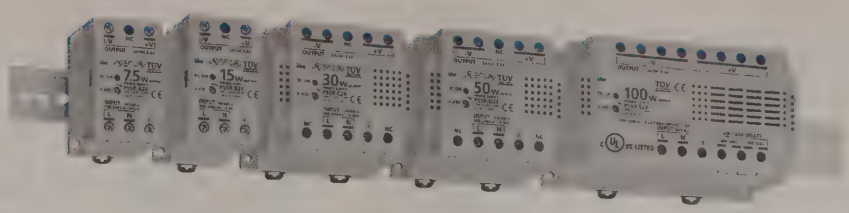
(3608) (ne08823)

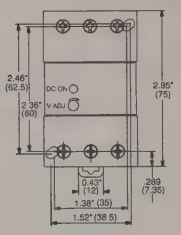
IF YOU DON'T SEE THE PRODUCT YOU NEED LISTED HERE - CALL!

1-800-4-NEWARK

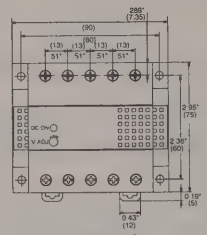
(1-800-463-9275)

PS5R SWITCHING POWER SUPPLIES

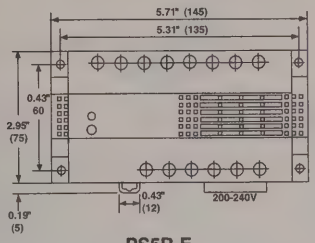




PS5R-A
PS5R-B



PS5R-C
PS5R-D



PS5R-E

Compact design offers universal AC input voltages from 85 to 264VAC and DC input voltages from 105 to 370VDC, except **type PS5R-E**, 100-120VAC or 200-240VAC (switchable). 5 different output capacities in either 12VDC or 24VDC. DIN rail or panel mount. UL listed. cUL listed. TUV approved. CE compliant.

Stock No.	Type	Watts	Input Current	Output VDC/A	Typical Efficiency (%)	H x W x D	Each
83F4500	PS5R-A12	7.5	0.17A @ 100V, 0.11A @ 200V	12/0.6	73	3.0x1.8x2.8"(75x45x70)	**63.33**
83F4501	PS5R-A24	7.5	0.17A @ 100V, 0.11A @ 200V	24/0.3	75	3.0x1.8x2.8"(75x45x70)	**63.33**
83F4502	PS5R-B12	15	0.3A @ 100V, 0.2A @ 200V	12/1.2	75	3.0x1.8x3.7"(75x45x95)	**94.99**
83F4503	PS5R-B24	15	0.3A @ 100V, 0.2A @ 200V	24/0.6	79	3.0x1.8x3.7"(75x45x95)	**94.99**
83F4504	PS5R-C12	30	0.68A @ 100V, 0.45A @ 200V	12/2.5	75	3.0x3.5x3.7"(75x90x95)	**126.66**
83F4505	PS5R-C24	30	0.68A @ 100V, 0.45A @ 200V	24/1.3	75	3.0x3.5x3.7"(75x90x95)	**126.66**
83F4506	PS5R-D24	50	1.15A @ 100V, 0.75A @ 200V	24/2.1	79	3.0x3.5x3.7"(75x90x95)	**158.32**
83F4507	PS5R-E24	100	2.5A @ 100V, 1.5A @ 200V	24/4.2	85	3.0x5.7x3.7"(75x145x95)	**227.98**

Type	PS5R-A	PS5R-B	PS5R-C	PS5R-D	PS5R-E
Wattage	7.5W	15W	30W	50W	100W
Input Voltage	100 to 240VSC nominal (85 to 264VAC, 105 to 370 VDC)				100-120VAC, 200-240VAC
Input Current 100V (Typical)	0.17A	0.30A	0.68A	1.15A	2.5A
Inrush Current 200V	50A Max. (Cold Start)				
Leakage Current	0.75mA max. (60Hz measured in conformance with VCE, UL, CSA				
Typical Efficency at 12VDC **Typical Efficency at 24VDC**	73% 75%	75% 79%	75% 75%	... 79%	... 85%
Wattage and Current Ratings at 12V **Wattage and Current Rating at 24V**	12V/0.6A 24V/0.3A	12V/1.2 24V/0.6A	12V/2.5A 24V/1.3	... 24V/2.1A	... 24V/4.2A
Voltage Adjustments	±10% (voltage adjust on front.)				
Holding Time	20ms min. (at rated input and output)				
Rise Time	200ms max. (at rated input and output)				
Input Fluctuation	0.4% max.				
Load Fluctuation	1.5% max.				
Temperature Change (-10°C to +50°C)	0.05% max.				
Ripple Voltage (-10°C to 50°C)	2% p-p max. (including noise)				
Over Current Protection	105% min.				
Over Voltage Protection	120% min. (Zener)		120% min. (auto reset)		
Dialectric Strength	Between input/output terminals 3000VAC 1 min.; 2000VAC 1 min.; between output terminals and housing 500VAC 1 min.				
Operating Temperature	-10 to +60° C				
Storage Temperature	-30 to +85° C				
Operating Humidity	20 to 90% RH				
Operating Extremes	45m/s^2 , 10 to 55Hz, 2 hours each in 3 axes				
Shock Resistance	294 m/s^2 , 3 shocks each in 6 axes				
Weight (Approx.)	150g	170g	360g	390g	600g
Terminal Screw	M3.5 Phillips slotted screw spring-up terminals				

(28370) (ne28370)

PLCs and software are also available in this catalog; see pages 1375 to 1377 for detailed information on IDEC's line of programmble logic controllers.

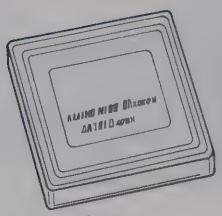
(32799) (ne32799)

ASTEC

AMPSS® DC-TO-DC CONVERTERS

AMPSS® DC-TO-DC CONVERTERS

AA05A


AA15A

AA13A

AA30A

AA50A

5-WATT AA05A SERIES; SINGLE AND DUAL OUTPUT; CASE SIZE: 1 x 2 x 0.4"

Stock No.	Type	Input Range (VDC)	Output 1	Output 2	Output 3	1-9	10-24	25-49
52F4030	AA05A-005L-120D	4.5-5.25	12V @ 0.210A	-12V @ 0.210A	...	69.22	67.24	60.27
52F4031	AA05A-005L-150D	4.5-5.25	15V @ 0.160A	-15V @ 0.160A	...	69.22	67.24	60.27
52F4032	AA05A-024L-050S	9-36	5V @ 1.00A	...	...	69.22	67.24	60.27
52F4036	AA05A-024L-120S	9-36	12V @ 0.420A	...	...	69.22	67.24	60.27
52F4082	AA05A-024L-150S	9-36	15V @ 0.330A	...	...	69.22	67.24	60.27
52F4083	AA05A-024L-120D	9-36	12V @ 0.210A	-12V @ 0.210A	...	69.22	67.24	60.27
52F4084	AA05A-024L-150D	9-36	15V @ 0.160A	-15V @ 0.160A	...	69.22	67.24	60.27
52F4085	AA05A-048L-050S	20-72	5V @ 1.0A	...	...	69.22	67.24	60.27

10-WATT AA10B SERIES; SINGLE AND DUAL OUTPUT; CASE SIZE: 1 x 2 x 0.4"

16F6735	AA10B-012L-050S	9-36	5V @ 2A	...	...	78.96	76.69	67.55
16F6736	AA10B-012L-050D	9-36	5V @ 0.750A	-5V @ 0.750A	...	78.96	76.69	67.55
16F6737	AA10B-012L-120D	9-36	12V @ 0.375A	-12V @ 0.375A	...	78.96	76.69	67.55
16F6738	AA10B-012L-150D	9-36	15V @ 0.300A	-15V @ 0.300A	...	78.96	76.69	67.55
16F6740	AA10B-048L-120D	36-75	12V @ 0.375A	-12V @ 0.375A	...	78.96	76.69	67.55

15-WATT A15B SERIES; SINGLE AND DUAL OUTPUT; CASE SIZE: 1.6 x 2 x 0.4"

16F6742	AA15B-048L-050S	20-72	5V @ 3A	...	...	82.20	79.84	73.78
16F6743	AA15B-048L-120S	20-72	12V @ 1.250A	...	...	82.20	79.84	73.78
16F6726	AA15B-048L-150S	20-72	15V @ 1A	...	...	82.20	79.84	73.78
16F6727	AA15B-024L-120D	20-72	12V @ 0.625A	-12V @ 0.625A	...	73.55	71.44	64.43
16F6728	AA15B-024L-150D	20-72	15V @ 0.500A	-15V @ 0.500A	...	73.55	71.44	64.43

15-WATT AA15A SERIES; MULTIPLE OUTPUT; CASE SIZE: 2 x 2 x 0.4"

52F3537	AA15A-024L050T120	9-36	5V @ 1.500A	12V @ 0.310A	-12V @ 0.310A	95.18	92.45	81.06
52F3538	AA15A-024L050T150	9-36	5V @ 1.500A	15V @ 0.250A	-15V @ 0.250A	95.18	92.45	81.06
52F3542	AA15A-048L050T120	20-72	5V @ 1.500A	12V @ 0.310A	-12V @ 0.310A	95.18	92.45	81.06
52F3543	AA15A-048L050T150	20-72	5V @ 1.500A	15V @ 0.250A	-15V @ 0.250A	95.18	92.45	81.06
52F4053	AA15A-024L-120D	9-36	12V @ 0.625A	-12V @ 0.625A	...	95.18	92.45	81.06
52F4050	AA15A-024L-050S	9-36	5V @ 3A	...	...	95.18	92.45	81.06

20-WATT AA20B SERIES; SINGLE AND DUAL OUTPUT; CASE SIZE: 1.6 x 2 x 0.4"

16F6729	AA20B-024L-050S	9-36	5V @ 4A	...	...	73.55	71.44	64.43
16F6732	AA20B-048L-050S	36-75	5V @ 4A	...	...	73.55	71.44	64.43
16F6733	AA20B-048L-120D	36-75	12V @ 0.840A	-12V @ 0.840A	...	73.55	71.44	64.43
16F6734	AA20B-048L-150D	36-75	15V @ 0.667A	-15V @ 0.667	...	73.55	71.44	64.43

13-WATT AA13A SERIES, 1 x 2 x 0.4"; 25-WATT AA25D SERIES, CASE SIZE: 2 x 2 x 0.4"

16F6744	AA13A-005L-033S	4.5-5.5	3.3V @ 4A	...	...	53.00	51.48	46.77
16F6745	AA25D-005L-033S	4.5-5.5	3.3V @ 8A	...	...	53.00	51.48	46.77

25-WATT AA25A SERIES, 3 x 3 x 0.43"; AA25B SERIES; CASE SIZE: 3.5 x 3 x 0.83"

52F3531	AA25A-024L050T120	19-35	5V @ 5A	12V @ 1A	-12V @ 1A	123.25	119.61	117.67
52F3532	AA25A-024L050T150	19-35	5V @ 5A	15V @ 0.8A	-15V @ 0.8A	123.25	119.61	117.67
52F3533	AA25A-048L050T120	35-63	5V @ 5A	12V @ 1A	-12V @ 1A	123.25	119.61	117.67
52F3534	AA25A-048L050T150	35-63	5V @ 5A	15V @ 0.8A	-15V @ 0.8A	123.25	119.61	117.67
52F4065	AA25B-048L050T120	20-72	5V @ 3.50A	12V @ 0.75A	-12V @ 0.75A	129.79	126.07	101.84
52F4066	AA25B-048L050T150	20-72	5V @ 3.50A	15V @ 0.50A	-15V @ 0.50A	126.07	122.34	120.35

30-WATT AA30A SERIES; DUAL OUTPUT; CASE SIZE: 3 x 3 x 0.43"

52F4068	AA30A-024L-120D	19-35	12V @ 2.5A	-12V @ 2A	...	119.20	115.67	113.79
52F4070	AA30A-048L-120D	35-63	12V @ 2.5A	-12V @ 2A	...	119.20	115.67	113.79

40-WATT AA40A SERIES; SINGLE OUTPUT; CASE SIZE: 3 x 3 x 0.43"

52F4071	AA40A-024L-050S	19-35	5V @ 8A	...	...	118.23	114.73	112.87

50-WATT AA50A SERIES; TRIPLE OUTPUT; CASE SIZE: 4 x 2.6 x 0.5"

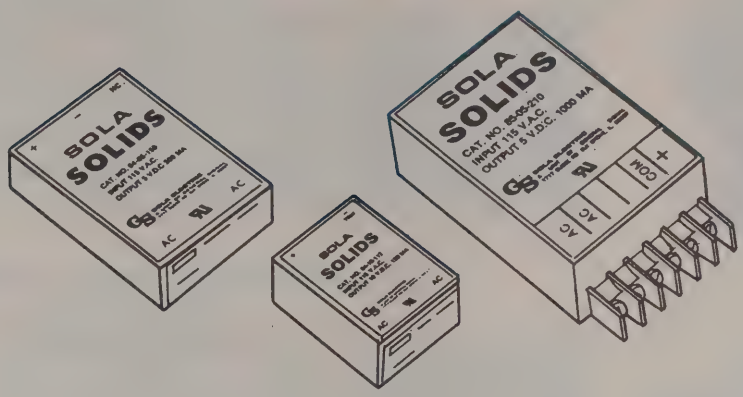
16F6747	AA50A-048L050T120	20-72	5V @ 6.0A	12V @ 0.750mA	-12V @ 0.750mA	129.79	126.07	101.84
16F6748	AA50A-048L050T150	20-72	5V @ 6.0A	15V @ 0.650mA	-15V 0.650mA	129.79	126.07	101.84

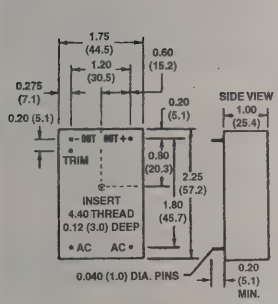
(42377) (ne42377)

NEWARK ELECTRONICS® IS AN ISO 9002 COMPANY.

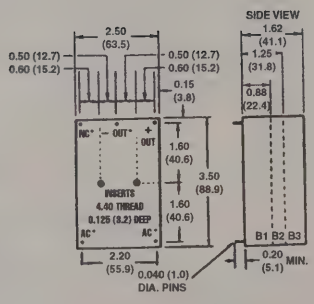
POWER SUPPLIES

84 & 85 SERIES LINEAR ENCAPSULATED POWER SUPPLIES

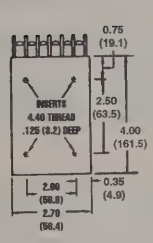


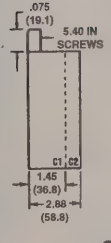


Case A

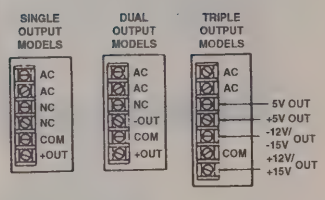


Cases B1, B2, B3





Cases C1, C2



- **Single, Dual and Triple Output Models**
- **PC Board Mounting or Chassis Mount**
- **Solid, Dependable, Rugged**
- **Automatic Overload Protection**
- **Operation at Rated Load from –25°to +50°C Ambient**
- **Plug-In Mating Sockets Available**
- **Fully Tested**
- **Full Two-Year Warranty**

Power supplies are available in single, dual and triple output models. **84 series** for printed circuit board mount. **85 series** for chassis mount. Units are fully tested and carry a two-year warranty. Input voltage: 115VAC ±10VAC. Input frequency: 50 to 400Hz. Output voltage accuracy: ±1.0% maximum. Ripple and noise: 0.5 to 2mV RMS. Line Regulation: ±0.05%. Short circuit protection: Automatic. Overvoltage crowbar: 5V outputs, 6.2V nominal. Isolation voltage: 2500VRMS. Isolation resistance: 50 megohms. Temperature Range: –25° to +71°C. UL recognized, CSA certified.

84 SERIES PRINTED CIRCUIT BOARD MOUNTING UNITS

Stock No.	Type	Output 1	Output 2	Output 3	Case	Each
05F533	84-05-150	5V @ 500mA	...	...	B1	126.78
05F534	84-05-210	5V @ 1000mA	...	...	B2	175.54
50F5418	84-05-220	5V @ 2000mA	...	...	B3	212.50
09F1753	84-10-112	10V @ 120mA	...	...	A	80.19
05F535	84-12-110	12V @ 100mA	...	...	A	80.02
05F536	84-15-110	15V @ 100mA	...	...	A	80.02
09F1755	84-24-050	24V @ 50mA	...	...	A	80.19
05F537	84-12-2112	12V @ 120mA	–12V @ 120mA	...	B1	126.78
05F538	84-12-2124	12V @ 240mA	–12V @ 240mA	...	B2	175.54
05F539	84-15-2110	15V @ 100mA	–15V @ 100mA	...	B1	126.78
05F540	84-15-2120	15V @ 200mA	–15V @ 200mA	...	B2	175.54
09F1752	84-15-2135	15V @ 350mA	–15V @ 350mA	...	B3	240.36
89F1248	84-15-13115	5V @ 1000mA	15V @ 150mA	15V @ 150mA	B3	254.80

85 SERIES CHASSIS MOUNT UNITS

05F541	85-05-210	5V @ 1000mA	...	...	C1	191.87
09F1756	85-05-220	5V @ 2000mV	...	...	C2	240.36
05F542	85-12-2124	12V @ 240mV	–12V @ 240mA	...	C1	192.90
09F1757	85-12-2140	12V @ 400mA	–12V @ 400mA	...	C2	264.08
05F543	85-15-2110	15V @ 100mA	–15V @ 100mA	...	C1	163.62
09F1758	85-15-2120	15V @ 200mA	–15V @ 200mA	...	C1	192.90
05F544	85-15-2135	15V @ 350mA	–15V @ 350mA	...	C2	264.08
09F1759	85-15-2150	15V @ 500mA	–15V @ 500mA	...	C2	301.22
89F1249	85-15-33115	5V @ 300mA	15V @ 150mA	15V @ 150mA	C1	265.11
89F1247	85-15-13115	5V @ 1000mA	15V @ 150mA	15V @ 150mA	C2	351.76

(3107) (de01168)

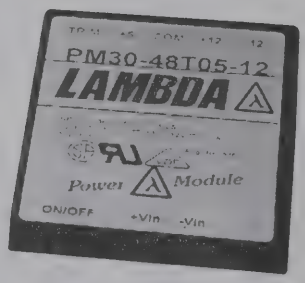
PA SERIES DC-DC CONVERTERS

- Input Voltage: 36 to 76VDC, • 58W x 61D x 13H mm
- UL Listed, CSA Certified

Stock No.	Type	Input Voltage	Output Voltage	Max. Amps	1-9	10-24	25-49	50-99
48F3081	PA50S48-05	48V	5V	10A	83.60	79.20	74.80	66.15
48F3082	PA50S48-12	48V	12V	4A	83.60	79.20	74.80	66.15
48F3083	PA50S48-24	48V	24V	2A	83.60	79.20	74.80	66.15
48F3084	PA100S48-05	48V	5V	20A	108.90	103.40	97.90	89.25
48F3085	PA100S48-12	48V	12V	8A	108.90	103.40	97.90	89.25
48F3086	PA100S48-24	48V	24V	4A	108.90	103.40	97.90	89.25
48F3087	PA150S48-05	48V	5V	30A	113.42	109.14	105.93	94.94
48F3088	PA150S48-12	48V	12V	12A	113.42	109.14	105.93	94.94
48F3089	PA150S48-24	48V	24V	6A	113.42	109.14	105.93	94.94

(36172) (ne36172)

PM SERIES DC - DC CONVERTERS



SINGLE OUTPUT

Stock No.	Type	Input Voltage	Output Voltage	Max. Current	1-9	10-24	25-49	50-99
52F7854	PM10-12S05	12V	5.00	2.00	61.48	55.79	53.25	50.72
52F7857	PM10-24S05	24V	5.00	2.00	61.48	55.79	53.25	50.72
52F7858	PM10-24S12	24V	12.00	.83	61.48	55.79	53.25	50.72
52F7871	PM20-24S12	24V	12.00	1.67	100.19	99.05	94.55	90.05
52F7878	PM30-12S03	12V	3.30	7.50	115.18	112.96	107.69	105.57
52F7879	PM30-12S05	12V	5.00	6.00	115.18	112.96	107.69	105.57
52F7880	PM30-12S12	12V	12.00	2.50	115.18	112.96	107.69	105.57
52F7882	PM30-24S05	24V	5.00	6.00	115.18	112.96	107.69	105.57
52F7883	PM30-24S12	24V	12.00	2.50	115.18	112.96	107.69	105.57
52F7886	PM30-48S12	48V	12.00	2.50	115.18	112.96	107.69	105.57

DUAL OUTPUT

52F7850	PM10-12D12	12V	±12	.42	62.62	56.93	54.34	51.75
52F7851	PM10-24D12	24V	±12	.42	62.62	56.93	54.34	51.75
52F7863	PM20-24D12	24V	±12	.83	103.61	102.47	97.81	93.15
52F7875	PM30-12D12	12V	±12	1.25	116.29	114.07	108.74	106.61
52F7876	PM30-24D12	24V	±12	1.25	116.29	114.07	108.74	106.61

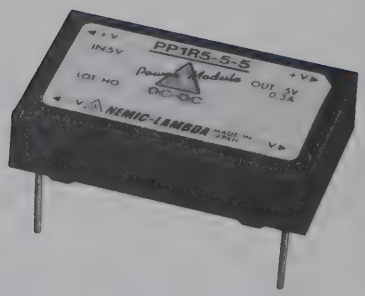
TRIPLE OUTPUT

52F7890	PM30-24T0512	24V	5.0/±12	5.00/1.0	121.82	120.72	115.08	112.82
52F7891	PM30-48T0312	48V	3.3/±12	7.00/1.0	121.82	120.72	115.08	112.82
52F7892	PM30-48T0512	48V	5.0/±12	5.00/1.0	121.82	120.72	115.08	112.82

The **PM series** single, dual, and triple output DC - DC converters are designed specifically for telecom, datacom, and computer applications, with 12V, 24V and 48V inputs. Single, dual and triple output models in 10W, 20W and 30W packages.

(3348) (ne07210)

PP SERIES LOW POWER DC-DC CONVERTERS



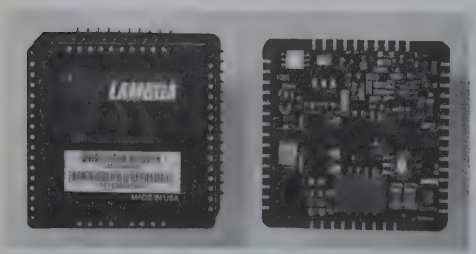
- Low-Profile-8mm

Types PP1, PP3 are single output; **Types PPD** are dual output.

Stock No.	Type	Input	Output	Max. Amps	Power	1-9	10-24	25-49	50-99
48F3090	PP1R5-24-5	12V	5V	0.30A	1.50W	27.50	25.30	24.15	23.00
48F3091	PP1R5-5-12	5V	12V	0.12A	1.44W	27.50	25.30	24.15	23.00
48F3092	PP3-24-12	24V	12V	0.25A	3.00W	34.10	30.80	29.40	28.00
48F3093	PP3-24-15	24V	15V	0.20A	3.00W	34.10	30.80	29.40	28.00
48F3094	PP3-24-5	24V	5V	0.60A	3.00W	34.10	30.80	29.40	28.00
48F3095	PP3-5-12	5V	12V	0.25A	3.00W	34.10	30.80	29.40	28.00
48F3096	PP3-5-5	5V	5V	0.60A	3.00W	34.10	30.80	29.40	28.00
48F3097	PPD1R5-5-1212	5V	±12V	0.06A	1.44W	29.70	27.50	26.25	25.00
48F3098	PPD3-24-1212	24V	±12V	0.12A	2.88W	38.50	35.20	33.60	32.00
48F3099	PPD3-24-1515	24V	±15V	0.10A	3.00W	38.50	35.20	33.60	32.00
48F3100	PPD3-5-1212	5V	±12V	0.12A	2.88W	38.50	35.20	33.60	32.00
48F3101	PPD3-5-1515	5V	±15V	0.10A	3.00W	38.50	35.20	33.60	32.00
48F3102	PPD6-48-1212	48V	±12V	0.12A	2.88W	52.80	49.50	47.25	45.00

(35174) (ne35174)

SM SERIES SURFACE MOUNT DC-DC CONVERTERS



- Input: 18-36VDC, 36-75VDC
- Overvoltage Protection

Types SM1 are single output; **types SM2** are dual output; **types SM3** are triple output.

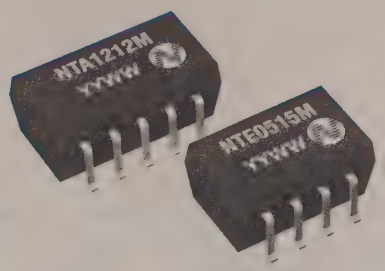
Stock No.	Type	Input	Output	Power	1-9	10-24	25-49	50-99
48F3113	SM1024D12	24V	±12V @ 0.42A	10W	90.20	82.50	78.75	75.00
48F3114	SM1024D15	24V	±15V @ 0.33A	10W	90.20	82.50	78.75	75.00
48F3115	SM1048D12	48V	±12V @ 0.42A	10W	90.20	82.50	78.75	75.00
48F3116	SM1048D15	48V	±15V @ 0.33A	10W	90.20	82.50	78.75	75.00
48F3117	SM2024S03	24V	3.3V @ 5A	16.50W	141.24	140.17	133.62	131.00
48F3118	SM2024S05	24V	5V @ 4A	20W	141.24	140.17	133.62	131.00
48F3119	SM2024S12	24V	12V @ 1.67A	20W	141.24	140.17	133.62	131.00
48F3120	SM2024S15	24V	15V @ 1.33A	20W	141.24	140.17	133.62	131.00
48F3121	SM2048S03	48V	3.3V @ 5A	16.50W	141.24	140.17	133.62	131.00
48F3122	SM2048S05	48V	5V @ 4A	20W	141.24	140.17	133.62	131.00
48F3123	SM2048S12	48V	12V @ 1.33A	20W	141.24	140.17	133.62	131.00
48F3124	SM2048S15	48V	15V @ 1.67A	20W	141.24	140.17	133.62	131.00
48F3125	SM3024T0512	24V	5V, ±12V @ 5A, 1A	30W	176.55	175.48	159.12	156.00
48F3126	SM3048T0512	48V	5V, ±12V @ 5A, 1A	30W	176.55	175.48	159.12	156.00

(35171) (ne35171)

NEW MINIATURE ISOLATED PC-BOARD DC-DC CONVERTERS

1W DUAL-OR SINGLE-OUTPUT DC-TO-DC CONVERTERS

- **Reflow at 280°C for 10 Sec. (CECC00802 Profile)**
- **Operating Temperature: -40°C to 85°C with No Heat Sink and No Derating**
- **Ideal for HighVolume Applications • Same Price as Leaded Versions**



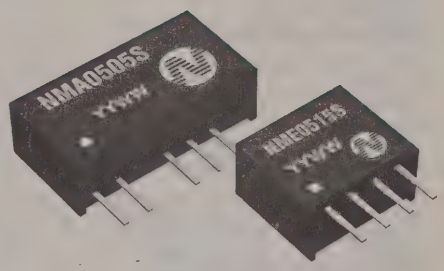
1kV isolation. Single size: 12.7 x 6.6 x 11.2mm. Dual size: 15.2 x 6.6 x 11.2mm. Surface mount (SOIC). **Also available in tape and reel packaging**, *contact your local Newark sales office for details.*

Stock No.	Type (Dual)	Input (VDC)	Output (VDC)	Output (mA)	Stock No.	Type (Single)	Input (VDC)	Output (VDC)	Output (mA)	1-9	10-24
83F9221	NTA0505M	5	±5	100	83F9227	NTE0505M	5VDC	5VDC	200	9.05	8.78
83F9222	NTA0512M	5	±12	42	83F9228	NTE0512M	5VDC	12VDC	84	9.05	8.78
83F9223	NTA0515M	5	±15	33	83F9229	NTE0515M	5VDC	15VDC	66	9.05	8.78
83F9224	NTA1205M	12	±5	100	83F9230	NTE1205M	12VDC	5VDC	200	9.05	8.78
83F9225	NTA1212M	12	±12	42	83F9231	NTE1212M	12VDC	12VDC	84	9.05	8.78
83F9226	NTA1215M	12	±15	33	83F9232	NTE1215M	12VDC	15VDC	66	9.05	8.78

(37171) (ne37171)

1W DUAL-OR SINGLE-OUTPUT, DC-TO-DC CONVERTERS

- **Industry Standard Pinout**
- **Operating Temperature: -40°C to 85°C with No Heat Sink and No Derating**
- **Power Sharing on Dual Version • High Performance and Low Cost**



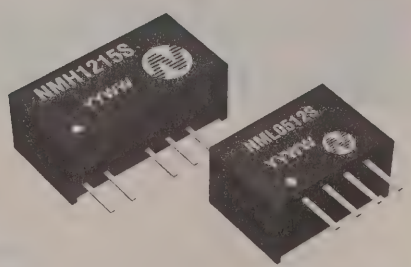
1 kV isolation. Single size: 11.5 x 6.0 x 10.0mm. Dual size: 19.5 x 6.0 x 10.0mm. PCB mount. Also available in DIP format and 24V or 48V input; *contact your local Newark sales office for details.*

Stock No.	Type (Dual)	Input (VDC)	Output (VDC)	Output (mA)	Stock No.	Type (Single)	Input (VDC)	Output (VDC)	Output (mA)	1-9	10-24
83F9233	NMA0505S	5	±5	100	83F9239	NME0505S	5	5	200	9.05	8.78
83F9234	NMA0512S	5	±12	42	83F9240	NME0512S	5	12	84	9.05	8.78
83F9235	NMA0515S	5	±15	33	83F9241	NME0515S	5	15	66	9.05	8.78
83F9236	NMA1205S	12	±5	100	83F9242	NME1205S	12	5	200	9.05	8.78
83F9237	NMA1212S	12	±12	42	83F9243	NME1212S	12	12	84	9.05	8.78
83F9238	NMA1215S	12	±15	33	83F9244	NME1215S	12	15	66	9.05	8.78

(37173) (ne37173)

2W DUAL-OR SINGLE-OUTPUT, DC-TO-DC CONVERTERS

- **Smallest 2W Converters Available**
- **NMH Operating Temperature: -40°C to 85°C with No Heat Sink and No Derating**
- **Power Sharing on Dual Version • Industry Standard Pinout**



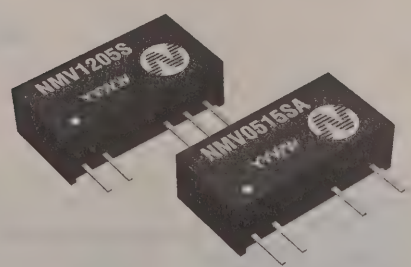
1kV isolation. Single size: 14.0 x 7.5 x 10.0mm. Dual size: 19.5 x 7.5 x 10.0mm. PCB mount. Dual version (NMH) is also available in DIP format and 24 or 48V input; *contact your local Newark sales office for details.*

Stock No.	Type (Dual)	Input (VDC)	Output (VDC)	Output (mA)	Stock No.	Type (Single)	Input (VDC)	Output (VDC)	Output (mA)	1-9	10-24
83F9245	NMH0505S	5	±5	200	83F9251	NML0505S	5	5	400	14.47	14.04
83F9246	NMH0512S	5	±12	83	83F9252	NML0512S	5	12	167	14.47	14.04
83F9247	NMH0515S	5	±15	67	83F9253	NML0515S	5	15	133	14.47	14.04
83F9248	NMH1205S	12	±5	200	83F9254	NML1205S	12	5	400	14.47	14.04
83F9249	NMH1212S	12	±12	83	83F9255	NML1212S	12	12	167	14.47	14.04
83F9250	NMH1215S	12	±15	67	83F9256	NML1215S	12	15	133	14.47	14.04

(37174) (ne37174)

1W DUAL-OR SINGLE -OUTPUT, 3KV ISOLATION

- **Isolation Rated for 1 Minute**
- **Operating Temperature: -40°C to 85°C with NN Heat Sink and No Derating**
- **Industry Standard Pinout • Power Sharing on Dual Version**



3 kV isolation. Size: 19.5 x 6.0 x 10.0mm. Also available in DIP format and 24V or 48V input.

Stock No.	Type (Single)	Input (VDC)	Output (VDC)	Output (mA)	Stock No.	Type (Dual)	Input (VDC)	Output (VDC)	Output (mA)	1-9	10-24
83F9263	NMV0505SA	5	5	200	83F9257	NMV0505S	5	±5	100	11.30	10.97
83F9264	NMV0512SA	5	12	84	83F9258	NMV0512S	5	±12	42	11.30	10.97
83F9265	NMV0515SA	5	15	67	83F9259	NMV0515S	5	±15	33	11.30	10.97
83F9266	NMV1205SA	12	5	200	83F9260	NMV1205S	12	±5	100	11.30	10.97
83F9267	NMV1212SA	12	12	84	83F9261	NMV1212S	12	±12	42	11.30	10.97
83F9268	NMV1215SA	12	15	67	83F9262	NMV1215S	12	±15	33	11.30	10.97

(37175) (ne37175)

15W SINGLE-OUTPUT, DC-TO-DC CONVERTERS

- **High Efficiency to 89%**
- **Operating Temperature: -40°C to 85°C with No Heat Sink and No Derating**
- **Surge Rating to Over 25W • Industry Standard Pinout**

1.5 kV isolation. Size: 50.0 x 25.0 x 10.0mm. PCB mount. Also available with output trim, sync, and shutdown features.

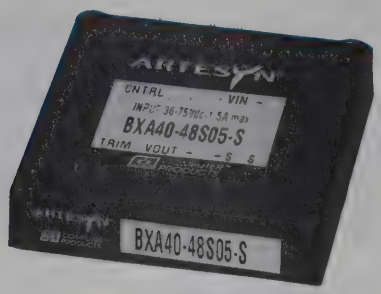
Stock No.	Type (Single)	Input (VDC)	Output (VDC)	Output (A)	Efficiency (%)	Ripple & Noise (mVrms)	Surge (1 Min.) (Watts)	1-9	10-24
83F9269	NPH15S2403I	18-36	+3.4	4.4	80	50	22.5	49.58	48.13
83F9270	NPH15S2405I	18-36	+5.1	2.9	83	65	22.5	49.58	48.13
83F9271	NPH15S2412I	18-36	+12.1	1.25	85	85	27.5	49.58	48.13
83F9272	NPH15S2415I	18-36	+15.1	1.0	87	100	27.5	49.58	48.13
83F9273	NPH15S4803I	36-72	+3.4	4.4	81	50	22.5	49.58	48.13
83F9274	NPH15S4805I	36-72	+5.1	2.9	84	65	22.5	49.58	48.13
83F9275	NPH15S4812I	36-72	+12.1	1.25	88	85	27.5	49.58	48.13
83F9276	NPH15S4815I	36-72	+15.1	1.0	89	100	27.5	49.58	48.13

(37176) (ne37176)

ARTESYN™
TECHNOLOGIES

DC-TO-DC CONVERTERS

BXA40 SERIES DC-TO-DC CONVERTERS



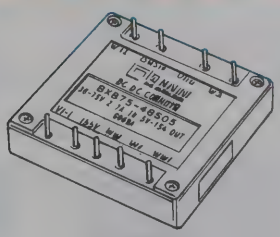
- Pin-Compatible with NFC 40 Series
- Meets Telecom Power Supply Standard ETS300-132-2
- 2.2 x 2.2 x 0.5″
- CE (48V Models Only)

The **BXA40** series provides up to 40W.

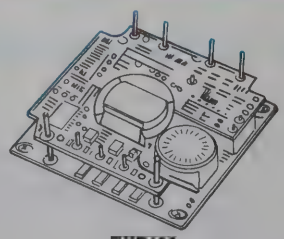
Stock No.	Type	Output Voltage	Max. Current	Efficiency (Typ.)	1-4	5-9	10-24	25-49
SINGLE OUTPUT INPUT VOLTAGE: 18-36VDC								
48F2244	BXA40-24S3V3-S	3.3V	7A	75%	108.00	97.20	92.34	86.94
48F2245	BXA40-24S05	5.0V	8A	81%	108.00	97.20	92.34	86.94
48F2246	BXA40-24S12	12.0V	3.33A	85%	108.00	97.20	92.34	86.94
48F2247	BXA40-24S15	15.0V	2.67A	85%	108.00	97.20	92.34	86.94
SINGLE OUTPUT INPUT VOLTAGE: 36-75VDC								
48F2248	BXA40-48S2V9-S	2.9V	6.9A	77%	108.00	97.20	92.34	86.94
48F2249	BXA40-48S3V3-S	3.3V	7.0A	75%	108.00	97.20	92.34	86.94
48F2250	BXA40-48S05	5V	8.0A	82%	108.00	97.20	92.34	86.94
48F2251	BXA40-48S12	12V	3.3A	87%	108.00	97.20	92.34	86.94
48F2252	BXA40-48S15	15V	2.67A	87%	108.00	97.20	92.34	86.94
TRIPLE OUTPUT INPUT VOLTAGE: 18-36VDC								
48F2253	BXA40-24T05-12	5V/±12V	6A/±0.4A	83%	118.00	106.20	100.89	94.99
48F2254	BXA40-24T05-15	5V/±15V	6A/±0.3A	83%	118.00	106.20	100.89	94.99
TRIPLE OUTPUT INPUT VOLTAGE: 18-36VDC								
48F2255	BXA40-48T05-12	5V/±12V	6A/±0.4A	83%	118.00	106.20	100.89	94.99
48F2256	BXA40-48T05-15	5V/±15V	6A/±0.3A	83%	118.00	106.20	100.89	94.99

(36672) (ne36672)

BXB75 AND BXB100 SERIES DC-TO-DC CONVERTERS



BXB75



BXB100

- DC Input: 36-75VDC
- Industry-Standard Footprint
- High-Efficiency Up To 89%
- 2:1 Input Range for Battery-Powered Applications
- Adjustable Output Voltage
- Fixed Frequency (400kHz)
- UL 1950, CSA C22.2-234/950, VDE EN60950

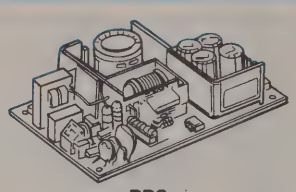
The **BXB75 and BXB100 series** are high-power density DC/DC converters packaged in the industry standard footprint (2.40 x 2.28 x 0.50″). Suitable for a wide range of applications in nearly any industry, the **BXB75 and BXB100 series** were particularly designed with communication and distributed power applications in mind. Aluminum baseplate technology with 4 threaded inserts makes heatsink attachment and optimum thermal management easy. 2-year warranty. UL listed, CSA certified, VDE approved, CE compliant.

Stock No.	Type	Output Voltage	Current Min./Max.	Efficiency (Typ.)	1-4	5-9	10-24	25-49
BXB 75 SERIES 75-WATT DC-TO-DC CONVERTERS								
16F997	BXB75-48S3V3	3.3V	300mA/15A	82%	165.60	149.04	141.59	133.31
52F8970	BXB75-48S05	5V	300mA/15A	86%	165.60	149.04	141.59	133.31
16F998	BXB75-48S12	12V	300mA/6.25A	89%	165.60	149.04	141.59	133.31
16F999	BXB75-48S15	15V	300mA/5.0A	90%	165.60	149.04	141.59	133.31
BXB100 SERIES 100-WATT DC-TO-DC CONVERTERS								
16F1000	BXB100-48S3V3	3.3V	300mA/20A	82%	175.95	158.36	150.44	141.64
52F8971	BXB100-48S05	5V	300mA/20A	86%	175.95	158.36	150.44	141.64
16F1001	BXB100-48S12	12V	300mA/8.33A	89%	175.95	158.36	150.44	141.64
16F1002	BXB100-48S15	15V	300mA/6.67A	89%	175.95	158.36	150.44	141.64

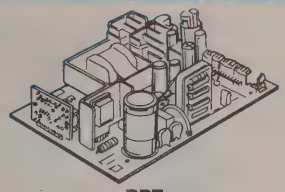
(3374) (ne09080)

POWER SUPPLIES

RB SERIES SINGLE AND MULTIPLE OUTPUT SWITCHING POWER SUPPLIES



RBS



RBT

Universal input 90 to 260 VAC. Built-in EMI filter, low output ripple. 100% burn-in for 24 hours, overvoltage and overload protection. *Convection cooled. Meets FCC and VDE EMI (Class B), UL recognized, CSA certified, TUV approved.

Stock No.	Type	Size (in.)	Max. Watts	Output 1	Output 2	Output 3	Output 4	Each
50F9510	RBS-42	1.1 × 3.0 × 5.0	40	5V/6A	...	...	...	83.87
50F9512	RBS-44	1.1 × 3.0 × 5.0	40	15V/2.5A	...	...	...	83.47
50F9513	RBS-45	1.1 × 3.0 × 5.0	40	24V/1.5A	...	...	...	83.87
93F2780	RBQ-202	2 × 4.5 × 8	200	5V/20A	12	–12	–5	464.09
93F2781	RBQ-203	2 × 4.5 × 8	200	5V/20A	12	–12	12	464.09
93F2772	RBT-43	1.165 x 3 x 5	40	5V/4A	12	–12	...	89.34
93F2773	RBT-44	1.165 x 3 x 5	40	5V/3A	12	–5	...	89.34
93F2774	RBT-45	1.165 x 3 x 5	40	5V/3A	15	–15	...	89.34

(3276) (de03403)

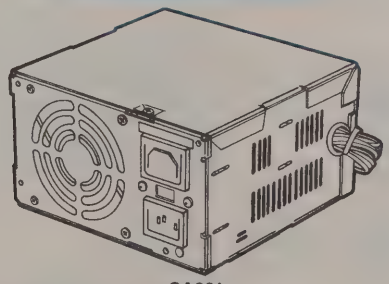
ALS SERIES POWER SWITCHERS

Type ALS301 is a single output power supply offering 300W of regulated DC power with a 2.5 × 5 × 8.5″ footprint. **Type ALS304** is a multiple output power supply offering 325W of regulated DC power with a 2.5 × 5 × 10.5″ footprint. Input specifications: Input range: 90-132VAC/180-264VAC automatically selected.

Stock No.	Type	Output Description				Each
		Output 1	Output 2	Output 3	Output 4	
95F5796	ALS-301C-2000-EF	5V/60A	...	...	...	566.71
95F5797	ALS-301C-3000-EF	12V/25A	...	...	...	675.09
95F5798	ALS-301C-5000-EF	24V/12.5A	...	...	...	566.71
95F5799	ALS-301C-9000-EF	48V/6.25A	...	...	...	566.71
95F5800	ALS-304C-2332-EF	5V/40A	12V/5A(10)	12V/5A(10)	5V/10A	691.72
95F5801	ALS-304C-2336-EF	5V/40A	12V/5A(10)	12V/5A(10)	12V/5A	691.72
95F5802	ALS-304C-2339-EF	5V/40A	12V/5A(10)	12V/5A(10)	24V/2A	691.72
95F5803	ALS-304C-2442-EF	5V/40A	15V/4A	15V/4A	5V/10A	691.72
95F5804	ALS-304C-2449-EF	5V/40A	15V/4A	15V/4A	24V/2A	675.09

(3319) (de52275)

PC POWER SUPPLIES



SA201

AC Input: 90-135/180-265 VAC. Switch selectable, 47-63Hz. UL listed, CSA certified, and VDE approved.

Stock No.	Type	Total Power	Output 1	Output 2	Output 3	Output 4	Output 5	Each
50F9509	SA40-1313	40W	5V/5A	+12V/3.0A	-12V/0.35A	...	...	51.74
52F3510	SA131-3400-3	130W	5V/15A	12V/4A	-12V/0.5A	-5V/0.3A	...	90.53
52F3511	SA145-3480	145W	5V/18A	12V/4.2A	-12V/0.3A	-5V/0.3A	+5/0.1A	73.29
52F3512	SA145-3490	145W	5V/18A	12V/4.2A	-12V/.8A	-5V/0.3A	...	64.67
52F3513	SA146-3500	145W	3.3V/13A	5V/18A	12V/3.5A	...	...	79.76
95F5781	SA201-3438-B	200W	5V/22A	12V/8.0A	-5V/0.5A	...	...	114.32
52F3515	SA201-3450	200W	5V/22A	12V/8A	-12V/0.5A	-5V/0.5A	...	77.60
52F3516	SA201-3480	200W	5V/22A	12V/8A	-12V/0.5A	...	...	88.38
52F3518	SA301-3400	300W	5V/30A	12V/12A	-12V/1.0A[3]	-5V/0.8A	+5V/0.1A	129.33
91F4836	SA147-3500	145W	3.3V/13A	5V/18A	12V/4.2A	...	...	75.45
91F4837	VL201-3400-1920	145W	5V/20A	12V/4.2A	-12V/0.5A	...	...	100.54
91F4838	ATX200-3505-226	180W	3.3V/14A	5V/22A	12V/6A	-12V/0.8A	-5V/0.5A	132.21
91F4839	SA202-3520	200W	3.3V/14A	5V/22A	12V/8A	+12V/0.5A	-5V/0.5A	88.38
91F4840	SA202-3520-288	200W	3.3V/14A	5V/22A	12V/8A	-12V/.5A	-5V/0.5A	90.53
91F4841	SA302-3500	300W	3.3V/23A	5V/32A	12V/12A	-5V/0.5A	...	140.11

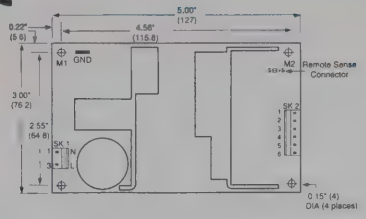
(3343) (ne06492)

SAME-DAY SHIPMENT ON ORDERS PLACED BY 5:00 PM C.S.T.

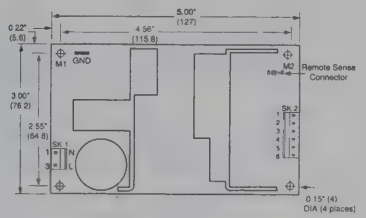
ASTEC

LOW-POWER AC-TO-DC SWITCHERS

CE



LP 25



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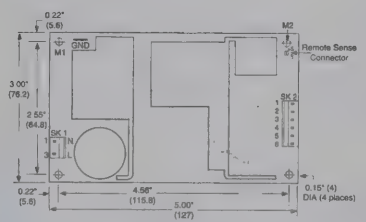
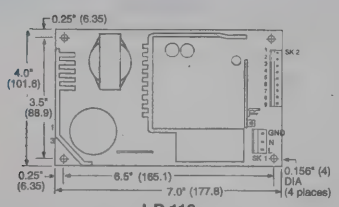
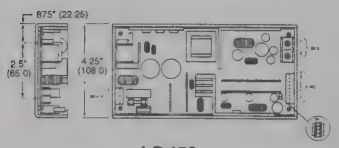


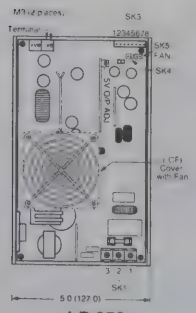
LP 60



LP 110



LP 150



LP 350

ASTEC SINGLE AND MULTIPLE OUTPUT POWER SUPPLIES

25-WATT LPS SERIES; SINGLE OUTPUT; 3W x 5L x 1.2″H

Input: 85-264 VAC; 47-440Hz. CE mark.

Stock No.	Type	Output 1	Output 2	Output 3	Output 4	1-9	10-24	25-49	50-99
52F098	LPS22	5V/5A	...	...	...	41.32	38.78	36.87	35.66
52F099	LPS23	12V/2.1A	...	...	...	41.32	38.78	36.87	35.66
52F100	LPS24	15V/1.7A	...	...	...	41.32	38.78	36.87	35.66
52F101	LPS25	24V/1.1A	...	...	...	41.32	38.78	36.87	35.66

25-WATT LPT SERIES; TRIPLE OUTPUT; 3W x 5L x 1.2″H

52F109	LPT22	5V/3A	12V/1.5A	-12V/0.5A	...	43.11	40.46	38.47	37.21
52F110	LPT23	5V/4A	12V/0.5A	-12V/0.5A	...	43.11	40.46	38.47	37.21
52F111	LPT24	5V/3A	12V/1.5A	-5V/0.5A	...	43.11	40.46	38.47	37.21
52F112	LPT25	5V/3A	15V/1.5A	15V/0.5A	...	43.11	40.46	38.47	37.21

40-WATT LPS SERIES; SINGLE OUTPUT; 3W x 5L x 1.2″H

92F5312	LPS42	5V/8A	...	...	...	44.22	41.50	39.46	38.17
92F5313	LPS43	12V/3.3A	...	...	...	44.22	41.50	39.46	38.17
92F5314	LPS44	15V/2.6A	...	...	...	44.22	41.50	39.46	38.17
92F5458	LPS45	24V/1.6A	...	...	...	44.22	41.50	39.46	38.17

40-WATT LPT SERIES; TRIPLE OUTPUT; 3W x 5L x 1.2″H

92F5315	LPT42	5V/4A	12V/2A	-12V/0.5A	...	47.11	44.21	42.04	40.66
92F5316	LPT43	5V/5A	12V/0.5A	-12V/0.5A	...	47.11	44.21	42.04	40.66
92F5317	LPT44	5V/4A	12V/2A	-5V/0.5A	...	47.11	44.21	42.04	40.66
92F5318	LPT45	5V/4A	15V/2A	-15V/0.5A	...	47.11	44.21	42.04	40.66
16F7024	LPT46	5V/4A	24V/1A	-12V/0.5A	...	47.11	44.21	42.04	40.66
16F7025	LPT47	5V/4A	24V/1A	-12V/0.5A	...	47.11	44.21	42.04	40.66
16F7026	LPT48	5V/4A	24V/1A	-5V/0.5A	...	47.11	44.21	42.04	40.66

60-WATT LPS SERIES; SINGLE OUTPUT; 3W x 5L x 1.65″H

92F5319	LPS62	5V/12A	...	...	...	57.72	54.17	51.50	49.82
92F5320	LPS63	12V/5A	...	...	...	57.72	54.17	51.50	49.82
92F5321	LPS64	15V/4A	...	...	...	57.72	54.17	51.50	49.82
92F5322	LPS65	24V/2.5A	...	...	...	57.72	54.17	51.50	49.82

60-WATT LPT SERIES; TRIPLE OUTPUT; 3W x 5L x 1.65″H

92F5323	LPT62	5V/7A	12V/3A	-12V/0.7A	...	61.39	57.61	54.78	52.98
92F5324	LPT63	5V/7A	15V/2.8A	-15V/0.7A	...	61.39	57.61	54.78	52.98
92F5325	LPT64	5V/7A	12V/3A	-5V/0.7A	...	61.39	57.61	54.78	52.98
16F7027	LPT65	5V/7A	24V/1.5A	+12V/0.1A	...	61.39	57.61	54.78	52.98
16F7028	LPT66	5V/7A	24V/1.5A	-12V/0.1A	...	61.39	57.61	54.78	52.98
16F7029	LPT67	5V/7A	24V/1.5A	-5V/0.1A	...	61.39	57.61	54.78	52.98

110-WATT LPS SERIES; SINGLE OUTPUT; 4W x 7L x 1.8″H

52F102	LPS112	5V/16A	...	...	...	109.59	102.85	...	...
52F103	LPS113	12V/6.7A	...	...	...	109.59	102.85	...	...
52F104	LPS114	15V/5.3A	...	...	...	109.59	102.85	...	...
52F105	LPS115	24V/3.3A	...	...	...	109.59	102.85	...	...
52F106	LPS118	48V1.7A	...	...	...	109.59	102.85	...	...

110-WATT LPQ SERIES; QUAD OUTPUT; 4W x 7L x 1.8″H

Stock No.	Type	Output 1	Output 2	Output 3	Output 4	1-4	5-9	...	...
52F113	LPQ112	5V/9A	12V/4A	-12V/0.7A	±5-25V/2.5A	128.82	120.89	...	...
52F114	LPQ113	5V/9A	12V/4.5A	-15V/0.7A	±5-25V/2.5A	128.82	120.89	...	...
52F115	LPQ114	5V/9A	12V/4.5A	-12V/0.7A	+24V/3.5A	128.82	120.89	...	...

150-WATT LPS SERIES; SINGLE OUTPUT; 4.25W x 8.5L x 1.5″H

Input: 85-132 VAC, 170-264 VAC - automatically selected; 47-63Hz.

Stock No.	Type	Output 1	Output 2	Output 3	Output 4	1-9	10-24	...	...
52F107	LPS152	5V/22A	...	...	...	187.47	175.93	...	...
52F108	LPS153	12-15V/9.1A	...	...	...	187.47	175.93	...	...
52F3530	LPS155	24-28V/4.5A	...	...	...	187.47	175.93	...	...

150-WATT LPQ SERIES; QUAD OUTPUT; 4.25W x 8.5l x 1.5″H

Input: 85-132 VAC, 170-264 VAC - automatically selected; 47-63Hz. CE mark.

Stock No.	Type	Output 1	Output 2	Output 3	Output 4	1-4	5-9	...	...
52F116	LPQ152	5V/15A	12V/6A	-12V/2A	±5-25V/2.5A	201.88	189.46	...	...
52F117	LPQ153	5V/15A	15V/4.8A	-15V/1.6A	±5-25V/2.5A	201.88	189.46	...	...
52F118	LPQ154	5V/15A	12V/6A	-12V/2A	24V/3.5A	201.88	189.46	...	...

350-WATT LPS SERIES; SINGLE OUTPUT; 5W x 9L x 2″H

Input: 85-264 VAC; 47-440Hz. CE mark.

16F7031	LPS352-C	5V/(70)A	...	...	...	395.18	370.86	...	...
16F7032	LPS353-C	12V/(29.2)A	...	...	...	395.18	370.86	...	...
16F7033	LPS354-C	15V/(23.3)A	...	...	...	395.18	370.86	...	...
16F7034	LPS355-C	24V/(14.6)A	...	...	...	395.18	370.86	...	...

350-WATT LPQ SERIES; QUAD OUTPUT; 5W x 9L x 2.5″H

16F7035	LPQ352-C	+5V/(50)A	+12V/12A	-12V/6A	3.3-25V/6A	431.10	404.57	...	...
16F7036	LPQ353-C	+5V/(50)A	+15V/12A	-15V/6A	3.3-25V/6A	431.10	404.57	...	...

( ) indicate forced air rating. Type numbers with **suffix C** indicate units with covers.

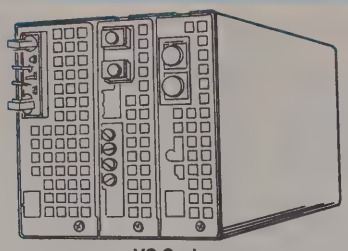
(42374) (ne42374)

PERSONALIZED SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

POWER SWITCHERS

VS SERIES HIGH POWER SWITCHERS

CE



VS Series

3 year warranty

- **Power Factor Correction**
- **Current Share on All Outputs**
- **Overload Protect on All Outputs**
- **Voltage Adjustment on All Outputs**
- **DC OK Signal and LED Status Indicator on All Outputs**
- ***Three-Year Warranty***

VS series power supplies are full-featured, high-power products with a PFC front end as a standard input. Available in single and multiple output configurations 2-48 volts in 9 increments 1-12 outputs. Both offer compact footprint. The 1500-watt package measures 5x5x11″ and weighs 12 lbs. max. The 2000-watt package measures 5x8x11″ and weighs 18 lbs. max. EN55022 Level A EMI. IEC 555-2 compliant. Input: 85-264VAC, 47-440Hz. CE mark.

SINGLE OUTPUT

Stock No.	Type	Max. Power	Volts/Amps	Each
16F7037	VS1-B2-00	600W	5/120	**1089.40**
16F7038	VS1-C2-00	900W	5/180	**1342.57**
16F7039	VS1-D2-00	1200W	5/240	**1394.05**
16F7040	VS3-D2-C2-20*	2000W	5/400	**2129.42**

* D2 module derated to 1100W (2000W max.)

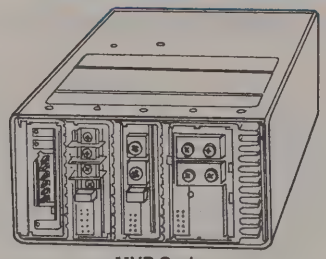
MULTIPLE OUTPUT

Stock No.	Type	Max. Power	Output 1	Output 2	Output 3	Output 4	Output 5	Output 6	Each
16F7041	VS1-H233-00	500W	5/50	12/10	12/10	...	...	...	**1229.12**
16F7042	VS1-A2-H335-00	800W	5/60	12/21	12/10	24/5	...	...	**1639.67**
16F7043	VS1-B2-G33-00	1100W	5/120	12/21	12/20	...	...	...	**1640.92**
16F7044	VS1-B2-H332-00	1100W	5/120	12/21	12/10	5/10	...	...	**1640.92**
16F7045	VS1-B2-H445-00	1100W	5/120	15/16.6	15/10	24/5	...	...	**1640.92**
16F7046	VS3-B2-G23-G32-10	1600W	5/170	12/20	12/21	5/20	...	...	**2262.83**
16F7047	VS3-D2-G33-H245-00	2000W	5/240	12/21	12/20	5/60	15/10	24/5	**2556.98**

(3368) (ne08476)

MVP SERIES POWER SWITCHERS

CE



MVP Series

1 year warranty

- **Power Factor Correction**
- **Remote Sense on All Outputs with Ratings Greater Than 2A**
- **Overload Protection on All Outputs**
- **Voltage Adjustment on All Outputs**
- **Input OK Signal and Status Indicator LED**
- **Global DC OK Signal and Status Indicator LED**
- ***One-Year Warranty***

The **MVP series** serves as a versatile medium power solution. The standard features of the **MVP series** are considered options by other suppliers. **MVP** is a full-featured medium power modular product, with a PFC front end as a standard input utilizing SMT and innovative magnetic designs. Five standard DC to DC modules combined with PFC cases can be configured with 1 to 10 outputs ranging from 2 to 60 volts. **MVP** is available in both single and multiple output versions with millions of different output combinations as standard. Offering a compact footprint, the 400-watt package measures 2.5x5x10″ and the 600-watt package measures 2.5x5x11″. Both models are packaged in rugged enclosures with all external power connections made via self-locking screw terminals. Thermal management is facilitated by an internal, field replaceable fan. IEC EN61000-3-2 harmonic distortion compliance. CISPR 22, EN55022 Curve B conducted/radiated EMI. IEC 1000 immunity standards. Input: 85-264VAC, 47-440Hz. CE mark.

SINGLE OUTPUT

Stock No.	Type	Max. Power	Volts/Amps	Each
16F7048	MP4-3A-2A-30	360W	2/180	**593.66**
16F7049	MP4-3E-00	400W	5/80	**593.66**
16F7052	MP6-3E-00	600W	5/120	**732.08**
16F7053	MP6-3W-00	600W	48/12.5	**864.18**

MULTIPLE OUTPUT

Stock No.	Type	Max. Power	Output 1	Output 2	Output 3	Output 4	Output 5	Output 6	Each
16F7056	MP4-2E-1D-LLL-00	400W	5/60	3.3/35	12/1	12/1	12/1	...	**857.69**
16F7057	MP4-2Q-1L-1E-00	400W	24/15	12/17	5/30	...	...	...	**593.66**
16F7058	MP4-2E-1L-4LE-00	400W	5/60	12/17	12/10	5/10	...	...	**917.18**
16F7059	MP4-1E-4LD-LLE-00	400W	5/35	12/10	3.3/10	12/1	12/1	5/2	**593.66**
16F7060	MP6-2E-2C-4LL-00	600W	5/60	3/60	12/10	12/4	...	...	**1075.09**
16F7061	MP6-2H-1E-1Q-4QL-00	600W	6/60	5/35	24/8.5	24/4	12/4	...	**732.08**
16F7062	MP6-3E-1L-4LE-00	600W	5/120	12/17	12/10	5/10	...	...	**732.08**
16F7063	MP6-2L-1E-00	600W	12/30	5/35	...	...	...	...	**900.96**

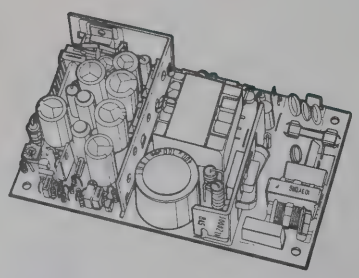
(3367) (ne08474)

ARTESYN TECHNOLOGIES

POWER SUPPLIES AND SWITCHERS

UNIVERSAL-INPUT AC SWITCHING POWER SUPPLIES

NFS Series feature universal input (-85 to 264VAC), overvoltage and short circuit protection.



25-WATT OPEN-FRAME SWITCHERS, CASE SIZE: 5.0 x 3.0 x 1.2″

Stock No.	Type	Output 1	Output 2	Output 3	Output 4	1-4	5-9	10-24
95F5295	NFS25-7608	+5.1V @ 2A	+12V @ 1.5A	–12V @ 0.2A	...	45.54	40.99	38.94
95F5296	NFS25-7628	+5.1V @ 3A	+12V @ 0.2A	–12V @ 0.2A	...	45.54	40.99	38.94
95F5297	NFS25-7629	+5.1V @ 2A	+12V @ 1.5A	...	...	45.54	40.99	38.94
99F8996	NAL25-7610	+5.1V @ 2.0A	+15V @ 1.5A	-15V @ 0.2A	...	47.61	42.85	40.71
88F4415	NAL25-7612	+12V @ 2.0A	...	...	...	58.09	52.38	47.61

40/50-WATT OPEN-FRAME SWITCHERS, CASE SIZE: 5.0 x 3.0 x 1.2″

95F5300	NFS40-7608	+5.1V @ 3A	+12V @ 2.0A	–12V @ 0.35A	...	43.47	39.13	37.17
95F5305	NFS40-7628	+5.1V @ 4A	+12V @ 0.35A	–12V @ 0.35A	...	51.75	46.58	44.25
95F5299	NFS40-7607	+5.1V @ 3A	+12V @ 2A	–5V @ 0.35A	...	75.56	68.00	64.60
95F5301	NFS40-7610	+5.1V @ 3A	+15V @ 2A	–15V @ 0.35A	...	51.75	46.58	44.25
95F5298	NFS40-7605	+5.1V @ 8A	...	...	...	75.56	68.00	64.60
95F5302	NFS40-7612	+12V @ 3.3A	...	...	...	51.75	46.58	44.25
95F5303	NFS40-7615	+15V @ 2.6A	...	...	...	51.75	46.58	44.25
95F5304	NFS40-7624	+24V @ 1.6A	...	...	...	51.75	46.58	44.25
95F5321	NFS40-7908	+5V @ 5A	+12V @ 2A	–12V @ 0.5A	...	82.80	74.52	70.80
95F5322	NFS40-7910	+5V @ 5A	+15V @ 1.5A	–15V @ 0.5A	...	82.80	74.52	70.80
95F5319	NFS40-7912	+12V @ 4A			...	82.80	74.52	70.80
95F5306	NFS50-7608	+5.1V @ 5A	+12V @ 2A	–12V @ 0.5A	...	91.08	81.98	77.88

80/110-WATT OPEN-FRAME SWITCHERS, CASE SIZE: 7.0 x 4.25 x 1.8″

95F5307	NFS80-7602	+5V @ 8A	+24V @ 2A	+12V @ 2.5A	±12V @ 2.5A	113.85	102.47	97.35
95F5308	NFS80-7606	+5V @ 8A	+24V @ 2A	+15V @ 2.5A	±15V @ 2.5A	113.85	102.47	97.35
95F5309	NFS110-7601P	+5.1V @ 8A	+12V @ 4.5A	–12V @ 0.5A	–5V @ 0.5A	124.20	111.78	106.20
95F5310	NFS110-7602P	+5.1V @ 8A	+24V @ 3.5A	+12V @ 4.5A	–12V @ 0.5A	124.20	111.78	106.20
95F5312	NFS110-7612	+12V @ 7A	...	...	...	155.25	139.73	132.74
95F5313	NFS110-7624	+24V @ 3.5A	...	...	...	124.20	111.78	106.20
95F5323	NFS110-7901P	+5.1V @ 8A	–5V @ 0.5A	+12V @ 4.5A	–12V @ 0.5A	155.25	139.73	132.74
95F5324	NFS110-7902P	+5.1V @ 8A	+12V @ 4.5A	–12V @ 0.5A	+24V @ 3.5A	155.25	139.73	132.74

200-WATT OPEN-FRAME SWITCHERS, CASE SIZE: 9.0 x 5.0 x 2.5″

95F5314	NFS200-7601	+5.1V @ 30A	–5.2V @ 6A	+12.1V @ 12A	–12.1V @ 5A	320.35	311.50	300.88
95F5315	NFS200-7603	+5.1V @ 30A	+12.1V @ 8A	–12.1V @ 4A	±12V @ 4A	320.35	311.50	300.88
95F5316	NFS200-7608	+5.1V @ 30A	+12.1V @ 8A	–12.1V @ 4A	...	320.35	311.50	300.88

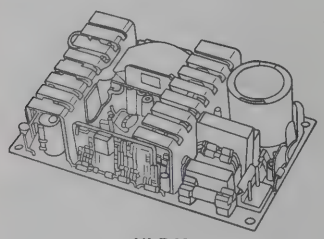
350-WATT OPEN-FRAME SWITCHERS, 10.5 x 5.0 x 2.5″

95F5318	NFS350-7625	+5.1V @ 50A	+5V @ 4A ③ ⑤	+12V @ 12A	–12V @ 5A	522.67	508.23	490.90

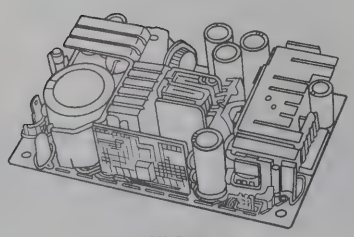
(3271) (de02671)

NLP40 AND NLP65 SERIES UNIVERSAL INPUT OPEN-FRAME SWITCHERS

- **85 to 264VAC, 47-440Hz (NLP40), 47-63Hz (NLP65) Universal Input Range**
- **Overvoltage and Short Circuit Protection**



NLP40



NLP65

40-WATT; 4.25 x 2.5 x 1.12″

Stock No.	Output 1	Output 2	Output 3	1-4	5-9	10-24	25-49
52F8972	5V @ 8.0A	...	...	55.89	50.31	47.79	45.00
52F8975	12V @ 3.3A	...	...	55.89	50.31	47.79	45.00
52F8976	15V @ 2.6A	...	...	55.89	50.31	47.79	45.00
91F1753	24V @ 1.6A	...	...	55.89	50.31	47.79	45.00
91F1754	48V @ 0.8A	...	...	55.89	50.31	47.79	45.00
52F8973	5V @ 4.0A	+12V @ 2.0A	–12V @ 0.2A	55.89	50.31	47.79	45.00
52F8974	5V @ 4.0A	+15V @ 1.6A	–15V @ 0.2A	55.89	50.31	47.79	45.00
91F1755	5V @ 4.0A	+12V @ 2.0A	...	55.89	50.31	47.79	45.00
91F1756	12V @ 1.8A	–12V @ 1.8A	...	55.89	50.31	47.79	45.00

65-WATT, WITH HARMONIC CORRECTION (PER EN61000-3-2); 5.00 x 3.00 x 1.26″

91F1757	5V @ 10.0A	...	...	79.70	71.73	68.14	64.16
91F1758	12V @ 5.4A	...	...	79.70	71.73	68.14	64.16
91F1759	15V @ 4.4A	...	...	79.70	71.73	68.14	64.16
91F1760	24V @ 2.7A	...	...	79.70	71.73	68.14	64.16
91F1761	5V @ 7.0A	+12V @ 2.5A	–12V @ 0.65A	79.70	71.73	68.14	64.16
91F1762	5V @ 7.0A	+15V @ 2.2A	–15V @ 0.65A	79.70	71.73	68.14	64.16
91F1763	5V @ 7.0A	+12V @ 2.5A	...	79.70	71.73	68.14	64.16
91F1764	5V @ 7.0A	+24V @ 2.0A	...	79.70	71.73	68.14	64.16

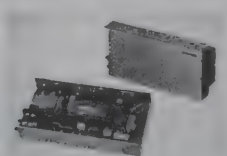
65-WATT; 5.00 x 3.00 x 1.26″

52F8977	5V @ 10.0A	...	...	68.31	61.48	58.41	54.99
52F8980	12V @ 5.4A	...	...	68.31	61.48	58.41	54.99
52F8981	15V @ 4.4A	...	...	68.31	61.48	58.41	54.99
91F1765	24V @ 2.7A	...	...	68.31	61.48	58.41	54.99
52F8978	5V @ 7.0A	+12V @ 2.5A	–12V @ 0.65A	68.31	61.48	58.41	54.99
52F8979	5V @ 7.0A	+15V @ 2.2A	–15V @ 0.65A	68.31	61.48	58.41	54.99
91F1766	5V @ 7.0A	+12V @ 2.5A	...	68.31	61.48	58.41	54.99

(17326) (ne10620)

CMP350 SERIES QUAD OUTPUT POWER SUPPLY

CMP series feature universal input (90 to 264VAC), individual overvoltage, and overload protection. **CMP** models meet UL 1950, CSA C22.2 No. 950, VDE 805, and CE mark.



Stock No.	Type	Output 1	Output 2	Output 3	Output 4	1-4	5-9	10-24	25-49
48F2238	CMP350-9601	5V @ 50A	12V @ 10A	12V @ 5A	5V @ 5A	479.65	466.40	450.50	402.80
48F2239	CMP350-9602	5V @ 50A	12V @ 10A	12V @ 5A	24V @ 2A	479.65	466.40	450.50	402.80
48F2240	CMP350-9603	5V @ 50A	12V @ 10A	12V @ 5A	12V @ 5A	479.65	466.40	450.50	402.80
48F2241	CMP350-9604	5V @ 50A	3.3V @ 20A	12V @ 10A	12V @ 5A	524.90	510.40	493.00	440.80
48F2242	CMP350-9606	5V @ 50A	15V @ 8A	15V @ 4A	24V @ 2A	479.65	466.40	450.50	402.80
48F2243	CMP350-9692	3.3V @ 50A	5V @ 15A	12V @ 5A	12V @ 5A	524.90	510.40	493.00	440.80

(33795) (ne33795)

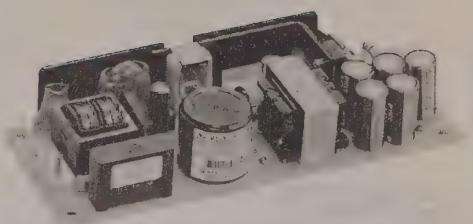
VISIT NEWARK'S WEB SITE AT www.newark.com

VSB SERIES SINGLE OUTPUT POWER SUPPLIES

NEW

- **Single Output • AC Input: 85-132VAC • 2-Year Warranty**
- **CSA Certified, UL Recognized**

AC Input: 85-132VAC, input frequency: 47-440Hz. Operating temperature: -10°C to 60°C.



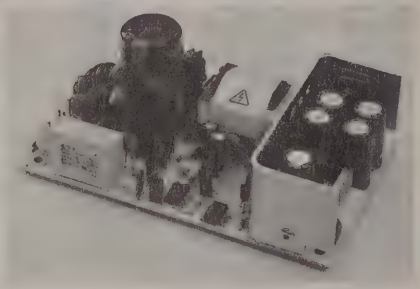
Stock No.	Type	Output Voltage	Max Current	1-9	10-24	25-49	50-99
83F2657	VS100B-12	12V	8.5A	127.36	114.07	108.74	106.61
83F2658	VS100B-24	24V	4.3A	127.36	114.07	108.74	106.61
83F2659	VS100B-5	5V	20A	127.36	114.07	108.74	106.61
83F2660	VS150B-12	12V	12.5A	166.12	149.51	142.52	139.73
83F2661	VS150B-24	24V	6.3A	166.12	149.51	142.52	139.73
83F2662	VS150B-5	5V	30A	166.12	149.51	142.52	139.73
83F2663	VS30B-12	12V	2.5A	54.27	48.73	46.45	45.54
83F2664	VS30B-24	24V	1.3A	54.27	48.73	46.45	45.54
83F2665	VS30B-5	5V	6.0A	54.27	48.73	46.45	45.54
83F2666	VS50B-12	12V	4.3A	66.45	60.91	58.07	56.93
83F2667	VS50B-24	24V	2.1A	66.45	60.91	58.07	56.93
83F2668	VS50B-5	5V	10A	66.45	60.91	58.07	56.93
83F2669	VS75B-12	12V	6.3A	103.00	93.03	88.68	86.94
83F2670	VS75B-24	24V	3.2A	103.00	93.03	88.68	86.94
83F2671	VS75B-5	5V	15A	103.00	93.03	88.68	86.94

(28480) (ne28480)

SC SERIES SINGLE AND MULTIPLE OUTPUT POWER SUPPLIES

NEW

- **AC Input: 85-264VAC; 47-63Hz • 3 x 5″ • 1-Year Warranty**
- **UL Recognized, CSA Certified, CE Mark**



SINGLE OUTPUT

Stock No.	Type	Output	1-9	10-24	25-49	50-99
48F3103	SCS405	5V @ 8A	50.60	46.20	42.90	31.50
48F3104	SCS4015	15V @ 2.6A	50.60	46.20	42.90	31.50
48F3105	SCS603	3.3V @ 12A	60.50	56.10	51.70	45.15
48F3106	SCS6012	12V @ 5A	60.50	56.10	51.70	45.15
48F3107	SCS6024	24V @ 2.5A	60.50	56.10	51.70	45.15
48F3108	SCS6048	48V @ 1.3A	60.50	56.10	51.70	45.15

MULTIPLE OUTPUTS

Stock No.	Type	Output 1	Outputs 2 & 3	1-9	10-24	25-49	50-99
48F3109	SCT43	5V @ 5A	±12V @ 0.5A	57.20	52.80	48.40	40.95
48F3110	SCT45	5V @ 4A	±15V @ 0.5A	57.20	52.80	48.40	40.95
48F3111	SCT63	5V @ 7A	±15V @ 0.7A	67.10	61.60	56.10	49.35
48F3112	SCT65	5V @ 1A	±12V@ 0.7A	67.10	61.60	56.10	49.35

(36370) (ne36370)

SU SERIES MULTIPLE OUTPUT POWER SUPPLIES

- **AC Input: 85-264VAC; 47-63Hz**
- **UL Recognized, CSA Certified, CE Mark**

Stock No.	Type	Output 1	Output 2	Output 3	Output 4	1-9	10-24	25-49	50-99
48F3127	SU110P10	5V @ 16A	...	...	...	104.50	88.00	82.50	76.65
48F3128	SU110P12	12V @ 6.7A	...	...	...	104.50	88.00	82.50	76.65
48F3129	SU110P14	24V @ 3.3A	...	...	...	104.50	88.00	82.50	76.65
48F3130	SU110P40	5V @ 10A	12V @ 5A	-12V @ 1A	-5V @ 1A	109.14	96.30	88.81	80.80
48F3131	SU110P451A	5V @ 10A	12V @ 5A	-12V @ 1A	24V @ 3A	109.14	96.30	88.81	80.80
48F3132	SU110P46	5V @ 10A	15V @ 5A	-15V @ 1A	-5V @ 1A	109.14	96.30	88.81	80.80

(36371) (ne36371)

ZW SERIES SINGLE-OUTPUT POWER SUPPLIES

- **CSA Certified, CE Certified, UL Recognized, TUV Approved**

AC input on **ZWS5-ZWS50**: 85-265VAC, input freq: 47-440Hz. AC input on **ZWS75-ZWS150PF**: 85-132, 170-265VAC, input freq: 47-63Hz. Operating temp: –10°C to 60°C.

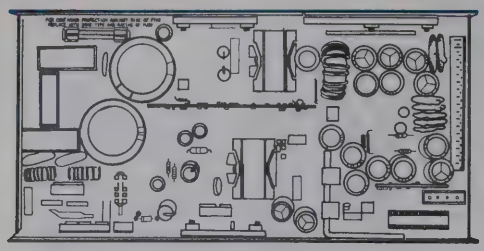
Stock No.	Type	Output Voltage	Max. Current	1-9	10-24	25-49	50-99
83F2672	ZWS10-12	12V	0.9A	44.41	40.99	40.99	39.13
83F2673	ZWS10-24	24V	0.5A	44.41	40.99	40.99	39.13
83F2674	ZWS10-3	3.3V	2.0A	44.41	40.99	40.99	39.13
83F2675	ZWS100PF-12	12V	8.5A	151.72	136.22	136.22	128.58
83F2676	ZWS100PF-3	3.3V	20.0A	151.72	136.22	136.22	128.58
83F2677	ZWS100PF-5	5V	20.0A	151.72	136.22	136.22	128.58
83F2678	ZWS15-3	3.3V	3.0A	58.07	52.38	52.38	49.99
83F2679	ZWS150PF-12	12V	12.5A	198.24	178.30	178.30	168.31
83F2680	ZWS150PF-24	24V	6.3A	198.24	178.30	178.30	168.31
83F2681	ZWS150PF-5	5V	30.0A	198.24	178.30	178.30	168.31
83F2682	ZWS30-12	12V	2.5A	63.76	58.07	58.07	55.43
83F2683	ZWS30-3	3.3V	6.0A	63.76	58.07	58.07	55.43
83F2684	ZWS30-5	5V	6.0A	63.76	58.07	58.07	55.43
83F2685	ZWS5-12	12V	0.4A	40.99	37.57	37.57	35.87
83F2686	ZWS5-24	24V	0.2A	40.99	37.57	37.57	35.87
83F2687	ZWS5-3	3.3V	1.0A	40.99	37.57	37.57	35.87
83F2688	ZWS5-5	5V	1.0A	40.99	37.57	37.57	35.87
83F2689	ZWS50-12	12V	4.3A	79.70	72.87	72.87	69.56
83F2690	ZWS50-24	24V	2.1A	79.70	72.87	72.87	69.56
83F2691	ZWS50-3	3.3V	10.0A	79.70	72.87	72.87	69.56
83F2692	ZWS50-5	5V	10.0A	79.70	72.87	72.87	69.56
83F2693	ZWS75PF-12	12V	6.3A	121.82	110.75	110.75	104.54
83F2694	ZWS75PF-24	24V	3.2A	121.82	110.75	110.75	104.54
83F2695	ZWS75PF-3	3.3V	15.0A	121.82	110.75	110.75	104.54
83F2696	ZWS75PF-5	5V	15.0A	121.82	110.75	110.75	104.54

(28479) (ne28479)

LAMBDA Electronics Inc.

POWER SUPPLIES

SV SERIES POWER SUPPLIES



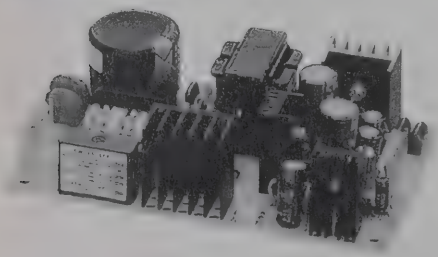
- AC Input: 85-265VAC, 47-63Hz
- Low 1.77" Profile
- UL Recognized, CSACertified, CE Mark, VDE Approved

The **SV series** are 100W to 300W power supplies that offer both auto-selecting AC input and power factor-corrected AC input in the same mechanical package.

Stock No.	Type	Max. Power	Output 1*	Output 2	Output 3	Output 4	1-9	10-24	25-49	50-99
52F7893	SVPS10-5	100W	5V @ 20A	...	...	...	230.35	207.10	207.10	195.48
52F7894	SVPS10-12	100W	12V @ 8.3A	...	...	...	230.35	207.10	207.10	195.48
52F7895	SVPS10-24	100W	24V @ 4.3A	...	...	...	230.35	207.10	207.10	195.48
52F7911	SVS100-5	100W	5V @ 20A	...	...	...	183.84	165.01	165.01	155.76
52F7912	SVS100-12	100W	12V @ 8.3A	...	...	...	183.84	165.01	165.01	155.76
52F7913	SVS100-24	100W	24V @ 4.3A	...	...	...	183.84	165.01	165.01	155.76
52F7914	SVS150-5	150W	5V @ 30A	...	...	...	194.92	176.09	176.09	166.21
52F7915	SVS150-12	150W	12V @ 12.5A	...	...	...	194.92	176.09	176.09	166.21
52F7916	SVS150-24	150W	24V @ 6.25A	...	...	...	194.92	176.09	176.09	166.21
52F7896	SVPS15-5	150W	5V @ 30A	...	...	...	244.75	219.28	219.28	206.98
52F7897	SVPS15-12	150W	12V @ 12.5A	...	...	...	244.75	219.28	219.28	206.98
52F7898	SVPS15-24	150W	24V @ 6.25A	...	...	...	244.75	219.28	219.28	206.98
52F7899	SVPS25-5	250W	5V @ 60A†	...	...	...	399.93	342.33	342.33	326.03
52F7900	SVPS25-12	250W	12V @ 25A†	...	...	...	399.93	342.33	342.33	326.03
52F7901	SVPS25-24	250W	24V @ 12.5A†	...	...	...	399.93	342.33	342.33	326.03
52F7902	SVPT115-1	115W	5V @ 15A	+12V @ 2.5A	–12V @1A	...	259.15	232.57	232.57	219.53
52F7903	SVPT170-1	170W	5V @ 22A	+12V @ 5A	–12V @ 3A	...	331.46	297.77	297.77	283.59
52F7904	SVPT300-1	300W	5V @ 38A	+12V @ 8A	–12V @ 3.25A	...	442.31	397.75	397.75	378.81
52F7905	SVPQ130-1	130W	5V @ 15A	+12V @ 2.5A	–12V @ 1A	24V @ 0.8A*	269.11	242.54	242.54	228.94
52F7906	SVPQ130-2	130W	5V @ 15A	+12V @ 2.5A	–12V @ 1A	–5V @ 1.5A*	269.11	242.54	242.54	228.94

*Isolated outputs can be configured for either (+) or (-); †300W max. output with 20 cfm of forced air cooling.
(3346) (ne07208)

SWT SERIES TRIPLE OUTPUT POWER SUPPLIES



- 85-265VAC Wide Range Input
- UL Recognized, CSA Certified, CE Mark, VDE Approved

Stock No.	Type	Max. Power	Output 1	Output 2	Output 3	1-9	10-24	24-49	50-99
52F7927	SWT30-525	30W	+5V @ 2A	+12V @ 1.5A	–5V @ 0.3A	91.08	88.81	88.81	84.77
52F7926	SWT30-522	30W	+5V @ 2A	+12V @ 1.5A	–12V @ 0.3A	78.56	75.15	75.15	71.73
52F7928	SWT40-522	40W	+5V @ 3A	+12V @ 2A	–12V @ 0.3A	91.08	88.81	88.81	84.77
52F7930	SWT65-522	65W	+5V @ 6A	+12V @ 2.5A	–12V @ 0.5A	110.44	104.75	104.75	99.99
52F7933	SWT100-525	100W	+5V @ 8A	+12V @ 4A	–5V @ 0.8A	127.36	116.29	116.29	109.77
52F7932	SWT100-522	100W	+5V @ 8A	+12V @ 4A	–12V @ 0.8A	127.36	116.29	116.29	109.77

(3347) (ne07209)

EWS-P SERIES AC POWER SUPPLY

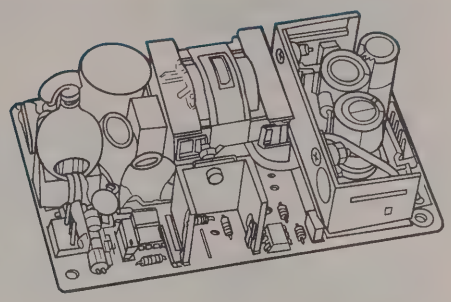
- AC Input: 85-265VAC
- Active Power Factor and Harmonic Correction
- UL Recognized, CSA Certified, CE Mark

Stock No.	Type	Max. Power	Output Voltage	Max. Amps	1-9	10-24
83F2387	EWS100P-12	100W	12V	8.4A	316.73	285.73
83F2388	EWS100P-15	100W	15V	6.7A	316.73	285.73
83F2389	EWS100P-24	100W	24V	4.2A	316.73	285.73
83F2390	EWS100P-28	100W	28V	3.6A	316.73	285.73
83F2391	EWS100P-3.3	100W	3.3V	20A	316.73	285.73
83F2393	EWS100P-48	100W	48V	2.1A	316.73	285.73
83F2394	EWS100P5	100W	5V	20A	316.73	285.73
83F2395	EWS150P-12	150W	12V	12.5A	390.93	352.17
83F2396	EWS150P-15	150W	15V	10A	390.93	352.17
83F2397	EWS150P-24	150W	24V	6.3A	390.93	352.17
83F2398	EWS150P-28	150W	28V	5.4A	390.93	352.17
83F2399	EWS150P-3.3	150W	3.3V	20A	390.93	352.17
83F2400	EWS150P-48	150W	48V	3.15A	390.93	352.17
83F2401	EWS150P-5	150W	5V	30A	390.93	352.17
83F2402	EWS300P-12	300W	12V	27A	724.28	657.83
83F2403	EWS300P-15	300W	15V	22A	724.28	657.83
83F2404	EWS300P-2	300W	2V	60A	724.28	657.83
83F2405	EWS300P-24	300W	24V	14A	724.28	657.83
83F2406	EWS300P-28	300W	28V	12A	724.28	657.83
83F2407	EWS300P-3.3	300W	3.3V	60A	724.28	657.83
83F2408	EWS300P-48	300W	48V	7A	724.28	657.83
83F2409	EWS300P-5	300W	5V	60A	724.28	657.83
83F2410	EWS600P-12	600W	12V	53A	1021.07	919.19
83F2411	EWS600P-15	600W	15V	43A	1021.07	919.19

(35070) (ne35070)

SINGLE- AND MULTI-OUTPUT SWITCHERS

GL SERIES SINGLE- AND MULTI-OUTPUT SWITCHERS



- Universal Input (85-264 VAC)
- On-Board Input Fuse
- Automatic Overload Protection
- OVP on Output #1
- IEC 950, CK LVD
- 100% Burn-In
- Power Fail Signal (110 and 200-Watt Models)
- Cover, Screw Terminals and Internal Fan (200-Watt Models)
- 1-Year Warranty

Compact design is ideal for personal computers, control circuits, drive circuits, CNC machinery, and instrumentation applications. UL recognized, CSA certified.

Stock No.	Type	Output 1	Output 2	Output 3	Output 4	Max. Output	L × W × H	Each
52F5592	GLS-01-040	5V, 6A	...	...	...	30W	5.00 × 3.00 × 1.36″	63.02
52F5593	GLS-02-040	12V, 3.5A	...	...	...	40W	5.00 × 3.00 × 1.36″	63.02
52F5594	GLS-03-040	15V, 3A	...	...	...	40W	5.00 × 3.00 × 1.36″	63.02
52F5595	GLS-04-040	24V, 2A	...	...	...	40W	5.00 × 3.00 × 1.36″	63.02
52F5596	GLD-01-040	5V, 3A	12V, 2A	...	...	40W	5.00 × 3.00 × 1.36″	65.02
52F5597	GLD-02-040	5V, 3A	15V, 2A	...	...	40W	5.00 × 3.00 × 1.36″	65.02
52F5598	GLD-03-040	5V, 3A	24V, 1A	...	...	40W	5.00 × 3.00 × 1.36″	65.02
52F5599	GLT-01-040	5V, 3A	12V, 2A	–5V, 0.3A	...	40W	5.00 × 3.00 × 1.36″	68.02
52F5600	GLT-02-040	5V, 3A	12V, 2A	–12V, 0.3A	...	40W	5.00 × 3.00 × 1.36″	68.02
52F5601	GLT-03-040	5V, 3A	15V, 2A	–15V, 0.3A	...	40W	5.00 × 3.00 × 1.36″	68.02
52F5602	GLT-04-040	5V, 3A	15V, 2A	–12V, 0.3A	...	40W	5.00 × 3.00 × 1.36″	68.02
52F5603	GLT-05-040	5V, 3A	24V, 1A	–12V, 0.3A	...	40W	5.00 × 3.00 × 1.36″	68.02
52F5604	GLS-01-065	5V, 10A	...	...	...	50W	6.00 × 3.50 × 1.87″	80.02
52F5605	GLS-02-065	12V, 5.5A	...	...	...	65W	6.00 × 3.50 × 1.87″	80.02
52F5606	GLS-03-065	15V, 4.5A	...	...	...	65W	6.00 × 3.50 × 1.87″	80.02
52F5607	GLS-04-065	24V, 3A	...	...	...	65W	6.00 × 3.50 × 1.87″	80.02
52F5608	GLD-01-065	5V, 6A	12V, 3A	...	...	65W	6.00 × 3.50 × 1.87″	84.02
52F5609	GLD-02-065	5V, 6A	15V, 3A	...	...	65W	6.00 × 3.50 × 1.87″	84.02
52F5610	GLD-03-065	5V, 6A	24V, 2A	...	...	65W	6.00 × 3.50 × 1.87″	84.02
52F5611	GLT-01-065	5V, 6A	12V, 3A	–5V, 0.5A	...	65W	6.00 × 3.50 × 1.87″	86.02
52F5612	GLT-02-065	5V, 6A	12V, 3A	–12V, 0.5A	...	65W	6.00 × 3.50 × 1.87″	86.02
52F5613	GLT-03-065	5V, 6A	15V, 3A	–15V, 0.5A	...	65W	6.00 × 3.50 × 1.87″	86.02
52F5614	GLT-04-065	5V, 6A	15V, 3A	–12V, 0.5A	...	65W	6.00 × 3.50 × 1.87″	86.02
52F5615	GLT-05-065	5V, 6A	24V, 2A	–12V, 0.5A	...	65W	6.00 × 3.50 × 1.87″	86.02
52F5616	GLQ-01-065	5V, 6A	12V, 3A	–12V, 0.5A	–5V, 0.5A	65W	6.00 × 3.50 × 1.87″	89.02
52F5617	GLS-01-110	5V, 22A	...	...	...	110W	7.00 × 4.25 × 1.95″	140.03
52F5618	GLS-02-110	12V, 9A	...	...	...	110W	7.00 × 4.25 × 1.95″	140.03
52F5619	GLS-03-110	15V, 7.5A	...	...	...	110W	7.00 × 4.25 × 1.95″	140.03
52F5620	GLS-04-110	24V, 4.5A	...	...	...	110W	7.00 × 4.25 × 1.95″	140.03
52F5621	GLD-01-110	5V, 10A	12V, 5A	...	...	110W	7.00 × 4.25 × 1.95″	142.03
52F5622	GLT-01-110	5V, 10A	12V, 3A	–12V, 1A	...	110W	7.00 × 4.25 × 1.95″	155.04
52F5623	GLT-02-110	5V, 10A	15V, 4A	–15V, 1A	...	110W	7.00 × 4.25 × 1.95″	155.04
52F5624	GLQ-01-110	5V, 10A	12V, 5A	–12V, 1A	–5V, 1A	110W	7.00 × 4.25 × 1.95″	146.03
52F5625	GLQ-02-110	5V, 10A	12V, 5A	–12V, 1A	12V, 1A	110W	7.00 × 4.25 × 1.95″	146.03
52F5626	GLQ-03-110	5V, 10A	12V, 5A	–12V, 1A	24V, 1A	110W	7.00 × 4.25 × 1.95″	146.03
52F5627	GLQ-04-110	5V, 10A	15V, 4A	–15V, 1A	–5V, 1A	110W	7.00 × 4.25 × 1.95″	146.03
52F5628	GLS-01-200	5V, 40A	...	...	...	200W	9.00 × 5.00 × 2.55″	217.11
52F5629	GLS-02-200	12V, 16.7A	...	...	...	200W	9.00 × 5.00 × 2.55″	217.11
52F5630	GLS-03-200	15V, 13.4A	...	...	...	200W	9.00 × 5.00 × 2.55″	217.11
52F5631	GLS-04-200	24V, 8.4A	...	...	...	200W	9.00 × 5.00 × 2.55″	217.11
52F5632	GLD-01-200	5V, 30A	12V, 8A	...	...	200W	9.00 × 5.00 × 2.55″	228.53
52F5633	GLD-02-200	5V, 30A	15V, 6A	...	...	200W	9.00 × 5.00 × 2.55″	228.53
52F5634	GLD-03-200	5V, 30A	24V, 4A	...	...	200W	9.00 × 5.00 × 2.55″	228.53
52F5635	GLT-01-200	5V, 30A	12V, 8A	–5V, 6A	...	200W	9.00 × 5.00 × 2.55″	257.10
52F5636	GLT-02-200	5V, 30A	12V, 8A	–12V, 4A	...	200W	9.00 × 5.00 × 2.55″	257.10
52F5637	GLT-03-200	5V, 30A	15V, 6A	–15V, 4A	...	200W	9.00 × 5.00 × 2.55″	257.10
52F5638	GLT-04-200	5V, 30A	15V, 8A	–12V, 4A	...	200W	9.00 × 5.00 × 2.55″	257.10
52F5639	GLQ-01-200	5V, 30A	12V, 8A	–12V, 4A	5V, 6A	200W	9.00 × 5.00 × 2.55″	284.71
52F5640	GLQ-02-200	5V, 30A	15V, 6A	–15V, 4A	24V, 4A	200W	9.00 × 5.00 × 2.55″	284.71
52F5641	GLQ-03-200	5V, 30A	12V, 8A	–12V, 4A	12V, 4A	200W	9.00 × 5.00 × 2.55″	284.71
52F5642	GLQ-04-200	5V, 30A	12V, 8A	–15V, 4A	15V, 4A	200W	9.00 × 5.00 × 2.55″	284.71
52F5643	GLQ-05-200	5V, 30A	12V, 8A	–12V, 4A	24V, 4A	200W	9.00 × 5.00 × 2.55″	284.71

ACCESSORIES

Stock No.	Type	Description	Each
48F3030	GL40-KIT	Mating Connectors and Pins for GL40 Product	3.34
48F3031	GL65-KIT	Mating Connectors and Pins for GL65 Product	3.34
48F3032	GL110-KIT	Mating Connectors and Pins for GL110 Proiduct	3.34
48F3033	GL200-KIT	Mating Connectors and Pins for GL200 Product*	3.34

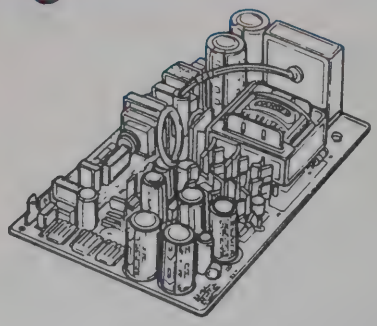
*Signal Function Only

(3344)

(ne07000)

HIGH POWER, SWITCHERS AND CVDC POWER SUPPLIES

MULTI-OUTPUT SWITCHERS



- +5V Overvoltage Protection
- Automatic Overload Protection
- 20mS Holdup Time Minimum
- FCC Class A Emission Level
- 100% Burn-In
- Dual Input: 115/230VAC
- Short-Circuit Protected
- 1-Year Warranty

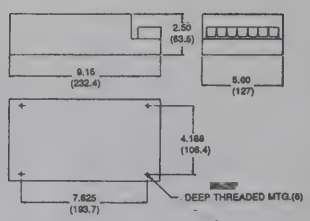
Provide power for applications such as CRT monitors, disk drives, terminals, peripheral equipment or microprocessor-based systems. All units voltage-selectable 90-130VAC/180-264VAC. AC input frequency range 47-63Hz. Typical efficiency 65%. Overcurrent and short-circuit protection. In-rush current: 40/50, 30A @ 115VAC, 60A @ 230VAC; 65/90, 10A @ 115VAC, 20A @ 230VAC; all @25°C ambient. Also feature 100% burn-in for 24 hours and built-in EMI filter. Line regulation: 0.2%. Load regulation: 1.0%. Operating temperature: 0°C to 50°C. UL recognized, CSA certified.

50-WATT SWITCHING POWER SUPPLIES

Stock No.	Type	Output 1	Output 2	Output 3	Output 4	H x W x D	Each
90F2295	86-30050-62	5V @ 6A	12V @ 1A	–5V @ 0.5A	...	2.40 x 4.25 x 7.75″	81.69
90F2304	86-40050-54	5V @ 5A	–5V @ 0.25A	15V @ 1A	–15V @ 1A	2.40 x 3.83 x 5.93″	95.36

(3106) (de01145)

SINGLE-OUTPUT SWITCHERS



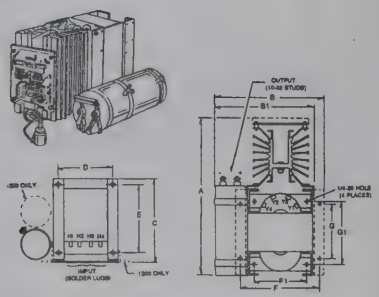
- Overvoltage Protection
- Automatic Overload Protection
- CE, LVD
- Enclosed or U Channel Construction
- Remote Sense
- Remote Shutdown
- One Year Warranty

Enclosed switching power supply units. Input voltage: 90-132 VAC/180 264VAC user-selectable. Input frequency: 47-63Hz, single phase. Input protection: external fuse required. In-rush current: 16 amps peak, 115 VAC. Output ripple: full rated load, 0.3% RMS total. Hold-up time: 100VAC/full load, 10mS minimum. Output overshoot: 2%. MTFB: 50,000 hrs. 100% burned in. UL recognized, CSA certified.

Stock No.	Type	Output 1	Each
81F214	86-24-262	24V @ 6.25A	178.20
98F6113	86-24-310*	24V @ 10A	269.28
52F5631	GLS-04-200**	24V @ 8A	217.11

*Open frame; ** *See GL Series on page 639*
(3307) (de51746)

COPPERLINE HIGH POWER SINGLE-OUTPUT POWER SUPPLIES



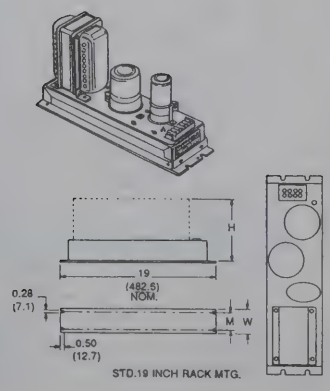
- Universal 120/240 VAC, 50/60 Hz Input
- Single-Supply for Multiple Applications
- Parallel Operation for Increased Power Output
- Reliable SCR Design
- Reliable Connection Cooled Design

Brute force power supplies provide high-current DC that is continuously adjustable in either 2 to 25 or 5 to 50 volt ranges. Can be set to constant voltage or constant current operation. Can be used as battery charger in the constant mode. Adjustable damping for inductive loads enable units to drive relays, solenoids and motors. Maximum power efficiency: 75%. Regulation: ±0.1%. Input: 105-130/210-260 VAC, 47-63 Hz. Controls include: limit adjust (0-100%) output voltage adjust (10-100%). UL recognized.

Stock No.	Type	Watts	DC Output		Dimensions			Each
			Volts	Amps	A	B	C	
84F1068	39-407	300	5-50/2-25	6/12	11.00″	7.66″	6.75″	650.91
84F1069	39-408	600	5-50/2-25	12/24	12.00″	7.66″	6.75″	771.60
84F1070	39-409	1200	5-50/2-25	24/48	14.00″	11.1″	10.00″	1296.66

(3308) (de51748)

28 SERIES CVDC RACK MOUNT POWER SUPPLIES



- Isolated Output
- Short-Circuit Protected
- MTBF Greater Than 300,000 Hours
- 1-Year Warranty

Regulated DC power supplies with fixed outputs are available in rack mount designs. Short-circuit protection and MTBF greater than 300,000 hours. Input voltage: 100 to 130V, 60Hz. Output source frequency effect: Actual variation is approximately 1.4% voltage change for a 1% frequency increase or decrease. Line regulation: ±1%. Load regulation: ±5% (1/2FL to FL). Response time: 25 msec. Efficiency: full load, 80% to 90%. Current limit: 250% rated current. Operating temperature: 50°C. UL recognized.

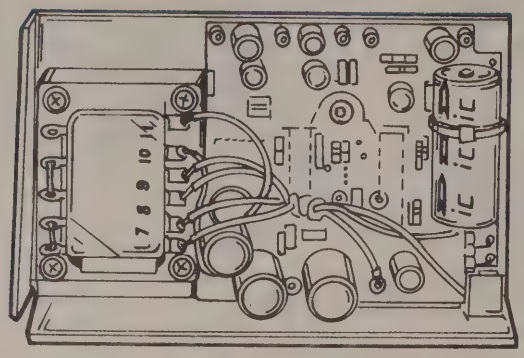
RACK MOUNT POWER SUPPLIES

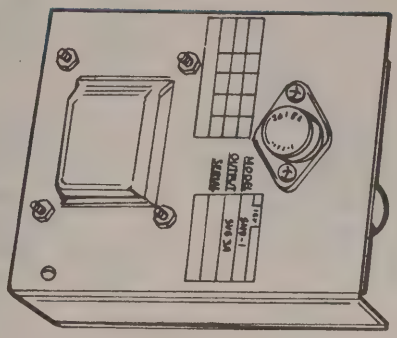
Stock No.	Type	Output 1	Dimensions			Each
			W	M	H	
05F924	281024-1	24V @ 6A	5-¼″	2-¼″	9-¾″	513.72
05F156	282126-1	24V @ 10A	5-¼″	2-¼″	8-¾″	592.11
79W074	281203-2	24V @ 15A	7″	4″	8″	634.41
60W001	282127-1	24V @ 25A	8-¾″	5-¾″	9-¾″	823.18
RACK MOUNT TELECOMMUNICATIONS MODELS*						
87F5213	28-2233	48V @ 10A	5-¼″	2-¼″	9-¾″	617.90
87F5214	28-2234	48V @ 20A	8-¾″	5-¾″	9-¾″	899.52

*115/230V selectable input, UR only.
(3309) (de51749)

LINEAR POWER SUPPLIES

ACV/ATV SERIES OPEN-FRAME LINEAR POWER SUPPLIES





- **Worldwide Voltage Taps for 100, 120, 220, 230, and 240VAC Field-Selectable**
- **Built-in OVP on 5V Output, Optional OVP Modules Available for Other Outputs**
- **UL Recognized, CSA Certified, TUV Approved, CE Mark**

Truly-universal open frame linear power supplies operate at 47-63 Hz. Single phase; derate 10% for 50Hz. Input voltages: 100, 120, 220, 230 or 240VAC. Units meet system voltage requirements for Japan, Europe and the UK, including IEC 950, EN60950 Class I high voltage and leakage requirements. Overvoltage protection is standard on all +5V outputs. Operating temperature range: 0 to +70°C, with full convection rating to +50°C. Regulation line: ±0.05% for ±10% line change and 50% load change. UL recognized, CSA certified, TUV approved, CE compliant

ACV SERIES SINGLE OUTPUT LINEAR POWER SUPPLIES

Stock No.	Type	W x L x H	Output 1	Output 2	Output 3	1-9	10-24	25-49	50-99
95F5805	ACV5N3-1	4.84″ x 4.00″ x 1.62″	5V @ 3A	...	...	52.28	44.95	41.04	38.11
95F5806	ACV5N6-1	4.87″ x 5.62″ x 2.50″	5V @ 6A	...	...	91.86	78.98	72.11	66.96
95F5807	ACV5N9-1	4.87″ x 7.00″ x 2.75″	5V @ 9A	...	...	126.34	108.63	99.18	92.10
95F5808	ACV5N12-1	4.87″ x 9.00″ x 2.75″	5V @ 12A	...	...	144.38	124.14	113.35	105.25
95F5809	ACV12N1.7	4.84″ x 4.00″ x 1.62″	12V @ 1.7A	...	...	52.28	44.95	41.04	38.11
95F5810	ACV12N3.4	4.87″ x 5.62″ x 2.50″	12V @ 3.4A	...	...	83.39	71.70	65.47	60.79
95F5811	ACV12N5	4.87″ x 7.00″ x 2.75″	12V @ 5A	...	...	117.37	100.92	92.14	85.56
95F5812	ACV12N6.8	4.87″ x 9.00″ x 2.75″	12V @ 6.8A	...	...	156.83	134.84	123.12	114.32
95F5813	ACV15N1.5	4.84″ x 4.00″ x 1.62″	15V @ 1.5A	...	...	52.28	44.95	41.04	38.11
95F5814	ACV15N3	4.87″ x 5.62″ x 2.50″	15V @ 3A	...	...	84.65	72.78	66.45	61.71
95F5815	ACV15N4.5	4.87″ x 7.00″ x 2.75″	15V @ 4.5A	...	...	123.73	106.38	97.13	90.19
95F5816	ACV15N6	4.87″ x 9.00″ x 2.75″	15V @ 6A	...	...	158.08	135.92	124.10	115.24
95F5817	ACV24N1.2	4.84″ x 4.00″ x 1.62″	24V @ 1.2A	...	...	52.28	44.95	41.04	38.11
95F5818	ACV24N2.4	4.87″ x 5.62″ x 2.50″	24V @ 2.4A	...	...	84.15	72.35	66.06	61.34
95F5819	ACV24N3.6	4.87″ x 7.00″ x 2.75″	24V @ 3.6A	...	...	123.23	105.95	96.74	89.83
95F5820	ACV24N4.8	4.87″ x 9.00″ x 2.75″	24V @ 4.8A	...	...	150.61	129.49	118.23	109.79

ACV SERIES DUAL OUTPUT LINEAR POWER SUPPLIES

95F5821	ACV12D1	4.00″ x 6.50″ x 1.62″	+12V @ 1A	–12V @ 1A	...	79.16	68.07	62.15	57.71
95F5822	ACV12D1.7	4.87″ x 7.00″ x 2.50″	+12V @ 1.7A	–12V @ 1.7A	...	92.11	79.20	72.31	67.15
95F5823	ACV12D3.4	4.87″ x 9.00″ x 2.75″	+12V @ 3.4A	–12V @ 3.4A	...	144.88	124.57	113.74	105.61
95F5824	ACV15D0.8	4.00″ x 6.50″ x 1.62″	+15V @ 0.8A	–15V @ 0.8A	...	79.16	68.07	62.15	57.71
95F5825	ACV15D1.5	4.87″ x 7.00″ x 2.50″	+15V @ 1.5A	–15V @ 1.5A	...	92.11	79.20	72.31	67.15
95F5826	ACV15D3.0	4.87″ x 9.00″ x 2.75″	+15V @ 3A	–15V @ 3A	...	144.88	124.57	113.74	105.61
95F5832	ACV101	4.87″ x 7.00″ x 2.75″	5V*† @ 3A	+12V to +15V* @ 1.5A to 1.2	...	105.80	90.97	83.06	77.12
95F5833	ACV103	4.87″ x 9.00″ x 2.75″	5V*† @ 6A	+12V to +15V* @ 3.4A	...	160.56	138.05	126.05	117.05

ATV SERIES TRIPLE OUTPUT LINEAR POWER SUPPLIES

95F5827	ATV251	4.00″ x 6.50″ x 1.62″	5V*† @ 2A	+12V to 15V* @ 0.4A	12V to 15V* @ 0.4A	89.62	77.06	70.36	65.33
95F5828	ATV351	4.00″ x 10.25″ x 2.50″	5V*† @ 3A	+12V to +15V @ 1A	–12V to –15V @ 1A	124.47	107.02	97.72	90.74
95F5829	ATV401	4.87″ x 9.00″ x 2.75″	5V*† @ 6A	+12V to +15V† @ 1A	–12V to –15V† @ 1A	164.31	141.27	128.99	119.77
95F5830	ATV451	4.87″ x 11.00″ x 2.75″	15V† @ 6A	+12V to +15V @ 1.8A	–12V to –15V @ 1.8A	169.28	145.55	132.89	123.40
95F5831	ATV551	4.87″ x 11.00″ x 2.75″	5V*† @ 9A	+12V to +15V @ 1.8A	–12V to –15V @ 1.8A	209.11	179.80	164.16	152.44
95F5835	ATV101	4.87″ x 11.00″ x 2.75″	5V*† @ 3A	–5V @ 0.5A	+24V @ 3A	186.71	160.53	146.58	136.11

ACV/ATV SERIES OVERVOLTAGE PROTECTION

95F5836	A0VP1	Over-voltage protection module	15.81	13.84	12.50	11.61

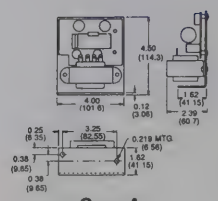
All ACVs have UL, CSA, TUV approvals. * Isolated output; †Remote sense

(3918) (de52264)

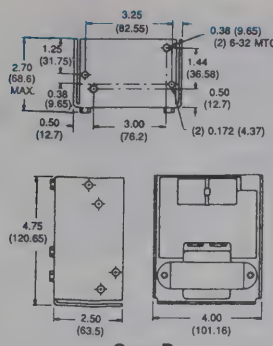
CAN'T LOCATE A PARTICULAR PRODUCT?
NEWARK STOCKS THOUSANDS OF ITEMS NOT LISTED IN THIS CATALOG. CALL US TODAY!

LINEAR POWER SUPPLIES

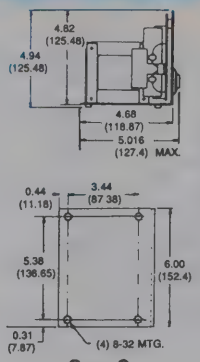
SINGLE-OUTPUT, REGULATED LINEAR POWER SUPPLIES



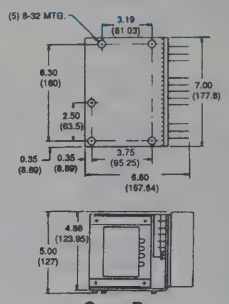
Case A



Case B



Case C



Case D

- Convection Cooled
- Remote Sense
- Constant Voltage
- Designed for Bench and Rack Use
- Completely Protected Short Circuit Proof; Automatic Foldback
- Current Limiting, Automatic Reset
- Isolated, Floating Output
- Low Noise and Ripple (PARD)
- Split Bobbin Design
- 100% Burn-In
- 1-Year Warranty

Precise integrated circuit regulators with superior drift characteristics. Used in microprocessor circuits, instrumentation, process controls and other applications. Convection cooled. Completely protected short-circuit proof, automatic foldback. Designed for both bench and rack use. Input: 104-127VAC, 208-254VAC. Input frequency: 50-60Hz. Output PARD: 0.1% pk/pk. Periodic deviations: 10mv rms. Output voltage adjustment: ±5% minimum. Operating temperature: 0°C to 55°C. Input/output isolation: 1000 megohms DC/2500VAC. UL recognized, CSA certified.

15-WATT MODELS

Stock No.	Type	Output 1	Case	Each	2
62F1200	81-05-230-2(-1)*	5V @ 3A	A	65.02	61.90
62F1206	81-12-215-2(-1)*	12(15)V @ 1.5(1.2)A	A	65.02	61.90
62F1211	81-24-180-2*	24V @ 0.8A	A	61.77	58.80
62F1201	83-05-230-3(-2)*	5V @ 3.0A	B	72.60	69.12

30-WATT MODELS

62F1215	83-12-218-3(-2)	12V @ 1.8A	B	72.60	69.12
62F1220	83-15-216-3(-2)	15V @ 1.6A	B	72.60	69.12
62F1207	83-24-212-3(-2)	24V @ 1.2A	B	62.37	57.96
05F1129	83-05-260-3(-2)	5V @ 6A	C	149.53	142.36

60-WATT MODELS

05F1130	83-12-250-3(-2)	12V @ 5A	C	149.53	142.36
05F1131	83-15-240-3(-2)	15V @ 4A	C	149.53	142.36
05F1132	83-24-225-3(-2)	24V @ 2.5A	C	126.72	117.76
05F1133	83-05-312-3(-2)	5V @ 12A	D	210.44	203.94

120-WATT MODELS

05F1134	83-12-310-3(-2)	12V @ 10A	D	210.44	203.94
05F1135	83-15-280-3(-2)	15V @ 8A	D	210.44	203.94
05F1136	83-24-260-3(-2)	24V @ 6A	D	189.09	175.72

* 104-127VAC Input only.

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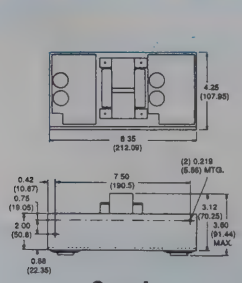
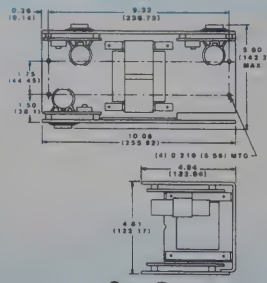
DUAL- AND TRIPLE-OUTPUT REGULATED LINEAR POWER SUPPLIES



Case A



Case B

Convection cooled. Complete serviceability. Fully isolated independent outputs. Designed for both bench and rack use. Short circuit proof. Current-limiting, automatic reset. Input voltage: 104-127VAC, 208-254VAC. Input frequency: 50-400Hz. Output source and load effect combined: regulation line and load, ±0.1%. PARD: 0.1% pk/pk. Periodic deviations: 10mv rms. Output voltage adjustment: ± 5%. Transient recovery time: 1/2L to FL., less than 20µsec. Maximum output current: 120% rated current. Input/output isolation: 1000 megohms DC/2500VAC. UL recognized, CSA certified.

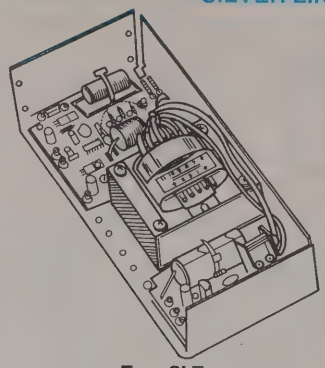
Stock No.	Type	Output 1	Output 2	Output 3	Case	Each	2
62F1210	83-15-2216	15V @ 1.6A	–15V @1.6A	...	A	170.21	164.95
62F1218	83-15-3216	5V @ 6A	+15V @ 1.6A	–15 @ 1.6A	B	276.46	267.92

(3265)

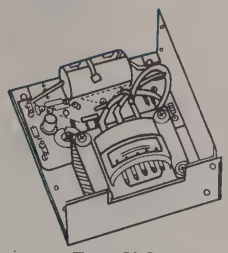
(de02007)

LINEAR POWER SUPPLIES

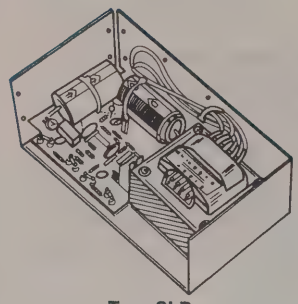
SILVER LINE LINEAR POWER SUPPLIES



Type SLT



Type SLS



Type SLD

- **Screw Terminal Connections**
- **Input Voltage: 100/120/220/230/240AC**
- **Input Frequency: 47-63Hz**
- **100% Burn-In**
- **Line and Load Regulation Combined 0.1%**
- **Ripple 3.0mV Maximum Peak-to-Peak**
- **Automatic Current Limiting**
- **DC Output Adjustable 10% Minimum**
- **Temperature Range: 0°C to +50°C**
- **1-Year Warranty**

Silver Line Linears now available up to 288 watts. Feature industry standard footprints with the added convenience of screw terminal for AC input and DC outputs. Used in process control circuits, instrumentation, drives, CNC machinery and microprocessor circuits. Built-in over voltage protection, which provides both transient and power supply malfunction protection, is standard on 5 volt models and optional for other models *(order separately below).* UL recognized, CSA certified, CE compliant and TUV approved. **Covers sold separately.** *Contact your local Newark sales office for details.* When covers are used, derate the power supply by 25% of its rated value.

SINGLE OUTPUT SERIES POWER SUPPLIES

Stock No.	Type	Output 1 Rating	Output 2 Rating	Output 3 Rating	H	W	D	Each
48F3005	SLS-05-030T	5V/3.0A	N/A	N/A	2.07″	4.84″	3.99″	48.35
48F3006	SLS-05-060T	5V/6.0A	N/A	N/A	2.95″	5.62″	4.87″	73.35
48F3007	SLS-05-090T	5V/9.0A	N/A	N/A	3.30″	7.00″	4.87″	113.36
48F3008	SLS-05-120T	5V/12A	N/A	N/A	3.30″	9.00″	4.87″	128.36
48F3009	SLS-12-017T	12V/1.7A*	N/A	N/A	2.07″	4.84″	3.99″	48.35
48F3010	SLS-12-034T	12V/3.4A	N/A	N/A	2.95″	5.62″	4.87″	70.02
48F3011	SLS-12-051T	12V/5.1A	N/A	N/A	3.30″	7.00″	4.87″	101.69
48F3012	SLS-12-068T	12V/6.8A	N/A	N/A	3.30″	9.00″	4.87″	113.36
48F3013	SLS-15-045T	15V/4.5A	N/A	N/A	3.30″	7.00″	4.87″	101.69
48F3014	SLS-15-060T	15V/6.0A	N/A	N/A	3.30″	9.00″	4.87″	113.36
48F3015	SLS-24-012T	24V/1.2A	N/A	N/A	2.07″	4.84″	3.99″	48.35
48F3016	SLS-24-024T	24V/2.4A	N/A	N/A	2.95″	5.62″	4.87″	70.02
48F3017	SLS-24-036T	24V/3.6A	N/A	N/A	3.30″	7.00″	4.87″	101.69
48F3018	SLS-24-048T	15V/4.5A	N/A	N/A	3.30″	9.00″	4.87″	135.03
48F3019	SLS-24-072T	24V/12.0A	N/A	N/A	3.76″	4.88″	13.87″	144.42
48F3020	SLS-24-120T	24V/7.2A	N/A	N/A	3.76″	4.88″	13.87″	192.03

DUAL OUTPUT SERIES POWER SUPPLIES

89F1252	SLD12-1010-12	+12V/1.0A*	−12V/1.0A*	N/A	1.62″	6.50″	4.00″	58.52
89F1253	SLD12-1818-12	+12V/1.8A*	−12V/1.8A*	N/A	2.50″	7.00″	4.87″	80.19
89F1256	SLD12-3434-12	+12V/3.4A	−12V/3.4A	N/A	2.75″	9.00″	4.87″	112.69
89F1257	SLD15-3030-15	+15V/3.0A	−15V/3.0A	N/A	2.75″	9.00″	4.87″	102.96
89F1258	SLD12-6034-05	+5V/6.0A	+12V/3.4A	N/A	2.75″	9.00″	4.87″	120.28
89F1273	SLD12-3015-05	+5V/3.0A	+12V/1.5A	N/A	2.50″	7.00″	4.87″	84.52

TRIPLE OUTPUT SERIES POWER SUPPLIES

89F1274	SLT12-31010-12	+5V/3.0A	+12V/1.0A*	−12V/1.0A*	2.50″	10.25″	4.00″	95.36
89F1275	SLT12-61818-12	+5V/6.0A	+12V/1.8A*	−12V/1.8A*	2.75″	11.00″	4.87″	128.95
89F1276	SLT24-30530-05	+5V/3.0A	−5V/0.5A	+24V/3.0	2.75″	11.00″	4.87″	146.28
89F1277	SLT12-20404-12	+5V/2.0A	+12V/0.4A*	+12V/0.4A*	1.62″	6.50″	4.00″	71.52
89F1278	SLT12-61010-12	+5V/6.0A	+12V/1.0A*	−12V/1.0A*	2.75″	9.00″	4.87″	120.28

* Adjustable to 15 volts.

OVERVOLTAGE PROTECTION KIT

Stock No.	Type	Description	H	W	D	Each
89F1279	SL012-000-1	6.2V-34V/12A Intermittent; 8A continuous	0.56″	1.55″	1.50″	13.34

NEW COVER OPTIONS

Stock No.	Type	Description	Each
48F3021	SLCASA-CVR	Cover for SLS-05-03-1; 12-017; 24-012	11.67
48F3022	SLCASB-CVR	Cover for SLS-05-060-1; 12-034; or 24-024	11.67
48F3023	SLCASC-CVR	Cover for SLS-05-090-1; 12-057; or-15-045	11.67
48F3024	SLCASD-CVR	Cover for SLD-12-1818-12; -24-036; or-12-3015-05	11.67
48F3025	SLCASF-CVR	Cover for SLT-12-31010-2	11.67
48F3026	SLCASI-CVR	Cover for SLS-05-120-1; 12-068; -15-060	11.67
48F3027	SLCASH-CVR	Cover for SLD-12-1010-12; 24-048; or-12-20404	11.67
48F3028	SL-CASK	Cover for SLS-24-072	11.67
48F3029	SL-CASL	Cover for SLS-24-120	11.67

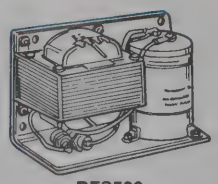
Note: Covers are sold separtly. When covers are used, derate the power supply by 25% of its rated value. Covers are not agency approved.

(3105) (de01083)

LINEAR POWER SUPPLIES

LINEAR UNREGULATED POWER SUPPLIES

- Motor Drives, Lamps, Relays, Actuators
- Servo-Controls and Steppers
- Electrostatically-Shielded Transformer
- Isolated Outputs for Positive or Negative Operation
- Full Rated Output from 0°-55°C
- Input/Output Isolation, 100 Megohms DC, 1500VAC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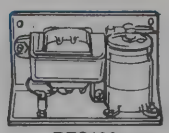
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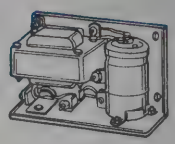

BFS200

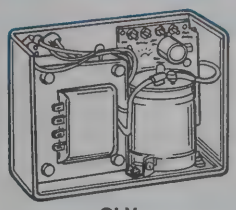
Stock No.	Type	VDC	Amps	H x W x L	1-4	5-9	10-24	25-49
02F1203	BFS15-12	12	1.2	2.09″ x 2.62″ x 4.62″ (5.31 x 6.65 x 11.73)	62.74	56.23	50.97	47.33
02F1204	BFS15-24	24	0.6	2.09″ x 2.62″ x 4.62″ (5.31 x 6.65 x 11.73)	62.74	56.23	50.97	47.33
81F4916	BFS15-48	48	0.3	2.09″ x 2.62″ x 4.62″ (5.31 x 6.65 x 11.73)	68.14	60.47	55.13	51.28
81F9435	BFS30-12	12	2.4	2.72″ x 3.00″ x 5.87″ (6.91 x 7.62 x 14.91)	75.71	66.84	60.33	56.80
44F3191	BFD30-20	20	1.5	2.72″ x 3.00″ x 5.87″ (6.91 x 7.62 x 14.91)	75.71	66.84	60.33	56.80
81F9436	BFS30-24	24	1.2	2.72″ x 3.00″ x 5.87″ (6.91 x 7.62 x 14.91)	75.71	66.84	60.33	56.80
81F9437	BFS30-48	48	0.5	2.74″ x 3.00″ x 5.87″ (6.96 x 7.62 x 14.91)	75.71	66.84	60.33	56.80
81F9438	BFS60-12	12	4.8	3.00″ x 3.71″ x 6.25″ (7.62 x 9.42 x 15.88)	117.66	104.54	92.79	83.75
44F3192	BFS60-20	20	3.0	3.00″ x 3.71″ x 6.25″ (7.62 x 9.42 x 15.88)	117.66	104.54	92.79	83.75
81F9439	BFS60-24	24	2.4	3.00″ x 3.71″ x 6.25″ (7.62 x 9.42 x 15.88)	117.66	104.54	92.79	83.75
81F9440	BFS60-48	48	1.2	3.00″ x 3.71″ x 6.25″ (7.62 x 9.42 x 15.88)	117.66	104.54	92.79	83.75
02F1206	BFS100-12	12	7.0	3.25″ x 3.81″ x 7.12″ (8.26 x 9.68 x 18.08)	138.67	124.20	109.76	99.05
44F3193	BFS100-20	20	5.0	3.25″ x 3.81″ x 7.12″ (8.26 x 9.68 x 18.08)	138.67	124.20	109.76	99.05
02F1207	BFS100-24	24	3.5	3.25″ x 3.81″ x 7.12″ (8.26 x 9.68 x 18.08)	138.67	124.20	109.76	99.05
81F9441	BFS100-48	48	1.8	3.25″ x 3.81″ x 7.12″ (8.26 x 9.68 x 18.08)	138.67	124.20	109.76	99.05
02F1209	BFS200-12	12	15.0	3.87″ x 5.00″ x 8.10″ (9.83 x 12.70 x 20.57)	187.00	167.67	148.67	134.00
44F3194	BFS200-20	20	10.0	3.87″ x 5.00″ x 8.10″ (9.83 x 12.70 x 20.57)	187.00	167.67	148.67	134.00
02F1210	BFS200-24	24	7.5	3.87″ x 5.00″ x 8.10″ (9.83 x 12.70 x 20.57)	187.00	167.67	148.67	134.00
81F9442	BFS200-48	48	4.0	3.87″ x 5.00″ x 8.10″ (9.83 x 12.70 x 20.57)	187.00	167.67	148.67	134.00
81F9443	BFS500-24	24	20.0	4.62″ x 5.62″ x 9.00″ (11.73 x 14.27 x 22.86)	277.34	239.09	219.51	195.00
81F9444	BFS500-48	48	10.0	4.62″ x 5.62″ x 9.00″ (11.73 x 14.27 x 22.86)	277.34	239.09	219.51	195.00
98F5202	BFS500-24U	24	20.0	4.62″ x 5.62″ x 9.00″ (11.73 x 14.27 x 22.86)	291.00	251.51	230.48	205.03

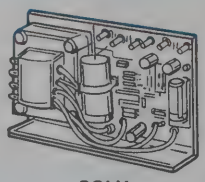
(3111) (de01262)

LINEAR REGULATED OPEN FRAME POWER SUPPLIES

- SOLV Series UL Recognized
- Remote Voltage Sensing
- Short Circuit Protected
- Industry Standard Package

Order overvoltage protection separately below.


OLV


SOLV

OVERVOLTAGE PROTECTION INCLUDED

Stock No.	Type	Volts	Amps	H x W x L	1-4	5-9	10-24	25-49
62F2899	SOLV-15-5	5	3.00	4.00 x 4.88 x 2.00″ (10.16 x 12.40 x 5.08)	73.55	65.78	59.29	55.22
62F2900	SOLV-15-12	12	1.50	4.00 x 4.88 x 2.00″ (10.16 x 12.40 x 5.08)	73.55	65.78	59.29	55.22
62F2855	SOLV-15-15W	15	1.20	4.00 x 4.88 x 2.00″ (10.16 x 12.40 x 5.08)	73.55	65.78	59.29	55.22
62F2857	SOLV-15-24	24	0.75	4.00 x 4.88 x 2.00″ (10.16 x 12.40 x 5.08)	73.55	65.78	59.29	55.22
	ORDER TYPE OVP-4 OVERVOLTAGE PROTECTION FOR TYPES SOLV 30-60							
02F1216	SOLV-30-5	5	6.00	4.87 x 5.62 x 3.00″ (12.37 x 14.27 x 7.62)	103.84	98.67	91.54	84.64
02F1217	SOLV-30-12	12	4.00	4.87 x 5.62 x 3.00″ (12.37 x 14.27 x 7.62)	103.84	98.67	91.54	84.64
02F1218	SOLV-30-15	15	3.30	4.87 x 5.62 x 3.00″ (12.37 x 14.27 x 7.62)	103.84	98.67	91.54	84.64
02F1220	SOLV-30-24	24	2.00	4.87 x 5.62 x 3.00″ (12.37 x 14.27 x 7.62)	103.84	98.67	91.54	84.64
02F1222	SOLV-60-12	12	8.00	4.87 x 9.00 x 3.35″ (12.37 x 22.86 x 8.51)	213.26	202.86	185.58	164.89
02F1225	SOLV-60-24	24	4.00	4.87 x 9.00 x 3.35″ (12.37 x 22.86 x 8.51)	160.73	152.15	139.69	124.02
	ORDER TYPE OVP-1 OVERVOLTAGE PROTECTION FOR TYPES OLV-15-30							
62F2890	OLV-15-5	5	3.00	4.00 x 4.50 x 2.75″ (10.16 x 11.43 x 6.99)	72.47	68.96	63.45	59.01
62F2893	OLV-15-24	24	0.75	4.00 x 4.50 x 2.75″ (10.16 x 11.43 x 6.99)	72.47	68.96	63.45	59.01
62F2864	OLV-30-5	5	6.00	4.88 x 5.75 x 3.50″ (12.40 x 14.61 x 8.89)	101.90	97.29	88.80	78.86
62F2865	OLV-30-12	12	4.00	4.88 x 5.75 x 3.50″ (12.40 x 14.61 x 8.89)	101.90	97.29	88.80	78.86
62F2868	OLV-30-24	24	2.00	4.88 x 5.75 x 3.50″ (12.40 x 14.61 x 8.89)	101.90	97.29	88.80	78.86
	ORDER TYPE OVP-2 OVERVOLTAGE PROTECTION FOR TYPES OVL-60							
62F2869	OLV-60-5	5	12.00	4.75 x 4.375 x 7.00″ (12.07 x 11.11 x 17.78)	161.78	154.22	140.69	125.46
62F2870	OLV-60-12	12	8.00	4.75 x 4.375 x 7.00″ (12.07 x 11.11 x 17.78)	161.78	154.22	140.69	125.46
62F2871	OLV-60-15	15	6.60	4.75 x 4.375 x 7.00″ (12.07 x 11.11 x 17.78)	161.78	154.22	140.69	125.46
62F2889	OLV-60-24	24	4.00	4.75 x 4.375 x 7.00″ (12.07 x 11.11 x 17.78)	161.78	154.22	140.69	125.46
	ORDER TYPE OVP-3 OVERVOLTAGE PROTECTION FOR TYPES OLV-120							
62F2895	OLV-120-12	12	16.00	5.125 x 6.250 x 13.00″ (13.018 x 15.875 x 33.020)	509.51	484.38	444.00	394.29
62F2898	OLV-120-24	24	8.00	5.125 x 6.250 x 13.00″ (13.018 x 15.875 x 33.020)	509.51	484.38	444.00	394.29

OVERVOLTAGE PROTECTION

62F2847 Type OVP-1. For Type **OLV-15** and **OLV-30** Each 15.45
62F2848 Type OVP-2. For Type **OLV-60** Each 15.45
62F2849 Type OVP-3. For Type **OLV-120** Each 26.48
02F1215 Type OVP-4. For Type **SOLV-30** and **SOLV-60** Each 15.45

EXTERNAL POWER SUPPLIES

EXTERNAL REGULATED 115VAC POWER SUPPLIES

Single- and multiple-output units have a standard 5-pin DIN connector or a standard 760-type barrel connector. Input voltage: 115VAC 60Hz. Combined regulation of ±5%. Dielectric withstand voltage: 1500VAC, RMS. **Types WM025-760, WM053-D5,** and **WM063-D5** measure 2.20L x 2.75W x 3.50″H. **Types WM075-D5, WM093-05, WM112-D5, WM113-D5, WM144-1950-D5, WM100-D5,** and **WM113TT-D5** measure 2.28L x 3.10W x 4.36″H. **Types WM220-1-D5** and **WM230-D5** measure 2.66L x 3.82W x 6.30″H. UL listed, CSA certified.

WALLMOUNT VERSION

Stock No.	Type	Outputs			1-4	5-9	10-24	25-49
		Single	Double	Triple				
50F3441	WM025-760	+5V, 500mA	...	...	34.28	30.47	26.91	24.47
44F3195	WM053-D5	+5V, 380mA	–5V, 180mA	+12V, 180mA	49.28	44.13	39.33	35.69
44F3196	WM063-D5	+5V, 600mA	+12V, 160mA	–12V, 160mA	47.14	42.03	37.26	33.65
87F2899	WM075-D5	+5V, 1.5A	...	...	52.49	46.23	41.40	37.72
44F3197	WM093-D5	+5V, 860mA	–5V, 300mA	+12V, 300mA	62.74	55.17	49.93	45.09
46F5043	WM112-D5	+5V, 800mA	+12V, 600mA	...	62.74	55.17	49.93	45.09
44F3198	WM113-D5	+5V, 860mA	+12V, 300mA	–12V, 300mA	47.14	42.03	37.26	33.65
87F2900	WM144-1950-D5	+12V, 1.2A	...	...	48.67	43.50	38.49	34.84

TABLETOP VERSION

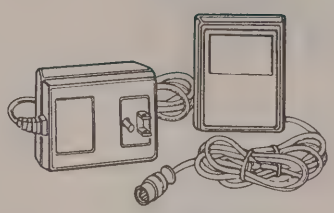
50F3442	WM100-D5*	+5V, 1.0A	–5V, 1A	...	60.57	53.05	47.85	43.04
87F2913	WM113-TT-D5	+5V, 860mA	+12V, 300mA	–12V, 300mA	60.57	53.05	47.85	43.04
46F5044	WM220-1-D5	+5V, 2.0A	+12V, 500mA	–12V, 500mA	100.59	88.06	79.06	71.73
90F8182	WM230-D5	+5V, 1.0A	+12V, 1.5/2.5A	...	103.84	91.24	81.14	73.78

REGULATED WALLMOUNT POWER SUPPLIES

Stock No.	Type	Output 1	Output 2	Output 3	L x W x H	1-4	5-9	10-24
16F116	WM063-1950-D5	+5V, 0.60A	+12V, 0.16A	–12V, 0.16A	2.00 x 2.44 x 4.33″	47.14	42.03	37.26
16F118	WM090-1950-D5	+5V, 0.70A	–5V, 0.70A	...	1.57 x 2.18 x 3.21″	48.21	43.08	38.30
99F6638	WM050-1950-760	+5V, 1.00A	...	...	1.89 x 2.18 x 3.21″	36.75	33.13	30.72
16F119	WM075-1950-760*	+5V, 1.50A	...	...	2.00 x 2.44 x 4.33″	43.92	38.87	35.19
16F120	WM101-1950-760	+5V, 2.00A	...	...	2.24 x 3.07 x 5.00″	43.92	38.87	35.19
16F121	WM072-1950-D5	+12V, 0.30A	–12V, 0.30A	...	2.24 x 3.07 x 5.00″	45.00	39.92	35.19
16F122	WM060-1950-760	+12V, 0.50A	...	...	1.57 x 2.18 x 3.21″	34.28	30.47	26.91
16F123	WM144-1950-760*	+12V, 1.20A	...	...	2.18 x 2.68 x 3.35″	46.07	40.97	36.23
16F124	WM071-1950-D5	+15V, 0.24A	–15V, 0.24A	...	1.57 x 2.18 x 3.21″	43.92	38.87	35.19
16F125	WM061-1950-760	+15V, 0.40A	...	...	1.57 x 2.18 x 3.21″	34.28	30.47	26.91
16F126	WM080-1950-760	+24V, 0.33A	...	...	1.57 x 2.18 x 3.21″	32.14	28.37	25.88
84F2162	WM113S(011)	+5V, 0.86A	+12V, 13A	–12V, 0.3A	2.25 x 3.12 x 4.42″	53.00	46.68	41.61

* CSA certified only.

(3118) (de01628)



DC OUTPUT CONNECTIONS

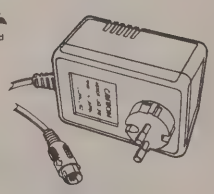
5 PIN DIN TYPE

REGULATED EUROPEAN WALLMOUNT POWER SUPPLIES

Type numbers with **GR prefix** are for Europe 220VAC input and 2 prong EURO plug. TUV and CE approved.

Stock No.	Type	Country	Outputs			1-4	5-9	10-24	25-49
			Single	Double	Triple				
50F3426	GR-063	EURO	5V, 380mA	+12V, 180mA	–12V, 180mA	50.35	45.18	40.37	36.71
50F3427	GR-075	EURO	5V, 1.5A	...	...	58.41	51.99	45.77	40.99
50F3428	GR-114	EURO	5V, 1.0A	+12V, 250mA	–12V, 250mA	60.57	53.05	47.85	43.04

(3115) (de01597)

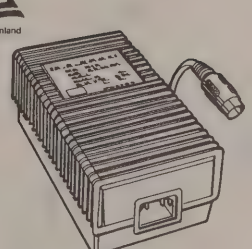


REGULATED EUROPEAN TABLETOP POWER SUPPLIES

Type numbers with **CMI prefix** are 205-265VAC 50Hz input. Regulation ±5% combined. Dimensions: 67.6 × 97.0 × 160 mm.

Stock No.	Type	Output			1-4	5-9	10-24	25-49
		Single	Double	Triple				
50F3429	CMI 0531	5V, 380mA	+12V, 180mA	–12V, 180mA	98.43	85.93	76.98	69.68
50F3431	CMI 1231	5V, 1A	+12V, 300mA	–12V, 300mA	102.75	90.18	81.14	72.75
50F3432	CMI 1411	12V, 1.2A	...	...	113.46	100.40	87.81	76.63
89F1665	WM220-1Euro	5V, 2.0A	+12V, 500mA	–12V, 500mA	111.36	98.33	85.81	74.74

(3116) (de01598)

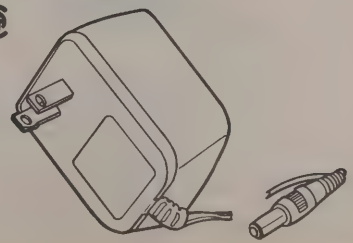


UNREGULATED SINGLE OUTPUT POWER SUPPLIES

Power supplies feature 1.5W to 8W. Input voltage: 120VAC, 60Hz. Output connecter; output jack on a 6′ 2-conductor cable. Operating temperature is 0°-40°C. Input to output isolation is 1250V. All models are UL listed and CSA certified. One year warranty.

Stock No.	Type	Output	Connector	Max. Load	Min. Load	L x W x H	1-4	5-9	10-24	25-49
87F2897	PS027	9.0V/0.3A	Female	14.0V	9.0V	1.40 x 1.72 x 2.24″	13.24	10.82	9.55	8.41
46F5048	PS045	9.0V/0.5A	Male	14.0V	9.0V	1.65 x 2.00 x 2.44″	16.55	12.98	11.67	10.51
46F5047	PS033	12.0V/0.5A	Female	16.0V	12.0V	1.65 x 2.00 x 2.44″	13.24	10.82	9.55	8.41
46F5049	PS072	12.0V/0.5A	Male	16.0V	12.0V	1.98 x 2.43 x 2.57″	16.55	12.98	11.67	10.51

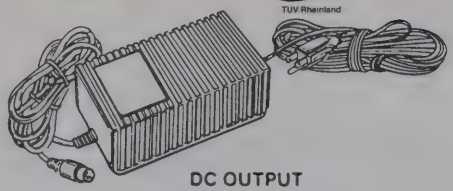
(3117) (de01599)



ELPAC POWER SYSTEMS
A DIVISION OF ELPAC ELECTRONICS INC

EXTERNAL POWER SUPPLIES

REGULATED POWER SUPPLIES WITH WORLDWIDE IEC INPUT



DC OUTPUT CONNECTIONS

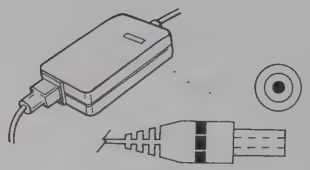
5 PIN DIN TYPE

Fully regulated single and multi-output units have a 6′ (1.83M) input cord with 3-prong domestic plug and a 6′ (1.83M) output cable with a standard, 5-pin DIN shielded connector. 20-52 watts, input voltage: 90-250VAC, 50Hz. Combined regulation of ±5%. Dielectric withstand voltage: 1500 VAC, rms. Dimensions: 6.3 × 3.82 × 2.66″ (160.02 × 97.03 × 67.56). UL listed, CSA certified, TUV approved, EMI meets FCC/VDE Class B, CE marked. Alternative output connectors available; *contact your local Newark sales office.*

Stock No.	Type	Max. Watts	Outputs			1-4	5-9	10-24	25-49
			Single	Double	Triple				
50F3439	WRI-2721-D5	27	5V, 4.0A	+12V, 0.5A/1.5A	...	121.86	109.71	96.78	86.03
89F1668	WRI-3012-D5	30	+12V, 2.5A	...	...	112.41	100.40	88.80	78.86
93F7496	WRI-2021-D5	42	5V, 3A	+12V, 0.5A	...	110.31	98.33	86.81	77.42
89F1670	WRI-4212-D5	42	+12V, 3.5A	...	...	112.41	100.40	88.80	78.86
89F1671	WRI-4214-D5	42	+24V, 1.75A	...	...	116.61	104.54	91.80	81.73
50F3445	WRI-4515-D5	45	+30V, 1.50A	...	...	142.88	127.31	112.75	100.36
50F3438	WRI-5215-D5	52	+30V, 1.75A	...	...	138.67	124.20	109.76	97.50
98F3251	WRI-3025-D5	30	5V, 3.0A	+5V, 3.0A	...	121.86	109.71	96.78	86.03
89F1674	WRI-3021-D5	30	5V, 2.0A	+12V, 1.5/2.5A	...	119.76	107.64	94.79	84.59
89F1675	WRI-4221-D5	42	5V, 3.0A	+12V, 2.5/4.0A	...	119.76	107.64	94.79	84.59
50F3440	WRI-2731-D5	27	5V, 3.0A	+12V, 0.5A	–12V, 0.5A	121.86	109.71	96.78	86.03
89F1677	WRI-3031-D5	30	5V, 2.0A	+12V, 1.5/2.5A	–12V, 0.5A	126.07	112.82	99.78	88.69
89F1678	WRI-4231-D5	42	5V, 3.0A	+12V, 2.5/4.0A	–12V, 0.5A	121.86	109.71	96.78	86.03
89F1679	WRI-4232-D5	42	5V, 4.8A	+12V, 1.5/2.5A	–12V, 0.5A	126.07	112.82	99.78	88.90

(3345) (ne07053)

MIADA I/IV SERIES LOW-PROFILE POWER SUPPLIES



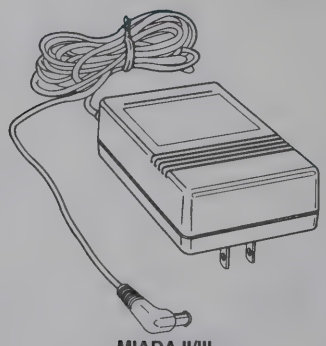
MIADA I/IV

Compact and extremely lightweight. 95-264VAC, 47-63Hz input range. Automatic overload recovery. 115-140% overvoltage protection. Line regulation: +1%, load regulation: ±5%. UL/CSA/TUV approved. CE marked. Weight: 13 ounces (0.368kg.). Size: 3 x 5 x 1.31″ (76.20 x 127.00 x 33.27). All models have a 6′ (1.83m) standard, 3-prong input cable and a 6′ shielded output cable with barrel connector.

Stock No.	Type	Output	Max. Power	1-4	5-9	10-24	25-49
92F1999	MI2005-760	5V, 3.00A	15 Watts	94.10	83.81	75.94	69.89
52F6626	MI2006-760	6V, 3.00A	18 Watts	97.35	87.00	78.02	72.05
52F6627	MI2007-760	7V, 2.90A	20 Watts	97.35	87.00	78.02	72.05
52F6628	MI2008-760	8V, 2.70A	22 Watts	97.35	87.00	78.02	72.05
92F2000	MI2009-760	9V, 2.40A	22 Watts	94.10	83.81	75.94	69.89
52F6629	MI2010-760	10V, 2.40A	24 Watts	97.35	87.00	78.02	72.05
93F2524	MI-2612-760	12V, 2.17A	26 Watts	94.10	83.81	75.94	69.89
93F2525	MI-2815-760	15V, 1.90A	28 Watts	94.10	83.81	75.94	69.89
52F6630	MI2816-760	16V, 1.78A	28 Watts	97.35	87.00	78.02	72.05
52F6631	MI2817-760	17V, 1.67A	28 Watts	97.35	87.00	78.02	72.05
93F2526	MI-2818-760	18V, 1.56A	28 Watts	94.10	83.81	75.94	69.89
52F6632	MI2819-760	19V, 1.47A	28 Watts	97.35	87.00	78.02	72.05
52F6633	MI2820-760	20V, 1.40A	28 Watts	97.35	87.00	78.02	72.05
93F2527	MI-2824-760	24V, 1.17A	28 Watts	94.10	83.81	75.94	69.89
52F6646	M42012-760	12V, 1.70A	20 Watts	77.88	68.96	62.41	57.47

(3119) (de01629)

MIADA II/III SERIES WALL-MOUNT SWITCHING POWER SUPPLIES



MIADA II/III

Standard 3-prong plug and 2-prong fold-down plug models. 108-132VAC, 60Hz, input range. Automatic overload recovery. 115-135% primary controlled overvoltage protection. Line regulation: ±0.1%. Load regulation: ±5%. Weight: 5.7 oz. Dimensions: 2.3H x 3.6W x 1.3″D. Both models have 6′ output cable with barrel connector. UL1310 listed, CSA certified to 223. EMI meets FCC class B.

FIXED, STANDARD 3-PRONG PLUG, 120V INPUT

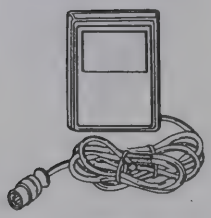
Stock No.	Type	Output	1-4	5-9	10-24	25-49
52F6622	M33012-760	12VDC, 2.50A	77.88	68.96	62.41	57.64
52F6623	M33215-760	15VDC, 2.13A	77.88	68.96	62.41	57.64
52F6624	M33318-760	18VDC, 1.83A	77.88	68.96	62.41	57.64
52F6625	M33424-760	24VDC, 1.42A	77.88	68.96	62.41	57.64

FOLD-UP PLUG MODELS, 120V INPUT

52F6617	M23012-760	12VDC, 2.50A	75.71	66.84	60.33	55.91
52F6618	M23215-760	15VDC, 2.13A	75.71	66.84	60.33	55.91
52F6619	M23318-760	18VDC, 1.83A	77.88	68.96	62.41	57.64
52F6620	M23424-760	24VDC, 1.42A	77.88	68.96	62.41	57.64

(3370) (ne08874)

MED SERIES MEDICAL GRADE POWER SUPPLIES



DC OUTPUT CONNECTIONS

5 PIN DIN TYPE

MED

Designed to support medical instrumentation. Fully regulated single, dual or triple outputs. Circuit-breaker protection; no overshoot on turn-on/turn-off. All models come with a 6′ DC output cable. Tabletop versions also have a 6′ hospital-grade, AC input cord. CSA certified to standard C22.2 No. 220. Meet FCC class B and VDE Class B emissions. UL recognized to medical standard UL544. All units measure 2.3 x 3.1 x 4.4″ (58.42 x 78.74 x 111.76) and have AC input of 120V, ±10%, 60 Hz; except **type MED 220** which is 2.7 x 3.8 x 6.3″ (68.58 x 96.52 x 160.02) and has AC input of 115V, ±10%, 60 Hz. Alternate output plugs are available; *contact your local Newark sales office.*

REGULATED TABLETOP

Stock No.	Type	Output 1	Output 2	Output 3	1-4	5-9	10-24	25-49
93F4189	MED-113TT	+5V, 0.86A	+12V, 0.3A	–12V, 0.3A	127.12	103.50	95.79	85.14
93F4191	MED-220	+5V, 2.0A	+12V, 0.7A	–12V, 0.3A	134.47	113.85	104.77	93.66

REGULATED WALLMOUNT

93F4190	MED-144	+12V, 1.0A	...	...	127.12	103.50	95.79	85.14

(3114) (de01596)

UNIVERSAL PLUG-IN POWER SOURCES

DOMESTIC AND EUROPEAN WALL PLUG-IN POWER SOURCES

Compact power sources provide low power output to end products. Feature output termination compatible with Switchcraft **PC-722A** or **722A** with 6-ft. (1.83M) output cord. Secondary plug measures 0.083 x 0.216″ (2.11 x 5.49). Wired: outside-positive; inside-negative for AC-DC units. Domestic models are UL listed, CSA certified. European models are TUV certified.

DOMESTIC AC-DC UNREGULATED MODELS, 120V/60Hz INPUT

Stock No.	Type	Rated Output Volts	Rated Output MA	Dimensions (L x W x H)	Each
48F1331	STA-4125T	2.5VDC	500	2.5″(63.0) x 2.0″(51.0) x 1.6″(41.0)	16.93
48F1332	STA-4860-4	6.0VDC	1000	2.8″(70.5) x 2.3″(57.0) x 1.8″(44.6)	16.59
84F2061	STA-3560	6.0VDC	200	2.17″(55.11) x 1.69″(42.92) x 1.46″(37.08)	11.03
84F2062	STA-4160	6.0VDC	600	2.48″(62.99) x 2.01″(51.05) x 1.61″(40.89)	13.43
84F2063	STA-4160A	6.0VDC	800	2.48″(62.99) x 2.01″(51.05) x 1.61″(40.89)	13.97
84F2064	STA-4860	6.0VDC	1000	2.78″(70.61) x 2.20″(55.88) x 1.85″(46.99)	17.17
96F7371	STA-5760	6.0VDC	2000	3.33″(84.58) x 2.54″(64.52) x 2.17″(55.12)	28.65
48F1333	STA-4875-4	7.5VDC	1000	2.8″(70.5) x 2.3″(57.0) x 1.8″(44.6)	19.06
84F2066	STA-4875	7.5VDC	1000	2.78″(70.61) x 2.20″(55.88) x 1.85″(46.99)	19.73
84F2067	STA-3590A	9.0VDC	300	2.17″(55.11) x 1.69″(42.92) x 1.46″(37.08)	11.35
84F2068	STA-4190A	9.0VDC	500	2.48″(62.99) x 2.01″(51.01) x 1.61″(40.89)	13.97
48F1334	STA-4890A-4	9.0VDC	1200	2.8″(70.5) x 2.3″(57.0) x 1.8″(44.6)	20.55
84F2069	STA-3512B	12.0VDC	200	2.17″(55.11) x 1.69″(42.82) x 1.46″(37.08)	11.35
84F2070	STA-4112	12.0VDC	400	2.48″(62.99) x 2.01″(51.05) x 1.61″(40.89)	14.26
84F2071	STA-4112C	12.0VDC	500	2.48″(62.99) x 2.01″(51.05) x 1.61″(40.89)	14.26
84F2072	STA-4812A	12.0VDC	1000	2.78″(70.61) x 2.20″(55.88) x 1.85″(46.99)	24.01
48F1335	STA-4812A-4	12.0VDC	1000	2.8″(70.5) x 2.3″(57.0) x 1.8″(44.6)	23.20
48F1336	STA-5712-4	12.0VDC	1200	2.8″(70.5) x 2.3″(57.0)8) x 1.8″(44.6)	28.42
84F2073	STA-5713	13.5VDC	1300	3.33″(84.58) x 2.54″(64.52) x 2.17″(55.11)	31.85
84F2074	STA-4814	14.5VDC	800	2.78″(70.61) x 2.20″(55.88) x 1.85″(46.99)	19.60
84F2075	STA-4815	15.0VDC	600	2.78″(70.61) x 2.20″(55.88) x 1.85″(46.99)	19.60
48F1337	STA-5715-4	15.0VDC	1000	3.4″(86.1) x 2.6″(66.5) x 2.2″(55.0)	28.42
48F1338	STA-6618-4	18.0VDC	2000	4.8″(121.1) x 3.1″(80.0) x 2.5″(64.5)	56.47
84F2076	STA-3518	18.5VDC	80	2.17″(55.11) x 1.69″(42.92) x 1.46″(37.08)	11.55
48F1341	STA-4824AT	24.0VDC	600	3.5″(89.0) x 2.4″(61.0) x 1.9″(47.0)	24.87
48F1339	STA-5724AT	24.0VDC	1000	3.5″(89.0) x 2.4″(61.0) x 1.9″(47.0)	28.76
48F1440	420W-DCV-010P	24.0VDC	1000	3.4″(86.1) x 2.6″(66.5) x 2.2″(55.0)	35.02
96F7369	STA-3524	24.0VDC	50	2.2″(63.0) x 2.0″(51.0) x 1.5″(37.2)	13.82

DOMESTIC AC-DC REGULATED MODELS, 120V/60Hz INPUT

84F2077	STA-4130	3.0VDC	350	2.48″(62.99) x 2.01″(51.05) x 1.61″(40.89)	16.37
46F1978	STA-4850	5.0VDC	600	3.50″(88.90) x 2.40″(60.96) x 1.89″(48.01)	28.36
84F2078	STA-4190C	9.0VDC	200	2.48″(62.99) x 2.01″(51.05) x 1.61″(40.89)	17.78
84F2079	STA-4890B	9.0VDC	400	3.50″(88.90) x 2.40″(60.95) x 1.89″(48.00)	23.73
84F2080	STA-4110A	10.0VDC	300	2.48″(62.99) x 2.01″(51.05) x 1.61″(40.89)	18.03
84F2081	STA-300R	12.0VDC	200	2.48″(62.99) x 2.01″(51.05) x 1.61″(40.89)	17.78

DOMESTIC AC-AC MODELS, 120V/60Hz INPUT

84F2082	STA-3545B	4.5VAC	300	2.17″(55.11) x 1.69″(42.92) x 1.46″(37.08)	9.91
84F2083	STA-4190D	9.0VAC	500	2.48″(62.99) x 2.01″(51.05) x 1.61″(40.89)	11.74
84F2084	STA-4110	10.0VAC	700	2.48″(62.99) x 2.01″(51.05) x 1.61″(40.89)	12.60
84F2085	STA-3512F	12.0VAC	200	2.17″(55.11) x 1.69″(42.92) x 1.46″(37.08)	12.08
84F2086	STA-4112A	12.0VAC	500	2.48″(62.99) x 2.01″(51.05) x 1.61″(40.89)	11.74
84F2087	STA-4118	18.0VAC	300	2.48″(62.99) x 2.01″(51.05) x 1.61″(40.89)	11.74
97F7516	STA-4124	24.0VAC	300	2.48″(62.99) x 2.01″(51.05) x 1.61″(40.89)	12.60
99F7730	STA-4824B	24.0VAC	450	2.80″(70.5) x 2.2″(56.0) x 1.90″(47.0)	16.47

DOMESTIC DESK TOP AC-DC UNREGULATED MODELS, 120V/60Hz INPUT

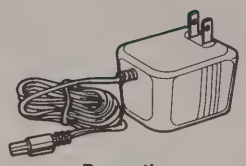
97F7517	STA-5713AC	13.5VDC	1700	3.30″(83.82) x 2.50″(63.50) x 2.20″(55.88)	34.92
98F8082	STA6624S1	24.0VDC	1500	4.70″(119.38) x 3.10″(78.74) x 2.60″(66.04)	57.88

EUROPEAN AC-DC UNREGULATED MODELS, 220V/50Hz INPUT, TUV CERTIFIED, CE COMPLIANT

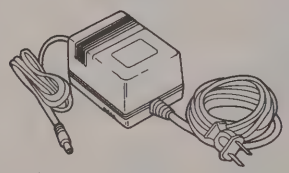
84F2049	STAF-0381F	6.0VDC	500	2.48″(62.99) x 2.01″(51.05) x 1.61″(40.89)	18.90
84F2051	STAF-3309F	9.0VDC	300	2.48″(62.99) x 2.01″(51.05) x 1.61″(40.89)	17.91
84F2052	STAF-1058F	9.0VDC	500	2.48″(62.99) x 2.01″(51.05) x 1.61″(40.89)	19.28
84F2053	STAF-2343F	12.0VDC	500	2.78″(70.61) x 2.20″(55.88) x 1.85″(46.99)	21.68
84F2054	STAF-1454F	12.0VDC	1000	3.33″(84.58) x 2.54″(64.52) x 2.17″(55.12)	30.89

*UL listed only, not CSA certified.

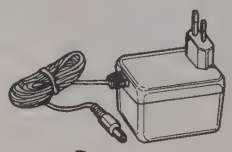
(3108) (de01200)



Domestic

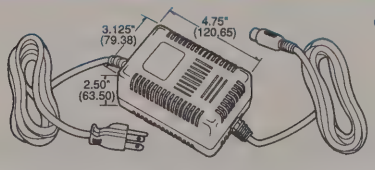


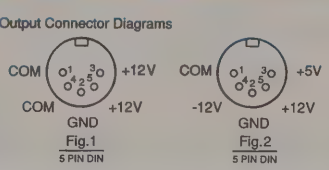
Domestic Desktop Model



European

DOMESTIC DESK TOP DC REGULATED PLUG-IN POWER SOURCES





Regulated single and multiple output units have a standard 5-pin DIN connector. Rated UL1310/File E112433 for continuous duty. Feature 6-ft. (1.83M) long input and output cords. Grounded input 3-prong plug. Input voltage: 120V/60Hz. Combined regulation of ±5%. Dielectric test: 1500VAC, RMS. Short circuit and thermal protected. UL listed.

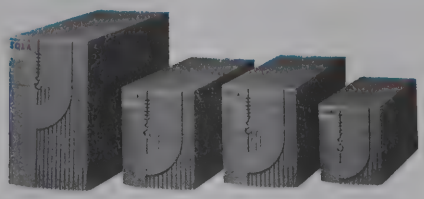
Stock No.	Type	Outputs 1	Outputs 2	Outputs 3	Secondary Connection	Each
97F7521	STAR-9004	+12VDC 1.2A +5VDC 1.0A	...	...	Fig. 1	49.04
97F7524	STAR-9007		+12VDC 0.3A	-12VDC 0.3A	Fig. 2	51.68

(3278) (de03456)

EGS Electrical Group SOLA/ HEVI-DUTY

UNINTERRUPTIBLE POWER SUPPLIES

3000 SERIES UNINTERRUPTIBLE POWER SYSTEMS



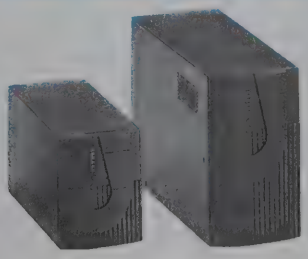
- Line Interactive Topology
- Multiple Outlets for Clustered Equipment
- Easy-to-Read, Easy-to-Use Status Indicators and Controls with Audible Alarms for Critical Functions
- Network Interface Capability
- Two-Year Warranty with Optional Extensions to Five Years
- User-Replaceable Batteries

3000 series UPSs help provide blackout protection with advanced power conditioning in standard and rackmount models. Provide five minutes of battery back-up at full load – more than enough time to save and shut down. Line interactive technology filters utility power to eliminate spikes, noise and other transients. A voltage buck and boost circuit corrects input voltage as low as 25% below nominal and as high as 23% above nominal without switching to battery back-up. Rackmount versions allow easy installation and help conserve cabinet space. Offer 6 receptacles per unit. Ideal for stacked enclosures in which multiple servers, routers, bridges, hubs and other equipment need to be protected. UL listed. CSA certified.

Stock No.	Type	Weight (lbs.)	Plug/Receptacle	Volts In/Out	Typical Runtime	Each
STANDARD VERSIONS						
83F2103	S3700	29.9	5-15/(4)5-15	120/120, 50/60Hz	5-45 Mins. Depending on Load	489.25
83F2107	S31000	43.4	5-15/(6)5-15	120/120, 50/60Hz		679.25
83F2108	S31400	49.4	5-15/(6)5-15	120/120, 50/60Hz		916.75
83F2109	S32200	81.7	L5-30/(6)5-15, (2)5-20	120/120, 50/60Hz		1276.80
83F2111	S3700-5	29.9	IEC320-10/(4)IEC320-10	230/230, 50/60Hz		699.00
83F2112	S31000-5	43.4	IEC320-10/(4)IEC320-10	230/230, 50/60Hz		899.00
83F2113	S31400-5	49.4	IEC320-10/(4)IEC320-10	230/230, 50/60Hz		1099.00
83F2114	S32200-5	81.7	IEC320-16/(4)IEC320-16	230/230, 50/60Hz		1699.00
RACKMOUNT VERSIONS						
83F2115	S3700R	29.9	5-15/(4)5-15	120/120, 50/60Hz	5-45 Mins. Depending on Load	699.00
83F2116	S31000R	43.4	5-15/(6)5-15	120/120, 50/60Hz		879.00
83F2117	S31400R	49.4	5-15/(6)5-15	120/120, 50/60Hz		1079.00
83F2118	S32200R	81.7	L5-30/(6)5-15, (2)5-20	120/120, 50/60Hz		1754.00
83F2119	S3700R-5	29.9	IEC320-10/(4)IEC320-10	230/230, 50/60Hz		788.00
83F2120	S31000R-5	43.4	IEC320-10/(4)IEC320-10	230/230, 50/60Hz		1067.00
83F2121	S31400R-5	49.4	IEC320-10/(4)IEC320-10	230/230, 50/60Hz		1439.00
83F2122	S32200R-5	81.7	IEC320-16/(4)IEC320-16	230/230, 50/60Hz		2399.00

(20626) (ne11032)

2000 SERIES UNINTERRUPTIBLE POWER SYSTEMS



- Modem/Fax Surge Protection
- Wide Input Voltage Range
- User-Replaceable Batteries
- Six or More Minutes of Battery Back-up at Full Load
- EMI/RFI filtering to FCC Class B
- Advanced Microprocessor Design
- Auto-battery Testing
- Small Lightweight Design Perfect for Desktop Use

The Sola 2000 Off-line UPS series packs the power protection features preferred for many computers, workstations, fax machines, peripherals and other sensitive electronics. Dimensions 6.5W x 4.5D x 13.9H UL listed, CSA certified.

Stock No.	Type	Weight Unit (Lbs.)	Plug/Receptacle	Volts In/Out	Typical Runtime	Each
48F4374	S2350	13.2	5-15/(4)5-15	120/120, 50 or 60/z	5-45 Mins. Depending on Load	136.00
48F4378	S2470	15.4	5-15/(4)5-15	120/120, 50 or 60Hz		222.00
48F4380	S2700	22	5-15/(4)5-15	120/120, 50 or 60Hz		285.00
48F4375	S2350-5	13.2	EN6032/C14/ (4) EN60320/C13	230/230, 50 or 60Hz		136.00
48F4379	S2470-5	15.4	EN60320/C14/ (4) EN60320/C13	230/230, 50 or 60Hz		222.00
48F4381	S2700-5	22	EN60320/C14/ (4) EN60320/C13	230/230, 50Hz 50 or 60Hz		285.00

(20627) (ne11031)

ONLINE UNINTERRUPTIBLE POWER SYSTEMS (UPS)

ONLINE UNINTERRUPTIBLE POWER SYSTEMS (UPS)

- Input and Output Noise Suppression
- 2 Step Battery Recharge
- Battery Fuses
- 2 Speed Fan
- User-Replaceable Batteries
- Input Power Factor Correction
- PWM Inverter
- Automatic Restart
- Integral Dynamic Bypass
- 6′ Detachable Input Cord

Used for critical applications which demand the highest levels of performance and reliability for on-line protection. Unlike off-line and line-interactive UPSs, these systems eliminate a wider range of potential power problems: spikes, surges and extended overvoltage, noise and other trasients, sags, extended brownouts, difficult-to-track harmonics, and frequency variations common with standby to generator operation. True on-line design with a sine wave output. *Order rack mount hardware and external battery cabinets for rack-tower UPSs order separately below.* UL listed. CSA certified.

Stock No.	Type	Plug/Receptacle	Volts In/Out	Capacity VA/W	Typical Runtime	Dimensions H x W x D	Weight	Each
83F2123	S4700	5-15P/(4)5-15R	120/120, 60Hz	700/490	8/19	8.9 x 6.4 x 15.6″	28.8 lb.	759.05
83F2124	S41000	5-15P/(4)5-15R	120/120, 60Hz	1000/700	6/17	8.9 x 6.4 x 15.6″	34.8 lb.	1789.00
83F2125	S41000TRM*	5-15P/(8)5-15R	120/120, 60Hz	1000/700	7/25	16.9 x 7.0 x 19.3″	51.9 lb.	1140.00
83F2126	S41500TRM*	5-15P/(8)5-15R	120/120, 60Hz	1500/1050	7/18	16.9 x 7.0 x 19.3″	60.9 lb.	1425.00
83F2128	S41800-208TRM*	L6-15P/(2)L6-15R	208/208, 60Hz	1800/1260	8/23	16.9 x 7.0 x 19.3″	80.9 lb.	3233.00
83F2127	S42000TRM*	5-20p/(6)5-15R and (2)5-20R	120/120, 60Hz	2000/1400	9/26	16.9 x 7.0 x 19.3″	80.9 lb.	1710.00
83F2129	S42700-208TRM*	L6-20P/(2)L6-15R and (1)L6-20R	208/208, 60Hz	2700/1890	6/17	16.9 x 7.0 x 19.3″	85.9 lb.	3849.00
83F2110	S43000TRM*	L5-30P/(6)5-15R and (1)L5-30R	120/120, 60Hz	3000/2100	6/19	16.9 x 7.0 x 19.3″	85.9 lb.	2280.00
83F2130	S4700-5	IEC320-10/(4)IEC320-10	230/230, 50Hz	700/490	8/19	8.9 x 6.4 x 15.6″	28.8 lb.	1159.00
83F2131	S41000-5	IEC320-10/(4)IEC320-10	230/230, 50Hz	1000/700	6/17	8.9 x 6.4 x 15.6″	34.8 lb.	1329.00
83F2132	S41000TRM-5*	IEC320-10/(4)IEC320-10	230/230, 50Hz	1000/700	6/17	16.9 x 7.0 x 19.3″	51.9 lb.	1899.00
83F2133	S41500TRM-5*	IEC320-10/(4)IEC320-10	230/230, 50Hz	1500/1050	6/20	16.9 x 7.0 x 19.3″	60.9 lb.	2139.00
83F2134	S42000TRM-5*	IEC320-10/(4)IEC320-10	230/230, 50Hz	2000/1400	8/23	16.9 x 7.0 x 19.3″	80.9 lb.	3159.00
83F2135	S43000TRM-5*	IEC320-10/(4)IEC320-10(1)IEC320-16	230/230, 50Hz	3000/2100	6/17	16.9 x 7.0 x 19.3″	85.9 lb.	3999.00
48F4376	S46000-5	Hardwired	208/220/230/240, 50- or 60Hz	6000/4200	7/22	10.25 x 22 x 31.5″	227 lb.	4760.00
48F4377	S410000-5	Hardwired	208/220/230/240, 50- or 60Hz	10000/7000	10/28	13.5 x 25.25 x 38″	392 lb.	7980.00

*TRM - Tower/Rack Mount

BATTERY CABINETS (FOR RACK-TOWER UPS MODELS ONLY)

Stock No.	Cabinet Type	Fits UPS Model	Cabinet Qty.	Backup Time (Mins.)	Total Weight	Dimensions H x W x D	Each
48F2999	1436BAC	S41000TRM	None	7	—	16.9 x 7.0 x 19.3″	410.00
			One	36	61 lb.		
48F3000	1448BAC	S41500TRM	None	7	—	16.9 x 7.0 x 19.3″	479.00
			One	30	71 lb.		
48F3001	1496BAC	S42000TRM	None	10	—	16.9 x 7.0 x 19.3″	479.00
		S4300TRM	One	31	71 lb.		
				6			
				18			
48F3002	2496BAC	S4300TRM	None	120	—	16.9 x 7.0 x 19.3″	4757.00
			One		71 lb.		

RACK MOUNT HARDWARE

Stock No.	Type	Description	Each
83F2136	4100WB	Wall Mount Bracket Kit	240.00
83F2137	4300RH	Rack Slide Kit for Racks With 18″-24″ Deep Support Rails	112.00
83F2138	4400RH	Rack Slide Kit for Racks With 24″-32″ Deep Support Rails	130.00
83F2139	4500RH	Flush Mount Shelf for 19″ Wide Telecom/Relay Rack	80.00
83F2140	4600RH	Center Mount Shelf for 19″ Wide Telecom/Relay Rack	100.00
83F2141	4700RH	Flush Mount Shelf for 24″ Wide Telecom/Relay Rack	90.00
83F2142	4800RH	Center Mount Shelf for 24″ Wide Telecom/Relay Rack	110.00

(39770) (ne39770)

NEW PRODUCTS ARE BEING ADDED TO OUR INVENTORY EVERY DAY.
CALL NEWARK FOR INFORMATION ON WHAT'S CURRENTLY IN STOCK.

EGS Electrical Group SOLA/ HEVI-DUTY

ONLINE UNINTERRUPTIBLE POWER SYSTEMS (UPS)

ONLINE UPS

NEW

Feature a wide range of upgradeable and expandable UPS models. To increase UPS capacity, field-installed modules can be used. New battery modules can extend back-up time to 24 hours.

- **Universal Input and Output Voltage***
- **Input/Output Noise Suppression and Isolation Main Input Fuses**
- **Battery Fuses**
- **Menu Prompts**
- **Battery Recharge 10x Discharge Time to 95% Capacity**
- **Microprocessor-Based Control and Monitoring**
- **50/60Hz Input/Output***
- **Input Power Factor and Current Distortion Correction**
- **2 Independently-Controlled PWM Inverters**
- **Main Output Circuit Breaker**

*Input/Output voltage and frequency must be the same if bypass is used.

To meet output distribution requirement, select a PAD that includes a maintenance bypass switch, and is available with an L14-30 plug (on a 6′ input power cord) and receptacles or with terminal block input/output. If application requires additional run time capacity, a simple field-installed module is used. One-year parts and 90 days onsite labor warranty. Sola 5000 UPS is available with frame-retardant sealed, low-maintenance batteries. **NOTE:** Flame-retardant batteries are required under UL1778 for units installed in a computer room. *Contact your local Newark sales office for details.* UL listed. CSA certified.

Stock No.	Type	Voltage In/Out	Capacity (VA/W)	Typical Runtime	H x W x D	Weight	Each
48F3003	S53500	208-208, 50/60Hz, Requiring PAD	3500/6500	18/31	29 x 9 x 31″	270 lbs.	**4781.00**
83F2143	S54500	208-208, 50/60Hz, Requiring PAD	4500/3600	12/29	29 x 9 x 31″	270 lbs.	**4940.00**
83F2144	S56000	208-208, 50/60Hz, Requiring PAD	6000/4000	11/25	29 x 18 x 19.3″	270 lbs.	**5510.00**
83F2145	S58000	208-208, Hardwired Input/Output, 50/60Hz	8000/6000	17/35	29 x 18 x 27″	560 lbs.	**8049.41**
83F2146	S510K	208-208, Hardwired Input/Output, 50/60Hz	10000/7500	11/28	29 x 9 x 31″	560 lbs.	**8432.00**
83F2147	S512K	208-208, Hardwired Input/Output, 50/60Hz	12000/8400	10/24	29 x 9 x 31″	560 lbs.	**9026.00**
83F2148	S515K	208-208, Hardwired Input/Output, 50/60Hz	15000/10500	14/32	29 x 27 x 27″	780 lbs.	**11349.00**
83F2149	S518K	208-208, Hardwired Input/Output, 50/60Hz	18000/7500	10/27	29 x 27 x 27″	780 lbs.	**11693.00**
48F3004	S53500-5	208-208, 50/60Hz, Requiring PAD	3500/6500	17/35	29 x 9 x 31″	270 lbs.	**4781.00**
83F2150	S54500-5	208-208, 50/60Hz, Requiring PAD	4500/3600	11/28	29 x 9 x 31″	270 lbs.	**6093.00**
83F2151	S56000-5	230/230, 50/60Hz, Requiring PAD	6000/4000	11/25	29 x 9 x 31″	270 lbs.	**6703.00**
83F2152	S58000-5	230/230, Hardwired Input/Output, 50/60Hz	18000/12600	17/35	29 x 18 x 27″	560 lbs.	**10550.00**
83F2153	S510K-5	230/230, Hardwired Input/Output, 50/60Hz	4500/3600	11/28	29 x 9 x 31″	560 lbs.	**9499.00**
83F2154	S512K-5	230/230, 50Hz	12000/8400	10/24	29 x 9 x 31″	560 lbs.	**9799.00**
83F2155	S515K-5	230/230, 50Hz	15000/10500	14/32	29 x 27 x 27″	780 lbs.	**11449.00**
83F2156	S518K-5	208-208, Hardwired Input/Output, 50/60Hz	18000/7500	10/27	29 x 27 x 27″	780 lbs.	**13447.00**

ASSOCIATE RECEPTACLES AND LINE CORD OPTIONS

Stock No.	Type	Voltage In/Out	Each
83F2157	P5000-00	Hardware A.C. Distribution Input and Output Terminal Blocks	**198.00**
All units to have an L14-30® line cord.			
83F2158	P5000-01	(8) 5-15R Plus (1) L14-30R Receptacles	**420.00**
83F2159	P5000-02	(4) 5-15R, (4) 5-20R, Plus L14-30R Receptacles	**583.00**
83F2160	P5000-03	(8) 5-20R, (1) L14-30R Receptacles	**583.00**
83F2161	P5000-04	(2) L6-30R, (4) 5-15R Receptacles	**583.00**
83F2162	P5000-05	(2) L5-20R, (4) 5-15R Receptacles	**583.00**

(39570) (ne39570)

NEWARK MAKES IT EASY.
MORE PAYMENT OPTIONS! USE YOUR MAJOR CREDIT CARD, CORPORATE PURCHASING CARD, PUT IT ON YOUR ACCOUNT, OR PLACE A C.O.D. ORDER.

UPS SYSTEMS

BC PERSONAL® AND BC PRO® UPS SYSTEMS

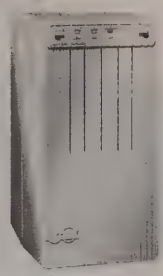
Protect against blackouts, surges, spikes, and line noise with the affortable, reliable battery backup of the BC Series UPS Systems. Diagnostic LEDs alert you to power problems before they affect equipment. BC Pro 1050 and 1400 models include PowerAlert® software for automatic unattended shutdown. $25,000 Ultimate Lifetime Insurance.

Stock No.	Type	Outlets	VA/Watts	Backup Time		Each
				Full Load	½ Load	
92F8618	BC PERS 200	2	200/125	10	28	93.53
83F6116	BC PERS 300	2	300/175	5	17	108.10
83F6117	BC PERS 450	3	450/280	5	17	130.66
83F6122	BC PRO 600	4 + RJ11	600/345	8	24	196.46
92F8625	BC PRO 850	4	850/570	6	21	375.06
92F8626	BC PRO 1050	6	1050/705	7	23	422.06
92F8609	BC PRO 1400	6	1400/940	8	24	534.86

(3879) (ne06190)

ULTIMATE LIFETIME INSURANCE

BC PERS 200



BC PRO 450

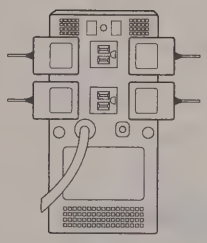
INTERNET OFFICE™ AND BC INTERNET™ UPS SYSTEMS

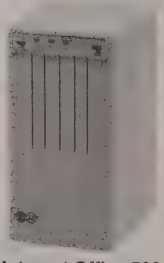
INTERNET OFFICE™ UPS systems specifically designed for total desktop protection. 6 outlets (3 UPS and 3 surge) protect entire computer setup. Dual RJ-11 jacks provide complete modem/fax surge protection. Wide-spaced outlet configuration. Premium surge protection against blackouts, brownouts, surges, spikes and line noise. Diagnostic LEDs alert to UPS operating conditions, battery charge and load status. **Type INTERNET OFFICE 420 LP** features an under-monitor housing with front panel switches for fingertip control over any computer system. The BC Internet 300 features basic Internet-ready protection. UL listed, CSA certified. $25,000 Ultimate Lifetime Insurance.

Stock No.	Type	Outlets	VA/ Watts	Backup Time		Each
				Full Load	Half Load	
52F6935	INTERNET OFFICE42	6 (3 UPS/3 Surge)	450/295	6 Min.	17 Min.	239.25
83F6119	INTERNET OFF.280	6 (3 UPS/3 Surge)	280/150	6 Min.	17 Min.	111.86
83F6120	INTERNET OFF.500	6 (3 UPS/3 Surge)	500/280	5 Min.	17 Min.	149.46
83F6121	INTERNET OFF.700	6 (3 UPS/3 Surge)	700/425	5 Min.	17 Min.	224.66
83F6118	BC INTERNET 300	6 (3 UPS/3 Surge)	300/175	5 Min.	17 Min.	122.70

(12230) (ne09826)

ULTIMATE LIFETIME INSURANCE





Internet Office 500

OMNISMART™ PNP AND OMNIPRO™ LINE-INTERACTIVE UPS SYSTEMS

Line-interactive design adjusts a wide range of incoming voltages back to 120VAC nominal to keep working through brownouts without using battery power. OMNISMART™ PNP UPS systems are bundled with PowerAlert® software (on CD-ROM) for automatic, unattended shutdown, plus a Novell SNMP agent for advanced power monitoring. Built-in protection against surges and spikes. Up-front LEDs show voltage correction, UPS load, and battery status. UL listed, CSA certified. $50,000 Ultimate Lifetime Insurance.

Stock No.	Type	Outlets	VA/Watts	Backup Time		Each
				Full Load	Half Load	
83F6115	OMNISMART 300 PNP	3	300/175	5 Min.	17 Min.	155.10
52F6951	OMNISMART 450 PNP	4	450/280	5 Min.	17 Min.	257.56
52F6952	OMNISMART 675 PNP	4	675/425	5 Min.	17 Min.	328.20
52F6953	OMNISMART 850 PNP	4	850/570	6 Min.	21 Min.	440.86
52F6954	OMNISMART 1050PNP	6	1050/705	7 Min.	23 Min.	483.10
52F6955	OMNISMART 1400PNP	6	1400/940	8 Min.	24 Min.	611.93
92F6666	OMNI PRO 280	2	280/175	5 Min.	17 Min.	168.70
92F6667	OMNI PRO 450	6	450/280	5 Min.	17 Min.	253.05
92F6668	OMNI PRO 675	4	675/425	5 Min.	17 Min.	320.53

(3898) (ne07197)

ULTIMATE LIFETIME INSURANCE

OMNISMART 850 PNP

HOSPITAL-GRADE UPS SYSTEMS

Hospital-grade UPS and surge protection products are designed to meet the demanding UL544 hospital specifications. All use hospital-grade components. UL listed, CSA certified. Up to $50,000 Ultimate Lifetime Insurance.

Stock No.	Type	Outlets	VA/Watts	Backup Time		Each
				Full Load	Half Load	
01F2170	SMART700HG	4	700/450	6 Min.	20 Min.	605.79
01F2172	OMNISMART450HG	4	450/280	5 Min.	17 Min.	335.87
01F2173	OMNISMART1400HG	6	1400/940	8 Min.	24 Min.	753.02

Stock No.	Type	Description	Outlets	Cord Length	Joule Rating	Each
01F2171	ISOBAR 6 ULTRA HG	3 Filter Banks, LEDs	6	12′	600	108.12

(12233) (ne10331)

ULTIMATE LIFETIME INSURANCE

THIS NEWARK CATALOG IS AVAILABLE ON CD-ROM!
CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR DETAILS.

SMARTPRO® NET INTELLIGENT NETWORK UPS SYSTEMS

ULTIMATE LIFETIME INSURANCE

Smart 700 Net

Smart 1050 RM

Provide network UPS protection. Automatic voltage regulation (AVR) adjusts incoming voltages from 87 to 140 VAC Back to VAC nominal. Preserve battery for critical blackouts. DB9 LAN interface port FREE PowerAlert® software is included to provide automatic, unattended shutdown. Can manage every UPS from every manufacturer. Up to $50,000 insurance . Include Free software. UL Listed, CSA certified.

Stock No.	Type	Output Capacity VA/Watts	Backup Time ½ Load	Backup Time Full Load	Number of Outlets	Weight	Each
16F1208	SMART 450 NET	450/280	19	5	4	19 Lbs.	329.74
16F1209	SMART 700 NET	700/450	20	6	4	28 Lbs.	406.08
52F6948	SMART 700XL NET	700/450	70	25	6	49 Lbs.	714.68
16F1210	SMART 1050 NET	1050/705	23	8	6	38 Lbs.	572.46
52F6949	SMART 1050XL NET	1050/705	46	16+	6	49 Lbs.	817.43
52F6945	SMART 1250XL NET	1250/900	85+	24+	6	84 Lbs.	1072.02
16F1331	SMART 1400 NET	1400/940	25	10	6	48 Lbs.	732.26
92F3235	SMART2200NET	2200/1800	27+	11+	6	83 Lbs.	1102.69
52F6946	SMART 2200XL NET	2200/1800	28+	11+	6	95 Lbs.	1479.97
52F6936	SMART 3000 NET	3000/2400	23+	7+	8	110 Lbs.	1654.80
	RACKMOUNT MODELS-FIT STANDARD 19" RACK						
52F6940	SMART 700 RM	700/450	28	12	8	32 Lbs.	559.78
52F6941	SMART 1050 RM	1050/705	23	8	8	44 Lbs.	697.81
92F8617	SMART 1400RM	1400/940	26	10	8	53 Lbs.	892.06
52F6942	SMART 2200 RM	2200/1800	29	13	8	93 Lbs.	1487.63
52F6943	SMART 2200 RMXL	2200/1800	29+	13+	8	97 Lbs.	1633.33
52F6944	SMART 3000 RM	3000/2400	23+	7+	8	99 Lbs.	1654.80

ACCESSORIES FOR SMART SERIES UPS

Stock No.	Type	Description	Each
97F9181	BP24V33	External Battery Packs for Smart XL Series Products. Runtime: Up to 8 hrs.	381.88
66F7927	BP-RM	Rack Mount Adapter for BP-24V33 Battery Packs. Runtime: Up to 8 hrs.	106.69

†These models feature expandable run times with external batteries.

(3922) (ne08421)

SMARTPRO® DATACENTER UPS SYSTEMS

ULTIMATE LIFETIME INSURANCE

Smart Data Center 3000XL

DataCenter provide simultaneous shutdown commands and reporting up to 4 individual servers, even for different operating systems. In the event of blackout provides unattended shutdown. Four levels of automatic voltage regulation for complete brownout/overvoltage protection without using battery power. Modular design and hot-swap battery replacement ensure 100% uptime. Extended-run batteries provide up to 100% longer runtime than competitive models to support critical equipment. $75.000 Ultimate Lifetime Insurance. Includes FREE software. UL listed. CSA certified.

Stock No.	Model	Number of Outlets 120V/230V	VA/Watts	Backup Times ½*Load	Backup Times Full Load	Each
92F8628	SMARTDATCTR3000XL	12 & (1) L6-30R & (1) L14-30R	3000/2100	26+	11+	3065.75
83F2703	SMARTDC3000XR	12 & (1) L6-30R & (1) L14-30R	3000/2100	84+	36+	3909.25
83F2704	SMARTDC5000XR	12 & (1) L6-30R & (1) L14-30R	5000/3700	108+	42+	4906.12

ACCESSORIES

Stock No.	Type	Description	Each
16F1214	PAM1-8	Power Accessory Modules Provide a Variety Of Outlet Configurations, Including 20 and 30 Amp Outlets	197.84
66F4213	DCOW	Base with Casters to Ease Data Center Relocation	35.43
66F4656	BP-36V33	36V Battery with Cables for Data Center 3000XL and 5000XL	581.25

(3923) (ne08422)

SMARTPRO® UNISON® ON-LINE, SINE WAVE UPS SYSTEMS

ULTIMATE LIFETIME INSURANCE

MPS

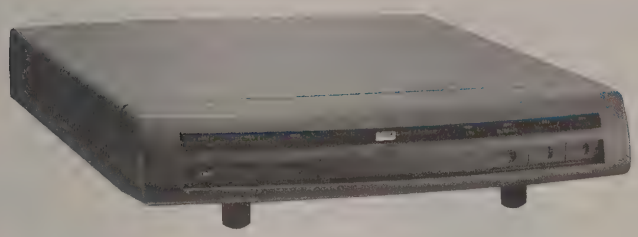
Types PS and **MPS** UPS systems feature on-line continuous power conditioning and zero transfer time to battery power. Perfect for frequency-sensitive equipment or research equipment used for precise measurements. DB-9 LAN port included. Up-front multifunctional LEDs and alarm alert user to operating conditions and battery status. Power Alert Plus software CD and cable included. UL listed, CSA certified. Up to $100,000 Ultimate Lifetime Insurance. Full 2-year product warranty. Also available in 220/240V international versions; *contact your local Newark sales office for details.*

Stock No.	Type	Number of Outlets	Output Capacity VA/Watts	Backup Times ½ Load	Backup Times Full Load	Each
16F1215	PS450	4	450/325	12	5	568.82
16F1216	PS 700	6	700/420	12	5	695.74
66F9387	PS1000	6	1000/670	12	5	844.61
16F1217	MPS 1400	6	1400/940	12	5	1316.27
16F1218	MPS 2000	6	2200/1330	12	5	1849.04

(3924) (ne08423)

UPS SYSTEMS AND POWER CONDITIONERS

POWERHOUSE® UPS SYSTEM



Features:
- **Power Backup Maintains Operations During Power Outages for up to 20 Min.**
- **Safeguards Systems from Power Surges and Spikes**
- **Power Center Controls Entire System**
- **Dedicated Modem Protection**
- **Sleek Notebook Design Fits under Monitors**

Specifications:
- **Input Current: 12 Amps**
- **Output Voltage: 120V**
- **Computer and Monitor Output Backup Power: 420VA**
- **CPU Monitor/Printer/Aux. 1 and Aux. 2 Output Current: 12 Amps**
- **Max. Detection and Transfer Time: <4msec.**
- **Battery Type: Sealed Lead Acid**
- **Typical Life Expectancy: 3-6 Years**
- **Battery Rating: 6V, 4Ah**
- **Recharge Time: Less than 2 Hours**
- **Number of Batteries Required for Operating: 2**

Type PH420MT UPS has dual 250VA uninterruptible power outputs which support most PC systems. Reacts to power failures in less than 4 milliseconds. 20-minute backup power keeps computers running during power outages or voltage fluctuations. 2 back-up surge-protected outlets and 3 surge only protected outlets.Electrostatic discharge plate for quick and safe transfer of charge to ground. LEDs indicate surge protection and grounding status. Electronic Bookmark™ software with Save and Restore (SRS™) feature sold separatey. *Contact your local Newark sales office.* UL listed, meets FCC requirements.

Stock No.	Type	Input Voltage	Cord Length	Each
48F4372	PH420MT	120V	6′	245.13

(13066) (ne10323)

POWERHOUSE® UPS SYSTEMS WITH COMPATIBLE SOFTWARE

NP350

Features:
- **Internet-Ready**
- **Dedicated Modem Protection**
- **Exclusive SRS™ Software**
- **For LAN and WAN Workstations and Personal Computers**
- **Compatible with Major Network Operating Systems and Computer Software**

Specifications:
- **UPS Protected Output Max. Power**
  Type NP350: 350VA
  TypePH6550NET: 650VA
- **Nominal Input Voltage: 120V**
- **Cord Length: 6′**
- **Low Voltage Detection Level: 95V (±2%)**
- **Max. AC Power Failure Detection Time: <1msec.**
- **Dimensions: 16L x 4.75W x 7″H**
- **Weight: Type NP350 - 16.5 lbs; Type PH650 NET - 18 lbs**

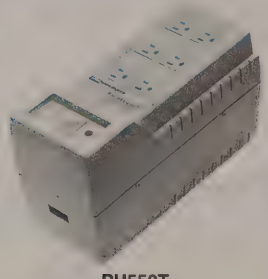
Type NP350 UPS features 350VA power supply with 15 minutes battery backup time. Exclusive SRS™ software automatically saves data, shuts down and powers up, and restores all work in-process. Modem protection (RJ-11 jacks), surge protection, EMI/RFI protection. Internet-ready. 4 spaced transformer outlets (2 backup and 2 surge-only). 6′ power cord. DB-9 interface cable and 6′ phone cord. Weight: 16.5 lbs. **Type PH650 NET** features 650VA power supply with 40 minutes of battery backup time. **Type PH650 NET** also features 6 spaced transformer outlets (4 backup and 2 surge-only). UL listed. Meets FCC requirements.

Stock No.	Type	No. of Outlets	Each
01F074	NP350	4	276.03
48F4373	PH650NET	6	303.96

(13067) (ne10324)

POWERHOUSE® UPS SYSTEMS

PH250



PH550T

- **Automatic self-testing of internal circuitry and load**
- **Backup time: 5 minutes at full load, 14 minutes at half load**
- **True step-sine wave output**
- **Visual and audible indicators**

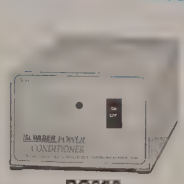
On-board computers constantly monitor the amount of power going to computer, and warn if it draws too much power during a brownout or a blackout. Field-replaceable and recyclable batteries make it easy to protect computer system at all times. Full recharge time of 2 hours. PC compatible. Weight: **types PH250** and **PH320T** are 7 lbs; **types PH500** and **PH550T** are 12 lbs. **Types PH320T** and **PH550T** provide telephone line protection (RJ11). Lines protected: pins 2 and 3 (tip to ground, ring to ground). Lines connected: 4 (lines 1, 2, 3, 4). Phone cord length: 6′. UL listed, CSA certified. Up to $25,000 connected equipment guarantee. ***Two-year warranty.***

Stock No.	Type	Rating	Wt.	Each
92F6664	PH 250	250VA	7 lbs.	143.65
92F6665	PH 500	500VA	12 lbs.	204.93
48F4371	PH320T	320VA	7 lbs.	158.00
16F664	PH550T	550VA	12 lbs.	223.26

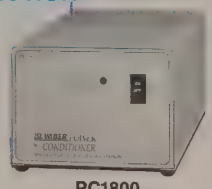
* Advanced solid-state protection for modem lines (RJ11)

(6831) (nec9269)

POWER CONDITIONER SERIES WITH THREE STAGE SURGE PROTECTION



PC600



PC1800

- **Premium Noise & 3 Stage Surge Suppression**
- **Complete Brownout Protection**
- **120VAC, 50/60Hz, +5%, –8% Regulated Output**

- **Visual Surge Indication**
- **Meet ANSI C84.1-1989 Specifications**
- **Manufacturer's 2-Year Unlimited Connected Equipment Warranty**

Power line conditioners protect computers and other sensitive components against under-voltage, over-voltage and noise interference. Units automatically step-up low voltages to allow connected equipment to operate during brownouts. **Types PC300** through **PC2400** offer visual surge indicator, 1330J energy dissipation and patented 3-stage design. All units are UL listed except for the 1800VA and 2400VA models.Input voltage: 95-138V. Max. surge current: 98,525A. 6' (1.83M) cord.

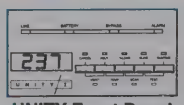
Stock No.	Type	Output Rating	No. of Outlets	Power Cord	Overcurrent Protection	Each
93F7481	PC300	300VA	2	6′-18/3	4A Replaceable Fuse	157.97
93F7482	PC600	600VA	4	6′-16/3	7A Circuit Breaker	175.68
93F7483	PC1200	1200VA	4	6′-14/3	12A Circuit Breaker	194.94
93F7484	PC1800	1800VA	6	6′-14/3	15A Circuit Breaker	369.72
93F7485	PC2400	2400VA	6	6′-12/3	20A Circuit Breaker	362.52

(3794) (de00969)

Best Power

UNINTERRUPTIBLE POWER SUPPLIES

UNITY/I™ SINGLE-PHASE 3kVA/kW TO 8kVA/kW UNINTERRUPTIBLE POWER SUPPLY SYSTEMS



UNITY Front Panel

Features:
- **Redundant Circuitry for High Fault Tolerance, Maximum Uptime**
- **Intelligent Charging Protects Batteries, Extends Their Life**
- **Worldwide Voltage and Frequency Compatibility**
- **Quiet and Compact–Ideal for Offices**
- **Exclusive PhonTek™ Feature for Remote Diagnostics by Factory**
- **Plug-and-Play Models Available**

Specifications:
- **Nominal Input Voltages: 200/208/220/230/240**
- **Nominal Output Voltages: 100/110/115/120/127/200/208/220/230/240**
- **Safety: UL 1778, UL 1449, CSA (cUL), GS (TUV), CE**
- **Efficiency: 95% Type UT3K; 96% Types UT4K, UT5K, and UT8K (On Line)**
- **Battery Charger: Typical Recharge <4-6 Hrs.**

Microprocessor offers improved response/reliability. 96% efficiency minimizes system temperatures, stress on components, and cost to operate. Safeguards include a dual power track configuration: if one power path develops a fault, the second takes over to keep UPS loads protected. For power-factor corrected (PFC) applications, UNITY/I series can be a solution. As a full kW-rated system, UNITY/I series can protect PFC, kW-rated equipment without oversizing. Ideal for kW-rated computers such as Compaq System Pro, Sun 3/470, IBM® AS/400, DEC 4000 AXP, and Hewlett Packard's F-, G-, H-, and I-class servers. Hardwired output connection is standard; *contact your local Newark sales office for receptacle options.*

Stock No.	Type	AC Input Voltage Range	Run Time Typical Load (75%)	H x W x D	Weight	Each
66F8002	UT3K	147-276V (for Nominal 200/208/220/230V Output); 153-276V (for Nominal 240V)	7	29 x 10.5 x 25.75"	215 lbs.	3699.00
66F8003	UT4K		14	29 x 10.5 x 25.75"	280 lbs.	3455.00
66F8004	UT5K		9	29 x 10.5 x 25.75"	295 lbs.	4599.00
66F8005	UT8K		17	32 x 13 x 33"	490 lbs.	7099.00

(3336) (ne06277)

PATRIOT® PRO 400VA TO 1000VA UNINTERRUPTIBLE POWER SYSTEMS

Features:
- **Provides Maximum System Up-Time and Safe System Shutdown**
- **Internet Power Protection**
- **Windows® 95 Plug-and-Play for Easy Installation**
- **Safeguards Network, UNIX and CAD/CAM/CAE Workstations, Desktop and Small Business Servers and Personal Computers from Lighting, Surges, Overvoltages, Blackouts, Brownouts and Sags**
- **Includes Telephone/10Base-T Network Surge Suppression**
- **Powersteady™ Buck and Boost Voltage Regulation Corrects Output Voltage to Meet CBEMA Requirements Without Draining Batteries**
- **5 Leds and Audible Alarms Keep You Informed of Power Status**
- **CheckUPS II Power Management Software Suite Version 3.X**

Patriot® Pro UPSs feature advanced technology battery management that assures optimum runtime when power fails, and quick recharge when power returns. Include automatic current and overvoltage protection and full-time EMI/RFI suppression. Sealed, maintenance-free lead acid battery with 3 to 6 year typical lifetime. Specifications: 100-142VAC input, 112-128VAC output, battery is 120VAC±10%, stepped sine wave, battery frequency is 50 or 60 Hz±1 Hz auto-sensing, automatic current and overvoltage protection, recharge time 8 hrs. Double lifetime surge warranty covers UPS and protected equipment up to U.S. $25,000 (USA/Canada Only). 2-year limited warranty.

Stock No.	Type	Model	Capacity (VA/W)	Run Time Full/Half Load	H x W x D	Plugs	Output Receptacles	Each
83F3678	PPO400U	400VA	400/250	5/12 Min.	6 x 4 x 14.25"	5-15P	(4) 5-15R	289.00
83F3679	PPO750U	750VA	750/470	5/12 Min.	8.25 x 6.5 x 14.25"	5-15P	(6) 5-15R	389.00
83F3680	PP1000U	1000VA	1000/630	4.5/12 Min.	8.25 x 6.5 x 14.25"	5-15P	(6) 5-15R	529.00

(3372) (ne09063)

PATRIOT® 250VA TO 600VA UNINTERRUPTIBLE POWER SYSTEMS

NEW

Features:
- **4 Uninterruptible Power and Surge Suppression Outlets, Plus 2 with Surge Suppression Only and Room for Transformer Block Plug-In**
- **5 LEDs and Audible Alarms Keep You Informed of Power Status**
- **Internet-Ready Telephone Line or Network Surge Protection**
- **Cold-Start Capability and User-Replaceable Battery**
- **50/60Hz Auto-Frequency Operation for Use Worldwide**

Patriot's new 250VA to 600VA UPSs with built-in intelligence protect PCs and computer peripherals from spikes, surges, sags, noise, lightning, and power outages. Specifications: 120VAC (max. 150VAC), voltage range 100-142V, frequency 50/60Hz autosensing based on input frequency, recharge time approximately 8 hrs. max., output voltage waveform is regulated step wave, surge energy capacity approximately 450J; NEMA 5-15P plug. 2-year limited warranty. Double lifetime surge warranty covers UPS and protected equipment up to U.S. $25,000 (USA and Canada only).

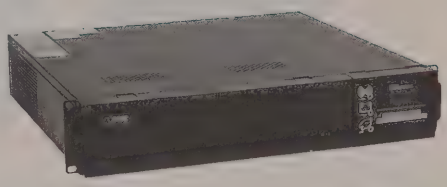
Stock No.	Type	Model	Capacity (VA/W)	Run Time Full/Half Load	Dimensions H x W x D	Output Receptacles	Each
83F8377	03050250U	250VA	250/168	4/14 Min.	5.9 x 2.3 x 15.5"	(4) UPS & Surge (2) 5-15R	119.00
83F8378	03050425U	425VA	425/285	3.5/13 Min.	6.8 x 3.1 x 14.8"	(4) UPS & Surge (2) 5-15R	164.00
83F8379	03050600U	600VA	600/400	3.5/11 Min.	6.8 x 3.1 x 14.8"	(4) UPS & Surge (2) 5-15R	279.00

(41679) (ne3336)

UNINTERRUPTIBLE POWER SYSTEMS

FORTRESS® 750VA TO 2250VA RACK MOUNT UNINTERRUPTIBLE POWER SYSTEMS

NEW



Features:
- **New BestDock™ Communications Slot Allows a Variety of Connectivity Options, Including PC Interface via the Internet**
- **Advanced Power Integrity and Management**
- **User-Programmable Buck and Boost Settings Allow You to Customize Maximum and Minimum Voltage Settings**
- **Easy-to-See LED Indicators and Audible Alarms Warn You of Problems**
- **User-Replaceable Battery**
- **Double-Lifetime Surge Warranty Covers UPS and Protected Equipment up to U.S. $25,000 (USA and Canada Only)**

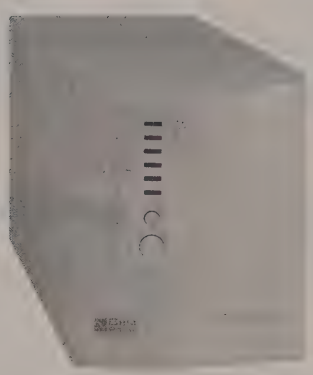
Specifications:
- **Nominal Input Voltage: 120VAC Single-Phase (110- and 128-Volt Options)**
- **Input Voltage Range for Online Operation: 96 to 146VAC Nominal (Up to 90 to 156VAC)**

Fortress rack mount uninterruptible power systems provide no-break power backup for network computing, providing instantaneous power protection against spikes, sags, surges, noise, and lightning. 3.5″ (2U) high. Includes free power management software. 2-year limited warranty.

Stock No.	Type	Capacity (VA/W)	Run Time Full/Half Load	H x W x D	Output Receptacles	Each
83F8383	05200750RU	750/450	6/19 Min.	3.5 x 17.5 x 18″	(6) 5-15R	**599.00**
83F8384	05201050RU	1050/670	6/19 Min.	5.2 x 17.5 x 18″	(6) 5-15R	**799.00**
83F8385	05201425RU	1425/950	5/17 Min.	5.2 x 17.5 x 18″	(6) 5-15R	**999.00**
83F8386	05202250RU	2250/1600	5/16 Min.	7.0 x 17.5 x 18″	(2) 5-20R, (1) L5-30R (4) 5-15R	**1699.00**

(3334) (ne06256)

FORTRESS® 750VA TO 2250VA UNINTERRUPTIBLE POWER SYSTEMS



Features:
- **New BestDock™ Communications Slot Allows a Variety of Connectivity Options; Enables PC Interface via the Internet**
- **New Built-In Transient Voltage Surge Suppression Safeguards Against "Backdoor" Surges**
- **Enhanced Battery Recharge Time Helps Your Equipment Maintain Continuous Power**
- **New User-Programmable Buck and Boost Feature Allows Settings Customized to Your Power Environment**
- **Easy-to-Read LEDs and Audible Alarms Keep You Informed of Power Status**
- **Hot-Swappable Batteries Offer Reduced Maintenance and Service Costs**
- **World-Ready (U.S., Mexico, South America, Australia, Europe) Voltages and Frequencies Available**

Specifications:
- **Nominal Input Voltage: 120VAC Single-Phase (110- and 128-Volt Options)**
- **Nominal Output Voltage: 120VAC Single-Phase (110- and 128-Volt Options)**

Fortress surge suppression, battery management, and communications features make these units ideal for corporate, UNIX, and departmental servers, hubs, and network workstations. PowerSteady™ voltage regulation provides maximum system availability and allows you to ride out under- and overvoltages without draining the battery. Smooth sine-wave output is ideal for sensitive and mission-critical equipment that requires pure, continuous power. CheckUPS II Power Management Software Suite Version 3.x provides complete power protection solution compatible with most major operating systems. 3kVA units also available, *contact your local Newark office for details.* Double-Lifetime surge warranty covers UPS and protected equipment up to U.S. $25,000 (USA and Canada only). 2-year limited warranty. Comply with UL 1449 standards.

Stock No.	Type	Capacity (VA/W)	Run Time Full/Half Load	H x W x D	Output Receptables	Input Connection	Each
83F4701	0520-750U	750/450	5/12 Min.	7 x 5.5 x 14.4″	(4) 5-15R	5-15P	**499.00**
83F4702	0520-1050U	1050/670	5/12Min.	9 x 6.8 x 17.9″	(6) 5-15R	5-15P	**669.00**
83F4703	0520-1425U	1425/950	5/12 Min.	9 x 6.8 x 17.9″	(6) 5-15R	5-15P	**899.00**
83F4704	0520-2250U	2250/1600	5/12 Min.	13.25 x 7.7 x 20.2″	(6) 5-15R (1) L5-30R	L5-30P	**1199.00**
66F7982	LI3KL	3000/2250	12/33 Min.	17.25 x 8.00 x 23.25″	(4) 5-15R (2) 5-20R	Hardwire	**2499.00**

(3333) (ne06255)

NEWARK MAKES ORDERING SIMPLE.
ONE CALL IS ALL IT TAKES TO GET FAST, EFFICIENT DELIVERY.

Best Power

UNINTERRUPTIBLE POWER SUPPLIES

FERRUPS® FE SERIES 500VA TO 18kVA UNINTERRUPTIBLE POWER SYSTEMS

Features:
- Allows Orderly Shutdown of Systems During Power Failure
- Operating Times Can Be Extended with Optional Batteries (Not Included)
- Filters Dirty Power
- CheckUPS® Software Included
- Patented Ferroresonant Technology
- Fully Compatible with Power-Factor Corrected Loads
- Enhanced Communication Capabilities
- Comprehensive Self-Diagnostics

Specifications:
- AC Input/Output Voltages: 120/208/240V (60Hz)
- Efficiency % (On Line): 85% to 92%
- Battery Charger: Typical Recharge <18 Hrs.
- Regulation: ±3% for Input Voltages from +15% to –20% of Nominal; Under Any Line, Load, or Battery Condition, Exceeds Recommended CBEMA and ANSI Voltage Regulation Standards for Computing Equipment
- Sine-Wave Power: Sine-Wave, Computer-Grade Power with 5% or Less Total Harmonic Distortion (THD) at Rated kW load; Meets or Exceeds CSA C22.2 No. 107.1 for Harmonic Distortion
- Overload Capability: 150% Surge and 125% for 10 Minutes on Line; 150% Surge and 110% for 10 Minutes on Inverter
- Frequency: 60Hz Nominal. On Line—Output Frequency Tracks Input within Adjustable Limits (±0.01Hz to ±3Hz); On Inverter—±0.005Hz

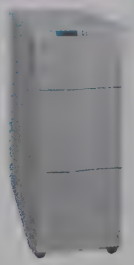
The FERRUPS ferroresonant UPS systems provide power protection in such demanding applications as central data processing, telecommunications/PBX, network hubs, manufacturing process control, and 911 equipment. Protect against sags, brownouts, surges, spikes, and lightning strikes. Extended brownout range conserves battery voltage by correcting sags as low as 38% below normal voltage without drawing on the battery. FERRUPS intelligent features include automatic battery and inverter checks, and "run time remaining" monitoring during power outages. Active voltage regulation feature enables power from almost any AC source to be converted into computer-grade power. **Types FE500VA - FE1.4KVA** are plug-and-play models. Hardwired models also available; *contact your local Newark sales office.*

Stock No.	Type	Wattage	Input Connection	Output Receptacles	Backup Time Half/Full Load	H x W x D	Weight	Each
66F7969	FE500DDAABBA	350W	6′ Cord w/NEMA 5-15P	(4) NEMA 5-15R	25/9 Min.	12 x 10 x 21.25″	58 lbs.	715.00
66F7970	FE700DDAABBA	500W	6′ Cord w/NEMA 5-15P	(4) NEMA 5-15R	35/14 Min.	12 x 10 x 21.25″	76 lbs.	1014.24
66F7971	FE850DDAABBA	600W	6′ Cord w/NEMA 5-15P	(4) NEMA 5-15R	28/11 Min.	12 x 10 x 21.25″	82 lbs.	1188.27
66F7972	FE1.15KDDAABCA	800W	6′ Cord w/NEMA 5-15P	(6) NEMA 5-15R	48/18 Min.	15.1 x 15.2 x 20.2″	126 lbs.	1595.86
66F7973	FE1.4KDDAABCA	1000W	6′ Cord w/NEMA 5-15P	(6) NEMA 5-15R	37/14 Min.	15.1 x 15.2 x 20.2″	148 lbs.	2204.25

(3335) (ne06276)

FERRUPS® 800 SERIES 2kVA TO 7.5kVA UNINTERRUPTIBLE POWER SYSTEMS

NEW



Features:
- Patented Ferroresonant Technology
- New Lower Output Impedance for Improved Compatibility with High-Surge Loads
- New Front Panel Design Makes It Easy-To-Use and Saves Valuable Diagnostic Time in Power Emergencies
- New BestDock™ Communications Slot for Additional Communications Capabilities
- New External Battery Connector for Simpler Run Time Expansion
- New Hot-Swappable Batteries; Change Batteries Without Interrupting the Load Operation

Specifications:
- Nominal Input Voltage: 110/115/120/127/208/220/230/240V for 2kVA-4.5kVA Models; 208/220/230/240V for 6kVA and 7.5kVA Models
- Input Voltage Range: 85 to 138VAC or 165 to 275VAC for 2kVA-4.5kVA Models; 165 to 275VAC for Types 6kVA and 7.5kVA Models

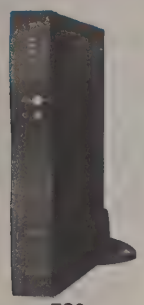
All models include harmonics filtering, precision-regulated voltage without battery discharge, active voltage regulation, redundant power paths, and galvanic isolation. Power protection that eliminates the effects of spikes, sags, surges, noise and lightning for computers and telecommunications equipment. Models 2- and 3kVA have easy-roll casters. Double-Lifetime surge warranty covers UPS and protected equipment up to U.S. $25,000 (U.S.A. and Canada only). 2-year limited warranty.

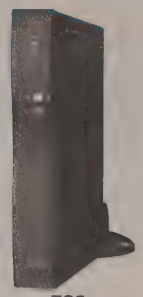
Stock No.	Type	Model	Capacity (VA/W)	Run Time Half/Full Load	H x W x D	Output Receptacles	Input Connection	Each
83F4705	0800-2000-6U	2kVA	2000/1400	23/11 Min.	28 x 13.5 x 29″	(6) 5-15R	L5-20P	2789.00
83F4706	0800-3000-6U	3kVA	3000/2100	36/17 Min.	31 x 13.5 x 29″	(6) 5-15R	L5-30P	3319.00
83F4707	0800-4500-6H	4.5kVA	4500/3200	22/10 Min.	31 x 13.5 x 29″	Hardwire	Hardwire	4369.00
83F4708	0800-6000-6H	6kVA	6000/4200	38/16 Min.	34 x 13.5 x 34.5″	Hardwire	Hardwire	5029.00
83F4709	0800-7500-6H	7.5kVA	7500/5300	27/12 Min.	34 x 13.5 x 34.5″	Hardwire	Hardwire	6419.00

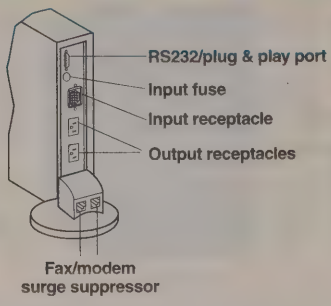
(41777) (ne41777)

UPS SYSTEMS

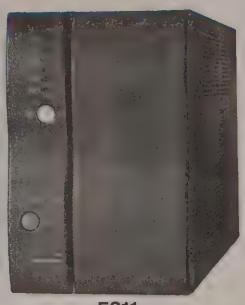
ES+ SERIES UPS SYSTEMS FOR LAN PCs AND SERVERS


ES3+


ES5+



ES8+


ES11+

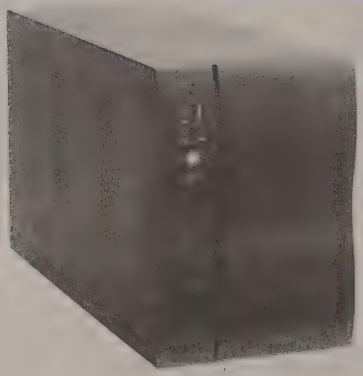
- **Ideal for Small Business Environments**
- **Plug-and-Play for Windows® 95**
- **Includes Solution-Pac 97™ Power Management Software**

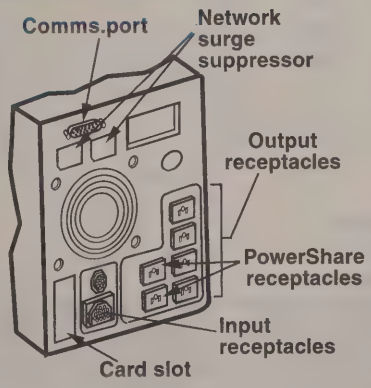
Compact and lightweight UPS systems maximize the availability of LAN PCs and servers used for small business applications. Energy-saving sleep mode conserves battery back-up time by initiating a sleep mode when no load is detected for 5 minutes. Smart battery management features longer battery back-up, faster recharge, increased battery life, auto testing, and deep discharge protection. **Types ES 3+** and **ES 5+** are slim-line models that feature advanced high-frequency technology offering 4 convenient installation modes. **Types ES 8+** and **ES 11+** are compact models that feature voltage boost and fader that provide voltage correction during high and low line conditions. UL listed. 2-year warranty.

Stock No.	Type	Model	VA Rating/Watts	Output Receptacle & Type	Run Time Half/Full	Data Line Protection	H x W x D	Each
83F3888	ES3+	83003	280/175	(2) 5-15R	29/8	RJ-11	11.2 x 1.8 x 11.4″	**129.00**
83F3889	ES5+	83005	480/280	(2) 5-15R	8/3	RJ-11	11.2 x 1.8 x 11.4″	**169.00**
83F3890	ES8+	83008	780/490	(4) 5-15R	10/4	RJ-45	7.7 x 4.8 x 15.2″	**319.00**
83F3891	ES11+	83011	1080/630	(4) 5-15R	10/4	RJ-45	7.7 x 4.8 x 16″	**469.00**

(28471) (ne28471)

ESV+ SERIES UPS SYSTEMS


ESV14+



- **Ideal for Large Business Environments**
- **Flexible Battery Back-Up and Surge Protection**

Includes PowerShare™ function for individual control of UPS output receptacles. **Type ESV22+** features line-interactive design, expansion slot for SNMP and status card, hot-swappable batteries that allow for non-stop operation. Extended battery modules offer up to 8 hours (**type ESV22+** only). ACPI compatible. Includes Solution-Pac™ 97/WAN software with exclusive shutdown capabilities via the network for simultaneous shutdown of NT, Novell, OS/2, and UNIX servers. 2-year warranty. UL listed. *Order* **type EB22** *battery separately below.*

Stock No.	Type	Model	VA Rating/Watts	Description	Output Receptacle & Type	Backup Time Half/Full	Data Line Protection	H x W x D	Each
83F3892	ESV14+	84014	1400/980	UPS System	(6) 5-15R	28/6	RJ-45	9.8 x 6.8 x 18″	**689.00**
83F3893	ESV22+	84022	2200/1540	UPS System	(6) 5-15R	24/7	RJ-45	9.8 x 6.8 x 18″	**799.00**
83F3894	EB22*	84023	...	Battery	...	...	...	...	**349.00**

*Battery for **type ESV22+**

(28472) (ne28472)

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MGE
UPS SYSTEMS

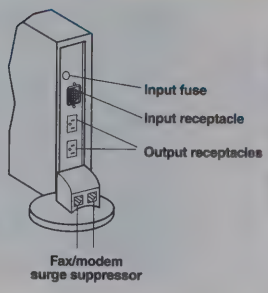
UPS SYSTEMS

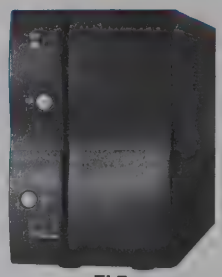
EL SERIES UPS SYSTEMS

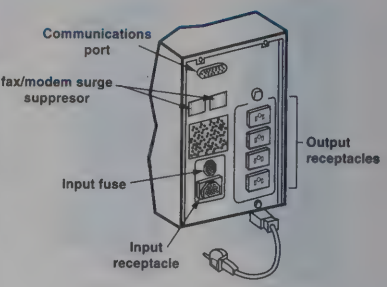
NEW UL

EL2

EL4




EL7



- **Suitable for Small Business/Home Offices**
- **Flexible, Battery Back-Up and Surge Protection**

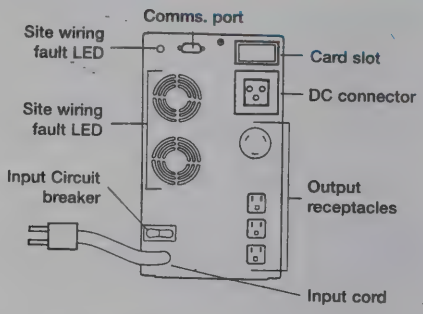
Smart battery management maximizes the reliability of stand-alone PCs and workstations with extended run times. All models feature automatic UPS and battery test, built-in fax/modem surge protection, and are Internet-ready. **Types EL 2** and **EL 4** are dark gray slim-line models with advanced high-frequency technology. Install 4 different ways: tower, under a monitor, on the wall, or on a rack. **Type EL7** is a black compact model that is line interactive with booster; includes a communications port. UL listed. 2-year warranty.

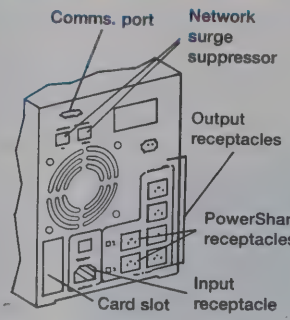
Stock No.	Type	Model	VA Rating/Watts	Output Receptacle & Type	Backup Time Half/Full	Data Line Protection	H x W x D	Each
83F3882	EL2	83002	250/175	(2) 5-15R	27/9	RJ-11	11.2 x 1.8 x 11.4″	99.00
83F3883	EL4	83004	450/280	(2) 5-15R	15/5	RJ-11	11.2 x 1.8 x 11.4″	149.00
83F3884	EL7	83007	750/490	(4) 5-15R	15/6	RJ-11	7.7 x 4.8 x 13.8″	269.00

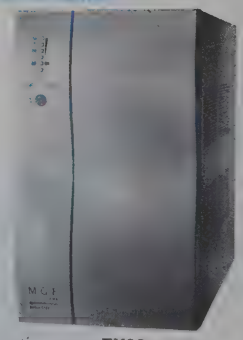
(28470) (ne28470)

EX SERIES TRUE ONLINE DOUBLE-CONVERSION UPS SYSTEMS

UL NEW






EX20

- **Automatic Failsafe and Overload Bypass**
- **Sine-Wave Output**
- **Automatic UPS and Battery Test**
- **Includes Solution-Pac/WAN Software**

True online double-conversion technology provides highest quality AC output. Input AC is converted to DC and reconverted to AC for high isolation from AC utility noise. All transfers to or from battery back-up mode are completely undetectable and uninterrupted. Solution Pac™/WAN included for UPS remote control, automation of everyday tasks, and for selecting emergency actions. Offers shutdown capabilities via the network for simultaneous shutdown of NT, Novell, OS/2, and UNIX servers. Wide operating range (70-138VAC) assures availability of the most critical systems without drawing on the battery. Active input power factor correction circuitry improves utility power utilization for increased UPS output power. Can be directly connected to the network with its own IP address for remote management through an optional SNMP card. All types have RS-232 communications port and free EX driver to "tune" UPS parameters. Includes Solution Pac™ CD-ROM for stand-alone, local/wide area monitoring, control, and shutdown. UL listed. 2-year warranty. Extended batteries offering longer run times for **types EX10/15/20/30** are available separately *on this page.*

Stock No.	Type	Model	VA Rating/Watts	Backup Time Half/Full	H x W x D	Output Receptacle & Type	Each
83F3895	EX7	89007	700/490	15/8 Min.	8.66 x 5.71 x 15.75″	(3) 5-15R	675.00
83F3896	EX10	89010	1000/700	16/9 Min.	8.66 x 5.71 x 15.75″	(3) 5-15R	965.00
83F3898	EX15	89015	1500/1050	14/5 Min.	8.66 x 5.71 x 18.30″	(3) 5-15R	1315.00
83F3900	EX20	89021	2000/1400	18/10 Min.	13 x 7.6 x 17″	(3) 5-15R	1545.00
83F3901	EX30	89030	3000/2100	9/5 Min.	13 x 7.6 x 17″	(3) 5-15R	2455.00

(42473) (ne42473)

EXB SERIES BATTERY PACKS FOR EXTENDED RUN TIMES

NEW

Stock No.	Type	Use With Model	H x W x D	Each
83F3897	EXB10	EX10	8.66 x 5.71 x 15.75″	470.00
83F3899	EXB15	EX15	8.66 x 5.71 x 18.30″	505.00
83F3902	EXB20/30	EX20 or EX30	13 x 7.6 x 17″	1410.00

(42474) (ne42474)

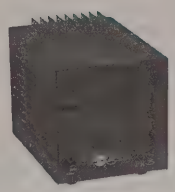
AT NEWARK, YOUR ORDER IS OUR FIRST PRIORITY.

PRECISION REGULATED AND TRIMLINE DC POWER SUPPLIES

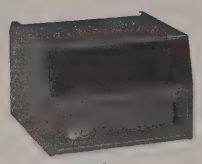
- **Convert 120VAC to 13.8VDC**
- **Solid-State Circuitry, High Quality Filtering, and Electronic Foldback for Automatic Overcurrent Protection**
- **Ideal for CBs, Ham Radios, and All Land Mobile Operations**
- **Light On/Off Switch on Faceplate**
- **Crowbar Overvoltage Prevents Damage to Connected Equipment 15-Amp and Greater**
- **Three-Conductor Grounded Cord on 10-Amp and Larger Models**
- **0.15V Maximum Ripple on 7-Amp and Larger Models**
- **UL Listed Plug and Cord Set**

Precision-regulated DC power supplies feature small footprint design to maximize operating space. Heavy-duty power transformer provides isolation from noise on incoming AC power. Large heat sinks and vented cabinet provide cool operation for continuous use and long life. Regulated output voltage maintains up to 95% of no-load value.

Stock No.	Type	ICS (Amps)	Cont. Duty (Amps)	Applications	Each
50F5009	PR-3	3	2	AM/CB Radios, Car Tape Players	**32.51**
46F2622	PR3UL	4.5	3	Mobile AM/CB Radios, Car Tape Players	**44.60**
50F5008	PR-4.5	4.5	3	High-Power Mobile AM/CB, Tape Players	**37.93**
46F2623	PR-7	7	5	Single Side Band CB, High-Power Car Stereos	**52.51**
46F2624	PR-10	10	7.5	Single Side Band CB, High-Power Car Stereos	**76.69**
92F3245	PR12	12	9.5	Test Bench Power Supply	**82.52**
46F2625	PR-15	15	12	30 Watts, 2 Meter Ham Radio, FM/CB	**114.19**
92F3246	PR20	20	16	60-Watt Transmitters; Low-Power Linear Amps; Test Bench	**120.86**
46F2626	PR-25	25	20	75+ 100-Watt Transmitters; 2-Way Radios, Test Bench Power Supplies	**160.04**
92F3247	PR30	30	24	125-Watt Transmitters; 2-Way Radios, Small Linear Amplifiers	**166.70**
46F2627	PR-40	40	32	150-200-Watt Transmitters; 2-Way Radios, Medium Linear Amplifiers	**204.38**
92F3248	PR50	50	40	250-300-Watt Transmitters; VHF/UHF Ham Radios, 2-Way Microwave Applications; Multiple-Piece Installation Radios	**254.22**
89F683	PR-60	60	48	250-300-Watt Transmitters; VHF/UHF Radios, 2-Way Radios, Microwave Radio Applications, Test Bench	**299.23**



PR-25



TLC11

The **TL series** base station power supplies are designed to fit the most popular radios on the market: Motorola Radius, GE, EF Johnson, Maxon, and more. These precision-regulated DC power supplies attractively power a base station radio with 11 amps intermittent, 7 amps continuous duty.

Stock No.	Type	Description	Each
52F7496	TL11	Trimline DC Power Supply	**68.85**
52F7497	TLC11	TL11 with Enclosure for Integrated Radio Protection	**78.57**

(3863) (de51987)

ISOLATION TRANSFORMERS

Isolation transformers provide true line isolation to protect sensitive electronics. Ideal for telecom and point-of-sale (cash register) applications where an isolated ground is essential. Clean, portable ground eliminates the need for dedicated lines. Efficient operation generates less heat than ferroresonant devices. Units feature exceptional low-frequency line noise rejection and external resettable circuit breaker. Each comes with 6′ cord. Output: 120VAC. 2-year warranty.

Stock No.	Type	Load Current	Watts Load	Load Regulation	Outlets	Each
90F7230	IS-200	1.7 Amps	200W	RMS±4%	2	**131.10**
90F7231	IS-400	3.4 Amps	400W	RMS±4%	4	**180.86**
90F7232	IS-800	6.8 Amps	800W	RMS±3%	4	**231.26**

(3916) (ne08414)

IS200

LINE VOLTAGE REGULATORS

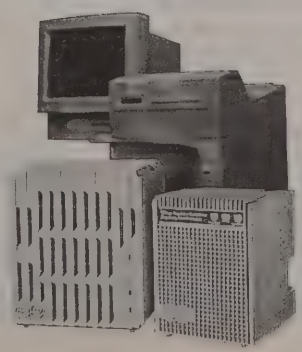
Regulates incoming voltages from 87 to 140VAC back to 120VAC. Help protect sensitive electronic equipment (i.e., computers and peripherals, TVs, VCRs, etc.) from overheating and burnout from overvoltage. Front panel LEDs display input voltage conditions. Provide complete brownout protection and surge/noise protection in one low-cost unit. Automatically adjusts a wide range of incoming voltages (from 87 to 140 volts) back to 120VAC. Nominal output within ANSI C84.1 specifications. Use relay-stepped transformers to provide peak input voltage regulation to connected equipment. **Types LC1200, LC1800,** and **LC2400** feature built-in Isobar® surge suppression (meet IEEE 587 standard–Categories A and B). Up to $25,000 Ultimate Lifetime Insurance coverage for connected equipment; 2-year product warranty. **Types LC1800** and above meet LED recognition of incoming voltage condition. Rack mount units available; *contact your local Newark sales office.*

Stock No.	Type	Wattage	Isolation	Outlets	Each
46F2614	LS-600	600	No	2	**95.09**
50F5037	LS-604	600	No	4	**107.36**
46F2615	LC-1200	1200	Yes	4	**148.77**
46F2616	LC-1800	1800	Yes	6	**220.85**
50F5040	LC-2400	2400	Yes	6	**299.06**
50F814	LCR-2400*	2400	Yes	14	**361.90**
83F6126	LC 1200 WM**	1200	Yes	4	**220.85**
83F6125	LS 604 WM**	600	Yes	4	**141.10**

*Rack mount version **Wall-mount version

(3915) (ne08413)

ULTIMATE LIFETIME INSURANCE



POWER CONDITIONERS

POWER CONDITIONERS

Benefits:• Protects Facility Wiring from Odd-Order Harmonics
- **Regulates Voltage, Provides Surge Suppression and Isolation**
- **Acts as a Step-Up or Step-Down Transformer**
- **Rugged Design Handles Hostile Industrial Environments to +50°C Rated**
- **Ideal for PLCs, Offers Ultimate Protection Against Voltage Sags and Brownouts**
- **Excellent Protection for: Machine Tools, Computer Loads, Robotics, Industrial Panels, and Electronic Equipment**
- **Half-Load Input Voltage Window of +15 to –50%**
- **Galvanic Isolation and Bonded Neutral Provides Superior Isolation from Noise**
- **±3% Regulation for Line Fluctuations of +10/–20%**
- **6000-Volt Surges are Suppressed to Safe Levels Per ANSI/IEEE C62.45-1991 Class A and B Specifications**
- **Deep Brownouts of up to 35% from Nominal are Maintained to within 10% of the Output Nominal**
- **Common Mode Noise Attenuation: >120dB; Normal Mode Noise Attenuation: >60dB**
- **10-Years Warranty**

MCR series protects equipment from all power problems except total power loss. Suppresses transients, protects against overloads, sags, noise, brownouts and acts as a dedicated line. Neutralizes harmonics and SCR notches that can damage sensitive loads. Even with a heavily distorted or square-wave input, MCR series puts out a sine wave. To size the unit for your needs, simply multiply the Volts x Amps to obtain the VA load requirement. Then select the next larger size unit. If protection from severe brownouts is needed, the unit can be oversized for even greater input voltage window. If your load has an inductive inrush such as relays, coils, solenoids or motors, size the unit for the load inrush current. Or, with high inductive inrush loads, load power factor correction capacitors can reduce the need to oversize the unit for inductive inrush currents. For 60Hz/600V models, 500 to 1500VA range; *contact your local Newark sales office for details.*

HARDWIRED MCR SERIES — 60Hz — UL LISTED

Stock No.	Type	VA Rating	Regulated Output Voltage	Nominal Input Voltage	H x W x D	Weight	Each
79W273	63-23-112-4*	120	120V	120,208,240,480	8.62 x 4.00 x 5.19″	15 lbs.	268.85
79W274	63-23-125-4*	250	120	120,208,240,480	10.16 x 5.38 x 7.44″	27 lbs.	351.50
79W275	63-23-150-8*	500	120,208,240	120,208,240,480	12.69 x 9.00 x 6.44″	37 lbs.	529.15
79W277	63-23-175-8*	750	120,208,240	120,208,240,480	13.69 x 9.00 x 6.44″	52 lbs.	674.50
79W278	63-23-210-8†	1000	120,208,240	120,208,240,480	16.76 x 9.00 x 6.44″	62 lbs.	804.65
79W279	63-23-215-8†	1500	120,208,240	120,208,240,480	16.44 x 12.75 x 9.03″	95 lbs.	1083.95
80W027	63-23-220-8†	2000	120,208,240	120,208,240,480	17.31 x 12.75 x 9.03″	109 lbs.	1370.85
80W028	63-23-230-8†	3000	120,208,240	120,208,240,480	18.69 x 12.75 x 9.03″	142 lbs.	1960.80
80W030	63-23-250-8†	5000	120,208,240	120,208,240,480	28.19 x 12.75 x 9.03″	222 lbs.	3064.70
80W032	63-28-275-8	7500	120,208,240	208,240,480	26.56 x 25.81 x 9.03″	362 lbs.	3492.68
44F2027	63-28-310-8	10,000	120,208,240	208,240,480	28.19 x 25.81 x 9.03″	446 lbs.	5430.68
44F2028	63-28-315-8	15,000	120,208,240	208,240,480	28.19 x 38.25 x 9.38″	710 lbs.	6438.60

*CSA certified; †CSA certified available; *Contact your local Newark sales office.*

INTERNATIONAL HARDWIRED MCR SERIES — 50Hz — CE COMPLIANT, VDE APPROVED

Stock No.	Type	VA Rating‡	Regulated Output Voltage	Nominal Input Voltage	H x W x D	Weight	Each
93F2541	63-23-612-8	120	110,120,220,240	120,220,240,380,415	9.10 x 4.50 x 7.44″	24 lbs.	338.91
50F5417	63-23-625-8	250	110,120,220,240	120,220,240,380,415	10.60 x 4.50 x 7.44″	27 lbs.	427.24
94F6232	63-23-650-8	500	110,120,220,240	120,220,240,380,415	13.25 x 9.00 x 6.38″	40 lbs.	632.64
98F2175	63-23-710-8	1000	110,120,220,240	120,220,240,380,415	17.94 x 9.00 x 6.38″	64 lbs.	1088.62
94F5559	63-23-720-8	2000	110,120,220,240	120,220,240,380,415	117.58 x 12.75 x 9.34″	113 lbs.	1633.27
50F3009	63-23-750-8	5000	110,120,220,240	120,220,220,380,415	30.00 x 12.75 x 9.38″	266 lbs.	3203.13

‡For international 50Hz models larger than 5000VA, *contact your local Newark sales office.*
(3811)

(de04416)

MINI-COMPUTER REGULATORS

MCR Portable

- **Protects Your System from Surges, Spikes, Sags, Overvoltages, Brownouts, and Electrical Noise**
- **Automatic Overload Protection Eliminates Need for Circuit Breakers and Fuses**
- **Multiple Input and Output Voltage (Including International) Models Available**
- **UL Listed, CSA Certified**

Improves monentary overload and waveform characteristics in currents caused by electronic loads; the load is isolated from power source by the regulator. Voltage regulation: ±3% for an input variation of +10%/-20% is limited to twice the rated current. Equipment receives noise-free power. Once overload is removed, normal operation resumes. Common mode rejection: 120dB (DC to 1MHz). Transverse noise rejection: 60dB (10kHz to 1MHz). 98% efficiency at full load. Average continuous life is 25 years. Limited 10-years warranty.

PORTABLE MINI COMPUTER-POWER CONDITIONERS—60Hz/120V

Stock No.	Type	Model No.	VA Rating	Nominal Output Volt	Input Volt	Receptacle* (NEMA)	Plug (NEMA)	H x W x D	Each
87F196	63-13-070-6	MCR070	70	120	95-130	(4) 5-15R	5-15P	6.25 x 6.75 x 9.25″	187.76
87F197	63-13-115-6	MCR150	150	120	95-130	(4) 5-15R	5-15P	6.25 x 6.75 x 9.25″	300.02
87F198	63-13-125-6	MCR250	250	120	95-130	(4) 5-15R	5-15P	6.25 x 6.75 x 9.25″	404.80
87F199	63-13-150-6	MCR500	500	120	95-130	(4) 5-15R	5-15P	8.50 x 8.50 x 16.00″	559.32
87F200	63-13-175-6	MCR750	750	120	95-130	(4) 5-15R	5-15P	8.50 x 8.50 x 16.00″	713.85
87F201	63-13-210-6	MCR1000	1000	120	95-130	(4) 5-15R	5-15P	8.50 x 8.50 x 16.00″	824.76
01F682	63-13-215-6	MCR1500	1500	120	95-130	(4) 5-15R	L5-30P	10.62 x 11.38 x 16.88″	1112.01
87F202	63-13-220-6	MCR2000	2000	120	95-130	(4) 5-15R	L5-30P	10.62 x 11.38 x 16.88″	1396.41
87F203	63-13-230-6	MCR3000	3000	120	95-130	(4) 5-15R	L5-50P	10.62 x 11.38 x 16.88″	1844.46

*Also includes (1) L5-30R NEMA receptacle
(3795)

(de01122)

TRANSFORMERS AND POWER CONDITIONERS

CVS SERIES CONSTANT VOLTAGE TRANSFORMERS

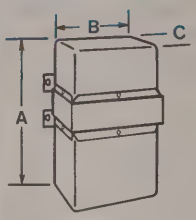


Fig. 1

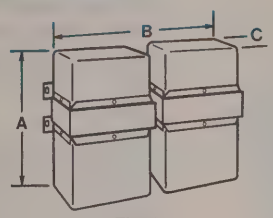


Fig. 2

Specifications:
- **Output Voltage Regulation of +/– 1% for Line Variation of +10% to –20%.**
- **Output Voltage Remains within NEMA Specifications for Input of +15% to –35%.**
- **Provides Galvanic Isolation with Common and Normal Mode Noise Attenuation of 40dB.**
- **6kV, 200-Amp ANSI/IEEE C62.45-1991 Powerline Surge is Attenuated to a Let-Through of 1%.**
- **Regardless of Input Waveform, Output is a Sine Wave with Less than 3% THD.**

The **CVS series** are well-recognized voltage regulation devices for industrial applications where extremely precise voltage regulation is required. All types are 60Hz hardwired input/output with a terminal block accessible through concentric knockouts. **CVS series** voltage regulators provide highly regulated sinewave output voltages to within ±1% in the presence of input voltage variations from +10% to –20%. Output distortion remains less than 3% THD. Even with heavily distorted and/or notched input voltages, the **CVS series** outputs a sine wave. Computers, LAN systems, and various other equipment with switch-mode power supplies generate potentially damaging odd-order harmonic currents. The increase of harmonics has become a rapidly growing problem in facility wiring. SOLA **CVS series** technology eliminates these harmonics, thereby protecting facility wiring and sensitive electrical loads. **CVS series** constant voltage regulators are ideal for protecting industrial automation equipment, PLCs, panelboard power supplies, photographic enlargers, analytical lab equipment, CCTV transmission equipment, sound/recording device and marine navigation equipment. To size a Sola CVS, simply multiply the load Volts x Amps to obtain the load VA requirement. Then select the next larger size Sola CVS. Note: If protection from severe brownouts is needed, the **CVS series** can be oversized for even greater input voltage window. If the load has an inductive inrush, such as relays, coils, solenoids, or motors, size the **CVS series** for the load inrush current. Or, with high inductive inrush loads, load power factor correction capacitors can reduce the need to oversize the **CVS series** for inductive inrush currents. UL listed, CSA certified.

Stock No.	Type	Voltage		VA	Fig.	Overall Dimensions			Weight	Each
		Output	60Hz Input			A	B	C		
05F1108	23-13-030-2	120	120	30	1	6.03″	3.31″	5.18″	7 lbs.	**163.29**
05F987	23-13-060-2	120	120	60	1	6.88″	3.31″	5.18″	9 lbs.	**188.93**
05F988	23-22-112-2	120	120/240	120	1	7.94″	3.31″	5.18″	13 lbs.	**257.33**
05F943	23-23-125-8	120	120/240/480	250	1	9.88″	4.50″	7.44″	29 lbs.	**390.45**
46F3369	23-23-150-8	120/240	120/208/240/480	500	1	12.69″	7.78″	6.44″	42 lbs.	**431.26**
46F3370	23-23-210-8	120/240	120/208/240/480	1000	1	16.75″	7.78″	6.78″	65 lbs.	**673.77**
46F3371	23-23-220-8	120/240	120/208/240/480	2000	1	17.31″	10.56″	9.34″	111 lbs.	**1563.70**
46F3372	23-23-230-8	120/240	120/208/240/480	3000	1	18.69″	10.56″	9.34″	142 lbs.	**2159.35**
80W013	23-23-250-8	120/240	120/208/240/480	5000	1	28.19″	10.59″	9.34″	222 lbs.	**3371.55**
80W023	23-28-275-6	120/240	240/480	7500	2	29.06″	24.82″	9.34″	365 lbs.	**3046.72**

*CSA not available.
(3847)

(de51725)

POWER CONDITIONERS MEDICAL GRADE

Protect medical imaging systems, monitor diagnostic devices and other data-sensitive patient care equipment from surges, spikes, sags, brownouts, powerline noise and other problems caused by electrical disturbances. Lowered-output-impedance design improves momentary overload and waveform characteristics for a broad range of applications. A ferroresonant transformer protects against line voltage fluctuations, brownouts and even short power outages of up to 3 milli-seconds while supplying constant output. High voltage surges up to 6,000 volts are suppressed. If an overload occurs, transformer protects both the connected load and conditioner, and automatically shuts down output if the current exceeds 200% of the maximum rated value. Limited 10-year warranty covers defects in workmanship and materials.

SPECIFICATIONS

- **Input: Voltage 120V; Frequency: 60 Hz**
- **Output: Voltage: 120V; Frequency: 60 Hz**
- **Voltage Regulation: ±3% for Input Variation of +10%/–20%**
- **Overload: Output Current Limited to Twice Rated Current.**
- **Harmonic Distortion: Less Than 3% Total RMS Content at Full Load**
- **Harmonic Rejection: Output is 60 Hz Sine Wave, Even with Distorted Input Waveform**
- **AC Leakage Current: Less Than µA for Patient Care Products as Specified by UL 544.**
- **Noise Reduction: Common Mode: 120 dB (DC to 1 MHz); Transverse Noise: 60 dB (10 kHZ to 1 MHz).**
- **Conformance: Listed to UL 1012 and UL 544 for Patient Care Products. CSA: Certified to CSA C22.2, No. 66**

Stock No.	Type	VA	Receptacles (4)	Plug	H x W x D	Wt.	Each
50F3013	63-13-125-7	250	NEMA 5-15R	NEMA 5-15P	6.25 x 6.75 x 25″	26 lbs.	**444.70**
50F3014	63-13-150-7	500	NEMA 5-15R	NEMA 5-15P	8.50 x 8.50 x 16.00″	32 lbs.	**615.18**
50F3015	63-13-210-7	1000	NEMA 5-15R	NEMA 5-15P	8.50 x 8.50 x 6.00″	69 lbs.	**903.76**

(3848)

(de51726)

WIREMOLD™
Shape Electronics Division

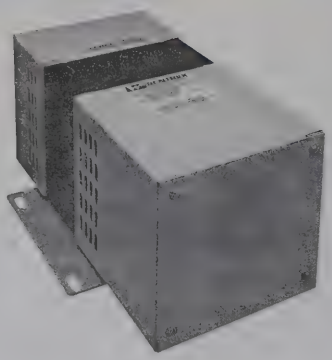
POWER CONDITIONERS

NEW UL

SENTEX® TYPE CLT WALL MOUNT HARDWIRED POWER CONDITIONERS

- **Unique Ferroresonant Voltage Technology Reduces Hazardous Odd - Order Harmonics on AC Line**
- **Eliminate Power Line Problems and Protect Equipment from Everything Short of a Power Outage**

Ideal for telephone and security systems, medical equipment, mini-/mainframe computers, typesetters and process control. One unit handles multiple voltage from 90-132VAC, 60Hz. Response time: instantaneous (no measurable delay) Output Voltage: 120/208/240. UL Listed. 50Hz units also available; *contact your local Newark sales office.*



5 year warranty

Stock No.	Type	Capacity* (VA)	Input Voltage	L x W x D	Each
92F3334	CLT-0140-GTB	140	120/208/240/480	6 x 4.37 x 8.5	275.47
92F3335	CLT-0250-GTB	250	120/208/240/480	6 x 4.37 x 9.62	361.01
92F3336	CLT-0500-GTB	500	120/208/240/480	6.25 x 6.5 x 12.25	548.43
92F3337	CLT-0750-GTB	750	120/208/240/480	6.25 x 6.5 x 13.25	696.84
92F3338	CLT-1000-GTB	1000	120/208/240/480	6.25 x 8.5 x 14.75	831.45
92F3339	CLT-1500-GTB	1500	120/208/240/480	9.31 x 9.87 x 17.43	1119.48
92F3340	CLT-2000-GTB	2000	120/208/240/480	9.31 x 9.87 x 18.25	1416.32
92F3341	CLT-3000-GTB	3000	120/208/240/480	9.31 x 8.87 x 19.31	2028.88
92F3342	CLT-5000-GTW	5000	120/208/240/480	14 x 14.5 x 27	3172.27
92F3343	CLT-7500-RTW	7500	208/240/480	14 x 14.25 x 28.25	3899.32
92F3344	CLT-1001-RTW	10000	208/240/480	14 x 14.25 x 29.25	6352.10
92F3349	CLT-1501-RTO	15000	208/240/480	15 x 14.25 x 28.25	7987.27

*Based on load power factor of 0.7 leading
(36571)

(ne36571)

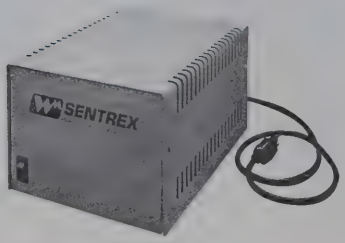
NEW UL CSA

3 year warranty

SENTREX® TYPE PCLC PLUG-IN 60HZ POWER CONDITIONERS

- **Protects Against Power Interruptions up to 3 Milliseconds**
- **Protection Against All Power Line Problems Short of a Blackout**

Bidirectional harmonic filtering reducesdistortion to and from your equipment. Provides protection against brownouts, spikes, surges, sags, noise, and harmonics. Ideal for workstations, remote computer peripherals, and microcomputers, LANs, and fax machines. Output voltage: 120VAC ±5%. Input voltage: 96-132VAC. Output waveform: sinewave, approximately 5% THD. Response time: instantaneous (no measurable delay). All types have plug-type 5-15P **type PCLC-1800**s, which has a 5-20P plug. 6″ line cord. All have on/off switch except, **type PCLC-110**. UL listed and CSA certified. 50Hz units also available; *contact your local Newark sales office.*



Stock No.	Type	Capacity* (VA/W)	L x W x D	Output Receptacles	Each
92F3316	PCLC-110	110/80	5.5 x 6.5 7	(2) 5-15R	188.39
92F3317	PCLC-210	210/150	5.5 x 6.75 x 9.5	(2) 5-15R	251.49
92F3318	PCLC-420	420/300	5.5 x 6.75 x 9.5	(4) 5-15R	314.69
92F3319	PCLC-650	650/450	8.5 x 8.5 x 11.25	(6) 5-15R	403.15
92F3320	PCLC-850	850/600	8.5 x 8.5 x 11.25	(6) 5-15R	466.35
92F3321	PCLC-1100	1100/800	8.25 x 10 x 15	(6) 5-15R	681.19
92F3322	PCLC-1400	1400/1000	8.25 x 10 x 15	(6) 5-15R	757.01
92F3323	PCLC-1800	1800/1200	8.25 x 10 x 15	(6) 5-15R	870.76

*Based on load power factor of 0.7 leading
(36572)

(ne36572)

NEW UL

SENTREX® COMPUTER LINE CONDITIONERS

- **Solve 99% Of All Power Quality Problems**
- **Bidirectional Harmonic Filtering Reduces Distortion to and from Your Equipment**
- **Multistage MOV Surge Suppression Provides a Higher Level of Computer Protection**
- **Include 6′ Line Cord, On/Off Switch and Indicator Lights**

Provide completely regulated, computer-compatible sinewave power. Super-isolation and tight regulation for sensitive microprocessors. Designed to isolate electrical equipment from imperfect commercial power lines. Also provide protection against brownouts, spikes, surges, sags, noise, and harmonics. Ideal for medical and factory automation equipment, mini-computers, large LANs. Response time: instantaneous (no measurable delay). Input voltage: 90-132VAC. Output voltage: 120VAC ±3%. Output waveform: sinewave, approx. 3% THD. All have plug-type 5-15P except **types CLC-2100-AAA** and **CLC-3100-AAA** which have a L5-30 type plug. 50Hz units also available; *contact your local Newark sales office.* UL listed.

5 year warranty

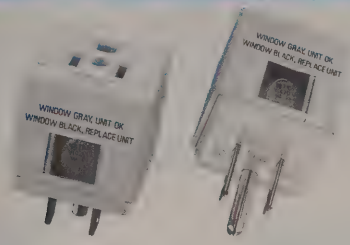
Stock No.	Type	Capacity* (VA/W)	L x W x D	Output Receptacles	Each
92F3325	CLC-0100-AAA	100/70	8 x 6 x 12.5	(2) 5-15R	248.99
92F3326	CLC-0200-AAA	200/140	8x 6 x 12.5	(2) 5-15R	326.04
92F3327	CLC-0350-AAA	350/250	8 x 6 x 12.5	(2) 5-15R	415.51
92F3328	CLC-0500-AAA	500/380	10 x 8.7 x 17.25	(4) 5-15R	562.15
92F3329	CLC-0750-AAA	750/530	10 x 8.7 x 17.25	(4) 5-15R	717.38
92F3330	CLC-1050-AAA	1050/750	10 x 8.7 x 17.25	(4) 5-15R	829.78
92F3331	CLC-1500-AAA	1500/1000	10 x 8.7 x 17.25	(4) 5-15R	983.76
92F3332	CLC-2100-AAA	2100/1500	11.37 x 11.12 x 18.75	(4) 5-15R, (1) L5-30R	1405.39
92F3333	CLC-3100-AAA	3100/2200	11.37 x 11.12 x 18.75	(4) 5-15R, (1) L5-30R	2016.41

*Based on load power factor of 0.7 leading
(36574)

(ne36574)

MULTIMEDIA SURGE SUPPRESSORS

COMPACT PLUG-IN SURGE PRODUCTS



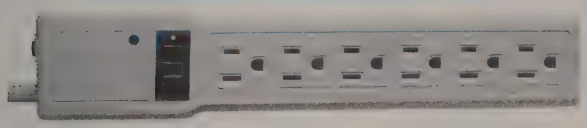
- **Absorb Destructive Overloads**
- **Type SS1E Dissipates Noise**
- **Protect Against Drop-Outs**
- **Help Cut Repair Costs**

Type SSF1E and **SSF1** surge suppressors plug directly into a wall socket. They protect appliances, computers, and other sensitive equipment against powerline disturbances, such as voltage spikes, over-voltages, and noise interference. These single-plug units have indicator windows to warn of over-voltage conditions. **Type SSF1E** features noise filtration, has 3 MOVs, and 210 joules. **Type SSF1** has 1 MOV (70 joules). Each has varistor(s) which turn black when the unit needs to be replaced. Maximum voltage: 225VDC, 175VAC RMS. Maximum surge current: 2500 amps (2 times), 4500 amps (1 time). Rated at 15amps, 125 volts. 440 V clamping voltage. Response time: 1 nanosecond. UL listed.

Stock No.	Type	Varistors	1-9	10-24
66N7718	SSF1	1	3.39	3.30
66N7719	SSF1E	2	4.18	4.06

(3902) (ne07309)

ECONOMY-GRADE SURGE STRIPS



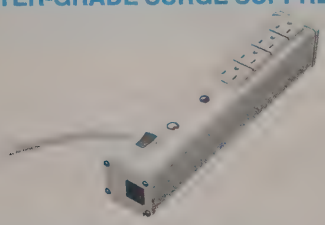
- **6 Grounded Outlets**
- **Slim-line Design**
- **High-impact Plastic Housing**

Types PM6S9-3 and **PM6SP-1** economy-grade surge suppressors have resettable circuit breakers. **Type PM6SP-3** features a 210 joules rating and a surge LED. **Type PM6SP-1** features a 70 joules rating.

Stock No.	Type	On/Off Switch	Cord Length	1-9
92N5927	PM6SP-3	Yes	6′	16.99
92N5925	PM6SP-1	Yes	3′	13.99

(31880) (ne31880)

COMPUTER-GRADE SURGE SUPPRESSORS



- **Maximum Surge Current: 13,000 Amps; Clamping Voltage: 336V**
- **Resettable Overload Circuit Breaker**
- **Surge Suppression Indicator Light**
- **15 Amps, 120 Volts**
- **1 Nanosecond Response Time, 40dB Noise Reduction**
- **Computer White Aluminum Housing with Matching 14/3 SJT Cord**
- **Snap-On/Slide-Off Mounting**
- **1¼″ Receptacle Center-to-Center**
- **Cord Length: 6′**
- **5-Year Warranty**
- **Protected-Equipment Warranty**
- **UL 1449 Listed (400V Category), CSA Certified**

Protect sensitive computer equipment and hardware from damage and data loss due to transient power surges, spikes, and EMI/RFI noise.

Stock No.	Type	Switch	L x W x H	1-9	10-24
66N7712	SSC66F*	Yes	3¼ x 2 x 1¾″	49.35	47.98
66N7713	SSC66*	Lighted	13 x 2 x 1¾″	45.52	44.25
66N7715	SSC46**	Lighted	10½ x 2 x 1¾″	43.35	42.15

*6 on/off outlets **4 on/off outlets
(3905) (ne07312)

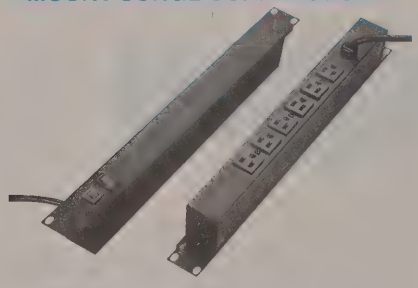
OFFICE/HOME SURGE SUPPRESSORS

SSA series surge suppressors provide LED surge indication, RJ-11 voice/fax ports, 6 outlets, and rocker on/off switch. Meet UL/IEEE standards. Clamping response time: 1 nanosecond. **Types SSA62** and **SSA63** have 330V UL standard 1449 rating, and 55dB noise attenuation. Maximum energy dissipation: 590 joules. Maximum surge current: 49,000 amps. Multimedia applications include: computer, digital TV, and satellite signals. **Type SSA61** has 400V UL standard 1449 rating and 35dB noise attenuation. Maximum energy dissipation: 350 joules. All have a 5-year warranty and a protected-equipment warranty. UL listed.

Stock No.	Type	Voice/ Fax	Coax Line	Audible/Visual Indication	Ground Indication	1-9
66N7708	SSA61	1 Set	None	Visual	None	32.55
66N7709	SSA62	1 Set	1 Set	Both	LED	42.95
66N7710	SSA63	1 Set	2 Sets	Both	LED	49.95

(3904) (ne07311)

HIGH-PERFORMANCE AND COMPUTER-GRADE RACK MOUNT SURGE SUPPRESSORS



- **Designed to Fit All Standard 19″ Cabinets, Carts, and Racks**
- **Matte Black Steel Housing with Black 14/3 SJT Cord**
- **Six Rear Outlets**
- **1½″ Receptacle Center-to-Center**
- **1¼″ Mounting Center**
- **Dimensions: 19L x 1¾W x 2¾″H**
- **UL Recognized, CSA Certified**

Types SSD66 and **SSD615** are high-performance surge suppressors designed to work with networking products and feature 11,000A surge capability and 260V clamping voltage. UL 330V rated. **Types SSG66** , **SSG615**, and **SSG66NS** are computer-grade surge suppressors that feature 4.3A surge suppression and 336V clamping voltage. UL 400V rated.

Stock No.	Type	On/Off Switch	Cord Length	1-9	10-24
66N7716	SSD66	Yes	6′	100.20	93.76
66N7717	SSD615	Yes	15′	103.97	97.29
66N7720	SSG66	Yes	6′	66.57	62.29
66N7721	SSG615	Yes	15′	70.20	65.69
66N7722	SSG66NS	No	6′	64.79	62.99

(3903) (ne07310)

NEW PRODUCTS ARE CONTINUALLY ADDED.
CALL NEWARK FOR CURRENT SELECTION.

SL WABER
THE LEADER IN POWER TECHNOLOGY

SURGE AND NOISE SUPPRESSORS

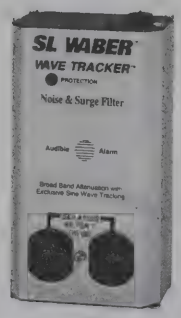
SS7408-6

TRIMLINE SURGE SUPPRESSORS

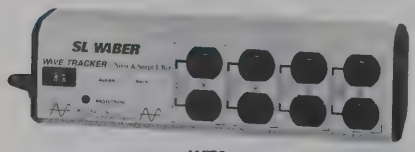
Rugged, versatile multi-length surge suppressors protect sensitive electronics. Widely used in racks, workbenches, production lines, lab tables, and similar applications. Rating: 15A/125VAC, 60Hz, 1875W continuous duty. All models feature surge indication light, master switch/pilot light, and circuit breaker. Outlets "U" ground. UL listed.

Stock No.	Type	Case	No. of Outlets	Max. Surge Current	Joules	Cord Length	Each
16F656	SS7408-6	4′	8	36,000A	450	6′	**77.57**
16F657	SS7415-15	4′	15			15′	**96.39**
16F658	SS7619-6	6′	19			6′	**107.40**

(3907) (ne08079)



WT2P



WT8

WAVETRACKER™ SURGE AND NOISE SUPPRESSORS

3-stage surge protection (gas tube, avalanche diode, MOV). Feature sine wave tracking which exhibits a clamping envelope that molds to the shape of the sine wave and greatly reduces the magnitude of the spike. UL 1449 rating of 330V. Applications include CAD stations, telecommunications equipment, and multimedia systems. Units come with 6′ cord (except **type WT2P** which is direct plug-in). Audible and visual surge indicators. UL listed. Lifetime connected equipment warranty.

Stock No.	Type	No. of Outlets	Noise Attenuation	Max. Surge Current	Each
93F5115	WT2P	2	75dB	104,025A	**55.67**
93F5116	WT4	4	100dB	116,025A	**102.09**
93F5117	WT4M*	4	100dB	116,025A	**115.16**
93F5118	WT6**	6	110dB	128,025A	**115.16**
93F5120	WT8**	8	125dB	140,025A	**133.37**

*Offers telecommunications line protection (RJ-11), **15′ cord versions available.
(3906) (ne08078)

MGS6-6

HOSPITAL-GRADE SURGE SUPPRESSORS

- **"Green Dot" Medical-Grade Components**
- **3-Stage Surge Filter**
- **Visual Surge Indicator**
- **Lifetime Warranty**

White steel case. Rating: 15A/120VAC, 60Hz. Maximum surge current: 44,025A. Voltage: 6000V. UL1449 rating: 400V. Maximum leakage: 30µA. Clamping response: <1psec. UL listed plug, cord, and receptacles.

Stock No.	Type	No. of Outlets	Cord	Each
93F1838	MGS4-6	4	6′	**89.86**
93F1839	MGS4-15	4	15′	**94.90**
93F1840	MGS6-6	6	6′	**98.26**
93F1841	MGS6-15	6	15′	**103.12**

(3789) (de00726)

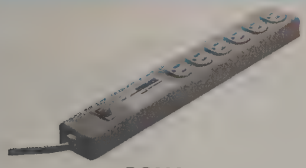
OVERNIGHT SHIPMENT IS AVAILABLE WHEN YOU NEED IT.
CONTACT YOUR LOCAL NEWARK SALES OFFICE.

SURGE AND NOISE SUPPRESSORS

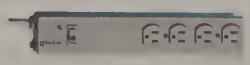
DATAGARD® SERIES

Datagard units meet UL Standard 1449 with 330V rating. Units have visual or audible surge indicators and resettable circuit breakers. Ratings: 15A, 60Hz, 1875W. UL listed. All offer 10-year/$2,500 connected equipment warranty.
(14726) (ne10628)

DATAGARD® ECONOMICAL SURGE SUPPRESSORS



DG206



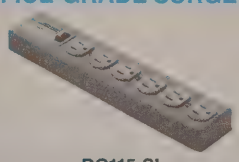
DG204

Provide basic surge protection for general office equipment. 6′ cord. Joule rating: 450J. Max surge current: 36,000A. UL listed.

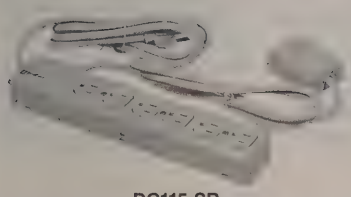
Stock No.	Type	Outlets	Mounting Centers	Each
87F2859	DG204	4	11.00″	27.34
87F2860	DG206	6	11.00″	19.95

(3841) (de51651)

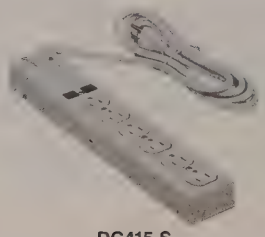
DATAGARD® OFFICE-GRADE SURGE SUPPRESSORS



DG115-SI



DG115-SR



DG415-S

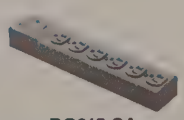
Specifically designed to protect computers, P.O.S. terminals, sensitive instrumentation, and other electronic equipment containing sensitive microprocessors. All 3 models meet UL 1449 Standard with 330V rating. Units have visual surge indication (except **type DG115-SR**, which has audible surge indication) and resettable circuit breaker. Ratings: 15A/125V, 60Hz, 1875W continuous duty. Cord length: 6′. Color: cool gray. Lifetime $10,000 connected equipment warranty.

Stock No.	Type	Joule Rating	Max. Surge Current	Noise Attenuation	No. of Outlets	Each
90F2090	DG115-SI	450	36,000A	Up to 55dB	6	54.75
90F2092	DG115-SR*	450	36,000A	Up to 55dB	6	70.24
89F852	DG415-S†	450	36,000A	Up to 55dB	6	65.22

*Remote switch cord is 4/12′; †Comes with 2 RJ-11 phone jacks.
(3908) (ne08340)

DATAGARD® INDUSTRIAL SURGE SUPPRESSORS

DG315R



DG315-SA

Designed for large office and industrial applications, specifically where noise is a critical factor. Both models meet UL 1449 Standard with 330V rating. 15A/125V, 60Hz, 1875W continuous duty. Color: **type DG315-SA** is cool gray; **type DG315R** is black. Cord length: 6′. Lifetime $10,000 connected equipment warranty.

Stock No.	Type	Joule Rating	Max. Surge Current	Noise Attenuation	No. of Outlets	Each
90F2091	DG-315-SA	450	36,000A	Up to 65dB	6	70.24
50F2819	DG315-R	450	36,000A	Up to 65dB	6	111.95

*Dimensions for 19″ rack mount: front plate: 19L x 1 23/32″W; back cover: 17L x 1 11/16W x 2 3/8″D
(3909) (ne08341)

POWERMASTER® SURGE SUPPRESSORS

PM900V

- **Protects Telecommunications and Satellite Equipment**
- **Right-Angle Plugs for Transformer Applications**
- **Audible and Visual Indicators**

UL1449 rating: 330V. Voice/fax line: RJ-11. Noise attenuation: 55dB. Max. energy dissipation: 1230 joules. Max. surge current: 74,500A. Clamping response time: 1ns. Switch is rocker type. Case is black plastic. All units have 6 outlets and 1 set of voice/fax jacks. Dimensions: 12 7/16L x 3 5/32W x 1 3/8″H. All UL listed/IEEE certified.

Stock No.	Type	Coax Line	Audible/ Visual Indications	Ground Indication	Each
52F166	PM900	1 Set	Both	LED	57.54
52F167	PM1600	2 Sets	Both	LED	70.35

(3889) (ne06314)

POWER MASTER® SURGE/NOISE SUPPRESSORS

PM6-S

PM1-N

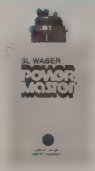
PM6-NP

Protect equipment from surges and EMI. Rating: 15A, 125VAC, 60Hz, 1875 watts, continuous duty. Cord: 14/3 SJT. Visual surge indicator. UL listed and tested to UL1449. 5-year warranty.

Stock No.	Type	Outlets	Cord	Description	Each
87F2865	PM6-NS	6	6′	Strip w/Circuit Breaker	31.53
87F2866	PM6-NP	6	...	Wall Mount	22.33
87F2867	PM6-S*	6	6′	Strip w/Circuit Breaker	27.39
87F2858	PM6-P*	6	...	Wall Mount	19.47
46F3874	PM1-N	1	...	Wall Mount	16.76
46F3873	PM1*	1	...	Wall Mount	11.44

*Surge suppression only
(3842) (de51657)

POWER MASTER® WHOLE HOUSE SURGE ARRESTER



Protects household electrical/electronic equipment from transient voltage surges entering via the main power line. Mounts on breaker box. Max. surge current: 32,000A. Joule rating: 490J. Clamping response: less than 1nsec. Rated: 15A, 120/240VAC, 60Hz. Filter integrity indicator light. UL listed. 3-year limited warranty.

50F2815 Type WH-1. **Each** **77.98**
(3843) (de51658)

DATAGARD® 20-AMP SURGE SUPPRESSOR

Protects 20A heavy-duty office equipment and industrial machinery. UL1449 rating of 500V, 3 lines protected. 6′ double-insulated 12/3 SJT cord with molded 3-prong, 20-amp NEMA 5-20P insulated grounding plug. UL listed. Lifetime connected equipment warranty.

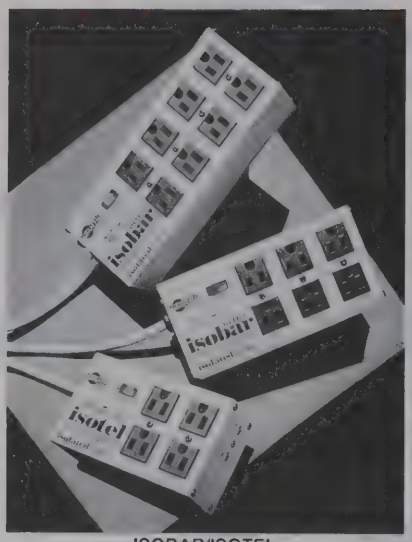
50F2820 Type DG4-20A. **Each** **90.34**
(3844) (de51659)

TRIPP LITE POWER PROTECTION

PREMIUM SURGE SUPPRESSORS

ISOBAR® AND ISOTEL® SURGE/NOISE SUPPRESSORS WITH DIAGNOSTIC LEDS

ULTIMATE LIFETIME INSURANCE



ISOBAR/ISOTEL

"Cascade circuitry" offers increasing levels of protection for more sensitive equipment. Features all-metal housing and lighted on/off switch. Logical outlet configuration accommodates bulky transformers. Diagnostic indicators provide advance warning of potential power problems. Isolated filter banks eliminate interference between equipment. "Ultra" modles feature diagnostic LEDs. Provides instantaneous surge response with suppression up to 96,000 amp spikes. Up to 50,000 Ultimate Lifetime Insurance protects Isobar and connected equipment against surge damage, including direct lightning strikes. UL listed; CSA certified.

Stock No.	Type	Outlets	Cord Length	Joule Rating	Description	Each
93F7761	ISOBAR 4 ULTRA	4	6′	1050	2 Isolated Filter Banks, Diag. LED's	72.86
93F7762	ISOBAR 6 ULTRA	6	6′	1200	3 Isolated Filter Banks, Diag. LED's	85.01
01F2171	ISOBAR 6 ULTRA HG	6	6′	1200	3 Filter Banks, LEDs, Hospital Grade, UL 544	108.12
93F7763	ISOBAR 8 ULTRA	8	12′	1200	4 Isolated Filter Banks, Diag. LED's	94.73
92F3244	ISOTEL4ULTRA	4	6′	1350	Modem/Fax Protection	97.03
93F7767	ISOTEL 6 ULTRA	6	6′	1500	Modem/Fax Protection	106.27
93F5138	ISOTEL8ULTMUMEDIA	8	12′	2850	Modem/Fax Protection	109.66
44F705	ISOBAR 2-6	2	6′	600	2 Isolated Filter Banks	48.56
44F706	ISOBAR4	4	6′	1050	2 Isolated Filter Banks	64.76
89F677	ISOTEL	4	6′	1350	Modem/Fax Protection	89.64
89F678	ISOBAR 4/220	4	6′	600	220V Applications	84.09
89F5056	ISOBAR6	6	6′	1200	3 Isolated Filter Banks	85.94
87F769	ISOBAR8RM	8	12′	1200	Remote on/Off Switch	105.40

(3918) (ne08416)

ISOBAR® RACKMOUNT SURGE SUPPRESSORS

ULTIMATE LIFETIME INSURANCE

IBR-12

Protect against surges, spikes, and line noise in a convenient rack mount configuration. "Cascade circuitry" offers increasing levels of protection for more-sensitive equipment. ULTRA models feature diagnostic indicators to provide advance warning of potential power problems before equipment damage can occur. Isolated filter banks eliminate interference between equipment. Provide instantaneous surge response with suppression of up to 96,000-amp spikes, 1200 joules. 12′ cord length. Up to $25,000 Ultimate Lifetime Insurance. UL listed, CSA certified.

Stock No.	Type	Outlets	Joule Rating	Description	Each
50F813	IBR-12	12	750	Rackmount	136.89
01F2186	IBAR 12 ULTRA	12	1200	Rackmount, LEDs, Plastic Case	134.30
01F2187	IBAR 12/20 ULTRA	8	1200	Rackmount, 20Amp, Plastic Case	161.82

(13736) (ne10334)

DIRECT PLUG-IN SURGE SUPPRESSORS

ULTIMATE LIFETIME INSURANCE

ISOFAX

ULTRA models offer diagnostic LEDs that signal AC power problems. **Types ULTRAFAX** and **ISOFAX** provide dual RJ-11 jacks for complete modem/fax line surge suppression. Protect any wall outlet, with the same selection of options as the ISOBAR® series. 600 joules. Provide suppression up to 48,000-amp spikes. UL listed, CSA certified. Up to $10,000 Ultimate Lifetime Insurance for connected equipment.

Stock No.	Type	Outlets	Description	Each
46F2621	ISOBLOK2-0	2	Economical Version	40.49
93F7764	ISOBARULTRABLOK42	2	Sine Wave Tracking, LEDs	56.26
93F7772	ISOBARULTRA COPY	2	20-Amp, LEDs	71.62
93F7765	ISOBARULTRA FAX	2	Modem/Fax Protection, LEDs	62.83
84F816	ISOFAX	2	Modem/Fax Protection, LEDs	58.22

(3920) (ne08419)

AUDIO/VIDEO SURGE SUPPRESSORS

ULTRACOPY

Premium AC protection and coax F connectors protect high-end video and audio equipment. "Cascade circuitry" offers increasing levels of protection for more-sensitive equipment. Diagnostic indicators provide advance warning of potential power problems. Isolated filter banks eliminate interference between equipment. Provide suppression of up to 96,000-amp spikes. Up to $25,000 insurance. UL listed, CSA certified.

Stock No.	Type	Outlets	Joule Rating	Description	Each	2-3
93F7766	ISOBARULTRACOAX	2	600	Direct Plug-In, 2 CATV Coax Jacks, Diagnostics	56.66	52.47
83F6123	ISOBAR 6 DBS	6	2850	1 line modem/fax protection; 2 sets (F) coaxial	106.27	104.02

(13737) (ne10335)

PREMIUM SURGE SUPPRESSORS

SUPER SERIES ECONOMY SURGE SUPPRESSORS

- **Dual RJ-11 Jacks Provide Easy Connection for Modems and Fax Machines**
- **Complete Surge Protection for Telephone Data, Fax, Modem and More (Cord Included)**
- **Diagnostic LED Signals Improperly Wired Outlets and Damage to Protection Circuitry**
- **Up to $15,000 Ultimate Lifetime Insurance Connected Equipment Coverage**

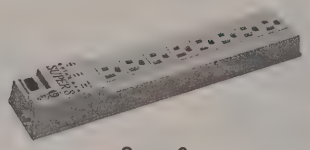
Protect modems, fax machines, and telephone systems from spikes, surges, and line noise carried along standard telephone lines. Up to 96,000 amps and 1200 joules of surge protection. UL listed, CSA certified.

Stock No.	Type	Outlets	Cord Length	Joule Rating	Special Features	Each
93F7769	SUPER 6	6	4′	360	All-Purpose Surge Suppressor	**11.30**
52F6939	SUPER 6 + TEL	6	4′	360	Modem/Fax Protection	**23.67**
96F1452	SUPER 7	7	7′	450	Diag. LEDs, Lifetime Warranty	**22.64**
97F9187	SUPER 7 + TEL	6	7′	450	Diag. LEDs, Modem/Fax Protection	**31.19**
52F6938	SUPER 7 + TEL/15	6	15′	450	S7+TEL w/15′ cord	**51.69**
66F7929	SUPER 7 COAX	6	7′	450	2 F Coax Jacks	**32.36**
87F771	SUPER 8 (SK6-6)	8	8′	600	Diagnostic LEDs	**36.41**
52F6937	SUPER 8 + TEL	7	8′	900	Diagnostic LEDs, Modem/Fax Protection	**48.56**
89F682	TR-6 TERMINATOR	6	6′	900	Diagnostic LEDs	**48.56**
96F1454	TR-6FMTERMINATOR	6	6′	1200	Diagnostic LEDs, Modem/Fax Protection	**56.66**
89F681	SPIKE STIK	6	6′	360	All-Purpose Surge Suppressor	**20.21**

(3925) (ne08449)

ULTIMATE LIFETIME INSURANCE

TR6FM



Super 8

DIRECT PLUG-IN ECONOMY SURGE SUPPRESSORS

Surge and noise suppressors for all electronic equipment in a convenient direct plug-in configuration. Up to 27,000 amps and 360 joules of surge protection. UL listed.

Stock No.	Type	Outlets	Interface Type	Joule Rating	Special Features	Each
87F772	SK6-0(SPIKEBLOK)	6	...	360	Wall Mount	**24.17**
97F9182	SPIKE CUBE	1	...	150	Wall Mount for Laptop Computer	**7.44**
89F679	MP	...	RJ-11	...	Economical Modem/Fax Protection	**16.16**
87F774	TSB	...	RJ-11	...	3-Stage Modem/Fax Protection	**48.56**

(3919) (ne08418)

ULTIMATE LIFETIME INSURANCE

SK6-0

TYPE SMP LAPTOP/NOTEBOOK SURGE SUPPRESSOR

Direct plug-in AC and modem/fax surge suppressor. Protects laptop AC and modem/fax lines to help eliminate all surge pathways. Modem/fax and telephone jacks make simultaneous connection of all communication devices possible. Surge suppression of up to 450 joules; handles up to 36,000-amp spikes. RFI/EMI line-noise filtering improves connection quality and speeds. Protected LED indicates that all protection circuitry is working. UL listed. $5,000 Ultimate Lifetime Insurance for product and connected equipment.

Stock No.	Type	Outlets	Interface Type	Joule Rating	Special Features	Each
89F680	SMP	1	RJ-11	450	Laptop Protection	**18.01**

(13144) (ne09820)

ULTIMATE LIFETIME INSURANCE

SMP

ISOBAR® COMMAND CONSOLES

Full-featured power centers combine Isobar® surge suppression with an under-monitor design that provides fingertip control. Master and auxiliary switches power entire system or each peripheral separately. **Types MT-6** and **MT-6 PLUS** feature higher surge ratings and advanced diagnostic LEDs in an ultraslim console design. **PLUS** models feature dual RJ-11 jacks for complete modem/fax line surge suppression. Also available with IEC outlets. UL listed, CSA certified. Up to $25,000 Ultimate Lifetime Insurance for connected equipment.

Stock No.	Type	Outlets	Cord Length	Joule Rating	Number of Control Switches (Master/Aux)	Each
97F9184	MT-6 TOUCHMASTER	6	10′	1200	1/4	**117.00**
97F9185	MT-6 PLUS	6	10′	1500	1/4	**133.20**
87F770	CCI-6	6	9′	900	1/4	**101.70**
90F9698	CCI6-PLUS	6	9′	1200	1/4	**112.96**
96F1453	CCC4	4	8′	900	1/4	**64.76**
	NON-ISOBAR ECONOMY COMMAND CENTER					
16F1212	PC5	5	6′	65	1/5	**35.80**

(3926) (ne08450)

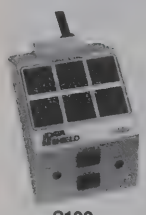
ULTIMATE LIFETIME INSURANCE

CCI-6

SURGE SUPPRESSORS

NETWORK SURGE SUPPRESSORS

Tripp Lite network surge suppressors safely divert damaging dataline surges before they reach critical network equipment. Up to $100,000 Ultimate Lifetime Insurance when used in combination with a Tripp Lite Surge Suppressor, UPS or line Conditioner with Ultimate Lifetimes Insurance. DataShield AC Surge Suppressors are one of the most-trusted names in power protection and have won PC Magazine Editor's choice twice. Reliable, low-cost surge-and-spike protection.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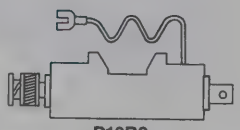
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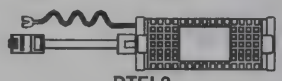

DTEL2

Stock No.	Type	Interface	Clamping	Lines Protected	Each
66F3942	D10BT	RJ-45	7.5V	1, 2, 3, 6	28.98
66F3944	D10B2	BNC	7.5V	Center, Shield, and Chassis	27.05
66F3948	DTKNRNG	RJ-45	7.5V	3, 4, 5, 6	28.98
66F3952	DB25	DB-25	18V	1-8, 20, and Chassis	21.02
66F3953	DB25-ALL	DB-25	18V	1-25, Chassis	28.96
01F2192	DB25-PAR	DB-25	7.5V	1-25	63.57
66F3954	DTEL2	RJ-11/45	260V	2 Lines (Center 4 Wires)	23.90
66F3950	DRS232	RJ-45	18V	1-8	28.98
66F3943	DHUB	RJ-45	7.5V	1-8	213.25
16F1211	DHUB 18V	RJ-45	18V	1-8	213.33
66F3951	DB9	DB-9	18V	1-9, Chassis	19.85
66F3956	DCATV	Type F Coax	7.5V	Center and Shield	38.65
66F3946	D10B5	Type N Coax	7.5V	Center, Shield, and Chassis	43.28

DATASHIELD® AC SURGE SUPPRESSORS

Stock No.	Type	Outlets	Cord Length	Joule Rating	Description	Each
93F5112	S75	4	6′	360	4 Super-Filtered Outlets	71.33
96F1456	CPP126	6	6′	360	3-Stage Surge Protection, 15-Amp Circuit Breaker	53.46
92F3238	CPP-2	4	6′	120	3-Stage Surge Protection, 10-Amp Circuit Breaker	40.58
92F3241	P125	5	6′	560	Under-Monitor Surge Protector	135.52

(3927) (ne08451)

PQI SERIES TRANSIENT VOLTAGE SUPPRESSORS/RFI FILTERS

WARNER ELECTRIC MOTORS AND CONTROLS DIVISION SUPERIOR ELECTRIC

- **Industrial-Grade Power Protection**
- **Available in Rack Mount, Hardwired, and NEMA 12 Versions**
- **Full 10-Year Warranty**

PQI series Stabiline® Power Quality Interfaces are transient voltage suppressors/RFI filters that divert and attenuate all modes of power disturbances before they reach the circuitry of sensitive electronic equipment. Some models are of a unique state-of-the-art, performance proved, multistage suppression and filtration design that utilizes MOVs, gas tubes, filter capacitors, inductors and silicon avalanche diodes. The circuit allows bidirectional protection from source or load power disturbances. **Type PQI-2115BR** is compact, quiet, lightweight and packaged in an aluminum enclosure with cord/plug convenient access for AC input and output connections. It conforms to ANSI standards for 19-inch rack mounting. Panel height is 1U (1.75-inch space). The unit features a front panel pilot lamp, a rocker-type combination circuit breaker-on/off switch and rear panel provision for equipment connection to 6 conditioned output NEMA 5-15R style receptacles. Double-circuit **type PQI-2115R2** has double the power in the same rack panel space. Two separate circuits provide a total of 30A of 120V protection.

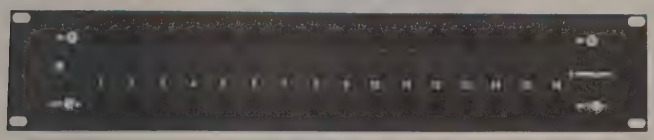
Type PQI-3120H is designed for mounting in a user-supplied enclosure. It has an external 6-position terminal strip connection, mounting hardware, and a sturdy mounting bracket that allows vertical side and horizontal rear mounting. It is lightweight and packaged in an attractive, injection-molded, high impact ABS plastic case which is nonconductive, static-free and fire-rated. **Types PQI-3120N12** and **PQI-3220N12** are packaged in steel NEMA 12 panel enclosures with access for connections from top, bottom or right side of the unit. They come with 2 liquidtight metal conduit connectors. All industrial-grade PQI units listed in this catalog are UL 1449 recognized (clamping level 330V) and CSA certified. Wall mount and international applications versions are also available; *contact your local Newark sales office.*

Stock No.	Type	Description	Circuits	Volts	AC Receptacles		Style	Circuit Breaker	Each
					Amps	Qty.			
96F3495	PQI-2115BR	Rack Mount	Single	120	15	6	5-15R	Yes	209.00
48F2992	PQI-2115R2	Rack Mount	Double	120	30	8	5-15R	Yes (2)	394.84
50F8978	PQI-3120H	Hardwired	Double	120	20	...	...	Yes	179.00
96F3499	PQI-3120N12	NEMA 12	Double	120	20	...	...	No	229.00
96F3500	PQI-3220N12	NEMA 12	Double	240	20	...	...	No	259.00

(3803) (de02421)

SURGE PROTECTORS

16- & 32-PORT 19″ RELAY RACK SURGE PROTECTORS



RAK16-E-C5

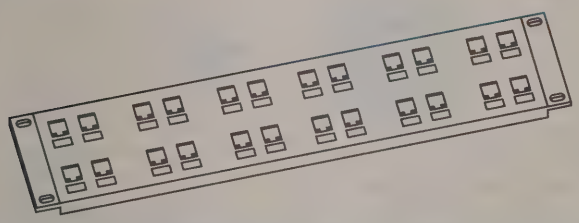
RAK series Category 5, 16- and 32-port wall mount and 19″ relay rack surge protectors for individual on-line port replacement. Ideal for 19″ relay racks supporting LAN hubs, concentrators, and multiport interfaces. Feature high-speed, high-energy handling capability. Available for most communication interfaces including: Token Ring, 10Base-T and 100Base-T Ethernet, ATM155, CDDI, 100VG-Anylan, Telco, RS-232, RS-422, RS-423, and RS-485. Convenient front input and output or standoff bracket for full-size data cabinets. UL listed.

Stock No.	Type	Description	1-2	3-5
01F913	RAK16-E-C5	16-Port Flush Mount ATM155 100Base-T Ethernet	667.58	634.20
01F911	RAK 16-G	16-Port Flush Mount Dial-Up Fax Modem	595.13	565.37
01F338	RAK16-T	16-Port Flush Mount Token Ring/RS-232	595.13	565.37
01F914	RAK32-E/SO	32-Port Standoff Unit 10Base-T RS-422, RS-423, RS-485	1216.13	1131.00

(13059) (ne10327)

24-PORT PATCH PANEL SURGE PROTECTOR

NEW



Ideal for 19″ relay rack applications supporting hubs, routers, switches, and other high-speed communication/networking equipment. 24-port, 2U(3.50″), 110 IDC to RJ-45 patch panel features built-in surge protection for superior security and maximized system up-time. For use in 100Base-T, ATM-155, CDDI, and other 100MHz applications where system availability is critical. Low capacitance, avalanche diode technology offers fast response time of less than 5 nanoseconds. Self-resetting, 1500- watt, bi-directional circuit provides maximum reliability. Clamping voltage of 12 volts. Meets Category 5, TIA/EIA 568-A requirements. UL listed, CE compliant.

Stock No.	Type	Description	Each
48F1490	PCH24-C5	24-Port Patch Panel	624.60
48F1491	MOD24-C5	Replacement Modules	65.98

(42472) (ne42472)

DB9, DB15 & DB25 SUBMINIATURE PROTECTORS

DB15-EN

DB series SIP protectors provide protection for most subminiature D-based communication interfaces. Designed to protect electronic devices with extremely low tolerance for voltage rises or ground loop energies. Ideal for use in high-lightning areas and for equipment networked at distances greater than 30 feet. Response time of less than 5 nanoseconds. UL listed.

Stock No.	Type	Application	1-2	3-5
01F905	DB25-RS232	RS-232	55.68	53.21
01F903	DB9-RS232	RS-232	40.97	39.16
01F930	ILB1206 151 RE4	RS-422, 423, 485	103.61	86.94
01F904	DB15-EN	Ethernet AUI	72.49	69.28

(13132) (ne10329)

RJ-11 & RJ-45 TELCO AND DATA COMMUNICATION LINE PROTECTORS

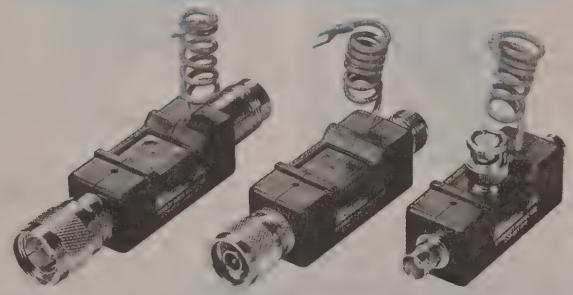
MTJ-04E/RJ-45

Type MTJ Category 5 surge protectors for RJ-11 and RJ-45 style twisted pair interfaces in LAN and WAN networks. Protects most equipment using standard modular telephone jacks. Helps guard hubs, repeaters, muxes, modems, fax machines, terminals, and file servers against lightning-induced surges, AC power interference, electrostatic discharge, and ground loop energies. UL listed.

Stock No.	Type	Application	1-2	3-5
01F908	MTJ-02G/RJ-11	Telco, Dial-Up, Modem/Fax	36.77	35.14
01F907	MTJ-04E/RJ45	Ethernet 10Base-T	42.03	40.16
01F910	MTJ-08B/RJ-45	Telco, Lease Line (CSU/DSU, DDS, ISDN, T-1	68.29	65.26
01F909	MTJ-08E/RJ45-C5	Ethernet 100Base-T, CDDI, ATM155, 100VG-AnyLan	89.30	85.34

(13129) (ne10328)

COAXIAL & TWIN AXIAL CABLE PROTECTORS



CCP

CCP series protectors help guard against lightning-induced surges, AC power interference, electrostatic discharge, and ground loop energies. These units protect both center and shield circuits and help promote reliable operation of networked equipment using IBM® 3270, AS400, Ethernet, Arcnet, cable/satellite/closed circuit TV, and most other wideband communication interfaces. Features separate grounding wire. UL listed.

Stock No.	Type	Application	1-2	3-5
01F899	CCP-2DT-(EN)	10Base-2, Ethernet	54.63	52.21
01F901	CCP-FCT-M/F	Cable TV	51.48	49.20
01F341	CCP-CCTV	Closed Circuit TV	57.78	55.22
01F342	CCP-2BMM/F	AS400/3X Twinaxial	72.49	69.28
01F343	CCP-FST-M/F	Satellite Transceiver	52.53	50.20

(13137) (ne10330)

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SOLID-STATE SILICON SURGE SUPPRESSORS

66 PUNCH DOWN BLOCK PROTECTOR

PBM-6605

RMP-620AT

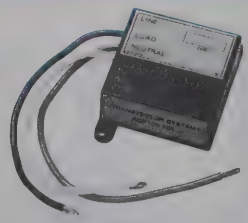
Type PBM-6605 66 punch down block clip-mounted twisted pair protector guards against overvoltages. Replaces bridge clip. Mounts directly to block. Voltage protection: 240-380V peak. Operating temperature: –20°C to + 50°C. Includes metal grounding strip to connect the protectors via the unit's grounding studs. **RMP620AT** is a 19″ rack mounted protector designed for AC voltage and telephone line applications. Equipped with 6 NEMA 5-20R outlets, a 20 AMP power switch/circuit breaker and a front and back visual indication system. Voltage protection: 300V peak. Operating temperature: –20°C to + 65°C.

Stock No.	Type	1-2	3-5	6-10
01F868	PBM-6605	53.58	51.21	49.09
83F8350	RMP620AT	365.00	346.75	328.50

(13527) (ne10437)

ACP100 SERIES HARDWIRE SURGE SUPPRESSORS

ACP100BWN3



ACP100MN

ACP100 series surge suppressors offer surge protection for 120VAC, 15-amp hardwire applications. Feature all-silicon solid-state dependability. Eliminate both short- and long-waveform transients, induced lightning, and similar overvoltages. No special wiring or tools. 5ns response time. Service voltage: 120VAC. Current: 15 amps (max.). Frequency: 50/60Hz. **Type ACP100BWN3** disconnects load from AC power. **Type ACP100BW3R** features an external warning light and allows for remote status indication of suppressor. **Type ACP100MN** is a compact unit that automatically disconnects the load in the event of a suppressor overload. All carry a 3-year warranty.

Stock No.	Type	1-2	3-5	6-10
01F864	ACP100MN	158.36	150.44	142.52
01F865	ACP100BWN3	168.71	160.27	151.84
01F866	ACP100BW3R	227.70	216.32	204.93

(13531) (ne10438)

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CONTACT YOUR LOCAL NEWARK SALES OFFICE.

DR SERIES SURGE SUPPRESSORS

DR series surge suppressors are specifically designed for current loop and data circuits. Installed parallel to the protected circuit, and if capabilities are exceeded, the suppressor will short the line. Each suppressor's modular design allows for quick removal from a separate mounting base. The mounting base provides for grounding of the suppressor to the DIN rail. Fit on standard EN50022 type DIN rails.

Stock No.	Type	Voltage		1-2	3-5
		Operating	Protection Lever		
83F8346	DR-7	7V	15V Peak	155.00	147.25
83F8347	DR-12	12V	23V Peak	155.00	147.25
83F8348	DR-24	24V	46V Peak	155.00	147.25
83F8349	DR-48	48V	67V Peak	155.00	147.25

(39392) (ne39392)

TSJ SERIES AND TYPE SLN-FX SURGE SUPPRESSORS

NEW

SLN-FX

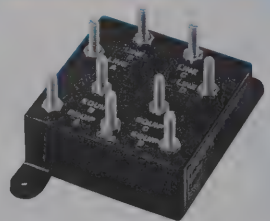
TSJ

TSJ series and **type SLN-FX** high-speed, high-current solid-state suppressors for ISDN, RJ11 and RJ48 connections. Protect phone lines and equipment from overvoltages. Offer transient suppression for dial-up and T1 telephone equipment. Life expectancy: 10+ years. Up to 200V peak protection. Impedance per line: 33 ohm. Peak power dissipation: 15,000 watts. **Type TSJ-6** is a dial-up telephone line surge suppressor with RJ-11 modular connectors. Protect 1T/R pair. **Type TSJ-48/48L** protects T1 carrier lines and features RJ-48 connectors. **Type TLP 408-003** protects all data communication equipment and systems. Configured with a 10″ cord and RJ-45 connector. **Type SLN-FX** provides superior surge protection for standard 120VAC plug-in applications and dial-up fax and modems. 5ns response time.

Stock No.	Type	Description	1-2	3-4
01F869	TSJ-6	6-Position RJ-11 Connectors	75.64	72.29
01F871	TSJ-48/48L	8-Position RJ-48 Connectors	134.55	127.83
01F870	TLP 408-003	ISDN Surge Suppressor	143.87	136.68
01F867	SLN-FX	RJ-11 Female Telephone Jack and Direct AC Plug	175.90	167.11

(13532) (ne10439)

FSP 4000 SERIES AND TYPE LMP-4 SURGE SUPPRESSORS



FSP 4001

LMP-4

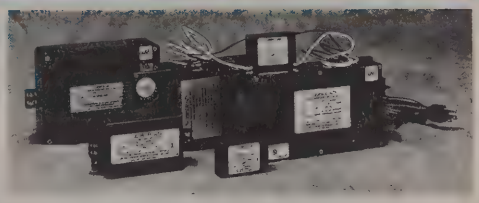
FSP4000 series surge suppressors are specifically designed for data lines and can be installed in the data transmission line or can interface between a cable and a piece of equipment. **Types FSP4001** and **FSP4002** are bidirectional and bipolar devices. **Type LMP-4** provides transient suppression for 4-wire leased lines. Installed at the equipment location. Dimensions: 2.125L x 2.125W x 0.80″H.

Stock No.	Type	Line-Line Voltage (Peak)	Line-Ground Voltage (Peak)	1-2	3-5
01F873	FSP 4001	13	13	143.87	136.68
01F874	FSP 4002	27	27	143.87	136.68
01F872	LMP-4	Max. 4V	Max. 4V	88.25	84.34

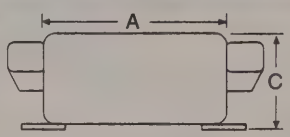
(13534) (ne10440)

TRACKING FILTERS AND SURGE SUPPRESSORS

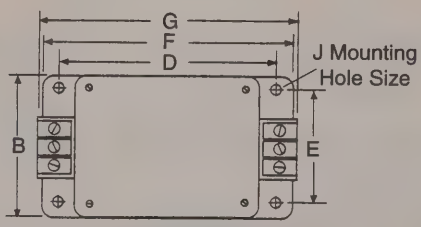
ISLATROL® PLUS SINGLE-PHASE ACTIVE TRACKING FILTERS



Provide continuous sine wave tracking filtration and high-energy protection from spikes, transients, and noise on AC power lines. Both normal (line-to-line or line-to-neutral) and common (line and/or neutral to ground) modes are protected. Units are bi-directional, offer EMI/RFI noise rejection, and offer the lowest UL1449 suppressor clamping categories. Units are single-phase. Available in 120VAC or 240VAC versions. All have barrier strip at input and output. Line frequency: 50/60 Hz. Response time: less than 1 nanosecond in normal mode; less than 5 nanoseconds in common mode. Load regulation: 1% total from no load to full load. Load surge current rating: 10 msec (100 x nominal), 1 sec (10 x nominal), 10 sec (5 x nominal). Operating temperature range: –40°C to +45°C (derate linearity to 60% at +70°C. Mean time between failure: greater than 100,000 hours (per MIL-217F). Package: black, high-impact plastic case, vacuum impregnated magnetics, epoxy encapsulated. Frequency response EMI/RFI small signal RFI or large signal transients, (normal mode, forward-reverse, 100KHz to 50MHz, 60db minimum; common mode, forward-reverse, 5MHz to 50MHz, 60db minimum). Surge energy capacity: 120VAC models, 480 joules (L-N, L-G, N-G 160 joules); 240VAC models, 840 joules (L1-L2, L1-G, L2-G 280 joules). Peak surge current capability (8 x 20µs): 6,500 amps, 39,900 amps total. Meets UL1283 (EMI/RFI filter), UL1449 suppressor classifications.



Case Dimensions



Mounting Dimensions

120VAC, 0-135Vrms

Stock No.	Type	Amps	Dimensions	Mounting Flange D	E	F	G	Term H	Weight	Each
92F129	IC-102	2.5	1.81H x 4.00W x 2.88″ D	4.38″	2.12″	4.81″	5.31″	#6	1.0 lb.	95.86
92F130	IC-105	5.0	1.81H x 4.00W x 2.88″ D	4.38″	2.12″	4.81″	5.31″	#6	1.3 lbs.	133.98
92F131	IC-107	7.5	2.50H x 4.50W x 4.50″ D	5.25″	3.50″	5.77″	6.12″	#6	2.0 lbs.	178.64
92F132	IC-115	15	2.50H x 6.00W x 4.50″ D	6.75″	3.50″	7.27″	7.75″	#8	3.5 lbs.	298.45
92F133	IC-130	30	2.50H x 7.50W x 4.50″ D	8.25″	3.50″	8.77″	9.00″	#8	6.0 lbs.	514.12
240VAC, 0-260Vrms										
92F134	IC-202	2.5	1.81H x 4.00W x 2.88″ D	4.38″	2.12″	4.81″	5.31″	#6	1.3 lbs.	136.16
92F135	IC-205	5.0	2.50H x 4.50W x 4.50″ D	5.25″	3.50″	6.00″	5.77″	#6	2.0 lbs.	202.60
92F136	IC-207	7.5	2.50H x 6.00W x 4.50″ D	6.75″	3.50″	7.50″	7.27″	#8	3.3 lbs.	276.67
92F137	IC-215	15	2.50H x 7.50W x 4.50″ D	8.25″	3.50″	9.00″	8.77″	#8	5.8 lbs.	454.21
92F138	IC-230	30	2.50H x 7.50W x 4.50″ D	8.25″	3.50″	9.00″	8.77″	#8	6.0 lbs.	764.65

(17028) (ne10703)

ISLAGUARD™ SURGE SUPPRESSORS

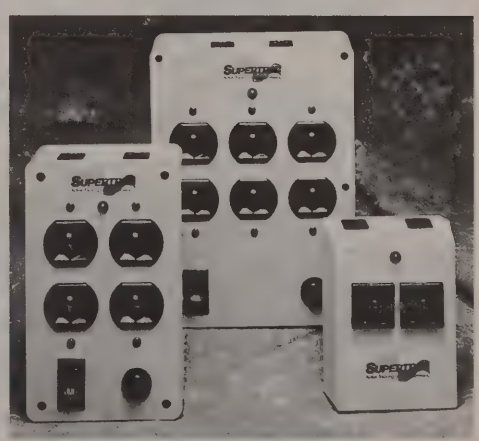
AC power line surge suppressors provide normal mode protection and have undervoltage, phase, and power loss monitoring. 40k amp per phase surge capacity. Units supplied in enclosures that meet NEMA enclosure types 4, 4X, and 12. Weight: 6 lbs. 6 oz. Red and green LED alarm indication. Operating frequency: 50/60Hz. EMI/RFI attenuation: 50 dB (typical). Response time: ≤0.5 nanoseconds. Fault current rating: 300,000 AIC. Connection type: terminals (AWG #10 max.), flexible conduit. Altitude: 14,000′ (4,000m). Operating temperature range: –40°C to +50°C. Operating humidity range: 0-95% noncondensing. Life cycle testing: >3,000 10kA surges per ANSI/IEEE C62.41-1991. Dimensions: 7H x 4.25W x 4″D. Housing: gray Noryl HS-1000, rated 945V NEMA 4, 4X, and 12. Mounting: flange. Safety: meets UL1449 and UL1283. CSA certified, CE compliant.

SINGLE-PHASE, 2-WIRE PLUS GROUND

Stock No.	Type	Nominal Voltage	Protection Modes L-N	L-L	L-G	N-G	Each
92F139	IG120101R	120VAC	Yes	No	No	Yes	531.01
92F140	IG120S101R	120/240VAC	Yes	Yes	No	Yes	560.51
3-PHASE DELTA, 3-WIRE PLUS GROUND							
92F142	IG208D100R	208VAC	No	Yes	No	No	590.01
92F145	IG480D100R	480VAC	No	Yes	No	No	590.01
3-PHASE WYE, 4-WIRE PLUS GROUND							
92F141	IG120Y101R	120/208VAC	Yes	Yes	No	Yes	590.01
92F144	IG277Y101R	277/480VAC	Yes	Yes	No	Yes	590.01
3-PHASE DELTA, HI-LEG, 4-WIRE PLUS GROUND							
92F143	IG240H101R	120/240VAC	Yes	Yes	No	Yes	590.01

(17030) (ne10704)

SUPERTRAC® ACTIVE TRACKING SURGE SUPPRESSORS



Features telecom/modem protection. Active tracking filter technology guards against all levels of potentially damaging transients. Line voltage: 120VAC. Operating voltage range: 0-130VAC. Operating frequency range: 40-70Hz. Phase configuration: single. Protection modes: Normal, L-N; common, L-N, N-G. Circuit type: hybrid, multi-staged active tracking. Operating temperature: –20°C to +45°C at 100% derate 50% at 60°C. Leakage currect to Ground: <0.3mA. Rated UL1449 and UL497A.

Stock No.	Type	Receptacles	Input Connection Type	Capacity	L x W x H	Weight	Each
92F146	ST2D	(2) 5-15R (2 Total)	Wall Plug-In	15A	4.4 x 3.25 x 2.5″	1 lb.	156.80
92F147	ST4D	(2) 5-15R Duplex (4 Total)	Line Cord	7.5A	6.25 x 3.75 x 2.5″	1.5 lbs.	168.78
92F148	ST6D	(3) 5-15R Duplex (6 Total)	Line Cord	15A	7.6 x 5.5 x 2.5″	2.0 lbs.	185.12
48F5667	SP-2T	(2) 5-15R Duplex (4 Total)	Wall Plug-In	15A	5 x 3.75 x 1.5″	1.0 lbs.	...
48F5668	SP-4T	(2) 5-15R Duplex (4 Total)	Wall Plug-In	6A	5 x 3.75 x 1.5″	1.0 lbs.	...

(17035) (ne10705)

SURGE SUPPRESSORS

EQUIPMENT WARRANTY

Sentrex High Performance and Perma Power Computer Grade surge suppressors include a Protected Equipment Warranty. Shape will pay to repair or replace equipment protected by these surge supressors damaged by a power surge.
(3809) (de03644)

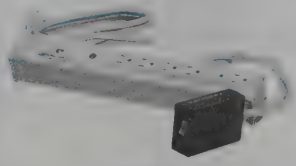
SPECIFICATIONS

	Electronic Grade	Computer Grade	High Performance
Stages of Protection	MOV's	MOV's	MOV's Surge Reactor Zener Diodes Gas Tube
Rating	15A, 120V	15A, 120V	15A, 120V
Maximum Surge	210 Joules	210 Joules	420 Joules
Dissipation	Repeating and Self-Restoring	Repeating and Self-Restoring	Repeating and Self-Restoring
Max. Surge Amps	6,500A	13,000A	33,000A
UL1449 Surge Classification	400V Peak	400V Peak	330V Peak
Clamp Voltage	390V Peak	340V Peak	260V Peak
Noise Filtering	40dB (100kHz -300kHz)	40dB (100kHz -300kHz)	60dB (100kHz -300kHz)
Operating Temp.	–40 to +70°C	–40 to +70°C	–65 to +70°C

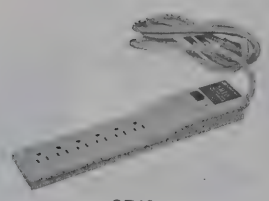
(3859) (de51939)

PERMA POWER COMPUTER-GRADE SURGE SUPPRESSORS

M4BZ



M6BZR



SR10

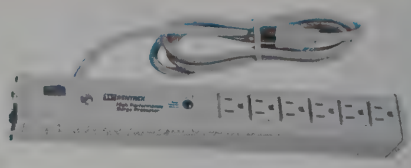
SRD10

Computer-grade surge suppressors are rated at 15A, 120VAC continuous duty. 6 high-energy metal oxide varistors divert surge energy. Circuit-breaker overload protection. L-N, L-G and N-G. Clamping response time: <5ns. Beige aluminum housing with impact-resistant end caps. 14/3 SJT beige power supply cord. Combination master power switch/pilot light, failure indicator light (when lit, equipment is being protected from surges). Mounting snap-on adjustable clips. **Types SR10** and **SRD10** are plastic, and include audible alarm. **Type SRD10** also includes phone line protection. *See warranty information on this page and specifications for each grade of operation on this page.* UL listed, CSA certified. 5-year product and $10,000 equipment warranty.

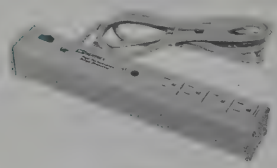
Stock No.	Type	Outlets	Length	Cord Length	Each
95F1259	M4BZ(MS104)	4	10.5″	6′	38.90
95F1260	M4BZ-15(MS104-15)	4	10.5″	15′	54.31
95F1257	M6BZR(MS106)	6	13″	6′	65.72
95F1258	M6BZR-15	6	13″	15′	75.64
95F1261	M6BZ	6	13″	6′	46.67
95F1262	M6BZ-15	6	13″	15′	55.95
92F8691	SR10	6	13.25″	6′	30.89
92F8692	SRD10	6	13.25″	6′	44.85
52F9658	M5BZ	5	21″	6′	45.90

(3810) (de04401)

SENTREX HIGH-PERFORMANCE SURGE SUPPRESSORS



M6S



M4S

M6HGS-15

M5S

M6HGS

High Performance Grade model has 4 surge suppression stages for maximum protection and noise filtering. Stage 1: 6 high-energy MOVs; Stage 2: SurgeReactor®, which limits frequencies above 1MHz; Stage 3: voltage-activated diodes; Stage 4: very high energy gas tube. Rated 15A, 120VAC, 60MHz continuous duty. Circuit breaker overload protection. L-N, L-G and N-G. Clamping response time: 5ns. Beige aluminum housing with impact-resistant end caps. 14/3 SJT beige power supply cord. Combination master power switch/pilot light, failure indicator light (when lit, equipment is being protected from surges). Mounting: snap-on adjustable clips. *See warranty information on this page specificationss for each grade of operation on this page.* UL listed, CSA certified.

Stock No.	Type	Outlets	Length	Cord Length	Each
95F1253	M4S(MS204)	4	13.5″	6′	89.07
95F1254	M4S-15(MS204-15)	4	13.5″	15′	103.20
95F1256	M6S-15(MS206-15)	6	16″	15′	99.51
95F1211	M6SR-15(MS206R15)	6	16″	15′	127.44
52F9659	M5S	5	24″	6′	89.98
HOSPITAL GRADE					
52F9660	M6HGS	6	17.5″	6′	144.87
52F9661	M6HGS-15	6	17.5″	15′	153.36

*Not for critical care environments.
(3861) (de51941)

PERMA POWER ELECTRONIC-GRADE SURGE SUPPRESSORS

Perma Power electronic-grade surge suppressors offer economical, single-stage protection and noise filtering. These streamlined plastic units are rated at 15A, 120VAC, with protection on all three modes. Include circuit breaker and surge indicator light. **Type PR609** is a cordless, 6-outlet, wall plug unit. Applications include small computers and general office and home use. *See warranty information on this page and specifications for each grade of operation on this page.* UL listed, CSA certified. 2-year product warranty.

Stock No.	Type	Outlets	Length	Cord Length	Each
92F8689	PR609	6	5″	(Wall Plug)	21.60
92F8690	PR610	6	11.75″	6′	20.03

(3860) (de51940)

POWER AND DATA PROTECTION

POWER, PHONE, AND TV COAX SURGE SUPPRESSORS

PXD329

LS610DC

Computer-grade. Provide protection for power, phone line, and TV and residential satellite applications. Rated for 120VAC, 15 amps, and 60Hz. 400V clamping protection on the power outlets. UL listed. 5-year product warranty and $10,000 protected equipment warranty against power-related surge damage.

Stock No.	Type	Style	AC Outlets	Phone Protect	Coax Protect	1-9
66F9388	PXD 309	Wall Plug	3	1	0	16.26
66F9389	PXD 329	Wall Plug	3	2	0	20.64
66F9390	PXDC309	Wall Plug	3	1	1	21.33
66F9394	LS610DC	6' Cord	6	1	1	40.66

(3880) (ne06238)

19" RACK-MOUNTED REAR OUTLET SURGE SUPPRESSORS

Designed to fit all standard 19" cabinets, carts, and racks. 120V, 15A, 60Hz with 15-amp resettable circuit breaker. 6 outlets on back of unit. Available with or without switch. Dimensions: 19W x 1.75H x 2.75"D (1.25" mounting centers). 1.5" receptacle center-to-center. **Type JT06** offers 400V surge clamping voltage, 13,000A maximum surge current, and 5-year product warranty. Fail-safe auto shutdown will protect your system if surge suppression circuit fails, except models with (*) after type number. **Type R5SX** offers 330V, 33,000A, and lifetime product warranty. Matte black steel housing; black 14/3 SJT cord. UL recognized, CSA certified.

Stock No.	Type	Cord	Switch	1-9
COMPUTER-GRADE				
66F9399	JT06B0BX	6'	No	69.10
66F9400	JT06B2BX	15'	No	72.85
95F2904	JT06B0B	6'	Yes	69.10
95F2905	JT06B2B	15'	Yes	72.85
52F9665	R5BZ	6'	Yes	83.79
52F9666	R5BZ-15	15'	Yes	90.92
HIGH-PERFORMANCE				
94F7597	JS06B0B	6'	Yes	95.35
95F2907	JS06B2B	15'	Yes	98.89
52F9663	R5S	6'	Yes	111.25
20 AMP				
83F8132	JT06BOB20	6'	Yes	69.01
83F8133	JT06B2B20	15'	Yes	72.78
83F8134	JT06BOB20X	6'	No	69.01
83F8135	JT06B2B20X	15'	No	72.78

*Do not include fail-safe switch.
(3882) (ne06240)

PERMA POWER® POWER LINE SURGE SUPPRESSORS

RS-610

- **Low Let-Through Voltage**
- **Automatic Failure Shutdown**
- **Pilot Lamp**
- **Black Matte Finish**

Provide protection for sensitive equipment against both normal (line to line) mode surges and common (line to ground) mode surges. Computer grade models include single stage filtering supplied by three metal oxide varistors. Protect all three conductors in typical 120VAC circuit. Positive shutdown mechanism prevents inadvertent operation of unprotected equipment in the event of suppression element failure. Pilot lamp provides visual indication of shutdown. High-performance surge suppressors feature four element two-stage filtering, using metal oxide varistors and silicon avalanche diodes. High-performance surge suppressor has an almost unlimited operating life. Strip models offer a choice of 6 or 12 foot double insulated #14/3 SJT line cord, master switch and indicator light.

SPECIFICATIONS

	Computer Grade Surge Suppressors	High Performance Surge Suppressors
Electrical Rating	1800 watts	1800 watts
Resettable Circuit Breaker	15 amps	15 amps
Protection Modes	normal (line/neutral) common (line/ground) common (neutral/ground)	normal (line/neutral) common (line/ground) common (neutral/ground)
Clamping Threshold (Nominal)	225 Volts Peak 160 Volts RMS	220 Volts Peak 156 Volts RMS
Let-Through Voltage	400 Volts	330 Volts
Response Time	1 nano secs.	5 pico secs.
Pulse Life	10^6 Cycles	10^6 Cycles
Max. Surge Current	13,000A	33,000A
Energy Dissipation	80 Joules each Mode	80 Joules each Mode
Max. Transient Voltage/Current	6000V/6000A	6000V/6000A
Noise Filtering	>40dB, 100KHz-100MHz	>60dB, 100KHz-100MHz
Warranty	5-Year, $10,000 Connected Equipment	Lifetime, $30,000 Connected Equipment

COMPUTER GRADE SURGE SUPPRESSORS

Stock No.	Type	Outlets	Master Switch	Case Length	Cord Length	1-9
87F3597	RT410	4	Yes	10.75"	6'	50.61
87F3598	RT412	4	Yes	10.75"	15'	53.51
87F3599	RT610	6	Yes	13.25"	6'	53.51
87F3600	RT612	6	Yes	13.25"	15'	56.25
HIGH-PERFORMANCE SURGE SUPPRESSORS						
87F3608	RS412	4	Yes	12.75"	15'	88.17
87F3609	RS610	6	Yes	15.25"	6'	88.17

(3866) (de52120)

LOOK FOR HARDWARE PANEL SURGE SUPPRESSORS *on page 674*,
AND LOOK FOR POWER CONDITIONING *on page 662*.

(40570) (ne40570)

POWER PROTECTION PRODUCTS

NEW UL CSA NEMA

PERMA POWER® VOLTAGE REGULATORS

- **Maintains Safe Output Voltage to Protect Sensitive Electronic Equipment**
- **All-Metal Housing for Maximum Shielding from Magnetic Interference**
- **Circuit Breaker Protects Against Excessive Overloads**
- **MOV 400V Surge Protection**
- **Includes 6′ Cord with NEMA L5-15 Plug-Type SJT Receptacles**

Sensitive electronic equipment needs clean, voltage-controlled electric power to provide proper performance. They response to voltage changes in the power line to supply regulated 120VAC power that is free from transient surges and electromagnetic or radio interference. Power voltage regulators protect against voltage fluctuations and surge damages to safeguard data and protect your expensive equipment. Power switch controls output receptaclesand regulator circuit; can be used as a master control switch for all connected equipment.

Stock No.	Type	Outlets	VA	Watts	H x W x D	Each
83F2819	PVR600	4 NEMA	600	600	4.3 x 6.2 x 7.0″	**128.73**
83F2820	PVR1200	6 NEMA	1200	1200	6.3 x 8.8 x 10.1″	**211.48**
83F2821	PVR1800	6 NEMA	1500	1500*	6.3 x 8.8 x 10.1″	**288.71**

*1800 Watts intermittent, 1500 watts continuous

(3945) (ne09044)

UL CSA

JA120T

SENTREX® HARDWIRED SURGE PROTECTORS

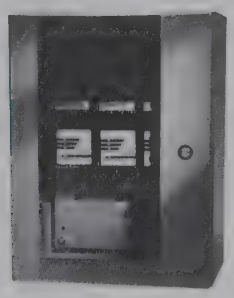
- **20dB Noise Reduction**
- **60kA Maximum Surge Current**
- **Housings: HA Series Meet NEMA Enclosure Type 12; JA Series Meet NEMA Enclosure Type 1**

Provide surge and noise protection. Intended for residential and light industrial/commercial applications. UL listed, CSA certified. 5-years warranty.

Stock No.	Type	Input Voltage	Number of Phases	Description	Actual Clamping Volts L-N	Actual Clamping Volts N-G	Each
95F3668	HA-120T	120/240	1	3-Wire and Ground	490	462	**238.87**
95F3669	HA-120Y	120/208	3	4-Wire and Ground	490	462	**259.83**
95F3670	HA-240DCT	120/240/120	...	Hi-Leg Delta	490/767/490	500	**306.17**
52F9682	JA120T	120/240	1	3-Wire and Ground	490	462	**201.91**
52F9683	JA120Y	120/208	3	4-Wire and Ground	490	462	**219.56**
52F9684	JA240DCT	120/240/120	...	Hi-Leg Delta	490/767/490	497	**258.18**
52F9685	JA277Y	277/480	3	4-Wire and Ground	936	879	**275.83**

(3946) (ne09045)

NEW CSA UL



PANELZONE® 100 SERIES SURGE PROTECTORS

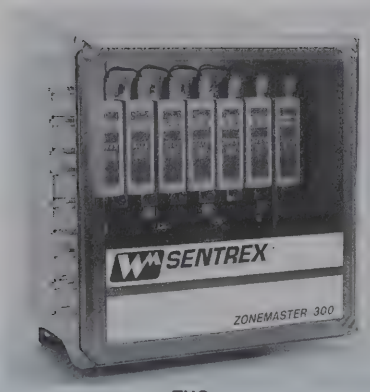
- **Up to 100,000 Amp Maximum Surge Current**
- **Heavy-duty Components Promotes Long Life and Maximum Performance**
- **Press-to-Test Feature**
- **Remote Monitoring Capabilities**
- **Unconditional 10-Year Limited Warranty**
- **UL Listed, CSA Certified**

Hard-wired surge protection devices provide excellent transient control at the main service entrance or at branch panel locations. Provide unmatched protection against catastrophic surges based on the withstand and survival current of the entire unit, not the sum of the components. Integrated diagnostics: each module provides visual indication of its operating status. Rugged steel enclosure. Clear unit cover allows for monitoring protection status without opening unit. Dimensions: 16H x 12W x 8D″.

Stock No.	Type	UL Suppression Level*	Service Voltage (VAC)	Each
48F2993	PZA120T	400V	120/240V, Single Ø, 3-Wire	**649.30**
48F2994	PZA120Y	400V	120/208V, 3 Ø, 4-Wire WYEα	**782.80**
48F2995	PZA240D	800V	240/208V, 3 Ø, 3-Wire Delta	**798.46**
48F2996	PZA277Y	800V	277/480V, 3 Ø, 4-Wire WYE	**879.89**
48F2997	PZA350Y	1200V	350/600V, 3 Ø, 4-Wire WYE	**833.84**
48F2998	PZA480D	1200V	480V, 3 Ø, 3-Wire Delta	**916.30**

*UL1449 clamping level tested at 6kV and 500A in accordance with IEEE C62.41-1991. Category B3. Each unit has also been inidependently tested to IEEE C62.41-1991 Category C3.

(3947) (ne09046)



ZHC

ZONEMASTER® SURGE PROTECTORS

- **Plastic Housing Meets NEMA Enclosure Types 1, 2, 3S, 4, 4X, 12, and 13**
- **Replaceable Surge Modules**
- **Surge Failure Indicators**
- **Remote Monitoring**
- **5-Year Product Warranty**

Incorporates modules with dual-fusing technology, on-board diagnostics, and redundant circuitry. Provides precise control of transient voltages.

ZONEMASTER® 150

150kA max. surge current rated. Dimensions: 10H x 8W x 4″D.

Stock No.	Type	UL Suppression Level	Service Voltage (VAC)	Each
52F7167	ZHB120T-E	400V	120/240V, Split Ø, 3-Wire	**1125.38**
52F7168	ZHB120Y-E	400V	120/208V, 3 Ø, 4-Wire Wye	**1400.10**
52F9674	ZHB240DCT-E	400V	120/240V, 3 Ø, 4-Wire Delta	**1439.82**
52F9675	ZHB240D-E	800V	240V, 3 Ø, 3-Wire Delta	**1423.27**
52F7169	ZHB277Y-E	800V	277/480V, 3 Ø, 4-Wire Wye	**1572.22**
52F9677	ZHB350Y-E	1500V	350/600V, 3 Ø, 4-Wire Wye	**2096.29**
52F7170	ZHB480D-E	1500V	480V, 3 Ø, 3-Wire Delta	**1792.88**

ZONEMASTER® 300

300kA max. surge current. Dimensions: 12H x 12W x 6″D.

52F9679	ZHC120T-E	400V	120/240V, Split Ø, 3-Wire	**2995.49**
52F9680	ZHC120Y-E	400V	120/208V, 3 Ø, 4-Wire Wye	**3728.09**
52F9681	ZHC277Y-E	800V	277/480V, 3 Ø, 4-Wire Wye	**4345.94**
52F9691	ZHC350Y-E	1500V	350/600V, 3 Ø, 4-Wire Wye	**5235.21**
52F9692	ZHC480D-E	1500V	480V, 3 Ø, 3-Wire Delta	**5041.03**

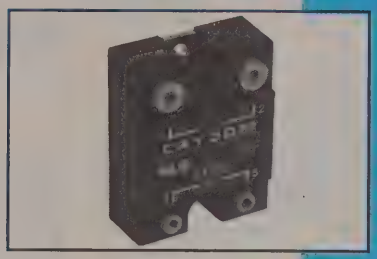
(3948) (ne09047)

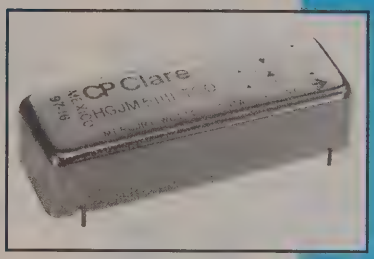
Relays, Solenoids, I/O Modules & Relay Sockets

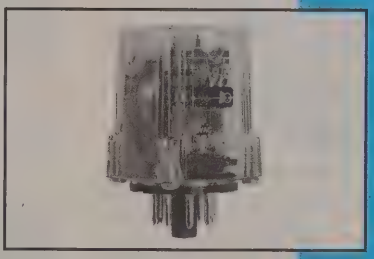
Pages 676—748

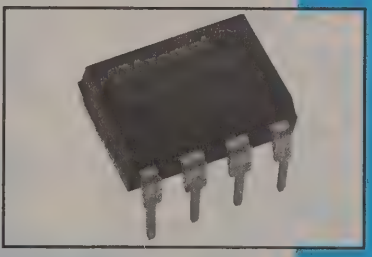
15

- Amperite
- Aromat/NAIS
- Coto
- CP Clare Corporation
- Crydom
- Durakool
- Gordos/Crouzet
- Grayhill Inc.
- Guardian Electric
- Hamlin
- Idec
- International Rectifier
- Macromatic
- Magnecraft & Struthers-Dunn
- Midtex Relays, Inc.
- Omron
- Opto 22
- Siemens Electromechanical Components/Potter & Brumfield
- Siemens Electromechanical Components/Schrack Components
- SPC Technology
- Stancor
- Thomas & Betts/ Agastat®









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Automotive Relays

General-Purpose Relays

I/O Modules

Mercury Relays

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Reed Relays

Relay Sockets & Accessories

Solenoids

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Time-Delay Relays

LOW-SIGNAL PC BOARD RELAYS

V23079 SERIES PCB RELAYS

SMD

Surface Mount

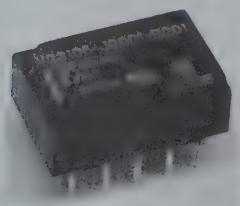
Miniature PC board relays are compact with high-capacity contact: 2A at 30VDC. Units are 2-pole polarized and rated 30VDC, 1 res. Surge voltage between contact and coil: (10 x 150 ms): 1,500V, FCC part 68 and Bellcone 2110μs, 2500V. Dimensions: 0.39″H x 0.57″L x 0.28″W max.; pin length = 0.122″ max. Breakdown voltage between contacts and coil: 1,800Vrms for 1 min. Initial dielectric between open contacts: 1,000Vrms for 1 min. Contact type: bifurcated 2 Form C DPDT. Nominal coil power for relays listed: 140mW. Immersion-cleanable, plastic sealed case. UL recognized, CSA certified.

Stock No.	Type	Nominal Coil Voltage (VDC)	Coil Resist. (Ω) ±10% @ 20	1-24
NONLATCHING				
16F341	V23079A1001B201	5	178	2.37
16F342	V23079A1003B201	12	1029	2.37
16F343	V23079A1005B201	24	4114	2.82
DUAL-COIL LATCHING				
16F345	V23079B1201B201	5	178	2.82
16F347	V23079B1205B201	24	4114	3.28
NONLATCHING, SURFACE MOUNT				
83F1190	V23079D1001B301	5	178	2.49
83F1191	V23079D1003B301	12	1029	2.49
83F1192	V23079D1005B301	24	4114	2.94
83F8052	V23079D1011B301	4.5	145	2.40
DUAL COIL LATCHING, SURFACE MOUNT				
83F8053	V23079E1201B301	5	178	2.84
83F8054	V23079E1203B301	12	1029	2.84
83F8055	V23079E1205B301	24	4114	3.27

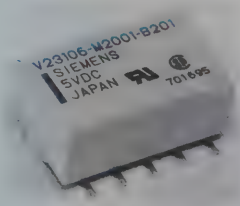
(3351) (ne08042)

V23106 SERIES MINIATURE PC BOARD RELAYS

NEW



Board Mount



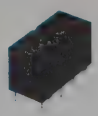
Surface Mount

Miniature PC board relays are compact with high-capacity contact: 1A @ 30VDC, 0.5A @ 125VAC. Units are 2-pole polarized and rated 30VDC, 1 res. Dimensions: 0.187H x 0.55L x 0.28″W max. Pin length: 0.138″ max. Breakdown voltage between contacts and coil: 1,000VAC for 1 min., 1,500VAC for FCC part 68 surge test. Initial dielectric between open contacts: 1,000VAC for 1 min. Contact type: bifurcated 2 Form C DPDT. Normal power for relays listed: 140mW for all voltages except 24V which is 200mW. Immersion-cleanable, plastic sealed case. UL listed under file E85596, CSA certified under file LR65354.

Stock No.	Type	Nom. Coil Voltage (VDC)	Coil Resist. (Ω) ±10% @ 20°C	1-24
NONLATCHING, BOARD MOUNT				
91F2927	V23106J2001B201	5	178	2.26
91F2928	V23106J2003B201	12	1028	2.26
91F2929	V23106J2005B201	24	2880	2.60
NONLATCHING, SURFACE MOUNT				
83F1194	V23106M2001B201	5	178	2.37
83F1195	V23106M2003B201	12	1028	2.37
83F1196	V23106M2005B201	24	2880	2.71

(32882) (ne32882)

V23105 SERIES HIGH-SENSITIVITY DIP PC BOARD RELAYS



Standard DIP configuration mates with 16-pin socket. Meets FCC Part 68. Designed for application in telecommunications equipment, computer, peripheral, security and office automation. Ultrasensitive coil. Dimensions: 0.472″H x 0.787″L x 0.386″W max.; pin length = 0.138″. Immersion-cleanable, plastic-sealed case. Ultrasonic cleaning should be avoided. UL recognized, and CSA certified.

Stock No.	Type	Coil Resist.(Ω) ± 10%	Nominal Coil Voltage (VDC)	Nominal Coil Power (mW)	1-24
91F2924	V23105A3001B201	167	5	150	1.89
91F2925	V23105A3003B201	960	12	150	1.89
91F2926	V23105A3005B201	2880	24	200	1.89

(19926) (ne11129)

V23042 SERIES 2-POLE PC BOARD RELAY

Relays are high dielectric and polarized, with 5A switching capacity. Contact arrangement: bifurcated crossbar in 2 Form C, DPDT. **Prefix V23402A** in type number indicates nonlatching coil; **prefix V23402B** indicates dual coil latching function. Applications include audio communications circuits, logic and process control, vending machines and office automation. The **V23042 series** is a replacement for the **T83 series** of relays. All coil data at 20°C. Dimensions: 0.422″H x 0.795″L x 0.4″W max.; pin length = 0.11″ - 0.138″. Immersion-cleanable, plastic-sealed case. UL recognized, CSA certified.

Stock No.	Type	Nominal Coil Voltage (VDC)	Coil Resist. (Ω) ± 10% @ 200mW	1-24
NOMINAL POWER 250mW				
16F366	V23042A2001B101	5	125	2.49
16F367	V23042A2003B101	12	720	2.49
16F368	V23042A2005B101	24	2880	2.49
NOMINAL POWER 200mW				
16F370	V23042A2301B101	5	125	2.65
16F371	V23042A2303B101	12	720	2.65
16F372	V23042A2305B101	24	2880	2.65
91F1781	V23042-A2307-B101	48	6330	3.28
NOMINAL POWER 150mW				
16F373	V23042A2601B101	5	125	2.71
16F358	V23042A2603B101	12	720	2.71
16F359	V23042A2605B101	24	2880	2.71
NOMINAL POWER 200mW				
16F360	V23042B2201B101	5	125	3.16
16F361	V23042B2203B101	12	720	3.16
16F362	V23042B2205B101	24	2040	3.16

(3352) (ne08043)

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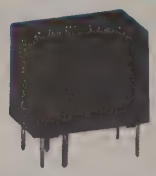
LOW-SIGNAL PC BOARD RELAYS

V23111 SERIES MINIATURE PC BOARD RELAYS

NEW

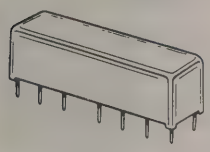


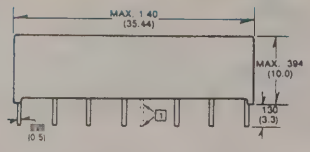
Miniature PC board relays are compact with high-capacity contact: 1A @ 24VDC, 1A @ 120VAC. Units are 2-pole polarized and rated 30VDC, 1 res. Dimensions: 10.0H x 12.5L x 7.5"W max.; pin length = 3.5" max. Surge voltage between contacts and coil; 1,500V, FCC Part 68 (10/160Ms). Initial dielectric between open contacts: 400VAC, 50/60 Hz for 1 min. Contact type: 1 Form A SPST and 1 Form C SPDT. Nominal power: 150mW. Immersion-cleanable, plastic sealed case. All types are nonlatching. UL recognized, CSA certified.

Stock No.	Type	Nom. Coil Voltage (VDC)	Coil Resist. (Ω) ±10% @ 20	1-24
83F8056	V23111A1005B301	5	166	1.31
83F8057	V23111A1012B301	12	960	1.31
83F8058	V23111A1024B301	24	3,840	1.42

(32881) (ne32881)

T84 SERIES HIGH DIELECTRIC TELECOMMUNICATIONS MINIATURE DIP RELAYS





T84 series relays are 4 Form C 4PDT units and have dielectric strength between open contacts of 1000Vrms. Standard DIP termination allows direct PC board mounting or plugging into 28-pin IC socket. Available: single coil non-latching, single coil latching and dual coil latching. All have polarized coils. Enclosed in permanently sealed plastic case backfilled with inert gas. Withstand automatic wave soldering and immersion cleaning. Contact ratings maximum switching voltage: 120VAC or DC. Maximum switching power DC: 24 watts resistive load AC: 60VA resistive. Maximum switching current: 1 amp DC or AC. Minimum switching current: dry circuit. Maximum carrying current: 2 amps DC or AC. Meets FCC Part 68 isolation. Type suffix indicated nominal coil voltage: –05 (suffix) = 5VDC. UL recognized, CSA certified.

SENSITIVE COIL 4PDT DIP RELAY

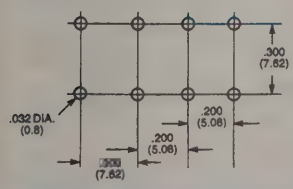
Stock No.	Type	Functional Type*	1-24
89F1063	T84S17D214-05	SC,NL	6.55
89F1064	T84S17D214-12	SC,NL	6.55
89F1065	T84S17D214-24	SC,NL	6.55

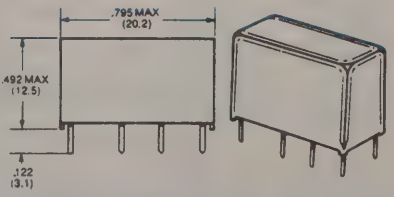
STANDARD COIL 4PDT DIP RELAY

89F1071	T84S17D414-05	SC,NL	6.43
89F1072	T84S17D414-12	SC,NL	6.43
89F1073	T84S17D414-24	SC,NL	6.43
89F1076	T84S17D434-12	DC,L	7.45

*SC,NL = Single Coil Non-Latching SC,L = Single Coil Latching DC,L = Dual Coil Latching
(3261) (de01858)

T85 SERIES HIGH SENSITIVITY ULTRA-MINIATURE DIP RELAYS





T85 series DIP relays feature ultra-sensitive coils. Switch up to 2 amps. 2 Form C DPDT with terminals on a 0.1 x 0.3" (2.54 x 7.62) grid layout. This configuration permits terminal mating with a 16-pin DIP socket. Relays are enclosed in PBT polyester dust cover designed for immersion cleaning applications using freon, alcohol or water. Bifurcated contacts are rated 1 amp at 24VDC and 0.5 amp at 120VAC. Contact ratings maximum switched current: 1.25A, AC or DC. Maximum switched voltage: 60VDC, 120VAC. Maximum switched power: 24W or 60VA. **Suffix -00** in type number indicates nominal coil voltage. UL recognized, CSA certified.

CONTINUED

T85 SERIES HIGH SENSITIVITY ULTRA-MINIATURE DIP RELAYS (CONT.)

Stock No.	Type	Coil Resist. (Ω)	Coil Power (mW) @ Nom. Voltage	1-24
89F1059	T85N11D114-05	167	150	2.82
89F1060	T85N11D-114-12	960	150	2.82
89F1061	T85N11D114-24	2800	200	3.00
89F1062	T85N11D114-48	7600	300	3.47
66F3436	T85N11D115-05	167	150	2.82
66F3415	T85N11D115-12	960	150	2.82
66F3416	T85N11D115-24	2800	200	2.82

(3260) (de01777)

V23026 SERIES MINIATURE SEALED PC BOARD RELAYS

SMD

Surface Mount

Thru-Hole

Relays are designed for compact, high-density mounting. 108.5mm² surface area. Units switch loads from dry circuit to 1A. Contact type: bifurcated, 1 Form C SPDT. Thru-hole latching or nonlatching and surface mount nonlatching versions featured. Dimensions for thru-hole: 0.138"H x 0.272"L x 0.512"W max.; pin length = 0.138" max. Dimensions for surface mount: 0.315"H x 0.31"L x 0.531"W max.; pin length = 0.41" max. Suitable for data and communication systems. Expected mechanical life: 1 billion operations. UL recognized, CSA certified.

THRU-HOLE SINGLE-COIL NONLATCHING

Stock No.	Type	Nom. Coil Voltage (VDC)	Nom. Power (mW)	Coil Resist (Ω) ±10%	1-24
16F348	V23026E1101B201	12	96	1500	3.44
16F349	V23026E1102B201	5	64	390	3.44
16F350	V23026A1001B201	5	67	370	2.49
16F351	V23026A1002B201	12	64	2250	2.49
16F352	V23026A1004B201	24	128	4500	3.11

THRU-HOLE DUAL-COIL LATCHING RELAYS

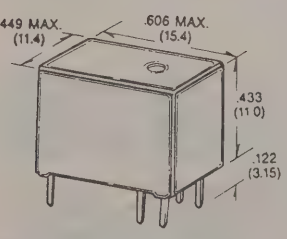
16F353	V23026B1101B201	5	64	390	6.66
16F354	V23026B1102B201	12	96	1500	3.33

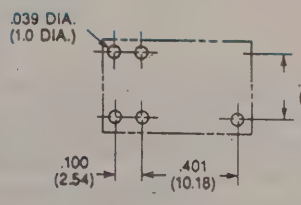
SURFACE MOUNT NONLATCHING

16F355	V23026D1021B201	5	80	313	2.82

(3353) (ne08044)

T81 SERIES MINIATURE HIGH DENSITY PC BOARD RELAYS





T81series relays are ultra-miniature devices that permit high density packaging for savings in equipment size and cost. High dielectric. Ideal for office machines, logic and process control. SPDT contacts are silver-palladium alloy with gold overlay and provide load handling of 1 amp @ 24VDC or 0.5 amps at 120VAC, resistive. **T81 series** are standard coil models and **T81 series** are sensitive coil models. **T81** relays are enclosed in an immersion cleanable polycarbonate case. Printed circuit terminals are on 0.1 x 0.3" (2.54 x 7.62) DIP compatible grid layout. Temperature range: –40° to +55°C (standard coil); –40° to+75°C (sensitive coil). High dielectric relays —1000Vrms contact-to-coil. Type suffix indicates nominal coil voltage: –05 (suffix) = 5VDC. Standard dielectric relays —500Vrms contact-to-coil. UL recognized, CSA certified.

STANDARD OR SENSITIVE DC COILS THROUGH 24 VOLTS

Stock No.	Type	Coil Resistance (Ω)	1-24
89F1039	T81H5D312-05	120	1.81
89F1041	T81H5D312-12	700	1.81
89F1042	T81H5D312-24	2800	1.98
89F1045	T81N5D312-12	320	1.70
89F1046	T81N5D312-24	1280	4.46

(3262) (de01859)

LOW-SIGNAL AND POWER PC BOARD RELAYS

JWD SERIES DIP AND JWS SERIES SIP DRY REED RELAYS

JWD

JWS

JWD series DIP units and **JWS series** SIP units are designed to accommodate automatic component insertion and permit high density packaging of components on printed circuit boards. Mounted height is only 0.315″ (8.00), allowing PC board spacing on 0.500″(12.70) centers. Molded epoxy package with terminals on 0.100″ (2.54) centers compatible with automatic wave soldering. Can be immersion or spray cleaned. Operating temperature range: –35°C to +85°C. UL recognized, CSA certified.

1 FORM A DIP SPST-NO, 10 WATTS, 0.5 AMP, 100 VDC

Stock No.	Type	Diode	Nominal Coil Voltage (VDC)	Coil Resist. (Ω)	Max. Pick-Up Voltage (VDC)	1-24
81F9286	JWD-107-1	N	5	500	3.8	2.54
81F9287	JWD-107-5	Y	5	500	3.8	2.76
81F9288	JWD-107-3	N	12	500	9.6	2.54
81F9289	JWD-107-7	Y	12	500	9.6	2.76
81F9290	JWD-171-5	N	24	2200	19.2	3.39
81F9291	JWD-171-10	Y	24	2200	19.2	3.55

1 FORM A SIP SPST-NO, 10 WATTS, 0.5 AMP, 100 VDC

46F3511	JWS-117-1	N	5	380	3.8	2.54

2 FORM A DIP DPST-NO, 10 WATTS, 0.5 AMP, 100 VDC

81F9293	JWD-171-25	Y	5	200	3.8	3.60
81F9294	JWD-171-23	N	12	500	9.6	3.46
81F9295	JWD-171-27	Y	12	500	9.6	3.60
81F9297	JWD-171-28	Y	24	2200	19.2	4.48

1 FORM B DIP SPST-NC, 10 WATTS, 0.5 AMP, 100 VDC

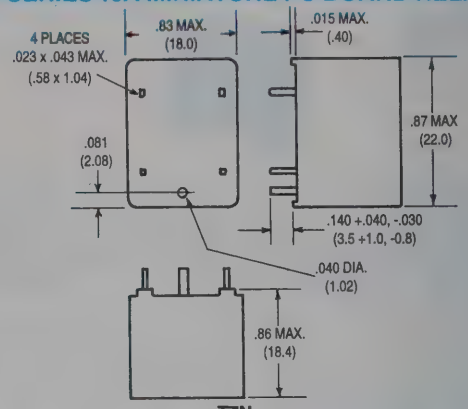
81F9299	JWD-171-17	Y	5	500	3.8	3.76

1 FORM C DIP SPDT, 3 WATTS, 0.5 AMP, 28 VDC

81F9304	JWD-172-1	N	5	200	3.8	5.05
81F9305	JWD-172-5	Y	5	200	3.8	5.27
81F9306	JWD-172-3	N	12	500	9.6	5.05
81F9307	JWD-172-7	Y	12	500	9.6	5.27
81F9308	JWD-172-4	N	24	2200	19.2	5.89
81F9309	JWD-172-8	Y	24	2200	19.2	6.05

(3287) (de50674)

T7N SERIES 10A MINIATURE PC BOARD RELAYS



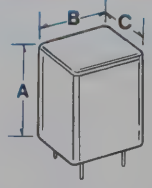
T7N

Offer an economical, small package relay. Applications include appliance, HVAC, security systems, and emergency lighting. Initial dielectric strength: 2,000V rms 50/60Hz. (1 min.) between coil and contacts. Immersion cleanable, sealed package. Silver cadmium oxide contacts. The fifth digit of the type number indicates contact arrangement: 1 = 1 Form A (SPST-NO); 5 = 1 Form C (SPDT). UL class F (140°C) coil standard. Plastic materials employ UL94V-O flammability. CSA certified.

		Coil		
Stock No.	Type	Input Voltage (VDC)	Resistance (Ω)	1-24
16F3665	T7NS5D1-05	5	70	1.04
16F3666	T7NS5D1-12	12	400	1.04
16F3667	T7NS5D1-24	24	1,600	1.04
91F1795	T7NS1D1-12	12	400	1.04
91F1796	T7NS1D1-24	24	1,600	1.04
91F1797	T7NS5D1-48	48	3,500	1.53

(3371) (ne08896)

T7C SERIES 12A MINIATURE POWER PC BOARD RELAYS



T7C series feature 12 amp switching capacity and have silver-cadmium oxide contacts rated (@20°C): 10A @ 240VAC/28VDC, 12A @ 120VAC for Form C (N.O.); 5A @ 240VAC/28VDC, 8A @ 120VAC for Form C (N.C.) and are arranged in 1 Form C (SPDT) configuration. Class F coil insulation. Numeric suffix in type number indicates DC coil voltage. **Dimensions: A** = .810″ (20.60), **B** = .790″ (20.30), **C** = .650″ (16.50). UL recognized, CSA certified.

IMMERSION CLEANABLE, KNOCK OFF NIB

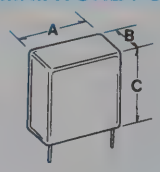
Stock No.	Type	Coil Resistance (Ω)	Must Operate Voltage (VDC)	Must Release Voltage (VDC)	1-24
52F5516	T7CS5D-05	70	3.50	0.25	1.03
66F7853	T7CS5D-06	100	4.50	0.30	1.03
66F7854	T7CS5D-12	400	9.00	0.60	1.03
66F7855	T7CS5D-24	1,600	18.00	1.20	1.03

VENTED (FLUX-TIGHT)*

52F5517	T7CV5D-05	70	3.50	0.25	1.01
66F7857	T7CV5D-12	400	9.00	0.60	1.01

* Not suitable for immersion cleaning processes.
(3331) (ne06008)

T77 SERIES 10A MINIATURE PC BOARD RELAYS



T77 series are small size, high density PC board mounting relays. Contacts: 3A are silver, 10A are silver alloy. Contacts are arranged 1 Form A (SPST-NO). Coil to contact spacing of 6.5mm provides 4000VAC dielectric. Numeric suffix in type number indicates rated coil voltage DC. **Dimensions: A** = .716″ (18.20), **B** = .390″ (10.00), **C** = .570″ (14.70). UL recognized, CSA certified.

PLASTIC EPOXY RESIN SEALED — 3 AMP

Stock No.	Type	Contact Rating (A)	Coil Resist. (Ω)	Must Operate Voltage (VDC)	Must Release Voltage (VDC)	1-24
66F7848	T77S1D3-5	3	125	3.75	0.25	1.47
66F7850	T77S1D3-24	3	2,800	18.00	1.20	1.36
66F7852	T77S1D3-12	10	720	9.00	0.60	1.36

PLASTIC EPOXY RESIN SEALED — 10 AMP

91F2922	T77S1D10-05	10	125	3.75	0.25	1.41

VENTED (FLUX-TIGHT)* — 3 AMP

66F7860	T77V1D3-5	3	125	3.75	0.25	1.30

* Not suitable for immersion cleaning processes.
(3332) (ne06009)

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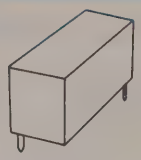
POWER PC BOARD RELAYS

RE SERIES MINIATURE PCB RELAYS

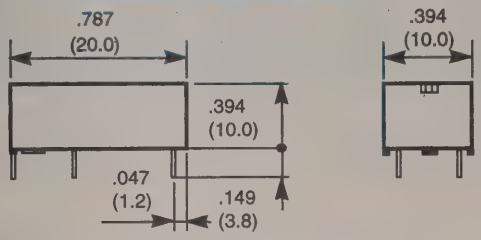


RE series feature 1 N/O (make) single contact rated 6A at 250VAC (440VAC max). Mechanical life: >30 x 10^6 operations. Dielectric strength: coil-contact = 4,000VAC; contact-contact = 1,000VAC. Dimensions: 0.787L x 0.394W x 1.417″H (20.0L x 10.0W x 10.6Hmm. UL recognized, CSA certified, VDE, OVE, SEV, SEMKO, NEMKO and SETI approved.

Stock No.	Type	Coil* Current (mA)	Coil* Resistance (Ω)	1-99
52F908	RE 030 005	40.0	125 ± 10%	2.38
52F909	RE 030 012	16.7	720 ± 10%	2.38
52F910	RE 030 024	8.3	2,880 ± 15%	2.38

*All figures are given for cold coil (at ambient temperature +20°C/68°F).
(3722) (ne06384)

PE SERIES PCB RELAYS

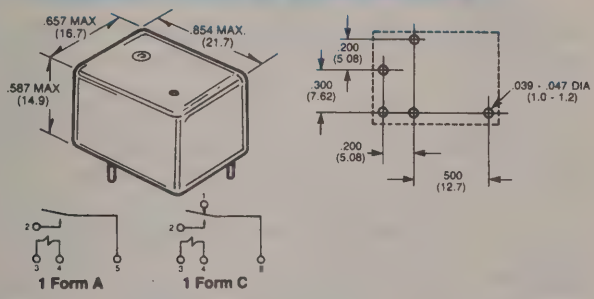


PE series are single contact relays with cadmium-free contact material. Flux-tight design is suitable for flow soldering. UL recognized, CSA certified, VDE approved.

Stock No.	Type	Nominal Coil Voltage (VDC)	Pull-in Voltage (VDC)	Drop-out Voltage (VDC)	Coil Resistance (Ω)± 10%	1-99
48F5538	PE014005	5	4,5	0,6	172	2.81
01F710	PE014012	12	9,0	1,2	685	2.80
01F711	PE014124	24	18,0	2,4	2725	2.80

(13027) (ne10196)

T73 SERIES 10 AMP PC BOARD RELAYS

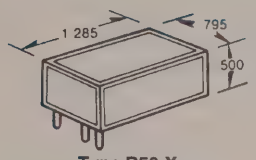


T73 series miniature PC board relays are standard coil, non-latching (monostable) with printed circuit terminals. Contact material is silver-cadmium oxide. Relays have 10 amp switching capacity and are available in 1 Form A (SPST-NO) and 1 Form C (SPDT) contact arrangements. Resist high temperature and various chemical solutions. Immersion cleanable, plastic sealed case available. UL Class F insulation system standard. Nominal coil voltage is indicated by suffix of type number; 3-48VDC available. UL recognized, CSA certified.

Stock No.	Type	Coil Resistance (Ω)	1-24
91F2919	T73S5D15-05	56	1.47
91F2920	T73S5D15-12	320	1.47
91F2921	T73S5D15-24	1,150	1.47

(3125) (de01716)

R50 SERIES PC BOARD RELAYS



Type R50-X

Type R50-Y:A=.595″ SPDT;A =.890″ DPDT

General purpose immersion-cleanable relays are 0.460″ (11.68) high for use on PC boards spaced as close as 0.7″ (17.78) center-to-center. PC terminals spaced on a 0.1″ (2.54) grid. Nominal pick-up power: **R50-Y1**, 330 mW DC; **R50-Y2**, 410mW DC; and **R50-X1**, 450 to 562mW DC. Coil voltage (VDC) is indicated by last digits of type number. Operating temperature range: –55°C to +50°C. Polyester cover bonded to relay base allows immersion cleaning. UL recognized, CSA certified.

Stock No.	Type	Coil Resistance (Ω)	1-24
	SPDT, 2A CONTATCT RATING @ 28VDC		
46F3510	R50-E2-Y1-5V	33	23.70
67F1186	R50-E2-Y1-12VDC	192	23.70
67F1187	R50-E2-Y1-24VDC	768	25.42
	DPDT, 2A CONTACT RATING @ 28VDC		
24F2496	R50-E2-Y2-12V	160	32.62
24F2497	R50-E2-Y2-24V	640	33.06
	SPDT, 5A CONTACT RATING @ 28VDC		
33F1621	R50-E2X1-5	26	28.08
33F1623	R50-E2-X1 12V	125	28.08
33F1624	R50-E2X1-24	440	29.85

(3126) (de01717)

RT SERIES MINIATURE PCB RELAYS

PCB, 8A-16A relays are miniature and low profile. Expected mechanical life: 30 million operations. Nominal voltage indicated in last 2 digits of type number. Sensitive coil: 400mW. Dimensions: 0.62″H x 1.14″L x 0.50″W; pin length = 0.17″. All units listed have contact material of silver-nickel 90/10. **Types RT1, RT3** and **RT4** are vented flux-tight. **Types RTB, RTD** and **RTE** are sealed. UL recognized, CSA certified. Other contact types available; *contact your local Newark sales office.*

Stock No.	Type	Coil Resis-tance (Ω) ±10%	Coil Current at 20°C (mA)	Action	1-24
	12A CONTACT RATING				
16F374	RT114012	380	33.3	SPDT	1.73
16F378	RTB14005	62	80	SPDT	1.73
	16A CONTACT RATING				
16F383	RT314012	380	33.3	SPDT	1.89
16F386	RT334024	1440	18.7	SPST-NO	1.83
16F387	RTD14005	62	80	SPDT	1.89
16F389	RTD14024	1440	18.7	SPDT	1.89
	8A CONTACT RATING				
16F392	RT424012	380	33.3	DPDT	1.89
16F393	RT424024	1440	18.7	DPDT	1.89
16F394	RT444012	380	33.3	SPST-NO	1.83
16F397	RTE24012	380	33.3	DPDT	1.89
16F398	RTE24024	1440	18.7	DPDT	1.89

(3350) (ne08041)

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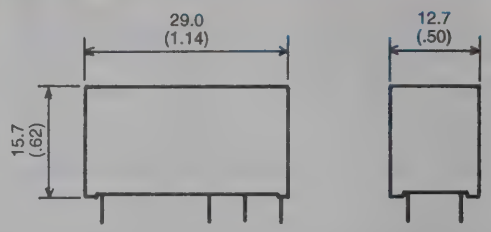
PC BOARD AND PANEL MOUNT RELAYS

RT SERIES AC COIL POWER PC BOARD RELAYS



Sensitive coil 400mW. Contact material: cadmium-free. 1 pole 12A; pinning 5.0 or 3.5mm. Flux-tight (suitable for flow soldering) and sealed (imersion proof) types available; *contact your local Newark sales office.* UL recognized, CSA certified. Meets VDE, SEMKO, and SEV requirements.

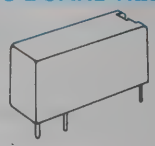
12A

Stock No.	Type	Action	Nominal Voltage (VAC)	Coil Resist. (Ω ±10%)	Coil Current (mA 50/60 Hz)	1-24
48F3744	RTB14524	1 Pole C/O	24	350*	31.7/24.3*	4.39
48F3748	RTB14615	1 Pole C/O	115	8100*	6.6/5.1*	5.30
48F3751	RTB14730	1 Pole C/O	230	32500*	3.3/2.5*	6.85
16A						
48F3745	RTD14524	1 Pole C/O	24	350*	31.7/24.3*	4.39
48F3749	RTD14615	1 Pole C/O	115	8100*	6.6/5.1*	5.30
48F3752	RTD14730	1 Pole C/O	230	32500*	3.3/2.5*	6.85
16A						
48F3746	RTE24524	2 Pole C/O	24	350*	31.7/24.3*	4.93
48F3750	RTE24615	2 Pole C/O	115	8100*	6.6/5.1*	5.84
48F3757	RTE24730	2 Pole C/O	230	32500*	3.3/2.5*	7.39

* All figures are given for cold coil (at ambient temperature +20°C/68°F

(38071) (ne38071)

RYII SERIES MINIATURE PC BOARD RELAYS



RYII series are sealed 1-pole relays with single contact rated 8A at 250VAC (440VAC max. breaking voltage). Mechanical life: >30 x 10^6 operations. Dielectric strength: coil-contact = 5,000VAC; contact-contact = 1,000VAC. Dimensions: 28.5 x 10.1 x 12.3mm. UL recognized, CSA certified, VDE, OVE, SEV, SEMKO, NEMKO, DEMKO and SETI approved.

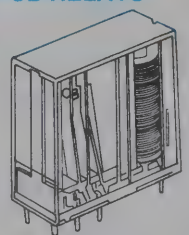
1 C/O, PINNING 3.2mm

Stock No.	Type	Coil* Current (mA)	Coil* Resistance (Ω) ± 10%	1-99
48F5539	RY610005	44.0	113	3.15
52F1002	RY 610 012	19.3	620	2.80
52F1003	RY 610 024	10.2	2,350	2.80

*All figures are given for cold coil (at ambient temperature +20°C/68°F).

(3725) (ne06387)

RPII/1, RPII/2 SERIES PCB RELAYS



RP7

RPII/1, RPII/2 series are sealed PCB relays. **Type RP7** have single contact rated 16A at 250VAC (440 max. breaking voltage). **Type RP8** have single contact rated 10A at 250VAC (440 max. breaking voltage). Mechanical life: >30 x 10^6 operations. Dielectric strength: coil-contact = 4,000VAC; contact-contact/pole-pole = 1,000/2,500. 29 x 12.6 x 25.5mm. UL recognized, CSA certified, OVE, SEV, SEMKO, NEMKO, DEMKO, SETI, and VDE approved.

16A, RPII/1

Stock No.	Type	Action	Coil Voltage (VDC)	1-99
52F964	RP 710 005	1 form C	5	3.21
52F965	RP 710 012	1 form C	12	3.21
52F966	RP 710 024	1 form C	24	3.21

CONTINUED

RPII/1, RPII/2 SERIES PCB RELAYS (CONT.)

10A, RPII/2

Stock No.	Type	Action	Coil Voltage (VDC)	1-99
52F973	RP 818 005	1 form C	5	2.85
52F974	RP 818 012	1 form C	12	2.85
52F975	RP 818 024	1 form C	24	2.85

10A, RP11/2, 2 FORM C

Stock No.	Type	Coil* Current (mA)	Coil* Resistance (Ω)	1-99
52F976	RP 820 005	92.6	54 ± 10%	3.21
52F977	RP 820 012	44.4	270 ± 10%	3.21
52F978	RP 820 024	21.8	1,100 ± 15%	3.21
52F980	RP 840 012	44.4	270 ± 10%	3.06
52F980	RP 840 012	21.8	1,100 ± 15%	3.06

*All figures are given for cold coil (at ambient temperature +20°C/68°F).

RT, RP AND RY RELAY ACCESSORIES

Stock No.	Type	Description	1-99
52F962	RP 16104	Ejector for DIN Rail Socket (RP Relay)	0.31
52F963	RP 16100	Clip for Socket w/PCB Terminals (RP Relay)	0.31
52F969	RP 78601	Socket with PCB Terminals (3.5mm)	0.78
52F970	RP 78602	Socket with PCB Terminals (5.0mm)	1.04
52F971	RT 78624	DIN Rail Socket w/Screw Terminals (3.5mm)	3.63
52F972	RT 78625	DIN Rail Socket w/Screw Terminals (5.0mm)	3.83
52F8769	RY16041	Clip Socket with PCB Terminals (RT Relay)	0.74
52F8770	RP16016	Ejector for DIN Rail Socket (RT Relay)	0.36

(3724) (ne06386)

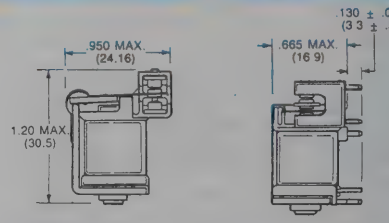
T75 SERIES 14A PC BOARD RELAYS

Miniature PC board relays are single coil, non-latching (monostable) with printed circuit terminals. Contact arrangement: 1 Form C (SPDT). Contact material: silver-cadmium oxide. Low profile and immersion cleanable. Suitable for applications including telecommunications equipment high current applications, household appliances and office machines. Nominal coil voltage is indicated in suffix of type number. Dimensions: 0.591H x 0.394W x 1.181"L (15 x 10 x 30). 3-60VDC types available; *contact your local Newark sales office.* UL recognized, CSA certified. Meets VDE, SEMKO, and SEV requirements.

Stock No.	Type	Coil Resist. (Ω)	1-24
93F3105	T75S5D112-05	118	3.39
93F3106	T75S5D112-12	275	3.39
93F3108	T75S5D112-24	1,110	3.39

(38070) (ne38070)

T90 SERIES 30-AMP PC MOUNT RELAYS



Designed primarily for appliance industry and heating, ventilating and air conditioning markets. Operating temperature range: –55°C to +85°C. Contacts: silver-calcium oxide. Mechanical life expectancy: 10 million operations. Coil input voltage is indicated by last digits of type number (VDC). Electrical life expectancy: 100,000 operations. UL recognized, CSA certified.

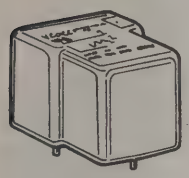
30A SWITCHING

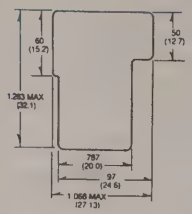
Stock No.	Type	Resist. (Ω)	Action	1-24
44F8966	T90N1D12-5	27	SPST-NO	1.81
44F1122	T90N1D12-12	155	SPST-NO	1.81
44F1123	T90N1D12-24	660	SPST-NO	1.81
20A/10A SWITCHING				
44F1125	T90N5D12-12	155	SPDT	1.91
44F1127	35C620A	Black Dust Cover		0.69

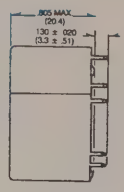
(3311) (de51764)

PC BOARD AND PANEL MOUNT RELAYS

T90S SERIES 30-AMP PLASTIC SEALED PC MOUNT RELAYS







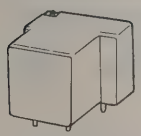
Designed primarily for appliance industry and heating, ventilating and air conditioning markets, **T90S series** relays are immersion-cleanable. Operating temperature range: –55°C to +85°C. Contacts: silver-calcium oxide. Mechanical life expectancy: 10 million operations. Electrical life expectancy: 100,000 operations. Coil input voltage is indicated by last digits of type number (VDC). UL recognized, CSA certified.

30A SWITCHING

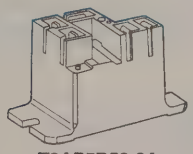
Stock No.	Type	Coil Resistance (Ω)	Action	1-24
46F3610	T90S1D12-5	27	SPST-NO	**2.58**
46F3611	T90S1D12-12	155	SPST-NO	**2.58**
46F3612	T90S1D12-24	660	SPST-NO	**2.58**
	20A/10A SWITCHING			
46F3614	T90S5D12-12	155	SPDT	**2.68**
46F3615	T90S5D12-24	660	SPDT	**2.68**
97F8355	T90S5D42-24	660	SPST	**2.68**

(3310) (de51763)

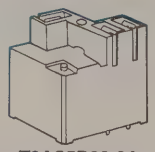
T9A SERIES PC BOARD/PANEL MOUNT RELAYS



T9AS5D12-24



T9AP5D52-24



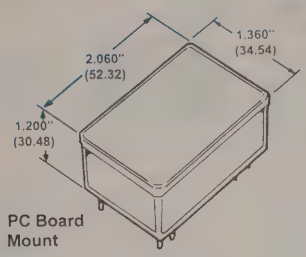
T9AS5D22-24

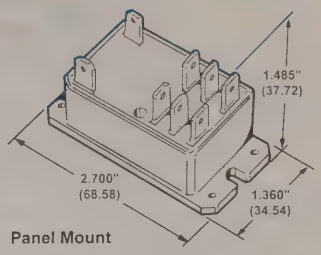
Up to 30 amp switching in SPST and 20 amp in SPDT arrangements. Meets UL 873 and UL 508 spacing -⅛" through air, ¼" over surface. Load connections made via ¼" Q.C. terminals and safety wells accept insulated female Q.C. terminals (mounting codes 2 & 5). **"P"** in type number indicates unsealed version with plastic dust cover. **"S"** in type number indicates version that is immersion cleanable, has a knock-off nib and comes in a sealed plastic case. Coil voltage (VDC) is indicated by last digits of type number. Dimensions: **T9AS5D12** = .805 (20.4)H x 1.08 (27.43)W x 1.27 (32.26)D. **T9AS5D22** = 1.10 (27.94)H x 1.27 (32.26)W x 1.08 (27.43)D. **T9AP5D52** = 1.10 (27.94)H x 1.98 (50.29)W x 1.08 (27.43). UL Class F insulation system standard. Suited for industrial, commercial and residential applications. UL recognized, CSA certified.

Stock No.	Type	Action	1-24
92F3725	T9AS1D12-12	SPST-NO	**2.20**
92F3726	T9AS5D12-12	SPDT	**2.20**
92F3727	T9AS1D12-24	SPST-NO	**2.20**
92F3728	T9AS5D12-24	SPDT	**2.20**
92F3729	T9AP5D52-12	SPDT	**2.71**
92F3730	T9AP5D52-24	SPDT	**2.71**
92F3733	T9AS1D22-12	SPST-NO	**2.37**
91F1782	T9AS1D22-18	SPST-NO	**2.37**
92F3734	T9AS1D22-24	SPST-NO	**2.37**
92F3735	T9AS5D12-18	SPDT	**2.20**
92F3737	T9AS5D12-48	SPDT	**2.60**
92F3738	T9AS5D22-12	SPDT	**2.37**
92F3739	T9AS5D22-24	SPDT	**2.37**
91F1783	T9AS5D22-18	SPDT	**2.37**
66F3425	T9AP1D52-12	SPST-NO	**2.71**
66F3426	T9AP1D52-24	SPST-NO	**2.71**
66F6698	T9AP1D52-48	SPST-NO	**3.16**
91F1784	T9AP1D52-110	SPST-NO	**4.29**
66F6686	T9AP5D52-48	SPDT	**3.16**
91F1785	T9AP5D52-110	SPDT	**4.29**
66F6689	T9AS1D22-48	SPST-NO	**2.82**
66F6687	T9AS1D22-5	SPST-NO	**2.37**
66F6695	T9AS1D12-48	SPST-NO	**2.60**
66F6697	T9AS5D12-110	SPDT	**3.73**
66F6688	T9AS5D22-5	SPDT	**2.37**

(3330) (ne04141)

T92 SERIES 30-AMP POWER RELAYS





T92 Series power relays are available in PC board and panel mount versions and DPST-NO and DPDT configurations. Panel mount relays have two mounting slots for #8 screws on 2.35" (59.71) centers. Applications include appliance, heating and ventilating. **"P"** in type number denotes plastic dust cover (unsealed). Silver cadmium oxide contact materials. Coil input voltage is indicated by the type number suffix. **A** in type number indicates input voltage is AC; **D** indicates DC. Meets requirements of VDE 8mm spacing 4kV dielectric coil-to-contacts.

PC BOARD MOUNT

Stock No.	Type	Coil Resistance (Ω)	Coil Power (W)	Action	1-24
93F2950	T92S7D12-12	86	1.7	DPST-NO	**9.01**
93F2955	T92S7D12-24	350			**9.01**
93F2962	T92S11D12-12	86	1.7	DPDT	**9.93**
93F2963	T92S11D12-24	350			**9.93**
	PANEL MOUNT				
04F1207	T92P7D22-12	86	1.7	DPST-NO	**8.14**
93F2951	T92P7D22-24	350			**8.14**
97F8358	T92P7A22-24	39	4.0	DPST-NO	**9.34**
99F9822	T92P7A22-120	39	4.0	DPST-NO	**9.34**
93F2954	T92S7D22-12	86	1.7	DPST-NO	**9.01**
93F2961	T92S7D22-24	350			**9.01**
93F2958	T92S7A22-24	39	4.0	DPST-NO	**10.36**
93F2959	T92S7A22-120	950			**10.36**
04F1209	T92S7A22-240	3800			**11.90**
93F2952	T92P11D22-12	86	1.7	DPDT	**8.96**
93F2953	T92P11D22-24	350			**8.96**
97F8356	T92P11A22-120	950	4.0	DPDT	**10.30**
97F8357	T92P11A22-240	3800	4.0	DPDT	**11.90**
93F2956	T92S11D22-12	86	1.7	DPDT	**9.93**
93F2957	T92S11D22-24	350			**9.93**
93F3210	T92S11A22-24	39	4.0	DPDT	**11.41**
93F3211	T92S11A22-120	950			**11.41**
04F1211	T92S11A22-240	3800			**13.15**

(3282) (de51689)

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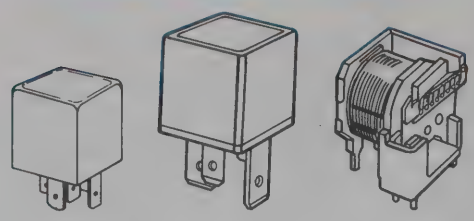
PC BOARD AUTOMOTIVE RELAYS

V SERIES AUTOMOTIVE RELAYS



VF4 VF7 VKP

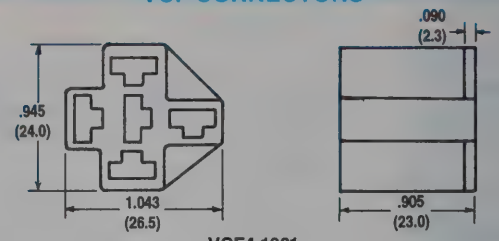
VF4, VF7 and **VKP** panel mount and PC board relays feature continuous contact rating from 40A to 70A @ 85°C. **VF4 series** 40A relays all feature quick connect terminals *except* **types VF4-15F13** (PC terminals). Suffixes **S01** and **S05** in type number indicate coil suppression option. **C01** indicates unit is epoxy sealed. Also feature 20 operations per second with no contact load. 6 operations per minute for rated life at rated load. **Types VF4-41** and **VF4-45** are provided with a steel bracket for relay mounting. **Types VF4-81** and **VF4-85** have an integral molded plastic mounting bracket. Dimensions: 1.12 × 1.12 × 0.987″H (28.5 × 28.5 × 25.1). **VF7 series** are all quick-connect 70A relays with dust cover except **Type VF-7-12F12** (printed circuit clinch). **Type VF7-41F11** relay also features bracket. Dimensions: 1.04 × 1.04 × 0.992″H (26.5 × 26.5 × 25.2). **Type VFM15F12-K01** is a 20A relay with quick-connect terminals. **Type VKP series** are open PC board relays with 40A continuous current. 0.911 × 0.748 × 0.715″H (23.1 × 19.0 × 18.2). Coil input voltage for relays listed is 12VDC, except *, which is 24VDC.

Stock No.	Type	Coil Resistance (Ω)	Action	1-24
94F6084	VF4-11F11	90	SPST-NO	6.21
94F6085	VF4-15F11	90	SPDT	6.55
90F8251	VF4-15F11-S01	90	SPDT	6.66
90F8252	VF4-15F13	90	SPDT	6.55
90F8253	VF4-15H11	360	SPDT	6.55
52F5520	VF4-15H13	90	SPDT	6.55
90F8257	VF4-41F11	90	SPST-NO	6.43
94F6086	VF4-45F11	90	SPDT	6.83
94F6087	VF711F11	72	SPST-NO	8.58
90F8266	VF7-41F11	72	SPST-NO	8.97
90F8269	VFM-15F12-K01	90	SPDT	6.75
90F8281	VKP-15F42	90	SPDT	4.91

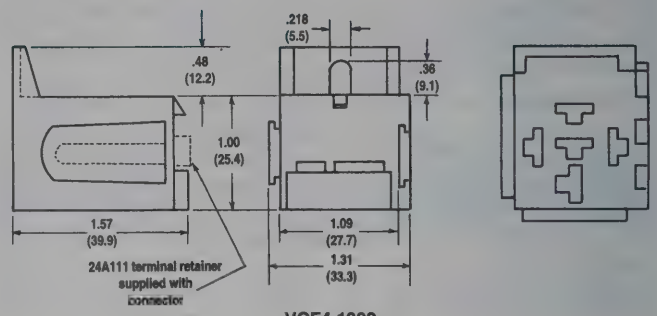
*24VDC input

(3273) (de03398)

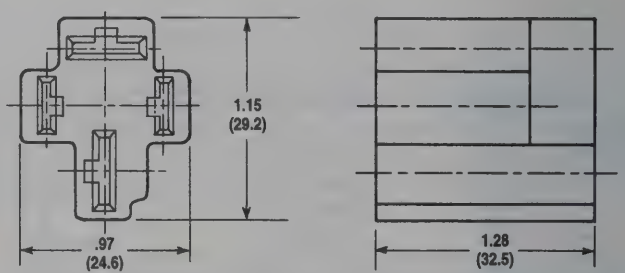
VCF CONNECTORS



VCF4-1001



VCF4-1002



VCF7-1000

26A SERIES OPEN-BARREL CRIMP-ON TERMINALS

For use with **VCF4** and **VCF7** connectors and **VF4** and **VF7** series automotive plug-in relays. **Types 26A1348A, B,** and **C** are for use with **type VCF4-1002** connectors. **Type 26A1349A** is for use with **type VCF4-1001** connectors. **Type 26A1350A** is for use with **type VCF7-1000** connectors.

Stock No.	Type	Wire Range (AWG)	1-24
50F998	26A1348A	18-20	0.15
50F999	26A1348B	14-16	0.15
50F1000	26A1348C	10-12	0.15
50F1001	26A1349A	12-16	0.15
50F1002	26A1350A	10-12	0.23

(3274) (de03399)

For use with **VF4** and **VF7** quick-connect terminal relays. *Order terminals separately on this page except* **type VCF4-1000**, *PCB socket for* **VF4 series** *relays.* **Type VCF4-1001** on-harness plug is intended for use with bracket-mounted **VF4** relay. **Type VCF4-1002** wire harness sockets interlock to form a single row and include a molded-in plastic bracket for mounting. **Type VCF7-1000** on-harness plug is for use with **VF7** relays.

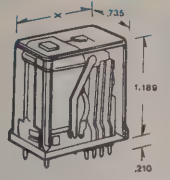
Stock No.	Type	Terminals Required	1-24
94F6082	VCF4-1000	None	1.50
94F6083	VCF4-1001	26A1349 (4 or 5)	0.56
90F8247	VCF4-1002	26A1348 (4 or 5)	1.22
90F8248	VCF7-1000	(2)26A1350A (2)26A1349A	0.80

(3356) (ne08331)

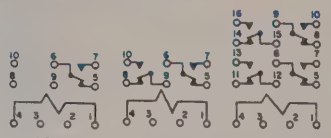
NEW PRODUCTS ARE BEING ADDED TO OUR INVENTORY EVERY DAY.
CALL NEWARK FOR INFORMATION ON WHAT'S CURRENTLY IN STOCK.

GENERAL-PURPOSE RELAYS

R10 SERIES PC BOARD RELAYS



X=.95″DPDT
=1.165″4PDT



Mechanical life expectancy is 100 million operations. Tin-plated terminals. Connect wires prevent opposite polarity from developing between adjacent contacts. Initial breakdown voltage is 1,000Vrms. Temperature range: –55°C to +75°C. **R10E2 series** relays are PC-board terminated and are very sensitive, current-actuated DC relays for direct drive by DTL, TTL, ECL and HTL. All relays DC voltage actuated. UL recognized, CSA certified. *Order* **R10** *PC board sockets separately on page 684. Order hold down springs separately on page 684.*

2-AMP SINGLE BUTTON SILVER CONTACTS

Stock No.	Type	Coil Voltage (VDC)	Coil Resistance (Ω)	Action	1-24	25-49	50-99
45F138	R10-E2-Y2-V185	12	185	DPDT	12.96	11.67	10.50
45F139	R10-E2-Y2-V700	24	700	DPDT	12.96	11.67	10.50
45F140	R10-E2Y4-V185	12	185	4PDT	15.34	13.81	12.43
45F141	R10-E2-Y4-V700	24	700	4PDT	15.34	13.81	12.43

5-AMP SINGLE BUTTON SILVER CADMIUM OXIDE CONTACTS

Stock No.	Type	Coil Voltage (VDC)	Coil Resistance (Ω)	Action	1-24	25-49	50-99
46F3505	R10-E2-X2-V185	12	185	DPDT	14.12	12.71	11.44
67F1078	R10-E2-X2-V700	24	700	DPDT	14.12	12.71	11.44
46F3506	R10-E2X2-115V	115	9000	DPDT	27.08	24.37	21.94
46F3507	R10-E2X4-V185	12	185	4PDT	17.45	15.70	14.14
46F3508	R10-E2X4-V700	24	700	4PDT	17.45	15.70	14.14
67F1079	R10-E2W2-V700	24	700	DPDT	16.01	14.41	12.97

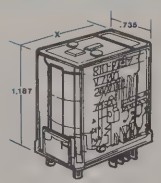
*7.5 amp model

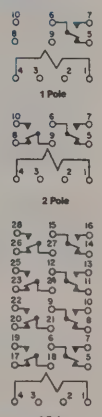
0.001-AMP GOLD OVERLAY ON SILVER BIFURCATED CROSSBAR CONTACTS

Stock No.	Type	Coil Inputs	Action	1-24	25-49	50-99
98F039	R10-E1P2-115V	115VAC	DPDT	26.53	23.87	21.49
94F1888	R10-E1P4-115V	115DC	4PDT	29.68	26.72	24.05
94F1887	R10-E1P4-V700	24DC	4PDT	16.28	14.66	13.19
94F801	R10-E1P6-V430	24DC	6PDT	24.09	21.68	19.52

(3255) (de01718)

R10-E1 SERIES SOCKET AND PANEL MOUNT RELAYS





R10-E1 general-purpose relays are available in a choice of contact materials and types. Solder terminals are 0.012″ (0.305) x 0.080″ (2.03) x 0.210″ (5.33) long with # 3-48 mounting stud. Contact amp ratings are for 28VDC or 115VAC, resistive. All units are UL recognized, and all except 8PDT are CSA certified. **Type R10-E1-X2-5800** is sensitive DC voltage actuated. *Order* **type R10** *relay sockets, hold down spring and mounting strips separately on this page or; contact your local Newark sales office.*

2-AMP TYP, 3-AMP MAX. SINGLE BUTTON SILVER CONTACTS SENSITIVE DC VOLTAGE ACTUATED

Stock No.	Type	Coil Voltage	Coil Resistance	Action	1-24	25-49	50-99
67F1072	R10-E1Y1-SS220	3VDC	220	SPDT	20.55	18.49	16.65
50F9530	R10-E1Y4-S450	12VDC	450	4PDT	20.44	18.39	16.56

2-AMP TYPICAL, 3-AMP MAX. SINGLE BUTTON SILVER CONTACTS DC VOLTAGE ACTUATED

95F8884	R10-E1Y2-115V	115VAC	9000	2PDT	26.08	23.48	21.14
45F105	R10-E1Y2-V52	6VDC	52	2PDT	12.96	11.67	10.50
45F106	R10-E1-Y2-V185	12VDC	185	2PDT	12.96	11.67	10.50
45F107	R10-E1-Y2-V700	24VDC	700	2PDT	12.96	11.67	10.50
62F3043	R10-E1Y2-V2.5K	48VDC	2500	2PDT	12.96	11.67	10.50
45F108	R10-E1Y4-V52	6VDC	52	4PDT	15.34	13.81	12.43
45F109	R10-E1-Y4-V185	12VDC	185	4PDT	15.34	13.81	12.43
45F110	R10-E1-Y4-V700	24VDC	700	4PDT	15.34	13.81	12.43
45F111	R10-E1-Y4-V2.5K	48VDC	2500	4PDT	15.34	13.81	12.43

CONTINUED

R10-E1 SERIES SOCKET AND PANEL MOUNT RELAYS (CONT.)

2-AMP TYPICAL, 3-AMP MAX. SINGLE BUTTON SILVER CONTACTS DC VOLTAGE ACTUATED (CONT.)

Stock No.	Type	Coil Voltage	Coil Resistance	Action	1-24	25-49	50-99
45F113	R10-E1Y6-V90	12VDC	90	6PDT	22.76	20.49	18.44
45F114	R10-E1-Y6-V430	24VDC	430	6PDT	22.76	20.49	18.44
62F3046	R10-E1Y6-V1.5K	48VDC	1500	6PDT	22.76	20.49	18.44

5-AMP, SINGLE BUTTON SILVER CADMIUM OXIDE CONTACTS AC AND DC VOLTAGE ACTUATED

77B3040	R10-E1X2-S800	12VDC	800	2PDT	19.11	17.20	15.48
62F3030	R10-E1-X2-V28	5VDC	28	2PDT	14.12	12.71	11.44
62F3048	R10-E1X2-V52	6VDC	52	2PDT	14.12	12.71	11.44
45F115	R10-E1-X2-V185	12VDC	185	2PDT	14.12	12.71	11.44
45F116	R10-E1-X2-V700	24VDC	700	2PDT	14.12	12.71	11.44
62F3049	R10-E1-X2-V2.5K	48VDC	2500	2PDT	14.12	12.71	11.44
62F3050	R10-E1X2-V15.0K	115VDC	15000	2PDT	20.82	18.74	16.87
45F117	R10-E1-X2-115VAC	115VAC	9000	2PDT	27.08	24.37	21.94
77B509	R10-E1X4-24V	24VAC	500	4PDT	27.14	24.42	21.99
45F118	R10-E1-X4-V185	12VDC	185	4PDT	17.45	15.70	14.14
45F119	R10-E1-X4-V700	24VDC	700	4PDT	17.45	15.70	14.14
62F3052	R10-E1X4-V2.5K	48VDC	2500	4PDT	17.45	15.70	14.14
62F3053	R10-E1X4-V15.0K	115VDC	15000	4PDT	24.15	21.73	19.57
45F120	R10-E1-X4-115VAC	115VAC	9000	4PDT	31.84	28.66	25.80
45F121	R10-E1-X6-V90DC	12VDC	90	6PDT	26.08	23.48	21.14
45F122	R10-E1-X6-V430	24VDC	430	6PDT	26.08	23.48	21.14
62F3056	R10-E1X6-V9.0K	115VDC	9000	6PDT	30.07	27.06	24.37
67F1073	R10-E1-X6-115VAC	115VAC	7500	6PDT	39.37	35.44	31.90

7.5-AMP, SINGLE BUTTON SILVER CADMIUM OXIDE CONTACTS DC VOLTAGE ACTUATED

67F1075	R10-E1-W2-V185	12VDC	185	2PDT	16.01	14.41	12.97
77B3039	R10-E1-W4-V185	12VDC	185	4PDT	21.49	19.34	17.41
67F1076	R10-E1-W2-V700	24VDC	700	2PDT	16.01	14.41	12.97
67F1077	R10-E1-W4-V700	24VDC	700	4PDT	21.49	19.34	17.41

100mA, 2-AMP MAX. BIFURCATED SILVER CONTACTS DC VOLTAGE ACTUATED

45F125	R10-E1Z2-V185	12VDC	185	2PDT	14.51	13.06	11.76
45F126	R10-E1-Z2-V700	24VDC	700	2PDT	14.51	13.06	11.76
45F127	R10-E1-Z4-V185	12VDC	185	4PDT	18.39	16.55	14.90
45F128	R10-E1-Z4-V700	24VDC	700	4PDT	18.39	16.55	14.90
62F3071	R10-E1Z4-V2.5K	48VDC	2500	4PDT	18.39	16.55	14.90
45F130	R10-E1-Z6-V430	24VDC	430	6PDT	27.36	24.62	22.17
62F3074	R10-E1Z6-V1.5K	48VDC	1500	6PDT	27.36	24.62	22.17
62F3075	R10-E1Z6-V9.0K	115VDC	9000	6PDT	31.40	28.26	25.44

2-AMP, 3-AMP MAX. SINGLE BUTTON SILVER CONTACTS DC CURRENT ACTUATED

95F8881	R10-E1Y2-J1.0K	8.5mA	1000	2PDT	18.11	16.30	14.68
45F131	R10-E1-Y2-J2.5K	5.8mA	2500	2PDT	18.11	16.30	14.68
45F132	R10-E1Y2-J5.0K	4.1mA	5000	2PDT	19.44	17.50	15.75
45F133	R10-E1Y4-J2.5K	8.4mA	2500	4PDT	19.83	17.85	16.07
62F3066	R10-E1Y4-J10.0K	4.5mA	10000	4PDT	22.98	20.69	18.62

5A, MAX. BIFURCATED CONTACTS, DC VOLTAGE ACTUATED

95F9224	R10-E1M4-V700	24VDC	700	4PDT	21.32	19.19	17.28

250mA MAX. BIFURCATED CROSSBAR, VOLTAGE ACTUATED

98F9658	R10-E1L4-115V	115VAC	9000	4PDT	42.58	38.33	34.51

3-A MAX., BIFURCATED CROSSBAR, AC & DC VOLTAGE ACTUATED

98F039	R10-E1P2-115V	115VAC	9000	2PDT	26.53	23.87	21.49
98F5103	R10-E1P2-V700	24VDC	700	2PDT	13.07	11.77	10.59
94F1888	R10-E1P4-115V	115VAC	9000	4PDT	29.68	26.72	24.05
94F1887	R10-E1P4-V700	24VDC	700	4PDT	16.28	14.66	13.19
94F801	R10-E1P6-V430	24VDC	430	6PDT	24.09	21.68	19.52

100mA, BIFURCATED SILVER CONTACTS, DC CURRENT ACTUATED

45F135	R10-E1Z4-J1.0K	13.0mA	1000	4PDT	23.43	21.08	18.98

100mA, TYP. BIFURCATED LOW-LEVEL CONTACTS, AC VOLTAGE ACTUATED

93F3091	R10-E1Z2-115V	115VAC	9000	2PDT	27.52	24.77	22.30
77B4434	R10-E1Z4-115V	115VAC	9000	4PDT	32.73	29.46	26.52

SOCKETS FOR R-10 SERIES RELAYS

Stock No.	Type	No. of Poles	Dim. A Nom.	Dim. B Max.	Dim. C Nom.	Each
98F040	27E460	2	1.800 (45.72)	2.230 (56.64)	0.200 (5.08)	18.55
70B786	27E461	4	2.125 (53.98)	2.830 (71.88)	0.337 (8.56)	23.26
70B6149	27E462	6	2.812 (71.42)	3.830 (97.28)	0.494 (12.55)	32.56

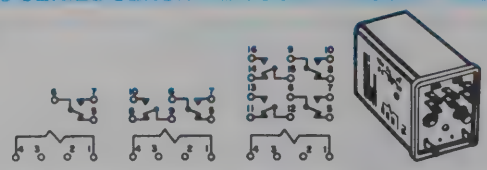
SCREW TERMINAL TRACK MOUNT SYSTEM

Stock No.	Type	Description	1-24	25-49	50-99
46F3617	24A110	DIN Rail style Track 36″ (914mm) Long, Holes on 6.0″ (152.4mm) Centers Accept *8 Screws	10.64	9.57	8.62

(3113) (de01319a)

GENERAL-PURPOSE RELAYS

R10S SERIES SENSITIVE SOCKET-MOUNT RELAYS



R10S series relays are very sensitive, current actuated DC relays for direct drive by CMOS, TTL, ECL and HTL. Available in solder **(E1)**, termination. Maximum pickup is listed in "input" column. Dimensions: 0.95″H (2 Pole) or 1.165″H (4 Pole) x 735″W x 1.50″D (24.13 or 29.59 x 18.67 x 38.10). **Types R10S-E2** have PCB terminals, 0.064″ (1.62) clearance, and 1.25″ (31.75) height. UL recognized, CSA certified. *Order* **R10** *solder terminal sockets and hold down springs separately on this page. Order* **R10** *relay mounting strip separately, contact your local Newark sales office.*

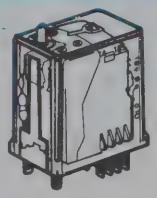
2 AMP TYPICAL 3 AMP MAXIMUM SPDT

Stock No.	Type	Coil Input Current	1-24	25-49	50-99
54F046	R10S-E1Y1-J1.0K	3.2mA	20.82	18.74	16.87
54F047	R10S-E1Y1-J2.5K	2.0mA	20.22	18.19	16.38
54F048	R10S-E1Y1-J5.0K	1.4mA	25.09	22.58	20.33
	DPDT				
54F049	R10S-E1-Y2-J1.0K	4.5mA	22.60	20.34	18.31
54F050	R10S-E1Y2-J2.5K	2.9mA	21.93	19.74	17.77
54F051	R10S-E1Y2-J5.0K	2.0mA	26.75	24.07	21.67
	4PDT				
54F052	R10S-E1-Y4-J1.0K	6.5mA	25.97	23.38	21.05

* For direct drive by CMOS, ECL and HTL.

(3297) (de50700)

R10L SERIES RELAYS WITH LED



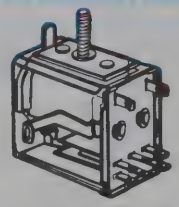
LED indicator produces highly visible red light when coil is energized. Relays have silver-cadmium oxide contact, single button tin-plated terminals. Contact rating: 28VDC or 115VAC, resistive. Temperature range –55°C to +55°C. Relays fit standard **R10 series** sockets. 1.4″ x 0.735″W x 0.95″D (2PDT), 1.165″D (4PDT), 1.375″D (6PDT). UL recognized File Nos. E428 10 and E29244. CSA certified. *Order 2-, 4-, or 6-pole* **R10 series** *solder terminal sockets and hold down spring separately on this page.*

SOLDER TERMINALS, 5A TYPICAL, 5A MAXIMUM

Stock No.	Type	Coil Input (VDC)	Action	1-24	25-49	50-99
67F1091	R10L-E1-X2-V185	12	DPDT	25.25	22.73	20.46
67F1092	R10L-E1X2-V700	24	DPDT	25.25	22.73	20.46
67F1093	R10L-E1X4-V185	12	4PDT	28.91	26.02	23.42
67F1094	R10L-E1X4-V700	24	4PDT	28.91	26.02	23.42

(3294) (de50697)

R10-E6 SERIES RELAYS



R10-E6 relays have solder terminals and are also fitted with a bracket on the narrow side of its case for chassis mounting. The bracket has one #6-32 x 0.375″ stud and locating tab on 0.437″ centers. Silver cadmium oxide contact, single button. 1.187″H x 0.735″W x 0.95″D (DPDT). UL recognized, CSA certified. *Order* **R10** *sockets on this page. Order terminal sockets and hold down springs on this page.*

SOLDER TERMINALS, 5 AMP TYPICAL 5 AMP MAXIMUM

Stock No.	Type	Coil Input	1-24	25-49	50-99
33F1626	R10-E6X2-V185	12VDC	15.95	14.36	12.92
33F1627	R10-E6-X2-V700	24VDC	15.95	14.36	12.92

(3295) (de50698)

R10-T SERIES SENSITIVE SOCKET-MOUNT RELAY

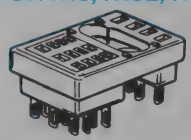
R10-T octal base relay with sensitive voltage adjustment features sensitivity to 50mW per pole. Fine silver contact rated 100mA to 3 amps @ 28VDC or 115VAC. Dimensions: 2.00″H x 1.41″W x 1.41″D (50.80 x 35.80 x 35.80). *Order octal-style socket* **type 27E891** *or* **type 27E892** *separately on page 689.*

2 AMP TYPICAL 3 AMP MAXIMUM, DPDT

Stock No.	Type	Coil Input	1-24	25-49	50-99
90F1097	R10-T1Y2-J1.0K	8.5mA	24.81	22.33	20.10
	1mA TYPICAL 3 AMP MAXIMUM, DPDT				
94F1890	R10-T1P2-V700	24VDC	20.38	18.34	16.51
96F7211	R10-T1P2-115V	115VAC	37.66	33.89	30.51
	1mA TYPICAL 3 AMP MAXIMUM, 3PDT				
94F1892	R10-T2-P3-115V	115VAC	48.84	43.96	39.58
94F805	R10-T2P3-V700	24VDC	23.70	21.33	19.21

(3272) (de02734)

SOCKETS FOR R10, R10L, R10S SERIES



PC sockets are available in 0.1 (3mm) staggered grid or in-line pin spacings. Solder terminal sockets are rated for 10A maximum current. Molded phenolic socket retains floating pierced solder terminals. Solder slot: 0.045″ x 0.090″.

STRIP GROUNDING PROVISION

Stock No.	Type	No. Poles	Terminal	Hold Down Spring*	1-24	25-49	50-99
57F3433	27E125	2	Solder	20C249	1.55	1.40	1.26
57F3434	27E126	4	Solder	20C250	1.94	1.75	1.57
57F3435	27E127	6	Solder	20C251	2.44	2.20	1.98
57F3436	27E128	2	PC	20C249	1.55	1.40	1.26
57F3437	27E129	4	PC	20C250	1.94	1.75	1.57
57F3438	27E130	6	PC	20C251	2.44	2.20	1.98
	NO GROUNDING PROVISION						
95F7965	27E212	2	PC Stag.	20C249	1.55	1.40	1.26
95F7964	27E213	4	PC Stag.	20C250	1.94	1.75	1.57
57F3444	27E162	2	Solder	20C249	1.55	1.40	1.26
57F3445	27E163	4	Solder	20C250	1.94	1.75	1.57
	TERMINAL GROUNDING PROVSION						
57F3448	27E193	2	PC	20C249	1.55	1.40	1.26
57F3449	27E194	4	PC	20C250	1.94	1.75	1.57

* Not included with socket, *order separately on this page.* ** Solder/bracket mount.

(3269) (de02457)

HOLD DOWN SPRINGS FOR R10 SERIES

Type 37D645 mounting strip features 10 pre-punched breakaway mounting plates. Designed to simplify mounting of one or more relays on chassis or racks. Each plate accepts 2, 4, 6 or pole solder terminal relay or socket. **Type 20C259** is a wire hold down strap. **Type 20C300** is for 2 pole R10s only.

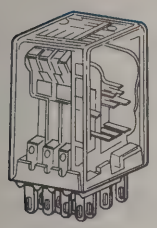
Stock No.	Type	No. Poles	1-24	25-49	50-99
57F3406	20C249	2	0.27	0.24	0.22
57F3407	20C250	4	0.27	0.24	0.22
57F3408	20C251	6	0.27	0.24	0.22
57F3411	20C259	All	0.27	0.24	0.22
57F3413	20C300	2	0.38	0.34	0.31
57F3463	37D645	2, 4, or 6	5.54	4.99	4.49

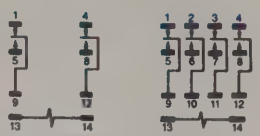
(3298) (de50701)

CONTACT NEWARK FOR LARGE-QUANTITY PRICING.

GENERAL-PURPOSE RELAYS

KHA SERIES MINIATURE SOCKET AND PANEL-MOUNT RELAYS





Wiring Diagrams

Miniature general-purpose units for data processing, photocopier, process control and similar applications. All 4 form C 4PDT except **type KHAU11** is 2 form C DPDT. Solder terminals. Dimensions: 1.281H x 0.859W x 1.109"D (32.54 x 21.82 x 28.17). The ninth digit of the type number indicates the contact type. UL recognized file E22575. CSA certified file LR15734. *Order sockets and spring separately on this page.*

CONTACT RATINGS FOR KHA SERIES RELAYS

Contact	Material	Resistive Rating	
		Minimum	Maximum
1	Silver	100mA @ 12VAC/12VDC	3A @ 120VAC/28VDC
2	Silver-cadmium oxide	500mA @ 12VAC/12VDC	5A @ 120VAC/28VDC
3	Gold-silver-nickel	10mA @ 12VAC/12VDC	2A @ 120VAC/28VDC
6	Bifurcated cross bar gold overlay silver	Dry circuit	1A @ 120VAC/28VDC
8	Gold-diffused silver	50mA @ 12VAC/12VDC	3A @ 120VAC/28VDC

NOTE: Relays should carry no more than 15 amps continuously for all poles combined.

2 FORM C (DPDT) SILVER CONTACTS

Stock No.	Type	Coil Input Voltage	Coil Resist. (Ω)	1-24	25-49	50-99
90F1128	KHAU-11A11-120	120VAC	3900	7.93	7.14	6.43
4 FORM C (4PDT) SILVER CONTACTS						
87F1103	KHAU-17A11-12	12VAC	43	7.93	7.14	6.43
87F1104	KHAU-17A11-24	24VAC	160	7.93	7.14	6.43
87F1105	KHAU-17A11-120V	120VAC	3900	8.31	7.48	6.73
87F1110	KHAU-17D11-6	6VDC	40	7.21	6.49	5.85
87F1111	KHAU-17D11-12	12VDC	160	7.21	6.49	5.85
87F1112	KHAU-17D11-24	24VDC	650	7.21	6.49	5.85
87F1113	KHAU-17D11-48	48VDC	2600	7.40	6.66	6.00
87F1115	KHAU-17D11-110	110VDC	11000	8.69	7.82	7.04
4 FORM C (4PDT) SILVER-CADMIUM OXIDE CONTACTS						
87F1107	KHAU-17A12-120V	120VAC	3900	8.31	7.48	6.73
87F1117	KHAU-17D12-12V	12VDC	160	7.21	6.49	5.85
87F1118	KHAU-17D12-24	24VDC	650	7.21	6.49	5.85
87F1119	KHAU-17D12-48	48VDC	2600	7.40	6.66	6.00
87F1120	KHAU-17D12-110	110VDC	11000	8.69	7.82	7.04
4 FORM C (4PDT) GOLD-SILVER-NICKEL CONTACTS						
87F1108	KHAU-17A13-120	120VAC	3900	38.76	34.89	31.41
87F1121	KHAU-17D13-24	24VDC	650	37.71	33.94	30.56
4 FORM C (4PDT) SILVER CONTACTS, WITH NEON LAMP						
87F1106	KHAU-17A11N-120	120VAC	3900	11.60	10.44	9.40
4 FORM C (4PDT) GOLD-DIFFUSED SILVER CONTACTS						
87F1109	KHAU-17A18-120	120VAC	3900	9.12	8.21	7.39
4 FORM C (4PDT) BIFURCATED CROSS BAR, GOLD OVERLAY SILVER CONTACTS						
90F1129	KHAU-17A16-120	120VAC	3900	9.36	8.43	7.59
90F1130	KHAU-17A16-24	24VAC	160	9.07	8.17	7.35
87F1123	KHAU-17D16-12	12VDC	160	9.32	8.39	7.55

(3286) (de50443)

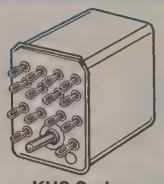
ALUMINUM MOUNTING STRIP

Holds 8 **KH series** sockets, except for **types 27E166** and **27E894**, on 1 length. 10.9L x 2.25W x 0.062" thick.

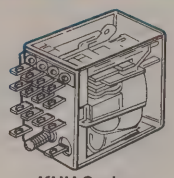
Stock No	Type	1-24	25-49	50-99
57F3464	37D633	5.93	5.34	4.80

(3285) (de50442)

KH SERIES SOCKET- AND PANEL-MOUNT RELAYS



KHS Series



KHU Series

- **UL Recognized for Class 1, Division 2 Hazardous Locations CSA Certified**

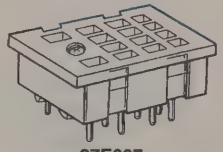
4PDT relays available with AC or DC operation. **KHU series** has clear polycarbonate dust cover; **KHS series** has hermetically-sealed steel case. Units with **suffix"1"**: silver contacts rated 3A @ 28VDC resistive, 120VAC. **"2"**: silver-cadmium oxide contacts rated 5A @ 28VDC resistive, 120VAC. **"3"**: gold-silver nickel contacts for low-level to 2A @ 28VDC resistive, 120VAC. **"6"**: gold overlay on silver, bifurcated cross bar rated 1A @ 28VDC, 120VAC. **Suffix "N"** indicates neon lamp. Solder terminals. 1.281"H x 0.910"W x 1.156"D. *Order* **KH series** *sockets separately on this page.*

DC OPERATION, HERMETICALLY SEALED

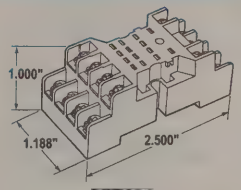
Stock No.	Type	Coil Input (VDC)	Coil Resist. (Ω)	1-24	25-49	50-99
24F2562	KHS-17D11-12V	12	160	46.35	41.72	37.56
24F2563	KHS-17D11-24V	24	650	46.35	41.72	37.56
24F2564	KHS-17D11-110	110	11000	52.16	46.95	42.27
24F3280	KHS-17D12-24VDC	24	650	46.35	41.72	37.56
67F1059	KHS-17D13-24	24	650	119.44	107.50	96.78
DC OPERATION, CLEAR POLYCARBONATE COVER						
45F035	KHU-17D11-6	6	40	22.32	20.09	18.09
45F036	KHU-17D11-12	12	160	22.32	20.09	18.09
45F037	KHU-17D11-24	24	650	22.32	20.09	18.09
45F038	KHU-17D11-48	48	2600	23.26	20.93	18.85
45F039	KHU-17D11-110	110	11000	27.63	24.87	22.39
95F8880	KHU-17D12-12	12	160	22.32	20.09	18.09
45F040	KHU-17D12-24	24	650	22.32	20.09	18.09
62F3081	KHU-17D16-24	24	650	25.97	23.38	21.05
50F9531	KHU-17D18-24	24	650	23.92	21.53	19.39
AC OPERATION, HERMETICALLY SEALED						
24F2559	KHS-17A11-24	24	160	50.84	45.75	41.19
24F2560	KHS-17A11-120VAC	120	3900	50.84	45.75	41.19
24F3283	KHS-17A12-120VAC	120	3900	50.84	45.75	41.19
67F1061	KHS-17A13-120	120	3900	123.87	111.48	100.37
AC OPERATION, CLEAR POLYCARBONATE COVER						
45F043	KHU-17A11-12	12	43	26.42	23.77	21.40
45F044	KHU-17A11-24	24	160	26.42	23.77	21.40
45F045	KHU-17A11-120	120	3900	26.42	23.77	21.40
62F3038	KHU-17A11N-120	120	3900	33.01	29.71	26.74
62F3082	KHU-17A12-120	120	3900	26.42	23.77	21.40
62F3011	KHU-17A13-120	120	3900	76.53	68.88	62.01
95F9225	KHU-17A18-120	120	3900	27.69	24.92	22.44

(3283) (de50440)

SOCKETS AND SPRING FOR KH/KHA SERIES



27E007



27E894

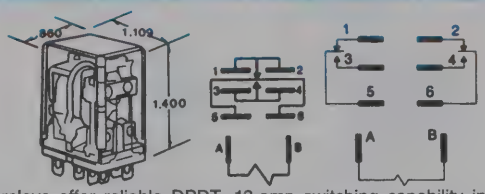
Solder terminal **type 27E006** includes grounding provision. **Type 27E007** is a PC terminal socket with grounding provision. Hold-down spring **type 20C217** is used for **27E007**. Screw terminal **type 27E166** is rated 5A. Molded, glass-filled polyester DIN rail mount polyamide **type 27E894** meets UL94V-0, 7A rating. Snaps on track without tools. Hold-down spring **type 20C297** is used with **types 27E166** and **27E894**. *Order* **KH series** *mounting strip separately on this page.*

Stock No.	Type	Description	1-24	25-49	50-99
57F3422	27E006	4PDT Solder Terminal	1.89	1.70	1.53
57F3423	27E007	4PDT PC Terminal with Grounding Provision	1.94	1.75	1.57
95F7966	27E023	4PDT PC Terminal without Grounding Provision	1.78	1.60	1.44
57F3402	20C217	Hold Down Spring	0.51	0.46	0.42
57F3447	27E166	Srfc. Mnt. 4PDT Screw Terminal	13.29	11.96	10.77
46F3589	27E894	DIN Mount 4PDT Screw Terminal	16.12	14.51	13.06
67F3896	20C297	Hold Down Spring	0.51	0.46	0.42

(3284) (de50441)

GENERAL-PURPOSE RELAYS

K10 SERIES SOCKET- OR PANEL-MOUNT RELAYS



K10 Series relays offer reliable DPDT, 13-amp switching capability in a compact, polycarbonate dust cover enclosed package. All have 0.187" (4.75) quick-connect/solder terminals, and they fit sockets with printed circuit, solder lug or screw terminals. Silver cadmium oxide contacts rated 15 amps @ 120VAC resistive; 10 amps @ 30VDC resistive or 277VAC; ½HP @ 250VAC; ⅓HP @ 120VAC. Nominal power: 0.9W for DC coil types and 1.2VAC for AC coil types. Mechanical life: 10 million operations. Electrical life: 100,000 operations. UL recognized, CSA certified. Units indicating a "**T**" in the type number are top flange/panel mount. *Order sockets and hold down spring separately on this page.*

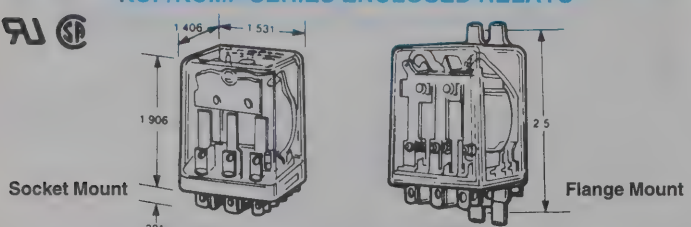
Stock No.	Type	Coil Input Voltage	Coil Resist. (Ω)	1-24	25-49	50-99
67F3886	K10P-11A15-6	6VAC	10.5	9.58	8.62	7.77
67F3891	K10P-11D15-6	6VDC	40	8.63	7.77	6.99
67F3887	K10P-11A15-12	12VAC	43	9.58	8.62	7.77
67F3892	K10P-11D15-12	12VDC	160	8.63	7.77	6.99
67F3895	K10P-11D15-110	110VDC	11,000	9.95	8.95	8.06
67F3888	K10P-11A15-24V	24VAC	160	9.58	8.62	7.77
67F3893	K10P-11D15-24V	24VDC	650	8.63	7.77	6.99
94F475	K10P-11D55-12	12VDC	160	8.90	8.01	7.21
90F1147	K10P-11D55-24	24VDC	650	8.90	8.01	7.21
90F1146	K10P-11D55-110	110VDC	11,000	10.21	9.19	8.28
67F3890	K10P-11A15-120V	120VAC	3900	9.58	8.62	7.77
87F522	K10P-11DT5-12	12VDC	160	8.63	7.77	6.99
87F523	K10P-11DT5-24	24VDC	650	8.63	7.77	6.99
87F524	K10P-11AT5-120VAC	120VAC	3900	9.58	8.62	7.77

SOCKETS, HOLD-DOWN SPRINGS AND MOUNTING STRIPS FOR K10 SERIES RELAYS

Stock No.	Type	Description	1-24	25-49
67F3897	27E487	DPDT screw terminal socket rated 10 amps, track mount	6.81	6.13
67F3896	20C297	Hold down spring for use with **type 27E487**	0.51	0.46
67F3898	27E488	DPDT solder terminal socket rated 10 amps w/integral retainer	2.33	2.10
67F3899	27E489	DPDT printed circuit terminal socket rated 10 amps	2.44	2.20
57F3402	20C217	Hold down spring for **types 27E488** and **27E489**	0.51	0.46
46F3590	27E895	Screw Terminal Socket	8.20	7.38
48F4087	20C426	Hold down spring for **types 27E488** and **27E489**	0.50	0.45
57F3464	37D633	Mounting strip for 8 **type No. 27E488** sockets, aluminum,10.9" x 2.25" x 0.062"	5.93	5.34

(3291) (de50694)

KUP/KUMP SERIES ENCLOSED RELAYS



Available in AC 50/60Hz coil and DC coil, socket or flange mount. **KUP** models with **"1"** as last digit of type number have silver, quick connect/solder terminal and are rated 5A at 28VDC/240VAC, 80% PF. **KUP** models with **"5"** as last digit have silver cadmium oxide, quick connect/solder terminals, and are rated 10A at 28VDC/240VAC. **KUMP** models are silver cadmium oxide, quick connect/solder terminals, rated 15A at 277VAC, ½ HP at 120VAC. Models with (**) have push-to-test button for manual contact actuation. (†) have neon lamp to indicate coil power. (‡) have test button and neon lamp. *Order sockets and hold down spring separately on this page.*

FLANGE MOUNT, AC VOLT MODELS

Stock No.	Type	Action	Voltage	1-24	25-49	50-99
24F3264	KUP-5A55-120	SPDT	120	12.74	11.47	10.32
24F3265	KUP-11A55-24VAC	DPDT	24	14.90	13.41	12.07
24F3266	KUP-11A55-120VAC	DPDT	120	14.90	13.41	12.07
24F2891	KUP-14A55-12	3PDT	12	16.34	14.71	13.24
24F2892	KUP-14A55-24VAC	3PDT	24	16.34	14.71	13.24
24F2893	KUP-14A55-120V	3PDT	120	16.34	14.71	13.24
24F3268	KUP-14A55-240	3PDT	240	19.44	17.50	15.75
77B3010	KUP-17A55-24	4PDT	24	68.72	61.85	55.68

CONTINUED

KUP/KUMP SERIES ENCLOSED RELAYS (CONT.)

FLANGE MOUNT, DC VOLT MODELS

Stock No.	Type	Action	Voltage	1-24	25-49	50-99
84F572	KUP-5D55-12	SPDT	12	11.69	10.52	9.47
24F3274	KUP-5D55-24VDC	SPDT	24	11.69	10.52	9.47
24F3275	KUP-11D55-6	DPDT	6	13.96	12.56	11.31
24F3276	KUP-11D55-12VDC	DPDT	12	13.96	12.56	11.31
24F3277	KUP-11D55-24	DPDT	24	13.96	12.56	11.31
95F9217	KUP-11D55-48	DPDT	48	16.62	14.95	13.46
24F3278	KUP-11D55-110VDC	DPDT	110	18.83	16.95	15.26
24F2894	KUP-14D55-12	3PDT	12	16.06	14.46	13.01
24F2895	KUP-14D55-24VDC	3PDT	24	16.06	14.46	13.01

SOCKET MOUNT, AC VOLT MODELS

Stock No.	Type	Action	Voltage	1-24	25-49	50-99
24F2602	KUP-5A15-24	SPDT	24	12.13	10.92	9.83
24F2603	KUP-5A15-120	SPDT	120	12.13	10.92	9.83
24F2604	KUP-5A15-240	SPDT	240	15.18	13.66	12.30
67F1108	KUP-11A11-120	DPDT	120	14.46	13.01	11.71
24F2610	KUP-11A15-12	DPDT	12	14.23	12.81	11.53
24F2611	KUP-11A15-24V	DPDT	24	14.23	12.81	11.53
24F2612	KUP-11A15-120V	DPDT	120	14.23	12.81	11.53
24F2613	KUP-11A15-240	DPDT	240	17.28	15.55	14.00
62F3031	KUP-11A35-120	DPDT	120	17.50	15.75	14.18
67F1109	KUP-14A11-120	3PDT	120	16.12	14.51	13.06
24F2619	KUP-14A15-12V	3PDT	12	15.90	14.31	12.88
24F2620	KUP-14A15-24V	3PDT	24	15.90	14.31	12.88
24F2621	KUP-14A15-120V	3PDT	120	15.90	14.31	12.88
24F2622	KUP-14A15-240V	3PDT	240	18.83	16.95	15.26
62F3032	KUP-14A25-120	3PDT	120	18.28	16.45	14.81
62F3033	KUP-14A35-120	3PDT	120	19.22	17.30	15.57
62F3035	KUP-14A45-120	3PDT	120	21.16	19.04	17.14
77B3006	KUP-17A19-120	4PDT	120	68.39	61.55	55.41

SOCKET MOUNT, DC VOLT MODELS

Stock No.	Type	Action	Voltage	1-24	25-49	50-99
24F2606	KUP-5D15-12	SPDT	12	11.13	10.02	9.02
24F2607	KUP-5D15-24V	SPDT	24	11.13	10.02	9.02
24F2615	KUP-11D15-12V	DPDT	12	13.51	12.16	10.95
24F2616	KUP-11D15-24V	DPDT	24	13.51	12.16	10.95
24F2617	KUP-11D15-110	DPDT	110	18.39	16.55	14.90
67F1110	KUP-11D11-24	DPDT	24	13.68	12.31	11.09
62F3037	KUP-11D35-24	DPDT	24	21.05	18.94	17.05
95F9230	KUP-14D11-24	3PDT	24	15.84	14.26	12.84
24F2623	KUP-14D15-6	3PDT	6	15.51	13.96	12.57
24F2624	KUP-14D15-12V	3PDT	12	15.51	13.96	12.57
24F2625	KUP-14D15-24V	3PDT	24	15.51	13.96	12.57
95F8883	KUP-14D15-48	3PDT	48	18.17	16.35	14.72
24F2626	KUP-14D15-110V	3PDT	110	20.44	18.39	16.56
77B392	KUP-14D35-24V	3PDT	24	23.20	20.88	18.80
77B3015	KUP-17D19-24	4PDT	24	63.57	57.21	51.51

SOCKET MOUNT, AC VOLT MODELS

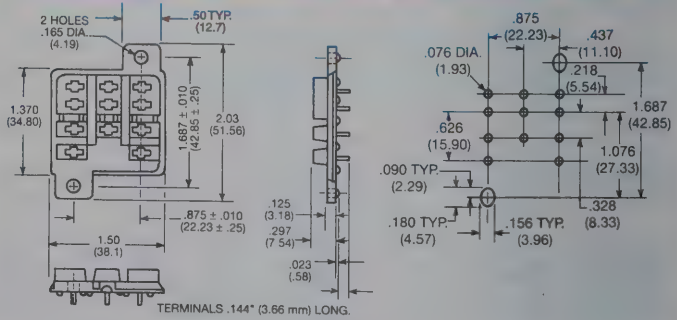
Stock No.	Type	Action	Voltage	1-24	25-49	50-99
33F1577	KUMP-11A18-24	DPDT	24	16.01	14.41	12.97
33F1578	KUMP-11A18-120V	DPDT	120	14.51	13.06	11.76
33F1579	KUMP-11A18-240	DPDT	240	18.94	17.05	15.35
94F1896	KUMP-14A18-120	3PDT	120	17.56	15.80	14.23

SOCKET MOUNT, DC VOLT MODELS

Stock No.	Type	Action	Voltage	1-24	25-49	50-99
33F1581	KUMP-11D18-12V	DPDT	12	15.45	13.91	12.52
33F1582	KUMP-11D18-24V	DPDT	24	15.45	13.91	12.52
33F1583	KUMP-11D18-110	DPDT	110	20.38	18.34	16.51
90F1121	KUMP-14D18-12	3PDT	12	17.06	15.35	13.82
94F1898	KUMP-14D18-24	3PDT	24	17.06	15.35	13.82

(3315) (de51843)

SOCKETS AND SPRINGS FOR KUP SERIES RELAYS



27E046

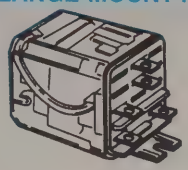
Stock No.	Type	Description	1-24	25-49	50-99
57F3424	27E043	Solder Terminal Socket	2.33	2.10	1.89
57F3425	27E046	PC Board Socket	2.77	2.50	2.25
57F3403	20C228	Hold Down Spring	0.69	0.62	0.56
50F9528	20C254	Hold Down Spring (snap-in)	0.46	0.41	0.37
95F7967	20C314	Hold Down Spring	0.63	0.57	0.52
57F3430	27E121	Screw Terminal Socket	8.70	7.83	7.05
57F3427	27E067	QC Terminal Socket	3.71	3.34	3.01
95F9228	27E867	Screw Terminal Socket	20.44	18.39	16.56

(3313) (de51839)

VISIT NEWARK'S WEB SITE AT www.newark.com

GENERAL-PURPOSE RELAYS

KUHP SERIES FLANGE-MOUNT POWER RELAYS



Offer switching capability in 1 Form C (SPDT) of 30 amps @ 120/240VAC, 25 amps @ 28VDC in 2 Form C (DPDT) of 20 amps @ 120/240VAC, 20 amps @ 28VDC. Contacts silver-cadmium oxide. Solder/push-on terminals. Type nos. with **T1** top brackets; dimensions: 2.461L x 1.393W x 2.382"H (62.51 x 35.38 x 60.50H). **51** side brackets; dimensions: 1.406L x 1.531W x 2.90"H (35.71 x 38.89 x 73.66H). UL recognized, CSA certified.

SPDT CONTACT RELAYS

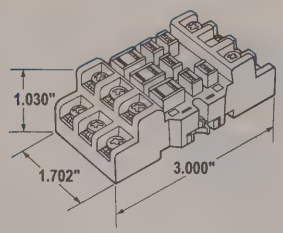
Stock No.	Type	Input	Resist. (Ω)	Power	1-24	25-49	50-99
87F511	KUHP-5DT1-12	12VDC	120	1.2W	**14.12**	**12.71**	**11.44**
90F1119	KUHP-5D51-12	12VDC	120	1.2W	**14.68**	**13.21**	**11.89**
87F510	KUHP-5DT1-24	24VDC	472	1.2W	**14.12**	**12.71**	**11.44**
90F1120	KUHP-5D51-24	24VDC	472	1.2W	**14.68**	**13.21**	**11.89**
87F509	KUHP-5AT1-120	120VAC	1700	2.7VA	**14.68**	**13.21**	**11.89**
84F660	KUHP-5A51-24	24VAC	472	2.7VA	**15.18**	**13.66**	**12.30**
90F1118	KUHP-5A51-120	120VAC	1700	2.7VA	**15.18**	**13.66**	**12.30**

DPDT CONTACT RELAYS

87F514	KUHP-11DT1-12	12VDC	120	1.2W	**14.12**	**12.71**	**11.44**
84F659	KUHP-11A51-24	24VAC	472	2.7VA	**17.28**	**15.55**	**14.00**
94F403	KUHP-11D5-112	12VDC	120	1.2W	**16.78**	**15.10**	**13.60**
90F1117	KUHP-11D51-24	24VDC	472	1.2W	**16.78**	**15.10**	**13.60**
87F513	KUHP-11DT1-24	24VDC	472	1.2W	**14.12**	**12.71**	**11.44**
87F512	KUHP-11AT1-120	120VAC	1700	2.7VA	**16.78**	**15.10**	**13.60**

(3290) (de50689)

SOCKETS FOR KU SERIES RELAYS



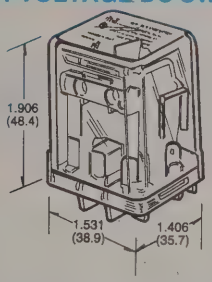
27E893

Snap-in sockets for SPDT, DPDT, 3PDT relays require no mounting screws or retainer ring. **Type 27E893** DIN rail mount socket offers screw termination for **KU** relays, through 3 poles, with 0.187" (4.75) quick connect terminals. Socket snaps into track without tools. Screw terminals will accept a maximum of two #12 AWG wires. **Type 27E396** socket has snap-in panel mount male tab terminals 0.187" (4.75) by 0.020" (0.508), which will accept female quick connect terminals.

Stock No.	Type	1-24	25-49	50-99
46F3616	27E893	**10.58**	**9.52**	**8.57**
57F3466	27E396	**3.71**	**3.34**	**3.01**
46F3619	20C318	**0.41**	**0.37**	**0.34**
50F9528	20C254	**0.46**	**0.41**	**0.37**

(3314) (de51840)

KUEP SERIES HIGH-VOLTAGE DC SWITCHING RELAYS

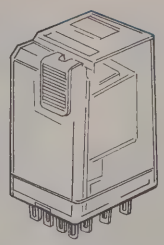


KUEP series relays switch 10 amps at 150VDC. Feature wide contact gap and are equipped with a permanent magnet blow-out to assist in interrupting DC current when the contacts are opened. Silver cadmium oxide contacts. 0.187" (4.8mm) x 0.020" (0.5mm) quick-connect/solder terminals. Type number indicates coil input. Last digits in type number indicate voltage, **A** in type number indicates AC, **D** indicates DC. Enclosed in a polycarbonate dust cover for socket mount. 2250 coil ohms have AC coil input only.

Stock No.	Type	Coil Resist. (Ω)	Action	1-24	25-49	50-99
95F8885	KUEP-3A15-120	2250	SPST	**17.00**	**15.30**	**13.78**
95F8886	KUEP-3D15-24	472	SPST	**15.84**	**14.26**	**12.84**
90F1133	KUEP-3D15-110	10,000	SPST	**20.71**	**18.64**	**16.78**
90F1136	KUEP-7D15-24	472	DPST-NO	**15.90**	**14.31**	**12.88**
66F3432	KUEP-11D15-12	120	DPDT	**17.72**	**15.95**	**14.36**
94F471	KUEP-11D15-24	472	DPDT	**17.72**	**15.95**	**14.36**
94F470	KUEP-11A15-120	2250	DPDT	**18.72**	**16.85**	**15.17**

(3263) (de01963)

ZT SERIES MINIATURE RELAYS AND ZG SERIES SOCKETS



ZT series is available in both 2 **(prefix ZT2)** or 4 **(prefix ZT5)** changeover contacts. New test system with front-operated, finger-protected push-to-test button and integral- locking test tab. Description column for **ZT series** indicates: nominal voltage, coil resistance (ohms). **Type ZG78710** DIN rail socket with diode also available; *contact your local Newark sales office.* UL listed, UL recognized, CSA certified, CE marked, VDE approved.

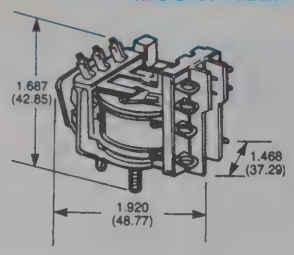
Stock No.	Type	Description	1-24	25-99	100-499
01F698	ZT270024	24 VDC, 520 ± 10%	**7.46**	**5.59**	**4.85**
01F699	ZT 270 615	115VAC, 4300 ± 12%	**7.46**	**5.59**	**4.85**
01F703	ZT 570 012	12VDC, 160 ± 10%	**7.66**	**5.75**	**4.98**
01F705	ZT 570 615	115VDC, 4300 ± 12%	**7.66**	**5.75**	**4.98**
52F1021	ZG 78700	DIN Rail Socket	**4.35**	**3.26**	**2.89**
52F1015	ZG 28801	Retaining Clip	**0.31**	**0.24**	**0.21**
52F1025	ZG 78759	2-Pole PCB Socket	**1.45**	**1.09**	**0.96**
52F1023	ZG 78752	4-Pole PCB Socket	**1.45**	**1.09**	**0.96**
52F1014	ZG 28800	2/4 Pole Clips	**0.31**	**0.24**	**0.21**

(13026) (ne10197)

IF YOU DON'T SEE THE PRODUCT YOU NEED LISTED HERE - CALL!
1-800-4-NEWARK
(1-800-463-9275)

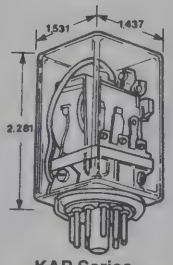
GENERAL-PURPOSE RELAYS

KA AND KAP SERIES LIGHT POWER SOCKET-AND PANEL-MOUNT RELAYS

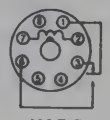


KA Series

KA



KAP Series



KAP 5

KAP 11

KAP 14

Highly efficient relays for light power loads such as small motors, solenoids, other relays and general automation work. UL recognized, files E22575 and E29244, and CSA certified, file LR15734. Mechanical life expectancy: 10 million operations. Types with **"Y" suffix** have silver contacts rated 5A @ 120VAC, **"G" suffix** have silver cadmium oxide contacts rated 10A @ 120VAC. Insulation material is molded phenolic. **KA series** is open version. Mounting: one no. 6-32 threaded stud and locating tab on 0.438" (11.13) centers. **KAP series** is enclosed model, protected by a clear polycarbonate dust cover. 8 or 11 pin octal type plugs for socket mounting. *Order octal-style sockets separately on page 689.*

KA/KAP SERIES COIL DATA

DC COILS			AC COILS		
Input Voltage	Coil Resist. (Ω)	Input Current (mA)	Input Voltage	Coil Resist. (Ω)	Input Current (mA)
6	32	188	6	6	335
12	120	100	12	24	168
24	472	51	24	85	84
48	1,800	26.7	120	2,250	17.5
110	10,000	11	240	9,110	8.75

KA SERIES AC VOLTS, 5-AMP OPEN MODEL

Stock No.	Type	Action	Input Voltage	1-24	25-49	50-99
24F515	KA5AY-120 VAC	SPDT	120	26.42	23.77	21.40
24F594	KA-11AY-24	DPDT	24	31.90	28.71	25.85
24F517	KA-11AY-120	DPDT	120	31.90	28.71	25.85
24F519	KA-14AY-120	3PDT	120	38.99	35.09	31.59

KAP SERIES AC VOLTS, 5-AMP ENCLOSED MODEL

24F2565	KAP-11AY-24	DPDT	24	57.70	51.93	46.75
24F2566	KAP-11AY-120	DPDT	120	57.70	51.93	46.75
24F2577	KAP-14AY-120	3PDT	120	70.99	63.89	57.52

KA SERIES AC VOLTS, 10-AMP OPEN MODEL

24F1668	KA5AG-120VAC	SPDT	120	28.35	25.52	22.98
24F1673	KA-11AG-120	DPDT	120	33.34	30.00	27.01
24F1678	KA-14AG-120	3PDT	120	42.64	38.38	34.55

KAP SERIES AC VOLTS, 10-AMP ENCLOSED MODEL

45F034	KAP-5AG-120	SPDT	120	52.61	47.35	42.63
24F2569	KAP-11AG-24	DPDT	24	58.81	52.93	47.65
24F2570	KAP-11AG-120	DPDT	120	58.81	52.93	47.65
24F2580	KAP-14AG-120	3PDT	120	71.77	64.59	58.15

KAP SERIES DC VOLTS, 5-AMP ENCLOSED MODEL

24F2573	KAP-11DY-12	DPDT	12	57.09	51.38	46.26
24F2574	KAP-11DY-24	DPDT	24	57.09	51.38	46.26
24F2575	KAP-11DY-110	DPDT	110	62.80	56.52	50.88
24F2584	KAP-14DY-24	3PDT	24	70.16	63.15	56.85

KA SERIES DC VOLTS, 10-AMP OPEN MODEL

45F023	KA-5DG-6	SPDT	6	26.75	24.07	21.67
45F024	KA5DG-12	SPDT	12	26.75	24.07	21.67
45F028	KA-11DG-12	DPDT	12	32.78	29.51	26.57
45F029	KA-11DG-24	DPDT	24	32.78	29.51	26.57
45F030	KA-11DG-110	DPDT	110	35.83	32.25	29.03
45F032	KA-14DG-24	3PDT	24	42.81	38.53	34.69
45F033	KA-14DG-110	3PDT	110	45.46	40.92	36.84

CONTINUED

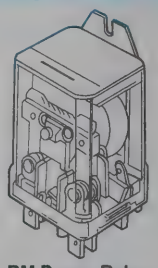
KA AND KAP SERIES LIGHT POWER SOCKET-AND PANEL-MOUNT RELAYS (CONT.)

KAP SERIES DC VOLTS, 10-AMP ENCLOSED MODEL

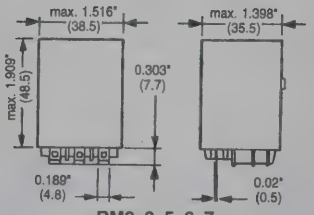
Stock No.	Type	Action	Input Voltage	1-24	25-49	50-99
24F2571	KAP-11DG-24	DPDT	24	58.15	52.33	47.11
24F2572	KAP-11DG-110	DPDT	110	63.52	57.16	51.47
24F2581	KAP-14DG-24	3PDT	24	71.71	64.54	58.11

(3109) (de01233)

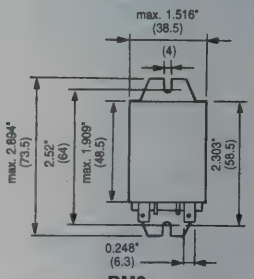
RM SERIES POWER RELAYS



RM Power Relay



RM2, 3, 5, 6, 7



RM8

RM series power relays are for direct control of squirrel-cage motors, water heaters, and night storage heaters. Used as power relays in electrical appliances. They are single contact. **Types RM2, 3, 5, 6,** and **7** rated up to 16A @ 380VAC (440 max. breaking voltage). **Type RM8** rated up to 25A @ 250VAC (440 max. breaking voltage). Relays have a mechanical life of > 20 x 10^6. **Types RM5** and **RM6** have 3mm contact gap. Dielectric strength: coil-contact 2500VAC; contact-contact 2500VAC; pole-pole 2500VAC. UL recognized, CSA certified, VDE approved.

Stock No.	Type	Coil* Voltage (mA)	Coil* Resist. Ω ± 10%	Action	1-24	25-99
52F911	RM 202 012	109.1	110	2 C/O	10.87	8.15
52F912	RM 202 024	50.5	475	2 C/O	10.87	8.15
52F914	RM 202 615	20.6	2000	2 C/O	11.39	8.54
52F923	RM 205 615	20.6	2000	2 C/O	11.39	8.54
52F926	RM 302 024	50.5	475	3 C/O	11.91	8.93
52F927	RM 302 524	94.2	86	3 C/O	11.91	8.93
52F943	RM 702 012	139.5	86	7 C/O	12.94	9.71
52F944	RM 702 024	69.6	345	7 C/O	12.94	9.71
52F945	RM 702 524	109.2	80	7 C/O	12.94	9.71
52F957	RM 805 012	109.0	110	2 C/O	13.98	10.48
52F958	RM 805 024	50.5	475	2 C/O	13.98	10.48
52F960	RM 805 615	23.0	1850	2 C/O	14.49	10.87
52F961	RM 805 720	12.0	7000	2 C/O	15.53	11.65

*All figures given are for cold coil (at ambient temperature +20°C/68°F).

11-PIN POWER RELAY SOCKETS AND RETAINING CLIP

Stock No.	Type	Description	1-24	25-99
16F1005	RMA78700	Panel/DIN-Rail Mount	8.70	6.52
16F1006	RM78700	Fast-on Terminals	1.80	1.35
16F1007	RM78701	Solder Terminals	1.80	1.35
16F1008	RM78702	PCB Terminals	1.80	1.35
16F1009	RM28802	Retaining Clip	0.98	0.73

(4081) (ne06279)

NEW PRODUCTS ARE CONTINUALLY ADDED.
CALL NEWARK FOR CURRENT SELECTION.

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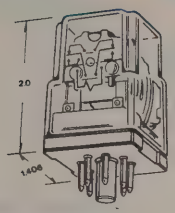
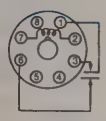
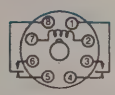
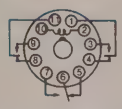
GENERAL-PURPOSE RELAYS

KRPA SERIES GENERAL-PURPOSE SOCKET-MOUNT RELAYS




KRPA5


KRPA11


KRPA14

Enclosed in clear polycarbonate dust cover. Relays with **suffix "Y"** have silver contacts and are rated 5A @ 120VAC, 1/10HP @ 120VAC, 3 amps @ 240VAC and 1/8HP @ 240VAC. **Suffix "G"** have silver cadmium-oxide contacts and are rated 10A @ 250VAC, 1/3HP @ 250VAC and 1/8HP @ 120VAC. **Suffix "N"** have contacts identical to **"G"** and also have an indicator lamp wired in parallel with coil. **"Y"** and **"G"** are UL recognized and CSA certified. **"N"** UL and CSA in 110, 120 and 240V only. Hold-down spring for **KRPA** and **KRPA-N** will accommodate machine screws or rivets. Input voltage is indicated by last digits of type number. For use with flush mount chassis sockets. *Order sockets separately on this page.*

DC VOLTS 5A

Stock No.	Type	Coil Resist. (Ω)	Action	1-24	25-49	50- 99
21F1062	KRPA-5DY-12	120	SPDT	17.06	15.35	13.82
21F1063	KRPA-5DY-24	472	SPDT	17.06	15.35	13.82
21F1090	KRPA-11DY-12	120	DPDT	18.94	17.05	15.35
21F1091	KRPA-11DY-24V	472	DPDT	18.94	17.05	15.35
21F1117	KRPA-14DY-24	472	3PDT	23.48	21.13	19.03
DC VOLTS 10A						
21F1057	KRPA-5DG-6	32	SPDT	17.61	15.85	14.27
21F1058	KRPA-5DG-12	120	SPDT	17.61	15.85	14.27
21F1059	KRPA-5DG-24V	472	SPDT	17.61	15.85	14.27
21F1080	KRPA-11DG-6	32	DPDT	19.72	17.74	15.98
21F1081	KRPA-11DG-12V	120	DPDT	19.72	17.74	15.98
21F1082	KRPA-11DG-24V	472	DPDT	19.72	17.74	15.98
21F1083	KRPA-11DG-48V	1,800	DPDT	20.77	18.69	16.83
21F1084	KRPA-11DG-110V	10,000	DPDT	21.38	19.24	17.32
21F1110	KRPA-14DG-12V	120	3PDT	24.09	21.68	19.52
21F1111	KRPA-14DG-24V	472	3PDT	24.09	21.68	19.52
21F1112	KRPA-14DG-48	1,800	3PDT	25.36	22.83	20.55
21F1113	KRPA-14DG-110	10,000	3PDT	25.97	23.38	21.05
DC VOLTS 10A W/INDICATOR LAMP						
21F1086	KRPA-11DN-12	120	DPDT	22.32	20.09	18.09
21F1087	KRPA-11DN-24V	472	DPDT	22.32	20.09	18.09
21F1088	KRPA-11DN-110	10,000	DPDT	24.09	21.68	19.52
21F1114	KRPA-14DN-24V	472	3PDT	26.97	24.27	21.85
AC VOLTS 5A						
21F1056	KRPA-5AY-120V	2,250	SPDT	17.11	15.40	13.87
21F1075	KRPA-11AY-6	6	DPDT	19.27	17.35	15.62
21F1076	KRPA-11AY-12	24	DPDT	19.27	17.35	15.62
21F1077	KRPA-11AY-24V	85	DPDT	19.27	17.35	15.62
21F1078	KRPA-11AY-120V	2,250	DPDT	19.27	17.35	15.62
21F1079	KRPA-11AY-240	9,110	DPDT	20.38	18.34	16.51
21F1106	KRPA-14AY-24	85	3PDT	23.59	21.23	19.12
21F1107	KRPA-14AY-120V	2,250	3PDT	23.59	21.23	19.12
21F1108	KRPA-14AY-240	9,110	3PDT	24.59	22.13	19.92
AC VOLTS 10A						
21F1051	KRPA-5AG-24	85	SPDT	17.61	15.85	14.27
21F1052	KRPA-5AG-120V	2,250	SPDT	17.61	15.85	14.27
21F1066	KRPA-11AG-12V	24	DPDT	19.72	17.74	15.98
21F1067	KRPA-11AG-24V	85	DPDT	19.72	17.74	15.98
21F1068	KRPA-11AG-120V	2,250	DPDT	19.72	17.74	15.98
21F1069	KRPA-11AG-240V	9,110	DPDT	20.82	18.74	16.87
21F1095	KRPA-14AG-12	24	3PDT	24.26	21.83	19.66
21F1096	KRPA-14AG-24	85	3PDT	24.26	21.83	19.66
21F1097	KRPA-14AG-120V	2,250	3PDT	24.26	21.83	19.66
21F1098	KRPA-14AG-240	9,110	3PDT	25.59	23.03	20.73
AC VOLTS 10A W/INDICATOR LAMP						
21F1071	KRPA-11AN-12	24	DPDT	22.43	20.19	18.17
21F1072	KRPA-11AN-24V	85	DPDT	22.43	20.19	18.17
21F1073	KRPA-11AN-120V	2,250	DPDT	22.43	20.19	18.17
21F1074	KRPA-11AN-240	9,110	DPDT	23.59	21.23	19.12
21F1101	KRPA-14AN-24	85	3PDT	27.36	24.62	22.17
21F1102	KRPA-14AN-120V	2,250	3PDT	27.36	24.62	22.17
21F1103	KRPA-14AN-240	9,110	3PDT	28.74	25.87	23.29

(3120) (de01656)

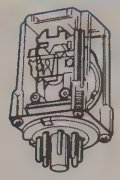
HOLD DOWN SPRING FOR KRP/KRPA SERIES

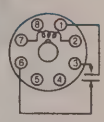
Fits all **KRP/KRPA** plug-in relays. Moves aside for relay removal and installation. Mount 2.156" (54.76) diameter holes on 1.313" (33.35) centers.

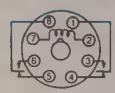
Stock No.	Type	1-24	25-49	50-99
57F3400	20C176	0.71	0.64	0.58

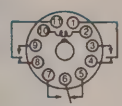
(3122) (de01658)

KRP SERIES MEDIUM POWER SOCKET-MOUNT RELAYS




KRP5


KRP11


KRP14

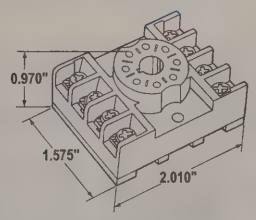
Enclosed in clear polycarbonate dust covers. 1- and 2-pole relays come with ungrounded frame and contacts rated for opposite polarity; 3-pole relays same polarity only. Dimensions same as **KRPA series.** Input voltage is indicated by last digits of type number. Type numbers with **suffix "Y"** have silver contacts rated 5A @ 120VAC; **"G"** have silver cadmium oxide rated 10A @ 250VAC for 1-, 2-pole, 10A @ 120VAC for 3-pole; **"N"** rated same as **"G"** but have indicator lamp. **"Y"** UL recognized; **"G"** UL recognized and CSA certified; **"N"** UL and CSA in 120, 240VAC only. *Order* **27E series** *sockets and hold down spring separately on this page.*

DC VOLTS 5A

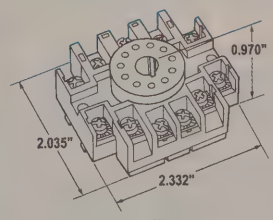
Stock No.	Type	Action	1-24	25-49	50-99
24F528	KRP-11DY-24VDC	DPDT	44.19	39.77	35.81
DC VOLTS 10A					
24F1346	KRP-11DG-12	DPDT	44.47	40.02	36.03
24F1347	KRP-11DG-24VDC	DPDT	44.47	40.02	36.03
67F1117	KRP-11DG-48	DPDT	47.18	42.46	38.23
24F1348	KRP-11DG-110VDC	DPDT	48.62	43.76	39.40
77B364	KRP-11DG-125	DPDT	48.95	44.06	39.67
24F1350	KRP-14DG-12VDC	3PDT	54.60	49.14	44.24
24F1359	KRP-14DG-24VDC	3PDT	54.60	49.14	44.24
DC VOLTS 10A W/INDICATOR LAMP					
24F1441	KRP-11DN-12	DPDT	50.45	45.40	40.88
24F1442	KRP-11DN-24V	DPDT	50.45	45.40	40.88
24F1443	KRP-11DN-110	DPDT	52.00	46.80	42.13
67F1119	KRP-14DN-24	3PDT	60.97	54.87	49.40
DC VOLTS 20A					
24F2642	KRP-3DH-24	SPST	49.73	44.76	40.29
AC VOLTS 5A					
24F518	KRP-11AY-120VAC	DPDT	43.53	39.17	35.27
24F527	KRP-14AY-120	3PDT	53.55	48.19	43.39
AC VOLTS 10A					
24F1332	KRP-5AG-120VAC	SPDT	40.20	36.18	32.58
24F1333	KRP-11AG-6	DPDT	42.53	38.28	34.46
24F1334	KRP-11AG-12	DPDT	42.53	38.28	34.46
24F1335	KRP-11AG-24VAC	DPDT	44.63	40.17	36.17
24F1336	KRP-11AG-120V	DPDT	44.63	40.17	36.17
24F1696	KRP-11AG-240V	DPDT	47.24	42.51	38.28
24F1340	KRP-14AG-120VAC	3PDT	54.82	49.34	44.42
24F2947	KRP-14AG-240	3PDT	58.09	52.28	47.07
AC VOLTS 10A W/INDICATOR LAMP					
24F1437	KRP-11AN-24VAC	DPDT	50.84	45.75	41.19
24F1438	KRP-11AN-120	DPDT	50.84	45.75	41.19
24F1329	KRP-14AN-120	3PDT	61.80	55.62	50.08

(3121) (de01657)

SURFACE MOUNT AND OCTAL-STYLE DIN MOUNT SOCKETS



Type 27E891



Type 27E892

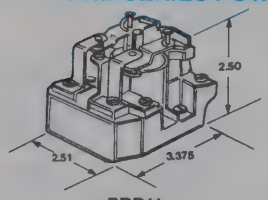
For **KRP, KRP3-H, KAP** and **KBP** relays; **CB,CG,CD,CNS,CNT,CH,CK** and **CR** time delays; and **CS** sensor. **Type 27E122** is a molded polyester, 8-pin screw socket, rated 10 amperes. **Type 27E123** is a molded polyester, 11-pin screw terminal socket, rated 10 amperes. **Type 27E891** and **Type 27E892** are DIN rail snap-mount sockets and have M3.5 screw terminals, which accept two # 12AWG wires. Rated 10 amps @ 300VAC and meet UL94V-0. **Type 27E891** fits terminals with standard 8-pin octal-type base. **Type 27E892** fits standard 11-pin octal-type bases.

Stock No.	Type	Mounting	1-24	25-49	50-99
57F3431	27E122	Surface	5.65	5.09	4.58
57F3432	27E123	Surface	8.25	7.43	6.69
46F3587	27E891	DIN	6.65	5.98	5.39
46F3588	27E892	DIN	10.03	9.02	8.12

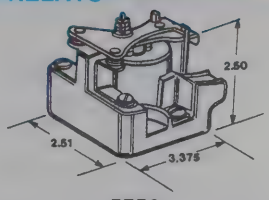
(3110) (de01234)

POWER RELAYS

PRD SERIES POWER RELAYS



PRD11



PRD3

PRD series relays are designed for use in high inrush current applications such as motor starting, other inductive and incandescent lamp loads. Relay bobbin is contained in plastic housing for added protection. Units feature screw terminations. Operating temperature range: –55°C to +45°C for AC models; –55°C to +80°C for DC models. UL listed under file E22575 and CSA certified under file 15734.

PRD SERIES WITH AC COIL, SPST-NO

Stock No.	Type	Coil Input Volt.	Coil Resist. (Ω)	1-24	25-49	50-99
33F1504	PRD-1AYO-120	120	290	18.83	16.95	15.26
	SPST-NO-DM					
90F1057	PRD-3AG0-120	120	290	18.77	16.90	15.21
33F1508	PRD-3AYO-120V	120	290	18.83	16.95	15.26
33F1510	PRD-3AYO-240	240	1200	19.27	17.35	15.62
	SPDT					
33F1518	PRO-5AYO-120V	120	290	21.60	19.44	17.50
33F1520	PRD-5AYO-240	240	1200	21.93	19.74	17.77
	DPST-NO					
33F1525	PRD-7AGO-120V	120	290	23.26	20.93	18.85
33F1528	PRD-7AYO-24	24	12	23.37	21.03	18.94
33F1529	PRD-7AYO-120V	120	290	20.05	18.04	16.25
33F1530	PRD-7AYO-208	208	850	23.87	21.48	19.34
33F1531	PRD-7AYO-240V	240	1200	20.44	18.39	16.56
	DPDT					
33F1536	PRD-11AGO-120V	120	290	28.91	26.02	23.42
33F1539	PRD-11AYO-24V	24	12	29.02	26.12	23.51
33F1540	PRD-11AY0-120V	120	290	29.02	26.12	23.51
33F1542	PRD-11AY0-240V	240	1200	29.52	26.57	23.92
33F1543	PRD-11AYO-480	480	4500	37.99	34.19	30.78
78B610	PRDA-11AGA-120	120	290	44.41	39.97	35.99
33F1549	PRDA-11AYA-24	24	12	44.47	40.02	36.03
33F1550	PRDA-11AYA-120	120	290	44.47	40.02	36.03
90F1110	PRD-11AG0-240	240	1200	29.41	26.47	23.83
90F1406	PRD-11AHO-120V	120	290	32.34	29.11	26.21

PRD SERIES WITH DC COIL, SPST-NO-DM

33F1512	PRD-3DYO-12	12	71	18.17	16.35	14.72
33F1513	PRD-3DYO-24	24	288	18.17	16.35	14.72
33F1514	PRD-3DYO-110	110	6050	21.05	18.94	17.05
	SPDT					
33F1522	PRD-5DYO-12V	12	71	17.94	16.15	14.54
33F1523	PRD-5DYO-24	24	288	20.93	18.84	16.96
33F1524	PRD-5DYO-110	110	6050	23.65	21.28	19.16
	DPST-NO					
90F1408	PRD-7DGO-24	24	288	22.54	20.29	18.26
33F1533	PRD-7DYO-12V	12	71	19.38	17.45	15.71
33F1534	PRD-7DYO-24V	24	288	19.38	17.45	15.71
33F1535	PRD-7DYO-110V	110	6050	21.93	19.74	17.77
	DPDT					
77B483	PRD-11DHO-12	12	71	31.57	28.41	25.58
98F2427	PRD-11DHO-110	110	6050	34.45	31.00	27.91
90F1407	PRD-11DHO-24	24	288	31.57	28.41	25.58
93F3089	PRD-11DJ0-24	24	288	31.07	27.96	25.17
33F1545	PRD-11DYO-12V	12	71	28.35	25.52	22.98
33F1546	PRD-11DYO-24V	24	288	28.35	25.52	22.98
84F659	PRD-11DY0-48	48	1150	28.80	25.92	23.33
33F1547	PRD-11DYO-110	110	6050	31.12	28.01	25.22
90F1056	PRD-11DG0-12	12	71	28.30	25.47	22.93
90F1409	PRD-11DGO-24	24	288	28.30	25.47	22.93
33F1546	PRD-11DYO-24V	24	288	28.35	25.52	22.98

PRD SERIES DC COIL WITH MAGNETIC BLOWOUT

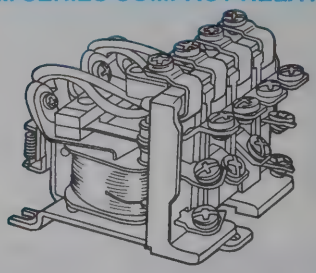
For switching high voltage and high current DC loads. 2W, 20A. SPST-NO-DM

90F1112	PRD-3DH0-24	24	288	21.43	19.29	17.37

*Has auxiliary SPDT, 5A snap-action switch with 5A, 120VAC contacts
** Silver-cad. oxide contacts with magnetic blow-out.
† Silver contacts with magnetic blow-out.
(3288)

(de50686)

PM SERIES COMPACT RELAYS



4PDT power relays are for polyphase and heavy-duty switching operations. All types are 4 form C (4PDT). Nominal power is 4.4 Watts for DC coils and 14VA for AC coils. **"–Suffix"** in type number indicates the coil input voltage. Screw-terminal units have silver-cadmium oxide contacts rated 25A at 277VAC, 50/60Hz resistive, or 1HP per moveable arm at 120 or 240VAC single phase. Mount by one front key hole and two rear channel slots for 8-32 screws on 2 x 2.5″ (50.80 x 63.50) triangular centers. Dimensions: 2.657L x 3.394W x 2.719″H. UL listed under file E22575 and CSA certified under file 15374.

AC COIL INPUT VOLTAGE

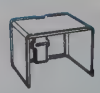
Stock No.	Type	Coil Reist. (Ω)	1-24	25-49	50-99
24F1432	PM-17AY-24	5	84.34	75.90	68.34
24F1433	PM-17AY-120VAC	120	84.34	75.90	68.34
24F1434	PM-17AY-240	587	84.61	76.15	68.56
	DC COIL INPUT VOLTAGE				
24F1427	PM-17DY-12VDC	33	77.47	69.72	62.77
24F1428	PM-17DY-24	132	77.47	69.72	62.77
24F1429	PM-17DY-110	2760	82.12	73.91	66.54

(37873)

(ne37873)

PRD/PM SERIES DUST COVERS

Type 35D227


Type 35D203

Type 35D013 dust cover is for **PRD series**. **PM series** dust covers for **types 35D277** and **35D203**, have sheet metal base with knockout for 0.500″ (12.70) diameter conduit and an aluminum cover fitted with two screws. **Type 35D203** is plastic; others are metal. Gray hammertone finish. Mounting: three No. 10 holes on 1.875 x 4.125″ (47.63 x 104.78) centers.

Stock No.	Type	L	W	H	1-24	25-49	50-99
24F1318	35D013	5.312″	3.375″	3.12″	21.05	18.94	17.05
24F1289	35D227 CASE	5.313″	3.813″	3.81″	25.36	22.83	20.55
57F3460	35D203	3.394″	2.657″	2.19″	4.93	4.44	4.00

(3289)

(de50688)

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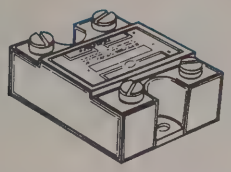
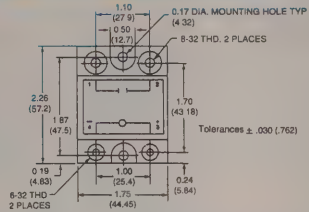
POWER AND SOLID-STATE RELAYS

SSRT SERIES RELAYS WITH TRIAC OUTPUT



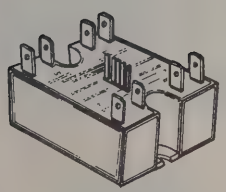


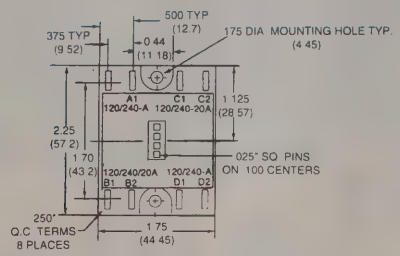
SSRT series relay is a triac output solid-state relay that is controlled by an optoelectronic coupler. Intended for use as an On/Off switch for loads through 25 amps. EMI and RFI are greatly reduced due to zero voltage turn-on and zero current turn-off of the load. 1 Form A (SPST-NO). Plastic case is UL rated self-extinguishing. 400V rms isolation. Overall height: 0.87″. Line voltage: 24 - 280 VAC.

Stock No.	Type	Input Voltage	Switching Current Rating (Arms)	1-24	25-49
89F955	SSRT-240A10	90-280 VAC	.05-10	**21.11**	**19.64**
89F956	SSRT-240A25	80-280 VAC	.05-25	**26.63**	**24.77**
89F957	SSRT-240D10	3-32 VDC	.05-10	**18.90**	**17.58**
89F958	SSRT-240D25	3-32 VDC	.05-25	**22.22**	**20.67**

(3301) (de50870)

SSRQ SERIES QUAD AC SOLID-STATE RELAY



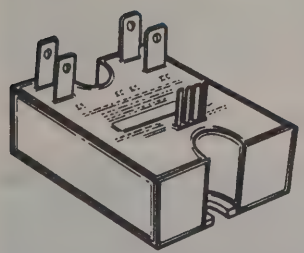


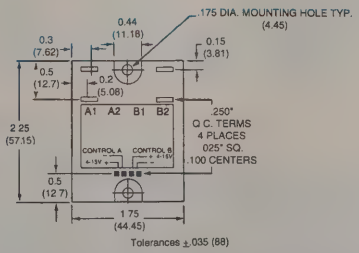
Relay comprises 4 independent, optically isolated, triac output solid state relays in 1 package. Designed to be used as four On/Off switches for loads through 20A. 4 x 1 Form A (4 x SPST-NO). 2500Vrms isolation. Line voltage: 24-280VAC. Overall height: 1.305″. UL recognized.

Stock No.	Type	Input Voltage	Switching Current Rating (Arms)	1-24	25-49
89F959	SSRQ-240D20	4-15 VDC	20	**71.10**	**66.13**

(3302) (de50871)

SSRD SERIES DUAL AC OUTPUT SOLID-STATE RELAYS



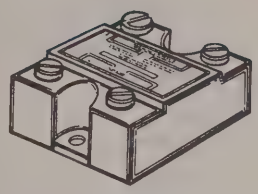


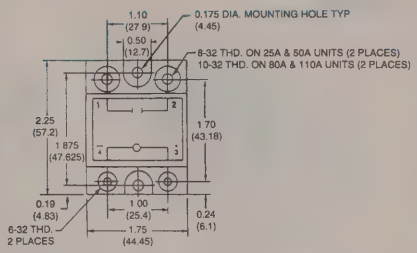
SSRD series relays comprise two totally independent, optically isolated, inverse parallel SCR output solid state relays in one standard package. Intended to be used as two On/Off switches for loads through 25 amps. Line voltage: 24-280VAC. Input voltage: 4-15VDC. UL recognized and CSA certified for industrial applications. 2 x 1 Form A (2 x SPST-NO). 2500Vrms isolation. Overall height: 1.3″.

Stock No.	Type	Max. Switching Rating (Arms) @ 25°C	1-24	25-49
89F960	SSRD-240D25	25	**44.43**	**41.32**
89F961	SSRD-240D40	40	**55.51**	**51.63**

(3303) (de50872)

SSR SERIES SOLID-STATE RELAYS WITH SCR OUTPUT





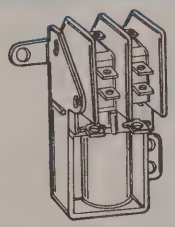
SSR series is a medium/high power, 120/240VAC, 47-70Hz inverse parallel SCR output solid-state relay that is controlled by an opto-electronic coupler. Intended for use as On/Off switch for loads through 110 amps. Line voltage: 24-280VAC. 1 Form A (SPST-NO). 400Vrms isolation. Zero voltage turn-on except "**R**" **suffix** random voltage turn-on. Overall height: 0.87″. UL recognized, CSA certified.

Stock No.	Type	Max. Switching Rating/Output (Arms)	1-24	25-49
90-280 VAC INPUT VOLTAGE				
89F945	SSR-240A25	0.05-25	**28.88**	**26.86**
89F946	SSR-240A50	0.05-50	**40.01**	**37.22**
3-32 VDC INPUT VOLTAGE				
89F948	SSR-240D25	0.05-25	**24.43**	**22.72**
89F949	SSR-240D25R	0.05-25	**26.63**	**24.77**
89F950	SSR-240D50	0.05-50	**35.56**	**33.07**
92F7746	SSR-480D125	0.5-125	**54.40**	**50.60**

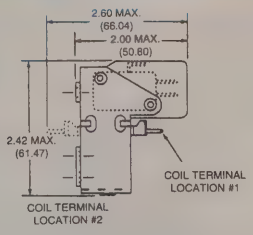
* 180-530 VAC line voltage

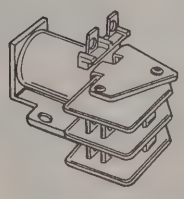
(3300) (de50869)

S86R/S87R SERIES 20-AMP POWER RELAYS

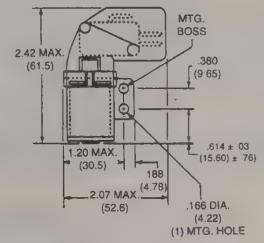


S86R





S87R



Relays have .250″ quick-connect/solder coil terminal located perpendicular to .250″ quick connect terminals. Contacts rated at 20A @ 277VAC, with life expectancy of 50,000 operations. Coil breakdown voltage: 1560V rms, 60HZ. **S87** relays are designed to operate with plunger in vertical or horizontal position, but not in upside-down position. Temperature range: -45°C to +65°C. Last digits in type number indicate coil input voltage. All input voltages are in VAC except - **11** in second segment of type number indicates DPDT; **5** indicates SPDT. UL recognized, CSA certified. **S87R** mounting style differs from **S86R** mounting style according to illustrations above. **S87R** width: 1.62″ (41.1). **S86R** width: 1.92″ (48.77).

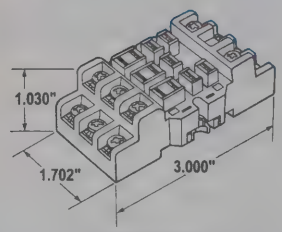
Stock No.	Type	Coil Resist. (Ω)	Coil Power (VA)	1-24	25-49
44F2181	S86R11A1B1D1120	800	4.0	**18.57**	**17.28**
20F766	S87R5A2B1D1 120V	800	4.0	**13.01**	**12.10**
20F767	S87R5A2B1D1240	3,200	4.0	**14.30**	**13.30**
20F768	S87R11A2B1D1-24V	32	4.0	**17.61**	**16.38**
20F769	S87R11A2B1D1 120V	800		**17.61**	**16.38**
20F770	S87R11A2B1D1240	3,200		**18.86**	**17.54**

*Coil input voltage is 24VDC.

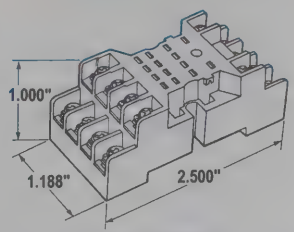
(3299) (de50867)

LATCHING POWER RELAYS AND RELAY ACCESSORIES

DIN MOUNT SCREW TERMINAL SOCKETS, MOUNTING TRACK AND SPRING CLIPS



Type 27E893



Type 27E894

Sockets' spring-loaded latch permits quick snap-on track mounting. Small screwdriver releases latch to remove socket. Sockets can be mounted without disturbing already-mounted sockets or components. Wide spacing and barriers between terminals for trouble-free wiring. Molded-in ID numbers for easy locating of terminals. Screws have captive pressure plates to use with stripped wires, spade and ring terminals. Terminals accept two 12 AWG wires. Rating: 10 amps @ 300V AC, except **type 27E894** is rated 7 amps.

SOCKET AND ACCESSORY USAGE CHART

Socket Type	Number of Pins	Hold-Down Spring	For Use With Relay Series		
27E891	8	None	KAP KCP KR11-E	KRP3-H KRP KRPA	R10T
			CB CD-38 CG	CH CK CR	KBP S89R-P CNS
27E892	11	None	KAP KCP KR14-E	KRP KRPA R10T	...
			CB CD-38 CG	CH CK KBP	CNS CNT
		None	JM3	...	...
27E893	9	20C318	CL-41 CL-44 CU-41	CU-44 CU-51 KUL	KUMP KUP
		None	SDAS-01	...	...
27E894	14	20C297	KHP	KHS KHU	KHX
27E895	8	20C426	K10	...	...

DIN MOUNT SOCKETS

Stock No.	Type	Description	1-24	25-49	50-99
46F3587	27E891	8-pin octal	6.65	5.98	5.39
46F3588	27E892	11-pin octal	10.03	9.02	8.12
46F3616	27E893	**KU series**	10.58	9.52	8.57
46F3589	27E894	**KH series**	16.12	14.51	13.06
46F3590	27E895	**K10 series**	8.20	7.38	6.64

HOLD-DOWN SPRINGS

67F3896	20C297	For **27E894**	0.51	0.46	0.42
46F3619	20C318	For **27E893**	0.41	0.37	0.34

(3293) (de50696)

KUL SERIES SINGLE AND DUAL COIL MAGNETIC LATCHING RELAYS

KUL series magnetic latching relays require only half the space of mechanical latching relays. Designed for continuous duty in applications demanding good memory stability. **Type KUL5A15S** is 1 Form C (SPDT); all others listed are 2 Form C (DPDT). Contacts are silver-cadmium oxide, 10 amps 28VDC resistive or 240VAC, 80% PF. AC coil relays include diodes. Dimensions: 1.531W x 1.406D x 2.156"H. All are UL recognized, CSA certified. *Order* **type 27E121**screw terminal *socket separately* . **"S"** in suffix denotes single coil model; **"D"** suffix, dual coil model.

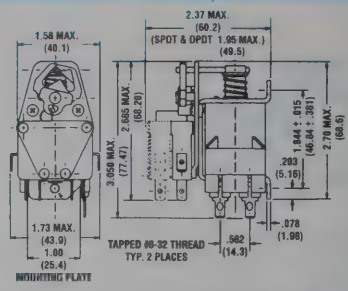
Stock No.	Type	Coil Input Voltage	1-24
24F3250	KUL-5A15S-120	120AC	32.56
24F3253	KUL-11A15S-24	24AC	37.44
24F3254	KUL-11A15S-120VAC	120AC	37.44
95F7402	KUL-11D15D-12	12DC	45.02
67F1122	KUL-11D15D-24	24DC	45.02
24F3255	KUL-11D15S-12VDC	12DC	29.74
24F3256	KUL-11D15S-24	24DC	29.74

SOCKET FOR KUL SERIES RELAYS SCREW TERMINALS

Stock No.	Type	1-24
57F3430	27E121	8.70

(3257) (de01751)

S89R SERIES BI-STABLE, IMPULSE RELAYS



Save power in uses where load is on for long time periods. Contacts are rated at 15 amps, 250VAC with life expectancy of 50,000 cycles at rated load. Coil breakdown voltage: 1500 Vrms, 60 Hz. 0.250" (6.35) quick-connect terminals. Temperature range: –40°C to +60°C. All feature 9.0VA coil power **except** types with **DBD** in type number which are 6.33W coil power. UL recognized, CSA certified **except** (*) which is enclosed relay with octal plug (10 amps max. rating).

SPDT CONTACTS

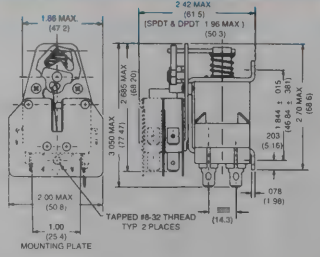
Stock No.	Type	Coil Input	Coil Ohms	1-24	25-49	50-99
20F755	S89R5ABD1-24VAC	24VAC	8.7	19.92	18.53	16.67
20F756	S89R5ABD1-120	120VAC	260	19.92	18.53	16.67
20F761	S89R5DBD1-12	12VDC	22.5	18.86	17.54	15.79

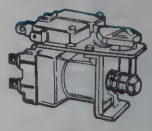
DPDT CONTACTS

77B3060	S89R11AAC1-24	24VAC	8.7	24.04	22.36	20.12
77B3061	S89R11AAC1-120	120VAC	260	24.04	22.36	20.12
20F758	S89R11ABD1-24VAC	24VAC	8.7	24.04	22.36	20.12
20F759	S89R11ABD1-120	120VAC	260	24.04	22.36	20.12
77B3064	S89R11DAC1-12	12VDC	22.5	22.89	21.29	19.16
93F3101	S89R11DAC1-24	24VDC	92	22.89	21.29	19.16
20F763	S89R11DBD1-12VDC	12VDC	22.5	22.89	21.29	19.16
20F764	S89R11DBD1-24	24VDC	92	22.89	21.29	19.16
98F384	S89R11APP1-120	120VAC	260	53.50	49.76	44.77

(3256) (de01750)

S90R SERIES BI-STABLE, IMPULSE RELAYS





Bi-stable relays can effect power savings in applications where load is on for long time periods. Meet UL 508 energy management requirements. 9 VA coil power. Operate on rated voltage pulses as short as 150ms. Mechanical life expectancy: 100,000 cycles. Temperature range: –40°C to +60°C. 20-ampere industrial rating. 0.250" quick connect terminals. UL recognized, CSA certified. Applications include industrial lighting control, motor starting and reversing of conveyor systems, or in air conditioning systems. Coil input voltage (VAC) is indicated in last digits of type number.

Stock No.	Type	Coil Resist. (Ω)	Action	1-24	25-49	50-99
44F2172	S90R5ABD1-120	260	SPDT	21.45	19.95	17.95
44F2174	S90R11ABD1-24	8.7	DPDT	25.96	24.15	21.73
44F2175	S90R11ABD1-120	260	DPDT	25.96	24.15	21.73

(3258) (de01752)

TRACK MOUNT SYSTEM FOR SOCKETS

Fig. 1

Fig. 2

Fig. 3

Type 24A110 are 3-foot extruded aluminum sections with slotted holes on 6" enters for no. 8 screws. **24A072** are plastic clips used for mounting socket **type 27E122, 27E123,** and **27E487**). 2 clips per socket. **24A071** is a steel mounting clip with one 7⁄16"L 6-32 screw used for sockets **27E121, 27E122, 27E123** and **27E166. 24A067** is a plastic clip for **27E487**. 2 per socket.

Stock No.	Type	Fig.	Description	1-24	25-49	50-99
46F3617	24A110	1	Three Foot Section of Track	10.64	9.57	8.62
57F3421	24A072	2	Plastic Twist-Clip	0.70	0.63	0.57
57F3420	24A071	3	Steel Mounting Clip	0.61	0.55	0.50
46F3618	40G432	...	Insulator	0.72	0.65	0.59

(3292) (de50695)

I/O MODULES AND MOUNTING BOARDS

SLIMLINE AND SOLID-STATE INPUT/OUTPUT MODULES

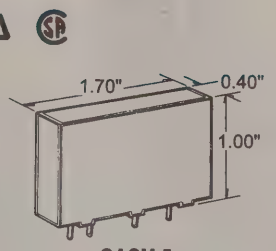
Slimline input/output modules provide interfacing between microprocessor- or computer-based control systems and external input devices and loads such as switches and sensors. Color-coded with high isolation and noise immunity. Packaged in a 0.4″ enclosure. 1 Form A (SPST-NO). Type numbers beginning with **IA** indicate module function is AC input. **ID** indicates DC input, **OA** indicates AC output, and **OD** indicates DC output. Solid state modules are photo-isolated and feature excellent transient immunity. Standard modules also serve as a reliable interface between microprocessor- or computer-based control systems and external input devices and loads. Packaged in industry-standard plug-in enclosure. Units interchange easily without disturbing wiring. Maximum load current derating for output modules is linear from 3 amps to 0.8 amps between +25°C and +80°C; **OAC-5H** and **ODC-5H** are linear from 5 amps to 1.3 amps between +25°C and +80°C. Both module types ideal for series operation. UL recognized, CSA certified. *Order mounting boards separately on this page.*

SLIMLINE MODULES

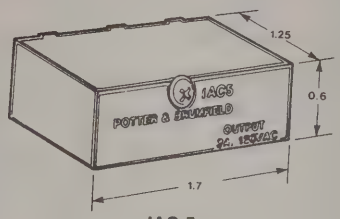
Stock No.	Type	Input Voltage Min.	Input Voltage Max.	Output Voltage Min.	Output Voltage Max.	1-24	25-49	50-99	100-499
89F962	IACM-5	90AC/DC	140AC/DC	...	30DC	**11.30**	**10.17**	**9.16**	**7.59**
89F964	IDCM-5	±10DC	±36DC	...	30DC	**11.30**	**10.17**	**9.16**	**7.59**
89F965	OACM-5	3DC	6DC	12AC	280AC	**11.30**	**10.17**	**9.16**	**7.59**
50F079	OACM-UH	3DC	15DC	12AC	280AC	**13.63**	**12.26**	**11.04**	**9.16**
89F968	ODCM-5	3DC	6DC	5DC	60DC	**11.30**	**10.17**	**9.16**	**7.59**
90F7636	OACM-5H	3DC	6DC	12AC	280AC	**13.63**	**12.26**	**11.04**	**9.16**
89F967	OACM-U	3DC	15DC	12AC	280AC	**11.91**	**10.72**	**9.65**	**8.00**
STANDARD MODULES									
75F001	IAC-5	90AC/DC	140AC/DC	...	30DC	**11.30**	**10.17**	**9.16**	**7.59**
44F963	IAC-5A	180AC/DC	280AC/DC	...	30DC	**11.30**	**10.17**	**9.16**	**7.59**
90F1217	IAC-5E	10AC/DC	36AC/DC	...	30DC	**11.30**	**10.17**	**9.16**	**7.59**
44F964	IAC-15	90AC/DC	140AC/DC	...	30DC	**11.91**	**10.72**	**9.65**	**8.00**
90F1419	IAC-24	90AC/DC	140AC/DC	...	30DC	**11.91**	**10.72**	**9.65**	**8.00**
75F003	IDC-5	±10DC	±36DC	...	30DC	**11.30**	**10.17**	**9.16**	**7.59**
90F1421	IDC-24	±10DC	±36DC	...	30DC	**11.91**	**10.72**	**9.65**	**8.00**
75F002	OAC-5	3DC	6DC	12AC	280AC	**11.30**	**10.17**	**9.16**	**7.59**
44F961	OAC-5A	3DC	6DC	12AC	280AC	**11.30**	**10.17**	**9.16**	**7.59**
90F7638	OAC-5H	3DC	6DC	12AC	280AC	**13.63**	**12.26**	**11.04**	**9.16**
44F962	OAC-15	9DC	18DC	12AC	280AC	**11.91**	**10.72**	**9.65**	**8.00**
90F1423	OAC-24	18DC	28DC	12AC	280AC	**11.91**	**10.72**	**9.65**	**8.00**
50F1035	OAC-24A	18DC	28DC	12AC	280AC	**11.91**	**10.72**	**9.65**	**8.00**
75F004	ODC-5	3DC	6DC	5DC	60DC	**11.30**	**10.17**	**9.16**	**7.59**
90F1187	ODC-5A	3DC	6DC	10DC	200DC	**14.23**	**12.81**	**11.53**	**9.57**
90F1422	ODC-15	9DC	18DC	5DC	60DC	**11.91**	**10.72**	**9.65**	**8.00**
90F1185	ODC-15A	9DC	18DC	10DC	200DC	**14.23**	**12.81**	**11.53**	**9.57**
90F1420	ODC-24	18DC	28DC	5DC	60DC	**11.91**	**10.72**	**9.65**	**8.00**

Logic in VDC is indicated in suffix of type number. Suffixes **-UH** and **-U** indicate logic of 3-15VDC.

(3268) (de02008)



OACM-5



IAC-5

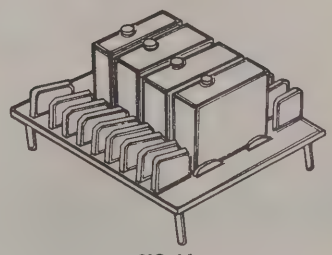
MOUNTING BOARDS FOR I/O MODULES

Mounting boards with type numbers ending in "**A**" are designed for negative true logic, one logic voltage; ending in "**B**": designed for negative or positive true logic, multiple logic voltages; ending in "**D**": designed for negative true logic, one logic voltage + 50-pin straight header logic terminals.

SLIMLINE MODULES

Stock No.	Type	Module Positions	L x W x H	1-24	25-49	50-99	100-499
90F7640	2I0M16	16	9.5 x 3.25 x 2.16″	**81.61**	**75.90**	**68.30**	**60.77**
90F7641	2I0M24	24	8 x 6 x 2.16″	**133.31**	**123.99**	**111.57**	**99.27**
STANDARD MODULES							
81F4505	2IO4A	4	4.5 x 3.5 x 2.2″	**30.01**	**27.91**	**25.12**	**22.35**
94F1901	2IO4B	4	4.5 x 3.5 x 2.2″	**30.01**	**27.91**	**25.12**	**22.35**
81F4506	2IO8	8	8.4 x 3.5 x 2.2″	**43.23**	**40.21**	**36.18**	**32.19**
81F9284	2IO16	16	14.4 x 3.5 x 2.2″	**88.54**	**82.35**	**74.10**	**65.93**
94F809	2IO16A	16	14.4 x 3.5 x 2.2″	**114.28**	**106.30**	**95.64**	**85.10**
94F810	2IO16B	16	14.4 x 3.5 x 2.2″	**114.28**	**106.30**	**95.64**	**85.10**
81F9285	2IO24	24	18.75 x 4.5 x 2.2″	**142.91**	**132.92**	**119.60**	**106.42**

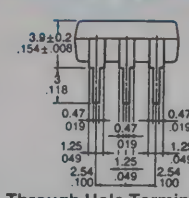
(3267) (de02009)


2IO-4A

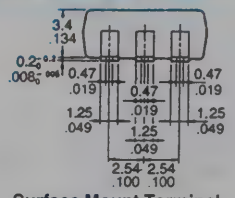
CALL NEWARK FOR FAST, DEPENDABLE SERVICE.

PC BOARD RELAYS

AQV/AQW SERIES AC/DC PHOTOMOS RELAYS



Through Hole Terminal



Surface Mount Terminal

Directly drive a power MOSFET. Control current with low level input signals. Low thermal electromotive force: approx. 1μV. LED forward current: 50Ma. Input power: 75mW; for **types AQV201**. Terminal thickness: 0.25mm. Operating temperature range: –20°C to +80°C. I/O isolation voltage: 1,500VAC. 0.300″ (7.62) row spacing. Terminals are through-hole; except types with **suffix A** which are surface mount. **AQV** 0.346″. L (8.80) x 0.250″W (6.35); **AQW** 0.385″L (9.78) x 0.250″W (6.35).

1 FORM A CONTACT RELAYS

Stock No.	Type	AC/DC	On Ω	Output Power	1-24	25-49	50-99
94F8717	AQV101	40	22.0	...	6.36	5.86	4.92
94F8718	AQV102	60	1.4	...	6.36	5.86	4.92
50F4048	AQV201	40	22.0	...	7.17	6.61	5.55
50F4049	AQV201A	40	22.0	...	7.17	6.61	5.55
50F4054	AQV221	40	22.0	230mW	4.92	4.53	3.81
50F4055	AQV221A	40	22.0	230mW	4.92	4.53	3.81
50F4050	AQV214	400	30.0	500mW	4.36	4.02	3.37
50F4051	AQV214A	400	30.0	500mW	4.36	4.02	3.37
93F3412	AQV210EH	350	35.0	500mW	2.96	2.72	2.29
93F4472	AQV234	400	50.0	500mW	5.66	5.22	4.38
95F6426	AQV234A	400	50.0	500mW	5.66	5.22	4.38
93F6298	AQV251	40	1.0	360mW	5.51	5.08	4.27
95F6427	AQV251A	40	1.0	360mW	5.51	5.08	4.27
95F6428	AQV252	60	1.4	360mW	5.51	5.08	4.27
93F6299	AQV253	250	8.0	360mW	5.51	5.08	4.27
93F6300	AQV254	400	16.0	360mW	5.51	5.08	4.27
95F6431	AQV254A	400	16.0	360mW	5.51	5.08	4.27
93F6301	AQV414	400	50.0	500mW	4.85	4.47	3.75
95F6432	AQV414A	400	50.0	500mW	4.85	4.47	3.75

2 FORM A CONTACT RELAYS

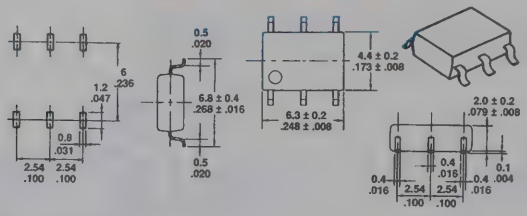
66F9999	AQW214S	400	50.0	600mW	7.80	7.19	6.04
50F4057	AQW214	400	30.0	800mW	7.28	6.71	5.63

2 CHANNEL (FORM A FORM B) RELAYS

52F9232	AQW614	400	27.0	800mW	14.41	13.28	11.15

(3326) (ne02337)

SOP TYPE RELAYS

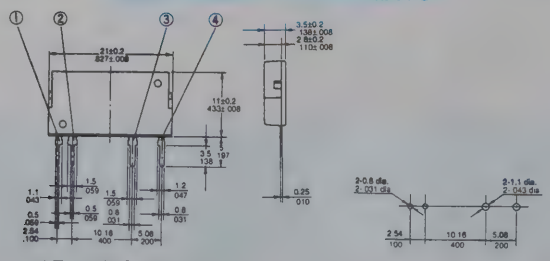


Output power: 450mW.

Stock No.	Type	Contacts	AC/DC	On Ω	1-24	25-49	50-99	100-249
95F6434	AQV212S	1 Form A	60	2.5	4.63	4.27	3.59	2.98
95F6435	AQV214S	1 Form A	400	50.0	4.63	4.27	3.59	2.98

(3324) (ne02325)

AQZ POWER TYPE RELAYS



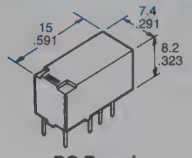
Contacts are 1 Form A. Output power: 1.6W for AC/DC types, 1.35W for DC types only.

Stock No.	Type	AC/DC	On Ω	1-24	25-49	50-99	100-249
52F5584	AQZ102	60*	0.09	14.24	13.12	11.02	9.16
95F6437	AQZ202	60	0.18	10.35	9.54	8.01	6.66
95F6438	AQZ205	100	0.34	10.35	9.54	8.01	6.66
95F6439	AQZ207	200	1.10	10.35	9.54	8.01	6.66
95F6440	AQZ204	400	3.20	10.35	9.54	8.01	6.66

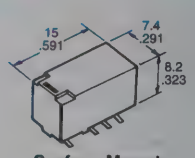
*denotes DC types only

(3325) (ne02326)

TX SERIES HIGH CAPACITY PC AND SURFACE MOUNT RELAYS



PC Board



Surface Mount

2-amp PC-mount and surface mount relays feature 2000V breakdown voltage between connects and coil, and surge withstand of 2500V. 2 Form C contact arrangement. Single side stable and 2-coil latching (**L2** in type number) operating functions. Coil input (VDC) is indicated by last digits of type number. Operating temperature: –40°C to +85°C (40°F to +185°F). UL recognized, CSA certified.

PC BOARD TERMINALS

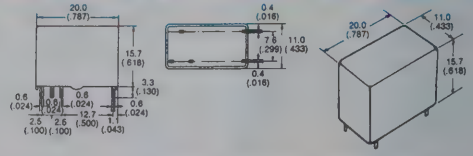
Stock No.	Type	Coil Ω	Current mA	1-24	25-49	50-99	100-249
92F1597	TX2-5V	178	28.1	3.28	3.02	2.54	2.11
92F1598	TX2-12V	1028	11.7	3.28	3.02	2.54	2.11
92F1599	TX2-24V	4114	5.8	3.90	3.59	3.02	2.51
92F1602	TX2-L2-12V	720	16.7	4.12	3.80	3.19	2.65

SURFACE MOUNT TERMINALS

92F1604	TX2SA-4.5V	145	31	3.40	3.13	2.63	2.19
92F1605	TX2SA-5V	178	28.1	3.40	3.13	2.63	2.19
92F1606	TX2SA-12V	1028	11.7	3.40	3.13	2.63	2.19
92F1607	TX2SA-24V	4114	5.8	4.01	3.70	3.11	2.58

(3327) (ne03673)

HB SERIES SUBMINIATURE DIP RELAYS



Sensitive, small size units for increased packaging density require very low operating power. Amber sealed. Coil voltage (VDC) is indicated by last digits of type number. Simple mechanism for stable quality; only 7 pieceparts. DIP-matching 16-pin IC socket. Contacts are gold-clad over silver-nickel. Rated 0.5A @ 125VAC, 2A 30VDC. Initial contact resistance: 100 milliohms. Operating temperature: –40°C to +50°C. Expected mechanical life: 10^7. UL recognized, CSA certified.

1 FORM C CONTACTS

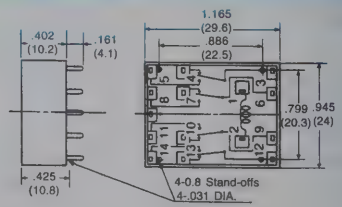
Stock No.	Type	Ohms	1-24	25-49	50-99	100-249
90F2628	HB1E-DC12V	400	5.09	4.69	3.94	3.27
90F2952	HB1E-DC24V	1600	5.09	4.69	3.94	3.27

2 FORM C CONTACTS

90F1862	HB2E-DC5V	43.4	6.92	6.38	5.35	4.45
94F3348	HB2E-DC12V	250	6.92	6.38	5.35	4.45
94F447	HB2E-DC24V	1000	6.92	6.38	5.35	4.45

(3316) (de52012)

NF HIGH SENSITIVITY FLATPACK RELAYS



NF4

Suited for applications where small size and high sensitivity are required. Relays are low profile: 0.402″ (10.2) high. Minimum operating power for **NF2** is 150mW; minimum operating power for **NF4** is 240mW. Coil voltage is indicated by last digits of type number. Surge between open contacts: 1500V FCC. Life for DPDT is 3 x 10^8 mechanical operations; life for 4PDT is 10^8. All units listed are amber sealed. Contact material: gold-clad silver. Coil data listed at 25°C (77°F.) UL recognized. VDE approved types available; *contact your local Newark sales office for details.*

2 FORM C RELAYS

Stock No.	Type	Coil Resistance* (Ω)	Operating Power (mW)	1-24	24-49	50-99	100-249
46F5733	NF2EB-5V	90	278	9.99	9.21	7.73	6.43
46F5735	NF2EB-12V	500	290	9.99	9.21	7.73	6.43
46F5736	NF2EB-24V	2,000	290	9.99	9.21	7.73	6.43

4 FORM C RELAYS

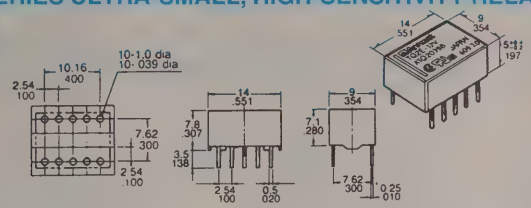
46F5738	NF4EB-5V	53	472	12.17	11.22	9.42	7.83
46F5740	NF4EB-12V	330	440	12.17	11.22	9.42	7.83
46F5741	NF4EB-24V	1,200	480	12.17	11.22	9.42	7.83

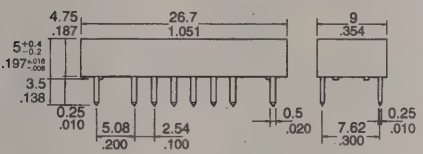
* Less than 1,000Ω: ±10%; more than 1,000Ω: ±15%.

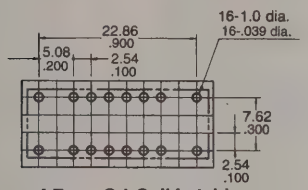
(3355) (ne08329)

ULTRA-SMALL PC BOARD RELAYS

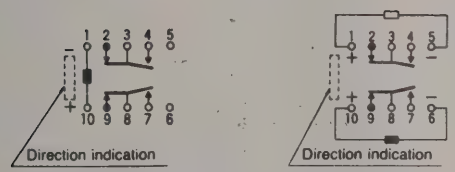
TQ SERIES ULTRA-SMALL, HIGH-SENSITIVITY RELAYS







4 Form C 1-Coil Latching



2 Form C Single-Side Stable 2-Coil Latching

Polarized units. Ambient temperature: –40°C to +70°C. **Type TQ4** is 4 Form C; others are 2 Form C. Maximum switching power: 30W, 62.5VA. Withstand 1500V surge. Sealed construction allows automatic dip-washing. Pre-soldered terminals provide improved solderability in automatic soldering process. Coil input (VDC) is indicated by type number suffix. UL recognized, CSA certified. 1-coil latching units available; *contact your local Newark sales office.*

SINGLE-SIDE STABLE

Stock No.	Type	Coil Ohms	Power mW	1-24	25-49	50-99	100-249
90F5807	TQ2-4.5V	144.6	140	2.99	2.76	2.32	1.93
87F3163	TQ2-5V	178	140	2.99	2.76	2.32	1.93
87F3165	TQ2-9V	579	140	2.99	2.76	2.32	1.93
87F3166	TQ2-12V	1028	140	2.99	2.76	2.32	1.93
87F3167	TQ2-24V	2880	200	3.57	3.30	2.77	2.30
90F5813	TQ4-5V	89	280	19.90	18.35	15.40	12.81
90F5798	TQ4-12V	514	280	19.90	18.35	15.40	12.81
90F5799	TQ4-24V	45	200	21.58	19.89	16.70	13.89

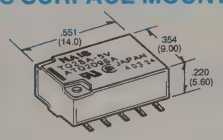
2-COIL LATCHING

87F3175	TQ2-L2-5V	125	200	3.75	3.46	2.91	2.42
87F3177	TQ2-L2-9V	405	200	3.75	3.46	2.91	2.42
87F3178	TQ2-L2-12V	720	200	3.75	3.46	2.91	2.42
87F3179	TQ2-L2-24V	1920	300	4.23	3.90	3.27	2.72

(3641) (de01265)

TQ SERIES SURFACE MOUNT RELAYS

SMD



TQ Series are ultra low-profile .236" (6) H, 2A, high capacity, surface mount relays. Contacts are gold-clad silver alloy and are rated: 2A @ 30VDC, 0.5A @ 125VAC nominal switching capacity (resistive); 60W, 62.5VA max. switching power resistive; 220VDC, 125VAC max. switching voltage; 2A max. switching current; 10µA, 10mVDC max. switching capability. Coil input (VDC) is indicated by type number suffix. UL listed, CSA certified.

SINGLE SIDE STABLE

Stock No.	Type	Coil Ohms	Power mW	1-24	25-49	50-99	100-249
66F4161	TQ2SA-5V	178	140	3.40	3.13	2.63	2.19
66F4162	TQ2SA-12V	1028	140	3.40	3.13	2.63	2.19
66F4163	TQ2SA-24V	2880	200	4.03	3.71	3.12	2.59

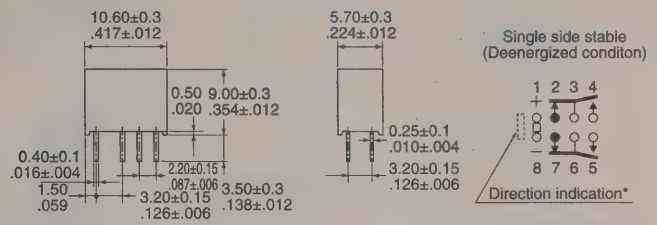
2-COIL LATCHING

66F4164	TQ2SA-L2-5V	178	140	4.23	3.90	3.27	2.72
66F4165	TQ2SA-L2-12V	1028	140	4.23	3.90	3.27	2.72

(3718) (ne06032)

AGN SERIES ULTRA-SMALL SIGNAL RELAYS

NEW



AGN series ultrasmall PCB and surface mount relays are ideal for telecom, LAN, A/V, and measurement applications. Ultra-slim design allows for high-density mounting. Withstands 2500V (Bellcore) surge resistance. Twin crossbar contacts provide high contact reliability. 2 Form C. Maximum switching power: 30W, 37.5VA. Ambient temperature: -40°C to +85°C. Vibration/shock resistance. 1-coil latching version also available; *contact your local Newark sales office.* Tube packing standard. UL recognized, CSA certified.

PCB TERMINALS, SINGLE-SIDE STABLE

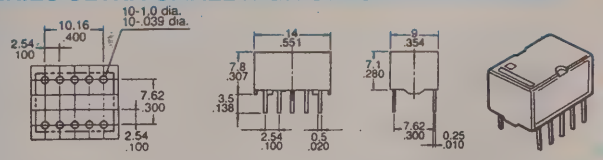
Stock No.	Type	VDC	Coil Ohms	Power mW	1-24	25-49	50-99	100-249
83F7122	AGN2004H	4.5	145	140	3.95	3.64	3.06	2.54
83F7123	AGN20012	12	1028	140	3.95	3.64	3.06	2.54
83F7124	AGN20024	24	2504	230	4.64	4.28	3.59	2.99

SURFACE MOUNT TERMINALS, SINGLE-SIDE STABLE

83F7125	AGN200A4H	4.5	145	140	4.11	3.79	3.18	2.65
83F7126	AGN200A12	12	1028	140	4.11	3.79	3.18	2.65
83F7127	AGN200A24	24	2504	230	4.80	4.42	3.72	3.09

(31773) (ne31773)

TF SERIES ULTRA-SMALL HIGH-SENSITIVITY RELAYS



Polarized units ideal for communication/data processing. Maximum switching power: 30W. 62.5VA. Withstand 1500V surge. 2 Form C. Gold-clad cross-bar bifurcated contacts provide reliability. Pre-soldered terminals. Sealed for immersion cleaning. UL recognized, CSA certified. **TF series** surface mount relays available; *contact your local Newark sales office.* Latching version also available.

STANDARD PCB TERMINALS, SINGLE SIDE STABLE

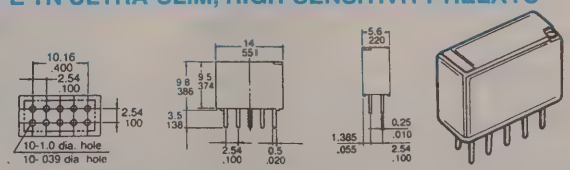
Stock No.	Type	VDC	Coil Ohms	Power mW	1-24	25-49	50-99	100-249
90F3124	TF2-3V	3	112.5	80	6.11	5.63	4.73	3.93
90F3126	TF2-4.5V	4.5	253	80	6.11	5.63	4.73	3.93
90F3128	TF2-5V	5	312.5	80	6.11	5.63	4.73	3.93
90F3141	TF2-9V	9	1012.5	80	6.11	5.63	4.73	3.93
90F3143	TF2-12V	12	1800	80	6.11	5.63	4.73	3.93
90F3145	TF2-24V	24	4100	140	7.13	6.58	5.52	4.59

STANDARD PCB TERMINALS, 2 COIL LATCHING

90F3136	TF2-L2-3V	3	81.8	110	7.94	7.32	6.15	5.11
90F3158	TF2-L2-5V	5	227.3	110	7.94	7.32	6.15	5.11

(3640) (de01264)

TYPE TN ULTRA-SLIM, HIGH-SENSITIVITY RELAYS



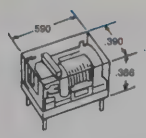
Polarized units need minimal PC board mounting requirements due to ultra-slim size. Withstand 1500V surge. Excellent vibration/shock resistance. 2 Form C. Gold-clad crossbar bifurcated contacts. Ambient temperature: –40°C to +70°C. Maximum switching power: 30W, 62.5VA. Coil input (VDC) is indicated by last digits of type number. UL recognized; CSA certified. 1-coil and 2-coil latching models available; *contact your local Newark sales office.*

SINGLE-SIDE STABLE

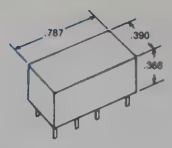
Stock No.	Type	Coil Ohms	Power mW	1-24	25-49	50-99	100-249
90F3178	TN2-4.5V	145	140	4.38	4.04	3.39	2.82
90F3179	TN2-5V	178	140	4.38	4.04	3.39	2.82
90F3181	TN2-9V	579	140	4.38	4.04	3.39	2.82
90F3182	TN2-12V	1028	140	4.38	4.04	3.39	2.82
90F3183	TN2-24V	2880	200	5.22	4.81	4.04	3.36

(3642) (de01266)

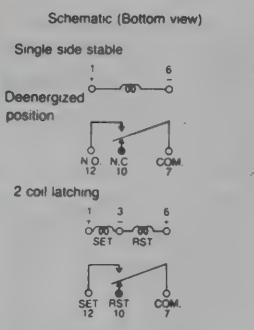
PC MOUNT RELAYS



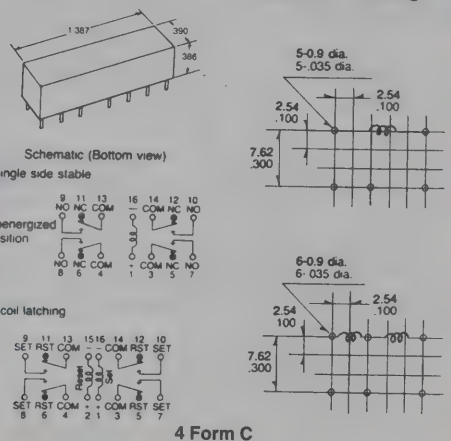
1 Form C



2 Form C



Single Side Stable & Single Coil Latching



4 Form C

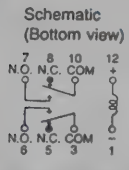
DS SERIES 2-AMP SENSITIVE MINIATURE RELAYS

Applications include telecommunication equipment, office, security equipment and measuring instrumentation. High voltage breakdown: 1500 volt FCC surge between contacts, 1000VAC between open contacts; **types DS1E-S** is 500VAC. Switching power: 60W, 1 VA. Switching voltage: 220VDC, 250VAC. Amber seal. Ambient temperature: –40°C to +70°C. UL recognized, CSA certified. **NOTE:** *the type number suffix indicate relay voltage.*

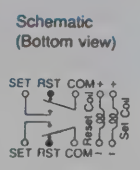
Stock No.	Type	Description	Coil Ohms	Nom. Power mW	1-24	25-49	50-99	100-249
46F5594	DS1E-M-DC5V	Single Side Stable, 1C	62.5	400	5.30	4.89	4.10	3.41
46F5596	DS1E-M-DC9V		203		5.30	4.89	4.10	3.41
46F5597	DS1E-M-DC12V		360		5.30	4.89	4.10	3.41
46F5598	DS1E-M-DC24V		1440		5.30	4.89	4.10	3.41
46F5599	DS1E-M-DC48V		5760		6.70	6.18	5.19	4.32
46F5600	DS1E-ML2-DC5V	2-Coil Latching, 1C	69.4	360	5.90	5.43	4.56	3.80
46F5603	DS1E-ML2-DC12V		400		5.90	5.43	4.56	3.80
46F5604	DS1E-ML2-DC24V		1600		5.90	5.43	4.56	3.80
46F5622	DS2E-M-DC5V	Single Side Stable, 2C	62.5	400	3.68	3.39	2.85	2.37
46F5624	DS2E-M-DC9V		203		3.68	3.39	2.85	2.37
46F5625	DS2E-M-DC12V		360		3.68	3.39	2.85	2.37
46F5626	DS2E-M-DC24V		1440		3.68	3.39	2.85	2.37
46F5627	DS2E-M-DC48V		5760		4.60	4.24	3.56	2.96
46F5616	DS2E-ML2-DC5V	2-Coil Latching, 2C	69.4	360	4.37	4.03	3.38	2.81
46F5619	DS2E-ML2-DC12V		400		4.37	4.03	3.38	2.81
46F5620	DS2E-ML2-DC24V		1600		4.37	4.03	3.38	2.81
46F5640	DS4E-M-DC5V	Single Side Stable, 4C	62.5	400	7.50	6.92	5.81	4.83
46F5643	DS4E-M-DC12V		360		7.50	6.92	5.81	4.83
46F5644	DS4E-M-DC24V		1440		7.50	6.92	5.81	4.83
46F5645	DS4E-M-DC48V		5760		8.31	7.66	6.43	5.35
46F5646	DS4E-ML2-DC5V	2-Coil Latching, 4C	69.4	360	8.49	7.83	6.57	5.46
46F5649	DS4E-ML2-DC12V		400		8.49	7.83	6.57	5.46
46F5650	DS4E-ML2-DC24V		1600		8.49	7.83	6.57	5.46
46F5606	DS1E-S-DC5V	Single Side Stable, 1C	125	200	7.43	6.85	5.75	4.78
46F5608	DS1E-S-DC9V		405		7.43	6.85	5.75	4.78
46F5609	DS1E-S-DC12V		720		7.43	6.85	5.75	4.78
46F5610	DS1E-S-DC24V		2880		7.43	6.85	5.75	4.78
46F5628	DS2E-S-DC5V	Single Side Stable, 2C	125	200	4.56	4.21	3.53	2.94
46F5629	DS2E-S-DC6V		180		4.56	4.21	3.53	2.94
46F5630	DS2E-S-DC9V		405		4.56	4.21	3.53	2.94
46F5631	DS2E-S-DC12V		720		4.56	4.21	3.53	2.94
46F5632	DS2E-S-DC24V		2880		4.56	4.21	3.53	2.94
46F5633	DS2E-S-DC48V		11520		6.19	5.71	4.79	3.99
46F5634	DS2E-SL2-DC5V	2-Coil Latching, 2C	139	180	5.40	4.97	4.18	3.47
46F5637	DS2E-SL2-DC12V		800		5.40	4.97	4.18	3.47
46F5638	DS2E-SL2-DC24V		3200		5.40	4.97	4.18	3.47
46F5652	DS4E-S-DC5V	Single Side Stable, 4C	125	200	8.89	8.20	6.88	5.72
46F5655	DS4E-S-DC12V		720		8.89	8.20	6.88	5.72
46F5656	DS4E-S-DC24V		2880		8.89	8.20	6.88	5.72
46F5658	DS4E-SL2-DC5V	2-Coil Latching, 4C	139	180	9.94	9.16	7.70	6.40
46F5661	DS4E-SL2-DC12V		800		9.94	9.16	7.70	6.40
46F5662	DS4E-SL2-DC24V		3200		9.94	9.16	7.70	6.40

(3678) (de50848a)

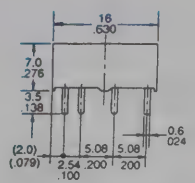
DF SERIES HIGHLY SENSITIVE 1-AMP DIP MINIATURE RELAYS



Single Side Stable



2-Coil Latching



Smaller than most 2 Form C relays, units have 200mW nominal power. Gold-clad silver contacts. **DF2E** are single-side stable; **DF2E-L2** are 2-coil latching. Coil input (VDC) is indicated by last digits of type number. UL recognized, CSA certified.

Stock No.	Type	Coil Ohms	1-24	25-49	50-99	100-249
46F5748	DF2E-DC5V	125	5.50	5.07	4.26	3.54
46F5749	DF2E-DC6V	180	5.50	5.07	4.26	3.54
46F5751	DF2E-DC12V	720	5.50	5.07	4.26	3.54
46F5752	DF2E-DC24V	2,880	5.50	5.07	4.26	3.54

(3679) (de50849)

DS2Y SERIES SENSITIVE MINIATURE RELAYS

Relays offer high sensitivity and 1500V FCC surge withstand between open contacts. Typical applications for **DS** and **DS2Y** relays include telecommunications equipment, office equipment, and computer peripherals. **DS2Y series** features sealed construction, 2 Form C contacts and DIP–2C type matching 16 pin IC socket. Contact material: gold-clad silver. Ambient temperature: –40°C to +70°C (–40°F to +158°F). UL recognized, CSA certified. *Call Newark for additional product specifications.* Other **DS2** contact arrangements and voltages available; *contact Newark for information.*

DS2Y SERIES SENSITIVE MINIATURE RELAYS

Stock No.	Type	1-24	25-49	50-99	100-249
94F8722	DS2Y-S-DC5V	2.99	2.76	2.32	1.93
94F8604	DS2Y-S-DC12V	2.99	2.76	2.32	1.93
93F3413	DS2Y-S-DC24V	3.10	2.86	2.40	2.00

(3764) (ne08893)

DR SERIES MINIATURE DIP RELAYS

Relays offer small size and profile, high reliability, high sensitivity, and high contact pressure. Applications include telecommunications equipment, control panels, detectors, business machines, and medical equipment. Breakdown voltage: between open contacts, 750Vrms; between contacts and coil, 1500Vrms. Surge voltage withstand: 1500V, part 68, FCC standard. Operating speed: approx. 1 msec. Ambient temperature: –50°C to +85°C (–58°F to +185°F). Coil data featured at 20°C (68°F). Units listed are single-side stable, 1 form C. 1- and 2-coil latching types also available; *contact Newark for information.* UL recognized, CSA certified.

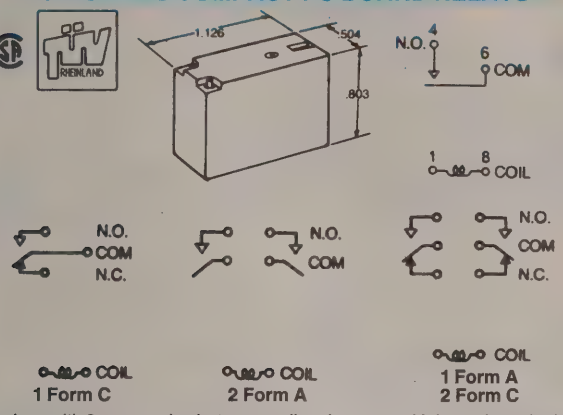
Stock No.	Type	Coil Ohms (±10%)	Nominal Power (mW)	1-24	25-49	50-99	100-249
46F5758	DR-5V	320	78	11.25	10.37	8.71	7.24
46F5760	DR-12V	1,400	103	11.25	10.37	8.71	7.24
46F5761	DR-24V	3,600	160	11.25	10.37	8.71	7.24

(3765) (ne08894)

ALL PRODUCTS LISTED ARE STOCKED.

POWER PC BOARD RELAYS AND SOCKETS

JW SERIES COMPACT PC BOARD RELAYS



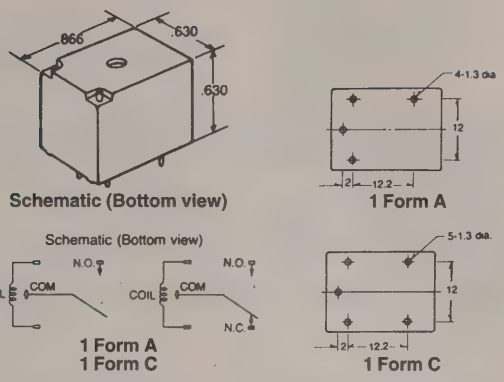
Sealed relays with 8mm spacing between coil and contacts. Universal terminal footprint. High dielectric withstanding for transient protection: 10,000V surge in microseconds between coil and contact. Nominal operating power: 530mW. Silver alloy contacts are 70% nominal voltage sealed. UL recognized, CSA certified, TUV approved.

Stock No.	Type	VDC	Coil Ohms	Contacts	1-24	25-49	50-99	100-249
STANDARD 5-AMP CAPACITY, 2 FORM A								
51F3938	JW2ASN-DC12V	12	270	2 Form A	2.59	2.38	2.00	1.67
51F3939	JW2ASN-DC24V	24	1100	2 Form A	2.59	2.38	2.00	1.67
STANDARD 5-AMP CAPACITY, 1 FORM A								
51F3941	JW2SN-DC5V	5	47	2 Form C	2.62	2.42	2.03	1.69
51F3942	JW2SN-DC6V	6	68	2 Form C	2.62	2.42	2.03	1.69
51F3943	JW2SN-DC9V	9	155	2 Form C	2.62	2.42	2.03	1.69
51F3944	JW2SN-DC12V	12	270	2 Form C	2.78	2.56	2.15	1.79
51F3945	JW2SN-DC24V	24	1100	2 Form C	2.78	2.56	2.15	1.79

Stock No.	Type	VDC	Coil Ohms	1-24	25-49	50-99	100-249
HIGH CAPACITY 10 AMP, 1 FORM A							
51F3950	JW1AFSN-DC12V	12	270	2.19	2.02	1.70	1.41
51F3951	JW1AFSN-DC24V	24	1100	2.27	2.09	1.75	1.46
HIGH CAPACITY 10 AMP, 1 FORM C							
51F3953	JW1FSN-DC5V	5	47	2.34	2.15	1.81	1.50
51F3955	JW1FSN-DC9V	9	155	2.34	2.15	1.81	1.50
51F3956	JW1FSN-DC12V	12	270	2.34	2.15	1.81	1.50
51F3957	JW1FSN-DC24V	24	1100	2.44	2.25	1.89	1.57

(3677) (de50461)

JS SERIES ULTRA-MINI PC POWER RELAYS

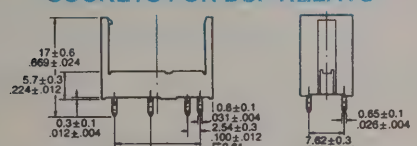


Ultra-miniature size with universal terminal footprint. High silver alloy contact capacity: 10A. Nominal operating power: 360mW. Input voltage (VDC) is indicated in last digits of type number. Contacts 70% nominal voltage, sealed. Maximum switching power: 1,250VA. Ambient temperature: –40°C to +70°C. UL recognized, CSA certified, TUV approved.

Stock No.	Type	Ohms	1-24	25-49	50-99	100-249
1 FORM A						
90F3073	JS1A-5V	69.4	1.31	1.21	1.02	0.85
90F3076	JS1A-12V	400	1.31	1.21	1.02	0.85
90F3077	JS1A-24V	1600	1.34	1.23	1.03	0.86
1 FORM C						
90F3079	JS1-5V	69.4	1.37	1.27	1.06	0.88
90F3080	JS1-6V	100	1.37	1.27	1.06	0.88
90F3081	JS1-9V	225	1.37	1.27	1.06	0.88
90F3082	JS1-12V	400	1.37	1.27	1.06	0.88
90F3083	JS1-24V	1600	1.44	1.33	1.12	0.93
90F3084	JS1-48V	6400	1.78	1.64	1.38	1.14

(3676) (de50460)

SOCKETS FOR DSP RELAYS



All sockets listed are for use with **DSP1aE** and **DSP1aE-L** type relays. In addition, type **DSP1a-PSL2** can be used with **DSP1aE-2** relays, type **DSP2a-PS** can be used with types **DSP1E** and **DSP1E-L** relays, and type **DSP2a-PSL2** can be used with types **DSP1aE-L2**, **DSP1E**, **DSP1E-L** and **DSP1E-L2** relays.

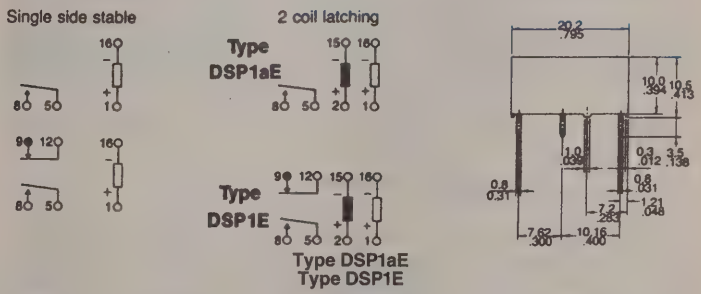
Stock No.	Type	1-24	25-49	50-99	100-249
50F4152	DSP1A-PS	2.92	2.69	2.26	1.88
50F4153	DSP1A-PSL2	3.40	3.13	2.63	2.19
50F4154	DSP2A-PS	3.99	3.68	3.09	2.57
50F4155	DSP2A-PSL2	4.28	3.94	3.31	2.75

(3693) (de52011)

FOR COMPLETE PRODUCT SPECIFICATIONS, LINK DIRECTLY TO AROMAT'S WEB SITE BY VISITING US AT www.newark.com

(31772) (ne31772)

DSP SERIES MINIATURE PC MOUNT POWER RELAYS

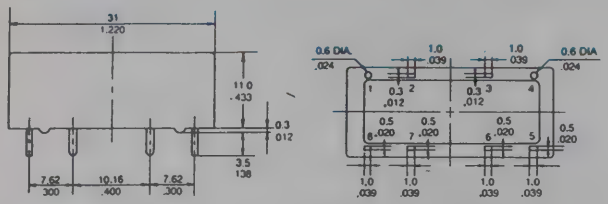


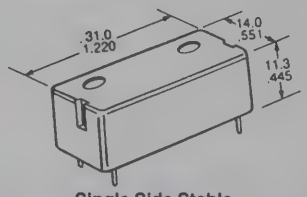
Sealed relays are ideal for office, industrial electronic devices. High sensitivity: 190mW pick-up power. 0.300″ (7.62) row spacing. Initial contact resistance: 30 milliohms. Contact material: gold flash over silver alloy. Switching current 8A, 250VAC for 1 Form A; 5A, 250VAC for 1 Form A, 1 Form B. Nominal operating power: 300mW. 3,000 Vrms between contact and coil; 1,000 Vrms between open contacts (meets FCC Part 68). UL recognized, CSA certified, TUV approved. *Order sockets for* **DSP** *relays separately on this page.*

Stock No.	Type	VDC	Curr. mA	Coil	1-24	25-49	50-99	100-249
1 FORM A, 1 FORM B, 1 SIDE STABLE								
46F5723	DSP1-DC5V	5	60.0	83	7.87	7.26	6.09	5.07
46F5726	DSP1-DC12V	12	25.0	480	7.87	7.26	6.09	5.07
46F5727	DSP1-DC24V	24	12.5	1,920	7.87	7.26	6.09	5.07
1 FORM A, A FORM B, 2 COIL LATCH								
46F5731	DSP1-L2-DC12V	12	25.0	480	8.35	7.69	6.46	5.37
1 FORM A, 1 SIDE STABLE								
50F4146	DSP1A-DC5V	5	60.0	83	7.00	6.45	5.42	4.51
50F4147	DSP1A-DC12V	12	25.0	480	7.00	6.45	5.42	4.51
50F4148	DSP1A-DC24V	24	12.5	1,920	7.00	6.45	5.42	4.51

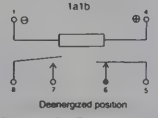
(3692) (de52010)

ST SERIES IC DRIVABLE PC BOARD RELAYS FOR FIELD LOAD SWITCHING

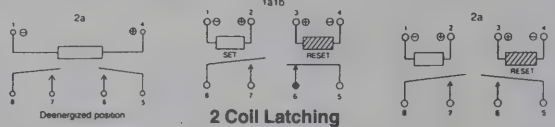




Single Side Stable



Schematic Bottom View



2 Coil Latching

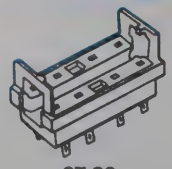
Amber sealed for automatic wave soldering and cleaning. Initial contact resistance: 30 milliohms. 0.400" (10.16) row spacing. Gold-flashed silver alloy contacts rated 8A, 2000VA, 150W switching power, 380VAC switching voltage. Nominal operating power: 240mW. Shock resistance: 20G. Ambient temperature: –40°C to +60°C. UL recognized, CSA certified. *Order* **ST series** *sockets separately on this page.*

1 FORM A, 1 FORM B, SINGLE SIDE STABLE

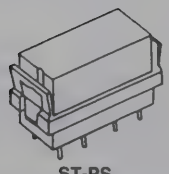
Stock No.	Type	VDC	Coil Ohms	Nominal Current mA	1-24	25-49	50-99	100-249
46F5833	ST1-DC5V	5	105	47.6	13.51	12.46	10.46	8.70
46F5835	ST1-DC12V	12	640	20.0	13.51	12.46	10.46	8.70
46F5836	ST1-DC24V	24	2,400	10.0	13.51	12.46	10.46	8.70
1 FORM A, 1 FORM B, 2 COIL LATCHING								
46F5842	ST1-L2-DC12V	12	640	18.8	15.86	14.62	12.27	10.20
46F5843	ST1-L2-DC24V	24	2,400	10.0	15.86	14.62	12.27	10.20
2 FORM A, SINGLE SIDE STABLE								
46F5845	ST2-DC5V	5	105	47.6	14.24	13.12	11.02	9.16
46F5848	ST2-DC12V	12	640	20.0	14.24	13.12	11.02	9.16
46F5849	ST2-DC24V	24	2,400	10.0	14.24	13.12	11.02	9.16
2 FORM A, 2 COIL LATCHING								
46F5854	ST2-L2-DC12V	12	640	18.8	16.10	14.84	12.46	10.36

(3669) (de50449)

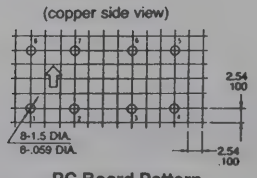
ST SERIES TERMINAL SOCKETS



ST-SS



ST-PS



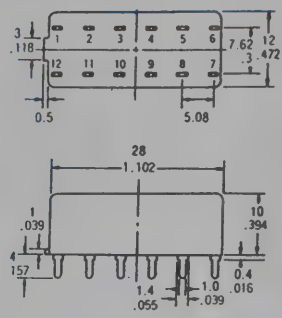
PC Board Pattern

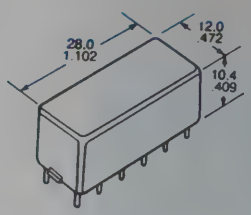
Sockets for **STE** series relays *listed separately.* Maximum continuous current: 10A. Chassis cutout: 0.6 to 2.2mm thickness.

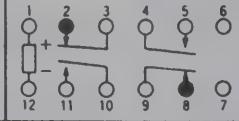
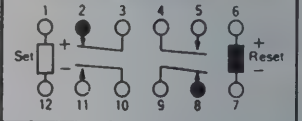
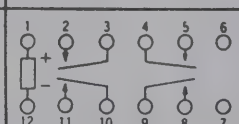
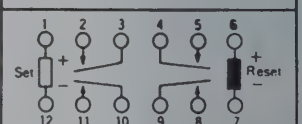
Stock No.	Type	Terminals	1-24	25-49	50-99	100-249
46F5664	ST-SS	Solder	2.75	2.54	2.13	1.77
46F5665	ST-PS	PC Board	2.75	2.54	2.13	1.77

(3670) (de50450)

SEB SERIES 4-AMP POLARIZED HIGH DENSITY, HIGH SENSITIVITY RELAYS





	Single Side Stable (De-Energizer Position)	2 Coil Latching "Reset" Position When Reset Coil is Energized with Indicated Polarity.
2a2b		
4a		

Schematic Bottom View

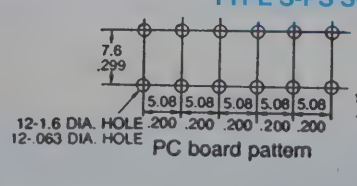
SEB series DIP relays are amber sealed, compact units that feature high sensitivity and high shock/vibration resistance of 50G/18G. Offer switching range of 100μA o 4A, with contacts rated 4A @ 250VAC and 3A @ 30VDC. Low, 3μV thermal electromotive force. 0.300" (7.62) row spacing, UL recognized, CSA certified. *Order* **type S-PS** *socket separately on this page.*

2 FORM A, 2 FORM B, SINGLE SIDE STABLE

Stock No.	Type	VDC	Coil Ohms	Nominal Power mW	1-24	25-49	50-99	100-249
46F5812	S2EB-5V	5	130	192	16.92	15.59	13.09	10.89
46F5813	S2EB-6V	6	180	200	16.92	15.59	13.09	10.89
46F5814	S2EB-12V	12	720	200	16.92	15.59	13.09	10.89
46F5815	S2EB-24V	24	2,850	202	16.92	15.59	13.09	10.89
2 FORM A, 2 FORM B, 2 COIL LATCHING								
46F5817	S2EB-L2-5V	5	130	192	18.29	16.85	14.15	11.77
46F5819	S2EB-L2-12V	12	720	200	18.29	16.85	14.15	11.77
46F5820	S2EB-L2-24V	24	2,850	202	18.29	16.85	14.15	11.77
4 FORM A, SINGLE SIDE STABLE								
46F5822	S4EB-5V	5	130	192	17.96	16.56	13.90	11.56
46F5823	S4EB-6V	6	180	200	17.96	16.56	13.90	11.56
46F5824	S4EB-12V	12	720	200	17.96	16.56	13.90	11.56
46F5825	S4EB-24V	24	2,850	202	17.96	16.56	13.90	11.56
4 FORM A, 2 COIL LATCHING								
46F5827	S4EB-L2-5V	5	130	192	19.25	17.74	14.90	12.39

(3671) (de50451)

TYPE S-PS SOCKET



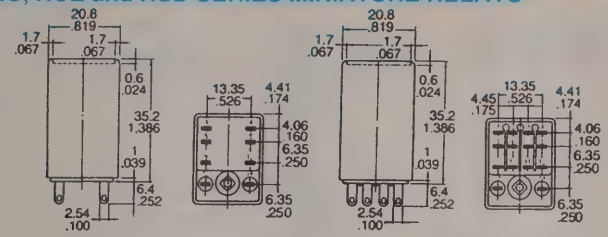
Socket for **SEB series** relays. Breakdown voltage: 1,500 Vrms between terminals. Maximum continuous current: 4A.

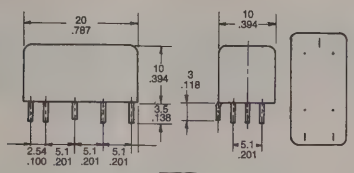
Stock No.	Type	Description	1-24	25-49	50-99	100-249
46F5832	S-PS	PC Terminal	3.24	2.99	2.51	2.09

(3672) (de50452)

MINIATURE RELAYS

HC, HCE and RSD SERIES MINIATURE RELAYS





RSD

HC series miniature relays designed for more than 10^8 mechanical operations. Applications include: transportation, power station control equipment, refrigerators, office machines, medical equipment. Coil input voltage is indicated by last digits of type number. Rating (resistive) for gold-flashed silver alloy contacts is 7A, 250VAC for 2 form C; 5A, 250VAC for 4 form C. Ambient temperature: –50°C to +50°C. Initial contact resistance: max is 30 milliohms. Shock resistance: Min. 20G. **HCE series** same as **HC series** except amber sealed. **RSD series** are half-size, amber sealed relays. They feature high sensitivity and PC board terminals. All UL recognized, CSA certified. *Order sockets with hold-down clip for* **HC, HCE series** *separately below.*

STANDARD 2 FORM C DC TYPES

Stock No.	Type	Coil Ohms	Current mA	1-24	25-49	50-99	100-249
51F3723	HC2-H-DC6V	40	150	8.68	8.00	6.72	5.59
51F3724	HC2-H-DC12V	160	75	8.68	8.00	6.72	5.59
51F3725	HC2-H-DC24V	650	37	8.68	8.00	6.72	5.59
51F4172	HC2-H-DC110V	11000	10	9.93	9.15	7.69	6.39

STANDARD 2 FORM C AC TYPES

51F3727	HC2-H-AC24V	...	5.90	8.68	8.00	6.72	5.59
51F3728	HC2-H-AC115V	...	10.5	9.93	9.15	7.69	6.39
51F3729	HC2-H-AC240V	...	6	11.55	10.65	8.94	7.43

STANDARD 4 FORM C DC TYPES

51F3714	HC4-H-DC6V	40	150	10.14	9.35	7.85	6.53
51F3715	HC4-H-DC12V	160	75	10.14	9.35	7.85	6.53
51F3716	HC4-H-DC24V	650	37	10.14	9.35	7.85	6.53

STANDARD 4 FORM C AC TYPES

51F3718	HC4-H-AC6V	...	200	10.14	9.35	7.85	6.53
51F3719	HC4-H-AC12V	...	100	10.14	9.35	7.85	6.53
51F3720	HC4-H-AC24V	...	50	10.14	9.35	7.85	6.53
51F3721	HC4-H-AC115V	...	10.5	11.41	10.51	8.83	7.34
51F3722	HC4-H-AC240V	...	6	13.08	12.06	10.13	8.42

AMBER SEALED, 1 FORM C DC TYPES

94F919	RSD-5V	170	...	12.06	11.12	9.33	7.76
94F918	RSD-12V	890	...	12.06	11.12	9.33	7.76
94F028	RSD-24V	2000	...	12.06	11.12	9.33	7.76

AMBER SEALED, 2 FORM C DC TYPES

51F3706	HC2E-H-DC12V	160	75	10.51	9.69	8.14	6.77
51F3707	HC2E-H-DC24V	650	37	10.51	9.69	8.14	6.77

AMBER SEALED, 2 FORM C AC TYPES

51F3712	HC2E-H-AC115V	...	10.5	11.85	10.92	9.17	7.62

AMBER SEALED, 4 FORM C DC TYPES

51F3697	HC4E-H-DC12V	160	75	11.99	11.05	9.28	7.72
51F3698	HC4E-H-DC24V	650	37	11.99	11.05	9.28	7.72

AMBER SEALED, 4 FORM C AC TYPES

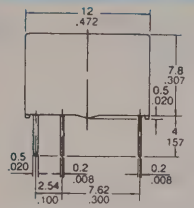
51F3702	HC4E-H-AC24V	...	50	11.99	11.05	9.28	7.72
51F3703	HC4E-H-AC115V	...	10.5	13.24	12.20	10.25	8.52

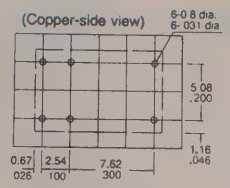
SOCKETS WITH HOLD-DOWN CLIP FOR HC, HCE SERIES RELAYS

Stock No.	Type	Description	1-24	25-49	50-99
93F3414	HC2-SF-K	Screw Terminal for front wiring of **HC2-H**	4.05	3.73	3.14
51F3730	HC2-SS-K	Socket with Solder Tab for **HC2, HC2E**	1.47	1.35	1.14
51F3732	HC2-PS-K	PC Board Socket for **HC2E**	1.47	1.35	1.14
51F3731	HC4-SS-K	Socket with Solder Tab for **HC4, HC4**	1.71	1.57	1.32
51F3733	HC4-PS-K	PC Board Socket for **HC4, HC4E**	1.69	1.56	1.31
51F3736	HC4-HSF-K	Screw Terminal Socket for Front Wiring **HC2, HC2E, HC4, HC4E**	6.47	5.96	5.01
51F3737	HC4-SFD-K	Screw Terminal Socket for DIN Rail Assembly **HC2, HC2E, HC4, HC4E**	7.06	6.51	5.47

(3673) (de50453)

HD SERIES ULTRA-MINIATURE PC RELAYS



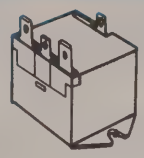


Sealed 1 Form C, 1-amp relays for portable devices. Relays weigh only 0.06 oz. and are 12mm L x 7.4mm W x 8.3mm H. Gold-clad silver contacts. Coil input (VDC) is indicated by last digits of type number. Initial contact resistance: 100 milliohms. UL recognized, CSA certified.

Stock No.	Type	Coil Ohms	Power mW	1-24	25-49	50-99	100-249
46F5743	HD1E-M-DC5V	89	280	4.06	3.74	3.14	2.62
46F5745	HD1E-M-DC9V	270	300	4.06	3.74	3.14	2.62
46F5746	HD1E-M-DC12V	515	280	4.06	3.74	3.14	2.62
46F5747	HD1E-M-DC24V	2,060	280	4.06	3.74	3.14	2.62

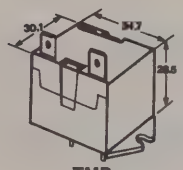
(3674) (de50456)

JA SERIES 1-HORSEPOWER COMPACT PC AND CHASSIS MOUNT POWER RELAYS

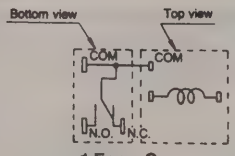


TM

1 Form C



TMP



1 Form C

Ideal for air conditioners, microwave ovens, load management equipment, copiers, central cleaning systems, process control equipment and facsimiles. 1 Form C. Switching capacity: 55A inrush, 15A steady state inductive load. Coil input voltage is indicated by last digits of type number. Silver alloy contacts. Switching voltage: 250VAC. Switching current: 15A. Ambient temperature: –50°C to +50°C. 0.250″ (6.35) QC terminals. **Type TM** solder terminals for direct chassis mount: **TMP** solder terminal and PCB terminal for PC board mount. UL recognized, CSA certified. **Type JA1A** has contact arrangement 1 form A.

DC VOLT POWER RELAYS

Stock No.	Type	Coil Ohms	Nominal Power	1-24	25-49	50-99	100-249
87F3186	JA1C-TM-DC6V	30	1.2W	8.99	8.29	6.96	5.79
87F3187	JA1C-TM-DC12V	120	1.2W	8.99	8.29	6.96	5.79
87F3188	JA1C-TM-DC24V	480	1.2W	8.99	8.29	6.96	5.79
87F3194	JA1C-TMP-DC12V	120	1.2W	8.99	8.29	6.96	5.79
87F3195	JA1C-TMP-DC24V	480	1.2W	8.99	8.29	6.96	5.79

AC VOLT POWER RELAYS

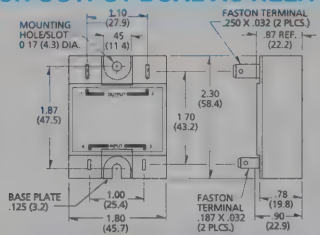
Stock No.	Type	Nominal Power 50Hz	Nominal Power 60Hz	1-24	25-49	50-99	100-249
94F3350	JA1A-TM-AC115V	1.4VA	1.3VA	9.29	8.56	7.19	5.98
87F3190	JA1C-TM-AC12V	1.4VA	1.3VA	8.99	8.29	6.96	5.79
87F3191	JA1C-TM-AC24V	1.4VA	1.3VA	8.99	8.29	6.96	5.79
87F3192	JA1C-TMP-AC115V	1.4VA	1.3VA	9.97	9.19	7.71	6.41
87F3198	JA1C-TMP-AC115V	1.4VA	1.3VA	9.97	9.19	7.71	6.41

(3675) (de50459)

ALL PRODUCTS LISTED ARE STOCKED.

AC SOLID-STATE RELAYS

SCR OUTPUT DUAL AC RELAYS



Dual solid-state relays comprise two independent AC output relays in single standard panel-mount package. The relays have a 4-15VDC input range. **-10** suffix in type number indicates random turn-on/phase controllable switching.

240VAC OUTPUT MODELS (24-280VAC)

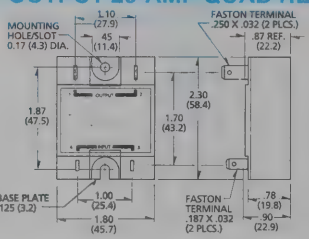
Stock No.	Type	Load Current Range	One-Cycle Surge Apk	1-9	10-24
90F2122	D2425D	0.15-25	350	53.57	49.28
90F2123	D2425D-10			56.15	51.66
90F2120	D2440D	0.15-40	625	60.66	55.80
90F2121	D2440D-10			63.24	58.18

480VAC OUTPUT MODEL (48-530VAC)

52F169	H12D4840D	0.15-40	625	73.56	67.68

(3699) (de52312)

TRIAC OUTPUT 20-AMP QUAD RELAYS

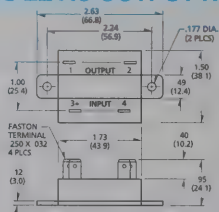


Four electrically independent solid-state relays in single industry standard 'hockey puck' package. The relays have a 4-15VDC input range and are capable of switching 24-280 Vrms. **-10** suffix in type number indicates random turn-on/phase controllable switching. UL recognized, CSA certified.

Stock No.	Type	Load Current Range	One-Cycle Surge Apk	1-9	10-24
90F2124	TD2420Q	0.15-20	250	84.53	77.77
90F2125	TD2420Q-10			87.12	80.15

(3702) (de52315)

SERIES EZ AC OUTPUT RELAYS



Series EZ SPST-NO AC output relays offer low leakage, SCR output and DC control. Quick-connect terminals and 4000 Vrms opto-isolation are standard. Relays have a 3-15VDC input range and can switch 24-280VAC. UL listed, CSA recognized.

DC CONTROL MODELS-SCR OUTPUT

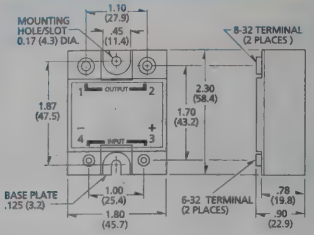
Stock No.	Type	Load Current Range (Arms)	One-Cycle Surge (Apk)	1-9	10-24
95F2211	EZ240D12	0.15-12	250	15.39	14.16
95F2212	EZ240D18	0.15-18	250	19.79	18.21

(3651) (de02547)

FOR COMPLETE PRODUCT SPECIFICATIONS:
FAX-ON-DEMAND, CALL 888-267-9184 FOR INSTANT SPECS ON YOUR FAX
SCR SERIES – CODE 165; 1 SERIES – CODE 151 & 152
EZ SERIES – CODE 160
TRIAC OUTPUT RELAYS – CODE 166

(32878) (ne32878)

SERIES 1 SPST-NO OR NC RELAYS



Series 1 SPST-NO relays feature surface mount construction with back-to-back SCR output and are available with either zero-cross switching or random turn-on/phase controllable switching (**-10 suffix**). "E" versions = 24VAC input 8-36VAC. Control signal for DC models is 3-32 VDC. Control signal for AC models is 90-280 VAC. Normally closed versions (–B). All models have 4000 Vrms opto-isolation.

AC CONTROL, 120VAC OUTPUT MODELS (24-140VAC)

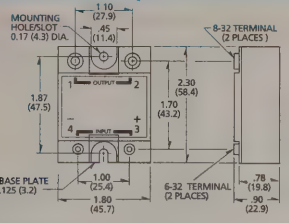
Stock No.	Type	Load Current Range	One-Cycle Surge (Apk)	1-9	10-24	25-49	50-99
27F309	A1202	.04-2	25	21.09	19.40	17.71	16.24
27F310	A1210	.04-10	120	29.69	27.31	24.94	22.86
27F311	A1225	.04-25	250	30.26	27.84	25.42	23.30
27F312	A1240	.04-40	625	33.48	30.80	28.12	25.78
AC CONTROL, 240VAC OUTPUT MODELS (48-280VAC)							
27F313	A2402	.04-2	25	22.59	20.78	18.97	17.39
27F314	A2410	.04-10	120	31.18	28.68	26.19	24.01
27F315	A2425	.04-25	250	31.78	29.24	26.69	24.47
92F4683	A2425-10	.04-25	250	34.37	31.62	28.87	26.46
93F4149	A2425E	.04-25	250	31.78	29.24	26.69	24.47
27F316	A2440	.04-40	625	34.37	31.62	28.87	26.46
87F4313	A2450	.04-50	625	35.98	33.10	30.22	27.71
93F4151	A2450E	.04-50	625	35.98	33.10	30.22	27.71
44F7754	A2475	.04-75	1000	57.95	53.32	48.68	44.62
95F6055	A2490	.04-90	1200	63.55	58.47	53.39	48.94
AC CONTROL, 480VAC OUTPUT MODELS (48-530VAC)							
27F318	A4812	.04-12	140	39.68	36.50	33.33	30.55
27F319	A4825	.04-25	250	42.17	38.80	35.42	32.47
44F7755	A4840	.04-40	625	46.37	42.66	38.95	35.71
87F4320	A4850	.04-50	625	48.16	44.31	40.46	37.09
44F7756	A4875	.04-75	1000	64.45	59.30	54.14	49.63
87F4323	A4890	.04-90	1200	69.55	63.98	58.42	53.55
92F4688	A4890-10	.04-90	1200	72.13	66.36	60.59	55.54
DC CONTROL, 120VAC OUTPUT MODELS (24-140VAC)							
27F324	D1202	.04-2	25	19.49	17.93	16.37	15.01
27F325	D1210	.04-10	120	28.78	26.48	24.17	22.16
87F4307	D1210-10	.04-10	120	31.36	28.86	26.35	24.15
27F326	D1225	.04-25	250	29.18	26.85	24.51	22.47
87F4308	D1225-10	.04-25	250	30.15	27.74	25.33	23.22
27F327	D1240	.04-40	625	31.78	29.24	26.69	24.47
87F4309	D1240-10	.04-40	625	32.60	29.99	27.38	25.10
DC CONTROL, 240VAC OUTPUT MODELS (24-280VAC)							
27F328	D2402	.04-2	25	19.59	18.02	16.45	15.08
27F329	D2410	.04-10	120	29.48	27.12	24.76	22.70
87F4316	D2410-10	.04-10	120	32.07	29.50	26.94	24.69
27F330	D2425	.04-25	250	29.78	27.40	25.02	22.93
87F4315	D2425-10	.04-25	250	32.37	29.78	27.19	24.92
27F331	D2440	.04-40	625	33.67	30.98	28.29	25.93
87F4317	D2440-10	.04-40	625	36.26	33.36	30.46	27.92
87F4314	D2450	.04-50	625	34.78	32.00	29.22	26.78
87F4318	D2450-10	.04-50	625	37.37	34.38	31.39	28.77
81F4826	D2475	.04-75	1000	55.56	51.12	46.67	42.78
87F4319	D2475-10	.04-75	1000	58.15	53.50	48.85	44.78
50F9600	D2490	.04-90	1200	61.15	56.26	51.37	47.09
DC CONTROL, 480VAC OUTPUT MODELS (48-530VAC)							
27F333	D4812	.04-12	140	35.87	33.00	30.13	27.62
27F334	D4825	.04-25	250	36.97	34.02	31.06	28.47
87F4330	D4825-10	.04-25	250	39.56	36.40	33.23	30.46
81F4827	D4840	.04-40	625	42.17	38.80	35.42	32.47
50F9599	D4840-10	.04-50	625	43.79	40.29	36.79	33.72
87F4331	D4850	.04-50	625	41.07	37.79	34.50	31.63
81F4828	D4875	.04-75	1000	60.05	55.25	50.45	46.24
87F4328	D4875-10	.04-75	1000	64.27	59.13	53.98	49.49
87F4329	D4890	.04-90	1200	66.35	61.04	55.73	51.09
87F4327	D4890-10	.04-90	1200	72.10	66.33	60.57	55.52
NORMALLY CLOSED VERSIONS							
98F1198	D2410-B	.04-10	120	33.24	30.58	27.92	25.59
92F4689	D2425-B	.04-25	250	33.61	30.92	28.23	25.88
92F4690	D2450-B	.04-50	625	37.77	34.75	31.73	29.08

*Available as part of Series 1, Soft Start listed *on page 1500.*

(3700) (de52313)

AC SOLID-STATE RELAYS

HA & HD SERIES 1200Vpk AC OUTPUT RELAYS



SPST-NO 480V relays feature the same surface mount construction and package as the series 1 and are available with either zero cross switching or random turn-on, phase controllable switching. DC control models have a 3-32VDC (3mA @ 5VDC) input. AC control models have a 90-280VAC (2mA @ 120VAC) input. All models have an operating voltage range of 48-530VAC. Random turn-on, phase controllable switching relays are also available; *contact your local Newark sales office.* UL recognized, CSA certified, VDE approved.

AC CONTROL MODELS-SCR OUTPUT

Stock No.	Type	Load Current (Arms)	One-Cycle Surge (Apk)	1-9	10-24
93F4171	HA4825	0.04-25	250	**43.37**	**39.90**
93F4175	HA4850	0.04-50	625	**49.56**	**45.59**
93F4179	HA4890	0.04-90	1200	**71.54**	**65.82**
92F4671	HA48125	0.04-125	1750	**82.23**	**75.66**
		DC CONTROL MODELS-SCR OUTPUT			
93F4183	HD4825	0.04-25	250	**37.98**	**34.94**
95F2205	HD4825-10	0.04-25	250	**40.57**	**37.32**
93F4184	HD4850	0.04-50	625	**42.17**	**38.80**
95F2206	HD4850-10	0.04-50	625	**44.76**	**41.18**
95F2204	HD4875	0.04-75	1000	**67.35**	**61.96**
95F2222	HD4875-10	0.04-75	1000	**69.94**	**64.34**
92F4665	HD48110	0.04-110	1500	**74.18**	**68.25**
92F4667	HD48125	0.04-125	1750	**78.54**	**72.26**
92F4668	HD48125-10	0.04-125	1750	**81.13**	**74.64**

(3655) (de02551)

HA & HD60 SERIES 600VAC AC OUTPUT RELAYS

SPST-NO relays are capable of switching 600VAC loads; come in the same size package as the **1 series** available with either zero cross switching or random turn-on, phase controllable switching. Random turn-on phase controllable switching relays **(Suffix -10)**also available; *contact your local Newark sales office.* DC control types have a 3-32VDC (3mA @ 5VDC) input. AC control types have a 90-280VAC (2mA @ 120VAC) input. All types have an operating voltage range of 48-660VAC. UL listed, CSA certified, VDE approved.

AC CONTROL

Stock No.	Type	Type	Load Current (Arms)	One-Cycle Surge (Apk)	1-9	10-24
66F4132	HA6025	HA6025	0.04-25	250	**41.19**	**37.89**
66F4133	HA6050	HA6050	0.04-50	625	**45.67**	**42.01**
66F4134	HA6090	HA6090	0.04-90	1200	**62.49**	**57.49**
66F4135	HA60125	HA60125	0.04-125	1750	**83.38**	**76.71**
			DC CONTROL			
66F4128	HD6025	HD6025	0.04-25	250	**39.49**	**36.33**
66F4129	HD6050	HD6050	0.04-50	625	**43.97**	**40.45**
66F4131	HD60125	HD60125	0.04-125	1750	**81.69**	**75.15**

(12535) (ne09984)

H12 SERIES 50-90 AMP, IC DRIVEN RELAYS

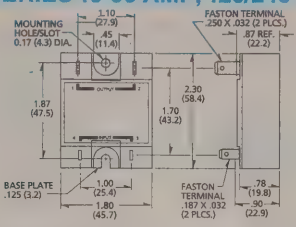
SPST-NO relays feature the same surface mount construction and package as series 1, use IC driven circuitry and feature 1200V blocking standard. DC control models have a 4-32VDC (15mA @ 5VDC) input. AC control models have a 90-140VAC (15mA @ 120VAC) input. Operating Voltage Range: models "CA and WD", 48-660VAC; model "D", 48-530VAC. UL listed, CSA certified, VDE approved.

AC CONTROL MODELS

Stock No.	Load Current (Arms)	One-Cycle Surge (Apk)	1-9	10-24
87F092	0.15-50	625	**44.77**	**41.19**
87F093	0.15-90	1200	**59.06**	**54.34**
	DC CONTROL MODULES			
87F096	0.15-50	625	**43.97**	**40.45**
87F097	0.15-90	1200	**57.95**	**53.32**
44F7754	0.15-50	625	**57.95**	**53.32**
44F7760	0.15-90	1200	**78.75**	**72.45**

(3694) (de52293)

CSD & CSE SERIES 10-90 AMP, 120/240 VAC RELAYS

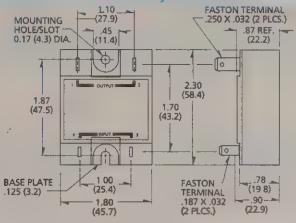


SPST-NO relays feature the same surface mount construction and package as the series 1. Relays are IC driven and feature low leakage. CSD models have 3.5-15VDC (15mA @ 5VDC) input. CSE models have a 15-32VDC (7mA @ 15VDC) input. Operating Voltage Range: 24-280VAC. UL listed, CSA certified, VDE approved.

Stock No.	Type	Load Current (Arms)	One-Cycle Surge (Apk)	1-9	10-24
46F792	CSD2410	0.15-10	120	**23.70**	**21.80**
46F793	CSD2425	0.15-25	250	**28.99**	**26.67**
46F794	CSD2440	0.15-40	625	**32.58**	**29.97**
46F8140	CSD2450	0.15-50	625	**34.08**	**31.35**
87F085	CSD2475	0.15-75	1000	**55.16**	**50.75**
87F4310	CSE2410	0.15-10	120	**23.70**	**21.80**
87F4311	CSE2425	0.15-25	250	**28.99**	**26.67**
87F4312	CSE2450	0.15-50	625	**34.08**	**31.35**
95F6066	CSE2490	0.15-90	1200	**60.75**	**55.89**

(3698) (de52311)

TA & TD SERIES 10-25 AMP, TRIAC OUTPUT RELAYS



SPST-NO relays have a TRIAC output for general purpose switching where performance requirements are less demanding. All models come in standard series 1 package with either AC or DC control. DC control models have a 3-32VDC (3mA @ 5VDC) input. AC control models have a 90-280VAC (2mA @ 120VAC) input. UL listed, CSA certifed, VDE approved.

AC CONTROL MODELS—TRIAC OUTPUT

Stock No.	Type	Load Current (Arms)	One-Cycle Surge (Apk)	1-9	10-24
62F785	TA1210	0.04-10	100	**20.31**	**18.69**
62F786	TA1225	0.04-25	250	**31.57**	**29.05**
62F788	TA2410	0.04-10	100	**31.18**	**28.68**
62F789	TA2425	0.04-25	250	**31.79**	**29.25**
		DC CONTROL MODELS—TRIAC OUTPUT			
62F779	TD1210	0.04-10	100	**28.78**	**26.48**
62F780	TD1225	0.04-25	250	**29.18**	**26.85**
62F782	TD2410	0.04-10	100	**29.48**	**27.12**
62F783	TD2425	0.04-25	250	**29.79**	**27.41**

(3701) (de52314)

HEAT SINKS AND COVERS

Provide efficient heat dissipation and allow SSR's to operate close to their maximum ratings. Each have mounting brackets and are drilled and tapped to take one of the following models. **Series 1, CT, CS, HA, HD, DLD, DSD, DUAL, QUAD, DC60, 1-DC, PCV,** and **RPC. Series HE-90** will take up to three of these or one type **53TP**. All current ratings are based upon the use of a suitable thermal compound, with fins mounted in the vertical plane, in a 40 deg C maximum ambient temperature.

Stock No.	Type	Max. Current	Deg. C/W@ Max. Current	H x W x D	1-9	10-24
46F805	HS-1	10A	2.7	1.6 x 3.36 x 2.06″	**16.09**	**14.80**
46F806	HS-2	20A	1.7	1.6 x 3.36 x 4.12″	**17.29**	**15.91**
46F804	HE-54	50A	0.67	2.62 x 4.75 x 5.50″	**25.49**	**23.45**
95F2219	HE-90	90A	0.43	3.5 x 6.0 x 6.0″	**71.65**	**65.91**

Stock No.	Type	For Series	1-9	10-24
95F2220	KS100	1	**2.32**	**2.14**
95F6052	KS-300	53TP	**3.76**	**3.46**

(3769) (ne53009)

SOLID-STATE RELAY HANDBOOK

This comprehensive reference to the use and applications of solid-state relays features a detailed tutorial on what SSR's are, along with many practical applications.

90F9697 Type HDBK-899. **Each** **19.89**

(3660) (de03858)

AC, DC SOLID-STATE RELAYS

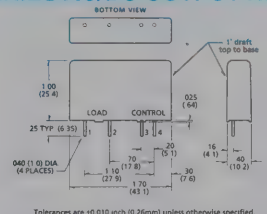
ASPF SERIES 3AMP MINI-SIP AC OUTPUT RELAYS

Features integral heat sink design in mini-SIP package. Load voltage range: 24-280VAC. Control voltage range: 4-10VDC (15mA @ 5VDC).

Stock No.	Type	Load Current (Arms)	1-Cycle Surge (Apk)	1-9	10-24
91F3090	ASPF240D3	0.1-3.0	30	8.98	8.26
91F3091	ASPF240D3R	0.1-3.0	30	8.98	8.26

(13330) (ne10199)

MP SERIES AC/DC OUTPUT RELAYS

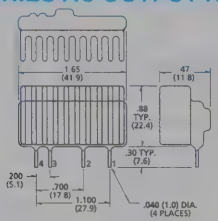


MP Series relays are available with either AC or DC outputs. All models are pin compatible with Series 6 I/O modules and provide greater packaging density. Control Voltage Range is 3-32VDC (3mA@5VDC). UL listed, VDE approved.

Stock No.	Type	Load Current (Arms)	Load Voltage Range	1-9	10-24
62F839	MP120D3	.02-3.0	12-240VAC	14.46	13.31
91F5736	MP240D4	.02-4.0	24-280VAC	15.41	14.77

(3656) (de02689)

MPF SERIES AC OUTPUT RELAYS

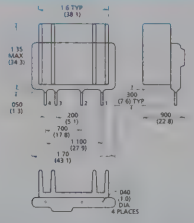


MPF series solid-state relays incorporate integral heat sink design in a low-profile package with the same pin-out as the popular **CX series**. Control voltage range: 4-10VDC (15mA @ 5VDC). Random turn-on version **(suffix R)**. UL listed, VDE approved.

Stock No.	Type	Load Current (Arms)	1-Cycle Surge (Apk)	1-9	10-24
91F3092	MPF240D4	0.1-4.0	40	9.36	8.61
91F3093	MPF240D4R	0.1-4.0	40	9.36	8.61

(13331) (ne10200)

PF SERIES "POWERFIN" AC OUTPUT RELAYS



PowerFin relays feature integral heatsink design to achieve PCB mount highest ratings up to 25 amps in forced air or 10 amps with natural convection at 25C. Control voltage range is 13-15VDC (15mA@5VDC). AC control available, *call your local Newark sales office for information.* UL recognized, CSA certified, VDE approved.

Stock No.	Type	Load Voltage (VAC)	One-Cycle Surge (Apk)	1-9	10-24
95F6088	PF240D25	12-280	250	13.59	12.51
95F6090	PF240D25R	12-280	250	13.59	12.51

(3653) (de02549)

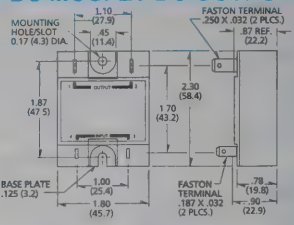
3 SERIES PCB MOUNT OUTPUT RELAYS

Relays are 3amp rated with 3.5-8VDC (20mA@5VDC) control. UL listed, CSA certified, VDE approved.

Stock No.	Type	Load Voltage (VAC)	One-Cycle Surge (Apk)	1-9	10-24
27F341	S312	20-140	55	21.69	19.95
27F339	S3012A	20-140	55	20.68	19.03
27F342	S322	48-280	55	20.50	18.86
27F340	S3022A	48-280	55	22.52	20.71

(3709) (de53006)

SERIES 1-DC MOSFET DC OUTPUT RELAYS

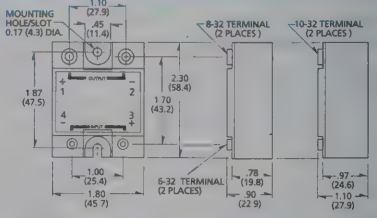


Series 1-DC relays feature MOSFET output for low on-state resistance, assuring easy paralleling. All models have 2500 volt isolation. Control voltage range is 3.5-32VDC (1.6mA@5VDC) (100 volt models). UL recognized.

Stock No.	Type	Load Voltage VDC	Load Current (ADC)	1-9	10-24
44F7743	D1D07	0-100	0.02-7	44.56	41.00
46F821	D1D12	0-100	0.02-12	49.26	45.32
44F7744	D1D20	0-100	0.02-20	53.52	49.24
44F7745	D1D40	0-100	0.02-40	67.06	61.70
46F822	D2D07	0-200	0.02-7	49.17	45.23
44F7746	D2D12	0-200	0.02-12	59.38	54.63
46F824	D4D07	0-400	0.02-7	57.76	53.14
46F825	D4D12	0-400	0.02-12	77.85	71.62
46F826	D5D07	0-500	0.02-7	63.75	58.65
46F803	D5D10	0-500	0.02-10	84.23	77.49

(3696) (de52295)

SERIES DC60, 3-7 AMP DC OUTPUT RELAYS

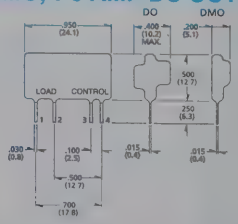


Relays have bi-polar transistor outputs capable of switching 3-60VDC and are available with either AC or DC control (3mA typ. @ nominal voltage).

Stock No.	Type	Load Current ADC	Control Signal Range	1-9	10-24
93F4168	DC60S3	0.02 - 3	3.5-32VDC	12.80	11.77
93F4169	DC60S5	0.02 - 5	3.5-32VDC	20.08	18.48
93F4170	DC60S7	0.02 - 7	3.5-32VDC	25.08	23.08
52F170	DC60SA3	0.02 - 3	90-280VAC	14.79	13.61
52F171	DC60SA5	0.02 - 5	90-280VAC	22.08	20.31
52F172	DC60SA7	0.02 - 7	90-280VAC	27.08	24.91

(3662) (de03878)

SERIES DO/DMO, 1-3 AMP DC OUTPUT MINI-SIP



Relays feature epoxy coated package with .10" lead spacing. DO models have bi-polar transistor output rated .02-1.0ADC. DMO models have MOSFET output rated 0-3.0ADC. Typical input currents are 15mA and 20mA respectively. UL recognized, CSA certified.

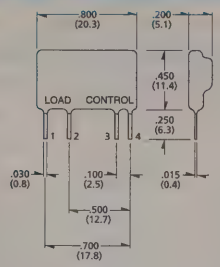
Stock No.	Type	Load Voltage VDC	Control Voltage (VDC)	1-9	10-24
46F8138	DO061A	3-60	3-9	8.00	7.36
95F2208	DO061B	3-60	1.7-9	8.00	7.36

(3658) (de02691)

AC, DC SOLID-STATE RELAYS

4-PIN, 1.0-AMP SIP SOLID-STATE RELAYS

NEW



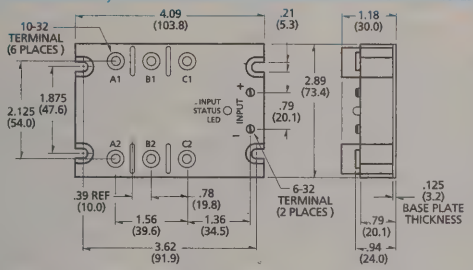
SPA series SIP relays are compact SCR output solid-state relays recommended for high-density printed circuit boards. Rated: 1.0A.

CONTROL CURRENT RANGE: 10-35mA

Stock No.	Type	Load Voltage Range	Transient Overvoltage	1-9	10-24	25-49	50-99
48F933	SPA4191	20-140Vrms	400Vpk	4.06	3.74	3.41	3.13
48F934	SPA6191	20-280Vrms	600Vpk	5.06	4.66	4.25	3.90

(32877) (ne32877)

53TP SERIES, 25-30 AMP THREE-PHASE RELAYS



Series 53TP solid state relays switch up to 530Vrms directly to loads such as motors, transformers, heating elements etc. **A53 types** have a 90-280VAC (2mA@120VAC) input. **D53 types** have a 3-32VDC (10mA@5VDC) control. Random turn-on, phase controllable versions **(-10 suffix)** available. UL recognized.

Stock No.	Type	Load Current (Arms)	One-Cycle Surge (Apk)	1-9	10-24
50F8562	A53TP25-D	.05-25	250	121.41	111.70
50F8563	A53TP50-D	.05-50	250	132.40	121.81
95F6051	A53TP50D-10	.05-50	625	134.99	124.19
50F8564	D53TP25-D	.05-25	250	116.42	107.11
50F8565	D53TP50-D	.05-50	625	127.40	117.21

(3705) (de52572)

SERIES 2, 8 AMP AC OUTPUT RELAY

Series 2 solid state relays feature zero-cross switching and high ratings in a panel mount package designed with quick connect .187" faston terminals. Input Range is 3.5-8VDC (18mA @5VDC). Output range is 40-280VAC (20-140VAC, S218). UL recognized, CSA certified.

Stock No.	Type	Load Current (Arms)	One-Cycle Surge (Apk)	1-9	10-24
27F336	S218	.15-8	120	26.18	24.08
27F338	S228	.15-8	120	27.55	25.34
87F3705	S228C	.15-8	120	23.16	21.30

(3710) (de53006)

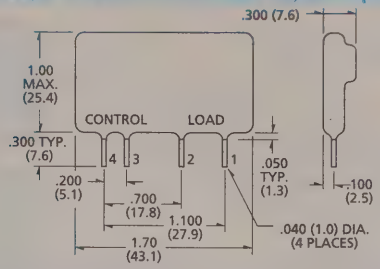
AO/ASO SERIES 1.0-2.0 AMP AC MINI-SIP RELAYS

AO/ASO series miniature SIP relays are available with either zero-cross switching or Random turn-on **(R suffix)**. AO models offer TRIAC output. ASO models are back-to-back SCR output. Control voltage range is 4-10VDC (15mA @5VDC). UL recognized, CSA certified.

Stock No.	Type	Load Current (Arms)	One-Cycle Surge (Apk)	1-9	10-24
93F4155	A0241	0.02-1.0	40	6.95	6.40
93F4157	AS0241	0.01-1.5	30	7.69	7.08
93F4158	AS0241R	0.01-1.5	30	7.69	7.08
91F5758	ASO242	0.01-2.0	40	7.24	6.66
91F5759	ASO242R	0.01-2.0	40	7.24	6.66

(3857) (de02690)

CX SERIES, 5.0 AMP PCB RELAYS, 250Apk SURGE



CX series relays achieve high power switching capability in a PC mount, air-cooled package. Models available with zero-cross or random turn-on **(R suffix)** switching and either AC or DC control (15mA@nominal voltage, 5VDC, 15VDC, 120VAC). UL recognized, CSA certified, VDE approved.

Stock No.	Type	Load Voltage (Vac)	Control Voltage	1-9	10-24
93F4163	CX240D5	12-280	3-15 VDC	10.36	9.54
98F4688	CX240D5R	12-280	3-15 VDC	11.55	10.63
93F4164	CXE240D5	12-280	15-32 VDC	10.36	9.54
93F4166	CX480D5	48-660	4-13 VDC	13.08	12.03
95F2215	CX240A5	12-280	90-140 VAC	10.44	9.60

(3654) (de02550)

SERIES CMX, 5-10 AMP MOSFET DC OUTPUT RELAYS

SPST-NO relays use MOSFET output for high switching capabilities in the CX package for PCB mount air-cooled package. Extra low on-state resistance. Control voltage range, 3-10VDC (15mA@5VDC). Pin compatible with **Series 6** and **CX**. UL recognized.

Stock No.	Type	Line Voltage Range (VDC)	Max. Load Current, Amps (ADC)	1-9	10-24	25-49	50-99
91F5737	CMX60D5	0-100	0-5	20.80	19.13	17.47	16.01
93F4162	CMX100D6	0-100	0-6	25.62	23.57	21.52	19.73
93F4161	CMX60D10	0-60	0-10	25.62	23.57	21.52	19.73

(3652) (de02548)

16-PIN, 1.0-1.5 AMP DIP SOLID-STATE RELAYS

SDV and DPA Series DIP relays are compact SCR output solid state relays recommended for high-density printed circuit boards. **SDV** is rated 0.01-1.5A "R" suffix in part number indicates random turn-on versions. **DPA** types are rated .01-1A. UL recognized, CSA approved.

CONTROL VOLTAGE RANGE: 3.5-10VDC (15mA @ 5VD)

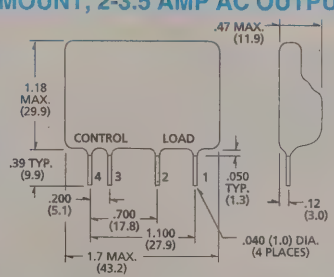
Stock No.	Type	Load Voltage Range	Transient Over Voltage	1-9	10-24
52F6725	SDV2415	12-280Vrms	600	7.24	7.24

CONTROL CURRENT RANGE: 10-50mA

52F6731	DPA4111	20-140 Vrms	400	4.25	4.25
52F6732	DPA6111	20-280 Vrms	600	5.24	5.24

(3738) (ne07076)

D2W PCB MOUNT, 2-3.5 AMP AC OUTPUT RELAYS

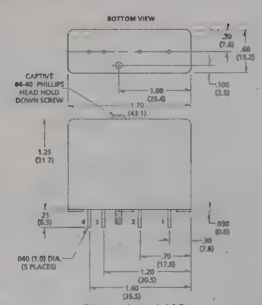


D2W series features an epoxy coated package that provides exceptional environmental protection. Control voltage is 3-32VDC (3mA@5VDC). Line Voltage range is 24-280VAC. UL recognized, CSA approved.

Stock No.	Type	Load Current (Arms)	One-Cycle Surge (Apk)	1-9	10-24
81F4904	D2W202F	.06-2.0	28	8.79	8.09
89F157	D2W203F	.06-3.0	70	7.15	6.57
46F823	D2W203F-11	.06-3.5	80	7.52	6.92

(3708) (de53005)

I/O MODULES



Standard I/O

I/O MODULES, BUFFERED I/O MODULES

I/O modules provide a clean, opto-isolated, noise free "output" interface between logic level control systems and external loads such as motors, valves, solenoids, and other process control components. All models feature 4000 volt isolation and high transient noise immunity. **Series 6 Buffered I/O modules** contain additional internal amplification to reduce drive requirements to a level suitable for the MOS devices used in many microprocessor systems. Modules are available in inverting and non-inverting types. **Series DMP** are identical to standard I/O modules, come in a skin-tight epoxy conformal coating. Yellow: IAC, (S)MIAC, 62XX; White: IDC, (S)MIDC, 61XX; Black: OAC, (S)MOAC, 64XX; Red: ODC, (S)MODC, 63XX.

Stock No.	Type	Description	Control Voltage	Output Voltage	Output Current	1-9	10-24
90F6044	IAC5	AC(DC) Input	90-140VAC	1.5-6.0VDC	Max. 50mAdc	12.19	11.17
90F6045	IAC5A	AC(DC) Input	180-280VAC	1.5-6.0VDC	Max. 50mAdc	12.80	11.73
90F6051	IAC24	AC(DC) Input	90-140VAC	1.5-6.0VDC	Max. 50mAdc	12.19	11.17
90F6052	IDC5	DC Input	10-60VDC	1.5-6.0VDC	Max. 50mAdc	12.19	11.17
90F6055	IDC5D	DC Input	3-32VDC	1.5-6.0VDC	Max. 50mAdc	9.78	8.96
90F6058	IDC15	DC Input	10-60VDC	8.5-18.5VDC	Max. 50mAdc	12.19	11.17
90F6068	ODC5	DC Output	2.5-7.5VDC	3.0-60VDC	0.01-3A	12.19	11.17
90F6069	ODC5A	DC Output	2.5-7.5VDC	5.0-200VDC	0.01-1A	18.83	17.26
90F6073	ODC15	DC Output	8.5-20VDC	3.0-60VDC	0.01-3A	11.41	10.46
90F6060	OAC5	AC Output	2.5-6.0VDC	12-140VAC	0.05-3A	12.19	11.17
90F6061	OAC5A	AC Output	2.5-6.0VDC	24-280VAC	0.05-3A	12.80	11.73
90F6064	OAC15	AC Output	8.5-18.5VDC	12-140VAC	0.05-3A	12.19	11.17

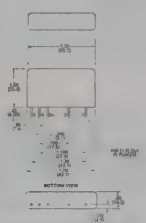
(3704) (de52571)

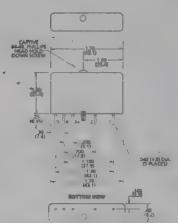
MINI-PACK I/O MODULES

Screw terminal versions of these mini-pack I/O modules are also available; *contact your local Newark sales office.* Add **(S)** prefix to the type number. Input and output specifications are the same for both types. UL recognized, CSA certified, CE compliant.

Stock No.	Type	Description	Control Voltage	Output Voltage	Output Current	1-9	10-24
52F177	MIAC5	AC/DC Input	90-140VAC	1.5-6VDC	max. 50mAdc	10.16	9.34
52F178	MIAC5A	AC/DC Input	180-280VAC	1.5-6VDC	max. 50mAdc	10.66	9.81
52F179	MIAC15	AC/DC Input	90-140VAC	8.5-18.5VDC	max. 50mAdc	10.16	9.34
52F180	MIAC15A	AC/DC Input	180-280VAC	8.5-18.5VDC	max. 50mAdc	10.16	9.34
52F181	MIAC24	AC/DC Input	90-140VAC	16.5-30.5VDC	max. 50mAdc	10.16	9.34
52F182	MIDC-5*	DC Input	10-60VDC	1.5-6VDC	max. 50mAdc	10.16	9.34
52F184	MIDC-5D*	DC Input	3-32VDC	1.5-6VDC	max. 50mAdc	10.16	9.34
52F185	MIDC15*	DC Input	10-60VDC	8.5-18.5VDC	max. 50mAdc	10.16	9.34
52F187	MODC5*	DC Output	2.5-7.5VDC	3-60VDC	0.01-3A	10.16	9.34
52F188	MODC5A*	DC Output	2.5-7.5VDC	5200VDC	0.01-1A	15.69	14.44
52F189	MODC15*	DC Output	8.5-20VDC	3-6VDC	0.01-3A	10.16	9.34
52F190	MODC15A*	DC Output	8.5-20VDC	5-200VDC	0.01-1A	16.70	15.36
52F193	MOAC5*	AC Output	2.5-6VDC	12-140VAC	0.05-3A	10.16	9.34
52F194	MOAC5A*	AC Output	2.5-6VDC	24-280VAC	0.05-3A	10.66	9.81
52F195	MOAC15	AC Output	10-24VDC	12-140VAC	0.05-3A	10.16	9.34
52F196	MOAC15A	AC Output	10-20VDC	24-280VAC	0.05-3A	10.16	9.34

* Not SEV approved
(3719) (ne08045)


"M" Style Mini

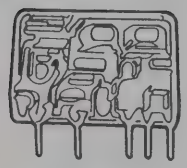

"SM" Style Mini

6 SERIES OUTPUT MODULES

6 SERIES AC AND DC BUFFERED OUTPUT MODULES

Stock No.	Description	Control Voltage	Output Voltage Range	Output Current Range	1-9	10-24
62F812	DC Output	0.0-0.8Vdc	3.0-60Vdc	.02-3.5A	22.34	20.47
62F813	DC Output	2.4-6.0Vdc	3.0-60Vdc	.02-3.5A	22.79	20.90
62F814	AC Output	0.0-0.8Vdc	12-140Vac	.02-3.5A	22.21	20.36
62F815	AC Output	0.0-0.8Vdc	24-280Vac	.02-3.5A	22.93	21.02
62F816	AC Output	2.4-6.0Vdc	12-140Vac	.02-3.5A	20.36	18.66

(3703) (de52570)

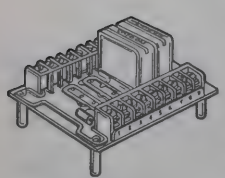


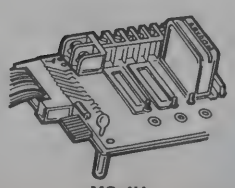
DMP SERIES I/O MODULES

High-performance microprocessor interface switches feature a hard, skin-tight epoxy conformal coating that provides environmental protection and retains fast heat transfer. 5V logic system. Fit **MS series** mounting boards. UL recognized; CSA certified.

Stock No.	Type	Description	Control Voltage	Output Voltage	Output Current	1-9	10-24
44F6543	DMP6101A	DC Input	10-36Vdc	.04-30Vdc	0.1-100mA	11.04	10.15
44F6544	DMP6201A	AC/DC Input	90-140Vac	.04-30Vdc	0.1-100mA	11.04	10.15
44F6545	DMP6301A	DC Output	3-6Vdc	3-60Vdc	.02-3.0A	9.60	8.83
44F6546	DMP6402A	AC Output	3-6Vdc	24-280Vac	.02-3.0A	10.51	9.67

(3706) (de53003)


MS-4


MS-4H

MS SERIES MOUNTING BOARDS

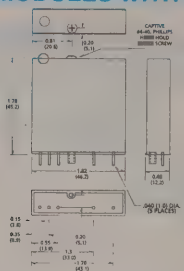
MS and **MS-H** have pull-up resistors, LED status indicators, decoupling capacitors, ground plane and solder mask protection. **H** versions include ribbon card edge and cable header pin-out patterns. Additional I/O modules available; *contact your local Newark sales office.* UL recognized, CSA certified.

Stock No.	Type	Description	1-9	10-24
87F4305	MS-4 (PB-4)	4-Module Board	32.88	30.25
46F812	MS-4H (PB-4H)	4-Module Board	35.90	33.03
46F813	MS-8H (PB-8)	8-Module Board	64.24	59.10
46F808	MS-16H (PB-16A)	16-Module Board	117.45	108.05
46F810	MS-24H (PB-24)	24-Module Board	198.65	182.76

(3707) (de53004)

NEW I/O MODULES AND AC SOLID-STATE RELAYS

X4 SERIES I/O MODULES WITH LED AND FUSE

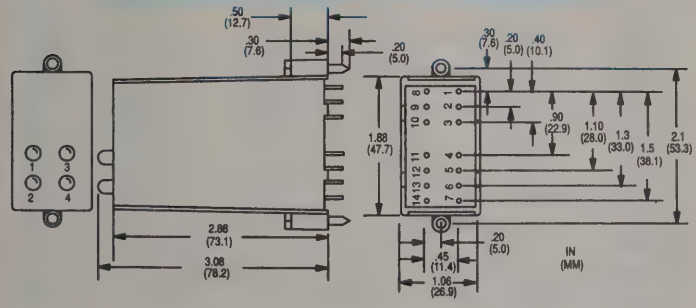


X4 series I/O modules with LED and fuse provide a clean, opto-isolated, noise-free "output" interface between logic level control systems and external loads such as motors, valves, solenoids, and other process control components. **X4 series** features 4000-volt isolation, high-transient noise immunity, and a hold-down screw. UL recognized, CSA certified, CE compliant.

Stock No.	Type	Description	Control Voltage	Output Voltage	1-9	10-24
48F965	X4IAC5	AC(DC) Input	90-140VAC	3-7VDC	8.80	8.10
48F966	X4IAC5A	AC(DC) Input	180-280VAC	3-7VDC	9.12	8.39
48F967	X4IAC15	AC(DC) Input	90-140VAC	10-20VDC	8.80	8.10
48F968	X4IAC15A	AC(DC) Input	180-280VAC	10-20VDC	9.12	8.39
48F969	X4IAC24	AC(DC) Input	90-140VAC	18-32VDC	8.80	8.10
48F970	X4IAC24A	AC(DC) Input	180-280VAC	18-32VDC	9.12	8.39
48F971	X4IDC5	DC Input	10-60VDC	3-7VDC	8.56	7.88
48F972	X4IDC5D	DC Input	3.3-32VDC	3-7VDC	8.32	7.66
48F973	X4IDC15	DC Input	10-60VDC	10-20VDC	8.56	7.88
48F974	X4IDC15D	DC Input	3.3-32VDC	10-20VDC	8.32	7.66
48F975	X4IDC24	DC Input	10-60VDC	18-32VDC	8.56	7.88
48F976	X4IDC24D	DC Input	3.3-32VDC	18-32VDC	8.32	7.66
48F977	X4ODC5	DC Output	4-7.5VDC	3-60VDC	9.20	8.47
48F978	X4ODC5A	DC Output	4-7.5VDC	5-200VDC	10.40	9.57
48F979	X4ODC15	DC Output	10-20VDC	3-60VDC	9.20	8.47
48F980	X4ODC15A	DC Output	10-20VDC	5-200VDC	10.40	9.57
48F981	X4ODC24	DC Output	18-30.5VDC	3-60VDC	9.20	8.47
48F982	X4ODC24A	DC Output	18-30.5VDC	5-200VDC	10.40	9.57
48F983	X4OAC5	AC Output	4-7.5VDC	12-140Vrms	9.60	8.84
48F984	X4OAC5A	AC Output	4-7.5VDC	24-480Vrms	9.62	8.85
48F985	X4OAC15	AC Output	10-20VDC	12-140Vrms	9.20	8.47
48F986	X4OAC15A	AC Output	10-20VDC	24-480Vrms	9.60	8.84
48F987	X4OAC24	AC Output	18-30.5VDC	12-140Vrms	9.20	8.47
48F988	X4OAC24A	AC Output	18-30.5VDC	24-480Vrms	9.60	8.84
DRY CONTACT DC OUTPUT MODULES						
48F989	X4ODC5R	DC Output	4.5-5.5VDC	0-100VDC	10.80	9.94

(32875) (ne32875)

QUAD INPUT AND OUTPUT I/O MODULES



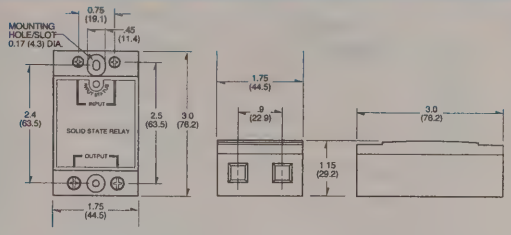
Stock No.	Type	Description	Control Voltage	Output Voltage	1-9	10-24
90F6048	IAC5Q	DC Input	90-140VDC	4.5-6VDC	42.69	38.40
90F6046	IAC5AQ	DC Input	180-280VDC	4.5-6VDC	42.69	38.40
90F6057	IDC5Q	DC Input	10-60VDC	4.5-6VDC	46.80	42.09
90F6063	OAC5Q	AC Output	4-6VDC	12-140VDC	42.69	38.40
90F6071	ODC5Q	DC Output	4-6VDC	3.0-60VDC	42.69	38.40
90F6072	ODC5AQ	DC Output	4-6VDC	5.0-200VDC	47.38	42.65

(32876) (ne32876)

FOR COMPLETE PRODUCT SPECIFICATIONS ON ANY CRYDOM PRODUCT USE CRYDOM'S FAX-ON-DEMAND, CALL 888-267-9184

(12938) (ne10230)

PROPAK™ CMD SERIES AC OUTPUT RELAYS

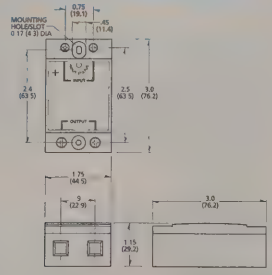


CMD series relays feature status indicating LED and "fingerproof" easy-to-use input and output cage-type terminals. All types are panel mount and offer zero voltage or random turn-on switching (**suffix 10** in type number). All types have 3-32VDC control. ISO 9002 certified. AC control versions are also available; *contact your local Newark sales office.*

Stock No.	Type	Load Current (Arms)	1-Cycle Surge (Apk)	1-9	10-24	25-49	50-99
DC CONTROL 240VAC OUTPUT (24-280 VAC)							
83F4374	CMD2425	0.15-25	250	32.89	30.26	27.63	25.33
83F4376	CMD2450	0.15-50	625	37.95	34.92	31.88	29.23
83F4378	CMD2475	0.25-75	1000	59.03	54.31	49.59	45.46
83F4380	CMD2490	0.25-90	1200	64.71	59.54	54.36	49.83
83F4370	CMD24110	0.25-110	1500	63.45	58.38	53.30	48.86
83F4372	CMD24125	0.25-125	1750	74.03	68.11	62.19	57.01
DC CONTROL 480VAC OUTPUT (48-530 VAC)							
83F4384	CMD4825	0.15-25	250	41.20	37.91	34.61	31.73
83F4385	CMD4850	0.15-50	625	45.44	41.81	38.17	34.99
83F4386	CMD4875	0.25-75	1000	70.99	65.31	59.64	54.67
83F4387	CMD4890	0.25-90	1200	72.01	66.25	60.49	55.45
83F4382	CMD48110	0.25-110	1500	77.93	71.70	65.47	60.01
83F4383	CMD48125	0.25-125	1750	82.34	75.76	69.17	63.41
DC CONTROL 600VAC OUTPUT (48-660 VAC)							
83F4390	CMD6025	0.15-25	250	42.73	39.32	35.90	32.91
83F4391	CMD6050	0.15-50	625	47.28	43.50	39.72	36.41
83F4392	CMD6075	0.25-75	1000	73.73	67.84	61.94	56.78
83F4393	CMD6090	0.25-90	1200	74.78	68.80	62.82	57.58
83F4388	CMD60110	0.25-110	1500	80.95	74.48	68.00	62.34
83F4389	CMD60125	0.25-125	1750	85.54	78.70	71.86	65.87

(28129) (ne28129)

PROPAK™ CMA SERIES AC OUTPUT RELAYS



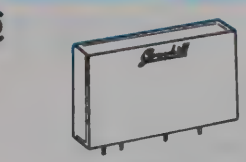
CMA series relays feature status-indicating LED and "fingerproof", easy-to-use, input and output-cage type terminals. All types are panel mount and offer zero voltage or random turn-on switching. Control voltage range: 90-140.

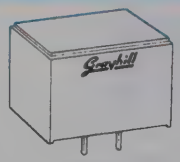
Stock No.	Type	Load Current (Arms)	1-Cycle Surge (Apk)	1-9	10-24	25-49	50-99
AC CONTROL, 240VAC OUTPUT (24-280Vrms)							
48F935	CMA2425	0.15-25	250	34.91	32.12	29.33	26.88
48F936	CMA2450	0.15-50	625	39.18	36.05	32.92	30.17
48F937	CMA2475	0.25-75	1000	61.48	56.57	51.65	47.34
48F938	CMA2490	0.25-90	1200	67.15	61.78	56.41	51.71
48F939	CMA24110	0.25-110	1500	73.69	67.80	61.90	56.75
48F940	CMA24125	0.25-125	1750	76.78	70.64	64.50	59.12
AC CONTROL, 480VAC OUTPUT (48-530Vrms)							
48F941	CMA4825	0.15-25	250	46.67	42.94	39.21	35.94
48F942	CMA4850	0.15-50	625	52.95	48.72	44.48	40.78
48F943	CMA4875	0.25-75	1000	72.22	66.45	60.67	55.61
48F944	CMA4890	0.25-90	1200	75.26	69.24	63.22	57.95
48F945	CMA48110	0.25-110	1500	81.66	75.13	68.60	62.88
48F946	CMA48125	0.25-125	1750	86.11	79.23	72.34	66.31
AC CONTROL, 600VAC OUTPUT (48-660Vrms)							
48F947	CMA6025	0.15-25	250	44.45	40.90	37.34	34.23
48F948	CMA6050	0.15-50	625	49.00	45.08	41.16	37.73
48F949	CMA6075	0.25-75	1000	63.39	58.32	53.25	48.81
48F950	CMA6090	0.25-90	1200	66.07	60.79	55.50	50.88
48F951	CMA60110	0.25-110	1500	82.76	76.14	69.52	63.73
48F952	CMA60125	0.25-125	1750	87.26	80.28	73.30	67.19

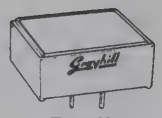
(32874) (ne32874)

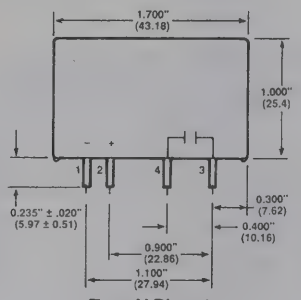
RELAYS AND I/O MODULE MOUNTING RACKS

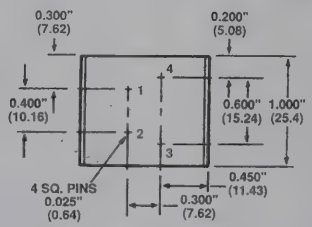
70S2 SERIES PC MOUNT SOLID-STATE RELAYS









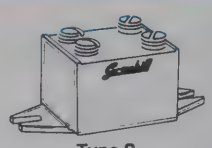


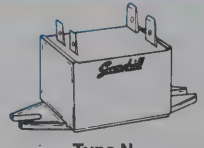
SPST-NO relays provide 4000VAC optical isolation from sensitive logic circuits to field devices. Zero voltage turn-on. Built-in EMI-RFI immunity and voltage spike protection for worry-free operation. Relays withstand surge of 60A for one cycle or 18A for one second. Relays listed have a DC control of 3-30V. UL recognized, CSA certified.

Stock No.	Type	AC Load	1-9
46F2843	70S2-04-B-03-V	3A, 120V	11.44
46F2845	70S2-04-C-03-V	3A, 240V	12.05
57F3777	70S2-04-B-04-F	4A, 120V	14.65
57F3779	70S2-04-C-04-F	4A, 240V	15.75
81F111	70S2-04-B-02-H	2.5A, 120V	14.65
81F113	70S2-04-C-02-H	2.5A, 240V	16.13

(3644) (de02333)

70S2 SERIES PANEL MOUNT SOLID-STATE RELAYS



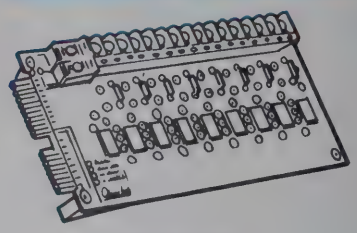


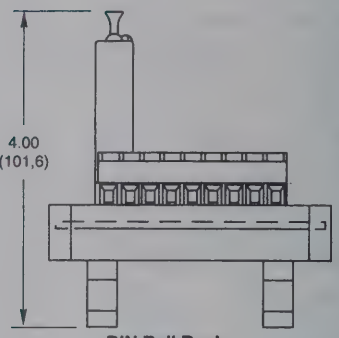
SPST-NO relays mount on the same 1.187″ (47.50) centers as the bulkier hockey puck packages and switch loads up to 25A. Compatible with CMOS and TTL logic, they provide 4000VAC optical isolation and zero voltage turn-on. Also feature built-in snubber network, high surge rating and low offset voltage to minimize RFI and EMI. Ratings are for relays mounted with silicon grease on a 12″ x 12″ x 0.125″ (304.8 x 304.8 x 3.18) aluminum panel or equivalent. Load and logic connections are marked on each relay. **Suffix S** have screw terminals with screws. **Suffix N** have quick connect terminals for push-on connectors which fit blade sizes 0.187″ (4.75) for the logic/control side and 0.250″ (0.635) for the load size. Relays listed have a DC Control of 3-30V. UL recognized, CSA certified.

Stock No.	Type	AC Load	1-9
44F894	70S2-04-B-06-S	6A, 120V	18.61
44F896	70S2-04-B-12-S	12A, 120V	19.35
44F898	70S2-03-B-25-S	25A, 120V	27.54
44F895	70S2-04-C-06-S	6A, 240V	18.98
44F897	70S2-04-C-12-S	12A, 240V	20.10
44F899	70S2-03-C-25-S	25A, 240V	29.27
44F900	70S2-04-B-06-N	6A, 120V	16.75
44F901	70S2-04-C-06-N	6A, 240V	17.61
44F902	70S2-04-B-12-N	12A, 120V	17.61
44F903	70S2-04-C-12-N	12A, 240V	18.61

(3645) (de02334)

MODULE MOUNTING RACKS





Type 70R racks are for standard I/O modules; **type 70MR** are for mini I/O; **type 70GR** are for G5 I/O modules; **type 70LR** are for open-line I/O modules. Input and output modules plug into any position interchangeably. Standard and mini racks have replaceable fuses and status LEDs at each channel. Mini racks include hold down bars to retain modules. Available in 4, 8, 16, 24, or 32 channel. No suffix or **EC** suffix denotes board edge card connector for control signals. **HL** suffix denotes 50 pin ribbon cable header connector for control signals or direct controller plug-in. **R, T,** and **I** suffix denote terminal blocks for both control and field connections. **DIN** suffix denotes DIN rail mountable. UL recognized, CSA certified.

Stock No.	Type	Description	L x W	1-4
87F3682	70RCK8	8 Ch., edge card	8.4 x 3.5	48.61
87F3683	70RCK16	16 Ch., edge card	14.4 x 3.5	70.39
90F7295	70RCK16-HL	16 Ch., 50 pin header	14.4 x 3.5	74.62
87F3684	70RCK24	24 Ch., edge card	18.8 x 4.5	121.18
90F7299	70RCK24-HL	24 Ch., 50 pin header	18.8 x 4.5	125.97
95F9757	70MRCK8-EC	8 Ch., edge card	6.4 x 3.5	52.90
95F9759	70MRCK8-HL	8 Ch., 50 pin header	6.4 x 3.5	55.92
89F582	70MRCK16-EC	16 Ch., edge card	10.4 x 3.5	74.62
90F7302	70MRCK16-HL	16 Ch., 50 pin header	10.4 x 3.5	79.23
95F9756	70MRCK24-EC	24 Ch., edge card	13.45 x 4.15	131.94
95F9761	70MRCK24-HL	24 Ch., 50 pin header	13.45 x 4.15	136.73
90F7304	70MRCQ24-EC	24 Ch., edge card	8.4 x 6.0	126.36
90F7306	70MRCQ24-HL	24 Ch., 50 pin header	8.4 x 6.0	130.75
16F7272	70GRCK4-DIN	4 Ch., terminal blocks	3.25 x 4.25	53.33
16F7274	70GRCK4R-DIN	4 Ch., neg. or pos. logic	3.25 x 4.25	55.05
95F9763	70GRCK8-HL	8 Ch., 50 pin header	6.0 x 3.25	55.92
95F9751	70GRCK16HL	16 Ch., 50 pin header	10.0 x 3.25	74.62
16F7275	70GRCK16I	16 Ch., isolated, TB	9.0 x 4.3	99.05
16F7276	70GRCK16I-DIN	16 Ch., isolated, TB	9.2 x 4.8	129.79
16F7277	70GRCK16T	16 Ch., terminal blocks	9.5 x 3.25	99.05
95F9753	70GRCQ24-HL	24 Ch., 50 pin header	7.5 x 6.25	130.75
95F9755	70GRCM32-HL*	32 Ch., 50 pin header	10.0 x 6.5	161.05
83F7600	70LRCK8-HL	8 Ch., 50 pin header	3.0 x 4.8	51.66
83F7601	70LRCK16-HL	16 Ch., 50 pin header	5.0 x 4.8	68.20
83F7602	70LRCK24-HL	24 Ch., 50 pin header	7.0 x 4.8	90.20
Stock No.	**Type**	**Description**	**L x W**	**1-9**
87F3685	70RCK4	4 Ch., terminal strips	4.5 x 3.5	24.12
96F5628	70RCK4R	4 Ch., neg. or pos. logic	4.5 x 3.5	25.39
16F7271	70GRCK4	4 Ch., terminal blocks	3.25 x 4.25	24.12
16F7273	70GRCK4R	4 Ch., neg. or pos. logic	3.25 x 4.25	25.39

*For use with MicroDAC and DacNet controllers

(3649) (de02353)

72 SERIES PRE-FABRICATED RIBBON CABLE

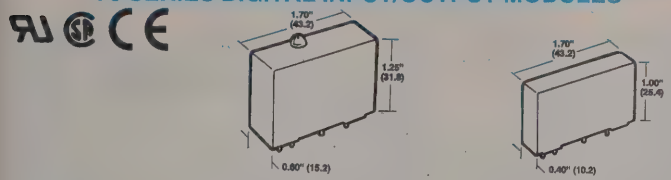
Types 72-CHH are 50-pin header-to-header ribbon cable assemblies for connecting controller boards to I/O module mounting racks. **Types 72-CHE** are 50-pin header-to-edge card assemblies.

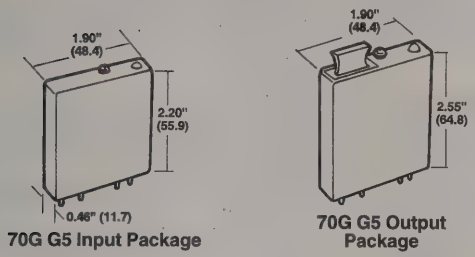
Stock No.	Type	Description	1-9
90F8825	72-CHH-2	2′ Ribbon	19.58
90F8826	72-CHH-4	4′ Ribbon	21.92
90F8827	72-CHH-6	6′ Ribbon	25.44
90F8830	72-CHE-6	6′ Ribbon	44.32

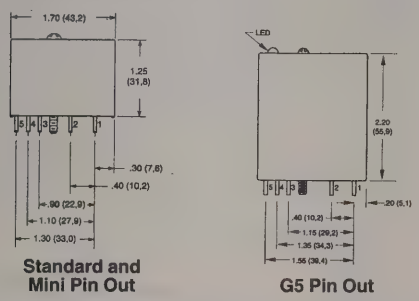
(3566) (ne08055)

ANALOG AND DIGITAL I/O MODULES

70 SERIES DIGITAL INPUT/OUTPUT MODULES







70 Series I/O Modules provide 4000VAC optical isolation between sensitive logic circuits and external AC and DC power devices. Output modules have built-in transient surge protection to prevent false operation. All input modules except high speed IDC5B and IDC5D types have filtered inputs and transmit clean on/off status signals to the controller. Modules are epoxy filled for shock and vibration immunity and operate from –40° to +100°C. UL recognized, CSA certified and CE compliant. Lifetime warranty. All modules pass the EMC directive (89/336/EEC) for industrial products. G5 modules have built-in status LEDs and outputs have 5 x 20mm glass fuses. All are CE and TUV certified. ISW1 and OSW1 modules have toggle switches for simulating inputs and outputs during troubleshooting. Part numbers ending with **MA** have 3 position toggle switches for manual on/manual off/auto operation. Four types available: AC Output (Black); DC Output (Red), AC Input (Yellow), and DC Input (White).

TERMINAL NUMBER AND CONNECTION

Type	#5	#4	#3	#2	#1
OAC	N/A	DC-In	DC+In	AC Out	AC Out
ODC	N/A	DC-In	DC+In	DC-Out	DC+Out
IAC	Ground	Output	+Vcc	AC In	AC In
IDC	Ground	Output	+Vcc	DC-In	DC+In

Only input modules have terminal #5.

DIGITAL OUTPUT MODULES

Stock No.	Type	Vcc	Load	1-9	10-24
87F3671	70-OAC5	5	120VAC, 3.5A	11.44	10.49
87F3672	70-OAC5A	5	240VAC, 3.5A	12.65	11.61
87F3669	70-OAC24	24	120VAC, 3.5A	11.44	10.49
87F3670	70-OAC24A	24	240VAC, 3.5A	12.65	11.61
89F573	70M-OAC5	5	120VAC, 3A	11.44	10.49
89F576	70M-OAC5A	5	240VAC, 3A	12.65	11.61
89F575	70M-OAC24	24	120VAC, 3A	11.44	10.49
89F578	70M-OAC24A	24	240VAC, 3A	12.65	11.61
96F5619	70G-0AC5	5	120VAC, 3.5A	13.25	12.16
96F5620	70G-OAC5A	5	240VAC, 3.5A	14.41	13.22
16F7263	70G-OAC5AMA	5	240VAC, 3.5A	40.74	38.19
16F7264	70G-OAC5MA	5	120VAC, 3.5A	38.20	35.80
96F5623	70G-OAC24	24	120VAC, 3.5A	13.25	12.16
87F3665	70-ODC5	5	60VDC, 3.5A	11.44	10.49
87F3674	70-0DC5A	5	200VDC, 1.0A	19.26	15.91
87F3664	70-ODC24	24	60VDC, 3.5A	11.44	10.49
89F579	70M-ODC5	5	60VDC, 3A	11.44	10.49
16F7266	70M-ODC5A	5	200VDC, 1.0A	19.26	17.67
16F7267	70M-ODC5R	5	100VDC/120VAC	19.79	18.16
89F581	70M-ODC24	24	60VDC, 3A	11.44	10.49
90F8821	70M-OSW1	...	VAC/VDC, 3.0A	8.62	7.91
96F5625	70G-ODC5	5	60VDC, 3.5A	13.25	12.16
16F7268	70G-ODC5A	5	200VDC, 1.0A	21.08	19.34
16F7269	70G-ODC5MA	5	60VDC, 3.5A	38.20	35.80
16F7270	70G-ODC5R	5	100VDC/120VAC	22.40	20.54
95F5627	M135-1-1-24-1	24	60VDC, 3.5A	88.80	86.35

(3647) (de02351)

DIGITAL INPUT MODULES

Stock No.	Type	Vcc	Input	1-9
87F3678	70-IAC5	5	90-140VAC	11.44
87F3677	70-IAC24	24	90-140VAC	11.44
87F3666	70-IAC24A	24	180-280VAC	11.44
89F585	70M-IAC5	5	90-140VAC	11.44
89F588	70M-IAC5A	5	180-280VAC	11.44
89F587	70M-IAC24	24	90-140VAC	11.44
95F9765	70G-IAC5	5	90-140VAC	12.05
95F9773	70G-IAC24	24	90-140VAC	12.05
87F3663	70-IDC5B	5	3-32VDC	11.44
87F3681	70-IDC24	24	3-32VDC	11.44
89F591	70M-IDC5	5	3-32VDC	11.44
16F7257	70M-IDC5G	5	35-60VAC/VDC	11.44
89F593	70M-IDC24	24	3-32VDC	11.44
95F9770	70G-IDC5	5	3-32VDC	12.05
16F7258	70G-IDC5B	5	3-32VDC	12.65
16F7259	70G-IDC5D	5	2.5-28VDC	12.05
16F7260	70G-IDC5G	5	35-60VAC/VDC	13.85
16F7261	70G-IDC5S	5	Contact Closure	38.20
16F7262	70G-IDC24S	24	Contact Closure	45.83
95F9772	70G-IDC24	24	3-32VDC	12.05
90F8822	70M-ISW1	5	Toggle Switch	8.62
95F9777	70G-ISW1	5	Toggle Switch	9.40

(3648) (de02352)

73G ANALOG INPUT/OUTPUT MODULES

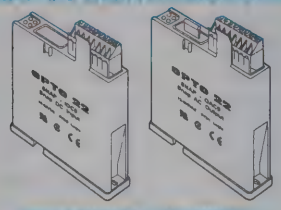
Type 73G single-point G5 analog I/O modules can be mixed with 70G digital I/O modules on any of the 70G mounting racks. Connect a MicroDAC, Microlon, or DacNet controller and create a PC-based data acquisition or control system. Analog inputs (blue) convert incoming voltage, current, or temperature signals into a frequency which varies linearly from 14.4kHz to 72kHz. Analog outputs (orange) accept a data stream and set the output level accordingly. All models feature 2500V optical isolation from input to output and 2500V transformer isolation to the power supply. Full scale accuracy ranges from 0.1% to 0.3%. Modules are powered by a single 5VDC supply.

Stock No.	Type	Description	1-4
95F9779	73G-OV5	0-5VDC Output	97.60
95F9780	73G-OV10	0-10DC Output	97.60
95F9781	73G-OI420	4-20mA Output	126.43
95F9782	73G-IV50M	0-50mV Input	97.60
95F9785	73G-IV5	0-5VDC Input	97.60
95F9786	73G-IV10	0-10VDC Input	97.60
95F9787	73G-II420	4-20mA Input	97.60
16F9123	73G-IVAC120	28-140VAC Input	108.43
16F9124	73G-IVAC240	28-280VAC Input	108.43
16F9125	73G-II020	0-20mA Input	97.60
95F9774	73G-ITCJ	Type J Thermocouple	143.54
95F9776	73G-ITR100	100ΩRTD	143.54
16F9127	73G-ITCT	Type T Thermocouple	143.54
95F9775	73G-ITCK	Type K Thermocouple	143.54

(3646) (de02335)

CONTACT NEWARK FOR LARGE-QUANTITY PRICING.

SNAP I/O DIGITAL MODULES



SNAP DIGITAL AC INPUTS

Stock No.	Type	Description	1-9
52F7491	SNAP-IAC5	4 Channel AC Input 90-140VAC 5VDC Logic	48.30
52F7490	SNAP-IAC5A	4 Channel AC Input 180-280VAC 5VDC Logic	48.30

SNAP DIGITAL DC INPUTS

52F7489	SNAP-IDC5	4 Channel DC Input 10-32VDC 5VDC Logic	48.30

SNAP DIGITAL AC OUTPUTS

52F7488	SNAP-OAC5	4 Channel AC Output 12-280VAC 5VDC Logic	48.30

SNAP DIGITAL DC OUTPUTS

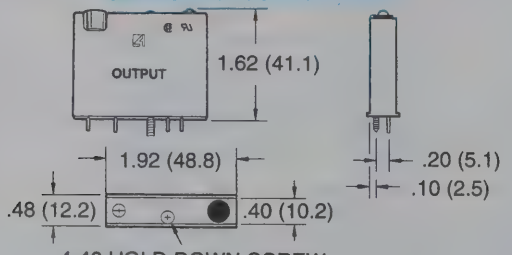
52F7486	SNAP-ODC5SRC	4 Channel DC Output 5-60VDC 5VDC Logic Source	48.30
52F7487	SNAP-ODC5SNK	4 Channel DC Output 5-60VDC 5VDC Logic Sink	48.30
83F5706	SNAP-ODC5R	4 Channel DC Dry Contact Output	51.75

SNAP I/O ACCESSORIES

16F3660	SNAP-FIELDCONB	Field connector	14.00
16F3661	SNAPMODFUSEHLDRB	Digital output module fuseholder	10.00
16F3662	SNAPMODLATCHB	Module release rack	20.00
16F3663	SNAP-RETN4B	4 Module retention rail, 25 pack	112.00
16F3664	SNAP-RETN6B	6 Module retention rail, 25 pack	140.00
83F5695	SNAP-STRAP	Jumper Strap for Snap Module Field Wiring Connector	13.00
83F5696	SNAP-WIRESTRAP	Jumper for 4 Snap-Straps	9.00
83F5697	SNAP-PSDIN	DIN-Rail Adapter	40.00
91F5823	SNAP-FUSE-4AB	4 Amp Fuse, 25-Pack	12.50

(17134) (ne10546)

G4 DIGITAL I/O MODULES



Digital AC Output Dimensions

Types G4ODC and **G4IDC** provide full power rating, LED status indicator lights, and secure mdoule hold-down screws. 5-volt logic, 3-amp current rating. **Suffix "FM"** in type number indicates Factory Mutual Certified for Class 1, div. 2 environments. Analog input and output modules provide single channel of transformer, optically isolated conversion. Voltage-to-digital, analog-to-digital, current-to-digital, digital-to-voltage, and temperature-to-digital conversion types available.

G4 DIGITAL AC INPUTS

Stock No.	Type	Description	Each
96F6444	G4IAC15	AC Input, 90-140VAC 15VDC Logic	12.73
96F6446	G4IAC24	AC Input, 90-140VAC 24VDC Logic	12.73
96F1006	G4SWIN	G4 Input Switch, 5, 15, 24VDC Logic	23.81
96F1065	G4IAC5	90-140VAC 5VDC Logic	12.73
96F6448	G4IAC5A	180-280VAC 5VDC Logic	14.07
96F1059	G4IAC5MA	90-140VAC 5VDC Logic W/SW	28.13

G4 DIGITAL DC INPUTS

96F6449	G4IDC15	DC Input, 10-32VDC 15VDC Logic	12.73
96F6450	G4IDC24	DC Input, 10-32VDC 24VDC Logic	12.73
96F1066	G4IDC5	10-32VDC 5VDC Logic	12.73
96F1067	G4IDC5B	4-16VDC 5VDC Logic High Speed	17.41
96F1068	G4IDC5D	2.5-28VDC 5VDC Logic	11.39
96F6451	G4IDC5G	35-60VDC 5VDC Logic	12.73
96F6452	G4IDC5K	2.5-16VDC 5VDC Logic Very High Speed	17.41
96F1058	G4IDC5MA	10-32VDC 5VDC Logic with HOA/SW	28.13

G4 DIGITAL AC OUTPUTS

96F6453	G4OAC15	AC Output, 12-140VAC 15VDC Logic	12.73
96F6454	G4OAC15A	AC Output, 24-280VAC 15VDC Logic	14.07

CONTINUED

G4 DIGITAL I/O MODULES (CONT.)

G4 DIGITAL AC OUTPUTS (CONT.)

Stock No.	Type	Description	Each
96F6455	G4OAC24	AC Output, 12-140VAC 24VDC Logic	12.73
96F6456	G4OAC24A	AC Output, 24-280VAC 24VDC Logic	14.07
96F1007	G4SWOUT	Output Switch 250VAC	23.81
96F1042	G4OAC5	12-140VAC 5VDC Logic	12.73
96F6457	G4OAC5A	24-280 VAC 5VDC Logic	14.07
96F1043	G4OAC5A5	24-280VDC 5VDC Logic NC	14.07
52F339	G4OAC5A5FM	24-280VDC 5VDC Logic NC	14.89
52F338	G4OAC5AFM	24-280VDC 5VDC Logic Factory Mutual Approved	14.89
52F7457	G4OAC5AMA	24-280VDC 5VDC Logic with HOA/SW	27.18
96F1044	G4OAC5MA	12-140VAC with HOA/SW	28.13

G4 DIGITAL DC OUTPUTS

96F6458	G4ODC15	DC Output, 5-60VDC 15VDC Logic	12.73
96F6459	G4ODC24	DC Output, 5-60VDC 24VDC Logic	12.73
92F9075	G4ODC24A	DC Output, 5-200VDC 24VDC Logic	20.63
96F1045	G4ODC5	5-600VDC 5VDC Logic	12.73
96F6460	G4ODC5A	5-200VDC 5VDC Logic	20.63
52F341	G4ODC5AFM	5-200VDC 5VDC Logic Factor Mutual Approved	21.23
52F342	G4ODC5FM	5-60VDC 5VDC Factory Mutual Approved	13.59
96F7187	G4ODC5MA	5-60VDC 5VDC Logic with HOA/SW	28.13
96F1046	G4ODC5R	Reed Relay Output 5VDC Logic	14.07
96F1047	G4ODC5R5	Reed Relay Output 5VDC Logic NC	14.07
52F344	G4ODC5R5FM	Reed Relay Output 5VDC Logic NC Factory Mutual Approved	14.89
52F343	G4ODC5RFM	Reed Relay Output 5VDC Logic Factory Mutual Approved	14.89

G4 DIGITAL I/O MODULE ACCESSORIES

96F7188	FUSEG4	4 Amp Fuse for G4 Digital Output Modules	1.45
96F6499	G4-MOD-SOCKETS	G4 Module Socket 100 Pack	12.22

(16228) (ne10543)

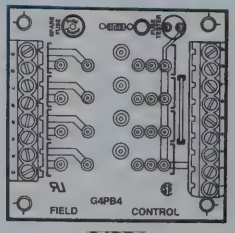
SNAP I/O MOUNTING RACKS

SNAP D SERIES DIRECT CONNECT RACKS

Stock No.	Type	Description	1-9
52F7440	SNAP-D4M	Digital 4 Module Rack w/Header Connector	48.30
52F7441	SNAP-D4MC	Digital 4 Module Rack w/Header Connector Common TB	51.75
52F7442	SNAP-D4MC-P	Digital 4 Module Rack w/Header Connector Common TB Pluggable	111.08
52F7443	SNAP-D6M	Digital 6 Module Rack w/Header Connector	64.80
52F7444	SNAPD6MC	Digital 6 Module Rack w/Header Connector Common TB	75.60
52F7445	SNAP-D6MC-P	Digital 6 Module Rack w/Header Connector Common TB Pluggable	170.88
52F7477	SNAP-D8M	Digital 8 Module Rack w/Header Connector	87.48
52F7478	SNAP-D8MC	Digital 8 Module Rack w/Header Connector Common TB	101.52
52F7479	SNAP-D8MCP	Digital 8 Module Rack w/Header Connector Common TB Pluggable	224.28
52F7480	SNAP-D12M	Digital 12 Module Rack w/Header Connector	111.08
52F7481	SNAP-D12MC	Digital 12 Module Rack w/Header Connector Common TB	131.37
52F7482	SNAP-D12MCP	Digital 12 Module Rack w/Header Connector Common TB Pluggable	314.00

(15544) (ne07507a)

CLASSIC DIRECT CONNECT RACKS



G4PB4

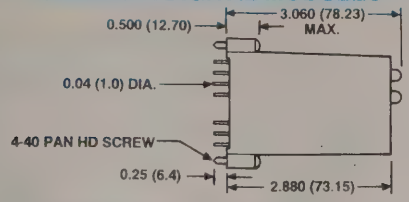
G4 DIGITAL MOUNTING RACKS

Stock No.	Type	Description	1-9
96F1048	G4PB16	16 Channel, I/O Module Rack	69.31
96F1049	G4PB16I	16 Channel, I/O Module Rack, Isolated Control	89.43
96F1050	G4PB16T	16 Channel, I/O Module Rack, Extra Terminal Strip	89.43
96F1051	G4PB24	24 Channel, I/O Module Rack	108.43
96F1052	G4PB32DEC	32 Channel, I/O Module Rack	138.18
96F1053	G4PB4	4 Channel, I/O Module Rack	28.13
96F1054	G4PB4R	4 Channel, Output Module Rack	29.76
96F1055	G4PB8	8 Channel, I/O Module Rack	45.23

(3558) (ne07327)

QUAD PAK & STANDARD I/O SYSTEMS

QUAD PAK DIGITAL MODULES



Quad Pak digital modules contain the equivalent of 4 single-channel circuits in a high-density package. Each module can be divided into 2 pairs, with each pair sharing a common line. Designed to plug into only high-density I/O mounting racks.

Stock No.	Type	Description	1-9	10-24
96F1014	IAC5Q	4-Ch., AC Input, 90-140VAc 5VDC Logic	50.79	47.55
96F1017	IDC5BQ	4-Ch., DC Input, 4-16VDC 5VDC Logic, High-Speed	65.30	60.51
96F1019	IDC5Q	4-Ch., DC Input, 10-32VDC 5VDC Logic	50.79	47.55
96F1023	OAC5Q	4-Ch., AC Output, 12-280VAC 5VDC Logic	50.79	47.55
96F1025	ODC5Q	4-Ch., DC Output, 5-60VDC 5VDC Logic	50.79	47.55

QUAD PAK MOUNTING RACKS

Stock No.	Type	Description	1-4	5-9
96F1037	PB24HQ	Quad 6 Module Position Rack w/Header Connector	127.12	123.31
96F1038	PB24Q	Quad 6 Module Position Rack	119.39	115.81

(16226) (ne10540)

MISCELLANEOUS I/O RACK ACCESSORIES

Straps are for single-channel or quad I/O applications which require that one line of each I/O be a common.

Stock No.	Type	Description	1-9	10-24
92F3466	JUMPERS	Jumpers, Quantity 10	1.66	1.54
96F1071	STRAP2	2-Position Strap, Single Rack R0433	1.25	1.15
96F1072	STRAP2Q	2-Position Strap, Quad Rack R0432	1.25	1.15
96F1073	STRAP4Q	4-Position Strap, Quad Rack R0431	2.07	1.92
96F1074	STRAP8	8-Position Strap, Single Rack R0430	2.07	1.92
96F1056	G4STRAP	G4 Jumper Strap R5187	9.32	8.62

(20426) (ne07336)

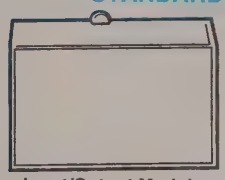
I/O CABLES

Cable types are designated according to the types of connectors on each end. The **CA series** has an edge connector on both ends. The **HH series** has a header connector on both ends. The **OD series** has a header connector on one end and an edge connector on the other. 50-conductor ribbon cable. Length in feet is indicated in type number.

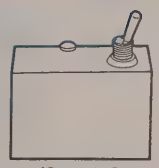
Stock No.	Type	Description	1-9	10-24
96F6482	CA10	10′ Edge to Edge Cable	54.65	52.94
96F6483	CA2	2′ Edge to Edge Cable	41.40	38.30
96F6484	CA4	4′ Edge to Edge Cable	47.61	44.04
96F6440	CA6	6′ Edge to Edge Cable	44.72	43.32
96F6441	CA8	8′ Edge to Edge Cable	49.68	48.13
96F1008	HH1.5	1.5′ Header to Header Cable	47.61	39.42
96F1009	HH10	10′ Header to Header Cable	71.54	57.70
96F1010	HH4	4′ Header to Header Cable	55.95	45.58
96F1011	HH6	6′ Header to Header Cable	60.37	49.78
96F1012	HH8	8′ Header to Header Cable	67.07	53.17
96F1027	OD10	10′ Edge to Header Cable	88.12	67.28
96F1028	OD2	2′ Edge to Header Cable	46.42	36.95
96F1029	OD4	4′ Edge to Header Cable	53.57	43.11
96F1030	OD6	6′ Edge to Header Cable	69.43	57.86
96F1031	OD8	8′ Edge to Header Cable	77.44	60.55

(3750) (ne07335)

STANDARD I/O MODULES



Input/Output Module



Input/Output Switch

STANDARD DIGITAL AC INPUTS

Stock No.	Type	Description	1-9	10-49
96F6092	IAC15	90-140VAC 15VDC Logic	13.79	12.83
96F6463	IAC15A	180-280VAC 15VDC Logic	15.24	13.98
96F6093	IAC24	90-140VAC 24VDC Logic	13.79	12.83
96F1013	IAC5	90-140VAC 5VDC Logic	13.79	12.83
96F6094	IAC5A	180-280 VAC 5VDC Logic	15.24	13.98
96F1020	INPUT SWITCH	5, 15, 24VDC Logic	19.15	17.71

STANDARD DIGITAL DC INPUTS

Stock No.	Type	Description	1-9	10-49
96F6095	IDC15	10-32VDC 15VDC Logic	13.79	12.83
96F6096	IDC24	10-32VDC 24VDC Logic	13.79	12.83
96F1015	IDC5	10-32VDC 5VDC Logic	13.79	12.83
96F1016	IDC5B	4-16VDC 5VDC Logic, High-Speed	18.87	17.29
96F1018	IDC5D	2.5-28VDC 5VDC Logic	12.34	10.81

STANDARD DIGITAL AC OUTPUTS

Stock No.	Type	Description	1-9	10-49
96F6083	OAC15	12-140VAC 15VDC Logic	13.79	12.83
96F6084	OAC15A	24-280VAC 15VDC Logic	15.24	13.98
96F6086	OAC24	12-140VAC 24VDC Logic	13.79	12.83
96F6085	OAC24A	24-280VAC 24VDC Logic	15.24	13.98
96F1021	OAC5	12-140VAC 5VDC Logic	13.79	12.83
96F6082	OAC5A	24-280VAC 5VDC Logic	15.24	13.98
96F1022	OAC5A5	24-280VAC 5VDC Logic NC	15.24	13.98
96F1032	OUTPUT SWITCH	250VAC	19.15	17.71

STANDARD DIGITAL DC OUTPUTS

Stock No.	Type	Description	1-9	10-49
96F6087	ODC15	5-60VDC 15VDC Logic	13.79	12.83
96F6088	ODC15A	5-200VDC 15VDC Logic	22.35	20.89
96F6089	ODC24	5-60VDC 24VDC Logic	13.79	12.83
96F6090	ODC24A	5-200VDC 24VDC Logic	22.35	20.89
96F1024	ODC5	5-60VDC 5VDC Logic	13.79	12.83
96F6081	ODC5A	5-200VDC 5VDC Logic	22.35	20.89
96F1026	ODC5R	Reed Relay Output 5VDC Logic	15.24	14.27

I/O MODULE ACCESSORIES

Stock No.	Type	Description	1-9	10-24
96F9249	FUSE05	5A Fuse for G1 Digital Output Modules	1.45	1.34
92F3465	ICTD	Temperature Probe for AD4	32.14	30.80

STANDARD DIGITAL MOUNTING RACKS

Stock No.	Type	Description	1-9	10-24
96F1033	PB16A	16-Channel I/O Module Rack	69.31	65.62
96F1035	PB16T	16-Channel I/O Module Rack	89.43	82.59
96F1036	PB24	24-Channel I/O Module Rack	108.43	105.21
96F1040	PB4	4-Channel I/O Module Rack	28.13	26.75
96F1069	PB4R	4-Channel Output Module Rack	41.66	40.65
96F1070	PB8	8-Channel I/O Module Rack	45.23	44.34

(16227) (ne10541)

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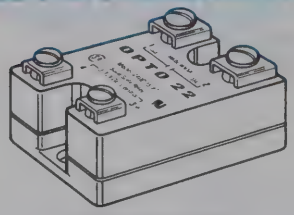
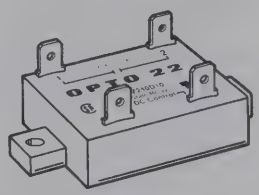
OPTO 22

SOLID-STATE RELAYS

SOLID-STATE POWER RELAYS



AC/DC Power Relay



Z Power Relay

Solid-state power relays have built-in snubber. TTL compatible. Operating temperature: –40°C to +100°C. AC power relays feature 4000 volt isolation and maximum zero voltage turn on time of ½ cycle. **A** in type number indicates 85-280VAC control voltage; **D** indicates 3-32VDC control voltage. DC switching power relays are photo-isolated with 60VDC supply voltage, nominal current rating of 3A or 5A. **Z series** feature 4000 volt isolation and maximum zero voltage turn-on time of ½ cycle. **Z series** also feature a heat transfer system and plastic packaging. Suffix **17** in type number indicates VDE approved. Suffix **12** in type number indicates transient proof product. All relays are UL recognized, CSA certified, CE compliant.

POWER SERIES STANDARD MODEL AC

Stock No.	Type	Description	1-9	10-24
96F1079	120A10	120VAC, 10A AC Control	25.45	22.74
96F1080	120A25	120VAC, 25A AC Control	28.13	26.75
96F1081	120D10	120VAC, 10A DC Control	21.43	20.06
96F1082	120D25	120VAC, 25A DC Control	26.79	24.07
96F1083	120D3	120VAC, 3A DC Control	16.75	15.38
96F1084	120D45	120VAC, 45A DC Control	35.71	33.26
96F1085	240A10	240VAC, 10A AC Control	24.78	23.41
96F1086	240A25	240VAC, 25A AC Control	30.95	29.56
96F1060	240A45	240VAC, 45A AC Control	40.47	39.42
96F1061	240D10	240VAC, 10A DC Control	25.45	21.40
96F6098	240D10-17	240VAC, 10A DC Control	28.13	24.07
96F1062	240D25	240VAC, 25A DC Control	29.47	25.41
96F6099	240D25-17	240VAC, 25A DC Control	32.15	28.09
96F1063	240D3	240VAC, 3A DC Control	17.41	16.05
96F1064	240D45	240VAC, 45A DC Control	36.90	33.26
96F6100	240D45-17	240VAC, 45A DC Control	39.28	35.72
96F6490	380D25	380VAC, 25A DC Control	35.71	34.49
96F6491	380D45	380VAC, 45A DC Control	58.13	46.39
96F6492	480D10-12	480VAC, 10A DC Control	33.33	32.03
96F6493	480D15-12	480VAC, 15A DC Control	35.71	34.49
96F6478	480D25-12	480VAC, 25A DC Control	33.33	32.03
96F7190	480D45-12	480VAC, 45A DC Control	38.09	35.72
96F6479	575D15-12	575VAC, 15A DC Control	42.85	41.88
96F6480	575D45-12	575VAC, 45A DC Control	39.28	38.19

POWER SERIES STANDARD MODEL DC

96F1077	DC60S3	60VDC, 3A, DC Control	12.86	11.64
96F1087	DC60S5	60VDC, 5A, DC Control	20.09	18.06

POWER SERIES Z MODEL AC

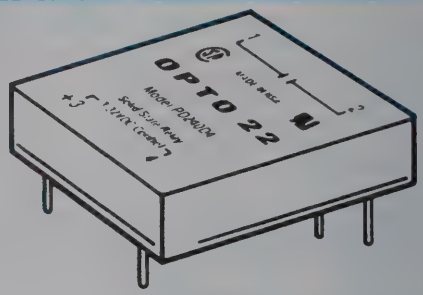
96F1095	Z120D10	120VAC, 10A, DC Control	13.13	11.77
96F1078	Z240D10	240VAC, 10A, DC Control	13.40	12.04
96F6489	Z240D10-17	240VAC, 10A, DC Control	15.41	14.04

POWER SERIES ACCESSORY

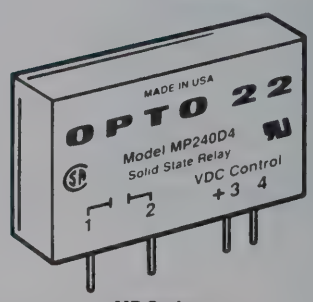
96F6487	SAFETY COVER	Power Series SSR Cover	1.35	1.25

(3749) (ne07334)

PRINTED CIRCUIT BOARD POWER RELAYS



P Series



MP Series

P series power relays provide low profile for 0.5" (12.7) center mounting on printed circuit boards. **MP series** provide small footprint. **Suffix 17** in type number indicates VDE approved. All relays are UL recognized, CSA certified, CE compliant.

SERIES P MODEL AC

Stock No.	Type	Description	1-9	10-24
96F6097	P120D2	120VAC, 2A, DC Control	11.39	10.30
96F1092	P120D4	120VAC, 4A, DC Control	11.72	10.84
96F1093	P240D2	240VAC, 2A, DC Control	12.26	11.37
96F1094	P240D4	240VAC, 4A, DC Control	13.06	12.37
96F6486	P240D4-17	240VAC, 4A, DC Control	14.07	13.38

SERIES P INPUT/OUTPUT, 5VDC LOGIC

96F6466	IAC5P	AC Input, 90-140VAC	13.79	12.83
96F6468	IDC5P	DC Input, 10-32VDC	13.79	12.83
96F9248	OAC5P	AC Output, 12-140VAC	13.79	12.83
96F6472	ODC5P	DC Output, 5-60VDC	13.79	12.83

SERIES MP MODEL AC

96F1088	MP120D2	120VAC, 2A, DC Control	11.39	10.30
96F1089	MP120D4	120VAC, 4A, DC Control	11.72	10.84
96F1090	MP240D2	240VAC, 2A, DC Control	12.26	11.37
96F1091	MP240D4	240VAC, 4A, DC Control	13.06	12.37
96F6469	MP240D4-17	240VAC, 4A, DC Control	14.07	13.38
96F6470	MP380D4	380VAC, 4A, DC Control	14.07	12.97

SERIES MP MODEL DC

96F1075	DC200MP	200VDC, 1A, DC Control	15.07	13.71
96F1076	DC60MP	60VDC, 3A, DC Control	10.72	9.70

(3752) (ne07404)

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PHOTOVOLTAIC RELAYS

Photovoltaic relays switch general-purpose analog signals. Four terminal devices with an LED input which provides a photo-isolated signal for actuating the power ICs, which form the solid-state output contacts. 0.2μV maximum thermal offset voltage @ 5mA control.

Stock No.	Type	Fig.	DC Load Current @ 40°C Max (mA)	Control Current Nom. (mA)	Off-State Resistance Min. (Ohms)	Dielectric Strength Input/Output V_{RMS}	Response Time On/Off Max. (μs)	1-9	10-24	25-99
90F1854	PVA1052	2	70	5	10^8	2500	25/15	5.84	5.37	4.75
90F1855	PVA1054	2	70	5	10^{10}	2500	25/15	6.33	5.90	5.44
89F095	PVA1352	2	315	5	10^8	2500	300/50	5.84	5.37	4.75
89F096	PVA1354	2	315	5	10^{10}	2500	300/50	6.33	5.90	5.44
89F097	PVA2352	2	130	5	10^8	2500	100/50	5.23	4.81	4.25
50F2609	PVA3054	2	±300	5	10^{10}	2500	25/15	6.11	5.70	5.26
50F2610	PVA3055	2	±300	5	10^{11}	2500	25/15	7.05	6.57	6.06
89F084	PVA3324	2	130	2	10^{10}	2500	100/50	7.30	6.80	6.28
46F8137	PVA3354	2	130	5	10^{10}	2500	100/50	6.33	5.90	5.44
16F9644	PVAZ172N	2	1000	10	10^8	4000	2000/500	9.73	9.07	8.37
90F1856	PVD1052	3	160	5	10^8	2500	25/15	6.21	5.78	5.34
90F1857	PVD1054	3	160	5	10^{10}	2500	25/15	6.69	6.24	5.75
89F086	PVD1352	3	500	5	10^8	2500	300/50	6.21	5.78	5.34
89F087	PVD1354	3	500	5	10^{10}	2500	300/50	6.69	6.24	5.75
89F088	PVD2352	3	200	5	10^8	2500	100/50	5.41	4.97	4.40
89F089	PVD3354	3	300	5	10^{10}	2500	100/50	6.47	6.03	5.56
99F7691	PVG612	5	2000	5	10^8	4000	2000/500	5.70	5.23	4.63
52F8962	PVN012	5	4500	3	0.16×10^8	4000	5000/500	5.70	5.23	4.63
52F8964	PVO402P	7	120	3	...	3750	2000/500	5.40	4.97	4.39
89F093	PVR1300	1	700	10	10^8	1500	300/50	11.96	11.31	10.44
89F094	PVR1301	1	700	10	10^{10}	1500	300/50	12.32	11.65	10.76
46F795	PVR3300	1	260	10	10^8	1500	100/50	11.96	11.31	10.44
46F796	PVR3301	1	260	10	10^{10}	1500	100/50	12.76	12.06	11.13
01F361	PVT312	5	320	2	2.5×10^8	4000	3000/500	2.48	2.28	2.02
48F1276	PVT312L	5	300	2	2.5×10^8	4000	3000/500	2.45	2.25	1.99
01F362	PVT322	5	170	2	2.5×10^8	4000	3000/500	5.21	4.79	4.23
52F8959	PVT412	5	210	3	...	4000	2000/500	2.48	2.28	2.02
52F8960	PVT412L	5	200	3	...	4000	2000/500	2.53	2.33	2.06
52F8963	PVT422	6	140	2	10^{10}	4000	2000/2000	5.06	4.65	4.12
48F1277	PVT422P	7	120	2	4×10^8	3750	2000/2000	5.34	4.91	4.34
48F1278	PVT442	5	300	3	4×10^8	4000	2000/3000	3.65	3.35	2.96
52F8961	PVU414	5	210	3	10^{10}	4000	500/200	4.43	4.07	3.60
48F1279	PVX6012	4	1000	5	0.4×10^8	3750	7000/1000	8.61	8.02	7.40

(3625) (de00597)

Fig. 1

Fig. 2

Fig. 3

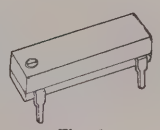
Fig. 4

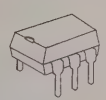
Fig. 5

Fig. 6

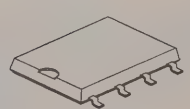
Fig. 7

PHOTOVOLTAIC ISOLATORS

Stock No.	Type	No. of Outputs	Output Voltage VDC	Short Circuit Current (μA)	Nominal Control Current (mA)	Dielectric Strength Input/Output V_{RMS}	1-24	25-99	100-249
01F363	PVI5013R	2	3	1	10	3750	3.90	3.58	3.17
08F3122	PVI5050	1	5	5	10	2500	2.82	2.60	2.30
52F8958	PVI5080	1	5	8	10	2500	4.14	3.80	3.36
08F3123	PVI5100	1	5	10	10	2500	5.72	5.26	4.65
08F3121	PVI1050	2	5/10	5	10	2500	5.48	5.03	4.45

(3626) (de00598)

PVI

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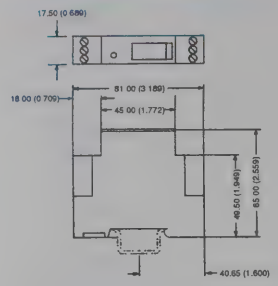
I/O MODULES AND MOUNTING BOARDS

"NEW GENERATION" DIN RAIL MOUNTABLE OUTPUT MODULES



DIN rail series I/O modules offer a packaging approach addressing installation and space-saving needs. DIN rail mountable (17.5mm wide) modules snap into place with an integral spring element which is part of the I/O assembly. Electrical connections made by wiring directly via a screw-clamp terminal design, conforming them to a "Touch Safe" IP-20 standard. Module includes LED indication, and output modules feature a quick and easy-to-change fuse (5A-Littlefuse Type 2290035). All units can also be configured for direct panel mounting. Input voltage is 4-32VDC. UL recognized and CE compliant.

OUTPUT MODULES

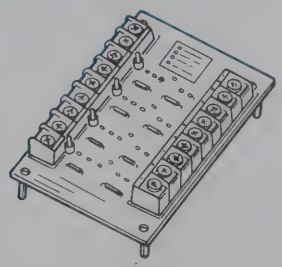
Stock No.	Type	Output Voltage	Max. Output Current (A)	1-4	5-9
16F6315	84130104	0.5-60VDC	3	26.50	24.39
16F6316	84130105	12-280VAC	5	29.81	27.44

INPUT MODULES

91F2037	84115501	4.5-30VDC	50mA	29.15	26.83
91F2038	84115502	4.5-30VDC	50mA	29.15	26.83
91F2039	84115503	4.5-30VDC	50mA	29.81	27.44

(3761) (ne08321)

DIGITAL I/O MODULE MOUNTING BOARDS



Accept input and output modules interchangeably. Plug-compatible connections on 8, 16, 24, and 32-position boards; screw terminal block on 4-position board. Screw terminal barrier block for load connections. Resident pull-up resistors. 5-amp replaceable fuses. LEDs indicate logic status. UL recognized, CSA certified boards indicated with (*). **"SM" suffix** denotes boards with pin-retaining system for **SM series** modules. Single-point boards also compatible with **SM series** units. **PB4R** accepts output modules only.

MOUNTING BOARDS FOR SINGLE-POINT AND SM MODULES

Stock No.	Type	Positions	1-4	5-9
21F854	PB-4*	4	31.14	28.66
98F820	PB4R*	4	37.10	34.14
21F855	PB-8*	8	57.04	52.49
21F856	PB-16	16	90.89	83.64
94F4618	PB16T*	16	119.24	109.73
21F857	PB-24*	24	140.43	129.24
98F1900	PB-24SM	24	141.76	130.46

MOUNTING BOARDS FOR QUAD-PACK MODULES

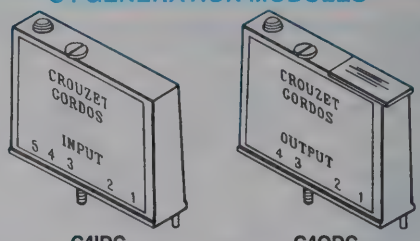
46F4212	PB32Q*	32	185.48	170.70
83F7765	PB-32HQ	32	188.16	173.17
46F3695	PB24Q*	24	158.98	146.31

MOUNTING BOARDS FOR M SERIES MODULES

50F9542	PB-16M	16	90.55	83.34
50F9543	PB-24M	24	141.76	130.46

(3682) (de51302)

C4 GENERATION MODULES



C4IDC C4ODC

The C4 I/O modules provide all the features of a standard I/O module plus an LED status indicator light. The output module versions provide a 2AG glass fuse. UL recognized and CE compliant.

C4 INPUT MODULES, DC LOGIC OUTPUT 4.5-32VDC

Stock No.	Type	Input	1-4	5-9
92F3509	C4IDC	4-32VDC	14.58	13.42
92F3511	C4IAC	90-140VAC	13.25	12.20
91F2040	C4SWIN	...	23.98	22.07
83F7766	C4IDCB	4-16VDC	12.80	11.78
83F7767	C4IDCG	35-60VDC	12.80	11.78
83F7768	C4IDCK	2.5-16VDC	12.80	11.78

C4 OUTPUT MODULES, DC INPUT VOLTAGE 4-32VDC

Stock No.	Type	Output Voltage	Amps	1-4	5-9
92F3513	C4ODC	3-60 VDC	3	14.58	13.42
92F3515	C4OAC	90-140 VAC	3	14.58	13.42
91F2041	C4SWOUT	4.5-32 VAC	50mA	23.98	22.07

(3666) (de04003)

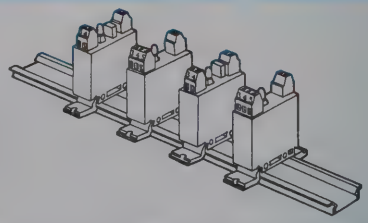
C4 MOUNTING BOARDS

The mounting boards will accept either input or output modules. UL recognized and CSA certified.

Stock No.	Type	Positions	Each
92F3517	PB-4C4	4	31.80
92F3519	PB-16C4	16	92.08
92F3520	PB-24C4	24	143.08
91F2042	PB-16C4T	16	105.99

(3667) (de04004)

DR SERIES SINGLE POINT I/O MODULES



DR Series I/O modules offer a packaging approach that addresses installation and space saving needs. I/O modules snap into place with an integral spring element which is part of the I/O assembly. Electrical connections are made by wiring directly to color code and numbered terminal blocks designed to accept 28 to 14 AWG wire. I/O modules include ED indicator, and output modules contain a replaceable 5A fuse. Mounting holes provided for panel-mount applications. I/Os available with 5 or 24 VDC logic voltages. AC and DC outputs are suitable for most load requirements up to 5A. UL recognized, CSA certified, CE compliant.

INPUT MODULES, MAX. OUTPUT CURRENT 16mA

Stock No.	Type	Input Voltage	Output Voltage	1-4	5-9
96F1863	DR-IAC5E	18 to 36 VAC/DC	3 to 6 VDC	26.50	24.39
96F1864	DRIAC5	90 to 140 VAC/DC	3 to 6 VDC	25.18	23.17
96F1865	DR-IAC5A	140 to 280 VAC/DC	3 to 6 VDC	25.18	23.17
96F1866	DR-IAC24	90 to 140 VAC/DC	20 to 30 VDC	25.84	23.78
96F1867	DR-IAC24A	140 to 280 VAC/DC	20 to 30 VDC	25.84	23.78
96F1868	DR-IDC5	3.3 to 32 VDC	3 to 6 VDC	29.15	26.83
96F1869	DR-IDC5A	10 to 60 VDC	3 to 6 VDC	26.50	24.39
96F1870	DR-IDC24	3.3 to 32 VDC	20 to 30 VDC	25.84	23.78
96F1871	DR-IDC24A	10 to 60 VDC	20 to 30 VDC	26.50	24.39

OUTPUT MODULES, MAX. OUTPUT CURRENT 3mA

96F1872	DR-OAC	3.7 to 32 VDC	12 to 280 VAC	30.47	28.05
96F1873	DR-ODC5	3.5 to 8 VDC	3 to 60 VDC	27.82	25.61
96F1874	DR-ODC24	18 to 32 VDC	3 to 60 VDC	27.82	25.61

(3668) (de04019)

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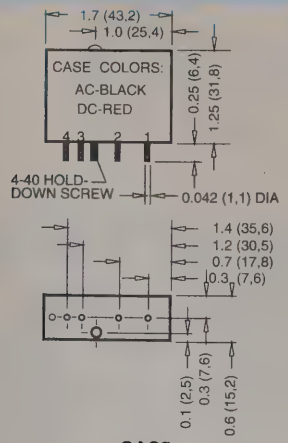
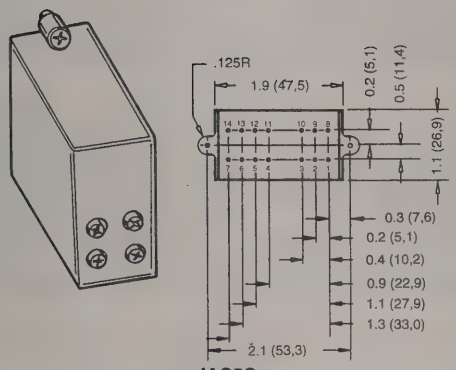
I/O MODULES

0.6″ INPUT/OUTPUT MODULES



OAC5



IAC5Q

SMT construction for high reliability. 4KV optical isolation. Quad pack modules denoted with suffix **"Q"**; all others single point modules. Suffix **"N"** denotes modules with noise immunity per NEMA ICS2-230. **"M"** prefix denotes miniature modules for **M series** mounting boards. Prefix **"SM"** denotes miniature modules which plug into standard or sub-miniature mounting boards and offer nylon retaining pin for fast, secure installation. Both **"M"** and **"SM"** series are 33% thinner than standard I/O modules and feature open collector output. Suffix **"F"** denotes fast switching modules 47-63Hz. UL recognized and CE compliant.

INPUT MODULES

Stock No.	Type	Input	Voltage	DC Logic	1-4	5-9
21F863	IAC5	AC/DC	90-140V	5VDC	12.11	11.14
21F866	IAC5A	AC/DC	90-140V	5VDC	14.25	13.11
21F867	IAC15A	AC/DC	90-280V	15VDC	13.81	12.50
21F865	IAC24	AC/DC	90-140V	24VDC	13.91	12.81
46F4207	IAC5Q	AC/DC	90-140V	5VDC	51.67	47.55
21F858	IDC5	DC	3.3-32V	5VDC	12.11	11.14
44F6870	IDC5F	DC	3.3-30V	5VDC	14.58	13.42
44F6864	IDC5N	AC/DC	10-60V	5VDC	14.58	13.42
21F859	IDC15	DC	3.3-32V	15VDC	15.24	14.03
21F860	IDC24	DC	3.3-32V	24VDC	14.58	13.42
46F4209	IDC5Q	AC/DC	10-48V	5VDC	51.67	47.55
50F9552	MIAC5	AC/DC	90-140V	5VDC	12.11	11.14
94F4606	SMIAC5	AC/DC	90-140V	5VDC	12.11	11.14
50F9548	SMIAC5A	AC/DC	180-280V	5VDC	14.58	13.42
50F9555	MIDC5	DC	3.3-32V	5VDC	14.58	13.42
94F4605	SMIDC5	DC	3.3-32V	5VDC	12.11	11.14

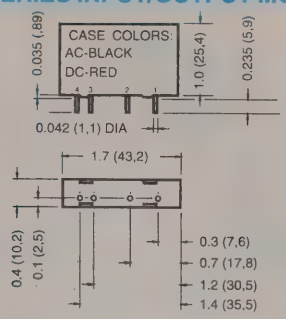
INPUT/OUTPUT MODULES

Units require 3-15VDC input voltage.

Stock No.	Type	Output Voltage	Amps	1-4	5-9
91F2043	OACU	12-140VAC	3.5	14.25	13.11
91F2044	OACUA	24-280VAC	3.5	15.24	14.03
91F2045	M-OACU	12-140VAC	3.5	14.25	13.11
91F2046	M-OACUA	24-280VAC	3.5	15.24	14.03
91F2047	M-OACUAH	24-280VAC	5	16.03	14.76
91F2048	SM-OACU	12-140VAC	3.5	14.25	13.11
91F2049	SM-OACUA	24-280VAC	3.5	15.24	14.03
91F2050	SM-OACUAH	24-280VAC	5	16.03	14.76

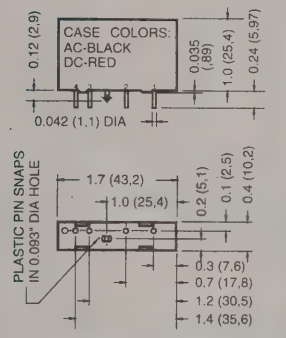
(3680) (de51300)

M/SM SERIES INPUT/OUTPUT MODULES



DIMENSIONS: INCHES (MILLIMETERS)
TOLERANCE: ±0.020 (±0,50)

M Series
Input/Output Module
MODC5



DIMENSIONS: INCHES (MILLIMETERS)
TOLERANCE: ±0.020 (±0,50)

SM Series
Input/Output Module
SMOAC5

INPUT/OUTPUT MODULES

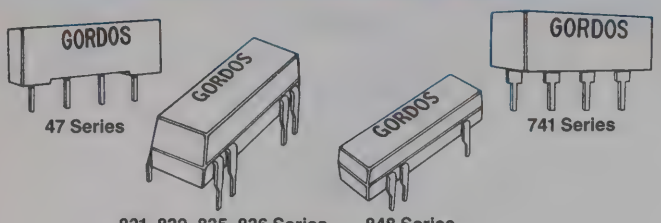
Stock No.	Type	DC Input Voltage	Output Voltage	Amps	1-4	5-9
21F869	OAC5	5	12-140VAC	3.5	12.11	11.14
21F872	OAC5A	5	24-280VAC	3.5	14.58	13.42
83F7769	OAC5AH	5	24-280VAC	5.0	14.72	13.55
46F4208	OAC5Q	5	12-140VAC	3.0	49.02	45.12
21F871	OAC24	24	12-140VAC	3.5	15.24	14.03
21F874	OAC24A	24	24-280VAC	3.5	15.90	14.63
21F861	ODC5	5	3-60VDC	3.0	12.11	11.14
83F7770	ODC5A	5	3-250VDC	1.0	20.48	18.85
44F6867	ODC5F	5	3-60VDC	3.0	13.91	12.81
83F7771	ODC5MA	5	1-200VDC	3.0	48.64	44.77
83F7772	ODC5MC	5	1-100VDC	5.0	37.12	34.17
46F4210	ODC5Q	5	3-60VDC	3.0	51.67	47.55
93F3630	ODC5Q-11	5	3-60VDC	3.0	62.27	57.31
21F862	ODC15	15	3-60VAC	3.0	15.24	14.03
83F7773	MOAC5AH	5	24-280VDC	5.0	14.72	13.55
21F875	ODC24	24	3-60VDC	3.0	14.58	13.42
50F9550	MOAC5	5	12-140VAC	3.5	12.11	11.14
50F9551	MOAC5A	5	24-28VAC	3.5	14.58	13.42
83F7774	MODC5MA	5	1-200VDC	3.0	48.64	44.77
94F4608	SMOAC5	5	12-14VAC	3.5	12.11	11.14
50F9547	SMOAC5A	5	24-280VAC	3.5	14.58	13.42
50F9553	MODC5	5	3-60VDC	3.0	12.11	11.14
50F9554	MODC5A	5	5-200VDC	1.0	21.20	19.51
83F7775	MODC5MC	5	1-100VDC	5.0	38.40	35.34
83F7776	MODC5ML	5	1-50VDC	5.0	33.28	30.63
83F7777	SMOAC5AH	5	24-280VAC	5.0	14.72	13.55
98F993	SMODC5	5	3-60VDC	3.0	12.11	11.14
50F9549	SMODC5A	5	5-200VDC	1.0	21.20	19.51
83F7778	SMODC5MA	5	1-200VDC	3.0	48.64	44.77
83F7779	SMODC5MC	5	1-100VDC	5.0	37.12	34.17
83F7780	SMODC5ML	5	1-50VDC	5.0	32.00	29.45

(3681) (de51301)

NEWARK STOCKS MORE PRODUCTS THAN ANY OTHER ELECTRONICS DISTRIBUTOR!

REED AND SOLID-STATE RELAYS

47, 741, 830, 848 SERIES RELAYS



(*) = relay with clamp diode. (**) = relay with suppression diode. All meet UL 94V-0 flammability rating and are compatible with automatic insertion.

CONTACT RATINGS

Type	Maximum Switching (DC) Watts	Volts	Maximum Current (Amps) Switch	Carry	Contact Resistance (Ohms)	Min. Breakdown Voltage VAC Across Conts	Conts. Coil	Capacitance Typical(pF) Across Conts.	Conts. Call
47	10	200	0.5	1.5	0.1	300	1000	1.0	2.0
741A	10	200	0.5	1.5	0.2	300	1000	1.0	2.0
831A	10	200	0.5	1.5	0.2	300	1000	1.0	2.0
831B	10	200	0.5	1.5	0.2	300	1000	...	3.8
831C	3	30	0.2	0.5	0.2	200	1000	1.5	2.0
832A	10	200	0.5	1.5	0.2	300	1000	1.0	2.0
835C	3	30	0.2	0.5	0.2	200	1000	1.5	2.0
836C	3	30	0.2	0.5	0.2	200	1000	1.5	2.0
848A	25	1000	1.0	2.0	0.2	1500	2500	1.0	2.0

VOLTAGE CHARACTERISTICS FOR ALL RELAYS

Nom.Coil Volt. DC	Must Operate Voltage DC	Must Release Voltage DC	Maximum Volt DC.
5	3.8	0.5	10
12	9.0	1.2	20
24	18.0	2.4	35

47 SERIES MINI-SIP DRY REED RELAYS

Stock No.	Type	Contacts	Nom. Coil Volt.	Coil Res. Ω ± 10%	1-4	5-9
46F4926	4705	SPST N.O.	5	500	6.90	6.35
46F4927	4712	SPST N.O.	12	1200	9.13	8.40

741 SERIES SIP DRY REED RELAYS

62F4006	741A-2*	SPST N.O.	5	380	8.82	8.12
46F4931	741A9	SPST N.O.	5	500	8.08	7.43
21F946	741A-10*	SPST N.O.	5	500	9.01	8.29
46F4932	741A3	SPST N.O.	12	1000	7.70	7.09
62F4041	741A-4*	SPST N.O.	12	1000	8.82	8.12
62F4042	741A-7	SPST N.O.	24	1750	8.57	7.89

831 SERIES 8-PIN DIP DRY REED RELAYS

62F4010	831A-1	SPST N.O.	5	380	5.84	5.37
62F4011	831A-2**	SPST N.O.	5	380	6.34	5.83
62F2914	831A-3	SPST N.O.	5	500	5.84	5.37
62F2915	831A-4**	SPST N.O.	5	500	6.34	5.83
62F4012	831A-5	SPST N.O.	12	1000	6.03	5.55
62F4013	831A-6**	SPST N.O.	12	1000	6.52	6.00
62F2918	831A-7	SPST N.O.	24	1750	6.60	6.07
21F947	831C-1	SPDT	5	200	10.34	9.51
62F4034	831C-2**	SPDT	5	200	11.06	10.17
21F948	831C-3	SPDT	12	500	10.51	9.67
62F4035	831C-4**	SPDT	12	500	11.22	10.32
21F949	831C-5	SPDT	24	1750	11.50	10.58

(3683) (de51307)

47, 741, 830, 848 SERIES RELAYS (CONT.)

(*) = relay with clamp diode. (**) = relay with suppression diode. All meet UL 94V-0 flammability rating and are compatible with automatic insertion.

832 SERIES 8-PIN DIP DRY REED RELAYS

Stock No.	Type	Contacts	Nom. Coil Volt.	Coil Res. Ω ± 10%	1-4	5-9
21F950	832A-1	DPST N.O.	5	200	9.05	8.32
62F4037	832A-2**	DPST N.O.	5	200	9.65	8.88
21F951	832A-3	DPST N.O.	12	500	9.05	8.32
62F4038	832A-4**	DPST N.O.	12	500	9.65	8.88
21F952	832A-5	DPST N.O.	24	1750	9.88	9.09

835 SERIES 8-PIN DIP DRY REED RELAYS

21F953	835C-1	SPDT	5	200	10.77	9.91
21F954	835C-2**	SPDT	5	200	11.48	10.56
46F4940	835-C3	SPDT	12	500	10.93	10.06

836 SERIES 8-PIN DIP DRY REED RELAY

44F3482	836C-2**	SPDT	5	200	11.48	10.56

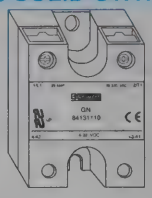
848 SERIES 4-PIN DIP HIGH-VOLTAGE/ISOLATION RELAY

46F4934	848A1	SPST N.O.	5	150	17.60	16.19

(3684) (de51307a)

GN SERIES SOLID-STATE RELAYS

NEW



GN series relays have built-in, no-touch cover and current ranges from 10A to 90A. UL recognized, CE compliant per LVD 73/23/EEC. EMC compatibility to EN 50082-2 (immunity), EN 50081-2 (emissions), C.I.S.P.R.22 (radiated) Class B (conducted), Class A (requires EMI filter), EN60950, and IEC 947-4-2.

ZERO VOLTAGE TURN-ON

Stock No.	Type	Control Voltage	Output Current	Max. Output	1-4	5-9	10-24
83F7800	84131001	90-280VAC	10A	24-280VAC	33.08	30.44	27.39
83F7801	84131011	90-280VAC	25A	24-280VAC	41.00	37.74	33.96
83F7802	84131021	90-280VAC	50A	24-280VAC	57.19	52.64	47.36
83F7803	84131031	90-280VAC	75A	24-280VAC	70.95	65.30	58.76
83F7804	84131041	90-280VAC	90A	24-280VAC	85.16	78.38	70.53
83F7805	84131000	4-32VDC	10A	24-280VAC	30.08	27.69	24.91
83F7806	84131010	4-32VDC	25A	24-280VAC	33.13	30.49	27.44
83F7807	84131020	4-32VDC	50A	24-280VAC	47.47	43.68	39.31
83F7808	84131030	4-32VDC	75A	24-280VAC	64.63	59.48	53.52
83F7809	84131040	4-32VDC	90A	24-280VAC	77.14	70.99	63.88

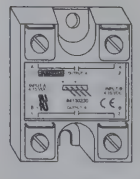
RANDOM TURN-ON

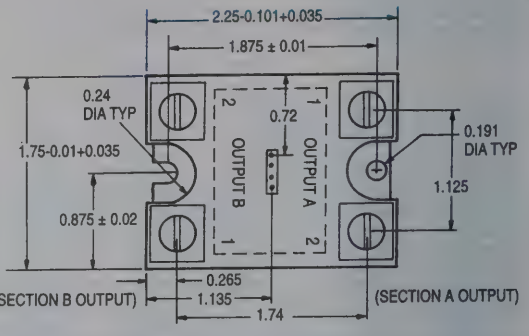
83F7810	84131201	90-280VAC	10A	24-280VAC	36.38	33.48	30.13
83F7811	84131211	90-280VAC	25A	24-280VAC	45.10	41.50	37.35
83F7812	84131221	90-280VAC	50A	24-280VAC	62.92	57.90	52.10
83F7813	84131231	90-280VAC	75A	24-280VAC	78.05	71.83	64.63
83F7814	84131241	90-280VAC	90A	24-280VAC	93.67	86.21	77.57
83F7815	84131200	4-32VDC	10A	24-280VAC	33.09	30.46	27.41
83F7816	84131210	4-32VDC	25A	24-280VAC	36.45	33.54	30.18
83F7817	84131220	4-32VDC	50A	24-280VAC	52.22	48.05	43.24
83F7818	84131230	4-32VDC	75A	24-280VAC	71.10	65.43	58.88
83F7819	84131240	4-32VDC	90A	24-280VAC	84.86	78.09	70.27

(32199) (ne32199)

GD SERIES DUAL OUTPUT POWER RELAYS

NEW





The **GD series** of SSRs combines 2 relays into one package. Both 25 and 40-amp versions feature back-to-back dual SCR output and 4kV optical isolation. Operating temperature range is -20° to +80°C. Both versions are UL recognized and the 40-amp version is CE compliant.

25-AMP QUICK CONNECT TERMINALS (¼")

Stock No.	Type	Control Voltage	Output Current	Output Voltage	1-4	5-9
52F1224	GD240D25	4-15VDC	25A	24-280VAC	63.59	58.53
91F2026	GD240D25R*	4-15VDC	25A	24-280VAC	66.24	60.97

40-AMP SCREW TERMINALS

91F2027	84130 230	4-15VDC	40A	24-280VAC	66.24	60.97
91F2028	84130 231*	4-15VDC	40A	24-280VAC	68.89	63.40
91F2029	84130 240	4-15VDC	40A	36-530VAC	79.49	73.16
91F2030	84130 241*	4-15VDC	40A	36-530VAC	82.14	75.60

40-AMP QUICK CONNECT TERMINALS (¼")

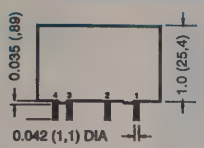
83F7781	84130250	4-15VDC	40A	24-280VAC	64.00	58.90
83F7782	84130251	4-15VDC	40A	24-280VAC	66.56	61.26
83F7783	84130260	4-15VDC	40A	36-530VAC	76.80	70.68
83F7784	84130261	4-15VDC	40A	36-530VAC	79.36	73.04

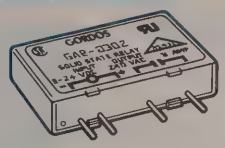
*Denotes random turn-on.

(12627) (ne10014)

SOLID-STATE RELAYS

GA1 AND GA8 SERIES RELAYS



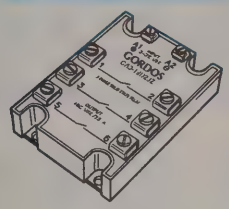


The **GA1** and **GA8 series** of SSRs have a high current thyristor for 100 amps surge capability in an industry standard package, SIP **(GA8)** or flat **(GA1)** pack. "R"suffix denotes random turn-on. UL recognized.

Stock No.	Type	Control Voltage	Output Current	Output Voltage	1-4	5-9
94F4602	GA16B02	3-28VDC	3A @ 40°C	24-280VAC	14.58	13.42
46F4205	GA8-6B02	3-28VDC	3A @ 40°C	24-280VAC	14.64	13.48
91F2031	GA8-6D05	3-28VDC	5A @ 30°C	24-280VAC	16.56	15.24
91F2032	GA8-6D05R	3-28VDC	5A @ 30°C	24-280VAC	17.09	15.73

(12629) (ne10015)

GA3 SERIES RELAYS



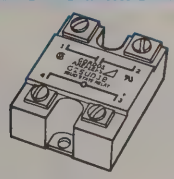
GA3

The GA3 series of three phase solid-state relays provide three SSR's in one enclosure to switch three phase loads. A single TTL-compatible input actuates all three phases. UL recognized, CSA certified and CE compliant.

Stock No.	Type	Control Voltage	Output Current	Max Output	1-4	5-9
91F2053	GA3-12A25R	90-280VAC	25A	24-660VAC	119.24	109.73
91F2020	GA3-12A25Z	90-280VAC	25A	24-660VAC	119.24	109.73
91F2021	GA3-12A45R	90-280VAC	45A	24-660VAC	125.86	115.83
91F2022	GA3-12A45Z	90-280VAC	45A	24-660VAC	125.86	115.83
96F2186	GA3-12D10R	4-32VDC	10A	24-660VAC	116.59	107.30
91F2023	GA3-12D10Z	4-32VDC	10A	24-660VAC	116.59	107.30
96F2187	GA3-12D25R	4-32VDC	25A	24-660VAC	119.24	109.73
91F2024	GA3-12D25Z	4-32VDC	25A	24-660VAC	119.24	109.73
96F2188	GA3-12D45R	4-32VDC	45A	24-660VAC	125.86	115.83
99F6623	GA3-12D45Z	4-32VDC	45A	24-660VAC	130.93	119.03

(12939) (ne10012)

GF AND GT SERIES RELAYS



The **GF series** employs **MOSFET** technology that combines the best features of electromechanical and solid-state relays: milliohm "ON" resistance, high "OFF" resistance, short transfer times and extremely long life. The **GT series** is a cost-effective, general-purpose DC solid-state relay.

Stock No.	Type	Control Voltage	Output Current Rating (A)	Max-Output	1-4	5-9
93F3623	GF50D30	3-32VDC	30	50VDC	45.91	42.25
93F3624	GF100D15	3-32VDC	15	100VDC	52.86	48.65
91F2224	GF200D10	3-32VDC	10	200VDC	61.21	56.33
93F3622	GT60D10	3-32VDC	10	60VDC	34.78	32.01

(12934) (ne10011)

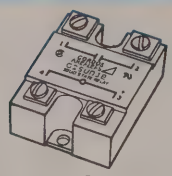
HEAT SINKS

Provide efficient heat dissipation and allow maximum power to be handled when used with solid-state relays. Material is black anodized aluminum. Tolerance is +/–0.02". Covers and thermal pads are also available; *contact your local Newark sales office.*

Stock No.	Type	Thermal Convection	For Series	1-4	5-9	10-24
83F7820	HS-1	1.5°C/W	3 Phase	44.80	41.23	37.10
83F7821	HS-2	2.0°C/W	1 Phase	17.92	16.50	14.84
83F7822	HS-3	1.5°C/W	1 Phase	19.20	17.67	15.90
83F7823	HS-4	1.0°C/W	1 Phase	28.16	25.92	23.32
83F7824	HS-5	0.7°C/W	1 Phase	51.20	47.12	42.40
83F7825	HS-6	0.5°C/W	1 Phase	78.08	71.86	64.66
83F7826	HS-7	0.9°C/W	3 Phase	92.16	84.82	76.32

(32197) (ne32197)

G SERIES RELAYS



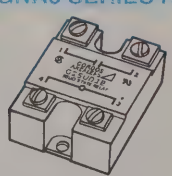
G

The **G series** back-to-back (dual) SCR output for severe inductive loads; false turn-on immunity and positive turn-off at high dv/dt. Zero voltage turn-on are listed below (random turn-on available); *contact your local Newark sales office.* UL recognized, CSA certified CE compliant

Stock No.	Type	Control Voltage	Output Current Range (A)	Max-Output	1-4	5-9
98F8231	G240A10	90-280VAC	10	24-280VAC	29.77	27.40
44F6840	G240A25	90-280VAC	25	24-280VAC	36.90	33.96
91F2225	G240A75	90-280VAC	75	24-280VAC	63.86	58.77
91F2226	G240A90	90-280VAC	90	24-280VAC	76.64	70.54
44F6847	G240D10	3-32VDC	10	24-280VAC	24.84	22.86
44F6879	G240D25	3-32VDC	25	24-280VAC	29.81	27.44
44F6848	G240D45	3-32VDC	45	24-280VAC	42.73	39.32
91F2227	G240D75	3-32VDC	75	24-280VAC	58.16	53.53
91F2228	G240D90	3-32VDC	90	24-280VAC	69.42	63.89
50F9556	G480A10	90-280VAC	10	36-530VAC	57.04	52.49
50F9557	G480A50	90-280VAC	50	36-530VAC	73.73	67.85
50F043	G480A75	90-280VAC	75	36-530VAC	79.29	72.97
93F3621	G480A90	90-280VAC	90	36-530VAC	90.42	83.22
70B1736	G480D10	4-32VDC	10	36-530VAC	36.83	33.90
94F4619	G480D25	4-32VDC	25	36-530VAC	43.13	39.69
50F044	G480D50	4-32VDC	50	36-530VAC	61.21	56.33
50F045	G480D75	4-32VDC	75	36-530VAC	68.16	62.73
83F7785	G575A25	90-280VAC	25	48-660VAC	63.17	58.14
83F7786	G575A50	90-280VAC	50	48-660VAC	75.27	69.27
83F7787	G575A75	90-280VAC	75	48-660VAC	79.30	72.98
83F7788	G575A90	90-280VAC	90	48-660VAC	90.24	83.05
83F7789	G575D10	4-32VDC	10	48-660VAC	40.32	37.11
83F7790	G575D25	4-32VDC	25	48-660VAC	45.70	42.06
83F7791	G575D75	4-32VDC	75	48-660VAC	69.89	64.32
83F7792	G575D90	4-32VDC	90	48-660VAC	73.92	68.03

(12943) (ne10013)

GA5 & GNA5 SERIES RELAYS



The **GA5 series** features an economical TRIAC output for general-purpose applications. Zero-voltage turn-on only. CE compliant. Available in ¼" quick connect (Suffix QC). The new **GNA5 series** uses the same industry standard packaging but meets the strict EMC directive. The **GNA5 series** comes in AC or DC control, 10 and 25 AMP, 24-280VAC output.

GA5 SERIES

Stock No.	Type	Control Voltage	Output Current	Max-Output	1-4	5-9
91F2051	GA5-6A10	90-280VAC	10A	24-280VAC	30.61	28.17
91F2052	GA5-6A25	90-280VAC	25A	24-280VAC	33.39	30.73
66F4144	GA5-6D10	3-23VDC	10A	24-280VAC	22.26	20.49
66F4145	GA5-6D25	3-23VDC	25A	24-280VAC	26.30	24.21
83F7793	GA5-6D10QC	3-23VDC	10A	24-280VAC	23.04	21.21
83F7794	GA5-6E10	18-36VAC	10A	24-280VAC	29.57	27.22
83F7795	GA5-6E25	18-36VAC	25A	24-280VAC	33.60	30.93

GNA5 SERIES

83F7796	84131901	90-250VAC	10A	24-280VAC	32.53	29.94
83F7797	84131911	90-250VAC	25A	24-280VAC	35.49	32.66
83F7798	84131900	4-32VDC	10A	24-280VAC	23.66	21.77
83F7799	84131910	4-32VDC	25A	24-280VAC	27.96	25.73

(12928) (ne10010)

GAO SERIES 3-PHASE MOTOR-REVERSING RELAY

The GAO 3-phase motor-reversing relay allows the user to swap the 2-phase of a 3-phase motor to control forward or reverse motion. A dual TTL-compatible input actuates the forward or reverse sequence. Built-in interlock circuit prevents actuation of both directions. UL recognized, CE compliant, TUV approved.

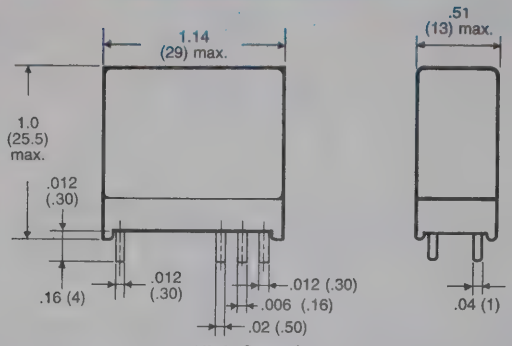
Stock No.	Type	Control Voltage	Output Current	Max. Output	1-4	5-9	10-24
91F2025	GA0-12D25	3-32VDC	25A	24-660VAC	174.88	160.94	144.82

(32198) (ne32198)

OMRON®

POWER PC BOARD AND GENERAL-PURPOSE RELAYS

G2R SERIES RELAYS



High-Capacity

G2R series are slim-styled power PCB relays. Creepage distance of 0.31″ min. between coil and contact. Relays with **E** in type number are high-capacity, all others are general purpose. UL recognized, CSA certified. Also available: class B insulation and latching types; *contact your local Newark sales office for details.*

SPDT, SEMI-SEALED PCB

Stock No.	Type	Description	Rated Current (mA)	Coil Resistance (Ω)	1-24	25-49
52F3692	G2R-1-E-DC12	SPDT, semi-sld.	43.6	275	4.08	3.79
52F3693	G2R-1-E-DC24	SPDT, semi-sld.	21.8	1,100	4.08	3.79
		SPDT, PLUG-IN				
52F3697	G2R-1-S-AC120	SPDT, plug-in	7.5	6,500	8.26	7.69
52F3696	G2R-1-S-AC24	SPDT, plug-in	37.5	260	7.54	7.01
52F3694	G2R-1-S-DC12	SPDT, plug-in	43.6	275	5.67	5.27
52F3695	G2R-1-S-DC24	SPDT, plug-in	21.8	1,100	5.67	5.27
		SPST, SEMI-SEALED PCB				
52F3690	G2R-1A-E-DC12	SPST, semi-sld.	43.6	275	3.69	3.44
52F3691	G2R-1A-E-DC24	SPST, semi-sld.	21.8	1,100	3.69	3.44
		SPST, SEALED PCB				
52F3685	G2R-1A4-AC120	SPST, sealed	7.5	6,500	7.21	6.70
		SPDT, SEALED PCB				
52F3680	G2R-14-AC120	SPDT, sealed	7.5	6,500	7.40	6.88
52F3682	G2R-14-AC24	SPDT, sealed	37.5	260	6.74	6.27
52F3678	G2R-14-DC12	SPDT, sealed	43.6	275	3.97	3.69
52F3679	G2R-14-DC24	SPDT, sealed	21.8	1,100	3.97	3.69
		DPDT, SEMI-SEALED PCB				
83F5358	G2R-2-DC12	DPDT, semi-sealed	43.6	275	4.01	3.73
83F5359	G2R-2-DC24	DPDT, semi-sealed	21.8	1,100	4.01	3.73
		DPDT, PLUG-IN				
52F3701	G2R-2-S-DC12	DPDT, plug-in	43.6	275	6.48	6.03
52F3702	G2R-2-S-DC24	DPDT, plug-in	21.8	1,100	6.48	6.03
		DPDT, SEALED PCB				
52F3689	G2R-24-AC120	DPDT, sealed	7.5	6,500	8.39	7.80
52F3688	G2R-24-AC24	DPDT, sealed	37.5	260	7.69	7.15
52F3687	G2R-24-DC12	DPDT, sealed	43.6	275	4.60	4.28
83F5357	G2R-24-DC24	DPDT, sealed	21.8	275	4.60	4.28
52F3686	G2R-24-DC5	DPDT, sealed	106	47	4.60	4.28

(3733) (ne07064)

G3NA SERIES SOLID-STATE RELAYS

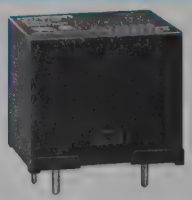
The **G3NA** is an industry standard "hockey puck" style, solid state relay. Ideal for industrial switching applications where long life, heavy duty loads and fast switching speed is required. **Type 210B, 225B** and **240B** switch 10-40 Amp loads at 24-240VAC and **type 440B** switches 40 Amp loads at 200-480 VAC. Output load current can be significantly increased with a **type Y92B** heat sink; *contact your local Newark sales office for details.* UL recognized. CSA certified, TUV approved. Additional models available; *contact your local Newark sales office.*

Stock No.	Type	Rated Load	Rated Input Voltage	1-24	25-49	50-99
52F3923	G3NA-210B-DC5-24	10A	5 to 24VDC	15.70	12.56	11.85
52F3921	G3NA210BAC100/120	10A	100 to 120VAC	19.73	15.78	14.89
52F3922	G3NA210BAC200/240	10A	200 to 240VAC	19.73	15.78	14.89
52F3926	G3NA-225B DC5-24	25A	5 to 24VDC	20.42	16.34	15.42
52F3924	G3NA225BAC100-120	25A	100 to 120VAC	24.60	19.68	18.56
52F3925	G3NA225BAC200-240	25A	200 to 240VAC	24.60	19.68	18.56
52F3929	G3NA-240B-DC5-24	40A	5 to 24VDC	50.35	40.28	38.00
52F3927	G3NA240BAC100/120	40A	100 to 120VAC	54.69	43.75	41.28
52F3928	G3NA240BAC200/240	40A	200 to 240VAC	54.69	43.75	41.28
83F5360	G3NA-410B-DC5-24	10A	5 to 24VDC	39.37	39.37	37.14
52F3931	G3NA-440B-DC5-24	40A	5 to 24VDC	59.37	58.25	56.01
52F3930	G3NA440BAC100/240	40A	100 to 240VAC	61.70	60.53	58.20

(19927) (ne11128)

G5LE SERIES PC BOARD RELAYS

NEW



Subminiature "sugar cube" relays are rated 10A and are UL Class B insulation certified. Withstand impulses of up to 4,500V. Maximum switching voltage: 250VAC, 125VDC. Operating temperature: -25°C to +85°C. 19.05(.75)H x 22.5(.89)L x 16.51(.65)″W. Ideal for security equipment, home electrical appliances, audio equipment, and remote control switched power. UL recognized, CSA certified.

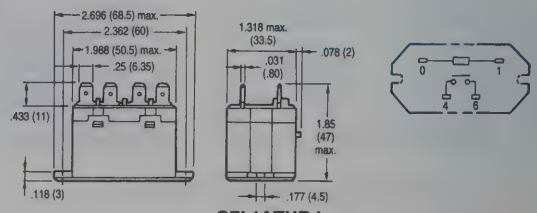
SPST, NORMALLY-OPEN

Stock No.	Type	Rated Load (mA)	Coil Resist. (Ω)	Seal	1-24	25-49	50-99
83F5378	G5LE-1A-DC5	79.4	63	Flux	1.95	1.81	1.71
83F5376	G5LE-1A-DC12	33.3	360	Flux	1.95	1.81	1.71
83F5377	G5LE-1A-DC24	16.7	1440	Flux	1.95	1.81	1.71
83F5375	G5LE-1A4-DC5	79.4	63	Plastic	2.13	1.98	1.87
83F5373	G5LE-1A4-DC12	33.3	360	Plastic	2.13	1.98	1.87
83F5374	G5LE-1A4-DC24	16.7	1440	Plastic	2.13	1.98	1.87
		SPDT					
83F5381	G5LE-1-DC5	79.4	63	Flux	2.01	1.87	1.76
83F5379	G5LE-1-DC12	33.3	360	Flux	2.01	1.87	1.76
83F5380	G5LE-1-DC24	16.7	1440	Flux	2.01	1.87	1.76
83F5372	G5LE-14-DC5	79.4	63	Plastic	2.12	1.98	1.86
83F5370	G5LE-14-DC12	33.3	360	Plastic	2.12	1.98	1.86
83F5371	G5LE-14-DC24	16.7	1440	Plastic	2.12	1.98	1.86

(33970) (ne33970)

G7L SERIES RELAYS

TUV Rheinland



G7L1ATUBJ
1A Type

G7L series are general purpose, flange mount relays. Dielectric strength: 4,000VAC. Max. switching voltage: 250VAC. Contact material: AgCdO. 2.70 (68.58) L x 1.36 (34.54) W x 1.93″ (49.02) H. Last digits in type number indicate coil input voltage. **TUB** in type number indicates QC terminals; **BUB** indicates screw terminals. PTT button.

SINGLE POLE, SINGLE THROW

Stock No.	Type	Rated Load (Amps)	Coil Resist. (Ω)	1-24	25-49	50-99
52F3948	G7L1ABUBJCBDC24	30	303	15.72	14.62	13.79
52F3945	G7L1ABUBJCBAC100	30	5,260	16.61	15.45	14.58
52F3940	G7L1ATUBJCBAC100	30	5,260	13.26	12.33	11.64
52F3941	G7L1ATUBJCBAC200	30	21,000	14.01	13.03	12.29
52F3939	G7L1ATUBJCBAC24	30	303	13.26	12.33	11.64
52F3943	G7L1ATUBJCBDC24	30	303	12.37	11.50	10.85
		DUAL POLE, SINGLE THROW				
52F3955	G7L2ABUBJCBAC100	25	5,260	17.43	16.21	15.29
52F3956	G7L2ABUBJCBAC200	25	21,000	18.11	16.84	15.89
52F3958	G7L2ABUBJCBDC24	25	303	16.54	15.38	14.51
52F3950	G7L2ATUBJCBAC100	25	5,260	13.74	12.78	12.06
52F3951	G7L2ATUBJCBAC200	25	21,000	14.20	13.20	12.46
52F3949	G7L2ATUBJCBAC24	25	303	13.74	12.78	12.06
52F3953	G7L2ATUBJCBDC24	25	303	12.85	11.95	11.27

(3726) (ne07055)

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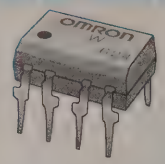
G3VM SERIES LOW-SIGNAL RELAYS

NEW

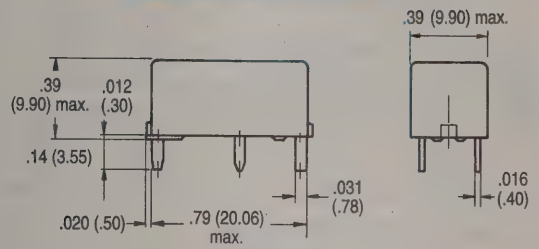


G3VM series low-signal relays feature PHOTOMOS construction. Ideal for telecom, datacom, and computer construction. Dielectric strength: 2,500VAC for one minute. Maximum operating voltage: –350VDC to +350VAC maximum. except **G3VM-W(F)**, which has a –350VDC to +350VAC minimum operating voltage. Maximum operating current: 50mA. Dimensions: 4.58H x 6.4L x 3.65"W for **types G3VM-2**. For dimensions on other types; *contact your local Newark sales office*

Stock No.	Type	No. of Pins	Contact Form	Terminals	1-24	25-49	50-99
83F5361	G3VM-2	4	SPST-NO	PCB	3.57	3.32	3.13
83F5362	G3VM-2F	4	SPST-NO	SMT	3.57	3.32	3.13
83F5363	G3VM-3	6	SPST-NO	PCB	3.57	3.32	3.13
83F5364	G3VM-3F	6	SPST-NO	SMT	3.57	3.32	3.13
83F5368	G3VM-W	8	DPST-NO	PCB	6.42	5.97	5.63
83F5369	G3VM-WF	8	DPST-NO	SMT	6.42	5.97	5.63

(34092) (ne34092)

G6B SERIES RELAYS



G6B-114P-US

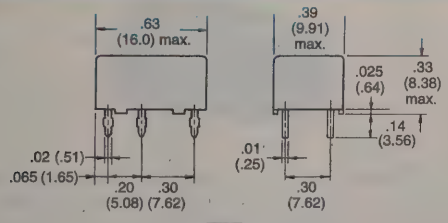
G6B series are subminiature, non-latching PC board relays. Moving magnet armature reduces relay size, magnetic interference, and contact bounce time. Low power consumption. Sealed. UL recognized, CSA certified. **Type 1174** is high-capacity.

SPST-NO

Stock No.	Type	Rated Current (mA)	Coil Resist. Ω	1-24	25-49	50-99	100-249
52F3715	G6B-1114P-US-DC5	40.0	125	4.86	4.52	4.26	3.88
52F3716	G6B-1114P-US-DC12	16.7	720	4.86	4.52	4.26	3.88
52F3717	G6B-1114P-US-DC24	8.3	2,880	4.99	4.64	4.38	3.99
83F5391	G6B-1174P-US-DC5	40.0	125	6.01	5.59	5.27	4.80
83F5389	G6B-1174P-US-DC12	16.7	720	5.80	5.40	5.09	4.64
83F5390	G6B-1174P-US-DC24	8.3	2,880	6.01	5.59	5.27	4.80
DPST–NO							
83F5394	G6B-2214P-US-DC5	60	83.3	5.93	5.52	5.21	4.74
83F5392	G6B-2214P-US-DC12	25	480	5.93	5.52	5.21	4.74
83F5393	G6B-2214P-US-DC24	12.5	1,920	6.20	5.77	5.44	4.96
SPST–NO, SPST–NC							
52F3718	G6B-2114P-US-DC24	12.5	1,920	6.20	5.77	5.44	4.96

(3735) (ne07066)

G6E SUBMINIATURE LOW SIGNAL RELAYS



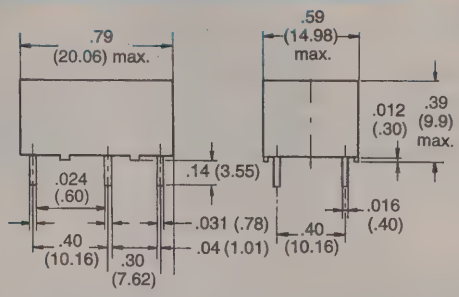
G6E

High sensitivity relays with pick-up coil power of 98mW. Unique moving loop armature reduces relay size, magnetic interference, and contact bounce time. Units feature bifurcated crossbar contacts for high reliability. Relays packaged for automatic insertion. Last digits in type number indicate coil voltage rating. Types listed are SPDT. Meets Bellcore 2.5kV surge withstand requirement. UL recognized, CSA certified.

Stock No.	Type	Rated Current (mA)	Coil Resist. (Ω)	1-24
52F3884	G6E-134P-STUS-DC5	40.0	125	4.63
52F3885	G6E134PSTUSDC12	16.7	720	4.63
52F3886	G6E134PSTUSDC24	8.3	2,880	4.63

(3757) (ne08300)

G6C MINIATURE POWER PCB RELAYS



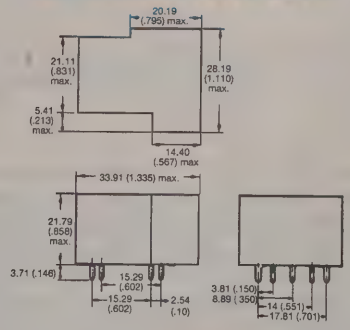
G6C

Units feature unique moving loop armature which reduces relay size, magnetic interference, and contact bounce time. Semi-sealed and sealed types available (all types listed are sealed). Relays have low (200mW) power consumption. Last digits in type number indicate coil voltage rating. Rated current and coil resistance are measured at a coil temperature of +23°C with tolerance of ±10%. **Types 1114** are SPST-NO; **types 2114** are SPST-NO + SPST-NC. UL recognized, CSA certified, VDE approved.

Stock No.	Type	Rated Current (mA)	Coil Resist. (Ω)	1-24
52F3723	G6C-1114P-US-DC12	16.7	720	5.83
52F3722	G6C-1114P-US-DC5	40	125	5.83
52F3725	G6C-2114P-US-DC12	16.7	720	6.72
52F3726	G6C-2114P-US-DC24	8.3	2,880	6.93
52F3724	G6C-2114P-US-DC5	40	125	6.72

(3758) (ne08301)

G8P SERIES PCB RELAYS



G8P series are standard, sealed, Class B, PC board relays. Applications include home and industrial appliances and HVAC. Other available features: Class F insulation, open frame or with dust cover. UL recognized, CSA certified.

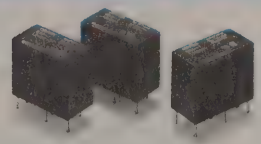
SPST-NO RELAYS

Stock No.	Type	Rated Current (mA)	Coil Resist. (Ω)	1-24
48F3655	G8P-1A4-DC12	77	155	4.97
48F3656	G8P-1A4-DC24	36	660	4.97
SPDT RELAYS				
48F3657	G8P-1C4-DC12	77	155	5.34
48F3658	G8P-1C4-DC24	36	660	5.34

(3736) (ne07067)

G5S SERIES PCB RELAYS

NEW

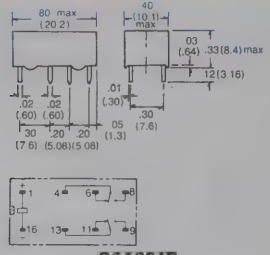


G5S series compact SPDT relays with high insulation. Incorporate a normally open contact that switches 5A maximum. Ensures a withstand impulse voltage of 8,000V between the coil and contacts. Suffix in type number indicates coil voltage rating. "**CB**" in type number indicates class B insulation.

Stock No.	Type	Rated Current (mA)	Coil Resist. Ω	1-24	25-49	50-99	100-249
83F5384	G5S-1-DC12	33.3	360	1.64	1.52	1.44	1.31
83F5385	G5S-1-DC24	16.7	1440	1.82	1.69	1.60	1.46
83F5382	G5S-1-CB-DC12	33.3	360	1.70	1.58	1.50	1.36
83F5383	G5S-1-CB-DC24	16.7	1440	1.92	1.79	1.69	1.54

(34091) (ne34091)

G6A SERIES LOW-SIGNAL RELAYS



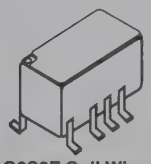
G6A234P

G6A series are fully sealed PCB relays. 1500V impulse withstand voltage. Dielectric strength: 1000VAC. Maximum switching capacity under resistive load: 125VA, 60W. Circuitry: DPDT. Maximum operating current: 2A. Maximum operating voltage: 250VAC, 220VDC. UL recognized, CSA certified. Art dimensions: mm (inches).

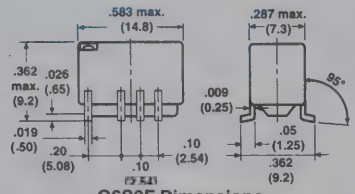
Stock No.	Type	Rated Current (mA)	Coil Resist. (Ω)	1-24
52F3889	G6A-234P-STUS-DC9	22.2	405	5.16
52F3890	G6A234PSTUSDC12	16.7	720	5.38
52F3891	G6A234PSTUSDC24	8.3	2880	5.38
52F3888	G6A234PSTUSDC5	40.0	125	5.38
52F3894	G6A274PSTUSDC12	16.7	720	5.38
52F3895	G6A274PSTUSDC24	8.3	2880	5.38
52F3893	G6A274PSTUSDC5	40.0	125	5.38

(3729) (ne07059)

G6S SERIES RELAYS



G6S2F Gull Wing



G6S2F Dimensions

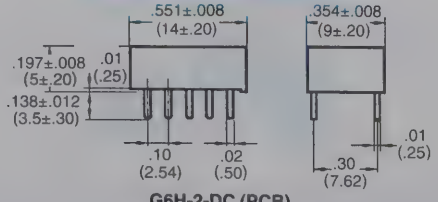
High dielectric withstand voltage of 2000VAC between coil and contacts (standard type). PCB thru-hole terminal provides significant board space savings. Contact form: DPDT. **G6S-2F** in type number indicates gull-wing terminal; **G6SK-2F** in type number indicates dual coil latching. Last digits in type number indicate rated voltage (VDC). UL recognized, CSA certified. Art dimensions: mm (inches). Meets Bellcore 2.5kV surge withstand requirement.

GULL-WING TERMINALS, NON-LATCHING

Stock No.	Type	Rated Current (mA)	Coil Resist. (Ω)	1-24
16F3652	G6S-2F-DC5	28.1	178	5.05
16F3650	G6S-2F-DC12	11.7	1028	5.05
52F3916	G6S-2F-DC24	8.3	2,880	5.76
	GULL-WING TERMINALS, DUAL-COIL LATCHING			
16F3656	G6SK-2F DC12	16.7	720	5.71
16F3657	G6SK-2F DC5	40	125	5.71
	PC BOARD TERMINALS, NON-LATCHING			
83F5397	G6S-2-DC5	28.1	178	4.94
83F5395	G6S-2-DC12	11.7	1,028	4.94
83F5396	G6S-2-DC24	8.3	2,880	5.54

(3762) (ne08330)

G6H SERIES RELAYS



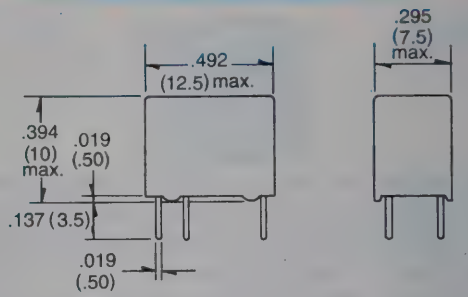
G6H-2-DC (PCB)

Compact and low profile PC board relays. Use Omron's moving-loop design. High reliability DPDT. Maximum operating voltage: 125VAC, 110VDC. Maximum operating current: 1A. Maximum switching capacity: 62.5VA, 33W. UL recognized, CSA certified. Art dimensions: mm (inches).

Stock No.	Type	Rated Current (mA)	Coil Resist. (Ω)	1-24
52F3901	G6H-2-DC5	28.1	178	4.61
52F3902	G6H-2-DC12	11.7	1,028	4.61
52F3903	G6H-2-DC24	8.3	2,880	5.79

(3732) (ne07062)

G5V-1 SERIES RELAYS

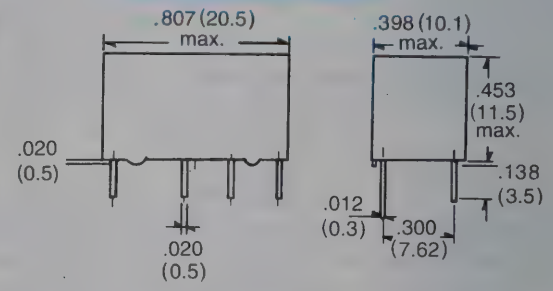


Suitable for use in telecommunications, security, office automation, and computer/peripheral equipment. Contact ratings: 1A, 30VDC. PCB terminals. SPDT, fully sealed construction. UL recognized, CSA certified. Art dimensions: mm (inches).

Stock No.	Type	Rated Current (mA)	Coil Resist. (Ω)	1-24
52F3869	G5V-1-DC12	12.5	960.0	2.69
52F3870	G5V-1-DC24	6.3	3840.0	2.69
52F3868	G5V-1-DC5	30.0	166.7	2.69

(3730) (ne07060)

G5V-2 SERIES RELAYS



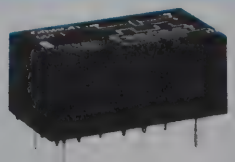
G5V-2 series relays are suitable for handling low signals in computer peripherals, telecommunications, and security equipment. DPDT. Maximum operating voltage: 125VAC, 125VDC. Maximum operating current: 2A; maximum switching capacity: 62.5VA, 60W. Fully sealed construction, bifurcated crossbar contacts. Relays with the **-H-** in type number are high sensitivity; others are standard. UL recognized, CSA certified. Art dimensions: mm (inches).

Stock No.	Type	Rated Current (mA)	Coil Resistance (Ω)	1-24
52F3872	G5V-2-DC12	41.7	288	3.31
52F3873	G5V-2-DC24	20.8	1152	3.31
52F3871	G5V-2-DC5	100.0	50	3.31
52F3876	G5V-2-H-DC12	30.0	400	3.55
52F3877	G5V-2-H-DC24	15.0	1600	3.55
52F3875	G5V-2-H-DC5	72.0	70	3.55

(3731) (ne07061)

G5Y SERIES LOW SIGNAL RELAYS

NEW



G5Y miniature low-signal PC board relays are fully sealed and highly resistant to harsh environmental conditions. Shield plate and resin-molded base provide excellent high frequency characteristics. Dielectric strength: 1000VAC. Operating Voltage:30VDC. Maximum operating current: .10A. Maximum switching capacity: 1VA, 1W.

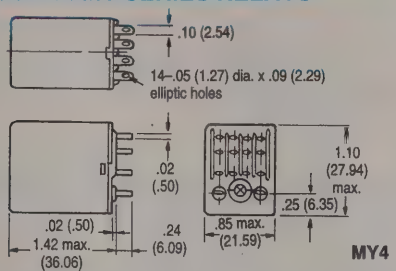
SPST VERSION

Stock No.	Type	Rated Load (mA)	Coil Resist. (Ω)	1-24	25-49	50-99	100 -249
52F3878	G5Y-1-DC5	60.2	83	7.58	7.05	6.65	6.06
52F3879	G5Y-1-DC12	25	480	7.58	7.05	6.65	6.06
52F3880	G5Y-1-DC24	12.5	1,920	7.58	7.05	6.65	6.06
	DPDT VERSION						
83F5388	G5Y-254P-1-DC5	60.2	83	16.22	15.08	14.23	12.96
83F5386	G5Y-254P-1-DC12	25	480	16.22	15.08	14.23	12.96
83F5387	G5Y-254P-1-DC24	12.5	1,920	16.22	15.08	14.23	12.96

(33973) (ne33973)

SUPER MY SERIES RELAYS

NEW



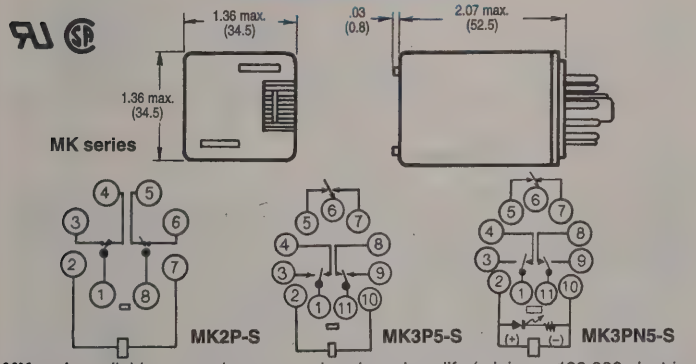
MY4

MY series "ice cube" relays provide high reliability and up to 500k operations. Ultra-high sensitivity and quick response. Offered in multi-pole configurations. Ideal for switching multiple loads with one compact device. Three pole types, flange mount, PC board mount and other coil voltages available; *contact your local Newark branch.* Vibration and shock resistant. **Prefix MY2** in type number indicates 2 pole; **prefix MY4** in type number indicates 4 pole. **"N"** in type number = LED; **"Z"** in type number = bifurcated. All types shown below are plug-in/solder termination. UL recognized, CSA certified, VDE approved.

Stock No.	Type	Rated Load (A)	Coil Resist. (Ω)	1-24	25-49	50-99
48F3632	MY2 AC110/120(S)	10	4,430	7.28	6.77	6.38
48F3633	MY2 AC220/240(S)	10	18,790	7.55	7.02	6.62
48F3634	MY2 AC24(S)	10	180	7.28	6.77	6.38
48F3635	MY2 DC12(S)	10	160	7.28	6.77	6.38
48F3636	MY2 DC24(S)	10	636	7.28	6.77	6.38
48F3637	MY2N AC110/120(S)	10	4,430	9.90	9.20	8.68
48F3638	MY2N AC220/240(S)	10	18,790	9.90	9.20	8.68
48F3639	MY2N AC24(S)	10	180	9.90	9.20	8.68
48F3640	MY2N DC12(S)	10	160	9.90	9.20	8.68
48F3641	MY2N DC24(S)	10	636	9.90	9.20	8.68
48F3642	MY4 AC110/120(S)	5	4,430	7.62	7.09	6.69
48F3643	MY4 AC220/240(S)	5	18,790	7.89	7.34	6.93
48F3644	MY4 AC24(S)	5	180	7.62	7.09	6.69
48F3645	MY4 DC12(S)	5	160	7.62	7.09	6.69
48F3646	MY4 DC24(S)	5	636	7.62	7.09	6.69
48F3647	MY4N AC110/120(S)	5	4,430	10.66	9.91	9.35
48F3648	MY4N AC220/240(S)	5	18,790	11.14	10.36	9.78
48F3649	MY4N AC24(S)	5	180	10.66	9.91	9.35
48F3650	MY4N DC100/110(S)	5	11,100	11.14	10.36	9.78
48F3651	MY4N DC 24(S)	5	636	10.66	9.91	9.35
48F3652	MY4Z DC24(S)	5	636	11.55	10.74	10.13
48F3653	MY4ZN AC110/120(S	5	4,430	13.76	12.79	12.07
48F3654	MY4ZN DC24(S)	5	636	13.76	12.79	12.07

(3728) (ne07057)

MK SERIES RELAYS



MK series reliable, general-purpose relays have long life (minimum 100,000 electrical operations). Feature built-in operation indicator (mechanical, LED), diode surge suppression, and varistor surge suppression. All types listed have a mechanical indicator and a push-to-test button. **MK2PN-S** and **MK3PN5-S** types have LED indicator and plug-in terminals; **MK2P-S** and **MK3P5-S** types are standard with plug-in terminals. Types with built in varistors and diodes and other coil voltages also available; *contact your local Newark sales office.* Last digits of type number indicate coil voltage rating. **MK2P-S** and **MK3P5-S** are UL recognized, CSA certified.

DPDT CONTACT RELAYS

Stock No.	Type	Rated Load (Amps)	Coil Resist. (Ω)	1-24	25-49	50-99
52F3728	MK2P-S-AC120	10	1,578	12.97	12.06	11.38
52F3727	MK2P-S-AC24	10	68.0	11.93	11.09	10.46
52F3729	MK2P-S-AC240	10	6,737	14.16	13.17	12.42
52F3730	MK2P-S-DC12	10	95	11.93	11.09	10.46
52F3731	MK2P-S-DC24	10	430	11.93	11.09	10.46
52F3733	MK2PN-S-AC120	10	1,578	15.41	14.33	13.52
52F3732	MK2PN-S-AC24	10	68.0	14.38	13.37	12.62
52F3734	MK2PN-S-DC24	10	430	14.38	13.37	12.62

CONTINUED

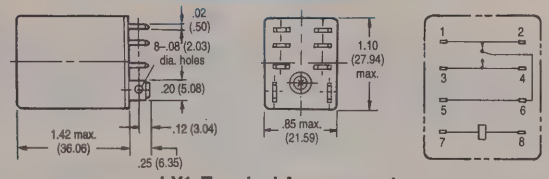
MK SERIES RELAYS (CONT.)

3PDT CONTACT RELAYS

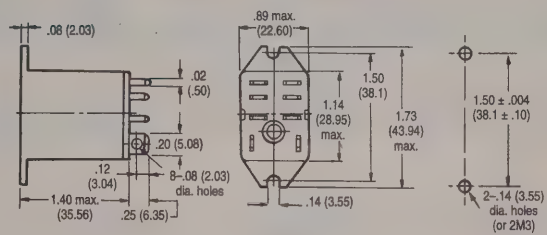
Stock No.	Type	Rated Load (Amps)	Coil Resist. (Ω)	1-24	25-49	50-99
52F3744	MK3PN5-S-AC120	10	1,578	17.05	15.85	14.96
52F3740	MK3P5-S-AC120	10	1,578	14.59	13.57	12.80
52F3739	MK3P5-S-AC24	10	68.0	13.63	12.68	11.96
52F3742	MK3P5-S-DC12	10	95	13.63	12.68	11.96
52F3743	MK3P5-S-DC24	10	430	13.63	12.68	11.96

(3755) (ne08046)

LY SERIES RELAYS



LY1, Terminal Arrangement



LY1F

LY series are general purpose relays. **Type LY1** are SPDT; **LY2** are DPDT; **LY3** are 3PDT; **LY4** are 4PDT. Arc barrier equipped. Dielectric strength: 2,000VAC. AgCdO contacts. Mechanical service life: 50 million operations minimum. Mechanical service life: 50 million operations minimum. Type **LY2N** relays include an LED. UL recognized, CSA certified.

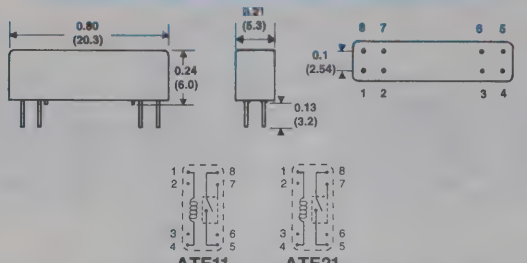
Stock No.	Type	Mount Type	Rated Current (mA)	Coil Resist. (Ω)	1-24	25-49	50-99
52F3774	LY1-AC110/120	Plug-In	9.9/10.8	4430	7.92	7.37	6.95
52F3792	LY2-AC220/240	Plug-In	4.8/5.3	18,790	9.22	8.57	8.09
52F3773	LY1-AC24	Plug-In	53.8	180	7.92	7.37	6.95
52F3775	LY1-DC12	Plug-In	75	160	7.56	7.03	6.63
52F3776	LY1-DC24	Plug-In	36.9	650	7.56	7.03	6.63
52F3781	LY1F-AC110/120	Flange	9.9/10.8	4430	8.05	7.48	7.06
52F3782	LY1F-AC220/240	Flange	4.8/5.3	18,790	8.40	7.81	7.37
52F3780	LY1F-AC24	Flange	53.8	180	8.05	7.48	7.06
52F3783	LY1F-DC12	Flange	75	160	8.05	7.48	7.06
52F3784	LY1F-DC24	Flange	36.9	650	8.05	7.48	7.06
52F3791	LY2-AC110/120	Plug-In	9.9/10.8	4430	8.89	8.26	7.80
52F3790	LY2-AC24	Plug-In	106.5	46	8.89	8.26	7.80
52F3793	LY2-DC12	Plug-In	75	160	8.89	8.26	7.80
52F3794	LY2-DC24	Plug-In	36.9	650	8.89	8.26	7.80
52F3796	LY2F-AC110/120	Flange	9.9/10.8	4430	9.08	8.44	7.97
52F3797	LY2F-AC220/240	Flange	4.8/5.3	18,790	9.68	9.00	8.49
52F3795	LY2F-AC24	Flange	53.8	180	9.08	8.44	7.97
52F3798	LY2F-DC12	Flange	75	160	9.08	8.44	7.97
52F3799	LY2F-DC24	Flange	36.9	650	9.08	8.44	7.97
52F3801	LY2N-AC110/120	Plug-In	9.9/10.8	4430	11.93	11.10	10.47
52F3800	LY2N-AC24	Plug-In	53.8	180	11.93	11.10	10.47
52F3803	LY2N-DC12	Plug-In	75	160	11.93	11.10	10.47
52F3804	LY2N-DC24	Plug-In	36.9	650	11.93	11.10	10.47
52F3809	LY3-AC120	Plug-In	17.3	2450	12.17	11.32	10.68
52F3808	LY3-AC24	Plug-In	80.0	100	12.17	11.32	10.68
52F3810	LY3-DC12	Plug-In	112	107	12.17	11.32	10.68
52F3811	LY3-DC24	Plug-In	58.6	410	12.17	11.32	10.68
52F3814	LY4-AC120	Plug-In	19.0	2200	14.18	13.19	12.44
52F3813	LY4-AC24	Plug-In	93.6	78	14.18	13.19	12.44
52F3815	LY4-AC240	Plug-In	11.0	9000	14.76	13.73	12.95
52F3816	LY4-DC12	Plug-In	120.0	100	14.18	13.19	12.44
52F3817	LY4-DC24	Plug-In	69.0	350	14.18	13.19	12.44

ACCESSORIES

Stock No.	Type	Description	1-24	25-49	50-99
52F3785	PTF08A-E	LY1/2 Track Mount Socket	5.40	5.02	4.74
52F3812	PTF11A	LY3 Track Mount Socket	8.09	7.52	7.10
52F3818	PTF14A-E	LY4 Track Mount Socket	8.09	7.52	7.10
52F3806	PT08	LY1/2 Back Connecting Socket	2.16	2.01	1.89
52F3807	PT08-0	LY1/2 PCB Socket	2.16	2.01	1.89
52F3748	PYC-A1	Clip for LY Series	0.34	0.32	0.30
52F3751	PYC-P	Clip for LY Series	0.34	0.32	0.30

(3727) (ne07056)

ATE SERIES MINIATURE REED RELAYS



Designed for use in integrated circuit test systems. Their small size and magnetic shielding allow for the high density packing required when used on custom load boards. Some models available with coaxial shield that provides a 50Ω characteristic impedance. Nominal voltage is 5V. Suited for carrying fast digital pulses and low power, high-frequency signals. All have hermetically sealed contacts.

CONTACT FORM — 1C

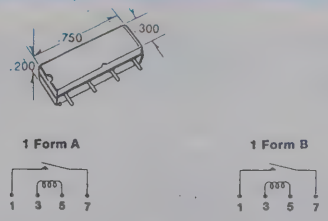
Stock No.	Type	Description	Coil R	Switching Voltage	1-9	10-24
52F7356	ATE31C0510	Shielded w/E/S	230Ω	125V	14.29	12.15
52F7357	ATE31C0520	Coaxial shield	230Ω	125V	14.88	12.66

CONTACT FORM — 1A

52F7354	ATE11A0510	Shielded w/E/S	150Ω	200V	8.70	7.83
52F7355	ATE21A0520	Coaxial shield	150Ω	200V	9.24	8.32

(3744) (ne07236)

DSS4 SERIES 4-PIN SIP DRY REED RELAYS

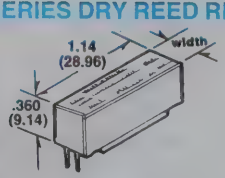


Feature 0.300″ (7.62) low-profile construction for 0.500″ (12.70) board spacing. Epoxy-molded, immersion cleanable. Contact form is indicated by **"1A"** or **"1B"** in type number. Contact ratings: 10VA switching power. 100VDC or peak AC switching voltage, 0.5A switching current. Last digits in type number indicate nominal voltage (VDC). Contact resistance: 150mΩ. Life expectancy: 200 x 10^6. Operate and release time: 0.50ms. **Type DSS41A05B** has diode.

Stock No.	Type	Coil Ohms	1-24	25-49
44F8599	DSS41A05B	500	3.92	3.53
44F8595	DSS41A05	500	3.37	3.04
44F8596	DSS41A12	1000	3.59	3.23
44F8598	DSS41A24	2000	4.02	3.62
50F6021	DSS41B05	500	19.35	16.45

(3639) (de00924)

MRB SERIES DRY REED RELAYS

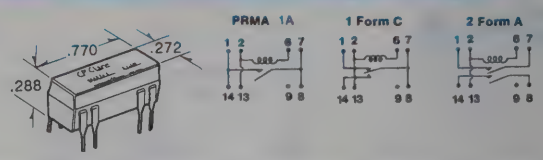


MRB series units feature 1x0.1″ (25.40x2.54) grid and ruthenium contacts rated 10VA switching power, 200VDC or peak AC switching voltage, and 0.5A switching current. Nominal voltage (VDC) is indicated by last digits of type number. Fourth and fifth digits in type number designate contact form: 1A, 2A or 4A. UL recognized, CSA certified.

Stock No.	Type	Coil Ohms	Width	1-24	25-49
65F1401	MRB1A05	225	0.365″ (9.27)	4.95	4.45
65F1403	MRB1A12	1400	0.365″ (9.27)	5.06	4.55
65F1404	MRB1A24	4340	0.365″ (9.27)	5.44	4.89
65F1405	MRB2A05	105	0.465″ (11.81)	9.24	8.32
65F1407	MRB2A12	730	0.465″ (11.81)	9.24	8.32
65F1408	MRB2A24	2500	0.465″ (11.81)	9.78	8.81
65F1411	MRB4A12	275	0.665″ (16.89)	15.48	13.16
65F1412	MRB4A24	1090	0.665″ (16.89)	15.48	13.16

(3627) (de00874)

PRMA SERIES 14-PIN DRY REED DIP RELAYS



Molded construction units are automatic board processing compatible. Contact forms 1A and 2A are rated 10VA switching power, 100VDC or peak AC switching voltage and 0.5A max. switching current. Last digits in type number indicate nominal voltage (VDC). Contact resistance: 150mΩ. Life expectancy: 200 x 10^6. Operate and release time: 0.5ms. Form 1C rated 3VA switching power, 100VDC or peak AC switching voltage and 0.25A max. switching current. Contact resistance: 200mΩ. Life expectancy: 20 x 10^6. Operate and release time: 3.00ms. Available with diode suppression (pins 2/13 and 6; cathode pin 2). UL recognized, CSA certified.

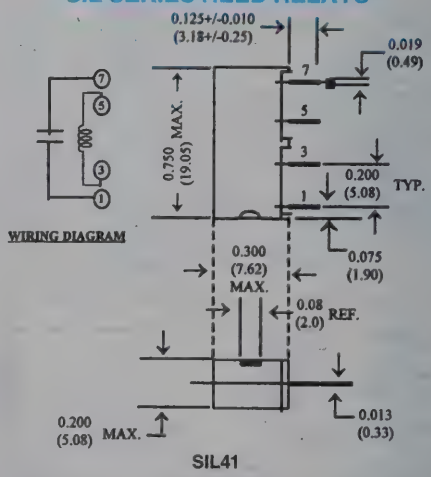
Stock No.	Type	Contact Form	Coil Ohms	1-24	25-49	50-99	100-499
65F2272	PRMA1A05	1A	500	3.75	3.38	2.87	2.15
65F2273	PRMA1A12	1A	1000	3.97	3.57	3.04	2.28
65F2274	PRMA1A24	1A	2150	4.19	3.77	3.20	2.40
65F2281	PRMA1C05	1C	200	9.51	8.56	7.28	5.46
65F2282	PRMA1C12	1C	500	9.51	8.56	7.28	5.46
65F2278	PRMA2A05	2A	140	6.69	6.02	5.11	3.84
65F2279	PRMA2A12	2A	500	7.01	6.31	5.36	4.02
65F2280	PRMA2A24	2A	2150	7.34	6.61	5.61	4.21

WITH DIODE SUPPRESSION

46F3530	PRMA1A05B	1A	500	4.30	3.87	3.29	2.46
46F3531	PRMA1A12B	1A	1000	4.51	4.06	3.45	2.59
46F3537	PRMA1C05B	1C	200	10.33	9.30	7.90	5.92
46F3538	PRMA1C12B	1C	500	10.33	9.30	7.90	5.92
46F3533	PRMA2A05B	2A	140	7.23	6.51	5.53	4.15

(3712) (ne00921)

SIL SERIES REED RELAYS



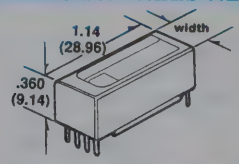
SIL41

"SIP", 1 form A reed relays are instrumentation grade. Dielectric strength between contacts is 250 VDC/peak AC min. Nominal voltage is indicated by last digits of type number. Operating temperature –20°C to +85°C. Contact rating: 10 watts max. **Suffix B** in type number indicates diode. *Contact your local Newark sales office.* UL recognized.

Stock No.	Type	Coil R	Switching Voltage	1-24	25-49
52F7342	SIL41A05	500Ω	200V	4.79	4.31
52F7343	SIL41A12	1000Ω	200V	5.00	4.50

(3742) (ne07127)

922 SERIES DRY REED RELAYS



922 series units feature 1x0.1″ (25.40x2.54) grid and rhodium contacts rated 3VA switching power, 100VDC or peak AC switching voltage, and 0.25A switching current. Fourth and fifth digits in type number designate contact form: 1C or 2C. UL recognized, CSA certified.

Stock No.	Type	Nominal VDC	Coil Ohms	Width	1-9	10-24
65F1423	922A12C1C	12	1080	0.465″ (11.81)	12.14	10.33
65F1427	922A12C2C	12	630	0.565″ (14.35)	20.30	17.26
65F1428	922A24C2C	24	2520	0.565″ (14.35)	20.30	17.26

(3628) (de00875)

REED RELAYS

HGJM SERIES MERCURY-WETTED REED RELAYS

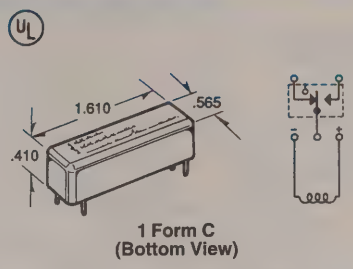
1 form C, SPDT contacts rated 100VA maximum; 500VDC or peak AC maximum; 2A switched maximum, 5A carry maximum. Contact circuit resistance: 30mΩ, maximum stable within ±2mΩ over life. Life expectancy: 20 x 10^9 operations. Operate and release time: 1.25ms maximum. Temperature range: –38.8° to +85°C. Mount staggered 0.100″ (2.54) grid pattern; upright within 30° of vertical. FCC 68 qualified. UL listed.

0.410″ (10.41) HIGH SENSITIVITY SINGLE-SIDE STABLE AND BISTABLE (1 FORM C CONTACTS)

Stock No.	Type	Coil VDC	Coil Ohms	1-9	10-24	25-49
65F056	HGJM51111K00*	5	125	34.10	29.00	27.25
65F057	HGJM51111P00*	12	685	34.10	29.00	27.25
65F058	HGJM51111T00*	24	2650	35.89	30.52	28.68
50F1079	HGJM52112N00†	5	205/205	31.43	26.73	25.11

* Single-side stable
†Bistable

(3633) (de00897)



1 Form C
(Bottom View)

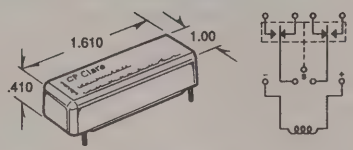
HGJ2MT SERIES MERCURY-WETTED REED RELAYS

2 form C, DPDT relays feature same electrical characteristics as **HGJM series** relays except they are shielded and insulation resistance is 10,000mΩ minimum. Common open time durations: 50μs minimum at 100Hz for capacitor transfer technique applications.

0.410″ (10.41) HIGH SENSITIVITY SINGLE-SIDE STABLE WITH SHIELD

Stock No.	Type	Coil VDC	Coil Ohms	1-9	10-24
65F062	HGJ2MT54211G00	5	55	62.85	53.45
65F063	HGJ2MT54211L00	12	370	62.85	53.45
65F064	HGJ2MT54211P00	24	1370	62.85	53.45

(3634) (de00898)



2 Form C
(Bottom View)

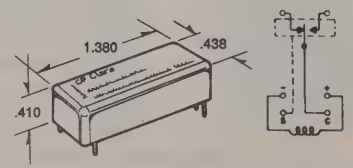
HGWM SERIES MERCURY-WETTED REED RELAYS

Maintenance-free long life. 1 form C, SPDT contacts rated 100VA maximum; 500VDC or peak AC maximum; 2A switch maximum, 5A carry maximum. Contact circuit resistance: 30mΩ maximum, stable within ±2mΩ over life. Life expectancy: > 20 x 10^9 operations at rated load. Operate/release time: 1.25ms maximum. Temperature range: –38.8° to +85°C. 0.100″ (2.54) grid pattern; upright within 30° of vertical. FCC 68 qualified.

SPDT SINGLE-SIDE STABLE (1 FORM C CONTACTS)

Stock No.	Type	Coil VDC	Coil Ohms	1-9	10-24
65F043	HGWM51111K00	5	117	37.50	31.89
65F045	HGWM51111P00	12	720	37.50	31.89
65F046	HGWM51111T00	24	2730	39.34	33.46

(3635) (de00899)



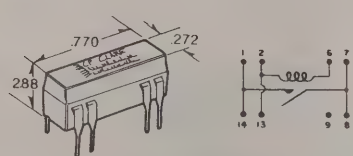
1 Form C

MSS2 SERIES DIP MERCURY-WETTED REED RELAYS

All-position mounting relays in **MSS2 series** 8-pin DIP are FCC 68 qualified. Contacts rated 50VA max. switch power, 500VDC or peak AC switch voltage, 2.0ADC or peak AC switch current and 3.0A max. carry current. Contacts are 1 form A. Contact resistance: 100mΩ. Life expectancy: 200 x 10^6 Operate time: 1.75ms. Release time: 1.50ms.

Stock No.	Type	Diode	Coil VDC	Coil Ohms	1-9	10-24
44F7767	MSS-2-1A05	No	5	140	13.87	11.80
44F7768	MSS-2-1A12	No	12	500	13.87	11.80
44F7769	MSS-2-1A24	No	24	2150	15.36	13.06
94F4000	MSS21A05B	Yes	5	140	15.06	12.81
94F4001	MSS21A12B	Yes	12	500	15.06	12.81
94F4004	MSS71A24	No	24	2150	16.07	13.67

(3636) (de00900)



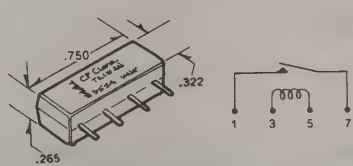
MSS2 Series 1 Form A

MSS4 SERIES 4-PIN SIP MERCURY-WETTED REED RELAYS

Molded all-position relays rated 50VA max. switch power, 500VDC or peak AC switch voltage, 2.0A switch current, 3A carry current. Contacts are 1 form A. Contact resistance: 150mΩ. Life expectancy: 200 x 10^6 Operate time: 1.75ms. Release time: 1.50ms. FCC 68 qualified.

Stock No.	Type	Coil VDC	Coil Ohms	1-9	10-24
87F145	MSS41A05	5	140	16.01	13.62
87F146	MSS41A12	12	500	16.01	13.62
87F147	MSS41A24	24	2150	17.68	15.04

(3637) (de00901)



1 Form A

MSS6 SERIES 6-PIN DIP MERCURY-WETTED REED RELAYS

Sealed for automatic board cleaning processes. Contacts rated maximum 50VA, 500VDC or peak AC, 2.0A switch, 3A carry. Contacts are 2 form A. Contact circuit resistance: 150mΩ maximum. Operate time: 1.75ms maximum (including bounce). Release time: 1.70ms maximum. 2 form A contacts. Plastic package. FCC 68 qualified.

Stock No.	Type	Coil VDC	Coil Ohms	1-9	10-24
87F159	MSS62A05	5	80	29.17	24.80
87F160	MSS62A12	12	430	29.17	24.80
87F161	MSS62A24	24	1750	30.65	26.07

(3638) (de00902)

2 Form A

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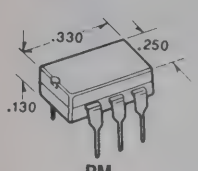
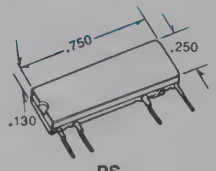
AC SOLID-STATE RELAYS



PM



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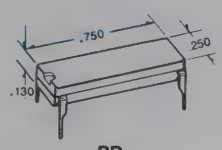


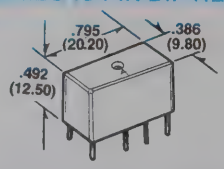
PD

Typical applications include input/output modules, solenoid drivers, motors, blowers, heater and temperature controls, control of relays, switching fans, TTL-compatible driver for contactors, and replacing TRIAC/TRIAC drivers. All versions feature optical isolation and 1 Form A normally open contacts, as well as DC control/AC output. TTL and CMOS compatible. These units provide interface between logic and power systems, high transient immunity, high surge capability, and they save PC board space. No arcing, no contact bounce. Long life. **Type PM** Power Mini relays, **type PD** PowerDIP, and **type PS** PowerSIP relays also feature 5mA sensitivity, zero crossing detection, low EMI and RFI generation, inherent noise immunity. Machine insertable and wave solderable. 5mA input control. Suffix X2 parts have an internal resistor in the input circuit. It is designed to be driven directly by 5VDC. UL recognized, CSA certified, VDE approved.

Stock No.	Type	Blocking Voltage (V)	Continuous Load	1-24	25-49
51F1746	PM1204	400	0.5A	5.80	5.22
51F1747	PM1205	500	0.5A	5.95	5.35
51F1748	PD1201	400	1.0A	9.24	7.99
51F1749	PD2401	500	1.0A	7.99	6.91
51F1750	PS1201	400	1.0A	7.88	6.81
51F1751	PS2401	500	1.0A	7.99	6.91
93F4493	PD2401X2	500	1.0A	9.36	8.10
93F4494	PD2601	600	1.0A	9.90	8.56
93F4495	PD2601X2	600	1.0A	9.90	8.56
93F4496	PS2601	600	1.0A	9.90	8.56
93F4497	PM1206	600	0.5A	6.65	5.99

(3714) (ne03154)

LM SERIES 16-PIN DIP RELAYS

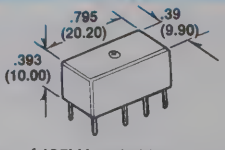


LM44 series have contact ratings of 60VAC switching power, 150VDC switching voltage, 2.0A switching current. Operate time: 6ms. Non-polarized relay. Contacts are 2 form C. UL recognized, CSA certified, FCC 68 qualified.

Stock No.	Type	Nominal VDC	Coil Ohms	1-24	25-49
46F179	LM44B00	5	167.0	6.42	5.77
46F180	LM44D00	12	960.0	6.42	5.77
46F181	LM44E00	24	2880.0	6.80	6.12

(3629) (de00877)

LX SERIES 16-PIN DIP RELAYS

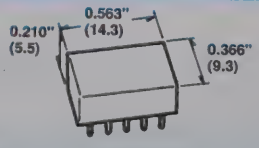


LX series have contact ratings of 125VA switching power, 220VDC switching voltage, 2.0A switching current. Contact resistance: 100 milliohms. Life expectancy 5 x 10^5. Operate time: 5ms. Polarized relay. Contacts are 2 form C. UL recognized, CSA certified, FCC 68 qualified.

Stock No.	Type	Nominal VDC	Coil Ohms	1-24	25-49
46F3550	LX200B00	5	125.0	7.56	6.80
46F3552	LX200D00	12	720.0	7.56	6.80

(3630) (de00878)

LQ SERIES 10-PIN DIP RELAYS

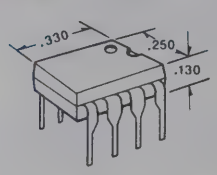


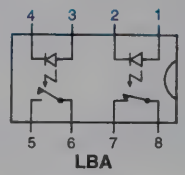
LQ series have contact ratings of 62.5VA switching power, 220VDC switching voltage, 2.0A switching current. Contact resistance: 50 milliohms. Life expectancy: 5 x 10^5. Operate time: 4ms. Polarized relay. Contacts are 2 form C. UL recognized, CSA certified, FCC 68 qualified.

Stock No.	Type	Nominal VDC	Coil Ohms	1-24	25-49
93F4488	LQ52B00	5	178.0	7.72	6.95

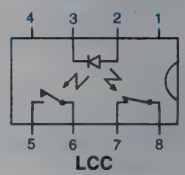
(3631) (de00879)

OPTOMOS® AC/DC SOLID-STATE SWITCHES





LBA



LCC

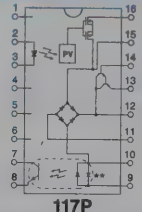
Typical applications include tip/ring interface, hookswitch/dial pulse, AC ring injection, groundstart, flying capacitor multiplexing, I/O modules, microprocessor interface and replacement of optocouplers and mechanical relays. Feature AC/DC switching, optical isolation to 3750V, negligible offset voltage, 100% dv/dt immunity. There is no EMF/RFI generation, no snubber needed, no contact bounce. Switches are machine insertable, wave solderable, have low drive power, long life, and conserve PC board space. Control current is 5mA on all types listed except **LCA110** (2mA) and **LCC110** (8mA). Available in 6-pin and 8-pin design. UL recognized, CSA certified, FCC compatible, BABT and BSI approved.

Stock No.	Type	Contact Form	No. Pins	Blocking Voltage (V)	Load Current (mA)	On Resist. (Ω)	1-24	25-49
51F1737	LCA110	1A*	6	350	120	35	4.37	3.78
83F6792	XCA170	1A*	6	350	120	50	3.15	2.84
51F1739	LCA125	1A*	6	300	170	16	8.08	6.99
93F4502	PLA110	1A	6	400	150	22	4.78	4.13
51F1741	LCB110	1B**	6	350	120	35	4.35	3.77
51F1735	LAA110	2A+	8	350	120	35	8.68	7.50
83F6791	XAA170	2A*	8	350	120	50	5.92	5.32
93F4499	PAA110	2A+	8	400	150	22	9.39	8.45
51F1736	LBA110	1A1B	8	350	120	35	8.68	7.50
51F1742	LCC110	1C++	8	350	120	35	8.68	7.50

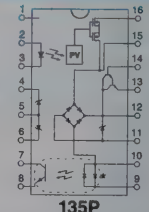
* Normally open output ** 1 Normally closed output + Independent 2 normally open outputs ++ SPDT

(3713) (ne03153)

ITC SERIES INTEGRATED TELECOM CIRCUITS



117P



135P

ITC series combines a 1 Form A solid-state relay, bridge rectifier, Darlington transistor, optocoupler, and zener diodes in one package to meet industry telecom applications. UL recognized; CSA certified.

Stock No.	Type	Contact Form	Load Voltage (V)	Load Current (mA)	On Resist (Ohms)	1-24	25-49	50-99
83F6794	ITC117P	1A	350	120	15	9.66	8.70	7.39
83F6795	ITC135P	1A	350	120	15	10.06	9.06	7.70

(30575) (ne30575)

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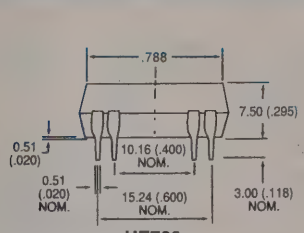
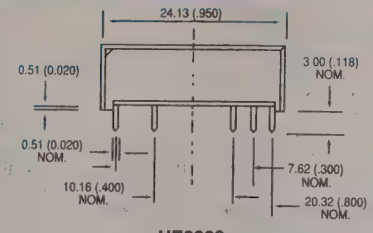
(30574) (ne30574)

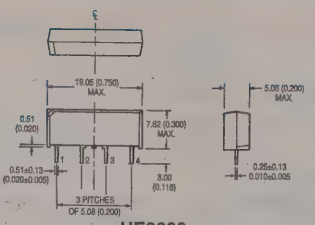
REED RELAYS



HE700



HE3300

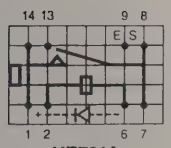


HE3600

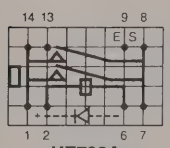
Relays are molded construction and compatible with automatic insertion and board washing. All contacts are run-in one million operations prior to testing. Operating temperature: –40°C to +85°C, immune to 50G shock and 20G vibration. 10-2000Hz. Maximum contact resistance 200 milliohms. Other voltages are also available; *contact your local Newark sales office.*

(3279) (de04086)

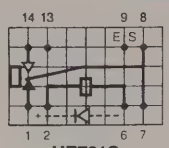
REED RELAYS



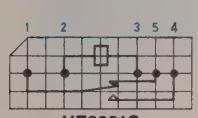
HE721A



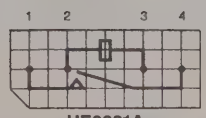
HE722A



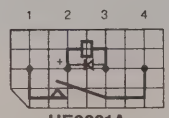
HE721C



HE3321C



HE3321A



HE3621A

721, 3321, and **3621** series of reed relays are also available in a form B (normally closed) configuration in both 5 volt and 12 volt coil versions. Form B 24 volt coil not available on **3621 series** . All of the **721, 3321** and **3621 series** of reed relays are available with an external magnetic shield. *Contact your local Newark sales office.*

Stock No.	Type	Contacts		Coil		Diode	1-49	50-99
		Arrangement	Ratings	VDC	Ohms			
28F2022	HE721A0500	14-Pin DIP 1 Form A SPST-NO	10W, 200VDC, 0.5A 250 VDC Holdoff	5	500	No	**3.39**	**2.71**
44F7456	HE721A0510			5	500	Yes	**3.75**	**3.00**
28F2023	HE721A1200			12	1000	No	**3.75**	**3.00**
44F7457	HE721A1210			12	1000	Yes	**4.10**	**3.28**
28F2024	HE721A2400			24	2150	No	**4.36**	**3.49**
46F3897	HE721A2410			24	2150	Yes	**4.70**	**3.76**
28F2025	HE721C0500	14-Pin DIP 1 Form C SPDT-CO	5W,175VDC, 0.250A 200VDC Holdoff	5	200	No	**7.69**	**6.15**
44F7458	HE721C0510			5	200	Yes	**8.07**	**6.45**
28F2026	HE721C1200			12	500	No	**8.07**	**6.45**
44F7459	HE721C1210			12	500	Yes	**8.48**	**6.79**
28F2027	HE721C2400			24	2000	No	**8.67**	**6.93**
44F7460	HE721C2410			24	2000	Yes	**9.07**	**7.26**
44F7461	HE722A0500	14-Pin DIP 1 Form C SPDT-CO	10W, 200VDC, 0.5A 200VDC Holdoff	5	200	No	**5.65**	**4.52**
44F7462	HE722A0510			5	200	Yes	**6.47**	**5.18**
44F7463	HE722A1200			12	500	No	**6.00**	**4.80**
44F7464	HE722A1210			12	500	Yes	**6.36**	**5.09**
44F7466	HE722A2410			24	2150	Yes	**7.33**	**5.86**
28F2010	HE3321A0400	2-4-2 SIP 1 Form A SPST-NO	10W, 200VDC, 0.5A 250VDC Holdoff	5	500	No	**3.27**	**2.62**
28F2011	HE3321A1200			12	500	No	**3.27**	**2.62**
28F2012	HE3321A2400			24	2000	No	**3.92**	**3.13**
46F3934	HE3351A1200	2-4-2 SIP 1 Form A SPST-NO	20W, 250VDC, 1.0A 450VDC Holdoff	12	500	No	**4.70**	**3.76**
50F8006	HE3321C0400	2-4-2 SIP 1 Form C SPDT-CO	3W, 175VDC, 0.5A 200VDC Holdoff	5	200	No	**6.67**	**5.34**
46F3927	HE3321C0500			5	125	No	**6.67**	**5.34**
46F3928	HE3321C1200			12	500	No	**7.03**	**5.63**
46F3929	HE3321C2400			24	2000	No	**7.19**	**5.75**
87F1417	HE3621A0500	2-2-2 SIP 1 Form A SPST-NO	10W, 200VDC, 0.5A 250 VDC Holdoff	5	500	No	**2.98**	**2.38**
50F8007	HE3621A0510			5	500	Yes	**3.33**	**2.66**
87F1418	HE3621A1200			12	1000	No	**3.39**	**2.71**
50F8008	HE3621A1210			12	1000	Yes	**3.80**	**3.04**
50F7993	HE3621A2410			24	2150	Yes	**4.31**	**3.45**

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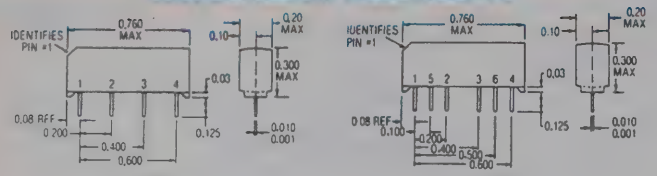
REED RELAYS

9000 SERIES SIP REED RELAYS

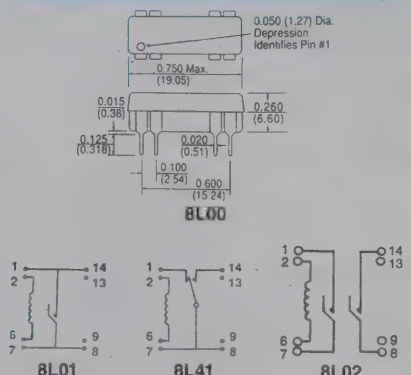


Type 9001 engineered for low-level switching, and **9002** is ideal for 50-ohm transmission line switching as found in VSLI, ATE, and other applications. Designed for mounting on 0.2″ (5.08) centers and automatic insertion using SIP equipment. Rugged, epoxy-molded, lead frame package is impervious to cleaning fluids and enables use in harsh, industrial environments. **Type 9001** is 4-pin, SPST SIP and **9002** is 6-pin, SPST SIP. **5th** and **6th digits** of type no. indicate 5 or 12 volt coil: **-01 suffix** denotes internal diode option and **-02** indicates 1B contact form with positive no. 2 pin. Relays with a magnetic shield coil suppression diode are also available. **Type 9090** relays feature similar functional characteristics as **type 9000SIP**, but require only 60% of the board area. *Contact your local Newark sales office.*

Stock No.	Type	Nom. Coil Ohms	1-99	100-249
50F4936	9001-05-00	500	4.25	2.68
50F4937	9001 12 01	1000	4.92	3.09
50F4939	9001 05 01	500	4.83	3.04
93F3601	9001-12	1000	4.34	2.74
50F4940	9002 05 00	350	5.51	3.47
50F4941	9002 05 01	350	6.09	3.83

(3690) (de51888)

8L00 SERIES DIP REED RELAYS



8L00 Spartan series relays utilize the industry standard 14 pin molded DIP package. Relays are available in either 1A, 2A, 1B, or 1C configurations and coil voltages ranging from 5 to 24 volts. Industry standard coil resistance. Switching voltages: **Types 8L01** and **8L02** are 200V; **type 8L41** is 100V. Contact ratings: **types 8L01** and **8L02** are 10W; and **type 8L41** is 3W.

Stock No.	Type	Contact	1-99	100-249
83F4343	8L01-05-001	1A	1.81	1.66
83F4344	8L01-05-011	1A	2.15	1.97
83F4345	8L01-12-001	1A	1.90	1.75
83F4346	8L01-24-001	1A	2.00	1.84
83F4347	8L02-05-00	2A	3.56	3.27
83F4348	8L02-05-01	2A	3.90	3.58
83F4349	8L02-12-00	2A	3.66	3.36
83F4350	8L02-24-01	2A	4.10	3.76
83F4351	8L41-05-001	1C	5.12	4.70
83F4352	8L41-05-011	1C	5.46	5.01
83F4353	8L41-12-001	1C	5.36	4.92
83F4354	8L41-12-011	1C	5.70	5.23
83F4355	8L41-24-001	1C	5.61	5.14
83F4356	8L41-24-011	1C	5.95	5.45

(13155) (ne51891)

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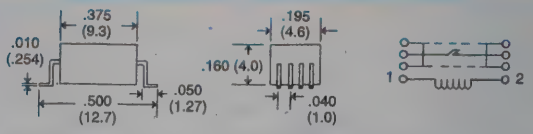
9800 SERIES RF 4GHz REED RELAY

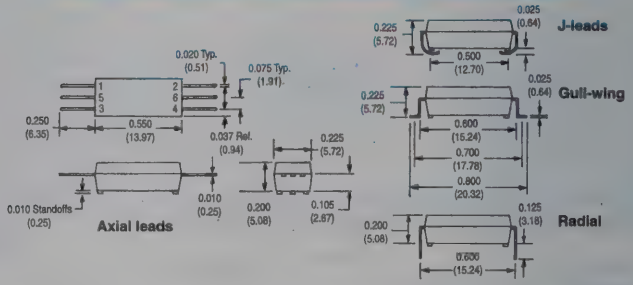


9800 series is the newest surface mount relay featuring a compact size (0.195W x 0.375″L) and molded thermoset body. The **9800** is fitted with a coaxial shield to provide 50Ω impedance, making it ideal for RF (up to 5GHz) and fast rise time pulse switching. Coil resistance: 150Ω. The relay is available with gull-wing, axial, and J-lead configurations. (Gull-wing depicted.) *Contact your local Newark sales office for details.*

Stock No.	Type	Contact	Switching Voltage	Contact Rating	1-99	100-249
16F3689	9802-05-00	1A	100V	3W	14.84	9.27
92F3367	9802-05-20	1A	100V	3W	14.84	14.19

(3663) (de03956)

9400 SERIES SURFACE-MOUNT REED RELAYS

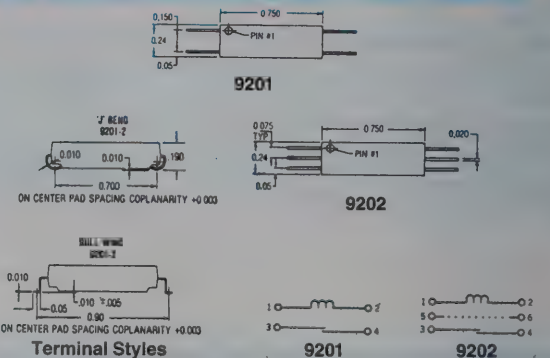


Type 9401 4-pin SPST relay for low-level signal switching. **Type 9402** 6-pin SPST relay features identical switching characteristics to **type 9401** but is fitted with a coaxial shield for 50Ω transmission line impedance. **Type 9402** provides RF and fast rise time pulse switching up to 2.0GHz. Contact rating: 10W. Low capacitance; contact to shield is 1.1pF typical. Switching current is 0.5A for all relays listed. Coil resistance is 200Ω for relays with **-05-** in type number; 825Ω for relays with **-12-** in type number.

Stock No.	Type	Switching Voltage (V)	1-99	100-249
50F4950	9401 05 00	200	8.37	5.01
16F3693	9401-12-00	200	8.47	5.09
50F4951	9402 05 00	200	8.87	5.32
98F6606	9402-12-00	200	8.99	5.39
16F3696	9402-12-20	200	8.99	5.39

(3763) (ne08892)

9200 SERIES SURFACE-MOUNT REED RELAYS



9201 4-pin SPST relay is ideal for low-level signal switching. The **9202** 6-pin SPST relay features identical switching characteristics to the **9201** but is fitted with a coaxial shield for 50Ω transmission line impedance. Switching current: 0.5A. Contact Rating: 10w. The relays are available with gull-wing, axial, radial and "J" lead configurations. The -20 in the part numbers below represents the J-lead and the -00 is the gull wing version.

Stock No.	Type	Switching Voltage	Coil Resist.	1-99	100-249
50F4944	9201 05 20	200V	250Ω	6.92	4.15
50F4945	9202 05 00	200V	150Ω	6.92	4.15
50F4946	9202 05 20	200V	150Ω	6.92	4.15
50F4947	9202 12 00	200V	650Ω	7.09	4.26

(3691) (de51889)

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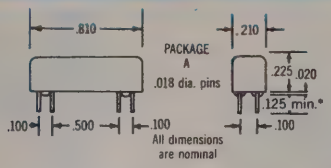
REED AND SOLID-STATE RELAYS

2200 SERIES MICROMINIATURE REED RELAYS



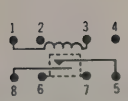


Fig. 1

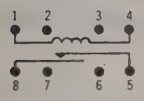


Fig. 2

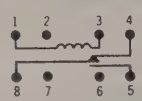


Fig. 3

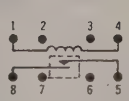


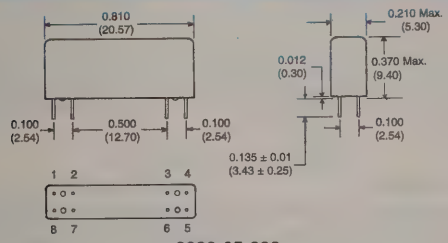
Fig. 4

2200 models occupy only 0.17" (4.32) square of PC board space and provide improved system to lock-in terminal pins. **Type 2200-2301** and **-2302,** are engineered to meet Automatic Test Equipment specifications. For **types 2204** and **2211**, 4th and 5th digits of type no. denote 5 or 12 volt coil. Capable of .5ms must-operate time, 500 x 10^6 life expectancy. **Types 2200-2302, 2204-12-321** have coaxial shield, while **2200-2301** and **2204-05-410** have electrostatic shield. The **2200** and **2204 series** have a switching voltage of 200V and contact rating of 10W. The **2211 series** has a switching voltage of 100V and contact rating of 3W.

Stock No.	Type	Contact	Fig.	Package	1-99	100-249
50F4926	2200 2301	1A	4	A	10.38	6.23
50F4927	2200 2302	1A	1	A	11.20	6.73
50F4931	2204-05-411	1A	2	A	10.20	6.12
16F3690	2204-12-201	1A	2	A	10.24	6.15
50F4932	2204-12	1A	2	A	10.24	6.15
93F3588	2211-05-300	1C	3	A	15.94	9.56
50F4934	2211 05 301	1C	3	A	15.94	9.56
95F5046	2211-12-301	1C	3	A	18.46	11.08

(3686) (de51848)

2300 SERIES SMALLEST MULTIPOLE RELAY



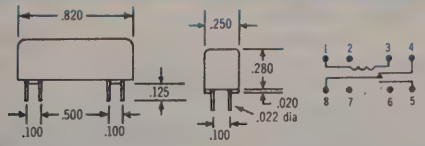
2333-05-000

Designed for high density packaging and versatility in a multipole relay. Applications include data acquisition, process control, and automatic test equipment. 1 form C normally open and normally closed contacts have individual switch capsules for reliability. The **2300 series** occupies only 0.17" (4.32) of PC board space – yet its additional height allows for 3 Form A and 2 Form C. Contacts are hermetically sealed. Special **2300 series** designs include 2A (200V, 10W), 3C (100V, 3W) and 3A (200V, 10W) configurations. The 1C Form has a switching voltage of 200V with a contact rating of 10W.

Stock No.	Type	Contact	Switching Voltage	Contact Rating	Coil Resistance	1-99	100-249
95F1435	2332-12-000	2A	200V	10W	1000Ω	9.66	5.79
16F3691	2333-05-000	3A	200V	10W	175Ω	11.01	6.61
95F1436	2341-05-000	1C	200V	10W	175Ω	11.40	6.85
16F3692	2342-05-000	2C	100V	3W	100Ω	16.89	10.13

(3760) (ne08319)

2900 SERIES MICROMINIATURE REED RELAYS



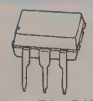
Occupying only 0.2" (5.08) square of PC board space, **2900 series** relay is ideal for use in Automatic Test Equipment industry force/sense applications, digital switching matrixes, and other uses requiring high reliability. Form C with shield and mercury-wetted, **(type 2920)** are available in this package. The **2911 series** has a switching voltage of 100V and a contact rating of 3W. The **2920 series** has a switching voltage of 500V and a contact rating of 50W. *Contact your local Newark sales office for larger quantity pricing.*

Stock No.	Type	Contact	1-99	100-249
50F4952	2911 05 300	1C	14.59	8.75
50F4953	2911 05 321	1C	15.81	9.49
93F3595	2911-12-321	1C	17.69	10.61
92F3361	2920-12-111	1A	17.22	10.33

(3687) (de51849)

G2 SERIES SOLID-STATE RELAYS

NEW


8-Pin Surface Mount 6-Pin DIP

The **G2 Series** relays are solid-state devices that can be used as an alternative to reed or electromechanical relays. The LED input on these relays is optically coupled to the MOSFET outputs; providing 3750V I/O isolation. Available in standard thru-hole or low-profile surface mount configurations. Tape and reel quantities also available; *contact your local Newark sales office.* UL recognized, CSA certified, VDE approved.

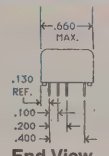
Stock No.	Type	Contact Form	Peak Voltage	Peak Current	1-99	100-249
83F4357	G2-1A03-TT	1-A	400V	150mA	4.43	3.38
83F4358	G2-1A06-TT	1-A	250V	150mA	4.55	3.48
83F4359	G2-1B02-TT	1-B	250V	200mA	4.61	3.52
83F4360	G2-2A03-TT	2-A	15V	250mA	11.05	8.45
83F4361	G2-AB02-TT	1-A/1-B	250V	200mA	7.73	5.91
83F4362	G2-DA02-TT	Dual-A	400V	120mA	6.52	4.99
83F4363	G2-DA06-TT	Dual-A	250V	180mA	8.02	6.13
83F4364	G2-DB02-TT	Dual-B	250V	200mA	8.43	6.44
83F4365	G2-DA03-TT	Dual-A	400V	180mA	7.86	6.00
91F1992	G2-1A02-TT	1-A	350V	150mA	4.71	3.60
91F1993	G2-1A05-TT	1-A	350V	100mA	3.43	2.63
91F1994	G2-1A07-TT	1-A	150V	500mA	8.01	6.12
91F1995	G2-DA01-TT	Dual-A	350V	150mA	8.30	6.34
91F1996	G2-1B01-TT	1-B	350V	150mA	4.77	3.65
91F1997	G2-DB01-TT	Dual-B	350V	150mA	8.73	6.66
91F1998	G2-AB01-TT	1-A/1-B	350V	150mA	8.00	6.12
91F1999	G2-1T01-TT	Telecom*	350V	120mA	7.34	5.61

*The Telecom SSR has a 1-form-A switch and bi-directional current sensor for tip and ring applications.

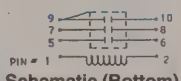
(12766) (ne09983)

3600 SERIES THERMAL EMF REED RELAYS

Side View



End View



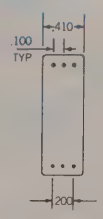
Schematic (Bottom)

3600 series relays provide ultra-low thermal EMF characteristics suited for instrumentation and data acquisition/process control applications. Relays are available in 1, 2 and 3 form A configurations with thermal EMF ratings ranging from 5μV to 500nV. Mercury-wetted and high voltage relays are also available in the low thermal packages.

Stock No.	Type	Contact Rating	Switching Voltage-Max.	1-99	100-249
50F4974	3675-0000	5 Watts	150 Volts	13.39	8.04

(3689) (de51851)

7000 SERIES DRY REED STANDARD RELAYS



7101

7000 series high reliability reed relays are ideally suited for data acquisition/process control, telecommunications and general purpose applications. These models are specifically designed for high quality with a large assortment of switching capabilities. The contact forms range from single to multiple (4 maximum) poles in dry and mercury-wetted form A, form B and form C contacts. High voltage and latching versions are also available. All the relays are magnetically shielded in a metal shell and are hermetically sealed in an insulating epoxy which provides a high dielectric strength.

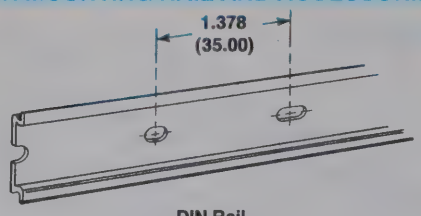
Stock No.	Type	Contact Form	Ohms ±10% @25°C	Nom. Coil Volt	1-99	100-249	250-499	500-999
50F4957	7101 12 1110	1A	1600	12V	10.30	6.18	5.24	4.73

(3688) (de51850)

ALL PRODUCTS LISTED ARE STOCKED.

RELAY SOCKETS AND ACCESSORIES

DIN MOUNTING RAIL AND ACCESSORIES



DIN Rail

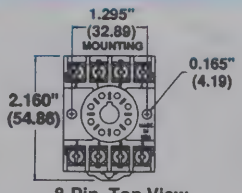
Rail Spacer and End Clip

Type 3270 low-profile 3' length DIN mounting rail designed to accommodate snap mount and surface mount sockets on same side. Made of durable extruded aluminum. Dimensions: 0.287H x 1.378W x 1.062"L (7.29 x 35.00 x 26.97). Holes on 1.378" (35.00) centers. UL recognized (file E73815), CSA certified (file LR29513M25). **Type SMS-RC** rail spacer is used for spacing between adjoining sockets. Width: 0.197" (5.00). Snaps on and off. To prevent sideward movement, use **type SMS-EC** end clip at each end of socket row.

Stock No.	Type	Description	1-24	25-49	50-99
92N4514	3270	DIN Rail	7.59	6.46	5.81
46N7409	SMS-RC	Rail Spacer	0.62	0.54	0.47
46N7410	SMS-EC	End Clip	1.26	1.10	0.95

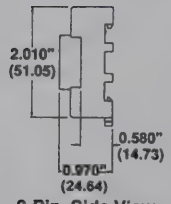
(4098) (ne51042)

8- AND 11-PIN DIN MOUNT OCTAL RELAY SOCKETS

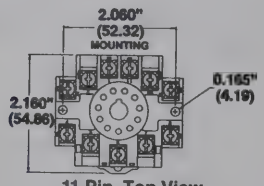


8-Pin, Top View

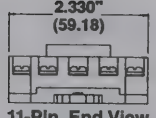
8-Pin, End View



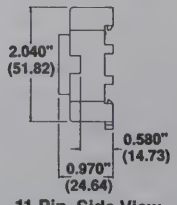
8-Pin, Side View



11-Pin, Top View



11-Pin, End View



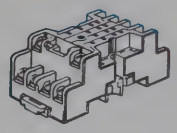
11-Pin, Side View

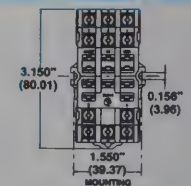
DIN mount octal relay sockets eliminate extra mounting hardware. Snap the socket onto DIN mounting rail and it's installed. Low-profile design. Molded bodies are flexible break-resistant thermoplastic. Terminal buses are solid 1-piece stamping. Self-lifting wire clamps allow fast and secure wire connections with wire clamp terminals. **Type SMS1-21** 8-pin DPDTsocket rated 600V, 10A. **Type SMS2-32** 11-pin 3PDT socket rated 300V, 10A. Connectors are brass, nickel-plated. Pressure clamp is 6-32 x 5/16" steel, zinc-plated. Color: black. UL recognized (file E73815), CSA certified (file LR29513M25).

Stock No.	Type	Pins	1-24	25-49	50-99	100-999
46N7402	SMS1-21	8	4.19	3.57	3.21	2.89
46N7403	SMS2-32	11	6.59	5.61	5.05	4.54

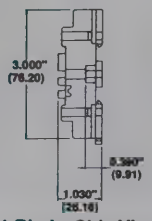
(4099) (ne51043ab)

SQUARE BASE DIN MOUNT RELAY SOCKETS

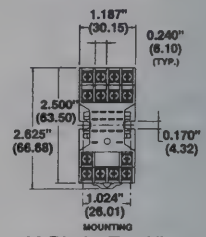




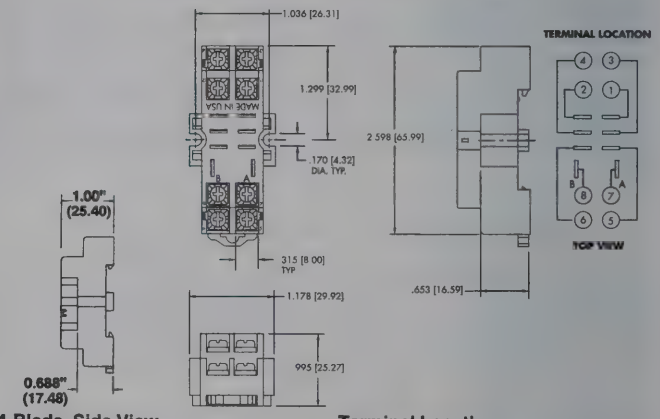
11-Blade, Top View



11-Blade, Side View



14-Blade, Top View



14-Blade, Side View

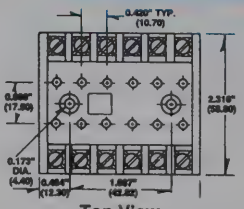
Terminal Location

Relay sockets feature numbered terminals for easy identification. **Type SMS5-23** 8-blade 2PDT miniature socket rated 300V, 10A. **Type SMS3-34** 11-blade 3PDT base socket rated 300V, 10A and 150V, 15A. **Type SMS4-45** 14-blade 4PDT miniature socket rated 300V, 10A and features M3 x 0.5 x 6.1mm pressure clamp constructed of zinc-plated steel. Color: black. UL recognized (file E73815), CSA certified (file LR29513M25).

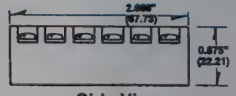
Stock No.	Type	Blades	1-24	25-49	50-99	100-999
46N7406	SMS5-23	8	6.29	5.35	4.82	4.34
46N7404	SMS3-34	11	7.59	6.46	5.81	5.23
46N7405	SMS4-45	14	9.99	8.50	7.65	6.89

(31980) (ne31980)

12-PIN HEAVY-DUTY SOCKET



Top View



Side View

12-pin screw terminal, heavy-duty socket is rated 300V, 10A. Color: black. UL recognized (file E73815), CSA certified (file LR29513M25.)

Stock No.	Type	1-9	10-24	25-49	50-99
23N3602	RS-12-SD	12.99	11.05	9.94	8.95

(3964) (de00066)

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on pages 506 and 1270-1271

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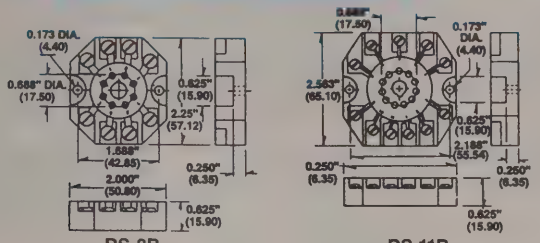
(34571) (ne34571)

RELAY SOCKETS

8- AND 11-PIN OCTAL SOCKETS



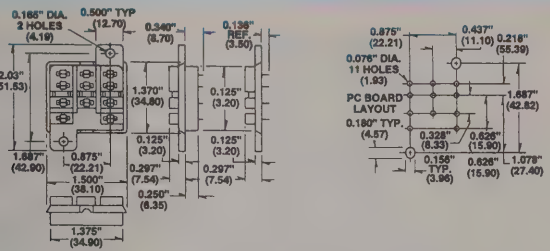
RS-8B RS-11B

Closed back thermoplastic terminal sockets with pressure clamp screws are rated 600V, 10A. 8- and 11-pin octal-style sockets are heavy-duty. Connectors are nickel-plated brass. Color: black. UL recognized E73815, CSA certified LR29513M25.

Stock No.	Type	Description	1-24	25-49	50-99	100-999
23N3600	RS-8B	8-Pin, 2PDT	5.39	4.59	4.13	3.72
23N3601	RS-11B	11-Pin, 3PDT	9.99	8.50	7.65	6.89

(3963) (de00065)

11-PIN PC BOARD AND SOLDER SQUARE BASE SOCKETS

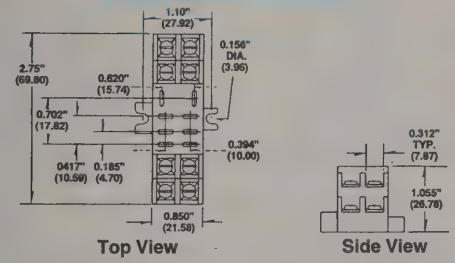


11-pin thermoplastic sockets are rated 300V, 15A. Connectors are tin-plated brass. Color: black. UL recognized E73815, CSA certified LR29513M25.

Stock No.	Type	Description	1- 24	25- 49	50- 99	100- 999
23N3608	CMS-11-PCB	3PDT, PCB Mount	1.69	1.44	1.30	1.17
23N3606	CMS-11-SLD	3PDT, Solder	1.69	1.44	1.30	1.17

(3962) (de00064)

8-PIN MIDGET SOCKET

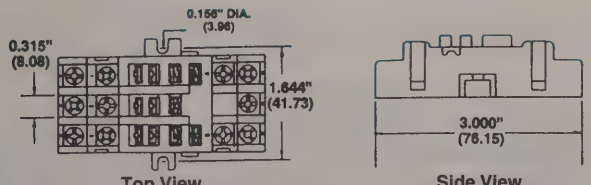


Closed back, thermoplastic 2PDT 8-pin miniature socket is rated 300V, 10A. Occupies 30-40% less space than conventional square base sockets. Pressure clamp screw terminals. Color: black. UL recognized E73815, CSA certified LR29513M25.

Stock No.	Type	Description	1-24	25-49	50-99	100-999
81N1450	RM-8-SQ	8-Pin, 2PDT	5.59	4.76	4.28	3.86

(3966) (de00069)

11-PIN CLAMP SCREW SQUARE BASE SOCKET

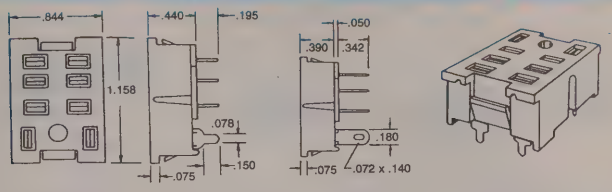


Pressure clamp screw, thermoplastic terminal sockets rated 300V, 10A and 150V, 15A. Captivated traveling nut. Square base. Color: black. UL recognized E73815, CSA certified LR29513M25.

Stock No.	Type	Description	1-24	25-49	50-99	100-999
23N3611	RS-11-SQ	11-Pin, 3PDT	5.99	5.10	4.59	4.13

(3965) (de00068)

8-PIN MINI PC BOARD AND CHASSIS MOUNT SOCKETS

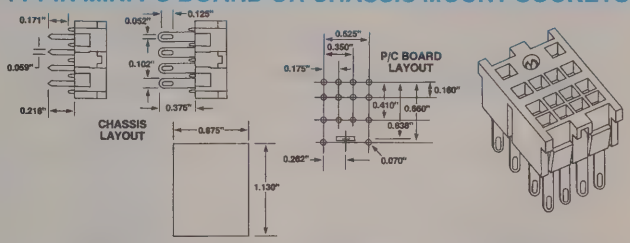


8-pin miniature sockets are rated 300 volts, 10 amps. Molded UL-grade nylon. Solder-style terminals are phosphor bronze with bright tin plate. Snap into chassis from front, eliminating mounting screws or retainer springs. Color: black. UL recognized E73815, CSA certified LR29513M25.

Stock No.	Type	Description	1-24	25-49	50-99	100-999
81N1451	MRS-8-SLD	2PDT, Solder	1.29	1.10	0.99	0.89
81N1452	MRS-8-PCB	2PDT, PC Board Mount	1.29	1.10	0.99	0.89

(4031) (de50527)

14-PIN MINI PC BOARD OR CHASSIS MOUNT SOCKETS

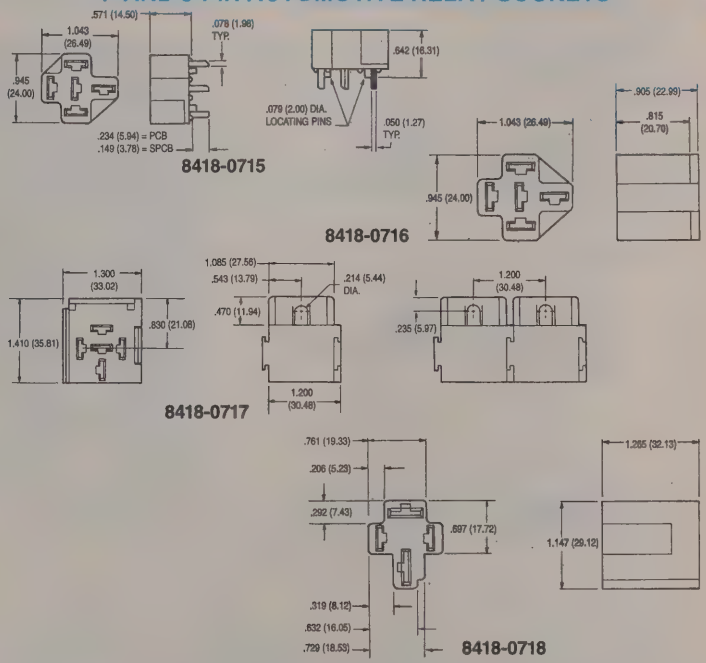


14-pin miniature sockets are rated 120V, 5A. Molded UL-grade nylon. Solder terminal unit mounts into chassis from front or rear; wire socket before installing. PC board mount unit fits Struthers-Dunn **types C281** and **C282** relays. Color: black. UL recognized E73815, CSA certified LR29513M25.

Stock No.	Type	Description	1-24	25-49	50-99	100-249
23N3604	MRS-14-SLD	4PDT, Solder	1.39	1.19	1.07	0.96
23N3605	MRS-14-PCB	4PDT, PC Board Mount	1.29	1.10	0.99	0.89

(4030) (de50526)

4- AND 5-PIN AUTOMOTIVE RELAY SOCKETS



Mate with coordinating mini-ISO automotive relays except **type 8418-0718**, which is compatible with 70A power ISO relays. **Type 8418-0715** 5-pin socket with PC board mount terminals. **Type 8418-0716** 5-pin socket, **type 8418-0717** 5-pin socket, and **type 8418-0718** 4-pin socket with crimp-type terminals for wire harnessing. Color: black.

Stock No.	Type	1-24	25-49	50-99	100-249
16N1426	8418-0715	1.29	1.10	0.99	0.89
16N1427	8418-0716	0.39	0.34	0.30	0.27
16N1428	8418-0717*	0.99	0.85	0.76	0.69
16N1429	8418-0718	0.67	0.57	0.52	0.47

*Includes mounting bracket.

(4094) (ne08889)

DRY REED RELAYS

Fig. 1
No Internal Clamping Diode

Fig. 2
Internal Clamping Diode

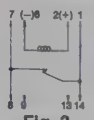


Fig. 3
No Internal Clamping Diode

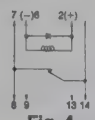


Fig. 4
Internal Clamping Diode

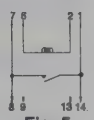


Fig. 5
No Internal Clamping Diode

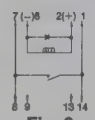


Fig. 6
Internal Clamping Diode

Fig. 7
No Internal Clamping Diode

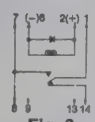


Fig. 8
Internal Clamping Diode

Fig. 9
No Internal Clamping Diode

Fig. 10
Internal Clamping Diode

Fig. 11
No Internal Clamping Diode

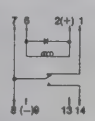


Fig. 12
Internal Clamping Diode

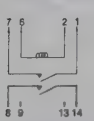


Fig. 13
No Internal Clamping Diode

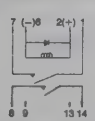


Fig. 14
Internal Clamping Diode

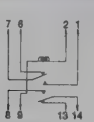


Fig. 15
No Internal Clamping Diode

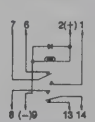


Fig. 16
Internal Clamping Diode

W107, W171, AND W172 0.5A DIP DRY REED RELAYS

Contact resistance: 200 Milliohms typical. Insulation resistance: 10^{10} ohms @ 100VDC minimum. Dielectric withstanding voltage between contacts 200VDC minimum, between coil and contacts 1000VDC minimum. Shock: 100 G's, 11 mS @ ½ sinewave. Vibration: 20 G's, 0 - 5000Hz operating. Ambient temperature: –15°C to 85°C.

Specifications		SPST-NO, SPST-NC	DPST-NO	SPDT	DPDT
Max. Switching Rating	Volt Amperes	10	4	4	10
	Voltage DC	100	100	100	100
	Current	0.5	0.25	0.25	0.5
Max. Continuous Current		1.5	0.5	0.5	1.0

CLASS 107

Stock No.	Type	Fig.	Contact Configuration	Coil Volts	Coil Ohms	1-9	10-24
47F1106	W107DIP-1	1	1 FORM A, SPST-NO	5 or 6	500	5.54	4.74
47F1108	W107DIP-3	1	1 FORM A, SPST-NO	12	1200	5.54	4.74
47F1109	W107DIP-4	1	1 FORM A, SPST-NO	24	2200	6.00	5.13
47F1110	W107DIP-5*	2	1 FORM A, SPST-NO	5 or 6	500	6.00	5.13
56F253	W107DIP-7*	2	1 FORM A, SPST-NO	12	1200	6.00	5.13
56F254	W107DIP-8*	2	1 FORM A, SPST-NO	24	2200	6.76	5.78

CLASS 171

No connections to pins #9 and #13.

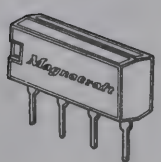
47F1137	W171DIP-2	5	1 FORM A, SPST-NO	5 or 6	500	5.48	4.69
47F1139	W171DIP-4	5	1 FORM A, SPST-NO	12	1200	5.48	4.69
47F1140	W171DIP-5	5	1 FORM A, SPST-NO	24	2200	6.00	5.13
47F1142	W171DIP-7*	6	1 FORM A, SPST-NO	5 or 6	500	6.00	5.13
47F1144	W171DIP-9*	6	1 FORM A, SPST-NO	12	1200	6.00	5.13
47F1145	W171DIP-10*	6	1 FORM A, SPST-NO	24	2200	7.65	6.55
47F1147	W171DIP-12	3	1 FORM B, SPST-NC	5 or 6	500	8.47	7.24
56F1024	W171DIP-14	3	1 FORM B, SPST-NC	12	1200	8.47	7.24
56F1025	W171DIP-15	3	1 FORM B, SPST-NC	24	2200	8.58	7.34
56F1027	W171DIP-17*	4	1 FORM B, SPST-NC	5 or 6	500	8.58	7.34
56F1029	W171DIP-19*	4	1 FORM B, SPST-NC	12	1200	8.58	7.34
56F1030	W171DIP-20*	4	1 FORM B, SPST-NC	24	2200	9.25	7.91
47F1148	W171DIP-21	13	2 FORM A, DPST-NO	5 or 6	200	8.03	6.87
47F1150	W171DIP-23	13	2 FORM A, DPST-NO	12	500	8.03	6.87
47F1151	W171DIP-24	13	2 FORM A, DPST-NO	24	2200	8.58	7.34
47F1152	W171DIP-25*	14	2 FORM A, DPST-NO	5 or 6	200	8.58	7.34
47F1154	W171DIP-27*	14	2 FORM A, DPST-NO	12	500	8.58	7.34
47F1155	W171DIP-28*	14	2 FORM A, DPST-NO	24	2200	9.25	7.91

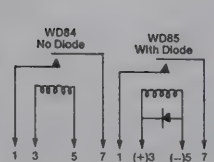
CLASS 172

47F1156	W172DIP-1	7	1 FORM C, SPDT	5 or 6	200	10.64	9.10
47F1158	W172DIP-3	7	1 FORM C, SPDT	12	500	12.20	10.43
47F1159	W172DIP-4	7	1 FORM C, SPDT	24	2200	12.20	10.43
47F1160	W172DIP-5*	8	1 FORM C, SPDT	5 or 6	200	11.05	9.44
47F1162	W172DIP-7*	8	1 FORM C, SPDT	12	500	12.20	10.43
47F1163	W172DIP-8*	8	1 FORM C, SPDT	24	2200	12.84	10.98
87F239	W172DIP31	9	1 FORM C, SPDT	5 or 6	200	11.25	9.62
87F240	W172DIP33	9	1 FORM C, SPDT	12	500	11.45	9.79
87F241	W172DIP34	9	1 FORM C, SPDT	24	2200	11.65	9.96
87F242	W172DIP35*	10	1 FORM C, SPDT	5 or 6	200	12.32	10.53
87F243	W172DIP37*	10	1 FORM C, SPDT	12	500	12.32	10.53
87F244	W172DIP38*	10	1 FORM C, SPDT	24	2200	12.78	10.93
87F233	W172DIP141	11	1 FORM C, SPDT	5 or 6	200	9.92	8.48
87F235	W172DIP146	11	1 FORM C, SPDT	24	3200	10.41	8.90
87F236	W172DIP147*	12	1 FORM C, SPDT	5 or 6	200	10.41	8.90
87F237	W172DIP149*	12	1 FORM C, SPDT	12	1000	10.41	8.90
87F238	W172DIP150*	12	1 FORM C, SPDT	24	3200	13.22	11.30
23F5553	W172DIP-17	15	2 FORM C, DPDT	5 or 6	46	35.32	31.09
23F5555	W172DIP-19	15	2 FORM C, DPDT	12	266	35.32	31.09
23F5556	W172DIP-20	15	2 FORM C, DPDT	24	1066	35.32	31.09
23F5557	W172DIP-21*	16	2 FORM C, DPDT	5 or 6	46	39.49	34.76
23F5559	W172DIP-23*	16	2 FORM C, DPDT	12	266	39.49	34.76
23F5560	W172DIP-24*	16	2 FORM C, DPDT	24	1066	39.49	34.76

*Internal clamping diode

(4062) (de52130)





CLASS 117 SIP 4-PIN RELAYS

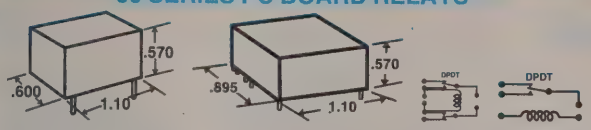
Type 117SIP has a pin spacing of 0.2 between pins and is rated 10VA, 0.5Amp switching and can carry up to 1.5 Amps. Dimensions: 0.75L x 0.29W x 0.26H".

Stock No.	Type	Coil Volts	Diode	Contact Configuration	Coil Ohms	1-9	10-24
44F799	W117SIP-1	5	No	FORM A SPST-NO	500	6.44	5.50
44F802	W117SIP-6	5	Yes	FORM A SPST-NO	500	6.84	5.85
44F803	W117SIP-8	12	Yes	FORM A SPST-NO	1870	6.84	5.85
87F245	W117SIP22	5	No	FORM B SPST-NC	500	10.47	8.95
87F248	W117SIP18	5	Yes	FORM B SPST-NC	500	10.47	8.95

(3996) (de01184)

PC BOARD AND POWER RELAYS

60 SERIES PC BOARD RELAYS



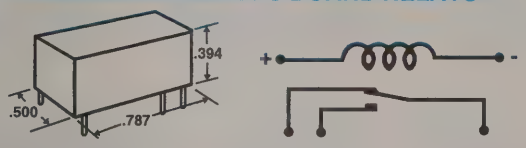
Bifurcated contacts ideal for low-level switching applications up to 2A @ 120VAC. Contacts are SPDT or DPDT styles. Industrial-grade relays offer high reliability with RF switching characteristics. Weight: 5.5g, SPDT; 9g approx., DPDT. UL recognized.

SPDT, 2A @ 120VAC/24VDC

Stock No.	Type	Coil Volts	Coil Ohms	1-9	10-24	25-49	50-99
44F1700	W60HE1S-5DC	5VDC	75	22.76	17.19	15.17	13.55
44F1702	W60HE1S-12DC	12VDC	440	22.76	17.19	15.17	13.55
44F1703	W60HE1S-24DC	24VDC	1550	22.81	19.50	17.17	15.28
DPDT 2A @ 24VDC / 0.6A @ 100VAC							
44F1707	W60HE2S-5DC	5VDC	75	26.73	20.18	17.82	15.91
44F1708	W60HE2S-12DC	12VDC	440	25.16	21.51	18.93	16.85
44F1709	W60HE2S-24DC	24VDC	1550	25.51	21.81	19.19	17.08

(31683) (ne31683)

276 SERIES POWER PC BOARD RELAYS

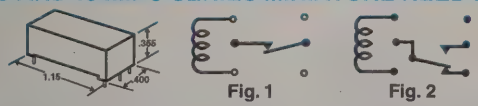


SPST miniature relays feature grid spacing of 0.1″ and require 0.394″ clearance above the PC board. Single side stable design, provides a maximum switching current of 7A @ 240VAC or 30VDC and up to 380VAC and 125VDC at lower currents. 5kV surge resistance coil to contact meets international 4mm spacing between coils and contacts. Also available in 10A versions. UL recognized, CSA certified.

Stock No.	Type	Coil Volts	Coil Ohms	1-24	25-49
46F5389	276XAXH-5DC	5VDC	125	5.51	4.83
46F5390	276XAXH-12-DC	12VDC	720	5.22	4.57
46F5391	276XAXH24-DC	24VDC	2880	5.00	4.38

(3977) (de00294)

101MPC AND 134MPC SERIES MINIATURE REED RELAYS



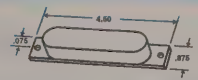
Standard 0.1 grid spacing. Mercury contacts handle low level applications and the contacts are bounce free.

DRY REED SPST-NO, 0.5A

Stock No.	Type	Fig.	Coil Volts	Coil Ohms	1-9	10-24
56F317	W101MPCX-2	1	12	1400	22.67	19.38
MERCURY WETTED REED SPDT, 1A						
50F8558	W134MPCX-1	2	5	60	43.11	37.95

(4066) (de52220)

102V & 102HV HIGH-VOLTAGE RELAYS



Feature molded plastic enclosures and high dielectric insulation system. Available SPST-NO, NO contacts: 50VA max. resistive load, 5000VDC max. switching volts, .02mA max. switching current. Dielectric standoff: 6000VDC across open contacts and between mutually insulated points.

SPDT, 7A @ 120VAC/30VDC

Stock No.	Type	Coil Volts	Coil Ohms	1-9	10-24
28F1380	W102VX-49	6	70	89.07	78.39
56F1031	W102VX-50	12	250	89.07	78.39
56F1032	W102VX-51	24	1000	89.07	78.39

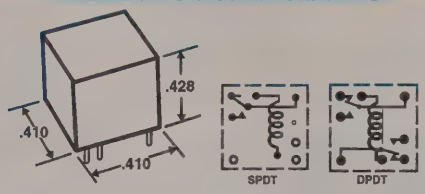
HIGH-VOLTAGE REED RELAYS

102HVX series extra high-voltage. SPST-NO contacts 50VA max. resistive load, 10,000VDC max. switch volts, .01 amp switch current. Dielectric standoff: 12,000VDC across open contacts and between mutually insulated points.

56F292	W102HVX-3	24	400	102.67	90.36

(3997) (de01186)

7 SERIES PC BOARD RELAYS



Epoxy-sealed class **7 series** PC mountable micro-miniature relays. Bifurcated contacts ideal for low level switching applications up to 2A @ 120VAC. Excellent RF switching characteristics. Life expectancy 100 million mechanical operations. Requires .155 sq. in. of circuit board space. UL recognized.

SPDT, 2A @ 120VAC/24VDC

Stock No.	Type	Coil Volts	Coil Ohms	1-9	10-24	25-49
87F266	W7PCX-1	5	75	9.28	7.93	6.98
87F267	W7PCX-3	12	440	9.28	7.93	6.98
DPDT, 2A @ 24VDC, 0.6A @ 100VAC						
87F269	W7PCX-5	5	75	9.39	8.03	7.07
87F270	W7PCX-7	12	440	9.39	8.03	7.07
87F271	W7PCX-8	24	1550	11.77	10.06	8.86

(4018) (de03737)

92 SERIES GENERAL-PURPOSE 30A POWER RELAYS

Type 12 - PC BOARD **Type 22 - Flange**

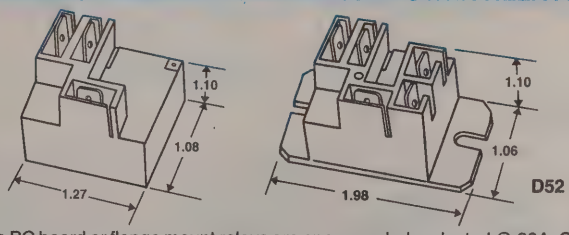
30A switching. Class F insulation. PC board or flange mounted. Epoxy sealed. Contact configuration: **S7** in type number indicates DPST-NO; **S11** indicates DPDT. Contact material: silver cadmium oxide. Flange mount: ¼″ QC terminals. Mechanical life: 5 million operations typical. UL recognized.

AC COILS

Stock No.	Type	Coil Volts	Coil Ohms	1-9	10-24
91F6497	W92S7A22-24	24VAC	...	14.23	12.17
91F6498	W92S11A22-24	24VAC	...	15.68	13.41
DC COILS					
91F6499	W92S7D12-12	12VDC	86	12.41	10.61
91F6500	W92S11D12-12	12VDC	86	14.55	12.44
91F6501	W92S7D22-12	12VDC	86	12.41	10.61
91F6502	W92S11D22-12	12VDC	86	14.55	12.44

(12532) (ne10002)

9A SERIES GENERAL PURPOSE 30A POWER RELAYS



9A series PC board or flange mount relays are epoxy sealed and rated @ 30A. Class F insulation is standard. Terminals are ¼″ Q.C. Contact material: Silver Cadmium Oxide. Life expectancy: 10 million mechanical operations. UL recognized.

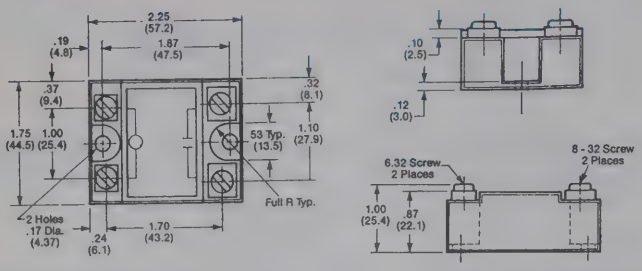
SPST–NO, PC TERMINAL

Stock No.	Type	Coil Volts	Coil Ohms	1-9	10-24
91F6489	W9AS1D22-5	5VDC	25	4.84	4.14
91F6490	W9AS1D22-12	12VDC	144	4.84	4.14
SPDT, PC TERMINAL					
91F6491	W9AS5D22-5	5VDC	25	5.31	4.54
91F6492	W9AS5D22-12	12VDC	144	5.31	4.54
SPST–NO, FLANGE MOUNT					
91F6493	W9AS1D52-5	5VDC	25	4.84	4.14
91F6494	W9AS1D52-12	12VDC	144	4.84	4.14
SPDT, FLANGE MOUNT					
91F6495	W9AS5D52-5	5VDC	25	5.31	4.54
91F6496	W9AS5D52-12	12VDC	144	5.31	4.54

(12441) (ne10006)

SOLID-STATE AND GENERAL-PURPOSE RELAYS

6 SERIES SOLID STATE RELAYS



High reliability, opto-isolated solid state AC output relays enable switching of AC power loads up to 75A and DC output models to switch loads up to 40A DC. AC output circuit has back-to-back dual SCRs. Isolation voltage: 4000VAC std. (input to output). Temperature range: –30 to +80°C. Input control voltage range for DC input with AC output is 3 to 32 VDC. AC input with AC output is 90 to 280 VAC, DC input with DC output is 3.5 to 32 VDC. Input Current DC: 12 mA @ 5 VDC. Input current AC: 8.5 mA @ 120 VAC, 22 nA @ 240 VAC. Leakage Current: 8 mA @ 120 VAC, 10mA max. @ 240 VAC. All types come with LED lamp indicator.

AC CONTROLLED INPUT, 90-280VAC

Stock No.	Type	Output Voltage Range	1-9	10-24
56F232	W6110ASX-1	20-140VAC	28.33	24.93
56F233	W6125ASX-1	20-140VAC	33.14	29.17
56F234	W6140ASX-1	20-140VAC	40.52	35.66
48F4391	W6150ASX-1	20-140VAC	52.92	46.58
48F4392	W6175ASX-1	20-140VAC	72.90	64.16
56F235	W6202ASX-1	48-240VAC	25.51	21.81
56F236	W6210ASX-1	48-240VAC	28.58	25.15
56F237	W6225ASX-1	48-240VAC	38.69	34.06
56F238	W6240ASX-1	48-240VAC	41.32	36.37
48F4393	W6250ASX-1	48-240VAC	52.92	46.58
48F4395	W6150DSX-1	48-240VAC	51.21	45.08

DC CONTROLLED INPUT, 3-32VDC

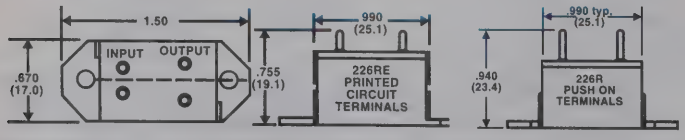
56F221	W6102DSX-1	20-140VAC	23.16	19.80
56F222	W6110DSX-1	20-140VAC	27.59	23.59
56F223	W6125DSX-1	20-140VAC	33.14	29.17
56F224	W6140DSX-1	20-140VAC	40.52	35.66
48F4395	W6150DSX-1	20-140VAC	51.21	45.08
48F4396	W6175DSX-1	20-140VAC	72.90	64.16
56F225	W6202DSX-1	48-240VAC	24.14	20.64
56F226	W6210DSX-1	48-240VAC	27.74	23.72
56F227	W6225DSX-1	48-240VAC	33.72	29.68
48F4397	W6250DSX-1	48-240VAC	51.21	45.08
50F8550	W6275DSX-1	48-240VAC	75.45	66.40

DC CONTROLLED INPUT, 3.5-32VDC

50F8551	W6212DDX-1	0-200VDC	73.84	64.99
48F4398	W6225DDX-1	0-200VDC	70.12	61.72
48F4399	W6240DDX-1	0-200VDC	71.35	62.80

(3970) (de00243)

226 SERIES SOLID STATE RELAYS



226 series relays are encapsulated. Compatible with TTL gates, these relays mount to TO-3 transistor heat sinks for increased current handling capacity. Units handle loads 50mA to 7.5A. Connections can be made via standard slip-on connectors or units can be inverted and inserted into PC board for wave soldering. Termination pins are on standard 0.1″ grid pin spacing and are polarized to prevent reverse voltage plug-in. High-sensitivity, along with 2500V rms and 10^{12} ohms isolation ratings, make units ideal output devices when going from low level logic to line voltage loads. Leakage: 0.1mA. 400 VAC min. repetitive peak blocking voltage.

PRINTED CIRCUIT TERMINALS

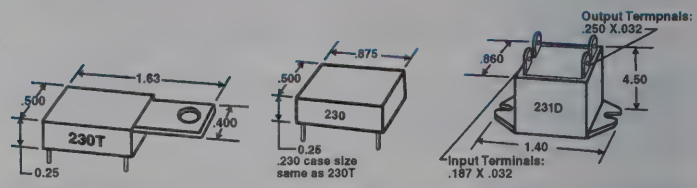
Stock No.	Type	Input Voltage	Output Voltage	1-9	10-24
23F5614	W226RE7-5A1	5VDC	120VAC	20.87	17.84
23F5615	W226RE7-12A1	12VDC	120VAC	20.87	17.84

PUSH-ON TERMINALS

23F5606	W226R7-5A1	5VDC	120VAC	20.87	17.84
23F5607	W226R7-12A1	12VDC	120VAC	20.87	17.84

(3972) (de00245)

230/231 SERIES SOLID STATE RELAYS



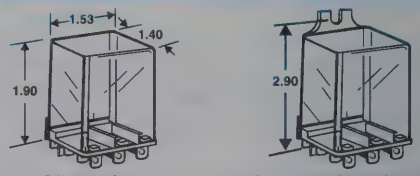
230/231 series relays are optically coupled with zero-voltage switching. Leakage is less than 1mA. Units handle 1-cycle, 20A surges. Isolation I/O is 2500V rms. SPST-NO. Type suffix indicates input volts. –30 to +80°C temperature. **Class 230** 16-pin DIP pinout. Input 1 & 16; output 8 & 10. Model 230 rated at 1.5A max. 230T rated at 3.0A max., 231 rated at 4.0A max.

PRINTED CIRCUIT TERMINALS, 1.5A

Stock No.	Input Voltage	Output Voltage	1-9	10-24
30F1327	5VDC	120VAC	29.27	25.76
30F1328	12VDC	120VAC	29.27	25.76
30F1329	5VDC	240VAC	32.31	28.44
30F1331	5VDC	120VAC	32.31	28.44
30F1335	5VDC	120VAC	32.31	28.44
30F1337	5VDC	240VAC	35.18	30.97
30F1338	12VDC	240VAC	35.18	30.97

(3971) (de00244)

388 SERIES SQUARE BASE RELAYS WITH DUST COVER



CP PLUG-IN CQ FLANGE MOUNT

388 series relays are rated: SPDT, 13A; DPDT, 12A; 3PDT, 11A @ 120/240VAC, 28VDC. Terminals: 3⁄16″ x 0.20, accept 3⁄16″ Q.C. terminals. Top flange cover and PC terminals also available; *contact your local Newark sales office.* Contact material: Silver Cadmium oxide, gold flashed.

FLANGE MOUNT DUST COVER

Stock No.	Type	Contacts	Coil Voltage	1-9	10-24
56F602	W388ACQX-4	SPDT	120VAC	11.68	9.99
56F605	W388ACQX-9	DPDT	120VAC	12.35	10.56
56F606	W388ACQX-14	3PDT	120VAC	14.90	12.74
56F615	W388CQX-2	SPDT	12VDC	11.68	9.99
47F1215	W388CQX-6	DPDT	12VDC	12.35	10.56

PLUG-IN WITH DUST COVER

47F1188	W388ACPX-4	SPDT	120VAC	11.68	9.99
47F1193	W388ACPX-9	DPDT	120VAC	12.35	10.56
47F1197	W388ACPX-13	3PDT	24VAC	14.90	12.74
47F1198	W388ACPX-14	3PDT	120VAC	14.90	12.74
47F1205	W388CPX-6	DPDT	12VDC	12.35	10.56
47F1206	W388CPX-7	DPDT	24VDC	12.35	10.56
47F1209	W388CPX-10	3PDT	12VDC	14.90	12.74
47F1210	W388CPX-11	3PDT	24VDC	14.90	12.74

(3969) (de00213)

388 SERIES RELAYS WITH MAGNETIC BLOWOUT

388B series feature magnetic blowout for DC switching. Relays have the same AC ratings as **388 series** general-purpose relays, along with the additional DC switching ratings.

AC OPERATED, DPDT, RATED 3A @ 150VDC

Stock No.	Type	Coil Volts	Coil Ohms	1-9	10-24	25-49	50-99
48F2062	W388ABCPX-5	120VAC	...	14.23	12.17	10.71	9.53

DC OPERATED, DPDT, RATED 3A @ 150VDC

48F2063	W388BCPX-2	12VDC	120	14.34	12.26	10.79	9.60
48F2064	W388BCPX-3	24VDC	472	14.34	12.26	10.79	9.60
48F2065	W388BCPX-5	110VDC	10,000	15.82	13.53	11.91	10.60

AC OPERATED, SPST-NO-DM, RATED 10A @ 150VDC

48F2066	W388ADBCPX-5	120VAC	...	14.34	12.26	10.79	9.60

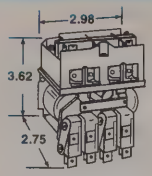
DC OPERATED, SPST-NO-DM, RATED 10A @ 150VDC

48F2067	W388DBCPX-2	12VDC	120	13.44	11.50	10.12	9.00
48F2068	W388DBCPX-3	24VDC	472	13.44	11.50	10.12	9.00
48F2069	W388DBCPX-5	110VDC	10,000	14.84	12.69	11.17	9.94

(31682) (ne31682)

GENERAL- PURPOSE RELAYS AND SOCKETS

A275 SERIES REVERSING CONTROL CONTACTORS

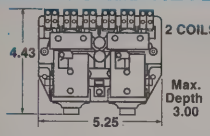


Ratings: 120VAC, 1HP; 240VAC, 1 and 2HP; 480/600VAC, 1HP. 1HP only. **Type A275KXX**: 6 load contacts, 1 set of 3PST-NO (DB) contacts per coil and armature. **A275KXX90**: Same but have SPDT auxiliary contacts for coil interlocking or electric lock-up. **A275KXX91**: Same but have DPDT auxiliary for coil interlocking and electric lock-up or operating indicator lamps. UL listed, CSA certified

Stock No.	Type	Volts	Ohms	1-9	10-24
60F3177	A275KXX 24VAC	24VAC	4.8	60.49	54.67
60F3178	A275KXX 120VAC	120VAC	132.0	60.49	54.67
99F4798	A275KXX-24VDC	24VDC	125.0	60.49	54.67
89F1872	A275KXX90-120VAC	120VAC	132.0	76.10	68.78
70B5424	A275KXX90-24VAC	24VAC	4.8	76.10	68.78
60F3062	A275KXX91 24VAC	24VAC	4.8	84.79	76.63
60F3063	A275KXX91 120VAC	120VAC	132.0	84.79	76.63

(3976) (de00293)

TYPE A575 7.5HP INTERLOCKED REVERSING CONTACTOR

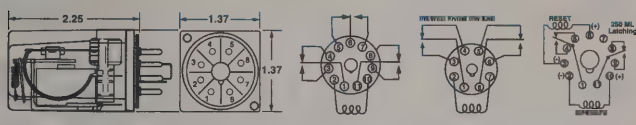


Definite purpose contactor. Silver cadmium oxide contacts rated 30 amps, 120VAC. 2 sets of 3-pole, double-make NO contacts are interlocked to prevent simultaneous closure. UL listed, CSA certified.

Stock No.	Type	Coil Voltge	Coil (Ω)	1-9	10-24
26F773	A575KXX-120VAC	120VAC	1450	233.32	210.93

(3975) (de00292)

250 SERIES GENERAL-PURPOSE & LATCHING RELAYS



8 or 11 pin octal plug-in rated @ 10A 120/240VAC, 28VDC. ⅛ Hp @ 120VAC; ½ Hp @ 240VAC. Clear dust cover made of high-impact plastic (polycarbonate). Dust cover is screw mountable to base to protect against dust, damage, and tampering. Contact material: Silver cadmium oxide, gold flashed. Mechanical life: 10M operations. Electrical life: 100K @ rated load. **Type 250ML2** versions have the same specifications as the standard **250 seires**, but with a dual coil latching design.

Stock No.	Type	Contacts	Volts	1-9	10-24
29F2435	W250ACPX-9	DPDT	120VAC	11.68	9.99
29F2437	W250ACPX-14	3PDT	120VAC	14.03	12.00
29F2440	W250CPX-6	DPDT	12VDC	11.68	9.99
29F2441	W250CPX-7	DPDT	24VDC	11.68	9.99
29F2443	W250CPX-11	3PDT	24VDC	14.03	12.00
83F4177	W250ML2CPX-6	DPDT	12VDC	21.39	18.29
83F4172	W250ML2CPX-7	DPDT	24VDC	21.39	18.29
83F4173	W250ML2CPX-8	DPDT	110VDC	22.70	19.41
83F4174	W250AML2CPX-8	DPDT	24VAC	20.78	17.77
83F4175	W250AML2CPX-9	DPDT	120VAC	20.78	17.77
83F4176	W250AML2CPX-10	DPDT	240VAC	22.09	18.88

(3968) (de00212)

425 SERIES GENERAL PURPOSE RELAYS

425BXX

425XBX

Open style relays have an insulated armature. Contact rating: 30A, 120/240V. **Type 425BXX** dimensions: 2.43L x 2.50W x 2.25″H. **Type 425XBX** dimensions: 3.12L x 2.50W x 2.31″H. All **type 425** relays have screws for wire hook-up. **Type 425XBX90** has a SPDT, 10A auxiliary switch. UL recognized, CSA certified.

Stock No.	Type	Contact Config.	Coil Resist. (Ω)	1-9	10-24
67F618	425BXX 120VAC	DPST-NO	290	34.21	30.92
67F626	425XBX 120VAC	DPDT	290	42.36	38.28
67F631	425XBX 24VDC	DPDT	12	41.48	37.49
67F634	425XBX90 120VAC	DPDT	290	51.38	46.44

(3974) (de00291)

389 SERIES 20–30A GENERAL PURPOSE ENCLOSED RELAYS

389 series relays have the same dimensions and look as the **388 series**. Use ¼″ Q.C. solder terminals. Flange mount cover standard. SPDT and DPDT are rated @ 25A. 3PDT types are rated at 20A. SPST-NO (DM) types are rated at 30A @ 120/240VAC, 28VDC. Contact material: gold-flash silver cadmium oxide. Nominal operating power max: DC is 1.5 watts; AC is 3.5VA.

CLASS 389C, DC OPERATED, FLANGE MOUNT COVER

Stock No.	Type	Contacts	Coil Volts	1-9	10-24
81F1288	W389CX-2	SPDT	12VDC	15.31	13.09
81F1290	W389CX-7	DPDT	12VDC	16.64	14.23
81F1291	W389CX-8	DPDT	24VDC	16.64	14.23
81F1292	W389CX-12	3PDT	12VDC	19.07	16.31
81F1293	W389CX-13	3PDT	24VDC	19.07	16.31

CLASS 389C, AC OPERATED, FLANGE MOUNT COVER

Stock No.	Type	Contacts	Coil Volts	1-9	10-24
81F1284	W389ACX-4	SPDT	120VAC	15.31	13.09
81F1285	W389ACX-8	DPDT	24VAC	16.64	14.23
81F1286	W389ACX-9	DPDT	120VAC	16.64	14.23
81F1287	W389ACX-14	3PDT	120VAC	19.07	16.31

CLASS 389D 30-AMP AC OPERATED

81F1279	W389ADZCX-4	3PDT	120VAC	17.83	15.24

CLASS 389D 30-AMP DC OPERATED

81F1283	W389DZCX-3	SPDT	24VAC	17.83	15.24

(4027) (de50033)

388ML SERIES 10A MAGNETIC LATCHING RELAYS

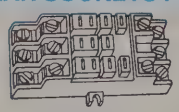
Series 388ML relays are rated at ⅓Hp @ 120VAC; ½Hp @ 240VAC. Contact material: silver cadmium oxide, gold flashed. Contact configuration: DPDT (3PDT available). Contact rating: 10A @ 120/240VAC, 28VDC. Temperature rating: AC: -45°C to +70°C @ rated operation. Mechanical life: 10 million operations @ no load. Electrical life: 100,000 operations @ rated load. UL recognized.

AC OPERATED, PLUG-IN—INPUT VOLT. 220VAC

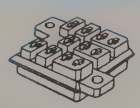
Stock No.	Type	Contact Config.	Coil Measured at 25°C: Nom. Resistance (ohms)	Coil Measured at 25°C: Nom. Power	1-9	10-24
AC OPERATED, SINGLE COIL LATCHING—INPUT VOLT. 120VAC						
16F6295	W388AMLCPX-9	DPDT	10,000	0.8VA	27.31	24.03
DC OPERATED, SINGLE COIL LATCHING—INPUT VOLT. –6 (12VDC), –7 (24VDC)						
16F6296	W388MLCPX-6	DPDT	120	1.2W	27.31	24.03
16F6297	W388MLCPX-7	DPDT	470	1.2W	27.31	24.03
DC OPERATED, DUAL COIL LATCHING—INPUT VOLT. –6 (12VDC), –7 (24VDC)						
16F6298	W388ML2CPX-6	DPDT	88/88	1.64W	27.31	24.03
16F6299	W388ML2CPX-7	DPDT	350/350	1.64W	27.31	24.03

(4092) (ne08316)

RECTANGULAR SOCKETS FOR CLASSES 235, 236, & 388



70-463-1



70-178-1

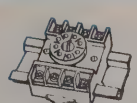
Rated: 15A @ 300VAC. Thermoplastic material. **Type 70-178-1** dimensions: 1.37L x 1.5W x 0.297″H. **Type 70-463-1** dimensions: 3.00L x 1.54W x 1.03″H.

Stock No.	Type	Description	1-9	10-24
47F1246	70-178-1	Nylon Printed Circuit Terminals	1.74	1.49
50F8547	70-463-1	Screw Terminal, DIN Mount, Panel Mount	10.44	8.92

(4068) (de52222)

OCTAL SOCKETS FOR CLASSES 88, 211, 222, & 250 RELAYS

70-465-1



70-464-1

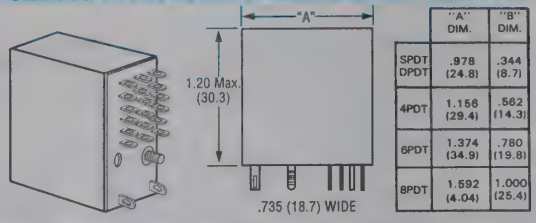
Heavy duty, molded, thermoplastic sockets available in two-screw surface mounted and (35mm) DIN rail mounted version. 8-pin rated @ 10A, 300VAC. 11-pin rated @ 10A, 300VAC. CE compliant for 11-pin socket only. **Type 70-465-1** dimensions: 2.16L x 2.33W x .970″H. **Type 70-464-1** dimensions: 2.16L x 1.29W x .970″H.

Stock No.	Type	Description	1-9	10-24
50F8549	70-465	11 Pin Octal, Screw Term., DIN/Panel Mount	7.13	6.10
50F8548	70-464	8 Pin Octal, Screw Term., DIN/Panel Mount	5.94	5.08

(4067) (de52221)

GENERAL-PURPOSE AND POWER RELAYS

67 SERIES PLUG-IN OR PANEL MOUNT RELAYS



	"A" DIM.	"B" DIM.
SPDT DPDT	.978 (24.8)	.344 (8.7)
4PDT	1.156 (29.4)	.562 (14.3)
6PDT	1.374 (34.9)	.780 (19.8)
8PDT	1.592 (4.04)	1.000 (25.4)

Standard **Class 67** miniature relays are designed for applications requiring DPDT to 8PDT contacts where space and weight are of prime importance. Shatter resistant, see-thru plastic covers are utilized to protect against dust, tampering and electrical shock. The 67T models have Bifucated Contacts and are designed for low level switching applications. Rated @ 3 or 5 Amps @ 120VAC/28 VDC. UL recognized, CSA certified.

DC OPERATED, DPDT CONTACTS, 5 AMP

Stock No.	Type	Coil Volts	Coil Ohms	1-9	10-24
56F1053	W67RCSX-1	5VDC	52VA	14.67	12.54
56F1054	W67RCSX-2	12VDC	185VA	14.67	12.54
56F1055	W67RCSX-3	24VDC	700VA	16.41	14.03
DC OPERATED, 4PDT CONTACTS, 5 AMP					
56F1058	W67RCSX-6	5VDC	52VA	16.52	14.13
56F1059	W67RCSX-7	12VDC	185VA	16.52	14.13
56F1060	W67RCSX-8	24VDC	700VA	18.93	16.18
DC OPERATED, 4PDT BIFURCATED CONTACTS, 3 AMP LOW LEVEL					
56F1107	W67TRCSX-8	24VDC	700VA	21.10	18.04
DC OPERATED, 6PDT CONTACTS, 5 AMP					
56F1064	W67RCSX-12	12VDC	90VA	24.20	20.69
56F1065	W67RCSX-13	24VDC	430VA	26.23	22.43
56F1111	W67TRCSX-12	12VDC	90VA	28.67	24.51
56F1112	W67TRCSX-13	24VDC	430VA	30.11	25.75
DC OPERATED, 8PDT CONTACTS, 5 AMP					
56F1069	W67RCSX--17	12VDC	72VA	50.52	44.47
56F1070	W67RCSX-18	24VDC	350VA	50.52	44.47
120VAC OPERATED COILS, CONTACTS, 5 AMP					
81F4508	W67ARCSX-5	DPDT	1.5VA	30.23	25.85
81F4510	W67ARCSX-10	4PDT	2.5VA	34.91	30.72

(4063) (de52216)

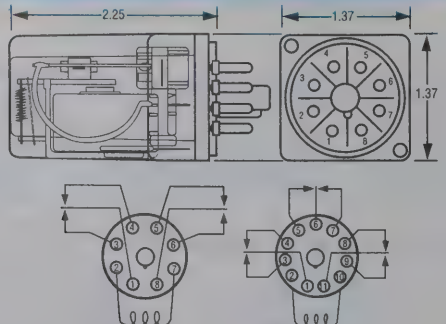
SOCKETS FOR 67 SERIES RELAYS

Fit all Class 67 relays from DPDT to 6PDT and are rated 10A. Available in both PC and Solder Terminal Versions. Grounding strip pre-installed. Hold down clip ordered separately; *contact your local Newark sales office.*

Stock No.	Type	Description	1-9	10-24
56F1120	70-303	2 Pole Solder Terminal	3.92	3.35
56F1122	70-305	4 Pole Solder Terminal	5.34	4.56
56F1124	70-307	6 Pole Solder Terminal	6.21	5.31
56F1125	70-308	6 Pole PC Terminal	7.60	6.50

(4084) (de52217)

A314 SERIES GENERAL-PURPOSE RELAYS



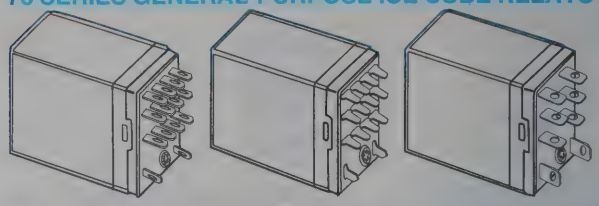
8- and 11-Pin Octal Plug-in relays rated @ 10 Amps 120/240VAC, 28 VDC. Temperature range: –45°C to +50°C. Mechanical life: 10 M operations min. Contact material: Silver Cadmium Oxide gold flashed. Open style with solder terminals available; *contact your local Newark sales office.*

A314 SERIES ENCLOSED RELAYS

Stock No.	Type	Contacts	Input Voltage	1-24	25-49
60F3187	A314XBX48P 120VAC	DPDT	120AC	8.35	7.31
60F3188	A314XBX48P 24VDC	DPDT	24DC	8.35	7.31
60F3189	A314XCX48P 120VAC	3PDT	120AC	10.02	8.78

(4043) (de51558)

78 SERIES GENERAL-PURPOSE ICE CUBE RELAYS



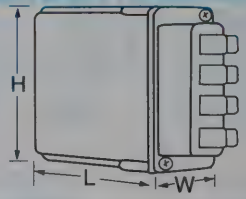
4PDT relays are rated 3A, 5A, and 1A with bifurcated contacts for low level switching applications. SPDT relays are rated @ 15A, and the DPDT relays are rated @ 10A 120/240VAC; 28VDC. Size: 1.42L x 0.858W x 1.10"H. UL recognized, CSA certified. Order sockets separately; *contact your local Newark sales office.*

AC OPERATED, 4PDT, 3 AMP, SOLDER/PLUG-IN

Stock No.	Type	Coil Volts	Coil Ohms	1-9	10-24
56F280	W78ACSX-3	24VAC	180	9.31	7.96
56F281	W78ACSX-5	120VAC	4430	9.31	7.96
AC OPERATED, 4PDT, 3 AMP, SOLDER/PLUG-IN WITH INDICATOR LAMP					
91F3953	W78ANCSX-24	24VAC	180	11.05	9.44
91F3954	W78ANCSX-25	120VAC	4430	11.05	9.44
91F3955	W78ANCSX-26	240VAC	15700	13.36	11.43
AC OPERATED, 4PDT, 1 AMP, SOLDER/PLUG-IN WITH INDICATOR LAMP					
91F3956	W78ANTCSX-4	24VAC	180	11.16	9.54
91F3957	W78ANTCSX-5	120VAC	4430	11.16	9.54
91F3958	W78ANTCSX-7	240VAC	15700	13.16	11.25
AC OPERATED, DPDT, 10 AMP, SOLDER/PLUG-IN WITH INDICATOR LAMP					
91F3959	W78ARNCSX-5	120VAC	4430	11.05	9.44
91F3960	W78ARNCSX-6	24VAC	180	11.05	9.44
91F3961	W78ARNCSX-7	240VAC	15700	13.36	11.43
AC OPERATED, 8PDT, 15 AMP, SOLDER/PLUG-IN WITH INDICATOR LAMP					
91F3962	W78ARNCSX-8	24VAC	180	10.90	9.32
91F3963	W78ARNCSX-9	120VAC	4430	10.90	9.32
91F3964	W78ARNCSX-10	240VAC	15700	12.93	11.05
AC OPERATED, 4PDT, 1 AMP, SOLDER/PLUG-IN					
91F3965	W78ATCSX-2	12VAC	46	9.34	7.98
91F3966	W78ATCSX-3	24VAC	180	9.34	7.98
91F3967	W78ATCSX-5	120VAC	4430	9.34	7.98
91F3968	W78ATCSX-6	240VAC	15700	11.16	9.54
DC OPERATED, 4PDT, 3 AMP, SOLDER/PLUG-IN					
56F277	W78CSX-2	12VDC	160	7.97	6.82
56F278	W78CSX-3	24VDC	650	7.97	6.82
DC OPERATED, 4PDT, 3 AMP, PRINTED CIRCUIT TERMINAL					
56F285	W78PCX-3	24VDC	650	7.97	6.82
AC OPERATED, DPDT, 10 AMP, SOLDER/PLUG-IN					
28F1688	W78ARCSX-11	120VAC	4430	9.31	7.96
DC OPERATED, DPDT, 10 AMP, PC TERMINALS					
28F1683	W78RPCX-2	12VDC	160	7.97	6.82
28F1684	W78RPCX-3	24VDC	650	7.97	6.82

(4011) (de02445)

21 SERIES FLASH TRANSFER RELAYS



Plug-in base with polarizing pin. DPDT contacts switch tungsten lamp loads up to 10A @ 240VAC. Incorporates rectified coil for chatter-free operation in brownout conditions down to 85VAC. Expected life: 200,000 operations at 10A, tungsten loads. Size: 2.47H x 2.84L x 1.85"W. UL recognized, CSA certified. Meets NEMA Std. TS 2 1992, Approved by D.O.T.

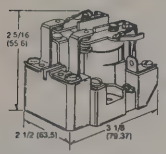
Stock No.	Type	Coil Volts	Coil Nom. Power	1-9	10-24	25-49
50F8561	W21ACPXD-5	120VAC	4.0VA	84.05	74.21	66.26

(31681) (ne31681)

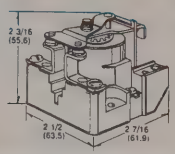
SAME-DAY SHIPMENT ON ORDERS PLACED BY 5:00 PM C.S.T.

POWER AND INDUSTRIAL RELAYS

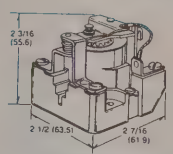
199 SERIES HEAVY-DUTY 30A POWER RELAYS



W199 SPDT



W199 SPST-NO-DM



W199 DPDT

5/16" (7.95) diameter silver cadmium oxide gold flashed contacts are rated at 30A up to 300VAC, 50/60Hz. Class B insulation system. Dielectric withstanding voltage between open contacts: 1500V; between mutually insulated conductive elements: 2200V. Screw terminals. Molded phenolic base. UL listed E43641, CSA certified LR37547, CE compliant.

DC VOLTAGE-OPERATED COIL

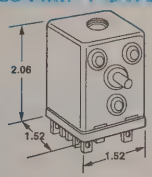
Stock No.	Type	Contacts	Coil VDC	Coil Ohms	1-9	10-24
56F641	W199X-12	DPDT	12	70	21.61	19.02
56F973	W199X-13	DPDT	24	290	21.61	19.02
56F974	W199X-14	DPDT	110	6000	23.08	20.31
47F1104	W199DX-2	SPST-NO-DM	12	70	19.71	16.85
47F1105	W199DX-3	SPST-NO-DM	24	290	19.71	16.85
56F642	W199X-7	DPST-NO	12	70	22.67	19.38
56F952	W199X-8	DPST-NO	24	290	22.67	19.38
56F957	W199X-2	SPDT	12	70	20.58	17.60
28F1614	W199X-3	SPDT	24	290	20.58	17.60

AC VOLTAGE-OPERATED COIL

Stock No.	Type	Contacts	VAC	1-9	10-24
47F1103	W199ADX-4	SPST-NO-DM	120	19.71	16.85
56F955	W199AX-4	SPDT	120	20.58	17.60
56F949	W199AX-8	DPST-NO	24	22.67	19.38
56F950	W199AX-9	DPST-NO	120	22.67	19.38
56F951	W199AX-10	DPST-NO	240	22.67	19.38
28F1617	W199AX-13	DPDT	24	22.55	19.85
56F971	W199AX-14	DPDT	120	22.55	19.85
56F972	W199AX-15	DPDT	240	23.08	20.31

(4028) (de50034)

97 SERIES 25 AMP POWER RELAYS



DPDT-DM-DB contacts rated at 25A, 240VAC resistive, 1HP 120VAC; 2HP @ 240/277VAC, 25A @ 24VDC resistive. Contact terminals: 0.250" Q. C. Coil terminals: 0.110" Q. C. UL recognized file E43641, CSA certified LR35535M, LR5685M.

SIDE STUD MOUNT

Stock No.	Type	Coil Volts	Coil Ohms	1-9	10-24
56F778	W97ACSX-3	120 VAC	...	124.88	109.92

PLUG-IN RELAYS

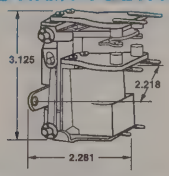
56F784	W97ACPX-3	120 VAC	...	116.79	102.79
56F786	W97CPX-1	12 VDC	50	113.75	100.12
56F787	W97CPX-2	24 VDC	200	113.75	100.12

SOCKET FOR POWER RELAYS

67F253	70-312	...	...	23.42	20.02

(4029) (de50035)

158 SERIES HIGH-VOLTAGE RELAY



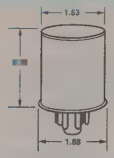
Developed especially for making and breaking high voltage circuits. Contact rating: 1KVA. Silver alloy, gold-flashed 0.25" (6.35) diameter contacts break up to 5000VDC @ 200mA. Contact configuration: SPDT-DB-DM.

DC OPERATED, PANEL MOUNT, SOLDER TERMINALS

Stock No.	Type	Coil Volts	Coil Ohms	1-9	10-24
57F1286	W158HVX-1	24 VDC	120	142.94	135.82

(3980) (de00741)

88HP SERIES OCTAL PLUG-IN WITH HERMETICALLY SEALED STEEL ENCLOSURE

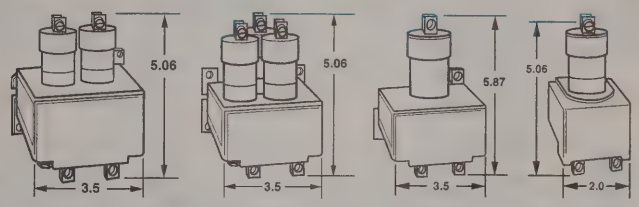


Highly reliable, general purpose relays have glass melamine insulation for high dielectric strength and resistance to humidity or temperature change. Molded nylon bobbin and coil cover. Silver-cadmium oxide, gold flash contacts rated 10A 120/240VAC/28VDC resistive. Steel enclosure fillled with dry nitrogen, solder sealed to help prevent contamination of internal parts.

Stock No.	Type	Contacts	Coil Volts	Coil Ohms	1-9	10-24
56F403	W88AHPX-24	DPDT	120VAC	...	84.04	73.97
56F354	W88AHPX-36	3PDT	120VAC	...	104.82	92.26
56F406	W88HPX-34	DPDT	24VDC	400	82.24	72.39
56F355	W88HPX-51	3PDT	24VDC	400	103.85	91.41

(3967) (de00211)

WM SERIES MERCURY DISPLACEMENT RELAYS (MDR)



MDRs handle tungsten resistive and motor loads. Ratings range: 30A-100A, up to 600VAC or 250VDC at lower currents. Contractor tubes hermetically sealed in steel. Frequency of operation: 60 per minute max. Pull-in voltage: 80% of rated voltage typical for AC and DC models. Operate time typical: 50 milliseconds. Operating temperature: –35°C to +60°C.

AC OPERATED, SPST-NO CONTACT

Stock No.	Type	Amps	Coil Volts	Coil Ohms	1-9	10-24
57F1325	WM35A-120A	35	120AC	700	47.54	41.84
56F216	WM60A-120A	60	120AC	700	54.03	47.55
57F1326	WM35A-240A	35	240AC	2800	49.41	43.49
94F4125	WM35A-24D	35	24DC	186	47.54	41.84

DC OPERATED, SPST-NO CONTACTS

03F798	WM60A-24D	60	24DC	186	54.03	47.55

AC OPERATED, SPST-NO CONTACTS

57F1327	WM35B-120A	35	120AC	460	60.38	53.15
56F217	WM60B-120A	60	120AC	460	60.88	53.59

AC OPERATED, DPST-NO CONTACTS

57F1328	WM35AA-120A	35	120AC	218	87.52	77.03
56F219	WM60AA-120A	60	120AC	218	100.04	88.05
03F790	WM35AA-240A	35	240AC	1200	89.68	78.93

AC OPERATED, 3PST-NO CONTACTS

57F1329	WM35AAA-120A	35	120AC	111	120.02	105.64
56F220	WM60AAA-120A	60	120AC	111	131.50	124.96

AC OPERATED, SPST-NO CONTACTS

90F5712	WM100A-120A	100	120AC	73.5	164.95	156.74

DC OPERATED, SPST-NO CONTACTS

90F5714	WM100A-24D	100	24DC	63	164.33	156.15

*Non-UL ratings.

(3979) (de00740)

WML SERIES MERCURY DISPLACEMENT RELAYS (MDR)

WML series relays are recommended for resistive and tungsten loads with AC power. Not recommended for DC power or motor loads. CSA certified. UL listed.

AC OPERATED, SPST-NO CONTACTS

Stock No.	Type	Amps	Coil Volts	Coil Ohms	1-9	10-24
87F664	WML60A-120A	60	120AC	700	54.03	47.55

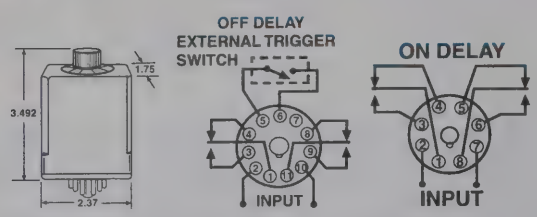
AC OPERATED, 3PST-NO CONTACTS

87F667	WML35AAA-120A	35	120AC	111	120.02	105.64
87F668	WML60AAA-120A	60	120AC	111	131.50	124.96

(3982) (de00743)

TIME-DELAY AND SENSING RELAYS

211 SERIES OCTAL TIME-DELAY RELAYS



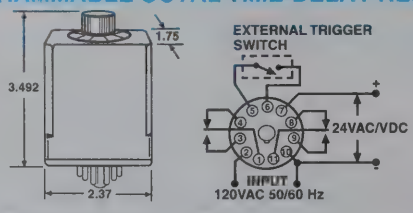
CMOS circuitry controls operation and maintains timing accuracy to ±0.1% or 33mS AC, ±10ms DC at constant voltage and temperature. Rated 10A @ 120VAC/28VDC. 50,000,000 operations mechanical life. 500,000 operations at rated load. Meet NEMA noise immunity and 5,000 volt test. Temperature range: –30° to +55°C. *Order sockets separately on page 731.* UL listed. UL recognized, CSA certified.

AC OPERATION, ON DELAY FUNCTION WITH 8-PIN PLUG

Stock No.	Type	Timing Range	Input Voltage	1-9	10-24
56F958	W211ACPSOX-5	0.1-10 Sec.	120VAC	55.13	48.53
56F959	W211ACPSOX-7	1-180 Sec.	120VAC	55.13	48.53
56F960	W211ACPSOX-8	2-300 Sec.	120VAC	55.13	48.53
47F1170	W211ACPSOX-18	.1-1 Sec.	120VAC	55.13	48.53
56F259	W211ACPSOX-60	1-15 Min.	120VAC	55.22	48.60
56F260	W211ACPSOX-61	2-30 Min.	120VAC	55.22	48.60
56F261	W211ACPSOX-62	4-60 Min.	120VAC	55.22	48.60
56F263	W211ACPSOX-63	8-120 Min.	120VAC	55.22	48.60
DC OPERATION, ON DELAY FUNCTION WITH 8-PIN PLUG					
56F962	W211CPSOX-3	1-180 Sec.	24VDC	55.49	48.84
AC OPERATION, OFF DELAY FUNCTION WITH 11-PIN PLUG					
56F964	W211ACPSRX-5	0.1-10 Sec.	120VAC	57.76	50.84
56F965	W211ACPSRX-7	1-180 Sec.	120VAC	57.76	50.84
56F966	W211ACPSRX-8	2-300 Sec.	120VAC	57.76	50.84
56F268	W211ACPSRX-60	1-15 Min.	120VAC	57.76	50.84
DC OPERATION, OFF DELAY FUNCTION WITH 11-PIN PLUG					
56F967	W211CPSRX1	0.1-10 Sec.	24VDC	56.88	50.06
56F968	W211CPSRX-3	1-180 Sec.	24VDC	56.88	50.06

(4044) (de51601)

CLASS 211 PROGRAMMABLE OCTAL TIME-DELAY RELAY

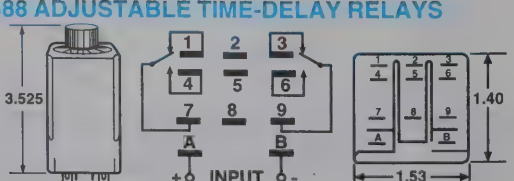


Features 4 separate timer functions: "on delay," "off delay," "one shot," and "on-plus-off delay." Capable of 62 timing ranges from 0.1 seconds to 2 hours. Input 120VAC, 24VAC or 24VDC. DPDT contacts rated 10AC 120VAC/30VDC. DIP switch enables the programming functions. Size is the same as the standard **211 series** time delay relay. Life:500,000 operations at rated load. *Order sockets separately on page 731.*UL listed when used with **type 70-465-1** socket. UL recognized, CSA certified.

Stock No.	Type	Timing Range	Input Voltage	1-9	10-24
50F8544	W211PROGX-1	0.1 Sec.-2 Hrs.	120/24VAC, 24VDC	84.18	74.09

(4045) (de51602)

CLASS 388 ADJUSTABLE TIME-DELAY RELAYS

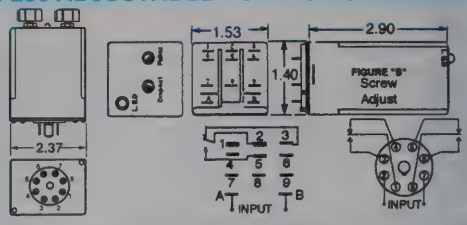


Features long body with ±0.1% repeatability. DPDT, 12A contacts. Field-adjustable timing and ON delay timing functions.

Stock No.	Type	Timing Range	Input Voltage	1-9	10-24
12F1013	W388ACPSOX-42	0.1-10sec	120VAC	87.38	76.91
12F1014	W388ACPSOX-44	1-180sec	120VAC	87.38	76.91

(12626) (ne09981)

CLASS 236 ADJUSTABLE VOLTAGE SENSING RELAYS

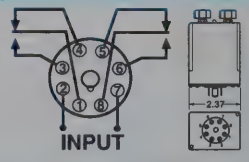


Class 236 voltage sensing relays combine a solid-state sensor with a SPDT, 13A or DPDT, 10A relay contacts. Field adjustable for pull-in and dropout. Can be used either as an over or under voltage detecting relay. Sensor is non-latching and has no time delay. Pull-in: 75% to 115% of nominal. Dropout: 75% to 95% of pull-in. UL recognized, CSA certified.

Stock No.	Type	Input Voltage	Adjust. Style	1-9	10-24
91F3969	W236ACPX-4	24VAC	Knob	103.05	90.70
16F6308	W236ACX-2	208, 220, 240VAC	Screw	93.27	82.09
DC OPERATION					
91F3970	W236CPX-1	24VDC	Knob	99.43	87.52

(12542) (ne09985)

CLASS 222 REPEAT CYCLE TIMER

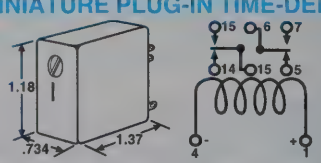


Independently adjustable for both On and Off timing. Octal style pin terminals and dual timing knobs. Rated 10A @ 120VAC.28VDC. 2⅜"W x 2⅞"H. Eight-pin octal plug-in. *Order socket separately on page 731.*

Stock No.	Type	Timing Range	Input Voltage	1-9	10-24
44F846	W222ACPFX-16	3-300 Sec.	120VAC	86.28	75.94

(4048) (de51605)

CLASS 67 MINIATURE PLUG-IN TIME-DELAY RELAYS

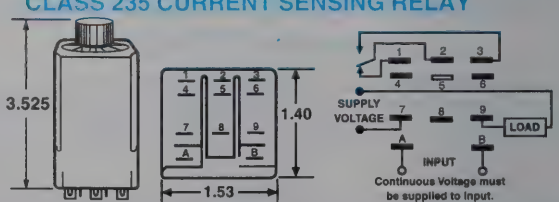


On-delay relays are slow operating. DPDT contacts are rated 5A @ 120VAC, 28VDC resistive. Timing adjustment by screw. Operating temperature: –10°C to +55°C. *Plug-in style use class 67, 6-pole socket, ordered separately on page 732.*

Stock No.	Type	Timing Range	Input Voltage	1-9	10-24
56F1000	W67CPS0X-1	0.1-30 Sec	12VDC	52.34	46.07
56F1001	W67CPS0X-2	0.1-30 Sec	24VDC	52.34	46.07

(4047) (de51604)

CLASS 235 CURRENT SENSING RELAY



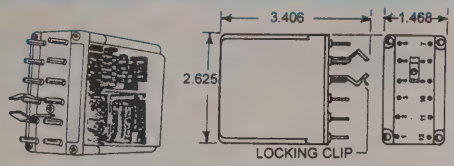
Class 235 relays are field adjustable for detecting AC current levels. The sensor is non-latching and has no time delay. Contacts: rated at 10A @ 120VAC, 6A @ 28VDC. Current detection range: 1.5A to 15A. Operating temperature: –10 to +55°C. 3⁄16" terminal is socket compatible with 388 series sockets . ¼" terminal is solder/QC and not socket compatible, uses taped hole and anti-rotation tab for panel mount.

Stock No.	Type	Terminals	Input Voltage	1-9	10-24
44F794	W235ACX-2	¼"	120VAC	79.89	70.32
90F3320	W235ACX-3	3⁄16"	120VAC	83.24	73.26

(4005) (de02102)

GENERAL-PURPOSE RELAYS & SOCKETS

219 SERIES GENERAL-PURPOSE RELAYS



219 series general purpose industrial plug-in relays feature 12-pin or 14-pin bases with locking clip. Contacts: gold diffused silver cadmium oxide rated at 10A. Maximum total current 30A for all poles. The coil is encapsulated for protection. Nuclear qualifed versions are available; *contact your local Newark sales office.* UL recognized, CSA certified.

219 SERIES 12-PIN PLUG-IN RELAYS

Stock No.	Type	Contacts	Ohms	1-9	10-24
60F3101	219XBXP 24VDC	DPDT	250	**68.03**	**61.49**
60F3102	219XBXP 125VDC	DPDT	6200	**68.03**	**61.49**
60F3100	219XBXP 120AC	DPDT	540	**68.03**	**61.49**
60F3104	219BBXP 24VDC	DPDT and 2NO	250	**81.36**	**73.53**
60F3105	219BBXP 125VDC	DPDT and 2NO	6200	**81.36**	**73.53**
60F3103	219BBXP 120VAC	DPDT and 2NO	540	**81.36**	**73.53**
60F3107	219ABAP 24VDC	DPDT, 1NO, 1NC	250	**81.36**	**73.53**
60F3108	219ABAP 125VDC	DPDT, 1NO, 1NC	6200	**81.36**	**73.53**
60F3106	219ABAP 120VAC	DPDT, 1NO, 1NC	540	**81.36**	**73.53**

219 SERIES 12-PIN WITH INDICATOR LIGHT

60F3194	219BBXPL 120VAC	DPDT and 2NO	540	**87.43**	**79.02**
60F3193	219ABAPL 120VAC	DPDT, 1NO, 1NC	540	**87.43**	**79.02**

219 SERIES 12-PIN WITH INDICATOR LIGHT AND ACTUATOR

94F1906	219BBXPLM-120VAC	DPDT and 2NO	540	**110.38**	**99.79**

219 SERIES 14-PIN PLUG-IN RELAYS

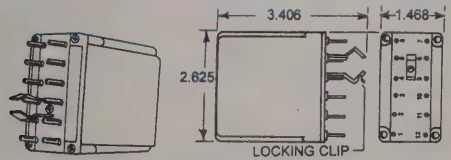
60F3050	219XDXP 24VDC	4PDT	250	**92.35**	**83.46**
60F3051	219FXXP 24VDC	6PNO	250	**92.35**	**83.46**
60F3052	219DXBP 24VDC	4NO and 2NC	250	**92.35**	**83.46**
60F3053	219XDXP 120VAC	4PDT	540	**92.35**	**83.46**
60F3054	219FXXP 120VAC	6NO	540	**92.35**	**83.46**
60F3055	219DXBP 120VAC	4NO and 2NC	540	**94.25**	**85.19**

219 SERIES 14-PIN WITH INDICATOR LIGHT AND ACTUATOR

90F1403	219DXBPLM-120VAC	4NO and 2NC	540	**112.47**	**101.68**
70B3891	219XDXPLM120AC	4PDT	540	**112.47**	**101.68**

(4039) (de51549)

A311 SERIES 12-PIN SEQUENCING RELAYS

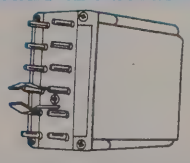


Contain 8-tooth ratchet that operates 2 contact cams. Gold diffused silver cadmium oxide contacts change position each pulse; holds position until next pulse. **A311XBXP** contacts transfer when coil energized; **A311XBXPR** contacts transfer when coil de-energized. Contact ratings: 5 amps, 120VAC resistive. Contacts: DPDT.

Stock No.	Type	Input Voltage	Ohms	1-9	10-24
29F2873	A311XBXP-120AC	120VAC	5400	**142.47**	**128.80**
29F2874	A311XBXPR-120AC	120VAC	5400	**142.47**	**128.80**

(4038) (de51548)

RSX1800 SERIES 12-PIN ALARM RELAYS

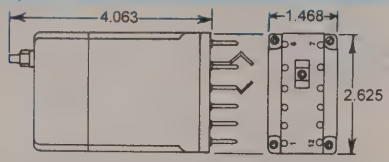


RSX1800Z relay responds to NO contact closure, and **RSX1800S** responds to NC contact closure. Gold diffused silver cadmium oxide contacts rated 5A @ 120VAC resistive. Alarm can be set for sustained or momentary alert, and can be manually silenced or allowed to continue until cleared. Coil: 120VAC 50/60Hz.

Stock No.	Type	Contacts	Ohms	1-9	10-24
29F2700	RSX1800Z-120AC	NO	4500	**166.73**	**150.74**
29F2701	RSX1800S-120VAC	NC	4500	**139.32**	**125.95**

(4036) (de51546)

236, 237 SERIES TIME-DELAY RELAYS



Plug-in time delay relays feature screwdriver adjustable solid state timing module to provide delayed transfer of relay contacts after application of power. **236** are DPDT and 1 NO contact, delay on operate; **237** are DPDT contact, delay on release. Rated 10 amps, 120VAC resistive. Flame-resistant polycarbonate cover. UL recognized.

236 SERIES 12-PIN PLUG-IN DELAY-ON-OPERATE RELAYS

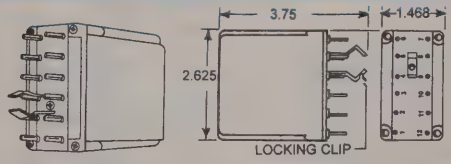
Stock No.	Type	Contacts	Timing Range	1-9	10-24
60F3115	236ABXP-020-120AC	DPDT & 1NO	0.2-20 Seconds	**310.23**	**280.46**
60F3116	236ABXP-200-120AC	DPDT & 1NO	2-200 Seconds	**310.23**	**280.46**

237 SERIES 12-PIN PLUG-IN DELAY-ON-RELEASE RELAYS

29F2702	237XBXP20-120AC	DPDT	0.2-20 Seconds	**374.47**	**338.54**
29F2703	237XBXP200-120AC	DPDT	2-200 Seconds	**374.47**	**338.54**

(4037) (de51547)

B255 SERIES 12-PIN LATCHING RELAYS

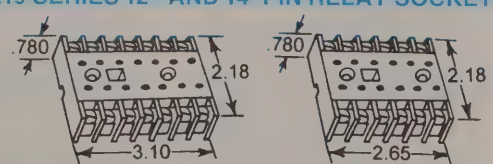


2-coil latching units operate when coil is energized, and relay mechanically latches in energized position even if power is interrupted. Second coil provides electrical reset. Gold diffused silver cadmium oxide contacts rated: 10 amps, 120VAC; 0.5amps, 115/125VDC. UL recognized, CSA certified.

Stock No.	Type	Volts	Contacts	Ohms	1-9
60F3114	B255BXBP-120VAC	120AC	2NO, 2NC	1450	**140.65**
90F1404	B255BXBP-125VDC	125DC	2NO, 2NC	8000	**140.65**
60F3112	B255XBXP-120VAC	120AC	DPDT	1450	**130.36**
94F4731	B255XCXP-24VDC	24DC	3PDT	300	**139.46**
60F3113	B255XCXP-120VAC	120AC	3PDT	1450	**139.46**
29F2698	B255XCXP-125VDC	125DC	3PDT	8000	**139.46**
94F4729	B255BXBP-48VDC	48DC	2NO, 2NC	1500	**140.65**

(4035) (de51545)

219 SERIES 12– AND 14–PIN RELAY SOCKETS



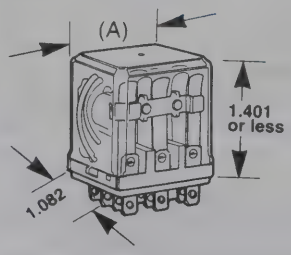
Industrial sockets have front-connected wiring on one level with screw terminals. Sockets are polarized. Mating relays have locking clip that snaps into socket. Rated 10A @ 300V. Sockets fit **219, 236, 237, B255, A311 series** relays. UL recognized.

Stock No.	Type	Style	Weight	1-24	25-49	50-99
60F3117	27390	12-Pin	102 Grams	**13.05**	**11.43**	**10.17**
60F3065	33377	14-Pin	120 Grams	**14.76**	**12.93**	**11.51**

(31684) (ne31684)

PERSONALIZED SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

RH SERIES POWER RELAYS

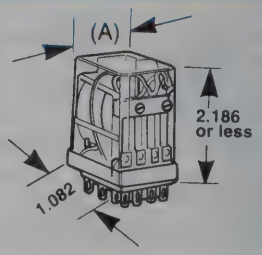


RH Series power relays feature a 10-amp capacity. Silver cadmium-oxide contacts have 50mohm initial contact resistance. Operating time: 20 msec. max. (SPDT/DPDT); 25 msec. max. (3PDT/4PDT). NOTE: Type number suffix indicates voltage. Solder or PC terminals. Temperature range: –22°F to +158°F. Dimension (A): **type RH1**-0.551″; **type RH2**-0.826″; **type RH3**-1.220″; **type RH4**-1.614″. UL recognized, CSA certified, TUV approved, CE compliant.

Stock No.	Type	Rated mA	Coil Ohms	Each	2-5	6-10
SPDT – SOLDER/PLUG-IN						
96F3916	RH1B-UAC24V	37	300	9.54	8.96	8.78
96F3917	RH1B-UAC120V	7.5	7680	9.54	8.96	8.78
96F3918	RH1B-UDC12V	64	188	8.71	8.17	8.01
96F3919	RH1B-UDC24V	32	750	8.71	8.17	8.01
SPDT – SOLDER, TOP-MOUNT						
96F3921	RH1B-UTAC120V	7.5	7680	10.19	9.57	9.38
96F3922	RH1B-UTDC12V	64	188	9.36	8.78	8.62
96F3923	RH1B-UTDC24V	32	750	9.36	8.78	8.62
SPDT – PC TERMINALS						
96F3925	RH1V2-UAC120V	7.5	7680	9.54	8.96	8.78
96F3926	RH1V2-UDC12V	64	188	8.71	8.17	8.01
96F3927	RH1V2-UDC24V	32	750	8.71	8.17	8.01
DPDT – SOLDER/PLUG-IN						
96F3928	RH2B-UAC24V	50	153	9.84	9.23	9.05
96F3929	RH2B-UAC110-120V	11	4170	9.84	9.23	9.05
96F3930	RH2B-UDC12V	75	160	9.27	8.70	8.53
96F3931	RH2B-UDC-24V	36.9	650	9.27	8.70	8.53
96F3932	RH2B-UDC100-110V	9.1	12,100	10.78	10.12	9.92
DPDT – SOLDER, INDICATOR						
96F3933	RH2B-ULAC24V	50	153	12.47	11.70	11.47
96F3934	RH2B-ULAC110-120V	11	4170	12.47	11.70	11.47
96F3935	RH2B-ULDC12V	75	160	11.91	11.17	10.95
96F3936	RH2B-ULDC24V	36.9	650	11.91	11.17	10.95
96F3937	RH2B-ULDC110V	9.1	12,100	13.41	12.59	12.34
DPDT – SOLDER/PLUG-IN WITH INDICATOR						
96F3938	RH2B-UTAC24V	50	153	10.49	9.85	9.65
96F3939	RH2B-UTAC120V	11	4170	10.49	9.85	9.65
96F3941	RH2B-UTDC24V	36.9	650	9.92	9.32	9.13
DPDT – PC TERMINALS						
96F3944	RH2V2-UAC120V	11	4170	9.84	9.23	9.05
96F3946	RH2V2-UDC24V	36.9	650	9.27	8.70	8.53
3PDT – SOLDER/PLUG-IN						
96F3948	RH3B-UAC24V	70	103	12.53	11.76	11.53
96F3949	RH3B-UAC120V	14.2	2770	12.53	11.76	11.53
96F3950	RH3B-UDC12V	120	100	11.97	11.23	11.02
96F3951	RH3B-UDC24V	60	400	11.97	11.23	11.02
3PDT – SOLDER/PLUG-IN WITH INDICATOR						
96F3953	RH3B-ULAC24V	70	103	15.15	14.21	13.94
96F3954	RH3B-ULAC120V	14.2	2770	15.15	14.21	13.94
96F3956	RH3B-ULDC24V	60	400	14.58	13.69	13.42
4PDT – SOLDER/PLUG-IN						
96F3961	RH4B-UAC24V	83	84.5	15.38	14.44	14.16
96F3962	RH4B-UAC120V	16.5	2220	15.38	14.44	14.16
96F3963	RH4B-UDC12V	125	96	14.94	14.03	13.75
96F3964	RH4B-UDC24V	62	388	14.94	14.03	13.75
4PDT – SOLDER/PLUG-IN WITH INDICATOR						
96F3966	RH4B-ULAC24V	83	84.5	18.00	16.90	16.56
96F3967	RH4B-ULAC120V	16.5	2220	18.00	16.90	16.56
96F3968	RH4B-ULDC12V	125	96	17.57	16.49	16.17
96F3969	RH4B-ULDC24V	62	388	17.57	16.49	16.17
96F3972	RH4B-UTAC120V	16.5	2220	16.05	15.06	14.76

(4014) (de02614)

RY SERIES GENERAL PURPOSE RELAYS

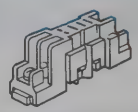


RY Series general purpose 4PDT relays feature gold-plated silver contacts rated 5 amps and initial contact resistance of 50mohms max. Operating time: 20 msec. max.. Temperature range: –22°F to +158°F. Power consumption: 1.2VA (60Hz), 0.9W DC. NOTE: Type number suffix indicates voltage. Dimension (A): 0.827″. UL recognized, CSA certified, TUV approved, CE compliant.

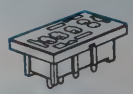
Stock No.	Type	Rated mA	Coil Ohms	Each	2-5	6-10
SOLDER/PLUG-IN						
96F3976	RY4S-UAC24V	50	153	10.37	9.73	9.55
96F3977	RY4S-UAC120V	11	4170	10.37	9.73	9.55
96F3978	RY4S-UDC12V	75	160	8.52	8.00	7.85
96F3979	RY4S-UDC24V	36.9	650	8.52	8.00	7.85
96F3980	RY4S-UDC110V	9.1	12,100	9.69	9.10	8.93
SOLDER/PLUG-IN W/ INDICATOR						
96F3981	RY4S-ULAC24V	50	153	12.98	12.19	11.95
96F3982	RY4S-ULAC120V	11	4170	12.98	12.19	11.95
96F3983	RY4S-ULDC12V	75	160	11.14	10.46	10.25
96F3984	RY4S-ULDC24V	36.9	650	11.14	10.46	10.25
96F3985	RY4S-ULDC110V	9.1	12,100	12.33	11.58	11.35
PC TERMINALS						
96F3987	RY4V-UAC120V	11	4170	10.37	9.73	9.55
96F3989	RY4V-UDC24V	36.9	650	8.52	8.00	7.85

(4015) (de02615)

SOCKETS AND ACCESSORIES FOR RH AND RY SERIES RELAYS


Snap Mount Socket

Panel Mount Socket


PC Mount Socket

BNDN-1000

BNL-5

SY4S-02F1

Order hold down springs for relay/socket assemblies separately below.

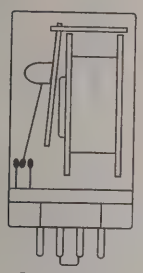
Stock No.	Type	For Use With	Each	2-5	6-10
SNAP MOUNT SOCKETS					
96F3991	SH1B-05	RH1B Relays	5.13	4.82	4.72
96F3992	SH2B-05	RH2B Relays	6.39	6.00	5.88
96F3993	SH3B-05	RH3B Relays	6.95	6.52	6.40
96F3994	SH4B-05	RH4B Relays	9.04	8.49	8.33
96F3995	SY4S-05	RY4S Relays	8.77	8.23	8.08
PANEL MOUNT SOCKETS					
96F3996	SH1B-51	RH1B Relays	1.24	1.16	1.14
96F3997	SH2B-51	RH2B Relays	1.37	1.29	1.27
96F3999	SH4B-51	RH4B Relays	1.93	1.82	1.78
96F4000	SY4S-51	RY4S Relays	1.24	1.16	1.14
PC MOUNT SOCKETS					
96F4001	SH1B-62	RH1B Relays	1.37	1.29	1.27
96F4002	SH2B-62	RH2B Relays	1.53	1.43	1.41
96F4003	SH3B-62	RH3B Relays	1.60	1.49	1.47
96F4004	SH4B-62	RH4B Relays	2.09	1.96	1.93
96F4005	SY4S-61	RY4S Relays	1.37	1.29	1.27

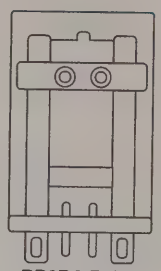
Stock No.	Type	Description	Each	2-5	6-10
ACCESSORIES					
96F6501	BNDN-1000	Aluminum DIN Rail (1000mm)	8.06	7.56	7.41
96F6502	BNL-5	Metal End Clip	1.33	1.25	1.23
96F6503	SY2S-02F1	SH1/SH2B-05 H.D. Spring	0.27	0.25	0.25
96F6504	SY4S-02F1	SH2/3/4B-51/62 H.D. Spring	0.27	0.25	0.25
96F6505	SH3B-05F1	SH3B-05 Hold Down Spring	0.41	0.38	0.38
96F6506	SH4B-02F1	SH4B-05 Hold Down Spring	0.41	0.38	0.38
96F6507	SY4S-51F1	SY4S-05/51, SH1/2/3/4B-51/62 Hold Down Spring	0.27	0.25	0.25

(4016) (de02616)

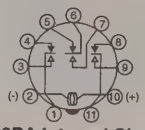
RELAYS AND ACCESSORIES

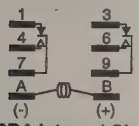
GENERAL-PURPOSE POWER RELAYS

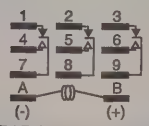

RR2P Relay


RR2BA Relay

RR2P Internal Circuit


RR3PA Internal Circuit


RR2BA Internal Circuit


RR3B Internal Circuit

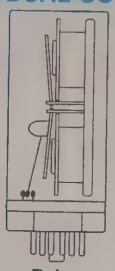
RR series relays feature 10-amp capacity. Contact material is silver. Operating time: 25ms. Temperature range: –25°F to +158°F. Mount into standard 8- (DPDT) or 11-pin (3PDT) octal sockets. **UL** in type number denotes units with indicator lights. Both pin termination and blade termination are plug-styles. UL recognized, CSA certified, CE marked (pin terminaton only), and TUV approved.

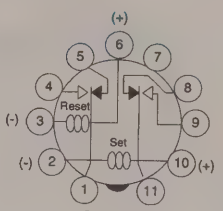
DPDT PIN TERMINATION

Stock No.	Type	Coil Rating	Coil Ohms	Each
91F5535	RR2P-UAC24V	24VAC, 105mA	79Ω	16.56
91F5536	RR2P-UAC120V	120VAC, 20.5mA	2100Ω	16.56
91F5537	RR2P-UDC12V	12VDC, 120mA	100Ω	16.28
91F5538	RR2P-UDC24V	24VDC, 60mA	400Ω	16.28
	DPDT PIN TERMINATION WITH INDICATOR LIGHTS			
91F5539	RR2P-ULAC24V	24VAC, 105mA	79Ω	19.19
91F5540	RR2P-ULAC120V	120VAC, 20.5mA	2100Ω	19.19
91F5541	RR2P-ULDC12V	12VDC, 120mA	100Ω	18.81
91F5542	RR2P-ULDC24V	24VDC, 60mA	400Ω	18.81
	3PDT PIN TERMINATION			
91F5544	RR3PA-UAC120V	120VAC, 20.5mA	2100Ω	20.19
91F5545	RR3PA-UDC12V	12VDC, 120mA	100Ω	20.04
91F5546	RR3PA-UDC24V	24VDC, 60mA	400Ω	20.04
	3PDT PIN TERMINATION WITH INDICATOR LIGHT			
91F5548	RR3PA-ULAC120V	120VAC, 20.5mA	2100Ω	22.31
91F5549	RR3PA-ULDC12V	12VDC, 120mA	100Ω	22.17
16F309	RR3PAULDC24V	24VDC, 60mA	400Ω	22.17
	DPDT BLADE TERMINATION			
91F5550	RR2BA-UAC24V	24VAC, 105mA	79Ω	12.62
91F5551	RR2BA-UAC120V	120VAC, 20.5mA	2100Ω	12.62
91F5552	RR2BA-UDC12V	12VDC, 120mA	100Ω	12.04
	DPDT BLADE TERMINATION WITH INDICATOR LIGHT			
91F5556	RR2BA-ULDC12V	12VDC, 120mA	100Ω	14.65
88F1414	RR2BA-ULDC24V	24VDC, 60mA	400Ω	16.47
	3PDT BLADE TERMINATION			
91F5557	RR3B-UAC24V	24VAC, 105mA	79Ω	14.27
91F5558	RR3B-UAC120V	120VAC, 20.5mA	2100Ω	14.27
91F5559	RR3B-UDC12V	12VDC, 120mA	100Ω	13.23
91F5560	RR3B-UDC24V	24VDC, 60mA	400Ω	13.23
	3PDT BLADE TERMINATION WITH INDICATOR LIGHT			
91F5561	RR3B-ULAC24V	24VAC, 105mA	79Ω	16.90
91F5562	RR3B-ULAC120V	120VAC, 20.5mA	2100Ω	16.90
91F5563	RR3B-ULDC12V	12VDC, 120mA	100Ω	15.84
91F5564	RR3B-ULDC24V	24VDC, 60mA	400Ω	15.84

(14527) (ne10340)

DUAL-COIL LATCHING RELAYS


Relay



Circuit

RR2KP series relays feature 2 Form C silver contacts rated 10 amps and 10MΩ contact resistance. Operation time: 25ms. Temperature range: –30°C to +70°C. All are 11-pin termination and DPDT. UL recognized, CSA certified.

Stock No.	Type	Rated	Coil Ohms	Each
91F5565	RR2KP-UAC24V	24VAC, 92mA	95Ω	33.42
16F306	RR2KP-UAC120V	120VAC, 22mA	2200Ω	33.42
16F308	RR2KP-UDC12V	12VDC, 120mA	100Ω	31.49
91F5566	RR2KP-UDC24V	24VDC, 60mA	400Ω	31.49

(14526) (ne10341)

SOCKETS AND ACCESSORIES

Sockets are available in either 8- or 11-pin configurations and are specified for use with relay series listed in table below.

SOCKETS

Stock No.	Type	Description	For Use with Relay	Each
96F3912	SR2P-06	Standard DIN Rail Mount, 8-Pin	RR2P	4.59
91F6266	SR2P-05C	Finger-Safe DIN Rail Mount, 8-Pin	RR2P	5.53
96F3913	SR3P-06	Standard DIN Rail Mount, 11-Pin	RR3P, RR2KP	7.35
91F6261	SR3P-51	Standard Panel Mount, 11-Pin	RR3P, RR2KP	1.37
96F3911	SR3B-05	Standard DIN Rail Mount, 8-Pin	RR2BA, RR3B	7.35
91F6269	SR3B-51	Standard Panel Mount, 8-Pin	RR2BA, RR3B	1.44

DIN RAIL AND END CAP

Stock No.	Type	Description	Each
96F6501	BNDN1000	Aluminum DIN Rail, 1000mm	8.06
96F6502	BNL-5	Metal End Cap	1.33

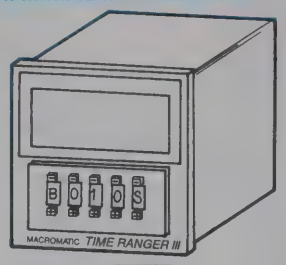
(13058) (ne10342)

NEWARK CARRIES A FULL RANGE OF IDEC INDUSTRIAL CONTROL PRODUCTS. AMONG THEM ARE:

- **16, 22 AND 30MM SWITCHES AND PILOT LIGHTS** *on pages 1452 and 1481, and 1484-1485*
- **TIMERS AND ACCESSORIES** *on page 1452*
- **INDICATING LIGHT TOWERS** *on page 1504*
- **PLCS AND SOFTWARE** *on pages 1375-1377*

(31692) (ne31692)

TIME RANGER™ III DIGITAL-SET MULTI-FUNCTION PROGRAMMABLE TIME DELAY RELAY



9816U1

Features eight field-selectable functions: On Delay, Flasher, Interval/Off Delay, Off Delay (two versions), Interval, Delayed Interval and On Delay/Off Delay. LCD display with output status indicator and percent-of-time-remaining bar. Pushbutton thumbwheels for accurate digital setting of time delay. Programmable timing range: 0.1 second to 9,990 hours. Load (burden): 3 watts. Repeat accuracy: ±0.3%. Temperature range: 10°C to +55°C (14°F to 131°F). Output: 3A SPDT resistive at 250VAC, 5A resistive at 28VDC. UL recognized, CSA certified. *Order sockets and accessories separately on this page.*

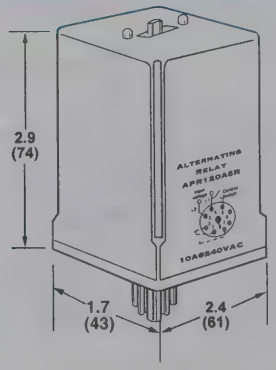
Stock No.	Type	Input Voltage	Socket	1-4	5-9
52F3068	9816U1	24-240VAC 50/60Hz. 12-240VDC	11-Pin Octal 70300	136.15	123.63

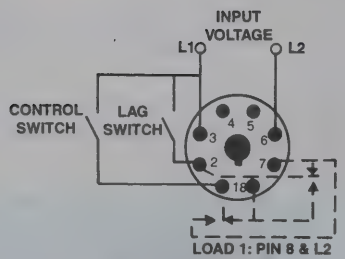
ACCESSORIES

Stock No.	Type	Description	1-9	10-24
52F4720	70300	11-Pin Octal Back-Mounted Socket	11.86	10.79
52F4721	70310	Panel Mounting Adapter	7.37	6.71
52F4722	70320	Protective Cover	7.37	6.71

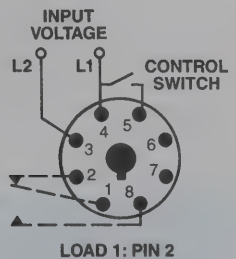
(9616) (ne08048)

ALTERNATING RELAY





DPDT Cross-Wired



SPDT

Used for systems requiring equal run time of two loads. DPDT cross-wired output allows either alternating loads or simultaneous operation of both loads. Selector switch electrically locks in one sequence. Two LEDs indicate relay status. Output: SPDT or DPDT cross-wired 10A resistive at 240VAC/30VDC, ½hp at 240VAC. Response time: 50ms. Temperature: –28°C to 65°C (–20°F to 150°F). Power required: 3VA. UL recognized, CSA certified. *Order sockets separately on this page.*

SPDT OUTPUT CONTACTS – 8 PIN OCTAL SOCKET

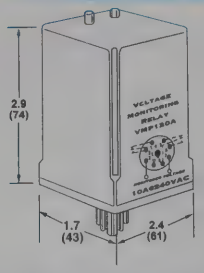
Stock No.	Type	Input Voltage	1-4	5-9	10-24
01F1880	ARP024A6R	24VAC	77.85	70.69	64.87
01F1881	ARP120A6R	120VAC	77.85	70.69	64.87
01F1882	ARP240A6R	240VAC	77.85	70.69	64.87

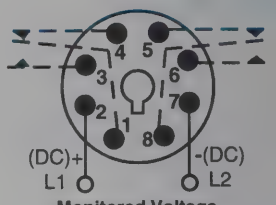
DPDT CROSS-WIRED OUTPUT CONTACTS – 8 PIN OCTAL SOCKET

16F1128	ARP120A3R	120VAC	80.68	73.27	68.56

(4067) (ne08052)

VOLTAGE MONITORING RELAY





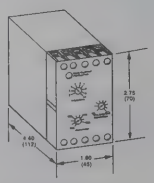
Monitored Voltage

Monitors AC single-phase or DC voltages. Pick-up voltage setting is adjustable from 85-115% of nominal. Drop-out voltage is fixed at 3% below pick-up setting. Relay energizes when the monitored voltage is above the pick-up setting. LED indicates relay status. Output: DPDT 10A resistive at 240VAC/30VDC, ½hp at 240VAC. Response time: 50ms for both pick-up and drop-out. Temperature: –28°C to +65°C (–20°F to +150°F). Power required: 3VA. UL recognized, CSA certified. *Order sockets separately on this page.*

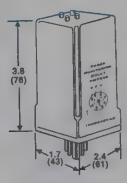
Stock No.	Type	Nominal Voltage	Pick-up Voltage	Drop-out Voltage	Socket	1-4	5-9
16F1120	VMP120A	120VAC	102-138V	97-133V	70169-D	95.81	87.00
16F1122	VMP012D	12VDC	10-14V	9-13V	70169-D	95.81	87.00
16F1123	VMP024D	24VDC	21-27V	19-25V	70169-D	95.81	87.00

(4086) (ne08051)

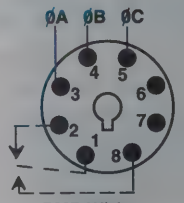
PHASE MONITORING RELAY



PMD Surface-Mount



PMP Plug-in



PMP Wiring

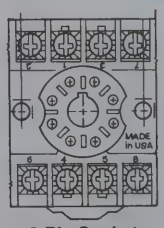
Protects against phase loss, phase reversal, phase unbalance, and undervoltage. Relay features user-selectable phase unbalance (2-10%) and undervoltage settings. Adjustable time-delay drop-out (0.1-20 seconds) on undervoltage prevents nuisance tripping. LED indicates both normal and fault conditions. Output: SPDT (**Types PMP**) or DPDT (**Types PMD**) 10A resistive at 240VAC/30VDC, ½hp at 240VAC. Temperature: –28°C to 65°C (–20°F to 150°F). Power required: 3VA. Reset: automatic. UL recognized, CSA certified. *Order sockets separately on this page.*

Stock No.	Type	Operating Voltage (50-60Hz)	Adjustable Undervoltage Range	1-4	5-9	10-24
16F1118	PMP240*	208/240VAC	180-230V	95.81	87.00	81.42
01F1878	PMP480*	480VAC	360-460V	101.48	92.15	84.57
01F1879	PMD240	208/240VAC	180-230V	117.24	106.46	97.70
16F1117	PMD480	480VAC	360-460V	126.07	114.48	107.13

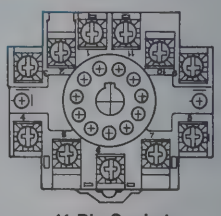
*PMP240 requires 70169-D socket; PMP480 requires 70175 socket.

(4085) (ne08049)

SOCKETS



8-Pin Socket



11-Pin Socket

Units are made for use with all Macromatic plug-in products. Sockets feature pressure wire clamps and can be either DIN track except **type 70175** or direct panel-mounted. UL recognized, CSA certified.

Stock No.	Type	Description	1-9	10-24	25-49
66F2892	70169-D	8-Pin Octal (300V)	5.90	5.37	4.93
66F2893	70170-D	11-Pin Octal (300V)	9.61	8.75	8.04
01F1883	70175	8-Pin Octal (600V)	5.90	5.37	4.84

(4088) (ne08053)

TIME-DELAY RELAYS

TIME RANGER™ PROGRAMMABLE TIME-DELAY RELAYS

User sets delay from one of 16 time ranges built-in to each unit and then adjusts within selected range using knob on top. No math is required. The 16 time ranges cover 0.1 seconds to 2 hours (0.6 seconds to 24 hours on SS-631, SS-651, SS-661 & SS-681). Output: DPDT 10A resistive @ 240VAC/30VDC, 1/3hp @ 240VAC. Repeat accuracy: ±0.1%. Temperature: –28° to 65°C (–20° to 150°F). Power required: 3VA. UL recognized, CSA certified. *Order 8-pin and 11-pin space saver sockets separately on page 738.*

SS 602 ON-DELAY

Upon application of input voltage, a preset time begins. At the end of the preset time, the relay contacts transfer. Input voltage must be removed and re-applied to reset the time delay relay.

Stock No.	Type	Input	Socket	1-9	10-24	25-49
46F5879	SS 60222	120VAC/DC	8 Pin Octal	61.51	55.99	51.42
46F5881	SS 60228	24VAC/DC	70169-D	61.51	55.99	51.42
46F5880	SS 60226	12VAC/DC		61.51	55.99	51.42

SS 605 INTERVAL ON

Upon application of input voltage, the relay contacts transfer and a preset time begins. At the end of the preset time, the contacts return to their normal condition. Input voltage must be removed and reapplied to reset the time delay relay.

46F5882	SS 60522	120VAC/DC	8 Pin Octal	65.35	59.49	54.64
46F5883	SS 60528	24VAC/DC	70169-D	65.35	59.49	54.64

SS 616 OFF DELAY (TERMINAL 5-6 TRIGGER)

Input voltage must first be applied. Upon closure of the control switch, the relay contacts transfer and hold. Upon opening of the control switch, a preset time begins. At the end of the preset time, the relay contacts will return to their normal condition. Any application of the control switch will reset the time. The time delay relay is reset by closing the control switch.

46F5885	SS 61622	120VAC/DC	11 Pin Octal	73.68	67.07	61.60
46F5886	SS 61628	24VAC/DC	70170-D	73.68	67.07	61.60

SS 619 OFF DELAY (POWERED TRIGGER)

ACTION. Same as **616 series.**

Stock No.	Type	Input	Socket	1-9	10-24	25-49
46F5888	SS 61922	120VAC/DC	11 Pin Octal	84.89	77.28	70.97
46F5889	SS 61928	24VAC/DC	70170-D	84.89	77.28	70.97

SS 615 MOMENTARY INTERVAL (SINGLE SHOT)

Input voltage must first be applied. Upon closure of the control switch, the relay contacts transfer and the preset time begins. During the time-out, the trigger input is ignored. The time delay relay is rest by applying the trigger when the relay is not energized.

46F5884	SS 61522	120VAC/DC	11 Pin Octal	69.20	62.99	57.85
98F2045	SS 61526	12VAC/DC	70170-D	64.07	58.33	53.57
01F1875	SS 61528	24VAC/DC	70170-D	68.08	61.82	56.73

SS 618 WATCHDOG (POWERED TRIGGER)

Input voltage must first be applied. Upon closure of the control switch, the relay contacts transfer and the preset time begins. At the end of the preset time, the relay contacts return to their normal condition unless the control switch is opened and closed before the preset time elapses. Continuous cycling of the trigger at a rate faster than the preset time will cause the relay contacts to remain closed.

01F1876	SS 61822	120VAC/DC	11 Pin Octal	72.49	65.82	60.41
01F1877	SS 61828	24VAC/DC	70170-D	72.49	65.82	60.41

SS 631 REPEAT CYCLE

Upon application of input voltage, OFF time begins. When the OFF time is completed, the ON time begins. The sequence repeats until the input voltage is removed. The OFF time and ON time are independently adjustable.

90F1395	SS 63122	120VAC/DC	8 Pin Octal	83.52	75.84	70.97
90F1396	SS 63128	24VAC/DC	70169-D	83.52	75.84	70.97

SS 651 REPEAT CYCLE

Upon application of input voltage, ON time begins. When the ON time is completed, the OFF time begins. The sequence repeats until the input voltage is removed. The ON time and OFF time are independently adjustable.

90F1397	SS 65122	120VAC/DC	8 Pin Octal	83.52	75.84	70.97
90F1398	SS 65128	24VAC/DC	70169-D	83.52	75.84	70.97

SS 661 DELAYED INTERNAL

Upon application of input voltage, OFF time begins. When the OFF time is completed, the ON time begins. When ON time is completed, sequence stops. Input voltage must be removed and reapplied to initiate action again. The ON time and OFF time are independently adjustable.

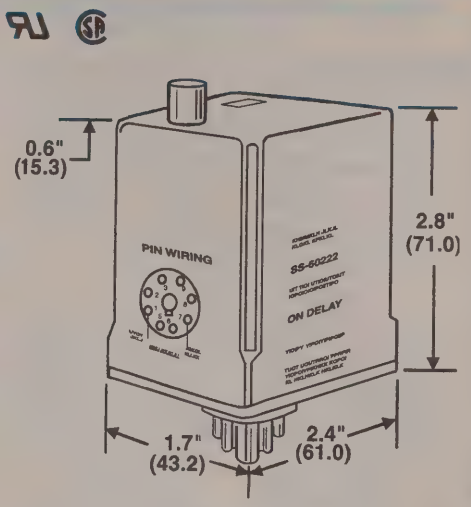
90F1399	SS 66122	120VAC/DC	8 Pin Octal	83.52	75.84	70.97
90F1400	SS 66128	24VAC/DC	70169-D	83.52	75.84	70.97

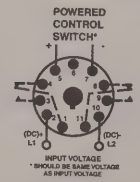
SS 681 MULTI-FUNCTION

Offering 4 field-selectable operating modes (On Delay, Interval On, Off Delay & Single Shot) and 16 time ranges (0.6 seconds to 24 hours) in one unit.

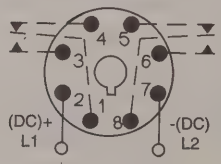
83F4313	SS 68122	120VAC/DC	11 Pin Octal	77.22	70.12	64.35
83F4314	SS 68128	24VAC/DC	70170-D	77.22	70.12	64.35

(4073) (de90480)

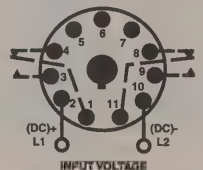




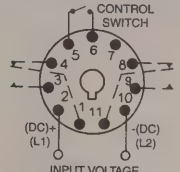
SS618, SS619



INPUT VOLTAGE
SS 602, SS 605, SS 631, SS 651, SS 661



SS681 (On Delay Interval)



SS 616, SS 615, SS-681 (Off Delay, Single Shot)

TYPE SS6 AND SS8 COMPACT TIME-DELAY RELAYS

Compact, economical design. Timing is screwdriver adjustable. Output: 5A resistive @ 120VAC/28VDC, 1/6 hp @ 120VAC. Repeatable accuracy: ±2%. Temperature: 0°C to +60°C (32°F to +140°F) Power required: 2.5VA. UL recognized. *Order 8-pin* **type 70169-D** *sockets separately on page 738.*

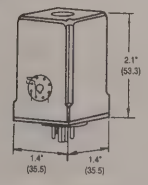
SS6 ON-DELAY 8-PIN OCTAL PLUG-IN

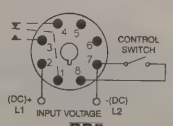
Stock No.	Type	Input	Timing Range (sec.)	1-9	10-24	25-49
28F945	SS626206	120VAC	0.5-15	35.56	32.37	29.73
28F947	SS626208	120VAC	2-60	39.40	35.87	32.94
44F791	SS626606	12VAC/DC	0.5-15	32.68	29.75	27.32
28F950	SS626806	24VAC/DC	0.5-15	35.56	32.37	29.73

SS8 OFF-DELAY 8-PIN OCTAL PLUG-IN

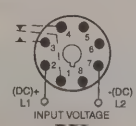
28F954	SS856206	120VAC	0.5-15	44.53	40.54	37.23
28F958	SS856806	24VAC/DC	0.5-15	44.53	40.54	37.23

(4105) (ne52956)



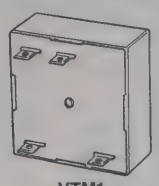


SS8

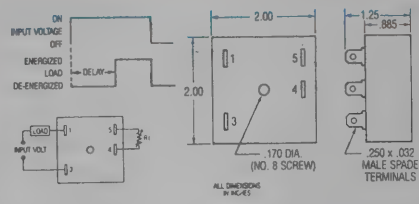


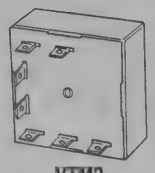
SS6

INDUSTRIAL GRADE SOLID STATE MINIATURE TIMING MODULES

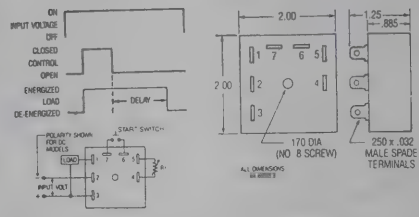


VTM1





VTM2



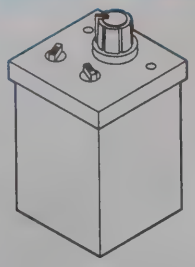
VTM series designed for demanding industrial applications. Repeat accuracy ±1% at constant temperature. 100,000,000 operations at rated load. **VTM1/VTMA1** time-delay operation begins when operating voltage is applied. At the end of the preset time-delay, the output relay (load) is energized until operating voltage is removed. To reset, remove operating voltage. Operation for **VTM2** off delay models: operating voltage is applied continuously. The output relay (load) is energized when a normally-open control switch is closed (the load remains energized as long as the switch is closed). When the control switch is re-opened, time delay begins. If the control state is reversed during time-delay period, the delay generating circuit automatically resets to zero.

VTM1A1 ON DELAY 24-240VAC/VDC

Stock No.	Type	Time Range	Each
98F9869	VTMA1ULA	24-480 sec.	29.04
VTM1 ON DELAY 120VAC/VDC			
98F9870	VTM1ACD	0.5-10 sec.	22.44
98F9871	VTM1ADD	3-60 sec.	22.44
95F9873	VTM1AGD	3-60 min.	22.44
24VAC/VDC			
95F9875	VTM1ECD	0.5-10 sec.	22.44
95F9876	VTM1EDD	3-60 sec.	22.44
VTM2 OFF DELAY-120VAC			
95F9877	VTM2ACD	0.5-10 sec.	25.08
95F9878	VTM2ADD	3-60 sec.	25.08
95F9879	VTM2AFD	0.5-10 min.	25.08
95F9880	VTM2AGD	3-60 min.	25.08
24VAC/VDC			
95F9881	VTM2ECD	0.5-10 sec.	25.08

(4009) (de02323)

KNOB VERSION TIME DELAY AND UNDERVOLTAGE RELAYS

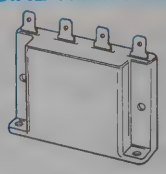


48K series knob version time delay relays are built in a 1/16 DIN package and feature timing ranges of 0.1 sec. to 10 hours. 10A, DPDT contact rating. Universal models (**US** in type number) feature two 8-position switches and linear analog knob with 4 or 8 selectable timing modes. Also feature power on LED and output contacts LED (timing: blinks; energized: on). 120VAC model features one 8-position switch, linear analog knob and output contacts LED. Rated NEMA 1. Operating temperature range: –13°F to 140°F. **Type VMA** solid-state undervoltage relay protects equipment in DC or single phase AC systems. 120VAC nominal, 104V pick up, 78-99V drop out. Time delay relays are UL recognized, CSA certified.

Stock No.	Mode	Voltage	Each
97F7740	8-Pin, Multi-Mode	24-240VAC/DC	75.00
97F7741	11-Pin, Multi-Mode	24-240VAC/DC	79.02

46F8515 Type VMAXAA. **Each** **93.75**
83F7116 Type VMAXBA. **Each** **99.64**
(4017) (de03596)

UNIVERSIAL TIMING MODULES



VTM-1 Miniature Timing modules are simple, encapsulated units remarkably small in size and high reliable. In-line timing module is wired in series with load circuit. Time delay is initiated when power is applied to the series network. Connecting a resistor across the center terminates provides tamper-proof setting of time delay from 1-10,000 secs. Quick-connect terminals (¼") for input line, load output, and timing resistor. Repeat accuracy ±0.1%. Output: solid state SPNO, 1 ampere inductive at nominal operating voltage. 10 million operations at rated load. Operating temperature -30°C to +65°C. UL recognized.

Stock No.	Type	Description	Each
95F9584	1300-010-426	1-1000 Secs	1.17
83F7121	VTM-10	1-10,000 Sec	32.35

(32879) (ns32879)

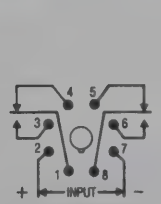
SERIES B PLUG-IN SOCKETS

DIN track or back panel mount. Feature mechanism that holds socket firmly on track. Brass, nickel-plated connectors. UL recognized, CSA certified.

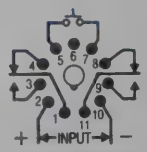
Stock No.	Type	Description	Each
28F1962	BCSA08SC	8 Pin Octal Socket	12.21
28F1963	BCSA11SC	11 Pin Octal Socket	15.84
95F9883	BDS08SS	8 Pin Octal Socket, Din Rail	4.95
95F9884	BDS11SS	11 Pin Octal Socket, Din Rail	6.27

(4010) (de02324)

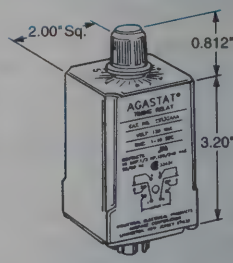
INDUSTRIAL AND INSTRUMENT GRADE SOLID-STATE TIMERS



SST1



SST2



Features high repeat accuracy with digital timing circuitry. Fast, easy setting with time-calibration knobs. Repeating accuracy ±1% . Mechanical life: 10,000,000 operations. Temperature range –23.3°C to + 54.4°C. Operation for **SST1** on-delay model begins when operating voltage is applied. At end of preset time-delay, output relay (load) is energized until operating voltage is removed. To reset, remove operating voltage. Terminated with 8-pin Octal Plug *ordered separately on this page* . Operation for **SST2** off-delay model: operating voltage is applied continuously. The output relay (load) is energized when a normally-open control switch is closed. When control switch is re-opened, preset time delay begins. At end of preset time-delay, output relay (load) de-energizes. If control state is reversed during time-delay period, the delay generating circuit automatically resets to zero. To reset, close control switch. All types are UL recognized and CSA certified. Terminated with 11-pin octal plug, *ordered separately on this page.*

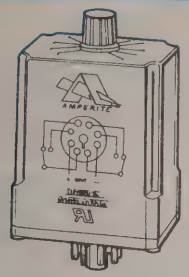
SST1 ON DELAY-120VAC

Stock No.	Type	Time Range	Each
83F7120	SST12ACA	0.6-60 sec.	41.41
95F9855	SST12AAA	0.1-10 sec.	42.86
95F9856	SST12ADA	1.8-180 sec.	42.86
95F9857	SST12AEA	3-300 sec.	42.86
95F9858	SST12AGA	18 sec.-30 min.	42.86
95F9859	SST12AHA	36 sec.-60 min.	42.86
24VDC			
95F9860	SST12OAA	0.1-10 sec.	42.86
95F9861	SST12ODA	1.8-180 sec.	42.86
SST2 OFF DELAY-120VAC			
95F9862	SST22AAA	0.1 sec.-10 sec.	48.22
95F9863	SST22ADA	1.8-180 sec.	48.22
95F9864	SST22AEA	3-300 sec.	48.22
95F9865	SST22AGA	18 sec.-30 min.	48.22
95F9866	SST22AHA	36 sec.-60 min.	48.22
24VDC			
95F9867	SST22OAA	0.1 sec.-10 sec.	48.22
95F9868	SST22ODA	1.8-180 sec.	48.22

(4008) (de02322)

TIME-DELAY RELAYS AND FLASHERS

C10/CR10 SERIES TIME-DELAY RELAYS



Economical, octal-style plug-in models with solid state analog circuitry have 10 amp DPDT contacts. Models are knob adjustable. **C-10 types** are delay-on-operate, white case, **CR-10 types** are delay-on-release, black case. Operating range: –45°C to +70°C.Type number prefix denotes input voltage. UL recognized. CSA approved.

C10 DELAY-ON-OPERATE (8-PIN BASE)

Stock No.	Type	Delay (Seconds)	1-9	10-24
93F2721	24AP.1-60C	0.1-60	37.25	35.97
93F2723	120AP.1-60C	0.1-60	37.25	35.97
93F2725	12DP.1-60C	0.1-60	39.11	37.77
93F2727	24DP.1-60C	0.1-60	37.25	35.97
CR10 DELAY-ON-RELEASE (11-PIN BASE)				
93F2737	120APR1-120C	1-120	39.55	38.18
93F2739	12DPR1-120C	1-120	41.52	40.09
93F2741	24DPR1-120C	1-120	41.52	40.09

(4069) (de52957)

DC10/DCR10 TIME-DELAY RELAYS

DC10 series delay-on-operate CMOS digital TDR's have an 8-pin octal base. **DCR10** delay-on-release CMOS digital TDR's have an 11-pin base. Both series' are rated 10A @ 240 VAC, 15A @ 30 VDC. Contacts: DPDT. Dimensions: 2 5⁄8L x 1¾W x 2⅜″. Temperature range: UL recognized, CSA certified –45° to +70° C. Type number prefix denotes input voltage. UL recognized, CSA certified.

Stock No.	Type	Delay (Seconds)	1-24
95F1615	24AP.1-6SDC	0.1-6	47.78
95F1616	24AP1-60SDC	1-60	47.78
95F1618	120AP.1-6SDC	0.1-6	47.08
95F1619	120AP1-60SDC	1-60	47.78
95F1620	120AP5-300SDC	5-300	47.78
95F1621	12DP.1-6SDC	0.1-6	47.78
95F1622	12DP1-60SDC	1-60	47.78
95F1623	12DP5-300SDC	5-300	47.78
95F1624	24DP.1-6SDC	0.1-6	47.78
95F1625	24DP1-60SDC	1-60	47.78
95F1626	24DP5-300SDC	5-300	47.78
52F030	120AP.1-10SDCR10	.1-10	59.74
52F038	120AP1-60HDCR10	1-60 Hrs	59.74

RELAY SOCKETS

66F6769 Type 11-PIN-SM. **Each** **10.06**
66F4140 Type 8-PIN-SM. **Each** **6.15**
(3986) (de01016)

DOD SERIES TIME-DELAY RELAYS

DOD series time-delay relays feature solid-state analog circuitry and true delay-on dropout with 8-pin base. Contacts are gold clad silver alloy, arranged 2 form C (DPDT) and are rated 1000VA, 90W maximum switching power, 250VAC, 48VDC maximum switching voltage and 4 amperes maximum switching current. Power requirements: AC units—2VA or less; DC units—2 watts or less. Type number prefix denotes input voltage. UL listed, CSA Certified.

Stock No.	Type	Delay Time	1-24
52F050	24A.1-10SDOD	.1-10 sec.	62.67
52F055	120A.6-60SDOD	.6-60 sec.	62.67
52F042	24D1.2-120SDOD	1.2-120 sec.	62.67
52F054	120A.1-10SDOD	.1-10 sec.	62.67
52F056	120A1.2-120SDOD	1.2-120 sec.	62.67

(4077) (ne06119)

CI AND CIR SERIES INTERVAL-ON TDRs

Compact solid-state relays feature 10A relay output with DPDT contacts. Knob adjustable or fixed timing selection. **Type CI** is 8-pin octal style plug, white plastic case. Dimensions: 2.625L x 1.750W x 2.375″ H. Operating temperature range: –45°C to +70°C.. Type number prefix denotes voltage. Other time delays and voltages available; *contact your local Newark sales office.* UL recognized, CSA certified

Stock No.	Type	Delay (sec.)	1-24	25-49
95F1588	120AP.1-60CI	.1-60	42.66	41.49
95F1590	12DP.1-60CI	.1-60	43.30	42.11
95F1592	24DP.1-60CI	.1-60	43.30	42.11

(3984) (de01014)

GLASS TUBE TIME-DELAY RELAYS

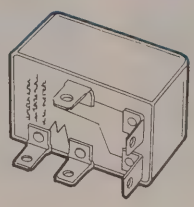
Standard octal or miniature 9-Pin relays. Power consumption is 2.3 watts. Temperature operating range –55°C to +80°C. Contact rating: 3 amps @ 115VAC. Relays listed have a voltage of 115VAC/DC. Other voltages are available. Contacts are SPST. UL recognized.

NORMALLY OPEN, OCTAL

Stock No.	Type	Delay/ Seconds	1-4	5-9
24F2328	115N02	2	104.74	99.69
24F2330	115N05	5	104.74	99.69
24F2331	115N010	10	104.74	99.69
24F2332	115N015	15	104.74	99.69
24F2333	115N020	20	104.74	99.69
24F2397	115N020T	20	104.74	99.69
24F2334	115N030	30	104.74	99.69
24F2336	115N060	60	104.74	99.69
24F2339	115N0120	120	104.74	99.69
NORMALLY CLOSED, OCTAL				
24F2342	115C2	2	104.74	99.69
24F2403	115C2T*	2	86.67	82.62
24F2344	115C5	5	104.74	99.69
24F2345	115C10	10	104.74	99.69
24F2348	115C30	30	104.74	99.69
24F2350	115C60	60	104.74	99.69
24F2355	115C180	180	104.74	99.69

*9 pin minature.
(4070) (de52958)

C AND CR SERIES LOW AMP TDRs



C and **CR series** economical time delay relays have analog circuitry. SPST or SPDT contacts; rated 1A @ 32VAC, ½A @ 115VAC. **C series** is delay-on-make, 0.1-60 seconds delay. **CR series** is delay-on-release. 0.110″ male solder terminals. Dimensions are 1 1⁄16 x 1½ x 15⁄16″. Input voltage is indicated by first digits of type number.

C SERIES NORMALLY OPEN RELAYS

Stock No.	Type	1-9	10-24	25-49
51F2400	115AN05C	22.44	21.46	19.64
93F4617	12DN0.1-60C	31.06	29.74	27.94
C SERIES NORMALLY CLOSED RELAYS				
93F4621	12DC.1-60C	27.70	26.53	25.00
CR SERIES RELAYS				
Stock No.	Type	1-9	10-24	
95F1560	12DNOR1-120C*	27.70	26.53	
95F1561	12DNOR1-120XC*	28.75	27.54	
95F1564	12DSPDTR1-120XC**	30.85	29.57	
95F1565	12DSPDTR1-120SC**	31.90	30.59	
95F1570	24DSPDTR1-120XC**	30.85	29.57	
95F1571	24DSPDTR1-120SC**	31.90	30.59	

* Normally Open Contacts; ** SPDT Contacts
(3983) (de01013)

STOP-ALERT™ AUTOMOTIVE LAMP PULSATOR

100% solid-state device that is connected in series with one or more automotive lamps. Controls current to lamp to produce a pulsating illumination effect. Duty cycle: 85%. Standard pulse rate: 300 pulses per minute. Maximum surge voltage: 50V. Maximum surge current: 160A. Material: glass reinforced black Lexan plastic.

Stock No.	Type	Input Voltage	1-9	10-24
83F4171	STOP-ALERT	11 to 15V	20.05	19.36

(30770) (ne30770)

DFS SERIES SOLID-STATE FLASHERS

100% solid-state circuitry. Flash rates are fixed and available from 1 to 1,000fpm. All types below have flash rates of 60fpm. Duty cycle is 50%. Termination: 0.250 QC male terminals. Case material: black plastic, epoxy-sealed. Dimensions: 2H x 2W x ¾″D. UL listed, CSA certified. Custom flash rates and voltages are available; *contact your local Newark sales office.*

Stock No.	Type	Input Voltage	Current Rating	1-9
83F4165	DFS152-60	120VAC	3A	34.88
83F4166	DFS154-60	120VAC	12A	43.60
83F4167	DFS219-60	12VDC	3A	34.88
83F4168	DFS220-60	12VDC	12A	43.60
83F4169	DFS224-60	24VDC	3A	34.88
83F4170	DFS225-60	24VDC	12A	43.60

(30771) (ne30771)

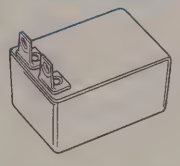
DFA SERIES ADJUSTABLE RECYCLING TIMERS (FLASHERS)

Solid-state digital CMOS recycle (flasher) timer circuitry with 8-pin base. On and off time user adjustable over a 100:1 span. DPDT (2 Form C) isolated 10A relay contacts. Adjustable cycling timers provide a continuously operating on/off cycle as long as power is applied to the input terminals. Two knob operated potentiometers provide user adjustment of both the flash rate and duty cycle. Type number prefix denotes input voltage.

Stock No.	Type	Delay (Seconds)	1-9	10-24
92F3377	12D A/A DFA	.1-10	65.20	62.95
92F3380	12D C/C DFA	.6-60	65.20	62.95
92F3383	12D E/E DFA	1.8-180	65.20	62.95
92F3376	120A A/A DFA	.1-10	63.61	61.42
92F3379	120A C/C DFA	.6-60	63.61	61.42
92F3391	120A F/F DFA	1-100min./ 6000 sec.	63.61	61.42

(4022) (de03879)

DF SERIES ENCAPSULATED FLASHERS



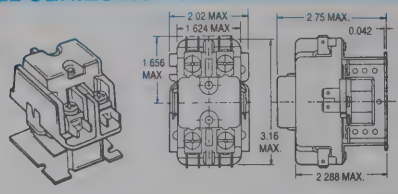
Solid state analog flasher circuitry encapsulated in black plastic case. Approximate 50% duty cycle. 2A load rating. 0.250″ (6.35) quick-connect terminals. 1 1⁄16L x 1⅛W x 15⁄16″H (43.63 x 28.57 x 22.22). Temperature range: –23°C to +60°C. 24-120VAC/DC. Fixed voltage available. UL recognized. CSA approved.

Stock No.	Type	Flash Rate	1-9	10-24
95F1633	24-120F30DF	30 FPM	18.54	17.91
95F1634	24-120F45DF	45 FPM	18.53	17.90
95F1635	24-120F60DF	60 FPM	18.53	17.90
95F1636	24-120F90DF	90 FPM	18.53	17.90
95F1637	24-120F120DF	120 FPM	18.53	17.90

(3987) (de01017)

CONTACT NEWARK FOR LARGE-QUANTITY PRICING.

122 SERIES AC POWER CONTACTORS

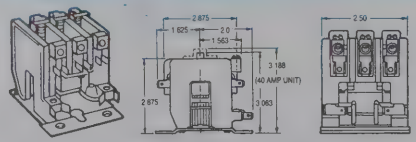


Feature straight-thru wiring, 0.25″ (6.35) auxiliary quick connect terminals, screw power terminals for #10 solid wire maximum, double-make contacts. 2.750H x 2.020W x 3.160″D (69.85 x 51.31 x 80.26). UL recognized, CSA certified. 24 VAC versions are also available; *contact your local Newark sales office.*

Stock No.	Type	Coil Volts (50/60 Hz)	Contact Rating		Each	2-5
			Inductive	Resistive		
93F7668	122-901	24VAC	30A Cont; 150A Inrush @ 277VAC	40A @ 600VAC	28.59	28.59
93F7669	122-902	120VAC	30A Cont; 150A Inrush @ 277VAC	40A @ 600VAC	28.59	27.20
93F7670	122-903	208/240VAC			28.59	27.20
93F7671	122-905	120VAC	25A Cont @ 600V Inrush; 150A @ 277VAC 125A @ 480V 100A @ 600V	35A @ 600VAC (Max.)	29.80	29.80
93F7672	122-906	120VAC	40A Cont; 200A Inrush @ 277VAC	40A @ 600VAC	29.80	28.35
93F7673	122-907	208/240VAC			29.80	28.35

(4000) (de01366)

154 SERIES AC POWER CONTACTORS

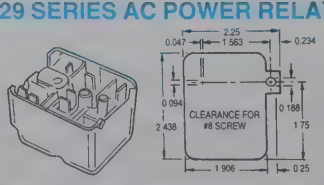


Units are 3PNO except **type 154-914** which is 2PNO. All feature interchangeable mounting with low coil wattage, double break contacts, non-positional, non-corroding structure, low temperature rise, and riveted terminal assemblies. 0.250″ (6.35) double quick connect auxiliary and coil terminals.

Stock No.	Type	Coil Volts (50/60 Hz)	Contact Rating		Each	2-5
			Inductive	Resistive		
60F2651	154-902	120VAC	Continuous 20A @ 600V Inrush; 120A @ 277V, 100A @ 480V, 80A @ 600V	30A @ 600V AC Max	48.11	45.91
60F2653	154-904	24VAC	Continuous 25A @ 600V Inrush; 150A @ 277V, 125A @ 480V, 100A @ 600V	35A @ 600V AC Max	50.96	48.63
60F2661	154-911	120VAC	Continuous 40A @ 600V Inrush; 240A @ 277V, 200A @ 480V, 160A @ 600V	50A @ 600V AC Max	71.58	66.90
60F2659	154-910	24VAC			71.58	66.90
60F2662	154-914	120VAC			56.13	53.56
60F2663	154-912	208/240VAC			71.58	66.90

(3999) (de01365)

129 SERIES AC POWER RELAY

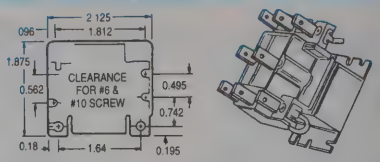


129 Series AC Power relays are totally enclosed. Feature screw terminals, silver alloy contacts rated 18A at 250VAC, resistive or inductive, and single screw mounting. Rated 1 HP at 125V, 2HP at 250V. Electrical life: 100,000 operations at rated load. Coil: 10VA inrush; 5VA sealed. 1.875H x 2.25W x 2.438″D (47.63 x 57.15 x 61.93). UL recognized, CSA certified.

Stock No.	Type	Coil Volts (50/60Hz)	Circuit	Each	2-5
60F2710	129-903	120VAC	SPNO	28.04	26.68

(4003) (de01369)

91 SERIES AC/DC GENERAL PURPOSE RELAYS

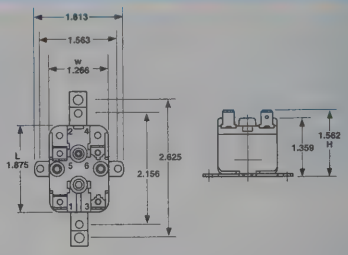


91 series features solenoid action and 0.250″ (6.35) quick connect terminals with enclosed contacts. Electrical life: 100,000 operations at rated load. DPDT characteristic magnet coil rating: 22VA inrush; 10VA sealed. Contact rating: Inductive, 6A continuous, 35A inrush @ 250VAC; 12A continuous, inrush 60A @ 125VAC. Resistive, 15A @ 250VAC max. UL recognized and CSA certified. *Socket and terminal kit for* **91 series** *is available separately; contact your local Newark sales office.*

Stock No.	Type	Coil Volts (50/60 Hz)	Each	2-5
60F2717	91-902	120VAC	24.39	23.80
60F2718	91-903	208/240VAC	27.06	26.40

(4001) (de01367)

184 SERIES AC/DC GENERAL-PURPOSE RELAYS

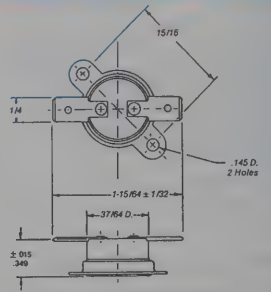


Type 184-911and**184-91** are rated 12A continuous, 60A inrush @125VAC inductive. **Type 184-913** is rated 8A continuous, 48A inrush @250VAC inductive. **Type 184-916** and **Type 184-917** are rated 7A continuous, 42A inrush @277VAC. All are quick connect terminals. QC to screw terminal adapters are available. *Contact your local Newark sales office.* UL recognized, CSA certified.

Stock No.	Type	Coil Volts *	Circuit	Each	2-5
48F1358	184-911	6VAC	SPNO	11.83	11.26
81F186	184-912	24VAC	SPNO	16.18	15.40
48F1357	184-913	120VAC	SPNO	15.63	14.88
81F187	184-916	24VAC	SPDT	17.24	16.40
48F1356	184-917	120VAC	SPDT	18.75	17.84

*Rated 50/60Hz.
(4002) (de01368)

BIMETAL SNAP-ACTION DISC THERMOSTATS

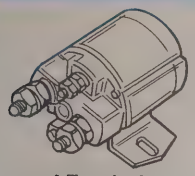


Positive, instantaneous opening or closing of electrical circuits for freezers, refrigerators, water heaters, wall and portable heaters, motors, air conditioning, heaters, table-top appliances, and vending machines. Limit switches that open on rise or fan switches that close on rise available. All have differential of 30°F except **type STO-175** which has a differential of 15°F. Rated 15A at 120VAC, 10A at 240VAC, 8.7A at 277VAC load resistive. 0.250″ (6.35) quick connect termination.

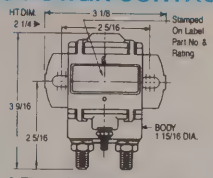
Stock No.	Type	Set Point	Function	Each	2-5	6-10
48F1359	STO-60	60°F ±5°F	Opens	5.08	4.85	4.18
48F1360	STO-85	85°F ±5°F	Opens	5.08	4.85	4.18
46F6505	STO-110	110°F ±5°F	Opens	9.04	8.82	7.53
46F6506	STO-120	120°F ±5°F	Opens	5.25	5.01	4.33
46F6508	STO-140	140°F ±5°F	Opens	5.25	5.01	4.33
46F6510	STO-150	150°F ±5°F	Opens	5.25	5.01	4.33
46F6511	STO-160	160°F ±5°F	Opens	5.25	5.01	4.33
46F6512	STO-170	170°F ±5°F	Opens	5.25	5.01	4.33
46F6635	STO-175	175°F ±5°F	Opens	5.25	5.01	4.33
97F7515	STO-190	190°F ±5°F	Opens	9.04	8.82	7.53
98F4355	STO-210	210°F ±5°F	Opens	5.25	5.01	4.33
98F6155	STC-100	100°F ±5°F	Closes	9.04	8.82	7.53
46F6507	STC-120	120°F ±7°F	Closes	9.04	8.82	7.53
46F6509	STC-140	140°F ±7°F	Closes	9.04	8.82	7.53

(4004) (de01370)

124 SERIES HEAVY-DUTY DC POWER CONTACTORS



4-Terminal



4-Terminal Dimensions

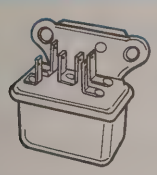
- **Dust-Proof Cover**
- **Ideal for Mobile DC Equipment**

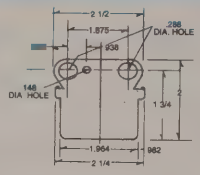
124 series meets UL 583 Truck Standard. Heavy-duty contactors have a dust-proof cover and are suitable for rugged and high-current mobile DC equipment applications. Silver contacts rated for DC inductive load: 100A continuous; 400A inrush. Maximum continuous coil watts: 12 at rated voltage. Maximum pick-up: 75% rated coil voltage, with design ambient from –40°C to +65°C. Contact termination: 5/16″-24 UNA-2A stud. Coil termination: #10-32 UNF-2A thread. 3-terminal versions have grounded coil; 4- and 6-terminal versions have isolated coil.

Stock No.	Type	Coil Volts	Circuit	Terminals	Each	2-5	6-10
02F1138	124-906	12	SPNO	3	37.98	36.25	31.27
02F1134	124-902	12	SPNO	4	37.98	36.25	31.27
02F1135	124-903	24	SPNO	4	37.98	36.25	31.27
02F1136	124-904	36	SPNO	4	37.98	36.25	31.27
02F1142	124-910	12	SPDT	6	58.92	56.23	48.51
02F1143	124-911	24	SPDT	6	58.92	56.23	48.51
02F1144	124-912	36	SPDT	6	58.92	56.23	48.51

(3957) (de00039)

150 SERIES ENCLOSED DC POWER RELAYS



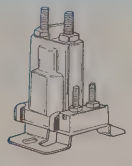


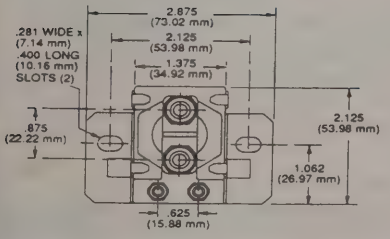
Totally enclosed **150 series** relays feature isolated coil and sturdy metal case. Have 0.25″ (6.35) quick-connect terminals and side mounting bracket. Coil voltage is the same as the contact voltage. Coil watts: 3 at rated voltage, continuous-duty coil. Quick-connect terminals included.

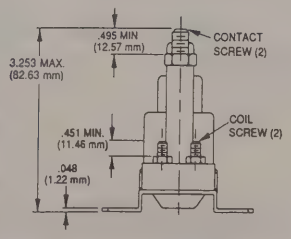
Stock No.	Type	Coil Volts	Contact Amps	Circuit	Each	2-5	6-10
60F2666	150-902/150-10	12DC	25	SPNO	41.06	40.06	34.22
02F1121	150-903	24DC	12	SPNO	23.86	22.78	19.65
70B7099	150-904	6DC	15	SPDT	28.06	26.87	24.29
02F1122	150-906	24DC	7.5	SPDT	28.06	26.87	24.29
60F2669	150-905	12DC	15	SPDT	25.21	24.07	20.77

(3958) (de00040)

120 SERIES HEAVY-DUTY DC POWER CONTACTORS





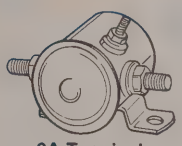


120 series durable, water-resistant, continuous-duty contactors are ideal for high-temperature and high-vibration conditions. Circuits: SPNO. Termination: # 10-32 UNF-2A thread. Rated 100A full load, 400A inrush. Contacts: silver-alloy. Temperature range: –20°F to +150°F. Units feature standard bracket. Versions with L-shaped bracket are also available; *contact your local Newark sales office for details.*

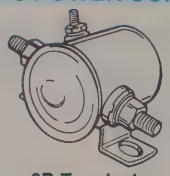
Stock No.	Type	Coil Volts	Coil Ohms	Each	2-5	6-10
50F3662	120-901	12DC	16.0	16.88	16.12	13.91
50F3663	120-902	15DC	20.8	16.88	16.12	13.91
50F3665	120-904	24DC	64.0	21.90	20.84	18.98
50F3668	120-907	12DC	16.0	17.20	16.42	14.17

(3959) (de00041)

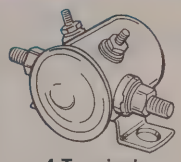
70 SERIES DC POWER CONTACTORS



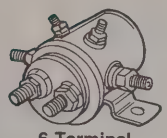
3A-Terminal



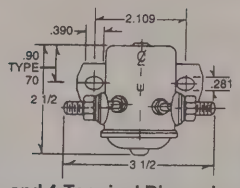
3B-Terminal



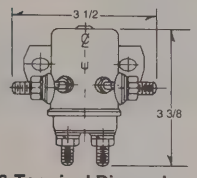
4-Terminal



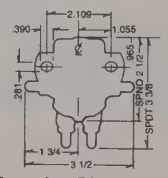
6-Terminal



3- and 4-Terminal Dimensions



6-Terminal Dimensions



Mounting Dimensions

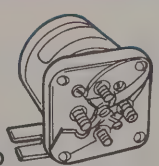
70 series feature double-break, rotating-disk movable copper contact, except types with asterisk (*), which denotes silver. Sealed in drawn-steel, dust-proof enclosure. Bracket mounting with 2.109″ (53.57) centers. Contact rating: 80A at 6 and 12VDC, 50A at 24 and 36VDC. 300A inrush at 6VDC, 150A at 12VDC, 50A inrush at 24 and 36VDC. Coil rating: 9 watts. SPNO models are: 2.5H x 3.5W x 2.5″D (63.50 x 88.90 x 63.50). SPDT models are: 3.375H x 3.563W x 2.5″D (85.73 x 90.50 x 63.50).

Stock No.	Type	Coil Volts	Circuit	Terminals*	Each	2-5	6-10
60F2692	70-914	12	SPNO	3A	29.65	28.93	24.71
60F2693	70-915	24	SPNO	3A	31.39	30.62	26.16
48F1347	70-917	6	SPNO	3B	30.45	29.71	25.38
60F2694	70-918	12	SPNO	3B	23.98	22.82	20.78
60F2725	70-901	6	SPNO	4	27.74	27.07	23.12
60F2726	70-902	12	SPNO	4	27.91	27.23	23.26
60F2676	70-906*	12	SPNO	4	52.64	49.21	43.54
60F2727	70-903	24	SPNO	4	28.29	27.60	23.58
60F2677	70-907*	24	SPNO	4	54.53	50.98	45.10
60F2728	70-904	36	SPNO	4	23.25	22.12	20.15
60F2680	70-910	12	SPDT	6	82.11	76.77	67.91
02F1109	70-922	12	SPDT	6	60.57	56.63	50.10
02F1110	70-923	24	SPDT	6	47.01	44.86	38.70
60F2681	70-911*	24	SPDT	6	84.00	78.54	69.48

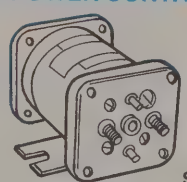
*A= Coil ground to case B=Coil common to load

(3960) (de00042)

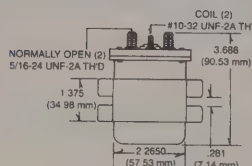
586 SERIES SEALED DC POWER CONTACTORS



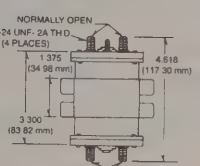
SPNO



SPDT



SPNO Dimensions



SPDT Dimensions

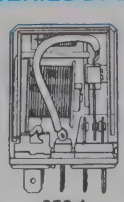
Designed for controlling DC starting motors on gasoline engine-driven auxiliaries, battery-charging power circuits, reversing circuits in winch applications, low-voltage DC motor-generator sets, and industrial lift trucks. Features continuous-duty coil. Incorporates double-make or double-break contacts. Coil rated at 12W continuous duty. Rated 200A continuous, 600A inrush. Contact material: silver. 4-terminals. Temperature range: –40°F to +149°F. Units are dust- and splash-proof.

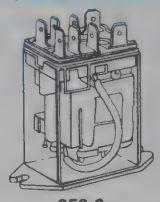
Stock No.	Type	Circuit	Coil Volts	Coil Ohms	Each	2-5	6-10
44F3645	586-902	SPNO	12	21.0	58.71	56.03	48.33
44F3648	586-905	SPNO	24	84	58.71	56.03	48.33
98F7120	586-906	SPNO	36	189.0	58.71	56.03	48.33
44F3649	586-911	SPDT	12	13.2	68.59	67.13	60.53
44F3652	586-914	SPDT	24	53	68.59	67.13	60.53

(3961) (de00043)

RELAYS

258 SERIES DPDT 10-AMP RELAYS


258-1


258-6

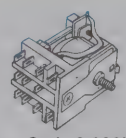
Available with 3/16" quick-connect terminals for plug-in socket capability, PCB terminals, or with direct wiring for flange mount. PC Board terminals also available; *contact your local Newark sales office.* UL recognized. CSA certified, TUV approved.

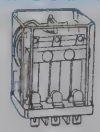
258 SERIES QUICK CONNECT TERMINALS

Stock No.	Type	Volts	Ohms	1-24	25-49
46F1886	258-12B200	12VDC	160	10.56	8.96
46F1887	258-12C200	24VDC	650	10.56	8.96
94F7304	258-12F200	110VDC	13400	11.48	9.75
46F1889	258-12T200	120VAC	4400	10.56	8.96
258 SERIES FLANGE MOUNT					
46F1890	258-62B200	12VDC	160	11.47	9.74
46F1891	258-62C200	24VDC	650	11.47	9.74
46F1892	258-62Q200	24VAC	183	11.47	9.74
46F1893	258-62T200	120VAC	4400	11.47	9.74

(4032) (de51405)

157 SERIES GENERAL PURPOSE RELAYS


Open Style 2.090"L x 1.468"W x 1.282"H


Plug-in With Dust Cover 1.525"W x 1.400"H x 1.905"L

Industrial design power driver. Maximum contact resistance 0.1 ohms. 50/60 Hz. 0.187" silver cadmium oxide contacts rated 10 amps for type numbers with **200 suffix**; 15 amps for types with **300 suffix.** 28 VDC/120/240 VAC, 80% pf. Operate make time 20 MS maximum. Operate release time 10 MS maximum. 0.187" quick-connect terminals. **Type 157-62T200** is a magnetic latching relay. UL recognized. *Order sockets and hold down springs separately on this page.*

157-1 OPEN STYLE WITH MOUNTING STUD, 3PDT 10 AMPS

Stock No.	Type	Coil Volts	Ohms	1-9	10-24
33F1468	157-13T200	120VAC	1700	13.83	12.36
157-2 PLUG-IN WITH DUST COVER, 2PDT 10 AMPS					
23F5351	157-22B200	12VDC	120	10.74	9.12
23F5355	157-22B300	12VDC	...	11.75	9.98
33F1471	157-22T200	120VAC	2250	11.37	9.65
157-2 PLUG-IN WITH DUST COVER, 3PDT 10 AMPS					
33F1472	157-23B200	12VDC	120	12.32	10.45
33F1473	157-23C200	24VDC	470	12.32	10.45
33F1475	157-23Q200	24VAC	72	12.57	10.66
33F1476	157-23T200	120VAC	1700	14.08	12.58
157-3 DUST COVER WITH MOUNTING FLANGE, 3PDT 15 AMPS					
50F7605	157-33C300	24VDC	470	25.06	21.84
50F7607	157-33T300	120VAC	2250	22.40	18.53

MAGNETIC LATCHING RELAY—SOLDER/PLUG-IN/Q.C., 2PDT, WITH DUST COVER

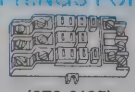
94F3652	157-62T200	120VAC	2090*	20.21	18.05

*Figure given is for latch resistance. Unlatch resistance is 17,430Ω.

(4049) (de51633)

SOCKETS, HOLD DOWN SPRINGS FOR 157 SERIES

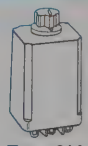
(670-0013)


(670-0125)

Stock No.	Type	Description	1-24	25-49
33F1486	670-0013	PC Terminal w/Ears	1.94	1.71
23F5361	670-0125	3-Pole Screw, 15A	12.17	10.63
23F5362	139-0029	Rivet Mount	0.85	0.68

(4050) (de51634)

612, 613, 614 SERIES SOLID STATE TIME DELAY RELAYS

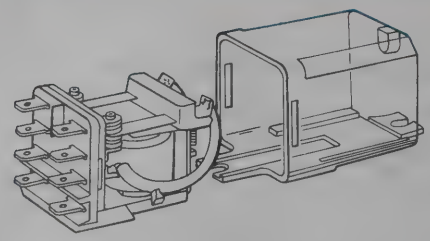

Type 614

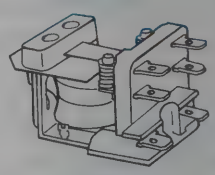
TYPE 612 DELAY ON RELEASE, EXTERNAL RESISTOR 1.2-120 SEC.

Stock No.	Type	Input Volt	1-4	5-9
23F5418	612-12T400	120VAC	71.73	65.15
TYPE 613 KNOB ADJUST 1-120 SEC.				
23F5424	613-12T400	120VAC	46.95	42.65
23F5427	613-43T400	120VAC	57.45	52.18
TYPE 614 DELAY ON OPERATE, EXTERNAL RESISTOR 1.2-120 SEC.				
23F5430	614-12T400	120VAC	65.21	59.23

(4057) (de51730)

187/188 SERIES 20-30AMP RELAYS


187


188

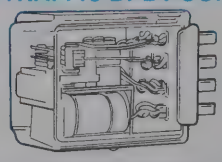
187 series power relays are UL rated 20 amps at 28VDC/120VAC and ¾ HP at 120VAC or 1½ HP at 240VAC. Solder/quick connect terminals. Contacts are 0.25" diameter silver cadmium oxide. **188 series** solder/quick connect terminals in flanged dust cover or plain enclosure. 0.25" diameter silver-cadmium-oxide contacts. 30 amps, 28VDC or 15 amps, 480/600VAC. 1 HP 120VAC, 1 phase. UL recognized file E38802, CSA certified file LR54109.

FLANGED ENCLOSURE SOLDER/Q.C. TERMINAL

Stock No.	Type	Coil Volts	Coil Ohms	Coil Power	1-9	10-24
23F5370	187-32B200	12VDC	120	1.2W	15.79	14.11
23F5371	187-32C200	24VDC	470	1.2W	15.79	14.11
23F5373	187-32Q200	24VAC	72	2.7VA	16.73	14.95
23F5374	187-32T200	120VAC	1700	2.7VA	16.10	14.39
PLAIN ENCLOSURE, PCB TERMINALS, FORM X NO-DM						
94F7267	188-84T200	120VAC	1700	2.0VA	14.34	12.81
FLANGED ENCLOSURE, SOLDER/Q.C. TERMINALS FORM Z NC-NO (DB-DM)						
94F3638	188-36T200	120VAC	1700	2.0VA	18.19	16.25

(4052) (de51636)

JONES PLUG/TRAFFIC DPDT CONTROL RELAY



Power relay switches to 20A in multipole configuration, and 30A in multipole configuration at 120VAC or 240VAC for appliance use under UL file no. 508. Mechanical life in excess of 5 million operations. Dust cover included. Contacts: 3/8" dia. silver/palladium. UL recognized.

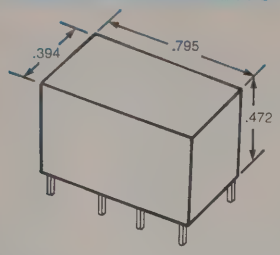
Stock No.	Type	Coil	1-4	5-9
94F3627	136-62T3A1	120VAC	42.84	38.91

(4033) (de51406)

CALL NEWARK FOR FAST, DEPENDABLE SERVICE.

INDUSTRIAL RELAYS & ACCESSORIES

DUAL-IN-LINE RELAYS

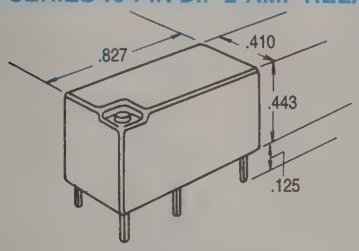


The **MD** relay is enclosed, super-clean, inert gas-filled and epoxy sealed. It is designed for automatic printed circuit board processing. Contact rating is from low level to 2.0 amps switching, with 3.8 amps carry. Standard contact arrangement is a 2 Form C DPDT). It has bifurcated cross-bar contacts for high reliability switching. Mechanical life expectancy is 100 million operations. Two Form C bifurcated contacts gold clad and silver-palladium. Standard and high sensitivity models available. Designed for stable, low contact resistance. UL recognized component, File E90612. Conforms to FCC part 68, 304-1000 VAC. CSA file no. LR65354-1.

Stock No.	Type	Nominal Volts (DC)	Coil Res. Ohms	Power mW	1-24	25-49
92F4437	MDS05	5	167	74	**4.93**	**3.98**
92F4438	MDS12	12	960	74	**4.93**	**3.98**
92F4439	MDS24	24	2880	98	**4.93**	**3.98**
92F4441	MDX12	12	280	223	**4.60**	**3.71**
92F4442	MDX24	24	1070	233	**4.60**	**3.71**

(4023) (de03930)

190 SERIES 16-PIN DIP 2-AMP RELAYS



DPDT relays feature silver (gold clad) contacts, rated 2 amps @ 30VDC resistive or 0.6 amp @ 120VAC resistive. Conform to FCC part 68 1500VDC surge withstand. Dielectric breakdown: 1000VAC coil to poles, 1000VAC between poles, 700VAC across open contact. Nominal power rating: 500mW. Initial contact resistance of 50 milliohms for low level switching. Inert gas sealed for direct PC board insertion and immersion. 10 million mechanical operations. UL recognized, CSA certified.

REGULAR COIL

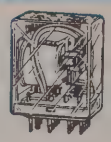
Stock No.	Type	Coil VDC	Coil Ohms	mA	1-24	25-49
28F1728	190-22E2U0	5	45	110	**4.74**	**4.04**
28F1725	190-22B2U0	12	280	42	**4.74**	**4.04**
28F1726	190-22C2U0	24	1070	22	**4.74**	**4.04**

SENSITIVE COIL

Stock No.	Type	Coil VDC	Coil Ohms	mA	1-24	25-49
50F7610	190-22C2S0	24	1070	22	**5.76**	**4.91**

(4051) (de51635)

156 SERIES 3 & 5 AMP INDUSTRIAL RELAYS



4PDT units for data processing and industrial control applications. 1/10HP, 120/240VAC. Units plastic-covered, solder/plug-in terminals. **Suffix LO** in type number indicates lamp across coil; **suffix LC** indicates lamp and pushbutton. Operating temperature: –45° to +75°C. UL recognized. *Order sockets separately on this page.*

2PDT 3 AMP 3/32" SILVER CADMIUM OXIDE (GOLD FLASH)

Stock No.	Type	Volts	Ohms	1-9	10-24
94F7227	156-12C200	24VDC	650	**15.91**	**14.22**

4PDT 3 AMP 3/32" SILVER (GOLD FLASH) CONTACT

33F1402	156-14B100	12VDC	160	**17.15**	**15.32**
33F1403	156-14C100	24VDC	650	**17.15**	**15.32**
33F1406	156-14T100	120VAC	3900	**18.16**	**16.23**

4PDT 5 AMP 3/32" SILVER CADMIUM OXIDE (GOLD FLASH)

33F1408	156-14B200	12VDC	160	**17.28**	**15.44**
33F1409	156-14C200	24VDC	650	**17.28**	**15.44**
33F1411	156-14Q200	24VAC	155	**17.21**	**15.38**
33F1412	156-14T200	120VAC	3900	**18.29**	**16.34**
33F1413	156-14U200	240VAC	14900	**23.09**	**20.63**
94F1881	15614T2LC	120VAC	3900	**21.09**	**18.84**
94F3630	156-14T2L0	120VAC	3900	**19.58**	**17.49**

NYLON COVER PC BOARD TERMINALS
4PDT 5 AMP 3/32" SILVER CADMIUM OXIDE (GOLD FLASH)

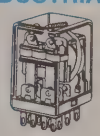
Stock No.	Type	Volts	Ohms	1-9	10-24
33F1420	156-24B200	12VDC	160	**15.91**	**14.22**
33F1424	156-24T200	120VAC	3900	**16.92**	**15.12**

4PDT 3 AMP 3/32" SILVER (GOLD FLASHED) STANDARD

50F7556	156-44C100	24VDC	650	**36.39**	**33.06**

(4054) (de51727)

155/158 SERIES GENERAL PURPOSE 10 AMP INDUSTRIAL RELAYS



For motor controllers through 240VAC, in accordance with UL standard 508, industrial control equipment. Coil rating: 1.2VA AC and 0.9 watts DC plus a maximum continuous rating of 2VA AC and 2 watts DC. Continuous duty operation. 1.28L x 0.859W x 1.109"H. UL recognized; CSA certified. *Order sockets separately on this page.*

2PDT PLUG-IN TERMINALS WITH LEXAN® COVER

Stock No.	Type	Volts	Ohms	1-24	25-49
33F1436	158-12B200	12VDC	160	**11.48**	**9.75**
33F1437	158-12C200	24VDC	650	**11.48**	**9.75**
33F1439	158-12T200	120VAC	3900	**12.53**	**10.63**

2PDT OCTAL PLUG-IN WITH DUST COVER

81F392	158-92Q200	24VAC	155	**16.34**	**14.60**
81F394	158-92T200	120VAC	3900	**16.34**	**14.60**

(4055) (de51728)

FOR COMPLETE PRODUCT SPECIFICATIONS ON ALL MIDTEX RELAYS, LOG ONTO THE MIDTEX WEB SITE AT: www.midtex.com.

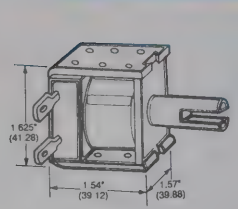
(30572) (ne30572)

SOCKETS FOR 156 AND 158 SERIES RELAYS

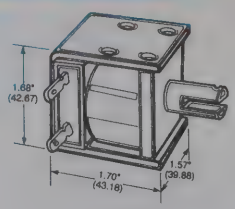
Stock No.	Type	Description	1-24	25-49
28F1720	S156-4PC 00	PC, ground lug	**1.50**	**1.28**
33F1448	670-0020	Solderless	**4.01**	**3.51**
28F1721	670-0120	Screw	**12.57**	**10.98**

(4056) (de51729)

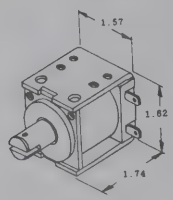
DC VOLTAGE MODEL SOLENOIDS



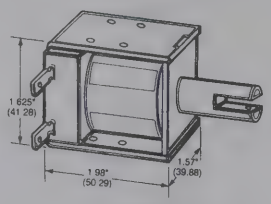
Type 2



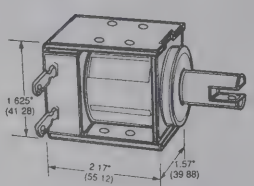
Type 2HD



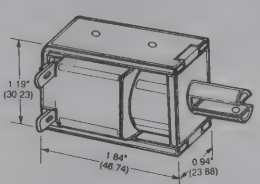
3HD



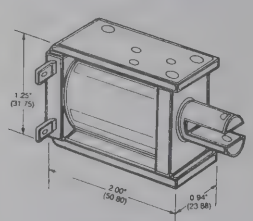
Type 4



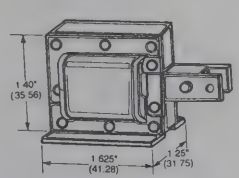
Type 4HD



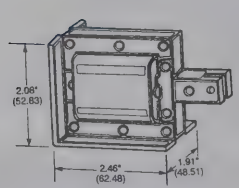
Type 11



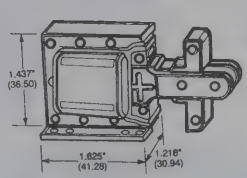
Type 11HD



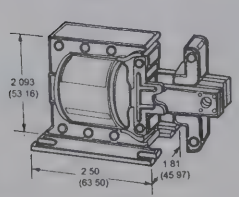
Type 12



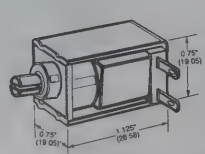
Type 14



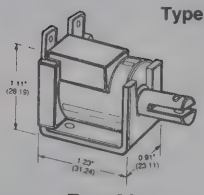
Type 16



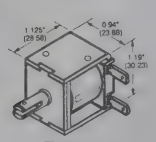
Type 18



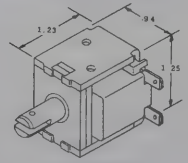
Type 22



Type 24



Type 28



Type 28HD

These intermittent and continuous-duty solenoids are available in AC and DC versions, and in three constructions: box frame, U-frame and laminated. **Types 2, 2HD, 3HD, 4, 4HD, 11, 11HD, 11P, 22** and **28** are box frame. **Types 12, 14, 16, 16P, 18** and **18P** are laminated. **Type 24** is U-frame. **P** in type number indicates a push-type model; **HD** indicates a heavy-duty model. **I** in type number indicates intermittent duty; **C** indicates continuous duty. Last digits of type number indicate voltage. All box frame models have quick-connect terminals. All models are UL recognized.

CONTINUED

DC VOLTAGE MODEL SOLENOIDS (CONT.)

Stock No.	Type	Ohms	Oz. @ Inch of Stroke Minimum	Oz. @ Inch of Stroke Maximum	1-4	5-9	10-24
62F1899	2HD-I-24D	22.6	96@.12″	15@.50″	19.53	18.62	18.05
62F1900	2HD-C-24D	71	48@.12″	5@.50″	19.53	18.62	18.05
94F1141	3HD-C-24D	65.8	45@.12″	5@.50″	14.52	13.84	13.42
24F885	4-I-24D	15.8	100@.12″	20@1.00″	14.95	14.25	13.82
24F886	4-C-24D	61.3	60@.12″	7@.80″	14.95	14.25	13.82
62F1901	4HD-I-24D	18.9	130@.12″	25@.75″	18.13	17.28	16.75
62F1902	4HD-C-24D	57.5	80@.12″	5@.75″	18.13	17.28	16.75
62F1903	4HD-I-110D	354	130@.12″	25@.75″	18.50	17.63	17.10
62F1904	4HD-C-110D	1140	80@.12″	5@.75″	18.50	17.63	17.10
66F6319	4HD-C-12D	14.8	70@.12″	3@.75″	18.13	17.28	16.75
24F889	11-I-6D	1.88	45@.12″	10@.50″	11.82	11.36	10.38
24F083	11-C-6D	4.69	30@.12″	4@.50″	10.27	9.87	9.02
24F891	11-I-24D	29.1	45@.12″	10@.50″	11.82	11.36	10.38
24F084	11-C-24D	93.1	30@.12″	4@.50″	10.27	9.87	9.02
28F1352	11HD-I-24D	29.3	70@.12″	5@.75″	11.38	10.85	10.52
28F1353	11HD-C-24D	76.3	30@.12″	2@.75″	11.38	10.85	10.52
24F3456	11P-C-24D	93.1	24@.12″	3.2@.50″	15.81	15.07	14.61
24F756	22-I-6D	5.8	17@.06″	2@.30″	8.67	8.34	7.62
24F757	22-C-6D	11.5	11@.06″	1@.30″	8.67	8.34	7.62
24F758	22-I-24D	93.2	17@.06″	2@.30″	8.67	8.34	7.62
24F759	22-C-24D	182	11@.06″	1@.30″	8.67	8.34	7.62
24F220	28-I-12D	11.9	40@.06″	3@.50″	9.31	8.96	8.18
24F221	28-C-12D	29.8	23@.06″	2@.50″	9.31	8.96	8.18
24F222	28-I-24D	47.4	40@.06″	3@.50″	9.31	8.96	8.18
24F223	28-C-24D	116	23@.06″	2@.50″	9.31	8.96	8.18
83F7182	22-C-12D	45.7	13@.06″	2@.30″	7.28	7.00	6.28
83F7183	11-I-12D	7.5	70@.12″	10@.50″	11.42	10.98	9.84
83F7184	3HD-C-120A	100	5@.12″	13@.87″	22.07	21.04	20.00

(4101) (ne52050)

AC VOLTAGE MODEL SOLENOIDS

Stock No.	Type	Ohms	Oz. @ Inch of Stroke Minimum	Oz. @ Inch of Stroke Maximum	1-4	5-9	10-24
24F078	2-I-120A	60	45@.12″	11@.87″	16.43	15.66	15.19
24F079	2-C-120A	166	14@.12″	3@.87″	16.43	15.66	15.19
62F1897	2HD-I-120A	36	70@.12″	16@.75″	20.82	19.84	19.24
62F1898	2HD-C-120A	113	25@.12″	6@.75″	20.82	19.84	19.24
24F872	4-I-120A	37	36@.12″	26@1.00″	17.80	16.96	16.45
24F873	4-C-120A	133	8@.12″	7@1.00″	17.80	16.96	16.45
24F081	11-I-120A	85	21@.12″	11@.75″	12.01	11.44	11.10
24F082	11-C-120A	200	12@.12″	6@.75″	12.01	11.44	11.10
28F1351	11HD-C-120A	165	12@.12″	3.5@1.00″	14.52	13.84	13.42
24F3454	11P-C-120A	200	9.6@.12″	4.8@.75″	18.99	18.10	17.55
24F086	12-I-120A	100	48@.12″	9@.87″	49.59	47.27	45.83
24F087	12-C-120A	150	28@.12″	6@.87″	49.59	47.27	45.83
24F874	14-I-120A	11	108@.12″	56@1.50″	60.37	58.33	54.23
24F875	14-C-120A	18	75@.12″	40@1.50″	60.37	58.33	54.23
24F090	16-I-120A	41	110@.12″	28@.75″	55.96	53.34	51.72
24F876	16-C-120A	85	63@.12″	15@.75″	55.96	53.34	51.72
24F893	16-C-240A	350	63@.12″	15@.75″	55.96	53.34	51.72
24F3446	16-P-I-120A	41	88@.12″	22.5@.75″	67.26	64.98	60.42
24F3457	16P-C-120A	85	50.5@.12″	12@.75″	67.26	64.98	60.42
24F092	18-I-120A	8.8	350@.12″	208@.87″	63.55	61.39	57.09
24F093	18-C-120A	19.7	152@.12″	100@.87″	63.55	61.39	57.09
24F894	18-I-240A	45	350@.12″	208@.87″	63.55	61.39	57.09
24F895	18-C-240A	78	152@.12″	100@.87″	63.55	61.39	57.09
24F3447	18P-I-120A	8.8	315@.12″	187@.87″	82.23	79.45	73.87
24F3458	18P-C-120A	19.7	137@.12″	90@.87″	82.23	79.45	73.87
24F755	24-C-120A	500	10@.06″	2@.62″	10.26	9.86	9.01
24F177	28-C-24A	17.4	24@.06″	5@.62″	10.43	10.03	9.16
24F179	28-C-120A	400	24@.06″	5@.50″	10.43	10.03	9.16

(4100) (ne52037)

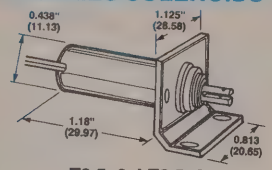
MAGNETIC LATCHING SOLENOIDS

Combine permanent magnets with conventional solenoid design to provide pull and hold action in response to momentary current pulses. Ideally suited for battery-operated devices where continuous-duty service is required but power consumption must be minimized. Dielectric strength 1500 Vrms at 60Hz. Last digits in type number indicate voltage (VDC). UL recognized.

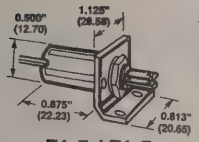
Stock No.	Type	Ohms	Amp Turns	Oz.@Inch of Stroke	Holding Force	1-4	5-9	10-24
95F7085	4L-C-12D	25.5	888	35@0.250″	10lbs.	37.88	36.59	34.02
95F7086	4L-C-24D	102	888	35@0.250″	10lbs.	37.88	36.59	34.02
95F7090	22L-C-6D	7.5	442	7.5@0.125″	3lbs.	30.96	29.51	28.62

(4074) (ne02388)

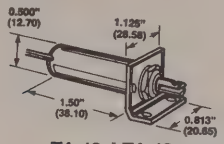
T SERIES SOLENOIDS



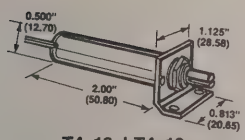
T3.5x9, LT3.5x9



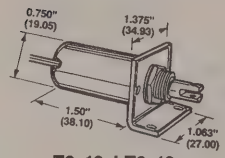
T4x7, LT4x7



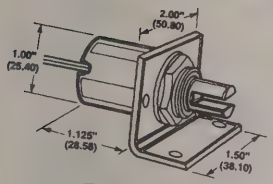
T4x12, LT4x12



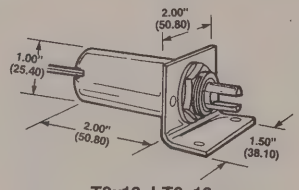
T4x16, LT4x16



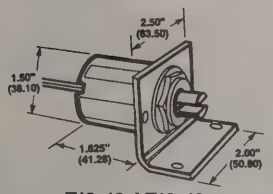
T6x12, LT6x12



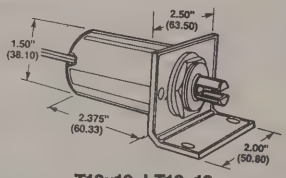
T8x9, LT8x9



T8x16, LT8x16



T12x13, LT12x13



T12x19, LT12x19

T series pull type intermittent and continuous-duty tubular solenoids are available in DC voltage only. Mounting brackets, nuts and washers included. Duty: **I** in **type** = intermittent; **C** in **type** = continuous. All models UL recognized.

Stock No.	Type	Coil Resis. Ohms	Lifts and Strokes Min Oz.	Min @in	Max Oz.	Max @in	1-4	5-9	10-24
67F5609	T3.5X9-C-12D	60.2	4.5	.03″	0.3	0.31″	13.01	12.40	12.03
67F5608	T3.5X9-I-12D	31.1	7	.03″	0.7	0.50″	13.01	12.40	12.03
24F2980	T3.5X9-C-24D	254	4.5	.03″	0.3	0.3″	13.01	12.40	12.03
24F2972	T4X7-I-24D	131	7	.03″	1	0.25″	14.74	14.04	13.62
24F2981	T4X7-I-24D	270	5	.03″	0.5	0.25″	14.74	14.04	13.62
24F2982	T4X12-C-24D	195	6	.03″	1.5	0.15″	11.24	10.71	10.39
67F5612	T4X16-I-12D	17.7	7	.06″	2.5	1.00″	12.71	12.11	11.75
24F2983	T4X16-C-24D	173	4.5	.06″	1.2	0.50″	12.71	12.11	11.75
24F2974	T4X16-I-24D	72.7	7	.06″	2.5	1.00″	12.71	12.11	11.75
67F5615	T6X12-C-12D	31.7	15	.06″	1	0.75″	12.03	11.47	11.12
67F5614	T6X12-I-12D	12.1	23	.06″	3	0.75″	12.03	11.47	11.12
24F2984	T6X12-C-24D	121	15	.06″	1	0.75″	12.03	11.47	11.12
24F2975	T6X12-I-24D	60.6	23	.06″	3	0.75″	12.03	11.47	11.12
24F2985	T8X9-C-24D	135	18	.06″	2.5	0.43″	13.04	12.43	12.05
24F2976	T8X9-I-24D	44	45	.06″	5	0.43″	13.04	12.43	12.05
67F5618	T8X16-I-12D	9.3	58	.06″	5	0.60″	14.42	13.74	13.33
67F5619	T8X16-C-12D	28.3	30	.06″	2.5	0.60″	14.42	13.74	13.33
24F2977	T8X16-I-24D	36.1	58	.06″	5	0.60″	14.42	13.74	13.33
24F2986	T8X16-C-24D	110	30	.06″	2.5	0.6″	14.42	13.74	13.33
24F2978	T12X13-I-24D	28.4	100	.12″	15	0.60″	21.69	20.67	20.05
24F2987	T12X13-C-24D	90.4	40	.12″	5	0.60″	21.69	20.67	20.05
24F2979	T12X19-I-24D	22.1	130	.12″	40	0.75″	21.39	20.38	19.77
24F2988	T12X19-C-24D	68	70	.12″	10	0.75″	21.39	20.38	19.77

(3992) (de01146)

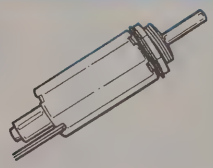
LT SERIES SOLENOIDS

LT series long life pull type intermittent and continuous-duty tubular solenoids are available in DC voltage only. Mounting brackets, nuts and washers included. Duty: **I** in **type** = intermittent; **C** in **type** = continuous. All models UL recognized.

Stock No.	Type	Coil Resis. Ohms	Lifts and Strokes Min. Oz.	Min. @in	Max. Oz.	Max. @in	1-4	5-9	10-24
62F3651	LT3.5X9-C-12D	52.4	2.5	.03″	0.2	.37″	25.23	24.04	23.32
62F3661	LT4X12-C-24D	19.2	7.5	.03″	0.5	.50″	22.98	21.90	21.23
62F3663	LT4X16-C-12D	42.5	4	.06″	2	.50″	25.73	24.53	23.78
62F3665	LT4X16-C-24D	168	4	.06″	2	.50″	25.73	24.53	23.78
62F3664	LT4X16-I-24D	69.1	8	.06″	2.5	.50″	25.73	24.53	23.78
62F3667	LT6X12-C-12D	35	18	.06″	1	.12″	19.86	18.93	18.36
62F3666	LT6X12-I-12D	13.8	35	.06″	2.5	.50″	19.86	18.93	18.36
62F3669	LT6X12-C-24D	138	18	.06″	1	.50″	19.86	18.93	18.36
62F3674	LT8X16-I-12D	6.2	67	.06″	12	.50″	23.19	22.10	21.43
62F3675	LT8X16-C-12D	19.3	33	.06″	2.5	.50″	23.19	22.10	21.43
62F3676	LT8X16-I-24D	29.7	62	.06″	10	.50″	23.19	22.10	21.43
62F3677	LT8X16-C-24D	77.2	33	.06″	2.5	.50″	23.19	22.10	21.43
62F3678	LT12X13-I-12D	5.9	110	.12″	10	.50″	28.41	27.45	25.52
62F3681	LT12X13-C-24D	71.2	35	.12″	1	.50″	28.41	27.45	25.52
62F3682	LT12X19-I-12D	4.66	130	.12″	15	.75″	30.57	29.54	27.46
62F3683	LT12X19-C-12D	14.8	70	.12″	5	.75″	30.57	29.54	27.46
62F3684	LT12X19-I-24D	18.6	130	.12″	15	.75″	30.57	29.54	27.46
62F3685	LT12X19-C-24D	71.8	70	.12″	3	.75″	30.57	29.54	27.46

(3993) (de01147)

TP SERIES SOLENOIDS



TP series push type intermittent and continuous-duty tubular solenoids are available in DC voltage only. Mounting brackets, nuts and washers included. Duty: **I** in **type** = intermittent; **C** in **type** = continuous. All models UL recognized.

Push Rod Dimensions

Type	Diameter	Length
TP3.5x9	0.062″(1.57)	0.083″(2.10)
TP4x7	0.062″(1.57)	0.359″(9.12)
TP4x12	0.062″(1.57)	0.875″(22.22)
TP4x16	0.062″(1.57)	1.250″(31.75)
TP6x12	0.093″(2.38)	1.031″(26.18)
TP8x9	0.187″(4.74)	0.500″(12.70)
TP8x16	0.187″(4.74)	1.250″(31.75)
TP12x13	0.187″(4.74)	1.031″(26.18)
TP12x19	0.187″(4.74)	1.656″(42.06)

Stock No.	Type	Coil Resis. Ohms	Lifts and Strokes Min. Oz.	Min. @in	Max. Oz.	Max. @in	1-4	5-9	10-24
24F3434	TP3.5X9-I-24D	122	6	.03″	0.5	.50″	18.38	17.52	16.99
24F3438	TP3.5X9-C-24D	254	4	.03″	0.3	.31″	18.38	17.52	16.99
67F5610	TP4X7-I-24D	131	6.5	.03″	.75	.15″	21.51	20.50	19.88
67F5611	TP4X7-C-24D	270	3.5	.03″	.50	.15″	21.51	20.50	19.88
24F3435	TP4X12-I-24D	96.7	7	.03″	1.5	.15″	17.43	16.61	16.10
24F3440	TP4X16-C-24D	173	3.8	.06″	1	.50″	19.81	18.88	18.31
24F3436	TP4X16-I-24D	72.7	5.5	.06″	2	.50″	19.81	18.88	18.31
24F3441	TP6X12-C-24D	121	12	.06″	.8	.75″	14.31	13.64	13.23
24F3437	TP6X12-I-24D	60.6	18	.06″	2.5	.75″	14.31	13.64	13.23
70B9104	TP8X16-C-12D	28.3	35	.03″	2	.50″	17.07	16.27	15.77
94F499	TP8X16-C-24D	110	35	.03″	2	.50″	17.07	16.27	15.77
70B9773	TP8X16-I-24D	36.1	55	.03″	4	.50″	17.07	16.27	15.77
67F5616	TP8X9-I-24D	44	36	.06″	4	.43″	15.81	15.07	14.61
67F5617	TP8X9-C-24D	135	14	.06″	2	.43″	15.81	15.07	14.61
67F5620	TP12X13-I-24D	28.4	80	.12″	12	.60″	22.88	21.81	21.15
67F5621	TP12X13-C-24D	90.4	32	.12″	4	.60″	22.88	21.81	21.15
67F5622	TP12X19-I-24D	22.1	100	.12″	30	.75″	26.63	25.38	24.61
67F5623	TP12X19-C-24D	68	55	.12″	8	.75″	26.63	25.38	24.61

(3995) (de01148)

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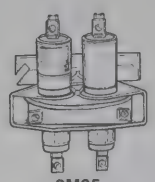
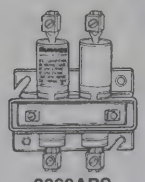
MERCURY DISPLACEMENT RELAYS

MERCURY DISPLACEMENT RELAYS

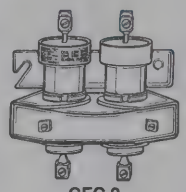
3M30 & 3030 Series



2M35



2060APS



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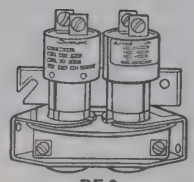

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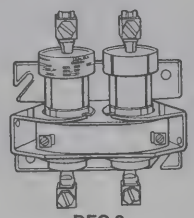

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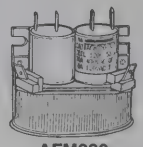


AFM220

General purpose, resistive, motor load, and tungsten ratings are available. Typical applications are lighting and traffic controls, industrial processing equipment, and high-voltage applications. All relays are normally-open. Tubes are hermetically-sealed. Operate in a wide range of temperatures, under low or high pressure, in dust or vapor-filled atmospheres. With self-renewing liquid mercury contacts, they are virtually immune to wear, pitting or corrosion, providing long life, quiet operation. Pull-in voltage is 85% of nominal. Typical contact resistance is 4 milliohms. Operating temperature range: –35°C to +55°C. UL listed, CSA certified. **Types 3M30** and **3030** are CE and TÜV approved. Other control voltages available, 24VAC thru 480 VAC.

RELAY ELECTRICAL RATINGS

Type	Resistive Amps			Motor Load 3 Phase	
	120V	208V/240V	240V	120V	240V
AFM	20	...	20	.05	1.5
CFC	100	...	100	...	20.0
3M30	30	30	30	1.5	3.0
3030	30	30	30	...	...
1M, 2M, 3M35	35	35	35	3.0	7.5
1, 2, 3060	60	60	60	5.0	10.0

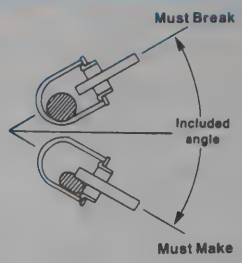
Type	Tungsten 120VAC	Direct Current	
		120V	240V
AFM	10	10.0	8.0
CFC	100	50.0	30.0
3M30	30	...	...
3030	25	...	...
1M, 2M, 3M35	35	17.0	10.0
1, 2, 3060	60	30.0	20.0

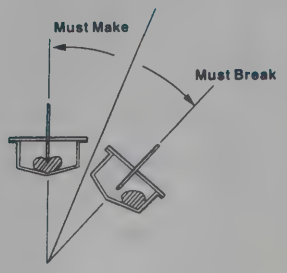
COIL VOLTAGE 120VAC @ 50/60 Hz

Stock No.	Type	No. of Poles	Ohms	Watts	Amps	1-24	25-49
90F7071	AFM20-303-M	1	3510	1.70	.021	40.95	39.78
90F7073	AFM220-303	2	1196	3.60	.051	80.44	78.13
90F7075	AFM320-303	3	470	7.26	0.112	111.58	108.38
66F5530	AFM20-310-M	1	247	2.30	0.097	40.95	39.78
90F7081	3030APS120AC	3	340	4.80	.106	64.41	62.56
90F7083	1M35A120AC	1	902	3.69	.057	48.33	46.94
90F7085	2M35A120AC	2	350	7.10	.130	90.78	88.17
90F7087	3M35A120AC	3	135	9.20	.220	137.66	133.70
90F7090	1060APS120AC	1	902	3.47	.055	77.37	75.15
90F7091	2060APS120AC	2	350	7.46	.133	143.02	138.91
90F7093	3060APS120AC	3	122	9.54	.224	208.10	202.13
52F5589	3050A120AC	3	135	9.10	0.219	203.26	197.43
90F7095	CFC-718	1	180	10.2	.195	191.95	186.44
90F7099	CFC3-708	3	23	39.0	.924	556.74	540.76
93F2791	BF-7032	1	902	3.69	.057	56.17	54.56
98F4499	BF2-7027	2	350	7.10	.130	105.68	102.65
93F2792	BF3-7024	3	125	9.20	.220	156.24	151.75
98F6407	DFC-301	1	180	8.8	.171	268.85	261.13
98F4527	BFC3-708	3	4.5	3.65	2.492	292.79	284.38
98F7609	DFC3-301	3	18	42.9	.986	767.92	745.88

(4058) (de51822)

TILT AND TIP OVER SWITCHES



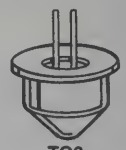


A½S-4929

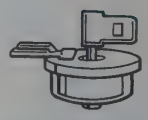
A½-4859

4380

A½-4770



TO8



Tilt and tip-over motion switches provide long contact life and quiet, dependable performance. Sealed contacts are closed to external contaminants. Self renewing, liquid mercury contacts. **A series** switches "make" when the electrode is tilted below horizontal, and "break" when tilted above horizontal. Angle specifications are dependent on rotation rates and load parameters.

NON-INSULATED, MAX. INCLUDED ANGLE 15°

Stock No.	Type	DC Amps @120V	Milliohms	1-24	25-49
95F9632	A1/2-4859	...	150	4.13	4.02
95F9633	A1/2N-5002	0.5	80	4.13	4.02
95F9635	A1/2S-4929	0.5@ 12VDC max.	...	4.13	4.02

INSULATED, MAX. INCLUDED ANGLE 15°

Stock No.	Type	Max. Included Angle	DC Amps @ 120V	Milliohms	1-24	25-49
95F9637	A1-001	15°	0.5	30	12.61	12.25
93F2795	A1-002	15°	0.5	30	12.61	12.25
93F2796	A1-003	15°	....	30	12.61	12.25

Stock No.	Type	Max. Make/Break Included Angle	Amps @120V	Milli-ohms	1-24	25-49
95F9627	T03-1015	10°/45°	12.5	*	5.36	5.20
95F9628	T03-1026	10°/45°	12.5	*	5.36	5.20
95F9630	T08-1006	10°/35°	1.7	Varies	6.06	5.89
95F9631	T08-4539	25°/72°	1.7	20	5.88	5.71
95F9634	A1/2S-4770	15°/130°	...	3000	4.32	4.19

*Meets UL Heat Rises and CSA specifications.

WIDE ANGLE SWITCH

Combined non-insulated A1S and G5 switch. Max. Included angle 35°. 7A @120VAC

92F2158 Type 4380. **Each** **6.41**

(4007) (de02230)

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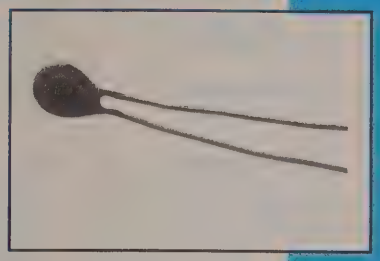
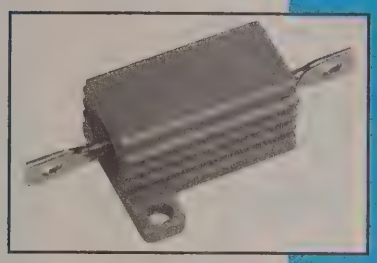
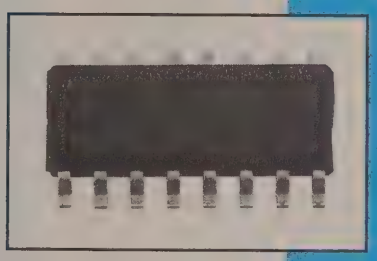
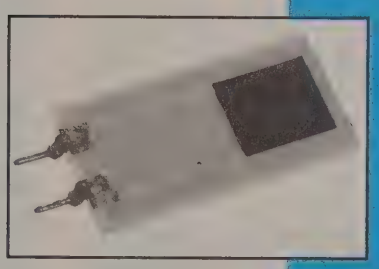
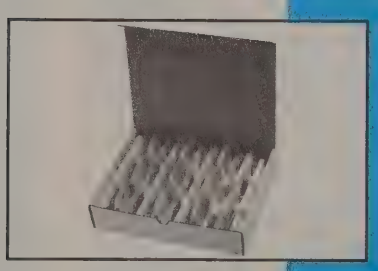
- Mepcopal
- Multicomp
- Ohmite
- Philips Components
- SPC Technology
- Spectrol
- YSI Incorporated

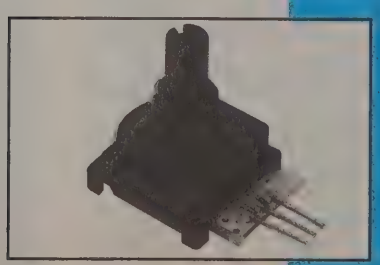










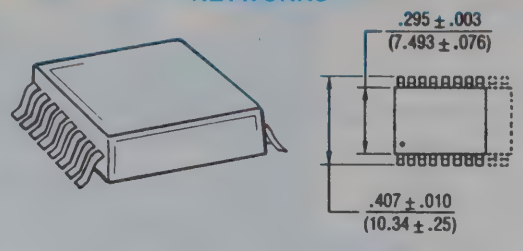


Products include...

- Carbon Composition Resistors
- Chip Resistors
- Counting Dials & Knobpots
- Metal Film Resistors
- Panel Controls
- Potentiometers
- Power Resistors
- Pressure Sensors & Transducers
- Resistor Kits
- Resistor Networks
- Rheostats
- Surface Mount Resistors
- Thermistors
- Thick Film Resistors
- Trimmers
- Wirewound Resistors

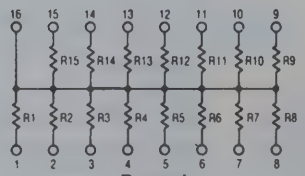
4416 AND 4816 SERIES SURFACE MOUNT RESISTOR NETWORKS

SMD



4416P
4816P

Isolated



Bussed

Surface mount, 16-pin resistor networks feature high-temperature design suitable for all popular solder techniques. Compliant leads reduce solder joint fatiguing. Superior package integrity prevents moisture damage and contamination. Operating temperature: –55°C to +125°C. Power rating @ 70°C: **44116 series**- 1.12W; **4816 series**- 1.28W. Tolerance: 10Ω to 49Ω:±1Ω; 50Ω to 2.2MΩ: ±2%. **4416 series** SOIC gull-wing form features 0.0300″ (7.62) wide body, compatible with automatic placement equipment. **4816 series** is 0.220″ (5.59) body gull-wing form with standard EIA (SOGN-0002) wide body package compatible with automatic placement equipment. **Minimum order quantity: 10 pieces.** Also available in reels of 2000 or 1500 for dual terminator networks; *contact your local Newark sales office.*

ISOLATED NETWORKS

Stock No.	Type	Ohms	1-99	100-499	500-1499
04F6943	4416P-001-220	22	1.88	1.71	1.45
04F6944	4416P-001-330	33	1.88	1.71	1.45
04F4848	4816P-001-330	33	0.75	0.64	0.54
04F4851	4816P-001-102	1k	0.75	0.64	0.54

BUSSED NETWORKS

04F6947	4416P-002-102	1k	1.74	1.61	1.34
04F6935	4416P-002-472	4.7k	1.74	1.61	1.34
04F6950	4416P-002-103	10k	1.74	1.61	1.34
04F4854	4816P-002-102	1k	1.07	0.97	0.82
04F4858	4816P-002-472	4.7k	1.07	0.97	0.82
04F4859	4816P-002-103	10k	1.07	0.97	0.82
04F4860	4816P-002-104	100k	1.07	0.97	0.82

DUAL TERMINATOR NETWORKS

93F1105	4816P-003-221/331	221	1.25	1.06	0.89

(9946) (ne08285)

CR0603/CR0805/CR1206 THICK FILM CHIP RESISTORS

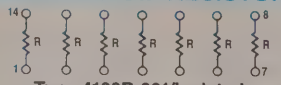
Surface mount resistors. Power rating at 70°C: **CR0603** - 0.10W; **CR0805** - 0.125W; **CR1206** - 0.25W. Temperature coefficient of resistance: ±100ppm/°C (1% tolerance); ±200ppm/°C (5% tolerance). Operating temperature: –55°C to +125°C. Max. working voltage: **CR0603 series** -50V; **CR0805 series** -100V; **CR1206 series** -200V. Additional resistance values from 10Ω to 1MΩ (1% tolerance) and from 1Ω to 10Ω (5% tolerance) also available; *contact your local Newark sales office.* **Sold in reel of 5000.**

Stock No.	Type	Resistance Ω	Resistance Tolerance	Reel of 5000
52F7729	CR0603-FX-1001E	1k	±1%	52.00
52F7730	CR0603-FX-1501E	1.5k	±1%	52.00
52F7731	CR0603-FX-2201E	2.2k	±1%	52.00
52F7732	CR0603-FX-3301E	3.3k	±1%	52.00
52F7733	CR0603-FX-4701E	4.7k	±1%	52.00
52F7734	CR0603-FX-1002E	10k	±1%	52.00
52F7735	CR0603-FX-1502E	15k	±1%	52.00
52F7736	CR0603-FX-2202E	22k	±1%	52.00
52F7737	CR0603-FX-3303E	33k	±1%	52.00
52F7738	CR0603-FX-4702E	47k	±1%	52.00
52F7739	CR0603-FX-1003E	100k	±1%	52.00
52F7740	CR0603-FX-1503E	150k	±1%	52.00
52F7741	CR0603-FX-2203E	220k	±1%	52.00
52F7742	CR0603-FX-3303E	330k	±1%	52.00
52F7743	CR0603-FX-4703E	470k	±1%	52.00
52F7744	CR0603-FX-1004E	1M	±1%	52.00
52F7612	CR0805-FX-1001E	1k	±1%	46.00
52F7613	CR0805-FX-1501E	1.5k	±1%	46.00
52F7614	CR0805-FX-2201E	2.2k	±1%	46.00
52F7615	CR0805-FX-3301E	3.3k	±1%	46.00
52F7616	CR0805-FX-4701E	4.7k	±1%	46.00
52F7617	CR0805-FX-1002E	10k	±1%	46.00
52F7618	CR0805-FX-1502E	15k	±1%	46.00
52F7628	CR0805-FX-2202E	22k	±1%	46.00
52F7629	CR0805-FX-3302E	33k	±1%	46.00
52F7630	CR0805-FX-4702E	47k	±1%	46.00
52F7631	CR0805-FX-1003E	100k	±1%	46.00
52F7632	CR0805-FX-1503E	150k	±1%	46.00
52F7633	CR0805-FX-2203E	220k	±1%	46.00
52F7634	CR0805-FX-3303E	330k	±1%	46.00
52F7635	CR0805-FX-4703E	470k	±1%	46.00
52F7636	CR0805-FX-1004E	1M	±1%	46.00
52F7675	CR085-JW-1001E	1k	±5%	28.00
52F7676	CR0805-JW-152E	1.5k	±5%	28.00
52F7677	CR0805-JW-222E	2.2k	±5%	28.00
52F7678	CR0805-JW-332E	3.3k	±5%	28.00
52F7679	CR0805-JW-472E	4.7k	±5%	28.00
52F7680	CR0805-JW-103E	10k	±5%	28.00
52F7681	CR0805-JW-153E	15k	±5%	28.00
52F7682	CR0805-JW-223E	22k	±5%	28.00
52F7683	CR0805-JW-333E	33k	±5%	28.00
52F7684	CR0805-JW-473E	47k	±5%	28.00
52F7685	CR0805-JW-104E	100k	±5%	28.00
52F7689	CR0805-JW-154E	150k	±5%	28.00
52F7686	CR0805-JW-224E	220k	±5%	28.00
52F7687	CR0805-JW-334E	330k	±5%	28.00
52F7688	CR0805-JW-474E	470k	±5%	28.00
52F7690	CR0805-JW-105E	1M	±5%	28.00
52F7648	CR1206-FX-1001E	1k	±1%	49.00
52F7649	CR1206-FX-1501E	1.5k	±1%	49.00
52F7650	CR1206-FX-2201E	2.2k	±1%	49.00
52F7651	CR1206-FX-3301E	3.3k	±1%	49.00
52F7652	CR1206-FX-4701E	4.7k	±1%	49.00
52F7658	CR1206-FX-1002E	10k	±1%	49.00
52F7659	CR1206-FX-1502E	15k	±1%	49.00
52F7660	CR1206-FX-2202E	22k	±1%	49.00
52F7661	CR1206-FX-3302E	33k	±1%	49.00
52F7662	CR1206-FX-4702E	47k	±1%	49.00
52F7653	CR1206-FX-1003E	100k	±1%	49.00
52F7654	CR1206-FX-1503E	150k	±1%	49.00
52F7655	CR1206-FX-2203E	220k	±1%	49.00
52F7656	CR1206-FX-3303E	330k	±1%	49.00
52F7657	CR1206-FX-4703E	470k	±1%	49.00
52F7663	CR1206-FX-1004E	1M	±1%	49.00
52F7702	CR1206-JW-102E	1k	±5%	31.00
52F7703	CR1206-JW-152E	1.5k	±5%	31.00
52F7704	CR1206-JW-222E	2.2k	±5%	31.00
52F7705	CR1206-JW-332E	3.3k	±5%	31.00
52F7706	CR1206-JW-472E	4.7k	±5%	31.00
52F7707	CR1206-JW-103E	10k	±5%	31.00
52F7708	CR1206-JW-153E	15k	±5%	31.00
52F7691	CR1206-JW-223E	22k	±5%	31.00
52F7692	CR1206-JW-333E	33k	±5%	31.00
52F7693	CR1206-JW-473E	47k	±5%	31.00
52F7694	CR1206-JW-104E	100k	±5%	31.00
52F7695	CR1206-JW-154E	150k	±5%	31.00
52F7696	CR1206-JW-224E	220k	±5%	31.00
52F7697	FR1206-JW-3303E	330k	±5%	29.17
52F7698	CR1206-JW-474E	470k	±5%	31.00
52F7699	CR1206-JW-105E	1M	±5%	31.00

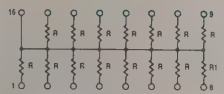
(4083) (ne07314)

RESISTOR NETWORKS AND ARRAYS

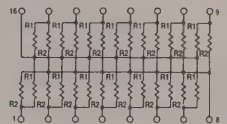
4100R SERIES MOLDED DIP RESISTOR NETWORKS



Type 4100R-001/Isolated



Type 4100R-002/Bussed



Type 4100R-003/Dual-Terminator

4100R series is in industry standard DIP package suitable for automatic insertion. Molded epoxy-resin (Novolac) body. Package power ratings at 70°C: **Type 4114R** rated 2.00 watts; **type 4116R** rated 2.25 watts. Most popular values listed. Additional values available as listed in table below; *contact your local Newark sales office.* NOTE: Minimums may apply.

ISOLATED CONFIGURATION - 001 CIRCUIT

Stock No.	Type	Ohms	Pins	1-49	50-99	100-499
02F1997	4114R-001-103	10k	14	0.59	0.55	0.46
02F2095	4116R-001-123	12k	16	0.60	0.56	0.47

BUSSED CONFIGURATION - 002 CIRCUIT

02F2045	4114R-002-103	10k	14	0.59	0.55	0.46
02F2142	4116R-002-103	10k	16	0.60	0.56	0.47

DUAL-TERMINATION CONFIGURATION - 003 CIRCUIT

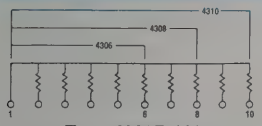
Stock No.	Type	Resistance R1	Resistance R2	Pins	1-49	50-99	100-499
13F9602	4114R-003-181/391	180	390	14	1.27	1.18	0.99
13F9601	4114R-003-221/331	220	330	14	1.27	1.18	0.99
13F9605	4116R-003-181/391	180	390	16	1.30	1.20	1.01
13F9604	4116R-003-221/331	220	330	16	1.30	1.20	1.01

AVAILABLE RESISTANCE VALUES

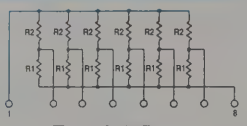
33	82	470	1200	2700	6800	18k	47k	220k
39	100	560	1500	3300	8200	22k	56k	470k
47	270	680	1800	3900	10k	27k	68k	820k
56	330	820	2000	4700	12k	33k	100k	1.0M
68	390	1000	2200	5600	15k	39k	150k	...

(9618) (ne52856)

4300R SERIES MOLDED SIP RESISTOR NETWORKS



Type 4300R-101
Bussed Configuration



Type 4300R-104
Dual-Terminator

Same specifications as the **4600X series** plus compatible with automatic insertion equipment. Body is molded epoxy-resin (Novolac). Power is derated from +70°C to +125°C. Package power ratings at 70°C are: **Type 4306R**: 0.75W, **Type 4308**: 1.00W, **Type 4310R**: 1.25W. Conform to UL 94V-0 flammability requirements. Most popular values listed. Additional values available as listed in table below; *contact your local Newark sales office.* NOTE: Minimums may apply.

8-PIN

Stock No.	Type	Resistance (Ohms) R1	Resistance (Ohms) R2	1-49	50-99	100-499
46F4372	4308R-104-221/331	220	330	0.77	0.71	0.59

10-PIN

46F4377	4310R-104-181/391	180	390	0.92	0.85	0.71
46F4379	4310R-104-221/331	220	330	0.92	0.85	0.71
46F4381	4310R-104-331/471	330	470	0.92	0.85	0.71

4300R SERIES EQUAL VALUE SIP BUSSED RESISTORS

Stock No.	Type	Ohms	Pins	1-49	50-99	100-499
02F2954	4306R-101-103	10k	6	0.48	0.45	0.37
02F3007	4308R-101-103	10k	8	0.56	0.52	0.44
02F3260	4310R-101-103	10k	10	0.69	0.64	0.53

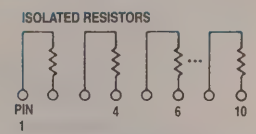
AVAILABLE RESISTANCE VALUES

33	82	470	1200	2700	6800	18k	47k	220k
39	100	560	1500	3300	8200	22k	56k	470k
47	270	680	1800	3900	10k	27k	68k	820k
56	330	820	2000	4700	12k	33k	100k	1.0M
68	390	1000	2200	5600	15k	39k	150k	...

(9470) (ne52858)

4600X SERIES CONFORMAL SIP LOW-PROFILE RESISTOR NETWORKS

Type 4600X-101



Type 4600X-102

DIP compatible. High temperature solder. Incorporate 3 to 13 thick film resistors of equal value. Temperature coefficient of resistance ±100ppm/°C. Resistor tracking ppm/°C. 100V max. operating voltage. Tolerance: 10Ω to 49Ω: ±1Ω, 50Ω to 1MΩ: ±2%. Operating temperature: –55°C to +125°C. Package power rated at 70°C; **Type 4606X**: 0.75W, **Type 4608X**: 1.0W, **Type 4610X**: 1.25W. Meet UL 94V-0. Most popular values listed. Additional values available as listed in table below; *contact your local Newark sales office.* NOTE: Minimums may apply.

BUSSED CONFIGURATION - 101 CIRCUIT

Stock No.	Type	Ohms	No. Pins	1-49	50-99	100-499
04F3929	4606X-101-103	10k	6	0.25	0.23	0.19
04F3990	4608X-101-103	10k	8	0.32	0.29	0.25
04F4051	4610X-101-103	10k	10	0.39	0.36	0.30

ISOLATED CONFIGURATION - 102 CIRCUIT

04F4112	4606X-102-103	10k	6	0.25	0.23	0.19
04F4175	4608X-102-103	10k	8	0.32	0.29	0.25
04F4236	4610X-102-103	10k	10	0.39	0.36	0.30

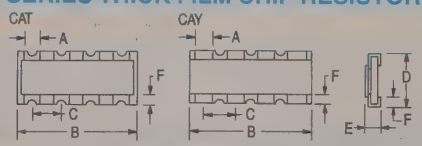
AVAILABLE RESISTANCE VALUES

33	82	470	1200	2700	6800	18k	47k	220k
39	100	560	1500	3300	8200	22k	56k	470k
47	270	680	1800	3900	10k	27k	68k	820k
56	330	820	2000	4700	12k	33k	100k	1.0M
68	390	1000	2200	5600	15k	39k	150k	...

(9469) (ne52857)

CAT/CAY SERIES THICK FILM CHIP RESISTOR ARRAYS

SMD



CAT series feature concave terminals and four elements. **CAY series** feature convex terminals and four elements. Power rating: 62mW. Resistance tolerance: 5%. Working voltage (max.): 50V. Operating temperature: –55 to +125°C. Rating temperature: +70°C. Additional values available; *contact your local Newark sales office.*

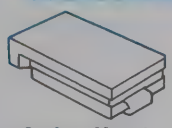
DIMENSIONS (mm)

Model	A	B	C	D	E	F
CAT16 CAY16	0.5 ± 0.15	3.2 ± 0.2	0.8 ± 0.05	1.6 ± 0.2	0.5 ± 0.1	0.3 ± 0.15

Stock No.	Type	Ohms	1-4999	5000-9999
52F7766	CAT16-103J4	10k	0.14	0.05
52F7767	CAT16-104J4	100k	0.10	0.04
52F7755	CAT16-154J4	150k	0.10	0.04
52F7757	CAT16-221J4	220	0.10	0.04
52F7760	CAT16-224J4	220k	0.10	0.04
52F7762	CAT16-331J4	330	0.10	0.04
52F7750	CAT16-472J4	4.7k	0.10	0.04
52F7752	CAT16-474J4	470k	0.10	0.04
52F7802	CAT16-684J4	680k	0.10	0.04
91F6547	CAT25-330JA	33	0.09	0.09
91F6548	CAT25-331JA	330	0.09	0.09
91F6549	CAT25-332JA	3.3k	0.09	0.09
91F6550	CAT25-333JA	33k	0.09	0.09
91F6551	CAT25-334JA	330k	0.09	0.09
91F6552	CAT25-470JA	47	0.09	0.09
91F6553	CAT25-471JA	470	0.09	0.09
91F6554	CAT25-472JA	4.7k	0.09	0.09
91F6555	CAT25-473JA	47k	0.09	0.09
91F6556	CAT25-474JA	470k	0.09	0.09
91F6557	CAT25-680JA	68	0.09	0.09
91F6558	CAT25-681JA	680	0.09	0.09
91F6559	CAT25-682JA	6.8k	0.09	0.09
91F6560	CAT25-683JA	68k	0.09	0.09
91F6561	CAT25-684JA	680k	0.09	0.09
52F7793	CAY16-103J4	10k	0.10	0.04
52F7794	CAY16-104J4	100k	0.10	0.04
52F7782	CAY16-154J4	150k	0.10	0.04
52F7784	CAY16-221J4	220	0.10	0.04
52F7787	CAY16-224J4	220k	0.10	0.04
52F7789	CAY16-331J4	330	0.10	0.04
52F7777	CAY16-472J4	4.7k	0.10	0.04
52F7779	CAY16-474J4	470k	0.10	0.04
52F7806	CAY16-684J4	680k	0.10	0.04

(4082) (ne07313)

MF-SM SERIES MULTIFUSE® PTC RESETTABLE OVERCURRENT PROTECTORS



Surface Mount

Axial Lead

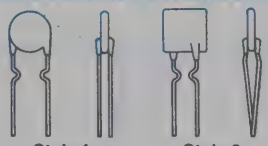
MF-SM series help protect low voltage power supplies and loads from excessive current. Weldable nickel terminals. Packaged per EIA 481-2 standard. **"SM"** in type number denotes surface mount device. **"S"** in type number denotes axial lead "strap".

Stock No.	Type	V (max.) Volts	R @ 23°C Ohms	Min. Switch Current at 23°C Amps	1-499	500-999
91F3555	MF-SM030	60	1.20	0.60	1.17	1.05
91F3556	MF-SM050	60	0.35	1.00	1.17	1.05
91F3559	MF-SM125	15	0.07	2.50	1.30	1.04
91F3560	MF-SM150	15	0.06	3.00	1.37	1.10
91F3563	MF-S120	15	0.085	2.7	1.09	0.87
91F3564	MF-S120S	15	0.085	2.7	1.09	0.87
91F3565	MF-S150	15	0.05	3.0	1.09	0.87
91F3566	MF-S175	15	0.05	3.80	1.09	0.87
91F3567	MF-S175S	15	0.05	3.80	1.09	0.87
91F3568	MF-S200	30	0.03	4.40	1.17	0.94
91F3569	MF-S350	30	0.017	6.30	1.17	0.94
91F3570	MF-S420	30	0.012	7.60	1.17	0.94

*@40A; †@20A

(14936) (ne10112)

MF-R SERIES MULTIFUSE® PTC RESETTABLE OVERCURRENT PROTECTORS



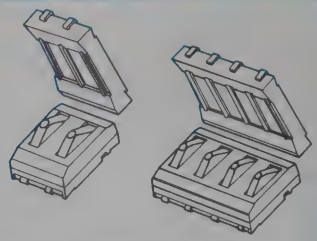
Style 1 Style 2

MR-F series provides resettable circuit protection. Withstand voltage (max.): 30V for type **MF-R110** thru **MF-R800**; 60V for **MF-R010** thru **MF-R090**. Fault current (max): 40A. Test conditions @ 23°C. Operating temperature: –40°C to +85°C. **Types MF-R010** thru **MF-R185** are Style 1, **MF-R250** thru **MF-R800** are Style 2.

Stock No.	Type	V (max) Volts	R at 23°C Ohms	Min. Switch Current @ 23°C Amps	1-499	500-999
16F1595	MF-R010	60	2.50	0.20	0.82	0.66
16F1596	MF-R020	60	1.74	0.40	0.86	0.69
16F1597	MF-R025	60	1.19	0.50	0.86	0.69
16F1598	MF-R030	60	0.76	0.60	0.86	0.69
16F1599	MF-R040	60	0.52	0.80	0.90	0.73
16F1600	MF-R050	60	0.41	1.00	0.90	0.73
16F1601	MF-R065	60	0.27	1.30	0.95	0.76
16F1602	MF-R075	60	0.18	1.50	0.95	0.76
16F1603	MF-R090	60	0.14	1.80	0.95	0.76
16F1784	MF-R110	30	0.10	2.20	0.96	0.77
16F1785	MF-R135	30	0.065	2.70	0.96	0.77
16F1786	MF-R160	30	0.055	3.20	1.02	0.81
16F1787	MF-R185	30	0.04	3.70	1.02	0.81
16F1788	MF-R250	30	0.025	5.00	1.14	0.91
16F1789	MF-R300	30	0.02	6.00	1.17	0.94
16F1790	MF-R400	30	0.01	8.00	1.26	1.01
16F1791	MF-R500	30	0.01	10.00	1.34	1.07
16F1792	MF-R600	30	0.005	12.00	1.37	1.10
16F1793	MF-R700	30	0.005	14.00	1.45	1.16
16F1794	MF-R800	30	0.005	16.00	1.49	1.19

(4162) (ne08805)

70AD SERIES MODULAR BATTERY CONTACTS



Modular contacts are ideal for rechargeable batteries, battery packs, battery chargers, cellular phones, and portable transceivers. High quality plated contacts. Captured contact spring prevents contact from being inadvertently pulled out. 2, 3, 4, 5, or 6 positions and SMT or thru-hole mounting maximizes versatility for off-the-shelf designs. Pick-and-place compatible. High-temperature molded plastic withstands surface mounting process. **"1"** in type number indicates locator pins (surface mount style only).

Stock No.	Type	Contacts	Contact Style	1-24	25-99	100-499
THRU-HOLE MOUNT						
01F486	70ADH-003-ML0	3	Male	1.23	1.12	1.04
01F504	70ADH-006-FL0	6	Female	1.92	1.76	1.63
01F489	70ADH-006-ML0	6	Male	2.15	1.97	1.82
SURFACE MOUNT						
01F491	70ADJ-003-FL0	3	Female	1.09	1.00	0.93
01F476	70ADJ-003-ML0	3	Male	1.23	1.12	1.04
01F482	70ADJ-004-ML1	4	Male	1.53	1.40	1.29
01F478	70ADJ-005-ML0	5	Male	1.85	1.69	1.56
01F498	70ADJ-005-FL1	5	Female	1.64	1.50	1.39
01F483	70ADJ-005-ML1	5	Male	1.85	1.69	1.56
01F494	70ADJ-006-FL0	6	Female	1.92	1.76	1.63

(17146) (ne10752)

Electronic Terms and Measurements

Resistance
Opposition to current flow. Basic unit is the ohm (Ω).

1 kilohm – kΩ — 1,000 or $1x10^3$ ohms
1 Megohm – MΩ — 1,000,000 or $1x10^6$ ohms

Voltage
Electromotive force. Basic unit is the volt (V).

1 millivolt – mV — 1/1,000 or $1x10^{-3}$ volt
1 microvolt – µV — 1/1,000,000 or $1x10^{-6}$ volts

Current
Movement of electricity. Basic unit is the ampere (A).

1 milliampere – mA — 1/1,000 or $1x10^{-3}$ ampere
1 microampere – µA — 1/1,000,000 or $1x10^{-6}$ ampere

Frequency
Number of cycles per second. Basic unit is the hertz (Hz).

1 kilohertz – kHz — 1,000 or $1x10^3$ hertz
1 Megahertz – MHz — 1,000,000 or $1x10^6$ hertz
1 Gigahertz – GHz — 1,000,000,000 or $1x10^9$ hertz

Time
Basic unit is the second (s).

1 millisecond – ms — 1/1,000 or $1x10^{-3}$ second
1 microsecond – µs — 1/1,000,000 or $1x10^{-6}$ second
1 nanosecond – ns — 1/1,000,000,000 or $1x10^{-9}$ second

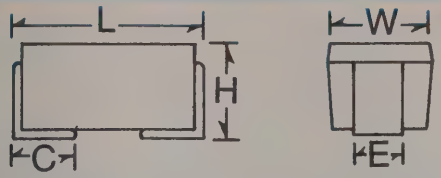
(38570) (Filler01)

NEW PRODUCTS ARE CONTINUALLY ADDED.
CALL NEWARK FOR CURRENT SELECTION.

METAL STRIP AND SURFACE MOUNT RESISTORS

WSR SERIES POWER METAL STRIP® RESISTORS

SMD



WSR series low-resistance power resistors are ideal for switching and linear power supplies, amplifiers, and low-voltage lighting. All welded construction with metal resistive element and 60/40 tin/lead copper terminations. High temperature encapsulation. Very low inductance. Low thermal EMF. Power rating: 2.0W @ +70°C. Operating temperature: –65°C to +275°C. Tolerance: ±1%. **Sold in 4-in. reels of 100 pieces.** Also available in bulk bags of 50 pieces; *contact your local Newark sales office.*

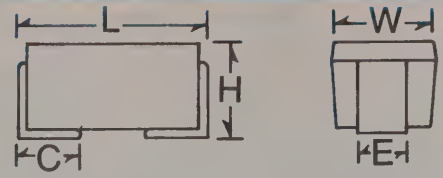
Dimen.	L	W	H	C	E
in.	0.455 ±0.032	0.275 ±0.005	0.095 ±0.005	0.100 ±0.010	0.215 ±0.005
(mm)	(11.56 ±0.813)	(6.98 ±0.127)	(2.41 ±0.127)	(2.54 ±0.254)	(5.46 ±0.127)

Stock No.	Type	Ohms	1-2	3-4	5-9	10-24
01F797	WSR2 R005F RE4	0.005	137.65	115.51	96.26	89.04
01F798	WSR2 R010F RE4	0.010	137.65	115.51	96.26	89.04
01F799	WSR2 R020F RE4	0.020	137.65	115.51	96.26	89.04
01F800	WSR2 R050F RE4	0.050	137.65	115.51	96.26	89.04
01F801	WSR2 R100F RE4	0.1	137.65	115.51	96.26	89.04
01F802	WSR2 R200F RE4	0.2	137.65	115.51	96.26	89.04
01F803	WSR2 R500F RE4	0.5	137.65	115.51	96.26	89.04

(17541) (ne10765)

WSC SERIES WIREWOUND RESISTORS

SMD



WSC series low-resistance, wirewound, surface mount resistors feature molded epoxy cases. Operating temperature: –65°C to +170°C. Tolerance: ±1%. Most popular sizes listed, other values available. **Sold in 4-in. reels of 100 pieces.** Also available in bulk bags of 50 pieces; *contact your local Newark sales office.*

DIMENSIONS (mm)

Type	L	W	H	C	E
WSC1/2	5.0	3.2	2.4	1.0	1.27
WSC1	6.3	3.8	2.8	1.2	2.50

Stock No.	Type	Ohms	Watts	1-2	3-4	5-9	10-24
01F1365	WSC1/2R100FRE4	0.1	½	146.53	122.96	102.47	94.78
01F1366	WSC1/2R250F RE4	0.25	½	146.53	122.96	102.47	94.78
01F1367	WSC1 R100F RE4	0.10	1	146.53	122.96	102.47	94.78
01F1368	WSC1 R200F RE4	0.20	1	146.53	122.96	102.47	94.78
01F1369	WSC1 R250F RE4	0.25	1	146.53	122.96	102.47	94.78
01F1370	WSC1 R330F RE4	0.33	1	146.53	122.96	102.47	94.78
01F1371	WSC1 R500F RE4	0.50	1	146.53	122.96	102.47	94.78

(17542) (ne10766)

WSL SERIES POWER METAL STRIP® RESISTORS

SMD

WSL series ultra-precision resistors are ideal for current sensing, voltage division, and pulse applications. All welded construction with metal resistive element and 60/40 tin/lead copper terminations. High-temperature epoxy coating. Standard EIA sizes. Very low inductance. Low thermal EMF. Operating temperature: –65°C to +170°C. Tolerance: ±1%. **Sold in 4-in. reels.** Also available in bulk bags of 100 pieces; *contact your local Newark sales office.*

EIA SIZE 1206, ¼ WATT, REEL OF 500

Stock No.	Type	Ohms	1-2	3-4	5-9	10-24
01F1532	WSL1206 R010F RE4	0.010	698.59	586.23	488.52	451.89
01F1533	WSL1206 R020F RE4	0.020	698.59	586.23	488.52	451.89
01F1534	WSL1206 R025F RE4	0.025	698.59	586.23	488.52	451.89
01F1535	WSL1206 R050F RE4	0.050	698.59	586.23	488.52	451.89
01F1536	WSL1206 R100F RE4	0.10	698.59	586.23	488.52	451.89
01F1537	WSL1206 R200F RE4	0.20	698.59	586.23	488.52	451.89

EIA SIZE 2010, ½ WATT, REEL OF 250

01F1538	WSL2010 R010F RE4	0.010	297.49	249.65	208.04	192.44
01F1539	WSL2010 R020F RE4	0.020	297.49	249.65	208.04	192.44
01F1540	WSL2010 R025F RE4	0.025	297.49	249.65	208.04	192.44
01F1541	WSL2010 R050F RE4	0.050	297.49	249.65	208.04	192.44
01F1542	WSL2010 R100F RE4	0.10	297.49	249.65	208.04	192.44
01F1543	WSL2010 R200F RE4	0.20	297.49	249.65	208.04	192.44
01F1544	WSL2010 R500F RE4	0.50	297.49	249.65	208.04	192.44

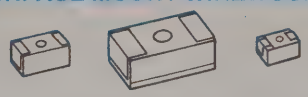
EIA SIZE 2512, 1-WATT, REEL OF 250

01F1545	WSL2512 R010F RE4	0.010	297.49	249.65	208.04	192.44
01F1546	WSL2512 R015F RE4	0.015	297.49	249.65	208.04	192.44
01F1547	WSL2512 R020F RE4	0.020	297.49	249.65	208.04	192.44
01F1548	WSL2512 R025F RE4	0.025	297.49	249.65	208.04	192.44
01F1549	WSL2512 R033F RE4	0.033	297.49	249.65	208.04	192.44
01F1550	WSL2512 R040F RE4	0.040	297.49	249.65	208.04	192.44
01F1551	WSL2512 R050F RE4	0.050	297.49	249.65	208.04	192.44
01F1552	WSL2512 R100F RE4	0.10	297.49	249.65	208.04	192.44
01F1553	WSL2512 R150F RE4	0.15	297.49	249.65	208.04	192.44
01F1554	WSL2512 R200F RE4	0.20	297.49	249.65	208.04	192.44
01F1555	WSL2512 R500F RE4	0.50	297.49	249.65	208.04	192.44

(17540) (ne10764)

TYPE WSC-1 SURFACE MOUNT WIREWOUND RESISTORS

SMD



Type WSC-1 SMT resistors feature special high temperature encapsulation, tinned copper alloy terminals. Tolerance: ±1%. Temperature coefficient: below 1 ohm, ±90ppm/°C; 1 ohm, ±50ppm/°C. 1 watt.

Stock No.	Type	Ohms	1-99	100-999	1000-1999	2000-3999
04F8280	WSC-1-0.1<-1% T/R	0.1	2.35	1.96	0.79	0.65
04F8282	WSC-1-0.25<-1% TR	0.25	2.35	1.96	0.79	0.65
04F8283	WSC-1-0.5<-/1% TR	0.5	2.35	1.96	0.79	0.65
04F8284	WSC-1-1.0<-/1% TR	1.0	1.77	1.48	0.59	0.48

(9503) (de02782)

SURFACE MOUNT WIREWOUND RESISTOR ENGINEERING KITS

SMD

Kits for **WSL, WSR** and **WSC series** surface mount wirewound resistors include 5 each of the resistance values listed below. Tolerance: 1%.

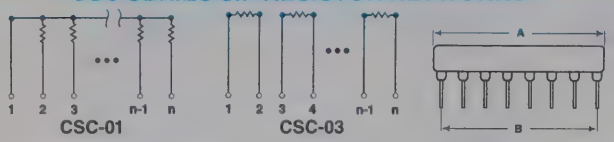
Stock No.	Type	Resistance Values (ohms)	Watts	Each
16F4197	KDS-WSL2512	.01, .02, .03, .04, .05, .06, .07, .08, .09, .1	0.5	118.01
16F4198	KDS-WSL2010	.01, .02, .03, .04, .05, .06, .07, .08, .09, .1	1	118.01
16F4199	KDS-WSR2	.005, .01, .02, .03, .04, .05, .06, .07, .08, .09	2	160.37
16F4200	KDS-WSC1/2	.6, .7, .8, .9, 1.0, 10, 100	0.5	78.57

(4157) (ne08286)

ONE-STOP SHOPPING . . . WITH ONE CALL AND ONE PURCHASE ORDER.

RESISTOR AND RESISTOR NETWORKS

CSC SERIES SIP RESISTOR NETWORKS



Resistor networks provide a choice of 5, 7, or 9 nominally equal resistors each connected to a common pin (no. 1). **CSCxxA-03** series resistor networks provide a choice of 3, 4, or 5 nominally equal resistors, each isolated from the others. **CSC10A-03** series are available in resistance values of 560Ω to 18kΩ only. Tolerance: ±2%. Height: 0.195″ (4.95). Lead spacing: 0.100″ (2.54). Most popular sizes listed. Additional resistance values available; *contact your local Newark sales office.*

BUSSED 0.75 WATTS, 5 RESISTORS, 6-PIN

Stock No.	Type	Ohms	Dim. (in.) A	Dim. (in.) B	1-99	100-249	250-499	500-999
04F2698	CSC06A-01-102G	1.0k	0.590	0.500	0.67	0.61	0.28	0.17
04F2705	CSC06A-01-472G	4.7k	0.590	0.500	0.67	0.61	0.28	0.17
04F2708	CSC06A-01-103G	10.0k	0.590	0.500	0.67	0.61	0.28	0.17

BUSSED 1.00 WATTS, 7 RESISTORS, 8-PIN

04F2731	CSC08A-01-471G	470.0	0.790	0.700	0.67	0.61	0.28	0.14
04F2734	CSC08A-01-102G	1.0k	0.790	0.700	0.67	0.61	0.28	0.14
04F2741	CSC08A-01-472G	4.7k	0.790	0.700	0.67	0.61	0.28	0.14
04F2744	CSC08A-01-103G	10.0k	0.790	0.700	0.67	0.61	0.28	0.14
04F2753	CSC08A-01-104G	100.0k	0.790	0.700	0.67	0.61	0.28	0.14

BUSSED 1.25 WATTS, 9 RESISTORS, 10-PIN

04F2656	CSC10A-01-221G	220.0	0.990	0.900	0.67	0.61	0.28	0.13
04F2658	CSC10A-01-331G	330.0	0.990	0.900	0.67	0.61	0.28	0.13
04F2659	CSC10A-01-471G	470.0	0.990	0.900	0.67	0.61	0.28	0.13
04F2662	CSC10A-01-102G	1.0k	0.990	0.900	0.67	0.61	0.28	0.13
04F2666	CSC10A-01-222G	2.2k	0.990	0.900	0.67	0.61	0.28	0.13
04F2668	CSC10A-01-332G	3.3k	0.990	0.900	0.67	0.61	0.28	0.13
04F2669	CSC10A-01-472G	4.7k	0.990	0.900	0.67	0.61	0.28	0.13
04F2672	CSC10A-01-103G	10.0k	0.990	0.900	0.67	0.61	0.28	0.13
04F2676	CSC10A-01-223G	22.0k	0.990	0.900	0.67	0.61	0.28	0.13
04F2681	CSC10A-01-104G	100.0k	0.990	0.900	0.67	0.61	0.28	0.13

ISOLATED 1.00 WATTS, 4 RESISTORS, 8-PIN

03F5421	CSC08A-03-101G	100.0	0.790	0.700	0.67	0.61	0.28	0.14
03F5435	CSC08A-03-102G	1.0k	0.790	0.700	0.67	0.61	0.28	0.14
03F5449	CSC08A-03-103G	10.0k	0.790	0.700	0.67	0.61	0.28	0.14

ISOLATED 1.25 WATTS, 5 RESISTORS, 10-PIN

03F5499	CSC10A-03-103G	10.0k	0.990	0.900	0.67	0.61	0.28	0.13

(9569) (de03338)

MIL TYPE RLR METAL FILM RESISTORS

MIL-R-39017 qualified, have "S" level failure rate. Temperature coefficent: ±100ppm/°C. **Type RLR05C** are ⅛W; **type RLR07C** are ¼W; **type RLR20C** are ½W (at 70°C). Additional resistance values available; *contact your local Newark sales office.* **Sold in packages of 100.**

Stock No.	Type	Ohms	Tol.	1-4	5-9	10-24
04F7274	RLR05C-1K 1%S	1.0k	1%	64.09	29.42	19.29
04F7445	RLR07C-10< 1%S	10.0	1%	36.77	17.86	10.61
04F7452	RLR07C-100< 1%S	100.0	1%	36.77	17.86	10.61
04F7462	RLR07C-249< 1%S	249.0	1%	36.77	17.86	10.61
04F7478	RLR07C-1K 1%S	1.0k	1%	36.77	17.86	10.61
04F7500	RLR07C-4.75K 1%S	4.75k	1%	36.77	17.86	10.61
04F7507	RLR07C-10K 1%S	10.0k	1%	36.77	17.86	10.61
04F7517	RLR07C-20K 1%S	20.0k	1%	36.77	17.86	10.61
04F7592	RLR07C-1K 2%S	1.0k	2%	35.72	16.81	9.43

(9530) (de02847)

ALL PRODUCTS LISTED ARE STOCKED.

SOMC SERIES SURFACE MOUNT RESISTOR NETWORKS

SMD

Devices have a 0.090″ (2.29) max. seated height, 0.050″ (1.27) lead spacing. Tolerance: ±2%. Temperature coefficient: ±100 ppm/°C. **Type SOMC-1601** has 13 or 15 nominally equal resistors (rated 125mW) with one lead common; **type SOMC-1603** has 7 or 8 nominally equal resistors (rated 250mW) with each resistor isolated. Maximum operating voltage: 50VDC. Operating temperature: –55°C to +125°C. Also available in 14-pin style. Most popular sizes listed. Additional resistance values available; *contact your local Newark sales office.* **Sold in packages of 52.**

Stock No.	Type	Ohms	1-9	10-24	25-49
03F7775	SOMC16-01-103G	10.0k	53.82	24.22	21.53
03F7793	SOMC16-03-103G	10.0k	53.82	24.22	21.53

(9567) (de03337)

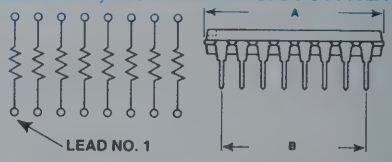
MIL TYPE RNC METAL FILM RESISTORS

Axial lead. MIL-R-55182 qualified, have "S" level failure rate. Tolerance: 0.1%. Types with "J" in number have temperature coefficent: ±25ppm/°C; "H" coefficent: ±50ppm/°C. **Type RNC50** are 1/10W; **type RNC55** are ⅛W; **type RNC60** are ¼W (at 70°C). Additional resistance values available; *to order, contact your local Newark sales office.*

Stock No.	Type	Ohms	1-199	200-499	500-999	1000-2499
04F7768	RNC50H-10K .1%S	10.0k	1.62	1.21	0.97	0.78
04F7776	RNC50J-100< .1%S	100.0	1.80	1.35	1.08	0.87
04F7777	RNC50J-1K .1%S	1.0k	1.80	1.35	1.08	0.87
04F7799	RNC50J-100K .1%S	100.0k	1.80	1.35	1.08	0.87
04F7649	RNC55H-499< .1%S	499.0	1.20	0.90	0.72	0.58
04F7650	RNC55H-1K .1%S	1.0k	1.20	0.90	0.72	0.58
04F7651	RNC55H-2K .1%S	2.0k	1.20	0.90	0.72	0.58
04F7662	RNC55H-10K .1%S	10.0k	1.20	0.90	0.72	0.58
04F7666	RNC55H-20K .1%S	20.0k	1.20	0.90	0.72	0.58
04F7674	RNC55H-100K .1%S	100.0k	1.20	0.90	0.72	0.58
04F7677	RNC55H-1M .1%S	1.0M	1.84	1.38	1.11	0.89
04F7824	RNC55J-10K .1%S	10.0k	1.43	1.08	0.86	0.69
04F7833	RNC55J-20K .1%S	20.0k	1.43	1.08	0.86	0.69
04F7847	RNC55J-200K .1%S	200.0k	1.43	1.08	0.86	0.69
04F7678	RNC60H-200< .1%S	200.0	1.88	1.41	1.13	0.90
04F7679	RNC60H-1K .1%S	1.0k	1.88	1.41	1.13	0.90
04F7681	RNC60H-100K .1%S	100.0k	2.86	2.15	1.72	1.37

(9536) (de02848)

MDP SERIES DIP, MOLDED RESISTOR NETWORKS



Dual in-line resistor networks are compatible with automatic insertion equipment, have wide resistance range, uniform performance characteristics. Stable thick film. Rugged molded case construction, 0.160″ (4.06) maximum seated height. Operating temperature: –55°C to +125°C. Tolerance: ±2%. **Type MDP1603** provides 8 nominally equal resistors with each resistor isolated from all others and wired directly across. Power: 0.250W. 16-pin package. Most popular sizes listed. Additional resistance values available; *contact your local Newark sales office.* Factory minimum and multiple requirements apply to some values.

Stock No.	Type	Ohms	Dim. A	Dim. B	1-99	100-249	250-499	500-999
04F5856	MDP1603-101G	100.0	0.850″	0.700″	0.61	0.56	0.41	0.33
04F5857	MDP1603-151G	150.0	0.850″	0.700″	0.61	0.56	0.41	0.33
04F5858	MDP1603-102G	1.0k	0.850″	0.700″	0.61	0.56	0.41	0.33
04F5859	MDP1603-222G	2.2k	0.850″	0.700″	0.61	0.56	0.41	0.33
04F5861	MDP1603-103G	10.0k	0.850″	0.700″	0.61	0.56	0.41	0.33
04F5862	MDP1603-223G	22.0k	0.850″	0.700″	0.61	0.56	0.41	0.33
04F5864	MDP1603-104G	100.0k	0.850″	0.900″	0.61	0.56	0.41	0.33

(9561) (de03335)

RN55 SERIES PRECISION METAL FILM RESISTORS

Type RN55 precision metal film resistors have excellent RF characteristics, low noise, and voltage coefficient. Meet or exceed electrical, environmental, dimensional requirements of MIL-R-10509. Versions with **"C"** in type number have temperature coefficient of 0 ±50ppm/°C; **"D"** in type number have 0 ±100ppm/°C; **"E"** in type number have 0 ±25ppm/°C. Operating temperature: –55°C to +175°C. Most popular sizes listed. Additional values available, *contact your local Newark sales office.* **Sold in multiples of 100.**

Power Rating at	+70°C	+125°C	+125°C
Military Requirement	Characteristic D	Characteristic C	Characteristic E
Power	⅛ Watt	1/10 Watt	1/10 Watt

RN55C - 0.1% TOLERANCE

Stock No.	Type	Ohms	100-199	200-499	500-999	1000-4999
83F1208	RN55C-100< .1%	100	0.25	0.19	0.15	0.12
83F1241	RN55C-249< .1%	249	0.25	0.19	0.15	0.12
83F1274	RN55C-499< .1%	499	0.25	0.19	0.15	0.12
83F1210	RN55C-1K .1%	1k	0.25	0.19	0.15	0.12
83F1250	RN55C-3.01K .1%	3.01k	0.25	0.19	0.15	0.12
83F1212	RN55C-10K .1%	10k	0.25	0.19	0.15	0.12
83F1214	RN55C-100K .1%	100k	0.25	0.19	0.15	0.12

RN55C - 1% TOLERANCE

83F1280	RN55C 49.9< 1%	49.9	0.14	0.11	0.09	0.07
83F1209	RN55C 100< 1%	100	0.14	0.11	0.09	0.07
83F1275	RN55C 499< 1%	499	0.14	0.11	0.09	0.07
83F1211	RN55C 1K 1%	1k	0.14	0.11	0.09	0.07
83F1230	RN55C 2K 1%	2k	0.14	0.11	0.09	0.07
83F1277	RN55C 4.99K 1%	4.99k	0.14	0.11	0.09	0.07
83F1213	RN55C 10K 1%	10k	0.14	0.11	0.09	0.07
83F1232	RN55C 20K 1%	20k	0.14	0.11	0.09	0.07
83F1502	RN55C 100K 1%	100k	0.14	0.11	0.09	0.07

RN55D - 1% TOLERANCE

83F1322	RN55D 10< 1%	10	0.12	0.09	0.07	0.06
83F1478	RN55D 49.9< 1%	49.9	0.12	0.09	0.07	0.06
83F1313	RN55D 100< 1%	100	0.12	0.09	0.07	0.06
83F1475	RN55D 499< 1%	499	0.12	0.09	0.07	0.06
83F1376	RN55D 2K 1%	2k	0.12	0.09	0.07	0.06
83F1476	RN55D 4.99K 1%	4.99k	0.12	0.09	0.07	0.06
83F1315	RN55D 10K 1%	10k	0.12	0.09	0.07	0.06
83F1377	RN55D 20K 1%	20k	0.12	0.09	0.07	0.06
83F1316	RN55D 100K 1%	100k	0.12	0.09	0.07	0.06
83F1426	RN55D 301K 1%	301k	0.12	0.09	0.07	0.06

RN55E - 0.1% TOLERANCE

83F1546	RN55E-100< .1%	100	0.53	0.40	0.32	0.25
83F1547	RN55E-1K .1%	1k	0.53	0.40	0.32	0.25
83F1553	RN55E-2K .1%	2k	0.53	0.40	0.32	0.25
83F1548	RN55E-10K .1%	10k	0.53	0.40	0.32	0.25

(9606) (ne02846)

RN60 SERIES PRECISION METAL FILM RESISTORS

Type RN60 precision metal film resistors have excellent RF characteristics, low noise, and voltage coefficient. Meet or exceed electrical, environmental, dimensional requirements of MIL-R-10509. Versions with **"C"** in type number have temperature coefficient of 0 ±50ppm/°C; **"D"** in type number have temperature coefficient of 0 ±100ppm/°C; **"D"** in type number have temperature coefficient of 0 ±25ppm/°C. Operating temperature: –55°C to +175°C. Most popular sizes listed. Additional values available; *contact your local Newark sales office.* **Sold in multiples of 100.**

Power Rating at	+70°C	+125°C	+125°C
Military Requirement	Characteristic D	Characteristic C	Characteristic E
Power	¼ Watt	⅛ Watt	⅛ Watt

RN60C - 0.1% TOLERANCE

Stock No.	Type	Ohms	100-199	200-499	500-999	1000-4999
83F1557	RN60C-100< .1%	100	0.34	0.26	0.20	0.16
83F1584	RN60C-250< .1%	250	0.34	0.26	0.20	0.16
83F1559	RN60C-1K .1%	1k	0.34	0.26	0.20	0.16
83F1561	RN60C-10K .1%	10k	0.34	0.26	0.20	0.16
83F1563	RN60C-100K .1%	100k	0.34	0.26	0.20	0.16

RN60C - 1% TOLERANCE

83F1558	RN60C 100< 1%	100	0.23	0.17	0.14	0.11
83F1597	RN60C 499< 1%	499	0.23	0.17	0.14	0.11
83F1560	RN60C 1K 1%	1k	0.23	0.17	0.14	0.11
83F1599	RN60C 4.99K 1%	4.99k	0.23	0.17	0.14	0.11
83F1562	RN60C 10K 1%	10k	0.23	0.17	0.14	0.11
83F1575	RN60C 20K 1%	20k	0.23	0.17	0.14	0.11

CONTINUED

RN60 SERIES PRECISION METAL FILM RESISTORS (CONT.)

RN60D - 1% TOLERANCE

Stock No.	Type	Ohms	100-199	200-499	500-999	1000-4999
83F1618	RN60D 10.0< 1%	10	0.20	0.15	0.12	0.10
83F1707	RN60D 49.9< 1%	49.9	0.20	0.15	0.12	0.10
83F1611	RN60D 100< 1%	100	0.20	0.15	0.12	0.10
83F1703	RN60D 499< 1%	499	0.20	0.15	0.12	0.10
83F1612	RN60D 1K 1%	1k	0.20	0.15	0.12	0.10
83F1649	RN60D 2K 1%	2k	0.20	0.15	0.12	0.10
83F1704	RN60D 4.99K 1%	4.99k	0.20	0.15	0.12	0.10
83F1613	RN60D 10K 1%	10k	0.20	0.15	0.12	0.10
83F1650	RN60D 20K 1%	20k	0.20	0.15	0.12	0.10
83F1705	RN60D 49.9K 1%	49.9k	0.20	0.15	0.12	0.10
83F1614	RN60D 100K 1%	100k	0.20	0.15	0.12	0.10
83F1706	RN60D 499K 1%	499k	0.20	0.15	0.12	0.10
83F1615	RN60D 1M 1%	1M	0.20	0.15	0.12	0.10

(29171) (ne29171)

RN65 SERIES PRECISION METAL FILM RESISTORS

RN65 series precision metal film resistors have excellent RF characteristics, low noise, and voltage coefficient. Meet or exceed electrical, environmental, dimensional requirements of MIL-R-10509. Versions with **"C"** in type number have temperature coefficient of 0 ±50ppm/°C; **"D"** in type number have temperature coefficient of 0 ±100ppm/°C; **"E"** in type number have temperature coefficient of 0 ±25ppm/°C. Operating temperature: –55°C to +175°C. Most popular sizes listed. Additional values available, *contact your local Newark sales office.* **Sold in multiples of 100.**

Power Rating at	+70°C	+125°C	+125°C
Military Requirement	Characteristic D	Characteristic C	Characteristic E
Power	½ Watt	¼ Watt	¼ Watt

RN65C - 0.1% TOLERANCE

Stock No.	Type	Ohms	100-199	200-499	500-999	1000-4999
83F1759	RN65C-2500B	250	0.51	0.39	0.31	0.25

RN65C - 1% TOLERANCE

83F1758	RN65C 249< 1%	249	0.51	0.39	0.31	0.25
83F1748	RN65C 1K 1%	1k	0.51	0.39	0.31	0.25
83F1751	RN65C 1M 1%	1M	0.51	0.39	0.31	0.25

RN65D - 1% TOLERANCE

83F1764	RN65D 100< 1%	100	0.48	0.36	0.29	0.23
83F1783	RN65D 249< 1%	249	0.48	0.36	0.29	0.23
83F1792	RN65D 499< 1%	499	0.48	0.36	0.29	0.23
83F1765	RN65D 1K 1%	1k	0.48	0.36	0.29	0.23
83F1793	RN65D 4.99K 1%	4.99k	0.48	0.36	0.29	0.23
83F1766	RN65D 10K 1%	10k	0.48	0.36	0.29	0.23
83F1777	RN65D 20K 1%	20k	0.48	0.36	0.29	0.23
83F1767	RN65D 100K 1%	100k	0.48	0.36	0.29	0.23
83F1795	RN65D 499K 1%	499k	0.48	0.36	0.29	0.23
83F1768	RN65D 1M 1%	1M	0.48	0.36	0.29	0.23

(29172) (ne29172)

CRCW SERIES THICK FILM CHIP RESISTOR KITS

SMD

A wide selection of resistance values in 1% and 5% tolerances. Temperature coefficient: ±100ppm/°C (1%), ±200ppm/°C (5%). Tape and reel strips. With application notes and technical data.

CRCW0603-104 KIT 5% TOLERANCE

3,000-piece kit contains 100 pieces each of 30 resistance values from 10 to 1M ohms.

16F5097 Type CRCW0603-104-KIT. **Each** **220.67**

CRCW0603-106 KIT 1% TOLERANCE

1,200-piece kit contains 100 pieces each of 12 resistance values from 49.9 to 1M ohms.

16F5099 Type CRCW0603-106-KIT. **Each** **121.37**

CRCW1206-102A KIT 1% TOLERANCE

3,000-piece kit contains 100 pieces each of 30 resistance values from 51.1 to 150K ohms.

46F975 Type CRCW1206-102A KIT. **Each** **220.67**

CRCW1206-102B KIT 1% TOLERANCE

3,000-piece kit contains 100 pieces each of 30 resistance values from 60.4 to 200K ohms.

46F976 Type CRCW1206-102B KIT. **Each** **220.67**

CRCW1206-104 KIT 5% TOLERANCE

3,000-piece kit contains 100 pieces each of 30 resistance values from 10 to 1M ohms.

93F2209 Type CRCW1206-104-KIT. **Each** **220.67**

(4146) (ne02844)

CRCW0603 SERIES THICK FILM CHIP RESISTORS

NEW

Thick film surface mount resistors in standard EIA sizes. Automatic placement compatible, flow solderable. Operating temperature: –55°C to +150°C. Most popular sizes listed. Additional resistance values and sizes available, *contact your local Newark sales office.* Reels also available in quantities of 5000 each. NOTE: Minimum quantities may apply on some values.

CRCW0603, ±1% TOLERANCE

Stock No.	Type	Ohms	1-99	100-999	1000-4999	5000+
66F9062	CRCW060310R0FRT1	10	0.02	0.01	0.01	0.01
48F4400	CRCW060333R0FRT1	33	0.02	0.02	0.02	0.02
48F4401	CRCW060347R0FRT1	47	0.02	0.02	0.02	0.02
48F4402	CRCW060351R0FRT1	51	0.02	0.02	0.02	0.02
66F9065	CRCW06031000FRT1	100	0.05	0.04	0.04	0.03
48F4403	CRCW06031200FRT1	120	0.02	0.02	0.02	0.02
48F4404	CRCW06032000FRT1	200	0.02	0.02	0.02	0.02
48F4405	CRCW06032200FRT1	220	0.02	0.02	0.02	0.02
48F4406	CRCW06031501FRT1	1.5k	0.02	0.02	0.02	0.02
48F4407	CRCW06033301FRT1	3.3k	0.02	0.02	0.02	0.02
66F9086	CRCW06031002FRT1	10k	0.03	0.02	0.02	0.02
66F9072	CRCW06032002FRT1	20k	0.03	0.03	0.02	0.02
48F4409	CRCW06035002FRT1	50k	0.02	0.02	0.02	0.02
66F9075	CRCW06031003FRT1	100k	0.06	0.06	0.05	0.04
48F4410	CRCW06031503FRT1	150k	0.02	0.02	0.02	0.02
66F9077	CRCW06031004FRT1	1M	0.06	0.06	0.05	0.04

CRCW0603, ±5% TOLERANCE

66F9087	CRCW0603100JRT1	10	0.02	0.02	0.02	0.02
66F9090	CRCW0603330JRT1	33	0.02	0.01	0.01	0.01
66F9095	CRCW0603101JRT1	100	0.02	0.02	0.02	0.02
48F4411	CRCW0603121JRT1	120	0.02	0.01	0.01	0.01
48F4412	CRCW0603201JRT1	200	0.02	0.01	0.01	0.01
48F4413	CRCW0603271JRT1	270	0.02	0.01	0.01	0.01
66F9107	CRCW0603331JRT1	330	0.02	0.01	0.01	0.01
48F4414	CRCW0603471JRT1	470	0.02	0.01	0.01	0.01
66F9110	CRCW0603102JRT1	1k	0.02	0.02	0.02	0.02
48F4415	CRCW0603202JRT1	2k	0.02	0.01	0.01	0.01
66F9096	CRCW0603222JRT1	2.2k	0.03	0.03	0.03	0.02
48F4416	CRCW0603272JRT1	2.7k	0.02	0.01	0.01	0.01
66F9098	CRCW0603472JRT1	4.7k	0.01	0.01	0.01	0.01
66F9099	CRCW0603103JRT1	10k	0.02	0.02	0.02	0.02
66F9102	CRCW0603104JRT1	100k	0.02	0.02	0.02	0.02
66F9104	CRCW0603105JRT1	1M	0.02	0.02	0.02	0.02

(35877) (ne35877)

CRCW0805 SERIES THICK FILM CHIP RESISTORS

Thick film surface mount resistors in EIA standard sizes. Automatic placement compatible, flow solderable. Operating temperature: –55°C to +150°C. Temperature coefficient: ±100ppm/°C(1%); ±200ppm/°C(5%). **CRCW0805 series** are available in values from 10W to 1MW in 1% tolerance. Also sold in packages of 100 and in reel quantities. Most popular values and sizes listed. Other values and sizes available in standard decades of resistance; *contact your local Newark sales office.* NOTE: Minimum quantities may apply on some values. Some values also available in bulk quantities and packages of 100 pieces.

CRCW0805, ±1% TOLERANCE

Stock No.	Type	Ohms	1-99	100-999	1000-4999	5000+
66F9006	CRCW080510R0FRT1	10	0.10	0.09	0.08	0.06
48F4417	CRCW080533R0FRT1	33	0.02	0.01	0.01	0.01
48F4418	CRCW080547R0FRT1	47	0.02	0.01	0.01	0.01
48F4419	CRCW080551R0FRT1	51	0.02	0.01	0.01	0.01
05F1505	CRCW08051000FRT1	100	0.02	0.02	0.02	0.01
48F4420	CRCW08051200FRT1	120	0.02	0.01	0.01	0.01
66F9011	CRCW08052000FRT1	200	0.03	0.03	0.03	0.02
48F4421	CRCW08052200FRT1	220	0.02	0.01	0.01	0.01
05F1507	CRCW08051001FRT1	1k	0.02	0.01	0.01	0.01
48F4422	CRCW08051501FRT1	1.5k	0.02	0.01	0.01	0.01
48F4423	CRCW08053301FRT1	3.3k	0.02	0.01	0.01	0.01
48F4424	CRCW08051002FRT1	10k	0.02	0.01	0.01	0.01
66F9003	CRCW08052003FRT1	20k	0.02	0.01	0.01	0.01
48F4425	CRCW08055002FRT1	50k	0.02	0.01	0.01	0.01
66F9005	CRCW08051004FRT1	100k	0.02	0.02	0.02	0.01
48F4426	CRCW08051503FRT1	150k	0.02	0.01	0.01	0.01

CRCW0805, ±5% TOLERANCE

Stock No.	Type	Ohms	1-99	100-999	1000-4999	5000+
66F9112	CRCW0805100JRT1	10	0.10	0.09	0.08	0.06
48F4427	CRCW0805200JRT1	20	0.01	0.01	0.01	0.01
66F9115	CRCW0805330JRT1	33	0.01	0.01	0.01	0.01
66F9119	CRCW0805101JRT1	100	0.01	0.01	0.01	0.01
48F4428	CRCW0805121JRT1	120	0.01	0.01	0.01	0.01
48F4429	CRCW0805201JRT1	200	0.01	0.01	0.01	0.01
66F9044	CRCW0805271JRT1	270	0.01	0.01	0.01	0.01
66F9045	CRCW0805331JRT1	330	0.01	0.01	0.01	0.01
66F9046	CRCW0805471JRT1	470	0.01	0.01	0.01	0.01
66F9047	CRCW0805102JRT1	1k	0.01	0.01	0.01	0.01
66F9048	CRCW0805202JRT1	2k	0.01	0.01	0.01	0.01
66F9049	CRCW0805222JRT1	2.2k	0.01	0.01	0.01	0.01
66F9050	CRCW0805272JRT1	2.7k	0.01	0.01	0.01	0.01

CONTINUED

CRCW0805 SERIES THICK FILM CHIP RESISTORS (CONT.)

CRCW0805, ±5% TOLERANCE (CONT.)

Stock No.	Type	Ohms	1-99	100-999	1000-4999	5000+
66F9052	CRCW0805472JRT1	4.7k	0.01	0.01	0.01	0.01
66F9040	CRCW0805103JRT1	10k	0.01	0.01	0.01	0.01
66F9042	CRCW0805104JRT1	100k	0.01	0.01	0.01	0.01
66F9043	CRCW0805105JRT1	1M	0.01	0.01	0.01	0.01

(9611) (ne06403)

CRCW1206 SERIES THICK FILM CHIP RESISTORS

Thick film surface mount resistors in EIA standard sizes. Automatic placement compatible, flow solderable. Operating temperature: –55°C to +150°C. Temperature coefficient: ±100ppm/°C(1%); ±200ppm/°C(5%). Power rating: @70°C -¼W. **CRCW1206 series** are available in values from 10Ω to 1MΩ in 1% and 5% tolerances. Most popular values listed. Other values and sizes available in E24 standard resistance values; *contact your local Newark sales office.* NOTE: Minimum quantities may apply on some values.

CRCW1206, ±1% TOLERANCE - PACKAGES OF 100

Stock No.	Type	Resistance (Ohms)	Pkg. of 100		
			1-9	10-24	25-49
04F7894	CRCW1206-10< 1%	10	4.60	3.91	3.34
04F7897	CRCW1206-33.2< 1%	33.2	4.60	3.91	3.34
04F7899	CRCW1206-47.5< 1%	47.5	4.60	3.91	3.34
04F7900	CRCW1206-49.9< 1%	49.9	4.60	3.91	3.34
04F7901	CRCW1206-51.1< 1%	51.1	4.60	3.91	3.34
04F7904	CRCW1206-100< 1%	100	4.60	3.91	3.34
04F7906	CRCW1206-121< 1%	121	4.60	3.91	3.34
04F7910	CRCW1206-200< 1%	200	4.60	3.91	3.34
04F7911	CRCW1206-221< 1%	221	4.60	3.91	3.34
04F7920	CRCW1206-1K 1%	1k	4.60	3.91	3.34
04F7922	CRCW1206-1.5K 1%	1.5k	4.60	3.91	3.34
04F7926	CRCW1206-2K 1%	2k	4.60	3.91	3.34
04F7933	CRCW1206-3.32K 1%	3.32k	4.60	3.91	3.34
04F7937	CRCW1206-4.99K 1%	4.99k	4.60	3.91	3.34
04F7943	CRCW1206-10.0K 1%	10k	4.60	3.91	3.34
04F7947	CRCW1206-20K 1%	20k	4.60	3.91	3.34
04F7954	CRCW1206-49.9K 1%	49.9k	4.60	3.91	3.34
04F7959	CRCW1206-100K 1%	100k	4.60	3.91	3.34
04F7960	CRCW1206-150K 1%	150k	4.60	3.91	3.34

CRCW1206, ±5% TOLERANCE - PACKAGES OF 100

Stock No.	Type	Resistance (Ohms)	Pkg. of 100		
			1-9	10-24	25-49
03F5532	CRCW1206-100-5%	10	3.20	2.72	2.32
03F5537	CRCW1206-220-5%	22	3.20	2.72	2.32
03F5540	CRCW1206-330-5%	33	3.20	2.72	2.32
03F5549	CRCW1206-101-5%	100	3.20	2.72	2.32
03F5551	CRCW1206-121-5%	120	3.20	2.72	2.32
03F5556	CRCW1206-201-5%	200	3.20	2.72	2.32
03F5559	CRCW1206-271-5%	270	3.20	2.72	2.32
03F5562	CRCW1206-331-5%	330	3.20	2.72	2.32
03F5565	CRCW1206-471-5%	470	3.20	2.72	2.32
03F5573	CRCW1206-102-5%	1k	3.20	2.72	2.32
03F5580	CRCW1206-202-5%	2k	3.20	2.72	2.32
03F5581	CRCW1206-222-5%	2.2k	3.20	2.72	2.32
03F5583	CRCW1206-272-5%	2.7k	3.20	2.72	2.32
03F5589	CRCW1206-472-5%	4.7k	3.20	2.72	2.32
03F5597	CRCW1206-103-5%	10k	3.20	2.72	2.32
03F5621	CRCW1206-104-5%	100k	3.20	2.72	2.32
03F5639	CRCW1206-105-5%	1M	3.20	2.72	2.32

(17046) (ne10763)

NEWARK: YOUR ONE-STOP SHOP.

TNPW SERIES THIN FILM PRECISION CHIP RESISTORS

Reflow solderable; thin film resistance element with wrap-around termination and inner electrode protection. EIA 0805 and 1206 chip sizes. Operating temperature: –55°C to +125°C. **Sold in reels of 500 or packages of 100.**

TNPW1206, ±0.1% TOLERANCE – REELS OF 500

Stock No.	Type	Ohms	1-2	3-4	5-9	10-24
01F1060	TNPW1206 1000B T9	100	463.26	388.75	323.96	299.66
01F1061	TNPW1206 2000B T9	200	463.26	388.75	323.96	299.66
01F1062	TNPW1206 4990B T9	499	463.26	388.75	323.96	299.66
01F1063	TNPW1206 1001B T9	1k	463.26	388.75	323.96	299.66
01F1064	TNPW1206 1501B T9	1.5k	463.26	388.75	323.96	299.66
01F1065	TNPW1206 2001B T9	2k	463.26	388.75	323.96	299.66
01F1066	TNPW1206 4021B T9	4.02k	463.26	388.75	323.96	299.66
01F1067	TNPW1206 4991B T9	4.99k	463.26	388.75	323.96	299.66
01F1068	TNPW1206 9091B T9	9.09k	463.26	388.75	323.96	299.66
01F1069	TNPW1206 1002B T9	10k	463.26	388.75	323.96	299.66
01F1070	TNPW1206 2002B T9	20k	463.26	388.75	323.96	299.66
01F1071	TNPW1206 1003B T9	100k	463.26	388.75	323.96	299.66

TNPW1206, ±0.1% TOLERANCE – PACKAGES OF 100

Stock No.	Type	Ohms	1-9	10-24	25-99	100-249
01F1072	TNPW1206 1000B T9	100	97.04	82.67	69.87	62.10
01F1073	TNPW1206 2000B T9	200	97.04	82.67	69.87	62.10
01F1074	TNPW1206 4990B T9	499	97.04	82.67	69.87	62.10
01F1075	TNPW1206 1001B T9	1k	97.04	82.67	69.87	62.10
01F1076	TNPW1206 1501B T9	1.5k	97.04	82.67	69.87	62.10
01F1077	TNPW1206 2001B T9	2k	97.04	82.67	69.87	62.10
01F1078	TNPW1206 4021B T9	4.02k	97.04	82.67	69.87	62.10
01F1079	TNPW1206 4991B T9	4.99k	97.04	82.67	69.87	62.10
01F1080	TNPW1206 9091B T9	9.09k	97.04	82.67	69.87	62.10
01F1081	TNPW1206 1002B T9	10k	97.04	82.67	69.87	62.10
01F1082	TNPW1206 2002B T9	20k	97.04	82.67	69.87	62.10
01F1083	TNPW1206 1003B T9	100k	97.04	82.67	69.87	62.10

TNPW0805, ±0.5% TOLERANCE – REELS OF 500

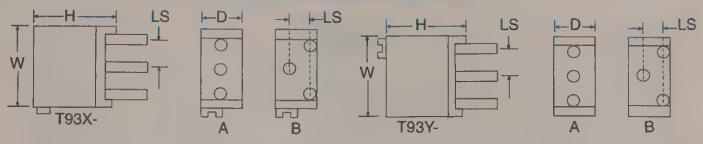
Stock No.	Type	Ohms	1-2	3-4	5-9	10-24
01F1084	TNPW0805 1000D T9	100	103.61	86.94	72.45	67.02
01F1085	TNPW0805 2000D T9	200	103.61	86.94	72.45	67.02
01F1086	TNPW0805 1001D T9	1k	103.61	86.94	72.45	67.02
01F1087	TNPW0805 2001D T9	2k	103.61	86.94	72.45	67.02
01F1088	TNPW0805 1002D T9	10k	103.61	86.94	72.45	67.02
01F1089	TNPW0805 2002D T9	20k	103.61	86.94	72.45	67.02
01F1090	TNPW0805 1003D T9	100k	103.61	86.94	72.45	67.02

TNPW0805, ±0.5% TOLERANCE – PACKAGES OF 100

Stock No.	Type	Ohms	1-9	10-24	25-99	100-249
01F1091	TNPW0805 1000D T9	100	23.29	19.84	16.77	16.77
01F1092	TNPW0805 2000D T9	200	23.29	19.84	16.77	16.77
01F1093	TNPW0805 1001D T9	1k	23.29	19.84	16.77	16.77
01F1094	TNPW0805 2001D T9	2k	23.29	19.84	16.77	16.77
01F1095	TNPW0805 1002D T9	10k	23.29	19.84	16.77	16.77
01F1096	TNPW0805 2002D T9	20k	23.29	19.84	16.77	16.77
01F1097	TNPW0805 1003D T9	100k	23.29	19.84	16.77	16.77

(17047) (ne10744)

T93 SERIES MULTI-TURN CERMET TRIMMING POTENTIOMETERS



Electrical travel: 19 turns ±2. Resistance tolerance: ±10%. Temperature coefficient: ±70PPM/°C (–55°C to +155°C) for Rn ≥ 100Ω typical. Dielectric strength: 1000 Vrms. Mechanical travel: 22 turns ±5. Operating torque: 2.1 oz. in. (max). Operating temperature: –55°C to +155°C. Fully sealed, water washable container IP67. Height (H): 0.382″ max. Width (W): 0.382″ max. Depth (D): 0.189″ max. Lead length: 0.197″. Lead spacing (LS): 0.1″. Lead diameter: 0.02″. Adjustment slot: 0.024 x 0.024″.

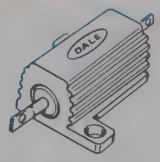
Stock No.	Type	Resistance (Ohms)	Power @ +85°C Max. (Watts)	WVDC Max. (V)	1-49	50-99
16F7135	T93XA 1K 10%	1k	0.50	22.4	1.20	1.11
16F7136	T93XA 2K 10%	2k	0.50	33.2	1.20	1.11
16F7137	T93XA 5K 10%	5k	0.50	48.5	1.20	1.11
16F7138	T93XA 10K 10%	10k	0.50	70.7	1.20	1.11
16F7139	T93XA 20K 10%	20k	0.50	105.0	1.20	1.11
16F7140	T93XA 50K 10%	50k	0.50	153.0	1.20	1.11
16F7141	T93XA 100K 10%	100k	0.50	224.0	1.20	1.11
16F7142	T93XA 200K 10%	200k	0.28	250.0	1.20	1.11
16F7145	T93XB 1K 10%	1k	0.50	22.4	1.20	1.11
16F7146	T93XB 2K 10%	2k	0.50	33.2	1.20	1.11
16F7147	T93XB 5K 10%	5k	0.50	48.5	1.20	1.11
16F7148	T93XB 10K 10%	10k	0.50	70.7	1.20	1.11
16F7149	T93XB 20K 10%	20k	0.50	105.0	1.20	1.11
16F7150	T93XB 50K 10%	50k	0.50	153.0	1.20	1.11
16F7151	T93XB 100K 10%	100k	0.50	224.0	1.20	1.11
16F7152	T93XB 200K 10%	200k	0.28	250.0	1.20	1.11
16F7155	T93YA 1K 10%	1k	0.50	22.4	1.20	1.11
16F7156	T93YA 2K 10%	2k	0.50	33.2	1.20	1.11
16F7157	T93YA 5K 10%	5k	0.50	48.5	1.20	1.11
16F7158	T93YA 10K 10%	10k	0.50	70.7	1.20	1.11
16F7159	T93YA 20K 10%	20k	0.50	105.0	1.20	1.11
16F7160	T93YA 50K 10%	50k	0.50	153.0	1.20	1.11
16F7161	T93YA 100K 10%	100k	0.50	224.0	1.20	1.11
16F7162	T93YA 200K 10%	200k	0.28	250.0	1.20	1.11
16F7165	T93YB 1K 10%	1k	0.50	22.4	1.20	1.11
16F7166	T93YB 2K 10%	2k	0.50	33.2	1.20	1.11
16F7167	T93YB 5K 10%	5k	0.50	48.5	1.20	1.11
16F7168	T93YB 10K 10%	10k	0.50	70.7	1.20	1.11
16F7169	T93YB 20K 10%	20k	0.50	105.0	1.20	1.11
16F7170	T93YB 50K 10%	50k	0.50	153.0	1.20	1.11
16F7171	T93YB 100K 10%	100k	0.50	224.0	1.20	1.11
16F7172	T93YB 200K 10%	200k	0.28	250.0	1.20	1.11

(4158) (ne08287)

FRIENDLY, QUALITY SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

WIREWOUND RESISTORS

TYPE RH (MIL-R-18546D, TYPE RE) CHASSIS MOUNT WIREWOUND RESISTORS



Aluminum-housed wirewound resistors feature completely welded construction for total environmental protection. Standard winding and screw mounts on chassis utilizes heat-sink effect. High stability. Tolerance: ±1%. Operating temperature: –55°C to +250°C. Most popular values listed. Other values available from 0.01Ω to 150kΩ; *contact your local Newark sales office.*

RH-5; 5-WATT MILITARY NO. RE60

Stock No.	Type	Ohms	1-24	25-49	50-99
02F2429	RH-5 1< 1%	1	3.20	2.56	2.41
02F2436	RH-5 5< 1%	5	3.20	2.56	2.41
02F2443	RH-5 10< 1%	10	3.20	2.56	2.41

RH-10; 10-WATT MILITARY NO. RE65

01F9591	RH-10 .1< 1%	0.1	4.07	3.26	3.06
01F9597	RH-10 1< 1%	1	3.20	2.56	2.41
01F9599	RH-10 2< 1%	2	3.20	2.56	2.41
01F9611	RH-10 10< 1%	10	3.20	2.56	2.41
01F9634	RH-10 50< 1%	50	3.20	2.56	2.41
01F9673	RH-10 700< 1%	700	3.20	2.56	2.41
01F9693	RH-10 2.5K 1%	2.5k	3.67	2.94	2.76

RH-25; 25-WATT MILITARY NO. RE70

01F9736	RH-25-.1<	0.1	4.27	3.42	3.21
01F9741	RH-25 1< 1%	1	3.20	2.56	2.41
01F9744	RH-25 2< 1%	2	3.20	2.56	2.41
01F9745	RH-25 2.5< 1%	1	3.20	2.56	2.41
01F9746	RH-25 3< 1%	3	3.20	2.56	2.41
01F9748	RH-25 4< 1%	4	3.20	2.56	2.41
01F9750	RH-25 5< 1%	5	3.20	2.56	2.41
01F9752	RH-25 6< 1%	6	3.20	2.56	2.41
01F9755	RH-25 8< 1%	8	3.20	2.56	2.41
01F9757	RH-25 10< 1%	10	3.20	2.56	2.41
01F9759	RH-25 12< 1%	12	3.20	2.56	2.41
01F9763	RH-25 15< 1%	15	3.20	2.56	2.41
01F9766	RH-25 20< 1%	20	3.20	2.56	2.41
01F9769	RH-25 25< 1%	25	3.20	2.56	2.41
01F9771	RH-25 30< 1%	30	3.20	2.56	2.41
01F9776	RH-25 40< 1%	40	3.20	2.56	2.41
01F9780	RH-25 50< 1%	50	3.20	2.56	2.41
01F9789	RH-25 100< 1%	100	3.20	2.56	2.41
01F9793	RH-25 150< 1%	150	3.20	2.56	2.41
01F9797	RH-25 200< 1%	200	3.20	2.56	2.41
01F9800	RH-25 250< 1%	250	3.20	2.56	2.41
01F9812	RH-25 500< 1%	500	3.20	2.56	2.41
01F9826	RH-25 1K 1%	1k	3.20	2.56	2.41
01F9836	RH-25 2K 1%	2k	3.66	2.93	2.75
01F9848	RH-25 5K 1%	5k	3.66	2.93	2.75
01F9860	RH-25 10K 1%	10k	3.66	2.93	2.75

RH-50; 50-WATT MILITARY NO. RE75

01F9889	RH50 .1 1%	0.1	4.55	3.64	3.42
01F9890	RH50-.15< 1%	0.15	4.55	3.64	3.42
01F9891	RH-50 .2< 1%	0.2	4.55	3.64	3.42
01F9892	RH50 .25< 1%	0.25	4.55	3.64	3.42
01F9893	RH50 .3< 1%	0.3	4.55	3.64	3.42
01F9895	RH-50 1< 1%	1	4.36	3.49	3.28
01F9896	RH-50 1.5< 1%	1.5	4.43	3.55	3.33
01F9897	RH-50 2< 1%	2	4.36	3.49	3.28
01F9899	RH-50 3< 1%	3	4.36	3.49	3.28
01F9902	RH-50 4< 1%	4	4.36	3.49	3.28
01F9904	RH-50 5< 1%	5	4.36	3.49	3.28
01F9906	RH-50 6< 1%	6	4.36	3.49	3.28
01F9909	RH-50 8< 1%	8	4.36	3.49	3.28
01F9911	RH-50 10< 1%	10	4.36	3.49	3.28
01F9913	RH-50 12< 1%	12	4.36	3.49	3.28
01F9917	RH-50 15< 1%	15	4.36	3.49	3.28
01F9918	RH-50 16< 1%	16	4.36	3.49	3.28
01F9920	RH-50 20< 1%	20	4.36	3.49	3.28
01F9923	RH-50 25< 1%	25	4.36	3.49	3.28
01F9926	RH-50 30< 1%	30	4.36	3.49	3.28
01F9931	RH-50 40< 1%	40	4.36	3.49	3.28
01F9935	RH-50 50< 1%	50	4.36	3.49	3.28
01F9945	RH-50 100< 1%	100	4.36	3.49	3.28
01F9950	RH-50 150< 1%	150	4.36	3.49	3.28
01F9960	RH-50 300< 1%	300	4.36	3.49	3.28
01F9970	RH-50 500< 1%	500	4.36	3.49	3.28
01F9984	RH-50 1K 1%	1k	4.36	3.49	3.28
01F9990	RH-50 1.5K 1%	1.5k	4.43	3.55	3.33
02F1016	RH-50 5K 1%	5k	4.43	3.55	3.33
02F1116	RH-50 100K 1%	100k	6.26	5.01	4.70

(9556) (de03303)

TYPE RS (MIL-R-26E, TYPE RW) AXIAL LEAD WIREWOUND RESISTORS

Wirewound resistors feature welded construction and silicone coating. Dielectric strength: 1000VAC. Tolerance: ±1%. Operating temperature: –55°C to +275°C. Dimensions: **RS-1A series**-0.437 x 0.094″; **RS-2B series**-0.62 x 0.187″; **RS-5 series**- 1.00 x 0.312″; **RS-10 series**-1.87 x 0.375″ . Lead length: 1.5″ min. Lead diameter: 0.04″ except **RS-1A series** is 0.020″, **RS-2B series** is 0.032″. Most popular values listed. Other values available from 0.01Ω to 275kΩ; *contact your local Newark sales office.*

RH-2B, 3-WATT MILITARY NO. RW79

Stock No.	Type	Ohms	1-49	50-99	100-249
02F1150	RS2B .1< 1%	0.1	1.23	0.99	0.89
02F1155	RS-2B 1< 1%	1	0.83	0.67	0.60
02F1156	RS-2B 1.5< 1%	1.5	0.83	0.67	0.60
02F1157	RS-2B 2< 1%	2	0.83	0.67	0.60
02F1160	RS-2B 3< 1%	3	0.83	0.67	0.60
02F1163	RS-2B 5< 1%	5	0.83	0.67	0.60
02F1171	RS-2B 10< 1%	10	0.83	0.67	0.60
02F1180	RS-2B 20< 1%	20	0.83	0.67	0.60
02F1183	RS-2B 25< 1%	25	0.83	0.67	0.60
02F1191	RS-2B 40< 1%	40	0.83	0.67	0.60
02F1195	RS-2B 50< 1%	50	0.83	0.67	0.60
02F1228	RS-2B 100< 1%	100	0.83	0.67	0.60
02F1241	RS-2B 120< 1%	120	0.83	0.67	0.60
02F1248	RS-2B 200< 1%	200	0.83	0.67	0.60
02F1249	RS-2B 220< 1%	220	0.83	0.67	0.60
02F1251	RS-2B 250< 1%	250	0.83	0.67	0.60
02F1253	RS-2B 300< 1%	300	0.83	0.67	0.60
02F1259	RS-2B 400< 1%	400	0.83	0.67	0.60
02F1264	RS-2B 500< 1%	500	0.83	0.67	0.60
02F1294	RS-2B 1K 1%	1k	0.83	0.67	0.60
02F1296	RS-2B 1.2K 1%	1.2k	0.99	0.79	0.71
02F1300	RS-2B 1.5K 1%	1.5k	0.99	0.79	0.71
02F1305	RS-2B 2.2K 1%	2.2k	0.99	0.79	0.71
02F1307	RS-2B 2.5K 1%	2.5k	0.99	0.79	0.71
02F1308	RS-2B 3K 1%	3k	0.99	0.79	0.71
02F1318	RS-2B 5K 1%	5k	0.99	0.79	0.71
02F1329	RS-2B 10K 1%	10k	0.99	0.79	0.71
02F1335	RS-2B 15K 1%	15k	1.45	1.16	1.05
02F1338	RS-2B 20K 1%	20k	1.45	1.16	1.05

RS-5, 5-WATT MILITARY NO. RW67 AND RWP21

02F1354	RS-5 5< 1%	5	1.26	1.01	0.91
02F1358	RS-5 7.5< 1%	7.5	1.26	1.01	0.91
02F1361	RS-5 10< 1%	10	1.26	1.01	0.91
02F1367	RS-5 15< 1%	15	1.26	1.01	0.91
02F1371	RS-5 20< 1%	20	1.26	1.01	0.91
02F1378	RS-5 33< 1%	33	1.26	1.01	0.91
02F1385	RS-5 50< 1%	50	1.26	1.01	0.91
02F1398	RS-5 150< 1%	150	1.26	1.01	0.91
02F1432	RS-5 1K 1%	1k	1.26	1.01	0.91
02F1454	RS-5 5K 1%	5k	1.44	1.15	1.04
02F1463	RS-5 8.2K 1%	8.2k	1.44	1.15	1.04
02F1465	RS-5 10K 1%	10k	1.44	1.15	1.04
02F1479	RS-5 30K	30k	1.70	1.36	1.22
02F1486	RS-5 50K 1%	50k	2.07	1.66	1.49

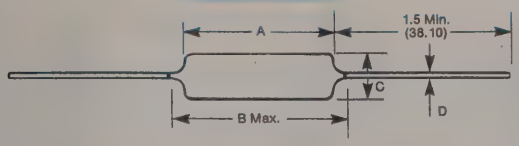
RS-10, 10-WATT MILITARY NO. RW68 AND RWP23

01F9262	RS-10 .2< 1%	0.2	2.23	1.78	1.61
01F9263	RS-10 1< 1%	1	1.63	1.31	1.18
01F9265	RS-10 2< 1%	2	1.63	1.31	1.18
01F9277	RS-10 10< 1%	10	1.63	1.31	1.18
01F9287	RS-10 20< 1%	20	1.63	1.31	1.18
01F9292	RS-10 30< 1%	30	1.63	1.31	1.18
01F9298	RS-10 40< 1%	40	1.63	1.31	1.18
01F9304	RS-10 50< 1%	50	1.63	1.31	1.18
01F9354	RS-10 100< 1%	100	1.63	1.31	1.18
01F9519	RS-10 2.5K 1%	2.5k	1.80	1.44	1.30
01F9541	RS-10 10K 1%	10k	2.23	1.78	1.61
01F9556	RS-10 40K 1%	40k	2.55	2.04	1.84
01F9561	RS-10 50K 1%	50k	2.55	2.04	1.84
01F9570	RS-10 100K 1%	100k	2.89	2.31	2.08
01F9575	RS-10 150K 1%	150k	3.45	2.76	2.48

(9560) (de03304)

CONTACT NEWARK FOR LARGE-QUANTITY PRICING.

CW SERIES SILICONE-COATED AXIAL LEAD WIREWOUND RESISTORS



Most popular values listed. Additional resistance values available, *contact your local Newark sales office.* NOTE: manufacturer's minimum requirements may apply to some values.

STANDARD ELECTRICAL SPECIFICATIONS

Tolerance above 1Ω: ±5%; below 1Ω: ±10%.

Type	Power Rating (max. hot spot) 275°C	350°C	Resistance (Ohms)	Max. Wt. (grams)	Max. Working Voltage* 275°C	350°C
CW-2B	3.0	3.75	0.1 to 11k	0.70	125	140
CW-5	5.0	6.5	0.1 to 58.5k	4.2	320	365
CW-10	10.0	13.0	0.1 to 167k	9.0	765	875

*@0.0008″ diameter wire resistance values

DIMENSIONS

Type	A ±0.062″ (1.57)	B (max.)	C ±0.032″ (0.81)	D ±0.002″ (0.051)
CW-2B	0.562″ (14.27)	0.662″ (15.80)	0.188″ (4.78)	0.032″ (0.81)
CW-5	0.875″ (22.22)	1.000″ (25.40)	0.312″ (7.92)	0.040″ (1.02)
CW-10	1.781″ (45.24)	1.875″ (46.62)	0.375″ (9.52)	0.040″ (1.02)

Stock No.	Type	Ohms	1-24	25-49	50-99	100-249
03F4761	CW2B-0.1<-10%	0.1	1.02	1.00	0.93	0.69
03F5073	CW5-1.0<-5%	1.0	0.87	0.86	0.79	0.51
03F5087	CW5-4<-5%	4.0	0.78	0.77	0.71	0.49
03F5090	CW5-5<-5%	5.0	0.78	0.77	0.71	0.49
03F5098	CW5-10<-5%	10	0.78	0.77	0.71	0.49
03F5100	CW5-12<-5%	12	0.78	0.77	0.71	0.49
03F5105	CW5-20<-5%	20	0.78	0.77	0.71	0.49
03F5110	CW5-30<-5%	30	0.78	0.77	0.71	0.49
03F5116	CW5-47<-5%	47	0.78	0.77	0.71	0.49
03F5117	CW5-50<-5%	50	0.78	0.77	0.71	0.49
03F5125	CW5-100<-5%	100	0.78	0.77	0.71	0.49
03F5155	CW5-120< 5%	120	0.78	0.77	0.71	0.49
03F5129	CW5-150<-5%	150	0.78	0.77	0.71	0.49
03F5132	CW5-200<-5%	200	0.78	0.77	0.71	0.49
03F5133	CW5-220<-5%	220	0.78	0.77	0.71	0.49
03F5135	CW5-250<-5%	250	0.78	0.77	0.71	0.49
03F5137	CW5-300<-5%	300	0.78	0.77	0.71	0.49
03F5138	CW5-330<-5%	330	0.78	0.77	0.71	0.49
03F5144	CW5-500<-5%	500	0.78	0.77	0.71	0.49
03F5152	CW5-1K-5%	1000	0.78	0.77	0.71	0.49
03F5157	CW5-1.2K-5%	1200	0.87	0.86	0.79	0.51
03F5168	CW5-3K-5%	3000	0.87	0.86	0.79	0.51
03F5174	CW5-4.7K-5%	4700	0.87	0.86	0.79	0.51
03F5175	CW5-5K-5%	5000	1.03	1.01	0.94	0.67
03F5176	CW5-5.1K-5%	5100	0.87	0.86	0.79	0.51
03F5180	CW5-6.8K-5%	6800	0.87	0.86	0.79	0.51
03F5182	CW5-8.2K-5%	8200	0.87	0.86	0.79	0.51
03F5184	CW5-10K-5%	10k	0.87	0.86	0.79	0.51
03F5188	CW5-15K-5%	15k	1.00	0.99	0.91	0.59
03F5191	CW5-20K-5%	20k	0.78	0.77	0.71	0.49
03F5192	CW5-22K-5%	22k	1.00	0.99	0.91	0.59
03F5194	CW5-27K-5%	27k	1.03	1.01	0.94	0.67
03F5199	CW5-43K-5%	43k	1.03	1.01	0.94	0.67
03F4997	CW10-2K-5%	2k	0.90	0.88	0.82	0.66
03F5044	CW10-100K-5%	100k	1.29	1.27	1.18	0.99

(12630) (de50852)

LVR-1, LVR-3 AND LVR-5 SERIES WIREWOUND RESISTORS

Commercial resistors for all types of current sensing applications, including switching and linear power supplies, instruments and power amplifiers. Power rating: for **LVR-1**, 1W; for **LVR-3**, 3W; for **LVR-5**, 5W. Solderability satisfactory when tested in accordance with Method 208 of MIL-STD-202. Maximum ambient temperature at rated wattage, 25°C; maximum ambient temperature at zero power, 175°C. Tolerance: ±1%. Other values available; *contact your local Newark sales office.* NOTE: manufacturer's minimum requirements may apply to some values.

DIMENSIONS

Model	A ±0.010″ (0.254)	B ±0.010″ (0.254)	C ±0.002″ (0.051)
LVR-1	0.427″ (10.85)	0.115″ (2.92)	0.020″ (0.508)
LVR-3	0.560″ (14.22)	0.205″ (5.20)	0.032″ (0.813)
LVR-5	0.925″ (23.50)	0.330″ (8.38)	0.040″ (1.02)

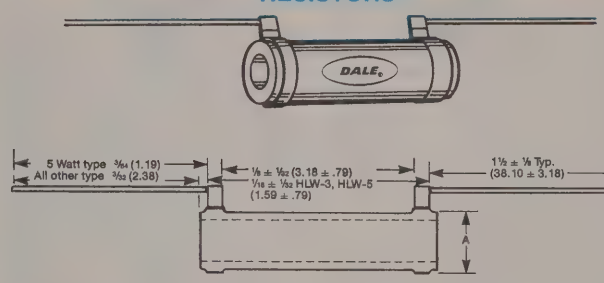
CONTINUED

LVR-1, LVR-3 AND LVR-5 SERIES WIREWOUND RESISTORS (CONT.)

Stock No.	Type	Resistance Ω	1-24	25-49	50-99	100-249
16F5094	LVR-1 .01< 1%	0.01	1.65	1.62	1.50	1.13
16F5095	LVR-1 .05< 1%	0.05	1.65	1.62	1.50	1.13
16F5096	LVR-1 .1< 1%	0.10	1.58	1.55	1.44	1.07
97F9242	LVR-3.005<1%	0.005	1.97	1.94	1.80	1.24
97F9243	LVR-3.01<1%	0.01	1.65	1.62	1.50	1.13
97F9244	LVR-3.05<1%	0.05	1.65	1.62	1.50	1.13
97F9245	LVR-3.10<-1%	0.10	1.58	1.55	1.44	1.07
97F9246	LVR-5.005<1%	0.005	2.50	2.46	2.28	1.58
97F9247	LVR-5.01<1%	0.01	1.97	1.94	1.80	1.24
97F9248	LVR-5.05<1%	0.05	1.91	1.88	1.74	1.18
97F9249	LVR-5.10<1%	0.10	1.91	1.88	1.74	1.18

(4131) (de03753)

HLW SERIES TUBULAR AXIAL LEAD WIREWOUND RESISTORS



- **Dissipates Large Amounts of Power In DC or Low-frequency AC Circuits**
- **Lug-Attached Leads Facilitate Direct Electrical Connection by Soldering**

These tubular, axial lead resistors suit a wide range of applications: grid resistors, voltage-dropping resistors, high-volt bleeder resistors in power supplies, bias-supply resistors, load resistors, shunt resistors, voltage divider networks, filiment-dropping resistors. Resistance values below 1 ohm are ±10% tolerance; 1 ohm and above are ±5% tolerance. Minimum resistance is 0.1 ohm for all values. Most popular values listed. Additional resistance values available, *contact your local Newark sales office.* NOTE: manufacturer's minimum requirements may apply to some values. **Sold in multiples of 10.**

HLW SERIES RESISTOR SPECIFICATIONS

Type	Wattage Rating	Length ±1/16″ (1.59)	Core O.D.	Core I.D. ±1/32″ (0.79)	Dimen. A Max.	Axial Terminal Designation
HLW-6	8	1″ (25.40)	5/16″ (7.94)	3/16″ (4.76)	13/32″ (10/32)	1 1/2″ (38.10) 18AWG Leads
HLW-12	12	1 3/4″ (44.45)	5/16″ (7.94)	3/16″ (4.76)	13/32″ (10/32)	1 1/2″ (38.10) 18AWG Leads
HLW-20	20	2″ (50.80)	7/16″ (11.11)	5/16″ (7.94)	9/16″ (14.29)	1 1/2″ (38.10) 18AWG Leads

TYPE HLW-6, 8 WATT

Stock No.	Type	Ohms	1-24	25-49	50-99	100-249
03F4676	HLW-6-A1Z-10<	10	1.84	1.62	1.31	1.05
03F4693	HLW-6-A1Z-10K	10.0k	2.00	1.75	1.42	1.15

TYPE HLW-12, 12 WATT

03F4696	HLW-12-A1Z-.5<	0.5	2.24	1.94	1.59	1.27
03F4697	HLW-12-A1Z-1<	1.0	2.24	1.94	1.59	1.27
03F4698	HLW-12-A1Z-2<	2.0	2.24	1.94	1.59	1.27
03F4700	HLW-12-A1Z-5<	5.0	2.24	1.94	1.59	1.27
03F4701	HLW-12-A1Z-10<	10.0	2.24	1.94	1.59	1.27
03F4717	HLW-12-A1Z-1K	1.0k	2.24	1.94	1.59	1.27
03F4724	HLW-12-A1Z-5K	5.0k	2.68	2.33	1.92	1.55
03F4728	HLW-12-A1Z-10K	10.0k	2.68	2.33	1.92	1.55

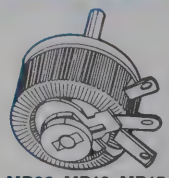
TYPE HLW-12, 20 WATT

03F4735	HLW-20-A1Z-.1<10%	0.1	2.63	2.28	1.85	1.50
03F4734	HLW-20-A1Z-.5<	0.5	2.63	2.28	1.85	1.50
03F4736	HLW-20-A1Z-1<	1.0	2.63	2.28	1.85	1.50
03F4737	HLW-20-A1Z-2<	2.0	2.63	2.28	1.85	1.50
03F4740	HLW-20-A1Z-5<	5.0	2.63	2.28	1.85	1.50
03F4741	HLW-20-A1Z-10<	10.0	2.63	2.28	1.85	1.50
03F4742	HLW-20-A1Z-25<	25.0	2.63	2.28	1.85	1.50
03F4743	HLW-20-A1Z-50<	50.0	2.63	2.28	1.85	1.50
03F4744	HLW-20-A1Z-100<	100.0	2.63	2.28	1.85	1.50
03F4751	HLW-20-A1Z-1K	1.0k	2.63	2.28	1.85	1.50
03F4754	HLW-20-A1Z-2K	2.0k	2.63	2.28	1.85	1.50
03F4756	HLW-20-A1Z-5K	5.0k	2.87	2.52	2.04	1.64
03F4757	HLW-20-A1Z-10K	10.0k	2.59	2.11	1.77	1.43
03F4758	HLW-20-A1Z-15K	15.0k	2.82	2.34	1.95	1.56
03F4759	HLW-20-A1Z-20K	20.0k	2.82	2.34	1.95	1.56
03F4760	HLW-20-A1Z-100K	100.0k	3.40	2.79	2.34	1.88

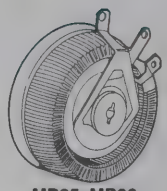
(9591) (de50850)

WIREWOUND POWER RHEOSTATS

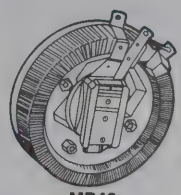
MP SERIES WIREWOUND POWER RHEOSTATS



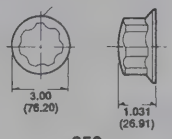
MP06, MP10, MP15



MP25, MP30



MP40



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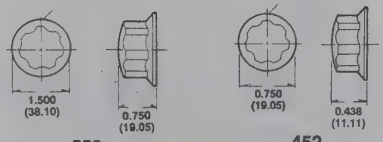

552 452

949 548 448

Vitreous enamel ceramic cement base power rheostats provide exceptional reliability through the application of modern manufacturing and the use of sophisticated materials. **MP06** models have diameter of 0.875″ (22.22), weigh 0.037lbs., and use knob **452** and dial **448**. **MP10** models have diameter of 1.562″ (39.69), weigh 0.180lbs., and use knob **552** and dial **548**. UL recognized E51076, CSA certified LR62770. **MP15** models have diameter 2.281″ (57.94), weigh 0.321lbs., and use knob **552** and dial **548**. UL recognized E51076, CSA certified LR62770. **MP25** models have diameter of 3.156″ (80.17), weigh 0.594lbs., and use knob **552** and dial **548**. UL recognized E51076, CSA certified LR62770. **MP30** models have diameter of 4.000″ (101.60), weigh 1.014lbs., and use knob **552** and dial **548**. **MP40** models have diameter of 6.000″ (152.40), weigh 2.625lbs., and use knob **952** and dial **949**. *Order knobs and dials separately below.*

CONTINUED

MP SERIES WIREWOUND POWER RHEOSTATS (CONT.)

MP06-12.5 WATTS

Stock No.	Type	Ohms	1-24	25-49
95F8840	MPO6A25	25	24.52	15.69
95F8841	MPO6A50	50	24.52	15.69
95F8843	MPO6A100	100	24.52	15.69
95F8848	MPO6A500	500	24.52	15.69
95F8849	MPO6A1000	1000	24.52	15.69
95F8851	MPO6A2500	2500	24.52	15.69
95F8853	MPO6A5000	5000	22.94	14.68

MP10-25 WATT

95F8860	MP10A10	10	24.17	15.17
95F8861	MP10A15	15	21.52	13.77
95F8862	MP10A25	25	21.52	13.77
95F8863	MP10A50	50	21.52	13.77
95F8865	MP10A100	100	21.52	13.77
95F8867	MP10A175	175	21.52	13.77
95F8870	MP10A500	500	21.52	13.77
95F8872	MP10A1000	1000	21.52	13.77
95F8873	MP10A1500	1500	21.52	13.77
95F8874	MP10A2500	2500	21.52	13.77
95F8876	MP10A5000	5000	22.19	14.28

MP15-50 WATT

95F9090	MP15A16	16	27.89	17.83
95F9092	MP15A35	35	27.89	17.83
95F9093	MP15A50	50	27.89	17.83
95F9096	MP15A150	150	27.89	17.83
95F9097	MP15A225	225	27.89	17.83
95F9098	MP15A500	500	27.89	17.83
95F9099	MP15A1000	1000	27.89	17.83
95F9104	MP15A10000	10K	29.41	18.84

MP25-100 WATTS

95F9107	MP25A5	5	45.19	30.99
95F9109	MP25A10	10	45.19	30.99
95F9111	MP25A50	50	36.87	25.28
95F9113	MP25A100	100	36.87	25.28
95F9115	MP25A300	300	36.87	25.28
95F9117	MP25A1000	1000	36.87	25.28

MP30-150 WATTS

95F9122	MP30A50	50	46.92	32.18
95F8755	MP30A150	150	46.92	32.18

MP40-300 WATTS

95F8761	MP40A1	1	85.81	69.76
95F8762	MP40A10	10	85.81	69.76
95F8763	MP40A25	25	81.99	66.64

KNOBS AND DIALS FOR MP SERIES RHEOSTATS

KNOBS

Stock No.	Type	Use With	Shaft Diameter	Each
96F900	952	MP40A	0.375″ (9.525)	27.88
96F901	552	MP10A, MP15A, MP25A, MP30A	0.250″ (6.350)	2.93
96F902	452	MP06A	0.125″ (3.175)	3.12

DIALS

96F903	949	MP40A	0.375″ (9.525)	5.63
96F904	548	MP10A, MP15A, MP25A, MP30A	0.250″ (6.350)	1.86
96F905	448	MP06A	0.125″ (3.175)	2.83

(4127) (de02347)

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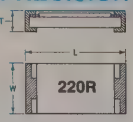
SURFACE MOUNT 0.1% PRECISION THIN FILM RESISTORS

SMD



Metal film surface mount resistors in standard package styles offer high stability and excellent results for single-pulse conditions. Tolerance: 0.1%. Temperature coefficient: ±25ppm. Voltage: 100VDC. Operating temperature: –55°C to +125°C. **Sold in multiples of 10 or reels of 5000.**

DIMENSIONS (mm)

Size	L	W	H	T (Min.)
1206	3.20	1.60	0.55	0.25
0805	2.00	1.25	0.45	0.25
0603	1.50	0.80	0.45	0.22

	1206		0805		0603	
Ω	Stock No.	Type	Stock No.	Type	Stock No.	Type
100	83F6531	232274121001	83F6571	231224171001	83F6611	231220171001
120	83F6532	232274121201	83F6572	231224171201	83F6612	231220171201
150	83F6533	232274121501	83F6573	231224171501	83F6613	231220171501
220	83F6534	232274122201	83F6574	231224172201	83F6614	231220172201
330	83F6535	232274123301	83F6575	231224173301	83F6615	231220173301
470	83F6536	232274124701	83F6576	231224174701	83F6616	231220174701
680	83F6537	232274126801	83F6577	231224176801	83F6617	231220176801
820	83F6538	232274128201	83F6578	231224178201	83F6618	231220178201
1k	83F6539	232274121002	83F6579	231224171002	83F6619	231220171002
1.2k	83F6540	232274121202	83F6580	231224171202	83F6620	231220171202
1.5k	83F6541	232274121502	83F6581	231224171502	83F6621	231220171502
1.8k	83F6542	232274121802	83F6582	231224171802	83F6622	231220171802
2.2k	83F6543	232274122202	83F6583	231224172202	83F6623	231220172202
2.7k	83F6544	232274122702	83F6584	231224172702	83F6624	231220172702
3.3k	83F6545	232274123302	83F6585	231224173302	83F6625	231220173302
3.9k	83F6546	232274123902	83F6586	231224173902	83F6626	231220173902
4.7k	83F6547	232274124702	83F6587	231224174702	83F6627	231220174702
5.6k	83F6548	232274125602	83F6588	231224175602	83F6628	231220175602
6.8k	83F6549	232274126802	83F6589	231224176802	83F6629	231220176802
8.2k	83F6550	232274128202	83F6590	231224178202	83F6630	231220178202
10k	83F6551	232274121003	83F6591	231224171003	83F6631	231220171003
12k	83F6552	232274121203	83F6592	231224171203	83F6632	231220171203
15k	83F6553	232274121503	83F6593	231224171503	83F6633	231220171503
18k	83F6554	232274121803	83F6594	231224171803	83F6634	231220171803
20k	83F6555	232274122003	83F6595	231224172003	83F6635	231220172003
22k	83F6556	232274122203	83F6596	231224172203	83F6636	231220172203
27k	83F6557	232274122703	83F6597	231224172703	83F6637	231220172703
30k	83F6558	232274123003	83F6598	231224173003	83F6638	231220173003
33k	83F6559	232274123303	83F6599	231224173303	83F6639	231220173303
39k	83F6560	232274123903	83F6600	231224173903	83F6640	231220173903
43k	83F6561	232274124303	83F6601	231224174303	83F6641	231220174303
47k	83F6562	232274124703	83F6602	231224174703	83F6642	231220174703
51k	83F6563	232274125103	83F6603	231224175103	83F6643	231220175103
56k	83F6564	232274125603	83F6604	231224175603	83F6644	231220175603
62k	83F6565	232274126203	83F6605	231224176203	83F6645	231220176203
68k	83F6566	232274126803	83F6606	231224176803	83F6646	231220176803
75k	83F6567	232274127503	83F6607	231224177503	83F6647	231220177503
82k	83F6568	232274128203	83F6608	231224178203	83F6648	231220178203
91k	83F6569	232274129103	83F6609	231224179103	83F6649	231220179103
100k	83F6570	232274121004	83F6610	231224171004	83F6650	231220171004

Size	10-90	100-490	500-990	1000+	Per Reel
1206	0.53	0.42	0.35	0.20	0.15
0805	0.53	0.42	0.35	0.20	0.15
0603	0.53	0.42	0.35	0.20	0.15

(29372) (ne29372)

5063J SERIES SPACE MISER METAL FILM RESISTORS

1% tolerance resistors are designed for high density applications. 0.020″ (0.500) dia. leads. Power: ⅛ watt @ 70°C for 10,000 operating life hours. Capable of automatic insertion on 0.200″ (5.08) centers. Superior mechanical strength and heat dissipation. Max. length: 0.142″ (3.61). Dia.: 0.063″ (1.6). Leads: 1.1″ (27.94)L. Lead dia.: 0.020″ (0.508). Meets MIL-R-10509 (RN50).

Stock No.	Type	Ohms	1-249	250-499
50F8358	5063JD100R0F	100.0	0.12	0.11
50F8362	5063JD392R0F	392.0	0.12	0.11
50F8363	5063JD475R0F	475.0	0.12	0.11
50F8359	5063JD1K000F	1.0k	0.12	0.11
50F8366	5063JD1K500F	1.5k	0.12	0.11
50F8367	5063JD2K000F	2.0k	0.12	0.11
50F8368	5063JD3K010F	3.01k	0.12	0.11
50F8369	5063JD3K320F	3.32k	0.12	0.11
50F8370	5063JD5K110F	5.11k	0.12	0.11
50F8360	5063JD10K00F	10.0k	0.12	0.11
50F8371	5063JD20K00F	20.0k	0.11	0.11
50F8372	5063JD30K10F	30.1k	0.12	0.11
50F8361	5063JD100K0F	100.0k	0.12	0.11
50F8373	5063JD1M000F	1.0M	0.12	0.11

(7346) (de52462)

NTC TEMPERATURE-SENSING THERMISTORS

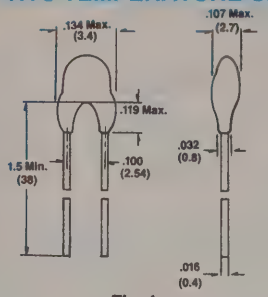


Fig. 1

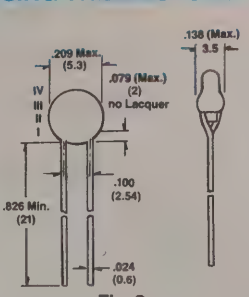


Fig. 2

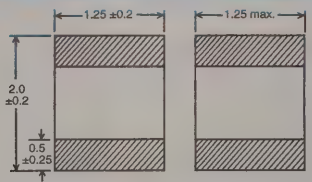
Radial-leaded, color-coded devices for general-purpose applications. Operating temperature: –40°C to +150°C. Dissipation factor: 7 mw/°C. Resistance ratio is ratio of zero power resistance at 0°C to zero power resistance at +50°C.

Stock No.	Type	Res. Ratio	Nom. Res. @ 25°C (Ω)	Fig.	1-49	50-99	100-249	250-499
50F7745	232264063222	9.0	2.2k	1	0.54	0.48	0.43	0.38
50F7748	232264063472	9.0	4.7k	1	0.54	0.48	0.43	0.38
50F7749	232264063682	9.0	6.8k	1	0.54	0.48	0.43	0.38
50F7750	232264063103	9.0	10k	1	0.54	0.48	0.43	0.38
50F7753	232264063223	7.8	22k	1	0.54	0.48	0.43	0.38
50F7754	232264063333	9.4	33k	1	0.54	0.48	0.43	0.38
50F7755	232264063473	9.4	47k	1	0.54	0.48	0.43	0.38
50F7756	232264063683	9.9	68k	1	0.54	0.48	0.43	0.38
50F7757	232264063104	9.9	100k	1	0.54	0.48	0.43	0.38
50F7758	232264063154	10.9	150k	1	0.54	0.48	0.43	0.38
50F7759	232264063224	10.9	22k	1	0.54	0.48	0.43	0.38
50F7762	232264263338	4.0	3.3	2	0.74	0.67	0.59	0.52
50F7768	232264263339	5.1	33.0	2	0.74	0.67	0.59	0.52

(16026) (ne10118)

SURFACE MOUNT NTC THERMISTORS

SMD



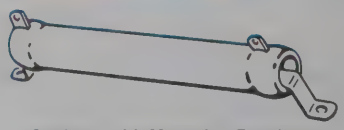
EIA standard 0805 chips have a high degree of sensitivity and accuracy over a wide temperature range. Ideal for temperature compensation, sensing and protection. Suitable for wave or reflow soldering. Silver palladium contacts. Operating temperature: –55°C to +155°C. Resistance value has tolerance of ±5%.

Stock No.	Type	R @ 25°C	1-9	10-24	25-49	50-99
92F072	2322 615 13502	5k	2136.24	1922.62	1709.00	1495.37
48F4879	2322-615-13101	100	1651.20	1444.80	1238.40	1032.00
48F4880	2322-615-13471	470	1651.20	1444.80	1238.40	1032.00
48F4881	2322-615-13102	1k	1651.20	1444.80	1238.40	1032.00
48F4882	2322-615-13472	4.7k	1651.20	1444.80	1238.40	1032.00
92F073	2322 615 13103	10k	2136.24	1922.62	1709.00	1495.37
92F074	2322 615 13153	15k	2136.24	1922.62	1709.00	1495.37
48F4883	2322-615-13333	33k	1651.20	1444.80	1238.40	1032.00
48F4884	2322-615-13473	47k	1651.20	1444.80	1238.40	1032.00
92F075	2322 615 13683	68k	2136.24	1922.62	1709.00	1495.37
92F076	2322 615 13104	100k	2136.24	1922.62	1709.00	1495.37
48F4885	2322-615-13154	150k	1651.20	1444.80	1238.40	1032.00
48F4886	2322-615-13224	220k	1651.20	1444.80	1238.40	1032.00
48F4887	2322-615-13334	330k	1651.20	1444.80	1238.40	1032.00
48F4888	2322-615-13474	470k	1651.20	1444.80	1238.40	1032.00

(15935) (ne10119)

ONE-STOP SHOPPING . . . WITH ONE CALL AND ONE PURCHASE ORDER.

270 SERIES LUG-TYPE FIXED WIREWOUND POWER RESISTORS



Resistor with Mounting Brackets

Wirewound on high quality ceramic cores, these resistors are coated with a flame resistant vitreous enamel. Provide excellent heat conduction, even for high wattage applications. The solder coated radial lug terminals are suitable for soldering or bolt connection. Tolerance: ±5% for 1 ohm or greater, ±10% for below 1 ohm. Power rating is based on 25°C free air rating. When resistance exceeds the resistance values below, derate the power rating by 25% to improve reliability.
Mounting brackets and thru-bolts are available separately on page 764

Power Rating	12W	25W	50W	100W
Resistance (Ω)	3.9k	12k	35k	75k

25-WATT CORE: 2 x 9/16"

Use No. 9 bracket.

Stock No.	Type	Resist. (ohms)	Amps Max.	1-9	10-24	25-49
02F2275	L25J1R0	1	5.00	5.93	4.74	4.51
02F2276	L25J2R0	2	3.54	5.93	4.74	4.51
02F2277	L25J3R0	3	2.88	5.93	4.74	4.51
02F2278	L25J5R0	5	2.24	5.93	4.74	4.51
02F2279	L25J10R	10	1.58	5.83	4.66	4.43
02F2280	L25J15R	15	1.29	5.83	4.66	4.43
02F2281	L25J25R	25	1.00	5.83	4.66	4.43
02F2282	L25J50R	50	0.71	5.83	4.66	4.43
02F2283	L25J75R	75	0.58	5.83	4.66	4.43
02F2284	L25J100	100	0.50	5.83	4.66	4.43
02F2285	L25J150	150	0.41	5.83	4.66	4.43
02F2286	L25J200	200	0.35	5.61	5.27	4.30
02F2287	L25J250	250	0.32	5.83	4.66	4.43
02F2288	L25J500	500	0.22	5.83	4.66	4.43
02F2289	L25J750	750	0.18	5.83	4.66	4.43
02F2291	L25J1K0	1k	0.16	6.09	4.87	4.62
02F2292	L25J1K5	1.5k	0.13	6.09	4.87	4.62
02F2293	L25J2K0	2k	0.12	6.09	4.87	4.62
02F2294	L25J2K5	2.5k	0.10	6.09	4.87	4.62
02F2295	L25J3K0	3k	0.091	6.09	4.87	4.62
02F2297	L25J5K0	5k	0.070	6.18	4.94	4.69
02F2298	L25J6K0	6k	0.064	6.18	4.94	4.69
02F2299	L25J7K5	7.5k	0.057	6.18	4.94	4.69
02F2300	L25J10K	10k	0.050	7.39	5.91	5.61
02F2301	L25J12K	12k	0.045	7.39	5.91	5.61
02F2302	L25J15K	15k	0.036	7.39	5.91	5.61
02F2303	L25J20K	20k	0.031	7.39	5.91	5.61
02F2304	L25J25K	25k	0.025	7.65	6.11	5.81
02F2305	L25J40K	40k	0.016	7.94	6.36	6.04
02F2306	L25J50K	50k	0.013	7.94	6.36	6.04
02F2307	L25J100K	100k	0.0063	8.27	6.65	6.36

50-WATT CORE: 4 x 9/16"

Use No. 9 bracket.

Stock No.	Type	Resist. (ohms)	Amps Max.	1-9	10-24	25-49
02F2333	L50J1R0	1	7.07	9.14	7.30	6.93
04F8919	L50J2R0	2	5.00	8.58	6.85	6.51
02F2309	L50J5R0	5	3.16	8.58	6.85	6.51
02F2310	L50J10R	10	2.23	8.42	6.73	6.39
02F2311	L50J25R	25	1.41	8.42	6.73	6.39
02F2312	L50J50R	50	1.00	8.42	6.73	6.39
02F2313	L50J75R	75	0.82	8.42	6.73	6.39
02F2314	L50J100	100	0.71	8.42	6.73	6.39
02F2315	L50J150	150	0.58	8.42	6.73	6.39
02F2316	L50J200	200	0.50	8.42	6.73	6.39
02F2317	L50J250	250	0.45	8.42	6.73	6.39
02F2318	L50J500	500	0.32	8.42	6.73	6.39
02F2319	L50J1K0	1k	0.22	8.15	6.56	6.27
02F2320	L50J1K5	1.5k	0.18	8.15	6.56	6.27
02F2321	L50J2K0	2k	0.16	8.15	6.56	6.27
02F2322	L50J2K5	2.5k	0.14	8.15	6.56	6.27
02F2323	L50J3K0	3k	0.13	8.15	6.56	6.27
02F2325	L50J5K0	5k	0.10	8.15	6.56	6.27
02F2328	L50J10K	10k	0.071	8.94	7.19	6.88
02F2329	L50J15K	15k	0.057	8.94	7.19	6.88
04F8920	L50J20K	20k	0.050	8.81	8.27	6.73
02F2331	L50J50K	50k	0.028	12.69	10.22	9.78
02F2332	L50J100K	100k	0.016	13.02	10.49	10.03
02F2334	L50J250K	250k	0.0065	14.16	11.40	10.91

CONTINUED

270 SERIES LUG-TYPE FIXED WIREWOUND POWER RESISTORS (CONT.)

100-WATT CORE: 6 ½ x ¾"

Use No. 12 bracket.

Stock No.	Type	Resist. (ohms)	Amps Max.	1-9	10-24	25-49
93F8479	L100J1R0	1	10.00	12.65	10.18	9.74
02F2353	L100J2R0	2	7.07	12.65	10.18	9.74
93F8481	L100J3R0	3	5.77	12.15	9.79	9.36
02F2335	L100J5R0	5	4.47	12.15	9.79	9.36
02F2336	L100J10R	10	3.16	11.44	9.22	8.82
02F2337	L100J25R	25	2.00	11.44	9.22	8.82
02F2338	L100J50R	50	1.41	11.44	9.22	8.82
02F2339	L100J75R	75	1.15	11.44	9.22	8.82
02F2340	L100J100	100	1.00	11.29	9.09	8.69
02F2341	L100J150	150	0.82	11.29	9.09	8.69
02F2342	L100J250	250	0.63	11.29	9.09	8.69
02F2343	L100J500	500	0.45	11.29	9.09	8.69
02F2344	L100J1K0	1k	0.32	10.78	8.68	8.31
02F2345	L100J2K0	2k	0.22	10.78	8.68	8.31
02F2346	L100J2K5	2.5k	0.20	10.78	8.68	8.31
02F2347	L100J3K0	3k	0.18	10.78	8.68	8.31
02F2348	L100J5K0	5k	0.14	10.78	8.68	8.31
02F2349	L100J10K	10k	0.10	11.09	8.92	8.54
02F2350	L100J20K	20k	0.071	11.09	8.92	8.54
02F2351	L100J50K	50k	0.045	13.35	10.74	10.28
02F2352	L100J100K	100k	0.028	16.63	13.39	12.81

225-WATT CORE: 10 ½ x 1 ⅛"

Use No. 18 bracket.

Stock No.	Type	Resist. (ohms)	Amps Max.	1-9	10-24	25-49
04F8815	L225J1R0	1	15.00	35.49	33.31	29.33
87F674	L225J2R0	2	10.60	25.58	24.01	21.14
93F8480	L225J4R0	4	7.50	20.53	19.27	16.97
02F2354	L225J5R0	5	6.72	20.53	19.27	16.97
02F2355	L225J10R	10	4.74	17.90	16.80	14.79
02F2356	L225J25R	25	3.00	17.90	16.80	14.79
02F2357	L225J50R	50	2.12	17.90	16.80	14.79
02F2358	L225J75R	75	1.73	17.90	16.80	14.79
02F2359	L225J100	100	1.50	17.90	16.80	14.79
02F2360	L225J150	150	1.25	17.05	16.00	14.09
02F2361	L225J250	250	0.95	17.05	16.00	14.09
02F2362	L225J500	500	0.67	17.05	16.00	14.09
02F2363	L225J750	750	0.55	17.05	16.00	14.09
02F2364	L225J1K0	1k	0.47	16.36	13.94	13.34
02F2365	L225J1K5	1.5k	0.39	16.36	13.94	13.34
02F2366	L225J2K0	2k	0.34	16.36	13.94	13.34
02F2367	L225J2K5	2.5k	0.30	16.36	13.94	13.34
02F2368	L225J3K0	3k	0.27	16.36	13.94	13.34
02F2369	L225J5K0	5k	0.21	16.36	13.94	13.34
02F2370	L225J10K	10k	0.15	16.59	15.57	13.71
02F2371	L225J15K	15k	0.13	16.59	15.57	13.71
02F2372	L225J20K	20k	0.11	16.59	15.57	13.71
02F2373	L225J25K	25k	0.095	16.59	15.57	13.71
04F8864	L225J30K	30k	0.087	16.59	15.57	13.71
02F2375	L225J50K	50k	0.067	18.63	17.49	15.39
02F2376	L225J100K	100k	0.046	19.47	18.27	16.08

(9555) (de03027)

270 SERIES LUG-TYPE NON-INDUCTIVE FIXED WIREWOUND POWER RESISTORS

Conformal vitreous enamel coating. Tolerance: ±5%. Core dimensions (measured from lug to mounting bracket): **types LN50J10R** and **LN50J25R**, 4 x 9/16"; all others, 6½ x ¾". Spring-grip brackets recommended. (Thru-bolt mounting not recommended.) For **50W types**, use mounting bracket no. 9; for **100W types** use mounting bracket no. 12. *Mounting brackets sold separately on page 764.*

50-WATT

Stock No.	Type	Resist. (ohms)	Amps Max.	Induct. (µH)	1-9	10-24	25-49
52F9277	LN50J25R	25	1.41	0.5	10.60	9.05	8.66

100-WATT

Stock No.	Type	Resist. (ohms)	Amps Max.	Induct. (µH)	1-9	10-24	25-49
52F9279	LN100J5R0	5	4.47	0.9	17.59	16.51	14.53
52F9280	LN100J10R	10	3.16	1.5	17.59	16.51	14.53
52F9283	LN100J100	100	1.00	2.6	17.48	16.41	14.44

(4156) (ne08264)

WIREWOUND POWER RESISTORS

200 SERIES "BROWN DEVIL" RESISTORS

Wirewound resistors for voltage-dropping, bias units, bleeders, etc. Resistors have extra-sturdy, all-ceramic vitreous enamel coating. Protected against shock, vibration, heat, and humidity. Tolerance: ±5%. 8-watt units have 1 x 5/16" cores; 12-watt units, 1¾ x 5/16" cores; 20-watt units, 2 x 7/16" cores. All have 1½" leads. Most popular sizes listed. Other resistance values available; *contact your local Newark sales office.*

Stock No.	Type	Ohms	1-24	25-49	50-99
8-WATT					
02F1723	B8J1R0	1	2.63	2.11	1.79
02F1725	B8J2R0	2	2.63	2.11	1.79
02F1726	B8J3R0	3	2.63	2.11	1.79
02F1728	B8J5R0	5	2.63	2.11	1.79
02F1730	B8J10R	10	2.34	1.87	1.59
02F1738	B8J50R	50	2.34	1.87	1.59
02F1739	B8J75R	75	2.34	1.87	1.59
02F1740	B8J100	100	2.34	1.87	1.59
02F1743	B8J200	200	2.34	1.87	1.59
02F1745	B8J250	250	2.34	1.87	1.59
02F1750	B8J500	500	2.34	1.87	1.59
02F1756	B8J1K0	1000	2.41	1.93	1.64
02F1762	B8J2K0	2000	2.46	1.97	1.67
02F1764	B8J2K5	2500	2.46	1.97	1.67
02F1765	B8J3K0	3000	2.46	1.97	1.67
02F1767	B8J4K0	4000	2.46	1.97	1.67
02F1769	B8J5K0	5000	2.46	1.97	1.67
02F1775	B8J10K	10k	2.57	2.06	1.75
02F1777	B8J15K	15k	2.71	2.17	1.84
12-WATT					
02F1784	B12J2R0	2	3.01	2.41	2.05
02F1787	B12J5R0	5	3.01	2.41	2.05
02F1789	B12J10R	10	2.67	2.14	1.82
02F1792	B12J20R	20	2.67	2.14	1.82
02F1793	B12J25R	25	2.67	2.14	1.82
02F1797	B12J50R	50	2.67	2.14	1.82
02F1799	B12J100	100	2.67	2.14	1.82
02F1802	B12J200	200	2.67	2.14	1.82
02F1804	B12J250	250	2.67	2.14	1.82
02F1809	B12J500	500	2.67	2.14	1.82
02F1815	B12J1K0	1000	2.88	2.31	1.96
02F1818	B12J1K25	1250	2.88	2.31	1.96
02F1819	B12J1K5	1500	2.88	2.31	1.96
02F1821	B12J2K0	2000	2.97	2.37	2.02
02F1823	B12J2K5	2500	2.97	2.37	2.02
02F1824	B12J3K0	3000	2.97	2.37	2.02
02F1825	B12J3K5	3500	2.97	2.37	2.02
02F1828	B12J5K0	5000	3.13	2.51	2.13
02F1832	B12J8K0	8000	3.13	2.51	2.13
02F1834	B12J10K	10k	3.19	2.56	2.17
02F1839	B12J15K	15k	3.19	2.56	2.17
02F1843	B12J20K	20k	3.31	2.65	2.25
02F1845	B12J25K	25k	3.31	2.65	2.25
02F1846	B12J30K	30k	3.31	2.65	2.25
02F1850	B12J50K	50k	4.17	3.34	2.84
20-WATT					
02F1851	B20J1R0	1	3.43	2.75	2.33
02F1852	B20J2R0	2	3.43	2.75	2.33
02F1853	B20J3R0	3	3.43	2.75	2.33
02F1854	B20J4R0	4	3.43	2.75	2.63
02F1855	B20J5R0	5	3.43	2.75	2.33
02F1856	B20J10R	10	3.43	2.75	2.33
02F1857	B20J25R	25	3.43	2.75	2.33
02F1858	B20J50R	50	3.43	2.75	2.33
02F1860	B20J100	100	3.15	2.52	2.14
02F1861	B20J150	150	3.15	2.52	2.14
02F1862	B20J200	200	3.15	2.52	2.14
02F1868	B20J500	500	3.15	2.52	2.14
02F1874	B20J1K0	1000	3.15	2.52	2.14
02F1877	B20J1K5	1500	3.15	2.52	2.14
02F1879	B20J2K0	2000	3.15	2.52	2.14
02F1883	B20J3K0	300	3.43	2.75	2.33
02F1887	B20J5K0	5000	3.63	2.91	2.47
02F1893	B20J10K	10k	3.63	2.91	2.47
02F1895	B20J15K	15k	3.93	3.15	2.67
02F1897	B20J25K	25k	3.93	3.15	2.67
02F1902	B20J50K	50k	4.17	3.34	2.84

(9603) (de53582)

40 SERIES ±5% SILICONE-CERAMIC CONFORMAL WIREWOUND RESISTORS

Axial lead. Dielectric withstanding: 1000 VAC. Temperature coefficient: <1 ohm ±90 ppm/°C; 1 to 9.99 ohms ±50 ppm/°C; 10 ohms and greater ±20 ppm/°C. Minimum quantities may apply. Most popular values listed. Additional values available; *contact your local Newark sales office.*

CONTINUED

40 SERIES ±5% SILICONE-CERAMIC CONFORMAL WIREWOUND RESISTORS (CONT.)

Stock No.	Type	Ohms	1-24	25-49	50-99	100-249
43J SERIES–3 WATT, 0.593L x 0.218"D (15.10 x 5.50)						
03F5200	43JR10	0.1	2.07	1.66	1.57	1.52
03F5202	43JR20	0.2	2.07	1.66	1.57	1.52
03F5203	43JR30	0.3	2.07	1.66	1.57	1.52
03F5204	43JR50	0.5	2.07	1.66	1.57	1.52
03F5317	43J1R0	1	1.37	1.10	1.02	0.99
03F5212	43J100	100	1.20	0.95	0.92	0.66
03F5215	43J1K0	1k	1.44	1.14	1.09	0.79
45J SERIES–5 WATT, 0.937L x 0.343"D (23.80 x 8.71)						
03F5219	45JR10	0.1	2.26	1.81	1.72	1.65
03F5222	45JR50	0.5	2.26	1.81	1.72	1.65
03F5225	45J5R0	5	1.59	1.27	1.21	1.17
03F5226	45J10R	10	1.37	1.08	1.04	0.75
03F5231	45J100	100	1.30	1.04	0.97	0.94
03F5235	45J10K	10k	3.06	2.45	2.33	2.24
40J SERIES–10 WATT, 1.842L x 0.406"D (46.79 x 10.31)						
03F5236	40JR10	0.1	2.85	2.29	2.17	2.09
03F5237	40JR20	0.2	2.85	2.29	2.17	2.09
03F5238	40JR30	0.3	2.85	2.29	2.17	2.09
03F5239	40JR50	0.1	2.85	2.29	2.17	2.09
03F5319	40J10R	10	1.89	1.52	1.44	1.39
03F5206	40J10K	10k	2.59	2.07	1.96	1.89

(9585) (de50011)

90 SERIES MOLDED WIREWOUND RESISTORS

Axial-lead resistors with all-welded, molded construction and flame-resistant vitreous enamel coating. Markings resistant to high temperatures, solvents, and abrasions. Consistent form permits mounting in clips with heat sink benefits up to 100%. Meets MIL-R-26 requirements for insulated resistors. Tolerance: ±5%. Dielectric withstanding voltage: 1000VAC. All have 1½" leads. Mounting hardware which extends power ratings available separately below. Most popular sizes listed. Other resistance values available, *contact your local Newark sales office.*

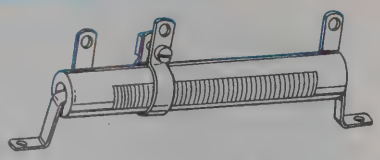
Stock No.	Type	Ohms	1-24	25-49	50-99
93J SERIES–3¼ WATT, CORE: 0.562 x 0.234"					
02F1495	93J1R0	1	1.94	1.56	1.32
02F1503	93J5R0	5	1.94	1.56	1.32
02F1505	93J10R	10	1.63	1.31	1.21
02F1524	93J100	100	1.63	1.31	1.11
02F1546	93J1K0	1000	2.38	1.91	1.62
02F1559	93J5K0	5000	3.35	2.68	2.28
02F1560	93J5K6	5600	3.35	2.68	2.28
02F1568	93J10K	10k	4.09	3.08	2.92
95J SERIES–5-WATT, CORE: 0.953 x 0.234"					
02F1569	95J1R0	1.0	2.31	1.85	1.57
02F1571	95J2R0	2.0	2.31	1.85	1.57
02F1577	95J10R	10	2.06	1.65	1.40
02F1579	95J15R	15	2.06	1.65	1.40
02F1581	95J20R	20	2.06	1.65	1.40
02F1590	95J50R	50	2.06	1.65	1.40
02F1595	95J100	100	2.06	1.65	1.40
02F1597	95J150	150	2.06	1.65	1.40
02F1609	95J500	500	2.49	1.99	1.70
02F1599	95J200	200	2.06	1.65	1.40
02F1618	95J1K0	1000	2.88	2.31	1.96
02F1625	95J2K7	2700	3.38	2.71	2.30
02F1626	95J3K0	3000	3.38	2.71	2.30
02F1627	95J3K3	3300	3.38	2.71	2.30
02F1630	95J4K7	4700	3.38	2.71	2.30
02F1631	95J5K0	5000	4.10	3.28	2.79
02F1640	95J10K	10k	4.10	3.28	2.79
02F1644	95J20K	20k	4.91	3.93	3.34
90J SERIES–11-WATT, CORE: 1.796 x 0.343"					
02F1647	90J1R0	1	3.43	2.75	2.33
02F1650	90J3R0	3	3.12	2.50	2.12
02F1652	90J5R0	5	3.12	2.50	2.12
02F1670	90J100	100	3.09	2.47	2.10
02F1689	90J1K0	1000	3.94	3.16	2.68
02F1691	90J1K5	1500	3.94	3.16	2.68
02F1695	90J2K5	2500	4.44	3.56	3.02
02F1699	90J4K0	4k	4.44	3.56	3.02
02F1701	90J5K0	5k	5.20	4.16	3.54
02F1710	90J10K	10k	5.20	4.75	4.53
02F1722	90J50K	50k	6.01	4.81	4.09

MOUNTING CLIPS

Stock No.	Watts	L x W	Holes	1-24	25-49	50-99
90F7357	5	0.90 x 0.237"	2	1.06	0.85	0.72
94F1795	11	1.75 x 0.333"	2	1.36	1.09	0.93

(9604) (de53586)

210 SERIES LUG-TYPE WIREWOUND ADJUSTABLE RESISTORS



210 series lug-type, wirewound resistors have vitreous enamel coating on which a narrow strip has been left uncovered to expose a portion of each turn. Contact to wire on this strip is made by an embossed contact on the adjustable lug. Resistance changes by moving the lug; one screwdriver adjustable lug included with each unit. *Additional lugs may be ordered separately below.* Make ideal voltage dividers for original equipment and replacement in transmitters, rectifiers and other apparatus. The stated wattage rating applies only when entire resistance is in circuit. Tolerance ±10%. *Order mounting brackets and thru-bolts separately on this page.*

TYPE 210-12 12-WATT CORE: 1.750 x 0.312″ (44.96 x 7.92)

Use no. 5 bracket. *Order separately on this page.*

Stock No.	Type	Resist. (ohms)	Max. Amps	1-24	25-49	50-99
02F2161	D12K1R0	1	3.46	7.93	6.35	5.39
02F2162	D12K2R0	2	2.45	7.93	6.35	5.39
02F2163	D12K3R0	3	2.00	7.93	6.35	5.39
02F2164	D12K5R0	5	1.54	7.93	6.35	5.39
02F2165	D12K7R5	7.5	1.26	7.84	6.27	5.33
02F2166	D12K10R	10	1.09	7.84	6.27	5.33
02F2168	D12K20R	20	0.77	7.84	6.27	5.33
02F2169	D12K25R	25	0.69	7.84	6.27	5.33
02F2170	D12K50R	50	0.49	7.84	6.27	5.33
02F2171	D12K75R	75	0.40	7.84	6.27	5.33
02F2172	D12K100	100	0.34	7.84	6.27	5.33
02F2173	D12K150	150	0.28	7.84	6.27	5.33
02F2174	D12K200	200	0.24	7.84	6.27	5.33
02F2175	D12K250	250	0.22	8.12	6.50	5.52
02F2178	D12K500	500	0.15	8.12	6.50	5.52
02F2181	D12K1K0	1k	0.11	8.47	6.77	5.76
02F2183	D12K2K0	2k	0.077	8.47	6.77	5.76
02F2185	D12K3K0	3k	0.063	8.47	6.77	5.76
02F2187	D12K5K0	5k	0.045	8.62	6.90	5.86
02F2190	D12K10K	10k	0.032	8.62	6.90	5.86

TYPE 210-25 25-WATT CORE: 2.000 x 0.563″ (50.80 x 14.30)

Use no. 9 bracket. *Order separately on this page.*

Stock No.	Type	Resist. (ohms)	Max. Amps	1-24	25-49	50-99
02F2191	D25K1R0	1	5.00	9.30	7.44	6.32
02F2192	D25K2R0	2	3.54	9.30	7.44	6.32
02F2193	D25K3R0	3	2.88	7.70	6.16	5.24
02F2194	D25K5R0	5	2.24	7.70	6.16	5.24
02F2195	D25K7R5	7.5	1.82	7.70	6.16	5.24
02F2196	D25K10R	10	1.58	7.70	6.16	5.24
02F2197	D25K15R	15	1.29	7.70	6.16	5.24
02F2198	D25K20R	20	1.12	7.70	6.16	5.24
02F2199	D25K25R	25	1.00	7.70	6.16	5.24
02F2200	D25K50R	50	0.71	7.70	6.16	5.24
02F2201	D25K75R	75	0.58	7.70	6.16	5.24
02F2202	D25K100	100	0.50	7.70	6.16	5.24
02F2203	D25K150	150	0.41	7.70	6.16	5.24
02F2204	D25K200	200	0.35	7.70	6.16	5.24
02F2205	D25K250	250	0.32	7.70	6.16	5.24
02F2206	D25K300	300	0.29	7.70	6.16	5.24
02F2208	D25K500	500	0.22	7.70	6.16	5.24
02F2210	D25K1K0	1k	0.16	8.12	6.50	5.52
02F2212	D25K1K5	1.5k	0.13	8.12	6.50	5.52
02F2213	D25K2K0	2k	0.077	8.12	6.50	5.52
02F2215	D25K3K0	3k	0.091	8.12	6.50	5.52
02F2216	D25K5K0	5k	0.070	8.54	6.83	5.81
02F2219	D25K10K	10k	0.045	8.54	6.83	5.81

TYPE 210-50 50-WATT CORE: 4.000 x 0.563″ (101.60 x 14.30)

Use no. 9 bracket. *Order separately on this page.*

Stock No.	Type	Resist. (ohms)	Max. Amps	1-24	25-49	50-99
04F8831	D50K1R0	1	7.07	13.22	10.57	8.99
04F8791	D50K2R0	2	5.00	13.22	10.57	8.99
02F2222	D50K5R0	5	3.16	12.93	10.34	8.79
02F2223	D50K10R	10	2.23	11.28	9.02	7.67
02F2224	D50K25R	25	1.41	11.28	9.02	7.67
02F2225	D50K50R	50	1.00	11.28	9.02	7.67
02F2226	D50K75R	75	0.82	11.28	9.02	7.67
02F2227	D50K100	100	0.71	11.01	8.81	7.49
02F2228	D50K150	150	0.58	11.01	8.81	7.49
02F2229	D50K200	200	0.50	11.01	8.81	7.49
02F2230	D50K250	250	0.45	11.01	8.81	7.49
02F2231	D50K300	300	0.41	11.01	8.81	7.49
02F2232	D50K400	400	0.35	11.01	8.81	7.49
02F2233	D50K500	500	32	11.01	8.81	7.49
02F2234	D50K750	750	26	11.01	8.81	7.49
02F2235	D50K1K0	1k	22	11.84	9.47	8.05

CONTINUED

210 SERIES LUG-TYPE WIREWOUND ADJUSTABLE RESISTORS (CONT.)

TYPE 210-50 50-WATT CORE: 4.000 x 0.563″ (101.60 x 14.30) (CONT.)

Stock No.	Type	Resist. (ohms)	Max. Amps	1-24	25-49	50-99
02F2236	D50K1K5	1.5k	18	11.84	9.47	8.05
02F2237	D50K2K0	2k	16	11.84	9.47	8.05
02F2240	D50K5K0	5k	10	12.05	9.64	8.19
02F2241	D50K10K	10k	0.071	12.25	9.80	8.33
02F2243	D50K20K	20k	0.050	12.25	9.80	8.33
02F2245	D50K50K	50k	0.028	12.25	9.80	8.33
02F2246	D50K100K	100k	0.016	12.51	10.01	8.51

TYPE 210-100 100-WATT CORE: 6.500 x 0.750″ (165.10 x 19.05)

Use no. 12 bracket. *Order separately on this page.*

Stock No.	Type	Resist. (ohms)	Max. Amps	1-24	25-49	50-99
02F2261	D100K1R0	1	10.00	16.50	13.20	11.22
02F2262	D100K2R0	2	7.07	16.05	12.84	10.91
02F2263	D100K3R0	3	5.77	16.05	12.84	10.91
02F2264	D100K4R0	4	5.00	16.05	12.84	10.91
02F2247	D100K5R0	5	4.47	16.05	12.84	10.91
02F2248	D100K10R	10	3.16	16.05	12.84	10.91
02F2249	D100K25R	25	2.00	14.42	11.53	9.81
02F2250	D100K50R	50	1.41	14.42	11.53	9.81
02F2251	D100K100	100	1.00	14.42	11.53	9.81
02F2252	D100K250	250	0.63	14.42	11.53	9.81
02F2253	D100K500	500	0.45	14.42	11.53	9.81
02F2254	D100K1K0	1k	0.32	13.85	11.08	9.42
02F2255	D100K1K5	1.5k	0.26	13.85	11.08	9.42
02F2256	D100K2K5	2.5k	0.20	13.85	11.08	9.42
02F2257	D100K5K0	5k	0.14	13.85	11.08	9.42
02F2258	D100K10K	10k	0.10	13.29	10.63	9.04
02F2260	D100K100K	100k	0.028	15.54	12.43	10.57

TYPE 210-225 225-WATT CORE: 10.500 x 1.125″ (266.70 x 28.58)

Use no. 18 bracket. *Order separately on this page.*

Stock No.	Type	Resist. (ohms)	Max. Amps	1-24	25-49	50-99
93F8484	D225K1R0	1	15.00	34.05	27.24	23.15
93F8483	D225K3R0	3	8.67	28.88	23.10	19.64
02F2265	D225K5R0	5	6.72	26.06	20.85	17.72
02F2266	D225K10R	10	4.74	23.21	18.57	15.79
02F2267	D225K25R	25	3.00	23.21	18.57	15.79
02F2268	D225K50R	50	2.12	23.21	18.57	15.79
04F8830	D225K100	100	1.50	19.60	15.68	13.33
02F2269	D225K250	250	0.95	19.60	15.68	13.33
02F2270	D225K500	500	0.67	19.60	15.68	13.33
02F2271	D225K1K0	1k	0.47	19.60	15.68	13.33
02F2272	D225K2K5	2.5k	0.30	19.60	15.68	13.33
02F2273	D225K5K0	5k	0.21	19.60	15.68	13.33
02F2274	D225K10K	10k	0.15	18.85	15.08	12.82

ADJUSTABLE LUGS FOR SERIES 210

Stock No.	Type	Watts	Adjust by	1-24	25-49	50-99
13F710	2122	25, 20	Bakelite knob	4.86	3.89	3.31
13F711	2126	100	Bakelite knob	4.61	3.69	3.14
13F714	2121	25, 50	Screwdriver	1.32	1.06	0.90
13F715	2125	100	Screwdriver	1.42	1.14	0.97
13F716	2133	225	Screwdriver	1.56	1.25	1.06

(9451) (de00229)

MOUNTING BRACKETS AND THRU-BOLTS FOR 210 AND 270 SERIES LUG-TYPE WIREWOUND RESISTORS

MOUNTING BRACKETS

Stock No.	Type	For Ohmite Resistor Type	1-49
13F097	5/BRACKET	270-12, 210-12	0.33
13F098	9/BRACKET	270-25, 270-50, 210-25, 210-50	0.29
13F099	12/BRACKET	270-100, 210-100	0.58
13F100	18/BRACKET	270-225	0.61

THRU-BOLTS

7PA series thru-bolts, with centering and mica insulation washers, permit perpendicular mounting of **210 series** and **270 series** resistors in panels up to 0.25″ thick.

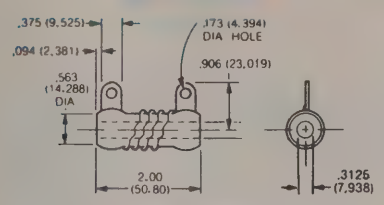
Stock No.	Type	Bolt Size Length	Bolt Size No.	For Resistors (Power Ratings)	1-24	25-49	50-99
90F3639	7PA10	2½″	8	12 Watt	3.44	2.76	2.34
94F1789	7PA25	2¾″	10	25 Watt	3.72	2.97	2.53
89F400	7PA50	4¾″	10	50 Watt	4.12	3.30	2.80
90F3640	7PA100	7⅝″	10	100 Watt	5.04	4.03	3.43
98F702	7PA200	11½″	¼″	225 Watt	8.72	6.97	5.93

6126-P8½ elongated and **6110-10½** (slotted) thru-bolt mounting brackets fit **7PA series** thru-bolts to mount both **210** and **270 series** resistors.

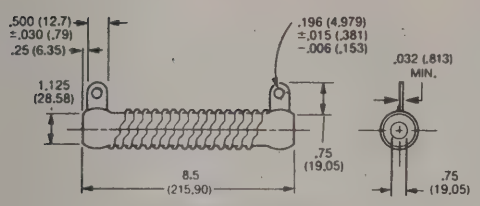
89F399 Type 6128-P8 1/2. **Each** **19.05**
94F3517 Type 6110-10 1/2. **Each** **12.45**
(4117) (de00232)

WIREWOUND POWER RESISTORS

FIXED AND ADJUSTABLE VITREOUS ENAMEL POWER RESISTORS



Fixed 35-Watt



Fixed/Adjustable 300-Watt*

Power resistors are ideal for applications involving high currents at very low resistance values. Designed to withstand frequent start-stop cycle characteristics of motor starting, dynamic braking, and similar applications. Ribbed construction enhances cooling. Made with corrugated resistive wire. Tolerance: ±10%. Dielectric withstanding voltage 1000VAC. Temperature coefficient: ±400ppm/°C. **Type C35KR02** is silicone-ceramic coated.

FIXED 35-WATT

Stock No.	Type	Ohms	Max. Amps	1-24	25-49	50-99	100-249
51F2421	C35KR02	0.02	41.8	11.76	9.41	8.00	7.04
51F2422	C35KR30	0.30	10.8	7.31	5.85	4.97	4.38
04F8848	C35KR50	0.50	8.4	6.87	5.50	4.67	4.11
51F2423	C35K1R0	1.00	5.9	7.55	6.04	5.13	4.52

FIXED 300-WATT

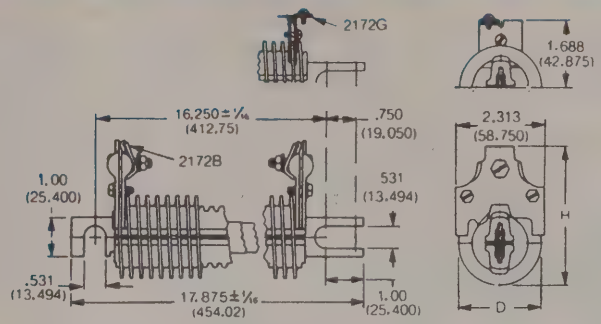
Stock No.	Type	Ohms	Max. Amps	1-9	10-24	25-49
05F1718	C300KR10	0.10	54.7	37.39	29.91	25.43
04F6319	C300KR12	0.12	50.0	34.55	27.64	23.49
04F6320	C300KR16	0.16	43.3	29.76	23.81	20.24
04F8803	C300KR20	0.20	38.7	30.95	24.76	21.05
04F6321	C300KR25	0.25	34.6	30.95	24.76	21.05
51F2420	C300KR31	0.31	31.1	30.95	24.76	21.05
04F8904	C300KR50	0.50	24.5	28.36	22.68	19.28
04F6323	C300KR63	0.63	21.8	28.36	22.68	19.28
04F8905	C300K1R0	1.00	17.3	25.38	20.30	17.26
04F6324	C300K1R2	1.20	15.8	25.38	20.30	17.26
04F6325	C300K1R6	1.60	13.7	25.38	20.30	17.26
04F6326	C300K2R0	2.00	12.2	23.48	18.78	15.96
04F6327	C300K2R5	2.50	10.9	23.48	18.78	15.96
04F8828	C300K3R1	3.10	9.8	23.48	18.78	15.96
04F8907	C300K4R0	4.00	8.6	23.48	18.78	15.96
04F8806	C300K5R0	5.00	7.7	22.40	17.92	15.24
04F6306	C300K6R3	6.30	6.9	22.40	17.92	15.24
04F8908	C300K8R0	8.00	6.1	22.40	17.92	15.24
04F8804	C300K10R	10.00	5.5	21.60	17.28	14.69
04F8847	C300K12R	12.00	5.0	21.60	17.28	14.69
04F8906	C300K16R	16.00	4.3	21.60	17.28	14.69
04F8805	C300K20R	20.00	3.8	21.60	17.28	14.69

ADJUSTABLE 300-WATT

04F8735	E300KR10	0.10	54.7	42.34	33.87	28.79
04F6307	E300KR12	0.12	50.0	39.50	31.60	26.86
04F6308	E300KR16	0.16	43.3	35.90	28.72	24.41
04F8856	E300KR20	0.20	38.7	35.90	28.72	24.41
04F6329	E300KR25	0.25	34.6	35.90	28.72	24.41
04F6309	E300KR40	0.40	27.4	33.31	26.65	22.65
04F8736	E300KR50	0.50	24.5	33.31	26.65	22.65
04F6310	E300KR63	0.63	21.8	33.31	26.65	22.65
04F6311	E300KR80	0.80	19.3	33.31	26.65	22.65
04F8809	E300K1R0	1.00	17.3	30.33	24.27	20.63
04F6312	E300K1R6	1.60	13.7	30.33	24.27	20.63
05F1734	E300K2R0	2.00	12.2	28.43	22.74	19.33
04F6313	E300K2R5	2.50	10.9	28.43	22.74	19.33
04F6331	E300K3R1	3.10	9.8	28.43	22.74	19.33
04F8911	E300K4R0	4.00	8.6	28.43	22.74	19.33
04F6336	E300K5R0	5.00	7.7	27.36	21.88	18.60
04F8912	E300K6R3	6.30	6.9	27.36	21.88	18.60
04F8913	E300K8R0	8.00	6.1	27.36	21.88	18.60
04F6314	E300K10R	10.00	5.5	26.55	21.24	18.05
04F8857	E300K12R	12.00	5.0	26.55	21.24	18.05
04F8858	E300K16R	16.00	4.3	26.55	21.24	18.05
04F8810	E300K20R	20.00	3.8	26.55	21.24	18.05

(9576) (de50007)

POWR-RIB® EDGEWOUND WIRE POWER RESISTORS



Edgewound

Rugged resistors are designed to handle 700 to 1000 watts of power. Constructed from heavy-resistance alloy wound around ceramic insulators and supported by a metal mounting bar. Edgewound resistors are designed for very low resistance and high power capacity. Round wire are designed for higher resistance with lower power capacity requirements. Terminals: clamps, movable along resistor wire for setting intermediate resistance values on edgewound units. Tolerance: ±10%. Overload: 10 times rated watts for 5 seconds. Temperature coefficient: 47 amps and under are ±300 ppm/°C; 50 amps and over are ±500 pm/°C.

EDGEWOUND DIMENSIONS ±0.125″ (3.18)

Ohms	H	D
0.10-0.22	3.313″ (84.150)	2.125″ (53.975)
0.25-1.00	3.125″ (79.375)	1.875″ (47.625)
1.30-1.60	2.563″ (65.100)	1.875″ (47.625)
2.20, 2.80, 4.50, 5.40	2.500″ (63.500)	1.750″ (44.450)
3.50, 6.80, 8.50	2.438″ (61.925)	1.625″ (41.275)

EDGEWOUND RESISTORS

Stock No.	Type	Ohms	Max. Amps	1-4	5-9	10-24
04F8816	PFE5KR100	0.10	100	192.97	154.37	131.22
04F8826	PFE5KR250	0.25	63	146.00	116.80	99.28
04F8934	PFE5KR330	0.33	54	127.36	101.89	86.61
04F8738	PFE5KR500	0.50	47	145.90	116.72	99.22
04F6315	PFE5KR750	0.75	39	120.96	96.77	82.25
04F8818	PFE5K1R00	1.00	33	104.66	83.73	71.17
04F6332	PFE5K1R30	1.30	29	87.18	69.74	59.28
04F8819	PFE5K1R60	1.60	26	85.70	68.56	58.28
04F6333	PFE5K2R20	2.20	18.4	79.04	63.23	53.75
04F6334	PFE5K2R80	2.80	16.3	73.87	59.10	50.23
04F8923	PFE5K3R50	3.50	14.6	68.51	54.81	46.59
05F1719	PFE5K4R50	4.50	12.7	119.54	95.63	81.29
04F6316	PFE5K5R40	5.40	11.8	110.15	88.12	74.90
04F6335	PFE5K6R80	6.80	10.3	103.95	83.16	70.69
04F6328	PFE5K8R50	8.50	9.4	102.20	81.76	69.50

EXTRA TERMINALS

Extra terminals may be used as taps.

Stock No.	Type	Description	1-9	10-24
51F2424	2172B	For Edgewound, 33 Amps & More	14.13	11.31
94F3511	2172G	For Edgewound, 29 Amps & Less	8.01	4.50

(9579) (de50008)

80 SERIES ±1% SILICONE-CERAMIC CONFORMAL WIREWOUND RESISTORS

Axial lead. High stability, precision power resistors. Temperature coefficient: ±90 ppm/°C under 1 ohm; ±50 ppm/°C 1 to 9.99 ohms; ±20 ppm/°C for 10 ohms and above. Dielectric withstanding: 1000 VAC. Meet MIL-R-26. Minimum quantities may apply. Most popular values listed. Additional values available; *contact your local Newark sales office.*

83F SERIES–3 WATT, 0.593L x 0.218″D (15.06 x 5.49)

Stock No.	Type	Ohms	1-24	25-49	50-99	100-249
03F5259	83FR10	0.1	3.13	2.94	2.52	2.02
03F5261	83FR20	0.2	3.13	2.94	2.52	2.02
03F5263	83F1R0	1.0	2.40	2.26	1.94	1.54
03F5243	83F4R99	4.99	2.40	2.26	1.94	1.54
03F5248	83F100	100	1.82	1.71	1.47	1.17
03F5254	83F1K0	1K	2.14	2.01	1.72	1.38

85F SERIES–5 WATT, 0.937L x 0.343″D (23.80 x 8.71)

03F5266	85F10R	10	2.40	2.26	1.94	1.54
03F5272	85F100	100	2.14	2.01	1.72	1.38
03F5316	85F49K9	49.9K	4.83	4.54	3.88	3.12

80F SERIES–10WATT, 1.842L x 0.406″D (46.79 x 10.31)

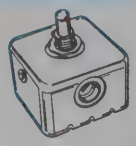
03F5285	80FR10	0.1	4.13	3.50	3.33	2.67

(9586) (de50012)

OHMITE®

POWER CONTROLS AND RHEOSTATS

SOLID-STATE POWER AND MOTOR SPEED CONTROLS



Type PCA are AC output types that control heaters (resistive and infrared) and motors such as universal, shaded pole and permanent-split capacitor. **PCD** are DC output types that control shunt and series wound, universal, compound and permanent magnet motors, magnetic clutches, brakes. **PCD** have 2 DC outputs, 1 from AC source that's rectified DC at approximately full line voltage; other is variable or controlled DC. Built-in on-off switch, adjustable control range, panel mount. **Type PCA:** 1.75″ square x 1.125″D (44.45 x 28.58). **PCD:** 2.75H x 1.75W x 1.125″D (69.85 x 44.45 x 28.58). 60Hz. Shaft diameter: 0.25″ (6.35). ⅜-32 bushing. *Order knob* **type 5150** *separately on this page. Order dial plate* **type 5000** *separately on this page.*

Stock No.	Type	Output Range (Nom.)	Load Capacity Maximum	1-4	5-9	10-24
13F051	PCA-1000	0-120VAC	1KW, 8.3A AC	99.58	92.63	79.90
13F052	PCA-1050	0-120VAC	15A AC	118.24	110.00	94.87
13F054	PCA-1020	0-240VAC	2KW, 8.3A AC	110.28	96.08	86.47
13F056	PCD-1000	0-120VDC	6.0A DC Resistive 3.5A DC Motor Load	178.03	178.03	...

(4120) (de01424)

R SERIES 500-WATT RHEOSTATS

Linear wirewound design for rheostat and potentiometer applications. Metal/ceramic construction with vitreous enamel coating. 325° rotation (±5°), 8″ (203.20) diameter. Behind-panel depth: 2.125″ (53.98). Mount with two ¼-20 flat head screws on panels to 1.25″ (31.75) thickness. Shaft diameter: 0.375″ (9.53). *Order knob* **type 5104** *or* **type 5105** *separately on this page. Order dial plate* **type 5001** *separately on this page.*

Stock No.	Type	Ohms	Amps	1-4	5-9
01F7647	RRS5R0	5	10.00	129.30	116.37
01F7648	RRS8R0	8	7.9	129.30	116.37
01F7649	RRS12R5	12.5	6.30	135.44	121.90
01F7650	RRS16R	16	5.60	135.44	121.90
01F7651	RRS25R	25	4.47	135.44	121.90
01F7653	RRS50R	50	3.16	135.44	121.90
01F7654	RRS80R	80	2.52	135.44	121.90
01F7655	RRS125	125	2.0	135.44	121.90
01F7656	RRS175	175	1.690	135.44	121.90
01F7657	RRS250	250	1.410	135.44	121.90
01F7659	RRS500	500	1.000	135.44	121.90
01F7661	RRS1K0	1000	0.707	137.34	123.61
01F7662	RRS1K5	1500	0.577	137.34	123.61

(9471) (de01425)

RHEOSTAT AND CONTROL KNOBS

5104, 5106

5105

5109, 5111, 5150, 5151

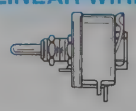
5116

Fasten with slotted set screws.

Stock No.	Type	Shaft Diameter	1-9	10-24	25-49
11F200	5104	0.375″ (9.53)	23.44	15.41	15.07
11F023	5105	0.375″ (9.53)	20.66	13.57	13.27
94F1793	5106	0.25″ (6.35)	27.29	17.93	17.54
94F1794	5109	0.25″ (6.35)	24.48	16.08	15.72
93F8485	5111	0.25″ (6.35)	25.30	16.62	16.25
93F8486	5116	0.25″ (6.35)	9.23	6.11	5.85
11F024	5150	0.25″ (6.35)	7.49	4.92	4.68
11F025	5151	0.125″ (3.18)	5.45	3.60	3.42

(4121) (de01426)

E SERIES 12-½-WATT LINEAR WIREWOUND RHEOSTATS



Operate at maximum hot spot temperature rise of 300°C at 40°C ambient. Also useful for operating at high military ambients, derated linearly to zero at 340°C. Vitreous enamel coating except resistances of 3500 ohms and over silicone-ceramic coating. 300° rotation (±5°). 0.875″ (22.23) diameter. Resistance tolerance: ±10%. Mount with ¼-32 bushing and hex nut on panels to 0.125″ (3.18) thick. Shaft diameter: 0.125″ (3.18). *Order knob* **type 5151** *separately on this page. Order dial plate* **type 5007** *separately on this page.*

Stock No.	Type	Ohms	Amps	1-9	10-24	25-49
01F3482	RES1R0	1	3.530	26.33	22.24	21.75
01F3484	RES3R0	3	2.040	26.33	22.24	21.75
01F3486	RES8R0	8	1.250	26.33	22.24	21.75
01F3487	RES10R	10	1.120	24.81	20.97	20.50
01F3489	RES25R	25	0.710	24.81	20.97	20.50
01F3491	RES50R	50	0.500	24.81	20.97	20.50
01F3492	RES75R	75	0.400	24.81	20.97	20.50
01F3493	RES100	100	0.360	24.81	20.97	20.50
01F3495	RES175	175	0.270	24.81	20.97	20.50
01F3496	RES250	250	0.220	24.81	20.97	20.50
01F3497	RES350	350	0.190	24.81	20.97	20.50
01F3498	RES500	500	0.160	25.71	21.71	21.23
01F3500	RES1K0	1,000	0.100	25.71	21.71	21.23
01F3501	RES1K5	1,500	0.090	25.71	21.71	21.23
01F3502	RES2K5	2,500	0.070	26.62	22.49	21.99
01F3504	RES5K0	5,000	0.050	26.62	22.49	21.99
01F3506	RES10K	10,000	0.035	28.26	23.87	23.34

(9472) (de01429)

RHEOSTAT TANDEM COUPLING KITS

Tandem mount 2 rheostats. Kits include coupler with set screw, steel "U" frame, mica washer, allen wrench, instructions. **Type 6591** front- or rear-mounts E-series rheostats; **6532** front-mounts **H** and **J series** rheostats; **6533** front-mounts **G**, **K** and **L series** rheostats; **6532** or **6533** rear-mounts **G** or **L series** rheostat.

Stock No.	Type	Panel Thickness	1-9	10-24	25-49
11F195	6591	0.063″ (1.60)	19.22	12.02	11.50
11F196	6532	0.156″ (3.96)*	41.91	25.97	25.40
11F197	6533	0.125″ (3.18)*	45.02	27.89	27.27

* Using **type 5150** knob; *available separately on this page.*

(4123) (de01430)

RHEOSTAT DIAL PLATES

Figures and lines etched on black background. Divisions indicate approximate percentage of rheostat resistance in circuit. *Order knobs separately on this page.*

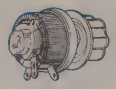
Stock No.	Type	Fits Knob	1-24	25-49	50-99
11F198	5001	5104, 5105	10.25	6.80	6.51
11F199	5000	5116, 5150	1.62	1.07	1.02
11F194	5007	5151	1.62	1.07	1.02

(4122) (de01427)

IF YOU DON'T SEE THE PRODUCT YOU NEED LISTED HERE - CALL!
1-800-4-NEWARK
(1-800-463-9275)

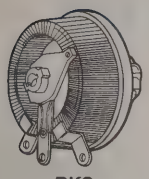
WIREWOUND POWER RHEOSTATS

WIREWOUND POWER RHEOSTATS

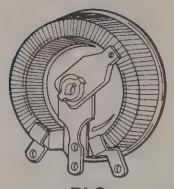


RHS

RJS



RKS



RLS

RNS

Resistance wire is wound on solid ceramic core. Turns are locked in with either vitreous enamel or silicone-ceramic material. Contact brushes are metal graphite. Terminals at each end of winding permit unit to be used as a potentiometer. Models H, J, K, L and N are listed under UL Reexamination Service File No. E-10946 and CSA File No. 21309 unless noted otherwise. Current ratings shown assume use in free air. If units are enclosed wattage should be reduced to as much as 50% depending on ventilation. *Order knobs separately on page 766.*

Model	Body Dia.	Shaft Dia.	Rotation	Max. Panel Thickness	Mounting Hardware
H	1 9/16″	1/4″	300°	to 1/4″	3/8-32 Bushing and Hex nut
J	2 5/16″	1/4″	300°	to 1/4″	3/8-32 Bushing and Hex nut
K	3 1/8″	1/4″	300°	to 1/4″	3/8-32 Bushing and Hex nut
L	4″	1/4″	300°	to 1/4″	3/8-32 Bushing and Hex nut or 10-32 x 3/4 F.H. screws
N	6″	3/8″	320°	to 1 1/4″	1/4-20 F.H. screws

MODEL H 25-WATT

Knob **type 5150** recommended; *order separately on page 766.* Types 10kΩ and above are ceramic coated; 500V max. Not UL approved above 5kΩ.

Stock No.	Type	Ohms	1-9	10-24	25-49	50-99
01F7545	RHS1R0	1	30.54	18.63	18.22	16.19
01F7546	RHS2R0	2	30.54	18.63	18.22	16.19
01F7547	RHS3R0	3	30.54	18.63	18.22	16.19
01F7548	RHS6R0	6	30.54	18.63	18.22	16.19
01F7549	RHS8R0	8	30.54	18.63	18.22	16.19
01F7550	RHS10R	10	29.18	17.80	17.41	15.47
01F7551	RHS15R	15	29.18	17.80	17.41	15.47
01F7552	RHS25R	25	29.18	17.80	17.41	15.47
01F7553	RHS35R	35	29.18	17.80	17.41	15.47
01F7554	RHS50R	50	29.18	17.80	17.41	15.47
01F7555	RHS75R	75	29.18	17.80	17.41	15.47
01F7556	RHS100	100	29.18	17.80	17.41	15.47
01F7557	RHS125	125	29.18	17.80	17.41	15.47
01F7558	RHS175	175	29.18	17.80	17.41	15.47
01F7559	RHS250	250	29.18	17.80	17.41	15.47
01F7560	RHS350	350	29.18	17.80	17.41	15.47
01F7561	RHS500	500	29.18	17.80	17.41	15.47
01F7562	RHS750	750	29.18	17.80	17.41	15.47
01F7563	RHS1K0	1000	30.17	18.40	18.00	16.00
01F7564	RHS1K5	1500	30.17	18.40	18.00	16.00
01F7565	RHS2K5	2500	30.17	18.40	18.00	16.00
01F7566	RHS3K5	3500	30.17	18.40	18.00	16.00
01F7567	RHS5K0	5000	30.17	18.40	18.00	16.00
01F7568	RHS10K	10000	32.75	19.98	19.54	17.37
01F7569	RHS15K	15000	32.75	19.98	19.54	17.37
01F7570	RHS20K	20000	34.86	21.27	20.80	18.49
01F7571	RHS25K	25000	34.86	21.27	20.80	18.49

MODEL J 50-WATT

Knob **type 5150** recommended; *order separately on page 766.* **Type RJS50K** is not UL approved. Silicone-ceramic coated.

Stock No.	Type	Ohms	1-9	10-24	25-49	50-99
01F7572	RJSR50	0.5	43.77	36.98	36.16	32.14
01F7573	RJS1R0	1	39.10	23.86	23.33	20.74
01F7574	RJS2R0	2	39.10	23.86	23.33	20.74
01F7575	RJS4R0	4	39.10	23.86	23.33	20.74
01F7576	RJS6R0	6	39.10	23.86	23.33	20.74
01F7577	RJS8R0	8	39.10	23.86	23.33	20.74
01F7578	RJS12R	12	34.22	20.87	20.41	18.14
01F7579	RJS16R	16	34.22	20.87	20.41	18.14
01F7580	RJS22R	22	34.22	20.87	20.41	18.14
01F7581	RJS35R	35	34.22	20.87	20.41	18.14
01F7582	RJS50R	50	34.22	20.87	20.41	18.14
01F7583	RJS80R	80	34.22	20.87	20.41	18.14
01F7584	RJS125	125	34.22	20.87	20.41	18.14
01F7585	RJS150	150	34.22	20.87	20.41	18.14
01F7586	RJS225	225	32.87	20.06	19.62	17.44
01F7587	RJS300	300	32.87	20.06	19.62	17.44
01F7588	RJS500	500	32.87	20.06	19.62	17.44
01F7589	RJS800	800	32.87	20.06	19.62	17.44
01F7590	RJS1K0	1000	35.95	21.94	21.45	19.07
01F7591	RJS1K6	1600	35.95	21.94	21.45	19.07

CONTINUED

WIREWOUND POWER RHEOSTATS (CONT.)

MODEL J 50-WATT (CONT.)

Stock No.	Type	Ohms	1-9	10-24	25-49	50-99
01F7592	RJS2K5	2500	35.95	21.94	21.45	19.07
01F7593	RJS3K5	3500	35.95	21.94	21.45	19.07
01F7594	RJS5K0	5000	35.95	21.94	21.45	19.07
01F7596	RJS10K	10000	35.95	21.94	21.45	19.07
01F7597	RJS50K	50000	41.78	23.67	21.30	...

MODEL K 100-WATT

Knob **type 5150** recommended; *order separately on page 766.*

Stock No.	Type	Ohms	1-9	10-24	25-49
01F7598	RKSR50	0.5	61.48	42.85	38.57
01F7599	RKS1R0	1	59.60	41.54	37.39
01F7600	RKS2R0	2	59.60	41.54	37.39
01F7601	RKS3R0	3	59.60	41.54	37.39
01F7602	RKS5R0	5	59.60	41.54	37.39
01F7603	RKS7R5	7.5	47.42	33.06	29.75
01F7604	RKS10R	10	47.42	33.06	29.75
01F7605	RKS16R	16	47.42	33.06	29.75
01F7606	RKS25R	25	47.42	33.06	29.75
01F7607	RKS50R	50	47.42	33.06	29.75
01F7608	RKS75R	75	47.42	33.06	29.75
01F7609	RKS100	100	47.42	33.06	29.75
01F7610	RKS200	200	47.42	33.06	29.75
01F7611	RKS300	300	47.42	33.06	29.75
01F7612	RKS400	400	47.42	33.06	29.75
01F7613	RKS500	500	47.42	33.06	29.75
01F7614	RKS750	750	47.42	33.06	29.75
01F7615	RKS1K0	1000	54.20	37.78	34.00
01F7616	RKS2K5	2500	54.20	37.78	34.00
01F7617	RKS5K0	5000	54.20	37.78	34.00

MODEL L 150-WATT

Knob **type 5150** recommended; *order separately on page 766.*

Stock No.	Type	Ohms	1-9	10-24	25-49
01F7618	RLSR50	0.5	73.11	50.96	45.86
01F7619	RLS1R0	1	72.56	50.58	45.52
01F7620	RLS5R0	5	72.56	50.58	45.52
01F7621	RLS10R	10	59.97	41.79	37.61
01F7633	RLS15R	15	59.97	41.79	37.61
01F7622	RLS25R	25	59.97	41.79	37.61
01F7623	RLS50R	50	59.97	41.79	37.61
01F7624	RLS100	100	59.97	41.79	37.61
01F7625	RLS150	150	59.97	41.79	37.61
01F7626	RLS200	200	59.97	41.79	37.61
01F7627	RLS250	250	59.97	41.79	37.61
01F7628	RLS500	500	59.97	41.79	37.61
01F7629	RLS1K25	1250	64.43	44.91	40.42
01F7630	RLS2K25	2250	64.43	44.91	40.42
01F7631	RLS4K5	4500	64.43	44.91	40.42
01F7632	RLS10K	10000	74.38	51.84	46.66

MODEL N 300-WATT

Knob **type 5150** recommended; *order separately on page 766.*

Stock No.	Type	Ohms	1-4	5-9	10-24
01F7634	RNS1R0	1	137.92	115.47	88.53
04F8880	RNS5R0	5	121.26	101.53	77.83
01F7635	RNS10R	10	117.02	97.96	75.12
01F7636	RNS15R	15	117.02	97.96	75.12
01F7637	RNS25R	25	117.02	97.96	75.12
01F7638	RNS50R	50	117.02	97.96	75.12
01F7640	RNS100	100	117.02	97.96	75.12
04F8824	RNS300	300	117.02	97.96	75.12
01F7641	RNS400	400	117.02	97.96	75.12
01F7642	RNS700	700	117.02	97.96	75.12
01F7643	RNS1K2	1200	123.21	103.15	79.08
01F7644	RNS1K5	1500	123.21	103.15	79.08
01F7645	RNS2K5	2500	127.14	106.43	81.61

(4112) (de00074)

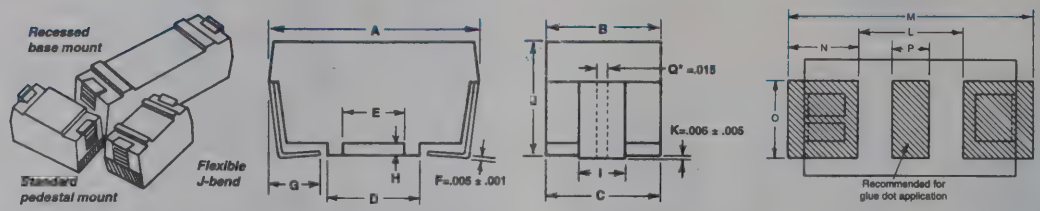
CALL NEWARK FOR
FAST, DEPENDABLE SERVICE.

OHMITE®

SURFACE MOUNT POWER RESISTORS

RW AND RP SERIES SURFACE MOUNT POWER RESISTORS

SMD



Surface mount power resistors, available in both wirewound **(RW series)** or power film **(RP series)** enable the integration of power resistors into designs that reduce circuit board clutter. They bring higher power levels and a wider ohmic range than conventional chip resistors. Values from 0.005 ohms to 1 megaohm are available. Flexible J-bend terminals eliminate the need for leaded components and reduce the chance of solder-joint breakage due to thermal expansion and vibration. Epoxy-molded body carries a UL94V0 flammability rating and has a temperature rating of 205°C continuous. Pedestal mount design is ideal for wave soldering applications while recessed base mount design decreases board contact and is ideal for reflow soldering. Package styles CA and CB are pedestal mount. Package style EA is a recessed base mount. **"J" suffix** in type number indicates sold in packages of 10. **"JT"** suffix in type number indicates sold in reel quantities.

Package		Package Outline Dimensions A	B	C	D	E	G	H	I	J	PC Board Land Pattern L	M	N	O	P
CA	in.	0.394+0.020	0.159±0.005	0.156 Ref	0.220±0.010	...	0.062 Nom.	0.018±0.005	0.078±0.010	0.159±0.005	0.256	0.524	0.134	0.126	0.060
	(mm)	10.008+0.508	4.039±0.127	3.962 Ref	5.888±0.254	...	1.575 Nom.	0.457±0.127	1.981±0.254	4.038±0.127	6.50	13.31	3.40	3.20	1.52
CB	in.	0.407+0.020	0.226±0.005	0.222 Ref	0.260±0.010	0.160±0.020	0.062 Nom.	0.018±0.005	0.084±0.013	0.222±0.005	0.276	0.537	0.131	0.126	0.093
	(mm)	10.338+0.508	5.74±0.127	5.639 Ref	6.604±0.254	4.064±0.508	1.575 Nom.	0.457±0.127	2.134±0.330	5.639±0.127	7.01	13.64	3.33	3.20	2.36
EA	in.	0.811+0.020	0.273±0.005	0.268 Ref	0.572±0.010	0.448±0.020	0.093 Nom.	0.030±0.005	0.143±0.012	0.273±0.005	0.611	1.000	0.195	0.155	0.093
	(mm)	20.559+0.508	6.934±0.127	6.807 Ref	14.529±.0.254	11.379±0.508	2.362 Nom.	0.762±0.127	3.632±0.305	6.934±0.127	15.52	25.4	4.95	3.94	2.36

Package	Quantity per Reel	Tape Size	Package	Quantity per Reel	Tape Size	Package	Quantity per Reel	Tape Size
CA	1500 pieces	16mm	CB	1000 pieces	16mm	EA	750 pieces	32mm

WIREWOUND RESISTORS

Resistance (Ohms)	Tol.	Power (Watts)	TCR (ppm/°C)	Pkg.	Package of 10 Stock No.	Type	1-24	25-49	50-99	100-249	Per Reel Stock No.	Type	1-4	5-9	10-24	25-49
0.005	5%	1.5	...	CA	91F4996	RW1S5CAR005J	18.31	15.58	12.10	11.65	91F5035	RW1S5CAR005JT	2174.22	1927.18	1741.91	1583.55
0.01	5%	1.5	...	CA	...	...	...	...	...	...	91F5036	RW1S5CAR010JT	2174.22	1927.18	1741.91	1583.55
0.015	5%	1.5	...	CA	...	...	...	...	...	...	91F5037	RW1S5CAR015JT	2174.22	1927.18	1741.91	1583.55
0.04	5%	1.5	...	CA	91F4999	RW1S5CAR040J	18.31	15.58	12.10	11.65	91F5038	RW1S5CAR040JT	2174.22	1927.18	1741.91	1583.55
0.1	5%	1.5	±90	CA	...	...	...	...	...	...	91F5039	RW1S5CAR100JT	2280.80	2021.65	1827.30	1661.18
0.15	5%	1.5	±90	CA	91F5001	RW1S5CAR150J	19.33	16.26	12.73	12.27	91F5040	RW1S5CAR150JT	2280.80	2021.65	1827.30	1661.18
0.2	5%	1.5	±90	CA	...	...	...	...	...	...	91F5041	RW1S5CAR200JT	2280.80	2021.65	1827.30	1661.18
0.5	5%	1.5	±90	CA	...	...	...	...	...	...	91F5042	RW1S5CAR500JT	2280.80	2021.65	1827.30	1661.18
1	5%	1.5	±50	CA	91F5004	RW1S5CA1R00J	19.33	16.26	12.73	12.27	91F5043	RW1S5CA1R00JT	2280.80	2021.65	1827.30	1661.18
0.005	5%	2.0	...	CB	91F5009	RW2S0CBR005J	21.95	18.58	14.39	13.86	91F5048	RW2S0CBR005JT	1605.80	1423.35	1286.51	1169.55
0.02	5%	2.0	...	CB	...	...	...	...	...	...	91F5049	RW2S0CBR020JT	1605.80	1423.35	1286.51	1169.55
0.03	5%	2.0	...	CB	91F5011	RW2S0CBR030J	21.95	18.58	14.39	13.86	91F5050	RW2S0CBR030JT	1605.80	1423.35	1286.51	1169.55
0.05	5%	2.0	...	CB	...	...	...	...	...	...	91F5051	RW2S0CBR050JT	1605.80	1423.35	1286.51	1169.55
0.2	5%	2.0	±90	CB	91F5013	RW2S0CBR200J	27.90	23.64	18.34	17.67	91F5052	RW2S0CBR200JT	1975.27	1750.84	1582.52	1438.65
0.24	5%	2.0	±90	CB	91F5014	RW2S0CBR240J	27.90	23.64	18.34	17.67	91F5053	RW2S0CBR240JT	1975.27	1750.84	1582.52	1438.65
0.47	5%	2.0	±90	CB	91F5015	RW2S0CBR470J	27.90	23.64	18.34	17.67	91F5054	RW2S0CBR470JT	1975.27	1750.84	1582.52	1438.65
10	5%	2.0	±50	CB	91F5016	RW2S0CB10R0J	27.90	23.64	18.34	17.67	91F5055	RW2S0CB10R0JT	1975.27	1750.84	1582.52	1438.65
20	5%	2.0	±20	CB	...	...	...	...	...	...	91F5056	RW2S0CB20R0JT	1975.27	1750.84	1582.52	1438.65
100	5%	2.0	±20	CB	...	...	...	...	...	...	91F5057	RW2S0CB100RJT	1975.27	1750.84	1582.52	1438.65
0.01	5%	3.5	...	EA	91F5026	RW3R5EAR010J	27.90	23.64	18.34	17.67	91F5065	RW3R5EAR010JT	1417.51	1256.45	1135.66	1032.42
0.02	5%	3.5	...	EA	...	...	...	...	...	...	91F5066	RW3R5EAR020JT	1417.51	1256.45	1135.66	1032.42
0.05	5%	3.5	...	EA	91F5028	RW3R5EAR050J	27.90	23.64	18.34	17.67	91F5067	RW3R5EAR050JT	1417.51	1256.45	1135.66	1032.42
0.1	5%	3.5	±90	EA	...	...	...	...	...	...	91F5068	RW3R5EAR100JT	1630.66	1445.39	1306.43	1187.67
0.2	5%	3.5	±90	EA	91F5030	RW3R5EAR200J	31.39	26.51	20.63	19.87	91F5069	RW3R5EAR200JT	1630.66	1445.39	1306.43	1187.67
0.5	5%	3.5	±90	EA	...	...	...	...	...	...	91F5070	RW3R5EAR500JT	1630.66	1445.39	1306.43	1187.67
7.5	5%	3.5	±50	EA	91F5032	RW3R5EA7R50J	31.39	26.51	20.63	19.87	91F5071	RW3R5EA7R50JT	1630.66	1445.39	1306.43	1187.67
50	5%	3.5	±20	EA	...	...	...	...	...	...	91F5072	RW3R5EA50R0JT	1630.66	1445.39	1306.43	1187.67
5k	5%	3.5	±20	EA	91F5034	RW3R5EA5K00J	42.15	35.66	27.76	26.74	91F5073	RW3R5EA5K00JT	2195.53	1946.08	1758.99	1599.08

POWER FILM RESISTORS

Resistance (Ohms)	Tol.	Power (Watts)	TCR (ppm/°C)	Pkg.	Package of 10 Stock No.	Type	1-24	25-49	50-99	100-249	Per Reel Stock No.	Type	1-4	5-9	10-24	25-49
2.2	5%	1.5	±250	CB	...	...	...	...	...	...	91F5044	RP1S5CB2R20JT	1833.16	1624.88	1468.67	1335.15
11	5%	1.5	±250	CB	...	...	...	...	...	...	91F5045	RP1S5CB11R0JT	1833.16	1624.88	1468.67	1335.15
2.k	5%	1.5	±250	CB	91F5007	RP1S5CB2K00J	25.58	21.59	16.81	16.19	91F5046	RP1S5CB2K00JT	1833.16	1624.88	1468.67	1335.15
1.0M	5%	1.5	±250	CB	91F5008	RP1S5CB1M00J	25.58	21.59	16.81	16.19	91F5047	RP1S5CB1M00JT	1833.16	1624.88	1468.67	1335.15
3.01	5%	3.0	±250	EA	91F5019	RP3R0EA3R01J	31.68	26.78	20.88	20.12	91F5058	RP3R0EA3R01JT	1609.35	1426.49	1289.36	1172.14
49.9	5%	3.0	±250	EA	91F5020	RP3R0EA49R9J	31.68	26.78	20.88	20.12	91F5059	RP3R0EA49R9JT	1609.35	1426.49	1289.36	1172.14
499	5%	3.0	±250	EA	91F5021	RP3R0EA499RJ	31.68	26.78	20.88	20.12	91F5060	RP3R0EA499RJT	1609.35	1426.49	1289.36	1172.14
1.k	5%	3.0	±250	EA	91F5022	RP3R0EA1K00J	31.68	26.78	20.88	20.12	91F5061	RP3R0EA1K00JT	1609.35	1426.49	1289.36	1172.14
10.k	5%	3.0	±250	EA	91F5023	RP3R0EA10K0J	31.68	26.78	20.88	20.12	91F5062	RP3R0EA10K0JT	1609.35	1426.49	1289.36	1172.14
49.9k	5%	3.0	±250	EA	91F5024	RP3R0EA49K9J	31.68	26.78	20.88	20.12	91F5063	RP3R0EA49K9JT	1609.35	1426.49	1289.36	1172.14
499k	5%	3.0	±250	EA	91F5025	RP3R0EA499KJ	31.68	26.78	20.88	20.12	91F5064	RP3R0EA499KJT	1609.35	1426.49	1289.36	1172.14

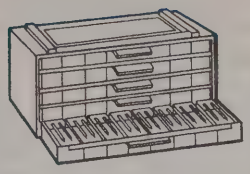
(15629) (ne10115)

OHMITE®

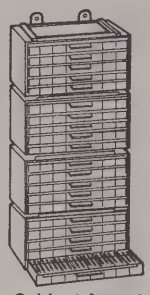
RESISTOR ASSORTMENTS AND SELECTORS

CAB SERIES RESISTOR ASSORTMENTS

Convenient assortments comprise the most popular resistance values in use today. Choose the one best suited to your requirements ... and have a full inventory of the resistors you need now **and** for future use. Assortments available in carbon film, metal film and carbon composition. Each comes in 4.75H x 9.00W x 5.25"D (120.65 x 228.60 x 133.35) cabinet with five drawers. Each drawer is subdivided into eight compartments. Dovetail tops and bottoms on cabinets allow stacking for convenience when ordering more than one assortment. Assemblies of 2, 3 or 4 cabinets come sturdily riveted to metal strips for wall hanging. Type numbers ending with **M** are metal film. Those ending in **F** are carbon film.



Single Cabinet Assortment



Four-Cabinet Assortment

CAB SERIES CARBON FILM & METAL FILM RESISTOR ASSORTMENTS

Stock No.	Type	Watt	Tol.	Contents	Resistance Range Ω	Cabinets	Each
76F805	CAB-5F	⅛	5%	150 pc.– 31 values	10-1M	1	**84.66**
76F806	CAB-22F	⅛	5%	500 pc.–52 values	10-1M	2	**158.77**
76F807	CAB-34F	⅛	5%	1000 pc.–104 values	10-1M	3	**267.60**
76F808	CAB-6F	¼	5%	150 pc.–36 values	1-1M	1	**75.55**
76F809	CAB-23F	¼	5%	1000 pc.–75 values	1-1M	2	**184.18**
76F810	CAB-43F	¼	5%	1500 pc.–138 values	1-1M	4	**301.65**
76F811	CAB-7F	½	5%	150 pc.–36 values	1-1M	1	**82.06**
76F812	CAB-24F	½	5%	1000 pc.–75 values	1-1M	2	**205.77**
76F813	CAB-44F	½	5%	1500 pc.–137 values	1-1M	4	**330.85**
52F9284	CAB14F	1	5%	150 pc.–36 values	10-1M	1	**127.32**
52F9285	CAB15F	2	5%	150 pc.–36 values	10-1M	1	**144.80**
76F814	CAB-8M	¼	1%	250 pc.–40 values	10-301K	1	**125.80**
76F815	CAB-28M	¼	1%	500 pc.–80 values	10-301K	2	**240.93**
76F816	CAB-31M	¼	1%	1000 pc.–120 values	10-301K	3	**357.89**
76F817	CAB-9M	½	1%	250 pc.–40 values	10-1M	1	**151.45**
76F818	CAB-29M	½	1%	500 pc.–80 values	10-1M	2	**304.09**
76F819	CAB-32M	½	1%	1000 pc.–120 values	10-1M	3	**485.37**
CAB SERIES CARBON COMPOSITION RESISTOR ASSORTMENTS							
81F2722	CAB-54	¼	5%	124 pc.–40 values	10-10M	1	**168.93**
81F2723	CAB-525	¼	5%	800 pc.– 80 values	2.7-22M	2	**644.13**
81F2726	CAB-52	1	5%	100 pc.–40 values	11-10M	1	**276.11**
81F2728	CAB-53	2	5%	100 pc.–40 values	10-10M	1	**366.12**

(4113) (de00121)

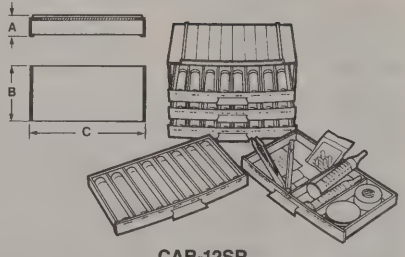
CAB SERIES SURFACE MOUNT RESISTOR ASSORTMENTS

Includes 1000 pieces of 1% and 5% tolerance cermet chip resistors in 63 ohmic values. High-quality resistors have passivated, protective-coated cermet element on high-purity alumina substrate, with pre-tinned wrap-around terminals. Assortment also includes cabinet and application supplies and tools: 10 grams adhesive, 1 transfer pin collet, 1 adhesive transfer pin, 2 syringes, 4 syringe needles, 1 pair tweezers and 1 each of 3X and 6X optical magnifiers. Complete instructions included. Cabinets stackable and drawers clearly identify contents. Chip dimensions listed below.

SMD

RESISTANCE VALUES

Ohms	Qty.	Ohms	Qty.	Ohms	Qty.	Ohms	Qty.	Ohms	Qty.	Ohms	Qty.
0	20	68.1	10	562	20	4750	20	39.2k	10	332k	10
10	30	82.5	10	681	20	5620	10	47.5k	10	392k	10
12.1	10	100	30	825	10	6810	10	56.2k	10	475k	20
15	10	121	10	1000	50	8250	10	68.1k	10	562k	10
18.2	10	150	10	1210	10	10k	50	82.5k	10	681k	10
22.1	10	182	10	1500	10	12.1k	10	100k	50	825k	10
27.4	10	221	30	1820	10	15k	10	121k	10	1M	20
33.2	10	274	10	2210	20	18.2k	10	150k	10	2M	10
39.2	10	332	20	2740	20	22.1k	30	182k	30	...	...
47.5	30	392	20	3320	10	27.4k	20	221k	10	...	...
56.2	10	475	30	3920	10	33.2k	10	274k	10	...	...



CAB-12SR

Stock No.	Type	Size	Wattage	Dimensions A	Dimensions B	Dimensions C	Each
96F8238	CAB-12SR	1206	0.25	0.024"	0.063"	0.126"	**304.09**
96F8237	CAB-8SR	0805	0.125	0.018"	0.049"	0.078"	**304.09**
96F8236	CAB-6SR	0603	0.10	0.018"	0.032"	0.061"	**346.19**
01F538	CAB-25SR	2512	1.00	0.024"	0.122"	0.248"	**581.24**

(4114) (de00122)

PORTABLE RESISTANCE AND CAPACITANCE SELECTORS

For use in labs, schools and by service technicians. Feature positive slide switch operation. Light weight for easy in-hand use. Metal case, four rubber feet for non-slip bench use, and screw type binding posts. Compact size: 6.00H x 4.00W x 1.00"D (152.40 x 101.60 x 25.40).

Ohm-Ranger™ 3420. Portable resistance selector. Wide range of resistance values, from 1 ohm to over 11 million ohms in one ohm increments. Assured accuracy of ±1% tolerance for 10 ohm and above settings, ±5% for 9.99 ohms and under. Rated to ½W maximum. 250V maximum.

13F161 Type 3420. **Each** **198.95**

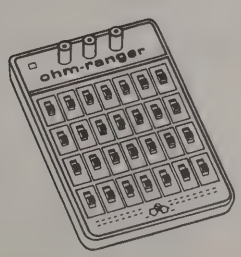
Cap-Ranger™ 3430. Portable capacitance selector. Wide range of capacitances from 100 picofarads to 11.111 microfarads in 100 picofarad steps with ±2% tolerance. Rated to 200VDC maximum.

76F799 Type 3430. **Each** **238.74**

Decade-Ranger™ 3416. Precision, ±0.1% accuracy, decade resistance box. Range: 1 ohm to 1,111,110 ohms, in 1 ohm increments. Number of decades: 6. Power: ¼ watt per resistor. Rotary tap switches operate in either direction. Direct digital readout. Switch life in excess of 50,000 operations. Metal housing, universal binding posts and grounded metal post for effective shielding. Dimensions: 10.5W x 3.75H x 4.625"D. Weight: 3 lbs. 10 oz.

94F1792 Type 3416. **Each** **327.77**

(4115) (de00123)



WIREWOUND RESISTORS AND THERMISTORS

20 SERIES VITREOUS ENAMEL CONFORMAL COATED WIREWOUND RESISTORS

OHMITE®

Rugged, economical wirewound axial lead resistors for industrial applications. ±5% tolerance, 1kV dielectric breakdown voltage (500V for 1 watt size). Typical temperature coefficiency for 10 ohm and above: ±30 ppm/°C. Minimum quantities may apply. Most popular values listed. Additional values available; *contact your local Newark sales office.*

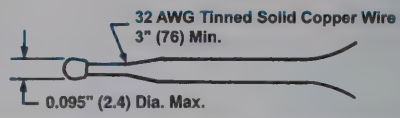
21J SERIES–1 WATT, 0.406L x 0.156″D (10.31 x 3.96)

Stock No.	Type	Ohms	1-24	25-49	50-99	100-249
02F2715	21J1R0	1	2.82	2.26	1.92	1.69
02F2717	21J2R0	2	2.82	2.26	1.92	1.69
02F2722	21J7R5	7.5	2.82	2.26	1.92	1.69
02F2723	21J10R	10	2.57	2.06	1.75	1.54
02F2736	21J47R	47	2.57	2.06	1.75	1.54
02F2737	21J50R	50	2.57	2.06	1.75	1.54
02F2742	21J82R	82	2.57	2.06	1.75	1.54
02F2743	21J100	100	3.13	2.51	2.13	1.88
02F2744	21J120	120	3.13	2.51	2.13	1.88
02F2748	21J250	250	3.62	2.90	2.46	2.17
02F2755	21J470	470	3.62	2.90	2.46	2.17
02F2756	21J500	500	3.62	2.90	2.46	2.17
02F2764	21J1K0	1.0k	3.80	3.04	2.59	2.27
02F2766	21J1K2	1.2k	3.80	3.04	2.59	2.27
02F2767	21J1K5	1.5k	3.80	3.04	2.59	2.27
02F2770	21J2K2	2.2k	3.80	3.04	2.59	2.27
23J SERIES–3 WATT, 0.500L x 0.220″D (12.70 x 5.558)						
02F2564	23J1R0	1	1.21	0.97	0.82	0.72
02F2570	23J5R0	5	1.21	0.97	0.82	0.72
02F2572	23J10R	10	1.09	0.87	0.74	0.65
02F2575	23J18R	18	1.09	0.87	0.74	0.65
02F2580	23J30R	30	1.09	0.87	0.74	0.65
02F2581	23J33R	33	1.09	0.87	0.74	0.65
02F2585	23J47R	47	1.09	0.87	0.74	0.65
02F2592	23J100	100	0.99	0.79	0.68	0.59
02F2593	23J120	120	0.99	0.79	0.68	0.59
02F2595	23J150	150	0.99	0.79	0.68	0.59
02F2597	23J200	200	0.99	0.79	0.68	0.59
02F2600	23J250	250	0.99	0.79	0.68	0.59
02F2608	23J500	500	1.08	0.86	0.73	0.64
02F2610	23J600	600	1.08	0.86	0.73	0.64
02F2616	23J1K0	1.0k	1.47	1.17	1.00	0.88
02F2619	23J1K5	1.5k	1.47	1.17	1.00	0.88
02F2621	23J2K0	2.0k	1.47	1.17	1.00	0.88
02F2624	23J2K7	2.7k	1.47	1.17	1.00	0.88
02F2631	23J4K7	4.7k	1.47	1.17	1.00	0.88
02F2632	23J5K0	5.0k	1.92	1.54	1.31	1.15
02F2636	23J7K5	7.5k	2.19	1.76	1.49	1.31
02F2639	23J10K	10.0k	2.19	1.76	1.49	1.31
25J SERIES–5 WATT, 0.906L x 0.276″D (23.0 x 7.0)						
02F2640	25J1R0	1	1.48	1.18	1.01	0.89
02F2642	25J2R0	2	1.48	1.18	1.01	0.89
02F2643	25J2R2	2.2	1.48	1.18	1.01	0.89
02F2646	25J5R0	5	1.48	1.18	1.01	0.89
02F2647	25J7R5	7.5	1.48	1.18	1.01	0.89
02F2648	25J10R	10	1.41	1.13	0.96	0.84
02F2656	25J30R	30	1.41	1.13	0.96	0.84
02F2657	25J33R	33	1.41	1.13	0.96	0.84
02F2660	25J40R	40	1.41	1.13	0.96	0.84
02F2661	25J47R	47	1.41	1.13	0.96	0.84
02F2662	25J50R	50	1.41	1.13	0.96	0.84
02F2668	25J100	100	1.17	0.94	0.80	0.70
02F2671	25J150	150	1.17	0.94	0.80	0.70
02F2674	25J220	220	1.17	0.94	0.80	0.70
02F2680	25J350	350	1.17	0.94	0.80	0.70
02F2685	25J500	500	1.35	1.08	0.92	0.81
02F2693	25J1K0	1.0k	1.62	1.30	1.10	0.97
02F2697	25J2K0	2.0k	1.62	1.30	1.10	0.97
02F2698	25J2K2	2.2k	1.62	1.30	1.10	0.97
02F2699	25J2K5	2.5k	1.62	1.30	1.10	0.97
02F2706	25J4K7	4.7k	1.62	1.30	1.10	0.97
02F2707	25J5K0	5.0k	2.08	1.66	1.41	1.24
02F2714	25J10K	10k	2.29	1.83	1.56	1.37
02F2925	25J12K	12k	2.29	1.83	1.56	1.37
02F2926	25J15K	15k	2.29	1.83	1.56	1.37
02F2927	25J20K	20k	2.71	2.17	1.84	1.62
02F2928	25J22K	22k	2.71	2.17	1.84	1.62
20J SERIES–10 WATT, 1.844L x 0.394″D (46.84 x 10.01)						
01F7473	20J1R0	1	2.82	2.26	1.92	1.69
01F7479	20J5R0	5	1.96	1.56	1.33	1.17
01F7481	20J10R	10	1.82	1.46	1.24	1.09
01F7486	20J22R	20	1.82	1.46	1.24	1.09
01F7487	20J25R	25	1.82	1.46	1.24	1.09
01F7494	20J50R	50	1.82	1.46	1.24	1.09
01F7498	20J100	100	1.66	1.33	1.13	0.99
01F7518	20J1K0	1.0k	1.99	1.59	1.35	1.19
01F7520	20J2K0	2.0k	1.99	1.59	1.35	1.19
01F7522	20J2K5	2.5k	1.99	1.59	1.35	1.19
01F7524	20J3K0	3.0k	2.27	1.81	1.54	1.36
01F7544	20J50K	50k	3.31	2.65	2.25	1.98

(9582) (de50010)

44000 SERIES EPOXY INTERCHANGEABLE NTC THERMISTORS

YSI®



Provide accurate and stable temperature sensing for application of temperature measurement, control, indication and compensation. Time constant: 1 sec. max. in oil bath, 10 sec. max. in still air.

±0.2°C INTERCHANGEABILITY TOLERANCE

Working temperature for best stability: **types 44001A**, **44002A** and **44003A**, –80°C to +51°C; all others, –80°C to +120°C.

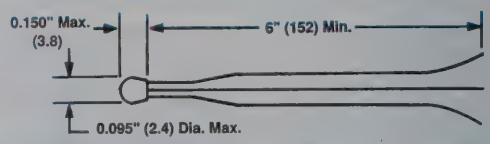
Stock No.	Type	Ohms @ 25°C	Tol.*	Resist. Ratio	1-9	10-24	25-49	50-99
29F200	44001A	100	±1.0%	11.49	13.86	13.41	13.05	11.24
29F202	44003A	1000	±1.0%	17.33	13.86	13.41	13.05	11.24
29F229	44004	2252	±1.0%	29.26	7.89	7.64	7.44	7.13
29F203	44005	3000	±1.0%	29.26	7.89	7.64	7.44	7.13
29F256	44007	5000	±1.0%	29.26	7.89	7.64	7.44	7.13
29F204	44006	10k	±1.0%	23.51	7.89	7.64	7.44	7.13
29F205	44008	30k	±1.0%	29.15	7.89	7.64	7.44	7.13
29F206	44011	100k	±1.0%	34.82	13.86	13.41	13.05	11.24
±0.1°C INTERCHANGEABILITY TOLERANCE								
Working temperature for best stability: –80°C to +75°C.								
29F224	44031	10k	±0.56%	23.51	15.47	14.97	14.57	12.55
29F228	44033	2252	±0.51%	29.26	15.47	14.97	14.57	12.55

* @ 0°C to 70°C

(4207) (de50021)

TYPE 44000 THERMILINEAR® NTC THERMISTOR COMPONENTS AND NETWORKS

YSI®



Each network provides linear R vs T for the range specified. A Thermilinear component is two or three epoxy encapsulated thermistors. A network consists of a Thermilinear component and 2 or 3 metal film resistors. Thermistor accuracy and interchangeability: ±0.15°C @ –30 to +100°C. *For dimensions contact your local Newark sales office.*

THERMILINEAR® NETWORKS

Stock No.	Type	Operating Temperature	Linearity Deviation	1-9	10-24	25-49	50-99
29F218	44201	0°C to 100°C	±0.216°C	30.93	29.94	29.14	25.09
29F220	44203	–30°C to +55°C	±0.16°C	30.93	29.94	29.14	25.09

THERMILINEAR® COMPONENTS

Stock No.	Type	Description	Fits Component	1-9	10-24	25-49	50-99
29F222	44018	Thermistor Component	44201 44202 44203	23.20	22.45	21.86	18.82

(4209) (de50023)

55000 SERIES GEM INTERCHANGEABLE NTC HERMETIC THERMISTORS

YSI®

Glass-encapsulated thermistors for high stability at moderate temperature ranges, –80°C to +200°C. Time constant: 1.5 sec. max. in oil bath.

INTERCHANGEABILITY TOLERANCE: ±0.2°C

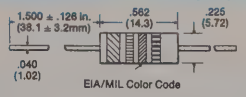
Stock No.	Type	Ohms @ 25°C	Tol.	Resist. Ratio	1-9	10-24	25-49
52F9189	55006	10k	±1.0%	23.51	15.47	14.97	14.57
52F9191	55008	30k	±1.0%	29.15	15.47	14.97	14.57
INTERCHAGEABILITY TOLERANCE: ±0.1°C							
52F9197	55036	10k	±0.58%	23.51	20.62	19.96	19.43
52F9194	55032	30k	±0.49%	29.15	20.62	19.96	19.43

(4223) (ne08272)

46000 SERIES INTERCHANGEABLE GLASS NTC THERMISTORS ARE ALSO AVAILABLE, CONTACT YOUR LOCAL NEWARK SALES OFFICE

(33391) (ne33391)

SPH SERIES GENERAL-PURPOSE/FAIL-SAFE MOLDED WIREWOUND RESISTORS



SPH series resistors feature resistance alloy winding on braided fiberglass substrate. Intermediate silicone coatings enhance processibility and protect resistive element. Mechanically crimped terminal leads are alloy-coated copper flashed steel with welded cap. Phenolic plastic encapsulation, flame-resistant coating covers resistive element. Tolerance: ±5%. Power rating: 2W. @ 70°C (1W. @ 115°C). Working voltage (continuous): √PR. Dielectric withstanding voltage: 1000 V_{RMS} min. Mil. style: RC32/RC42. Most popular sizes listed below. Additional resistance values available, *contact your local Newark sales office.* **Sold in multiples of 50.**

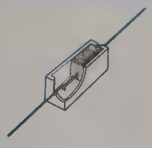
Stock No.	Type	Ohms	1-249	250-499	500-999
01F3337	SPH-0.10<-5%	0.10	0.44	0.35	0.31
01F3341	SPH-0.15<-5%	0.15	0.44	0.35	0.31
01F3342	SPH-0.18<-5%	0.18	0.44	0.35	0.31
01F3344	SPH-0.22<-5%	0.22	0.44	0.35	0.31
01F3345	SPH-0.24<-5%	0.24	0.44	0.35	0.31
01F3348	SPH-0.33<-5%	0.33	0.44	0.35	0.31
01F3350	SPH-0.39<-5%	0.39	0.44	0.35	0.31
01F3353	SPH-0.51<-5%	0.51	0.44	0.35	0.31
01F3354	SPH-0.56<-5%	0.56	0.43	0.35	0.31
01F3360	SPH-1.0<-5%	1.0	0.38	0.31	0.27
01F3367	SPH-2.2<-5%	2.2	0.38	0.31	0.27
01F3370	SPH-3.3<-5%	3.3	0.38	0.31	0.27
01F3371	SPH-4.7<-5%	4.7	0.38	0.31	0.27
01F3377	SPH-10.0<-5%	10.0	0.38	0.30	0.27
01F3404	SPH-470.0<-5%	470.0	0.38	0.30	0.27

ADDITIONAL RESISTANCE VALUES

0.10*	0.30	0.82*	3.3*	10*	43	150*	470*
0.12*	0.33*	1.0*	3.6	11	47*	160	510
0.15*	0.39*	1.2*	3.9*	13	68*	220*	1k*
0.18*	0.47*	1.5*	4.3	16	82*	270*	1.1k
0.20	0.51	1.6	4.7*	20	100*	330*	1.2k*
0.22*	0.56*	2.0	5.1	24	110	360	1.3k
0.24	0.62	2.2*	8.2*	30	120*	390*	1.6k
0.27*	0.68*	2.4	9.1	36	130	430	1.8k*

All values shown are 5% tolerance; (*) indicates also available in 10% tolerance.
(9592) (de52003)

PLO SERIES EXTREMELY LOW-RESISTANCE LOW-INDUCTANCE WIREWOUND RESISTORS



PLO series extremely low resistance, power resistors have welded terminations and fireproof housing. Tolerance: ±1%. Inductance is less than 10nH.

Stock No.	Type	Ohms	Watts	1-999	1000-2499	2500-4999
04F9954	PLO-5-.0101%	0.01	5	1.20	1.02	0.91
04F9955	PLO-5-.0201%	0.02	5	1.26	0.90	0.74
04F9956	PLO-5-.0501%	0.05	5	1.26	0.90	0.74
04F9957	PLO-5-.1001%	0.1	5	1.26	0.90	0.74
05F1499	PLO-10-.0101%	0.01	10	1.45	1.01	0.84
05F1500	PLO-10-.0201%	0.02	10	1.57	1.01	0.84
05F1501	PLO-10-.0501%	0.05	10	1.57	1.01	0.84
05F1502	PLO-10-.1001%	0.1	10	1.57	1.01	0.84

(9518) (de02788)

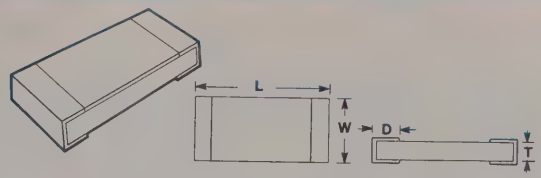
CGH SERIES HIGH-VOLTAGE THICK FILM RESISTORS

Precision resistors have diamond spiral thick film element and heat-conducting ceramic substrate. All welded cap and lead construction, epoxy-coated body. Tolerance: ±1%. **Type CGH150PPM750M2%** has 2% tolerance. Maximum TCR*: 500ppm/°C. Most popular sizes listed. Additional values available, *contact your local Newark sales office.*

Stock No.	Type	Ohms	Watts	1-99	100-249	250-999
04F9929	CGH1/450PPM10M1%	10M	0.25	2.96	2.46	2.16
04F9931	CGH1/450PPM100M1%	100M	0.25	2.96	2.46	2.16
04F9934	CGH1/250PPM10M1%	10M	0.5	3.68	3.16	2.90
04F9936	CGH1/250PPM100M1%	100M	0.5	3.68	3.16	2.90
04F9940	CGH150PPM1M1%	1M	1.0	5.45	4.98	4.50
04F9941	CGH150PPM10M1%	10M	1.0	5.45	4.98	4.50
04F9943	CGH150PPM100M1%	100M	1.0	5.45	4.98	4.50
04F9944	CGH150PPM200M1%	200M	1.0	5.45	4.98	4.50
04F9946	CGH150PPM750M2%	750M	1.0	5.45	4.98	4.50

*Temperature Coefficent of Resistance
(30674) (ne30874)

LRC SERIES LOW VALUE FLAT CHIP RESISTORS



Low inductance thick film design for current sensing applications. Leach-resistant solder-plated copper wrap around termination. Tolerance: ±1.0%. Temperature coefficient: above 0.075Ω < + 150ppm/°C, 0.075-0.045Ω < + 300ppm/°C, below 0.045Ω < + 600ppm/°C. Max. operating voltage: 50V. Operating temperature:–55°C to +125°C.

LRC SERIES DIMENSIONS

Type	L	W	T	D
LR2010	0.206″ ±0.015″	0.104″ ±0.010″	0.029″ ±0.004″	0.019″ ±0.010″
LR2512	0.256″ ±0.015″	0.128″ ±0.010″	0.029″ ±0.004″	0.019″ ±0.010″

TYPE LR2010—0.5 WATT

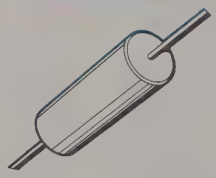
Stock No.	Type	Ohms	1-999	1000-2499	2500-4999
04F9780	LR2010-01-R050FTR	0.050	1.15	0.99	0.92
04F9781	LR2010-01-R100FTR	0.100	0.95	0.81	0.76
04F9782	LR2010-01-R200FTR	0.200	0.95	0.81	0.76
04F9783	LR2010-01-R300FTR	0.300	0.95	0.81	0.76
04F9784	LR2010-01-R500FTR	0.500	0.95	0.81	0.76
04F9785	LR2010-01-1R00FTR	1.00	0.98	0.84	0.79

TYPE LR2512—1 WATT

96F7806	LR2512-01-R025FTR	0.025	1.10	0.51	0.38
96F7807	LR2512-01-R050FTR	0.050	1.10	0.51	0.38
96F7808	LR2512-01-R075FTR	0.075	1.02	0.48	0.37
96F7809	LR2512-01-R100FTR	0.100	1.02	0.48	0.37
96F7810	LR2512-01-R200FTR	0.200	0.92	0.45	0.35
96F7811	LR2512-01-R300FTR	0.300	0.92	0.45	0.35
96F7812	LR2512-01-R500FTR	0.500	0.92	0.45	0.35
96F7813	LR2512-01-1R00FTR	1.00	0.92	0.45	0.35

(9509) (de02785)

LOB SERIES LOW-RESISTANCE METAL ELEMENT RESISTORS



Non-inductive metal element resistors for switching and linear power supplies, instrumentation, current sensing circuits, regulators. Tinned copper leads, molded body. Tolerance: ±1%. Dimensions in inches (mm) for **LOB-1 series**: Length = 0.390 (9.90). Diameter = 0.140 (3.60). **LOB-3 series**: Length = 0.560 (14.224). Diameter = 0.210 (5.334). **LOB-5 series**: Length = 0.920 (23.368). Diameter = 0.330 (8.382).

1-WATT

Stock No.	Type	Ohms	1-99	100-499	500-999
96F6780	LOB-1.0051%BP	0.005	2.11	1.43	1.04
04F9965	LOB-1.0101%BP	0.010	1.65	1.19	0.93
04F9966	LOB-1.0201%BP	0.020	1.65	1.19	0.93
96F6781	LOB-1.0251%BP	0.025	1.65	1.19	0.93
04F9967	LOB-1.0301%BP	0.030	1.65	1.19	0.93
04F9968	LOB-1.0401%BP	0.040	1.65	1.19	0.93
04F9969	LOB-1.0501%BP	0.050	1.65	1.19	0.93
04F9970	LOB-1.0701%BP	0.070	1.65	1.19	0.93
04F9971	LOB-1.1001%BP	0.100	1.65	1.19	0.93

3-WATT

96F6782	LOB-3.0051%BP	0.005	0.74	0.67	0.50
04F9958	LOB-3.0101%BP	0.010	1.65	1.19	0.93
04F9959	LOB-3.0201%BP	0.020	1.65	1.19	0.93
96F6783	LOB-3.0251%BP	0.025	1.05	0.90	0.86
04F9960	LOB-3.0301%BP	0.030	1.65	1.19	0.93
04F9961	LOB-3.0401%BP	0.040	1.65	1.19	0.93
04F9962	LOB-3.0501%BP	0.050	1.65	1.19	0.93
04F9963	LOB-3.0701%BP	0.070	1.65	1.19	0.93
04F9964	LOB-3.1001%BP	0.100	1.65	1.19	0.93

5-WATT

04F9972	LOB-5.0101%BP	0.010	1.98	1.45	1.45
04F9973	LOB-5.0201%BP	0.020	1.98	1.45	1.45
04F9974	LOB-5.0301%BP	0.030	1.98	1.45	1.45
04F9975	LOB-5.0401%BP	0.040	1.98	1.45	1.45
04F9976	LOB-5.0501%BP	0.050	1.98	1.45	1.45
04F9977	LOB-5.0701%BP	0.070	1.98	1.45	1.45
04F9978	LOB-5.1001%BP	0.100	1.98	1.45	1.45

(9521) (de02789)

CARBON COMPOSITION RESISTORS

RC SERIES CARBON COMPOSITION RESISTORS

Hot-molded, fixed composition resistors for general-purpose use in electronic equipment. Feature high level of uniformity for reducing hot spots, noise, and for predictable performance. Also feature freedom from catastrophic failure when used according to published ratings and recommendations. Tightly compressed resistance material has large cross-section for low current density and high overload capacity. **¼W types sold in packs of 200. ½W and 1W types sold in packs of 100.**

Type	Power	Tol.	Length (mm)	Diameter (mm)	Lead Length (mm)	Lead Dia. (mm)	Max. Working Voltage	Max. Overload Voltage
RC-¼	0.25W	5%	6.3 ±0.7	2.4 ±0.1	30 ±3.0	0.6 ±0.02	250V	400V
RC-½	0.50W	5%	9.5 ±0.8	3.6 ±0.2	25 ±1.0	0.7 ±0.02	350V	700V
RC-1	1.0W	10%	14.3 ±0.7	5.7 ±0.3	30 ±3.0	0.92 ±0.02	500V	1000V

	¼ Watt				½ Watt				1.0 Watt			
Ohms	Stock No.	Type	1-4	5-9	Stock No.	Type	1-4	5-9	Stock No.	Type	1-4	5-9
2.2	10N326	RC1/4G2R2JT	81.72	70.33	10N501	RC1/2G2R2JT	46.53	40.32	92N3517	RC100G2R2KB	144.85	132.43
2.4	10N327	RC1/4G2R4JT	81.72	70.33	10N502	RC1/2G2R4JT	46.53	40.32	...	...	...	...
2.7	10N328	RC1/4G2R7JT	81.72	70.33	10N503	RC1/2G2R7JT	46.53	40.32	92N3518	RC100G2R7KB	144.85	132.43
3.0	10N329	RC1/4G3R0JT	81.72	70.33	10N504	RC1/2G3R0JT	46.53	40.32	...	...	...	...
3.3	10N330	RC1/4G3R3JT	81.72	70.33	10N505	RC1/2G3R3JT	46.53	40.32	92N3519	RC100G3R3KB	144.85	132.43
3.6	92N3735	RC1/4G3R6JT	81.72	70.33	10N506	RC1/2G3R6JT	46.53	40.32	...	...	...	...
3.9	10N331	RC1/4G3R9JT	81.72	70.33	10N507	RC1/2G3R9JT	46.53	40.32	92N3520	RC100G3R9KB	144.85	132.43
4.3	92N3736	RC1/4G4R3JT	81.72	70.33	10N508	RC1/2G4R3JT	46.53	40.32	...	...	...	...
4.7	10N332	RC1/4G4R7JT	81.72	70.33	10N509	RC1/2G4R7JT	46.53	40.32	92N3521	RC100G4R7KB	144.85	132.43
5.1	10N333	RC1/4G5R1JT	81.72	70.33	10N510	RC1/2G5R1JT	46.53	40.32	...	...	...	...
5.6	10N334	RC1/4G5R6JT	81.72	70.33	10N511	RC1/2G5R6JT	46.53	40.32	92N3522	RC100G5R6KB	144.85	132.43
6.2	10N335	RC1/4G6R2JT	81.72	70.33	10N512	RC1/2G6R2JT	46.53	40.32	...	...	...	...
6.8	10N336	RC1/4G6R8JT	81.72	70.33	10N513	RC1/2G6R8JT	46.53	40.32	92N3523	RC100G6R8KB	144.85	132.43
7.5	10N337	RC1/4G7R5JT	81.72	70.33	10N514	RC1/2G7R5JT	46.53	40.32	...	...	...	...
8.2	10N338	RC1/4G8R2JT	81.72	70.33	10N515	RC1/2G8R2JT	46.53	40.32	92N3524	RC100G8R2KB	144.85	132.43
9.1	10N339	RC1/4G9R1JT	81.72	70.33	10N516	RC1/2G9R1JT	46.53	40.32	...	...	...	...
10	10N340	RC1/4G100JT	81.72	70.33	10N517	RC1/2G100JT	46.53	40.32	92N3525	RC100G100KB	144.85	132.43
11	10N341	RC1/4G110JT	81.72	70.33	10N518	RC1/2G110JT	46.53	40.32	...	...	...	...
12	10N342	RC1/4G120JT	81.72	70.33	10N519	RC1/2G120JT	46.53	40.32	92N3526	RC100G120KB	144.85	132.43
13	10N343	RC1/4G130JT	81.72	70.33	10N520	RC1/2G130JT	46.53	40.32	...	...	...	...
15	10N344	RC1/4G150JT	81.72	70.33	10N521	RC1/2G150JT	46.53	40.32	92N3527	RC100G150KB	144.85	132.43
16	10N345	RC1/4G160JT	81.72	70.33	10N522	RC1/2G160JT	46.53	40.32	...	...	...	...
18	10N346	RC1/4G180JT	81.72	70.33	10N523	RC1/2G180JT	46.53	40.32	92N3528	RC100G180KB	144.85	132.43
20	10N347	RC1/4G200JT	81.72	70.33	10N524	RC1/2G200JT	46.53	40.32	...	...	...	...
22	10N348	RC1/4G220JT	81.72	70.33	92N3738	RC1/2G220JT	46.53	40.32	92N3529	RC100G220KB	144.85	132.43
24	10N349	RC1/4G240JT	81.72	70.33	10N525	RC1/2G240JT	46.53	40.32	...	...	...	...
27	10N350	RC1/4G270JT	81.72	70.33	10N526	RC1/2G270JT	46.53	40.32	92N3530	RC100G270KB	144.85	132.43
30	10N351	RC1/4G300JT	81.72	70.33	92N3739	RC1/2G300JT	46.53	40.32	...	...	...	...
33	10N352	RC1/4G330JT	81.72	70.33	10N527	RC1/2G330JT	46.53	40.32	92N3531	RC100G330KB	144.85	132.43
36	10N353	RC1/4G360JT	81.72	70.33	10N528	RC1/2G360JT	46.53	40.32	...	...	...	...
39	10N354	RC1/4G390JT	81.72	70.33	10N529	RC1/2G390JT	46.53	40.32	92N3532	RC100G390KB	144.85	132.43
43	10N355	RC1/4G430JT	81.72	70.33	10N530	RC1/2G430JT	46.53	40.32	...	...	...	...
47	10N356	RC1/4G470JT	81.72	70.33	10N531	RC1/2G470JT	46.53	40.32	92N3533	RC100G470KB	144.85	132.43
51	10N357	RC1/4G510JT	81.72	70.33	10N532	RC1/2G510JT	46.53	40.32	...	...	...	...
56	10N358	RC1/4G560JT	81.72	70.33	10N533	RC1/2G560JT	46.53	40.32	92N3534	RC100G560KB	144.85	132.43
62	10N359	RC1/4G620JT	81.72	70.33	10N534	RC1/2G620JT	46.53	40.32	...	...	...	...
68	10N360	RC1/4G680JT	81.72	70.33	10N535	RC1/2G680JT	46.53	40.32	92N3535	RC100G680KB	144.85	132.43
75	10N361	RC 1/4G 750JT	81.72	70.33	10N536	RC1/2G750JT	46.53	40.32	...	...	...	...
82	10N362	RC1/4G820JT	81.72	70.33	10N537	RC1/2G820JT	46.53	40.32	92N3536	RC100G820KB	144.85	132.43
91	10N363	RC1/4G910JT	81.72	70.33	10N538	RC1/2G910JT	46.53	40.32	...	...	...	...
100	10N364	RC1/4G101JT	81.72	70.33	10N539	RC1/2G101JT	46.53	40.32	92N3537	RC100G101KB	144.85	132.43
110	10N365	RC1/4G111JT	81.72	70.33	10N540	RC1/2G111JT	46.53	40.32	...	...	...	...
120	10N366	RC1/4G121JT	81.72	70.33	10N541	RC1/2G121JT	46.53	40.32	92N3538	RC100G121KB	144.85	132.43
130	10N367	RC1/4G131JT	81.72	70.33	10N542	RC1/2G131JT	46.53	40.32	...	...	...	...
150	10N368	RC1/4G151JT	81.72	70.33	10N543	RC1/2G151JT	46.53	40.32	92N3539	RC100G151KB	144.85	132.43
160	10N369	RC1/4G161JT	81.72	70.33	10N544	RC1/2G161JT	46.53	40.32	...	...	...	...
180	10N370	RC1/4G181JT	81.72	70.33	10N545	RC1/2G181JT	46.53	40.32	92N3540	RC100G181KB	144.85	132.43
200	10N371	RC1/4G201JT	81.72	70.33	10N546	RC1/2G201JT	46.53	40.32	...	...	...	...
220	10N372	RC1/4G221JT	81.72	70.33	10N547	RC1/2G221JT	46.53	40.32	92N3541	RC100G221KB	144.85	132.43
240	10N373	RC1/4G241JT	81.72	70.33	10N548	RC1/2G241JT	46.53	40.32	...	...	...	...
270	10N374	RC1/4G271JT	81.72	70.33	10N549	RC1/2G271JT	46.53	40.32	92N3542	RC100G271KB	144.85	132.43
300	10N375	RC1/4G301JT	81.72	70.33	10N550	RC1/2G301JT	46.53	40.32	...	...	...	...
330	10N376	RC1/4G331JT	81.72	70.33	10N551	RC1/2G331JT	46.53	40.32	92N3543	RC100G331KB	144.85	132.43
360	10N377	RC1/4G361JT	81.72	70.33	10N552	RC1/2G361JT	46.53	40.32	...	...	...	...
390	10N378	RC1/4G391JT	81.72	70.33	10N553	RC1/2G391JT	46.53	40.32	92N3544	RC100G391KB	144.85	132.43
430	10N379	RC1/4G431JT	81.72	70.33	10N554	RC1/2G431JT	46.53	40.32	...	...	...	...
470	10N380	RC1/4G471JT	81.72	70.33	10N555	RC1/2G471JT	46.53	40.32	92N3545	RC100G471KB	144.85	132.43
510	10N381	RC1/4G511JT	81.72	70.33	10N556	RC1/2G511JT	46.53	40.32	...	...	...	...
560	10N382	RC1/4G561JT	81.72	70.33	10N557	RC1/2G561JT	46.53	40.32	92N3546	RC100G561KB	144.85	132.43
620	10N383	RC1/4G621JT	81.72	70.33	10N558	RC1/2G621JT	46.53	40.32	...	...	...	...
680	10N384	RC1/4G681JT	81.72	70.33	10N559	RC1/2G681JT	46.53	40.32	92N3547	RC100G681KB	144.85	132.43
750	10N385	RC1/4G751JT	81.72	70.33	10N560	RC1/2G751JT	46.53	40.32	...	...	...	...
820	10N386	RC1/4G821JT	81.72	70.33	10N561	RC1/2G821JT	46.53	40.32	92N3548	RC100G821KB	144.85	132.43
910	10N387	RC1/4G911JT	81.72	70.33	10N562	RC1/2G911JT	46.53	40.32	...	...	...	...
1.0k	10N388	RC1/4G102JT	81.72	70.33	10N563	RC1/2G102JT	46.53	40.32	92N3549	RC100G102KB	144.85	132.43
1.1k	10N389	RC1/4G112JT	81.72	70.33	10N564	RC1/2G112JT	46.53	40.32	...	...	...	...
1.2k	10N390	RC1/4G122JT	81.72	70.33	10N565	RC1/2G122JT	46.53	40.32	92N3550	RC100G122KB	144.85	132.43
1.3k	10N391	RC1/4G132JT	81.72	70.33	10N566	RC1/2G132JT	46.53	40.32	...	...	...	...
1.5k	10N392	RC1/4G152JT	81.72	70.33	10N567	RC1/2G152JT	46.53	40.32	92N3551	RC100G152KB	144.85	132.43
1.6k	10N393	RC1/4G162JT	81.72	70.33	10N568	RC1/2G162JT	46.53	40.32	...	...	...	...
1.8k	10N394	RC1/4G182JT	81.72	70.33	10N569	RC1/2G182JT	46.53	40.32	92N3552	RC100G182KB	144.85	132.43
2.0k	10N395	RC1/4G202JT	81.72	70.33	10N570	RC1/2G202JT	46.53	40.32	...	...	...	...
2.2k	10N396	RC1/4G222JT	81.72	70.33	10N571	RC1/2G222JT	46.53	40.32	92N3553	RC100G222KB	144.85	132.43
2.4k	10N397	RC1/4G242JT	81.72	70.33	10N572	RC1/2G242JT	46.53	40.32	...	...	...	...
2.7k	10N398	RC1/4G272JT	81.72	70.33	10N573	RC1/2G272JT	46.53	40.32	92N3554	RC100G272KB	144.85	132.43
3.0k	10N399	RC1/4G302JT	81.72	70.33	10N574	RC1/2G302JT	46.53	40.32	...	...	...	...

CONTINUED

CARBON COMPOSITION RESISTORS

RC SERIES CARBON COMPOSITION RESISTORS (CONT.)

	¼ Watt				½ Watt				1.0 Watt			
Ohms	Stock No.	Type	1-4	5-9	Stock No.	Type	1-4	5-9	Stock No.	Type	1-4	5-9
3.3k	10N400	RC1/4G332JT	81.72	70.33	10N575	RC1/2G332JT	46.53	40.32	92N3555	RC100G332KB	144.85	132.43
3.6k	10N401	RC1/4G362JT	81.72	70.33	10N576	RC1/2G362JT	46.53	40.32	...	...	...	...
3.9k	10N402	RC1/4G392JT	81.72	70.33	10N577	RC1/2G392JT	46.53	40.32	92N3556	RC100G392KB	144.85	132.43
4.3k	10N403	RC1/4G432JT	81.72	70.33	10N578	RC1/2G432JT	46.53	40.32	...	...	...	...
4.7k	10N404	RC1/4G472JT	81.72	70.33	10N579	RC1/2G472JT	46.53	40.32	92N3557	RC100G472KB	144.85	132.43
5.1k	10N405	RC1/4G512JT	81.72	70.33	10N580	RC1/2G512JT	46.53	40.32	...	...	...	...
5.6k	10N406	RC1/4G562JT	81.72	70.33	10N581	RC1/2G562JT	46.53	40.32	92N3558	RC100G562KB	144.85	132.43
6.2k	10N407	RC1/4G622JT	81.72	70.33	10N582	RC1/2G622JT	46.53	40.32	...	...	...	...
6.8k	10N408	RC1/4G682JT	81.72	70.33	10N583	RC1/2G682JT	46.53	40.32	92N3559	RC100G682KB	144.85	132.43
7.5k	10N409	RC1/4G752JT	81.72	70.33	10N584	RC1/2G752JT	46.53	40.32	...	...	...	...
8.2k	10N410	RC1/4G822JT	81.72	70.33	10N585	RC1/2G822JT	46.53	40.32	92N3560	RC100G822KB	144.85	132.43
9.1k	10N411	RC1/4G912JT	81.72	70.33	10N586	RC1/2G912JT	46.53	40.32	...	...	...	...
10k	10N412	RC1/4G103JT	81.72	70.33	10N587	RC1/2G103JT	46.53	40.32	92N3561	RC100G103KB	144.85	132.43
11k	10N413	RC1/4G113JT	81.72	70.33	10N588	RC1/2G113JT	46.53	40.32	...	...	...	...
12k	10N414	RC1/4G123JT	81.72	70.33	10N589	RC1/2G123JT	46.53	40.32	92N3562	RC100G123KB	144.85	132.43
13k	10N415	RC1/4G133JT	81.72	70.33	10N590	RC1/2G133JT	46.53	40.32	...	...	...	...
15k	10N416	RC1/4G153JT	81.72	70.33	10N591	RC1/2G153JT	46.53	40.32	92N3563	RC100G153KB	144.85	132.43
16k	10N417	RC1/4G163JT	81.72	70.33	10N592	RC1/2G163JT	46.53	40.32	...	...	...	...
18k	10N418	RC1/4G183JT	81.72	70.33	10N593	RC1/2G183JT	46.53	40.32	92N3564	RC100G183KB	144.85	132.43
20k	10N419	RC1/4G203JT	81.72	70.33	10N594	RC1/2G203JT	46.53	40.32	...	...	...	...
22k	10N420	RC1/4G223JT	81.72	70.33	10N595	RC1/2G223JT	46.53	40.32	92N3565	RC100G223KB	144.85	132.43
24k	10N421	RC1/4G243JT	81.72	70.33	10N596	RC1/2G243JT	46.53	40.32	...	...	...	...
27k	10N422	RC1/4G273JT	81.72	70.33	10N597	RC1/2G273JT	46.53	40.32	92N3566	RC100G273KB	144.85	132.43
30k	10N423	RC1/4G303JT	81.72	70.33	10N598	RC1/2G303JT	46.53	40.32	...	...	...	...
33k	10N424	RC1/4G333JT	81.72	70.33	10N599	RC1/2G333JT	46.53	40.32	92N3567	RC100G333KB	144.85	132.43
36k	10N425	RC1/4G363JT	81.72	70.33	10N600	RC1/2G363JT	46.53	40.32	...	...	...	...
39k	10N426	RC1/4G393JT	81.72	70.33	10N601	RC1/2G393JT	46.53	40.32	92N3568	RC100G393KB	144.85	132.43
43k	10N427	RC1/4G433JT	81.72	70.33	10N602	RC1/2G433JT	46.53	40.32	...	...	...	...
47k	10N428	RC1/4G473JT	81.72	70.33	10N603	RC1/2G473JT	46.53	40.32	92N3569	RC100G473KB	144.85	132.43
51k	10N429	RC1/4G513JT	81.72	70.33	10N604	RC1/2G513JT	46.53	40.32	...	...	...	...
56k	10N430	RC1/4G563JT	81.72	70.33	10N605	RC1/2G563JT	46.53	40.32	92N3570	RC100G563KB	144.85	132.43
62k	10N431	RC1/4G623JT	81.72	70.33	10N606	RC1/2G623JT	46.53	40.32	...	...	...	...
68k	10N432	RC1/4G683JT	81.72	70.33	10N607	RC1/2G683JT	46.53	40.32	92N3571	RC100G683KB	144.85	132.43
75k	92N3737	RC1/4G753JT	81.72	70.33	10N608	RC1/2G753JT	46.53	40.32	...	...	...	...
82k	10N433	RC1/4G823JT	81.72	70.33	10N609	RC1/2G823JT	46.53	40.32	92N3572	RC100G823KB	144.85	132.43
91k	10N434	RC1/4G913JT	81.72	70.33	10N610	RC1/2G913JT	46.53	40.32	...	...	...	...
100k	10N435	RC1/4G104JT	81.72	70.33	10N611	RC1/2G104JT	46.53	40.32	92N3573	RC100G104KB	144.85	132.43
110k	10N436	RC1/4G114JT	81.72	70.33	10N612	RC1/2G114JT	46.53	40.32	...	...	...	...
120k	10N437	RC1/4G124JT	81.72	70.33	10N613	RC1/2G124JT	46.53	40.32	92N3574	RC100G124KB	144.85	132.43
130k	10N438	RC1/4G134JT	81.72	70.33	10N614	RC1/2G134JT	46.53	40.32	...	...	...	...
150k	10N439	RC1/4G154JT	81.72	70.33	10N615	RC1/2G154JT	46.53	40.32	92N3575	RC100G154KB	144.85	132.43
160k	10N440	RC1/4G164JT	81.72	70.33	10N616	RC1/2G164JT	46.53	40.32	...	...	...	...
180k	10N441	RC1/4G184JT	81.72	70.33	10N617	RC1/2G184JT	46.53	40.32	92N3576	RC100G184KB	144.85	132.43
200k	10N442	RC1/4G204JT	81.72	70.33	10N618	RC1/2G204JT	46.53	40.32	...	...	...	...
220k	10N443	RC1/4G224JT	81.72	70.33	10N619	RC1/2G224JT	46.53	40.32	92N3577	RC100G224KB	144.85	132.43
240k	10N444	RC1/4G244JT	81.72	70.33	10N620	RC1/2G244JT	46.53	40.32	...	...	...	...
270k	10N445	RC1/4G274JT	81.72	70.33	10N621	RC1/2G274JT	46.53	40.32	92N3578	RC100G274KB	144.85	132.43
300k	10N446	RC1/4G304JT	81.72	70.33	10N622	RC1/2G304JT	46.53	40.32	...	...	...	...
330k	10N447	RC1/4G334JT	81.72	70.33	10N623	RC1/2G334JT	46.53	40.32	92N3579	RC100G334KB	144.85	132.43
360k	10N448	RC1/4G364JT	81.72	70.33	10N624	RC1/2G364JT	46.53	40.32	...	...	...	...
380k	...	...	...	...	10N624	RC1/2G364JT	46.53	40.32	...	...	...	...
390k	10N449	RC1/4G394JT	81.72	70.33	10N626	RC1/2G394JT	46.53	40.32	...	...	...	...
430k	10N450	RC1/4G434JT	81.72	70.33	10N627	RC1/2G434JT	46.53	40.32	...	...	...	...
470k	10N451	RC1/4G474JT	81.72	70.33	10N628	RC1/2G474JT	46.53	40.32	92N3581	RC100G474KB	144.85	132.43
510k	10N452	RC1/4G514JT	81.72	70.33	10N629	RC1/2G514JT	46.53	40.32	...	...	...	...
560k	10N453	RC1/4G564JT	81.72	70.33	10N630	RC1/2G564JT	46.53	40.32	92N3582	RC100G564KB	144.85	132.43
620k	10N454	RC1/4G624JT	81.72	70.33	10N631	RC1/2G624JT	46.53	40.32	...	...	...	...
680k	10N455	RC1/4G684JT	81.72	70.33	10N632	RC1/2G684JT	46.53	40.32	92N3583	RC100G684KB	144.85	132.43
750k	10N456	RC1/4G754JT	81.72	70.33	10N633	RC1/2G754JT	46.53	40.32	...	...	...	...
820k	10N457	RC1/4G824JT	81.72	70.33	10N634	RC1/2G824JT	46.53	40.32	92N3584	RC100G824KB	144.85	132.43
910k	10N458	RC1/4G914JT	81.72	70.33	10N635	RC1/2G914JT	46.53	40.32	...	...	...	...
1.0M	10N459	RC1/4G105JT	81.72	70.33	10N636	RC1/2G105JT	46.53	40.32	92N3585	RC100G105KB	144.85	132.43
1.1M	10N460	RC1/4G115JT	81.72	70.33	10N637	RC1/2G115JT	46.53	40.32	...	...	...	...
1.2M	10N461	RC1/4G125JT	81.72	70.33	10N638	RC1/2G125JT	46.53	40.32	...	...	...	...
1.3M	10N462	RC1/4G135JT	81.72	70.33	10N639	RC1/2G135JT	46.53	40.32	...	...	...	...
1.5M	10N463	RC1/4G155JT	81.72	70.33	10N640	RC1/2G155JT	46.53	40.32	...	...	...	...
1.6M	10N464	RC1/4G165JT	81.72	70.33	10N641	RC1/2G165JT	46.53	40.32	...	...	...	...
1.8M	10N465	RC1/4G185JT	81.72	70.33	10N642	RC1/2G185JT	46.53	40.32	...	...	...	...
2.0M	10N466	RC1/4G205JT	81.72	70.33	10N643	RC1/2G205JT	46.53	40.32	...	...	...	...
2.2M	10N467	RC1/4G225JT	81.72	70.33	10N644	RC1/2G225JT	46.53	40.32	...	...	...	...
2.4M	10N468	RC1/4G245JT	81.72	70.33	10N645	RC1/2G245JT	46.53	40.32	...	...	...	...
2.7M	10N469	RC1/4G275JT	81.72	70.33	10N646	RC1/2G275JT	46.53	40.32	...	...	...	...
3.0M	10N470	RC1/4G305JT	81.72	70.33	10N647	RC1/2G305JT	46.53	40.32	...	...	...	...
3.3M	10N471	RC1/4G335JT	81.72	70.33	10N648	RC1/2G335JT	46.53	40.32	...	...	...	...
3.6M	10N472	RC1/4G365JT	81.72	70.33	10N649	RC1/2G365JT	46.53	40.32	...	...	...	...
3.9M	10N473	RC1/4G395JT	81.72	70.33	10N650	RC1/2G395JT	46.53	40.32	...	...	...	...
4.3M	10N474	RC1/4G435JT	81.72	70.33	10N651	RC1/2G435JT	46.53	40.32	...	...	...	...
4.7M	10N475	RC1/4G475JT	81.72	70.33	10N652	RC1/2G475JT	46.53	40.32	...	...	...	...
5.1M	10N476	RC1/4G515JT	81.72	70.33	10N653	RC1/2G515JT	46.53	40.32	...	...	...	...
5.6M	10N477	RC1/4G565JT	81.72	70.33	10N654	RC1/2G565JT	46.53	40.32	...	...	...	...
6.2M	10N478	RC1/4G625JT	81.72	70.33	10N655	RC1/2G625JT	46.53	40.32	...	...	...	...
6.8M	10N479	RC1/4G685JT	81.72	70.33	10N656	RC1/2G685JT	46.53	40.32	...	...	...	...
7.5M	10N480	RC1/4G755JT	81.72	70.33	10N657	RC1/2G755JT	46.53	40.32	...	...	...	...
8.2M	10N481	RC1/4G825JT	81.72	70.33	10N658	RC1/2G825JT	46.53	40.32	...	...	...	...
9.1M	10N482	RC1/4G915JT	81.72	70.33	10N659	RC1/2G915JT	46.53	40.32	...	...	...	...
10.0M	10N483	RC1/4G106JT	81.72	70.33	10N660	RC1/2G106JT	46.53	40.32	...	...	...	...
11.0M	10N484	RC1/4G116JT	81.72	70.33	10N662	RC1/2G116JT	46.53	40.32	...	...	...	...
12.0M	10N485	RC1/4G126JT	81.72	70.33	10N663	RC1/2G126JT	46.53	40.32	...	...	...	...
13.0M	10N486	RC1/4G136JT	81.72	70.33	10N664	RC1/2G136JT	46.53	40.32	...	...	...	...
15.0M	10N487	RC1/4G156JT	81.72	70.33	10N665	RC1/2G156JT	46.53	40.32	...	...	...	...

CARBON FILM RESISTORS

CARBON FILM RESISTORS

Resistors feature epoxy coating for moisture protection. Tolerance: ±5%. Operating temperature: –55°C to +155°C. Available in standard ohmic values from 1Ω to 10MΩ. **Sold in multiples of 50**. *Additional values available, contact your local Newark sales office.*

Type	Power Rating	Body Length	Max. Dia.	Lead Length	Lead Dia.	Type	Power Rating	Body Length	Max. Dia.	Lead Length	Lead Dia.	Type	Power Rating	Body Length	Max. Dia.	Lead Length	Lead Dia.
CR-⅛	⅛-Watt	3.5mm	1.85mm	28±3mm	0.5mm	CR-¼	¼-Watt	6.8mm	2.50mm	28±3mm	0.6mm	CR-½	½-Watt	10.0mm	3.50mm	28±3mm	0.6mm

	⅛-Watt					¼-Watt					½-Watt				
Ohms	Stock No.	Type	50-100	150-500	550+	Stock No.	Type	50-100	150-500	550+	Stock No.	Type	50-100	150-500	500+
1	84N2498	CR1/8W-5%-1R	0.03	0.02	0.01	84N2361	CR1/4W-5%-1R	0.03	0.02	0.01	...	...	...	...	...
1.2	84N2499	CR1/8W-5%-1R2	0.03	0.02	0.01	84N2363	CR1/4W-5%-1R2	0.03	0.02	0.01	...	...	...	...	...
1.5	84N2500	CR1/8W-5%-1R5	0.03	0.02	0.01	84N2365	CR1/4W-5%-1R5	0.03	0.02	0.01	...	...	...	...	...
1.8	84N2501	CR1/8W-5%-1R8	0.03	0.02	0.01	84N2367	CR1/4W-5%-1R8	0.03	0.02	0.01	...	...	...	...	...
2.2	84N2512	CR1/8W-5%-2R2	0.03	0.02	0.01	84N2391	CR1/4W-5%-2R2	0.03	0.02	0.01	...	...	...	...	...
2.7	84N2513	CR1/8W-5%-2R7	0.03	0.02	0.01	84N2393	CR1/4W-5%-2R7	0.03	0.02	0.01	...	...	...	...	...
3.3	84N2524	CR1/8W-5%-3R3	0.03	0.02	0.01	84N2418	CR1/4W-5%-3R3	0.03	0.02	0.01	...	...	...	...	...
3.9	84N2525	CR1/8W-5%-3R9	0.03	0.02	0.01	84N2419	CR1/4W-5%-3R9	0.03	0.02	0.01	...	...	...	...	...
4.3	...	...	...	...	...	84N2431	CR1/4W-5%-4R3	0.03	0.02	0.01	...	...	...	...	...
4.7	84N2531	CR1/8W-5%-4R7	0.03	0.02	0.01	84N2432	CR1/8W-5%-560K	0.03	0.02	0.01	...	...	...	...	...
5.1	...	...	...	...	...	84N2443	CR1/4W-5%-5R1	0.03	0.02	0.01	...	...	...	...	...
5.6	84N2537	CR1/8W-5%-5R6	0.03	0.02	0.01	84N2444	CR1/4W-5%-5R6	0.03	0.02	0.01	...	...	...	...	...
6.2	...	...	...	...	...	84N2456	CR1/4W-5%-6R8	0.03	0.02	0.01	...	...	...	...	...
6.8	84N2543	CR1/8W-5%-6R8	0.03	0.02	0.01	84N2457	CR1/8W-5%-6R8	0.03	0.02	0.01	...	...	...	...	...
7.5	...	...	...	...	...	84N2464	CR1/4W-5%-7R5	0.03	0.02	0.01	...	...	...	...	...
8.2	84N2549	CR1/8W-5%-8R2	0.03	0.02	0.01	84N2471	CR1/4W-5%-8R2	0.03	0.02	0.01	...	...	...	...	...
10	84N2480	CR1/8W-5%-10R	0.03	0.02	0.01	84N2324	CR1/4W-5%-10R	0.03	0.02	0.01	84N2166	CR1/2W-5%-10R	0.03	0.02	0.01
12	84N2484	CR1/8W-5%-12R	0.03	0.02	0.01	84N2332	CR1/4W-5%-12R	0.03	0.02	0.01	84N2174	CR1/2W-5%-12R	0.03	0.02	0.01
15	84N2488	CR1/8W-5%-15R	0.03	0.02	0.01	84N2340	CR1/4W-5%-15R	0.03	0.02	0.01	84N2182	CR1/2W-5%-15R	0.03	0.02	0.01
18	84N2492	CR1/8W-5%-18R	0.03	0.02	0.01	84N2347	CR1/4W-5%-18R	0.03	0.02	0.01	84N2190	CR1/2W-5%-18R	0.03	0.02	0.01
22	84N2505	CR1/8W-5%-22R	0.03	0.02	0.01	84N2375	CR1/4W-5%-22R	0.03	0.02	0.01	84N2212	CR1/2W-5%-22R	0.03	0.02	0.01
27	84N2509	CR1/8W-5%-27R	0.03	0.02	0.01	84N2383	CR1/4W-5%-27R	0.03	0.02	0.01	84N2220	CR1/2W-5%-27R	0.03	0.02	0.01
33	84N2517	CR1/8W-5%-33R	0.03	0.02	0.01	84N2400	CR1/4W-5%-33R	0.03	0.02	0.01	84N2236	CR1/2W-5%-33R	0.03	0.02	0.01
39	84N2521	CR1/8W-5%-39R	0.03	0.02	0.01	84N2407	CR1/4W-5%-39R	0.03	0.02	0.01	84N2244	CR1/2W-5%-39R	0.03	0.02	0.01
47	84N2529	CR1/8W-5%-47R	0.03	0.02	0.01	84N2426	CR1/4W-5%-4M3	0.03	0.02	0.01	84N2260	CR1/2W-5%-47R	0.03	0.02	0.01
56	84N2535	CR1/8W-5%-56R	0.03	0.02	0.01	84N2438	CR1/4W-5%-56R	0.03	0.02	0.01	84N2272	CR1/2W-5%-56R	0.03	0.02	0.01
68	84N2541	CR1/8W-5%-68R	0.03	0.02	0.01	84N2451	CR1/4W-5%-68R	0.03	0.02	0.01	84N2284	CR1/2W-5%-68R	0.03	0.02	0.01
82	84N2547	CR1/8W-5%-82R	0.03	0.02	0.01	84N2468	CR1/4W-5%-82R	0.03	0.02	0.01	84N2298	CR1/2W-5%-82R	0.03	0.02	0.01
100	84N2478	CR1/8W-5%-100R	0.03	0.02	0.01	84N2321	CR1/4W-5%-100R	0.03	0.02	0.01	84N2163	CR1/2W-5%-100R	0.03	0.02	0.01
120	84N2482	CR1/8W-5%-120R	0.03	0.02	0.01	84N2330	CR1/4W-5%-120R	0.03	0.02	0.01	84N2172	CR1/2W-5%-120R	0.03	0.02	0.01
150	84N2486	CR1/8W-5%-150R	0.03	0.02	0.01	84N2338	CR1/4W-5%-150R	0.03	0.02	0.01	84N2180	CR1/2W-5%-150R	0.03	0.02	0.01
180	84N2490	CR1/8W-5%-180R	0.03	0.02	0.01	84N2345	CR1/4W-5%-180R	0.03	0.02	0.01	84N2188	CR1/2W-5%-180R	0.03	0.02	0.01
220	84N2503	CR1/8W-5%-220R	0.03	0.02	0.01	84N2373	CR1/4W-5%-220R	0.03	0.02	0.01	84N2210	CR1/2W-5%-220R	0.03	0.02	0.01
270	84N2507	CR1/8W-5%-270R	0.03	0.02	0.01	84N2381	CR1/4W-5%-270R	0.03	0.02	0.01	84N2218	CR1/2W-5%-270R	0.03	0.02	0.01
330	84N2515	CR1/8W-5%-330R	0.03	0.02	0.01	84N2398	CR1/4W-5%-330R	0.03	0.02	0.01	84N2234	CR1/2W-5%-330R	0.03	0.02	0.01
390	84N2519	CR1/8W-5%-390R	0.03	0.02	0.01	84N2405	CR1/4W-5%-390R	0.03	0.02	0.01	84N2242	CR1/2W-5%-390R	0.03	0.02	0.01
470	84N2527	CR1/8W-5%-470R	0.03	0.02	0.01	84N2424	CR1/4W-5%-470R	0.03	0.02	0.01	84N2258	CR1/2W-5%-470R	0.03	0.02	0.01
560	84N2533	CR1/8W-5%-560R	0.03	0.02	0.01	84N2436	CR1/4W-5%-560R	0.03	0.02	0.01	84N2270	CR1/2W-5%-560R	0.03	0.02	0.01
680	84N2539	CR1/8W-5%-680R	0.03	0.02	0.01	84N2449	CR1/4W-5%-680R	0.03	0.02	0.01	84N2282	CR1/2W-5%-680R	0.03	0.02	0.01
820	84N2545	CR1/8W-5%-820R	0.03	0.02	0.01	84N2466	CR1/4W-5%-820R	0.03	0.02	0.01	84N2296	CR1/2W-5%-820R	0.03	0.02	0.01
10k	84N2479	CR1/8W-5%-10K	0.03	0.02	0.01	84N2322	CR1/4W-5%-10K	0.03	0.02	0.01	84N2164	CR1/2W-5%-10K	0.03	0.02	0.01
12k	84N2483	CR1/8W-5%-12K	0.03	0.02	0.01	84N2331	CR1/4W-5%-12K	0.03	0.02	0.01	84N2173	CR1/2W-5%-12K	0.03	0.02	0.01
15k	84N2487	CR1/8W-5%-15K	0.03	0.02	0.01	84N2339	CR1/4W-5%-15K	0.03	0.02	0.01	84N2181	CR1/2W-5%-15K	0.03	0.02	0.01
18k	84N2491	CR1/8W-5%-18K	0.03	0.02	0.01	84N2346	CR1/4W-5%-18K	0.03	0.02	0.01	84N2189	CR1/2W-5%-18K	0.03	0.02	0.01
20k	...	...	...	...	...	84N2370	CR1/4W-5%-20K	0.03	0.02	0.01	84N2207	CR1/2W-5%-20K	0.03	0.02	0.01
22k	84N2504	CR1/8W-5%-22K	0.03	0.02	0.01	84N2374	CR1/4W-5%-22K	0.03	0.02	0.01	84N2211	CR1/2W-5%-22K	0.03	0.02	0.01
27k	84N2508	CR1/8W-5%-27K	0.03	0.02	0.01	84N2382	CR1/4W-5%-27K	0.03	0.02	0.01	84N2219	CR1/2W-5%-27K	0.03	0.02	0.01
33k	84N2516	CR1/8W-5%-33K	0.03	0.02	0.01	84N2399	CR1/4W-5%-33K	0.03	0.02	0.01	84N2235	CR1/2W-5%-33K	0.03	0.02	0.01
39k	84N2520	CR1/8W-5%-39K	0.03	0.02	0.01	84N2406	CR1/4W-5%-39K	0.03	0.02	0.01	84N2243	CR1/2W-5%-39K	0.03	0.02	0.01
47k	84N2528	CR1/8W-5%-47K	0.03	0.02	0.01	84N2425	CR1/4W-5%-47K	0.03	0.02	0.01	84N2259	CR1/2W-5%-47K	0.03	0.02	0.01
56k	84N2534	CR1/8W-5%-56K	0.03	0.02	0.01	84N2437	CR1/4W-5%-56K	0.03	0.02	0.01	84N2271	CR1/2W-5%-56K	0.03	0.02	0.01
68k	84N2540	CR1/8W-5%-68K	0.03	0.02	0.01	84N2450	CR1/4W-5%-68K	0.03	0.02	0.01	84N2283	CR1/2W-5%-68K	0.03	0.02	0.01
82k	84N2546	CR1/8W-5%-82K	0.03	0.02	0.01	84N2467	CR1/4W-5%-82K	0.03	0.02	0.01	84N2297	CR1/2W-5%-82K	0.03	0.02	0.01
100k	84N2477	CR1/8W-5%-100K	0.03	0.02	0.01	84N2320	CR1/4W-5%-100K	0.03	0.02	0.01	84N2162	CR1/2W-5%-100K	0.03	0.02	0.01
120k	84N2481	CR1/8W-5%-120K	0.03	0.02	0.01	84N2329	CR1/4W-5%-120K	0.03	0.02	0.01	84N2171	CR1/2W-5%-120K	0.03	0.02	0.01
150k	84N2485	CR1/8W-5%-150K	0.03	0.02	0.01	84N2337	CR1/4W-5%-150K	0.03	0.02	0.01	84N2179	CR1/2W-5%-150K	0.03	0.02	0.01
180k	84N2489	CR1/8W-5%-180K	0.03	0.02	0.01	84N2344	CR1/4W-5%-180K	0.03	0.02	0.01	84N2187	CR1/2W-5%-180K	0.03	0.02	0.01
220k	84N2502	CR1/8W-5%-220K	0.03	0.02	0.01	84N2372	CR1/4W-5%-220K	0.03	0.02	0.01	84N2209	CR1/2W-5%-220K	0.03	0.02	0.01
270k	84N2506	CR1/8W-5%-270K	0.03	0.02	0.01	84N2380	CR1/4W-5%-270K	0.03	0.02	0.01	84N2217	CR1/2W-5%-270K	0.03	0.02	0.01
330k	84N2514	CR1/8W-5%-330K	0.03	0.02	0.01	84N2397	CR1/4W-5%-330K	0.03	0.02	0.01	84N2233	CR1/2W-5%-330K	0.03	0.02	0.01
390k	84N2518	CR1/8W-5%-390K	0.03	0.02	0.01	84N2404	CR1/4W-5%-390K	0.03	0.02	0.01	84N2241	CR1/2W-5%-390K	0.03	0.02	0.01
470k	84N2526	CR1/8W-5%-470K	0.03	0.02	0.01	84N2423	CR1/4W-5%-470K	0.03	0.02	0.01	84N2257	CR1/2W-5%-470K	0.03	0.02	0.01
560k	84N2532	CR1/8W-5%-560K	0.03	0.02	0.01	84N2435	CR1/4W-5%-560K	0.03	0.02	0.01	84N2269	CR1/2W-5%-560K	0.03	0.02	0.01
680k	84N2538	CR1/8W-5%-680K	0.03	0.02	0.01	84N2448	CR1/4W-5%-680K	0.03	0.02	0.01	84N2281	CR1/2W-5%-680K	0.03	0.02	0.01
820k	84N2544	CR1/8W-5%-820K	0.03	0.02	0.01	84N2465	CR1/4W-5%-820K	0.03	0.02	0.01	84N2295	CR1/2W-5%-820K	0.03	0.02	0.01
1M	84N2497	CR1/8W-5%-1M	0.03	0.02	0.01	84N2355	CR1/4W-5%-1M	0.03	0.02	0.01	84N2198	CR1/2W-5%-1M	0.03	0.02	0.01
1.2M	...	...	...	...	...	84N2356	CR1/4W-5%-1M2	0.03	0.02	0.01	84N2200	CR1/2W-5%-1M2	0.03	0.02	0.01
1.5M	...	...	...	...	...	84N2358	CR1/4W-5%-1M5	0.03	0.02	0.01	84N2202	CR1/2W-5%-1M5	0.03	0.02	0.01
1.8M	...	...	...	...	...	84N2360	CR1/4W-5%-1M8	0.03	0.02	0.01	84N2204	CR1/2W-5%-1M8	0.03	0.02	0.01
2.2M	...	...	...	...	...	84N2388	CR1/4W-5%-2M2	0.03	0.02	0.01	84N2226	CR1/2W-5%-2M2	0.03	0.02	0.01
2.7M	...	...	...	...	...	84N2389	CR1/4W-5%-2M7	0.03	0.02	0.01	84N2228	CR1/2W-5%-2M7	0.03	0.02	0.01
3.3M	...	...	...	...	...	84N2413	CR1/4W-5%-3M3	0.03	0.02	0.01	84N2250	CR1/2W-5%-3M3	0.03	0.02	0.01
3.9M	...	...	...	...	...	84N2415	CR1/4W-5%-3M9	0.03	0.02	0.01	84N2252	CR1/2W-5%-3M9	0.03	0.02	0.01
4.7M	...	...	...	...	...	84N2430	CR1/4W-5%-4M7	0.03	0.02	0.01	84N2264	CR1/2W-5%-4M7	0.03	0.02	0.01
5.6M	...	...	...	...	...	84N2442	CR1/4W-5%-5M6	0.03	0.02	0.01	84N2276	CR1/2W-5%-5M6	0.03	0.02	0.01
6.8M	...	...	...	...	...	84N2455	CR1/4W-5%-6M8	0.03	0.02	0.01	84N2288	CR1/2W-5%-6M8	0.03	0.02	0.01
8.2M	...	...	...	...	...	84N2470	CR1/4W-5%-8M2	0.03	0.02	0.01	84N2300	CR1/2W-5%-8M2	0.03	0.02	0.01
10M	...	...	...	...	...	84N2323	CR1/4W-5%-10M	0.03	0.02	0.01	84N2165	CR1/2W-5%-10M	0.03	0.02	0.01

(28977) (ne28977)

THICK FILM CHIP RESISTORS

THICK FILM CHIP RESISTORS

NEW

CR series surface mount resistors feature metal-glazed film on high-purity alumina substrate. Rating: 1/16W. Temp. coefficient: ±250ppm/°C (size 0402); ±300ppm/°C (size 0603). **Sold in multiples of 50.** 1% tolerance also available; *contact your local Newark sales office.*

EIA SIZE 0402, ±5% TOLERANCE

Stock No.	Type	Ohms	50-99	100-999	1000-99,999
50N1564	CR10B100JT	10	0.04	0.04	0.03
50N1565	CR10B110JT	11	0.04	0.04	0.03
50N1566	CR10B120JT	12	0.04	0.04	0.03
50N1567	CR10B130JT	13	0.04	0.04	0.03
50N1568	CR10B150JT	15	0.04	0.04	0.03
50N1569	CR10B160JT	16	0.04	0.04	0.03
50N1570	CR10B180JT	18	0.04	0.04	0.03
50N1571	CR10B200JT	20	0.04	0.04	0.03
50N1572	CR10B220JT	22	0.04	0.04	0.03
50N1573	CR10B240JT	24	0.04	0.04	0.03
50N1574	CR10B270JT	27	0.04	0.04	0.03
50N1575	CR10B300JT	30	0.04	0.04	0.03
50N1576	CR10B330JT	33	0.04	0.04	0.03
50N1577	CR10B360JT	36	0.04	0.04	0.03
50N1578	CR10B390JT	39	0.04	0.04	0.03
50N1579	CR10B430JT	43	0.04	0.04	0.03
50N1580	CR10B470JT	47	0.04	0.04	0.03
50N1581	CR10B510JT	51	0.04	0.04	0.03
50N1582	CR10B560JT	56	0.04	0.04	0.03
50N1583	CR10B620JT	62	0.04	0.04	0.03
50N1584	CR10B680JT	68	0.04	0.04	0.03
50N1585	CR10B750JT	75	0.04	0.04	0.03
50N1586	CR10B820JT	82	0.04	0.04	0.03
50N1587	CR10B910JT	91	0.04	0.04	0.03
50N1588	CR10B101JT	100	0.04	0.04	0.03
50N1589	CR10B111JT	110	0.04	0.04	0.03
50N1590	CR10B121JT	120	0.04	0.04	0.03
50N1591	CR10B131JT	130	0.04	0.04	0.03
50N1592	CR10B151JT	150	0.04	0.04	0.03
50N1593	CR10B161JT	160	0.04	0.04	0.03
50N1594	CR10B181JT	180	0.04	0.04	0.03
50N1595	CR10B201JT	200	0.04	0.04	0.03
50N1596	CR10B221JT	220	0.04	0.04	0.03
50N1597	CR10B241JT	240	0.04	0.04	0.03
50N1598	CR10B271JT	270	0.04	0.04	0.03
50N1599	CR10B301JT	300	0.04	0.04	0.03
50N1600	CR10B331JT	330	0.04	0.04	0.03
50N1601	CR10B361JT	360	0.04	0.04	0.03
50N1602	CR10B391JT	390	0.04	0.04	0.03
50N1603	CR10B431JT	430	0.04	0.04	0.03
50N1604	CR10B471JT	470	0.04	0.04	0.03
50N1605	CR10B511JT	510	0.04	0.04	0.03
50N1606	CR10B561JT	560	0.04	0.04	0.03
50N1607	CR10B621JT	620	0.04	0.04	0.03
50N1608	CR10B681JT	680	0.04	0.04	0.03
50N1609	CR10B751JT	750	0.04	0.04	0.03
50N1610	CR10B821JT	820	0.04	0.04	0.03
50N1611	CR10B911JT	910	0.04	0.04	0.03
50N1612	CR10B102JT	1.0k	0.04	0.04	0.03
50N1613	CR10B112JT	1.1k	0.04	0.04	0.03
50N1614	CR10B122JT	1.2k	0.04	0.04	0.03
50N1615	CR10B132JT	1.3k	0.04	0.04	0.03
50N1616	CR10B152JT	1.5k	0.04	0.04	0.03
50N1617	CR10B162JT	1.6k	0.04	0.04	0.03
50N1618	CR10B182JT	1.8k	0.04	0.04	0.03
50N1619	CR10B202JT	2.0k	0.04	0.04	0.03
50N1620	CR10B222JT	2.2k	0.04	0.04	0.03
50N1621	CR10B242JT	2.4k	0.04	0.04	0.03
50N1622	CR10B272JT	2.7k	0.04	0.04	0.03
50N1623	CR10B302JT	3.0k	0.04	0.04	0.03
50N1624	CR10B332JT	3.3k	0.04	0.04	0.03
50N1625	CR10B362JT	3.6k	0.04	0.04	0.03
50N1626	CR10B392JT	3.9k	0.04	0.04	0.03
50N1627	CR10B432JT	4.3k	0.04	0.04	0.03
50N1628	CR10B472JT	4.7k	0.04	0.04	0.03
50N1629	CR10B512JT	5.1k	0.04	0.04	0.03
50N1630	CR10B562JT	5.6k	0.04	0.04	0.03
50N1631	CR10B622JT	6.2k	0.04	0.04	0.03
50N1632	CR10B682JT	6.8k	0.04	0.04	0.03
50N1633	CR10B752JT	7.5k	0.04	0.04	0.03
50N1634	CR10B822JT	8.2k	0.04	0.04	0.03
50N1635	CR10B912JT	9.1k	0.04	0.04	0.03
50N1636	CR10B103JT	10k	0.04	0.04	0.03
50N1637	CR10B113JT	11k	0.04	0.04	0.03
50N1638	CR10B123JT	12k	0.04	0.04	0.03
50N1639	CR10B133JT	13k	0.04	0.04	0.03
50N1640	CR10B153JT	15k	0.04	0.04	0.03
50N1641	CR10B163JT	16k	0.04	0.04	0.03
50N1642	CR10B183JT	18k	0.04	0.04	0.03
50N1643	CR10B203JT	20k	0.04	0.04	0.03
50N1644	CR10B223JT	22k	0.04	0.04	0.03

CONTINUED

THICK FILM CHIP RESISTORS (CONT.)

Stock No.	Type	Ohms	50-99	100-999	1000-99,999
50N1645	CR10B243JT	24k	0.04	0.04	0.03
50N1646	CR10B273JT	27k	0.04	0.04	0.03
50N1647	CR10B303JT	30k	0.04	0.04	0.03
50N1648	CR10B333JT	33k	0.04	0.04	0.03
50N1649	CR10B363JT	36k	0.04	0.04	0.03
50N1650	CR10B393JT	39k	0.04	0.04	0.03
50N1651	CR10B433JT	43k	0.04	0.04	0.03
50N1652	CR10B473JT	47k	0.04	0.04	0.03
50N1653	CR10B513JT	51k	0.04	0.04	0.03
50N1654	CR10B563JT	56k	0.04	0.04	0.03
50N1655	CR10B623JT	62k	0.04	0.04	0.03
50N1656	CR10B683JT	68k	0.04	0.04	0.03
50N1657	CR10B753JT	75k	0.04	0.04	0.03
50N1658	CR10B823JT	82k	0.04	0.04	0.03
50N1659	CR10B913JT	91k	0.04	0.04	0.03
50N1660	CR10B104JT	100k	0.04	0.04	0.03
50N1661	CR10B114JT	110k	0.04	0.04	0.03
50N1662	CR10B124JT	120k	0.04	0.04	0.03
50N1663	CR10B134JT	130k	0.04	0.04	0.03
50N1664	CR10B154JT	150k	0.04	0.04	0.03
50N1665	CR10B164JT	160k	0.04	0.04	0.03
50N1666	CR10B184JT	180k	0.04	0.04	0.03
50N1667	CR10B204JT	200k	0.04	0.04	0.03
50N1668	CR10B224JT	220k	0.04	0.04	0.03
50N1669	CR10B244JT	240k	0.04	0.04	0.03
50N1670	CR10B274JT	270k	0.04	0.04	0.03
50N1671	CR10B304JT	300k	0.04	0.04	0.03
50N1672	CR10B334JT	330k	0.04	0.04	0.03
50N1673	CR10B364JT	360k	0.04	0.04	0.03
50N1674	CR10B394JT	390k	0.04	0.04	0.03
50N1675	CR10B434JT	430k	0.04	0.04	0.03
50N1676	CR10B474JT	470k	0.04	0.04	0.03
50N1677	CR10B514JT	510k	0.04	0.04	0.03
50N1678	CR10B564JT	560k	0.04	0.04	0.03
50N1679	CR10B624JT	620k	0.04	0.04	0.03
50N1680	CR10B684JT	680k	0.04	0.04	0.03
50N1681	CR10B754JT	750k	0.04	0.04	0.03
50N1682	CR10B824JT	820k	0.04	0.04	0.03
50N1683	CR10B914JT	910k	0.04	0.04	0.03
50N1684	CR10B105JT	1M	0.04	0.04	0.03
50N1685	CR10B115JT	1.1M	0.04	0.04	0.03
50N1686	CR10B125JT	1.2M	0.04	0.04	0.03
50N1687	CR10B135JT	1.3M	0.04	0.04	0.03
50N1688	CR10B155JT	1.5M	0.04	0.04	0.03
50N1689	CR10B165JT	1.6M	0.04	0.04	0.03
50N1690	CR10B185JT	1.8M	0.04	0.04	0.03
50N1691	CR10B205JT	2M	0.04	0.04	0.03
50N1692	CR10B225JT	2.2M	0.04	0.04	0.03

EIA SIZE 0603, ±5% TOLERANCE

Stock No.	Type	Ohms	50-99	100-999	1000-99,999
50N1693	CR16B100JT	10	0.03	0.03	0.02
50N1694	CR16B110JT	11	0.03	0.03	0.02
50N1695	CR16B120JT	12	0.03	0.03	0.02
50N1696	CR16B130JT	13	0.03	0.03	0.02
50N1697	CR16B150JT	15	0.03	0.03	0.02
50N1698	CR16B160JT	16	0.03	0.03	0.02
50N1699	CR16B180JT	18	0.03	0.03	0.02
50N1700	CR16B200JT	20	0.03	0.03	0.02
50N1701	CR16B220JT	22	0.03	0.03	0.02
50N1702	CR16B240JT	24	0.03	0.03	0.02
50N1703	CR16B270JT	27	0.03	0.03	0.02
50N1704	CR16B300JT	30	0.03	0.03	0.02
50N1705	CR16B330JT	33	0.03	0.03	0.02
50N1706	CR16B360JT	36	0.03	0.03	0.02
50N1707	CR16B390JT	39	0.03	0.03	0.02
50N1708	CR16B430JT	43	0.03	0.03	0.02
50N1709	CR16B470JT	47	0.03	0.03	0.02
50N1710	CR16B510JT	51	0.03	0.03	0.02
50N1711	CR16B560JT	56	0.03	0.03	0.02
50N1712	CR16B620JT	62	0.03	0.03	0.02
50N1713	CR16B680JT	68	0.03	0.03	0.02
50N1714	CR16B750JT	75	0.03	0.03	0.02
50N1715	CR16B820JT	82	0.03	0.03	0.02
50N1716	CR16B910JT	91	0.03	0.03	0.02
50N1717	CR16B101JT	100	0.03	0.03	0.02
50N1718	CR16B111JT	110	0.03	0.03	0.02
50N1719	CR16B121JT	120	0.03	0.03	0.02
50N1720	CR16B131JT	130	0.03	0.03	0.02
50N1721	CR16B151JT	150	0.03	0.03	0.02
50N1722	CR16B161JT	160	0.03	0.03	0.02
50N1723	CR16B201JT	200	0.03	0.03	0.02
50N1724	CR16B221JT	220	0.03	0.03	0.02
50N1725	CR16B241JT	240	0.03	0.03	0.02
50N1726	CR16B271JT	270	0.03	0.03	0.02
50N1727	CR16B301JT	300	0.03	0.03	0.02
50N1728	CR16B331JT	330	0.03	0.03	0.02
50N1729	CR16B361JT	360	0.03	0.03	0.02
50N1730	CR16B391JT	390	0.03	0.03	0.02

CONTINUED

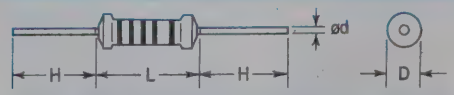
THICK FILM CHIP RESISTORS (CONT.)

Stock No.	Type	Ohms	50-99	100-999	1000-99,999
50N1731	CR16B431JT	430	0.03	0.03	0.02
50N1732	CR16B471JT	470	0.03	0.03	0.02
50N1733	CR16B511JT	510	0.03	0.03	0.02
50N1734	CR16B561JT	560	0.03	0.03	0.02
50N1735	CR16B621JT	620	0.03	0.03	0.02
50N1736	CR16B681JT	680	0.03	0.03	0.02
50N1737	CR16B751JT	750	0.03	0.03	0.02
50N1738	CR16B821JT	820	0.03	0.03	0.02
50N1739	CR16B911JT	910	0.03	0.03	0.02
50N1740	CR16B102JT	1.0k	0.03	0.03	0.02
50N1741	CR16B112JT	1.1k	0.03	0.03	0.02
50N1742	CR16B122JT	1.2k	0.03	0.03	0.02
50N1743	CR16B132JT	1.3k	0.03	0.03	0.02
50N1744	CR16B152JT	1.5k	0.03	0.03	0.02
50N1745	CR16B162JT	1.6k	0.03	0.03	0.02
50N1746	CR16B182JT	1.8k	0.03	0.03	0.02
50N1747	CR16B202JT	2.0k	0.03	0.03	0.02
50N1748	CR16B222JT	2.2k	0.03	0.03	0.02
50N1749	CR16B242JT	2.4k	0.03	0.03	0.02
50N1750	CR16B272JT	2.7k	0.03	0.03	0.02
50N1751	CR16B302JT	3.0k	0.03	0.03	0.02
50N1752	CR16B332JT	3.3k	0.03	0.03	0.02
50N1753	CR16B362JT	3.6k	0.03	0.03	0.02
50N1754	CR16B392JT	3.9k	0.03	0.03	0.02
50N1755	CR16B432JT	4.3k	0.03	0.03	0.02
50N1756	CR16B472JT	4.7k	0.03	0.03	0.02
50N1757	CR16B512JT	5.1k	0.03	0.03	0.02
50N1758	CR16B562JT	5.6k	0.03	0.03	0.02
50N1759	CR16B622JT	6.2k	0.03	0.03	0.02
50N1760	CR16B682JT	6.8k	0.03	0.03	0.02
50N1761	CR16B752JT	7.5k	0.03	0.03	0.02
50N1762	CR16B822JT	8.2k	0.03	0.03	0.02
50N1763	CR16B912JT	9.1k	0.03	0.03	0.02
50N1764	CR16B103JT	10k	0.03	0.03	0.02
50N1765	CR16B113JT	11k	0.03	0.03	0.02
50N1766	CR16B123JT	12k	0.03	0.03	0.02
50N1767	CR16B133JT	13k	0.03	0.03	0.02
50N1768	CR16B153JT	15k	0.03	0.03	0.02
50N1769	CR16B163JT	16k	0.03	0.03	0.02
50N1770	CR16B183JT	18k	0.03	0.03	0.02
50N1771	CR16B203JT	20k	0.03	0.03	0.02
50N1772	CR16B223JT	22k	0.03	0.03	0.02
50N1773	CR16B243JT	24k	0.03	0.03	0.02
50N1774	CR16B273JT	27k	0.03	0.03	0.02
50N1775	CR16B303JT	30k	0.03	0.03	0.02
50N1776	CR16B333JT	33k	0.03	0.03	0.02
50N1777	CR16B363JT	36k	0.03	0.03	0.02
50N1778	CR16B393JT	39k	0.03	0.03	0.02
50N1779	CR16B433JT	43k	0.03	0.03	0.02
50N1780	CR16B473JT	47k	0.03	0.03	0.02
50N1781	CR16B513JT	51k	0.03	0.03	0.02
50N1782	CR16B563JT	56k	0.03	0.03	0.02
50N1783	CR16B623JT	62k	0.03	0.03	0.02
50N1784	CR16B683JT	68k	0.03	0.03	0.02
50N1785	CR16B753JT	75k	0.03	0.03	0.02
50N1786	CR16B823JT	82k	0.03	0.03	0.02
50N1787	CR16B913JT	91k	0.03	0.03	0.02
50N1788	CR16B104JT	100k	0.03	0.03	0.02
50N1789	CR16B114JT	110k	0.03	0.03	0.02
50N1790	CR16B124JT	120k	0.03	0.03	0.02
50N1791	CR16B134JT	130k	0.03	0.03	0.02
50N1792	CR16B154JT	150k	0.03	0.03	0.02
50N1793	CR16B164JT	160k	0.03	0.03	0.02
50N1794	CR16B184JT	180k	0.03	0.03	0.02
50N1795	CR16B204JT	200k	0.03	0.03	0.02
50N1796	CR16B224JT	220k	0.03	0.03	0.02
50N1797	CR16B244JT	240k	0.03	0.03	0.02
50N1798	CR16B274JT	270k	0.03	0.03	0.02
50N1799	CR16B304JT	300k	0.03	0.03	0.02
50N1800	CR16B334JT	330k	0.03	0.03	0.02
50N1801	CR16B364JT	360k	0.03	0.03	0.02
50N1802	CR16B394JT	390k	0.03	0.03	0.02
50N1803	CR16B434JT	430k	0.03	0.03	0.02
50N1804	CR16B474JT	470k	0.03	0.03	0.02
50N1805	CR16B514JT	510k	0.03	0.03	0.02
50N1806	CR16B564JT	560k	0.03	0.03	0.02
50N1807	CR16B624JT	620k	0.03	0.03	0.02
50N1808	CR16B684JT	680k	0.03	0.03	0.02
50N1809	CR16B754JT	750k	0.03	0.03	0.02
50N1810	CR16B824JT	820k	0.03	0.03	0.02
50N1811	CR16B914JT	910k	0.03	0.03	0.02
50N1812	CR16B105JT	1M	0.03	0.03	0.02
50N1813	CR16B115JT	1.1M	0.03	0.03	0.02
50N1814	CR16B125JT	1.2M	0.03	0.03	0.02
50N1815	CR16B135JT	1.3M	0.03	0.03	0.02
50N1816	CR16B155JT	1.5M	0.03	0.03	0.02
50N1817	CR16B165JT	1.6M	0.03	0.03	0.02
50N1818	CR16B185JT	1.8M	0.03	0.03	0.02
50N1819	CR16B205JT	2M	0.03	0.03	0.02
50N1820	CR16B225JT	2.2M	0.03	0.03	0.02

(36073) (na36073)

PRECISION METAL FILM RESISTORS

MFR SERIES PRECISION METAL FILM RESISTORS



Resistors feature nichrome elements for stable performance and low noise in various environments. Epoxy-coated for maximum moisture protection. Tolerance: ±1%. Temperature coefficient: ±50ppm/°C. Operating temperature: -55°C to +125°C. Meets military specification MIL-R-10509F. **Sold in multiples of 50.** *Additional values available, contact your local Newark sales office.*

Type	Power Rating	Body Length	Max. Dia.	Lead Length	Lead Dia.	Type	Power Rating	Body Length	Max. Dia.	Lead Length	Lead Dia.	Type	Power Rating	Body Length	Max. Dia.	Lead Length	Lead Dia.
MFR-⅛	⅛-Watt	3.5mm	1.85mm	28±3mm	0.5mm	MFR-¼	¼-Watt	6.8mm	2.50mm	28±3mm	0.6mm	MFR-½	½ -Watt	10.0mm	3.50mm	28±3mm	0.6mm

MIL SPEC TYPE	RN50 MFR-⅛					RN55 MFR- ¼					RN60 MFR-½					
	⅛-Watt					¼-Watt					½-Watt					
Ohms	Stock No.	Type	50-100	150-500	550+	Stock No.	Type	50-100	150-500	550+	Stock No.	Type	50-100	150-500	550+
10	84N1808	MFR1/8W-1%-10R	0.03	0.02	0.01	84N1688	MFR1/4W-1%-10R	0.03	0.02	0.01	84N1569	MFR1/2W-1%-10R	0.03	0.02	0.01
11	84N1812	MFR1/8W-1%-11R	0.03	0.02	0.01	84N1692	MFR1/4W-1%-11R	0.03	0.02	0.01	84N1573	MFR1/2W-1%-11R	0.03	0.02	0.01
12	84N1816	MFR1/8W-1%-12R	0.03	0.02	0.01	84N1696	MFR1/4W-1%-12R	0.03	0.02	0.01	84N1577	MFR1/2W-1%-12R	0.03	0.02	0.01
13	84N1820	MFR1/8W-1%-13R	0.03	0.02	0.01	84N1699	MFR1/4W-1%-13R	0.03	0.02	0.01	84N1581	MFR1/2W-1%-13R	0.03	0.02	0.01
15	84N1824	MFR1/8W-1%-15R	0.03	0.02	0.01	84N1703	MFR1/4W-1%-15R	0.03	0.02	0.01	84N1585	MFR1/2W-1%-15R	0.03	0.02	0.01
16	84N1828	MFR1/8W-1%-16R	0.03	0.02	0.01	84N1707	MFR1/4W-1%-16R	0.03	0.02	0.01	84N1589	MFR1/2W-1%-16R	0.03	0.02	0.01
18	84N1832	MFR1/8W-1%-18R	0.03	0.02	0.01	84N1711	MFR1/4W-1%-18R	0.03	0.02	0.01	84N1593	MFR1/2W-1%-18R	0.03	0.02	0.01
20	84N1844	MFR1/8W-1%-20R	0.03	0.02	0.01	84N1723	MFR1/4W-1%-20R	0.03	0.02	0.01	84N1605	MFR1/2W-1%-20R	0.03	0.02	0.01
22	84N1848	MFR1/8W-1%-22R	0.03	0.02	0.01	84N1727	MFR1/4W-1%-22R	0.03	0.02	0.01	84N1608	MFR1/2W-1%-22R	0.03	0.02	0.01
24	84N1852	MFR1/8W-1%-24R	0.03	0.02	0.01	84N1731	MFR1/4W-1%-24R	0.03	0.02	0.01	84N1612	MFR1/2W-1%-24R	0.03	0.02	0.01
27	84N1856	MFR1/8W-1%-27R	0.03	0.02	0.01	84N1735	MFR1/4W-1%-27R	0.03	0.02	0.01	84N1616	MFR1/2W-1%-27R	0.03	0.02	0.01
30	84N1864	MFR1/8W-1%-30R	0.03	0.02	0.01	84N1743	MFR1/4W-1%-30R	0.03	0.02	0.01	84N1624	MFR1/2W-1%-30R	0.03	0.02	0.01
33	84N1868	MFR1/8W-1%-33R	0.03	0.02	0.01	84N1747	MFR1/4W-1%-33R	0.03	0.02	0.01	84N1628	MFR1/2W-1%-33R	0.03	0.02	0.01
36	84N1872	MFR1/8W-1%-36R	0.03	0.02	0.01	84N1751	MFR1/4W-1%-36R	0.03	0.02	0.01	84N1632	MFR1/2W-1%-36R	0.03	0.02	0.01
39	84N1876	MFR1/8W-1%-39R	0.03	0.02	0.01	84N1755	MFR1/4W-1%-39R	0.03	0.02	0.01	84N1636	MFR1/2W-1%-39R	0.03	0.02	0.01
43	84N1884	MFR1/8W-1%-43R	0.03	0.02	0.01	84N1763	MFR1/4W-1%-43R	0.03	0.02	0.01	84N1644	MFR1/2W-1%-43R	0.03	0.02	0.01
47	84N1888	MFR1/8W-1%-47R	0.03	0.02	0.01	84N1767	MFR1/4W-1%-47R	0.03	0.02	0.01	84N1648	MFR1/2W-1%-47R	0.03	0.02	0.01
51	84N1894	MFR1/8W-1%-51R	0.03	0.02	0.01	84N1773	MFR1/4W-1%-51R	0.03	0.02	0.01	84N1654	MFR1/2W-1%-51R	0.03	0.02	0.01
56	84N1899	MFR1/8W-1%-56R	0.03	0.02	0.01	84N1777	MFR1/4W-1%-56R	0.03	0.02	0.01	84N1565	MFR1/2W-1%-56R	0.03	0.02	0.01
68	84N1908	MFR1/8W-1%-68R	0.03	0.02	0.01	84N1787	MFR1/4W-1%-68R	0.03	0.02	0.01	84N1667	MFR1/2W-1%-68R	0.03	0.02	0.01
75	84N1914	MFR1/8W-1%-75R	0.03	0.02	0.01	84N1793	MFR1/4W-1%-75R	0.03	0.02	0.01	84N1673	MFR1/2W-1%-75R	0.03	0.02	0.01
82	84N1919	MFR1/8W-1%-82R	0.03	0.02	0.01	84N1798	MFR1/4W-1%-82R	0.03	0.02	0.01	84N1678	MFR1/2W-1%-82R	0.03	0.02	0.01
91	84N1924	MFR1/8W-1%-91R	0.03	0.02	0.01	84N1683	MFR1/2W-1%-91R	0.03	0.02	0.01	84N1683	MFR1/2W-1%-91R	0.03	0.02	0.01
100	84N1806	MFR1/8W-1%-100R	0.03	0.02	0.01	84N1686	MFR1/4W-1%-100R	0.03	0.02	0.01	84N1567	MFR1/2W-1%-100R	0.03	0.02	0.01
110	84N1810	MFR1/8W-1%-110R	0.03	0.02	0.01	84N1690	MFR1/4W-1%-110R	0.03	0.02	0.01	84N1571	MFR1/2W-1%-110R	0.03	0.02	0.01
120	84N1814	MFR1/8W-1%-120R	0.03	0.02	0.01	84N1694	MFR1/4W-1%-120R	0.03	0.02	0.01	84N1575	MFR1/2W-1%-120R	0.03	0.02	0.01
130	84N1818	MFR1/8W-1%-130R	0.03	0.02	0.01	84N1697	MFR1/4W-1%-130R	0.03	0.02	0.01	84N1579	MFR1/2W-1%-130R	0.03	0.02	0.01
150	84N1822	MFR1/8W-1%-150R	0.03	0.02	0.01	84N1701	MFR1/4W-1%-150R	0.03	0.02	0.01	84N1583	MFR1/2W-1%-150R	0.03	0.02	0.01
160	84N1826	MFR1/8W-1%-160R	0.03	0.02	0.01	84N1705	MFR1/4W-1%-160R	0.03	0.02	0.01	84N1587	MFR1/2W-1%-160R	0.03	0.02	0.01
180	84N1830	MFR1/8W-1%-180R	0.03	0.02	0.01	84N1709	MFR1/4W-1%-180R	0.03	0.02	0.01	84N1591	MFR1/2W-1%-180R	0.03	0.02	0.01
200	84N1842	MFR1/8W-1%-200R	0.03	0.02	0.01	84N1721	MFR1/4W-1%-200R	0.03	0.02	0.01	84N1603	MFR1/2W-1%-200R	0.03	0.02	0.01
220	84N1846	MFR1/8W-1%-220R	0.03	0.02	0.01	84N1725	MFR1/4W-1%-220R	0.03	0.02	0.01	84N1606	MFR1/2W-1%-220R	0.03	0.02	0.01
240	84N1850	MFR1/8W-1%-240R	0.03	0.02	0.01	84N1729	MFR1/4W-1%-240R	0.03	0.02	0.01	84N1610	MFR1/2W-1%-240R	0.03	0.02	0.01
270	84N1854	MFR1/8W-1%-270R	0.03	0.02	0.01	84N1733	MFR1/4W-1%-270R	0.03	0.02	0.01	84N1614	MFR1/2W-1%-270R	0.03	0.02	0.01
300	84N1862	MFR1/8W-1%-300R	0.03	0.02	0.01	84N1741	MFR1/4W-1%-300R	0.03	0.02	0.01	84N1622	MFR1/2W-1%-300R	0.03	0.02	0.01
330	84N1866	MFR1/8W-1%-330R	0.03	0.02	0.01	84N1745	MFR1/4W-1%-330R	0.03	0.02	0.01	84N1626	MFR1/2W-1%-330R	0.03	0.02	0.01
360	84N1870	MFR1/8W-1%-360R	0.03	0.02	0.01	84N1749	MFR1/4W-1%-360R	0.03	0.02	0.01	84N1630	MFR1/2W-1%-360R	0.03	0.02	0.01
390	84N1874	MFR1/8W-1%-390R	0.03	0.02	0.01	84N1753	MFR1/4W-1%-390R	0.03	0.02	0.01	84N1634	MFR1/2W-1%-390R	0.03	0.02	0.01
430	84N1882	MFR1/8W-1%-430R	0.03	0.02	0.01	84N1760	MFR1/4W-1%-430K	0.03	0.02	0.01	84N1642	MFR1/2W-1%-430R	0.03	0.02	0.01
470	84N1886	MFR1/8W-1%-470R	0.03	0.02	0.01	84N1765	MFR1/4W-1%-470R	0.03	0.02	0.01	84N1646	MFR1/2W-1%-470R	0.03	0.02	0.01
510	84N1892	MFR1/8W-1%-510R	0.03	0.02	0.01	84N1771	MFR1/4W-1%-510R	0.03	0.02	0.01	84N1652	MFR1/2W-1%-510R	0.03	0.02	0.01
560	84N1897	MFR1/8W-1%-560R	0.03	0.02	0.01	84N1775	MFR1/4W-1%-560R	0.03	0.02	0.01	84N1656	MFR1/2W-1%-560R	0.03	0.02	0.01
680	84N1906	MFR1/8W-1%-680R	0.03	0.02	0.01	84N1785	MFR1/4W-1%-680R	0.03	0.02	0.01	84N1665	MFR1/2W-1%-680R	0.03	0.02	0.01
820	84N1917	MFR1/8W-1%-820R	0.03	0.02	0.01	84N1796	MFR1/4W-1%-820R	0.03	0.02	0.01	84N1676	MFR1/2W-1%-820R	0.03	0.02	0.01
10k	84N1807	MFR1/8W-1%-10K	0.03	0.02	0.01	84N1687	MFR1/4W-1%-10K	0.03	0.02	0.01	84N1568	MFR1/2W-1%-10K	0.03	0.02	0.01
11k	84N1811	MFR1/8W-1%-11K	0.03	0.02	0.01	84N1691	MFR1/4W-1%-11K	0.03	0.02	0.01	84N1572	MFR1/2W-1%-11K	0.03	0.02	0.01
12k	84N1815	MFR1/8W-1%-12K	0.03	0.02	0.01	84N1695	MFR1/4W-1%-12K	0.03	0.02	0.01	84N1576	MFR1/2W-1%-12K	0.03	0.02	0.01
15k	84N1823	MFR1/8W-1%-15K	0.03	0.02	0.01	84N1702	MFR1/4W-1%-15K	0.03	0.02	0.01	84N1584	MFR1/2W-1%-15K	0.03	0.02	0.01
18k	84N1831	MFR1/8W-1%-18K	0.03	0.02	0.01	84N1710	MFR1/4W-1%-18K	0.03	0.02	0.01	84N1592	MFR1/2W-1%-18K	0.03	0.02	0.01
22k	84N1847	MFR1/8W-1%-22K	0.03	0.02	0.01	84N1726	MFR1/4W-1%-22K	0.03	0.02	0.01	84N1607	MFR1/2W-1%-22K	0.03	0.02	0.01
24k	84N1851	MFR1/8W-1%-24K	0.03	0.02	0.01	84N1730	MFR1/4W-1%-24K	0.03	0.02	0.01	84N1611	MFR1/2W-1%-24K	0.03	0.02	0.01
27k	84N1855	MFR1/8W-1%-27K	0.03	0.02	0.01	84N1734	MFR1/4W-1%-27K	0.03	0.02	0.01	84N1615	MFR1/2W-1%-27K	0.03	0.02	0.01
33k	84N1867	MFR1/8W-1%-33K	0.03	0.02	0.01	84N1746	MFR1/4W-1%-33K	0.03	0.02	0.01	84N1627	MFR1/2W-1%-33K	0.03	0.02	0.01
39k	84N1875	MFR1/8W-1%-39K	0.03	0.02	0.01	84N1754	MFR1/4W-1%-39K	0.03	0.02	0.01	84N1635	MFR1/2W-1%-39K	0.03	0.02	0.01
47k	84N1887	MFR1/8W-1%-47K	0.03	0.02	0.01	84N1766	MFR1/4W-1%-47K	0.03	0.02	0.01	84N1647	MFR1/2W-1%-47K	0.03	0.02	0.01
56k	84N1898	MFR1/8W-1%-56K	0.03	0.02	0.01	84N1776	MFR1/4W-1%-56K	0.03	0.02	0.01	84N1657	MFR1/2W-1%-56K	0.03	0.02	0.01
68k	84N1907	MFR1/8W-1%-68K	0.03	0.02	0.01	84N1786	MFR1/4W-1%-68K	0.03	0.02	0.01	84N1666	MFR1/2W-1%-68K	0.03	0.02	0.01
82k	84N1918	MFR1/8W-1%-82K	0.03	0.02	0.01	84N1797	MFR1/4W-1%-82K	0.03	0.02	0.01	84N1677	MFR1/2W-1%-82K	0.03	0.02	0.01
100k	84N1805	MFR1/8W-1%-100K	0.03	0.02	0.01	84N1685	MFR1/4W-1%-100K	0.03	0.02	0.01	84N1566	MFR1/2W-1%-100K	0.03	0.02	0.01
120k	84N1813	MFR1/8W-1%-120K	0.03	0.02	0.01	84N1693	MFR1/4W-1%-120K	0.03	0.02	0.01	84N1574	MFR1/2W-1%-120K	0.03	0.02	0.01
150k	84N1821	MFR1/8W-1%-150K	0.03	0.02	0.01	84N1700	MFR1/4W-1%-150K	0.03	0.02	0.01	84N1582	MFR1/2W-1%-150K	0.03	0.02	0.01
180k	84N1829	MFR1/8W-1%-180K	0.03	0.02	0.01	84N1708	MFR1/4W-1%-180K	0.03	0.02	0.01	84N1590	MFR1/2W-1%-180K	0.03	0.02	0.01
220k	84N1845	MFR1/8W-1%-220K	0.03	0.02	0.01	84N1724	MFR1/4W-1%-220K	0.03	0.02	0.01	84N1564	MFR1/2W-1%-220K	0.03	0.02	0.01
270k	84N1853	MFR1/8W-1%-270K	0.03	0.02	0.01	84N1732	MFR1/4W-1%-270K	0.03	0.02	0.01	84N1613	MFR1/2W-1%-270K	0.03	0.02	0.01
330k	84N1865	MFR1/8W-1%-330K	0.03	0.02	0.01	84N1744	MFR1/4W-1%-330K	0.03	0.02	0.01	84N1625	MFR1/2W-1%-330K	0.03	0.02	0.01
390k	84N1873	MFR1/8W-1%-390K	0.03	0.02	0.01	84N1752	MFR1/4W-1%-390K	0.03	0.02	0.01	84N1633	MFR1/2W-1%-390K	0.03	0.02	0.01
470k	84N1885	MFR1/8W-1%-470K	0.03	0.02	0.01	84N1764	MFR1/4W-1%-470K	0.03	0.02	0.01	84N1645	MFR1/2W-1%-470K	0.03	0.02	0.01
560k	84N1896	MFR1/8W-1%-560K	0.03	0.02	0.01	84N1774	MFR1/4W-1%-560K	0.03	0.02	0.01	84N1655	MFR1/2W-1%-560K	0.03	0.02	0.01
680k	84N1905	MFR1/8W-1%-680K	0.03	0.02	0.01	84N1784	MFR1/4W-1%-680K	0.03	0.02	0.01	84N1664	MFR1/2W-1%-680K	0.03	0.02	0.01
820K	84N1916	MFR1/8W-1%-820K	0.03	0.02	0.01	84N1795	MFR1/4W-1%-820K	0.03	0.02	0.01	84N1675	MFR1/2W-1%-820K	0.03	0.02	0.01
1M	84N1840	MFR1/8W-1%-1M	0.03	0.02	0.01	84N1719	MFR1/4W-1%-1M	0.03	0.02	0.01	84N1601	MFR1/2W-1%-1M	0.03	0.02	0.01

(28976)

(ne28976)

RESISTOR KITS

COMBINATION RESISTOR AND CAPACITOR KIT

This 756-piece general kit is ideal for R & D labs, schools, and maintenance needs. Kit contains 630 carbon film resistors ranging from 0.5 to 4.7MΩ (42 each in ⅛W, ¼W, ½W), 5% tolerance and 126 capacitors in 42 values. Kit has 3 of each type: polyester film, metallized film, ceramic, radial and axial lead tantalum electrolytic capacitors. *Contact your local Newark sales office for exact value ranges.*

92N4512 Type 3329. **Each** **388.13**
(16035) (ne10110)

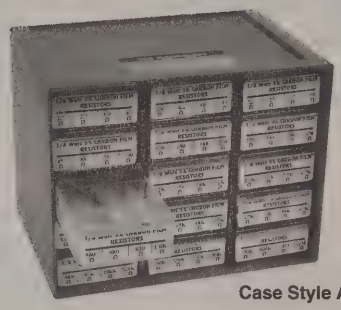
Combination Kit

CARBON FILM RESISTOR KITS

Carbon film resistor kits come fully assembled with lid label showing ohmic values. Resistors have conformal multi-coating. **Type 1767** kit contains ¼, ½, 1, 2-watt resistors. 2-watt resistors are metal oxide with operating temperature of –55° to +200°C. Meets or exceeds MIL-R-11F. Tolerance: ±1%. Operating temperature: –55° to +155°C. *Contact your local Newark sales office for exact value ranges.*

Stock No.	Type	Case Style	Watts	Resistance Range	No. of Values	Qty. per Value	Kit Quantity	Each
44N2350	AR125-6025	A	⅛	2.2Ω to 2.2MΩ	60	25	1500	**169.99**
37N1739	AR25-6025	A	¼	2.2Ω to 2.2MΩ	60	25	1500	**124.19**
37N1740	AR25-6050	A	¼	2.2Ω to 2.2MΩ	60	50	3000	**169.99**
37N1741	AR50-6025	A	½	2.2Ω to 2.2MΩ	60	25	1500	**144.89**
95N3706	AR125-6025A	B	⅛	0.5Ω to 4.7MΩ	42	25	1050	**69.99**
37N1742	AR25-4220	B	¼	0.5Ω to 4.7MΩ	42	25	1050	**59.99**
95N3708	AR50-6025A	B	¼	0.5Ω to 4.7MΩ	42	25	1050	**123.17**
92N4511	1767	B	⅛, ¼, ½, 1, 2	1.0Ω to 1.0MΩ	42	*	770	**181.08**

*⅛-, ¼-, and ½-watt sizes have 25 of each value listed, 1- and 2-watt sizes have 5 of each value.
(9539) (de02977)



Case Style A

THICK FILM RESISTOR CHIP ASSORTMENT KITS

Surface mount thick film resistor kits come fully assembled with lid label showing ohmic values. These resistors have high reliability and wave flow solderability. **Type ARMC 125-6020** has EIA size 1206 chips, **Type ARMC 125-6050** has EIA size 0805 chips. *Contact your local Newark sales office for exact value ranges.*

Stock No.	Type	Case Style	Watts	Resistance Range	No. of Values	Qty. per Value	Kit Quantity	Each
46N7713	ARMC125-6020	C	⅛	2.7Ω to 2.2MΩ	60	20	1200	**199.99**
92N4534	ARMC125-6050	A	1/10	2.7Ω to 2.2MΩ	60	50	3000	**310.45**

(4147) (ne02891)

Case Style B

METAL FILM RESISTOR ASSORTMENTS

Metal film resistor kits come fully assembled with lid label showing ohmic values. EMF (evaporated metal film) resistors are coated with special epoxy paint. Meets or exceeds MIL-R-1059E. Max. operating voltage: 250V. Max. overload voltage: 500V. Tolerance: ± 1%. Ohmic values are listed in table below.

OHMIC VALUES

10.0	46.4	133	332	825	2.37k*	6.81k*	27.4k*	90.9k*	274k*	619k
12.1	51.1	150	348	909	2.67k	7.50k*	33.2k	100k*	301k*	649k
15	56.2	162	383	1k*	3.01k*	8.25k*	39.2k*	121k	332k	681k*
18.2	68.1	174	422	1.21k	3.32k	9.09k*	43.2k	130k*	365k*	732k
22.1	75	200	475	1.33k	3.92k*	10k*	47.5k	162k*	392k	750k*
26.1	82.5	215	511	1.5k*	4.22k	12.1k	49.9k*	178k*	422k*	825k
28.7	90.9	237	562	1.62k	4.75k*	15k*	56.2k*	200k*	464k*	866k*
33.2	100	261	604	1.82k*	5.11k	18.2k	68.1k*	221k*	511k*	909k*
39.2	107	287	681	2k*	5.62k*	20k*	75.0k*	237k*	536k	953k*
42.2	121	301	750	2.21k	6.18k	22.1k	82.5k	255k	562k	1 M*

*Values contained in kit **type ARMF25-112B**

Stock No.	Type	Case Style	Watts	Resistance Range	No. of Values	Qty. per Value	Kit Quantity	Each
46N7714	ARMF25-11112	A	¼	10.0Ω to 1.0MΩ	111	10	1110	**206.99**
95N3704	ARMF25-11112A	B	¼	10.0Ω to 909Ω	42	10	420	**69.99**
95N3705	ARMF25-11112B	B	¼	1.0kΩ to 1.0MΩ	42	10	420	**69.99**

(9609) (ne02978)

SMD

Case Style C

CFR SERIES CARBON FILM EPOXY-COATED 1 & 2 WATT RESISTOR KITS

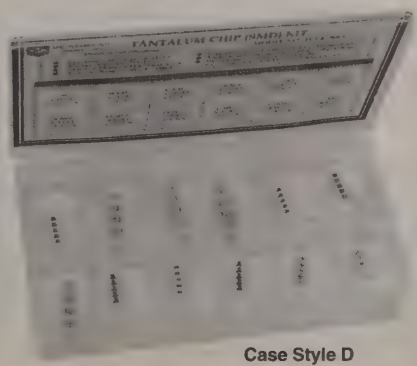
Carbon film resistor kits come fully assembled with lid label showing ohmic values. Resistors have comformal multi-coating. Meets or exceeds MIL-R-11F. Tolerance: ±1%. Operating temperature: –55°C to +155°C. Ohmic values are listed in table below.

OHMIC VALUES

4.7	33	100	200	470	3.3k	10k	20k	68k	180k	1.0M
10	47	110	220	680	4.7k	12k	22k	100k	220k	...
15	51	150	330	1.0k	6.8k	15k	33k	120k	330k	...
22	68	180	390	1.2k	8.2k	18k	47k	150k	470k	...

Stock No.	Type	Case Style	Watts	Resistance Range	No. of Values	Qty. per Value	Kit Quantity	Each
89N3177	CFR-100-4510	A	1	4.7Ω to 1.0MΩ	45	10	450	**196.60**
89N3178	CFR-200-4510	A	2	4.7Ω to 1.0MΩ	45	10	450	**196.60**

(4128) (de02982)



Case Style D

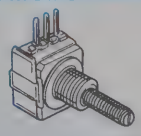
CARBON COMPOSITION RESISTOR KITS

Lid label show ohmic values. Max. working voltage: 250V (¼W.), 350V (½W.), 500V (1W.) Tolerance: ¼W and ½W.: ±5%; 1W: 10%. *Contact your local Newark sales office for exact value ranges.*

Stock No.	Type	Case Style	Watts	Resistance Range	No. of Values	Qty. per Value	Kit Quantity	Each
84N639	3579	B	¼	2.2Ω to 4.7MΩ	42	10	420	**206.99**
84N640	3580	B	½	2.2Ω to 4.7MΩ	42	10	420	**233.90**
84N641	3581	B	1	2.2Ω to 1.0MΩ	39	5	195	**517.49**

(27826) (ne27826)

50 SERIES 12.5mm MODULAR PANEL CONTROLS



Single-section conductive plastic or cermet (**A** suffix) element sealed potentiometers. Metal bushing, single slotted metal shaft. Conductive plastic have resistance tolerance of ±20%. Cermet have tolerance of ±10%. Power rating: cermet 1.0 watt; plastic 0.5 watt. Storage temperature: –55°C to +125°C. Standard options include PC pin and solder lug terminals, anti-rotation lugs, and audio and linear tapers. Most popular values listed. Additional resistance values available; *contact your local Newark sales office.*

PC PIN TERMINALS

Stock No.	Type	Bush.	Dia.	Lgth.	Ohms	1-9	10-24	25-49
90F6566	51AADB24A15	⅜″	¼″	¾″	10k	8.80	7.66	5.97
90F6571	51CADE24A15	¼″	⅛″	¾″	10k	8.80	7.66	5.97
90F6573	51CADE28A10	¼″	⅛″	⅞″	1k	8.80	7.66	5.97
90F6574	51CADE28A13	¼″	⅛″	⅞″	5k	8.80	7.66	5.97
90F6557	51CADE28A15	¼″	⅛	⅞″	10k	8.80	7.66	5.97
90F6558	51CADE28A20	¼″	⅛″	⅞″	100k	8.80	7.66	5.97
90F6570	51AADB28D15*	⅜″	¼″	⅞″	10k	9.49	8.26	6.44
90F6562	51CADE28D15*	¼″	⅛″	⅞″	10k	9.49	8.26	6.44

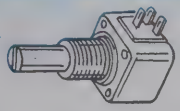
SOLDER LUG TERMINAL

90F6563	53AAAB28B15	⅜″	¼″	⅞″	10k	10.13	8.82	8.02

*Clockwise audio taper

(4163) (ne52906)

81 SERIES SINGLE ⅝″ PANEL CONTROL

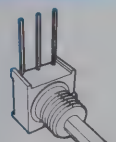


Feature conductive plastic and cermet modular versions. Built with metal shaft, gangable, with smooth shaft torque feature. **Type 81A** plain pushings are ⅜″. **Type 81C** plain bushings are ¼″. Available with conductive plastic linear or CW audio tapers, both with resistance tolerance of ±20%. Power rating: 1W. Storage temperature: –55°C to +125°C. Shaft diameter: 0.375″. Cermet versions of the **81 series** potentiometers with a resistance tolerance of ±10% are also available; *contact your local Newark sales office.* Most popular values listed. Additional resistance values available; *contact your local Newark sales office.*

Stock No.	Ohms	Shaft Dia.	1-9	10-24	25-49
04F2972	1k	0.250″	10.74	9.35	7.29
04F2974	5k	0.250″	10.74	9.35	7.29
04F2975	10k	0.250″	10.74	9.35	7.29
04F3009	1M	0.250″	10.74	9.35	7.29
04F2988	1k	0.125″	10.74	9.35	7.29
04F2989	5k	0.125″	10.74	9.35	7.29

(12764) (de02678)

3310 SERIES PANEL CONTROLS



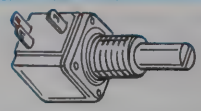
3310 series are 0.375″ (9) square, sealed conductive plastic. Solderable PC pin length: 0.235″ (5.97); spacing: 0.1″ (2.54). ¼-32 unf-2A threaded bushing. Shaft length: 0.5″ (12.70). Shaft diameter: 0.125″ (3.18). Resistance tolerance: ±20%. Power rating: 0.25 watts. **Type 3375** encoders are 6mm square, sealed bushing or PC board mount. Output: 2-bit grayscale, channel A leads channel B, clockwise (LW). Rotational life: 100,000 cycles. Continuous electrical travel. Most popular values listed. Additional resistance values available; *contact your local Newark sales office.*

IN LINE STRAIGHT TERMINALS SIDE EXIT

Stock No.	Type	Resistance (Ohms)	1-9	10-24	25-49	50-99
96F6808	3310C-1-102	1,000	1.54	1.34	1.22	1.11
96F6809	3310C-1-202	2,000	1.54	1.34	1.22	1.11
96F6810	3310C-1-502	5,000	1.54	1.34	1.22	1.11
96F6811	3310C-1-103	10,000	1.54	1.34	1.22	1.11
(5.08 x 5.08) TRIANGULAR PATTERN TERMINALS REAR EXIT						
96F6813	3310Y-1-102	1,000	1.54	1.34	1.22	1.11
96F6815	3310Y-1-502	5,000	1.54	1.34	1.22	1.11
96F6816	3310Y-1-103	10,000	1.54	1.34	1.22	1.11

(4149) (ne04222)

83/84 SERIES SINGLE ⅝″ SQUARE PANEL CONTROLS

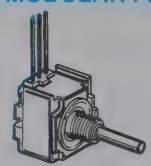


10-turn, modular wirewound control, fully compatible with other members of **80 series**. **Type 83** has PC pins. **Type 84** has solder lugs. Power rating: +70°C, 1W; +125°C, 0W. Storage temperature: –55°C to +125°C. ⅜″ bushings. Shaft length: 0.375″. Shaft diameter: 0.250″. Most popular values listed. Additional resistance values available; *contact your local Newark sales office.*

Stock No.	Type	Ohms	1-9	10-24	25-49
04F3026	83A1A-B28-J10	1k	28.22	24.57	22.34
04F3027	83A1A-B28-J13	5k	28.22	24.57	22.34
04F3028	83A1A-B28-J15	10k	28.22	24.57	22.34
04F3030	84A1A-B28-J10	1k	28.22	24.57	22.34
04F3031	84A1A-B28-J13	5k	28.22	24.57	22.34
04F3032	84A1A-B28-J15	10k	28.22	24.57	22.34

(12767) (de02679)

91 SERIES 16mm MODULAR PANEL CONTROLS



One-piece molded plastic shaft and rotor, plain metal bushing, in-line PC pin terminals, and single 0.305R, 90° clockwise CW anti-rotation lug. **91A** plain bushings are ⅜″. Available with conductive plastic linear (**suffix B**) or CW audio tapers (**suffix D**), both with a resistance tolerance of ±20%. Power rating: 1W. Storage temperature: –55°C to +125°C. Shaft type: slotted. Cermet versions of the **91 series** potentiometers with a tolerance of ±10% are also available; *contact your local Newark sales office.* Most popular values listed. Additional resistance values available; *contact your local Newark sales office.*

Stock No.	Type	Ohms	Shaft D	Shaft L	1-9	10-24	25-49
04F3040	91A1A-B24-B13	5k	¼″	¾″	5.65	4.91	4.47
04F3041	91A1A-B24-B15	10k	¼″	¾″	5.65	4.91	4.47
04F3044	91A1A-B24-B20	100k	¼″	¾″	5.65	4.91	4.47
04F3052	91A1A-B28-B10	1k	¼″	⅞″	5.65	4.91	4.47
04F3054	91A1A-B28-B13	5k	¼″	⅞″	5.65	4.91	4.47
04F3055	91A1A-B28-B15	10k	¼″	⅞″	5.65	4.91	4.47
04F3095	91A1A-B24-D15	10k	¼″	¾″	6.40	5.57	5.06
04F3105	91A1A-B28-D13	5k	¼″	¾″	6.40	5.57	5.06
04F3106	91A1A-B28-D15	10k	¼″	¾″	6.40	5.57	5.06

(12768) (ne02680)

PLASTIC AND CERMET PANEL CONTROLS

3862

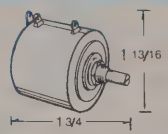
3851, 3852, 3856

Panel mount controls offer essentially infinite resolution. **Type 3852** are ¾″ diameter/single-turn cermet controls. **Type 3856** is ¾″ diameter/3¾-turn cermet control. **Type 3862** are ½″ diameter/single-turn cermet controls. All models have plain bushing slotted-end shaft, solder lug terminals (except **type 3862** which come with J-hook solder lugs) and linear taper, with a resistance tolerance of ±10%. Power rating: **type 3852/3856**—2 watt linear taper, 1 watt audio taper; **type 3862**—1 watt audio taper. Storage temperature: –65°C to +125°C. Shaft length measured from mounting surface. Most popular values listed. Additional resistance values available; *contact your local Newark sales office.*

Stock No.	Type	Ω	Bushing	Slotted Shaft Dia.	Slotted Shaft Lgth.	1-9	10-24	25-49
01F8665	3852A-162-502A	5k	⅜″-32	⅛″	½″	10.91	9.49	7.40
01F8660	3852A-162-102A	1k	⅜″-32	¼″	½″	10.91	9.49	7.40
01F9194	3852A-282-502A	5k	⅜″-32	¼″	⅞″	10.91	9.49	7.40
01F9190	3852A-282-102A	1k	⅜″-32	¼″	⅞″	10.91	9.49	7.40
01F9248	3852C-282-103A	10k	¼″-32	⅛″	⅞″	10.91	9.49	7.40
01F9194	3852A-282-502A	50k	⅜″-32	¼″	⅞″	10.91	9.49	7.40
01F9202	3852A-282-104A	100k	⅜″-32	¼″	⅞″	10.91	9.49	7.40
01F9243	3852C-282-102A	1k	¼″-32	¼″	⅞″	10.91	9.49	7.40
01F9246	3852C-282-502A	5k	¼″-32	¼″	⅞″	10.91	9.49	7.40
04F4878	3856A-282-102A	1k	⅜″-32	¼″	⅞″	24.65	21.46	19.51
01F8766	3862C-122-103A	10k	¼″-32	⅛″	⅜″	17.49	15.22	13.84
01F9216	3862C-282-103A	10k	¼″-32	⅛″	⅜″	17.49	15.22	13.84

(12827) (de03012)

3400S MODEL 1 13/16″ DIAMETER 10-TURN WIREWOUND PRECISION POTENTIOMETERS

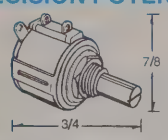


Precision potentiometers are bushing mount models with gold-plated solder lug terminals. Slotted shaft: 0.812″ L, measured from mounting surface. 0.250″ dia. units are sealable. Power rating: 5 watts at +40°C. Resistance tolerance: ±3%. Operating temperature: –65°C to +125°C.

Stock No.	Type	Ohms	Nom. Res.	1-9	10-24	25-49
01F8990	3400S-1-101	100	0.033%	105.58	91.90	83.55
01F8991	3400S-1-201	200	0.034%	105.58	91.90	83.55
01F8992	3400S-1-501	500	0.023%	105.58	91.90	83.55
01F8993	3400S-1-102	1k	0.020%	105.58	91.90	83.55
01F8994	3400S-1-202	2k	0.016%	105.58	91.90	83.55
01F8995	3400S-1-502	5k	0.013%	105.58	91.90	83.55
01F8996	3400S-1-103	10k	0.010%	105.58	91.90	83.55
01F8997	3400S-1-203	20k	0.011%	109.49	95.31	86.64
01F9000	3400S-1-104	100k	0.006%	123.98	107.92	98.11
01F9001	3400S-1-204	200k	0.005%	132.89	115.68	105.16

(9543) (de03013)

3540S & 3541H SERIES 7/8″ DIAMETER 10-TURN WIREWOUND/ HYBRID PRECISION POTENTIOMETERS



3540S series bushing mount pots have gold-plated solder lug terminals. Slotted shaft: 0.812″L measured from mounting surface. 0.250″ dia. Power rating: 2 watts @ +70°C. Resistance tolerance: ±5%. Operating temperature: –55°C to +125°C. **3541H series** precision potentiometers are virtually the same as **3540S** except for Hybriton® element, and ±10% resistance tolerance.

3540S SERIES WIREWOUND POTENTIOMETERS

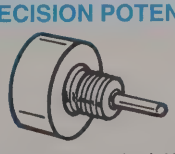
Stock No.	Type	Ohms	Res.	1-9	10-24	25-49
01F8335	3540S-1-101	100	0.055%	15.93	13.87	12.61
01F8336	3540S-1-201	200	0.042%	15.93	13.87	12.61
01F8337	3540S-1-501	500	0.031%	15.93	13.87	12.61
01F8338	3540S-1-102	1k	0.027%	15.93	13.87	12.61
01F8339	3540S-1-202	2k	0.021%	15.93	13.87	12.61
01F8340	3540S-1-502	5k	0.021%	15.93	13.87	12.61
01F8341	3540S-1-103	10k	0.019%	15.93	13.87	12.61
01F8342	3540S-1-203	20k	0.014%	15.93	13.87	12.61
01F8343	3540S-1-503	50k	0.011%	17.71	15.42	14.02
01F8344	3540S-1-104	100k	0.008%	19.90	17.33	15.75

3541H SERIES HYBRID POTENTIOMETERS

Stock No.	Type	Ohms	Res.	1-9	10-24	25-49
12F5000	3541H-1-102	1k	0.027%	39.60	34.47	31.34
12F5001	3541H-1-202	2k	...	39.60	34.47	31.34
12F5002	3541H-1-502	5k	0.021%	39.60	34.47	31.34
12F5003	3541H-1-103	10k	0.019%	39.60	34.47	31.34
12F5004	3541H-1-203	20k	...	39.60	34.47	31.34

(9610) (ne03014)

6637 SERIES 7/8″ DIAMETER SINGLE-TURN CONDUCTIVE PLASTIC PRECISION POTENTIOMETERS

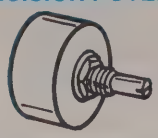


Bushing mount pots meet MIL-STD-202, method 106, for moisture resistance and MIL-STD-202, method 301, dielectric withstanding voltage requirements. Slotted shaft: 0.886″ (2.23mm) L measured from mounting surface. 0.886″ diameter. Power rating: 1 watt at +70°C. Resistance tolerance: ±10%. Operating temperature ranges: static operation, –65°C to +125°C; dynamic, +1°C to +125°C. Resolution essentially infinite.

Stock No.	Type	Ohms	1-9	10-24	25-49
12F7100	6637S-1-102	1k	36.87	32.09	29.17
12F7102	6637S-1-502	5k	36.87	32.09	29.17

(4133) (de04226)

6657 SERIES 7/8″ DIAMETER SINGLE-TURN CONDUCTIVE PLASTIC PRECISION POTENTIOMETERS

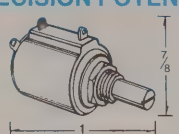


Bushing mount pots meet MIL-STD-202, method 106, moisture resistance and MIL-STD-202 method 301, dielectric withstanding voltage requirements. Slotted shaft: 0.875″ L measured from mounting surface. 0.250″ diameter. Power rating: 1.5 watts at +70°C. Resistance tolerance: ±10%. Operating temperature range: static operation, –65°C to +125°C; dynamic operation, +1°C to +125°C. Resolution essentially infinite.

Stock No.	Type	Ohms	1-9	10-24	25-49
12F7107	6657S-1-102	1k	37.41	32.57	29.61
12F7108	6657S-1-202	2k	37.41	32.57	29.61
12F7109	6657S-1-502	5k	37.41	32.57	29.61

(4134) (de04227)

3500S & 3501H SERIES 7/8″ DIAMETER 10-TURN WIREWOUND/ HYBRID PRECISION POTENTIOMETERS



3500S series 3/8″-32-2A THD bushing mount model meets moisture resistance requirements of MIL-STD-202 method 103 condition B, as well as dielectric withstanding voltage requirements of MIL-STD-202 method 301. Slotted shaft: 0.812″ L measured from mounting surface. 0.250″ dia. Power rating: 2 watts at 70°C. Resistance tolerance: ±3%. Operating temperature range: –65°C to +125°C. **3501H series** is virtually identical to **3500S** except these have Hybitron conductive plastic over wire element and resistance tolerance of ±10%. Operating temperature: –65°C to +125°C.

3500S SERIES WIREWOUND POTS

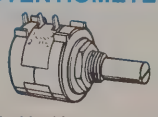
Stock No.	Type	Ohms	Res. %	1-9	10-24	25-49
01F9143	3500S-2-102	1k	0.030	49.70	43.26	39.33
01F9146	3500S-2-103	10k	0.019	49.70	43.26	39.33
01F9147	3500S-2-203	20k	0.015	49.70	43.26	39.33
01F9148	3500S-2-503	50k	0.011	56.16	48.88	44.44
01F9149	3500S-2-104	100k	0.008	58.48	50.90	46.28

3501H SERIES HYBRID POTENTIOMETERS

Stock No.	Type	Ohms	1-9	10-24	25-49
01F9008	3501H-1-102	1k	71.50	62.24	56.58
01F9010	3501H-1-502	5k	71.50	62.24	56.58

(4129) (de03016)

TYPE 3590S 7/8″ DIAMETER 10-TURN WIREWOUND POTENTIOMETERS



Bushing mount, wirewound model with either metal or plastic shaft. Solder lug terminals. Power rating: 2 watts @ +40°C. Resistance tolerance: ±5%. Operating temperature: –55°C to +125°C. Sealed versions also available; *contact your local Newark sales office.*

3590S METAL SHAFT MODELS

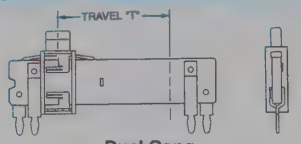
Stock No.	Type	Ohms	Res. %	1-9	10-24	25-49
03F3886	3590S-2-102	1k	0.029	11.93	10.39	9.44
03F3888	3590S-2-502	5k	0.025	11.93	10.39	9.44
03F3889	3590S-2-103	10k	0.020	11.93	10.39	9.44
03F3890	3590S-2-203	20k	0.016	11.93	10.39	9.44
03F3891	3590S-2-503	50k	0.013	14.41	12.54	11.40
03F3892	3590S-2-104	100k	0.009	15.45	13.45	12.23

3590S PLASTIC SHAFT MODELS

Stock No.	Type	Ohms	Res. %	1-9	10-24	25-49
03F4644	3590S-1-102	1k	0.029	9.65	8.40	7.63
03F4646	3590S-1-502	5k	0.025	9.65	8.40	7.63
03F4647	3590S-1-103	10k	0.020	9.65	8.40	7.63
03F4648	3590S-1-203	20k	0.016	9.65	8.40	7.63
03F4649	3590S-1-503	50k	0.013	12.19	10.61	9.65
03F4650	3590S-1-104	100k	0.009	13.19	11.48	10.44

(4148) (ne03017)

PDV SERIES OPEN-FRAME SLIDE POTENTIOMETERS



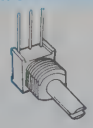
Dual Gang

Vertical mount potentiometer with carbon element and sliding force of 20 to 300gcm. **Type PDV15** has 15mm slider travel, dual gang, no detent and linear taper. Power rating: 0.1 watt; max. operating voltage: 150V. **Type PDV20** has 20mm slider travel, single gang, center detent, and audio taper. Power rating:0.05 watt; max. operating voltage: 100V. Sliding noise: 47mV max. Overall length: "T" + 20mm. Height above board: 17.5mm. Width: 3.9mm. Pin length: 3.6mm.

Stock No.	Type	Ohms	Taper	1-9	10-24	25-49
91F6577	PDV15-22P-104B	100k	Linear	1.60	1.23	1.07
91F6578	PDV20-31P-103A	10k	Audio	1.00	0.77	0.67

(15026) (ne10111)

TYPE 3370 6mm SQUARE PANEL CONTROLS



Conductive plastic with plastic bushing and shaft. PC board and bushing mount. Withstand typical industrial washing processes. Resistive tolerance: ±20%. Power rating: 0.125W @ 70°C (derate to 0 at 125°C, voltage limited by power dissipation or 200VAC, whichever is less). Storage temperature: –55°C to +125°C.

5.08mm x 5.08mm TRIANGULAR PATTERN TERMINALS REAR EXIT

Stock No.	Type	Resol. (Ω)	1-24	25-49	50-99
52F6810	3370Y001-1K	1000	1.61	1.51	1.36
52F6811	3370Y001-2K	2000	1.61	1.51	1.36
52F6812	3370Y001-5K	5000	1.61	1.51	1.36
52F6813	3370Y001-10K	10000	1.61	1.51	1.36
52F6814	3370Y001-20K	20000	1.61	1.51	1.36
IN-LINE STRAIGHT TERMINALS SIDE EXIT					
52F6815	3370C001-1K	1000	1.61	1.51	1.36
52F6816	3370C001-2K	2000	1.61	1.51	1.36
52F6817	3370C001-5K	5000	1.61	1.51	1.36
52F6818	3370C001-10K	10000	1.61	1.51	1.36
52F6819	3370C001-20K	20000	1.61	1.51	1.36

(4152) (ne07266)

3315 SERIES ENCODERS

0.375″ (9) square, sealed. Solderable PC pin length: 0.235″ (5.97). ¼-32 unf-2A threaded bushing. Shaft length: 0.50″ (12.70). Shaft diameter: 0.125″ (3.18). Closed circuit resistance: 5 ohms max.

Stock No.	Type	Pulses/Rev.	1-9	10-24	25-49	50-99
96F6819	3315Y-1-006	6	1.54	1.34	1.22	1.11

(4150) (ne04228)

TYPE 3375 ENCODERS

Type 3375 encoders are 6mm square, sealed. Bushing or PC board mount. Output: 2-bit gray code, channel A leads channel B electrically turning clockwise (CW). Circuit resistance: 5 ohms max. Dielectric withstand voltage: 900VAC min. Electrical travel: continuous. Operating temperature: –55°C to 125°C. Rotational life: 100,000 cycles. Torque: 5 oz.-in. max.

5.08mm x 5.08mm TRIANGULAR PATTERN TERMINALS REAR EXIT

Stock No.	Type	Pulses/Rev.	1-24	25-49	50-99	100-249
52F6820	3375Y001006	6	1.61	1.51	1.36	1.08
IN-LINE STRAIGHT TERMINALS SIDE EXIT						
52F6821	3375C001006	6	1.61	1.51	1.36	1.08

(4153) (ne07269)

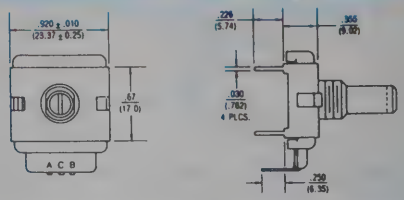
RLB0914 SERIES RADIAL LEAD FIXED INDUCTORS

High rated current for high current circuits. DC current 3.1A (4.7µH) to 200 mA (1,000µH). Outside diameter: 9.0mm. Body height: 14mm.

Stock No.	Type	Induct. (µH)	Tol.	1-9	10-24	25-49	50-99
52F6868	RLB0914-4R7M	4.7	±20%	0.35	0.30	0.28	0.25
52F6869	RLB0914-6R8M	6.8	±20%	0.35	0.30	0.28	0.25
52F6870	RLB0914-100K	10	±10%	0.35	0.30	0.28	0.25
52F6871	RLB0914-150K	15	±10%	0.35	0.30	0.28	0.25
52F6872	RLB0914-220K	22	±10%	0.35	0.30	0.28	0.25
52F6873	RLB0914-330K	33	±10%	0.35	0.30	0.28	0.25
52F6874	RLB0914-470K	47	±10%	0.35	0.30	0.28	0.25
52F6877	RLB0914-151K	150	±10%	0.35	0.30	0.28	0.25
52F6882	RLB0914-102K	1000	±10%	0.35	0.30	0.28	0.25

(4155) (ne07271)

EC SERIES CONTACTING ENCODERS

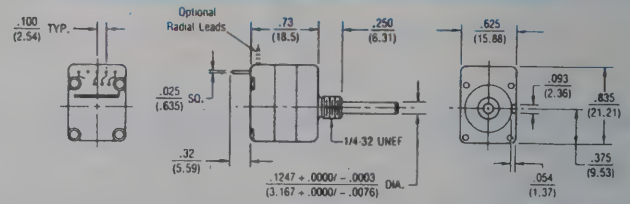


200,000-revolution encoders allow direct entry of digitized analog data into digital circuit without A/D conversion, (rather than conventional potentiometric voltage ratio output). Feature 0.75″ (19)L x 0.25″ (6.35) diameter plain shaft with inserted slot, PC terminals with terminal cover, mounting bracket. Rated 10mA @ 10VDC or 0.1 watt max. Dielectric withstanding voltage: 1,000VAC minimum. Operating temperature: +1° to +125°C. Bushing: 0.35 ″ x 0.25″ L (9 x 6.35). Performance code: 24.

Stock No.	Type	Detents	Cycles/Rev.	1-9
87F6370	ECW1J-B24-BC0024	24	24	5.79
98F5604	ECW1D-B24-BC0024	24	24	5.79

(4143) (de52794)

EN SERIES ROTARY OPTICAL ENCODERS



Self-contained encoders produce 2-bit quadrature signal suitable for digital systems and convert rotary input into electrical signals which can be used by microprocessors. With front bushing and shaft. Shaft length 0.875″ (22.23). **ENA types:** Bushing ⅜″D x ⅜″L threaded. **ENC1JD28L00128:** Bushing ¼″D x ¼″ threaded. **ENS1JB28L00256:** Bushing ⅜″D x ⅜″L threaded, with ball bearing. All types have ¼″D, plain end shaft except **ENC1JD28L00128** has ⅞″ plain end shaft. Anti-rotation lug position is at 9:00. Terminal: axial, multi-purpose pin. Switching configuration: Channel A Leads, Channel B by 90° clockwise rotation. Operating temperature: –40°C to +85°C.

Stock No.	Type	Revolutions	Resolution Cycles/Rev.	1-9
89F1680	ENA1J-B28-L00064	10,000,000	64	61.15
89F1681	ENA1J-B28-L00100	10,000,000	100	61.15
89F1682	ENA1J-B28-L00128	10,000,000	128	61.15
89F1684	ENC1J-D28-L00128	10,000,000	128	61.15
89F1685	ENS1J-B28-L00256	200,000,000	256	98.49
93F1127	ENA1J-B28-M00128	10,000,000	128	85.46

(4142) (de52790)

SDR0805/SDR1006 SERIES SMD POWER INDUCTORS

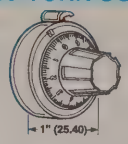
SMD

High DC output. Operating temperature: –50°C to +125°C. **SDR0805 series** have a height of 5.3mm and an outside diameter of 7.8mm. **SDR1006 series** have a height of 5.8mm and an outside diameter of 9.8mm.

Stock No.	Type	Induct. (µH)	I_{DC} $(A)_{Max.}$	Tol.	1-9	10-24	25-49	50-99
52F6843	SDR0805-100M	10	2.30	±20%	0.69	0.60	0.55	0.50
52F6844	SDR0805-150M	15	1.80	±20%	0.69	0.60	0.55	0.50
52F6845	SDR0805-220M	22	1.50	±20%	0.69	0.60	0.55	0.50
52F6846	SDR0805-330K	33	1.20	±10%	0.69	0.60	0.55	0.50
52F6847	SDR0805-470K	47	1.00	±10%	0.69	0.60	0.55	0.50
52F6848	SDR0805-680K	68	0.85	±10%	0.69	0.60	0.55	0.50
52F6849	SDR0805-101K	100	0.66	±10%	0.69	0.60	0.55	0.50
52F6850	SDR0805-151K	150	0.58	±10%	0.69	0.60	0.55	0.50
52F6851	SDR0805-221K	220	0.49	±10%	0.69	0.60	0.55	0.50
52F6852	SDR0805-331K	330	0.40	±10%	0.69	0.60	0.55	0.50
52F6853	SDR0805-471K	470	0.34	±10%	0.69	0.60	0.55	0.50
52F6854	SDR1006-100M	10	2.60	±20%	0.84	0.73	0.66	0.60
52F6855	SDR1006-150M	15	2.25	±20%	0.84	0.73	0.66	0.60
52F6856	SDR1006-220M	22	1.95	±20%	0.84	0.73	0.66	0.60
52F6857	SDR1006-330K	33	1.50	±10%	0.84	0.73	0.66	0.60
52F6858	SDR1006-470K	47	1.25	±10%	0.84	0.73	0.66	0.60
52F6859	SDR1006-680K	68	1.10	±10%	0.84	0.73	0.66	0.60
52F6860	SDR1006-101K	100	0.97	±10%	0.84	0.73	0.66	0.60
52F6861	SDR1006-151K	150	0.78	±10%	0.84	0.73	0.66	0.60
52F6862	SDR1006-221K	220	0.66	±10%	0.84	0.73	0.66	0.60
52F6863	SDR1006-331K	330	0.52	±10%	0.84	0.73	0.66	0.60
52F6864	SDR1006-471K	470	0.42	±10%	0.84	0.73	0.66	0.60
52F6865	SDR1006-681K	680	0.28	±10%	0.84	0.73	0.66	0.60
52F6866	SDR1006-821K	820	0.24	±10%	0.84	0.73	0.66	0.60

(4154) (ne07270)

H-490 SERIES 30-TURN COUNTING DIALS

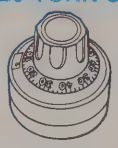


For devices up to 30 turns. Mount directly to pot shaft. 100 dial divisions per turn. Operating temperature: –15°C to +85°C.

Stock No.	Type	Finish	Shaft Dia.	Brake	1-9	10-24	25-49
12F9416	H-492-2	Clear	⅛″	Yes	34.28	29.84	27.13
12F9418	H-494-2	Black	⅛″	Yes	34.28	29.84	27.13
12F9670	H-492-3	Clear	¼″	Yes	34.28	29.84	27.13
12F9671	H-493-3	Black	¼″	No	34.28	29.84	27.13
12F9672	H-494-3	Black	¼″	Yes	34.28	29.84	27.13

(4110) (de00052)

TYPE H 15- AND 20-TURN COUNTING DIALS

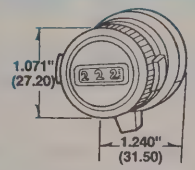


Type H-46-6A is a 20-turn dial. Accepts 0.250″ (6.35) diameter shaft. Minimum shaft extension beyond panel: 0.712″ (18.1). Locking brake. Markings are black on chrome background. **H-506-¼** is a 15-turn dial. Accepts 0.250″ (6.35) diameter shaft. Minimum shaft extension beyond panel: 0.689″ (17.5). Locking brake. Markings are white on black background. Good for plastic shafts. **H-22-6A** is identical to **H-506**, except for having black on chrome markings. Recommended for metal shafts.

Stock No.	Type	Overall Diameter	Height	1-9	10-24	25-49
70B9808	H466A	46mm	24mm	20.12	17.51	15.92
84F2004	H-506-1/4	22.7mm	25mm	6.24	5.43	4.94
16F9386	H-22-6A	22.2mm	20mm	10.17	8.85	8.05

(9947) (de00053)

TYPES CT-23 AND CT-26 10-TURN COUNTING DIALS



Digital dial for devices up to 10 turns. **CT-23** front panel mount; **CT-26** recessed mount. Markings: white on black background. Readability within 1/500 of a turn. Accepts 0.25″ (6.35) shaft diameter. Positive friction brake.

Stock No.	Type	1-9	10-24	25-49
13F1710	CT-23-6A	20.26	17.64	16.03
13F1711	CT-26-6A	20.26	17.64	16.03

(4111) (de00054)

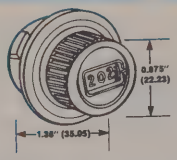
3682S, 3683S SERIES 2-WATT DIGITAL KNOBPOTS

Snap-in mount digital pushbutton precision potentiometers. Tolerance: ±3%. Resolution on **3682S:** 1%. Resolution on **3683S:** 0.1%. **3682S series** has 2 character display, **3683S series** has 3 character display. Operating temperature: –25° to +85°C. Load life: 1000 hours, 2 watts. Tinned solder lug terminals for three 20AWG wires. **3682S:** 0.93H x 1.050W x 1.050″D (23.62 x 26.67 x 26.67). **3683S:** 0.93H x 1.460W x 1.050″D (23.62 x 37.08 x 26.67).

Stock No.	Type	Ohms	1-9	10-24	25-49
76F1091	3682S-1-102	1k	32.55	28.33	25.75
04F9392	3682S-1-502	5k	32.55	28.33	25.75
76F1092	3682S-1-103	10k	32.55	28.33	25.75
76F1094	3682S-1-104	100k	32.55	28.33	25.75
04F8751	3682S-1-105	1M	32.55	28.33	25.75
13F041	3683S-1-102	1k	48.16	41.92	38.11
13F042	3683S-1-202	2k	48.16	41.92	38.11
13F043	3683S-1-502	5k	48.16	41.92	38.11
13F044	3683S-1-103	10k	48.16	41.92	38.11
13F047	3683S-1-104	100k	48.16	41.92	38.11
13F049	3683S-1-105	1M	48.16	41.92	38.11

(9439) (de00051)

3610S-1 SERIES 1.5-WATT KNOBPOTS

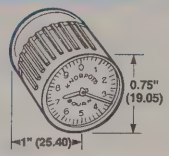


10-turn precision potentiometers feature wirewound element and are snap-in mount. Power rating: 1.5 watts @ +25°C. Tolerance: ±5%. Operating temperature: –25°C to +85°C. Rotational life: 50,000 revolutions. Gold-plated J-hook terminals.

Stock No.	Type	Ohms	Res. (%)	1-9	10-24	25-49
01F8328	3610S-1-102	1k	0.035	72.51	63.12	57.38
01F8329	3610S-1-202	2k	0.030	72.51	63.12	57.38
01F8330	3610S-1-502	5k	0.027	72.51	63.12	57.38
01F8331	3610S-1-103	10k	0.022	72.51	63.12	57.38
01F8332	3610S-1-203	20k	0.017	72.51	63.12	57.38
01F8333	3610S-1-503	50k	0.013	77.22	67.21	61.10
01F8334	3610S-1-104	100k	0.012	80.31	69.90	63.55

(9440) (de00055)

3600S-1 SERIES 1.5-WATT KNOBPOTS

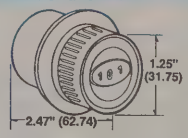


10-turn precision potentiometers feature wirewound element and bushing mount. Power rating: 1.5 watts @ +25°C. Tolerance: ±15%. Operating temperature: –65°C to +85°C. Rotational life: 200,000 revolutions. Gold-plated J-hook terminals.

Stock No.	Type	Ohms	Res. (%)	1-9	10-24	25-49
01F9055	3600S-1-501	500	0.045	71.30	62.06	56.42
01F9056	3600S-1-102	1k	0.035	71.30	62.06	56.42
01F9057	3600S-1-202	2k	0.030	71.30	62.06	56.42
01F9058	3600S-1-502	5k	0.027	71.30	62.06	56.42
01F9059	3600S-1-103	10k	0.022	71.30	62.06	56.42
01F9061	3600S-1-503	50k	0.013	76.42	66.52	60.47
01F9062	3600S-1-104	100k	0.012	79.63	69.31	63.01

(9441) (de00056)

3650S-1 SERIES 2.5-WATT KNOBPOTS

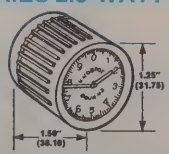


10-turn precision potentiometers feature wirewound element and are single-hole mount. Power rating: 2.5 watts @ +25°C. Tolerance: ±3%. Operating temperature: –25°C to +85°C. Rotational life: 100,000 revolutions. Gold-plated J-hook terminals.

Stock No.	Type	Ohms	Res. (%)	1-9	10-24
01F8642	3650S-1-102	1k	0.030	268.42	233.64
01F8643	3650S-1-202	2k	0.021	268.42	233.64
01F8644	3650S-1-502	5k	0.016	268.42	233.64
01F8645	3650S-1-103	10k	0.019	268.42	233.64

(9442) (de00057)

3640S-1 SERIES 2.5-WATT KNOBPOTS



10-turn precision potentiometers feature wirewound element and bushing mount. Power rating: 2.5 watts @ +25°C. Tolerance: ±3%. Operating temperature: –65°C to +85°C. Rotational life: 100,000 revolutions. Gold-plated J-hook terminals.

Stock No.	Type	Ohms	Res. (%)	1-9	10-24	25-49
01F8626	3640S-1-102	1k	0.030	210.46	183.19	166.54
01F8628	3640S-1-502	5k	0.016	210.46	183.19	166.54
01F8629	3640S-1-103	10k	0.019	210.46	183.19	166.54

(9443) (de00058)

SURFACE MOUNT TRIMMERS

SERIES 3313 PATENTED SINGLE-TURN TRIMMERS

SMD

3mm sealed cermet trimmers. Resistance tolerance: ±20% std. Operating temperature: –55°C to +125°C. Power rating (200V max.): @70°C- 0.125W. Reel qty.: 1000 pcs.

Stock No.	Type	Ohms	1-99	100-499	500-999	Each per Reel
04F8034	3313J-1-102E	1k	1.62	1.30	1.21	1.02
04F8035	3313J-1-502E	5k	1.62	1.30	1.21	1.02
04F8036	3313J-1-103E	10k	1.62	1.30	1.21	1.02
04F8037	3313J-1-104E	100k	1.62	1.30	1.21	1.02

(15240) (de02134)

TYPE 3214 PATENTED 4mm SQUARE MULTI-TURN SURFACE MOUNT CERMET TRIMMING POTENTIOMETERS

SMD

Type 3214 are sealed to withstand board wash processing. 4mm design meets EIA/EAIJ/IPC/VRCI SMD standard trimmer footprint, and features pick-and-place centering design with flush adjustment. Resistance tolerance: ±10% std. Adjustment angle: 5 turns nom. Power rating: (300V max.) 0.25W @ 85°C. Operating temperature: –65°C to 150°C. Temperature coefficient: ±100ppm/°C. Load life: @ 85°C rated power- 1,000 hours.

TYPE 3214G SIDE ADJUST GULL-WING

Stock No.	Type	Ohms	1-24	25-49	50-99	100-249
52F6824	3214G-1-101E	100	2.35	2.21	1.98	1.62
52F6825	3214G-1-201E	200	2.35	2.21	1.98	1.62
52F6826	3214G-1-501E	500	2.35	2.21	1.98	1.62
52F6827	3214G-1-102E	1k	2.35	2.21	1.98	1.62
52F6828	3214G-1-202E	2k	2.35	2.21	1.98	1.62
52F6829	3214G-1-502E	5k	2.35	2.21	1.98	1.62
52F6830	3214G-1-103E	10k	2.35	2.21	1.98	1.62
52F6840	3214G-1-203E	20k	2.35	2.21	1.98	1.62
52F6841	3214G-1-503E	50k	2.35	2.21	1.98	1.62
52F6842	3214G-1-104E	100k	2.35	2.21	1.98	1.62
	TYPE 3214J SIDE ADJUST J-LEAD					
52F6832	3214J-1-101E	100	2.35	2.21	1.98	1.62
52F6833	3214J-1-201E	200	2.35	2.21	1.98	1.62
52F6834	3214J-1-501E	500	2.35	2.21	1.98	1.62
52F6835	3214J-1-102E	1k	2.35	2.21	1.98	1.62
52F6836	3214J-1-202E	2k	2.35	2.21	1.98	1.62
52F6837	3214J-1-502E	5k	2.35	2.21	1.98	1.62
52F6838	3214J-1-103E	10k	2.35	2.21	1.98	1.62
52F6839	3214J-1-203E	20k	2.35	2.21	1.98	1.62
52F6822	3214J-1-503E	50k	2.35	2.21	1.98	1.62
52F6823	3214J-1-104E	100k	2.35	2.21	1.98	1.62
	TYPE 3214W TOP ADJUST-J LEAD					
52F6793	3214W-1-101E	100	2.35	2.21	1.98	1.62
52F6794	3214W-1-201E	200	2.35	2.21	1.98	1.62
52F6795	3214W-1-501E	500	2.35	2.21	1.98	1.62
52F6796	3214W-1-102E	1k	2.35	2.21	1.98	1.62
52F6797	3214W-1-202E	2k	2.35	2.21	1.98	1.62
52F6798	3214W-1-502E	5k	2.35	2.21	1.98	1.62
52F6799	3214W-1-103E	10k	2.35	2.21	1.98	1.62
52F6800	3214W-1-203E	20k	2.35	2.21	1.98	1.62
52F6801	3214W-1-503E	50k	2.35	2.21	1.98	1.62
52F6831	3214W-1-104E	100k	2.35	2.21	1.98	1.62

(4151) (ne07266)

SERIES 3364 SINGLE-TURN TRIMMERS

SMD

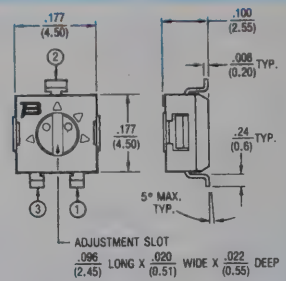
4mm cermet open frame industrial trimmers. Resistance tolerance: ±25% std. Temperature range: –40 to +100°C. Standard reel quantity 1000 pcs.

Stock No.	Type	Ohms	1-99	100-499	500-999	Each per Reel
04F9649	3364W-1-102E	1k	0.84	0.68	0.64	0.59
04F9652	3364W-1-103E	10k	0.84	0.68	0.64	0.59
04F9653	3364W-1-203E	20k	0.84	0.68	0.64	0.59
04F9654	3364W-1-503E	50k	0.84	0.68	0.64	0.59
04F9655	3364W-1-104E	100k	0.84	0.68	0.64	0.59
04F9661	3364X-1-502E	5k	0.84	0.68	0.64	0.59
04F9662	3364X-1-103E	10k	0.84	0.68	0.64	0.59
04F9663	3364X-1-203E	20k	0.84	0.68	0.64	0.59
04F9665	3364X-1-104E	100k	0.84	0.68	0.64	0.59

(9500) (de02136)

3314 SERIES 4mm SQUARE TRIMMING POTENTIOMETERS

SMD



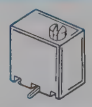
3314 series sealed cermet potentiometers are compatible with all surface mount processes and vacuum pick-and-place equipment. Resistance tolerance: ±20% std. Operating temperature: –55°C to +125°C.

Stock No.	Type	Ohms	Style	1-99	100-499
04F5959	3314J-1-501E	500	J-hook	1.62	1.23
04F5980	3314G-1-103E	10k	Gull Wing	1.62	1.23

(34272) (ne34272)

3269 SERIES PATENTED MULTI-TURN TRIMMERS

SMD



¼" (6.35) square cermet trimmers are specifically designed for instrumentation and other sensitive equipment requiring board-level adjustment. Compatible with automated assembly and reflow soldering equipment. Top- and side-adjust voltage divider models. Resistance tolerance: ±10% std. Power rating: (300V max.) 85°C—0.25W. Operating temperature: –65°C to +150°C. Temperature coefficient: ±100ppm/°C. Load life: 1000 hrs. at 0.25W @ 85°C. Rotational life: 200 cycles.

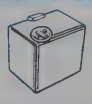
TYPE 3269P SIDE-ADJUST

Stock No.	Type	Ohms	1-9	10-24	25-49	50-99
04F6888	3269P-1-501	500	3.94	3.76	3.59	3.48
04F6889	3269P-1-502	5k	3.94	3.76	3.59	3.48
	TYPE 3269W TOP-ADJUST					
04F6880	3269W-1-101	100	3.94	3.76	3.59	3.48
04F6882	3269W-1-102	1k	3.94	3.76	3.59	3.48
04F6884	3269W-1-103	10k	3.94	3.76	3.59	3.48
04F6885	3269W-1-203	20k	3.94	3.76	3.59	3.48
04F6886	3269W-1-503	50k	3.94	3.76	3.59	3.48
04F6887	3269W-1-104	100k	3.94	3.76	3.59	3.48

(9897) (ne02133)

3224 SERIES PATENTED MULTI-TURN TRIMMERS

SMD



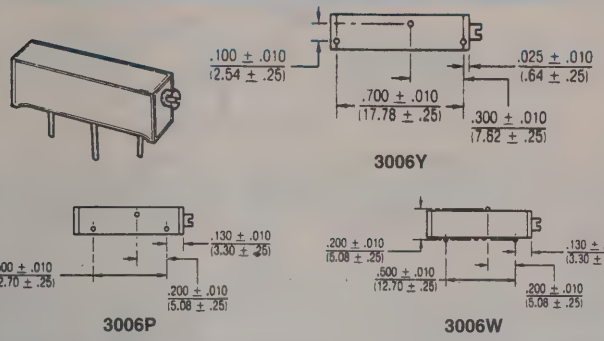
4mm square sealed cermet trimmers are compatible with all surface-mount processes and feature pick-and-place centering design with flush adjustment. Resistance tolerance: ±10% std. Adjustment angle: 11 turns nom. Power rating: (300V max.) 85°C—0.25W. Operating temperature: –65°C to +150°C. Temperature coefficient: ±100ppm/°C. Load life: @ 85°C rated power 1000 hrs. **Sold in quantities of 1-249 or in reels of 250.**

Stock No.	Type	Ohms	1-99	100-249	Each per reel
04F8028	3224W-1-501E	500	3.32	2.65	2.39
04F8029	3224W-1-102E	1k	3.32	2.65	2.39
04F8030	3224W-1-502E	5k	3.32	2.65	2.39
04F8031	3224W-1-103E	10k	3.32	2.65	2.39
04F8033	3224W-1-503E	50k	3.32	2.65	2.39

(9606) (ne02132)

NEW PRODUCTS ARE CONTINUALLY ADDED.
CALL NEWARK FOR CURRENT SELECTION.

3006 SERIES INDUSTRIAL CERMET TRIMMERS



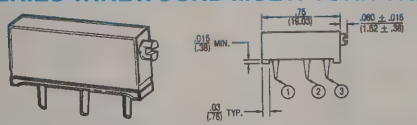
¾″ long, low profile PC board units are rated 0.75 watt at 70°C. 15 turns. Sealed to MIL-R-22097, units withstand immersion cleaning process. Operating temperature: –55°C to +125°C. Resistance tolerance: ±10%. Most popular values listed. Additional ohmic values available; *contact your local Newark sales office.*

Stock No.	Type	Ohms	Nom. Res.	1-24	25-49	50-99
01F9077	3006P-1-200	20	Infinite	1.63	1.53	1.38
01F9079	3006P-1-101	100	Infinite	1.63	1.53	1.38
01F9080	3006P-1-201	200	Infinite	1.63	1.53	1.38
01F9082	3006P-1-102	1k	Infinite	1.63	1.53	1.38
01F9083	3006P-1-202	2k	Infinite	1.63	1.53	1.38
01F9084	3006P-1-502	5k	Infinite	1.63	1.53	1.38
01F9085	3006P-1-103	10k	Infinite	1.63	1.53	1.38
01F9086	3006P-1-203	20k	Infinite	1.63	1.53	1.38
01F9088	3006P-1-503	50k	Infinite	1.63	1.53	1.38
01F9089	3006P-1-104	100k	Infinite	1.63	1.53	1.38
01F9090	3006P-1-204	200k	Infinite	1.63	1.53	1.38
01F9093	3006P-1-105	1.0M	Infinite	1.63	1.53	1.38
01F9104	3006W-1-103	10k	Infinite	1.75	1.65	1.48
01F8284	3006Y-1-103	10k	Infinite	1.75	1.65	1.48

Type H-83P panel mount adapter is used with **3006 series.** Order separately and simply snap fit the trimmer in the plastic case. The **H-83P** comes with lock-washer and mounting nut.

46F3235 Type 3323P-1-102. H-83P Adapter. **Each** **1.59**
(9593) (de52484)

3005P SERIES WIREWOUND MULTI-TURN TRIMMERS



¾″ long units are sealed to prevent contamination from fluxing, soldering and cleaning. 20 turns. Rated 1 watt at 70°C. Resistance tolerance ±10%. Dielectric strength 1000VAC. Operating temperature: –65°C to +125°C. Solder PC pin terminals.

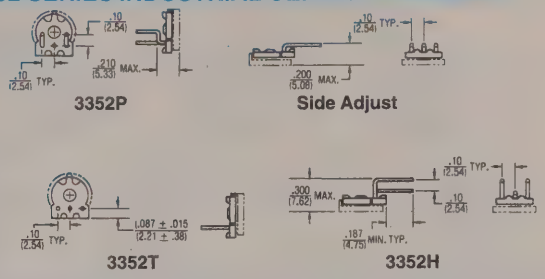
Stock No.	Type	Ohms	Nom. Res.	1-9	10-24	25-49
01F8457	3005P-1-100	10	1.7%	7.58	7.23	6.89
01F8460	3005P-1-101	100	0.8%	7.58	7.23	6.89
01F8461	3005P-1-201	200	0.7%	7.58	7.23	6.89
01F8462	3005P-1-501	500	0.5%	7.58	7.23	6.89
01F8463	3005P-1-102	1K	0.5%	7.58	7.23	6.89
01F8464	3005P-1-202	2K	0.4%	7.58	7.23	6.89
01F8465	3005P-1-502	5K	0.8%	7.58	7.23	6.89
01F8466	3005P-1-103	10K	0.3%	7.58	7.23	6.89
01F8467	3005P-1-203	20K	0.2%	7.58	7.23	6.89

Type H-83P panel mount adapter is used with **3005** and **3006 series**. Order separately and simply snap fit the trimmer in the plastic case. The **H-83P** comes with lock-washer and mounting nut.

46F3235 Type 3323P-1-102. H-83P Adapter. **Each** **1.59**
(9594) (de52485)

ALL PRODUCTS LISTED ARE STOCKED.

3352 SERIES INDUSTRIAL CERMET TRIMMERS



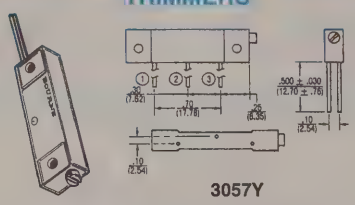
0.375″ (9.53) diameter, single-turn. Infinite resolution. 0.5 watt @+85°C. Nominal adjustment angle 205°. Resistance tolerance: ±20%. Temperature range: –55°C to +125°C. Most popular values listed. Additional values available; *contact your local Newark sales office.*

Stock No.	Type	Ohms	Stock No.	Type	Ohms
01F7217	3352T-1-102	1k	13F006	3352W-1-501	500
01F7218	3352T-1-202	2k	13F007	3352W-1-102	1k
01F7219	3352T-1-502	5k	13F009	3352W-1-502	5k
01F7220	3352T-1-103	10k	13F010	3352W-1-103	10k
01F7221	3352T-1-203	20k	13F011	3352W-1-203	20k
01F7223	3352T-1-503	50k	13F012	3352W-1-503	50k
01F7224	3352T-1-104	100k	13F013	3352W-1-104	100k
01F7225	3352T-1-204	200k	13F014	3352W-1-105	1M
01F7227	3352T-1-105	1M	01F7236	3352H-1-102	1k
12F9995	3352P-1-102	1k	01F7238	3352H-1-502	5k
12F9997	3352P-1-502	5k	01F7239	3352H-1-103	10k
12F9998	3352P-1-103	10k	01F7243	3352H-1-104	100k

Type	1-49	50-99	100-249	250-499
3352	1.05	0.89	0.72	0.69

(9597) (de52502)

3057 SERIES INDUSTRIAL AND MILITARY WIREWOUND TRIMMERS



1¼″ long, 22 turns, rated 1 watt at +70°C. Listed on the DESC QPL for style RT 12 per MIL-R-27208. Operating temperature: –55°C to +150°C. Sealed to protect against humidity, liquids and potting compounds. Resistance tolerance: ±5%. Dielectric strength: 1500VAC.

Stock No.	Type	Ohms	Nom. Res.	1-24	25-49	50-99
01F8609	3057Y-1-201	200	0.86	16.20	14.32	13.65
01F8614	3057Y-1-502	5k	0.43	16.20	14.32	13.65
01F8615	3057Y-1-103	10k	0.34	16.20	14.32	13.65
01F9181	3057Y-1-203	20k	0.31	16.20	14.32	13.65

(9596) (de52489)

3059 SERIES INDUSTRIAL AND MILITARY CERMET TRIMMERS

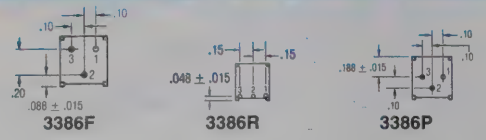
1¼″ long, 22-turn cermet trimmers are listed on DESC QPL for style RJ12, per MIL-R-22097. Meet humidity requirements of MIL-STD-202 method 106. Power rating: 1 watt @ 70°C. Resistance tolerance: ±10%. Operating temperature: –55°C to +50°C. **Type 3059L** have insulated wire leads. Most popular values listed. Additional values available; *contact you local Newark sales office.*

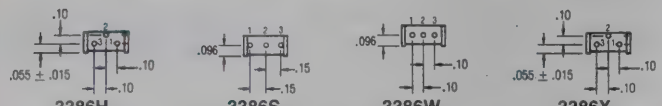
Stock No.	Type	Ohms	Nom. Res.	1-9	10-24	25-49
01F8568	3059P-1-103	10k	Infinite	5.84	5.58	5.31
01F8586	3059Y-1-103	10k	Infinite	5.84	5.58	5.31

(9612) (ne52490)

TRIMMING POTENTIOMETERS

3386 SERIES SINGLE-TURN CERMET TRIMMERS





⅜" square single-turn industrial trimmers. Resistance: ±10%. Rating and load life (1000 hours): 0.5 watt @ 85°C. Mechanical life: 200 cycles. Infinite resolution. Not all sizes stocked in every foot position. Most popular sizes listed in chart below. Other sizes available; *contact your local Newark sales office.*

TOP ADJUST

Stock No.	Type	Ohms	1-24	25-49	50-99
13F019	3386F-1-202	2k	1.19	1.12	1.01
13F021	3386F-1-103	10k	1.19	1.12	1.01
01F7686	3386P-1-101	100	1.19	1.12	1.01
01F7691	3386P-1-202	2k	1.19	1.12	1.01
01F7694	3386P-1-103	10k	1.19	1.12	1.01
01F7697	3386P-1-503	50k	1.19	1.12	1.01
01F7700	3386P-1-104	100k	1.19	1.12	1.01
01F7703	3386P-1-105	1M	1.19	1.12	1.01
13F034	3386R-1-103	10k	1.32	1.24	1.12

SIDE ADJUST

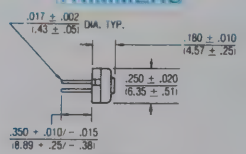
Stock No.	Type	Ohms	1-24	25-49	50-99
04F4831	3386H-1-501	500	1.19	1.12	1.01
04F4833	3386H-1-202	2k	1.19	1.12	1.01
04F4834	3386H-1-502	5k	1.19	1.12	1.01
04F4835	3386H-1-103	10k	1.19	1.12	1.01
01F7676	3386S-1-103	10k	1.32	1.24	1.12
01F7708	3386W-1-102	1k	1.19	1.12	1.01
01F7713	3386W-1-103	10k	1.19	1.12	1.01
01F7716	3386W-1-503	50k	1.19	1.12	1.01
01F7255	3386X-1-102	1k	1.19	1.12	1.01
01F7256	3386X-1-202	2k	1.19	1.12	1.01
01F7261	3386X-1-503	50k	1.19	1.12	1.01

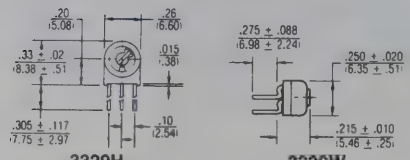
ADDITIONAL OHMIC VALUES FOR 3386 SERIES

50, 100, 200, 500, 1k, 2k, 5k, 10k, 20k, 25k, 50k, 100k, 200k, 250k, 500k, 1M, 2M

(9605) (ne01919)

3329 SERIES INDUSTRIAL AND MILITARY CERMET TRIMMERS





0.25" (6.35) diameter, single turn. Sealed. Rated 0.5W @ 85°C. Temperature: –55° to +150°C. Tolerance: ±10%. 240° nominal adjustment angle. Infinite resolution. Listed on DESC QPL for style RJ50 per MIL-R-22097 and RJR50 per High-Rel MIL-R-39035. Most popular values listed. Additional values available as listed below; *contact your local Newark sales office.* NOTE: minimum quantities may apply.

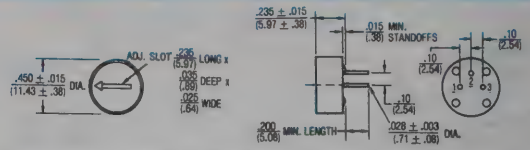
Stock No.	Type	Ohms	1-24	25-49	50-99	100-249
01F8399	3329H-1-502	5k	2.41	2.26	2.03	1.66
01F8400	3329H-1-103	10k	2.41	2.26	2.03	1.66
01F8403	3329H-1-503	50k	2.41	2.26	2.03	1.66
01F8404	3329H-1-104	100k	2.41	2.26	2.03	1.66
01F8416	3329P-1-502	5k	2.41	2.26	2.03	1.66
01F8417	3329P-1-103	10k	2.41	2.26	2.03	1.66
01F8420	3329P-1-503	50k	2.41	2.26	2.03	1.66
01F8433	3329W-1-502	5k	2.90	2.72	2.44	1.99
01F8436	3329W-1-503	50k	2.90	2.72	2.44	1.99

ADDITIONAL OHMIC VALUES FOR 3329 SERIES

200	500	1k	2k	10k	20k	100k	200k	500k	1M

(9613) (ne52503)

3345 SERIES INDUSTRIAL WIREWOUND TRIMMERS

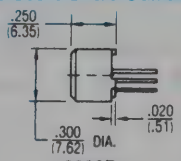


0.5" (12.70) diameter, single turn. 1 watt at 70°C. 0.450" (11.43) dia. x 0.25" (6.25) high. Sealed for PC applications. Resistance tolerance: ±5%. Dielectric strength 1500VAC (sea level). Adjustment angle 280° nominal. Operating temperature: –55°C to +150°C. Rotational life: 200 cycles. **3345W series** have pins 90° to face of unit. *Contact your local Newark sales office.*

Stock No.	Type	Ohms	Nominal Resolution	1-9	10-24	25-49	50-99
01F8251	3345P-1-501	500	0.38%	6.78	6.47	6.16	5.98
01F8253	3345P-1-202	2k	0.24%	6.78	6.47	6.16	5.98
01F8255	3345P-1-502	5k	0.18%	6.78	6.47	6.16	5.98
01F8256	3345P-1-103	10k	0.14%	6.78	6.47	6.16	5.98

(9599) (de52505)

3339 SERIES FOUR-TURN CERMET TRIMMERS

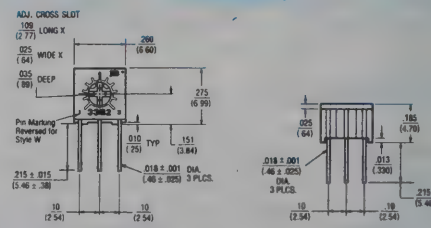


Industrial trimmers. 0.313" (7.95) diameter, infinite resolution. Sealed. Rated 0.5 watts @ 85°C. Operating temperature: –55°C to +150°C. Mechanical life: 200 cycles. Tolerance: ±10%. Temperature coefficient: ±100ppm/°C.

Stock No.	Type	Ohms	1-9	10-24	25-49
01F8444	3339P-1-101	100	4.76	4.55	4.33
01F8447	3339P-1-102	1k	4.76	4.55	4.33
01F8449	3339P-1-502	5k	4.76	4.55	4.33
01F8450	3339P-1-103	10k	4.76	4.55	4.33
01F8451	3339P-1-203	20k	4.76	4.55	4.33
01F8452	3339P-1-503	50k	4.76	4.55	4.33
01F8453	3339P-1-104	100k	4.76	4.55	4.33

(9598) (de52504)

3362 SERIES INDUSTRIAL SINGLE-TURN CERMET TRIMMERS



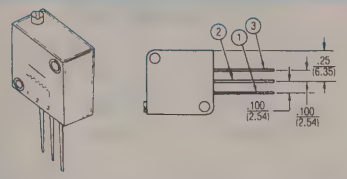
¼" square, single-turn rated ½ watt @ 70°C. Sealed to withstand immersion cleaning processes. Rotor is designed to interface with automatic adjustment equipment. A choice of vertical and horizontal adjust type. 240° nominal adjustment range. Temperature range: –55°C to +125°C. Tolerance: ±10%. Infinite resolution.

Stock No.	Type	Ohms	1-49	50-99	100-249
95F4792	3362P-1-101	100	1.06	0.90	0.73
95F4798	3362P-1-501	500	1.06	0.90	0.73
95F4793	3362P-1-102	1k	1.06	0.90	0.73
95F4796	3362P-1-202	2k	1.06	0.90	0.73
95F4799	3362P-1-502	5k	1.06	0.90	0.73
95F4794	3362P-1-103	10k	1.06	0.90	0.73
95F4800	3362P-1-503	50k	1.06	0.90	0.73
95F4795	3362P-1-104	100k	1.06	0.90	0.73
95F4801	3362W-1-103	10k	1.06	0.90	0.73

(4145) (ne02577)

CONTACT NEWARK FOR LARGE-QUANTITY PRICING.

3250 SERIES INDUSTRIAL 25-TURN WIREWOUND TRIMMERS

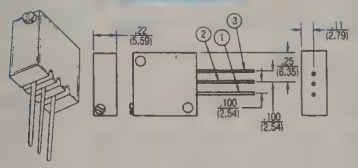


0.5″ (12.7) square; 1.0W @ +70°C. Listed on DESC QPL for style RT22 per MIL-R-27208 and RTR22 per High-Rel-MIL-R-39015. Resistance tolerance: ±5%. Dielectric strength/1000VAC. Operating temperature: –65° to +150°C. Mechanical life: 200 cycles. Solder PC pin terminals.

Stock No.	Type	Ohms	Nom. Res. %	1-9	10-24	25-49
01F9171	3250W-1-501	500	0.60	9.12	8.71	8.29
01F9172	3250W-1-102	1k	0.40	9.12	8.71	8.29
01F9173	3250W-1-202	2k	0.30	9.12	8.71	8.29
01F9174	3250W-1-502	5k	0.25	9.12	8.71	8.29
01F9175	3250W-1-103	10k	0.19	9.12	8.71	8.29
01F9164	3250W-1-203	20k	0.16	9.12	8.71	8.29

(9600) (de52621)

3252 SERIES INDUSTRIAL 25-TURN SEALED CERMET TRIMMERS



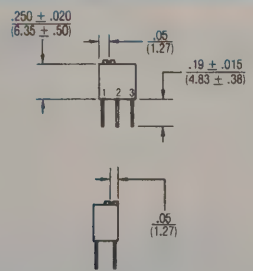
3252W

0.5″ (12.7) square trimmers, infinite resolution, listed on DESC QPL for style RJ22 per MIL-R-22097. Meet MIL-STD-202 method 103. Low temperature coefficient: ±100ppm°C. Rated 1 watt at 70°C. Resistance tolerance: ±10%. Operating temperature: –65°C to +150°C. Nominal resolution: infinite.

Stock No.	Type	Ohms	1-24	25-49	50-99
01F8826	3252W-1-501	500	14.31	12.65	12.06
01F8827	3252W-1-102	1k	14.31	12.65	12.06
01F8828	3252W-1-202	2k	14.31	12.65	12.06
01F8829	3252W-1-502	5k	14.31	12.65	12.06
01F8830	3252W-1-103	10k	14.31	12.65	12.06
01F8831	3252W-1-203	20k	14.31	12.65	12.06
01F8833	3252W-1-503	50k	14.31	12.65	12.06
01F8834	3252W-1-104	100k	14.31	12.65	12.06

(9601) (de52622)

3260 SERIES INDUSTRIAL 11-TURN WIREWOUND TRIMMERS



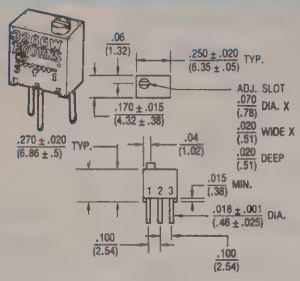
3260W

0.25″ (6.35) square rated 0.25 watt at +85°C. All-plastic case provides sealing against liquids and potting compounds; listed on DESC QPL for style RT26, per MIL-R-27208. Resistance tolerance: ±5%. Dielectric strength: 600VAC. Operating temperature: –65°C to +150°C. Mechanical life: 200 cycles. Solder PC pin terminals.

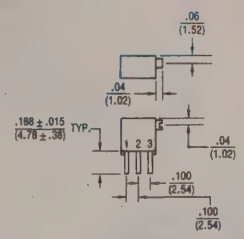
Stock No.	Type	Ohms	Nom. Res.	1-24	25-49	50-99
01F8932	3260W-1-102	1k	0.50%	24.47	21.64	20.63
01F9073	3260W-1-502	5k	0.34%	24.47	21.64	20.63
01F9234	3260W-1-203	20k	0.28%	24.47	21.64	20.63

(4141) (de52620)

3266 SERIES INDUSTRIAL 12-TURN CERMET TRIMMERS



3266W



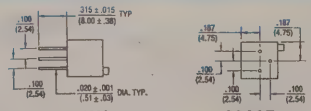
3266X

0.25″ (6.35) square. Patented drive mechanism. Cermet. Rated 0.25 W @ 70°C. Available top **(W suffix)**, side **(X suffix)** adjustments. Resistance tolerance: ±10%. Temperature range: –55°C to +125°C. Infinite resolution.

Stock No.	Type	Ohms	1-9	10-24	25-49
04F9395	3266W-1-101	100	3.23	3.08	2.93
44F3528	3266W-1-201	200	3.23	3.08	2.93
44F3529	3266W-1-501	500	3.23	3.08	2.93
44F3530	3266W-1-102	1k	3.23	3.08	2.93
44F3531	3266W-1-202	2k	3.23	3.08	2.93
44F3532	3266W-1-502	5k	3.23	3.08	2.93
44F3533	3266W-1-103	10k	3.23	3.08	2.93
44F3534	3266W-1-203	20k	3.23	3.08	2.93
44F3535	3266W-1-503	50k	3.23	3.08	2.93
44F3536	3266W-1-104	100k	3.23	3.08	2.93
04F6958	3266W-1-204	200k	3.23	3.08	2.93
04F6960	3266W-1-504	500k	3.23	3.08	2.93
04F6957	3266W-1-105	1M	3.23	3.08	2.93
44F3537	3266X-1-201	200	3.23	3.08	2.93
44F3538	3266X-1-501	500	3.23	3.08	2.93
44F3539	3266X-1-102	1k	3.23	3.08	2.93
44F3540	3266X-1-202	2k	3.23	3.08	2.93
44F3541	3266X-1-502	5k	3.23	3.08	2.93
44F3542	3266X-1-103	10k	3.23	3.08	2.93
44F3543	3266X-1-203	20k	3.23	3.08	2.93
44F3544	3266X-1-503	50k	3.23	3.08	2.93
44F3545	3266X-1-104	100k	3.23	3.08	2.93

(9614) (ne52624)

3290 SERIES MULTI-TURN WIREWOUND TRIMMERS



3290W 3290P

Industrial and military wirewound trimmers. ⅜″ square, 25 turns, rated 1 watt at +70° C. Case constructed of all plastic to protect against liquids and potting compounds. Resistance tolerance: ±5%. Operating temperature range: –65° to + 0°C. Dielectric strength: 1000VAC. Mechanical life: 200 cycles. Solderable PC terminals.

Stock No.	Type	Ohms	Nom. Res. %	1-24	25-49	50-99
01F8860	3290P-1-103	10k	0.17	23.52	20.80	19.83
01F8866	3290W-1-502	5k	0.20	23.52	20.80	19.83
01F8867	3290W-1-103	10k	0.17	23.52	20.80	19.83
01F9228	3290W-1-203	20k	0.14	23.52	20.80	19.83

(9552) (de03022)

3009 SERIES INDUSTRIAL CERMET TRIMMERS

3009P 3009Y

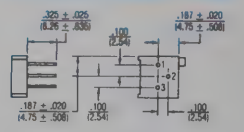
¾″ long, 15-turn PC trimmers sealed to withstand wave soldering and immersion cleaning. Rated 0.75 watt at 70°C. Operating temperature: –55°C to +125°C. Meet humidity requirements of MIL-STD-202, method 106. Tolerance: ±10%. Most popular values listed. Additional ohmic values available; *contact your local Newark sales office.*

Stock No.	Type	Ohms	Nom. Res.	1-24	25-49	50-99
01F8479	3009P-1-103	10k	Infinite	2.56	2.41	2.16
01F8496	3009Y-1-103	10k	Infinite	2.56	2.41	2.16

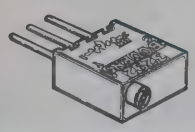
(9595) (de52488)

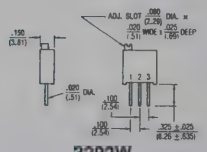
TRIMMING POTENTIOMETERS

3292 SERIES MULTI-TURN CERMET TRIMMING POTENTIOMETERS

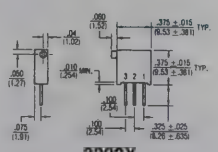


3292P





3292W



3292X

Durable cermet trimmers has specially patented drive mechanism. Rated 0.5 watt at +85°C. Operating temperature: –65°C to +150°C. Resistance tolerance: ±10%. **3292P** and **3292X series** also available; *contact your local Newark sales office. Order trimmer adjustment tools separately on this page*

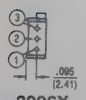
Stock No.	Type	Ohms	1-24	25-49	50-99
01F8888	3292W-1-101	100	15.36	13.58	12.95
01F8889	3292W-1-201	200	15.36	13.58	12.95
01F8891	3292W-1-102	1k	15.36	13.58	12.95
01F8892	3292W-1-202	2k	15.36	13.58	12.95
01F8893	3292W-1-502	5k	15.36	13.58	12.95
01F8894	3292W-1-103	10k	15.36	13.58	12.95
01F8895	3292W-1-203	20k	15.36	13.58	12.95
01F8897	3292W-1-503	50k	15.36	13.58	12.95
01F8898	3292W-1-104	50k	15.36	13.58	12.95

(9549) (de03021)

3296 SERIES INDUSTRIAL 25-TURN TRIMMING POTENTIOMETERS

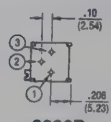
3296W

3296W

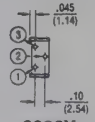


3296X

3296X



3296P



3296Y

3296Y

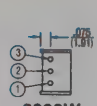
0.375″ (9.53) square economy cermet trimmers with thin body profile. Specially patented reliable drive mechanism. Sealed to withstand wave soldering and boardwash processes. Infinite resolution. Rated 0.5 watt at 0°C. Resistance tolerance: ±10%. Operating temperature: –55°C to +125°C. 5 terminal styles. Power rating (300 volts max.): 0.5 watt 70°C; 0 watts at 125°C. *Order trimmer adjustment tools separately on this page.* **Type 3296P**, **3296Z** also available.

Stock No.	Type	Ohms	Stock No.	Type	Ohms
03F3840	3296P-1-103	10k	...	...	...
03F3874	3296W-1-500	50	03F3880	3296W-1-502	5k
03F3875	3296W-1-101	100	03F3881	3296W-1-103	10k
03F3876	3296W-1-201	200	03F3882	3296W-1-203	20k
03F3877	3296W-1-501	500	03F3883	3296W-1-503	50k
03F3878	3296W-1-102	1k	03F3884	3296W-1-104	100k
03F3879	3296W-1-202	2k	03F3885	3296W-1-105	1M
03F3845	3296X-1-101	100	03F3852	3296X-1-203	20k
03F3846	3296X-1-201	200	03F3853	3296X-1-253	25k
03F3847	3296X-1-501	500	03F3854	3296X-1-503	50k
03F3848	3296X-1-102	1k	03F3855	3296X-1-104	100k
03F3849	3296X-1-202	2k	03F3856	3296X-1-204	200k
03F3850	3296X-1-502	5k	03F3858	3296X-1-504	500k
03F3851	3296X-1-103	10k	03F3859	3296X-1-105	1M
03F3860	3296Y-1-101	100	03F3866	3296Y-1-103	10k
03F3861	3296Y-1-201	200	03F3867	3296Y-1-203	20k
03F3862	3296Y-1-501	500	...	...	...
03F3863	3296Y-1-102	1k	03F3869	3296Y-1-503	50k
03F3864	3296Y-1-202	2k	03F3870	3296Y-1-104	100k
03F3865	3296Y-1-502	5k	03F3872	3296Y-1-504	500k

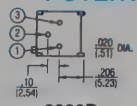
Series	1-24	25-49	50-99	100-249
3296	2.36	2.22	1.99	1.62

(9615) (ne52625)

3299 SERIES MULTI-TURN CERMET TRIMMING POTENTIOMETERS



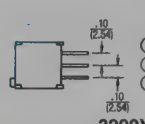
3299W



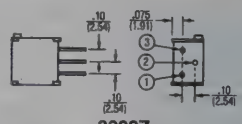
3299P

3299X

3299W



3299Y



3299Z

⅜″ square, 25-turn cermet models are sealed to withstand wave soldering and cleaning processes. Patented drive mechanism. Infinite resolution. Power rating (300 volts max.): 0.5 watts at 70°C. Operating temperature: –55°C to +125°C. Resistance tolerance: ±10%. *Order trimmer adjustment tools separately on this page*

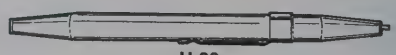
Stock No.	Type	Ohms	Stock No.	Type	Ohms
...	...	...	01F8297	3299W-1-102	1k
01F8316	3299P-1-501	500	01F8298	3299W-1-202	2k
01F8317	3299P-1-102	1k	01F8299	3299W-1-502	5k
01F8318	3299P-1-202	2k	01F8300	3299W-1-103	10k
01F8319	3299P-1-502	5k	01F8301	3299W-1-203	20k
01F8320	3299P-1-103	10k	04F2472	3299W-1-253	25k
01F8321	3299P-1-203	20k	01F8302	3299W-1-503	50k
01F8322	3299P-1-503	50k	01F8303	3299W-1-104	100k
01F8323	3299P-1-104	100k	...	...	...
01F8324	3299P-1-105	5M	04F9008	3299W-1-204	200k
04F6911	3299Y-1-101	100	04F8719	3299W-1-254	250k
04F6913	3299Y-1-501	500	04F9009	3299W-1-504	500k
04F6914	3299Y-1-102	1k	01F8304	3299W-1-105	1M
04F6915	3299Y-1-202	2k	01F8305	3299X-1-101	100
04F6916	3299Y-1-502	5k	01F8306	3299X-1-501	500
04F6917	3299Y-1-103	10k	01F8307	3299X-1-102	1k
04F6918	3299Y-1-203	20k	01F8308	3299X-1-202	2k
04F6920	3299Y-1-503	50k	01F8309	3299X-1-502	5k
04F6921	3299Y-1-104	100k	01F8310	3299X-1-103	10k
04F6922	3299Y-1-204	200k	01F8311	3299X-1-203	20k
04F6923	3299Y-1-504	500k	01F8312	3299X-1-503	50k
04F2470	3299W-1-500	50	01F8313	3299X-1-104	100k
01F8295	3299W-1-101	100	04F6906	3299X-1-204	200k
04F2471	3299W-1-201	200	04F6904	3299X-1-504	500k
01F8296	3299W-1-501	500	01F8314	3299X-1-105	1M

Series	1-24	25-49	50-99	100-249
3299	2.96	2.78	2.49	2.03

(9546) (de03018)

TRIMMER ADJUSTMENT TOOLS

H-91



H-90

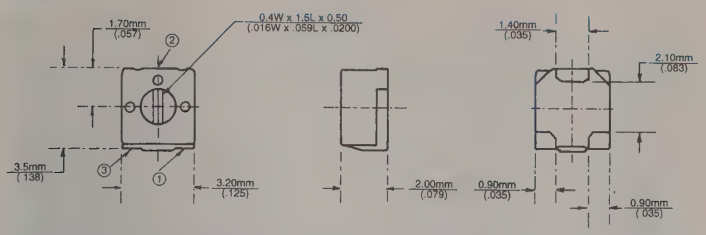
Extended as well as recessed blade for critical adjustments. Overall length 5″, diameter 0.255″. **Type H-90** for all Bourns trimmers except **type 20**. **Type H-91** for **type 20** trimmer only.

12F9866 Type H-90. **Each**..... **1.92**
81F014 Type H-91. **Each** **1.92**
(4140) (de52487)

NEWARK: YOUR ONE-STOP SHOP.

ST-3 SERIES SINGLE-TURN SURFACE MOUNT TRIMMING POTENTIOMETERS

SMD

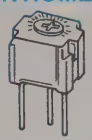


Surface mount 3mm single-turn units have O-ring seal and high temperature capabilities that enable them to withstand soldering and cleaning processes used on larger components. Rated 0.125W @ 70°C, derated to 0W @ 125°C. Operating temperature: –55°C to +125°C. Operating torque: 50g-cm maximum. Dimensions: 0.138 x 0.126 x 0.079″ (3.5 x 3.2 x 2). **Sold in packages of 100.**

Stock No.	Type	Ohms	1-24	25-49	50-99
91F9957	ST3A102	1k	405.72	365.15	324.58
91F9958	ST3A202	2k	405.72	365.15	324.58
91F9959	ST3A502	5k	405.72	365.15	324.58
91F9960	ST3A103	10k	405.72	365.15	324.58
91F9961	ST3A203	20k	405.72	365.15	324.58
91F9962	ST3A503	50k	405.72	365.15	324.58

(16036) (ne10102)

CT-6 SERIES CERMET SINGLE-TURN TRIMMING POTENTIOMETERS



Square, top-adjust, sealed to withstand board washing. Essentially infinite resolution. Power rating: 0.5W @ 70°C. Resistance tolerance: ±10%. Electrical angle: 220°, nominal; mechanical angle: 260°. Operating temperature: –55°C to +125°C. 2.8 oz.-in. maximum operating torque. Dimensions: 0.276 x 0.276 x 0.228″ (7.00 x 7.00 x 5.80).

CT-6 SERIES TYPE P TOP ADJUSTMENT TRIMMERS

Stock No.	Type	Ohms	1-24	25-49	50-99
89F5702	CT-6P102	1k	2.05	1.85	1.64
89F5703	CT-6P202	2k	2.05	1.85	1.64
89F5704	CT-6P502	5k	2.05	1.85	1.64
89F5705	CT-6P103	10k	2.05	1.85	1.64
89F5706	CT-6P203	20k	2.05	1.85	1.64
89F5707	CT-6P503	50k	2.05	1.85	1.64

(16033) (ne10094)

5043E SERIES METAL FILM RESISTORS

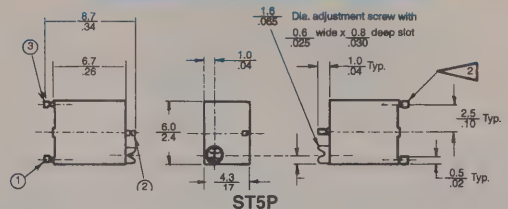
1% tolerance resistors are designed for high volume ¼-watt resistor applications requiring RN 55 performance. 100PPM/°C temperature coefficient. Max. length: 0.260″ (6.60). Dia.: 0.098″ (2.49). Leads: 1.1″ (27.94)L. Lead dia.: 0.024″ (0.609). Performance exceeds military standards (MIL-R-10509, RN55). Color band markings for easy identification. Tape and Reel package for automatic insertion. **Sold in packages of 100.**

Stock No.	Type	Ohms	1-4	5-9	10-24	25-49
50F8301	5043ED10R00F	10.0	3.54	3.19	2.84	2.48
50F8303	5043ED100R0F	100.0	3.54	3.19	2.84	2.48
97F8011	5043ED243R0F	243.0	4.81	4.33	3.85	3.37
50F8304	5043ED332R0F	332.0	3.54	3.19	2.84	2.48
97F8008	5043ED511R0F	511.0	4.81	4.33	3.85	3.37
97F8012	5043ED562R0F	562.0	4.81	4.33	3.85	3.37
50F8305	5043ED604R0F	604.0	3.54	3.19	2.84	2.48
50F8302	5043ED1K000F	1.0k	3.54	3.19	2.84	2.48
50F8306	5043ED1K500F	1.5k	3.54	3.19	2.84	2.48
50F8307	5043ED2K000F	2.0k	3.54	3.19	2.84	2.48
50F8308	5043ED4K750F	4.75k	3.54	3.19	2.84	2.48
50F8309	5043ED4K990F	4.99k	3.54	3.19	2.84	2.48
97F8010	5043ED7K500F	7.5k	4.81	4.33	3.85	3.37
50F8300	5043ED10K00F	10.0k	3.54	3.19	2.84	2.48
50F8310	5043ED12R10F	12.1k	3.54	3.19	2.84	2.48
50F8311	5043ED15K00F	15.1k	3.54	3.19	2.84	2.48
50F8312	5043ED17K80F	17.8k	3.54	3.19	2.84	2.48
50F8313	5043ED20K00F	20.0k	3.54	3.19	2.84	2.48
50F8314	5043ED86K60F	86.6k	3.54	3.19	2.84	2.48
50F8315	5043ED100K0F	100.0k	3.54	3.19	2.84	2.48
50F8316	5043ED200K0F	200.0k	3.54	3.19	2.84	2.48
97F8009	5043ED562K0F	562.0k	4.81	4.33	3.85	3.37
50F8317	5043ED/M000F	1.0M	...	...	...	...

(7347) (de52463)

ST-5 SERIES MULTI-TURN SURFACE MOUNT TRIMMING POTENTIOMETERS

SMD



Designed for automated assembly lines. Miniature outline: 0.240 x 0.266 x 0.169″ (6.00 x 6.75 x 4.30). Sealed for immersion cleaning processes. Mechanical angle: 14 turns, nominal. Electrical angle: 11 turns, nominal. Essentially infinite resolution. Precious metal alloy multi-contact wiper. Resistance tolerance: ±10%. Power rating: 0.25W @ 85°C, derated to 0W @ 125°C. Operating temperature: –55°C to +125°C. 2.78 oz.-in. maximum operating torque. **Sold in packages of 50.**

ST-5P SERIES

Stock No.	Type	Ohms	1-24	25-49	50-99
89F5816	ST5P102	1k	374.67	337.21	299.74
89F5817	ST5P202	2k	374.67	337.21	299.74
89F5818	ST5P502	5k	374.67	337.21	299.74
89F5819	ST5P103	10k	374.67	337.21	299.74

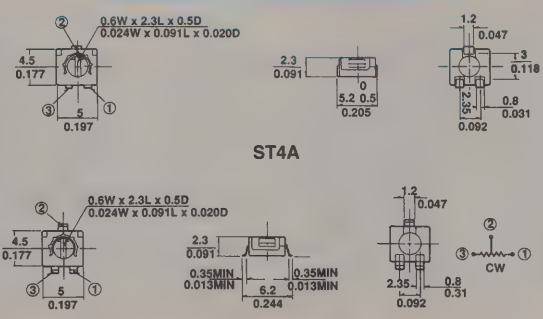
ST-5W SERIES

89F5804	ST5W102	1k	374.67	337.21	299.74
89F5805	ST5W202	2k	374.67	337.21	299.74
89F5806	ST5W502	5k	374.67	337.21	299.74
89F5807	ST5W103	10k	374.67	337.21	299.74

(16034) (ne10092)

ST-4 SERIES SINGLE-TURN SURFACE MOUNT TRIMMING POTENTIOMETERS

SMD



Single-turn units. O-ring seal and high temperature capabilities enable these units to withstand soldering and cleaning processes used on larger sealed SMDs. Essentially infinite resolution. Resistance tolerance: ±20%. Power rating: 0.25W @ 70°C, derated to 0W @ 125°C. Operating temperature: –55°C to +125°C. 1.39 oz.-in. maximum operating torque. Dimensions: 0.177 x 0.197 x 0.091″ (4.50 x 5.00 x 2.30). **Sold in packages of 100.**

ST-4A SERIES TOP ADJUSTMENT J-LEAD

Stock No.	Type	Ohms	1-24	25-49	50-99
89F5786	ST4A-102	1k	262.89	236.61	210.32
89F5787	ST4A-202	2k	262.89	236.61	210.32
89F5788	ST4A-502	5k	262.89	236.61	210.32
89F5789	ST4A-103	10k	262.89	236.61	210.32
89F5790	ST4A-203	20k	262.89	236.61	210.32
89F5791	ST4A-503	50k	262.89	236.61	210.32

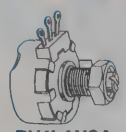
ST-4B SERIES TOP ADJUSTMENT GULL WING PINS

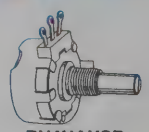
89F5792	ST4B-102	1k	262.89	236.61	210.32
89F5793	ST4B-202	2k	262.89	236.61	210.32
89F5794	ST4B-502	5k	262.89	236.61	210.32
89F5795	ST4B-103	10k	262.89	236.61	210.32
89F5796	ST4B-203	20k	262.89	236.61	210.32
89F5797	ST4B-503	50k	262.89	236.61	210.32

(16031) (ne10093)

POTENTIOMETERS AND READOUT DIALS

RV4 SERIES PLASTIC MILITARY POTENTIOMETERS


RV4LAYSA


RV4NAYSD

- **Direct Cross to Hot-Molded Carbon Composition "J" Potentiometers**

2-watt potentiometers are sealed against environmental elements. 1.063″ (27.00) dia. and 0.563″ (14.29) deep, brass nickel-plated shaft and bushing, with stainless steel cover. 500WVDC. Linear taper. ±10% tolerance. Meet military specification MIL-R-94. Operating temperature: –55°C to +120°C. For commerical equivalents, see **53C series** below. Additional values available, *contact your local Newark sales office.*

COMMERICAL EQUIVALENTS FOR RV4 SERIES POTENTIOMETERS

Type	Commercial Equivalent	Ohmic Values
RV4LAYSA	53C2 Series	1k to 10M
RV4NAYS	53C3 Series	1k to 10M

RV4LAYSA SERIES

0.500″ (12.70) long locking bushing, 0.625″ (15.58) long slotted shaft FMS.

Stock No.	Type	Stock No.	Type
01F3522	RV4LAYSA500A	01F2661	RV4LAYSA503A
01F2653	RV4LAYSA101A	01F2662	RV4LAYSA104A
01F2655	RV4LAYSA501A	01F3527	RV4LAYSA154A
01F2656	RV4LAYSA102A	01F2663	RV4LAYSA254A
01F3525	RV4LAYSA152A	01F2664	RV4LAYSA504A
01F2657	RV4LAYSA252A	01F2665	RV4LAYSA105A
01F2658	RV4LAYSA502A	01F3528	RV4LAYSA205B
01F2659	RV4LAYSA103A	01F2666	RV4LAYSA255B
01F3526	RV4LAYSA153A	01F2667	RV4LAYSA505B
01F2660	RV4LAYSA253A	...	...

Type	1-9	10-24	25-49	50-99
RV4LAYSA	9.83	9.20	8.68	7.42

53C2 SERIES

⅝″ slotted shaft, ½″ long split locking bushing.

Stock No.	Type	Ohms	1-9	10-24	25-49	50-99
04F9005	53C2-5K	5k	12.17	10.23	9.81	8.02
04F8768	53C2-10K	10k	12.17	10.23	9.81	8.02
95F5080	53C2-25K	25k	12.17	10.23	9.81	8.02

RV4NAY SERIES

0.375″ (9.53) long plain bushing. **SD** in type number indicate 0.875″ (22.23) long shaft. **SK** in type number indicates 2.500″ (63.50) long slotted shaft FMS.

Stock No.	Type	Stock No.	Type
01F3513	RV4NAYSD500A	04F8775	RV4NAYSD203A
01F2638	RV4NAYSD101A	01F2645	RV4NAYSD253A
01F3514	RV4NAYSD151A	01F2646	RV4NAYSD503A
01F2639	RV4NAYSD251A	01F3517	RV4NAYSD753A
01F2640	RV4NAYSD501A	01F2647	RV4NAYSD104A
01F2641	RV4NAYSD102A	01F3518	RV4NAYSD154A
01F3515	RV4NAYSD152A	01F2648	RV4NAYSD254A
04F8988	RV4NAYSD202A	01F2649	RV4NAYSD504A
01F2642	RV4NAYSD252A	01F3520	RV4NAYSD754A
01F2643	RV4NAYSD502A	01F2650	RV4NAYSD105A
01F3529	RV4NAYSK502A	...	...
01F2644	RV4NAYSD103A	01F3521	RV4NAYSD355B
01F3530	RV4NAYSK103A	01F2652	RV4NAYSD505B
01F3516	RV4NAYSD153A	...	...

Type	1-9	10-49	25-49	50-99
RV4NAYS	8.99	8.31	7.84	6.85

52C3 SERIES

⅞″ slotted shaft, ⅜″ long bushing with ⅜ x 32-NEF 2A thread.

Stock No.	Type	Ohms	1-9	10-24	25-40	50-99
04F5991	53C3-1K	1k	11.13	9.24	8.87	7.40
70B7106	53C3 5.0K	5k	10.39	8.63	8.28	6.87
04F9332	53C3-25K	25k	11.13	9.24	8.87	7.40
95F5082	53C3-50K	50k	11.13	9.24	8.87	7.40
04F8769	53-C3 100K	100k	11.13	9.24	8.87	7.40
04F8770	53C3-250K	250k	11.13	9.24	8.87	7.40
95F5081	53C3-500K	500k	11.13	9.24	8.87	7.40

RV4LAYSD SERIES

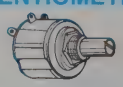
0.500″ (12.70) long locking bushing, 0.875″ (22.23) long slotted shaft FMS.

Stock No.	Type	Stock No.	Type
01F2629	RV4LAYSD102A	01F2631	RV4LAYSD103A
01F2630	RV4LAYSD502A	01F2634	RV4LAYSD104A

Type	1-9	10-24	25-49	50-99
RV4LAYSD	9.83	9.20	8.68	7.42

(9634) (de01980)

73JA SERIES 10-TURN WIREWOUND PRECISION POTENTIOMETERS



2-watts @ 70°C. Resistance tolerance: ±5%. Slotted, stainless steel shaft is 13⁄16″ long (measured from mounting surface). Bushing: 5⁄16 x 3⁄8″. Working voltage: 500V max.

Stock No.	Type	Ohms	1-4	5-9	10-24
01F3544	73JA-100	100	21.00	19.66	16.27
01F3545	73JA-200	200	21.00	19.66	16.27
01F3546	73JA-500	500	21.00	19.66	16.27
01F3547	73JA-1K	1k	21.00	19.66	16.27
01F3548	73JA-2K	2k	21.00	19.66	16.27
01F3549	73JA-5K	5k	21.00	19.66	16.27
01F3550	73JA-10K	10k	21.00	19.66	16.27
01F3551	73JA-20K	20k	21.00	19.66	16.27
01F3552	73JA-25K	25k	26.91	25.19	20.89
01F3553	73JA-50K	50k	26.91	25.19	20.89
01F3554	73JA-100K	100k	28.14	26.34	21.77

(9633) (de01392)

62JA SERIES 10-TURN WIREWOUND PRECISION POTENTIOMETERS

2-watts @25°C. Resistance tolerance: ±5%. Nickel-plated brass shaft is 15⁄16″ long (measured from mounting surface). Operating temperature: –55°C to +85°C. Working voltage: 450V max.

Stock No.	Type	Ohms	1-4	5-9
01F2299	62JA-100	100	158.01	148.04
01F2298	62JA-200	200	158.01	148.04
01F2300	62JA-250	250	158.01	148.04
01F2418	62JA-500	500	149.17	139.76
01F2419	62JA-1K	1k	149.17	139.76
01F2620	62JA-2K	2k	149.17	139.76
04F5998	62JA2.5K	2.5k	149.17	139.76
01F2621	62JA-5K	5k	149.17	139.76
01F2622	62JA-10K	10k	149.17	139.76
01F2623	62JA-20K	20k	149.17	139.76
04F8771	62JA-25K	25k	149.17	139.76
01F2625	62JA-50K	50k	156.87	146.98
01F2626	62JA-100K	100k	176.56	165.42

(9636) (de03397)

73JB SERIES 10-TURN POTENTIOMETERS

73JB series economical wirewound, 10-turn potentiometer that features a 13⁄16″ FMS, screwdriver-slotted, black glass-filled nylon shaft and 0.313 x 0.375″ (7.95 x 9.53) metal bushing. Power rating: 2 watts at 70°C. Tolerance: ±5%. Dielectric withstanding voltage: 1000VAC for 60 seconds at ATM. Working voltage: 500V max. *Order 10-turn dial separately on page 789.*

Stock No.	Type	Ohms	1-4	5-9	10-24
04F5865	73JB-100<	100	17.87	16.73	13.80
04F5866	73JB-200<	200	17.87	16.73	13.80
04F5867	73JB-500<	500	17.87	16.73	13.80
04F5868	73JB-1K	1k	17.87	16.73	13.80
04F5869	73JB-2K	2k	17.87	16.73	13.80
04F5870	73JB-5K	5k	17.87	16.73	13.80
04F5871	73JB-10K	10k	17.87	16.73	13.80
04F5872	73JB-20K	20k	17.87	16.73	13.80
04F5873	73JB-25K	25k	18.27	17.10	14.15
04F5874	73JB-50K	50k	18.27	17.10	14.15
04F5875	73JB-100K	100k	17.65	16.52	13.65

(9632) (de01376)

590 SERIES COMMERCIAL POTENTIOMETERS

590 series ½″-square modular potentiometers feature robust construction, smooth operation, high rotational life, and conductive plastic elements. Suitable for audio and communications applications. Molded thermoplastic housing. Single section. Linear taper.WVAC: 350V. Bushing dia.: 0.25″ x 0.25″. Slotted metal shaft dia.: 0.125″ x ¼″. Power rating: 0.5W @70°C. Tolerance: ±10%. Mechanical rotation: 295°± 5°. Operating temperature: –40°C to +120°C. PC board terminals.

Stock No.	Type	Ohms	1-9	10-24
83F4493	590SX1N56S102SP	1k	5.91	4.63
83F4494	590SX1N56S502SP	5k	5.91	4.63
83F4495	590SX1N56S103SP	10k	5.91	4.63

(28377) (ne26377)

POTENTIOMETERS AND DIALS

364 SERIES CERMET TRIMMING POTENTIOMETERS

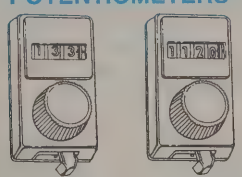
364P 364X 364Y 364W

Trimmers have CRV of 3% or 3Ω and temperature coefficient of 100ppm/°C. Rated 0.5W 85°C not to exceed 400V. Effective electrical travel: 25 turns nominal. Tolerance: ±10%. End resistance: 2Ω or 1%, whichever is greater. Contact idles at stops. Operating torque: 5.0 oz-in. max. Sealed for cleaning in common solvents. Most popular values listed. Additional values available; *contact your local Newark sales office.*

Stock No.	Type	Ohms	1-24	25-49	50-99	100-249
03F6572	364P-1K	1k	3.60	3.16	2.78	2.36
03F6575	364P-10K	10k	3.60	3.16	2.78	2.36
03F6582	364W-100	100	3.60	3.16	2.78	2.36
03F6583	364W-200	200	3.60	3.16	2.78	2.36
03F6584	364W-500	500	3.60	3.16	2.78	2.36
03F6586	364W-2K	2k	3.60	3.16	2.78	2.36
03F6587	364W-5K	5k	3.60	3.16	2.78	2.36
03F6588	364W-10K	10k	3.60	3.16	2.78	2.36
03F6589	364W-20K	20k	3.60	3.16	2.78	2.36
03F6590	364W-50K	50k	3.60	3.16	2.78	2.36
03F6591	364W-100K	100k	3.60	3.16	2.78	2.36
03F6593	364W-500K	500k	3.60	3.16	2.78	2.36
03F6598	364X-1K	1k	3.49	3.07	2.70	2.29
03F6599	364X-2K	2k	3.60	3.16	2.78	2.36
03F6600	364X-5K	5k	3.60	3.16	2.78	2.36
03F6601	364X-10K	10k	3.60	3.16	2.78	2.36
03F6602	364X-20K	20k	3.60	3.16	2.78	2.36
03F6604	364X-100K	100k	3.60	3.16	2.78	2.36
03F6608	364Y-100	100	3.60	3.16	2.78	2.36
03F6610	364Y-500	500	3.60	3.16	2.78	2.36
03F6612	364Y-2K	2k	3.60	3.16	2.78	2.36
03F6613	364Y-5K	5k	3.60	3.16	2.78	2.36
03F6614	364Y-10K	10k	3.60	3.16	2.78	2.36
03F6615	364Y-20K	20k	3.60	3.16	2.78	2.36
03F6616	364Y-50K	50k	3.60	3.16	2.78	2.36
03F6617	364Y-100K	100k	3.60	3.16	2.78	2.36
03F6620	364Y-1MEG	1M	3.60	3.16	2.78	2.36

(9456) (de01361)

DIGITAL READ-OUT DIALS FOR MULTI-TURN POTENTIOMETERS



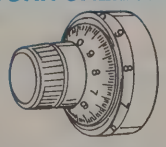
DR300 DR400

Type DR-400 is 100 turn, 4-digit model, with left two digits indicating completed revolutions of turning knob and right two digits indicating percent of revolution. Unit registers count of 9999. Satin chrome finish body. Matte black bezel, base. Metal finish knobs. White numerals on black background. **Type DR-300** same, but 3-digit, 10-turn, count of 999. Mounting requirements: 0.25″ (6.35) shaft and ⅜″ 32-NEF-2A bushing.

Stock No.	Type	1-4	5-9	10-24
81F022	DR300	42.78	39.98	38.26
81F023	DR400	57.43	53.67	51.36

(4194) (de01375)

COMMERCIAL 10-TURN CALIBRATED SCALE DIALS

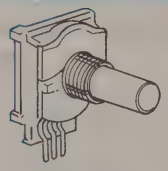


Fit up to 10-turn potentiometer and other rotary devices. Accurate readings, zero backlash, brake lever option. Need 1 sq. inch (25.40) of panel space. Mounts on true 1″ (25.40) centers. Knob attaches to shaft; body of dial mounts to panel. Mounting requirements: 0.25″ (6.35) diameter shaft, ⅜″ 32-NEF-2A bushing. Available with black or clear anodized housing with or without brake lever.

Stock No.	Type	Description	1-4	5-9	10-24
08F585	412	Black, w/Brake Lever	28.27	24.89	23.50
08F586	411	Black, w/o Brake Lever	27.37	24.10	22.65
08F587	462	Clear, w/Brake Lever	28.27	24.89	23.50
08F588	461	Clear, w/o Brake Lever	27.37	24.10	22.65

(4195) (de01377)

574 AND 575 SERIES COMMERCIAL POTENTIOMETERS



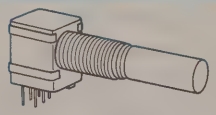
Single-section potentiometers feature robust construction, high rotational life, and conductive plastic elements. Ideal for appliance, consumer, and automotive applications. WVAC: 350V. Linear taper. Power rating: 0.5W @ 70°C. Tolerance: ±20%. Shaft dia.: 0.25″. Shaft length: 0.75″. Effective rotation: 270°. Torque range: 0.2 to 2.5 in. oz. Operating temperature: –40°C to +120°C. Meet MIL-STD-103B, Test Condition A.

574 SERIES—0.25″ BUSHING

Stock No.	Type	Ohms	Shaft Style	Terminal Style	1-9	10-24
83F4469	574SX1M48F103SD	10k	Flat	PC Board	3.63	3.22
83F4470	574SX1M48F503SD	50k	Flat	PC Board	3.63	3.22
83F4471	574SX1M48F104SD	100k	Flat	PC Board	3.63	3.22
83F4472	574SX1M48S103SD	10k	Slotted	PC Board	3.63	3.22
83F4473	574SX1M48S503SD	50k	Slotted	PC Board	3.63	3.22
83F4474	574SX1M48S104SD	100k	Slotted	PC Board	3.63	3.22
575 SERIES—0.375″ x 0.25″ BUSHING						
83F4475	575SX1A48S102SS	1k	Slotted	Solder Hook	2.83	2.51
83F4476	575SX1A48S103SS	10k	Slotted	Solder Hook	2.83	2.51
83F4477	575SX1A48S503SS	50k	Slotted	Solder Hook	2.83	2.51
83F4478	575SX1A48F102SS	1k	Flat	Solder Hook	2.83	2.51
83F4479	575SX1A48F103SS	10k	Flat	Solder Hook	2.83	2.51
83F4480	575SX1A48F503SS	50k	Flat	Solder Hook	2.83	2.51

(28368) (ne28368)

580 SERIES COMMERCIAL POTENTIOMETERS

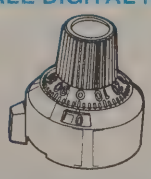


580 series 9.5mm modular potentiometers feature robust construction, smooth operation, high rotational life, and conductive plastic elements. Suitable for audio and automotive applications. WVAC: 100V. Power rating: 0.1W @ 40°C. Tolerance: ±20%. Mechanical rotation: 295° ±5°. Operating temperature: –40°C to +100°C.

Stock No.	Type	Ohms	Section	Taper	1-9	10-24
83F4481	580SX4Q25F102SP	1k	Single	Linear	3.09	2.80
83F4482	580SX4Q25F502SP	5k	Single	Linear	3.09	2.80
83F4483	580SX4Q25F103SP	10k	Single	Linear	3.09	2.80
83F4484	580SX4Q25F102ZP	1k	Single	CW Log	3.09	2.80
83F4485	580SX4Q25F502ZP	5k	Single	CW Log	3.09	2.80
83F4486	580SX4Q25F103ZP	10k	Single	CW Log	3.09	2.80
83F4487	580DX4Q25F102SP	1k	Dual	Linear	3.45	3.30
83F4488	580DX4Q25F502SP	5k	Dual	Linear	3.45	3.30
83F4489	580DX4Q25F103SP	10k	Dual	Linear	3.45	3.30
83F4490	580DX4Q25F102ZP	1k	Dual	CW Log	3.45	3.30
83F4491	580DX4Q25F502ZP	5k	Dual	CW Log	3.45	3.30
83F4492	580DX4Q25F103ZP	10k	Dual	CW Log	3.45	3.30

(28378) (ne28378)

316 SERIES SCALE DIGITAL READOUT DIALS



Economical 15-turn **316 series** is available in clear anodized metal design or black anodized metal with white numerals. Easy-to-read large numerals and convenient digital window. Dials are 0.875″ (22.23) in diameter with a numeral size of 0.075″ (1.91) high. Minimum backlash, positive brake lever.

Stock No.	Type	Description	1-4	5-9	10-24
89F2532	316-11	Clear Anodized	22.26	19.62	18.35
89F2533	316-12	Black Anodized	31.92	28.11	26.28

(4196) (de01378)

CLAROSTAT

CARBON PANEL POTENTIOMETERS

RV6 SERIES PLASTIC MILITARY ½-WATT POTENTIOMETERS

RV6L RV6N

- **Direct Cross to Hot-Molded Carbon Composition "G" and "W" Pots**

Tolerance: ±10% to 500K; ±20% for 1MΩ and 5MΩ. Electrical and mechanical rotation: 295°±3°. 350VDC working voltage. **RV6LAYSA** has a locking bushing, ¼(6.35) x ½" (12.7). Shaft is ⅝" (15.88). **RV6NAYSD** has a standard bushing, ¼ x ¼" (6.35). Shaft is ⅞" (22.23). MIL-R-94. For commercial equivalents, see **392JA, 392JB series**. Additional values available, *contact your local Newark sales office.*

Type	Commercial Equivalent	Ohmic Values
RV6	392JA, 392JB* Series	1k to 1M

*392JB series has plastic shaft and bushing

RV6L SERIES LOCKING

Stock No.	Type	1-9	10-24	25-49	50-99
01F3555	RV6LAYSA101A	10.87	10.04	9.47	8.21
01F3557	RV6LAYSA501A	10.87	10.04	9.47	8.21
01F3558	RV6LAYSA102A	10.87	10.04	9.47	8.21
01F3560	RV6LAYSA502A	10.87	10.04	9.47	8.21
01F3561	RV6LAYSA103AP	10.87	10.04	9.47	8.21
01F3563	RV6LAYSA503A	10.87	10.04	9.47	8.21
01F3564	RV6LAYSA104A	10.87	10.04	9.47	8.21

RV6NAYSD SERIES STANDARD

Stock No.	Type	1-9	10-24	25-49	50-99
01F3571	RV6NAYSD501A	10.14	9.43	8.89	7.63
01F3572	RV6NAYSD102A	14.25	13.25	12.50	10.70
01F3573	RV6NAYSD252A	10.14	9.43	8.89	7.63
01F3574	RV6NAYSD502A	10.14	9.43	8.89	7.63
01F3575	RV6NAYSD103P	10.14	9.43	8.89	7.63
01F3576	RV6NAYSD253A	10.14	9.43	8.89	7.63
01F3577	RV6NAYSD503A	10.14	9.43	8.89	7.63
01F3578	RV6NAYSD104A	10.14	9.43	8.89	7.63
01F3579	RV6NAYSD504A	10.14	9.43	8.89	7.63
01F3580	RV6NAYSD105A	10.14	9.43	8.89	7.63

(9635) (de01983)

392 SERIES THICK-FILM CONDUCTIVE PLASTIC POTENTIOMETERS

Board washable. PC terminals. Designed to meet wave-sodering applications. **Type 392JB** has plastic shaft and bushing.

392JA SERIES

Stock No.	Type	Ohms	1-9	10-24	25-49	50-99
04F4328	392JA-102	1k	13.12	12.28	10.58	9.85
04F4330	392JA-502	5k	13.12	12.28	10.58	9.85
04F4331	392JA-103	10k	13.12	12.28	10.58	9.85
04F4332	392-JA-253	25k	13.12	12.28	10.58	9.85
04F4333	392-JA-503	50k	13.12	12.28	10.58	9.85
04F4334	392-JA-104	100k	13.12	12.28	10.58	9.85
04F4335	392-JA-254	250k	13.12	12.28	10.58	9.85
04F4337	392-JA-105	1M	13.12	12.28	10.58	9.85

392JB SERIES

Stock No.	Type	Ohms	1-9	10-24	25-49	50-99
04F4346	392JB-103	10k	10.02	8.24	7.91	6.55
04F4351	392JB-504	500k	9.72	8.01	7.69	6.36

(4201) (de02808)

J SERIES STYLE RV4N AND RV4L HOT-MOLDED CARBON PANEL POTENTIOMETERS

Type JA1N200P Type JA1N056S Type JD1N200P

Hot-molded, carbon composition. 2.25W @ 70°C. 500V maximum working voltage. Operating temperature: –55°C to +120°C. All units include one mounting nut **M-2786** and one lockwasher **M-2898**. **JA1N** includes locating lug; **JA1L** includes lock nut **B-13750**. *Additional hardware available below.*

10% TOLERANCE—LOG TAPER

Plain ⅜" long bushing. ⅞" long, ¼" dia. slotted shaft.

Stock No.	Type	Ohms	1-24	25-49	50-99	100-249
10F4405	JA1N056S103AA	10.0K	18.22	14.58	12.17	10.42
10F4407	JA1N056S104AA	100.0K	18.22	14.58	12.17	10.42
10F4406	JA1N056S503AA	50.0K	18.22	14.58	12.17	10.42

10% TOLERANCE—LINEAR TAPER

Plain ⅜" long bushing, ⅞" long ¼" diameter slotted shaft.

Stock No.	Type	Ohms	1-24	25-49	50-99
01F6259	JA1N056S500UA	50	18.22	14.58	12.17
01F6260	JA1N056S101UA	100	15.17	12.13	10.13
01F6261	JA1N056S151UA	150	18.22	14.58	12.17
01F6262	JA1N056S201UA	200	18.22	14.58	12.17

CONTINUED

J SERIES STYLE RV4N AND RV4L HOT-MOLDED CARBON PANEL POTENTIOMETERS (CONT.)

Stock No.	Type	Ohms	1-24	25-49	50-99
01F6263	JA1N056S251UA	250	18.22	14.58	12.17
01F6265	JA1N056S501UA	500	11.67	9.34	7.80
01F6267	JA1N056S102UA	1.0k	12.17	9.73	8.13
01F6269	JA1N056S202UA	2.0k	14.74	12.17	9.73
01F6270	JA1N056S252UA	2.5k	13.36	10.69	8.92
01F6271	JA1N056S352UA	3.5k	18.22	14.58	12.17
01F6272	JA1N056S502UA	5.0k	13.10	10.48	8.75
01F6274	JA1N056S103UA	10.0k	13.36	10.69	8.92
01F6275	JA1N056S153UA	15k	18.22	14.58	12.17
01F6276	JA1N056S203UA	20K	14.74	12.17	9.73
01F6277	JA1N056S253UA	25k	18.22	14.58	12.17
01F6278	JA1N056S353UA	35k	15.17	12.13	10.13
01F6279	JA1N056S503UA	50k	18.22	14.58	12.17
01F6280	JA1N056S753UA	75k	18.22	14.58	12.17
01F6281	JA1N056S104UA	100k	13.36	10.69	8.92
01F6282	JA1N056S154UA	150k	16.29	13.03	10.88
01F6283	JA1N056S204UA	200k	18.22	14.58	12.17
01F6284	JA1N056S254UA	250k	18.22	14.58	12.17
01F6285	JA1N056S354UA	350k	12.49	9.99	8.34
01F6286	JA1N056S504UA	500k	18.22	14.58	12.17
01F6644	JA1N056S754UA	750k	18.22	14.58	12.17
01F6645	JA1N056S105UA	1.0M	18.22	14.58	12.17
01F6646	JA1N056S205UA	2.0M	18.22	14.58	12.17
01F6647	JA1N056S255UA	2.5M	18.22	14.58	12.17
01F6648	JA1N056S355UA	3.5M	17.92	14.33	11.97

10% TOLERANCE—LINEAR TAPER

⅜" long plain bushing, 2" long, ¼" diameter plain end shaft.

Stock No.	Type	Ohms	1-24	25-49	50-99	100-249
01F6293	JA1N200P501UA	500	20.73	16.58	13.85	11.86
01F6295	JA1N200P102UA	1.0k	12.68	10.14	8.47	7.25
01F6297	JA1N200P202UA	2.0k	20.73	16.58	13.85	11.86
01F6298	JA1N200P252UA	2.5k	20.73	16.58	13.85	11.86
01F6300	JA1N200P502UA	5.0k	18.19	14.55	12.15	10.41
01F6302	JA1N200P103UA	10.0k	19.71	15.77	13.17	11.28
01F6303	JA1N200P153UA	15k	20.73	16.58	13.85	11.86
01F6304	JA1N200P203UA	20k	20.97	16.78	14.01	11.99
01F6305	JA1N200P253UA	25k	22.02	17.62	14.71	12.60
01F6307	JA1N200P503UA	50k	20.73	16.58	13.85	11.86
01F6309	JA1N200P104UA	100k	20.73	16.58	13.85	11.86
01F6310	JA1N200P154UA	150k	19.00	15.20	12.69	10.87
01F6312	JA1N200P254UA	250k	20.73	16.58	13.85	11.86
01F6314	JA1N200P504UA	500k	20.73	16.58	13.85	11.86
01F6650	JA1N200P105UA	1.0M	7.89	6.31	5.27	4.51
01F6651	JA1N200P205UA	2.0M	19.01	15.21	12.70	10.88

10% TOLERANCE—LOG TAPER

⅜" long plain bushing, 2" long ¼ diameter plain end shaft. Stocked in various values to 5 megaohms; *contact your local Newark sales office.*

Stock No.	Type	Ohms	Rotation	1-24	25-49	50-99	100-249
01F6316	JA1N200P102AA	1.0k	CW	22.80	18.24	15.23	13.04
01F6319	JA1N200P103AA	10k	CW	20.56	16.45	13.73	11.76
01F6320	JA1N200P253AA	25k	CW	22.80	18.24	15.23	13.04
01F6322	JA1N200P104AA	100k	CW	13.33	10.66	8.91	7.63
01F6324	JA1N200P504AA	500k	CW	22.80	18.24	15.23	13.04

10% TOLERANCE—DUAL LINEAR

⅜" long plain bushing. 2" long, ¼" dia. plain end shaft.

Stock No.	Type	Ohms	1-24	25-49	50-99	100-249
01F6335	JD1N200P251UA	250	46.04	36.83	30.75	26.33
01F6336	JD1N200P501UA	500	33.75	27.00	22.54	19.30
01F6337	JD1N200P102UA	1.0k	46.04	36.83	30.75	26.33
01F6338	JD1N200P252UA	2.5k	46.04	36.83	30.75	26.33
01F6339	JD1N200P502UA	5.0k	46.04	36.83	30.75	26.33
01F6340	JD1N200P103UA	10k	34.50	27.60	23.05	19.74
01F6341	JD1N200P253UA	25k	46.04	36.83	30.75	26.33
01F6342	JD1N200P503UA	50k	46.04	36.83	30.75	26.33
01F6343	JD1N200P104UA	100k	46.04	36.83	30.75	26.33
01F6655	JD1N200P105UA	1.0M	46.04	36.83	30.75	26.33

10% TOLERANCE—LINEAR TAPER

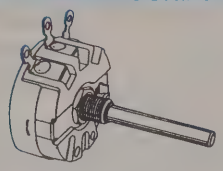
½" Locking bushing; ⅝" long, ¼" dia. slotted shaft

Stock No.	Type	Ohms	1-24	25-49	50-99	100-249
01F6238	JA1L040S101UC	100	23.29	18.63	15.56	13.32
01F6241	JA1L040S501UC	500	23.29	18.63	15.56	13.32
01F6243	JA1L040S102UC	1.0k	23.29	18.63	15.56	13.32
01F6245	JA1L040S202UC	2.0k	23.29	18.63	15.56	13.32
01F6246	JA1L040S252UC	2.5k	23.29	18.63	15.56	13.32
01F6249	JA1L040S502UC	5.0k	23.29	18.63	15.56	13.32
01F6250	JA1L040S103UC	10k	23.29	18.63	15.56	13.32
01F6251	JA1L040S253UC	25k	23.17	18.54	15.48	13.25
01F6253	JA1L040S503UC	50k	23.29	18.63	15.56	13.32
01F6254	JA1L040S104UC	100k	21.93	17.54	14.65	12.54
01F6257	JA1L040S254UC	250k	23.29	18.63	15.56	13.32
01F6258	JA1L040S504UC	500k	17.84	14.27	11.92	10.20

(9639) (de04194)

POTENTIOMETERS AND WIREWOUND RESISTORS

58C SERIES 4-WATT WIREWOUND POTENTIOMETERS

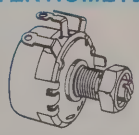


Bushing: ⅜ x ⅜". Tolerance: ±5%. 350VDC. Shaft: ¼ x 2" FMS plain round. Diameter 1.688" (42.86) x 0.813" (20.64) deep. Military version is RA30.

Stock No.	Type	Ohms	1-4	5-9	10-24
01F1859	58C1-1000	1k	49.25	46.02	39.91
01F1867	58C1-1500	1.5k	49.25	46.02	39.80
01F2210	58C1-2K	2k	49.25	46.02	39.91
01F2212	58C1-5000	5k	49.25	46.02	39.91
01F2213	58C1-10K	10k	49.25	46.02	39.91
01F2297	58C1-50K	50k	77.26	70.77	...

(9476) (de01981)

RA20 2-W LINEAR RESISTANCE WIREWOUND POTENTIOMETERS



±10% tolerance. 1.125" (28.58) dia. **RA20NASD**: Standard bushing 0.375" (9.53) long. Slotted shaft 0.250" (6.35) dia. 0.875" (22.23) long FMS. **RA20LASB**: Locking bushing 0.500" (12.70) long. Slotted shaft 0.250" (6.35) dia. 0.625" (15.88) long FMS. Meet MIL-R-19A.

Stock No.	Type	Ohms	Stock No.	Type	Ohms
01F2668	RA20NASD100A	10	01F2676	RA20NASD202A	2k
01F2669	RA20NASD250A	25	01F2678	RA20NASD502A	5k

Type	1-9	10-24	25-49	50-99
RA20NA	138.96	115.76	99.22	86.85

(9480) (de01984)

WRS SERIES HOT-MOLDED ½ -WATT LINEAR TAPER PANEL POTENTIOMETERS

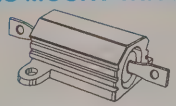
WRS Series

WRS series are linear taper, single section units with ¼ x ¼"L dust and splash resistant bushing and ⅛ x ⅞"L, standard slot shaft. Shaft dia.: 0.125". Resistance tolerance: ±10% . Come with SPST switch, actuated at start of clockwise rotation that reduces effective electrical rotation to 240° nominal. Operating temperature: –55°C to +120°C.

Stock No.	Type	Ohms	1-9	10-24	25-49	50-99
01F6636	WRS1G056S103U	10k	40.29	32.23	26.92	23.05

(9638) (de03425)

CMC SERIES CHASSIS MOUNT WIREWOUND RESISTORS



Aluminum housing power resistors screw mount on chassis surface, and offer heat sink capability. Temperature range: –55°C to +275°C. Resistance tolerance: 1.0%. Copper weld, tinned terminals. Meet MIL-R-18546. Minimum quantities may apply. Most popular values listed. Additional values available, *contact your local Newark sales office.*

CMC-5 SERIES—5 WATTS

Stock No.	Type	Ohms	1-9	10-24	25-49	50-99
03F6393	CMC-5-.1	0.1	11.10	8.82	8.47	7.44
03F6408	CMC-5-50	50	9.36	7.43	7.13	6.30

CMC-50 SERIES—50 WATTS

03F6486	CMC-50-.1	0.1	13.59	11.73	11.26	9.10
03F6488	CMC-50-.5	0.5	13.59	11.73	11.26	9.10
03F6491	CMC-50-1	1.0	9.32	8.07	7.75	6.29
03F6492	CMC-50-2	2.0	9.32	8.07	7.75	6.29
03F6493	CMC-50-3	3.0	9.32	8.07	7.75	6.29
03F6495	CMC-50-5	5.0	12.75	11.00	10.56	8.54
03F6497	CMC-50-10	10.0	9.32	8.07	7.75	6.29
03F6498	CMC-50-15	15.0	9.32	8.07	7.75	6.29
03F6499	CMC-50-25	25.0	9.32	8.07	7.75	6.29
03F6500	CMC-50-30	30.0	9.32	8.07	7.75	6.29
03F6501	CMC-50-50	50.0	8.74	7.57	7.26	5.91
03F6503	CMC-50-100	100.0	9.32	8.07	7.75	6.29

(9458) (de01364)

GA & WA SERIES HOT-MOLDED CARBON ½ -WATT LINEAR-TAPER PANEL POTENTIOMETERS

Type GA2G056S and WA2G056S

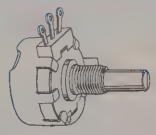
Type GA2GL040S and WA2L040S

Types GA and **WA** are MIL-R-94 style RV6 single section immersion-sealed linear taper units, with mounting nut, lockwasher and locknut. **GA2L040S** have ½"L locking bushing and ⅝"L slotted-end shaft. **GA2G056S** have ¼" plain bushing and ⅞"L standard slotted-end shaft. **WA2L040S** have ½"L locking bushing and ⅝"L slotted-end shaft. **WAG056S** have ¼"L plain bushing and ⅞"L slotted-end shaft. Dia. of all shafts: 0.125". Resistance tolerance, all units: ±10%. Operating temperature: –55° to +120°C.

Stock No.	Type	Ohms	1-24	25-49	50-99
01F6380	GA2L040S104UC	100k	6.73	...	...
01F6353	GA2G056S501UA	500	11.78	9.42	7.87
01F6354	GA2G056S102UA	1.0k	25.44	20.35	16.99
01F6356	GA2G056S502UA	5.0k	25.44	20.35	16.99
01F6386	WA2L040S202UC	2.0k	20.29	16.23	13.55
01F6389	WA2L040S103UC	10k	20.29	16.23	13.55
01F6391	WA2L040S253UC	25k	17.34	13.87	11.58
01F6393	WA2L040S104UC	100k	20.29	16.23	13.55
01F6403	WA2G056S202UA	2.0k	17.99	14.39	12.02
01F6404	WA2G056S252UA	2.5k	17.99	14.39	12.02
01F6405	WA2G056S502UA	5.0k	17.99	14.39	12.02
01F6406	WA2G056S103UA	10k	17.99	14.39	12.02
01F6407	WA2G056S203UA	20k	17.99	14.39	12.02
01F6409	WA2G056S503UA	50k	15.01	12.01	10.03
01F6410	WA2G056S104UA	100k	15.08	12.07	10.08
01F6412	WA2G056S254UA	250k	17.99	14.39	12.02

(9637) (de03416)

53C SERIES CONDUCTIVE PLASTIC POTS



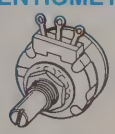
Commercial version of **RV4 series**. 500V, 2W pots enclosed and sealed against moisture, elements. 1.032" (33.33) diameter, 0.563" (14.28)D. Operating temperature: –55°C to +120°C.

2" LONG ROUND SHAFT, ⅜" LONG BUSHING

Stock No.	Type	Ohms	1-9	10-24	25-49	50-99
04F5989	53C1-1K	1k	12.58	10.56	10.13	8.21
94F534	53C1-2.5K	2.5k	12.58	10.56	10.13	8.21
04F8767	53C1-5K	5k	12.58	10.56	10.13	8.21
04F8764	53C1-10K	10k	12.58	10.56	10.13	8.21
04F8763	53C1 25K	25k	12.58	10.56	10.13	8.21
05F1821	53C1-50K	50k	12.58	10.56	10.13	8.21
04F5990	53C1-100K	100k	12.58	10.56	10.13	8.21
04F9371	53C1-250K	250k	12.58	10.56	10.13	8.21
04F9032	53C1-500K	500k	12.58	10.56	10.13	8.21

(9631) (de01362)

380 SERIES 2-WATT CONDUCTIVE PLASTIC POTENTIOMETERS



Superior dynamic noise, long rotational life. Tolerance: linear, up to 1MΩ ± 10%, above 1 MΩ ± 20%. Linearity ± 5% independent. 500VDC across terminals. **380C1** 2" round shaft FMS; ⅜" long bushing with ⅜ x 32-NEF-2A thread; **380C2** ⅝" screwdriver slotted shaft FMS; with a ½" split locking bushing; **380C3** ⅞" screwdriver slotted shaft FMS; ⅜" long bushing with ⅜ x 32-NEF-2A thread. Meet MIL-R-94, where applicable. **485 series** with a life cycle of 1,000,000 shaft rotations is also available. *Contact your local Newark sales office.*

Stock No.	Type	Ohms	Stock No.	Type	Ohms
04F8781	380C1-1K	1k	04F9367	380C3-500	500
04F8996	380C1-5K	5k	04F8759	380C3-5K	5k
70B1711	380C1-10K	10k	04F8997	380C3-10K	10k
04F9030	380C2-25K	25k	05F1911	380C3-500K	500k

Type	1-4	5-9	10-24	25-49
380C	21.38	20.01	17.52	16.30

(9484) (de01986)

CLAROSTAT

WIREWOUND POWER RESISTORS AND ROTARY ENCODERS

ADJUSTABLE POWER WIREWOUND RESISTORS

Vitreous enamel wirewound resistors have tolerance of ±5%. Finish withstands overheating without peeling or cracking. Designed for reliability and stability under adverse conditions. *Order mounting bracket separately on this page.* Minimum quantities may apply. Most popular sizes listed. Additional values available; *contact your local Newark sales office.*

VP10FA 12 WATT

Stock No.	Type	Ohms	1-24	25-99	100-249	250-499
02F3554	VP-10FA 500<	500	9.50	7.64	7.35	5.51

VP25KA 25 WATT

Stock No.	Type	Ohms	1-9	10-24	25-49	50-99
02F3564	VP-25KA 5<	5	10.12	8.85	7.66	7.32
02F3565	VP-25KA 10<	10	9.37	8.22	6.68	6.38
02F3569	VP-25KA 25<	25	9.37	8.22	6.68	6.38
02F3574	VP-25KA 250<	250	9.37	8.22	6.68	6.38
02F3577	VP-25KA 500<	500	9.37	8.22	6.68	6.38

VP50KA 50 WATT

Stock No.	Type	Ohms	1-9	10-24	25-49	50-99
02F3586	VP-50KA 1<	1	14.89	12.98	10.62	10.14
02F3587	VP-50KA 2<	2	14.89	12.77	12.55	9.95
02F3588	VP-50KA 3<	3	14.89	12.77	12.55	9.95
02F3590	VP-50KA 5<	5	11.09	9.70	7.96	7.60
02F3591	VP-50KA 10<	10	11.09	9.70	7.96	7.60
02F3592	VP-50KA 25<	25	11.09	9.70	7.96	7.60

VK100NA 100 WATT

Stock No.	Type	Ohms	1-4	5-9	10-24	25-49
02F3610	VK-100NA 2<	2	17.92	16.78	15.48	10.84
02F3612	VK-100NA 5<	5	17.92	16.78	15.48	10.84
02F3618	VK-100NA 100<	100	13.52	12.66	11.66	8.36
02F3619	VK-100NA 150<	150	13.52	12.66	11.66	8.36

VK200NA 200 WATT

Stock No.	Type	Ohms	1-4	5-9	10-24	25-49
02F3635	VK-200WA 5<	5	31.64	29.61	27.26	19.37
02F3640	VK-200WA 250<	250	22.84	21.38	19.67	14.23

(9475) (de01979)

WIREWOUND AXIAL LEAD RESISTORS

Tolerance: ±5%. Maximum body length: **VC3D** 0.563″. **VC5E** 1.094″. **VC10F** 1.938″. Lead length 1.5″. Vitreous enamel. Color: Brown. Minimum quantities may apply. Most popular sizes listed. Additional values available; *contact your local Newark sales office.*

VC3D-3 WATT

Stock No.	Type	Ohms	1-24	25-49	50-99	100-249
01F7728	VC3D 2<	2	2.16	1.75	1.65	1.60
01F7729	VC3D 3<	3	2.16	1.75	1.65	1.60
01F7734	VC3D 10<	10	1.83	1.46	1.37	1.34
01F7748	VC3D 47<	47	1.83	1.46	1.37	1.34
01F7754	VC3D 100<	100	1.83	1.46	1.37	1.34
01F7781	VC3D 1K	1k	2.27	1.86	1.74	1.70
01F7788	VC3D 2K	2k	2.27	1.86	1.74	1.70
01F7793	VC3D 3K	3k	2.15	1.78	1.67	1.63
01F7800	VC3D 5K	5k	2.79	2.26	2.13	2.07
01F7809	VC3D 10K	10k	2.79	2.26	2.13	2.07

VC5E-5 WATT

Stock No.	Type	Ohms	1-24	25-49	50-99	100-249
01F7810	VC5E 1<	1	2.71	2.28	2.14	2.08
01F7815	VC5E 5<	5	2.71	2.28	2.14	2.08
01F7817	VC5E 10<	10	2.71	2.28	2.14	2.08
01F7819	VC5E 15<	15	2.71	2.28	2.14	2.08
01F7831	VC5E 50<	50	2.71	2.28	2.14	2.08
01F7836	VC5E 100<	100	2.71	2.28	2.14	2.08
01F7866	VC5E 1K	1k	2.95	2.42	2.28	2.22
01F7885	VC5E 5K	5k	4.25	3.50	3.29	3.20
01F7894	VC5E 10K	10k	4.25	3.50	3.29	3.20
01F7899	VC5E 20K	20k	4.52	3.66	3.52	3.37

VC10F-10 WATT

Stock No.	Type	Ohms	1-24	25-49	50-99	100-249
01F7908	VC10F 5<	5	3.15	2.61	2.45	2.38
01F7910	VC10F 10<	10	2.71	2.19	2.05	2.00
01F7925	VC10F 50<	50	2.71	2.19	2.05	2.00
01F7930	VC10F 100<	100	2.71	2.19	2.05	2.00
01F7970	VC10F 3K	3k	3.81	3.12	2.93	2.85
01F7978	VC10F 5K	5k	3.88	3.16	2.97	2.89
01F7980	VC10F 6K	6k	3.88	3.16	2.97	2.89
01F7988	VC10F 10K	10k	3.88	3.16	2.97	2.89
01F7997	VC10F 20K	20k	4.28	3.52	3.39	3.24
01F8000	VC10F 25K	25k	4.22	3.48	3.35	3.21

(9474) (de01978)

MOUNTING BRACKETS FOR POWER RESISTORS

Stock No.	Type	Resistor Series	Each
13F3428	K100	VP25/50	0.59
13F3429	N100	VK100	0.41
13F3430	W100	VK200	0.50
87F677	F100	VPR5/10/20/VP10	0.59

(4160) (ne08783)

FIXED WIREWOUND POWER RESISTORS

VPR Series

VP and VK Series

Vitreous enamel. ±5% tolerance. **VPR** types have wire lead and lug terminals. **VP** and **VK** have lug terminals. Withstand overheating without peeling or cracking. *Order mounting bracket separately on this page.* Minimum quantities may apply. Most popular values listed. Additional values available; *contact your local Newark sales office.*

VPR10F 12 WATT

Stock No.	Type	Ohms	1-24	25-49	50-99	100-249
02F3341	VPR-10F 50<	50	4.70	3.75	3.61	2.85
02F3442	VPR-10F 1K	1k	4.70	3.75	3.61	2.85
02F3454	VPR-10F 50K	50k	6.84	5.54	5.32	4.20

VPR20H 20 WATT

Stock No.	Type	Ohms	1-24	25-49	50-99	100-249
02F3455	VPR-20H 5<	5	6.23	5.05	4.86	3.90
02F3456	VPR-20H 10<	10	5.13	4.16	4.00	3.15

VPR20H 25 WATT

Stock No.	Type	Ohms	1-24	25-49	50-99	100-249
02F3469	VP-25K 1<	1	6.41	4.48	4.31	3.37
02F3470	VP-25K 2<	2	6.41	4.48	4.31	3.37
02F3472	VP-25K 4<	4	6.41	5.14	4.94	4.13
02F3473	VP-25K 5<	5	5.98	4.20	4.04	3.17
02F3474	VP-25K 10<	10	4.65	3.26	3.14	2.46
02F3477	VP-25K 50<	50	5.98	4.20	4.04	3.17
02F3478	VP-25K 75<	75	5.98	4.20	4.04	3.17
02F3485	VP-25K 1K	1k	4.65	3.26	3.14	2.46

VP50K 50 WATT

Stock No.	Type	Ohms	1-9	10-24	25-49	50-99
02F3489	VP-50K 1<	1	7.35	5.88	4.92	4.70
02F3490	VP-50K 2<	2	7.35	5.88	4.92	4.70
02F3492	VP-50K 4<	4	6.71	5.31	4.45	4.25
02F3493	VP-50K 5<	5	6.71	5.31	4.45	4.25
02F3494	VP-50K 10<	10	6.71	5.31	4.45	4.25
02F3495	VP-50K 25<	25	6.71	5.31	4.45	4.25
02F3496	VP-50K 50<	50	6.71	5.31	4.45	4.25
02F3501	VP-50K 500<	500	6.71	5.31	4.45	4.25

VK100N 100 WATT

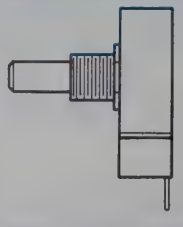
Stock No.	Type	Ohms	1-24	25-49	50-99	100-249
02F3507	VK-100N 1<	1	17.16	16.06	13.18	10.97
02F3508	VK-100N 2<	2	17.16	16.06	13.18	10.97
02F3509	VK-100N 3<	3	16.25	12.97	10.88	10.39
02F3512	VK-100N 10<	10	16.25	12.97	10.88	10.39
02F3515	VK-100N 100<	100	15.10	11.96	10.05	9.60
02F3520	VK-100N 10K	10k	15.10	11.96	10.05	9.60

VK200W 200 WATT

Stock No.	Type	Ohms	1-4	5-9	10-24	25-49
02F3528	VK-200W 10<	10	23.47	21.97	20.18	15.12
02F3532	VK-200W 100<	100	23.47	21.97	20.18	15.12

(9533) (de01976)

600 SERIES OPTICAL ROTARY ENCODERS



Manually-operated encoders output 2 square waves in quadrature at 128 pulses per channel per revolution. Continuous shaft rotation in either direction. Outputs TTL compatible. Temperature range: –40°C to +65°C.

Stock No.	Type	Description	1-4	5-9	10-24
89F2537	600EN-128-B66	PC Pins, horizontal	53.20	49.71	39.67
89F2538	600EN-128-C24	PC Pins, vertical	52.54	49.10	39.14
89F2536	600EN-128-CBL	7.5″ Cable/Lead	55.45	51.81	41.32

(4119) (de01373)

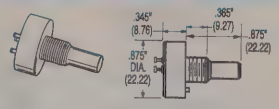
POWER RESISTOR DECADE BOX

Resistance decade box provides any resistance from 1 to 999,999 ohms for working circuits. Six front-panel dials enable selection in 1-ohm increments, with the total value shown on the dial. Each decade has power rating of 225 watts maximum, 1000VDC or 660VAC maximum. Standard uses include resistance determination, load resistance, meter multiplier, and calibrating meters.

62F730 Type 240C. **Each** **1328.94**

(4128) (de01977)

157 SERIES 0.875″ SINGLE-TURN CONDUCTIVE PLASTIC PRECISION POTENTIOMETERS

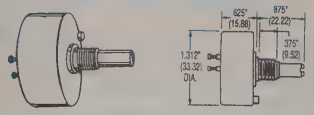


Bushing mount unit. Plated brass terminals. Aluminum housing. 11/32″ behind panel. ¼″ stainless steel, non-magnetic shaft. Power: 1 W @ 40°C. Tolerance: ±20%. Linearity: ±2.0%. Dielectric strength: 1000Vrms. Mechanical rotation: 360° continuous. Operating temperature: –55°C to +125°C

Stock No.	Type	Ohms	1-4	5-9	10-24	25-49
98F7374	157-11-102	1k	22.74	20.32	16.48	15.65
93F9882	157-11-202	2k	22.74	20.32	16.48	15.65
93F9883	157-11-502	5k	22.74	20.32	16.48	15.65
93F9213	157-11-103	10k	22.74	20.32	16.48	15.65

(4192) (de01346)

138 SERIES SINGLE-TURN CONDUCTIVE PLASTIC POTENTIOMETERS

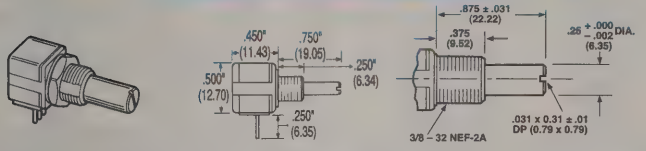


1.312″ dia., bushing mount, conductive plastic. Rated 2.0W at 40°C. Independent linearity: ± 0.5%; electrical rotation: continuous, 345°± 4°, units with stops, 336°± 4°. Temperature range: –55°C to +125°C. End taps standard. Shaft length including bushing: 0.875 x ¼″ dia. Bushing: ⅜-32 x ⅜″. Resistance tolerance: ±10%. **0-0** in type = continuous rotation; **2-0** in type = stops.

Stock No.	Type	Ohms	1-4	5-9	10-24	25-49
96F9590	138-0-0-103	10k	34.24	30.60	24.81	23.56
96F9575	138-2-0-103	10k	34.24	30.60	24.81	23.56

(4202) (de03431)

149 SERIES 0.500″ SQUARE SINGLE-TURN CERMET PRECISION POTENTIOMETERS



Bushing mount, panel control unit. ⅛″ or ¼″ nickel plated brass shaft, plated terminals. Power: 1.0W @ 85°C. Resistance tolerance: ±10%. Dielectric strength: 750Vrms (min.). Mechanical rotation: 295° ± 5°. Operating temperature: –20°C to 150°C. Pin spacing 0.100 ± 0.010″ (2.54 ±.254mm) typ.

¼ SHAFT, ¼ BUSHING

Stock No.	Type	Ohms	1-4	5-9	10-24	25-49
93F9888	149-08-08-102	1k	8.67	7.67	6.90	6.56
93F9889	149-08-08-202	2k	8.67	7.67	6.90	6.56
93F9890	149-08-08-502	5k	8.67	7.67	6.90	6.56
93F9891	149-08-08-103	10k	8.67	7.67	6.90	6.56
93F9892	149-08-08-503	50k	8.67	7.67	6.90	6.56
¼ SHAFT, ⅛ BUSHING						
93F9876	149-09-10-102	1k	8.67	7.67	6.90	6.56
93F9878	149-09-10-502	5k	8.67	7.67	6.90	6.56
93F9879	149-09-10-103	10k	8.67	7.67	6.90	6.56
93F9881	149-09-10-104	100k	8.67	7.67	6.90	6.56

(4191) (de01345)

148 SERIES 0.500″ SQUARE SINGLE-TURN CONDUCTIVE PLASTIC PRECISION POTENTIOMETERS

Bushing mount, panel control unit. Conductive plastic with ⅛″ or ¼″ nickel plated brass shaft, plated terminals. Power: 0.5W @70°C. Resistance tolerance: ±20%. Dielectric strength: 750Vrms (min.). Mechanical rotation: 295° ± 5°. Operating temperature: –20°C to 125°C. Pin spacing 0.100 ± 0.010″ (2.54±.254mm) typ.

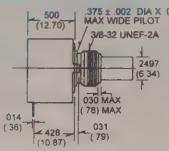
⅛ SHAFT, ¼ BUSHING

Stock No.	Type	Ohms	1-4	5-9	10-24	25-49
93F9867	148-08-08-102	1k	8.67	7.67	6.90	6.56
93F9869	148-08-08-502	5k	8.67	7.67	6.90	6.56
93F9870	148-08-08-103	10k	8.67	7.67	6.90	6.56
93F9872	148-08-08-104	100k	8.67	7.67	6.90	6.56
¼ SHAFT, ⅜ BUSHING						
93F9875	148-09-10-502	5k	8.67	7.67	6.90	6.56
93F9887	148-09-10-104	100k	8.67	7.67	6.90	6.56

(4190) (de01344)

657 SERIES CONDUCTIVE PLASTIC POTENTIOMETERS

NEW



657 series potentiometers have conductive plastic element on an alumina substrate. Moisture-resistant sealed construction. Sleeve bearing. Stainless steel shaft: 0.440″ x 0.2497″ (11.12 x 6.34) dia. Nickel-plated brass bushing: ⅜″ x 32UNEF-2A. Power rating: 0.5W @ 85°C. Mechanical rotation (with stop): 250°. Tolerance: ±20%. Operating temperature: –40°C to +125°C.

Stock No.	Type	Ohms	1-24	25-49	50-99	100-199
83F4437	657-0-0-102	1k	15.35	13.72	11.12	10.56
83F4438	657-0-0-202	2k	15.35	13.72	11.12	10.56
83F4439	657-0-0-502	5k	15.35	13.72	11.12	10.56
83F4440	657-0-0-103	10k	15.35	13.72	11.12	10.56
83F4441	657-0-0-203	20k	15.35	13.72	11.12	10.56
83F4442	657-0-0-503	50k	15.35	13.72	11.12	10.56
83F4443	657-0-0-104	100k	15.35	13.72	11.12	10.56

(28880) (ne28880)

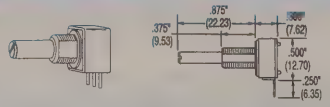
132 SERIES SINGLE-TURN WIREWOUND POTENTIOMETERS

Rated 2.75W @ 40°C. Independent linearity: to 200Ω, ±1%; over 200Ω, ±0.5%. Electrical rotation: continuous 352° ±2°; 336° ±2° for units with stops. Temperature range: –55°C to +125°C. Shaft length including bushing: 0.875 x 0.25″ diameter. Bushing: ⅜-32 x ⅜″. Tolerance: ±3%. **0-0** in type = continuous; **2-0** in type = stops.

Stock No.	Type	Ohms	1-4	5-9	10-24
01F8150	132-0-0-101	100	29.05	25.96	21.05
04F2138	132-0-0-201	200	29.05	25.96	21.05
01F8151	132-0-0-501	500	24.21	21.63	17.54
01F8152	132-0-0-102	1k	29.05	25.96	21.05
01F8153	132-0-0-202	2k	29.05	25.96	21.05
01F8154	132-0-0-502	5k	29.05	25.96	21.05
01F8155	132-0-0-103	10k	29.05	25.96	21.05
01F8156	132-0-0-203	20k	29.54	26.40	21.40
04F8785	132-2-0-102	1k	29.05	25.96	21.05
04F8788	132-2-0-502	5k	29.05	25.96	21.05
04F8786	132-2-0-103	10k	29.05	25.96	21.05
04F8787	132-2-0-203	20k	29.54	26.40	21.40

(9622) (de01305)

248, 249 SERIES SINGLE-TURN POTENTIOMETERS

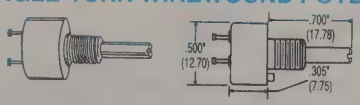


0.500″ square, panel mount. **248** = conductive plastic; **249** = cermet. Bushing mount standard. Tolerance: **248:** ± 20%; **249:** ±10%. Independent linearity, all units: ± 5%. Pin spacing: 0.100″ (2.54). Rotation: 265°± 5°. Temperature coefficient of resistance: **248**, ± 550ppm/°C; **249**, ±100ppm/°C. **248-7** or **249-7** in type = 0.25″(6.35) dia. plastic shaft; **248-8** or **249-8** in type = 0.125″ (3.18) dia. plated brass shaft; **248-9** or **249-9** in type = 0.25″ (6.35) dia. plated brass shaft.

Stock No.	Type	Shaft Length	Ohms	1-4	5-9	10-24	25-49
96F9592	248-8-08-102	0.75″	1k	5.15	4.55	4.10	3.90
96F9593	248-9-10-502	0.875″	5k	5.15	4.55	4.10	3.90
96F9594	248-7-10-103	0.875″	10k	4.87	4.31	3.88	3.69
96F9596	249-9-10-502	0.875″	5k	5.15	4.55	4.10	3.90
96F9597	249-7-10-103	0.875″	10k	4.87	4.31	3.88	3.69

(4203) (de03432)

140 SERIES SINGLE-TURN WIREWOUND POTENTIOMETERS



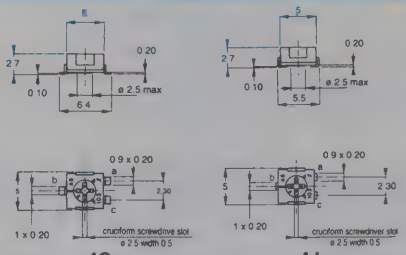
Rated 2.0W @ 40°C. Independent linearity: ±1.0%. Electrical rotation: 320° ±5°. Shaft length with bushing: 0.7 x 0.125″ diameter. Bushing: ¼-32 x 5/16″. Tolerance: ±5%.

Stock No.	Type	Ohms	1-4	5-9	10-24	25-49
01F8066	140-0-0-501	500	64.16	57.33	46.49	44.15
01F8067	140-0-0-102	1k	64.16	57.33	46.49	44.15
01F8068	140-0-0-202	2k	46.66	41.70	33.81	32.11
01F8069	140-0-0-502	5k	64.16	57.33	46.49	44.15
01F8070	140-0-0-103	10k	64.16	57.33	46.49	44.15

(9623) (de01306)

4G AND 4J SERIES TRIMMING POTENTIOMETERS

SMD



4G 4J

- **Designed for High-Performance and Stability**
- **Optimum Packaging Density**
- **Fully Sealed for Wave, Vapor Phase, Reflow Soldering and Immersion Cleaning**
- **Designed for both Manual and Automatic Operation**

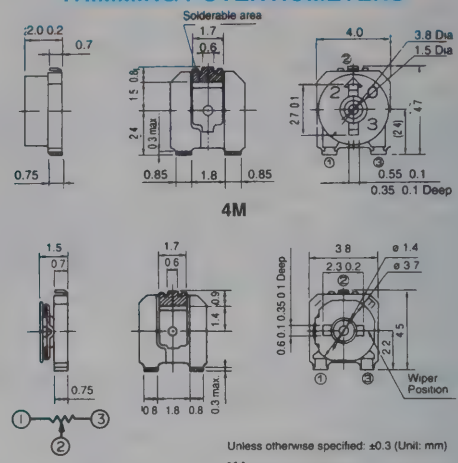
Both gull wing (**type 4G**) and J-lead (**type 4J**) are fully sealed. MIL-STD-202, Method 106 for moisture resistance; MIL-STD-202, Method 213/1 for shocks; MIL-STD-202, Method 204/D for vibrations. Resistance tolerance: ±20%. Resistive element: Cermet. **Sold individually and on tape and reel of 500.**

Stock No.	Type	Ohms	1-49	50-99	Each per Reel of 500
66F9912	004G101TR	100	1.87	1.70	1.34
66F9917	004G201TR	200	1.87	1.70	1.34
66F9921	004G501TR	500	1.87	1.70	1.34
66F9913	004G102TR	1k	1.87	1.70	1.34
66F9918	004G202TR	2k	1.87	1.70	1.34
66F9922	004G502TR	5k	1.87	1.70	1.34
66F9914	004G103TR	10k	1.87	1.70	1.34
66F9919	004G203TR	20k	1.87	1.70	1.34
66F9923	004G503TR	50k	1.87	1.70	1.34
66F9915	004G104TR	100k	1.87	1.70	1.34
66F9939	004G204TR	200k	1.87	1.70	1.34
66F9924	004G504TR	500k	1.87	1.70	1.34
66F9916	004G105TR	1M	1.87	1.70	1.34
66F9920	004G205TR	2M	1.87	1.70	1.34
66F9925	004J101TR	100	1.87	1.70	1.34
66F9930	004J201TR	200	1.87	1.70	1.34
66F9935	004J501TR	500	1.87	1.70	1.34
66F9926	004J102TR	1k	1.87	1.70	1.34
66F9931	004J202TR	2k	1.87	1.70	1.34
66F9936	004J502TR	5k	1.87	1.70	1.34
66F9927	004J103TR	10k	1.87	1.70	1.34
66F9932	004J203TR	20k	1.87	1.70	1.34
66F9937	004J503TR	50k	1.87	1.70	1.34
66F9928	004J104TR	100k	1.87	1.70	1.34
66F9933	004J204TR	200k	1.87	1.70	1.34
66F9938	004J504TR	500k	1.87	1.70	1.34
66F9929	004J105TR	1M	1.87	1.70	1.34
66F9934	004J205TR	2M	1.87	1.70	1.34

(4215) (ne06353)

4H AND 4M SERIES 4mm SURFACE MOUNT CERMET TRIMMING POTENTIOMETERS

SMD



- **Designed for High-Performance and Stability**
- **Optimum Packaging Density**
- **Designed for both Manual and Automatic Operation**

Type 4H is open frame; **type 4M** is sealed. Features of **4H** include terminations with excellent solder wettability as well as high solder leaching resistance due to nickel barrier layer construction. Features of **4M** include miniature size (4.7 x 4.0 x 2.0mm), suitability for flow and reflow soldering with no cleaning process necessary after soldering. Resistance tolerance: ±25%. **Sold individually and on tape and reel.**

Stock No.	Type	Ohms	1-49	50-99	Each per Reel of 750
66F9940	004H101TR	100	0.73	0.65	0.53
66F9945	004H201TR	200	0.73	0.65	0.53
66F9959	004H501TR	500	0.73	0.65	0.53
66F9941	004H102TR	1k	0.73	0.65	0.53
66F9946	004H202TR	2k	0.73	0.65	0.53
66F9960	004H502TR	5k	0.73	0.65	0.53
66F9942	004H103TR	10k	0.73	0.65	0.53
66F9947	004H203TR	20k	0.73	0.65	0.53
66F9961	004H503TR	50k	0.73	0.65	0.53
66F9943	004H104TR	100k	0.73	0.65	0.53
66F9948	004H204TR	200k	0.73	0.65	0.53
66F9962	004H504T/R	500k	0.73	0.65	0.53
66F9944	004H105TR	1M	0.73	0.65	0.53
66F9958	004H205TR	2M	0.73	0.65	0.53
66F9963	004M101TR	100	1.45	1.23	0.94
66F9950	004M201TR	200	1.45	1.23	0.94
66F9955	004M501TR	500	1.45	1.23	0.94
66F9964	004M102TR	1k	1.45	1.23	0.94
66F9951	004M202TR	2k	1.45	1.23	0.94
66F9956	004M502TR	5k	1.45	1.23	0.94
66F9965	004M103TR	10k	1.45	1.23	0.94
66F9952	004M203TR	20k	1.45	1.23	0.94
66F9957	004M503TR	50k	1.45	1.23	0.94
66F9966	004M104TR	100k	1.45	1.23	0.94
66F9953	004M204TR	200k	1.45	1.23	0.94
66F9967	004M504TR	500k	1.45	1.23	0.94
66F9949	004M105TR	1M	1.45	1.23	0.94
66F9954	004M205TR	2M	1.45	1.23	0.94

(4214) (ne06352)

MODEL DE2 INCREMENTAL ENCODER

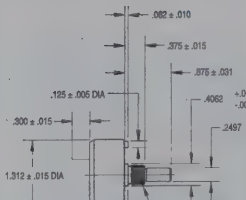
QUAD-PLUS™

DE2-0-X-XX

Terminal	Function
1	Input (Vs)
2	Common
3	Channel A Out
4	Channel B Out

DE2-1-X-XX

Terminal	Function
0	Input (Vs)
1	Common
2	Channel A Out
3	Channel Z Out
4	Channel B Out



Terminal Configuration

Features patented Silver-in-Glass™ switching element technology; two-channel quadrature output; optional index pulse; and optional shaft seal. 32 pulses per revolution can be resolved to 128 increments per revolution. Units include CMOS debounce circuitry for clean, high-level outputs. Moisture resistance per MIL-STD-202, Method 106. Operating temperature: –40°C to +85°C. **0** immediately following model number = standard unit. **1** immediately following model number = index unit. Units are 32-bit. Options available; *contact your local Newark sales office.*

Stock No.	Type	1-4	5-9	10-24
66F9968	DE2-0-1-32	31.20	27.88	22.61
66F9969	DE2-1-1-32	32.28	28.85	23.39

(4212) (ne06350)

DE2 INCREMENTAL ENCODER FEATURES

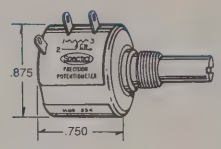
- **ACCURATE, RELIABLE AND COST-EFFECTIVE**
- **INTERNAL CIRCUITRY FOR CLEAN AND LEVEL OUTPUT**
- **OPERATES IN EXTREME ENVIRONMENTS:**
- **HIGH TEMPERATURE**
- **HIGH VIBRATION AND SHOCK**
- **DIRTY AND HARSH ENVIRONMENTS**
- **UP TO 5 MILLION REVOLUTIONS**
- **ADDITIONAL PULSES PER REVOLUTION AVAILABLE; *CONTACT YOUR LOCAL NEWARK SALES OFFICE***

(4224) (ne08793)

ONE-STOP SHOPPING . . . WITH ONE CALL AND ONE PURCHASE ORDER.

MULTI-TURN PRECISION POTENTIOMETERS

533/534/535/536/538 SERIES MULTI-TURN WIREWOUND POTENTIOMETERS



533 SERIES 3-TURN POTENTIOMETERS

Bushing mount units rated 1.55W@ 40°C.Resistance tolerance: ±5%. Operating temperature: –55°C to +125°C. Temperature coefficient: 20PPM/°C. Shaft size: 0.812″L x 0.250″ diameter. Bushing: ⅜″–32UNEF-2A.

Stock No.	Type	Ohms	1-4	5-9	10-24	25-49
01F8229	533-1-1-201	200	18.45	16.49	13.37	12.70
01F8230	533-1-1-501	500	18.45	16.49	13.37	12.70
01F8231	533-1-1-102	1k	18.45	16.49	13.37	12.70
01F8232	533-1-1-202	2k	18.45	16.49	13.37	12.70
01F8233	533-1-1-502	5k	18.45	16.49	13.37	12.70
01F8234	533-1-1-103	10k	18.45	16.49	13.37	12.70

534 SERIES 10-TURN POTENTIOMETERS

Bushing or servo mount potentiometers are rated 3.09W @ 40°C. Resistance tolerance: ±5%. Operating temperature: –55°C to +125°C. Temperature coefficient: 20PPM/°C. Shaft size: 0.812L x 0.250″ diameter. **1-1** in type = bushing mount, 1 section; **1-2** in type = bushing mount, 2 sections; **2-1** in type = servo mount. Bushing: ⅜″–32UNEF-2A.

Stock No.	Type	Ohms	1-4	5-9	10-24	25-49
01F8236	534-1-1-101	100	15.35	13.72	11.12	10.57
01F8237	534-1-1-201	200	15.35	13.72	11.12	10.57
01F8238	534-1-1-501	500	15.35	13.72	11.12	10.57
01F8239	534-1-1-102	1k	15.35	13.72	11.12	10.57
01F8240	534-1-1-202	2k	15.35	13.72	11.12	10.57
01F8241	534-1-1-502	5k	15.35	13.72	11.12	10.57
01F8242	534-1-1-103	10k	15.35	13.72	11.12	10.57
01F8243	534-1-1-203	20k	15.35	13.72	11.12	10.57
01F8244	534-1-1-503	50k	19.45	17.38	14.09	13.39
01F8245	534-1-1-104	100k	19.45	17.38	14.09	13.39
96F9578	534-2-1-502	5k	40.43	36.13	29.30	27.83
98F746	534-2-1-103	10k	41.08	36.71	29.77	28.27
96F9579	534-2-1-103	10k	40.43	36.13	29.30	27.83

535 SERIES 5-TURN POTENTIOMETERS

Bushing mount units rated 2.32W @ 40°C. Resistance tolerance: ±5%. Operating temperature: –55°C to +125°C. Temperature coefficient: 20PPM/°C. Shaft size: 0.812L x 0.250″ diameter. Bushing: ⅜″–32UNEF-2A.

Stock No.	Type	Ohms	1-4	5-9	10-24	25-49
04F9016	535-11-102	1k	17.70	15.81	12.82	12.18
95F732	535-11-202	2k	17.70	15.81	12.82	12.18
04F9017	535-11-502	5k	17.70	15.81	12.82	12.18
93F9212	535-11-103	10k	17.70	15.81	12.82	12.18
95F733	535-11-203	20k	17.70	15.81	12.82	12.18

536 SERIES 10-TURN POTENTIOMETERS

Bushing mount potentiometers are rated 3.09 watts @ 40°C. Resistance tolerance: ±5% . Operating temperature: –55°C to +125°C. 0.25″ plastic shaft. Bushing: ⅜″–32UNEF-2A.

Stock No.	Type	Ohms	1-4	5-9	10-24	25-49
03F3917	536-1-1-101	100	12.57	11.24	9.11	8.65
03F3918	536-1-1-201	200	12.57	11.24	9.11	8.65
03F3919	536-1-1-501	500	12.57	11.24	9.11	8.65
03F3920	536-1-1-102	1k	12.57	11.24	9.11	8.65
03F3921	536-1-1-202	2k	12.57	11.24	9.11	8.65
03F3922	536-1-1-502	5k	12.57	11.24	9.11	8.65
03F3923	536-1-1-103	10k	12.57	11.24	9.11	8.65
03F3930	536-1-1-203	20k	12.57	11.24	9.11	8.65
03F3931	536-1-1-503	50k	16.07	14.36	11.64	11.06
03F3932	536-1-1-104	100k	16.07	14.36	11.64	11.06

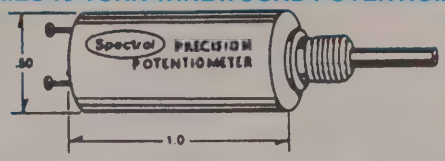
538 SERIES 10-TURN HYBRID POTENTIOMETERS

Hybrid. Wire-wound conductive plastic element. Bushing-mount. Metal .250″ dia. shaft. Bushing: ⅜″–32UNEF-2A. Power: 3.09W @ 40°C. Resistance tolerance: ±10%. Dielectric strength: 1000 Vrms. Mechanical rotation: 3600° +10°–0°. Operating temperature: –55° to +125°C.

Stock No.	Type	Ohms	1-4	5-9	10-24	25-49
04F4862	538-1-1-102	1k	160.70	143.61	116.44	110.59
04F4863	538-1-1-202	2k	160.70	143.61	116.44	110.59
04F4864	538-1-1-502	5k	160.70	143.61	116.44	110.59
04F4865	538-1-1-103	10k	160.70	143.61	116.44	110.59
04F4868	538-1-1-104	100k	160.70	143.61	116.44	110.59

(9625) (de01308)

162 SERIES 10-TURN WIREWOUND POTENTIOMETERS

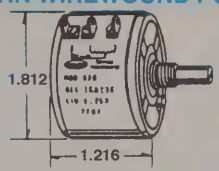


Precision pots with stops for limited panel space rated 2.0W @ 40°C. Independent linearity: ±0.3%. Electrical rotation: 3600°+15° to –0° Temperature range: –55°C to +125°C. Shaft length with bushing: 0.687″ x 0.935″ diameter. Bushing: ¼–32 x 0.281″. Resistance tolerance: ±5%.

Stock No.	Type	Ohms	1-4	5-9	10-24	25-49
01F8104	162-1-1-202	2k	137.75	123.10	99.81	94.80
01F8105	162-1-1-502	5k	137.75	123.10	99.81	94.80
01F8106	162-1-1-103	10k	98.39	87.93	71.29	67.71

(9624) (de01307)

830 SERIES 3-TURN WIREWOUND POTENTIOMETERS

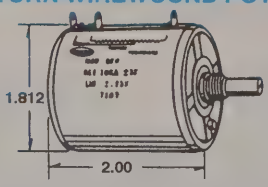


Extra rugged pots for machine controls and industrial test instruments rated 3.0W @ 40°C. Independent linearity: ±0.25%. Has stops. Electrical rotation: 1080°+4° to –0°. Temperature range: –55°C to +125°C. Shaft length with bushing: 0.812 x 0.250″ diameter. Bushing: ⅜-32x5⁄16″. Resistance tolerance: ±5% below 200Ω; ±3% 200Ω and over.

Stock No.	Type	Ohms	1-4	5-9	10-24	25-49
01F8073	830-1-1-501	500	78.90	70.51	57.17	54.30
01F8074	830-1-1-102	1K	78.90	70.51	57.17	54.30
01F8075	830-1-1-202	2K	78.90	70.51	57.17	54.30
01F8076	830-1-1-502	5K	78.90	70.51	57.17	54.30
01F8077	830-1-1-103	10K	78.90	70.51	57.17	54.30

(9629) (de01312)

860 SERIES 10-TURN WIREWOUND POTENTIOMETERS



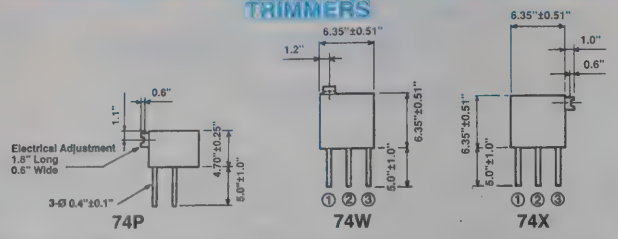
Bushing mount high power model is rated 8.0W @ 40°C. Operating temperature: –55°C to 125°C. Shaft length with bushing: 0.812L x 0.250″ diameter. Bushing: ⅜-32x5⁄16″. Resistance tolerance: below 200Ω ±5%. 200Ω and over ±3%.

Stock No.	Type	Ohms	1-4	5-9	10-24	25-49
01F8080	860-1-1-200	20	98.92	88.40	71.67	68.07
01F8081	860-1-1-500	50	70.65	63.13	51.19	48.62
01F8082	860-1-1-101	100	98.92	88.40	71.67	68.07
01F8083	860-1-1-201	200	70.65	63.13	51.19	48.62
01F8084	860-1-1-501	500	98.92	88.40	71.67	68.07
01F8085	860-1-1-102	1k	98.92	88.40	71.67	68.07
01F8086	860-1-1-202	2k	70.65	63.13	51.19	48.62
01F8087	860-1-1-502	5k	98.92	88.40	71.67	68.07
01F8088	860-1-1-103	10k	98.92	88.40	71.67	68.07
01F8089	860-1-1-203	20k	70.65	63.13	51.19	48.62
01F8091	860-1-1-503	50k	98.92	88.40	71.67	68.07
01F8092	860-1-1-104	100k	170.07	151.98	123.23	117.04
01F8093	860-1-1-204	200k	170.07	151.98	123.23	117.04

(9948) (de01313)

CALL NEWARK FOR
FAST, DEPENDABLE SERVICE.

74 SERIES 0.250″ MULTI-TURN INDUSTRIAL CERMET TRIMMERS

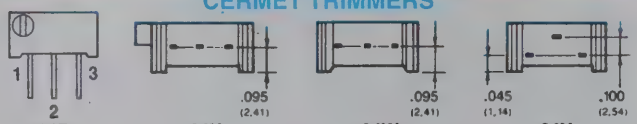


Tested to MIL-STD-202 and MIL-R-22097. Available in three pin styles. Tolerance: ±10%. 0.25W @ 85°C. Dielectric strength: 600VAC. Operating temperature: –55°C to +125°C. *Order* **type 8T000** *trimmer adjustment tool separately on page 797.*

Stock No.	Type	Ohms	1-24	25-49	50-99	100-249
95F719	74P-502	5k	3.91	3.37	2.86	2.75
95F720	74P-503	50k	3.91	3.37	2.86	2.75
95F721	74P-104	100k	3.91	3.37	2.86	2.75
95F722	74W-102	1k	3.91	3.37	2.86	2.75
95F723	74W-202	2k	3.91	3.37	2.86	2.75
95F724	74W-502	5k	3.91	3.37	2.86	2.75
95F725	74W-503	50k	3.91	3.37	2.86	2.75
95F726	74W-104	100k	3.91	3.37	2.86	2.75
95F727	74X-102	1k	3.91	3.37	2.86	2.75
95F728	74X-202	2k	3.91	3.37	2.86	2.75
95F729	74X-502	5k	3.91	3.37	2.86	2.75
95F730	74X-503	50k	3.91	3.37	2.86	2.75
95F731	74X-104	100k	3.91	3.37	2.86	2.75

(4188) (de01274)

64 SERIES 0.375″ SQUARE INDUSTRIAL MULTI-TURN CERMET TRIMMERS



Fully sealed. Positive gear drive and solder terminations. 25-turn nominal effective travel. Temperature coefficent: ±100ppm/°C. Resistance tolerance ±10%. Rated 0.5W @ 85°C. Operating temperature: –55°C to +125°C. Adjustment screw position: **64P series**, side; **64X series**, side; **64W series** and **64Y series**, top. *Order* **type 8T000** *trimmer adjustment tool separately on page 797.*

Stock No.	Type	Ohms	1-24	25-49	50-99	100-249
67F5761	64P-102	1k	2.76	2.37	2.02	1.94
67F5762	64P-202	2k	2.76	2.37	2.02	1.94
67F5763	64P-502	5k	2.76	2.37	2.02	1.94
67F5764	64P-103	10k	2.76	2.37	2.02	1.94
67F5765	64P-203	20k	2.76	2.37	2.02	1.94
67F5768	64P-104	100k	2.76	2.37	2.02	1.94
67F5777	64X-101	100	2.12	1.83	1.55	1.49
67F5778	64X-201	200	2.12	1.83	1.55	1.49
67F5780	64X-102	1k	2.76	2.37	2.02	1.94
67F5781	64X-202	2k	2.76	2.37	2.02	1.94
67F5782	64X-502	5k	2.76	2.37	2.02	1.94
67F5783	64X-103	10k	2.76	2.37	2.02	1.94
67F5784	64X-203	20k	2.76	2.37	2.02	1.94
67F5785	64X-253	25k	2.76	2.37	2.02	1.94
67F5786	64X-503	50k	2.76	2.37	2.02	1.94
67F5787	64X-104	100k	2.76	2.37	2.02	1.94
67F5791	64X-105	1M	2.76	2.37	2.02	1.94
67F5822	64W-200	20	2.76	2.37	2.02	1.94
67F5823	64W-500	50	2.76	2.37	2.02	1.94
67F5824	64W-101	100	2.76	2.37	2.02	1.94
67F5825	64W-201	200	2.76	2.37	2.02	1.94
67F5826	64W-501	500	2.76	2.37	2.02	1.94
67F5827	64W-102	1k	2.76	2.37	2.02	1.94
67F5828	64W-202	2k	2.76	2.37	2.02	1.94
67F5829	64W-502	5k	2.76	2.37	2.02	1.94
67F5830	64W-103	10k	2.76	2.37	2.02	1.94
67F5831	64W-203	20k	2.76	2.37	2.02	1.94
67F5832	64W-253	25k	2.76	2.37	2.02	1.94
67F5833	64W-503	50k	2.76	2.37	2.02	1.94
67F5834	64W-104	100k	2.76	2.37	2.02	1.94
67F5835	64W-204	200k	2.76	2.37	2.02	1.94
67F5836	64W-254	250k	2.76	2.37	2.02	1.94
67F5837	64W-504	500k	2.76	2.37	2.02	1.94
67F5838	64W-105	1M	2.76	2.37	2.02	1.94
67F5739	63X-200	2M	1.12	0.96	0.82	0.79
67F5840	64Y-100	10	2.76	2.37	2.02	1.94
67F5841	64Y-200	20	2.12	1.83	1.55	1.49
67F5842	64Y-500	50	2.76	2.37	2.02	1.94
67F5843	64Y-101	100	2.76	2.37	2.02	1.94

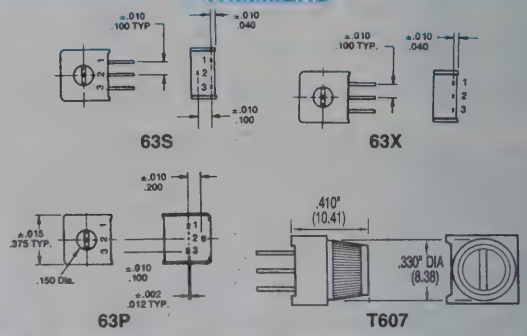
CONTINUED

64 SERIES 0.375″ SQUARE INDUSTRIAL MULTI-TURN CERMET TRIMMERS (CONT.)

Stock No.	Type	Ohms	1-24	25-49	50-99	100-249
67F5844	64Y-201	200	2.76	2.37	2.02	1.94
67F5845	64Y-501	500	2.76	2.37	2.02	1.94
67F5846	64Y-102	1k	2.76	2.37	2.02	1.94
67F5847	64Y-202	2k	2.76	2.37	2.02	1.94
67F5848	64Y-502	5k	2.76	2.37	2.02	1.94
67F5849	64Y-103	10k	2.76	2.37	2.02	1.94
67F5850	64Y-203	20k	2.76	2.37	2.02	1.94
67F5852	64Y-503	50k	2.76	2.37	2.02	1.94
67F5853	64Y-104	100k	2.76	2.37	2.02	1.94
67F5854	64Y-204	200k	2.76	2.37	2.02	1.94
67F5856	64Y-504	500k	2.76	2.37	2.02	1.94
67F5857	64Y-105	1M	2.76	2.37	2.02	1.94
67F5858	64Y-205	2M	2.76	2.37	2.02	1.94

(15937) (de01143)

63 SERIES 0.375″ SQUARE SINGLE-TURN CERMET TRIMMERS

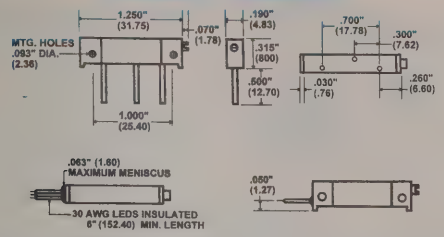


Cermet trimmers have resistance tolerance of ±10%. 0.5W @ 70°C. Dielectric withstanding: 1000VAC. Operating temperature: –55°C to +125°C. Solid stop. **63P series** have PC board terminal pins, 0.100″ grid (TO-5 grid) with adjustment perpendicular to board; **63X series** have PC board pins, 0.100″ grid (TO-5 grid) with adjustment parallel to board; **63S series** have PC board pins, 0.100″ in line, with adjustment parallel to board. **63P-T607 series** are knob-adjust units with flat serrated knob. *Order* **type 8T000** *trimmer adjustment tool separately on page 797.*

Stock No.	Type	Ohms	1-24	25-49	50-99	100-249
67F5722	63S-101	100	1.48	1.27	1.08	1.04
67F5723	63S-201	200	1.48	1.27	1.08	1.04
67F5724	63S-501	500	1.48	1.27	1.08	1.04
67F5725	63S-102	1k	1.48	1.27	1.08	1.04
67F5726	63S-202	2k	1.48	1.27	1.08	1.04
67F5727	63S-502	5k	1.48	1.27	1.08	1.04
67F5728	63S-103	10k	1.48	1.27	1.08	1.04
67F5731	63S-503	50k	1.48	1.27	1.08	1.04
67F5733	63S-204	200k	1.48	1.27	1.08	1.04
67F5735	63S-504	500k	1.48	1.27	1.08	1.04
67F5736	63S-105	1M	1.12	0.96	0.82	0.79
67F5744	63X-102	1k	1.41	1.21	1.03	0.99
67F5745	63X-202	2k	1.12	0.96	0.82	0.79
67F5747	63X-103	10k	1.41	1.21	1.03	0.99
67F5748	63X-203	20k	1.41	1.21	1.03	0.99
67F5749	63X-503	50k	1.12	0.96	0.82	0.79
67F5750	63X-104	100k	1.41	1.21	1.03	0.99
67F5753	63X-105	1M	1.41	1.21	1.03	0.99
67F5700	63P-100	10	1.41	1.21	1.03	0.99
67F5703	63P-101	100	1.41	1.21	1.03	0.99
67F5704	63P-201	200	1.41	1.21	1.03	0.99
67F5705	63P-501	500	1.41	1.21	1.03	0.99
67F5706	63P-102	1k	1.41	1.21	1.03	0.99
67F5707	63P-202	2k	1.41	1.21	1.03	0.99
67F5708	63P-502	5k	1.41	1.21	1.03	0.99
67F5709	63P-103	10k	1.41	1.21	1.03	0.99
67F5710	63P-203	20k	1.41	1.21	1.03	0.99
67F5711	63P-253	25k	1.41	1.21	1.03	0.99
67F5712	63P-503	50k	1.41	1.21	1.03	0.99
67F5713	63P-104	100k	1.41	1.21	1.03	0.99
67F5714	63P-204	200k	1.41	1.21	1.03	0.99
67F5715	63P-254	250k	1.41	1.21	1.03	0.99
67F5716	63P-504	500k	1.41	1.21	1.03	0.99
67F5717	63P-105	1M	1.41	1.21	1.03	0.99
67F5718	63P-205	2M	1.41	1.21	1.03	0.99
96F9588	063P102T607	1k	2.38	2.10	1.89	1.80
96F9584	063P502T607	5k	2.38	2.10	1.89	1.80
96F9583	063P103T607	10k	2.38	2.10	1.89	1.80
96F9587	063P203T607	20k	2.38	2.10	1.89	1.80
96F9586	063P104T607	100k	2.38	2.10	1.89	1.80
96F9584	063P502T607	500k	2.38	2.10	1.89	1.80

(9621) (de01276)

70 SERIES 1.25″ RECTANGULAR INDUSTRIAL MULTI-TURN CERMET TRIMMERS

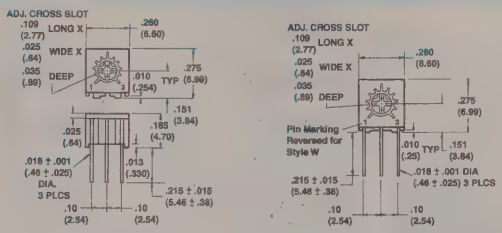


Industrial grade trimmers are for applications requiring higher operating wattage and temperature. Units are resistant to humidity, shock and vibration. 20-turn screwdriver adjustment with idling end stops. **Type 70Y** PC pin units; **Type 70L** insulated wire lead units. Body mounting holes: 0.093″ (2.38) on 1″ (25.40) centers. Operating temperature: –55°C to +150°C. Resistance tolerance: ±10%. Power rating: 1 watt at 85°C. Resistance range: 10 ohms to 2 megohms. Temperature coefficient is from –100 to +200 PPM/°C up to 50 ohms resistance, and ±100 PPM/°C for greater than 50 ohm resistance. *Order* **Type 8T000** *trimmer adjustment tool separately on this page.*

Stock No.	Type	Ohms	1-24	25-49	50-99	100-249
04F2158	70Y201	200	6.09	5.38	4.84	4.61
04F2159	70Y501	500	6.09	5.38	4.84	4.61
04F2160	70Y102	1k	6.09	5.38	4.84	4.61
04F2161	70Y202	2k	6.09	5.38	4.84	4.61
04F2162	70Y502	5k	6.09	5.38	4.84	4.61
04F2163	70Y103	10k	6.09	5.38	4.84	4.61
04F2164	70Y203	20k	6.09	5.38	4.84	4.61
04F2166	70Y503	50k	6.09	5.38	4.84	4.61
04F2167	70Y104	100k	6.09	5.38	4.84	4.61
04F2168	70Y204	200k	6.09	5.38	4.84	4.61
04F2170	70Y504	500k	6.09	5.38	4.84	4.61
04F2176	70L101	100	9.34	8.25	7.43	7.06
04F2177	70L201	200	9.34	8.25	7.43	7.06
04F2178	70L501	500	9.34	8.25	7.43	7.06
04F2179	70L102	1k	9.34	8.25	7.43	7.06
04F2180	70L202	2k	9.34	8.25	7.43	7.06
04F2181	70L502	5k	9.34	8.25	7.43	7.06
04F2182	70L103	10k	9.34	8.25	7.43	7.06
04F2183	70L203	20k	9.34	8.25	7.43	7.06
04F2184	70L503	50k	9.34	8.25	7.43	7.06
04F2185	70L104	100k	9.34	8.25	7.43	7.06
04F2186	70L204	200k	9.34	8.25	7.43	7.06

(9620) (de01144)

76 SERIES 1/4″ SQUARE SINGLE-TURN CERMET TRIMMERS



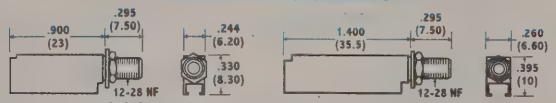
Top Adjust **Side Adjust**

Standard features include a multi-finger wiper to minimize contact resistance variation. Resistance tolerance: ±10%. Temperature range: –55°C to +125°C. Per MIL-STD-202, Method 103, for humidity. **Types 76H** and **76P** are top adjust; **76W** is side adjust.

Stock No.	Type	Ohms	1-24	25-49	50-99
66F9979	76H102	1k	2.24	1.98	1.78
66F9981	76H202	2k	2.24	1.98	1.78
66F9980	76H103	10k	2.24	1.98	1.78
66F9982	76H203	20k	2.24	1.98	1.78
66F9983	76P101	100	2.24	1.98	1.78
66F9971	76P501	500	2.24	1.98	1.78
66F9984	76P102	1k	2.24	1.98	1.78
66F9987	76P202	2k	2.24	1.98	1.78
66F9972	76P502	5k	2.24	1.98	1.78
66F9985	76P103	10k	2.24	1.98	1.78
66F9970	76P203	20k	2.24	1.98	1.78
66F9986	76P104	100k	2.24	1.98	1.78
66F9973	76P504	500k	2.24	1.98	1.78
66F9974	76W101	100	2.32	2.05	1.85
66F9992	76W501	500	2.32	2.05	1.85
66F9975	76W102	1k	2.32	2.05	1.85
66F9988	76W202	2k	2.32	2.05	1.85
66F9993	76W502	5k	2.32	2.05	1.85
66F9976	76W103	10k	2.32	2.05	1.85
66F9989	76W203	20k	2.32	2.05	1.85
66F9994	76W503	50k	2.32	2.05	1.85
66F9977	76W104	100k	2.32	2.05	1.85
66F9991	76W254	250k	2.32	2.05	1.85
66F9978	76W105	1M	2.32	2.05	1.85
66F9990	76W205	2M	2.32	2.05	1.85

(4213) (ne06351)

6 SERIES SNAP-ON PANEL MOUNT EXTENDING ADAPTERS FOR 43 & 70 SERIES



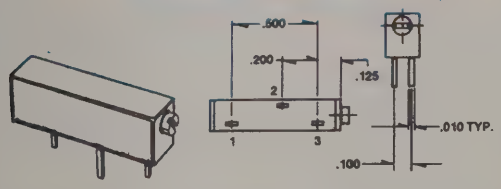
6-1-0 **6-2-0**

43 series standard 0.750″ (19.1mm) and **70 series** standard 1.250″ (31.75mm) rectangular trimming potentiometers can be panel mounted with these polyester plastic panel mount adapters. Optional adjustment shafts available. Suffix **(1)** flush shaft; suffix **(2)** 0.575″ (14.6mm) shaft extension; suffix **(3)** 0.875″ (22.23mm) shaft extension. Snap-in assembly. **6-1** is for **43 series; 6-2** is for **70 series.**

Stock No.	Type	Description	1-24	25-49
81F005	6-1-0	W/o Shaft	2.07	1.83
81F006	6-1-1	Shaft Flush	3.06	2.71
81F007	6-1-2	0.575″ (14.6) Shaft Ext.	3.06	2.71
81F008	6-1-3	0.875″ (22.23) Shaft Ext.	3.06	2.71
81F009	6-2-0	W/o Shaft	2.07	1.83
81F010	6-2-1	Shaft Flush	3.06	2.71
81F011	6-2-2	0.575″ (14.6) Shaft Ext.	3.06	2.71
81F012	6-2-3	0.875″ (22.23) Shaft Ext.	3.06	2.71

(4193) (de01348)

43P SERIES 0.75″ RECTANGULAR INDUSTRIAL MULTI-TURN CERMET TRIMMERS



Fully sealed and suitable for automatic soldering, these trimmers are designed for general use where economy and space are factors. 20-turn screwdriver adjustment. Operating temperature: –55°C to +125°C. Resistance tolerance: ±10%. ¾ watt at +70°C. *Order* **Type 8T000** *trimmer adjustment tool separately on this page.*

Stock No.	Type	Ohms	1-24	25-49	50-99	100-249
01F8178	43P-100	10	1.60	1.42	1.28	1.21
01F8179	43P-200	20	1.60	1.42	1.28	1.21
01F8180	43P-500	50	1.60	1.42	1.28	1.21
01F8181	43P-101	100	1.60	1.42	1.28	1.21
01F8182	43P-201	200	1.60	1.42	1.28	1.21
01F8183	43P-501	500	1.60	1.42	1.28	1.21
01F8184	43P-102	1k	1.60	1.42	1.28	1.21
01F8185	43P-202	2k	1.60	1.42	1.28	1.21
01F8186	43P-502	5k	1.60	1.42	1.28	1.21
01F8187	43P-103	10k	1.60	1.42	1.28	1.21
01F8188	43P-203	20k	1.60	1.42	1.28	1.21
01F8189	43P-503	50k	1.60	1.42	1.28	1.21
01F8190	43P-104	100k	1.60	1.42	1.28	1.21
01F8191	43P-204	200k	1.60	1.42	1.28	1.21
01F8192	43P-254	250k	1.60	1.42	1.28	1.21
01F8193	43P-504	500k	1.60	1.42	1.28	1.21
01F8194	43P-105	1M	1.60	1.42	1.28	1.21
01F8195	43P-205	2M	1.60	1.42	1.28	1.21

(9619) (de01142)

TYPE 8T000 TRIMMER ADJUSTMENT TOOL

Adjust trimmers of all sizes. Overall length is 5″, diameter is 0.255″.

67F5795 Type 8T000. **Each** **1.16**

(15029) (de01278)

9 SERIES CEMENTED TRIMMER PANEL MOUNT ADAPTER

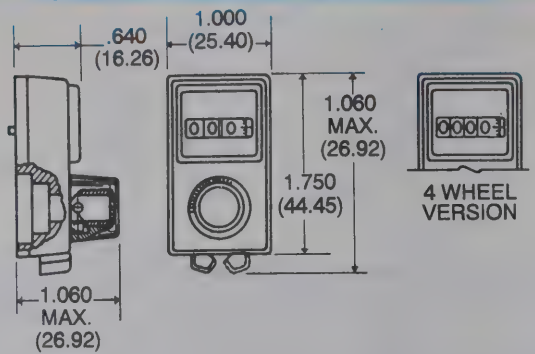
Permits panel mounting of **43 series** 0.75″ rectangular trimming potentiometers. With 10-32 NF-2A thread and internal tooth lockwasher. Glue on bushing style.

Stock No.	Type	1-24	25-49	50-99
96F9589	009-43PG	1.80	1.59	1.43

(4204) (de03433)

COUNTING DIALS AND SENSORS

10 AND 100 TURN DIGITAL SCALE DIALS

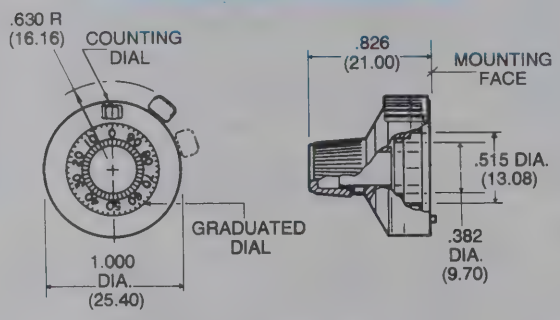


Types 15-1-11 and 15-1-31. For 0.25″ (6.35) diameter shaft. Three digit models count to 9.99 turns. Removable knob conceals setscrews and permits access to pot shaft for fast, accurate phasing. Positive braking action. Left digit indicates number of completed turns; right two digits show percent of partial turn. Mounting hardware included. Satin clear anodized finish. Knobs, bezel and base are matte black plastic. White numerals on black background. **Type 15-1-11** has open bezel. **Type 15-1-31** has clear plastic window bezel. **Type 15-2-11** same as **type 15-1-11** except is four-digit; counts to 99.99 turns. Left two digits indicate number of completed turns.

Stock No.	Type	1-4	5-9	10-24	25-49
12F4492	15-1-11	22.82	20.39	16.53	15.70
89F272	15-1-31	21.13	18.89	15.31	14.54
12F4497	15-2-11	30.52	27.27	22.11	21.00

(4168) (de00001)

11-TURN VERNIER SCALE DIALS

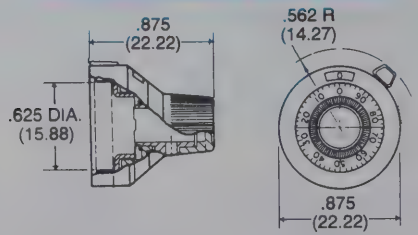


Types 11-1-11 and **11-1-31.** 1.00″ (25.40) diameter dial. For 0.25″ (6.35) diameter shaft. Count to 10.99 turns. Single numeral in window (0-10) indicates complete turns, graduated circular dial shows percent of partial turn. Mounting hardware included. Black numerals and index marks, black plastic turning knob and brake lever. **Type 11-1-11:** satin chrome finish. **Type 11-1-31:** brushed chrome finish.

Stock No.	Type	1-4	5-9	10-24	25-49
12F2773	11-1-11	20.78	18.57	15.06	14.30
12F4491	11-1-31	25.05	22.39	18.15	17.24

(4171) (de00004)

15-TURN VERNIER SCALE DIAL

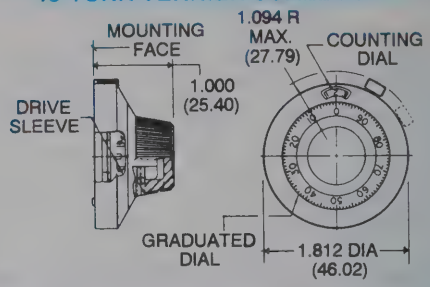


Type 16-1-11. 0.875″ (22.23) diameter dial. For 0.25″ (6.35) diameter shaft. Counts to 14.99 turns. Positive brake action, brake lever adjustment for higher torque. Numeral in window (0-14) indicates completed turns, graduated circular dial shows percent of partial turn. Mounting hardware included. Dial: black numerals on brushed metal finish. Turns counter: black numerals on white background. **Type 16-1-21** has black anodized finish with white numerals.

Stock No.	Type	1-4	5-9	10-24	25-49
12F4498	16-1-11	11.22	9.92	8.93	8.49
99F5939	16-1-21	12.39	11.07	8.98	8.53

(4169) (de00002)

15-TURN VERNIER SCALE DIAL

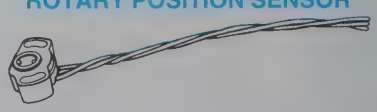


Type 21-1-11. 1.812″ (46.02) diameter dial. For 0.25″ (6.35) diameter shaft. Counts to 1499. Numeral in center of window (0-14) indicates complete turns, graduated circular dial shows percent of partial turn. Black numerals on satin chrome finish. Black plastic turning knob and brake lever.

Stock No.	Type	1-4	5-9	10-24	25-49
08F898	21-1-11	21.64	19.33	15.68	14.89

(4172) (de00005)

ROTARY POSITION SENSOR

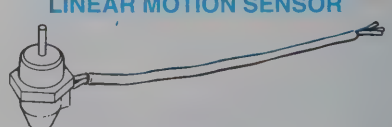


Conductive plastic resistance elements for high linear accuracy. Expected life of 1,000,000 full cycles, 6,000,000 dither cycles. Compact design with flexible lead wires. 1W power rating, derating to zero at 135°C. Operating temperature: –40°C to +135°C. 120° ±5° mechanical rotation, CCW stop, 6 in.-lbs. maximum. Moisture resistant, shock resistant to 50G's, and vibration resistant 15G's, 50 to 1000Hz. Electrical angle 85° ±2°, mechanical angle 120° ±5°.

Stock No.	Type	Ohms	1-4	5-9	10-24
87F2090	961-0001	5,000 ±20%	148.12	132.37	107.32

(4170) (de00003)

LINEAR MOTION SENSOR



Conductive plastic resistance elements offer long life, low CRV, and excellent linearity performance. Expected life of 1,000,000 full cycles, 6,000,000 dither cycles. 1W power rating, derating to zero at 135°C. 0.425″ ±0.15″ mechanical travel spring loaded to extended position. 0.405″ ±0.015″ electrical travel, ±3% linearity. Operating temperature: –55°C to +135°C. Moisture resistant, shock resistant to 50G's, and vibration resistant 15G's, 50 to 2000Hz.

Stock No.	Type	Ohms	1-4	5-9	10-24
87F2091	962-0001	10,000 ±20%	173.33	154.89	125.59

(4173) (de00006)

CONVERSION TABLE

Metric to U.S.	U.S. to metric
1 centimeter = 0.39 inch	1 inch = 2.54 centimeters
1 millimeter = 0.039 inch	1 inch = 25.4 millimeters
1 meter = 3.28 feet	1 foot = 0.305 meter
1 gram = 0.035 ounce	1 ounce = 28.35 grams
1 kilogram = 2.2 pounds	1 pound = 454 grams
1 milliliter = 0.034 fl. ounce	1 pound = 0.45 kilogram
1 liter = 0.264 gallon	1 fl. ounce = 29.57 milliliters
	1 gallon = 3.79 liters

(38573) (Filler02)

NTC THERMISTORS

111 AND 112 SERIES GLASS BEAD NTC THERMISTORS

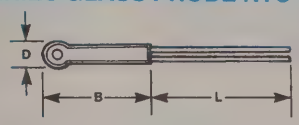
Radial Leads Axial Leads

Type 111 small bead thermistors. Tolerance: 20%. DC power: 0.1mW/°C. Time constant: 1 second. **Type 112** standard bead thermistors. Tolerance: 20%. DC power: 0.4mW/°C. Time constant: 4 seconds. **Type 112** meet MIL-T-23648A. Types ending in suffix **H01** are axial lead; types ending in suffix **B01** are radial lead. Lead length: 0.375″. Lead material: weldable platinum iridium.

Stock No.	Type	Ohms @ 25°C	Resis. Ratio	Dia. (in.)	1-24	25-49	50-99	100-249
96F8005	111-103EAJ-H01	10k	7.04	0.014	**30.28**	**28.32**	**25.53**	**18.82**
30F1722	112-102EAJ-B01	1k	7.04	0.043	**10.76**	**10.06**	**9.08**	**6.70**
30F1723	112-202EAJ-B01	2k	7.04	0.043	**10.76**	**10.06**	**9.08**	**6.70**
30F1725	112-103FAJ-B01	10k	7.59	0.043	**12.86**	**12.02**	**10.84**	**7.98**
30F1728	112-503JAJ-B01	50k	9.53	0.043	**11.83**	**11.04**	**9.97**	**7.36**
46F5987	112-104KAJ-B01	100k	10.45	0.043	**10.76**	**10.06**	**9.08**	**6.70**

(4174) (de00572)

120 AND 121 SERIES GLASS PROBE NTC THERMISTORS

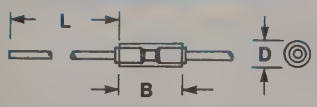


Rugged, glass-encapsulated probes. Solderable leads. Maximum operating temperature: 300°C. Tolerance: 20%. **120 series** are mini-probes. Bead diameter (D): 0.060″. Bead length (B): 0.50″. Lead length (L): 1.25″. DC power: 0.7mW/°C. **121 series** are standard probes. Bead diameter (D): 0.100″. Bead length (B): 0.50″. Lead length (L): 2.0″. DC power: 1.0mW/°C.

Stock No.	Type	Ohms @ 25°C	Resistance Ratio	1-24	25-49	50-99	100-249
98F588	120-102EAJQ01	1k	7.04	**14.74**	**13.57**	**11.86**	**9.40**
30F1765	121-102EAJ-Q01	1k	7.04	**12.56**	**11.77**	**10.66**	**8.93**
30F1766	121-202EAJ-Q01	2k	7.04	**12.56**	**11.77**	**10.66**	**8.02**
30F1770	121-103FAJ-Q01	10k	7.59	**13.24**	**12.37**	**11.16**	**8.22**
30F1774	121-503JAJ-Q01	50k	9.53	**13.66**	**12.79**	**11.57**	**8.70**
46F3208	121-104KAJ-Q01	100k	10.45	**11.06**	**10.34**	**9.33**	**6.88**
30F1779	121-504NAJ-Q01	500k	11.78	**13.24**	**12.37**	**11.16**	**8.22**

(4175) (de00573)

135 SERIES GLASS-ENCAPSULATED CHIP NTC THERMISTORS

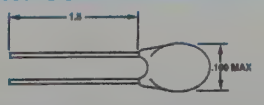


Operating temperature: –60°C to +300°C (**type 135-xxxLFW**, 0°C to 100°C). Tolerance: **type 135-xxxxAF**, 5%; **type 135-xxxxAG**, 10%; **type 135-xxxLFW**, ±1°C from 0°C to 100°C. DC power: 2.5mW/°C. Time constant: 4 sec. Bead length (B): 0.18″. Bead diameter (D): 0.08″. Lead length: 1.125″.

Stock No.	Type	Ohms @ 25°C	Resistance Ratio	1-99	100-249	250-499	500-999
30F1744	135-202FAG-J01	2k	6.95	**3.02**	**2.55**	**2.03**	**1.47**
30F1745	135-502FAG-J01	5k	6.95	**3.02**	**2.55**	**2.03**	**1.47**
30F1746	135-103FAG-J01	10k	6.95	**3.02**	**1.85**	**1.71**	**1.47**
96F6232	135-103FAF-J01	10k	6.95	**5.05**	**4.72**	**4.26**	**3.14**
96F6233	135-103LAG-J01	10k	9.10	**3.37**	**3.15**	**2.84**	**2.09**
30F1747	135-503LAG-J01	50k	9.10	**3.02**	**2.55**	**2.03**	**1.47**
30F1748	135-104LAG-J01	100k	9.10	**3.02**	**2.55**	**2.03**	**1.47**
96F6237	135-104LAF-J01	100k	9.10	**5.05**	**4.72**	**4.26**	**3.14**
96F6238	135-204QAG-J01	200k	10.45	**1.69**	**1.58**	**1.42**	**1.05**
30F1749	135-504QAG-J01	500k	10.45	**3.02**	**2.55**	**2.03**	**1.47**
96F8016	135-503LFW-J01	50k	9.1	**4.21**	**3.94**	**3.55**	**2.62**
96F8017	135-104LFW-J01	100k	9.1	**4.21**	**3.94**	**3.55**	**2.62**

(4177) (de00575)

197 SERIES EPOXY-COATED CHIP NTC THERMISTORS



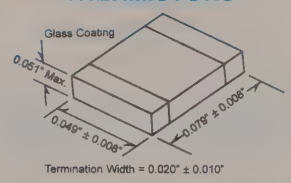
For communications, instrumentation test equipment, automotive and aerospace electronics. Tolerance: 10%. DC power: 0.75mW/°C. Length: 1.50″. Diameter: 0.095″. Time constant: 15 seconds. Uncoated leads.

Stock No.	Type	Ohms @ 25°C	Resis. Ratio	1-24	25-49	50-99	100-249
30F1753	197-103LAG-A01	10k	9.10	**3.92**	**3.29**	**2.63**	**1.91**
30F1851	197-104QAG-A01	100k	10.45	**3.92**	**3.29**	**2.63**	**1.91**

(4179) (de00577)

173 SERIES SURFACE MOUNT END-BANDED NTC THERMISTORS

NEW SMD

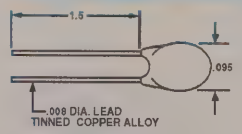


173 series NTC thermistors are designed for automated pick-and-place mounting on rigid or flexible PC boards. Ideal for boards with a high density of discrete components. Glass-coated ceramic. Solder-plated nickel barrier terminations. EIA size: 0805. Withstand solder temperatures of 260°C for 30 sec. Operating temperature: 150°C max.

Stock No.	Type	Resistance @ 25°C	R-T Curve	1-499	500-999	1000+
48F4523	173-501AAF-301	500Ω	8	**2.44**	**2.28**	**2.06**
48F4524	173-502FAF-301	5kΩ	10	**2.44**	**2.28**	**2.06**
48F4525	173-103LAF-301	10kΩ	16	**2.44**	**2.28**	**2.06**
48F4526	173-153LAF-301	15kΩ	16	**2.44**	**2.28**	**2.06**
48F4527	173-333LAF-301	33kΩ	16	**2.44**	**2.28**	**2.06**
48F4528	173-503LAF-301	50kΩ	16	**2.44**	**2.28**	**2.06**
48F4529	173-104LAF-301	100kΩ	18	**2.44**	**2.28**	**2.06**
48F4530	173-504QAF-301	500kΩ	1	**2.44**	**2.28**	**2.06**

(34970) (ne34970)

192 SERIES UNI-CURVE® R-T MATCHED INTERCHANGEABLE NTC THERMISTORS

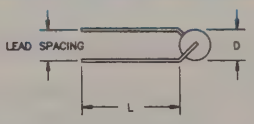


Eliminate need for individual R-T calibration. Operating temperature: 0°C to 70°C. Tolerance: **type 192-xxxxxT**, ±0.2°C; **type 192-xxxxxV**, ±0.5°C; **type 192-xxxxxW**, ±1.0°C. DC power: 0.75mW/°C. Time constant: 15 sec. Radial lead package. Diameter: 0.095″. Lead length: 1.50″. Meet MIL-T-23648.

Stock No.	Type	Ohms @ 25°C	Resistance Ratio	1-24	25-49	50-99
96F6242	192-501DEV-A01	500	6.35	**7.74**	**7.19**	**6.53**
46F3214	192-102DET-A01	1k	6.35	**10.34**	**9.66**	**8.71**
96F6243	192-102DEW-A01	1k	6.35	**3.71**	**3.47**	**3.13**
30F1796	192-222LET-A01	2,252	9.10	**10.34**	**9.66**	**8.71**
30F1797	192-302LET-A01	3k	9.10	**10.34**	**9.66**	**8.71**
30F1798	192-502LET-A01	5k	9.10	**10.34**	**9.66**	**8.71**
30F1799	192-103LET-A01	10k	9.10	**10.34**	**9.66**	**8.71**
83F7216	192-103LEV-A01	10k	9.10	**13.34**	**12.70**	**11.78**
96F6247	192-103LEW-A01	10k	9.10	**3.84**	**3.57**	**3.24**
30F1800	192-303KET-A01	30k	8.72	**10.34**	**9.66**	**8.71**
46F3215	192-503QET-A01	50k	8.72	**10.34**	**9.66**	**8.71**
30F1802	192-104QET-A01	100k	8.72	**10.34**	**9.66**	**8.71**
96F6252	192-104QEV-A01	100k	10.45	**7.74**	**7.19**	**6.53**

(4178) (de00576)

DISC NTC THERMISTORS



Tolerance: 10%. Diameter (D): **type 140**, 0.1″; **type 143**, 0.2″. Lead length (L): 1.50″. Lead material: tinned copper. Lead spacing: **type 140**, 0.1″; **type 143**, 0.2″.

Stock No.	Type	Ohms @ 25°C	Resis. Ratio	DC mW/°C	1-99	100-249	250-499
30F1758	140-501FAG-RB1	500	6.95	3.0	**3.92**	**3.29**	**2.63**
30F1759	140-102FAG-RB1	1k	6.95	4.0	**2.93**	**2.46**	**1.96**
30F1761	140-502LAG-RB1	5k	9.1	4.0	**4.43**	**3.89**	**3.29**
30F1763	140-103LAG-RB1	10k	9.1	4.0	**2.93**	**2.79**	**2.59**
30F1706	143-101FAG-RC1	100	6.95	4.0	**3.13**	**2.97**	**2.76**
96F6260	143-302LAG-RC1	3k	9.1	6.0	**5.39**	**5.04**	**4.57**
30F1712	143-502LAG-RC1	5k	9.0	7.0	**14.41**	**13.72**	**12.72**

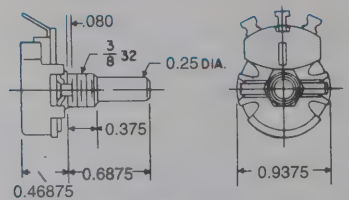
(4180) (de00578)

FRIENDLY, QUALITY SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

POTENTIOMETERS, CONTROLS AND THERMISTORS

LW SERIES WIREWOUND CONTROLS

MALLORY
North American Capacitor Company



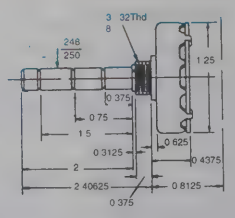
LW series controls are rated 5 watts @ 25°C; 4 watts @ 55°C. Have 0.938″ (23.83) cup diameter. Mechanical rotation: 300°. Electrical rotation: 280° ±5%. Tolerance: ±10%. Taper: linear, with screwdriver slotted shaft. 5% tolerance models available on special order; *contact your local Newark sales office for information.*

Stock No.	Type	Ohms	Amps	1-4	5-9	10-24	25-49
27F1101	LW250	250	0.130	35.54	32.81	31.97	30.48
27F1116	LW500	500	0.089	35.54	32.81	31.97	30.48
27F1113	LW1K	1k	0.063	35.54	32.81	31.97	30.48
27F1115	LW10K	10k	0.020	35.54	32.81	31.97	30.48

(4135) (de50018)

3000 SERIES ROTARY SWITCHES

MALLORY
North American Capacitor Company



Non-shorting 30° small base switch, single selection with formed cup enclosing contacts. Bushing 0.375″ (9.53) x 0.375″ (9.53) long. 2.00″ (50.80) shaft, 0.25″ (6.35) diameter. Base 1.25″ (31.75) diameter. Silverplated terminals.

Stock No.	Type	Poles	Positions	1-4	5-9	10-24	25-49
22F053	32112J	1	12	27.95	26.27	25.80	24.51
22F057	3234J	3	4	37.35	35.11	34.47	32.75
22F059	3243J	4	3	35.69	33.55	32.94	31.30

(4136) (de50020)

VW SERIES 5-WATT SUBMINIATURE WIREWOUND CONTROLS

MALLORY
North American Capacitor Company

0.75″ (19.05) diameter. Mechanical rotation: 305°. Electrical rotation: 275°. Tolerance: ±10%. Volt breakdown: 900VAC rms. Bushing: ⅜-32. Shaft: 0.25″ (6.35) diameter x 2.5″ (63.50) front mounting surface.

Stock No.	Type	Ohms	Amps	1-4	5-9	10-24	25-49
01F3428	VW-500	500	0.10	37.04	34.08	32.60	31.12
01F3429	VW-1K	1k	0.071	37.52	34.64	33.75	32.17
01F3432	VW-5K	5k	0.032	37.52	34.64	33.75	32.17
01F3433	VW-10K	10k	0.022	37.52	34.64	33.75	32.17
01F3435	VW-25K	25k	0.014	42.23	38.98	37.98	36.21

(9590) (de50017)

M SERIES 4-WATT POTENTIOMETERS

MALLORY
North American Capacitor Company

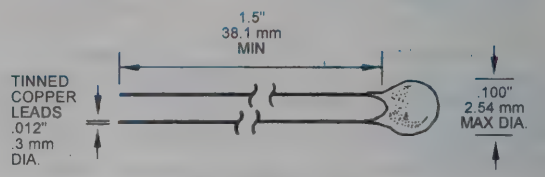
1.625″ (41.28) diameter wirewound units. Rotation: 294° mechanical; 275° electrical. Tolerance: ±10%. Bushing: ⅜-32 front mounting surface. Shaft: 0.5″ (12.70) diameter x 0.75″ (19.05) front mounting surface.

Stock No.	Type	Ohms	Amps	1-4	5-9	10-24	25-49
01F3459	M200PK	200	0.14	38.84	35.85	34.93	33.30
01F3460	M500PK	500	0.09	38.79	35.81	34.89	33.26
01F3461	M1MPK	1k	0.063	38.79	35.81	34.89	33.26
01F3462	M2MPK	2k	0.045	38.31	35.25	33.71	32.18
01F3464	M5MPK	5k	0.028	38.79	35.81	34.89	33.26
01F3465	M10MPK	10k	0.02	38.79	35.81	34.89	33.26

(9588) (de50015)

TYPE C100 NTC THERMISTORS

THERMOMETRICS



Type C100 thermistors are epoxy-coated with tinned copper leads. Suitable for temperature measurement, control and compensation applications. Low-cost for high-volume applications such as energy management systems, small appliance controls, and automotive and industrial equipment controls. Can be used for applications in the –80 to +150°C temperature range, but best stability is achieved below 105°C. Resistance: 10kΩ@ 25°C. Power rating: 0.075W derated from 100% at 25°C to 0% at 100°C. Dissipation constant: 1 mW/°C (stilled air); 8 mW/°C (stirred oil). Thermal time constant: 10 sec. (still air); 1 sec. (stirred oil). Diameter (max.): 0.100″ (2.54). Lead length (min.): 1.5″ (38.1). Lead diameter: 0.012″ (0.3).

Stock No.	Type	Resistance Ratio R0°C/R70°C	Resistance Tolerance @ 25°C	1-24	25-49	50-99
52F3330	C100F103G	18.64	±2%	4.11	3.74	3.01
52F3331	C100F103J	18.64	±5%	2.86	2.60	2.15

(4222) (ne07371)

PTC RESETTABLE FUSES

KEYSTONE THERMOMETRICS

Applications: telephone line fault protection, fuse for intermittent solenoids, over-current protection for transformers, locked rotor protection for FHP motors. Disc type. Lead length: 1½″ min. Max. diameter: 0.80″. Tolerance: ±20%. UL recognized (File E82830, category XGPU2) PTC resettable fuses are also available; *contact your local Newark sales office.*

Stock No.	Type	V_{OP}	R @ 25°C Ohms	Minimum Switch Current @ 20°C*	1-99	100-249
46F440	RL5305-1-11012PTF	12	1	0.84	2.85	2.28
46F442	RL30051011012PTF	12	10	0.19	2.57	2.06
46F443	RL3005-2511012PTF	12	25	0.12	2.57	2.06
96F3295	RL70081.511025PTF	25	1.5	0.77	3.33	2.66
46F444	RL5506511050PTF	50	5	0.37	2.80	2.24
46F445	RL40061011050PTF	50	10	0.22	2.70	2.16
96F3297	RL45082511050PTF	50	25	0.15	2.92	2.34
46F446	RL4010-5011050PTF	50	50	0.11	2.70	2.16
46F448	RL751010110120PTF	120	10	0.32	3.33	2.66
46F449	RL451050110120PTF	120	50	0.11	2.92	2.34
46F450	RL3510100110120F	120	100	0.07	2.79	2.24

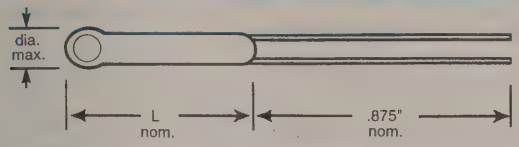
* The maximum current that the PTC can pass at the ambient indicated.

(4184) (de00632)

CAN'T LOCATE A PARTICULAR PRODUCT?
NEWARK STOCKS THOUSANDS OF ITEMS NOT LISTED IN THIS CATALOG. CALL US TODAY!

THERMISTORS AND PROBES

TYPES P60 AND P100 NTC THERMISTORS



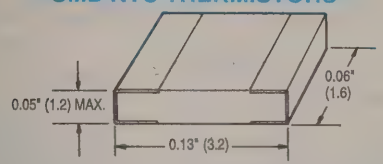
Types P60 and **P100** thermoprobes are recommended for general purpose applications involving temperature measurement, control, circuit temperature compensation, liquid level sensing and fluid flow sensing. Large bead thermistor is hermetically sealed in tip of a shock-resistant solid glass rod. Tinned dumet leads. Excellent long-term stability. ±20% tolerance at 25°C. Length: 0.50″ (12.7). Diameter: **type P60**, 0.060″ (1.5); **type P100**, 0.100″ (2.5).

Stock No.	Type	Ohms*	Res. Ratio†	1-24	25-99	100-999
91F9830	P60BA202M	2k	19.8	8.38	7.62	6.86
91F9831	P60BA502M	5k	22.1	8.38	7.62	6.86
91F9820	P100BA102M	1k	16.9	7.24	6.59	5.93
91F9821	P100BA202M	2k	19.8	7.24	6.59	5.93
91F9822	P100BA502M	5k	22.1	7.24	6.59	5.93
91F9825	P100BB104M	100k	35.7	7.24	6.59	5.93
91F9826	P100BB204M	200k	38.1	7.24	6.59	5.93
91F9827	P100BB504M	500k	45.8	7.24	6.59	5.93
91F9828	P100BB105M	1M	48.1	7.24	6.59	5.93

*@ 25°C † 25/125
(15933) (ne10120)

SMD NTC THERMISTORS

SMD



Ceramic chip thermistors; **NC** in type number indicate electrodes are silver palladium. **NB** in type number indicates electrodes are silver palladium, nickel-plated with a solder-plated covering. Glass covered ceramic between electrodes. Temperature range: –50°C to +125°C. Resistance tolerance: ±10%.

EIA CASE STYLE 0805

Length: 0.079″±0.006″. Width: 0.049″±0.006″. Thickness: 0.05″ max.

Stock No.	Type	R @ 25°C Ohms	1-99	100-249	250-499
91F9842	NC0805R502T10	5k	2.26	1.80	1.51
91F9844	NC0805R223T10	22k	2.26	1.80	1.51
91F9858	NB0805R502T10	5k	3.89	3.11	2.60

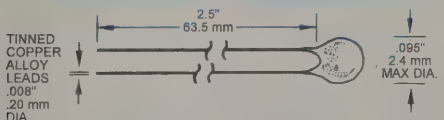
EIA CASE STYLE 1206

Length: 0.126″±0.008″. Width: 0.063″±0.006″. Thickness: 0.05″ max.

91F9847	NC1206R102T10	1k	2.95	2.36	1.97
91F9848	NC1206R502T10	5k	2.95	2.36	1.97
91F9849	NC1206R103T10	10k	2.95	2.36	1.97
91F9850	NC1206R203T10	20k	2.95	2.36	1.97
91F9851	NC1206R303T10	30k	2.95	2.36	1.97
91F9853	NC1206R104T10	100k	2.95	2.36	1.97
91F9862	NB1206R502T10	5k	3.89	3.11	2.60
91F9863	NB1206R103T10	10k	3.89	3.11	2.60

(15433) (ne10113)

TYPE EC95 NTC THERMISTORS

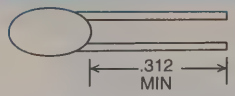


All **type EC95** thermistors are epoxy-coated for stability and have tinned copper alloy leads. For use in any general temperature measurement, control or compensation applications where interchangeability and low-cost are major considerations, especially disposable and permanent medical products, energy management systems, appliances, industrial equipment and automotive applications. May be used from –80°C to +150°C, but best overall stability below 105°C. Max. temperature is 150°C. Operating temperature: 0 to +70°C. Power rating (max.): 0.075W derated from 100% at 25°C to 0% at 100°C. Dissipation constant: 1 mW/°C (stilled air); 8 mW/°C (stirred oil). Thermal time constant: 10 sec. (still air); 1 sec. (stirred oil). Diameter (max.): 0.095″ (2.4). Lead length (min.): 2.5″ (63.5). Lead diameter: 0.008″ (0.20).

Stock No.	Type	Resistance Ω	Tolerance	1-24	25-49	50-99
52F3338	EC95F302W	3,000	±0.2°C	3.83	3.48	3.38
52F3335	EC95F103V	10,000	±0.1°C	12.32	11.20	10.00
52F3336	EC95F103W	10,000	±0.2°C	3.83	3.48	3.38
52F3339	EC95G104V	100,000	±0.1°C	12.32	11.20	10.00

(4221) (ne07370)

TYPE BR42 NTC THERMISTORS

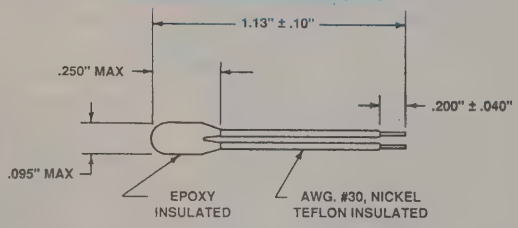


Type BR42 Thermobeads are ruggedized, reliable versions of large, glass-coated bead NTC thermistors. This thick glass coating provides a superior hermetic seal with improved strain relief and greater stability than conventional glass-coated parts. Platinum alloy leads. ±20% resistance tolerance at 25°C. Dissipation constant in still air at 25°C: 0.33mW/°C. Max. power rating: 0.042 watts.

Stock No.	Type	Ohms	1-24	25-99	100-999
91F9833	BR42KA102M	1k	7.43	6.75	6.08
91F9835	BR42KA502M	5k	7.43	6.75	6.08
91F9837	BR42KB203M	20k	7.43	6.75	6.08
91F9838	BR42KB503M	50k	7.43	6.75	6.08
91F9839	BR42KB104M	100k	7.43	6.75	6.08
91F9840	BR42KB204M	200k	7.43	6.75	6.08

(16027) (ne10122)

MINIATURE SENSORS

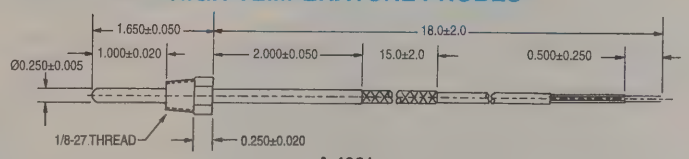


Temperature Accuracy: ±1°C @ 25°; Dissipation Constant: 1.4 mW/°C; Time Constant: 15 sec.; Operating Range: –50°C to +150°C.

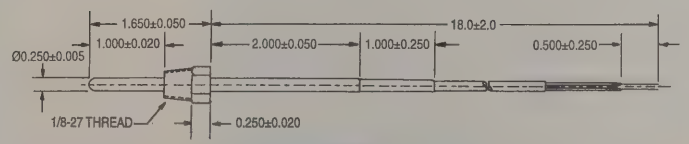
Stock No.	Type	R_0 @ 25°C	Temp. Coef. %/°C @ 25°C	1-99	100-249	250-499
96F3308	RL0503-5820-97-MS	10k	–4.40	2.35	1.88	1.60
96F3309	RL050327.53K120MS	50k	–4.84	2.35	1.88	1.60
96F3310	RL050355.36K122MS	100k	–4.78	2.35	1.88	1.60

(4197) (de02360)

HIGH-TEMPERATURE PROBES



A-1291



A-1282

AUTOMOTIVE SENSOR

Stainless steel probe meets the rigors of automotive, light, and heavy truck applications. Equally functional in both diesel and gasoline combustion systems. Meets Automotive Electronics Council Standard CDF-AEC-Q200 for salt spray, moisture, vibration, and durability. Stainless steel protective braiding covers AWG #22 stranded 2-conductor twisted pair Teflon® cable. Stainless steel probe extension. 7⁄16″ free-spinning hex nut design provides easy, tangle-free insertion of long harness wires.

91F9856 Type A-1291. **Each** **95.74**

INDUSTRIAL SENSOR

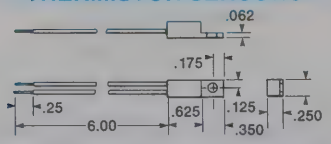
Use in generators, compressors and furnace controls. 7⁄16″ fixed nut design for short-leaded applications. Max. operating temperature: 1000°C. Stainless steel probe extension. AWG #22 stranded 2-conductor twisted pair Teflon® cable has strain relief flexible sleeving.

91F9854 Type A-1282. **Each** **76.59**

(15435) (ne10114)

THERMISTORS

THERMISTOR SENSORS

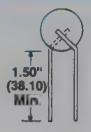


These sensors feature AWG 24 irradiated Polyolefin insulated leads. Maximum operating temperature: +125°C.

Stock No.	Type	Resist. @ 25°C	TC%/°C @ 25°C	1-9	10-24
87F2240	A-850	10k ±10%	–4.49	28.15	23.15
87F2241	A-851	100k ±10%	–5.08	47.28	38.88

(4200) (de02363)

NTC THERMISTORS



Negative temperature coefficient thermistors decrease in resistance as temperature increases. Disc-type with dip-soldered, radial leads. Temperature coefficients range from –3.42%/C to –5.23%/C @ 25°C. Maximum operating temperature: +150°C. Resistance ratio is ratio of zero power resistance @ 0°C to zero power resistance at +50°C. Tolerance: ±10% or ±20%, indicated by part number suffix. Other tolerances available; *contact your local Newark sales office.* **NOTE: Factory minimum and multiple requirements apply**.

0.11" (2.79) MAX. DIAMETER

Stock No.	Type	Ohms @ 25°C	R Ratio	1-99	100-249	250-499
20F721	RL1007-624-73-T10	1k	6.9	2.35	1.88	1.60
20F722	RL1003-1746-97T10	3k	9.1	2.35	1.88	1.60
20F723	RL1004-2910-97T10	5k	9.1	2.35	1.88	1.60
20F724	RL1009-5820-97T10	10k	9.1	2.35	1.88	1.60
46F434	RL1005-5744103T10	10k	9.6	2.35	1.88	1.60
20F725	RL100913.8K120T10	25k	11.4	2.45	1.96	1.67
20F726	RL100326.7K140T10	50k	12.9	2.62	2.10	1.79
20F727	RL100653.4K140T10	100k	12.9	2.45	1.96	1.67
20F728	RL1004104.7K155	200k	13.8	2.45	1.96	1.67
46F435	RL1006-135.2K-138	250k	12.1	2.45	1.96	1.67
0.22" (5.59) MAX. DIAMETER						
20F731	RL2003-62.4-73T10	100	6.9	2.02	1.62	1.38
20F732	RL2006-125-73-T10	200	6.9	2.02	1.62	1.38
20F733	RL2008-187-73-T10	300	6.9	2.02	1.62	1.38
20F735	RL2004-582-97-T10	1k	9.2	2.02	1.62	1.38
20F737	RL2007-1164-97T10	2k	9.1	2.02	1.62	1.38
20F741	RL2012-5506120T10	10k	11.4	2.35	1.88	1.60
20F742	RL200613.3K140T10	25k	12.9	2.14	1.71	1.46
20F744	RL200852.3K155T10	100k	13.8	2.14	1.71	1.46
0.32" (8.13) MAX. DIAMETER (except ** 0.37" (9.40))						
20F745	RL3004-6.56-59T20	10	5.6	2.22	1.78	1.51
46F451	RL3006-59.4-85T10	100	8.4	2.19	1.75	1.49

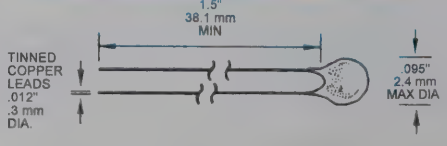
NTC THERMISTOR KITS

Type A786 NTC thermistor kit contains one each of the **type RL** NTC thermistors of 10% tolerance (**suffix T10**) listed above. Ideal for design and maintenance applications.

46F417 Type A-787. **Each**..... **55.53**

(4181) (de00629)

TYPE DC95 NTC THERMISTORS

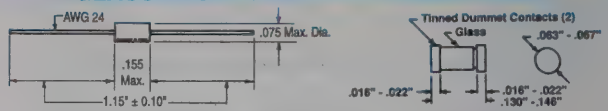


All **type DC95** thermistors are epoxy-coated for stability and have tinned copper leads. For use in any general temperature measurement, control or compensation applications where interchangeability and low-cost are major considerations, especially disposable and permanent medical products, energy management systems, appliances, industrial equipment and automotive applications. May be used from –80°C to +150°C, but best overall stability below 105°C. Max. temperature is 150°C. Operating temperature: 0 to +70°C. Power rating (max.): 0.075W derated from 100% at 25°C to 0% at 100°C. Dissipation constant: 1 mW/°C (stilled air); 8 mW/°C (stirred oil). Thermal time constant: 10 sec. (still air); 1 sec. (stirred oil). Diameter (max.): 0.095" (2.4). Lead length (min.): 1.5" (38.1). Lead diameter: 0.012" (0.3).

Stock No.	Type	Resistance Ω	Tolerance	1-24	25-49	50-99
52F3326	DC95F232W	2,250	±0.2°C	3.83	3.48	3.38
52F3328	DC95F502W	5,000	±0.2°C	3.83	3.48	3.38
52F3324	DC95F103W	10,000	±0.2°C	3.83	3.48	3.38
52F3329	DC95G104W	100,000	±0.2°C	3.83	3.48	3.38

(4220) (ne07369)

GLASS ENCAPSULATED THERMISTORS



Type 03006 comes in MELF surface mount package. **Type AL03006** axial lead. Temperature Range: –50°C to +204°C; Time Constant: 3 seconds; Dissipation Constant: 2.0 mW/°C; Tolerance: ±10% @ 25°C. Tighter resistance tolerances available; *contact your local Newark sales office.*

Stock No.	Type	R @ 25°C Ohms	1-99	100-249	250-499
46F4325	AL03006-624.73T10	1K	2.32	1.85	1.58
89F2974	03006-624-73-T10	1K	4.08	3.04	2.50
46F4326	AL03006-124873T10	2K	2.32	1.85	1.58
90F6555	AL03006-307976T10	5K	2.32	1.85	1.58
46F4327	AL03006-581897T10	10K	2.32	1.85	1.58
89F2979	03006-5818-97-T10	10K	4.08	3.04	2.50
46F4328	AL0300611.7K98T10	20K	2.32	1.85	1.58
90F6556	AL03006-17.53K-98	30K	2.32	1.85	1.58
46F4330	AL0300658.2K97T10	100K	2.32	1.85	1.58
89F2983	03006-1248-73-T10	100K	4.08	3.04	2.50
16F7926	AL03006-2.564MEG	5M	2.32	1.85	1.58

(4198) (de02361)

NTC INRUSH CURRENT LIMITERS

Disc-type thermistors with dip-soldered, radial leads provide protection against extremely high peak inrush current, especially in AC/DC switching power supplies. NTC thermistors control the initial surge at turn-on for several seconds. All parts insulated with protective coating.

Stock No.	Type	Ohms @ 25°C ±25%	Max. Steady Current (A)	Max. Diameter	1-99	100-249	250-499
16F5006	CL-11	0.7	12	0.77" (19.56)	2.24	1.80	1.53
16F5007	CL-21	1.3	8	0.55" (13.97)	2.13	1.71	1.45
81F3387	CL-30	2.5	8	0.77" (19.56)	2.24	1.80	1.53
81F3388	CL-40	5	6	0.77" (19.56)	2.24	1.80	1.53
81F3389	CL-50	7	5	0.77" (19.56)	2.24	1.80	1.53
81F3390	CL-60	10	5	0.77" (19.56)	2.24	1.80	1.53
81F3391	CL-70	16	4	0.77" (19.56)	2.24	1.80	1.53
81F3392	CL-80	47	3	0.77" (19.56)	2.24	1.80	1.53
81F3393	CL-90	120	2	0.77" (19.56)	2.43	1.95	1.66
16F5008	CL-101	0.5	16	0.93" (23.62)	2.43	1.95	1.66
46F455	CL-110	10	3.2	0.93" (23.62)	2.11	1.69	1.44
81F3395	CL-120	10	1.7	0.40" (10.16)	2.11	1.69	1.44
46F456	CL-130	50	1.6	0.40" (10.16)	2.11	1.69	1.44
81F3396	CL-140	50	1.1	0.45" (11.43)	2.11	1.69	1.44
46F457	CL-150	5	4.7	0.45" (11.43)	2.13	1.71	1.45
81F3397	CL-160	5	2.8	0.55" (13.97)	2.13	1.71	1.45
46F458	CL-170	16	2.7	0.55" (13.97)	2.13	1.71	1.45
81F3398	CL-180	16	1.7	0.55" (13.97)	2.13	1.71	1.45
46F416	CL-190	25	2.4	0.55" (13.97)	2.13	1.71	1.45
81F3399	CL-200	25	1.7	0.55" (13.97)	2.13	1.71	1.45

(4182) (de00630)

PTC THERMISTORS

Characterized by extremely large resistance change in a small temperature span. Disc-type with dip-soldered, radial leads. Lead length: 1½" min.

Stock No.	Type	V_{OP}	Ohms @ 25°C ±30%	Diameter Max.	1-99	100-249
20F700	RL3006-503025-PTO	25	50	0.35" (8.89)	2.53	2.02
20F701	RL3006-504025-PTO	25	50	0.35" (8.89)	2.53	2.02
20F702	RL3006-505025-PTO	25	50	0.35" (8.89)	2.53	2.02
20F703	RL3006-506025-PTO	25	50	0.35" (8.89)	2.53	2.02
46F427	RL751010120120PTO	120	10	0.80" (20.32)	3.32	2.65
20F705	RL5510-2560120PTO	120	25	0.60" (15.24)	2.84	2.28
46F430	RL5515-5065240PTO	240	50	0.58" (14.73)	2.97	2.38
46F432	RL302015001002400	240	1500	0.35" (8.89)	2.78	2.23

(4183) (de00631)

NEW PRODUCTS ARE BEING ADDED TO OUR INVENTORY EVERY DAY.
CALL NEWARK FOR INFORMATION ON WHAT'S CURRENTLY IN STOCK.

Semiconductors

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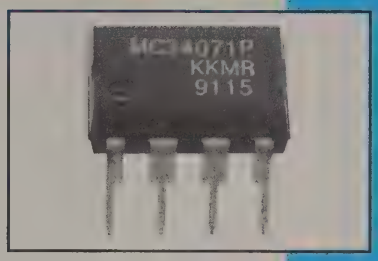
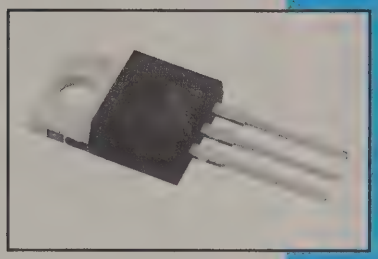
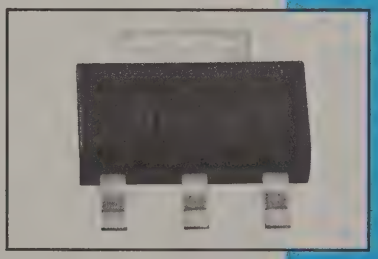
- Advanced Micro Devices (AMD)
- Allegro Microsystems, Inc.
- Altera
- Analog Devices
- CP Clare Corporation
- Crydom
- Dallas Semiconductor
- General Semiconductor
- Harris Semiconductor
- Hewlett Packard
- International Rectifier
- Intronics
- Micrel Semiconductor
- Motorola
- Multicomp
- National Semiconductor
- Philips ECG
- Powerex
- Semikron International
- Texas Instruments
- Thomson Consumer/ SK Series
- Vantis
- Zilog







Products include...

- Discretes
- Linear Circuits
- Logic
- Memory
- Microcomponents
- Semiconductor Kits/Assortments

On the following 44 pages is a listing of only a fraction of the thousands of semiconductor devices that Newark regularly stocks. We also continually add new devices to our inventory. If you don't see the component you need, call Newark at 1-800-4-NEWARK to check the latest availability. Please note that the prices listed below are subject to change.

This listing is organized as follows: The first column is the manufacturer's part number (used to order with), the second column is the manufacturer (see the key on the facing page). The third column is the page number on which the part appears, if it is in this edition of the catalog. The last two columns are pricing for that item, each has the quantity break first, then the price in US$.

Type	Mfg.	Pg.	Qty.	$	Qty.	$
1.5KE100A	SPC	938	1+	0.83	100+	0.71
1.5KE100C	SPC	938	1+	0.83	100+	0.71
1.5KE10A	SPC	938	1+	0.83	100+	0.71
1.5KE10C	SPC	938	1+	0.83	100+	0.71
1.5KE110A	MOT	...	1+	0.86	100+	0.69
1.5KE110CA	MOT	...	1+	1.10	100+	0.94
1.5KE11ARL4	MOT	...	1+	0.79	100+	0.52
1.5KE120A	SPC	938	1+	0.88	100+	0.75
1.5KE120C	SPC	938	1+	0.88	100+	0.75
1.5KE12A	SPC	938	1+	0.83	100+	0.71
1.5KE12C	SPC	938	1+	0.83	100+	0.71
1.5KE13A	MOT	...	1+	1.40	100+	1.10
1.5KE13CA	MOT	...	1+	1.24	100+	1.09
1.5KE150A	SPC	938	1+	0.88	100+	0.75
1.5KE150C	SPC	938	1+	0.88	100+	0.75
1.5KE150CA	MOT	...	1+	1.10	100+	0.94
1.5KE15A	MOT	...	1+	0.79	100+	0.52
1.5KE15C	SPC	938	1+	0.83	100+	0.71
1.5KE15CA	MOT	...	1+	0.86	100+	0.69
1.5KE160A	MOT	...	1+	0.86	100+	0.69
1.5KE160CA	SPC	938	1+	0.69	100+	0.64
1.5KE16A	SPC	938	1+	0.83	100+	0.71
1.5KE16C	SPC	938	1+	0.83	100+	0.71
1.5KE16CA	MOT	...	1+	1.17	100+	1.00
1.5KE180A	MOT	...	1+	1.87	100+	1.50
1.5KE180C	SPC	938	1+	0.88	100+	0.75
1.5KE18A	MOT	...	1+	0.79	100+	0.52
1.5KE18C	SPC	938	1+	0.83	100+	0.71
1.5KE18CA	MOT	...	1+	0.86	100+	0.69
1.5KE200A	SPC	938	1+	0.88	100+	0.75
1.5KE200C	SPC	938	1+	0.88	100+	0.75
1.5KE200CA	SPC	938	1+	0.69	100+	0.64
1.5KE20A	MOT	...	1+	0.79	100+	0.52
1.5KE20C	SPC	938	1+	0.83	100+	0.71
1.5KE20CA	MOT	...	1+	0.86	100+	0.69
1.5KE220A	MOT	...	1+	0.86	100+	0.69
1.5KE220CA	MOT	...	1+	1.10	25+	0.94
1.5KE22A	SPC	938	1+	0.83	100+	0.71
1.5KE22C	SPC	938	1+	0.83	100+	0.71
1.5KE24A	FGR	...	1+	0.80	100+	0.71
1.5KE24CA	MOT	...	1+	0.86	100+	0.69
1.5KE250A	SPC	938	1+	1.40	100+	1.19
1.5KE250C	SPC	938	1+	1.40	100+	1.19
1.5KE250CA	MOT	...	1+	2.55	25+	2.16
1.5KE27A	MOT	...	1+	0.86	100+	0.69
1.5KE300A	SPC	938	1+	1.40	100+	1.19
1.5KE300C	SPC	938	1+	1.40	100+	1.19
1.5KE30A	SPC	938	1+	0.83	100+	0.71
1.5KE30C	SPC	938	1+	0.83	100+	0.71
1.5KE33A	MOT	...	1+	0.79	100+	0.52
1.5KE33C	FGR	...	1+	0.77	100+	0.68
1.5KE36A	SPC	938	1+	0.83	100+	0.71
1.5KE36C	SPC	938	1+	0.83	100+	0.71
1.5KE36CA	SPC	938	1+	0.61	100+	0.57
1.5KE39A	SPC	938	1+	0.55	100+	0.51
1.5KE39C	SPC	938	1+	0.83	100+	0.71
1.5KE39CA	MOT	...	1+	1.17	100+	1.00
1.5KE43A	MOT	...	1+	0.79	100+	0.52
1.5KE43CA	MOT	...	1+	0.86	100+	0.69
1.5KE47A	MOT	...	1+	1.36	100+	1.07
1.5KE47CA	MOT	...	1+	1.03	100+	0.91
1.5KE51A	SPC	938	1+	0.83	100+	0.71
1.5KE51C	SPC	938	1+	0.83	100+	0.71
1.5KE51CA	SPC	938	1+	0.61	100+	0.57
1.5KE56CA	MOT	...	1+	0.86	100+	0.69
1.5KE6.8A	MOT	...	1+	0.79	100+	0.52
1.5KE6.8CA	MOT	...	1+	0.86	100+	0.69
1.5KE62A	MOT	...	1+	0.79	100+	0.52
1.5KE62CA	MOT	...	1+	0.86	100+	0.69
1.5KE68A	SPC	938	1+	0.83	100+	0.71
1.5KE68C	SPC	938	1+	0.83	100+	0.71
1.5KE68CA	MOT	...	1+	1.17	100+	1.00
1.5KE7.5A	MOT	...	1+	1.36	100+	1.07
1.5KE7.5CA	MOT	...	1+	1.24	100+	1.09
1.5KE75C	SPC	938	1+	0.83	100+	0.71
1.5KE75CA	MOT	...	1+	0.86	100+	0.69
1.5KE75CARL4	MOT	...	1+	1.15	100+	1.01
1.5KE82A	SPC	938	1+	0.83	100+	0.71
1.5KE82C	SPC	938	1+	0.83	100+	0.71
1.5KE82CA	MOT	...	1+	0.86	100+	0.69
1.5KE91A	SPC	938	1+	0.83	100+	0.71
1.5KE91C	SPC	938	1+	0.83	100+	0.71
1.5KE91CA	MOT	...	1+	0.86	100+	0.69
1.5SMC15AT3	MOT	...	1+	0.86	100+	0.69
1.5SMC16AT3	MOT	...	1+	0.86	100+	0.69
1.5SMC20AT3	MOT	...	1+	0.86	100+	0.69
1.5SMC27AT3	MOT	876	1+	0.86	100+	0.69
1.5SMC36AT3	MOT	876	1+	0.86	100+	0.69
1.5SMC6.8AT3	MOT	...	1+	0.86	100+	0.69
1.5SMC7.5AT3	MOT	...	1+	0.86	100+	0.69
10173 PAL DATABK	AMD	944	1+	5.00	...	...
10BQ015	IR	922	1+	0.42	25+	0.39
10BQ040	IR	922	1+	0.36	100+	0.32
10ETF02	IR	923	1+	1.93	25+	1.80
10ETF04	IR	923	1+	1.93	25+	1.80
10ETF06	IR	923	1+	2.10	25+	1.96
10ETS08	IR	923	1+	1.34	25+	1.25
10ETS12	IR	923	1+	1.54	25+	1.43
10MQ040N	IR	922	1+	0.50	100+	0.44
10MQ060N	IR	922	1+	0.50	100+	0.44
10RIA120	IR	926	1+	17.13	10+	16.19
110MT120KB	IR	923	1+	79.41	5+	70.58
11DF4	IR	...	1+	1.02	100+	0.90
11DQ04	IR	922	1+	0.40	100+	0.35
11DQ05	IR	...	1+	0.44	100+	0.39
11DQ06	IR	922	1+	0.44	100+	0.39
11DQ09	IR	...	1+	0.48	100+	0.42
11DQ10	IR	922	1+	0.48	100+	0.42
12A100	PWX	944	1+	5.18	...	...
130MT160KB	IR	923	1+	88.56	5+	78.72
160CMQ045	IR	...	1+	27.80	5+	26.47
160MT120KB	IR	923	1+	92.88	5+	82.56
160MT160KB	IR	923	1+	95.04	5+	84.48
16CTQ100	IR	922	1+	3.67	25+	3.37
16F120	IR	927	1+	7.40	10+	6.89
16FR120	IR	...	1+	7.40	10+	6.89
16TTS08	IR	926	1+	2.20	25+	2.05
16TTS12	IR	926	1+	2.59	25+	2.38
16TTS16	IR	926	1+	2.94	25+	2.70
17061B EP0MBK	AMD	944	1+	5.00	...	...
19542D	AMD	944	1+	5.00	...	...
19TQ015	IR	922	1+	2.97	25+	2.73
1B22AN	ADI	891	1+	118.71	25+	103.43
1B31AN	ADI	891	1+	98.73	10+	94.03
1B32AN	ADI	891	1+	111.07	10+	105.78
1KAB10E	IR	...	1+	0.67	100+	0.54
1N1184R	IR	...	1+	3.72	25+	3.42
1N2070A	IR	...	1+	0.48	100+	0.42
1N3064	APD	...	1+	0.29	100+	0.24
1N3289A	PWX	930	1+	27.13	5+	25.83
1N3296A	PWX	930	1+	43.61	5+	41.53
1N4001	SPC	938	1+	0.09	100+	0.07
1N4002	SPC	938	1+	0.09	100+	0.07
1N4003	SPC	938	1+	0.09	100+	0.07
1N4004	SPC	938	1+	0.09	100+	0.07
1N4004GP	GS	937	1+	0.41	100+	0.31
1N4004RL	MOT	...	1+	0.08	100+	0.05
1N4005	SPC	938	1+	0.09	100+	0.07
1N4006	SPC	938	1+	0.09	100+	0.07
1N4007	SPC	938	1+	0.09	100+	0.07
1N4007-TAPE&REEL	GS	...	1+	145.79	...	...
1N4148	PHL	...	1+	0.05	100+	0.04
1N4148-T/R	GS	937	1+	0.05	100+	0.04
1N4149	APD	...	1+	0.24	100+	0.24
1N4150-T/R	GS	937	1+	0.05	100+	0.04
1N4151	APD	...	1+	0.24	100+	0.24
1N4151-T/R	GS	937	1+	0.05	100+	0.04
1N4154	APD	...	1+	0.31	100+	0.31
1N4371A	MOT	...	1+	0.56	100+	0.28
1N4372A	MOT	...	1+	0.15	100+	0.10
1N4448	APD	...	1+	0.24	100+	0.24
1N4454	APD	...	1+	0.30	100+	0.29
1N456	APD	...	1+	0.24	100+	0.24
1N4567A	APD	...	1+	1.67	100+	1.43
1N4572A	APD	...	1+	2.40	100+	2.03
1N457A	APD	...	1+	0.27	100+	0.27
1N458	APD	...	1+	0.24	100+	0.24
1N4606	APD	...	1+	0.28	100+	0.27
1N4607	APD	...	1+	0.33	100+	0.33
1N4678	MOT	876	1+	0.33	100+	0.22
1N4679RL	MOT	...	1+	0.33	100+	0.22
1N4680	MOT	...	1+	0.33	100+	0.22
1N4681	MOT	...	1+	0.61	100+	0.50
1N4682	MOT	876	1+	0.33	100+	0.22
1N4683	MOT	876	1+	0.33	100+	0.22
1N4684	MOT	876	1+	0.33	100+	0.22
1N4685	MOT	...	1+	1.03	100+	0.91
1N4686	MOT	876	1+	0.33	100+	0.22
1N4687	MOT	876	1+	0.33	100+	0.22
1N4688	MOT	876	1+	0.33	100+	0.22
1N4689	MOT	876	1+	0.33	100+	0.22
1N4690	MOT	876	1+	0.33	100+	0.22
1N4691	MOT	876	1+	0.33	100+	0.22
1N4692	MOT	876	1+	0.33	100+	0.22
1N4693	MOT	876	1+	0.33	100+	0.22
1N4694	MOT	...	1+	1.03	100+	0.91
1N4696	MOT	...	1+	1.03	100+	0.91
1N4697	MOT	876	1+	0.33	100+	0.22
1N4698	MOT	876	1+	1.60	100+	1.25
1N4699	MOT	876	1+	0.33	100+	0.22
1N4700	MOT	876	1+	1.60	100+	1.25
1N4701	MOT	...	1+	1.60	100+	1.25
1N4701RL	MOT	...	1+	0.13	100+	0.09
1N4702	MOT	876	1+	0.36	100+	0.24
1N4705	MOT	876	1+	1.60	100+	1.25
1N4709	MOT	...	1+	1.60	100+	1.25
1N4715	MOT	...	1+	1.60	100+	1.25
1N4728A	MOT	...	1+	0.13	100+	0.09
1N4730	MOT	...	1+	0.14	100+	0.11
1N4730A	MOT	...	1+	0.14	100+	0.10
1N4731	MOT	...	1+	0.27	100+	0.21
1N4731A	MOT	...	1+	0.14	100+	0.10
1N4732A	MOT	...	1+	0.14	100+	0.10
1N4733A	MOT	...	1+	0.14	100+	0.10
1N4734A	MOT	...	1+	0.14	100+	0.10
1N4735A	MOT	...	1+	0.14	100+	0.10
1N4736A	MOT	...	1+	0.14	100+	0.10
1N4736RL	MOT	...	1+	0.32	100+	0.26
1N4737	APD	...	1+	0.32	100+	0.31
1N4737A	MOT	...	1+	0.14	100+	0.10
1N4738A	MOT	...	1+	0.14	100+	0.10
1N4739	APD	...	1+	0.32	100+	0.31
1N4739A	MOT	...	1+	0.14	100+	0.10
1N4740A	MOT	...	1+	0.14	100+	0.10
1N4741A	MOT	...	1+	0.14	100+	0.10
1N4742A	MOT	...	1+	0.14	100+	0.10
1N4743A	MOT	...	1+	0.14	100+	0.10
1N4744A	MOT	...	1+	0.14	100+	0.10
1N4745	APD	...	1+	0.32	100+	0.31
1N4745A	MOT	...	1+	0.14	100+	0.10
1N4746	APD	...	1+	0.32	100+	0.31
1N4746A	MOT	...	1+	0.14	100+	0.10
1N4747A	MOT	...	1+	0.14	100+	0.10
1N4748A	MOT	...	1+	0.14	100+	0.10
1N4749A	MOT	...	1+	0.14	100+	0.10
1N4750A	MOT	...	1+	0.14	100+	0.10
1N4751A	MOT	...	1+	0.14	100+	0.10
1N4752A	MOT	...	1+	0.14	100+	0.10
1N4753A	MOT	...	1+	0.14	100+	0.10
1N4754A	MOT	...	1+	0.14	100+	0.10
1N4755A	MOT	...	1+	0.14	100+	0.10
1N4756A	APD	...	1+	0.34	100+	0.34
1N4757A	MOT	...	1+	0.52	100+	0.42
1N4758A	MOT	...	1+	0.14	100+	0.10
1N4759A	MOT	...	1+	0.14	100+	0.10
1N4760A	MOT	...	1+	0.14	100+	0.10
1N4761A	MOT	...	1+	0.14	100+	0.10
1N4762A	APD	...	1+	0.34	100+	0.34
1N4764A	MOT	...	1+	0.14	100+	0.10
1N4933	SPC	938	1+	0.14	100+	0.12
1N4934	SPC	938	1+	0.14	100+	0.12
1N4935	SPC	938	1+	0.14	100+	0.12
1N4936	SPC	938	1+	0.15	100+	0.13
1N4937	SPC	938	1+	0.16	100+	0.14
1N5054	IR	...	1+	0.63	100+	0.51
1N5059	GS	937	1+	0.49	100+	0.39
1N5060	GS	937	1+	0.53	100+	0.43
1N5061	GS	937	1+	0.56	100+	0.45
1N5062	GS	937	1+	0.63	100+	0.51
1N5148A	MOT	...	1+	8.81	10+	7.34
1N5221B	MOT	876	1+	0.11	100+	0.08
1N5222B	MOT	...	1+	0.60	100+	0.30
1N5223A	MOT	...	1+	0.22	100+	0.18
1N5225B	MOT	876	1+	0.11	100+	0.08
1N5226B	MOT	876	1+	0.11	100+	0.08
1N5227B	MOT	...	1+	0.29	100+	0.14
1N5228B	MOT	876	1+	0.11	100+	0.08
1N5229B	MOT	876	1+	0.11	100+	0.08
1N5230	APD	...	1+	0.32	100+	0.31
1N5230B	MOT	876	1+	0.11	100+	0.08
1N5231	APD	...	1+	0.32	100+	0.31
1N5231B	MOT	...	1+	0.11	100+	0.08
1N5231C	MOT	...	1+	0.48	100+	0.38
1N5231D	MOT	876	1+	0.83	100+	0.76
1N5232B	MOT	876	1+	0.11	100+	0.08
1N5233A	MOT	...	1+	0.10	100+	0.08
1N5234B	MOT	876	1+	0.11	100+	0.08
1N5235	APD	...	1+	0.32	100+	0.31
1N5235B	MOT	876	1+	0.11	100+	0.08
1N5236B	MOT	876	1+	0.11	100+	0.08
1N5237B	MOT	876	1+	0.11	100+	0.08
1N5238B	MOT	...	1+	0.38	100+	0.25
1N5239B	MOT	...	1+	0.11	100+	0.08
1N5239D	MOT	876	1+	1.60	100+	1.25
1N5240	APD	...	1+	0.32	100+	0.31
1N5240B	MOT	876	1+	0.11	100+	0.08
1N5240C	MOT	...	1+	0.48	100+	0.38
1N5241B	MOT	...	1+	0.29	100+	0.14
1N5242	APD	...	1+	0.32	100+	0.31
1N5242B	MOT	876	1+	0.11	100+	0.08
1N5243B	MOT	...	1+	0.29	100+	0.14
1N5245	APD	...	1+	0.32	100+	0.31
1N5245B	MOT	876	1+	0.11	100+	0.08
1N5246B	MOT	...	1+	0.29	100+	0.14
1N5248B	APD	...	1+	0.32	100+	0.31
1N5249B	MOT	...	1+	0.22	100+	0.17
1N5250	APD	...	1+	0.25	100+	0.20
1N5250B	MOT	...	1+	0.29	100+	0.14
1N5251B	MOT	...	1+	0.29	100+	0.14
1N5252B	MOT	...	1+	0.29	100+	0.14
1N5253B	MOT	...	1+	0.14	100+	0.11
1N5254B	MOT	...	1+	0.11	100+	0.08
1N5255B	MOT	...	1+	0.45	100+	0.23
1N5256B	MOT	...	1+	0.26	100+	0.13
1N5257B	MOT	...	1+	0.57	100+	0.29
1N5258B	MOT	...	1+	0.90	100+	0.45
1N5259B	MOT	...	1+	0.40	100+	0.20
1N5260B	MOT	...	1+	0.90	100+	0.45

Type	Mfg.	Pg.	Qty.	$	Qty.	$
1N5261B	MOT	...	1+	0.75	100+	0.38
1N5262B	MOT	...	1+	0.73	100+	0.60
1N5265BRL	MOT	...	1+	0.11	100+	0.08
1N5268B	MOT	...	1+	0.96	100+	0.75
1N5270B	MOT	...	1+	0.90	100+	0.45
1N5271B	MOT	...	1+	0.11	100+	0.08
1N5272B	MOT	...	1+	1.36	100+	1.07
1N5274B	MOT	...	1+	0.11	100+	0.08
1N5275B	MOT	...	1+	0.76	100+	0.65
1N5276B	MOT	...	1+	0.11	100+	0.08
1N5278B	MOT	...	1+	0.48	100+	0.46
1N5279B	MOT	...	1+	0.11	100+	0.08
1N5281B	MOT	...	1+	0.11	100+	0.08
1N5288	MOT	...	1+	17.29	10+	14.40
1N5297	MOT	...	1+	3.92	10+	3.34
1N5333B	MOT	...	1+	0.65	100+	0.42
1N5335B	MOT	...	1+	0.65	100+	0.42
1N5336B	MOT	...	1+	0.65	100+	0.42
1N5337B	MOT	...	1+	0.65	100+	0.42
1N5338B	MOT	...	1+	0.65	100+	0.42
1N5339B	MOT	...	1+	0.65	100+	0.42
1N5340B	MOT	...	1+	0.65	100+	0.42
1N5341B	MOT	...	1+	0.65	100+	0.42
1N5342B	MOT	...	1+	0.65	100+	0.42
1N5343B	MOT	...	1+	0.65	100+	0.42
1N5344B	MOT	...	1+	0.65	100+	0.42
1N5345B	FGR	...	1+	0.56	100+	0.46
1N5346B	MOT	...	1+	0.65	100+	0.42
1N5347B	MOT	...	1+	0.65	100+	0.42
1N5348B	MOT	...	1+	0.65	100+	0.42
1N5349B	MOT	...	1+	0.65	100+	0.42
1N5350B	MOT	...	1+	0.65	100+	0.42
1N5351B	MOT	...	1+	0.65	100+	0.42
1N5352B	MOT	...	1+	0.65	100+	0.42
1N5353B	MOT	...	1+	0.65	100+	0.42
1N5354B	MOT	...	1+	0.65	100+	0.42
1N5355B	MOT	...	1+	0.65	100+	0.42
1N5357B	MOT	...	1+	0.65	100+	0.42
1N5358B	MOT	...	1+	0.65	100+	0.42
1N5359B	MOT	...	1+	0.65	100+	0.42
1N5360B	MOT	...	1+	0.65	100+	0.42
1N5361B	MOT	...	1+	0.79	100+	0.70
1N5362B	MOT	...	1+	0.65	100+	0.42
1N5363B	MOT	...	1+	0.65	100+	0.42
1N5364B	MOT	...	1+	0.65	100+	0.42
1N5365B	MOT	...	1+	0.65	100+	0.42
1N5366B	MOT	...	1+	0.65	100+	0.42
1N5367B	MOT	...	1+	0.65	100+	0.42
1N5368B	MOT	...	1+	0.65	100+	0.42
1N5369B	MOT	...	1+	0.65	100+	0.42
1N5370B	MOT	...	1+	0.65	100+	0.42
1N5371B	MOT	...	1+	0.65	100+	0.42
1N5372B	MOT	...	1+	0.65	100+	0.42
1N5373B	MOT	...	1+	0.65	100+	0.42
1N5374B	MOT	...	1+	0.65	100+	0.42
1N5375B	MOT	...	1+	0.65	100+	0.42
1N5376B	MOT	...	1+	0.65	100+	0.42
1N5377B	MOT	...	1+	0.65	100+	0.42
1N5378B	MOT	...	1+	0.65	100+	0.42
1N5379B	FGR	...	1+	0.52	100+	0.42
1N5380B	MOT	...	1+	0.65	100+	0.42
1N5382B	MOT	...	1+	0.65	100+	0.42
1N5383B	MOT	...	1+	0.65	100+	0.42
1N5385B	MOT	...	1+	0.65	100+	0.42
1N5386B	MOT	...	1+	0.65	100+	0.42
1N5387B	MOT	...	1+	0.65	100+	0.42
1N5388B	MOT	...	1+	0.65	100+	0.42
1N5391	SPC	938	1+	0.07	100+	0.05
1N5392	SPC	938	1+	0.07	100+	0.05
1N5393	SPC	938	1+	0.07	100+	0.05
1N5395	SPC	938	1+	0.08	100+	0.06
1N5397	SPC	938	1+	0.09	100+	0.07
1N5398	SPC	938	1+	0.10	100+	0.07
1N5399	SPC	938	1+	0.11	100+	0.08
1N5400	SPC	938	1+	0.14	100+	0.10
1N5400G	SPC	...	1+	0.40	100+	0.34
1N5401G	SPC	938	1+	0.30	100+	0.26
1N5402	SPC	938	1+	0.15	100+	0.11
1N5402G	SPC	938	1+	0.31	100+	0.27
1N5404	SPC	938	1+	0.16	100+	0.11
1N5404G	SPC	938	1+	0.32	100+	0.28
1N5406	SPC	938	1+	0.16	100+	0.12
1N5406G	SPC	938	1+	0.37	100+	0.31
1N5407	MOT	...	1+	0.25	100+	0.17
1N5407G	SPC	938	1+	0.38	100+	0.32
1N5408	SPC	938	1+	0.18	100+	0.13
1N5408G	SPC	938	1+	0.39	100+	0.33
1N5441A	MOT	...	1+	5.87	25+	4.89
1N5711	HP	...	1+	1.07	25+	0.96
1N5712	HP	...	1+	2.42	10+	2.18
1N5767	HP	...	1+	2.82	10+	2.54
1N5817	SPC	938	1+	0.31	100+	0.23
1N5818	MOT	874	1+	0.38	100+	0.25
1N5820	MOT	874	1+	0.58	100+	0.37
1N5821	MOT	874	1+	0.58	100+	0.37
1N5822	MOT	874	1+	0.58	100+	0.37
1N5830	MOT	...	1+	8.81	100+	7.34
1N5908	MOT	...	1+	0.83	100+	0.54

Type	Mfg.	Pg.	Qty.	$	Qty.	$
1N5913B	MOT	...	1+	1.68	100+	1.32
1N5917B	MOT	...	1+	1.68	100+	1.32
1N5919B	MOT	...	1+	1.68	100+	1.32
1N5919BRL	MOT	...	1+	0.54	100+	0.35
1N5920B	MOT	...	1+	0.84	100+	0.66
1N5921B	MOT	...	1+	1.68	100+	1.32
1N5923BRL	MOT	...	1+	0.54	100+	0.35
1N5924B	MOT	...	1+	0.84	100+	0.66
1N5925B	MOT	...	1+	1.68	100+	1.32
1N5926B	MOT	...	1+	1.92	100+	1.50
1N5927B	MOT	...	1+	1.68	100+	1.32
1N5929B	MOT	...	1+	1.68	100+	1.32
1N5931B	MOT	...	1+	0.84	100+	0.66
1N5932BRL	MOT	...	1+	0.54	100+	0.35
1N5934BRL	MOT	...	1+	0.54	100+	0.35
1N5936BRL	MOT	...	1+	0.54	100+	0.35
1N5937B	MOT	...	1+	1.68	100+	1.32
1N5938B	MOT	876	1+	1.81	100+	1.45
1N5941B	MOT	...	1+	1.68	100+	1.32
1N5944B	MOT	...	1+	0.54	100+	0.35
1N5945B	MOT	...	1+	0.54	100+	0.35
1N5948B	MOT	...	1+	0.54	100+	0.35
1N5950B	MOT	...	1+	0.54	100+	0.35
1N5951B	MOT	876	1+	1.68	100+	1.32
1N5953B	MOT	...	1+	1.76	100+	1.38
1N5955B	MOT	...	1+	1.76	100+	1.38
1N5956B	MOT	...	1+	0.54	100+	0.35
1N5987B	MOT	...	1+	1.20	100+	0.94
1N5988B	MOT	...	1+	0.48	100+	0.38
1N5990B	MOT	...	1+	0.48	100+	0.38
1N5991BRL	MOT	...	1+	0.56	100+	0.44
1N5992B	MOT	...	1+	0.48	100+	0.38
1N5993B	MOT	...	1+	0.56	100+	0.44
1N5994B	MOT	...	1+	0.48	100+	0.38
1N5998B	MOT	...	1+	0.48	100+	0.38
1N6000B	MOT	...	1+	0.48	100+	0.38
1N6002B	MOT	...	1+	0.48	100+	0.38
1N6004B	MOT	...	1+	0.48	100+	0.38
1N6098	IR	...	1+	10.22	10+	9.52
1N6264	QT	586	1+	2.61	25+	2.34
1N6265	QT	586	1+	2.61	25+	2.34
1N6266	QT	...	1+	3.61	25+	3.24
1N6267A	MOT	...	1+	0.75	100+	0.49
1N6267ARL4	MOT	...	1+	0.75	100+	0.49
1N6268A	MOT	...	1+	0.86	100+	0.75
1N6269A	MOT	...	1+	1.36	100+	1.07
1N6270A	MOT	...	1+	0.75	100+	0.49
1N6271A	MOT	...	1+	0.75	100+	0.49
1N6273A	MOT	...	1+	0.75	100+	0.49
1N6274A	MOT	...	1+	0.75	100+	0.49
1N6275A	MOT	...	1+	0.75	100+	0.49
1N6276A	MOT	...	1+	0.75	100+	0.49
1N6277A	MOT	...	1+	0.75	100+	0.49
1N6278A	MOT	...	1+	0.75	100+	0.49
1N6279A	MOT	...	1+	0.88	100+	0.81
1N6280A	MOT	...	1+	0.75	100+	0.49
1N6281A	MOT	...	1+	0.75	100+	0.49
1N6282A	MOT	...	1+	0.75	100+	0.49
1N6283A	MOT	...	1+	0.75	100+	0.49
1N6284A	MOT	...	1+	0.75	100+	0.49
1N6285A	MOT	...	1+	0.75	100+	0.49
1N6286A	MOT	...	1+	0.75	100+	0.49
1N6287A	MOT	...	1+	0.75	100+	0.49
1N6288A	MOT	...	1+	0.75	100+	0.49
1N6289A	MOT	...	1+	0.75	100+	0.49
1N6290A	MOT	...	1+	0.75	100+	0.49
1N6291A	MOT	...	1+	0.75	100+	0.49
1N6292A	MOT	876	1+	1.36	100+	1.07
1N6293A	MOT	...	1+	0.67	100+	0.59
1N6294A	MOT	...	1+	0.75	100+	0.49
1N6295A	MOT	...	1+	0.75	100+	0.49
1N6296A	MOT	...	1+	1.38	25+	1.30
1N6298A	MOT	...	1+	1.45	25+	1.37
1N6299A	MOT	...	1+	0.75	100+	0.49
1N6301A	MOT	...	1+	1.50	25+	1.42
1N6302A	MOT	...	1+	0.75	100+	0.49
1N6303A	MOT	...	1+	0.75	100+	0.49
1N6373	MOT	...	1+	0.75	100+	0.49
1N6374	MOT	...	1+	0.75	100+	0.49
1N6375	MOT	...	1+	1.36	100+	1.07
1N6376	MOT	...	1+	0.75	100+	0.49
1N6377	MOT	876	1+	0.75	100+	0.49
1N6378	MOT	...	1+	1.36	100+	1.07
1N6380	MOT	...	1+	0.75	100+	0.49
1N6381	MOT	...	1+	1.40	100+	1.10
1N6382	MOT	...	1+	1.92	100+	1.50
1N6384	MOT	...	1+	0.75	100+	0.49
1N6385	MOT	...	1+	0.75	100+	0.49
1N6386	MOT	...	1+	0.75	100+	0.49
1N6389	MOT	876	1+	1.92	100+	1.50
1N746A	MOT	...	1+	0.11	100+	0.08
1N747A	MOT	...	1+	0.11	100+	0.08
1N748A	APD	...	1+	0.35	100+	0.35
1N749A	MOT	...	1+	0.11	100+	0.08
1N750A	MOT	...	1+	0.11	100+	0.08
1N750D	MOT	...	1+	1.66	100+	1.58
1N751A	MOT	...	1+	0.11	100+	0.08
1N751D	MOT	...	1+	0.96	100+	0.84

Type	Mfg.	Pg.	Qty.	$	Qty.	$
1N752A	APD	...	1+	0.34	100+	0.34
1N753A	MOT	...	1+	0.11	100+	0.08
1N754A	MOT	...	1+	0.11	100+	0.08
1N755A	MOT	...	1+	0.11	100+	0.08
1N756A	MOT	...	1+	0.11	100+	0.08
1N758A	MOT	...	1+	0.11	100+	0.08
1N759A	MOT	...	1+	0.11	100+	0.08
1N821	MOT	...	1+	2.83	100+	1.42
1N821A	MOT	...	1+	1.09	100+	0.93
1N823	APD	...	1+	0.61	100+	0.59
1N825	MOT	...	1+	0.78	100+	0.62
1N825A	APD	...	1+	0.49	100+	0.48
1N914	PHL	...	1+	0.06	100+	0.03
1N914B	APD	...	1+	0.10	100+	0.10
1N916	PHL	...	1+	0.09	100+	0.04
1N935	APD	...	1+	0.71	100+	0.70
1N935B	APD	...	1+	0.73	100+	0.72
1N936	APD	...	1+	0.82	100+	0.80
1N936A	APD	...	1+	0.91	100+	0.78
1N957B	MOT	...	1+	0.57	100+	0.29
1N959B	MOT	...	1+	0.11	100+	0.08
1N962B	MOT	...	1+	1.64	100+	0.82
1N963B	MOT	...	1+	0.11	100+	0.08
1N964B	MOT	...	1+	0.11	100+	0.08
1N965B	MOT	...	1+	0.11	100+	0.08
1N966B	MOT	...	1+	0.11	100+	0.08
1N967B	MOT	...	1+	0.11	100+	0.08
1N968B	MOT	...	1+	0.11	100+	0.08
1N974B	MOT	...	1+	0.27	100+	0.22
1N976B	MOT	...	1+	0.48	100+	0.46
1N977B	MOT	...	1+	0.09	100+	0.07
1N978B	MOT	...	1+	0.09	100+	0.07
1N979BRL	MOT	...	1+	0.11	100+	0.08
1N982B	MOT	...	1+	1.04	100+	0.99
1SMA5913BT3	MOT	...	1+	0.55	100+	0.36
1SMA5914BT3	MOT	...	1+	0.55	100+	0.36
1SMA5915BT3	MOT	...	1+	0.55	100+	0.36
1SMA5916BT3	MOT	...	1+	0.55	100+	0.36
1SMA5917BT3	MOT	...	1+	0.55	100+	0.36
1SMA5918BT3	MOT	...	1+	0.55	100+	0.36
1SMA5920BT3	MOT	...	1+	0.55	100+	0.36
1SMA5921BT3	MOT	...	1+	0.55	100+	0.36
1SMA5922BT3	MOT	...	1+	0.55	100+	0.36
1SMA5923BT3	MOT	...	1+	0.55	100+	0.36
1SMA5924BT3	MOT	...	1+	0.55	100+	0.36
1SMA5926BT3	MOT	...	1+	0.55	100+	0.36
1SMA5927BT3	MOT	...	1+	0.55	100+	0.36
1SMA5928BT3	MOT	...	1+	0.55	100+	0.36
1SMA5937BT3	MOT	...	1+	0.55	100+	0.36
1SMA5938BT3	MOT	...	1+	0.55	100+	0.36
1SMA5939BT3	MOT	...	1+	0.55	100+	0.36
1SMA5940BT3	MOT	...	1+	0.55	100+	0.36
1SMA5941BT3	MOT	...	1+	0.55	100+	0.36
1SMA5942BT3	MOT	...	1+	0.55	100+	0.36
1SMA5943BT3	MOT	...	1+	0.55	100+	0.36
1SMA5944BT3	MOT	...	1+	0.55	100+	0.36
1SMA5945BT3	MOT	...	1+	0.55	100+	0.36
1SMB100AT3	MOT	...	1+	0.75	100+	0.49
1SMB10AT3	MOT	...	1+	0.70	100+	0.46
1SMB12AT3	MOT	...	1+	0.70	100+	0.46
1SMB15AT3	MOT	...	1+	0.70	100+	0.46
1SMB16AT3	MOT	...	1+	0.70	100+	0.46
1SMB170AT3	MOT	...	1+	0.79	100+	0.52
1SMB18AT3	MOT	...	1+	0.70	100+	0.46
1SMB22AT3	MOT	...	1+	0.70	100+	0.46
1SMB24AT3	MOT	...	1+	0.70	100+	0.46
1SMB26AT3	MOT	...	1+	0.70	100+	0.46
1SMB30AT3	MOT	...	1+	0.70	100+	0.46
1SMB36AT3	MOT	...	1+	0.70	100+	0.46
1SMB40AT3	MOT	...	1+	0.70	100+	0.46
1SMB5.0AT3	MOT	...	1+	0.70	100+	0.46
1SMB51AT3	MOT	...	1+	0.70	100+	0.46
1SMB5913BT3	MOT	876	1+	0.70	100+	0.46
1SMB5914BT3	MOT	...	1+	0.70	100+	0.46
1SMB5916BT3	MOT	...	1+	0.70	100+	0.46
1SMB5918BT3	MOT	876	1+	0.70	100+	0.46
1SMB5919BT3	MOT	876	1+	0.70	100+	0.46
1SMB5920BT3	MOT	876	1+	0.70	100+	0.46
1SMB5921BT3	MOT	876	1+	0.70	100+	0.46
1SMB5923BT3	MOT	876	1+	0.70	100+	0.46
1SMB5924BT3	MOT	876	1+	0.70	100+	0.46
1SMB5925BT3	MOT	876	1+	0.70	100+	0.46
1SMB5927BT3	MOT	876	1+	0.70	100+	0.46
1SMB5928BT3	MOT	...	1+	0.70	100+	0.46
1SMB5929BT3	MOT	876	1+	0.70	100+	0.46
1SMB5930BT3	MOT	876	1+	0.70	100+	0.46
1SMB5931BT3	MOT	876	1+	0.70	100+	0.46
1SMB5932BT3	MOT	876	1+	0.70	100+	0.46
1SMB5934BT3	MOT	876	1+	0.70	100+	0.46
1SMB5935BT3	MOT	876	1+	0.70	100+	0.46
1SMB5936BT3	MOT	876	1+	0.70	100+	0.46
1SMB5948BT3	MOT	...	1+	0.70	100+	0.46
1SMB5956BT3	MOT	...	1+	0.70	100+	0.46
1SMB6.0AT3	MOT	...	1+	0.54	100+	0.35
1SMB6.5AT3	MOT	...	1+	0.54	100+	0.35
1SMB60AT3	MOT	...	1+	0.54	100+	0.35
1SMC5.0AT3	MOT	876	1+	0.80	100+	0.64
20CTQ045S	IR	922	1+	2.58	25+	2.37

NEW TYPES ARE BEING CONTINUALLY ADDED TO INVENTORY.

CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR AVAILABILITY.

Type	Mfg.	Pg.	Qty.	$	Qty.	$
20ETS08	IR	923	1+	1.97	25+	1.84
20ETS08S	IR	...	1+	2.18	25+	2.03
20ETS16	IR	...	1+	2.51	25+	2.34
20TQ045	IR	...	1+	2.38	25+	2.22
25TTS08	IR	926	1+	2.59	25+	2.38
25TTS12	IR	926	1+	3.04	25+	2.79
25TTS16	IR	926	1+	3.76	25+	3.46
26MB100A	IR	923	1+	7.64	10+	7.12
26MB10A	IR	923	1+	5.55	25+	5.10
26MB120A	IR	923	1+	7.76	10+	7.23
26MB140A	IR	923	1+	10.11	10+	9.42
26MB160A	IR	923	1+	10.96	10+	10.21
26MB20A	IR	923	1+	5.62	25+	5.17
26MB40A	IR	923	1+	5.69	25+	5.23
26MB5A	IR	923	1+	5.48	25+	5.04
26MB60A	IR	923	1+	5.76	25+	5.30
26MB80A	IR	923	1+	5.83	25+	5.36
281	INT	...	1+	102.47	...	...
284J	INT	917	1+	137.66	25+	119.03
286J	INT	917	1+	149.04	25+	124.20
289J	INT	917	1+	142.83	25+	124.20
289K	INT	917	1+	156.29	25+	136.62
289L	INT	917	1+	171.81	25+	157.32
290A	INT	917	1+	108.68	25+	94.19
292A	INT	...	1+	108.68	25+	94.19
2B20A	INT	917	1+	84.87	25+	74.52
2B20B	INT	917	1+	105.57	25+	92.12
2B22J	INT	917	1+	210.11	25+	184.23
2B23J	INT	917	1+	180.09	25+	157.32
2B23K	INT	...	1+	232.88	25+	204.93
2B31J	INT	917	1+	144.90	25+	127.31
2B31K	INT	917	1+	185.27	25+	163.53
2B31L	INT	917	1+	197.69	25+	182.16
2B34J	INT	917	1+	315.68	25+	291.87
2B50A	INT	917	1+	226.67	25+	195.62
2B50B	INT	...	1+	293.94	...	...
2B54A	INT	917	1+	385.02	25+	336.38
2B54B	INT	...	1+	442.98	25+	382.95
2B55A	INT	...	1+	378.81	25+	326.03
2B56A	INT	917	1+	138.69	25+	129.38
2KBP005M	GS	937	1+	1.47	100+	1.26
2KBP01M	GS	937	1+	1.55	100+	1.33
2KBP02	IR	...	1+	0.76	100+	0.69
2KBP02M	GS	937	1+	1.60	100+	1.37
2KBP04M	GS	937	1+	1.63	100+	1.40
2KBP06M	GS	937	1+	1.88	100+	1.61
2KBP10M	GS	937	1+	2.33	100+	1.97
2N1711	MOT	...	1+	0.72	100+	0.47
2N1893	MOT	...	1+	0.88	100+	0.81
2N2102	MOT	...	1+	0.72	100+	0.47
2N2219	MOT	...	1+	0.61	100+	0.40
2N2219A	MOT	...	1+	0.61	100+	0.40
2N2222	MOT	...	1+	0.55	100+	0.36
2N2222A	MOT	...	1+	0.55	100+	0.36
2N2369	MOT	...	1+	0.55	100+	0.36
2N2369A	MOT	...	1+	0.55	100+	0.36
2N2484	MOT	...	1+	0.58	100+	0.38
2N2857	MOT	...	1+	2.17	25+	1.94
2N2896	MOT	...	1+	1.10	100+	0.94
2N2904A	MOT	...	1+	0.61	100+	0.40
2N2905	MOT	...	1+	0.61	100+	0.40
2N2905A	MOT	...	1+	0.61	100+	0.40
2N2906A	MOT	...	1+	0.85	100+	0.78
2N2907	MOT	...	1+	0.65	100+	0.42
2N2907A	MOT	...	1+	0.65	100+	0.42
2N3019	MOT	...	1+	0.61	100+	0.40
2N3053	MOT	...	1+	0.61	100+	0.40
2N3053A	MOT	...	1+	0.61	100+	0.40
2N3055	MOT	871	1+	1.47	25+	1.31
2N3055A	MOT	871	1+	1.71	25+	1.53
2N3251	MOT	...	1+	0.79	100+	0.52
2N3439	MOT	...	1+	0.72	25+	0.57
2N3440	MOT	...	1+	0.91	25+	0.70
2N3442	MOT	871	1+	1.96	25+	1.74
2N3467	MOT	...	1+	0.98	100+	0.84
2N3635	MOT	...	1+	2.59	25+	2.20
2N3637	MOT	...	1+	2.59	25+	2.20
2N3700	MOT	...	1+	0.72	100+	0.57
2N3771	MOT	871	1+	2.36	25+	2.00
2N3772	MOT	871	1+	2.36	25+	2.00
2N3773	MOT	871	1+	2.36	25+	2.00
2N3799	MOT	...	1+	0.86	100+	0.69
2N3819	MOT	...	1+	0.49	100+	0.40
2N3866	MOT	...	1+	1.27	25+	1.08
2N3866A	MOT	...	1+	3.05	25+	2.60
2N3903	MOT	...	1+	0.14	100+	0.09
2N3904	GS	936	1+	0.16	100+	0.12
2N3905	MOT	...	1+	0.11	100+	0.09
2N3906	GS	936	1+	0.16	100+	0.12
2N3964	MOT	...	1+	0.86	25+	0.73
2N4033	MOT	...	1+	0.92	100+	0.73
2N4036	MOT	...	1+	0.92	25+	0.73
2N4037	MOT	...	1+	0.92	25+	0.73
2N4123	MOT	...	1+	0.13	100+	0.09
2N4124	GS	936	1+	0.14	100+	0.11
2N4125	MOT	...	1+	0.14	100+	0.09
2N4126	GS	936	1+	0.14	100+	0.11
2N4264	MOT	...	1+	0.75	100+	0.59

Type	Mfg.	Pg.	Qty.	$	Qty.	$
2N4400	MOT	868	1+	0.14	100+	0.09
2N4401	MOT	868	1+	0.13	100+	0.09
2N4402	MOT	868	1+	0.13	100+	0.09
2N4403	MOT	868	1+	0.13	100+	0.09
2N4410	MOT	...	1+	0.30	100+	0.20
2N4427	MOT	...	1+	1.47	25+	1.25
2N4918	MOT	...	1+	0.65	100+	0.42
2N4919	MOT	...	1+	0.65	100+	0.42
2N4920	MOT	870	1+	0.65	100+	0.42
2N4921	MOT	...	1+	0.65	100+	0.42
2N4922	MOT	...	1+	0.65	100+	0.42
2N4923	MOT	870	1+	0.65	100+	0.42
2N5031	MOT	...	1+	1.97	25+	1.68
2N5038	MOT	871	1+	4.12	25+	3.50
2N5060	MOT	...	1+	0.38	100+	0.25
2N5061	MOT	874	1+	0.38	100+	0.25
2N5062	MOT	874	1+	0.38	100+	0.25
2N5064	MOT	874	1+	0.38	100+	0.25
2N5087	MOT	868	1+	0.17	100+	0.12
2N5088	MOT	868	1+	0.17	100+	0.12
2N5089	MOT	868	1+	0.17	100+	0.12
2N5109	MOT	...	1+	4.26	25+	3.62
2N5179	MOT	...	1+	2.16	25+	1.84
2N5190	MOT	...	1+	0.65	100+	0.42
2N5191	MOT	870	1+	0.65	100+	0.42
2N5192	MOT	870	1+	0.65	100+	0.42
2N5194	MOT	870	1+	0.65	100+	0.42
2N5195	MOT	870	1+	0.65	100+	0.42
2N5210	MOT	...	1+	0.17	100+	0.12
2N5222	MOT	...	1+	0.78	100+	0.66
2N5302	MOT	...	1+	2.47	25+	2.10
2N5400	MOT	...	1+	0.17	100+	0.12
2N5401	MOT	...	1+	0.17	100+	0.12
2N5415	MOT	...	1+	0.86	25+	0.73
2N5416	MOT	...	1+	0.86	25+	0.73
2N5457	MOT	869	1+	0.45	100+	0.29
2N5458	MOT	...	1+	0.45	100+	0.29
2N5460	MOT	869	1+	0.45	100+	0.29
2N5461	MOT	869	1+	0.45	100+	0.29
2N5462	MOT	869	1+	0.45	100+	0.29
2N5485	MOT	869	1+	0.45	100+	0.29
2N5486	MOT	869	1+	0.45	100+	0.29
2N5550	MOT	...	1+	0.23	100+	0.15
2N5551	MOT	...	1+	0.23	100+	0.15
2N5555	MOT	...	1+	0.92	100+	0.76
2N5631	MOT	871	1+	2.47	25+	2.10
2N5639	MOT	...	1+	0.70	100+	0.46
2N5655	MOT	...	1+	0.79	100+	0.52
2N5657	MOT	870	1+	0.79	100+	0.52
2N5684	MOT	...	1+	6.47	10+	5.50
2N5686	MOT	...	1+	6.47	10+	5.50
2N5772	MOT	...	1+	0.70	100+	0.46
2N5881	MOT	...	1+	1.92	25+	1.64
2N5882	MOT	871	1+	2.36	25+	2.00
2N5883	MOT	...	1+	2.59	25+	2.20
2N5884	MOT	871	1+	2.59	25+	2.20
2N5885	MOT	...	1+	2.59	25+	2.20
2N5886	MOT	871	1+	2.59	25+	2.20
2N6027	MOT	874	1+	0.38	100+	0.25
2N6028	MOT	874	1+	0.38	100+	0.25
2N6031	MOT	871	1+	4.12	25+	3.50
2N6034	MOT	...	1+	0.72	100+	0.47
2N6035	MOT	...	1+	0.72	100+	0.47
2N6036	MOT	870	1+	0.72	100+	0.47
2N6038	MOT	...	1+	0.65	100+	0.42
2N6039	MOT	870	1+	0.65	100+	0.42
2N6040	MOT	...	1+	0.78	100+	0.62
2N6042	MOT	...	1+	0.78	100+	0.62
2N6043	MOT	...	1+	0.75	100+	0.59
2N6045	MOT	...	1+	0.75	100+	0.59
2N6052	MOT	871	1+	2.71	25+	2.30
2N6056	MOT	...	1+	1.83	25+	1.63
2N6058	MOT	...	1+	2.32	25+	2.07
2N6059	MOT	871	1+	2.32	25+	2.07
2N6071A	MOT	...	1+	0.61	100+	0.40
2N6071B	MOT	...	1+	0.61	100+	0.40
2N6073A	MOT	...	1+	0.61	100+	0.40
2N6073B	MOT	874	1+	0.61	100+	0.40
2N6075A	MOT	874	1+	0.61	100+	0.40
2N6075B	MOT	...	1+	0.61	100+	0.40
2N6107	MOT	871	1+	0.80	100+	0.64
2N6109	MOT	...	1+	0.80	100+	0.64
2N6111	MOT	...	1+	0.80	100+	0.64
2N6240	MOT	874	1+	0.72	100+	0.47
2N6277	MOT	...	1+	23.15	5+	21.19
2N6282	MOT	871	1+	2.95	25+	2.50
2N6284	MOT	871	1+	2.95	25+	2.50
2N6286	MOT	...	1+	2.95	25+	2.50
2N6287	MOT	871	1+	2.95	25+	2.50
2N6288	MOT	...	1+	0.86	100+	0.69
2N6292	MOT	871	1+	0.86	100+	0.69
2N6338	MOT	...	1+	5.89	25+	5.00
2N6341	MOT	...	1+	10.59	10+	9.00
2N6342	MOT	...	1+	1.72	100+	1.35
2N6344	MOT	874	1+	0.93	100+	0.80
2N6344A	MOT	874	1+	1.05	100+	0.90
2N6347	MOT	...	1+	1.80	100+	1.40
2N6348A	MOT	...	1+	1.05	100+	0.90

Type	Mfg.	Pg.	Qty.	$	Qty.	$
2N6349	MOT	...	1+	0.93	100+	0.80
2N6349A	MOT	...	1+	1.05	100+	0.90
2N6387	MOT	...	1+	0.86	100+	0.69
2N6388	MOT	871	1+	0.86	100+	0.69
2N6394	MOT	874	1+	0.86	100+	0.73
2N6395	MOT	874	1+	0.86	100+	0.73
2N6397	MOT	874	1+	0.86	100+	0.73
2N6399	MOT	874	1+	0.86	100+	0.73
2N6400	MOT	874	1+	1.03	100+	0.88
2N6401	MOT	874	1+	1.03	100+	0.88
2N6402	MOT	874	1+	1.94	100+	1.55
2N6403	MOT	874	1+	1.03	100+	0.88
2N6404	MOT	874	1+	1.03	100+	0.88
2N6405	MOT	874	1+	1.03	100+	0.88
2N6426	MOT	...	1+	0.28	100+	0.19
2N6427	MOT	...	1+	0.28	100+	0.19
2N6431	MOT	...	1+	1.03	25+	0.88
2N6487	MOT	...	1+	0.92	100+	0.73
2N6488	MOT	...	1+	0.92	100+	0.73
2N6490	MOT	...	1+	0.86	100+	0.73
2N6491	MOT	...	1+	0.86	100+	0.73
2N6497	MOT	...	1+	1.35	25+	1.20
2N6504	MOT	874	1+	1.03	100+	0.88
2N6505	MOT	874	1+	1.03	100+	0.88
2N6507	MOT	874	1+	1.03	100+	0.88
2N6508	MOT	874	1+	1.03	100+	0.88
2N6509	MOT	874	1+	1.03	100+	0.88
2N6517	MOT	...	1+	0.50	100+	0.33
2N6519	MOT	...	1+	0.50	100+	0.33
2N6520	MOT	...	1+	0.50	100+	0.33
2N6547	MOT	871	1+	3.89	25+	3.30
2N6577	MOT	...	1+	2.17	100+	1.74
2N6609	MOT	...	1+	3.42	25+	2.90
2N6667	MOT	...	1+	0.86	100+	0.73
2N6668	MOT	871	1+	0.86	100+	0.73
2N6756	HRS	...	1+	5.04	25+	4.63
2N7000	GS	936	1+	0.24	100+	0.19
2N7002	GS	936	1+	0.36	100+	0.26
2N7002LT1	MOT	...	1+	0.28	100+	0.19
2N7008	MOT	869	1+	0.42	100+	0.34
300HF120P	IR	...	1+	40.49	5+	38.55
30BQ040	IR	922	1+	0.87	100+	0.76
30BQ100	IR	922	1+	0.92	100+	0.81
30CPQ045	IR	922	1+	4.53	25+	4.16
30CTQ035	IR	...	1+	2.23	25+	2.07
30CTQ045	IR	922	1+	2.30	25+	2.15
30WQ04FN	IR	922	1+	0.81	100+	0.72
30WQ06FN	IR	922	1+	0.94	100+	0.82
310J	INT	917	1+	181.13	...	...
310K	INT	...	1+	327.06	...	...
31DQ04	IR	922	1+	0.64	100+	0.52
31DQ06	IR	922	1+	0.70	100+	0.56
31DQ10	IR	922	1+	0.71	100+	0.64
32CTQ030	IR	922	1+	2.65	25+	2.44
32CTQ030S	IR	922	1+	3.26	25+	3.00
36MB05A	IR	923	1+	5.88	10+	5.48
36MB100A	IR	923	1+	7.52	10+	7.01
36MB10A	IR	923	1+	6.18	10+	5.76
36MB120A	IR	923	1+	7.64	10+	7.12
36MB140A	IR	923	1+	11.33	10+	10.56
36MB160A	IR	923	1+	12.50	10+	11.82
36MB20A	IR	923	1+	6.33	10+	5.90
36MB40A	IR	923	1+	6.44	10+	6.00
36MB60A	IR	923	1+	6.58	10+	6.14
36MB80A	IR	923	1+	6.68	10+	6.22
36MT10	IR	923	1+	15.05	10+	14.23
36MT100	IR	923	1+	18.04	10+	17.05
36MT120	IR	923	1+	18.95	10+	17.91
36MT140	IR	923	1+	20.40	10+	19.29
36MT160	IR	923	1+	21.78	5+	20.74
36MT20	IR	923	1+	15.15	10+	14.32
36MT40	IR	923	1+	15.33	10+	14.49
36MT60	IR	923	1+	15.56	10+	14.71
36MT80	IR	923	1+	15.78	10+	14.92
3EZ240D5	MOT	...	1+	2.67	50+	2.14
3N246	GS	937	1+	1.36	100+	1.16
3N247	GS	937	1+	1.44	100+	1.23
3N248	GS	937	1+	1.48	100+	1.27
3N250	GS	937	1+	1.74	100+	1.49
3N253	GS	937	1+	1.47	100+	1.26
3N254	GS	937	1+	1.55	100+	1.33
3N255	GS	937	1+	1.60	100+	1.37
3N256	GS	937	1+	1.63	100+	1.40
3N257	GS	937	1+	1.88	100+	1.61
40-8034	IR	...	1+	0.57	100+	0.46
40CPQ045	IR	922	1+	6.40	10+	5.96
40EPF02	IR	...	1+	3.88	25+	3.57
40EPF04	IR	...	1+	3.88	25+	3.57
40EPS08	IR	...	1+	2.65	25+	2.44
40HF120	IR	927	1+	8.76	10+	8.16
40HF160	IR	927	1+	10.46	10+	9.75
40HFL100S05	IR	...	1+	13.44	10+	12.71
40HFL60S02	IR	...	1+	12.04	10+	11.22
40TPS08	IR	926	1+	3.76	25+	3.46
40TPS12	IR	926	1+	4.70	25+	4.32
40TPS16	IR	926	1+	5.17	25+	4.76
451J	INT	917	1+	117.99	...	...
451K	INT	917	1+	135.59	...	...

Manufacturer Abbreviations:

ADI: Analog Devices; **ALG:** Allegro; **ALT:** Altera; **AMD:** Advanced Micro Devices; **AND:** AND; **APD:** American Power Devices; **DAL:** Dallas Semiconductor; **ECG:** Philips ECG; **FGR:** Fagor; **GS:** General Semiconductor; **HP:** Hewlett Packard; **HRS:** Harris Semiconductor; **HWL:** Honeywell Opto; **INT:** Intronics; **IR:** International Rectifier; **MIC:** Micrel; **MOT:** Motorola; **NAT:** National Semiconductor; **OPT:** Optek; **PHL:** Phillips Semiconductors; **PWX:** Powerex; **QT:** QT Optoelectronics; **SKN:** Semikron; **SPC:** SPC Technology; **TI:** Texas Instruments; **TSK:** Thomson SK; **VAC:** EG&G Vactec; **VAN:** Vantis; **ZIL:** Zilog

Type	Mfg.	Pg.	Qty.	$	Qty.	$
451L	INT	917	1+	153.18	...	...
460J	INT	917	1+	243.23	...	...
4N24A	OPT	...	1+	10.44	10+	9.30
4N25	QT	585	1+	0.34	100+	0.29
4N26	QT	585	1+	0.34	100+	0.29
4N27	QT	585	1+	0.34	100+	0.29
4N28	QT	585	1+	0.34	100+	0.29
4N30	QT	585	1+	0.34	100+	0.29
4N32	QT	585	1+	0.34	100+	0.29
4N33	QT	585	1+	0.34	100+	0.29
4N35	QT	585	1+	0.34	100+	0.29
4N35S	MOT	...	1+	0.68	100+	0.45
4N36	QT	585	1+	0.34	100+	0.29
4N37	QT	585	1+	0.34	100+	0.29
4N39	QT	585	1+	0.96	100+	0.84
4N40	QT	585	1+	1.03	25+	0.91
4N45	HP	...	1+	1.97	25+	1.76
4N46	HP	...	1+	2.36	25+	2.10
4N49	OPT	...	1+	10.85	10+	9.66
5082-2303	HP	...	1+	10.23	10+	9.21
5082-2800	HP	909	1+	1.07	25+	0.96
5082-2810	HP	909	1+	2.42	10+	2.18
5082-2811	HP	...	1+	2.17	25+	1.93
5082-2835	HP	909	1+	1.07	25+	0.96
5082-2900	HP	...	1+	5.15	10+	4.63
5082-3077	HP	...	1+	5.06	10+	4.55
5082-3080	HP	...	1+	2.58	10+	2.32
5082-3081	HP	...	1+	2.41	25+	2.15
5082-3188	HP	...	1+	1.12	25+	1.00
5082-7300	HP	...	1+	25.50	5+	24.48
5082-7415	HP	...	1+	25.55	5+	24.53
5082-7433	HP	...	1+	11.13	5+	10.46
5082-7611	HP	581	1+	2.78	10+	2.50
5082-7613	HP	581	1+	2.78	10+	2.50
5082-7650	QT	...	1+	1.94	25+	1.72
5082-7651	QT	...	1+	1.94	25+	1.72
5082-7653	QT	...	1+	1.94	25+	1.72
5082-7731	HP	...	1+	1.88	25+	1.67
5082-7740	HP	...	1+	1.88	25+	1.67
5082-7750	HP	...	1+	1.81	25+	1.61
5082-7760	HP	...	1+	1.88	25+	1.67
50RIA120	IR	...	1+	24.77	5+	23.59
50WQ04FN	IR	922	1+	1.03	100+	0.91
50WQ06F	IR	...	1+	3.29	25+	3.02
50WQ06FN	IR	922	1+	1.18	100+	1.04
5962-8770102RA	ADI	...	1+	62.88	10+	59.89
5962-8853701PA	ADI	...	1+	36.72	10+	33.38
5965-0987E CATALO	HP	944	1+	5.00	...	...
5965-6008E	HP	...	1+	9.65	...	...
5965-9659E	HP	...	1+	9.65	...	...
5KP24A	GS	...	1+	4.60	100+	3.90
5KP26	FGR	...	1+	1.62	100+	1.42
5KP33	FGR	...	1+	1.62	100+	1.42
60EPF02	IR	...	1+	6.94	10+	6.46
60EPF04	IR	...	1+	6.94	10+	6.46
60EPS08	IR	923	1+	4.16	25+	3.83
60EPS12	IR	923	1+	4.63	25+	4.26
60EPS16	IR	923	1+	5.76	25+	5.30
6CWQ04FN	IR	922	1+	1.11	100+	0.98
6CWQ06FN	IR	922	1+	1.29	25+	1.20
6N134	HP	...	1+	59.16	5+	56.78
6N135	QT	585	1+	0.86	100+	0.76
6N136	QT	585	1+	0.88	100+	0.78
6N137	QT	585	1+	1.05	100+	0.92
6N138	QT	585	1+	0.96	100+	0.84
6N139	QT	585	1+	1.05	100+	0.92
6N139#300	HP	...	1+	1.88	25+	1.67
6N140A	HP	579	1+	70.37	5+	67.55
70HF160	IR	927	1+	13.67	10+	12.92
70HFL60S02	IR	...	1+	12.76	10+	12.07
74AC11086D	TI	...	1+	0.97	100+	0.85
74ACT11245DW	TI	...	1+	1.87	25+	1.74
74ACT11245NT	TI	...	1+	1.87	25+	1.74
74ACT16374DL	TI	...	1+	4.14	25+	3.80
74ACT16543DL	TI	...	1+	6.81	10+	6.35
74ACT16646DL	TI	...	1+	8.03	10+	7.48
74ACT16652DL	TI	...	1+	8.03	10+	7.48
74ACT16823DL	TI	...	1+	6.33	10+	5.90
74HC00D	PHL	...	1+	1.04	25+	0.50
74HC00N	PHL	...	1+	1.04	25+	0.50
74HC02N	PHL	...	1+	1.04	25+	0.50
74HC04D	PHL	...	1+	1.04	25+	0.50
74HC04N	PHL	...	1+	1.04	25+	0.50
74HC08D	PHL	...	1+	1.04	25+	0.50
74HC08N	PHL	...	1+	1.04	25+	0.50
74HC10D	PHL	...	1+	1.04	25+	0.50
74HC123D	PHL	...	1+	2.11	25+	1.06
74HC123N	PHL	...	1+	2.11	25+	1.06
74HC125D	PHL	...	1+	1.66	25+	0.83
74HC125N	PHL	...	1+	1.66	25+	0.83
74HC132N	PHL	...	1+	1.53	25+	0.75
74HC138D	PHL	...	1+	1.50	25+	0.74
74HC138N	PHL	...	1+	1.50	25+	0.74
74HC139N	PHL	...	1+	1.50	25+	0.74
74HC14N	PHL	...	1+	1.35	25+	0.67
74HC154N	PHL	...	1+	4.90	25+	2.45
74HC161N	PHL	...	1+	1.93	25+	0.98
74HC163N	PHL	...	1+	1.93	25+	0.98

Type	Mfg.	Pg.	Qty.	$	Qty.	$
74HC164D	PHL	...	1+	1.93	25+	0.98
74HC164N	PHL	...	1+	1.93	25+	0.98
74HC165N	PHL	...	1+	1.93	25+	0.98
74HC20N	PHL	...	1+	1.04	25+	0.51
74HC240N	PHL	...	1+	2.01	25+	1.00
74HC244D	PHL	...	1+	0.90	25+	0.71
74HC244N	PHL	...	1+	2.02	25+	1.00
74HC245N	PHL	...	1+	2.11	25+	1.06
74HC273D	PHL	...	1+	2.10	25+	1.06
74HC273N	PHL	...	1+	2.10	25+	1.06
74HC30N	PHL	...	1+	1.04	25+	0.51
74HC32N	PHL	...	1+	1.04	25+	0.51
74HC365N	PHL	...	1+	1.90	25+	0.95
74HC373N	PHL	...	1+	2.02	25+	1.00
74HC374D	PHL	...	1+	2.01	25+	1.00
74HC390N	PHL	...	1+	2.07	25+	1.04
74HC393N	PHL	...	1+	1.78	25+	0.88
74HC4050N	PHL	...	1+	1.90	25+	0.95
74HC4051N	PHL	...	1+	2.33	25+	1.16
74HC4052N	PHL	...	1+	2.33	25+	1.16
74HC4060N	PHL	...	1+	1.53	25+	0.75
74HC4066D	PHL	...	1+	1.78	25+	0.88
74HC4538N	PHL	...	1+	2.85	25+	1.41
74HC540N	PHL	...	1+	2.68	25+	1.33
74HC541N	PHL	...	1+	2.68	25+	1.33
74HC573N	PHL	...	1+	2.22	25+	1.10
74HC574N	PHL	...	1+	2.22	25+	1.10
74HC74N	PHL	...	1+	1.35	25+	0.67
74HC85N	PHL	...	1+	1.85	25+	0.92
74HCT00D	PHL	...	1+	1.04	25+	0.50
74HCT00N	PHL	...	1+	0.97	25+	0.48
74HCT02N	PHL	...	1+	0.97	25+	0.48
74HCT04D	PHL	...	1+	1.04	25+	0.50
74HCT04N	PHL	...	1+	0.97	25+	0.48
74HCT08D	PHL	...	1+	1.04	25+	0.50
74HCT08N	PHL	...	1+	0.97	25+	0.48
74HCT138D	PHL	...	1+	1.50	25+	0.74
74HCT138N	PHL	...	1+	1.40	25+	0.71
74HCT14N	PHL	...	1+	1.26	25+	0.63
74HCT244N	PHL	...	1+	1.87	25+	0.95
74HCT245N	PHL	...	1+	1.95	25+	0.98
74HCT259N	PHL	...	1+	1.97	25+	1.00
74HCT32N	PHL	...	1+	0.97	25+	0.48
74HCT374N	PHL	...	1+	1.87	25+	0.95
74HCT393N	PHL	...	1+	1.66	25+	0.84
74HCT541D	PHL	...	1+	2.68	25+	1.35
74HCT541N	PHL	...	1+	2.68	25+	1.35
74HCT573N	PHL	...	1+	1.44	25+	0.72
74HCT574N	PHL	...	1+	1.44	25+	0.72
74HCT688N	PHL	...	1+	2.40	25+	1.23
74HCT74D	PHL	...	1+	1.35	25+	0.67
74HCT74N	PHL	...	1+	1.26	25+	0.63
74HCT86N	PHL	...	1+	1.26	25+	0.48
74OL6000	QT	585	1+	2.72	25+	2.44
74OL6001	QT	585	1+	2.72	25+	2.44
74OL6010	QT	585	1+	2.72	25+	2.44
74OL6011	QT	585	1+	2.72	25+	2.44
755N	INT	917	1+	146.97	...	...
755P	INT	917	1+	165.60	...	...
757N	INT	917	1+	203.90	...	...
757P	INT	917	1+	217.35	...	...
759N	INT	917	1+	100.40	...	...
759P	INT	917	1+	100.40	...	...
80CNQ045	IR	922	1+	15.08	10+	14.25
80EPF02	IR	...	1+	10.11	10+	9.42
80EPF04	IR	...	1+	10.11	10+	9.42
80EPS08	IR	923	1+	6.11	10+	5.70
80EPS12	IR	923	1+	6.94	10+	6.46
80EPS16	IR	923	1+	7.88	10+	7.34
80RIA40	IR	926	1+	39.35	5+	37.47
80SQ035	IR	...	1+	1.54	25+	1.43
80SQ040	IR	...	1+	1.61	25+	1.50
80SQ045	IR	...	1+	1.84	25+	1.72
85HF100	IR	927	1+	12.98	10+	12.27
85HF120	IR	927	1+	13.89	10+	13.14
85HF160	IR	927	1+	15.72	10+	14.86
85HF20	IR	927	1+	9.56	10+	8.91
85HF40	IR	927	1+	11.24	10+	10.48
85HF60	IR	...	1+	12.04	10+	11.22
85HF80	IR	927	1+	12.03	10+	11.37
85HFR80	IR	...	1+	12.03	10+	11.37
85HQ045	IR	...	1+	10.58	10+	9.86
8EWF02S	IR	923	1+	1.49	25+	1.38
8EWF04S	IR	923	1+	1.49	25+	1.38
8EWF06S	IR	923	1+	1.61	25+	1.50
8EWS08S	IR	923	1+	0.89	100+	0.78
8EWS12S	IR	923	1+	1.08	100+	0.95
902-2	ADI	...	1+	127.61	...	...
90MT120KB	IR	923	1+	76.68	5+	68.16
90MT160KB	IR	923	1+	77.76	5+	69.12
A2540SLB	ALG	916	1+	2.48	25+	2.23
A2557SEB	ALG	...	1+	2.33	25+	2.09
A2580SLW	ALG	916	1+	2.12	25+	1.88
A2585SLW	ALG	916	1+	1.91	25+	1.70
A2588SLW	ALG	916	1+	2.79	25+	2.50
A2595ELW	ALG	916	1+	1.78	25+	1.58
A2595SLW	ALG	...	1+	1.73	25+	1.54
A2919SB	ALG	916	1+	4.77	25+	4.27

Type	Mfg.	Pg.	Qty.	$	Qty.	$
A2919SLB	ALG	...	1+	3.74	25+	3.36
A2982SLW	ALG	916	1+	1.75	25+	1.56
A2984SLW	ALG	916	1+	1.82	25+	1.62
A3054KU	ALG	917	1+	2.98	25+	2.68
A3054SU	ALG	917	1+	2.33	25+	2.09
A3058EU	ALG	917	1+	3.61	25+	3.24
A3058LU	ALG	917	1+	3.85	25+	3.46
A3121EU	ALG	917	1+	0.83	100+	0.71
A3121LU	ALG	917	1+	1.12	100+	0.99
A3122LUA	ALG	...	1+	1.25	25+	1.12
A3123EU	ALG	917	1+	0.86	100+	0.73
A3134EU	ALG	917	1+	1.35	25+	1.20
A3134LU	ALG	917	1+	2.24	25+	2.01
A3141ELT	ALG	917	1+	1.12	100+	0.99
A3141EU	ALG	917	1+	1.12	100+	0.99
A3141LU	ALG	917	1+	1.89	25+	1.68
A3142ELT	ALG	...	1+	1.12	100+	0.99
A3142EU	ALG	917	1+	1.12	100+	0.99
A3142LLT	ALG	...	1+	1.57	25+	1.40
A3142LU	ALG	917	1+	1.89	25+	1.68
A3143EU	ALG	917	1+	1.12	100+	0.99
A3143LU	ALG	917	1+	1.89	25+	1.68
A3144EU	ALG	917	1+	0.86	100+	0.76
A3144LU	ALG	917	1+	1.50	25+	1.34
A3185EU	ALG	917	1+	1.53	25+	1.36
A3185LUA	ALG	...	1+	1.53	25+	1.36
A3186EU	ALG	917	1+	1.10	100+	0.97
A3186LU	ALG	...	1+	1.37	25+	1.22
A3187LU	ALG	917	1+	2.14	25+	1.90
A3188EU	ALG	...	1+	1.73	25+	1.54
A3188LLT	ALG	...	1+	1.61	25+	1.45
A3189LU	ALG	917	1+	1.46	25+	1.30
A3197EU	ALG	917	1+	2.14	25+	1.90
A3197LLT	ALG	...	1+	2.37	25+	2.13
A3197LU	ALG	917	1+	2.37	25+	2.13
A3421EKA	ALG	917	1+	2.05	25+	1.82
A3421LKA	ALG	917	1+	2.21	25+	1.96
A3422EKA	ALG	917	1+	2.05	25+	1.82
A3422LKA	ALG	917	1+	2.21	25+	1.96
A3507EU	ALG	917	1+	2.21	25+	1.96
A3507LU	ALG	917	1+	2.66	25+	2.38
A3508SU	ALG	917	1+	1.73	25+	1.54
A3515EUA	ALG	917	1+	2.44	25+	2.19
A3515LUA	ALG	917	1+	2.57	25+	2.31
A3516EUA	ALG	917	1+	2.33	25+	2.09
A3516LUA	ALG	917	1+	2.46	25+	2.21
A3517LUA	ALG	...	1+	2.14	25+	1.90
A3517SUA	ALG	917	1+	2.00	25+	1.78
A3518LUA	ALG	917	1+	2.00	25+	1.78
A3518SUA	ALG	917	1+	1.89	25+	1.68
A3951SB	ALG	916	1+	5.09	25+	4.57
A3951SW	ALG	916	1+	6.62	10+	5.97
A3952SB	ALG	916	1+	4.05	25+	3.63
A3952SW	ALG	...	1+	6.62	10+	5.97
A3953SB	ALG	916	1+	2.92	25+	2.62
A3953SLB	ALG	916	1+	2.92	25+	2.62
A3955SB	ALG	916	1+	2.79	25+	2.50
A3955SLB	ALG	916	1+	2.79	25+	2.50
A3957SA	ALG	...	1+	3.07	25+	2.75
A3957SLB	ALG	...	1+	3.07	25+	2.75
A3964SLB	ALG	...	1+	3.74	25+	3.36
A3966SA	ALG	916	1+	2.61	25+	2.34
A3966SLB	ALG	916	1+	2.61	25+	2.34
A5347CA	ALG	...	1+	1.37	25+	1.22
A5832EP	ALG	...	1+	7.07	10+	6.37
A5841SLW	ALG	916	1+	2.63	25+	2.36
A5842SLW	ALG	916	1+	2.70	25+	2.42
A5895SLW	ALG	916	1+	2.46	25+	2.21
A6118SLW	ALG	916	1+	1.37	25+	1.22
A6809ELW	ALG	...	1+	1.89	25+	1.68
A6810SA	ALG	...	1+	1.66	25+	1.48
A6810SLW	ALG	...	1+	1.80	25+	1.60
A6811SA	ALG	...	1+	3.00	25+	2.70
A6811SLW	ALG	...	1+	3.13	25+	2.81
A6812SA	ALG	...	1+	3.05	25+	2.73
A6812SEP	ALG	...	1+	3.72	25+	3.34
A6812SLW	ALG	...	1+	3.18	25+	2.85
A6817SEP	ALG	916	1+	5.79	10+	5.22
A6818SA	ALG	...	1+	4.87	25+	4.37
A6818SEP	ALG	...	1+	5.24	25+	4.70
A8178LLT	ALG	...	1+	1.08	100+	0.94
A8188SLT-30	ALG	...	1+	0.86	100+	0.76
A8188SLT-33	ALG	...	1+	0.86	100+	0.76
AC1016	INT	917	1+	61.07	10+	45.54
AC1017	INT	917	1+	101.43	10+	87.98
AC1050	INT	...	1+	64.17	10+	48.65
AC1058	ADI	...	1+	23.86	10+	21.69
AC1059	ADI	...	1+	23.86	10+	21.69
AC1060	ADI	...	1+	23.86	10+	21.69
AC1213	INT	917	1+	184.23	...	...
AC1214	INT	917	1+	62.10	25+	57.96
AC1222	ADI	...	1+	148.35	...	...
AC1226	ADI	...	1+	13.81	10+	12.56
AC2626J4	ADI	...	1+	60.86	10+	57.96
AC2626K4	ADI	...	1+	76.08	10+	72.45
AC2626L4	ADI	...	1+	120.06	...	...
AD10242BZ	ADI	...	1+	414.00	25+	414.00
AD102JY	ADI	879	1+	35.87	10+	34.24

NEW TYPES ARE BEING CONTINUALLY ADDED TO INVENTORY.

CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR AVAILABILITY.

Type	Mfg.	Pg.	Qty.	$	Qty.	$
AD1139J	ADI	886	1+	438.12	...	...
AD1154AD	ADI	...	1+	117.37	25+	91.29
AD1170	ADI	...	1+	202.05	...	...
AD1362KD	ADI	...	1+	249.67	25+	212.38
AD1376KD	ADI	...	1+	198.42	25+	169.60
AD1377JD	ADI	...	1+	221.83	25+	184.86
AD1380KD	ADI	...	1+	292.97	25+	244.54
AD1403AN	ADI	889	1+	5.63	10+	4.90
AD1403N	ADI	...	1+	3.93	10+	3.42
AD1580ART-REEL7	ADI	...	1+	0.90	10+	0.78
AD1580BRT-REEL7	ADI	...	1+	1.37	10+	1.19
AD1671JP	ADI	885	1+	62.76	10+	59.78
AD1672AP	ADI	884	1+	51.24	10+	46.58
AD1674AD	ADI	885	1+	48.39	10+	43.99
AD1674JN	ADI	885	1+	29.66	10+	26.97
AD1674KN	ADI	885	1+	41.51	10+	37.74
AD1843JS	ADI	...	1+	14.80	10+	13.46
AD1845JP	ADI	...	1+	11.39	10+	10.35
AD1847JP	ADI	...	1+	12.53	10+	11.39
AD1847JST	ADI	...	1+	13.10	10+	11.91
AD1855JRS	ADI	...	1+	19.07	100+	16.42
AD1857JRS	ADI	...	1+	17.18	100+	14.79
AD1858JRS	ADI	...	1+	17.18	100+	14.79
AD1890JP	ADI	...	1+	34.16	10+	31.05
AD2026-111	INT	917	1+	111.78	...	...
AD202JN	ADI	879	1+	51.24	10+	46.58
AD202JY	ADI	879	1+	51.24	10+	46.58
AD202KN	ADI	879	1+	56.52	10+	53.82
AD202KY	ADI	879	1+	56.52	10+	53.82
AD204JY	ADI	879	1+	44.41	10+	40.37
AD204KY	ADI	879	1+	53.51	10+	48.65
AD210AN	ADI	879	1+	78.25	10+	74.52
AD210BN	ADI	879	1+	96.72	10+	92.12
AD210JN	ADI	879	1+	71.73	10+	68.31
AD215BY	ADI	879	1+	82.49	10+	78.56
AD22100AR	ADI	889	1+	6.27	10+	5.70
AD22100AT	ADI	...	1+	5.18	...	...
AD22100KT	ADI	...	1+	2.74	10+	2.38
AD22100ST	ADI	...	1+	5.70	...	...
AD22105AR	ADI	889	1+	3.35	100+	2.59
AD246JY	ADI	...	1+	32.28	10+	29.35
AD2702JD	ADI	...	1+	67.98	10+	64.74
AD2710KN	ADI	...	1+	59.15	10+	53.77
AD2712KN	ADI	...	1+	64.54	10+	61.46
AD2712LN	ADI	...	1+	83.35	10+	79.38
AD2S80AJD	ADI	...	1+	129.11	25+	114.35
AD2S81AJD	ADI	...	1+	108.68	25+	98.33
AD2S82AHP	ADI	...	1+	54.34	10+	51.75
AD2S82ALP	ADI	...	1+	206.57	25+	182.96
AD2S99AP	ADI	...	1+	9.62	10+	8.75
AD380JH	ADI	...	1+	106.14	10+	101.08
AD390JD	ADI	...	1+	206.38	...	...
AD420AN-32	ADI	886	1+	20.29	25+	17.81
AD420AR-32	ADI	886	1+	18.22	10+	16.56
AD421BN	ADI	886	1+	20.91	100+	18.01
AD510KH	ADI	...	1+	45.44	25+	33.68
AD515AJH	ADI	881	1+	23.34	10+	21.22
AD515AKH	ADI	881	1+	35.30	10+	32.09
AD515ALH	ADI	881	1+	45.54	10+	41.40
AD517JH	ADI	879	1+	9.24	25+	6.85
AD517KH	ADI	879	1+	13.03	25+	9.65
AD517LH	ADI	...	1+	36.44	10+	33.12
AD5203AN10	ADI	891	1+	5.24	100+	4.52
AD521JD	ADI	878	1+	35.70	10+	32.45
AD521KD	ADI	878	1+	50.82	10+	46.20
AD521LD	ADI	878	1+	70.74	10+	67.37
AD521SD	ADI	878	1+	78.09	10+	74.37
AD522AD	ADI	...	1+	83.80	10+	79.81
AD522BD	ADI	...	1+	101.85	10+	97.00
AD524AD	ADI	878	1+	12.63	50+	11.59
AD524AE	ADI	...	1+	46.48	25+	34.45
AD524AR-16	ADI	878	1+	16.58	25+	12.29
AD524BD	ADI	878	1+	29.21	10+	26.55
AD524CD	ADI	878	1+	46.97	10+	42.70
AD524SD	ADI	...	1+	44.99	10+	40.90
AD526CD	ADI	...	1+	40.20	10+	36.55
AD526JN	ADI	878	1+	13.15	10+	11.96
AD5300BRM	ADI	...	1+	4.73	100+	4.08
AD5310BRM	ADI	...	1+	6.23	100+	5.36
AD5320BRM	ADI	...	1+	9.15	100+	7.88
AD532JD	ADI	...	1+	37.57	10+	34.16
AD532JH	ADI	...	1+	29.04	10+	25.40
AD532KD	ADI	...	1+	65.21	10+	62.10
AD532KH	ADI	...	1+	56.53	10+	51.39
AD532SH	ADI	...	1+	79.06	10+	75.30
AD533JD	ADI	...	1+	42.81	25+	31.73
AD534JD	ADI	890	1+	42.13	10+	38.30
AD534JH	ADI	890	1+	34.10	10+	31.00
AD534KD	ADI	890	1+	55.79	10+	50.72
AD534KH	ADI	...	1+	85.59	10+	81.51
AD534LD	ADI	890	1+	107.59	10+	102.47
AD534SD	ADI	...	1+	125.76	25+	108.99
AD535JH	ADI	...	1+	93.84	25+	69.56
AD535KD	ADI	...	1+	111.40	25+	96.55
AD536AJD	ADI	...	1+	29.61	10+	26.91
AD536AJH	ADI	...	1+	17.20	10+	15.63
AD536AJQ	ADI	...	1+	17.20	10+	15.63
AD536AKD	ADI	...	1+	53.51	10+	48.65
AD536AKH	ADI	...	1+	29.89	10+	27.17
AD536AKQ	ADI	...	1+	35.30	10+	32.09
AD536ASD	ADI	...	1+	94.55	10+	90.05
AD537JD	ADI	885	1+	70.33	10+	66.98
AD537JH	ADI	885	1+	20.12	10+	18.29
AD537KD	ADI	885	1+	111.19	10+	105.89
AD537KH	ADI	885	1+	33.65	10+	30.59
AD538AD	ADI	...	1+	47.58	10+	43.26
AD538BD	ADI	...	1+	57.68	10+	54.93
AD542JH	ADI	...	1+	7.70	25+	5.71
AD542KH	ADI	...	1+	12.30	10+	11.18
AD544JH	ADI	...	1+	7.77	10+	7.06
AD544KH	ADI	...	1+	11.28	10+	10.25
AD545AJH	ADI	880	1+	19.93	10+	18.12
AD545AKH	ADI	880	1+	25.62	10+	23.29
AD546JN	ADI	881	1+	9.15	10+	8.32
AD546KN	ADI	881	1+	10.01	25+	7.42
AD547JH	ADI	881	1+	7.70	25+	5.71
AD547KH	ADI	...	1+	14.91	10+	13.55
AD547LH	ADI	881	1+	40.91	25+	30.33
AD548AH	ADI	881	1+	6.31	25+	4.68
AD548AQ	ADI	881	1+	3.85	25+	2.86
AD548BH	ADI	881	1+	8.47	25+	6.28
AD548BR	ADI	881	1+	5.33	25+	3.95
AD548CQ	ADI	881	1+	13.53	25+	10.03
AD548JN	ADI	881	1+	2.60	10+	2.26
AD548JR	ADI	881	1+	1.90	10+	1.65
AD548KN	ADI	881	1+	6.85	10+	6.22
AD548KR	ADI	881	1+	4.86	25+	3.60
AD549JH	ADI	881	1+	20.38	10+	18.53
AD549KH	ADI	881	1+	28.47	10+	25.88
AD549LH	ADI	881	1+	35.18	10+	31.99
AD5539JN	ADI	...	1+	3.97	25+	2.94
AD557JN	ADI	886	1+	9.65	10+	8.77
AD557JP	ADI	886	1+	9.65	10+	8.77
AD558JD	ADI	886	1+	34.55	10+	31.41
AD558JN	ADI	886	1+	7.92	50+	7.27
AD558JP	ADI	886	1+	7.92	50+	7.27
AD558KD	ADI	886	1+	21.52	50+	19.74
AD558KN	ADI	886	1+	12.00	50+	11.00
AD558KP	ADI	886	1+	12.00	50+	11.00
AD558SD	ADI	...	1+	50.13	10+	45.58
AD561JN	ADI	...	1+	43.35	10+	39.41
AD561KD	ADI	...	1+	122.79	25+	91.02
AD565AJD	ADI	886	1+	48.66	10+	44.24
AD565AKD	ADI	886	1+	76.20	10+	72.57
AD567JD	ADI	...	1+	65.05	10+	61.95
AD568JQ	ADI	886	1+	57.86	10+	52.60
AD568KQ	ADI	886	1+	78.66	10+	74.92
AD568SQ	ADI	...	1+	172.15	...	...
AD569BD	ADI	...	1+	82.62	10+	78.68
AD569JN	ADI	886	1+	38.44	10+	34.95
AD569KN	ADI	886	1+	48.63	10+	44.21
AD570JD	ADI	884	1+	84.61	10+	80.59
AD571JD	ADI	884	1+	112.40	10+	107.04
AD571KD	ADI	884	1+	124.40	25+	78.12
AD572AD	ADI	884	1+	259.03	25+	209.62
AD573JN	ADI	884	1+	51.23	10+	46.57
AD574AJD	ADI	884	1+	54.99	10+	49.99
AD574AJN	ADI	884	1+	41.33	10+	37.57
AD574AJP	ADI	...	1+	43.38	10+	39.44
AD574AKD	ADI	884	1+	68.47	10+	65.21
AD574AKN	ADI	884	1+	54.08	10+	49.17
AD578KN	ADI	...	1+	199.53	25+	159.41
AD580JH	ADI	889	1+	3.94	10+	3.43
AD580KH	ADI	889	1+	6.64	10+	5.04
AD580LH	ADI	889	1+	10.47	10+	9.52
AD580MH	ADI	889	1+	18.06	10+	16.42
AD581JH	ADI	889	1+	5.80	10+	5.27
AD581KH	ADI	889	1+	9.03	10+	8.21
AD581LH	ADI	889	1+	18.41	10+	16.74
AD581TH	ADI	...	1+	24.93	10+	22.66
AD581UH	ADI	...	1+	41.01	10+	37.28
AD582KD	ADI	...	1+	51.24	10+	46.58
AD582KH	ADI	...	1+	25.50	10+	23.18
AD584JH	ADI	889	1+	6.52	10+	5.92
AD584JN	ADI	889	1+	5.19	10+	4.52
AD584KH	ADI	...	1+	12.91	10+	11.74
AD584KN	ADI	889	1+	9.69	10+	8.81
AD584LH	ADI	889	1+	21.76	10+	19.78
AD584SH	ADI	...	1+	16.39	10+	14.90
AD585AQ	ADI	...	1+	24.25	10+	22.05
AD586AR	ADI	889	1+	7.80	10+	7.09
AD586BR	ADI	...	1+	10.89	10+	9.90
AD586JN	ADI	...	1+	4.65	10+	4.04
AD586JQ	ADI	889	1+	4.94	10+	4.30
AD586JR	ADI	889	1+	4.94	10+	4.30
AD586KN	ADI	889	1+	5.75	10+	5.23
AD586KQ	ADI	889	1+	6.21	10+	5.64
AD586KR	ADI	889	1+	6.21	10+	5.64
AD586LN	ADI	889	1+	8.02	10+	7.29
AD586LQ	ADI	889	1+	10.89	10+	9.90
AD586LR	ADI	...	1+	8.50	10+	7.73
AD586MN	ADI	889	1+	9.21	10+	8.38
AD587JN	ADI	889	1+	4.35	10+	3.78
AD587KN	ADI	889	1+	4.94	10+	4.30
AD587KQ	ADI	...	1+	5.84	10+	5.08
AD587KR	ADI	889	1+	5.60	10+	4.87
AD587LN	ADI	889	1+	6.04	10+	5.49
AD587LQ	ADI	889	1+	8.79	10+	7.99
AD587SQ	ADI	...	1+	6.70	10+	6.09
AD587UQ	ADI	...	1+	19.26	10+	17.51
AD588AQ	ADI	...	1+	35.07	10+	31.88
AD588JQ	ADI	889	1+	30.06	10+	27.33
AD588KQ	ADI	...	1+	52.60	10+	47.82
AD589JH	ADI	889	1+	2.50	10+	2.18
AD589JR	ADI	889	1+	2.19	10+	1.91
AD589KH	ADI	889	1+	3.50	10+	3.05
AD589LH	ADI	889	1+	9.21	10+	8.38
AD589MH	ADI	889	1+	20.09	10+	18.26
AD589SH	ADI	...	1+	5.06	10+	4.40
AD590JF	ADI	891	1+	17.07	10+	15.52
AD590JH	HRS	...	1+	3.29	25+	3.02
AD590KF	ADI	891	1+	21.98	10+	19.98
AD590KH	ADI	891	1+	12.56	10+	11.42
AD590LF	ADI	891	1+	54.82	10+	49.84
AD590LH	ADI	891	1+	27.92	10+	25.38
AD590MF	ADI	891	1+	96.15	10+	91.57
AD590MH	ADI	891	1+	63.44	10+	60.42
AD592AN	ADI	891	1+	3.94	10+	3.43
AD592BN	ADI	891	1+	14.24	10+	12.94
AD592CN	ADI	891	1+	18.98	10+	17.26
AD594AD	ADI	891	1+	28.63	10+	26.02
AD594AQ	ADI	891	1+	15.07	10+	13.70
AD594CD	ADI	891	1+	43.69	10+	39.72
AD594CQ	ADI	891	1+	27.25	10+	24.77
AD595AD	ADI	891	1+	28.63	10+	26.02
AD595AQ	ADI	891	1+	15.07	10+	13.70
AD595CD	ADI	891	1+	43.69	10+	39.72
AD595CQ	ADI	891	1+	27.25	10+	24.77
AD596AH	ADI	891	1+	16.74	10+	15.22
AD597AH	ADI	891	1+	16.74	10+	15.22
AD598AD	ADI	891	1+	56.37	10+	53.69
AD598JR	ADI	891	1+	39.37	10+	35.79
AD600AR	ADI	...	1+	44.41	10+	40.37
AD600JN	ADI	889	1+	34.16	10+	31.05
AD602JN	ADI	889	1+	34.16	10+	31.05
AD603AQ	ADI	889	1+	8.66	10+	7.87
AD603AR	ADI	889	1+	7.87	10+	7.16
AD604AN	ADI	889	1+	38.01	25+	33.37
AD604AR	ADI	889	1+	38.01	25+	33.37
AD605AN	ADI	889	1+	27.96	25+	24.54
AD605AR	ADI	889	1+	27.96	25+	24.54
AD606JN	ADI	889	1+	56.82	10+	51.65
AD606JR	ADI	889	1+	56.82	10+	51.65
AD611KH	ADI	...	1+	6.40	25+	4.74
AD620AN	ADI	878	1+	6.37	50+	5.84
AD620AR	ADI	878	1+	6.37	50+	5.84
AD620BN	ADI	878	1+	9.21	10+	8.38
AD620BR	ADI	878	1+	9.21	10+	8.38
AD620SQ/883B	ADI	...	1+	49.49	10+	41.92
AD621AN	ADI	878	1+	7.18	10+	6.52
AD621AR	ADI	...	1+	7.18	10+	6.52
AD621BN	ADI	878	1+	10.76	10+	9.78
AD621BR	ADI	878	1+	17.78	100+	15.31
AD622AN	ADI	878	1+	4.42	10+	3.84
AD622AR	ADI	878	1+	6.82	100+	6.00
AD623AN	ADI	...	1+	4.80	100+	4.14
AD623AR	ADI	...	1+	4.80	100+	4.14
AD624AD	ADI	878	1+	22.36	10+	20.33
AD624BD	ADI	878	1+	36.64	10+	33.31
AD624CD	ADI	878	1+	54.88	10+	49.89
AD624SD	ADI	...	1+	58.10	10+	55.34
AD625AD	ADI	...	1+	18.79	10+	17.08
AD625BD	ADI	878	1+	31.76	10+	28.87
AD625CD	ADI	878	1+	52.60	10+	47.82
AD625JN	ADI	878	1+	14.09	10+	12.81
AD625KN	ADI	...	1+	20.04	10+	18.22
AD626AN	ADI	878	1+	5.59	10+	4.86
AD626AR	ADI	878	1+	5.59	10+	4.86
AD626BN	ADI	878	1+	7.28	10+	6.62
AD630AD	ADI	889	1+	26.19	10+	23.81
AD630BD	ADI	889	1+	44.41	10+	40.37
AD630JN	ADI	889	1+	16.83	10+	15.30
AD630KN	ADI	889	1+	26.82	10+	24.38
AD632AD	ADI	...	1+	42.70	10+	38.82
AD632AH	ADI	...	1+	26.53	10+	24.12
AD632BD	ADI	...	1+	66.84	10+	63.66
AD633JN	ADI	890	1+	4.35	50+	3.99
AD633JR	ADI	890	1+	4.35	50+	3.99
AD636JD	ADI	...	1+	22.77	10+	20.70
AD636JH	ADI	...	1+	14.24	10+	12.94
AD636KD	ADI	...	1+	40.26	25+	29.85
AD637AQ	ADI	...	1+	34.81	10+	31.64
AD637BQ	ADI	...	1+	53.64	25+	39.76
AD637BR	ADI	...	1+	49.38	25+	36.60
AD637JD	ADI	...	1+	44.41	10+	40.37
AD637JQ	ADI	...	1+	19.36	10+	17.60
AD637JR	ADI	...	1+	17.82	10+	16.20
AD637KD	ADI	...	1+	73.36	10+	69.87
AD637KQ	ADI	...	1+	33.05	10+	30.05
AD639AD	ADI	...	1+	68.12	10+	64.88
AD640BP	ADI	889	1+	108.67	10+	103.49
AD640JN	ADI	889	1+	65.10	10+	62.00
AD642LH	ADI	879	1+	24.75	25+	18.35
AD644JH	ADI	...	1+	11.79	10+	10.72

Manufacturer Abbreviations:

ADI: Analog Devices; **ALG:** Allegro; **ALT:** Altera; **AMD:** Advanced Micro Devices; **AND:** AND; **APD:** American Power Devices; **DAL:** Dallas Semiconductor; **ECG:** Philips ECG; **FGR:** Fagor; **GS:** General Semiconductor; **HP:** Hewlett Packard; **HRS:** Harris Semiconductor; **HWL:** Honeywell Opto; **INT:** Intronics; **IR:** International Rectifier; **MIC:** Micrel; **MOT:** Motorola; **NAT:** National Semiconductor; **OPT:** Optek; **PHL:** Phillips Semiconductors; **PWX:** Powerex; **QT:** QT Optoelectronics; **SKN:** Semikron; **SPC:** SPC Technology; **TI:** Texas Instruments; **TSK:** Thomson SK; **VAC:** EG&G Vactec; **VAN:** Vantis; **ZIL:** Zilog

Type	Mfg.	Pg.	Qty.	$	Qty.	$
AD644SH	ADI	...	1+	77.44	25+	57.40
AD645AH	ADI	881	1+	12.88	10+	11.71
AD645BH	ADI	881	1+	15.66	25+	11.61
AD645CH	ADI	881	1+	19.60	25+	14.53
AD645JN	ADI	881	1+	8.50	25+	6.30
AD647LH	ADI	879	1+	71.79	25+	53.21
AD648CQ	ADI	...	1+	18.16	10+	16.51
AD648JN	ADI	881	1+	3.32	10+	2.89
AD648JR	ADI	...	1+	3.03	10+	2.63
AD650AD	ADI	...	1+	27.50	10+	25.00
AD650BD	ADI	...	1+	33.28	10+	30.26
AD650JN	ADI	885	1+	21.29	10+	19.36
AD650JP	ADI	885	1+	20.84	25+	15.45
AD650KN	ADI	885	1+	26.30	10+	23.91
AD650SD	ADI	...	1+	67.67	10+	64.44
AD652AQ	ADI	885	1+	17.29	10+	15.72
AD652BQ	ADI	885	1+	27.37	10+	24.89
AD654JN	ADI	885	1+	4.21	50+	3.86
AD654JR	ADI	885	1+	4.21	50+	3.86
AD660AN	ADI	...	1+	25.51	10+	23.19
AD660AR	ADI	...	1+	25.51	10+	23.19
AD660BN	ADI	...	1+	38.26	10+	34.78
AD664AD-BIP	ADI	887	1+	95.47	10+	90.93
AD664BD-BIP	ADI	887	1+	121.30	10+	115.52
AD664BD-UNI	ADI	887	1+	121.30	10+	115.52
AD664JN-BIP	ADI	...	1+	69.86	10+	66.53
AD667AD	ADI	...	1+	34.19	10+	31.09
AD667JN	ADI	886	1+	25.85	10+	23.50
AD667KN	ADI	886	1+	34.50	10+	31.36
AD667SE	ADI	...	1+	208.40	25+	154.48
AD669AN	ADI	886	1+	25.51	10+	23.19
AD669AR	ADI	886	1+	25.51	10+	23.19
AD669BN	ADI	...	1+	38.26	10+	34.78
AD669BR	ADI	...	1+	38.26	10+	34.78
AD670JN	ADI	884	1+	25.21	10+	22.92
AD670JP	ADI	...	1+	25.21	10+	22.92
AD673JN	ADI	884	1+	25.21	10+	22.92
AD674BAR	ADI	884	1+	65.87	25+	48.82
AD674BBR	ADI	...	1+	106.98	25+	79.30
AD674BJN	ADI	884	1+	48.71	10+	44.28
AD674BKN	ADI	884	1+	63.90	10+	58.09
AD676BD	ADI	...	1+	106.19	10+	101.13
AD676JD	ADI	...	1+	71.22	10+	67.83
AD676JN	ADI	...	1+	55.40	10+	50.37
AD676KD	ADI	885	1+	84.95	10+	80.91
AD677JN	ADI	...	1+	51.73	10+	47.02
AD678JN	ADI	...	1+	52.08	10+	47.34
AD679AJ	ADI	...	1+	158.19	25+	117.26
AD679JN	ADI	885	1+	57.32	10+	52.11
AD679KD	ADI	...	1+	92.66	10+	88.25
AD679KN	ADI	885	1+	64.44	10+	61.37
AD680AN	ADI	889	1+	5.42	10+	4.71
AD680AR	ADI	...	1+	5.42	10+	4.71
AD680JT	ADI	889	1+	1.67	10+	1.45
AD684JQ	ADI	...	1+	53.05	10+	48.22
AD688AQ	ADI	889	1+	33.40	10+	30.36
AD688BQ	ADI	...	1+	56.30	10+	51.18
AD688SQ	ADI	...	1+	71.16	25+	52.75
AD693AD	ADI	...	1+	33.16	10+	30.14
AD693AQ	ADI	891	1+	19.59	10+	17.81
AD694AQ	ADI	...	1+	18.33	10+	16.67
AD694AR	ADI	...	1+	12.36	10+	11.23
AD694BQ	ADI	...	1+	23.65	10+	21.50
AD694JN	ADI	891	1+	13.40	10+	12.19
AD698AP	ADI	891	1+	20.88	10+	18.99
AD698SQ	ADI	...	1+	55.32	10+	50.29
AD7008AP20	ADI	...	1+	28.47	10+	25.88
AD7008JP50	ADI	...	1+	43.82	10+	37.11
AD704JN	ADI	883	1+	8.71	10+	7.92
AD704KN	ADI	...	1+	13.07	10+	11.89
AD705AQ	ADI	883	1+	4.30	25+	3.19
AD705JN	ADI	883	1+	2.02	10+	1.75
AD706AR	ADI	...	1+	5.09	10+	4.42
AD706JN	ADI	883	1+	4.53	10+	3.94
AD706JR	ADI	883	1+	4.75	10+	4.13
AD706KN	ADI	...	1+	6.79	10+	5.90
AD707AH	ADI	...	1+	4.77	10+	4.14
AD707AR	ADI	879	1+	3.23	25+	2.39
AD707JN	ADI	879	1+	2.98	10+	2.59
AD707KN	ADI	879	1+	6.84	10+	6.21
AD708AQ	ADI	...	1+	7.97	10+	7.25
AD708BQ	ADI	879	1+	13.44	10+	12.22
AD708JN	ADI	879	1+	6.72	10+	6.11
AD7111ABN	ADI	...	1+	13.92	25+	10.32
AD7111ABR	ADI	886	1+	13.92	25+	10.32
AD7111ACN	ADI	...	1+	18.95	25+	14.05
AD7111KN	ADI	...	1+	40.03	10+	36.39
AD711AQ	ADI	881	1+	3.98	10+	3.46
AD711BH	ADI	...	1+	6.81	10+	6.19
AD711JN	ADI	879	1+	2.19	10+	1.91
AD711JR	ADI	881	1+	2.40	10+	2.08
AD711KN	ADI	879	1+	5.20	10+	4.53
AD712AH	ADI	881	1+	4.92	25+	3.65
AD712AQ	ADI	881	1+	4.93	10+	4.29
AD712CN	ADI	...	1+	19.89	10+	18.09
AD712CQ	ADI	881	1+	20.30	10+	18.46
AD712JN	ADI	879	1+	3.43	10+	2.98
AD712JR	ADI	...	1+	3.77	10+	3.27
AD712KN	ADI	879	1+	9.83	10+	8.94
AD712KR	ADI	...	1+	7.58	10+	6.89
AD712SQ	ADI	...	1+	13.88	10+	12.62
AD713AQ	ADI	881	1+	11.14	10+	10.13
AD713BQ	ADI	881	1+	17.02	10+	15.48
AD713JN	ADI	881	1+	9.17	10+	8.34
AD713JR-16	ADI	...	1+	7.06	10+	6.42
AD713KN	ADI	881	1+	15.59	10+	14.17
AD7224KN	ADI	886	1+	9.31	10+	8.46
AD7224KR-18	ADI	...	1+	7.72	10+	7.02
AD7224LN	ADI	886	1+	13.06	10+	11.88
AD7225KN	ADI	887	1+	34.73	10+	31.57
AD7226BQ	ADI	...	1+	49.26	10+	44.78
AD7226KN	ADI	887	1+	34.73	10+	31.57
AD7226KP	ADI	887	1+	39.85	10+	36.23
AD7228ABN	ADI	887	1+	27.50	10+	25.00
AD7228ACN	ADI	887	1+	32.28	10+	29.35
AD7228ACR	ADI	...	1+	32.28	10+	29.35
AD7228CQ	ADI	...	1+	116.01	25+	85.99
AD7228LN	ADI	...	1+	67.25	10+	64.05
AD7233AN	ADI	886	1+	14.47	10+	13.16
AD7233BN	ADI	886	1+	17.54	10+	15.94
AD7237AAN	ADI	...	1+	39.08	25+	28.97
AD7237AQ	ADI	...	1+	58.73	25+	43.54
AD7237JN	ADI	887	1+	31.01	10+	28.19
AD7237KN	ADI	887	1+	36.39	10+	33.08
AD7243AN	ADI	886	1+	11.96	...	...
AD7243BN	ADI	886	1+	15.94	10+	14.49
AD7245AAN	ADI	887	1+	17.20	10+	15.63
AD7245AAR	ADI	...	1+	17.20	10+	15.63
AD7245ABN	ADI	887	1+	22.32	10+	20.29
AD7245ATQ	ADI	887	1+	75.72	25+	56.13
AD7245JN	ADI	...	1+	22.43	10+	20.39
AD7247JN	ADI	887	1+	31.01	10+	28.19
AD7248AAN	ADI	887	1+	17.20	10+	15.63
AD7248AQ	ADI	...	1+	31.38	25+	23.26
AD7248JN	ADI	...	1+	22.43	10+	20.39
AD7249AN	ADI	...	1+	20.38	10+	18.53
AD724JR	ADI	...	1+	9.85	10+	8.96
AD725AR	ADI	...	1+	8.08	...	...
AD7302BN	ADI	887	1+	7.62	100+	6.56
AD7303BN	ADI	887	1+	5.74	10+	4.99
AD7303BR	ADI	887	1+	5.74	10+	4.99
AD7304BN	ADI	...	1+	12.28	100+	10.58
AD7304BR	ADI	...	1+	11.87	100+	10.22
AD7305BN	ADI	...	1+	14.22	100+	12.24
AD7305BR	ADI	...	1+	13.74	100+	11.83
AD73311AR	ADI	...	1+	7.58	10+	6.89
AD73311ARS	ADI	...	1+	10.02	10+	9.11
AD7339BS	ADI	...	1+	27.42	25+	24.07
AD734AN	ADI	890	1+	21.62	10+	19.66
AD734AQ	ADI	890	1+	24.87	10+	22.61
AD734BN	ADI	...	1+	36.61	10+	33.28
AD734BQ	ADI	890	1+	42.07	10+	38.25
AD736AQ	ADI	...	1+	13.22	10+	12.02
AD736BQ	ADI	...	1+	15.87	10+	14.43
AD736JN	ADI	...	1+	6.79	10+	6.17
AD736JR	ADI	...	1+	6.79	10+	6.17
AD736KN	ADI	...	1+	12.15	10+	11.05
AD7376AN10	ADI	...	1+	7.76	100+	6.68
AD7376AN50	ADI	...	1+	7.50	100+	6.46
AD7376AR50	ADI	...	1+	7.50	100+	6.46
AD737BQ	ADI	...	1+	22.00	25+	16.31
AD737JN	ADI	...	1+	7.72	10+	7.02
AD737JR	ADI	...	1+	7.05	25+	5.23
AD7390AN	ADI	886	1+	14.73	100+	12.68
AD7390AR	ADI	886	1+	14.73	100+	12.68
AD7391AN	ADI	886	1+	8.66	100+	7.46
AD7391AR	ADI	886	1+	8.47	100+	7.46
AD7392AN	ADI	886	1+	15.65	100+	13.48
AD7392AR	ADI	886	1+	15.65	100+	13.48
AD7393AN	ADI	886	1+	9.12	100+	7.85
AD7393AR	ADI	886	1+	9.12	100+	7.85
AD7394AN	ADI	...	1+	11.15	10+	10.13
AD7394AR	ADI	...	1+	11.15	10+	10.13
AD7395AN	ADI	887	1+	10.08	100+	8.68
AD7416AR	ADI	...	1+	4.75	100+	4.09
AD741CH	ADI	...	1+	6.25	25+	4.63
AD741JH	ADI	...	1+	4.15	25+	3.08
AD741KH	ADI	881	1+	6.52	25+	4.83
AD741KN	ADI	881	1+	4.89	25+	3.62
AD741LN	ADI	...	1+	15.34	25+	11.37
AD743BQ	ADI	880	1+	21.05	25+	15.60
AD743JN	ADI	881	1+	6.30	10+	5.73
AD743KN	ADI	881	1+	13.18	25+	9.77
AD743KR-16	ADI	...	1+	14.48	25+	10.73
AD744AH	ADI	...	1+	7.34	25+	5.44
AD744JN	ADI	881	1+	5.36	10+	4.66
AD744JR	ADI	881	1+	5.90	10+	5.13
AD744KN	ADI	...	1+	7.29	10+	6.63
AD744KR	ADI	...	1+	8.02	10+	7.29
AD745AN	ADI	881	1+	9.65	25+	7.16
AD745JN	ADI	881	1+	8.77	25+	6.50
AD745JR-16-REEL7	ADI	880	1+	9.65	25+	7.16
AD746AQ	ADI	881	1+	13.86	25+	10.27
AD746BQ	ADI	...	1+	20.13	25+	14.92
AD746JN	ADI	881	1+	9.68	10+	8.80
AD746JR	ADI	...	1+	9.68	10+	8.80
AD75004KN	ADI	...	1+	60.49	10+	54.99
AD75004KP	ADI	887	1+	60.49	10+	54.99
AD75019JP	ADI	...	1+	23.91	10+	21.74
AD7501JN	ADI	...	1+	12.22	10+	11.11
AD7501KN	ADI	...	1+	12.65	10+	11.50
AD7501KQ	ADI	...	1+	30.23	25+	22.41
AD7501SQ	ADI	888	1+	39.64	25+	29.38
AD7502JN	ADI	888	1+	12.22	10+	11.11
AD7502JQ	ADI	...	1+	29.57	25+	21.92
AD7502KN	ADI	...	1+	17.57	10+	15.97
AD7503JN	ADI	...	1+	12.22	10+	11.11
AD7503KN	ADI	888	1+	17.57	10+	15.97
AD7506JN	ADI	...	1+	17.54	10+	15.94
AD7507JN	ADI	...	1+	30.91	25+	22.91
AD7507KN	ADI	...	1+	32.24	25+	23.90
AD7507KQ	ADI	...	1+	60.48	25+	44.83
AD7510DIJN	ADI	...	1+	11.02	10+	10.02
AD7510DIKN	ADI	...	1+	12.40	10+	11.28
AD7510DIKP	ADI	888	1+	19.81	25+	14.68
AD7511DIJN	ADI	...	1+	11.02	10+	10.02
AD7511DIKN	ADI	...	1+	12.40	10+	11.28
AD7511DIKQ	ADI	...	1+	32.24	25+	23.90
AD7512D1KN	ADI	...	1+	12.40	10+	11.28
AD7512DIJN	ADI	...	1+	11.02	10+	10.02
AD7512DIKN	ADI	...	1+	12.40	10+	11.28
AD7512DIKQ	ADI	...	1+	25.35	10+	23.04
AD7512DITQ	ADI	...	1+	34.44	10+	31.31
AD7520JN	HRS	899	1+	5.84	25+	5.37
AD7520LN	ADI	...	1+	53.73	25+	39.83
AD7521JN	HRS	899	1+	7.06	10+	6.58
AD7522JN	ADI	...	1+	19.64	10+	17.86
AD7522LN	ADI	...	1+	26.19	10+	23.81
AD7523JN	HRS	899	1+	3.53	25+	3.25
AD7524AQ	ADI	886	1+	16.15	10+	14.68
AD7524BQ	ADI	...	1+	20.43	25+	15.14
AD7524JN	ADI	886	1+	8.54	10+	7.77
AD7524JR	ADI	...	1+	10.14	10+	9.22
AD7524LN	ADI	...	1+	14.24	10+	12.94
AD7524SQ	ADI	...	1+	46.03	25+	34.12
AD7525KN	ADI	...	1+	33.34	10+	30.31
AD7525LN	ADI	...	1+	46.36	25+	34.36
AD7528CQ	ADI	...	1+	32.62	25+	24.18
AD7528JN	ADI	887	1+	11.16	10+	10.15
AD7528JR-REEL7	ADI	...	1+	11.78	100+	10.14
AD7528KN	ADI	887	1+	11.62	10+	10.56
AD7528LN	ADI	...	1+	18.68	10+	16.98
AD7528TQ	ADI	887	1+	48.28	25+	35.79
AD7533JP	ADI	886	1+	10.22	25+	7.57
AD7533KN	HRS	899	1+	3.38	25+	3.11
AD7533LN	ADI	...	1+	8.00	10+	7.27
AD7533UQ	ADI	...	1+	48.22	25+	35.75
AD7534JN	ADI	...	1+	31.85	10+	28.95
AD7535JN	ADI	...	1+	35.58	10+	32.35
AD7535JP	ADI	886	1+	47.75	25+	35.40
AD7536JN	ADI	886	1+	46.27	25+	34.30
AD7537CQ	ADI	...	1+	69.12	25+	51.24
AD7537JN	ADI	887	1+	27.25	10+	24.77
AD7537LN	ADI	...	1+	43.21	10+	39.28
AD7537UQ	ADI	...	1+	207.59	25+	153.88
AD7538JN	ADI	886	1+	19.76	10+	17.96
AD7541AAQ	ADI	...	1+	17.91	10+	16.28
AD7541AJN	ADI	...	1+	14.63	10+	13.30
AD7541AKN	ADI	...	1+	16.28	10+	14.80
AD7541JN	HRS	899	1+	10.73	10+	10.00
AD7541KN	HRS	...	1+	10.95	10+	10.20
AD7542GKN	ADI	886	1+	46.06	25+	34.15
AD7542JN	ADI	...	1+	24.37	10+	22.15
AD7542KN	ADI	...	1+	26.87	10+	24.43
AD7542KR	ADI	...	1+	34.99	25+	25.94
AD7543AQ	ADI	...	1+	42.13	25+	31.23
AD7543BQ	ADI	...	1+	45.80	25+	33.95
AD7543JN	ADI	...	1+	24.37	10+	22.15
AD7543JP	ADI	...	1+	33.31	25+	24.69
AD7543KN	ADI	886	1+	26.87	10+	24.43
AD7545AKN	ADI	...	1+	12.93	10+	11.75
AD7545AQ	ADI	...	1+	23.21	25+	17.21
AD7545JN	ADI	...	1+	15.03	10+	13.67
AD7545LN	ADI	886	1+	21.52	10+	19.57
AD7547JN	ADI	...	1+	27.27	10+	24.79
AD7547KN	ADI	...	1+	31.94	10+	29.04
AD7547LR	ADI	...	1+	51.07	25+	37.85
AD7548JN	ADI	...	1+	17.81	10+	16.19
AD7548JP	ADI	...	1+	21.07	10+	19.15
AD7548KN	ADI	...	1+	21.60	10+	19.64
AD7564ARS-B	ADI	...	1+	22.32	10+	20.29
AD7569BN	ADI	...	1+	21.49	25+	15.93
AD7569JN	ADI	886	1+	13.64	10+	12.40
AD7574AQ	ADI	884	1+	28.24	25+	20.94
AD7574JN	ADI	...	1+	15.66	10+	14.24
AD7574KN	ADI	884	1+	22.00	25+	16.31
AD7574SQ	ADI	...	1+	53.73	25+	39.83
AD7576AQ	ADI	...	1+	14.66	25+	10.87
AD7579JN	ADI	...	1+	20.46	10+	18.60
AD7579KN	ADI	...	1+	40.11	25+	29.74
AD7581JN	ADI	...	1+	25.34	10+	23.03
AD7582KN	ADI	...	1+	47.41	10+	43.10
AD7590DIKN	ADI	...	1+	11.22	10+	10.20
AD7592DIKN	ADI	...	1+	18.89	10+	17.17

NEW TYPES ARE BEING CONTINUALLY ADDED TO INVENTORY.

CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR AVAILABILITY.

Type	Mfg.	Pg.	Qty.	$	Qty.	$
AD760AQ	ADI	...	1+	83.68	10+	79.70
AD7628KN	ADI	...	1+	4.82	10+	4.20
AD7628KP	ADI	887	1+	5.45	25+	4.04
AD7628KR	ADI	887	1+	5.45	25+	4.04
AD7628TQ	ADI	887	1+	34.07	25+	25.26
AD7669JN	ADI	...	1+	21.57	10+	19.61
AD766AN	ADI	886	1+	30.38	10+	27.62
AD766JN	ADI	886	1+	23.05	10+	20.95
AD7672KN05	ADI	884	1+	97.69	25+	72.41
AD767BD	ADI	...	1+	50.63	10+	46.03
AD767JN	ADI	886	1+	24.68	10+	22.43
AD767KN	ADI	886	1+	32.57	10+	29.61
AD768AR	ADI	887	1+	83.97	3+	75.71
AD7701AN	ADI	...	1+	23.91	10+	21.74
AD7701TQ	ADI	...	1+	219.79	25+	162.92
AD7705BN	ADI	...	1+	14.39	100+	12.39
AD7705BR	ADI	...	1+	14.39	100+	12.39
AD7706BN	ADI	...	1+	14.39	100+	12.39
AD7706BR	ADI	...	1+	14.39	100+	12.39
AD7710AN	ADI	884	1+	32.98	25+	28.96
AD7712AN	ADI	884	1+	27.18	10+	24.71
AD7713AR	ADI	...	1+	33.32	10+	30.29
AD7714AN-5	ADI	884	1+	17.61	10+	16.01
AD7714AR-5	ADI	884	1+	17.61	10+	16.01
AD7714ARS-5	ADI	884	1+	16.87	...	...
AD7715AN-5	ADI	884	1+	10.60	...	...
AD7716BP	ADI	884	1+	66.95	10+	63.76
AD7720BRU	ADI	...	1+	23.05	25+	20.24
AD7722AS	ADI	884	1+	46.64	10+	39.50
AD7723BS	ADI	884	1+	60.96	10+	51.63
AD7730BN	ADI	884	1+	28.16	25+	24.73
AD7731BN	ADI	884	1+	34.02	25+	29.87
AD7731BR	ADI	884	1+	34.02	25+	29.87
AD774BJN	ADI	...	1+	46.57	10+	42.34
AD7750AN	ADI	...	1+	7.76	10+	7.05
AD775JN	ADI	...	1+	15.94	10+	14.49
AD7769JN	ADI	...	1+	32.57	25+	24.14
AD779JN	ADI	885	1+	57.32	10+	52.11
AD7801BR	ADI	886	1+	6.84	100+	5.89
AD7804BN	ADI	...	1+	17.78	100+	15.31
AD7805BR	ADI	887	1+	19.37	100+	16.68
AD7805BRS	ADI	887	1+	19.37	100+	16.68
AD780AN	ADI	889	1+	10.27	100+	8.85
AD780AR	ADI	889	1+	6.22	10+	5.66
AD780BN	ADI	889	1+	10.36	10+	9.42
AD780BR	ADI	889	1+	10.36	10+	9.42
AD7810YN	ADI	885	1+	8.97	100+	7.72
AD7811YN	ADI	...	1+	10.99	100+	9.46
AD7812YN	ADI	...	1+	12.51	100+	10.77
AD7813YN	ADI	885	1+	9.33	100+	8.03
AD7816AR	ADI	...	1+	4.92	100+	4.24
AD7817AR	ADI	...	1+	11.17	100+	9.62
AD7818AR	ADI	...	1+	10.60	100+	9.12
AD7819YN	ADI	...	1+	7.39	100+	6.36
AD781JN	ADI	...	1+	10.52	10+	9.57
AD7820CQ	ADI	...	1+	51.15	25+	37.92
AD7820KN	ADI	...	1+	18.68	10+	16.98
AD7820TQ	ADI	...	1+	97.33	25+	72.15
AD7821KN	ADI	885	1+	18.68	10+	16.98
AD7821TQ	ADI	...	1+	97.33	25+	72.15
AD7822BN	ADI	...	1+	11.17	100+	9.62
AD7823YN	ADI	885	1+	7.14	100+	6.15
AD7824KN	ADI	885	1+	19.64	10+	17.86
AD7825BN	ADI	...	1+	12.88	100+	11.09
AD7827BN	ADI	...	1+	9.84	100+	8.47
AD7828BR	ADI	885	1+	24.34	25+	18.04
AD7828KN	ADI	885	1+	20.55	10+	18.69
AD7829BN	ADI	...	1+	14.01	100+	12.07
AD7834BN	ADI	887	1+	82.22	10+	69.64
AD7834BR	ADI	...	1+	82.22	10+	69.64
AD7835AS	ADI	...	1+	68.43	10+	57.95
AD7836AS	ADI	887	1+	68.43	10+	57.95
AD7837BN	ADI	887	1+	36.39	10+	33.08
AD783JQ	ADI	...	1+	22.42	10+	20.38
AD783JR	ADI	...	1+	21.29	10+	19.36
AD7840AQ	ADI	...	1+	31.38	10+	28.53
AD7840JN	ADI	886	1+	21.70	10+	19.73
AD7845JN	ADI	886	1+	13.89	10+	12.63
AD7845JP	ADI	886	1+	18.89	25+	14.00
AD7845JR	ADI	...	1+	16.43	25+	12.18
AD7845KN	ADI	886	1+	24.27	10+	22.06
AD7845KP	ADI	...	1+	25.43	25+	18.85
AD7845KR	ADI	...	1+	22.09	25+	16.37
AD7846JN	ADI	886	1+	39.27	10+	35.70
AD7846JP	ADI	...	1+	43.21	10+	39.28
AD7846KN	ADI	886	1+	49.60	10+	45.09
AD7846KP	ADI	...	1+	49.60	10+	45.09
AD7847AN	ADI	...	1+	31.01	10+	28.19
AD7847BN	ADI	...	1+	36.39	10+	33.08
AD7851AN	ADI	...	1+	29.21	25+	25.65
AD7851AR	ADI	...	1+	29.21	25+	25.65
AD7853LAN	ADI	...	1+	15.48	10+	12.90
AD7853LAR	ADI	...	1+	15.48	10+	12.90
AD7853LBN	ADI	...	1+	31.79	25+	24.47
AD7853LBR	ADI	...	1+	20.19	10+	16.82
AD7854AR	ADI	...	1+	31.11	25+	27.31
AD7854LAR	ADI	...	1+	24.74	25+	21.72
AD7856AN	ADI	...	1+	31.78	100+	27.36
AD7856AR	ADI	...	1+	31.78	100+	27.36
AD7858LBN	ADI	...	1+	17.94	...	...
AD7859LAS	ADI	...	1+	29.02	25+	25.47
AD7862AN-10	ADI	885	1+	35.30	25+	30.99
AD7862AN-3	ADI	885	1+	35.30	25+	30.99
AD7862AR-10	ADI	...	1+	35.30	25+	30.99
AD7862AR-2	ADI	...	1+	35.30	25+	30.99
AD7862AR-3	ADI	...	1+	35.30	25+	30.99
AD7863AR-10	ADI	885	1+	45.54	25+	39.98
AD7864AS-1	ADI	...	1+	43.98	25+	38.62
AD7870BQ	ADI	...	1+	80.58	25+	59.73
AD7870CQ	ADI	...	1+	96.71	25+	71.69
AD7870JN	ADI	885	1+	37.20	10+	33.82
AD7870KN	ADI	885	1+	45.46	10+	41.33
AD7871JN	ADI	...	1+	57.32	10+	52.11
AD7872JN	ADI	885	1+	54.00	10+	49.09
AD7874AN	ADI	885	1+	63.65	10+	57.86
AD7874AQ	ADI	...	1+	107.16	25+	79.43
AD7874SQ	ADI	...	1+	283.70	25+	210.30
AD7875KN	ADI	885	1+	50.01	10+	45.46
AD7875LN	ADI	...	1+	80.61	25+	59.75
AD7876BN	ADI	885	1+	34.72	10+	31.56
AD7878JN	ADI	...	1+	80.25	25+	59.49
AD7880BN	ADI	885	1+	31.83	10+	28.93
AD7884AP	ADI	885	1+	75.32	10+	71.73
AD7884AQ	ADI	...	1+	75.32	10+	71.73
AD7884BP	ADI	885	1+	87.03	10+	82.89
AD7885AQ	ADI	...	1+	88.37	10+	74.84
AD7890AN-10	ADI	...	1+	21.17	25+	18.58
AD7891AP-1	ADI	885	1+	49.43	25+	43.40
AD7891AS-1	ADI	885	1+	49.43	25+	43.40
AD7892AN-1	ADI	...	1+	23.91	10+	21.74
AD7892AR-1	ADI	885	1+	23.91	10+	21.74
AD7892BR-1	ADI	...	1+	28.69	...	...
AD7893AN-10	ADI	885	1+	17.54	10+	15.94
AD7893AN-2	ADI	...	1+	17.54	10+	15.94
AD7893BN-10	ADI	...	1+	22.71	10+	20.64
AD7895AN-10	ADI	885	1+	16.99	100+	14.63
AD7895AN-2	ADI	885	1+	16.99	100+	14.63
AD7895AN-3	ADI	885	1+	16.99	100+	14.63
AD7895AR-10	ADI	...	1+	16.99	100+	14.63
AD7895AR-2	ADI	...	1+	16.99	100+	14.63
AD7895AR-3	ADI	...	1+	16.99	100+	14.63
AD7896AN	ADI	...	1+	13.46	...	...
AD790AQ	ADI	...	1+	13.11	10+	11.92
AD790BQ	ADI	...	1+	17.56	10+	15.96
AD790JN	ADI	881	1+	6.72	10+	6.11
AD790JR	ADI	881	1+	5.90	10+	5.37
AD790KN	ADI	...	1+	9.01	10+	8.19
AD7943ARS-B	ADI	...	1+	8.43	10+	7.66
AD7943BR	ADI	...	1+	8.43	10+	7.66
AD7945BN	ADI	886	1+	8.43	10+	7.66
AD795JN	ADI	...	1+	6.79	10+	5.90
AD795JR	ADI	881	1+	5.36	10+	4.66
AD795KN	ADI	881	1+	8.50	10+	7.73
AD797AN	ADI	880	1+	6.30	10+	5.73
AD797AR	ADI	880	1+	6.30	10+	5.73
AD797BN	ADI	880	1+	9.45	10+	8.59
AD797BR	ADI	880	1+	9.45	10+	8.59
AD8001AN	ADI	...	1+	8.52	100+	7.34
AD8001AR	ADI	882	1+	8.52	100+	7.34
AD8002AN	ADI	...	1+	4.69	10+	4.27
AD8002AR	ADI	882	1+	4.69	10+	4.27
AD8004AN	ADI	880	1+	12.24	100+	10.54
AD8004AR-14	ADI	880	1+	12.24	100+	10.54
AD8005AN	ADI	882	1+	3.86	100+	3.32
AD8005AR	ADI	882	1+	3.86	100+	3.32
AD8009AR	ADI	...	1+	9.26	100+	7.97
AD8010AN	ADI	...	1+	8.52	100+	7.34
AD8010AR	ADI	...	1+	8.23	100+	7.09
AD8010AR-16	ADI	...	1+	9.28	100+	7.99
AD8011AN	ADI	...	1+	3.82	10+	3.33
AD8011AR	ADI	...	1+	3.82	10+	3.33
AD8012AR	ADI	...	1+	7.09	100+	6.10
AD8013AN	ADI	882	1+	7.04	10+	6.40
AD8023AR	ADI	...	1+	12.35	100+	10.64
AD8026AR	ADI	...	1+	10.46	100+	9.01
AD8031AN	ADI	...	1+	2.55	10+	2.22
AD8031AR	ADI	...	1+	2.55	10+	2.22
AD8031BN	ADI	...	1+	4.27	10+	3.71
AD8031BR	ADI	...	1+	4.27	10+	3.71
AD8032AN	ADI	...	1+	3.82	10+	3.33
AD8032BN	ADI	...	1+	5.91	10+	5.38
AD8032BR	ADI	...	1+	5.91	10+	5.38
AD8036AN	ADI	...	1+	7.73	10+	7.03
AD8036AR	ADI	...	1+	7.73	10+	7.03
AD8037AN	ADI	...	1+	7.73	10+	7.03
AD8037AR	ADI	...	1+	7.73	10+	7.03
AD8041AN	ADI	...	1+	4.64	100+	4.00
AD8041AR	ADI	...	1+	4.64	100+	4.00
AD8042AN	ADI	...	1+	6.97	100+	6.00
AD8042AR	ADI	...	1+	6.97	100+	6.00
AD8044AN	ADI	...	1+	12.24	100+	10.54
AD8044AR-14	ADI	...	1+	12.24	100+	10.54
AD8047-EB	ADI	...	1+	42.70	10+	38.82
AD8047AN	ADI	880	1+	3.82	10+	3.33
AD8047AR	ADI	...	1+	3.82	10+	3.33
AD8048-EB	ADI	...	1+	42.70	10+	38.82
AD8048AN	ADI	880	1+	3.82	10+	3.33
AD8051AR	ADI	882	1+	2.76	100+	2.40
AD8052AR	ADI	882	1+	4.97	100+	4.28
AD8052ARM	ADI	...	1+	4.97	100+	4.28
AD8054AR	ADI	882	1+	8.82	100+	7.59
AD8055AN	ADI	882	1+	2.63	100+	2.27
AD8055AR	ADI	...	1+	2.63	100+	2.27
AD8056AN	ADI	882	1+	4.97	100+	4.28
AD8056AR	ADI	...	1+	4.80	100+	4.13
AD8072JN	ADI	882	1+	2.94	10+	2.56
AD8072JR	ADI	882	1+	2.94	10+	2.56
AD8073JN	ADI	882	1+	3.82	10+	3.33
AD8073JR	ADI	882	1+	3.82	10+	3.33
AD8079AR	ADI	882	1+	6.56	10+	5.97
AD8079BR	ADI	882	1+	6.56	10+	5.97
AD809BR	ADI	...	1+	10.25	10+	9.32
AD8108AST	ADI	888	1+	57.84	10+	48.99
AD8109AST	ADI	888	1+	57.84	10+	48.99
AD810AN	ADI	882	1+	4.09	10+	3.55
AD8110AST	ADI	888	1+	93.54	...	...
AD8111AST	ADI	888	1+	93.54	...	...
AD8116JST	ADI	888	1+	153.43	25+	131.51
AD811AN	ADI	882	1+	3.31	50+	3.04
AD811AR-16	ADI	...	1+	5.88	10+	5.34
AD811JR	ADI	882	1+	3.31	50+	3.04
AD812AN	ADI	880	1+	4.87	10+	4.24
AD812AR	ADI	...	1+	4.87	10+	4.24
AD813AN	ADI	...	1+	7.02	10+	6.38
AD813AR-14	ADI	...	1+	7.02	10+	6.38
AD815ARB-24	ADI	879	1+	8.46	10+	7.69
AD815AY	ADI	879	1+	10.58	10+	9.62
AD8170AN	ADI	888	1+	6.97	100+	6.00
AD8170AR	ADI	888	1+	6.97	100+	6.00
AD8174AN	ADI	888	1+	12.24	100+	10.54
AD8174AR	ADI	888	1+	12.24	100+	10.54
AD817AN	ADI	882	1+	2.99	10+	2.60
AD817AR	ADI	882	1+	2.99	10+	2.60
AD8180AN	ADI	888	1+	6.03	100+	5.19
AD8180AR	ADI	888	1+	6.03	100+	5.19
AD8184AN	ADI	...	1+	6.58	100+	5.67
AD818AN	ADI	...	1+	3.32	10+	2.89
AD818AR	ADI	882	1+	3.32	10+	2.89
AD820AN	ADI	881	1+	2.75	100+	2.37
AD820AR	ADI	881	1+	2.61	100+	2.25
AD820BN	ADI	881	1+	3.90	100+	3.36
AD820BR	ADI	881	1+	3.90	100+	3.36
AD822AN	ADI	...	1+	2.61	50+	2.40
AD822AR	ADI	...	1+	2.61	50+	2.40
AD822BN	ADI	...	1+	3.92	50+	3.60
AD822BR	ADI	...	1+	3.92	50+	3.60
AD823AN	ADI	...	1+	4.23	10+	3.84
AD823AR	ADI	...	1+	4.42	10+	3.84
AD824AN	ADI	883	1+	6.41	10+	5.83
AD824AR-14	ADI	883	1+	6.41	10+	5.83
AD824BN	ADI	883	1+	9.66	10+	8.78
AD825AR	ADI	...	1+	5.10	100+	4.40
AD826AN	ADI	...	1+	4.12	10+	3.59
AD826AR	ADI	882	1+	4.12	10+	3.59
AD827JN	ADI	882	1+	12.09	10+	11.00
AD827SQ	ADI	...	1+	33.86	10+	30.78
AD828AN	ADI	882	1+	4.12	10+	3.59
AD828AR	ADI	882	1+	4.12	10+	3.59
AD829AQ	ADI	880	1+	6.78	10+	6.16
AD829JN	ADI	882	1+	4.92	10+	4.28
AD829JR	ADI	882	1+	4.92	10+	4.28
AD8307-EB	ADI	...	1+	52.50	10+	50.00
AD8307AN	ADI	...	1+	18.10	100+	15.58
AD8307AR	ADI	...	1+	17.49	100+	15.06
AD830AN	ADI	882	1+	4.20	100+	3.62
AD830JR	ADI	882	1+	4.20	100+	3.62
AD831AP	ADI	...	1+	11.07	10+	10.06
AD8320ARP	ADI	...	1+	23.26	25+	20.42
AD834JN	ADI	890	1+	27.33	10+	24.84
AD834JR	ADI	890	1+	27.33	10+	24.84
AD835AN	ADI	890	1+	20.38	10+	18.53
AD835AR	ADI	890	1+	20.38	10+	18.53
AD8400AN50	ADI	891	1+	2.31	10+	2.01
AD8402AN1	ADI	891	1+	5.13	100+	4.42
AD8402AN10	ADI	891	1+	3.04	...	...
AD8402AN100	ADI	891	1+	3.04	...	...
AD8402AN50	ADI	891	1+	5.13	100+	4.42
AD8402AR1	ADI	891	1+	5.13	100+	4.42
AD8402AR10	ADI	891	1+	3.04	...	...
AD8402AR100	ADI	891	1+	5.13	100+	4.42
AD8402AR50	ADI	891	1+	5.13	100+	4.42
AD8403AN10	ADI	891	1+	5.44	...	...
AD8403AN50	ADI	891	1+	9.21	100+	7.93
AD8403AR10	ADI	887	1+	4.59	...	...
AD840JN	ADI	882	1+	9.21	25+	6.83
AD840KN	ADI	...	1+	10.51	25+	7.79
AD840KQ	ADI	...	1+	15.69	25+	11.63
AD841JN	ADI	882	1+	9.45	10+	8.59
AD841KN	ADI	882	1+	10.51	25+	7.79
AD842JH	ADI	...	1+	31.14	25+	23.09
AD842JN	ADI	882	1+	10.65	10+	9.68
AD842JR-16	ADI	...	1+	11.65	10+	10.59
AD843AQ	ADI	882	1+	14.91	10+	13.55
AD843JN	ADI	882	1+	10.90	10+	9.91

Manufacturer Abbreviations:

ADI: Analog Devices; **ALG:** Allegro; **ALT:** Altera; **AMD:** Advanced Micro Devices; **AND:** AND; **APD:** American Power Devices; **DAL:** Dallas Semiconductor; **ECG:** Philips ECG; **FGR:** Fagor; **GS:** General Semiconductor; **HP:** Hewlett Packard; **HRS:** Harris Semiconductor; **HWL:** Honeywell Opto; **INT:** Intronics; **IR:** International Rectifier; **MIC:** Micrel; **MOT:** Motorola; **NAT:** National Semiconductor; **OPT:** Optek; **PHL:** Phillips Semiconductors; **PWX:** Powerex; **QT:** QT Optoelectronics; **SKN:** Semikron; **SPC:** SPC Technology; **TI:** Texas Instruments; **TSK:** Thomson SK; **VAC:** EG&G Vactec; **VAN:** Vantis; **ZIL:** Zilog

Type	Mfg.	Pg.	Qty.	$	Qty.	$
AD843KN	ADI	882	1+	12.40	10+	11.28
AD844AN	ADI	882	1+	5.41	10+	4.70
AD844JR-16	ADI	...	1+	6.23	10+	5.42
AD845JN	ADI	...	1+	5.97	10+	5.19
AD845JR-16	ADI	...	1+	6.28	10+	5.71
AD846AN	ADI	882	1+	15.66	10+	14.24
AD846BN	ADI	880	1+	18.66	10+	16.97
AD846BQ	ADI	880	1+	18.79	...	...
AD847AQ	ADI	...	1+	9.68	10+	8.80
AD847AR	ADI	...	1+	7.39	10+	6.72
AD847JN	ADI	882	1+	6.72	10+	6.11
AD847JR	ADI	882	1+	6.72	10+	6.11
AD848JR	ADI	882	1+	7.06	10+	6.42
AD848SQ	ADI	...	1+	34.81	25+	25.81
AD849JN	ADI	880	1+	6.55	25+	4.85
AD8522AN	ADI	887	1+	17.00	10+	15.46
AD8531AR	ADI	879	1+	1.61	10+	1.40
AD8532AN	ADI	879	1+	1.97	10+	1.71
AD8532AR	ADI	879	1+	1.97	10+	1.71
AD8534AN	ADI	879	1+	2.86	10+	2.49
AD8534AR	ADI	879	1+	2.86	10+	2.49
AD8561AN	ADI	881	1+	3.25	10+	2.82
AD8600AP	ADI	887	1+	60.12	10+	54.65
AD876JR	ADI	884	1+	7.85	25+	6.89
AD8802AR	ADI	...	1+	5.69	10+	5.17
AD9012AQ	ADI	884	1+	133.89	25+	100.42
AD9042AD	ADI	884	1+	207.00	25+	194.07
AD9042AST	ADI	884	1+	53.80	10+	48.91
AD9048JQ	ADI	884	1+	51.65	10+	46.95
AD9051BRS	ADI	...	1+	15.40	10+	14.00
AD9054BST-200	ADI	884	1+	101.78	...	...
AD9057BRS-40	ADI	884	1+	10.67	100+	9.18
AD9057BRS-60	ADI	884	1+	12.24	100+	10.54
AD9057BRS-80	ADI	884	1+	27.03	25+	23.73
AD9058JJ	ADI	884	1+	63.37	10+	60.35
AD9058KJ	ADI	...	1+	85.86	10+	81.77
AD9059BRS	ADI	884	1+	43.15	25+	37.88
AD9070BR	ADI	884	1+	112.46	...	...
AD9071BR	ADI	884	1+	112.46	...	...
AD9100JD	ADI	...	1+	132.21	25+	113.33
AD9200JRS	ADI	884	1+	8.48	100+	7.30
AD9200JST	ADI	884	1+	16.33	100+	14.06
AD9201ARS	ADI	884	1+	12.48	10+	11.34
AD9202JRS	ADI	884	1+	14.88	100+	12.81
AD9220AR	ADI	884	1+	43.87	25+	38.52
AD9223AR	ADI	884	1+	37.59	25+	33.00
AD9225AR	ADI	884	1+	43.86	25+	38.51
AD9240AS	ADI	884	1+	158.92	...	...
AD9241AS	ADI	884	1+	35.61	...	...
AD9243AS	ADI	884	1+	116.93	...	...
AD9260AS	ADI	884	1+	78.88	10+	75.12
AD9280ARS	ADI	884	1+	9.91	100+	8.53
AD9281ARS	ADI	884	1+	9.98	10+	9.07
AD9283BRS-100	ADI	884	1+	24.29	25+	21.32
AD9300KQ	ADI	...	1+	16.03	10+	14.58
AD9483KS-100	ADI	884	1+	51.40	10+	43.53
AD9501JN	ADI	...	1+	15.67	10+	14.25
AD9561JR	ADI	...	1+	12.45	10+	11.31
AD9617JN	ADI	882	1+	15.94	10+	14.49
AD9617JR	ADI	882	1+	15.94	10+	14.49
AD9618AQ	ADI	880	1+	37.89	25+	28.09
AD9618JN	ADI	880	1+	20.72	25+	15.36
AD9618JR	ADI	880	1+	20.72	25+	15.36
AD9630AN	ADI	882	1+	12.81	10+	11.65
AD9630AR	ADI	882	1+	12.81	10+	11.65
AD9631AN	ADI	882	1+	7.73	10+	7.03
AD9631AR	ADI	882	1+	7.73	10+	7.03
AD9632AN	ADI	...	1+	7.73	10+	7.03
AD9632AR	ADI	882	1+	7.73	10+	7.03
AD96685BH	ADI	...	1+	10.09	10+	9.17
AD96685BQ	ADI	...	1+	9.42	10+	8.56
AD96687BQ	ADI	881	1+	10.09	10+	9.17
AD96687BR	ADI	...	1+	7.04	10+	6.12
AD9701BQ	ADI	886	1+	41.95	25+	31.10
AD9701SQ	ADI	...	1+	104.85	25+	77.72
AD9708AR	ADI	887	1+	11.44	100+	9.85
AD9713BAN	ADI	...	1+	60.86	10+	57.96
AD9721BN	ADI	886	1+	32.88	10+	31.31
AD9731BR	ADI	887	1+	15.15	10+	13.77
AD9732BRS	ADI	887	1+	16.10	10+	14.63
AD9761ARS	ADI	...	1+	20.19	...	...
AD9762AR	ADI	...	1+	41.91	25+	36.80
AD9764AR	ADI	887	1+	32.69	...	...
AD9768JD	ADI	...	1+	56.19	25+	41.65
AD976AAN	ADI	885	1+	71.33	10+	60.41
AD976AAR	ADI	...	1+	71.33	10+	60.41
AD976AN	ADI	885	1+	38.18	10+	32.34
AD976AR	ADI	...	1+	38.18	10+	32.34
AD9774AS	ADI	887	1+	61.16	10+	51.80
AD977AAN	ADI	885	1+	68.92	10+	58.37
AD977AN	ADI	...	1+	38.18	10+	32.34
AD9830AST	ADI	...	1+	29.41	25+	25.82
AD9831AST	ADI	...	1+	19.35	100+	16.66
AD9832BRU	ADI	...	1+	14.95	100+	12.87
AD9850/CGPCB	ADI	...	1+	258.75	25+	258.75
AD9850/FSPCB	ADI	...	1+	258.75	25+	258.75
AD9850BRS	ADI	...	1+	38.76	25+	34.03
AD9853AS	ADI	...	1+	52.34	10+	44.33

Type	Mfg.	Pg.	Qty.	$	Qty.	$
AD9901KP	ADI	...	1+	7.02	10+	6.38
AD9901KQ	ADI	...	1+	11.53	10+	10.48
ADADC80-12	ADI	...	1+	110.71	25+	92.92
ADC0802LCN	HRS	898	1+	10.19	10+	9.50
ADC0803LCN	HRS	898	1+	7.35	10+	6.85
ADC0804LCN	NAT	...	1+	2.60	25+	1.95
ADC0808CCN	NAT	...	1+	4.96	25+	3.72
ADC0809CCN	NAT	...	1+	4.38	25+	3.29
ADC0817CCN	NAT	...	1+	8.45	25+	6.35
ADC0820CCIN	TI	...	1+	13.67	10+	12.92
ADC0820CCN	TI	...	1+	11.39	10+	10.77
ADC0831CCN	NAT	...	1+	2.36	25+	1.77
ADC08351CIMTC	NAT	...	1+	6.63	10+	6.18
ADC0838CCN	NAT	...	1+	10.08	25+	6.89
ADC0844CCN	NAT	...	1+	3.92	25+	2.94
ADC0848CCN	NAT	...	1+	4.29	25+	3.22
ADC1140	INT	917	1+	299.12	...	...
ADC1143J	INT	...	1+	373.64	...	...
ADC1143K	INT	...	1+	429.53	...	...
ADC1175-50CIJM	NAT	...	1+	7.67	10+	7.14
ADC1175-50CIMT	NAT	...	1+	7.67	10+	7.14
ADC12281CIVT	NAT	...	1+	32.82	5+	31.25
ADC12H030CIN	NAT	...	1+	14.92	10+	14.10
ADC12H032CIN	NAT	...	1+	14.92	10+	14.10
ADC12H034CIN	NAT	...	1+	15.83	10+	14.97
ADC14061CCVT	NAT	...	1+	59.47	5+	52.86
ADC16061CCVT	NAT	...	1+	67.83	5+	60.29
ADC16071CIN	NAT	...	1+	36.56	5+	34.81
ADC912AFP	ADI	...	1+	22.55	10+	20.50
ADCV0831M6	NAT	...	1+	3.01	25+	2.77
ADDAC80-CBI-V	ADI	...	1+	53.49	10+	48.63
ADDAC80N-CBI-V	ADI	886	1+	20.49	10+	18.62
ADDAC87D-CBIV	ADI	...	1+	252.41	25+	187.10
ADDS-2106X-EZ-ICE	ADI	...	1+	5111.63	...	...
ADDS-2106X-EZLITE	ADI	891	1+	178.56	...	...
ADDS-210XX-SW-PC	ADI	...	1+	1819.70	...	...
ADDS-21XX-EZLITE	ADI	891	1+	88.78	...	...
ADG201ABQ	ADI	...	1+	6.97	10+	6.34
ADG201AKN	ADI	888	1+	3.18	10+	2.77
ADG201AKP	ADI	...	1+	4.83	25+	3.58
ADG201AKR	ADI	888	1+	3.04	10+	2.77
ADG201ATQ	ADI	...	1+	18.24	25+	13.52
ADG201HSJN	ADI	888	1+	4.95	10+	4.50
ADG201HSJP	ADI	...	1+	7.88	25+	5.84
ADG201HSKN	ADI	888	1+	8.10	10+	7.36
ADG201HSKP	ADI	...	1+	11.61	25+	8.60
ADG201HSKR	ADI	...	1+	8.10	10+	7.36
ADG201HSTQ	ADI	...	1+	27.86	25+	20.65
ADG202ABQ	ADI	...	1+	9.04	10+	8.22
ADG202AKN	ADI	888	1+	3.18	10+	2.77
ADG211AKN	ADI	888	1+	2.73	10+	2.37
ADG211AKR	ADI	888	1+	2.73	10+	2.37
ADG212AKN	ADI	888	1+	2.73	10+	2.37
ADG212AKP	ADI	...	1+	4.27	25+	3.16
ADG221KN	ADI	...	1+	2.91	10+	2.53
ADG222KR	ADI	888	1+	3.88	25+	2.88
ADG333ABN	ADI	888	1+	5.12	10+	4.65
ADG333ABR	ADI	888	1+	5.12	10+	4.65
ADG333ABRS	ADI	888	1+	5.12	10+	4.65
ADG406BN	ADI	888	1+	10.10	10+	9.18
ADG406BP	ADI	888	1+	10.76	10+	9.78
ADG407BN	ADI	888	1+	10.10	10+	9.18
ADG408BN	ADI	888	1+	4.87	10+	4.24
ADG408BR	ADI	888	1+	4.87	10+	4.24
ADG409BN	ADI	888	1+	4.87	10+	4.24
ADG409BR	ADI	888	1+	4.87	10+	4.24
ADG411BN	ADI	...	1+	3.82	10+	3.33
ADG411BR	ADI	...	1+	3.82	10+	3.33
ADG412BN	ADI	...	1+	3.82	10+	3.33
ADG412BR	ADI	888	1+	3.82	10+	3.33
ADG413BN	ADI	...	1+	3.82	10+	3.33
ADG417BN	ADI	888	1+	2.00	10+	1.74
ADG419BN	ADI	888	1+	2.39	...	...
ADG419BR	ADI	888	1+	2.50	10+	2.18
ADG426BN	ADI	888	1+	10.06	10+	9.14
ADG426BRS	ADI	888	1+	10.06	10+	9.14
ADG428BN	ADI	888	1+	5.89	10+	5.35
ADG431BN	ADI	888	1+	3.82	10+	3.33
ADG432BN	ADI	888	1+	3.82	10+	3.33
ADG432BR	ADI	888	1+	3.82	10+	3.33
ADG433BN	ADI	888	1+	3.82	10+	3.33
ADG436BN	ADI	888	1+	4.54	10+	3.95
ADG439FBN	ADI	...	1+	6.84	10+	6.21
ADG439FBR	ADI	...	1+	6.84	10+	6.21
ADG441BN	ADI	888	1+	3.07	10+	2.67
ADG442BN	ADI	...	1+	3.07	10+	2.67
ADG451BN	ADI	...	1+	3.72	10+	3.23
ADG452BN	ADI	...	1+	5.77	100+	4.97
ADG453BN	ADI	...	1+	3.72	10+	3.23
ADG465BRT-REEL 7	ADI	888	1+	2.17	100+	1.87
ADG466BN	ADI	888	1+	3.05	10+	2.65
ADG466BR	ADI	888	1+	3.05	10+	2.65
ADG467BR	ADI	888	1+	5.24	10+	4.56
ADG506AKN	ADI	...	1+	9.75	10+	8.86
ADG506AKP	ADI	...	1+	11.30	10+	10.27
ADG506AKR	ADI	...	1+	9.75	10+	8.86
ADG506ATQ	ADI	...	1+	36.89	25+	27.34
ADG507AKN	ADI	...	1+	9.75	10+	8.86

Type	Mfg.	Pg.	Qty.	$	Qty.	$
ADG507AKP	ADI	...	1+	11.30	10+	10.27
ADG508AKN	ADI	888	1+	5.22	10+	4.74
ADG508AKR	ADI	888	1+	5.22	10+	4.74
ADG508FBN	ADI	888	1+	5.57	...	...
ADG508FBRN	ADI	...	1+	5.57	...	...
ADG509AKN	ADI	888	1+	4.42	10+	4.02
ADG509AKR	ADI	...	1+	4.42	10+	4.02
ADG509ATQ	ADI	...	1+	20.04	25+	14.86
ADG509FBN	ADI	...	1+	6.13	10+	5.57
ADG511BN	ADI	...	1+	4.00	10+	3.48
ADG512BN	ADI	888	1+	4.00	10+	3.48
ADG512BR	ADI	888	1+	4.00	10+	3.48
ADG526ABQ	ADI	...	1+	37.89	25+	28.09
ADG526AKN	ADI	888	1+	9.69	10+	8.81
ADG527AKN	ADI	888	1+	13.50	25+	10.01
ADG528AKN	ADI	...	1+	6.12	10+	5.56
ADG529AKP	ADI	...	1+	8.88	25+	5.59
ADG608BN	ADI	888	1+	4.79	10+	4.35
ADG661BRU	ADI	888	1+	6.11	100+	5.26
ADG662BRU	ADI	888	1+	6.11	100+	5.26
ADG663BRU	ADI	888	1+	6.11	100+	5.26
ADG701BRM	ADI	888	1+	1.74	100+	1.51
ADG702BRM	ADI	888	1+	1.74	100+	1.51
ADG719BRM	ADI	...	1+	1.81	100+	1.56
ADG721BRM	ADI	888	1+	2.01	100+	1.73
ADG774BR	ADI	888	1+	5.31	100+	4.57
ADM1232AN	ADI	...	1+	1.73	10+	1.50
ADM1485AN	ADI	...	1+	3.50	10+	3.05
ADM1485JR	ADI	...	1+	2.63	10+	2.29
ADM202EARU	ADI	...	1+	2.15	10+	1.87
ADM202JN	ADI	...	1+	2.74	10+	2.38
ADM202JRN	ADI	...	1+	2.74	10+	2.38
ADM206EAR	ADI	...	1+	2.99	10+	2.60
ADM232AAN	ADI	...	1+	3.43	10+	2.98
ADM232AARW	ADI	...	1+	3.43	10+	2.98
ADM232LAN	ADI	...	1+	3.38	10+	2.94
ADM232LJN	ADI	...	1+	2.74	10+	2.38
ADM232LJR	ADI	...	1+	2.74	10+	2.38
ADM233LAN	ADI	...	1+	8.79	10+	7.99
ADM233LJN	ADI	...	1+	6.04	10+	5.49
ADM238LJN	ADI	...	1+	5.22	10+	4.54
ADM242AN	ADI	...	1+	3.43	10+	2.98
ADM485AN	ADI	...	1+	2.80	10+	2.44
ADM660AN	ADI	...	1+	2.36	10+	2.05
ADM660AR	ADI	...	1+	2.36	10+	2.05
ADM663AN	ADI	889	1+	2.02	10+	1.75
ADM666AN	ADI	...	1+	2.38	10+	2.07
ADM690AN	ADI	...	1+	4.77	10+	4.14
ADM705AR	ADI	...	1+	2.03	10+	1.76
ADM706PAN	ADI	...	1+	3.03	10+	2.63
ADM706PAR	ADI	...	1+	3.03	10+	2.63
ADM706SAN	ADI	...	1+	3.03	10+	2.63
ADM706TAR	ADI	...	1+	3.03	10+	2.63
ADM707AR	ADI	...	1+	1.79	10+	1.56
ADM708AR	ADI	...	1+	1.79	10+	1.56
ADM708RAN	ADI	...	1+	1.56	10+	1.36
ADM708RAR	ADI	...	1+	1.56	10+	1.36
ADM708SAN	ADI	...	1+	1.56	10+	1.36
ADM708SAR	ADI	...	1+	1.56	10+	1.36
ADM709LAN	ADI	...	1+	1.30	10+	1.13
ADM709LAR	ADI	...	1+	1.30	10+	1.13
ADM8660AR	ADI	...	1+	2.49	10+	2.17
ADP3000AN-12	ADI	...	1+	8.50	10+	7.39
ADP3000AN-3.3	ADI	889	1+	8.50	10+	7.39
ADP3000AN-5	ADI	889	1+	8.50	10+	7.39
ADP3000AR-12	ADI	889	1+	8.10	10+	7.04
ADP3000AR-3.3	ADI	...	1+	8.10	10+	7.04
ADP3301AR-5	ADI	889	1+	2.96	100+	2.55
ADP3302AR1	ADI	...	1+	3.72	100+	3.20
ADP3302AR5	ADI	...	1+	3.72	100+	3.20
ADP3303AR-5	ADI	889	1+	3.56	100+	3.06
ADP3603AR	ADI	885	1+	6.79	10+	5.90
ADP3604AR	ADI	885	1+	7.86	10+	6.84
ADP3810AR-12.6	ADI	889	1+	5.66	10+	4.92
ADP3810AR-4.2	ADI	889	1+	4.07	10+	3.54
ADP3810AR-8.4	ADI	889	1+	4.07	10+	3.54
ADP3811AR	ADI	889	1+	5.36	10+	4.66
ADP667AN	ADI	...	1+	6.35	10+	5.52
ADR291ER	ADI	...	1+	19.74	100+	16.99
ADSP-21020KG-100	ADI	...	1+	195.25	...	...
ADSP-2104KP-80	ADI	...	1+	8.06	10+	7.32
ADSP-2105KP-55	ADI	891	1+	26.11	100+	22.48
ADSP-2181BS-133	ADI	...	1+	48.75	10+	41.29
ADSP-2181KS-133	ADI	891	1+	42.05	...	...
ADV478KP50	ADI	...	1+	24.42	25+	18.11
ADV7120KN30	ADI	...	1+	52.10	25+	38.62
ADV7128KR30	ADI	...	1+	13.22	10+	12.02
ADV7128KR80	ADI	...	1+	21.17	10+	19.24
ADVFC32BH	ADI	...	1+	14.41	10+	13.10
ADVFC32KN	ADI	...	1+	10.82	10+	9.84
ADVFC32SH	ADI	...	1+	22.09	10+	20.08
ADXL05AH	ADI	890	1+	25.62	10+	23.29
ADXL05EB	ADI	890	1+	17.08	10+	15.53
ADXL05EM-1	ADI	890	1+	135.85	10+	129.38
ADXL05EM-3	ADI	890	1+	248.40	25+	235.98
ADXL05JH	ADI	890	1+	17.00	10+	15.46
ADXL05SP	ADI	...	1+	62.10	...	...
ADXL150EM-1	ADI	890	1+	129.38	25+	122.91

NEW TYPES ARE BEING CONTINUALLY ADDED TO INVENTORY.

CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR AVAILABILITY.

Type	Mfg.	Pg.	Qty.	$	Qty.	$
ADXL150EM-3	ADI	890	1+	248.40	25+	235.98
ADXL150JQC	ADI	...	1+	28.23	25+	24.78
ADXL202JQC	ADI	...	1+	45.20	25+	39.69
ADXL250JQC	ADI	...	1+	45.22	25+	39.70
ADXL50AH	ADI	890	1+	25.62	10+	23.29
ADXL50EM-1	ADI	890	1+	142.32	10+	129.38
ADXL50JH	ADI	890	1+	20.50	10+	18.63
AM186ED-20KCØW	AMD	911	1+	27.41	66+	24.12
AM186ED-40KCØW	AMD	911	1+	31.73	66+	27.92
AM186EM-20KC/W	AMD	911	1+	19.55	66+	17.21
AM186EM-40KCØW	AMD	911	1+	23.50	66+	20.68
AM186ER-20KCØW	AMD	911	1+	26.38	66+	23.22
AM186ER-40KCØW	AMD	911	1+	29.09	66+	25.60
AM186ES 20KCØW	AMD	911	1+	19.54	66+	17.20
AM186ES-40KCØW	AMD	911	1+	23.50	66+	20.68
AM188EM-20KC/W	AMD	911	1+	18.57	66+	16.34
AM188EM-40KCØW	AMD	911	1+	22.32	66+	19.64
AM188ER-20KCØW	AMD	911	1+	22.42	66+	19.73
AM188ER-40KCØW	AMD	...	1+	27.64	66+	24.32
AM188ES-20KCØW	AMD	911	1+	18.57	66+	16.34
AM188ES-40KCØW	AMD	911	1+	22.32	66+	19.64
AM26C31CN	TI	...	1+	2.44	25+	2.24
AM26LS29PC	AMD	911	1+	2.23	25+	1.96
AM26LS30PC	MOT	867	1+	1.69	100+	1.32
AM26LS31CD	TI	...	1+	0.84	100+	0.74
AM26LS31CN	TI	...	1+	0.84	100+	0.74
AM26LS31PC	AMD	911	1+	0.88	25+	0.78
AM26LS31SC	AMD	911	1+	0.99	48+	0.87
AM26LS32ACD	TI	...	1+	0.84	100+	0.74
AM26LS32ACN	TI	...	1+	0.84	100+	0.74
AM26LS32BPC	AMD	911	1+	4.35	25+	3.83
AM26LS32PC	AMD	911	1+	0.88	25+	0.78
AM26LS33ACN	TI	...	1+	1.28	25+	1.19
AM26LS33PC	AMD	911	1+	1.31	25+	1.15
AM27C010-120DC	AMD	911	1+	4.65	25+	3.95
AM27C010-120JC	AMD	911	1+	3.45	25+	2.94
AM27C010-150DC	AMD	911	1+	4.65	25+	3.95
AM27C010-150JC	AMD	911	1+	2.69	481+	2.37
AM27C010-200DC	AMD	911	1+	4.65	25+	3.95
AM27C010-45DC	AMD	911	1+	5.13	45+	4.51
AM27C010-55DC	AMD	911	1+	5.58	25+	4.74
AM27C010-70DC	AMD	911	1+	5.18	25+	4.40
AM27C010-90DC	AMD	911	1+	4.65	25+	3.95
AM27C020-120DC	AMD	911	1+	6.24	25+	5.30
AM27C020-150DC	AMD	911	1+	6.24	25+	5.30
AM27C020-200DC	AMD	...	1+	4.70	100+	3.98
AM27C020-70DC	AMD	...	1+	6.90	10+	5.87
AM27C040-120DC	AMD	911	1+	9.56	10+	8.12
AM27C040-150DC	AMD	911	1+	9.56	10+	8.12
AM27C040-200DC	AMD	911	1+	9.56	10+	8.12
AM27C040-90JC	AMD	911	1+	8.25	31+	7.26
AM27C1024-120DC	AMD	911	1+	6.50	25+	5.53
AM27C1024-150DC	AMD	911	1+	6.50	25+	5.53
AM27C1024-200DC	AMD	911	1+	6.50	25+	5.53
AM27C1024-255DC	AMD	911	1+	5.13	46+	4.51
AM27C1024-55DC	AMD	911	1+	6.44	37+	5.67
AM27C1024-55JC	AMD	911	1+	5.32	53+	4.68
AM27C1024-70DC	AMD	911	1+	5.75	46+	5.06
AM27C1024-90DC	AMD	911	1+	6.50	25+	5.53
AM27C128-120DC	AMD	911	1+	4.38	25+	3.72
AM27C128-150DC	AMD	911	1+	4.38	25+	3.72
AM27C128-200DC	AMD	911	1+	4.38	25+	3.72
AM27C128-70DC	AMD	911	1+	4.65	25+	3.95
AM27C128-90DC	AMD	911	1+	4.38	25+	3.72
AM27C2048-120DC	AMD	911	1+	7.69	136+	6.77
AM27C2048-120JC	AMD	911	1+	9.16	10+	7.78
AM27C2048-150DC	AMD	911	1+	9.82	10+	8.35
AM27C2048-255DC	AMD	911	1+	7.69	10+	6.77
AM27C2048-70DC	AMD	911	1+	8.57	28+	7.54
AM27C2048-90DC	AMD	911	1+	7.69	10+	6.77
AM27C256-120DC	AMD	911	1+	3.85	25+	3.27
AM27C256-120JC	AMD	911	1+	2.92	25+	2.48
AM27C256-150DC	AMD	911	1+	3.85	25+	3.27
AM27C256-200DC	AMD	911	1+	3.85	25+	3.27
AM27C256-55DC	AMD	911	1+	4.38	25+	3.72
AM27C256-70DC	AMD	911	1+	4.12	25+	3.50
AM27C256-90DC	AMD	911	1+	3.85	25+	3.27
AM27C512-120DC	AMD	911	1+	3.98	25+	3.39
AM27C512-120JC	AMD	911	1+	3.06	25+	2.60
AM27C512-150DC	AMD	911	1+	3.98	25+	3.39
AM27C512-150JC	AMD	911	1+	3.06	25+	2.60
AM27C512-150PC	AMD	911	1+	3.06	25+	2.60
AM27C512-200DC	AMD	911	1+	3.98	25+	3.39
AM27C512-55DC	AMD	911	1+	4.51	25+	3.84
AM27C512-70DC	AMD	...	1+	4.38	25+	3.72
AM27C512-90DC	AMD	911	1+	3.98	25+	3.39
AM27C64-120DC	AMD	911	1+	4.38	25+	3.72
AM27C64-150DC	AMD	911	1+	4.38	25+	3.72
AM27C64-200DC	AMD	...	1+	4.38	25+	3.72
AM27C64-55DC	AMD	911	1+	5.05	25+	4.29
AM27C64-55JC	AMD	...	1+	4.51	25+	3.84
AM27C64-70JC	AMD	...	1+	4.38	25+	3.72
AM27C64-90DC	AMD	911	1+	4.38	25+	3.72
AM27S191APC	AMD	911	1+	9.84	15+	8.66
AM27S19APC	AMD	911	1+	2.33	25+	2.05
AM27S19PC	AMD	911	1+	1.94	25+	1.71
AM27S21PC	AMD	911	1+	2.46	25+	2.17
AM27S29PC	AMD	911	1+	4.08	18+	3.59

Type	Mfg.	Pg.	Qty.	$	Qty.	$
AM28F010-120JC	AMD	910	1+	3.89	30+	3.42
AM28F010-120PC	AMD	910	1+	3.89	11+	3.42
AM28F010-150JC	AMD	...	1+	3.60	100+	3.05
AM28F010-200PC	AMD	...	1+	3.89	11+	3.42
AM28F010-70JC	AMD	910	1+	4.73	30+	4.16
AM28F010-70PC	AMD	910	1+	4.73	11+	4.16
AM28F010-90EC	AMD	910	1+	5.31	156+	4.67
AM28F010-90JC	AMD	910	1+	4.34	30+	3.82
AM28F010-90PC	AMD	910	1+	4.34	11+	3.82
AM28F010A-120JC	AMD	910	1+	3.89	30+	3.42
AM28F010A-120PC	AMD	910	1+	3.89	11+	3.42
AM28F010A-70JC	AMD	910	1+	4.73	30+	4.16
AM28F010A-70PC	AMD	910	1+	4.73	11+	4.16
AM28F010A-90EC	AMD	910	1+	5.31	156+	4.25
AM28F010A-90FC	AMD	...	1+	5.13	157+	4.51
AM28F010A-90JC	AMD	910	1+	4.34	30+	3.82
AM28F010A-90PC	AMD	910	1+	4.34	11+	3.82
AM28F020-120JC	AMD	910	1+	6.93	30+	6.09
AM28F020-150JC	AMD	910	1+	6.93	30+	6.09
AM28F020-150PC	AMD	910	1+	6.93	11+	6.09
AM28F020-70JC	AMD	...	1+	7.50	31+	6.60
AM28F020-70PC	AMD	...	1+	7.50	34+	6.60
AM28F020-90EC	AMD	910	1+	8.28	156+	7.29
AM28F020-90JC	AMD	910	1+	7.31	30+	6.44
AM28F020-90PC	AMD	910	1+	7.31	11+	6.44
AM28F256-70EC	AMD	910	1+	5.83	156+	5.13
AM28F256-70JC	AMD	910	1+	5.31	11+	4.67
AM28F256-70PC	AMD	910	1+	5.31	11+	4.67
AM28F256A-120JC	AMD	910	1+	4.38	61+	3.85
AM28F256A-120PC	AMD	910	1+	4.38	56+	3.85
AM28F256A-200PC	AMD	910	1+	4.38	56+	3.85
AM28F256A-70JC	AMD	910	1+	5.13	61+	4.51
AM28F256A-70PC	AMD	910	1+	5.13	45+	4.51
AM28F256A-90JC	AMD	910	1+	4.69	61+	4.13
AM28F512-70EC	AMD	910	1+	5.83	156+	5.13
AM28F512-70JC	AMD	910	1+	5.31	30+	4.67
AM28F512-70PC	AMD	910	1+	5.31	11+	4.67
AM28F512-90PC	AMD	910	1+	4.86	11+	4.27
AM28F512A-120JC	AMD	910	1+	4.38	61+	3.85
AM28F512A-120PC	AMD	910	1+	4.38	56+	3.85
AM28F512A-150JC	AMD	910	1+	4.38	61+	3.85
AM28F512A-200JC	AMD	910	1+	4.38	61+	3.85
AM28F512A-70EC	AMD	910	1+	5.63	157+	4.95
AM28F512A-70JC	AMD	910	1+	5.13	61+	4.51
AM28F512A-70PC	AMD	910	1+	5.13	45+	4.51
AM28F512A-90JC	AMD	910	1+	4.69	61+	4.13
AM29C983JC	AMD	...	1+	20.45	18+	17.99
AM29F010-120EC	AMD	910	1+	4.88	781+	4.29
AM29F010-120JC	AMD	910	1+	4.53	30+	3.99
AM29F010-120PC	AMD	910	1+	4.53	11+	3.99
AM29F010-45JC	AMD	910	1+	5.83	30+	5.13
AM29F010-55JC	AMD	910	1+	8.61	30+	7.58
AM29F010-70JC	AMD	910	1+	4.98	30+	4.39
AM29F010-70PC	AMD	910	1+	4.98	11+	4.39
AM29F010-90JC	AMD	910	1+	4.53	30+	3.99
AM29F010-90PC	AMD	910	1+	4.53	11+	3.99
AM29F010A-120JC	AMD	910	1+	4.38	61+	3.85
AM29F010A-45JC	AMD	910	1+	5.63	61+	4.95
AM29F010A-55JC	AMD	910	1+	5.32	61+	4.68
AM29F010A-70JC	AMD	910	1+	4.82	61+	4.24
AM29F010A-90JC	AMD	910	1+	4.38	61+	3.85
AM29F016B-120EC	AMD	910	1+	20.00	481+	17.60
AM29F016B-150EC	AMD	910	1+	20.00	97+	17.60
AM29F016B-75EC	AMD	910	1+	22.07	97+	19.42
AM29F016B-90EC	AMD	910	1+	21.07	481+	18.54
AM29F040B-120EC	AMD	910	1+	7.32	781+	6.44
AM29F040B-120JC	AMD	910	1+	6.88	481+	6.05
AM29F040B-150JC	AMD	910	1+	6.88	481+	6.05
AM29F040B-55EC	AMD	910	1+	8.75	157+	7.70
AM29F040B-55JC	AMD	910	1+	8.32	481+	7.32
AM29F040B-70JC	AMD	910	1+	7.63	481+	6.71
AM29F040B-90EC	AMD	910	1+	7.32	781+	6.44
AM29F040B-90JC	AMD	...	1+	6.60	100+	5.58
AM29F040B-90PC	AMD	910	1+	6.88	166+	6.05
AM29F080B-120EC	AMD	910	1+	9.50	121+	8.36
AM29F080B-150EC	AMD	910	1+	9.50	121+	8.36
AM29F080B-75SC	AMD	910	1+	11.75	35+	10.34
AM29F080B-85EC	AMD	910	1+	11.38	121+	10.01
AM29F080B-85SC	AMD	910	1+	10.94	35+	9.63
AM29LV001BB-55JC	AMD	910	1+	6.13	61+	5.39
AM29LV001BB-70JC	AMD	910	1+	5.75	61+	5.06
AM29LV001BB-90JC	AMD	910	1+	4.69	61+	4.13
AM29LV001BT-55JC	AMD	910	1+	6.13	61+	5.39
AM29LV001BT-70JC	AMD	910	1+	5.75	61+	5.06
AM29LV001BT-90JC	AMD	910	1+	4.69	61+	4.13
AM29LV002B-120EC	AMD	910	1+	7.07	121+	6.22
AM29LV002B-90REC	AMD	910	1+	8.44	121+	7.43
AM29LV002T-120EC	AMD	910	1+	7.07	121+	6.22
AM29LV002T-90REC	AMD	910	1+	8.44	121+	7.43
AM29LV200B-120EC	AMD	910	1+	7.19	97+	6.33
AM29LV200B-90REC	AMD	910	1+	8.63	121+	7.59
AM29LV200T-120EC	AMD	910	1+	7.19	97+	6.33
AM29LV200T-90REC	AMD	910	1+	8.63	97+	7.59
AM29LV800BB-120EC	AMD	910	1+	8.57	481+	7.54
AM29LV800BB-70EC	AMD	910	1+	11.07	97+	9.74
AM29LV800BT-120EC	AMD	910	1+	8.57	97+	7.54
AM29LV800BT-70EC	AMD	910	1+	11.07	97+	9.74
AM53C96KC/W	AMD	...	1+	14.58	66+	12.83

Type	Mfg.	Pg.	Qty.	$	Qty.	$
AM7202A-25PC	AMD	...	1+	15.53	13+	13.67
AM7202A-25RC	AMD	911	1+	12.94	13+	11.39
AM7203A-25RC	AMD	911	1+	20.70	13+	18.22
AM7204A-25RC	AMD	911	1+	23.29	13+	20.50
AM7205A-25RC	AMD	911	1+	38.82	13+	34.16
AM7968-125DC	AMD	911	1+	33.96	13+	29.89
AM7968-125JC	AMD	911	1+	25.88	37+	22.77
AM7969-125DC	AMD	911	1+	38.82	13+	34.16
AM7969-125JC	AMD	911	1+	33.42	37+	29.41
AMP01AX	ADI	878	1+	59.03	25+	43.76
AMP01EX	ADI	878	1+	28.86	10+	26.24
AMP01FX	ADI	878	1+	16.91	10+	15.37
AMP01GS	ADI	...	1+	15.20	10+	13.82
AMP02EP	ADI	878	1+	14.95	10+	13.59
AMP02FP	ADI	878	1+	8.98	10+	8.16
AMP02FS	ADI	878	1+	8.98	10+	8.16
AMP03BJ	ADI	878	1+	19.87	25+	14.73
AMP03FJ	ADI	878	1+	10.54	25+	7.82
AMP03GP	ADI	878	1+	4.92	10+	4.28
AMP04EP	ADI	878	1+	11.88	10+	10.80
AMP04ES	ADI	878	1+	11.88	10+	10.80
AMP04FP	ADI	878	1+	8.46	10+	7.69
AMP04FS	ADI	878	1+	8.46	10+	7.69
AMP05FX	ADI	878	1+	22.00	25+	16.31
AMPAL22V10PC	AMD	...	1+	5.96	15+	4.67
AMS-702	ALG	...	1+	0.04	100+	0.03
AMS-702B	ALG	944	1+	5.00	...	...
ASB200	MOT	...	1+	275.22	...	...
ASB201	MOT	...	1+	75.06	...	...
ASB202	MOT	...	1+	75.06	...	...
ASB205	MOT	...	1+	75.06	...	...
ASB210	MOT	...	1+	75.06	...	...
AT-31625-BLK	HP	...	1+	2.28	10+	2.05
AT-32011-BLK	HP	909	1+	0.57	25+	0.51
AT-32032-BLK	HP	909	1+	0.53	25+	0.47
AT-32033-BLK	HP	909	1+	0.55	25+	0.49
AT-33225-BLK	HP	...	1+	3.19	10+	2.87
AT-38043-BLK	HP	...	1+	1.46	25+	1.30
AT-41411-BLK	HP	909	1+	1.61	25+	1.43
AT-41435	HP	909	1+	7.40	10+	6.66
AT-41486-BLK	HP	909	1+	1.97	25+	1.76
AT-41532-BLK	HP	909	1+	0.53	25+	0.47
AT-41533-BLK	HP	909	1+	0.47	25+	0.42
AT-42086-BLK	HP	909	1+	1.95	25+	1.74
ATF-10136-STR	HP	...	1+	4.56	10+	4.10
ATF-21186-STR	HP	...	1+	2.74	10+	2.46
ATF-26836-STR	HP	...	1+	13.02	5+	12.24
ATS610LSA	ALG	...	1+	11.35	10+	10.10
ATS611LSB	ALG	...	1+	10.53	10+	9.37
BAL99LT1	MOT	...	1+	0.26	100+	0.18
BAS116LT1	MOT	...	1+	0.15	100+	0.11
BAS16 T/R	PHL	...	1+	0.40	100+	0.30
BAS16LT1	MOT	869	1+	0.11	100+	0.08
BAS16WT1	MOT	...	1+	0.14	100+	0.10
BAS21LT1	MOT	869	1+	0.24	100+	0.17
BAT42-T/R	GS	936	1+	0.19	100+	0.14
BAT43-T/R	GS	936	1+	0.19	100+	0.14
BAT46-T/R	GS	936	1+	0.29	100+	0.22
BAT54-T/R	GS	936	1+	0.29	100+	0.22
BAT54C T/R	PHL	...	1+	0.44	100+	0.39
BAT83	PHL	...	1+	0.55	25+	0.27
BAT85	PHL	...	1+	0.47	25+	0.47
BAT85-T/R	GS	936	1+	0.19	100+	0.14
BAT86-T/R	GS	936	1+	0.20	100+	0.15
BAV18-T/R	GS	937	1+	0.06	100+	0.05
BAV19-T/R	GS	937	1+	0.06	100+	0.05
BAV199LT1	MOT	869	1+	0.22	100+	0.15
BAV20	PHL	...	1+	0.08	100+	0.04
BAV20-T/R	GS	937	1+	0.06	100+	0.05
BAV21	PHL	...	1+	0.08	100+	0.04
BAV21W-T/R	GS	937	1+	0.24	100+	0.18
BAV70-T/R	GS	937	1+	0.16	100+	0.12
BAV70LT1	MOT	869	1+	0.12	100+	0.09
BAV74LT1	MOT	...	1+	0.12	100+	0.09
BAV99-T/R	GS	937	1+	0.16	100+	0.12
BAV99LT1	MOT	869	1+	0.12	100+	0.09
BAV99RWT1	MOT	...	1+	0.15	100+	0.10
BAW56LT1	MOT	...	1+	0.12	100+	0.08
BC327(PS)	PHL	...	1+	0.23	25+	0.23
BC337 T/R	PHL	...	1+	0.21	25+	0.21
BC547 T/R	PHL	...	1+	0.16	25+	0.16
BC547B(PS)	PHL	...	1+	0.18	25+	0.17
BC548C T/R	PHL	...	1+	0.19	25+	0.17
BC549	PHL	...	1+	0.18	25+	0.18
BC549C	PHL	...	1+	0.25	25+	0.22
BC556	PHL	...	1+	0.17	25+	0.17
BC807-25	PHL	...	1+	0.32	100+	0.26
BC807-40	PHL	...	1+	0.32	100+	0.26
BC817-25	PHL	...	1+	0.32	100+	0.26
BC817-40	PHL	...	1+	0.32	100+	0.26
BC846ALT1	MOT	868	1+	0.13	100+	0.09
BC846BLT1	MOT	868	1+	0.13	100+	0.09
BC847BLT1	MOT	...	1+	0.13	100+	0.09
BC847CLT1	MOT	...	1+	0.13	100+	0.09
BC848ALT1	MOT	...	1+	0.13	100+	0.09
BC848CLT1	MOT	...	1+	0.13	100+	0.09
BC850BLT1	MOT	...	1+	0.13	100+	0.09
BC856ALT1	MOT	...	1+	0.13	100+	0.09

Manufacturer Abbreviations:

ADI: Analog Devices; **ALG:** Allegro; **ALT:** Altera; **AMD:** Advanced Micro Devices; **AND:** AND; **APD:** American Power Devices; **DAL:** Dallas Semiconductor; **ECG:** Philips ECG; **FGR:** Fagor; **GS:** General Semiconductor; **HP:** Hewlett Packard; **HRS:** Harris Semiconductor; **HWL:** Honeywell Opto; **INT:** Intronics; **IR:** International Rectifier; **MIC:** Micrel; **MOT:** Motorola; **NAT:** National Semiconductor; **OPT:** Optek; **PHL:** Phillips Semiconductors; **PWX:** Powerex; **QT:** QT Optoelectronics; **SKN:** Semikron; **SPC:** SPC Technology; **TI:** Texas Instruments; **TSK:** Thomson SK; **VAC:** EG&G Vactec; **VAN:** Vantis; **ZIL:** Zilog

Type	Mfg.	Pg.	Qty.	$	Qty.	$
BC856BLT1	MOT	...	1+	0.13	100+	0.09
BC857BLT1	MOT	...	1+	0.13	100+	0.09
BC858CLT1	MOT	...	1+	0.13	100+	0.09
BCP53T1	MOT	868	1+	0.55	100+	0.44
BCP56T1	MOT	...	1+	0.68	100+	0.54
BCP68T1	MOT	...	1+	0.58	100+	0.46
BCP69T1	MOT	...	1+	0.55	100+	0.44
BCR10CM-12L	PWX	930	1+	3.75	25+	3.45
BCR10CM-8L	PWX	930	1+	2.51	25+	2.31
BCR10PM-12L	PWX	...	1+	3.21	25+	2.95
BCR10PM-8L	PWX	...	1+	2.59	25+	2.38
BCR16CM-12	PWX	...	1+	3.17	25+	2.91
BCR16CM-12L	PWX	...	1+	3.17	25+	2.91
BCR16CM-8L	PWX	930	1+	3.17	25+	2.91
BCR16PM-12L	PWX	930	1+	3.80	25+	3.49
BCR16PM-8L	PWX	930	1+	3.48	25+	3.20
BCR1AM-8	PWX	930	1+	0.84	100+	0.76
BCR30GM-12	PWX	930	1+	12.19	10+	11.52
BCR30GM-12L	PWX	930	1+	12.19	10+	11.52
BCR3AM-8	PWX	930	1+	1.74	25+	1.62
BCR6AM-8L	PWX	930	1+	2.15	25+	2.00
BCR8CM-8L	PWX	930	1+	2.30	25+	2.15
BCR8PM-12L	PWX	930	1+	2.48	25+	2.31
BCR8PM-8L	PWX	930	1+	2.48	25+	2.31
BCX19	PHL	...	1+	0.34	100+	0.17
BD135	MOT	870	1+	0.67	100+	0.55
BD136	MOT	870	1+	0.73	100+	0.59
BD137	MOT	...	1+	0.67	100+	0.55
BD139	MOT	...	1+	0.70	100+	0.57
BD140	MOT	...	1+	0.73	100+	0.60
BD237	MOT	...	1+	0.69	100+	0.64
BD438	MOT	...	1+	0.69	100+	0.64
BD680	MOT	...	1+	0.73	100+	0.60
BD680A	MOT	...	1+	0.69	100+	0.64
BD681	MOT	...	1+	0.69	100+	0.64
BD682	MOT	...	1+	0.69	100+	0.64
BDW42	MOT	871	1+	1.49	100+	1.16
BDW47	MOT	871	1+	1.49	100+	1.16
BDX33C	MOT	871	1+	0.83	100+	0.73
BDX34B	MOT	...	1+	1.06	25+	1.00
BDX34C	MOT	871	1+	0.99	100+	0.86
BDX37	PHL	...	1+	2.75	25+	2.71
BDX53B	MOT	...	1+	0.91	100+	0.80
BDX53C	MOT	871	1+	0.83	100+	0.73
BDX54B	MOT	...	1+	0.91	100+	0.79
BDX54C	MOT	871	1+	0.91	100+	0.79
BF720T1	MOT	...	1+	1.08	100+	1.03
BF721T1	MOT	...	1+	1.08	100+	1.03
BFR90	MOT	...	1+	2.30	100+	1.80
BFR91	MOT	...	1+	2.35	100+	1.83
BFR92ALT1	MOT	873	1+	0.79	100+	0.62
BPW38	QT	...	1+	2.00	25+	1.78
BS107	MOT	869	1+	0.71	100+	0.56
BS107A	MOT	869	1+	0.71	100+	0.56
BS170	MOT	869	1+	0.50	100+	0.35
BSP52T1	MOT	...	1+	0.79	100+	0.62
BSS123LT1	MOT	869	1+	0.52	100+	0.37
BSS138LT1	MOT	...	1+	0.52	100+	0.37
BSS84LT1	MOT	...	1+	0.39	100+	0.28
BSV52	PHL	...	1+	0.41	100+	0.20
BT151-500R	PHL	...	1+	2.53	30+	1.49
BU208A	MOT	...	1+	4.40	25+	3.24
BU2508A	PHL	...	1+	5.32	25+	3.13
BU2520AF	PHL	...	1+	7.03	25+	5.10
BU323A	MOT	...	1+	3.53	25+	3.30
BU323AP	MOT	871	1+	5.28	25+	3.89
BU406	MOT	...	1+	1.49	100+	1.16
BU407	MOT	871	1+	1.79	25+	1.69
BU508A	MOT	...	1+	7.32	25+	5.39
BU806	MOT	...	1+	1.68	100+	1.31
BUF03EJ	ADI	...	1+	23.06	10+	20.96
BUF03FJ	ADI	...	1+	12.81	10+	11.65
BUF04GP	ADI	882	1+	8.44	10+	7.67
BUF04GS	ADI	882	1+	8.66	10+	7.87
BUH100	MOT	...	1+	1.10	100+	0.94
BUH150	MOT	...	1+	1.47	25+	1.31
BUH50	MOT	...	1+	0.86	100+	0.69
BUK456-1000B	PHL	...	1+	6.86	10+	6.18
BUK456-800A	PHL	...	1+	8.52	10+	8.36
BUL44D2	MOT	...	1+	0.92	100+	0.73
BUL45	MOT	871	1+	1.38	100+	1.08
BUL45D2	MOT	...	1+	0.98	100+	0.84
BUS48AP	MOT	...	1+	7.40	25+	7.03
BUS48P	MOT	...	1+	6.65	25+	6.32
BUS50	MOT	...	1+	14.91	10+	11.18
BUT11A	PHL	...	1+	2.22	25+	1.64
BUT11AF	MOT	...	1+	3.04	50+	2.88
BUT33	MOT	...	1+	14.52	10+	10.56
BUV20	MOT	...	1+	6.36	10+	5.96
BUV21	MOT	...	1+	9.07	10+	8.50
BUV22	MOT	...	1+	9.40	10+	6.84
BUV48A	MOT	...	1+	6.16	25+	4.53
BUV60	MOT	...	1+	6.92	10+	6.48
BUW12A	PHL	...	1+	6.48	25+	4.75
BUW13A	PHL	...	1+	7.93	25+	5.81
BUX48	MOT	871	1+	5.28	25+	3.89
BUX48A	MOT	871	1+	1.17	25+	0.86
BUX84	PHL	...	1+	2.07	25+	1.52
BUX85	MOT	871	1+	1.31	100+	1.02
BUX98	MOT	...	1+	10.93	10+	7.95
BUX98A	MOT	...	1+	10.93	10+	7.95
BUZ11	HRS	894	1+	1.54	25+	1.43
BUZ80A	MOT	...	1+	4.98	25+	4.67
BY228	PHL	...	1+	1.48	100+	0.65
BY448	PHL	...	1+	1.06	100+	0.47
BY584	PHL	...	1+	1.34	100+	0.65
BYV27-100	PHL	...	1+	1.04	100+	0.44
BYV27-150	PHL	...	1+	1.13	100+	0.50
BYV28-200	PHL	...	1+	2.02	100+	0.91
BYV95C	PHL	...	1+	0.63	100+	0.29
BYV96E	PHL	...	1+	0.74	100+	0.33
BYW29E-100	PHL	...	1+	1.85	30+	1.35
BZT03-C10	PHL	...	1+	0.93	100+	0.42
BZT03-C12	PHL	...	1+	0.93	100+	0.42
BZT03-C120	PHL	...	1+	0.93	100+	0.42
BZT03-C18	PHL	...	1+	0.93	100+	0.42
BZT03-C200	PHL	...	1+	0.93	100+	0.42
BZT03-C270	PHL	...	1+	0.93	100+	0.42
BZT03-C7V5	PHL	...	1+	1.00	100+	0.44
BZV85-C15	PHL	...	1+	0.26	100+	0.12
BZX55C12RL	MOT	...	1+	0.13	100+	0.09
BZX55C5V1RL	MOT	...	1+	0.13	100+	0.09
BZX55C5V6RL	MOT	...	1+	0.13	100+	0.09
BZX55C6V8RL	MOT	...	1+	0.13	100+	0.09
BZX79-C12	PHL	...	1+	0.11	50+	0.11
BZX79-C15	PHL	...	1+	0.11	50+	0.11
BZX79-C2V4	PHL	...	1+	0.11	50+	0.11
BZX79-C2V70	PHL	...	1+	0.11	50+	0.11
BZX79-C3V0	PHL	...	1+	0.11	50+	0.11
BZX79-C3V9	PHL	...	1+	0.11	50+	0.11
BZX79-C4V3	PHL	...	1+	0.11	50+	0.11
BZX79-C5V1	PHL	...	1+	0.11	50+	0.11
BZX79-C6V8	PHL	...	1+	0.11	50+	0.11
BZX79C15RL	MOT	...	1+	0.30	100+	0.29
BZX79C16RL	MOT	...	1+	0.45	100+	0.43
BZX84-C2V4	PHL	...	1+	0.34	100+	0.15
BZX84-C2V7	PHL	...	1+	0.34	100+	0.15
BZX84-C3V3	PHL	...	1+	0.34	100+	0.15
BZX84-C4V3	PHL	...	1+	0.34	100+	0.15
BZX84-C5V1	PHL	...	1+	0.34	100+	0.15
BZX84C10LT1	MOT	876	1+	0.45	100+	0.43
BZX84C12LT1	MOT	876	1+	0.13	100+	0.09
BZX84C15LT1	MOT	876	1+	0.13	100+	0.12
BZX84C16LT1	MOT	876	1+	0.45	100+	0.43
BZX84C18LT1	MOT	876	1+	0.56	100+	0.28
BZX84C20LT1	MOT	876	1+	0.45	100+	0.43
BZX84C30LT1	MOT	876	1+	0.45	100+	0.43
BZX84C4V7LT1	MOT	876	1+	0.40	100+	0.38
BZX84C5V1LT1	MOT	876	1+	0.13	100+	0.09
BZX84C5V6LT1	MOT	876	1+	0.13	100+	0.12
BZX84C6V2LT1	MOT	876	1+	0.13	100+	0.09
BZX84C6V8LT1	MOT	876	1+	0.40	100+	0.38
BZX84C7V5LT1	MOT	...	1+	0.71	100+	0.67
BZX84C8V2LT1	MOT	876	1+	0.40	100+	0.38
BZX85C10RL	MOT	...	1+	0.17	100+	0.12
BZX85C12RL	MOT	...	1+	0.17	100+	0.12
BZX85C13RL	MOT	...	1+	0.17	100+	0.12
BZX85C15RL	MOT	...	1+	0.17	100+	0.12
BZX85C18RL	MOT	...	1+	0.17	100+	0.12
BZX85C22RL	MOT	...	1+	0.17	100+	0.12
BZX85C24RL	MOT	...	1+	0.17	100+	0.12
BZX85C27RL	MOT	...	1+	0.17	100+	0.12
BZX85C30RL	MOT	...	1+	0.17	100+	0.12
BZX85C33RL	MOT	...	1+	0.17	100+	0.12
BZX85C3V3RL	MOT	...	1+	0.17	100+	0.12
BZX85C3V6RL	MOT	...	1+	0.17	100+	0.12
BZX85C3V9RL	MOT	...	1+	0.17	100+	0.12
BZX85C43RL	MOT	...	1+	0.17	100+	0.12
BZX85C47RL	MOT	...	1+	0.17	100+	0.12
BZX85C4V3RL	MOT	...	1+	0.17	100+	0.12
BZX85C5V1RL	MOT	...	1+	0.17	100+	0.12
BZX85C5V6RL	MOT	...	1+	0.17	100+	0.12
BZX85C6V2RL	MOT	...	1+	0.17	100+	0.12
BZX85C6V8RL	MOT	...	1+	0.17	100+	0.12
BZX85C75RL	MOT	...	1+	0.17	100+	0.12
BZX85C7V5RL	MOT	...	1+	0.17	100+	0.12
BZX85C8V2RL	MOT	...	1+	0.17	100+	0.12
BZX85C9V1RL	MOT	...	1+	0.17	100+	0.12
BZY97-C200	FGR	...	1+	0.26	100+	0.22
C106B	MOT	874	1+	0.60	100+	0.42
C106D	MOT	874	1+	0.60	100+	0.42
C106M	MOT	874	1+	0.60	100+	0.42
C122B1	MOT	...	1+	1.15	100+	0.90
C122F1	MOT	...	1+	1.15	100+	0.90
C158PB	PWX	929	1+	98.15	5+	87.24
C712PN	PWX	...	1+	364.38	5+	328.54
CA0124E	HRS	896	1+	1.79	25+	1.67
CA0139E	HRS	...	1+	2.44	25+	2.24
CA0358AE	HRS	...	1+	1.38	25+	1.29
CA0555E	HRS	896	1+	0.79	100+	0.71
CA0723T	HRS	...	1+	1.67	25+	1.55
CA0741E	HRS	896	1+	0.71	100+	0.64
CA0741T	HRS	896	1+	2.18	25+	2.03
CA1458E	HRS	896	1+	0.69	100+	0.56
CA1558E	HRS	896	1+	1.22	100+	1.08
CA1558T	HRS	896	1+	2.18	25+	2.03
CA2111AE	HRS	...	1+	1.38	25+	1.29
CA2818C	MOT	...	1+	75.39	5+	66.58
CA2832C	MOT	872	1+	95.50	5+	84.33
CA2842C	MOT	...	1+	80.42	5+	71.01
CA3018A	HRS	...	1+	2.95	25+	2.71
CA3020A	HRS	896	1+	2.90	25+	2.66
CA3028A	HRS	896	1+	3.41	25+	3.13
CA3039	HRS	...	1+	3.29	25+	3.02
CA3046	HRS	...	1+	0.76	100+	0.69
CA3049T	HRS	896	1+	5.33	25+	4.90
CA3054	HRS	...	1+	0.81	100+	0.73
CA3059	HRS	896	1+	1.41	25+	1.31
CA3078AE	HRS	...	1+	3.34	25+	3.07
CA3078E	HRS	896	1+	1.95	25+	1.81
CA3079	HRS	...	1+	0.97	100+	0.85
CA3080AE	HRS	...	1+	1.02	100+	0.90
CA3080E	HRS	896	1+	0.81	100+	0.73
CA3081	HRS	...	1+	0.79	100+	0.71
CA3082	HRS	896	1+	0.84	100+	0.76
CA3083	HRS	...	1+	0.68	100+	0.61
CA3085B	HRS	...	1+	3.43	25+	3.16
CA3086	HRS	...	1+	0.69	100+	0.56
CA3088E	HRS	896	1+	2.51	25+	2.34
CA3089E	HRS	896	1+	1.26	25+	1.17
CA3094AE	HRS	896	1+	1.69	25+	1.58
CA3094AT	HRS	896	1+	2.23	25+	2.08
CA3094BT	HRS	...	1+	2.38	25+	2.22
CA3094E	HRS	895	1+	1.36	25+	1.27
CA3096AE	HRS	...	1+	4.19	25+	3.85
CA3096CE	HRS	...	1+	1.54	25+	1.43
CA3096E	HRS	...	1+	2.90	25+	2.66
CA3098E	HRS	...	1+	2.53	25+	2.36
CA3100E	HRS	896	1+	2.38	25+	2.22
CA3100T	HRS	896	1+	4.55	25+	4.18
CA3102E	HRS	...	1+	5.26	25+	4.83
CA3126E	HRS	...	1+	1.67	25+	1.55
CA3127E	HRS	...	1+	3.04	25+	2.80
CA3127M	HRS	896	1+	3.17	25+	2.91
CA3130AE	HRS	896	1+	1.79	25+	1.67
CA3130AM	HRS	...	1+	1.96	100+	1.79
CA3130AT	HRS	896	1+	3.17	25+	2.91
CA3130E	HRS	896	1+	1.22	100+	1.08
CA3130S	HRS	896	1+	2.36	25+	2.19
CA3130T	HRS	896	1+	2.23	25+	2.08
CA3140AE	HRS	896	1+	0.97	100+	0.85
CA3140AS	HRS	896	1+	2.92	25+	2.69
CA3140AT	HRS	896	1+	2.87	25+	2.64
CA3140E	HRS	896	1+	0.73	100+	0.66
CA3140S	HRS	896	1+	2.36	25+	2.17
CA3140T	HRS	896	1+	2.87	25+	2.64
CA3146AE	HRS	...	1+	1.10	25+	1.03
CA3146E	HRS	...	1+	0.76	100+	0.69
CA3160AE	HRS	896	1+	1.67	25+	1.55
CA3160E	HRS	896	1+	0.97	100+	0.85
CA3161E	HRS	898	1+	2.30	25+	2.15
CA3162E	HRS	898	1+	7.67	10+	7.14
CA3183AE	HRS	...	1+	1.79	25+	1.67
CA3183E	HRS	...	1+	1.54	25+	1.43
CA3189E	HRS	896	1+	1.26	25+	1.17
CA3193E	HRS	...	1+	1.28	25+	1.19
CA3240AE	HRS	896	1+	2.36	25+	2.19
CA3240AE1	HRS	...	1+	3.04	25+	2.80
CA3240E	HRS	896	1+	1.49	25+	1.38
CA3252E	HRS	895	1+	2.92	25+	2.69
CA3260AE	HRS	896	1+	2.92	25+	2.69
CA3260E	HRS	896	1+	2.05	25+	1.91
CA3262AE	HRS	895	1+	3.17	25+	2.91
CA3262E	HRS	895	1+	2.92	25+	2.69
CA3280E	HRS	...	1+	4.19	25+	3.85
CA3282AS1	HRS	895	1+	13.55	10+	12.81
CA3282AS2	HRS	895	1+	13.55	10+	12.81
CA3290E	HRS	...	1+	0.94	100+	0.83
CA3338AE	HRS	899	1+	16.63	10+	15.72
CA3420AE	HRS	...	1+	4.36	25+	4.01
CA3420E	HRS	...	1+	1.92	25+	1.79
CA3450E	HRS	896	1+	5.48	25+	5.03
CA3524E	HRS	895	1+	1.14	100+	1.01
CA5160E	HRS	...	1+	1.14	100+	1.04
CA5470E	HRS	...	1+	1.32	100+	1.21
CA5815C	MOT	...	1+	114.64	5+	100.06
CAL-LIN-KIT	ALG	...	1+	29.42	5+	26.60
CD14538BE	TI	...	1+	1.02	100+	0.90
CD22100E	TI	...	1+	1.54	25+	1.43
CD22204E	HRS	...	1+	4.26	25+	3.92
CD22M3494E	HRS	...	1+	9.34	10+	8.71
CD4001BE	TI	...	1+	0.55	100+	0.49
CD4001BF	TI	...	1+	1.73	25+	1.61
CD4002BE	TI	...	1+	0.45	100+	0.37
CD4007UBE	HRS	...	1+	0.45	100+	0.37
CD4009UBE	TI	...	1+	0.75	100+	0.67
CD40102BE	TI	...	1+	1.28	25+	1.19
CD40103BE	TI	...	1+	1.14	100+	1.01
CD40106BE	TI	...	1+	0.60	100+	0.49
CD40106BF	TI	...	1+	2.76	25+	2.57
CD40107BE	TI	...	1+	0.66	100+	0.53
CD40109BE	TI	...	1+	0.97	100+	0.85
CD40110BE	TI	...	1+	1.54	25+	1.43
CD40116E	TI	...	1+	13.30	10+	12.58

SEE THE REFERENCED PAGE NUMBERS ABOVE FOR PRODUCT SPECIFICATIONS.

FOR OTHER DEVICES, CONTACT YOUR LOCAL NEWARK SALES OFFICE.

Type	Mfg.	Pg.	Qty.	$	Qty.	$
CD4011BE	TI	...	1+	0.45	100+	0.37
CD4011BF	TI	...	1+	1.71	100+	1.51
CD4011UBE	TI	...	1+	0.45	100+	0.37
CD4012BE	TI	...	1+	0.55	100+	0.49
CD4013BE	TI	...	1+	0.48	100+	0.39
CD4013BF	TI	...	1+	1.74	25+	1.62
CD4013BM	TI	...	1+	0.57	100+	0.46
CD4014BE	TI	...	1+	0.97	100+	0.85
CD4015BE	TI	...	1+	0.87	100+	0.76
CD4016BE	TI	...	1+	0.54	100+	0.44
CD4016BF	TI	...	1+	1.74	25+	1.62
CD40174BE	TI	...	1+	0.92	100+	0.83
CD4017BE	TI	...	1+	0.87	100+	0.76
CD40192BE	TI	...	1+	1.22	100+	1.08
CD40193BE	TI	...	1+	1.28	25+	1.19
CD4019BE	TI	...	1+	0.51	100+	0.41
CD4020BE	TI	...	1+	0.84	100+	0.74
CD4021BE	TI	...	1+	0.84	100+	0.74
CD4023BE	TI	...	1+	0.45	100+	0.37
CD4024BE	TI	...	1+	0.72	100+	0.58
CD4025BE	TI	...	1+	0.57	100+	0.51
CD4026BE	TI	...	1+	1.02	100+	0.90
CD4027BE	TI	...	1+	0.69	100+	0.56
CD4028BE	TI	...	1+	0.84	100+	0.74
CD4029BE	TI	...	1+	0.84	100+	0.74
CD4030BE	TI	...	1+	0.66	100+	0.53
CD4040BE	TI	...	1+	0.84	100+	0.74
CD4042BE	TI	...	1+	0.68	100+	0.61
CD4043BE	TI	...	1+	0.84	100+	0.74
CD4044BE	TI	...	1+	0.84	100+	0.74
CD4046BE	TI	...	1+	0.97	100+	0.85
CD4047BE	TI	...	1+	0.87	100+	0.76
CD4048BE	TI	...	1+	0.73	100+	0.66
CD4049UBE	TI	...	1+	0.54	100+	0.44
CD4049UBF	TI	...	1+	2.25	25+	2.10
CD4050BE	TI	...	1+	0.60	100+	0.49
CD4051BE	TI	...	1+	0.76	100+	0.69
CD4051BF	HRS	...	1+	2.31	25+	2.13
CD4052BE	TI	...	1+	0.76	100+	0.69
CD4053BE	TI	...	1+	0.76	100+	0.69
CD4054BE	TI	...	1+	0.92	100+	0.81
CD4056BE	TI	...	1+	0.92	100+	0.81
CD4060BE	TI	...	1+	0.87	100+	0.78
CD4063BE	TI	...	1+	0.89	100+	0.79
CD4066BE	TI	...	1+	0.60	100+	0.49
CD4066BM	TI	...	1+	0.72	100+	0.58
CD4067BE	TI	...	1+	2.43	25+	2.27
CD4068BE	TI	...	1+	0.45	100+	0.37
CD4069UBE	TI	...	1+	0.45	100+	0.37
CD4069UBM	TI	...	1+	0.54	100+	0.44
CD4070BE	TI	...	1+	0.45	100+	0.37
CD4071BE	TI	...	1+	0.45	100+	0.37
CD4072BE	TI	...	1+	0.45	100+	0.37
CD4073BE	TI	...	1+	0.55	100+	0.49
CD4075BE	TI	...	1+	0.55	100+	0.49
CD4076BE	TI	...	1+	0.89	100+	0.79
CD4077BE	TI	...	1+	0.45	100+	0.37
CD4078BE	TI	...	1+	0.45	100+	0.37
CD4081BE	TI	...	1+	0.45	100+	0.37
CD4082BE	TI	...	1+	0.45	100+	0.37
CD4093BE	TI	...	1+	0.57	100+	0.46
CD4094BE	TI	...	1+	0.81	100+	0.73
CD4098BE	TI	...	1+	0.84	100+	0.76
CD4099BE	TI	...	1+	0.97	100+	0.85
CD411299	PWX	...	1+	40.86	5+	38.91
CD431290	PWX	...	1+	55.36	5+	49.21
CD4503BE	TI	...	1+	0.84	100+	0.76
CD4504BE	TI	...	1+	1.67	25+	1.55
CD4511BE	TI	...	1+	0.97	100+	0.85
CD4512BE	TI	...	1+	0.89	100+	0.79
CD4514BE	TI	...	1+	2.18	25+	2.03
CD4516BE	TI	...	1+	0.94	100+	0.83
CD4518BE	TI	...	1+	0.97	100+	0.85
CD4520BE	TI	...	1+	0.89	100+	0.79
CD4532BE	TI	...	1+	1.20	100+	1.05
CD4536BE	TI	...	1+	1.64	25+	1.53
CD4541BE	TI	...	1+	0.61	100+	0.54
CD4543BE	TI	...	1+	0.87	100+	0.76
CD4555BE	TI	...	1+	0.87	100+	0.76
CD4585BE	TI	...	1+	0.97	100+	0.85
CD611216	PWX	...	1+	103.27	5+	90.55
CD611616	PWX	929	1+	114.57	5+	100.46
CD631215	PWX	929	1+	112.64	5+	98.77
CD631415	PWX	...	1+	120.14	5+	105.35
CD631615	PWX	929	1+	122.51	5+	107.43
CD74AC00E	TI	...	1+	0.60	100+	0.49
CD74AC05M	TI	...	1+	0.66	100+	0.53
CD74AC257M	TI	...	1+	0.89	100+	0.79
CD74AC373M	TI	...	1+	1.36	25+	1.27
CD74AC541M	TI	...	1+	1.38	25+	1.29
CD74ACT00E	TI	...	1+	0.60	100+	0.49
CD74ACT02M	TI	...	1+	0.63	100+	0.51
CD74ACT14E	TI	...	1+	0.66	100+	0.53
CD74ACT157M	TI	...	1+	0.94	100+	0.83
CD74ACT174M	TI	...	1+	0.89	100+	0.79
CD74ACT283M	TI	...	1+	1.31	25+	1.22
CD74ACT541E	TI	...	1+	1.36	25+	1.27
CD74ACT541M	TI	...	1+	1.38	25+	1.29

Type	Mfg.	Pg.	Qty.	$	Qty.	$
CD74ACT646M	TI	...	1+	5.48	25+	5.03
CD74ACT74E	TI	...	1+	0.66	100+	0.53
CD74FCT244E	TI	...	1+	3.61	25+	3.36
CD74FCT646M	TI	...	1+	6.62	25+	6.08
CD74FCT652EN	TI	...	1+	4.97	25+	4.56
CD74HC00E	TI	...	1+	0.55	100+	0.49
CD74HC02E	TI	...	1+	0.55	100+	0.49
CD74HC04E	TI	...	1+	0.55	100+	0.49
CD74HC04M	TI	...	1+	0.45	100+	0.37
CD74HC08E	TI	...	1+	0.55	100+	0.49
CD74HC107M	TI	...	1+	0.72	100+	0.58
CD74HC10E	TI	...	1+	0.55	100+	0.49
CD74HC123E	TI	...	1+	0.79	100+	0.71
CD74HC123M	TI	...	1+	0.84	100+	0.76
CD74HC132E	TI	...	1+	0.76	100+	0.69
CD74HC138E	TI	...	1+	0.60	100+	0.49
CD74HC139E	TI	...	1+	0.63	100+	0.51
CD74HC139M	TI	...	1+	0.72	100+	0.58
CD74HC14E	TI	...	1+	0.51	100+	0.41
CD74HC14M	HRS	...	1+	0.54	100+	0.44
CD74HC157E	TI	...	1+	0.66	100+	0.53
CD74HC157M	TI	...	1+	0.68	100+	0.61
CD74HC163M	TI	...	1+	0.79	100+	0.71
CD74HC164E	TI	...	1+	0.68	100+	0.61
CD74HC165E	TI	...	1+	0.68	100+	0.61
CD74HC191M	TI	...	1+	0.89	100+	0.79
CD74HC238E	TI	...	1+	0.89	100+	0.79
CD74HC244E	TI	...	1+	0.84	100+	0.76
CD74HC245E	TI	...	1+	0.84	100+	0.76
CD74HC257M	TI	...	1+	0.73	100+	0.66
CD74HC273E	TI	...	1+	0.81	100+	0.73
CD74HC32E	TI	...	1+	0.55	100+	0.49
CD74HC32M	TI	...	1+	0.45	100+	0.37
CD74HC373E	TI	...	1+	0.81	100+	0.73
CD74HC374E	HRS	...	1+	0.81	100+	0.73
CD74HC40103E	TI	...	1+	1.04	100+	0.92
CD74HC40105M	TI	...	1+	1.30	100+	1.14
CD74HC4020M	TI	...	1+	0.89	100+	0.79
CD74HC4040E	TI	...	1+	0.87	100+	0.78
CD74HC4046AE	TI	...	1+	1.79	25+	1.67
CD74HC4050E	TI	...	1+	0.76	100+	0.69
CD74HC4050M	TI	...	1+	0.79	100+	0.71
CD74HC4051E	TI	...	1+	0.92	100+	0.81
CD74HC4060E	TI	...	1+	0.87	100+	0.76
CD74HC4060M	TI	...	1+	0.92	100+	0.81
CD74HC4066M	TI	...	1+	0.81	100+	0.73
CD74HC4514EN	TI	...	1+	3.07	25+	2.82
CD74HC4520E	TI	...	1+	1.04	100+	0.92
CD74HC4538E	TI	...	1+	0.97	100+	0.85
CD74HC4538M	TI	...	1+	1.09	100+	0.96
CD74HC540E	TI	...	1+	0.94	100+	0.83
CD74HC540M	TI	...	1+	1.04	100+	0.92
CD74HC541E	TI	...	1+	0.97	100+	0.85
CD74HC541M	TI	...	1+	0.99	100+	0.88
CD74HC573E	TI	...	1+	1.02	100+	0.90
CD74HC573M	TI	...	1+	1.09	100+	0.96
CD74HC574E	TI	...	1+	0.97	100+	0.85
CD74HC688E	TI	...	1+	0.99	100+	0.88
CD74HC7046AE	TI	...	1+	1.97	25+	1.84
CD74HC74E	TI	...	1+	0.51	100+	0.41
CD74HC74M	TI	...	1+	0.60	100+	0.49
CD74HC86E	TI	...	1+	0.57	100+	0.46
CD74HC86M	TI	...	1+	0.60	100+	0.49
CD74HCT00E	TI	...	1+	0.55	100+	0.49
CD74HCT02E	TI	...	1+	0.55	100+	0.49
CD74HCT04E	TI	...	1+	0.55	100+	0.49
CD74HCT04M	TI	...	1+	0.45	100+	0.37
CD74HCT08E	TI	...	1+	0.55	100+	0.49
CD74HCT10E	TI	...	1+	0.55	100+	0.49
CD74HCT123E	TI	...	1+	0.79	100+	0.71
CD74HCT123M	TI	...	1+	0.87	100+	0.78
CD74HCT125E	TI	...	1+	0.68	100+	0.61
CD74HCT132E	TI	...	1+	0.76	100+	0.69
CD74HCT138E	TI	...	1+	0.60	100+	0.49
CD74HCT139E	TI	...	1+	0.68	100+	0.61
CD74HCT14E	TI	...	1+	0.51	100+	0.41
CD74HCT14M	TI	...	1+	0.54	100+	0.44
CD74HCT153E	TI	...	1+	0.69	100+	0.56
CD74HCT153M	TI	...	1+	0.71	100+	0.64
CD74HCT161E	TI	...	1+	0.72	100+	0.58
CD74HCT163M	TI	...	1+	0.79	100+	0.71
CD74HCT164E	TI	...	1+	0.68	100+	0.61
CD74HCT165E	TI	...	1+	0.68	100+	0.61
CD74HCT175E	TI	...	1+	0.60	100+	0.49
CD74HCT191E	TI	...	1+	0.87	100+	0.78
CD74HCT193E	TI	...	1+	0.98	100+	0.88
CD74HCT22106E	HRS	...	1+	5.09	100+	4.66
CD74HCT240E	TI	...	1+	0.81	100+	0.73
CD74HCT244E	TI	...	1+	0.84	100+	0.76
CD74HCT245E	TI	...	1+	0.84	100+	0.76
CD74HCT251E	TI	...	1+	0.71	100+	0.64
CD74HCT253M	TI	...	1+	0.79	100+	0.71
CD74HCT259E	TI	...	1+	0.84	100+	0.76
CD74HCT273E	TI	...	1+	0.81	100+	0.73
CD74HCT27M	TI	...	1+	0.54	100+	0.44
CD74HCT30E	TI	...	1+	0.55	100+	0.49
CD74HCT32E	TI	...	1+	0.45	100+	0.37
CD74HCT367M	TI	...	1+	0.89	100+	0.79

Type	Mfg.	Pg.	Qty.	$	Qty.	$
CD74HCT373E	TI	...	1+	0.81	100+	0.73
CD74HCT374E	TI	...	1+	0.81	100+	0.73
CD74HCT393E	TI	...	1+	0.81	100+	0.73
CD74HCT4040E	TI	...	1+	0.87	100+	0.78
CD74HCT4040M	TI	...	1+	0.87	100+	0.76
CD74HCT4316E	TI	...	1+	0.92	100+	0.83
CD74HCT4538M	TI	...	1+	1.09	100+	0.96
CD74HCT541E	TI	...	1+	0.97	100+	0.85
CD74HCT573E	TI	...	1+	1.02	100+	0.90
CD74HCT573M	TI	...	1+	1.09	100+	0.96
CD74HCT574E	TI	...	1+	0.97	100+	0.85
CD74HCT597M	HRS	...	1+	0.92	100+	0.81
CD74HCT688E	HRS	...	1+	0.99	100+	0.88
CD74HCT688M	HRS	...	1+	1.09	100+	0.96
CD74HCT74E	HRS	...	1+	0.51	100+	0.41
CD74HCT74M	HRS	...	1+	0.60	100+	0.49
CD74HCT86E	TI	...	1+	0.57	100+	0.46
CD82C54	HRS	...	1+	10.66	10+	9.93
CDC2351DW	TI	...	1+	11.55	10+	10.92
CDC328AD	TI	...	1+	8.01	10+	7.46
CDC329AD	TI	...	1+	8.01	10+	7.46
CDC340DW	TI	...	1+	9.85	10+	9.18
CDC351DW	TI	...	1+	12.29	10+	11.45
CDD11210	PWX	929	1+	80.17	5+	71.26
CDP1802ACE	HRS	900	1+	12.30	10+	11.46
CDP1802BCE	HRS	900	1+	17.35	10+	16.40
CDP1805ACE	HRS	900	1+	30.32	5+	28.87
CDP1806ACE	HRS	900	1+	26.96	10+	25.49
CDP1824CE	HRS	...	1+	5.70	25+	5.23
CDP1852CE	HRS	...	1+	8.88	10+	8.27
CDP1853CE	HRS	...	1+	5.30	25+	4.87
CDP1854ACE	HRS	...	1+	9.03	10+	8.42
CDP1871ACE	HRS	...	1+	6.92	100+	5.84
CDP6402CE	HRS	...	1+	9.19	10+	8.56
CDP6402E	HRS	...	1+	12.92	10+	12.04
CDP65C51E1	HRS	...	1+	4.23	25+	3.89
CDP6805E2E	HRS	...	1+	11.87	10+	11.07
CDP6818AE	HRS	...	1+	6.08	10+	5.67
CDP68HC68W1E	HRS	...	1+	2.54	25+	2.34
CLC016ACQ	NAT	...	1+	39.37	5+	37.49
CLC111AJP	NAT	...	1+	5.30	25+	3.95
CLC400AJE	NAT	...	1+	10.29	10+	9.59
CLC400AJP	NAT	...	1+	10.29	10+	9.59
CLC402AJE	NAT	...	1+	11.02	10+	10.27
CLC404AJE	NAT	...	1+	5.77	25+	5.30
CLC404AJM5	NAT	...	1+	5.77	25+	5.30
CLC405AJE	NAT	...	1+	4.24	25+	3.89
CLC406AJE	NAT	...	1+	6.01	25+	5.53
CLC407AJE	NAT	...	1+	4.24	25+	3.89
CLC409AJE	NAT	...	1+	7.86	10+	7.32
CLC409AJM5	NAT	...	1+	7.86	10+	7.32
CLC411AJE	NAT	...	1+	8.81	10+	8.21
CLC414AJE	NAT	...	1+	11.73	10+	11.09
CLC420AJE	NAT	...	1+	7.86	10+	7.32
CLC425AJE	NAT	...	1+	10.12	10+	9.43
CLC425AJP	NAT	...	1+	8.55	25+	6.00
CLC430AJE	NAT	...	1+	3.34	25+	3.07
CLC430AJP	NAT	...	1+	3.34	25+	3.07
CLC432AJE	NAT	...	1+	6.23	10+	5.81
CLC440AJE	NAT	...	1+	11.17	10+	10.41
CLC449AJE	NAT	...	1+	11.17	10+	10.41
CLC502AJE	NAT	...	1+	7.84	10+	7.30
CLC505AJE	NAT	...	1+	6.84	10+	6.37
CLC520AJE	NAT	...	1+	11.62	10+	10.98
CLC522AJE	NAT	...	1+	10.85	10+	10.11
CLC5523IM	NAT	...	1+	9.95	10+	9.27
CLC5523IN	NAT	...	1+	9.95	10+	9.27
CLC5526MSA	NAT	...	1+	10.23	10+	9.53
CLC5602IM	NAT	...	1+	4.40	25+	4.04
CLC5612IM	NAT	...	1+	4.40	25+	4.04
CLC5622IM	NAT	...	1+	4.52	25+	4.15
CLC5623IM	NAT	...	1+	5.60	25+	5.14
CLC5632IM	NAT	...	1+	4.52	25+	4.15
CLC5633IM	NAT	...	1+	5.60	25+	5.14
CLC5644IM	NAT	...	1+	7.95	10+	7.41
CLC5644IN	NAT	...	1+	7.95	10+	7.41
CLC5654IM	NAT	...	1+	7.31	10+	6.81
CLC5654IN	NAT	...	1+	7.31	10+	6.81
CLC5665IM	NAT	...	1+	2.80	25+	2.57
CLC5665IN	NAT	...	1+	2.80	25+	2.57
CLC5956IMTD	NAT	...	1+	67.18	5+	59.72
CM100DU-12H	PWX	...	1+	62.90	5+	55.91
CM100DY-12H	PWX	...	1+	85.79	5+	75.22
CM100DY-24H	PWX	928	1+	208.31	5+	187.82
CM100TF-28H	PWX	...	1+	682.86	5+	615.70
CM150DU-12H	PWX	...	1+	94.89	5+	84.35
CM150DY-12H	PWX	928	1+	128.63	5+	112.79
CM150DY-24H	PWX	928	1+	202.97	5+	183.01
CM200DU-12H	PWX	...	1+	118.90	5+	104.26
CM200DU-24H	PWX	...	1+	189.65	5+	170.99
CM300DU-12H	PWX	...	1+	178.38	5+	156.41
CM300DU-24H	PWX	...	1+	284.48	5+	256.50
CM300DY-12H	PWX	928	1+	231.97	5+	209.15
CM300HA-24H	PWX	...	1+	202.97	5+	183.01
CM30TF-12H	PWX	...	1+	111.55	5+	97.82
CM400HA-12H	PWX	...	1+	154.63	5+	139.42
CM400HA-24H	PWX	928	1+	270.59	5+	243.97
CM4308A2	PWX	929	1+	31.87	5+	30.34

Manufacturer Abbreviations:

ADI: Analog Devices; **ALG:** Allegro; **ALT:** Altera; **AMD:** Advanced Micro Devices; **AND:** AND; **APD:** American Power Devices; **DAL:** Dallas Semiconductor; **ECG:** Philips ECG; **FGR:** Fagor; **GS:** General Semiconductor; **HP:** Hewlett Packard; **HRS:** Harris Semiconductor; **HWL:** Honeywell Opto; **INT:** Intronics; **IR:** International Rectifier; **MIC:** Micrel; **MOT:** Motorola; **NAT:** National Semiconductor; **OPT:** Optek; **PHL:** Phillips Semiconductors; **PWX:** Powerex; **QT:** QT Optoelectronics; **SKN:** Semikron; **SPC:** SPC Technology; **TI:** Texas Instruments; **TSK:** Thomson SK; **VAC:** EG&G Vactec; **VAN:** Vantis; **ZIL:** Zilog

Type	Mfg.	Pg.	Qty.	$	Qty.	$
CM431255	PWX	929	1+	58.53	5+	52.03
CM431290	PWX	...	1+	90.77	5+	80.68
CM431690	PWX	...	1+	100.32	5+	89.17
CM450HA-5F	PWX	...	1+	163.10	5+	147.06
CM50DY-24H	PWX	928	1+	101.86	5+	89.32
CM50TF-12H	PWX	...	1+	192.44	5+	168.74
CM600HA-24H	PWX	928	1+	405.90	5+	365.97
CM600HA-5F	PWX	...	1+	217.46	5+	196.07
CM600HU-24H	PWX	...	1+	284.48	5+	256.50
CM75DY-12H	PWX	...	1+	79.86	5+	70.99
CM75TF-28H	PWX	...	1+	526.78	5+	474.96
CMP-08FZ	ADI	881	1+	7.43	25+	5.51
CMP01CJ	ADI	881	1+	10.01	25+	7.42
CMP01CP	ADI	881	1+	6.12	10+	5.56
CMP01EP	ADI	...	1+	6.41	10+	5.83
CMP02CP	ADI	881	1+	5.57	25+	4.13
CMP02CS	ADI	881	1+	5.57	25+	4.13
CMP02EP	ADI	...	1+	9.15	10+	8.32
CMP04FP	ADI	881	1+	12.69	10+	11.53
CMP04FS	ADI	881	1+	11.55	25+	8.56
CMP05FZ	ADI	...	1+	11.10	25+	8.23
CMP05GP	ADI	881	1+	4.44	25+	3.30
CMP05GS	ADI	881	1+	4.15	25+	3.08
CMP05GZ	ADI	...	1+	6.10	25+	4.52
CMP401GP	ADI	881	1+	5.80	10+	5.27
CMP402GP	ADI	881	1+	5.80	10+	5.27
CNY17-1	QT	585	1+	0.37	100+	0.31
CNY17-2	QT	585	1+	0.37	100+	0.31
CNY17-2T	MOT	...	1+	0.83	100+	0.66
CNY17-2V	MOT	...	1+	0.99	100+	0.78
CNY17-3	QT	585	1+	0.43	100+	0.36
CNY17-3SV	MOT	...	1+	0.91	100+	0.72
CNY17-3V	MOT	...	1+	0.99	100+	0.78
CNY17-4	QT	585	1+	0.37	100+	0.31
CNY17F-1	QT	585	1+	0.37	100+	0.31
CNY17F-3	QT	585	1+	0.37	100+	0.31
CNY17F2	QT	...	1+	0.37	100+	0.31
COP8-PGMA-DS44P	NAT	...	1+	240.55	5+	216.89
COP87L88FHN-XE	NAT	...	1+	18.90	10+	17.87
COP87L88FHV-XE	NAT	...	1+	17.88	10+	16.90
COP87L88RDV-XE	NAT	...	1+	19.02	10+	17.98
COP8ACC728N9-XE	NAT	...	1+	12.41	10+	11.74
COP8SA-DM	NAT	...	1+	1060.67	5+	956.34
COP8SA-EPU-1	NAT	...	1+	176.49	5+	166.06
COP8SA-PGMA	NAT	...	1+	208.35	5+	187.86
COP8SAB728M9	NAT	908	1+	5.48	25+	5.03
COP8SGE728M8	NAT	908	1+	7.34	10+	6.84
COP8SGE740N8	NAT	908	1+	7.97	10+	7.43
COP8SGE744V8	NAT	...	1+	7.71	10+	7.19
COP8SGE7VEJ8	NAT	...	1+	10.53	10+	9.82
COP8SGR728M8	NAT	908	1+	8.72	10+	8.13
COP8SGR740N8	NAT	908	1+	9.45	10+	8.81
COP8SGR744V8	NAT	...	1+	9.19	10+	8.57
COP8SGR7VEJ8	NAT	...	1+	11.33	10+	10.72
CP82C37A-12	HRS	900	1+	15.29	10+	14.46
CP82C37A-5	HRS	900	1+	9.87	10+	9.20
CP82C52	HRS	900	1+	13.21	10+	12.49
CP82C54	HRS	900	1+	5.60	25+	5.15
CP82C54-10	HRS	900	1+	6.58	10+	6.14
CP82C54-12	HRS	900	1+	7.76	10+	7.23
CP82C55A	HRS	900	1+	5.18	25+	4.77
CP82C55A-5	HRS	...	1+	4.16	25+	3.83
CP82C59A	HRS	900	1+	5.40	25+	4.97
CP82C59A-12	HRS	900	1+	7.83	10+	7.30
CP82C59A-5	HRS	900	1+	4.16	25+	3.83
CP82C84A	HRS	900	1+	4.26	25+	3.92
CP82C86H-5	HRS	900	1+	7.17	10+	6.68
CR02AM-8	PWX	930	1+	0.66	100+	0.53
CR2AM-8	PWX	930	1+	1.36	25+	1.27
CR3CM-12	PWX	930	1+	2.46	25+	2.26
CR3CM8	PWX	...	1+	2.02	25+	1.88
CR6CM-12	PWX	930	1+	1.97	25+	1.84
CR6CM-8	PWX	930	1+	1.79	25+	1.67
CR8AM-8	PWX	930	1+	2.43	25+	2.27
CS240610	PWX	928	1+	36.24	5+	34.50
CS240650	PWX	928	1+	29.75	5+	28.32
CS241210	PWX	928	1+	40.67	5+	38.73
CS241250	PWX	928	1+	32.26	5+	30.71
CS82C54	HRS	...	1+	6.33	10+	5.90
CS82C55A	HRS	900	1+	6.23	10+	5.81
CS82C55A-5	HRS	...	1+	4.82	25+	4.43
D44C12	MOT	871	1+	1.66	100+	1.58
D44H11	MOT	871	1+	1.31	100+	1.02
D44H8	MOT	...	1+	1.31	100+	1.02
D44VH10	MOT	871	1+	1.31	100+	1.02
D45C12	MOT	871	1+	1.66	100+	1.58
D45H11	MOT	871	1+	1.31	100+	1.02
D45H8	MOT	...	1+	1.31	100+	1.02
D45VH10	MOT	871	1+	1.31	100+	1.02
DAC0800LCN	NAT	...	1+	1.36	25+	1.02
DAC0808LCN	NAT	...	1+	2.27	25+	2.27
DAC0832LCN	NAT	...	1+	2.65	25+	1.99
DAC08AQ	ADI	...	1+	10.34	10+	9.40
DAC08CP	ADI	886	1+	2.15	10+	1.87
DAC08EP	ADI	...	1+	2.68	10+	2.33
DAC08EQ	ADI	886	1+	3.35	10+	2.91
DAC100CCQ3	ADI	886	1+	39.73	25+	29.45
DAC1136J	INT	...	1+	459.54	...	...
DAC1136K	INT	917	1+	522.68	...	...
DAC1146	INT	917	1+	356.04	...	...
DAC1408A-8Q	ADI	...	1+	4.68	25+	3.47
DAC1408A8P	ADI	...	1+	3.59	25+	2.66
DAC210GX	ADI	886	1+	19.64	10+	17.86
DAC312FR	ADI	886	1+	16.82	10+	15.29
DAC312HP	ADI	886	1+	7.69	10+	6.99
DAC312HS	ADI	886	1+	7.69	10+	6.99
DAC8043AZ	ADI	...	1+	90.64	25+	67.19
DAC8043EZ	ADI	...	1+	37.12	25+	27.52
DAC8043FP	ADI	886	1+	15.29	10+	13.90
DAC8221EW	ADI	...	1+	62.76	25+	46.52
DAC8221FP	ADI	887	1+	29.25	25+	21.68
DAC8221GP	ADI	887	1+	46.36	25+	34.36
DAC8229FP	ADI	887	1+	9.65	25+	7.16
DAC8248FW	ADI	...	1+	46.83	25+	34.72
DAC8412FPC	ADI	...	1+	63.58	10+	60.55
DAC8413FPC	ADI	887	1+	63.58	10+	60.55
DAC8420FP	ADI	887	1+	51.16	10+	46.51
DAC8420FS	ADI	...	1+	51.16	10+	46.51
DAC8426EP	ADI	...	1+	37.20	10+	33.82
DAC8426FP	ADI	887	1+	29.97	10+	27.25
DAC8426FR	ADI	...	1+	57.64	25+	42.72
DAC8512EP	ADI	886	1+	18.71	10+	17.01
DAC8512FS	ADI	...	1+	11.88	10+	10.80
DAC8562EP	ADI	886	1+	21.35	10+	19.41
DAC8562FS	ADI	...	1+	15.29	10+	13.90
DAC8800FP	ADI	...	1+	15.51	10+	14.10
DAC8800FS	ADI	...	1+	15.51	10+	14.10
DAS1152	INT	...	1+	510.26	...	...
DAS1153	INT	...	1+	622.04	...	...
DAS1159	INT	...	1+	695.52	...	...
DB-0198-01	ALT	931	1+	5.00	...	...
DB101G	SPC	938	1+	0.51	100+	0.37
DB102G	SPC	938	1+	0.52	100+	0.37
DB103G	SPC	938	1+	0.53	100+	0.38
DB104G	SPC	938	1+	0.56	100+	0.40
DB105G	SPC	938	1+	0.61	100+	0.44
DB107G	SPC	938	1+	0.72	100+	0.52
DB95Z80010	ZIL	944	1+	5.00	...	...
DC-8276-04	ZIL	944	1+	5.00	...	...
DF005M	IR	...	1+	0.57	100+	0.46
DF005S	IR	...	1+	0.60	100+	0.49
DF01M	IR	...	1+	0.60	100+	0.49
DF01S	IR	...	1+	0.66	100+	0.53
DF02M	IR	...	1+	0.66	100+	0.53
DF02S	IR	...	1+	0.69	100+	0.56
DF04M	IR	...	1+	0.69	100+	0.56
DF04S	IR	...	1+	0.72	100+	0.58
DF06M	IR	...	1+	0.72	100+	0.58
DF06S	IR	...	1+	0.68	100+	0.61
DF08M	IR	...	1+	0.68	100+	0.61
DF10M	IR	...	1+	0.84	100+	0.76
DG200BA	HRS	...	1+	3.21	25+	2.95
DG201ACJ	HRS	899	1+	1.73	25+	1.59
DG201BK	HRS	899	1+	6.08	10+	5.67
DG201CJ	HRS	...	1+	3.53	25+	3.25
DG202CJ	HRS	899	1+	4.75	25+	4.36
DG211CJ	HRS	899	1+	1.64	25+	1.53
DG212CJ	HRS	899	1+	1.69	25+	1.58
DG300ACJ	HRS	...	1+	4.87	25+	4.48
DG301ACJ	HRS	899	1+	4.87	25+	4.48
DG303ACJ	HRS	899	1+	5.74	25+	5.28
DG308ACJ	HRS	899	1+	2.92	25+	2.69
DG309CJ	HRS	899	1+	2.92	25+	2.69
DG401DJ	HRS	...	1+	2.44	25+	2.24
DG403DJ	HRS	899	1+	5.09	25+	4.68
DG403DY	HRS	899	1+	5.09	25+	4.68
DG406DJ	HRS	898	1+	7.67	10+	7.14
DG407DJ	HRS	898	1+	7.67	10+	7.14
DG408DJ	HRS	898	1+	4.63	25+	4.25
DG409DJ	HRS	898	1+	4.63	25+	4.25
DG411DJ	HRS	899	1+	3.48	25+	3.20
DG411DY	HRS	...	1+	3.48	25+	3.20
DG412DJ	HRS	899	1+	3.48	25+	3.20
DG413DJ	HRS	899	1+	3.48	25+	3.20
DG413DY	HRS	...	1+	3.48	25+	3.20
DG441DJ	HRS	899	1+	2.51	25+	2.31
DG442DJ	HRS	899	1+	2.51	25+	2.31
DG442DY	HRS	...	1+	2.51	25+	2.31
DG444DJ	HRS	899	1+	2.13	25+	1.98
DG444DY	HRS	...	1+	1.89	100+	1.73
DG445DJ	HRS	...	1+	2.13	25+	1.98
DG506ACJ	HRS	898	1+	9.00	10+	8.39
DG507ACJ	HRS	...	1+	9.83	10+	9.16
DG508ACJ	HRS	898	1+	4.87	25+	4.48
DG509ACJ	HRS	898	1+	4.87	25+	4.48
DM-COP8/20D-SO	NAT	...	1+	208.35	5+	187.86
DM-COP8/28D-SO	NAT	...	1+	208.35	5+	187.86
DMCOP8/44P	NAT	...	1+	89.43	5+	79.49
DPA4111	IR	...	1+	5.35	25+	4.92
DPA4119	IR	...	1+	6.59	10+	6.15
DPA6111	IR	...	1+	6.55	10+	6.10
DPA6119	IR	...	1+	7.79	10+	7.26
DS0026CN	NAT	...	1+	2.67	25+	2.00
DS1000-50	DAL	...	1+	3.89	10+	3.78
DS1000M-100	DAL	...	1+	3.89	10+	3.78
DS1000M-25	DAL	...	1+	3.89	10+	3.78
DS1000M-50	DAL	...	1+	3.89	10+	3.78
DS1000M-75	DAL	...	1+	3.89	10+	3.78
DS1000S-50	DAL	...	1+	4.62	10+	4.48
DS1010-100	DAL	...	1+	6.99	10+	6.44
DS1010-50	DAL	...	1+	6.99	10+	6.44
DS1010-500	DAL	...	1+	6.99	10+	6.44
DS1020-50	DAL	...	1+	30.00	25+	22.00
DS1065T-100	DAL	915	1+	2.32	25+	1.91
DS1065T-60	DAL	915	1+	2.32	25+	1.91
DS1073M-100	DAL	915	1+	3.13	25+	2.58
DS1073M-60	DAL	915	1+	3.13	25+	2.58
DS1073Z-100	DAL	915	1+	3.30	25+	2.71
DS1073Z-60	DAL	915	1+	3.30	25+	2.71
DS1075 K	DAL	915	1+	99.00	...	...
DS1075M-100	DAL	915	1+	2.61	25+	2.15
DS1075M-60	DAL	915	1+	2.61	25+	2.15
DS1075M-66	DAL	915	1+	2.61	25+	2.15
DS1075M-80	DAL	915	1+	2.61	25+	2.15
DS1075Z-100	DAL	915	1+	2.75	25+	2.26
DS1075Z-60	DAL	915	1+	2.75	25+	2.26
DS1075Z-80	DAL	915	1+	2.75	25+	2.26
DS1201	DAL	...	1+	9.15	25+	7.85
DS1202	DAL	...	1+	3.60	25+	2.88
DS1210	DAL	...	1+	4.74	10+	4.60
DS1213B	DAL	...	1+	12.60	25+	10.80
DS1213C	DAL	...	1+	12.60	25+	10.80
DS1213D	DAL	...	1+	14.70	25+	12.60
DS1216B	DAL	914	1+	21.24	25+	18.21
DS1216C	DAL	914	1+	21.24	25+	18.21
DS1216D	DAL	914	1+	23.29	25+	19.98
DS1216E	DAL	914	1+	21.24	25+	18.21
DS1216F	DAL	914	1+	23.29	25+	19.98
DS1220AB-150	DAL	913	1+	11.65	10+	10.72
DS1220AB-200	DAL	913	1+	11.65	10+	10.72
DS1220AD-100	DAL	913	1+	11.96	10+	11.00
DS1220AD-200	DAL	913	1+	11.65	10+	10.72
DS1220Y-150	DAL	913	1+	10.93	10+	10.06
DS1220Y-200	DAL	913	1+	10.93	10+	10.06
DS1225AB-150	DAL	913	1+	14.57	10+	13.40
DS1225AB-200	DAL	913	1+	14.57	10+	13.40
DS1225AB-85	DAL	913	1+	14.94	10+	13.75
DS1225AD-150	DAL	913	1+	14.57	10+	13.40
DS1225AD-200	DAL	913	1+	14.57	10+	13.40
DS1225AD-85	DAL	913	1+	14.94	10+	13.75
DS1225Y-150	DAL	913	1+	13.84	10+	12.74
DS1225Y-170	DAL	913	1+	13.84	10+	12.74
DS1225Y-200	DAL	913	1+	13.84	10+	12.74
DS1230AB-100	DAL	913	1+	19.92	10+	18.33
DS1230AB-120	DAL	913	1+	19.92	10+	18.33
DS1230AB-150	DAL	913	1+	19.92	10+	18.33
DS1230AB-200	DAL	913	1+	19.92	10+	18.33
DS1230AB-70	DAL	913	1+	20.16	10+	18.55
DS1230ABP-70	DAL	913	1+	14.57	10+	13.40
DS1230BL-100	DAL	913	1+	23.91	10+	22.00
DS1230BL-70	DAL	913	1+	24.50	10+	22.54
DS1230W-150	DAL	913	1+	19.67	10+	18.10
DS1230WP-150	DAL	913	1+	14.08	10+	12.95
DS1230Y-100	DAL	913	1+	19.92	10+	18.33
DS1230Y-120	DAL	...	1+	19.92	10+	18.33
DS1230Y-150	DAL	913	1+	19.92	10+	18.33
DS1230Y-200	DAL	913	1+	19.92	10+	18.33
DS1230Y-70	DAL	913	1+	20.42	10+	18.78
DS1230Y-85	DAL	...	1+	20.42	10+	18.78
DS1230YL-100	DAL	913	1+	23.91	10+	22.00
DS1230YL-70	DAL	913	1+	24.50	10+	22.54
DS1230YP-70	DAL	913	1+	14.57	10+	13.40
DS1231-20	DAL	913	1+	4.60	25+	3.95
DS1231-35	DAL	913	1+	4.60	25+	3.95
DS1231-50	DAL	913	1+	4.60	25+	3.95
DS1231S-20	DAL	913	1+	5.55	25+	4.75
DS1232	DAL	913	1+	4.14	10+	4.01
DS1232LP	DAL	913	1+	2.07	10+	2.01
DS1232LPS-2	DAL	913	1+	2.07	10+	2.01
DS1232N	DAL	913	1+	4.77	10+	4.62
DS1232S	DAL	913	1+	4.99	10+	4.84
DS1233-10	DAL	913	1+	1.42	25+	1.21
DS1233-15	DAL	913	1+	1.42	25+	1.21
DS1233-5	DAL	913	1+	1.42	25+	1.21
DS1233AZ-10	DAL	...	1+	2.16	25+	1.84
DS1233AZ-15	DAL	913	1+	2.16	25+	1.84
DS1233D-10	DAL	913	1+	1.29	25+	1.10
DS1233D-15	DAL	913	1+	1.29	25+	1.10
DS1233DZ-10	DAL	913	1+	2.40	25+	2.05
DS1233DZ-5	DAL	...	1+	2.40	25+	2.05
DS1233Z-10	DAL	913	1+	2.40	25+	2.05
DS1233Z-5	DAL	913	1+	2.40	25+	2.05
DS1236AS-10	DAL	...	1+	6.85	25+	5.85
DS1243Y	DAL	914	1+	26.35	10+	24.24
DS1243Y-150	DAL	914	1+	31.11	10+	28.62
DS1244Y	DAL	914	1+	41.21	10+	37.91
DS1245AB-120	DAL	913	1+	28.04	10+	25.80
DS1245ABP-70	DAL	913	1+	22.63	10+	20.82
DS1245W-150	DAL	913	1+	28.04	10+	25.80
DS1245WP-150	DAL	913	1+	22.09	10+	20.33
DS1245Y-100	DAL	913	1+	28.04	10+	25.80
DS1245Y-120	DAL	...	1+	28.04	10+	25.80
DS1245Y-70	DAL	...	1+	28.58	10+	26.29
DS1245YP-70	DAL	913	1+	22.63	10+	20.82

NEW TYPES ARE BEING CONTINUALLY ADDED TO INVENTORY.

CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR AVAILABILITY.

Type	Mfg.	Pg.	Qty.	$	Qty.	$
DS1249AB-70	DAL	913	1+	50.65	10+	46.59
DS1249Y-70	DAL	...	1+	50.65	10+	46.59
DS1250AB-100	DAL	913	1+	88.22	10+	81.16
DS1250AB-70	DAL	...	1+	89.12	10+	81.98
DS1250ABP-70	DAL	913	1+	83.45	10+	76.77
DS1250BL-100	DAL	913	1+	130.51	10+	120.06
DS1250BL-70	DAL	913	1+	131.81	10+	121.25
DS1250W-150	DAL	913	1+	88.22	10+	81.16
DS1250WP-150	DAL	913	1+	82.56	10+	75.95
DS1250Y-100	DAL	913	1+	88.22	10+	81.16
DS1250Y-70	DAL	...	1+	89.12	10+	81.98
DS1250YL-100	DAL	913	1+	130.51	10+	120.06
DS1250YL-70	DAL	913	1+	131.81	10+	121.25
DS1250YP-70	DAL	913	1+	83.45	10+	76.77
DS1258AB-100	DAL	913	1+	60.54	10+	55.69
DS1258AB-70	DAL	...	1+	61.15	10+	56.25
DS1258Y-100	DAL	913	1+	60.54	10+	55.69
DS1258Y-70	DAL	...	1+	61.15	10+	56.25
DS1259	DAL	...	1+	8.16	10+	7.51
DS1260-100	DAL	...	1+	13.45	25+	11.50
DS1260-25	DAL	...	1+	10.30	25+	8.80
DS1260-50	DAL	...	1+	10.90	25+	9.35
DS1265AB-70	DAL	913	1+	128.72	10+	118.41
DS1265Y-70	DAL	913	1+	128.72	10+	118.41
DS1267-010	DAL	915	1+	4.50	25+	3.90
DS1267-050	DAL	915	1+	4.50	25+	3.90
DS1267-100	DAL	915	1+	4.50	25+	3.90
DS1267S-010	DAL	...	1+	5.15	25+	4.50
DS1270AB-70	DAL	913	1+	150.68	5+	143.14
DS1270Y-70	DAL	913	1+	150.68	5+	143.14
DS1286	DAL	914	1+	14.30	25+	12.65
DS1287	DAL	...	1+	14.54	10+	13.38
DS1287A	DAL	...	1+	14.54	10+	13.38
DS12887	DAL	914	1+	9.32	10+	8.58
DS12887A	DAL	...	1+	10.26	10+	9.44
DS1302	DAL	914	1+	2.21	25+	2.00
DS1305E	DAL	914	1+	3.98	25+	3.45
DS1315-5	DAL	...	1+	9.30	25+	7.44
DS1330ABP-70	DAL	913	1+	16.01	10+	14.73
DS1330WP-150	DAL	913	1+	15.48	10+	14.24
DS1330YP-70	DAL	913	1+	16.01	10+	14.73
DS1345ABP-70	DAL	913	1+	25.21	10+	23.19
DS1345WP-150	DAL	913	1+	24.60	10+	22.63
DS1345YP-70	DAL	913	1+	25.21	10+	23.19
DS1350ABP-70	DAL	913	1+	91.78	10+	84.43
DS1350WP-150	DAL	913	1+	90.82	10+	83.54
DS1350YP-70	DAL	913	1+	91.78	10+	84.43
DS1386-8-150	DAL	...	1+	38.87	10+	35.76
DS1387	DAL	...	1+	22.07	10+	20.31
DS14185WM	NAT	906	1+	1.41	25+	1.31
DS14196WM	NAT	906	1+	1.33	25+	1.24
DS14287	DAL	914	1+	9.32	10+	8.58
DS1487M	NAT	906	1+	2.53	25+	2.33
DS1488M	NAT	...	1+	0.44	25+	0.44
DS1488N	NAT	...	1+	0.47	25+	0.47
DS1489AM	NAT	...	1+	0.47	25+	0.47
DS1489AN	NAT	...	1+	0.50	25+	0.50
DS1489N	NAT	...	1+	0.47	25+	0.47
DS14C535MSA	NAT	906	1+	5.96	25+	5.48
DS14C88M	NAT	...	1+	1.04	25+	1.04
DS14C88N	NAT	...	1+	1.07	25+	1.07
DS14C89AN	NAT	...	1+	1.07	25+	1.07
DS1602	DAL	914	1+	2.86	25+	2.53
DS1620	DAL	915	1+	3.58	25+	3.11
DS1620K	DAL	...	1+	103.37	10+	95.09
DS1620S	DAL	915	1+	3.58	25+	3.11
DS1621	DAL	915	1+	3.56	25+	2.49
DS1621S	DAL	915	1+	3.56	25+	2.49
DS1624	DAL	915	1+	4.64	25+	4.03
DS1624S	DAL	915	1+	4.64	25+	4.03
DS1629S	DAL	915	1+	3.98	25+	3.45
DS1642-120	DAL	914	1+	25.02	10+	23.02
DS1642-150	DAL	914	1+	24.31	10+	22.37
DS1643-120	DAL	914	1+	33.04	5+	30.40
DS1643-150	DAL	914	1+	31.86	5+	29.31
DS1644-120	DAL	914	1+	41.21	10+	37.91
DS1647-120	DAL	914	1+	163.62	10+	150.52
DS1669-10	DAL	915	1+	3.80	25+	3.25
DS1669-100	DAL	915	1+	3.80	25+	3.25
DS1669S-10	DAL	...	1+	4.00	25+	3.40
DS1687-5	DAL	914	1+	8.81	10+	8.11
DS16F95J	NAT	...	1+	41.10	5+	39.14
DS1720S	DAL	915	1+	2.78	25+	2.42
DS1721S	DAL	915	1+	1.95	25+	1.73
DS1742-100	DAL	914	1+	24.31	10+	22.37
DS1742-70	DAL	914	1+	25.02	10+	23.02
DS1742-85	DAL	914	1+	25.96	10+	23.89
DS1743-100	DAL	914	1+	31.86	10+	29.31
DS1743-70	DAL	914	1+	33.04	10+	30.40
DS1743-85	DAL	914	1+	34.46	10+	31.70
DS1780E-000	DAL	915	1+	7.46	10+	6.86
DS1802	DAL	915	1+	3.87	25+	3.36
DS18030-010	DAL	915	1+	3.18	25+	2.76
DS18030-100	DAL	915	1+	3.18	25+	2.76
DS1804-010	DAL	915	1+	2.82	10+	2.74
DS1804-050	DAL	915	1+	2.82	10+	2.74
DS1804-100	DAL	...	1+	2.82	10+	2.74
DS1806-010	DAL	915	1+	6.00	25+	5.20

Type	Mfg.	Pg.	Qty.	$	Qty.	$
DS1820	DAL	915	1+	5.43	25+	4.72
DS1820K	DAL	...	1+	103.37	10+	95.09
DS1820S	DAL	915	1+	5.43	25+	4.72
DS1821	DAL	915	1+	3.06	25+	2.58
DS1821S	DAL	915	1+	3.06	25+	2.58
DS1821T	DAL	915	1+	3.44	25+	2.90
DS1832S	DAL	913	1+	2.07	10+	2.01
DS1833-10	DAL	913	1+	1.42	25+	1.21
DS1833-5	DAL	913	1+	1.42	25+	1.21
DS1844-010	DAL	915	1+	5.25	10+	5.10
DS1844-050	DAL	915	1+	5.25	10+	5.10
DS1844-100	DAL	915	1+	5.25	10+	5.10
DS2152DK	DAL	...	1+	250.00	...	...
DS2154DK	DAL	...	1+	250.00	...	...
DS2250-32-8	DAL	...	1+	52.50	25+	49.35
DS2250-8-12	DAL	...	1+	44.00	25+	41.35
DS2250T-64-16	DAL	...	1+	67.50	25+	63.45
DS2401	DAL	...	1+	1.62	25+	1.30
DS2401Z	DAL	...	1+	1.98	25+	1.58
DS2404-001	DAL	...	1+	5.55	25+	4.44
DS2404S-001	DAL	...	1+	6.30	25+	5.04
DS2407	DAL	915	1+	3.60	25+	2.70
DS2407P	DAL	915	1+	3.92	25+	2.94
DS2409P	DAL	915	1+	2.60	25+	1.95
DS2423	DAL	915	1+	10.61	10+	9.76
DS2430A	DAL	915	1+	3.00	25+	2.40
DS2430AP	DAL	915	1+	3.15	25+	2.52
DS2434K	DAL	914	1+	103.37	10+	95.09
DS2435	DAL	914	1+	6.70	25+	5.70
DS2435K	DAL	914	1+	103.37	10+	95.09
DS2436	DAL	914	1+	6.70	25+	5.70
DS2437	DAL	914	1+	7.53	10+	6.93
DS2437K	DAL	914	1+	170.63	10+	156.97
DS2437S	DAL	...	1+	6.70	25+	5.70
DS2480	DAL	915	1+	10.12	10+	9.31
DS2502	DAL	915	1+	2.25	25+	1.80
DS2502P	DAL	915	1+	2.50	25+	2.00
DS2505	DAL	915	1+	3.08	25+	2.62
DS2505P	DAL	915	1+	3.17	25+	2.70
DS2506	DAL	915	1+	6.16	25+	5.24
DS2506S	DAL	915	1+	6.41	25+	5.45
DS26C32ATN	NAT	...	1+	2.00	25+	1.86
DS26F31CJ	NAT	...	1+	5.35	10+	4.99
DS26F32CJ	NAT	...	1+	5.35	10+	4.99
DS26LS31CM	NAT	...	1+	0.94	25+	0.94
DS26LS31CN	NAT	...	1+	0.94	25+	0.94
DS26LS31MJ	NAT	...	1+	8.23	10+	7.67
DS26LS32ACN	NAT	...	1+	0.94	25+	0.94
DS26LS32CN	NAT	...	1+	0.94	25+	0.94
DS26LV31TM	NAT	906	1+	2.28	25+	2.12
DS26LV32ATM	NAT	906	1+	2.28	25+	2.12
DS275	DAL	...	1+	3.05	25+	2.65
DS3486N	NAT	...	1+	0.94	25+	0.56
DS3487N	NAT	...	1+	0.94	25+	0.56
DS36276M	NAT	906	1+	2.68	25+	2.46
DS36277TN	NAT	906	1+	2.80	25+	2.57
DS3658N	NAT	...	1+	6.33	10+	5.90
DS3680N	TI	...	1+	2.80	25+	2.57
DS3691N	NAT	...	1+	2.00	25+	1.50
DS3695N	NAT	906	1+	1.65	25+	1.24
DS3696N	NAT	...	1+	3.49	25+	2.62
DS36C200M	NAT	906	1+	4.33	10+	4.04
DS36C278TM	NAT	906	1+	2.75	25+	2.53
DS36C279M	NAT	906	1+	3.00	25+	2.75
DS36C279TM	NAT	906	1+	3.00	25+	2.75
DS36C280M	NAT	906	1+	2.65	25+	2.44
DS36C280TM	NAT	906	1+	3.02	25+	2.78
DS36F95M	NAT	906	1+	4.21	25+	3.87
DS481M	NAT	906	1+	2.53	25+	2.33
DS485M	NAT	906	1+	1.95	25+	1.79
DS5000-08-12	DAL	...	1+	61.90	25+	58.20
DS5000-08-16	DAL	...	1+	56.25	25+	52.88
DS5000-32-12	DAL	...	1+	68.75	25+	64.60
DS5000-32-16	DAL	...	1+	62.50	25+	58.75
DS5000-8-12	DAL	...	1+	61.90	25+	58.20
DS5000-8-16	DAL	...	1+	56.25	25+	52.88
DS5000T-08-08	DAL	914	1+	68.75	25+	64.63
DS5000T-32-12	DAL	914	1+	75.60	25+	71.10
DS5000T-32-16	DAL	914	1+	68.75	25+	64.63
DS5000T-8-12	DAL	...	1+	68.75	25+	64.63
DS5000T-8-8	DAL	...	1+	68.75	25+	64.63
DS5000T/KIT	DAL	...	1+	204.00	5+	193.80
DS5000TK	DAL	914	1+	204.00	5+	193.80
DS56S	DAL	915	1+	1.80	10+	1.75
DS60R	DAL	915	1+	1.80	10+	1.75
DS75176BN	NAT	906	1+	1.00	25+	1.00
DS75451N	NAT	...	1+	0.87	25+	0.87
DS75452N	NAT	...	1+	0.58	25+	0.44
DS75S	DAL	915	1+	1.97	10+	1.91
DS80C310-ECG	DAL	913	1+	9.25	25+	8.70
DS80C310-MCG	DAL	913	1+	7.00	25+	6.58
DS80C320-ECG	DAL	913	1+	11.00	25+	10.34
DS80C320-ECL	DAL	...	1+	12.75	25+	11.99
DS80C320-MCG	DAL	913	1+	8.75	25+	8.23
DS80C320-MCL	DAL	913	1+	10.00	25+	9.40
DS80C320-MNG	DAL	...	1+	10.00	25+	9.40
DS80C320-QCG	DAL	913	1+	9.50	25+	8.93
DS80C320-QCL	DAL	913	1+	11.00	25+	10.34

Type	Mfg.	Pg.	Qty.	$	Qty.	$
DS80C323-ECD	DAL	913	1+	12.75	25+	11.99
DS80C323-MCD	DAL	913	1+	11.50	25+	10.81
DS80C323-QCD	DAL	913	1+	12.25	25+	11.52
DS87C520-MCL	DAL	913	1+	20.63	25+	19.39
DS87C520-QCL	DAL	913	1+	21.00	25+	19.74
DS87C520-WCL	DAL	913	1+	35.00	25+	32.90
DS87C530-ECL	DAL	913	1+	26.00	25+	24.44
DS87C530-QCL	DAL	913	1+	23.50	25+	22.90
DS8820AN	NAT	...	1+	2.07	25+	2.07
DS8830N	TI	...	1+	1.41	25+	1.31
DS8838N	NAT	...	1+	2.84	25+	2.84
DS8921N	NAT	...	1+	1.34	25+	1.00
DS8922N	NAT	...	1+	2.12	25+	1.59
DS8923AM	NAT	...	1+	4.26	25+	3.92
DS8935WM	NAT	906	1+	2.92	25+	2.69
DS89C21TM	NAT	906	1+	4.50	25+	4.14
DS9034PC	DAL	...	1+	5.84	10+	5.66
DS90C031TM	NAT	906	1+	6.11	10+	5.69
DS90C032TM	NAT	906	1+	6.11	10+	5.69
DS90C363MTD	NAT	...	1+	11.84	10+	11.20
DS90C383MTD	NAT	...	1+	12.30	10+	11.63
DS90C401M	NAT	...	1+	4.33	25+	3.98
DS90C402M	NAT	...	1+	4.33	25+	3.98
DS90CF363MTD	NAT	...	1+	11.84	10+	11.20
DS90CF364AMTD	NAT	...	1+	11.64	10+	10.84
DS90CF364MTD	NAT	...	1+	11.28	10+	10.66
DS90CF383MTD	NAT	...	1+	15.03	10+	14.21
DS90CF384AMTD	NAT	...	1+	14.52	10+	13.73
DS90CF384MTD	NAT	...	1+	15.03	10+	14.21
DS90CF561MTD	NAT	...	1+	11.28	10+	10.66
DS90CF562MTD	NAT	...	1+	11.28	10+	10.66
DS90CF563MTD	NAT	...	1+	11.50	10+	10.88
DS90CF564MTD	NAT	...	1+	11.50	10+	10.88
DS90CF581MTD	NAT	...	1+	11.84	10+	11.20
DS90CF582MTD	NAT	...	1+	11.84	10+	11.20
DS90CF583MTD	NAT	...	1+	11.96	10+	11.31
DS90CF584MTD	NAT	...	1+	11.96	10+	11.31
DS90CR214MTD	NAT	...	1+	18.33	10+	17.33
DS90CR216AMTD	NAT	...	1+	16.06	10+	15.19
DS90CR283MTD	NAT	...	1+	19.47	10+	18.41
DS90CR284MTD	NAT	...	1+	19.47	10+	18.41
DS90CR286AMTD	NAT	...	1+	18.92	10+	17.89
DS90CR563MTD	NAT	...	1+	11.50	10+	10.88
DS90CR564MTD	NAT	...	1+	11.50	10+	10.88
DS90CR583MTD	NAT	...	1+	11.96	10+	11.31
DS90CR584MTD	NAT	...	1+	11.96	10+	11.31
DS90LV018ATM	NAT	906	1+	1.93	25+	1.78
DS90LV019TM	NAT	906	1+	4.30	25+	3.96
DS90LV027M	NAT	906	1+	4.30	25+	3.96
DS90LV028ATM	NAT	906	1+	4.30	25+	3.96
DS90LV031TM	NAT	906	1+	9.25	10+	8.62
DS90LV032TM	NAT	906	1+	9.25	10+	8.62
DS90LV047ATM	NAT	...	1+	7.52	10+	7.01
DS90LV048ATM	NAT	...	1+	7.52	10+	7.01
DS92LV010ATM	NAT	906	1+	6.14	10+	5.72
DS92LV090ATVEH	NAT	...	1+	17.27	10+	16.33
DS92LV1210TMSA	NAT	...	1+	21.89	10+	20.70
DS92LV222ATM	NAT	...	1+	8.35	10+	7.78
DS96172CN	NAT	...	1+	2.83	25+	2.12
DS96175CN	NAT	...	1+	2.78	25+	2.09
DS9637ACN	NAT	...	1+	1.56	25+	1.17
DS9638CN	NAT	...	1+	1.45	25+	1.09
DSNR-DK01-AMC	HP	...	1+	62.13	5+	59.64
DSNR-RK01-AMC	HP	...	1+	95.55	5+	91.73
DSNR-RK03-AMC	HP	...	1+	113.30	5+	108.77
DSNR-TK01-AMC	HP	...	1+	78.70	5+	75.54
DSP56002EVM	MOT	856	1+	212.90	2+	192.27
DSP56004FJ50	MOT	856	1+	18.87	5+	16.95
DSP56004FJ66	MOT	856	1+	19.82	5+	17.80
DSP56301ADSF	MOT	852	1+	1407.30	...	...
DSP56303EVM	MOT	856	1+	186.72	...	...
DSP56L811EVM	MOT	856	1+	149.12	...	...
DSPE56009FJ81	MOT	856	1+	33.97	5+	30.51
DSPTOOLSCD	MOT	856	1+	123.78	3+	117.84
DSV14196WM	NAT	...	1+	1.63	25+	1.52
ECG-166	ECG	...	1+	1.49	100+	1.46
ECG101	ECG	...	1+	5.40	100+	4.58
ECG102A	ECG	...	1+	2.23	100+	1.89
ECG108	ECG	...	1+	1.64	100+	1.39
ECG109	ECG	940	1+	1.14	100+	0.99
ECG116	ECG	940	1+	0.52	100+	0.51
ECG121	ECG	...	1+	28.29	100+	23.97
ECG123	ECG	...	1+	1.11	100+	0.95
ECG1232	ECG	...	1+	4.25	100+	3.61
ECG123A	ECG	940	1+	1.00	100+	0.85
ECG123AP	ECG	940	1+	0.85	100+	0.73
ECG125	ECG	940	1+	0.61	100+	0.52
ECG128	ECG	940	1+	1.54	100+	1.31
ECG128P	ECG	...	1+	1.80	100+	1.54
ECG129	ECG	940	1+	2.23	100+	1.89
ECG129P	ECG	...	1+	1.36	100+	1.17
ECG130	ECG	...	1+	2.76	100+	2.34
ECG135A-2PK	ECG	...	1+	0.82	100+	0.71
ECG137A-2PK	ECG	...	1+	0.82	100+	0.71
ECG142A-2PK	ECG	...	1+	0.82	100+	0.71
ECG145A-2PK	ECG	...	1+	0.82	100+	0.71
ECG152	ECG	...	1+	1.96	100+	1.66
ECG154	ECG	...	1+	3.50	100+	2.96

Manufacturer Abbreviations:

ADI: Analog Devices; **ALG:** Allegro; **ALT:** Altera; **AMD:** Advanced Micro Devices; **AND:** AND; **APD:** American Power Devices; **DAL:** Dallas Semiconductor; **ECG:** Philips ECG; **FGR:** Fagor; **GS:** General Semiconductor; **HP:** Hewlett Packard; **HRS:** Harris Semiconductor; **HWL:** Honeywell Opto; **INT:** Intronics; **IR:** International Rectifier; **MIC:** Micrel; **MOT:** Motorola; **NAT:** National Semiconductor; **OPT:** Optek; **PHL:** Phillips Semiconductors; **PWX:** Powerex; **QT:** QT Optoelectronics; **SKN:** Semikron; **SPC:** SPC Technology; **TI:** Texas Instruments; **TSK:** Thomson SK; **VAC:** EG&G Vactec; **VAN:** Vantis; **ZIL:** Zilog

Type	Mfg.	Pg.	Qty.	$	Qty.	$
ECG156	ECG	940	1+	0.88	100+	0.75
ECG159	ECG	940	1+	1.13	100+	1.10
ECG160	ECG	...	1+	4.21	100+	3.56
ECG167	ECG	...	1+	2.15	100+	1.83
ECG169	ECG	...	1+	2.59	100+	2.20
ECG170	ECG	...	1+	4.03	100+	3.42
ECG177	ECG	...	1+	0.52	100+	0.42
ECG1784	ECG	...	1+	5.33	100+	4.52
ECG181	ECG	...	1+	6.82	100+	6.67
ECG184	ECG	...	1+	1.79	100+	1.52
ECG185	ECG	...	1+	2.35	100+	1.99
ECG186	ECG	...	1+	2.32	100+	1.97
ECG187	ECG	...	1+	2.59	100+	2.20
ECG196	ECG	...	1+	3.01	100+	2.55
ECG199	ECG	...	1+	0.80	100+	0.69
ECG1V130	ECG	...	1+	1.69	100+	1.43
ECG2018	ECG	...	1+	3.72	100+	3.15
ECG211	ECG	...	1+	2.32	100+	1.97
ECG2128	ECG	...	1+	19.96	100+	16.92
ECG212T	ECG	944	1+	5.00	...	...
ECG2302	ECG	...	1+	12.35	5+	8.84
ECG2309	ECG	...	1+	8.33	100+	7.06
ECG2310	ECG	...	1+	10.21	100+	8.66
ECG2311	ECG	940	1+	13.93	100+	11.80
ECG2312	ECG	...	1+	5.94	100+	5.03
ECG2319	ECG	...	1+	10.26	100+	8.70
ECG2324	ECG	...	1+	13.44	100+	11.39
ECG2331	ECG	940	1+	8.01	100+	6.79
ECG2337	ECG	...	1+	8.99	100+	7.62
ECG2343	ECG	...	1+	2.91	100+	2.47
ECG2344	ECG	...	1+	2.32	100+	1.97
ECG2347	ECG	...	1+	4.77	100+	4.04
ECG2348	ECG	...	1+	14.78	100+	12.53
ECG2349	ECG	...	1+	20.16	100+	17.08
ECG2350	ECG	...	1+	21.38	100+	18.12
ECG2353	ECG	940	1+	8.45	100+	7.17
ECG2354	ECG	...	1+	13.17	100+	11.16
ECG236	ECG	...	1+	12.61	100+	10.69
ECG2371	ECG	...	1+	12.83	100+	10.87
ECG2377	ECG	...	1+	17.00	100+	14.41
ECG2385	ECG	...	1+	7.97	100+	6.75
ECG2389	ECG	...	1+	5.26	100+	4.45
ECG2393	ECG	...	1+	12.58	100+	10.66
ECG2394	ECG	...	1+	17.69	100+	14.99
ECG2395	ECG	...	1+	7.33	100+	6.21
ECG2396	ECG	...	1+	7.40	100+	6.28
ECG2397	ECG	...	1+	8.60	100+	7.29
ECG2398	ECG	...	1+	5.33	100+	4.52
ECG247	ECG	...	1+	6.62	100+	5.61
ECG248	ECG	...	1+	8.06	100+	6.84
ECG251	ECG	...	1+	11.26	100+	9.55
ECG253	ECG	...	1+	2.81	100+	2.38
ECG261	ECG	940	1+	2.81	100+	2.38
ECG262	ECG	...	1+	3.30	100+	2.80
ECG263	ECG	...	1+	2.96	100+	2.51
ECG264	ECG	940	1+	3.64	100+	3.09
ECG270	ECG	...	1+	6.45	100+	5.47
ECG271	ECG	...	1+	6.62	100+	5.61
ECG2764	ECG	...	1+	26.01	25+	22.45
ECG283	ECG	...	1+	11.39	100+	9.65
ECG284	ECG	940	1+	13.89	5+	12.53
ECG285	ECG	...	1+	20.16	100+	17.08
ECG287	ECG	...	1+	1.29	100+	1.11
ECG288	ECG	...	1+	0.96	100+	0.83
ECG289A	ECG	940	1+	1.39	100+	1.19
ECG290A	ECG	...	1+	1.57	100+	1.34
ECG291	ECG	...	1+	2.23	100+	1.89
ECG292	ECG	...	1+	2.52	100+	2.14
ECG2V130	ECG	...	1+	2.18	100+	1.85
ECG3040	ECG	...	1+	1.88	100+	1.60
ECG3041	ECG	...	1+	1.91	100+	1.62
ECG3042	ECG	...	1+	2.13	100+	1.80
ECG3045	ECG	...	1+	3.11	100+	2.63
ECG3047	ECG	...	1+	2.96	100+	2.51
ECG3048	ECG	...	1+	3.91	100+	3.32
ECG3083	ECG	...	1+	3.47	100+	2.94
ECG3086	ECG	...	1+	5.11	100+	4.33
ECG3098	ECG	...	1+	2.59	100+	2.20
ECG309K	ECG	...	1+	6.01	100+	5.10
ECG3101	ECG	...	1+	8.65	100+	7.33
ECG312	ECG	...	1+	1.72	100+	1.69
ECG323	ECG	...	1+	5.13	100+	4.35
ECG324	ECG	...	1+	5.33	100+	4.52
ECG327	ECG	...	1+	25.78	25+	22.25
ECG331	ECG	...	1+	2.91	100+	2.47
ECG332	ECG	...	1+	3.57	100+	3.03
ECG36	ECG	...	1+	6.31	100+	5.34
ECG37	ECG	...	1+	6.31	100+	5.34
ECG373	ECG	...	1+	1.84	100+	1.56
ECG377	ECG	940	1+	3.18	100+	2.70
ECG378	ECG	940	1+	3.01	100+	2.55
ECG379	ECG	940	1+	10.19	100+	8.64
ECG381	ECG	...	1+	7.82	100+	6.63
ECG383	ECG	...	1+	1.96	100+	1.66
ECG384	ECG	...	1+	14.24	100+	12.07
ECG385	ECG	...	1+	12.78	100+	10.83
ECG386	ECG	940	1+	22.93	25+	19.78
ECG388	ECG	...	1+	12.05	100+	10.21
ECG390	ECG	...	1+	4.67	100+	3.96
ECG393	ECG	...	1+	7.26	100+	6.15
ECG397	ECG	...	1+	3.40	100+	2.88
ECG399	ECG	...	1+	2.79	100+	2.36
ECG4011B	ECG	...	1+	1.27	100+	1.08
ECG4013B	ECG	...	1+	1.42	100+	1.21
ECG4081B	ECG	...	1+	1.13	100+	0.97
ECG456	ECG	...	1+	2.59	100+	2.20
ECG465	ECG	...	1+	6.18	100+	5.24
ECG467	ECG	...	1+	1.57	100+	1.34
ECG506	ECG	940	1+	1.65	100+	1.41
ECG51	ECG	...	1+	3.86	100+	3.27
ECG5120A	ECG	...	1+	1.85	100+	1.58
ECG5127A	ECG	...	1+	1.85	100+	1.58
ECG5130A	ECG	...	1+	1.85	100+	1.58
ECG519	ECG	...	1+	0.52	100+	0.42
ECG5191A	ECG	...	1+	11.43	100+	9.69
ECG524V13	ECG	...	1+	2.76	100+	2.34
ECG524V30	ECG	...	1+	4.13	100+	3.50
ECG525	ECG	...	1+	6.79	100+	5.76
ECG5296A	ECG	...	1+	21.45	100+	18.18
ECG53	ECG	940	1+	13.51	100+	13.23
ECG5304	ECG	...	1+	1.42	100+	1.20
ECG5305	ECG	...	1+	1.88	100+	1.60
ECG5312	ECG	...	1+	4.03	100+	3.42
ECG5313	ECG	940	1+	4.30	100+	3.65
ECG5314	ECG	...	1+	4.45	100+	3.77
ECG5315	ECG	...	1+	5.04	100+	4.27
ECG5322	ECG	940	1+	5.87	100+	4.97
ECG5324	ECG	940	1+	7.36	100+	6.23
ECG5326	ECG	940	1+	7.82	100+	6.63
ECG5329	ECG	...	1+	4.13	100+	3.50
ECG5332	ECG	940	1+	1.69	100+	1.43
ECG5340	ECG	...	1+	10.26	100+	8.70
ECG5342	ECG	940	1+	11.61	100+	9.84
ECG5344	ECG	940	1+	13.32	100+	11.29
ECG54	ECG	...	1+	3.28	100+	2.78
ECG5401	ECG	...	1+	1.21	100+	1.03
ECG5404	ECG	...	1+	1.39	100+	1.19
ECG5408	ECG	...	1+	6.28	100+	5.32
ECG5418	ECG	...	1+	3.13	100+	2.65
ECG5426	ECG	...	1+	3.23	100+	2.74
ECG5455	ECG	...	1+	2.84	100+	2.41
ECG5460	ECG	940	1+	12.46	100+	10.56
ECG5465	ECG	...	1+	3.37	100+	2.86
ECG55	ECG	...	1+	4.40	100+	3.73
ECG552	ECG	...	1+	1.00	100+	0.85
ECG5545	ECG	...	1+	16.64	100+	14.10
ECG5547	ECG	...	1+	21.74	100+	18.43
ECG558	ECG	...	1+	2.13	100+	1.80
ECG56008	ECG	...	1+	6.40	100+	5.43
ECG56024	ECG	...	1+	21.23	100+	17.99
ECG56026	ECG	940	1+	24.04	100+	20.37
ECG5616	ECG	...	1+	9.75	100+	8.26
ECG5629	ECG	...	1+	2.67	100+	2.26
ECG5635	ECG	...	1+	4.91	100+	4.16
ECG5637	ECG	...	1+	6.16	100+	5.22
ECG5645	ECG	940	1+	6.67	100+	5.66
ECG5671	ECG	...	1+	5.11	100+	4.33
ECG5679	ECG	940	1+	26.07	100+	22.09
ECG5700	ECG	940	1+	68.46	10+	56.94
ECG576	ECG	...	1+	2.20	100+	1.87
ECG577	ECG	...	1+	3.59	100+	3.05
ECG580	ECG	940	1+	2.74	100+	2.32
ECG5800	ECG	...	1+	0.38	100+	0.33
ECG5801	ECG	...	1+	0.52	100+	0.45
ECG5802	ECG	...	1+	0.63	100+	0.54
ECG5804	ECG	...	1+	0.88	100+	0.75
ECG5806	ECG	...	1+	1.00	100+	0.85
ECG5809	ECG	940	1+	1.66	100+	1.41
ECG581	ECG	...	1+	3.74	100+	3.17
ECG5812	ECG	...	1+	1.40	100+	1.18
ECG5814	ECG	...	1+	1.62	100+	1.37
ECG5815	ECG	...	1+	2.54	100+	2.16
ECG5817	ECG	940	1+	3.28	100+	2.78
ECG585	ECG	...	1+	1.06	100+	0.90
ECG587	ECG	...	1+	1.18	100+	1.01
ECG5870	ECG	...	1+	3.33	100+	2.82
ECG588	ECG	...	1+	1.35	100+	1.14
ECG5882	ECG	...	1+	6.01	100+	5.10
ECG5920	ECG	...	1+	7.21	100+	6.11
ECG597	ECG	...	1+	2.06	100+	1.74
ECG5994	ECG	...	1+	10.19	100+	8.64
ECG6002	ECG	...	1+	16.96	100+	14.37
ECG6013	ECG	...	1+	5.69	100+	4.83
ECG6044	ECG	...	1+	21.43	100+	18.16
ECG6072	ECG	...	1+	23.44	5+	21.13
ECG6078	ECG	...	1+	30.41	25+	26.24
ECG6240	ECG	...	1+	3.91	100+	3.32
ECG6408	ECG	...	1+	1.06	100+	0.90
ECG7404	ECG	...	1+	1.47	100+	1.25
ECG7406	ECG	...	1+	1.42	100+	1.21
ECG778A	ECG	...	1+	2.62	100+	2.22
ECG8125	ECG	...	1+	1.42	100+	1.21
ECG8242	ECG	...	1+	1.24	100+	1.06
ECG8255	ECG	...	1+	22.70	100+	19.23
ECG834	ECG	...	1+	2.03	100+	1.72
ECG85	ECG	...	1+	0.99	100+	0.85
ECG858M	ECG	...	1+	3.25	100+	2.76
ECG859	ECG	...	1+	4.62	100+	3.92
ECG923	ECG	...	1+	2.42	100+	2.05
ECG923D	ECG	...	1+	1.64	100+	1.39
ECG928M	ECG	...	1+	2.47	100+	2.09
ECG933	ECG	...	1+	35.09	25+	30.28
ECG937	ECG	...	1+	4.60	100+	3.90
ECG94	ECG	940	1+	9.72	100+	8.24
ECG941	ECG	...	1+	2.96	100+	2.51
ECG941D	ECG	...	1+	4.38	100+	3.71
ECG941M	ECG	...	1+	1.08	100+	0.93
ECG943M	ECG	...	1+	5.62	100+	4.77
ECG947D	ECG	940	1+	4.64	100+	3.94
ECG948	ECG	...	1+	3.77	100+	3.19
ECG955M	ECG	...	1+	1.40	100+	1.18
ECG960	ECG	940	1+	1.79	100+	1.52
ECG962	ECG	...	1+	1.70	100+	1.45
ECG964	ECG	...	1+	2.03	100+	1.72
ECG966	ECG	...	1+	1.79	100+	1.52
ECG967	ECG	...	1+	2.03	100+	1.72
ECG968	ECG	...	1+	2.03	100+	1.72
ECG969	ECG	...	1+	2.03	100+	1.72
ECG970	ECG	...	1+	13.12	100+	11.12
ECG972	ECG	...	1+	2.03	100+	1.72
ECG975	ECG	...	1+	2.62	100+	2.22
ECG976	ECG	...	1+	2.67	100+	2.26
ECG977	ECG	...	1+	1.66	100+	1.41
ECG98	ECG	940	1+	25.22	25+	21.76
ECG987	ECG	940	1+	2.32	100+	1.97
ECG997	ECG	...	1+	4.13	100+	3.50
ECGKCOM1	ECG	940	1+	232.00	...	...
ECGKCOM2	ECG	940	1+	269.00	...	...
ELANSC300-25KC	AMD	...	1+	87.58	10+	74.43
ELANSC310-25KC	AMD	...	1+	69.00	10+	58.64
EP1810GC-35	ALT	...	1+	111.20	25+	103.20
EP1810LC-35	ALT	...	1+	36.00	25+	27.70
EP1810LC-35T	ALT	...	1+	20.00	25+	15.40
EP1810LC-45	ALT	...	1+	26.90	25+	23.10
EP610DC-25	ALT	...	1+	16.00	25+	12.30
EP610DC-35	ALT	...	1+	10.30	25+	9.50
EP610LC-15	ALT	...	1+	9.80	25+	7.50
EP610LC-35	ALT	...	1+	8.40	25+	7.80
EP610PC-15	ALT	...	1+	8.90	25+	6.80
EP610PC-25T	ALT	...	1+	7.00	25+	5.40
EP610PC-35	ALT	...	1+	7.90	25+	7.30
EP910LI-35	ALT	...	1+	31.70	25+	24.40
EP910PC-30	ALT	...	1+	19.50	25+	15.00
EPC1PC8	ALT	931	1+	12.65	25+	8.40
EPF10K10QI208-4	ALT	...	1+	50.60	5+	44.00
EPF10K10TC144-3	ALT	...	1+	49.45	5+	43.00
EPF10K10TI144-4	ALT	...	1+	44.85	5+	39.00
EPF10K30RC208-4	ALT	...	1+	112.70	5+	98.00
EPF10K30RC240-3	ALT	931	1+	181.70	5+	158.00
EPF10K40RC208-3	ALT	931	1+	225.40	5+	196.00
EPF10K40RC240-3	ALT	931	1+	239.20	5+	208.00
EPF10K40RC240-4	ALT	...	1+	158.70	5+	138.00
EPF10K50BC356-3	ALT	931	1+	379.50	5+	330.00
EPF10K50GC403-3	ALT	...	1+	788.90	5+	686.00
EPF10K50GC403-4	ALT	931	1+	561.20	5+	488.00
EPF10K50RC240-3	ALT	...	1+	331.20	5+	288.00
EPF10K70RC240-3	ALT	931	1+	473.80	5+	412.00
EPF6024ABC256-2	ALT	...	1+	63.54	5+	55.25
EPF6024ATC144-2	ALT	...	1+	48.30	5+	42.00
EPF81188ARI240-4	ALT	...	1+	339.02	5+	294.80
EPF81500ARC240-3	ALT	...	1+	175.95	5+	153.00
EPF8282ALC84-3	ALT	...	1+	22.31	5+	19.40
EPF8282ALC84-4	ALT	...	1+	11.50	5+	10.00
EPF8452ALC84-3	ALT	931	1+	34.73	5+	30.20
EPF8452ALI84-4	ALT	...	1+	31.05	5+	27.00
EPF8452AQC160-3	ALT	931	1+	38.30	5+	33.30
EPF8636ALC84-3	ALT	931	1+	50.37	5+	43.80
EPF8636AQC160-3	ALT	931	1+	54.40	5+	47.30
EPF8820ABC225-4	ALT	...	1+	54.05	5+	47.00
EPF8820AGC192-2	ALT	931	1+	400.20	5+	348.00
EPF8820AGC192-3	ALT	...	1+	302.45	5+	263.00
EPF8820AQC160-3	ALT	...	1+	62.10	5+	54.00
EPF8820ATC144-3	ALT	...	1+	48.88	5+	42.50
EPM5032DC-20	ALT	...	1+	41.30	25+	33.90
EPM5064JC-1	ALT	...	1+	63.00	25+	51.75
EPM5064LC	ALT	...	1+	26.60	25+	21.85
EPM5128GC1	ALT	...	1+	228.25	25+	187.50
EPM5128JC-1	ALT	...	1+	180.40	25+	148.20
EPM5192GC-1	ALT	...	1+	282.60	25+	232.10
EPM7032LI44-15	ALT	...	1+	11.20	25+	8.60
EPM7032VTI44-20	ALT	...	1+	16.00	25+	12.30
EPM7096LC68-12	ALT	...	1+	27.40	25+	21.00
EPM7096LC84-7	ALT	931	1+	56.00	25+	43.00
EPM7128ATC100-7	ALT	...	1+	51.00	25+	39.00
EPM7128ELC84-7	ALT	...	1+	78.20	25+	60.15
EPM7128SQC160-10	ALT	...	1+	42.00	25+	32.00
EPM7128SQC160-7	ALT	...	1+	56.00	25+	43.00
EPM7160ELC84-12	ALT	...	1+	83.72	5+	72.80
EPM7192EGC160-12	ALT	931	1+	440.45	5+	383.00
EPM7192EGI160-20	ALT	...	1+	279.45	5+	243.00
EPM7256EGC192-20	ALT	...	1+	265.65	5+	231.00
EPM7256EQC160-20	ALT	...	1+	144.90	5+	126.00
EPM7256ERC208-15	ALT	...	1+	193.20	5+	168.00
EPM7256SRC208-7	ALT	...	1+	150.00	25+	115.00

NEW TYPES ARE BEING CONTINUALLY ADDED TO INVENTORY.

CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR AVAILABILITY.

Type	Mfg.	Pg.	Qty.	$	Qty.	$
EPM9320GC280-20	ALT	...	1+	239.20	5+	208.00
EPM9320LC84-15	ALT	931	1+	106.95	5+	93.00
EPM9320RI208-20	ALT	...	1+	139.15	5+	121.00
EPM9400LC84-15	ALT	931	1+	134.55	5+	117.00
EPM9400LC84-20	ALT	...	1+	103.50	5+	90.00
EPM9480RC208-15C	ALT	...	1+	225.40	5+	196.00
EPM9480RC208-20C	ALT	...	1+	177.10	5+	154.00
EPM9480RC240-15C	ALT	...	1+	250.70	5+	218.00
EPM9480RC240-20	ALT	...	1+	187.45	5+	163.00
EPM9480RC240-20C	ALT	...	1+	194.35	5+	169.00
EPM9560GC280-15	ALT	931	1+	632.50	5+	550.00
EPM9560GC280-20	ALT	...	1+	456.55	5+	397.00
EPM9560RC208-20	ALT	...	1+	204.70	5+	178.00
EPM9560RC240-20	ALT	...	1+	225.40	5+	196.00
EPM9560RC240-20C	ALT	...	1+	240.43	5+	209.07
EPM9560RC304-15C	ALT	...	1+	369.15	5+	321.00
EPM9560RC304-20	ALT	...	1+	259.90	5+	226.00
EPM9560RC304-20C	ALT	...	1+	270.25	5+	235.00
EPM9560RI240-20	ALT	...	1+	293.25	5+	255.00
ET-2604D4.0	ECG	...	1+	11.36	100+	11.12
ET-2604W1.1	ECG	944	1+	12.09	100+	11.84
F5D1	QT	586	1+	1.94	25+	1.72
F5D2	QT	...	1+	1.78	25+	1.58
F5D3	QT	586	1+	1.82	25+	1.62
F5E1	QT	586	1+	1.94	25+	1.72
F5E3	QT	586	1+	1.82	25+	1.62
F5F1	QT	586	1+	0.29	100+	0.24
FB1002	FGR	...	1+	3.25	100+	2.80
FB1002L	FGR	...	1+	3.25	100+	2.80
FB1004	FGR	...	1+	3.52	100+	3.04
FB2500	FGR	...	1+	3.19	100+	2.75
FB2501	FGR	...	1+	3.42	100+	2.95
FB2502	FGR	...	1+	3.67	100+	3.17
FB2502L	FGR	...	1+	3.67	100+	3.17
FB2504	FGR	...	1+	3.95	100+	3.40
FB2510	FGR	...	1+	4.88	100+	4.21
FB3506	FGR	...	1+	4.62	100+	3.98
FB3510	FGR	...	1+	5.29	100+	4.56
FB5002	FGR	...	1+	5.34	100+	4.60
FB5004	FGR	...	1+	5.87	100+	5.06
FB5006	FGR	...	1+	6.45	100+	5.56
FBI1.5A4S1	FGR	...	1+	0.75	100+	0.62
FBI1.5B4S1	FGR	...	1+	0.73	100+	0.64
FBI1.5K4S1	FGR	...	1+	0.93	100+	0.82
FBI1.5M4S1	FGR	...	1+	1.07	100+	0.82
FBI4A5M1	FGR	...	1+	1.33	100+	1.02
FBI4B5M1	FGR	...	1+	1.37	100+	1.05
FBI4G5M1	FGR	...	1+	1.30	100+	1.13
FEP16DT	GS	937	1+	1.88	100+	1.61
FEP16GT	GS	937	1+	2.35	100+	1.99
FEP30DP	GS	...	1+	5.78	100+	4.90
FEP30GP	GS	937	1+	6.72	100+	5.69
FES8DT	GS	937	1+	1.86	100+	1.58
FES8GT	GS	937	1+	2.09	100+	1.77
FIBER DATA BK E27	HWL	944	1+	5.00	...	...
FR152	SPC	938	1+	0.10	100+	0.08
FR153	SPC	938	1+	0.10	100+	0.08
FR154	SPC	938	1+	0.10	100+	0.08
FR155	SPC	938	1+	0.11	100+	0.09
FR156	SPC	938	1+	0.11	100+	0.09
FR157	SPC	938	1+	0.11	100+	0.09
GBPC104	GS	...	1+	3.22	100+	2.73
GBPC106	GS	...	1+	3.70	100+	3.14
GBPC25005	SPC	938	1+	2.37	25+	2.21
GBPC2501	SPC	938	1+	2.40	25+	2.23
GBPC2502	SPC	938	1+	2.44	25+	2.27
GBPC2504	SPC	938	1+	2.50	25+	2.33
GBPC2506	SPC	938	1+	2.55	25+	2.38
GBPC2510	SPC	938	1+	2.79	25+	2.60
GBPC35-01	GS	937	1+	3.67	100+	3.11
GBPC3502	SPC	938	1+	2.55	25+	2.38
GBPC3504	SPC	938	1+	2.59	25+	2.41
GBPC3506	SPC	938	1+	2.64	25+	2.46
GBPC3510	SPC	938	1+	2.90	25+	2.70
GBPC5002	SPC	938	1+	4.78	25+	4.45
GBPC5004	SPC	938	1+	4.85	25+	4.51
GBPC5006	SPC	938	1+	4.94	25+	4.59
GBPC5008	SPC	938	1+	5.08	25+	4.72
GBPC5010	SPC	938	1+	5.26	25+	4.90
GBPC602	GS	...	1+	1.96	100+	1.66
GBPC604	GS	...	1+	2.08	100+	1.76
GBPC606	GS	...	1+	2.20	100+	1.87
GBU4D	GS	...	1+	2.82	100+	2.39
GBU4G	GS	...	1+	2.87	100+	2.44
GBU4J	GS	...	1+	3.30	100+	2.80
GD75232DW	TI	...	1+	0.81	100+	0.73
GD75232N	TI	...	1+	0.81	100+	0.73
GI DATA BOOK/98	GS	944	1+	5.00	...	...
GI2404	GS	...	1+	2.30	100+	1.95
GI500	GS	...	1+	0.58	100+	0.44
GI504	GS	937	1+	0.57	100+	0.46
GI506	GS	937	1+	0.59	100+	0.47
GI510	GS	937	1+	0.77	100+	0.62
GI750	GS	937	1+	1.05	100+	0.90
GI751	GS	937	1+	1.11	100+	0.95
GI754	GS	937	1+	1.28	100+	1.10
GI756	GS	...	1+	1.34	100+	1.15
GI818	GS	...	1+	0.79	100+	0.68
GI854	GS	...	1+	0.75	100+	0.60
GI856	GS	...	1+	0.78	100+	0.63
H11A1	QT	585	1+	0.43	100+	0.36
H11A1T	MOT	...	1+	0.97	100+	0.76
H11A5	QT	585	1+	0.49	100+	0.41
H11A817C	QT	585	1+	0.34	100+	0.29
H11AA1	QT	585	1+	0.56	100+	0.48
H11AA1SV	MOT	...	1+	2.11	25+	1.62
H11AA1TV	MOT	...	1+	1.23	100+	0.96
H11AA2	QT	585	1+	0.59	100+	0.50
H11AA3	QT	585	1+	0.64	100+	0.55
H11AA4	QT	585	1+	0.60	100+	0.53
H11AG1	QT	585	1+	0.69	25+	0.61
H11B1	QT	585	1+	0.40	100+	0.34
H11B1T	MOT	...	1+	1.49	100+	1.16
H11B2	QT	585	1+	0.46	100+	0.38
H11B255	QT	...	1+	0.48	100+	0.41
H11C1	QT	585	1+	0.96	100+	0.84
H11C2	QT	585	1+	0.91	100+	0.80
H11C3	QT	585	1+	0.86	100+	0.76
H11C4	QT	585	1+	1.00	100+	0.88
H11C6	QT	585	1+	0.91	100+	0.80
H11D1	QT	585	1+	0.72	100+	0.62
H11D2	QT	585	1+	0.72	100+	0.62
H11F1	QT	585	1+	2.72	25+	2.44
H11F2	QT	585	1+	2.40	25+	2.15
H11F3	QT	585	1+	1.60	25+	1.42
H11G1	QT	585	1+	0.64	100+	0.55
H11G2	QT	585	1+	0.62	100+	0.53
H11L1	QT	585	1+	0.86	100+	0.76
H11L1S	MOT	...	1+	1.82	25+	1.40
H11L1SV	MOT	...	1+	2.97	25+	2.30
H11L3	QT	585	1+	0.84	100+	0.74
H11N1	QT	585	1+	4.90	25+	4.39
H11N2	QT	585	1+	4.35	25+	3.90
H11N3	QT	585	1+	2.72	25+	2.44
H21A1	QT	586	1+	0.88	100+	0.78
H21A2	QT	586	1+	0.93	100+	0.82
H21A3	QT	586	1+	0.94	25+	0.83
H21B1	QT	586	1+	1.10	25+	0.97
H21B2	QT	586	1+	1.14	25+	1.01
H21B3	QT	586	1+	2.23	25+	1.98
H21B6	QT	586	1+	3.70	25+	3.32
H21L0B	QT	586	1+	1.60	25+	1.42
H21L0I	QT	586	1+	1.60	25+	1.42
H22A1	QT	586	1+	0.88	100+	0.78
H22A2	QT	586	1+	0.93	100+	0.82
H22A3	QT	586	1+	0.94	25+	0.83
H22B1	QT	586	1+	1.10	25+	0.97
H22B2	QT	586	1+	1.14	25+	1.01
H22L0B	QT	586	1+	1.60	25+	1.42
H23B1	QT	...	1+	0.86	100+	0.76
H23L0B	QT	...	1+	1.25	25+	1.12
H23LTB	QT	...	1+	1.25	25+	1.12
H24A1	QT	585	1+	2.14	25+	1.90
H24A2	QT	585	1+	1.96	25+	1.74
H24B1	QT	585	1+	3.05	25+	2.73
H24B2	QT	585	1+	2.96	25+	2.66
HA1-2405-5	HRS	897	1+	11.00	10+	10.25
HA1-2425-5	HRS	...	1+	9.61	10+	8.96
HA1-2540-5	HRS	897	1+	7.59	10+	7.08
HA1-2541-5	HRS	897	1+	10.95	10+	10.20
HA1-2542-5	HRS	897	1+	11.62	10+	10.98
HA1-4741-2	HRS	...	1+	7.54	10+	7.03
HA1-4741-5	HRS	896	1+	2.64	25+	2.46
HA1-4905-5	HRS	896	1+	11.84	10+	11.20
HA1-5104-5	HRS	897	1+	11.56	10+	10.77
HA1-5195-5	HRS	897	1+	9.61	10+	8.96
HA1-5320-5	HRS	896	1+	11.39	10+	10.77
HA2-2525-5	HRS	897	1+	8.10	10+	7.55
HA2-2625-5	HRS	...	1+	8.52	10+	7.94
HA2-2645-5	HRS	897	1+	7.91	10+	7.37
HA2-5160-5	HRS	897	1+	13.89	10+	13.14
HA3-2425-5	HRS	...	1+	6.38	10+	5.94
HA3-2515-5	HRS	...	1+	3.84	100+	3.52
HA3-2525-5	HRS	897	1+	4.87	25+	4.48
HA3-2539-5	HRS	897	1+	4.87	25+	4.48
HA3-2540-5	HRS	897	1+	5.35	25+	4.92
HA3-2540C-5	HRS	897	1+	4.87	25+	4.48
HA3-2544C-5	HRS	897	1+	4.14	25+	3.80
HA3-2841-5	HRS	897	1+	3.19	25+	2.93
HA3-4741-5	HRS	896	1+	1.67	25+	1.55
HA3-4905-5	HRS	897	1+	8.05	10+	7.51
HA3-5002-5	HRS	897	1+	3.41	25+	3.13
HA3-5033-5	HRS	897	1+	3.56	25+	3.27
HA3-5104-5	HRS	897	1+	4.72	25+	4.34
HA4201CB	HRS	...	1+	1.82	25+	1.69
HA4314BCP	HRS	899	1+	6.94	10+	6.46
HA4344BCB	HRS	...	1+	5.62	25+	5.17
HA4404BCB	HRS	899	1+	6.94	10+	6.46
HA456CM	HRS	899	1+	31.75	5+	30.23
HA456CN	HRS	899	1+	31.75	5+	30.23
HA4600CP	HRS	...	1+	1.82	25+	1.69
HA7-2525-5	HRS	897	1+	5.72	25+	5.26
HA7-2645-5	HRS	897	1+	7.30	10+	6.80
HA7-5002-5	HRS	...	1+	5.48	10+	5.10
HA7210IB	HRS	897	1+	1.67	25+	1.55
HA7210IP	HRS	897	1+	1.67	25+	1.55
HA9P2842-5	HRS	897	1+	3.56	25+	3.27
HA9P4905-5	HRS	897	1+	9.81	10+	9.14
HAS-1204BM	ADI	...	1+	421.01	25+	421.01
HBAT-5400-BLK	HP	909	1+	0.26	25+	0.23
HBAT-5402-BLK	HP	909	1+	0.32	25+	0.29
HBAT-540B-BLK	HP	909	1+	0.31	25+	0.28
HBAT-540C-BLK	HP	909	1+	0.37	25+	0.33
HBCR-1611	HP	...	1+	36.94	5+	35.46
HBCS-1100	HP	582	1+	27.94	5+	26.83
HBCS-A300	HP	582	1+	84.27	5+	80.89
HBCS-A308	HP	582	1+	81.42	5+	78.16
HBFP-0405-BLK	HP	909	1+	0.76	25+	0.67
HBFP-0420-BLK	HP	909	1+	0.78	25+	0.69
HBKW-1210	HP	...	1+	278.94	3+	264.99
HBKW-1220	HP	582	1+	278.94	3+	264.99
HBKW-1240	HP	582	1+	306.03	3+	290.73
HBSW-8205	HP	...	1+	294.88	3+	280.13
HBSW-8300	HP	582	1+	278.94	3+	264.99
HCMS-2713	HP	...	1+	41.72	5+	40.04
HCMS-2912	HP	...	1+	42.57	5+	40.86
HCMS-2965	HP	581	1+	31.96	5+	30.68
HCMS-2972	HP	581	1+	48.70	5+	46.74
HCNR200	HP	578	1+	3.03	10+	2.73
HCNR201	HP	578	1+	4.88	10+	4.39
HCNW-4506	HP	578	1+	3.35	10+	3.02
HCNW137	HP	578	1+	2.29	25+	2.04
HCNW139	HP	578	1+	2.61	25+	2.32
HCNW3120	HP	...	1+	4.69	10+	4.22
HCNW4562	HP	...	1+	2.76	10+	2.48
HCPL-0201	HP	578	1+	4.26	10+	3.84
HCPL-0211	HP	578	1+	6.70	10+	6.03
HCPL-0453	HP	578	1+	2.39	25+	2.13
HCPL-0501	HP	...	1+	1.72	25+	1.53
HCPL-0530	HP	578	1+	3.58	10+	3.22
HCPL-0531	HP	578	1+	3.76	10+	3.39
HCPL-0560	HP	579	1+	3.76	10+	3.39
HCPL-0560#500	HP	...	1+	3.81	10+	3.43
HCPL-0561	HP	579	1+	3.76	10+	3.39
HCPL-0600	HP	578	1+	2.10	25+	1.87
HCPL-0611#500	HP	...	1+	2.55	10+	2.30
HCPL-0630	HP	578	1+	4.90	10+	4.41
HCPL-0631	HP	578	1+	5.79	10+	5.21
HCPL-063A	HP	578	1+	6.08	10+	5.48
HCPL-063N	HP	578	1+	9.54	10+	8.59
HCPL-0661	HP	578	1+	9.09	10+	8.18
HCPL-0701	HP	578	1+	1.97	25+	1.76
HCPL-0710	HP	578	1+	7.52	10+	6.77
HCPL-0710#060	HP	...	1+	7.35	10+	6.62
HCPL-0720	HP	578	1+	6.76	10+	6.08
HCPL-0721	HP	578	1+	8.50	10+	7.65
HCPL-0731	HP	578	1+	4.19	10+	3.77
HCPL-0870	HP	...	1+	9.11	10+	8.20
HCPL-2200	HP	578	1+	4.65	10+	4.18
HCPL-2201	HP	578	1+	3.94	10+	3.55
HCPL-2202	HP	...	1+	3.94	10+	3.55
HCPL-2211	HP	578	1+	5.15	10+	4.63
HCPL-2212	HP	578	1+	5.15	10+	4.63
HCPL-2231	HP	578	1+	8.88	10+	8.00
HCPL-2231#300	HP	...	1+	8.93	10+	8.04
HCPL-2232	HP	578	1+	13.96	10+	12.57
HCPL-2300	HP	578	1+	7.72	10+	6.95
HCPL-2300#300	HP	...	1+	7.77	10+	6.99
HCPL-2400	HP	579	1+	6.58	10+	5.93
HCPL-2430	HP	578	1+	15.49	10+	13.94
HCPL-2502	HP	...	1+	1.92	25+	1.71
HCPL-2503	QT	...	1+	1.00	25+	0.89
HCPL-2530	QT	585	1+	1.69	25+	1.50
HCPL-2531	QT	585	1+	1.94	25+	1.72
HCPL-2531#300	HP	...	1+	3.39	10+	3.05
HCPL-2533	HP	...	1+	4.47	10+	4.02
HCPL-2601	QT	585	1+	1.57	25+	1.40
HCPL-2602	HP	579	1+	5.79	10+	5.21
HCPL-2611	HP	578	1+	2.33	10+	2.09
HCPL-2612	HP	...	1+	9.11	10+	8.20
HCPL-2630	QT	585	1+	2.40	25+	2.15
HCPL-2631	QT	585	1+	2.61	25+	2.34
HCPL-2730	QT	...	1+	2.00	25+	1.78
HCPL-2731	QT	585	1+	2.05	25+	1.82
HCPL-3100	HP	...	1+	2.74	10+	2.46
HCPL-3101	HP	...	1+	3.19	10+	2.87
HCPL-3120	HP	...	1+	3.31	10+	2.98
HCPL-3150	HP	...	1+	3.31	10+	2.98
HCPL-316J	HP	...	1+	7.13	10+	6.42
HCPL-3700	HP	579	1+	5.26	10+	4.74
HCPL-3760	HP	579	1+	7.86	10+	7.07
HCPL-4100	HP	579	1+	8.59	10+	7.73
HCPL-4200	HP	579	1+	8.59	10+	7.73
HCPL-4502	HP	578	1+	1.63	25+	1.45
HCPL-4503	HP	578	1+	2.19	25+	1.95
HCPL-4504	HP	578	1+	2.28	10+	2.05
HCPL-4506	HP	578	1+	2.85	10+	2.57
HCPL-4562	HP	579	1+	2.51	25+	2.23
HCPL-4661	HP	578	1+	8.34	10+	7.50
HCPL-4731	HP	...	1+	4.87	10+	4.38
HCPL-5300	HP	579	1+	61.46	5+	58.99
HCPL-6250	HP	579	1+	140.23	5+	134.62
HCPL-6730	HP	...	1+	69.53	5+	66.74
HCPL-6750	HP	579	1+	92.60	5+	88.89

Manufacturer Abbreviations:

ADI: Analog Devices; **ALG:** Allegro; **ALT:** Altera; **AMD:** Advanced Micro Devices; **AND:** AND; **APD:** American Power Devices; **DAL:** Dallas Semiconductor; **ECG:** Philips ECG; **FGR:** Fagor; **GS:** General Semiconductor; **HP:** Hewlett Packard; **HRS:** Harris Semiconductor; **HWL:** Honeywell Opto; **INT:** Intronics; **IR:** International Rectifier; **MIC:** Micrel; **MOT:** Motorola; **NAT:** National Semiconductor; **OPT:** Optek; **PHL:** Phillips Semiconductors; **PWX:** Powerex; **QT:** QT Optoelectronics; **SKN:** Semikron; **SPC:** SPC Technology; **TI:** Texas Instruments; **TSK:** Thomson SK; **VAC:** EG&G Vactec; **VAN:** Vantis; **ZIL:** Zilog

Type	Mfg.	Pg.	Qty.	$	Qty.	$
HCPL-7100	HP	578	1+	6.56	10+	5.91
HCPL-7100#300	HP	...	1+	6.65	10+	5.99
HCPL-7101	HP	578	1+	8.22	10+	7.40
HCPL-7710	HP	578	1+	6.95	10+	6.25
HCPL-7720	HP	578	1+	6.25	10+	5.63
HCPL-7720#060	HP	...	1+	6.34	10+	5.71
HCPL-7721	HP	578	1+	7.86	10+	7.07
HCPL-7800	HP	578	1+	8.54	10+	7.69
HCPL-7800A	HP	...	1+	16.17	10+	14.55
HCPL-7820	HP	578	1+	7.97	10+	7.18
HCPL-7840	HP	578	1+	5.01	10+	4.51
HCPL-7850	HP	579	1+	94.73	5+	90.40
HCPL-7860	HP	...	1+	14.39	10+	12.95
HCPL-7870	HP	...	1+	9.11	10+	8.20
HCPL-788J	HP	578	1+	9.86	10+	8.88
HCPL-J312	HP	...	1+	4.42	10+	3.98
HCPL-J454	HP	578	1+	3.10	10+	2.79
HCPL-J456	HP	...	1+	3.19	10+	2.87
HCPL2601	TI	...	1+	2.05	25+	1.91
HCPL2630	TI	...	1+	2.73	25+	2.51
HCPL2731	TI	...	1+	2.63	25+	2.42
HCTL-1100	HP	582	1+	45.49	5+	43.67
HCTL-1100#PLC	HP	582	1+	45.49	5+	43.67
HCTL-2000	HP	582	1+	18.33	5+	17.23
HCTL-2016	HP	582	1+	18.33	5+	17.23
HCTL-2020	HP	582	1+	20.96	5+	19.70
HCTL-2020#PLC	HP	582	1+	20.96	5+	19.70
HD3-4702-9	HRS	900	1+	9.19	10+	8.56
HD3-6402B-9	HRS	900	1+	11.99	10+	11.17
HD3-6402R-9	HRS	...	1+	9.19	10+	8.56
HD3-6409-9	HRS	900	1+	24.78	10+	23.43
HDLG-2416	HP	581	1+	21.31	5+	20.46
HDLO-2416	HP	581	1+	21.31	5+	20.46
HDMP-0451	HP	...	1+	34.10	5+	32.74
HDMP-1022	HP	...	1+	73.28	5+	70.34
HDMP-1024	HP	...	1+	73.28	5+	70.34
HDMP-1536A	HP	...	1+	34.10	5+	32.74
HDMP-1546A	HP	...	1+	34.10	5+	32.74
HDMP-1636A	HP	495	1+	16.47	5+	15.82
HDMP-1646A	HP	495	1+	16.47	5+	15.82
HDSP-2111	HP	581	1+	46.37	5+	44.51
HDSP-2112	HP	581	1+	46.37	5+	44.51
HDSP-2113	HP	581	1+	46.37	5+	44.51
HDSP-2531	HP	581	1+	48.70	5+	46.74
HDSP-2533	HP	581	1+	48.70	5+	46.74
HDSP-2534	HP	581	1+	60.28	5+	57.86
HDSP-3403	HP	...	1+	2.36	25+	2.10
HDSP-3531	HP	...	1+	3.11	10+	2.80
HDSP-3601	HP	581	1+	2.78	10+	2.50
HDSP-3900	HP	...	1+	3.97	10+	3.57
HDSP-3901	HP	...	1+	3.97	10+	3.57
HDSP-3903	HP	...	1+	3.97	10+	3.57
HDSP-4601	HP	581	1+	2.78	10+	2.50
HDSP-4830	HP	581	1+	4.56	10+	4.10
HDSP-4832	HP	...	1+	5.95	10+	5.35
HDSP-4840	HP	581	1+	5.42	10+	4.88
HDSP-4850	HP	...	1+	5.42	10+	4.88
HDSP-5301	HP	...	1+	1.95	25+	1.74
HDSP-5321	HP	...	1+	3.28	10+	2.95
HDSP-5501	HP	581	1+	2.85	10+	2.57
HDSP-5503	HP	581	1+	2.85	10+	2.57
HDSP-5521	HP	581	1+	5.13	10+	4.61
HDSP-5523	HP	581	1+	5.13	10+	4.61
HDSP-5601	HP	581	1+	2.85	10+	2.57
HDSP-5603	HP	581	1+	2.85	10+	2.57
HDSP-5621	HP	581	1+	5.13	10+	4.61
HDSP-5623	HP	...	1+	5.13	10+	4.61
HDSP-5701	HP	581	1+	2.85	10+	2.57
HDSP-7301	HP	...	1+	1.92	25+	1.71
HDSP-7303	HP	...	1+	1.86	25+	1.66
HDSP-7401	HP	581	1+	2.83	10+	2.54
HDSP-7501	HP	581	1+	2.83	10+	2.54
HDSP-7503	HP	581	1+	2.83	10+	2.54
HDSP-7801	HP	581	1+	2.83	10+	2.54
HDSP-7803	HP	581	1+	2.83	10+	2.54
HDSP-A101	HP	...	1+	3.56	10+	3.20
HDSP-A103	HP	581	1+	3.56	10+	3.20
HDSP-A153	HP	581	1+	3.56	10+	3.20
HDSP-E101	HP	581	1+	3.56	10+	3.20
HDSP-E103	HP	581	1+	3.56	10+	3.20
HDSP-F003	HP	...	1+	1.84	25+	1.64
HDSP-F101	HP	...	1+	3.08	10+	2.77
HDSP-F103	HP	...	1+	3.08	10+	2.77
HDSP-F203	HP	...	1+	2.69	10+	2.42
HDSP-F503	HP	...	1+	2.69	10+	2.42
HDSP-G101	HP	...	1+	6.17	10+	5.56
HDSP-H101	HP	581	1+	3.56	10+	3.20
HDSP-H103	HP	581	1+	3.56	10+	3.20
HDSP-N101	HP	...	1+	4.74	10+	4.27
HEDL-6540#B06	HP	582	1+	131.86	5+	126.59
HEDR-8000#2K0	HP	582	1+	15.31	5+	14.39
HEDS-5120#A06	HP	...	1+	16.66	5+	15.66
HEDS-5120#G06	HP	...	1+	17.24	5+	16.20
HEDS-5140#A06	HP	...	1+	16.66	5+	15.66
HEDS-5500#A02	HP	...	1+	41.75	5+	40.08
HEDS-5500#A06	HP	582	1+	41.75	5+	40.08
HEDS-5500#A11	HP	582	1+	41.75	5+	40.08
HEDS-5500#C06	HP	...	1+	41.75	5+	40.08

Type	Mfg.	Pg.	Qty.	$	Qty.	$
HEDS-5500#C11	HP	...	1+	40.34	5+	38.72
HEDS-5500#E06	HP	...	1+	41.75	5+	40.08
HEDS-5500#F06	HP	582	1+	41.75	5+	40.08
HEDS-5500#G06	HP	582	1+	41.75	5+	40.08
HEDS-5500#H06	HP	...	1+	40.34	5+	38.72
HEDS-5500#I06	HP	582	1+	41.75	5+	40.08
HEDS-5505#A06	HP	582	1+	41.75	5+	40.08
HEDS-5540#A06	HP	582	1+	47.14	5+	45.25
HEDS-5600#A06	HP	582	1+	41.75	5+	40.08
HEDS-5640#A06	HP	582	1+	47.14	5+	45.25
HEDS-5700#C02	HP	...	1+	49.44	5+	47.46
HEDS-5701#A02	HP	...	1+	52.70	5+	50.58
HEDS-5701#F10	HP	...	1+	54.54	5+	52.35
HEDS-6100#A06	HP	...	1+	27.18	5+	26.10
HEDS-6100#B06	HP	...	1+	28.13	5+	27.01
HEDS-6500#B06	HP	582	1+	95.57	5+	91.74
HEDS-6500#J06	HP	582	1+	95.57	5+	91.74
HEDS-6540#B06	HP	582	1+	109.89	5+	105.50
HEDS-6540#J06	HP	582	1+	109.89	5+	105.50
HEDS-8902	HP	...	1+	7.02	10+	6.32
HEDS-8903	HP	...	1+	7.02	10+	6.32
HEDS-8904	HP	...	1+	3.60	10+	3.24
HEDS-8905	HP	...	1+	55.02	5+	52.81
HEDS-9000#A00	HP	582	1+	28.05	5+	26.94
HEDS-9000#B00	HP	582	1+	28.05	5+	26.94
HEDS-9040#B00	HP	582	1+	36.99	5+	35.52
HEDS-9040#J00	HP	...	1+	35.74	5+	34.32
HEDS-9100#A00	HP	582	1+	28.05	5+	26.94
HEDS-9100#B00	HP	582	1+	32.24	5+	30.95
HEDS-9100#G00	HP	582	1+	28.05	5+	26.94
HEDS-9140#A00	HP	582	1+	36.99	5+	35.52
HEDS-9200#360	HP	...	1+	36.06	5+	34.61
HEDS-9700#E50	HP	...	1+	28.05	5+	26.94
HEF4001BPN	PHL	...	1+	0.97	25+	0.63
HEF4011BPN	PHL	...	1+	0.97	25+	0.63
HEF4013BPN	PHL	...	1+	1.21	25+	0.85
HEF4093BP	PHL	...	1+	1.30	25+	0.67
HEF4093BTD	PHL	...	1+	0.90	25+	0.60
HEF4104BPN	PHL	...	1+	2.19	25+	1.12
HEF4538BTD	PHL	...	1+	1.84	25+	1.22
HER305	SPC	938	1+	0.34	100+	0.31
HER601	SPC	938	1+	0.71	100+	0.51
HER602	SPC	938	1+	0.39	100+	0.36
HER604	SPC	938	1+	0.47	100+	0.44
HER605	SPC	938	1+	0.52	100+	0.49
HER607	SPC	938	1+	0.71	100+	0.66
HFA08TB60	IR	922	1+	2.46	25+	2.26
HFA1100IB	HRS	897	1+	4.38	25+	4.03
HFA1100IP	HRS	897	1+	4.38	25+	4.03
HFA1109IB	HRS	897	1+	5.04	25+	4.63
HFA1110IB	HRS	...	1+	3.93	100+	3.60
HFA1112IB	HRS	...	1+	4.58	25+	4.21
HFA1130IP	HRS	897	1+	4.58	25+	4.21
HFA1135IP	HRS	897	1+	4.38	25+	4.03
HFA15PB60	IR	922	1+	4.72	25+	4.34
HFA15TB60	IR	922	1+	3.65	25+	3.36
HFA25PB60	IR	922	1+	8.08	10+	7.53
HFA25TB60	IR	922	1+	5.04	25+	4.63
HFA3101B	HRS	896	1+	4.21	25+	3.87
HFA50PA60C	IR	922	1+	13.32	10+	12.60
HFBR-0410	HP	495	1+	64.12	5+	61.55
HFBR-0414	HP	495	1+	126.72	5+	121.65
HFBR-0501	HP	495	1+	30.78	5+	29.55
HFBR-0528	HP	495	1+	71.36	5+	68.50
HFBR-1312T	HP	...	1+	63.30	5+	60.76
HFBR-1402	HP	494	1+	20.65	5+	19.41
HFBR-1404	HP	494	1+	20.87	5+	19.62
HFBR-1412	HP	...	1+	20.65	5+	19.41
HFBR-1412T	HP	494	1+	20.65	5+	19.41
HFBR-1414	HP	...	1+	20.87	5+	19.62
HFBR-1414T	HP	494	1+	20.87	5+	19.62
HFBR-1502	HP	...	1+	13.59	5+	12.78
HFBR-1510	HP	...	1+	13.02	5+	12.24
HFBR-1512	HP	...	1+	13.59	5+	12.78
HFBR-1521	HP	494	1+	10.82	10+	9.74
HFBR-1522	HP	494	1+	10.82	10+	9.74
HFBR-1523	HP	494	1+	10.82	10+	9.74
HFBR-1524	HP	494	1+	8.36	10+	7.52
HFBR-1528	HP	494	1+	10.82	10+	9.74
HFBR-1531	HP	494	1+	10.82	10+	9.74
HFBR-1532	HP	...	1+	10.45	10+	9.41
HFBR-1534	HP	...	1+	8.36	10+	7.52
HFBR-1602	HP	...	1+	17.94	5+	16.86
HFBR-2316T	HP	...	1+	51.02	5+	48.98
HFBR-2402	HP	...	1+	19.57	5+	18.39
HFBR-2404	HP	...	1+	19.57	5+	18.39
HFBR-2406	HP	...	1+	21.41	5+	20.13
HFBR-2412	HP	...	1+	19.57	5+	18.39
HFBR-2412T	HP	494	1+	19.57	5+	18.39
HFBR-2414T	HP	494	1+	19.57	5+	18.39
HFBR-2416	HP	...	1+	21.41	5+	20.13
HFBR-2416T	HP	494	1+	21.41	5+	20.13
HFBR-2462T	HP	...	1+	19.57	5+	18.39
HFBR-2521	HP	494	1+	11.52	5+	10.83
HFBR-2522	HP	494	1+	11.52	5+	10.83
HFBR-2523	HP	494	1+	11.52	5+	10.83
HFBR-2524	HP	494	1+	9.41	10+	8.47
HFBR-2526	HP	494	1+	17.39	5+	16.35

Type	Mfg.	Pg.	Qty.	$	Qty.	$
HFBR-2528	HP	494	1+	18.04	5+	16.96
HFBR-2531	HP	494	1+	11.52	5+	10.83
HFBR-2534	HP	...	1+	9.41	10+	8.47
HFBR-2536	HP	...	1+	16.80	5+	15.80
HFBR-2602	HP	...	1+	16.31	5+	15.33
HFBR-4501	HP	...	1+	0.73	25+	0.65
HFBR-4503	HP	...	1+	0.64	25+	0.57
HFBR-4505	HP	..	1+	1.10	25+	0.98
HFBR-4506	HP	...	1+	1.24	25+	1.11
HFBR-4511	HP	...	1+	0.73	25+	0.65
HFBR-4513	HP	...	1+	0.64	25+	0.57
HFBR-4515	HP	.	1+	1.10	25+	0.98
HFBR-4516	HP	...	1+	1.24	25+	1.11
HFBR-4525	HP	...	1+	129.50	5+	124.32
HFBR-4531	HP	...	1+	0.64	25+	0.57
HFBR-4593	HP	...	1+	4.01	10+	3.61
HFBR-4597	HP	...	1+	294.88	3+	280.13
HFBR-5112	HP	494	1+	126.79	5+	121.72
HFBR-5205	HP	494	1+	76.98	5+	73.90
HFBR-53D5	HP	495	1+	166.32	3+	158.01
HFBR-53D5EM	HP	495	1+	166.32	3+	158.01
HFBR-53D5FM	HP	495	1+	166.32	3+	158.01
HFBR-5903	HP	495	1+	84.08	5+	80.71
HFBR-5905	HP	495	1+	84.08	5+	80.71
HFBR-AWS010	HP	...	1+	158.13	5+	151.80
HFBR-BXS010	HP	...	1+	158.13	5+	151.80
HFBR-ETD010	HP	494	1+	29.13	5+	27.97
HFBR-PND005	HP	...	1+	20.80	5+	19.56
HFBR-PND010	HP	...	1+	29.95	5+	28.75
HFBR-PNS001	HP	494	1+	5.22	10+	4.70
HFBR-PNS005	HP	494	1+	10.91	10+	9.82
HFBR-PNS010	HP	494	1+	17.20	5+	16.16
HFBR-PUD100	HP	...	1+	298.38	3+	283.46
HFBR-PUS100	HP	494	1+	169.54	5+	162.76
HFBR-PUS500	HP	494	1+	621.63	3+	590.54
HFBR-QUS100	HP	...	1+	180.27	3+	171.26
HFBR-RNS010	HP	494	1+	13.46	5+	12.65
HFBR-RUD500	HP	...	1+	717.25	3+	681.40
HFBR-RUS500	HP	...	1+	358.63	3+	340.70
HFCT-5103B	HP	495	1+	269.50	3+	256.03
HFCT-5103D	HP	495	1+	269.50	3+	256.03
HFCT-5205B	HP	495	1+	269.50	3+	256.03
HFCT-5205D	HP	495	1+	269.50	3+	256.03
HFCT-53D5	HP	495	1+	385.00	3+	365.75
HFCT-53D5EM	HP	495	1+	385.00	3+	365.75
HFCT-53D5FM	HP	495	1+	385.00	3+	365.75
HFD3022-002	HWL	496	1+	10.33	10+	9.71
HFD3029-002	HWL	496	1+	12.72	10+	11.96
HFD3080-302	HWL	496	1+	63.80	10+	59.97
HFD3213-002	HWL	...	1+	25.82	10+	24.27
HFD3380-302	HWL	496	1+	90.43	10+	85.01
HFD3403-002	HWL	...	1+	28.13	10+	26.45
HFD3854-002	HWL	496	1+	34.96	10+	32.87
HFD3855-002	HWL	496	1+	20.42	10+	19.19
HFD3858-002	HWL	496	1+	61.23	10+	57.56
HFD3859-002	HWL	496	1+	33.18	10+	31.19
HFD3874-002	HWL	496	1+	32.69	10+	30.73
HFD3880-002	HWL	496	1+	21.57	10+	20.27
HFE4000-014	HWL	496	1+	32.95	10+	30.98
HFE4003-023	HWL	496	1+	32.97	10+	30.99
HFE4020-313	HWL	496	1+	19.95	10+	18.75
HFE4050-014	HWL	496	1+	31.77	10+	29.86
HFE4227-022	HWL	496	1+	17.55	10+	16.49
HFE4834-015	HWL	496	1+	58.30	10+	54.80
HFE4854-013	HWL	496	1+	40.51	10+	38.09
HFE4854-014	HWL	496	1+	40.83	10+	38.39
HFE4856-013	HWL	496	1+	28.68	10+	26.96
HGT1S12N60C3S	HRS	...	1+	4.75	25+	4.36
HGTD3N60B3S	HRS	894	1+	1.61	25+	1.50
HGTD3N60C3S	HRS	894	1+	1.67	25+	1.55
HGTD7N60B3S	HRS	894	1+	2.33	25+	2.17
HGTD7N60C3S	HRS	894	1+	2.37	25+	2.21
HGTG10N120BN	HRS	894	1+	6.79	25+	6.24
HGTG12N60B3	HRS	894	1+	3.51	25+	3.22
HGTG12N60B3D	HRS	...	1+	6.49	10+	6.05
HGTG12N60C3D	HRS	894	1+	7.15	10+	6.67
HGTG15N120C3	HRS	894	1+	11.82	10+	11.17
HGTG18N120BN	HRS	...	1+	10.16	10+	9.47
HGTG18N120BND	HRS	...	1+	10.56	10+	9.98
HGTG20N120C3D	HRS	894	1+	22.61	5+	21.53
HGTG20N120CN	HRS	...	1+	10.05	10+	9.37
HGTG20N120CND	HRS	...	1+	10.45	10+	9.82
HGTG20N60B3	HRS	894	1+	7.98	10+	7.44
HGTG20N60B3D	HRS	894	1+	11.14	10+	10.39
HGTG20N60C3	HRS	...	1+	5.20	25+	4.78
HGTG20N60C3D	HRS	...	1+	7.57	10+	7.06
HGTG20N60C3DR	HRS	894	1+	6.68	10+	6.23
HGTG20N60C3R	HRS	894	1+	5.25	10+	4.89
HGTG27N60C3DR	HRS	894	1+	10.00	10+	9.45
HGTG27N60C3R	HRS	...	1+	8.20	10+	7.76
HGTG30N60B3	HRS	...	1+	9.40	10+	8.76
HGTG30N60B3D	HRS	...	1+	10.58	10+	9.86
HGTG30N60C3	HRS	894	1+	14.58	10+	13.78
HGTG30N60C3D	HRS	894	1+	17.29	10+	16.34
HGTG40N60B3	HRS	894	1+	22.61	5+	21.53
HGTP12N60B3D	HRS	...	1+	3.86	25+	3.55
HGTP12N60C3	HRS	894	1+	3.92	25+	3.60
HGTP14N40F3VL	HRS	...	1+	4.38	25+	4.03

NEW TYPES ARE BEING CONTINUALLY ADDED TO INVENTORY.

CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR AVAILABILITY.

Type	Mfg.	Pg.	Qty.	$	Qty.	$
HGTP20N60C3R	HRS	894	1+	4.63	25+	4.25
HGTP3N60C3	HRS	894	1+	1.64	25+	1.53
HGTP3N60C3D	HRS	894	1+	2.42	25+	2.26
HGTP7N60B3	HRS	...	1+	2.40	25+	2.24
HGTP7N60B3D	HRS	...	1+	2.82	25+	2.60
HGTP7N60C3	HRS	894	1+	2.43	25+	2.27
HGTP7N60C3D	HRS	894	1+	3.14	25+	2.89
HI1-0200-5	HRS	...	1+	3.75	25+	3.45
HI1-0201-4	HRS	...	1+	5.48	25+	5.03
HI1-0201-5	HRS	...	1+	4.70	25+	4.32
HI1-0201HS-5	HRS	...	1+	7.06	10+	6.58
HI1-0303-5	HRS	...	1+	9.12	10+	8.50
HI1-0506-5	HRS	898	1+	11.34	10+	10.72
HI1-0506A-5	HRS	...	1+	19.36	10+	18.30
HI1-0508-2	HRS	...	1+	15.15	10+	14.32
HI1-0508-5	HRS	898	1+	6.40	10+	5.96
HI1-0509A-5	HRS	...	1+	12.76	10+	12.06
HI1-1818A-5	HRS	...	1+	12.46	100+	10.53
HI1-5043-2	HRS	...	1+	22.56	25+	19.86
HI1-574AKD-5	HRS	899	1+	39.94	5+	38.02
HI1171JCB	HRS	898	1+	7.32	10+	6.83
HI2303JCQ	HRS	899	1+	39.36	5+	37.48
HI3-0201-5	HRS	899	1+	3.58	25+	3.29
HI3-0201HS-5	HRS	899	1+	5.48	10+	5.10
HI3-0506-5	HRS	898	1+	10.56	10+	9.84
HI3-0507A-5	HRS	...	1+	16.88	10+	15.96
HI3-0508-5	HRS	898	1+	5.11	25+	4.70
HI3-0508A-5	HRS	898	1+	7.50	10+	6.99
HI3-0509-5	HRS	...	1+	5.11	25+	4.70
HI3-0509A-5	HRS	...	1+	9.64	10+	8.98
HI3-5043-5	HRS	...	1+	4.36	10+	4.06
HI3-574AJN-5	HRS	898	1+	20.16	10+	19.06
HI3-574AKN-5	HRS	898	1+	20.72	10+	19.59
HI3304JIB	HRS	898	1+	4.87	25+	4.48
HI5662/6IN	HRS	899	1+	21.98	10+	20.78
HI5703KCB	HRS	898	1+	46.92	5+	44.68
HI5714/8CB	HRS	899	1+	14.72	10+	13.92
HI5760BIB	HRS	899	1+	18.40	10+	17.39
HI5762/6IN	HRS	899	1+	28.43	5+	27.07
HI5767/2CB	HRS	899	1+	8.93	10+	8.33
HI5767/4CB	HRS	899	1+	16.70	10+	15.79
HI5767/6CB	HRS	899	1+	21.52	10+	20.35
HI5812JIP	HRS	...	1+	10.58	10+	9.86
HI5905IN	HRS	899	1+	89.51	5+	79.57
HI7188IN	HRS	...	1+	53.01	5+	47.12
HIN201IB	HRS	...	1+	3.34	25+	3.07
HIN202CP	HRS	...	1+	2.78	25+	2.55
HIN206CP	HRS	...	1+	6.33	10+	5.90
HIN207CP	HRS	...	1+	3.94	25+	3.63
HIN208CP	HRS	...	1+	6.33	10+	5.90
HIN211CA	HRS	...	1+	6.33	10+	5.90
HIP0050IB	HRS	895	1+	8.66	10+	8.07
HIP0050IP	HRS	895	1+	8.32	10+	7.76
HIP0051IB	HRS	895	1+	7.98	10+	7.44
HIP1030AS	HRS	...	1+	3.14	100+	2.87
HIP2100IB	HRS	895	1+	4.16	25+	3.83
HIP4020IB	HRS	895	1+	4.33	10+	4.04
HIP4080AEVAL2	HRS	...	1+	219.71	5+	198.10
HIP4080AIP	HRS	895	1+	6.33	10+	5.90
HIP4081AIP	HRS	895	1+	6.11	10+	5.70
HIP4082EVAL	HRS	895	1+	363.72	5+	327.94
HIP4082IB	HRS	895	1+	5.35	25+	4.92
HIP4082IP	HRS	895	1+	5.35	25+	4.92
HIP4083AB	HRS	895	1+	4.42	25+	4.06
HIP4083AP	HRS	895	1+	4.42	25+	4.06
HIP4083EVAL	HRS	895	1+	411.75	5+	371.25
HIP4086AB	HRS	895	1+	8.84	10+	8.24
HIP4086AP	HRS	895	1+	8.84	10+	8.24
HIP4086EVAL	HRS	895	1+	457.50	5+	412.50
HIP5010IS1	HRS	895	1+	9.30	10+	8.66
HIP5011EVAL	HRS	895	1+	54.00	5+	48.00
HIP5015EVAL2	HRS	895	1+	75.60	5+	67.20
HIP5015IS	HRS	895	1+	7.18	10+	6.69
HIP5015IS1	HRS	895	1+	6.30	10+	5.87
HIP5020DB	HRS	895	1+	12.71	10+	12.02
HIP5020EVAL1	HRS	895	1+	152.25	5+	143.25
HIP5020EVAL2	HRS	895	1+	162.40	5+	152.80
HIP6002CB	HRS	...	1+	6.07	10+	5.66
HIP6004EVAL1	HRS	...	1+	189.41	5+	170.78
HIP6008CB	HRS	...	1+	4.79	10+	4.47
HIP7010P	HRS	...	1+	10.34	10+	9.64
HLC1395-001	HWL	...	1+	2.02	100+	1.82
HLC1395-002	HWL	588	1+	2.09	100+	1.88
HLC2701-001	HWL	589	1+	2.57	100+	2.32
HLCP-A100	HP	...	1+	1.66	25+	1.48
HLCP-B100	HP	...	1+	2.35	10+	2.11
HLCP-J100	HP	...	1+	5.42	10+	4.88
HLMA-KH00	HP	580	1+	0.64	25+	0.57
HLMA-KL00	HP	580	1+	0.78	25+	0.70
HLMA-QH00	HP	580	1+	0.52	25+	0.46
HLMA-QL00	HP	580	1+	0.52	25+	0.46
HLMP-0103	HP	...	1+	0.13	25+	0.12
HLMP-0104	HP	...	1+	0.13	25+	0.12
HLMP-0300	HP	...	1+	0.65	25+	0.58
HLMP-0301	QT	587	1+	0.29	100+	0.24
HLMP-0401	QT	...	1+	0.29	100+	0.24
HLMP-0504	QT	...	1+	0.23	100+	0.19
HLMP-0800	HP	...	1+	0.55	25+	0.49
HLMP-1002#101	HP	...	1+	0.62	25+	0.55
HLMP-1100	HP	...	1+	0.52	25+	0.46
HLMP-1300	HP	...	1+	0.31	25+	0.28
HLMP-1301	QT	...	1+	0.28	100+	0.23
HLMP-1301#010	HP	...	1+	0.45	25+	0.40
HLMP-1302	HP	580	1+	0.31	25+	0.28
HLMP-1321	HP	...	1+	0.21	25+	0.19
HLMP-1340	HP	580	1+	0.34	25+	0.30
HLMP-1400	HP	...	1+	0.31	25+	0.28
HLMP-1401	HP	580	1+	0.21	25+	0.19
HLMP-1421	HP	...	1+	0.21	25+	0.19
HLMP-1440	QT	587	1+	0.22	100+	0.18
HLMP-1503	QT	...	1+	0.22	100+	0.18
HLMP-1521	QT	587	1+	0.25	100+	0.20
HLMP-1523	QT	...	1+	0.22	100+	0.18
HLMP-1540	QT	587	1+	0.22	100+	0.18
HLMP-1600	HP	...	1+	0.52	25+	0.46
HLMP-1620	HP	...	1+	0.52	25+	0.46
HLMP-1640	HP	...	1+	0.52	25+	0.46
HLMP-1641	HP	...	1+	0.50	25+	0.45
HLMP-1700	QT	...	1+	0.22	100+	0.18
HLMP-1719	QT	...	1+	0.22	100+	0.18
HLMP-1790	QT	587	1+	0.22	100+	0.18
HLMP-1790#010	HP	...	1+	0.69	25+	0.61
HLMP-1790#101	HP	...	1+	0.69	25+	0.61
HLMP-1801	HP	...	1+	0.60	25+	0.54
HLMP-1841	HP	...	1+	0.63	25+	0.56
HLMP-2350	QT	587	1+	1.25	25+	1.12
HLMP-2450	QT	...	1+	1.23	25+	1.09
HLMP-2550	QT	587	1+	1.25	25+	1.12
HLMP-2620	HP	581	1+	2.85	10+	2.57
HLMP-2655	QT	587	1+	1.78	25+	1.58
HLMP-2685	QT	587	1+	2.18	25+	1.95
HLMP-2720	HP	581	1+	2.85	10+	2.57
HLMP-2755	QT	587	1+	1.78	25+	1.58
HLMP-2785	QT	587	1+	2.18	25+	1.95
HLMP-2820	HP	581	1+	2.85	10+	2.57
HLMP-2855	QT	...	1+	1.78	25+	1.58
HLMP-2885	QT	587	1+	2.18	25+	1.95
HLMP-2898	HP	...	1+	0.24	25+	0.21
HLMP-2899	HP	...	1+	0.24	25+	0.21
HLMP-2965	HP	...	1+	4.51	10+	4.06
HLMP-3001	HP	...	1+	0.39	25+	0.35
HLMP-3002	HP	...	1+	0.38	25+	0.34
HLMP-3105	HP	...	1+	0.49	25+	0.44
HLMP-3112	HP	...	1+	0.49	25+	0.44
HLMP-3300	QT	587	1+	0.25	100+	0.20
HLMP-3301	QT	587	1+	0.23	100+	0.19
HLMP-3316	QT	587	1+	0.37	100+	0.30
HLMP-3350	HP	...	1+	0.47	25+	0.42
HLMP-3351	HP	...	1+	0.47	25+	0.42
HLMP-3400	HP	...	1+	0.31	25+	0.28
HLMP-3401	HP	580	1+	0.21	25+	0.19
HLMP-3416	HP	...	1+	0.34	25+	0.30
HLMP-3451	HP	...	1+	0.47	25+	0.42
HLMP-3502	HP	...	1+	0.31	25+	0.28
HLMP-3502#002	HP	...	1+	0.33	25+	0.29
HLMP-3507	HP	580	1+	0.21	25+	0.19
HLMP-3519	HP	...	1+	0.34	25+	0.30
HLMP-3568	HP	...	1+	0.45	25+	0.40
HLMP-3600	HP	...	1+	0.52	25+	0.46
HLMP-3650	HP	...	1+	0.52	25+	0.46
HLMP-3651	HP	...	1+	0.52	25+	0.46
HLMP-3680	HP	...	1+	0.52	25+	0.46
HLMP-3680#009	HP	...	1+	0.52	25+	0.46
HLMP-3681	HP	...	1+	0.52	25+	0.46
HLMP-3750	HP	580	1+	0.34	25+	0.30
HLMP-3750A	QT	587	1+	0.22	100+	0.18
HLMP-3762	HP	...	1+	0.34	25+	0.30
HLMP-3850	HP	580	1+	0.34	25+	0.30
HLMP-3862	HP	...	1+	0.34	25+	0.30
HLMP-3950	HP	580	1+	0.34	25+	0.30
HLMP-3950A	QT	587	1+	0.22	100+	0.18
HLMP-3962	HP	...	1+	0.34	25+	0.30
HLMP-4000	HP	...	1+	0.51	25+	0.46
HLMP-4101	HP	...	1+	0.42	25+	0.37
HLMP-4700	QT	...	1+	0.22	100+	0.18
HLMP-4719	QT	...	1+	0.22	100+	0.18
HLMP-4740	HP	580	1+	0.50	25+	0.44
HLMP-5029	HP	...	1+	0.24	25+	0.21
HLMP-6000	HP	...	1+	0.37	25+	0.33
HLMP-6300	HP	580	1+	0.47	25+	0.42
HLMP-6400	HP	580	1+	0.47	25+	0.42
HLMP-6400#022	HP	...	1+	0.53	25+	0.47
HLMP-6500	HP	580	1+	0.47	25+	0.42
HLMP-6500#010	HP	...	1+	0.83	25+	0.74
HLMP-6500#011	HP	...	1+	0.60	25+	0.53
HLMP-6620	HP	...	1+	0.63	25+	0.56
HLMP-6620#010	HP	...	1+	0.97	25+	0.86
HLMP-6820	HP	...	1+	0.63	25+	0.56
HLMP-7000	HP	...	1+	0.63	25+	0.56
HLMP-7040	HP	...	1+	0.63	25+	0.56
HLMP-AB01	HP	...	1+	1.77	25+	1.57
HLMP-AD05	HP	...	1+	0.63	25+	0.56
HLMP-AD06	HP	...	1+	0.63	25+	0.56
HLMP-AG00	HP	...	1+	0.50	25+	0.45
HLMP-AG01	HP	...	1+	0.50	25+	0.45
HLMP-AL00	HP	...	1+	0.50	25+	0.45
HLMP-AL01	HP	...	1+	0.50	25+	0.45
HLMP-AL03	HP	...	1+	0.50	25+	0.45
HLMP-AL05	HP	...	1+	0.63	25+	0.56
HLMP-AL06	HP	...	1+	0.63	25+	0.56
HLMP-AL08	HP	...	1+	0.63	25+	0.56
HLMP-AM01	HP	...	1+	1.77	25+	1.57
HLMP-BB11	HP	580	1+	1.77	25+	1.57
HLMP-BD15	HP	...	1+	0.63	25+	0.56
HLMP-BD16	HP	580	1+	0.63	25+	0.56
HLMP-BG10	HP	...	1+	0.50	25+	0.45
HLMP-BG11	HP	580	1+	0.50	25+	0.45
HLMP-BL10	HP	...	1+	0.50	25+	0.45
HLMP-BL11	HP	580	1+	0.50	25+	0.45
HLMP-BL13	HP	...	1+	0.50	25+	0.45
HLMP-BL15	HP	...	1+	0.63	25+	0.56
HLMP-BL16	HP	580	1+	0.63	25+	0.56
HLMP-BL18	HP	...	1+	0.63	25+	0.56
HLMP-BM11	HP	580	1+	1.77	25+	1.57
HLMP-C100	HP	...	1+	0.50	25+	0.44
HLMP-C110	HP	...	1+	0.50	25+	0.44
HLMP-C115	HP	580	1+	0.44	25+	0.40
HLMP-C116	HP	580	1+	0.47	25+	0.42
HLMP-C124	HP	580	1+	0.47	25+	0.42
HLMP-C215	HP	580	1+	0.37	25+	0.33
HLMP-C315	HP	580	1+	0.37	25+	0.33
HLMP-C415	HP	580	1+	0.37	25+	0.33
HLMP-C515	HP	580	1+	0.37	25+	0.33
HLMP-C615	HP	580	1+	0.37	25+	0.33
HLMP-CB15	HP	580	1+	1.94	10+	1.75
HLMP-CB16	HP	...	1+	1.94	10+	1.75
HLMP-CB30	HP	580	1+	1.94	10+	1.75
HLMP-CB31	HP	...	1+	1.94	10+	1.75
HLMP-CE23	HP	580	1+	1.53	25+	1.36
HLMP-CE24	HP	...	1+	1.53	25+	1.36
HLMP-CE30	HP	580	1+	1.53	25+	1.36
HLMP-CE31	HP	...	1+	1.53	25+	1.36
HLMP-CM15	HP	580	1+	2.00	25+	1.78
HLMP-CM16	HP	...	1+	2.00	25+	1.78
HLMP-CM30	HP	580	1+	2.00	25+	1.78
HLMP-CM31	HP	...	1+	2.00	25+	1.78
HLMP-D101	HP	580	1+	0.26	25+	0.23
HLMP-D105	HP	580	1+	0.37	25+	0.33
HLMP-D150	HP	580	1+	0.42	25+	0.37
HLMP-D155	HP	...	1+	0.42	25+	0.37
HLMP-D401	HP	...	1+	0.25	25+	0.23
HLMP-DD16	HP	...	1+	0.50	25+	0.44
HLMP-DD25	HP	...	1+	0.51	25+	0.46
HLMP-DD31	HP	...	1+	0.51	25+	0.46
HLMP-DG08	HP	...	1+	0.38	25+	0.34
HLMP-DG15	HP	...	1+	0.38	25+	0.34
HLMP-DG24	HP	...	1+	0.44	25+	0.39
HLMP-DG30	HP	...	1+	0.38	25+	0.34
HLMP-DH16	HP	...	1+	0.50	25+	0.44
HLMP-DH24	HP	...	1+	0.44	25+	0.39
HLMP-DJ24	HP	...	1+	0.44	25+	0.39
HLMP-DL08	HP	...	1+	0.43	25+	0.38
HLMP-DL15	HP	...	1+	0.43	25+	0.38
HLMP-DL24	HP	...	1+	0.59	25+	0.52
HLMP-DL25	HP	...	1+	0.69	25+	0.61
HLMP-DL31	HP	...	1+	0.51	25+	0.46
HLMP-K101	QT	587	1+	0.31	100+	0.25
HLMP-K105	QT	587	1+	0.31	100+	0.25
HLMP-K150	QT	587	1+	0.34	100+	0.29
HLMP-K155	QT	587	1+	0.34	100+	0.29
HLMP-NG07	HP	...	1+	0.26	25+	0.23
HLMP-NL06	HP	...	1+	0.26	25+	0.23
HLMP-Q101	HP	...	1+	0.50	25+	0.44
HLMP-Q105A	QT	...	1+	0.40	100+	0.33
HLMP-Q150	HP	...	1+	0.55	25+	0.49
HLMP-R100	HP	...	1+	0.63	25+	0.56
HLMP-S100	HP	580	1+	0.55	25+	0.49
HLMP-S200	HP	580	1+	0.44	25+	0.40
HLMP-S301	HP	...	1+	0.30	25+	0.27
HLMP-S500	HP	580	1+	0.44	25+	0.40
HLMP-UG22	HP	...	1+	0.31	25+	0.28
HLMP-UH22	HP	...	1+	0.31	25+	0.28
HLMP-UJ22	HP	...	1+	0.31	25+	0.28
HLMP-UL22	HP	...	1+	0.37	25+	0.33
HLMP-WG02	HP	...	1+	0.26	25+	0.23
HLMP-WG12	HP	...	1+	0.26	25+	0.23
HLMP-WH02	HP	...	1+	0.26	25+	0.23
HLMP-WH12	HP	...	1+	0.26	25+	0.23
HLMP-WL02	HP	...	1+	0.26	25+	0.23
HLMP-WL12	HP	...	1+	0.26	25+	0.23
HM3-6514-9	HRS	...	1+	13.72	10+	12.79
HMMC-3040	HP	...	1+	99.65	5+	95.66
HMMC-5022	HP	...	1+	126.95	5+	121.87
HMMC-5033	HP	...	1+	151.55	5+	145.49
HMP8112ACN	HRS	...	1+	32.56	5+	31.00
HMP8156ACN	HRS	...	1+	21.59	10+	20.41
HOA0149-001	HWL	588	1+	3.30	100+	2.32
HOA0708-001	HWL	588	1+	3.68	100+	2.58
HOA0708-011	HWL	...	1+	3.94	100+	2.77
HOA0709-001	HWL	588	1+	3.68	100+	2.58
HOA0709-011	HWL	588	1+	4.00	100+	2.80
HOA0825-001	HWL	...	1+	2.61	100+	1.83
HOA0825-003	HWL	588	1+	2.74	100+	1.92
HOA0875-T51	HWL	588	1+	2.72	100+	1.91

Manufacturer Abbreviations:

ADI: Analog Devices; **ALG:** Allegro; **ALT:** Altera; **AMD:** Advanced Micro Devices; **AND:** AND; **APD:** American Power Devices; **DAL:** Dallas Semiconductor; **ECG:** Philips ECG; **FGR:** Fagor; **GS:** General Semiconductor; **HP:** Hewlett Packard; **HRS:** Harris Semiconductor; **HWL:** Honeywell Opto; **INT:** Intronics; **IR:** International Rectifier; **MIC:** Micrel; **MOT:** Motorola; **NAT:** National Semiconductor; **OPT:** Optek; **PHL:** Phillips Semiconductors; **PWX:** Powerex; **QT:** QT Optoelectronics; **SKN:** Semikron; **SPC:** SPC Technology; **TI:** Texas Instruments; **TSK:** Thomson SK; **VAC:** EG&G Vactec; **VAN:** Vantis; **ZIL:** Zilog

Type	Mfg.	Pg.	Qty.	$	Qty.	$
HOA0875-T55	HWL	...	1+	2.72	100+	1.91
HOA0901-012	HWL	589	1+	5.62	100+	3.94
HOA0902-012	HWL	589	1+	6.83	100+	4.78
HOA1180-002	HWL	588	1+	12.16	100+	8.51
HOA1180-003	HWL	588	1+	12.35	100+	8.65
HOA1397-002	HWL	588	1+	3.30	100+	2.32
HOA1397-032	HWL	588	1+	3.39	100+	2.37
HOA1404-002	HWL	588	1+	9.30	100+	6.52
HOA1404-003	HWL	588	1+	9.35	100+	6.55
HOA1405-001	HWL	...	1+	3.73	100+	2.62
HOA1405-002	HWL	588	1+	3.79	100+	2.65
HOA1870-031	HWL	588	1+	6.40	100+	4.48
HOA1872-013	HWL	588	1+	3.73	100+	2.62
HOA1873-002	HWL	588	1+	8.09	100+	5.67
HOA1873-003	HWL	588	1+	8.21	100+	5.75
HOA1873-012	HWL	588	1+	2.84	100+	1.99
HOA1875-001	HWL	...	1+	7.20	100+	5.05
HOA1875-002	HWL	588	1+	7.38	100+	5.16
HOA1875-003	HWL	588	1+	7.47	100+	5.23
HOA1877-002	HWL	588	1+	7.38	100+	5.16
HOA1877-003	HWL	588	1+	7.47	100+	5.23
HOA1881-012	HWL	588	1+	5.22	100+	3.66
HOA1882-011	HWL	...	1+	2.44	100+	1.71
HOA1882-012	HWL	588	1+	2.47	100+	1.74
HOA1884-012	HWL	588	1+	3.67	100+	2.57
HOA1886-012	HWL	588	1+	3.30	100+	2.32
HOA1887-012	HWL	588	1+	5.52	100+	3.87
HOA1887-013	HWL	588	1+	5.79	100+	4.06
HOA2001-001	HWL	588	1+	3.72	100+	2.61
HOA2003-001	HWL	588	1+	5.10	100+	3.58
HOA2004-001	HWL	588	1+	3.77	100+	2.64
HOA2005-001	HWL	588	1+	6.46	100+	4.53
HOA2498-002	HWL	588	1+	7.25	100+	5.08
HOA2498-003	HWL	...	1+	7.65	100+	5.36
HOA6983-T55	HWL	...	1+	6.10	100+	4.27
HOA6990-T51	HWL	588	1+	6.16	100+	4.31
HOA6990-T55	HWL	...	1+	6.10	100+	4.27
HOA6991-T51	HWL	588	1+	6.16	100+	4.31
HOA6992-T51	HWL	588	1+	6.16	100+	4.31
HOA6993-T51	HWL	588	1+	6.16	100+	4.31
HOA7720-M22	HWL	588	1+	7.92	100+	5.55
HOA7730-M22	HWL	588	1+	7.92	100+	5.55
HP4410DY	HRS	894	1+	1.24	25+	1.15
HP4936DY	HRS	894	1+	1.49	25+	1.38
HPDL-1414	HP	...	1+	20.48	5+	19.25
HPDL-2416	HP	...	1+	21.15	5+	19.88
HPLL-8001-BLK	HP	...	1+	3.41	10+	3.07
HPLR3103	HRS	894	1+	1.13	100+	1.00
HPLU3103	HRS	894	1+	1.11	100+	0.98
HRF3205	HRS	894	1+	2.57	25+	2.36
HRF3205L	HRS	894	1+	2.80	25+	2.57
HRF3205S	HRS	894	1+	2.61	25+	2.40
HRPG-ASCA#14R	HP	...	1+	21.11	5+	19.84
HS1-3182-8	HRS	...	1+	45.19	5+	43.03
HSDL-1000#001	HP	...	1+	6.49	10+	5.84
HSDL-1000#004	HP	...	1+	6.49	10+	5.84
HSDL-1001#001	HP	579	1+	6.27	10+	5.65
HSDL-1001#004	HP	579	1+	5.99	10+	5.63
HSDL-1100#007	HP	579	1+	7.70	10+	6.93
HSDL-1100#008	HP	579	1+	7.70	10+	6.93
HSDL-1100#017	HP	...	1+	13.32	10+	11.99
HSDL-1100#018	HP	...	1+	13.32	10+	11.99
HSDL-3201#001	HP	...	1+	2.38	...	...
HSDL-3600#007	HP	579	1+	3.88	...	...
HSDL-3600#008	HP	579	1+	3.88	...	...
HSDL-3600#017	HP	...	1+	7.48	10+	6.74
HSDL-3600#018	HP	...	1+	7.48	10+	6.74
HSDL-3610#007	HP	579	1+	2.75	...	...
HSDL-3610#008	HP	579	1+	2.75	...	...
HSDL-3610#017	HP	...	1+	5.50	10+	4.95
HSDL-3610#018	HP	...	1+	5.50	10+	4.95
HSDL-4220	HP	579	1+	0.90	25+	0.81
HSDL-4230	HP	579	1+	0.90	25+	0.81
HSDL-4400	HP	579	1+	0.66	25+	0.59
HSDL-4420	HP	579	1+	0.66	25+	0.59
HSDL-5400	HP	579	1+	0.66	25+	0.59
HSDL-5420	HP	579	1+	0.66	25+	0.59
HSDL-7000	HP	579	1+	2.96	10+	2.67
HSDL-7001	HP	579	1+	2.86	10+	2.58
HSDL-8000	HP	579	1+	51.30	5+	49.24
HSDL-8010	HP	579	1+	38.47	5+	36.93
HSMA-H670	HP	...	1+	0.40	25+	0.36
HSMA-H690	HP	...	1+	0.40	25+	0.36
HSMA-R661	HP	...	1+	0.45	25+	0.40
HSMA-S670	HP	580	1+	0.47	25+	0.42
HSMC-H670	HP	...	1+	0.40	25+	0.36
HSMC-H690	HP	...	1+	0.40	25+	0.36
HSMC-R661	HP	...	1+	0.43	25+	0.38
HSMC-S670	HP	580	1+	0.47	25+	0.42
HSMD-C650	HP	...	1+	0.23	25+	0.20
HSMD-S670	HP	580	1+	0.47	25+	0.42
HSMG-C650	HP	580	1+	0.24	25+	0.21
HSMG-C660	HP	580	1+	0.26	25+	0.23
HSMG-C670	HP	580	1+	0.24	25+	0.21
HSMG-H670	HP	580	1+	0.21	25+	0.19
HSMG-H690	HP	580	1+	0.21	25+	0.19
HSMG-T400	HP	...	1+	0.47	25+	0.42
HSMH-C650	HP	580	1+	0.26	25+	0.23

Type	Mfg.	Pg.	Qty.	$	Qty.	$
HSMH-C670	HP	580	1+	0.26	25+	0.23
HSMP-3802-BLK	HP	909	1+	1.58	25+	1.41
HSMP-3804-BLK	HP	909	1+	1.58	25+	1.41
HSMP-3812-BLK	HP	909	1+	0.99	25+	0.88
HSMP-3813-BLK	HP	909	1+	0.99	25+	0.88
HSMP-3814-BLK	HP	...	1+	0.99	25+	0.88
HSMP-3820-BLK	HP	909	1+	0.48	25+	0.43
HSMP-3824-BLK	HP	909	1+	0.90	25+	0.80
HSMP-3830-BLK	HP	909	1+	2.28	25+	2.03
HSMP-3832-BLK	HP	909	1+	3.22	10+	2.89
HSMP-3833-BLK	HP	909	1+	3.22	10+	2.89
HSMP-3834-BLK	HP	909	1+	3.22	10+	2.89
HSMP-3860-BLK	HP	909	1+	0.55	25+	0.49
HSMP-3862-BLK	HP	909	1+	0.73	25+	0.65
HSMP-3863-BLK	HP	909	1+	0.73	25+	0.65
HSMP-3864-BLK	HP	909	1+	0.73	25+	0.65
HSMP-3880-BLK	HP	...	1+	3.74	10+	3.37
HSMP-3893-BLK	HP	909	1+	0.87	25+	0.78
HSMP-481B-BLK	HP	...	1+	0.88	25+	0.78
HSMP-489B-BLK	HP	...	1+	0.78	25+	0.70
HSMS-2700-BLK	HP	909	1+	0.33	25+	0.30
HSMS-2702-BLK	HP	909	1+	0.41	25+	0.37
HSMS-270B-BLK	HP	909	1+	0.37	25+	0.33
HSMS-270C-BLK	HP	909	1+	0.45	25+	0.40
HSMS-2800-BLK	HP	909	1+	0.48	25+	0.43
HSMS-2800-TR1	HP	...	1+	0.48	25+	0.43
HSMS-2802-BLK	HP	909	1+	0.66	25+	0.59
HSMS-2803-BLK	HP	909	1+	0.66	25+	0.59
HSMS-2805-BLK	HP	909	1+	0.66	25+	0.59
HSMS-2807-BLK	HP	909	1+	1.46	25+	1.30
HSMS-2808-BLK	HP	909	1+	1.46	25+	1.30
HSMS-280L-BLK	HP	...	1+	1.20	25+	1.06
HSMS-280M-BLK	HP	...	1+	1.58	25+	1.41
HSMS-280N-BLK	HP	...	1+	1.58	25+	1.41
HSMS-280P-BLK	HP	...	1+	1.58	25+	1.41
HSMS-280R-BLK	HP	...	1+	1.58	25+	1.41
HSMS-2810-BLK	HP	...	1+	0.64	25+	0.57
HSMS-2812-BLK	HP	909	1+	0.99	25+	0.88
HSMS-2813-BLK	HP	909	1+	0.99	25+	0.88
HSMS-2814-BLK	HP	909	1+	0.99	25+	0.88
HSMS-2817-BLK	HP	909	1+	1.81	25+	1.61
HSMS-2818-BLK	HP	909	1+	1.81	25+	1.61
HSMS-281L-BLK	HP	...	1+	1.71	25+	1.52
HSMS-2820-BLK	HP	909	1+	0.48	25+	0.43
HSMS-2822-BLK	HP	909	1+	0.66	25+	0.59
HSMS-2825-BLK	HP	909	1+	0.66	25+	0.59
HSMS-2827-BLK	HP	909	1+	1.46	25+	1.30
HSMS-282L-BLK	HP	...	1+	1.20	25+	1.06
HSMS-282M-BLK	HP	...	1+	1.58	25+	1.41
HSMS-282N-BLK	HP	...	1+	1.58	25+	1.41
HSMS-282P-BLK	HP	...	1+	1.58	25+	1.41
HSMS-282R-BLK	HP	...	1+	1.58	25+	1.41
HSMS-2850-BLK	HP	909	1+	1.11	25+	0.99
HSMS-285L-BLK	HP	...	1+	2.05	25+	1.82
HSMS-285P-BLK	HP	...	1+	2.49	10+	2.24
HSMS-2860-BLK	HP	909	1+	0.69	25+	0.61
HSMS-2862-BLK	HP	909	1+	1.06	25+	0.95
HSMS-2863-BLK	HP	909	1+	1.06	25+	0.95
HSMS-2864-BLK	HP	909	1+	1.06	25+	0.95
HSMS-286B-BLK	HP	...	1+	0.73	25+	0.65
HSMS-286L-BLK	HP	...	1+	1.73	25+	1.54
HSMS-286P-BLK	HP	...	1+	2.19	25+	1.95
HSMS-286R-BLK	HP	...	1+	2.19	25+	1.95
HSMS-C650	HP	580	1+	0.24	25+	0.21
HSMS-C660	HP	580	1+	0.26	25+	0.23
HSMS-C670	HP	580	1+	0.24	25+	0.21
HSMS-H670	HP	580	1+	0.21	25+	0.19
HSMS-H690	HP	580	1+	0.21	25+	0.19
HSMS-T400	HP	...	1+	0.47	25+	0.42
HSMY-C650	HP	580	1+	0.24	25+	0.21
HSMY-C670	HP	580	1+	0.24	25+	0.21
HSMY-T400	HP	...	1+	0.45	25+	0.40
HSP43124SC-45	HRS	899	1+	54.57	5+	48.50
HSP43168JC-33	HRS	899	1+	84.31	5+	74.94
HSP43168VC-40	HRS	899	1+	96.12	5+	85.44
HSP50016JC-52	HRS	899	1+	125.56	5+	118.14
HSP50110JC-52	HRS	899	1+	67.90	5+	60.36
HSP50210JC-52	HRS	899	1+	65.60	5+	58.31
HSSR-7110	HP	579	1+	95.09	5+	91.29
HSSR-8060	HP	...	1+	5.99	10+	5.39
HUF75307P3	HRS	894	1+	0.68	100+	0.62
HUF75309P3	HRS	894	1+	0.79	100+	0.71
HUF75321D3S	HRS	894	1+	1.01	100+	0.89
HUF75321P3	HRS	894	1+	0.98	100+	0.87
HUF75321S3S	HRS	894	1+	1.01	100+	0.89
HUF75329D3S	HRS	894	1+	1.63	25+	1.52
HUF75329P3	HRS	894	1+	1.08	100+	0.95
HUF75329S3S	HRS	894	1+	1.11	100+	0.98
HUF75332G3	HRS	894	1+	1.86	25+	1.73
HUF75332P3	HRS	894	1+	1.24	25+	1.15
HUF75332S3S	HRS	894	1+	1.26	25+	1.18
HUF75337G3	HRS	894	1+	2.40	25+	2.24
HUF75337P3	HRS	894	1+	1.78	25+	1.66
HUF75337S3S	HRS	894	1+	1.81	25+	1.68
HUF75339G3	HRS	894	1+	2.64	25+	2.42
HUF75343G3	HRS	894	1+	2.82	25+	2.60
HUF75344G3	HRS	894	1+	3.04	25+	2.79
HUF75344P3	HRS	894	1+	3.34	25+	3.07

Type	Mfg.	Pg.	Qty.	$	Qty.	$
HUF75344S3S	HRS	894	1+	3.39	25+	3.11
HUF75345G3	HRS	894	1+	5.06	25+	4.65
HUF75345P3	HRS	894	1+	4.47	25+	4.11
HUF75639G3	HRS	894	1+	3.04	25+	2.79
HUF75639P3	HRS	894	1+	2.45	25+	2.25
HUF75639S3S	HRS	894	1+	2.47	25+	2.27
HUF76129D3S	HRS	894	1+	1.49	25+	1.38
HUF76129P3	HRS	894	1+	1.26	25+	1.18
HUF76129S3S	HRS	894	1+	1.29	25+	1.20
HUF76131SK8	HRS	894	1+	1.36	25+	1.27
HUF76137P3	HRS	894	1+	2.99	25+	2.75
HUF76137S3S	HRS	894	1+	3.15	25+	2.90
HUF76139P3	HRS	894	1+	3.36	25+	3.09
HUF76139S3S	HRS	894	1+	3.53	25+	3.24
HUF76143P3	HRS	894	1+	4.07	25+	3.74
HUF76145P3	HRS	894	1+	5.06	25+	4.65
HUF76145S3S	HRS	894	1+	5.10	25+	4.69
HVR3-12	FGR	...	1+	1.84	100+	1.59
HVR3-7	FGR	...	1+	1.76	100+	1.53
ICL232CBE	HRS	899	1+	2.80	25+	2.57
ICL232CPE	HRS	...	1+	2.80	25+	2.57
ICL232IPE	HRS	...	1+	4.02	25+	3.69
ICL7104-14CPL	HRS	898	1+	45.62	5+	43.44
ICL7104-16CPL	HRS	898	1+	43.27	5+	41.20
ICL7106CPL	HRS	898	1+	4.99	25+	4.59
ICL7107CPL	HRS	898	1+	5.35	25+	4.92
ICL7107RCPL	HRS	898	1+	7.96	10+	7.42
ICL7109CPL	HRS	898	1+	8.30	10+	7.73
ICL7116CPL	HRS	898	1+	6.35	10+	5.92
ICL7117CPL	HRS	898	1+	6.47	10+	6.03
ICL7126CPL	HRS	898	1+	6.47	10+	6.03
ICL7135CN	TI	...	1+	6.08	10+	5.67
ICL7135CPI	HRS	898	1+	9.25	10+	8.62
ICL7136CPL	HRS	898	1+	6.35	10+	5.92
ICL7137CPL	HRS	898	1+	7.74	10+	7.21
ICL71C03ACPI	HRS	899	1+	24.56	5+	23.38
ICL7611BCPA	HRS	896	1+	2.36	25+	2.19
ICL7611BMTV	HRS	...	1+	6.47	10+	6.03
ICL7611DCBA	HRS	...	1+	0.98	100+	0.84
ICL7611DCPA	HRS	896	1+	1.02	100+	0.90
ICL7612DCPA	HRS	...	1+	1.10	100+	0.94
ICL7621BCPA	HRS	896	1+	4.60	25+	4.23
ICL7621DCPA	HRS	896	1+	1.28	25+	1.19
ICL7641ECPD	HRS	896	1+	2.30	25+	2.15
ICL7642ECPD	HRS	896	1+	3.04	25+	2.80
ICL7650SCPA-1	HRS	896	1+	2.92	25+	2.69
ICL7650SCPD	HRS	896	1+	3.53	25+	3.25
ICL7652D	TI	...	1+	2.53	25+	2.33
ICL7652P	TI	...	1+	2.53	25+	2.33
ICL7660ACBA	HRS	...	1+	1.59	25+	1.48
ICL7660ACPA	HRS	...	1+	1.61	25+	1.50
ICL7660AIBA	HRS	...	1+	1.92	25+	1.79
ICL7660CBA	HRS	...	1+	1.79	25+	1.67
ICL7660CPA	HRS	895	1+	1.72	25+	1.60
ICL7660MTV	HRS	...	1+	7.67	10+	7.14
ICL7660SCBA	HRS	895	1+	1.84	25+	1.72
ICL7660SCPA	HRS	895	1+	1.87	25+	1.74
ICL7660SIBA	HRS	895	1+	2.18	25+	2.03
ICL7660SIPA	HRS	895	1+	2.07	25+	1.93
ICL7662CPA	HRS	895	1+	2.20	25+	2.05
ICL7662CTV	HRS	...	1+	3.75	25+	3.45
ICL7662IPA	HRS	895	1+	2.46	25+	2.29
ICL7663SCPA	HRS	895	1+	2.44	25+	2.24
ICL7665SACBA	HRS	895	1+	3.29	25+	3.03
ICL7665SACPA	HRS	895	1+	2.92	25+	2.69
ICL7665SAIBA	HRS	895	1+	2.71	25+	2.49
ICL7665SCPA	HRS	895	1+	2.68	25+	2.46
ICL7665SIBA	HRS	895	1+	3.01	25+	2.77
ICL7665SIPA	HRS	895	1+	2.97	25+	2.73
ICL7667CBA	HRS	895	1+	2.10	25+	1.96
ICL7667CPA	HRS	895	1+	2.10	25+	1.96
ICL7673CPA	HRS	895	1+	1.44	25+	1.34
ICL8013CCTX	HRS	...	1+	8.25	10+	7.69
ICL8038ACJD	HRS	...	1+	24.99	5+	23.79
ICL8038BCJD	HRS	...	1+	15.94	10+	15.07
ICL8038CCJD	HRS	...	1+	5.31	25+	4.88
ICL8038CCPD	HRS	...	1+	4.09	25+	3.76
ICL8052ACPD	HRS	898	1+	14.76	10+	13.95
ICL8068ACJD	HRS	898	1+	13.32	10+	12.60
ICL8069CCSQ	HRS	...	1+	2.85	25+	2.62
ICL8069CCZR	HRS	...	1+	2.07	25+	1.93
ICL8069CMSQ	HRS	...	1+	6.30	10+	5.87
ICL8069DCSQ	HRS	...	1+	2.07	25+	1.93
ICL8211CPA	HRS	895	1+	1.77	25+	1.65
ICL8211MTY	HRS	...	1+	8.59	10+	8.00
ICL8212CPA	HRS	895	1+	1.84	25+	1.72
ICM7170IPG	HRS	897	1+	11.98	10+	11.33
ICM7207AIPD	HRS	897	1+	7.67	10+	7.14
ICM7208IPI	HRS	897	1+	21.04	10+	19.90
ICM7209IPA	HRS	897	1+	4.99	25+	4.59
ICM7211AMIPL	HRS	897	1+	3.65	25+	3.36
ICM7212AMIPL	HRS	897	1+	4.26	25+	3.92
ICM7213IPD	HRS	...	1+	6.74	10+	6.28
ICM7216BIPI	HRS	...	1+	29.70	5+	28.28
ICM7216DIPI	HRS	...	1+	25.53	5+	24.31
ICM7217AIPI	HRS	...	1+	10.51	10+	9.80
ICM7217BIJI	HRS	...	1+	12.02	10+	11.20
ICM7217CIPI	HRS	...	1+	10.49	10+	9.77

NEW TYPES ARE BEING CONTINUALLY ADDED TO INVENTORY.

CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR AVAILABILITY.

Type	Mfg.	Pg.	Qty.	$	Qty.	$
ICM7217IJI	HRS	897	1+	12.02	10+	11.20
ICM7218AIJI	HRS	897	1+	7.06	10+	6.58
ICM7218BIJI	HRS	897	1+	7.91	10+	7.37
ICM7218CIJI	HRS	897	1+	7.06	10+	6.58
ICM7218DIJI	HRS	897	1+	7.91	10+	7.37
ICM7224IPL	HRS	897	1+	11.80	10+	11.00
ICM7226AIJI	HRS	...	1+	35.61	5+	33.91
ICM7226BIPL	HRS	...	1+	29.64	5+	28.22
ICM7228AIPI	HRS	...	1+	5.96	25+	5.48
ICM7242IPA	HRS	897	1+	2.28	25+	2.12
ICM7243BIPL	HRS	897	1+	11.96	10+	11.31
ICM7555CBA	HRS	897	1+	0.71	100+	0.64
ICM7555CN	PHL	...	1+	0.97	25+	0.63
ICM7555IPA	HRS	897	1+	0.71	100+	0.64
ICM7555MTV	HRS	897	1+	4.80	25+	4.41
ICM7556IPD	HRS	897	1+	1.14	100+	1.01
ICM7556MJD	HRS	897	1+	4.75	25+	4.36
ICTE-010	MOT	...	1+	0.83	100+	0.71
ICTE-012	MOT	...	1+	0.72	100+	0.57
ICTE-15	MOT	...	1+	0.96	100+	0.75
ICTE-15C	MOT	...	1+	1.79	100+	1.40
ICTE-36	MOT	...	1+	1.41	100+	1.34
IH5043CPE	HRS	...	1+	5.11	25+	4.70
INA-10386-BLK	HP	...	1+	2.85	10+	2.57
IR01H214	IR	922	1+	3.65	25+	3.35
IR01H224	IR	922	1+	4.12	25+	3.78
IR01H420	IR	922	1+	4.59	25+	4.22
IR2101	IR	922	1+	2.92	25+	2.69
IR2102	IR	922	1+	2.92	25+	2.69
IR2103	IR	922	1+	2.92	25+	2.69
IR2104	IR	922	1+	2.92	25+	2.69
IR2104S	IR	922	1+	3.24	25+	2.98
IR2110	IR	922	1+	4.75	25+	4.36
IR2110-2	IR	...	1+	5.94	25+	5.46
IR2110S	IR	...	1+	5.11	25+	4.70
IR2111	IR	922	1+	3.07	25+	2.82
IR2112	IR	922	1+	3.21	25+	2.95
IR2113	IR	922	1+	5.35	25+	4.92
IR2113-2	IR	...	1+	5.74	25+	5.27
IR2117	IR	922	1+	2.73	25+	2.51
IR2117S	IR	922	1+	3.04	25+	2.80
IR2118	IR	922	1+	2.73	25+	2.51
IR2118S	IR	922	1+	3.04	25+	2.80
IR2121	IR	922	1+	5.72	25+	5.26
IR2125	IR	922	1+	5.72	25+	5.26
IR2127	IR	922	1+	4.14	25+	3.80
IR2130	IR	922	1+	12.16	10+	11.50
IR2130S	IR	922	1+	12.98	10+	12.27
IR2132	IR	922	1+	12.16	10+	11.50
IR2151	IR	922	1+	2.92	25+	2.69
IR2153	IR	922	1+	2.82	25+	2.60
IR2153S	IR	922	1+	3.13	25+	2.88
IR2155	IR	922	1+	3.82	25+	3.51
IR2233	IR	922	1+	31.35	5+	29.85
IR51H214	IR	922	1+	3.77	25+	3.47
IR51H224	IR	922	1+	4.26	25+	3.92
IR51H420	IR	922	1+	4.75	25+	4.36
IR6210	IR	922	1+	4.68	25+	4.30
IR6216	IR	922	1+	4.84	25+	4.45
IR6224	IR	922	1+	5.48	25+	5.03
IRC540	IR	...	1+	3.07	25+	2.82
IRC640	IR	...	1+	3.19	25+	2.93
IRCZ44	IR	...	1+	3.12	25+	2.86
IRF1010E	IR	...	1+	3.18	25+	2.92
IRF1010N	IR	925	1+	3.29	25+	3.02
IRF130	HRS	894	1+	4.97	25+	4.56
IRF1310N	IR	925	1+	3.41	25+	3.13
IRF140	HRS	894	1+	5.77	25+	5.30
IRF150	HRS	...	1+	5.82	25+	5.35
IRF240	HRS	894	1+	5.72	25+	5.26
IRF2807	IR	...	1+	2.73	25+	2.51
IRF2807S	IR	...	1+	2.85	25+	2.62
IRF3205	IR	925	1+	6.33	10+	5.90
IRF3315	IR	...	1+	2.30	25+	2.14
IRF3315S	IR	...	1+	2.38	25+	2.19
IRF3415S	IR	...	1+	4.05	25+	3.72
IRF350	HRS	...	1+	6.12	100+	5.18
IRF3710	IR	925	1+	5.60	25+	5.15
IRF450	HRS	894	1+	7.13	10+	6.64
IRF4905	IR	925	1+	7.30	10+	6.80
IRF510	MOT	...	1+	1.16	100+	1.02
IRF520	MOT	...	1+	1.08	100+	0.84
IRF5210	IR	925	1+	3.29	25+	3.03
IRF530	MOT	870	1+	1.31	100+	1.02
IRF5305	IR	925	1+	1.58	25+	1.48
IRF530N	IR	925	1+	1.33	25+	1.24
IRF540	MOT	870	1+	2.00	25+	1.54
IRF540N	IR	925	1+	2.05	25+	1.91
IRF610	MOT	...	1+	1.19	100+	1.04
IRF620	MOT	...	1+	1.68	100+	1.47
IRF6215	IR	...	1+	1.56	25+	1.45
IRF6215S	IR	...	1+	1.68	25+	1.57
IRF624	IR	925	1+	1.49	25+	1.38
IRF630	MOT	...	1+	1.38	25+	1.07
IRF634	IR	925	1+	1.54	25+	1.43
IRF640	MOT	...	1+	2.00	25+	1.54
IRF644	IR	925	1+	3.02	25+	2.78
IRF710	IR	925	1+	0.99	100+	0.88
IRF7101	IR	924	1+	1.67	25+	1.55
IRF7103	IR	924	1+	1.79	25+	1.67
IRF7105	IR	924	1+	1.87	25+	1.74
IRF720	MOT	...	1+	1.31	100+	1.02
IRF7201	IR	924	1+	1.84	25+	1.72
IRF7204	IR	924	1+	2.00	25+	1.86
IRF7205	IR	924	1+	2.00	25+	1.86
IRF730	MOT	...	1+	2.00	25+	1.54
IRF7301	IR	924	1+	2.18	25+	2.03
IRF7303	IR	924	1+	2.05	25+	1.91
IRF7304	IR	924	1+	2.18	25+	2.03
IRF7307	IR	924	1+	2.18	25+	2.03
IRF7309	IR	924	1+	2.05	25+	1.91
IRF7311	IR	924	1+	2.68	25+	2.46
IRF7313	IR	924	1+	2.68	25+	2.46
IRF7314	IR	924	1+	2.80	25+	2.57
IRF7316	IR	924	1+	2.80	25+	2.57
IRF7317	IR	924	1+	2.71	25+	2.49
IRF7319	IR	924	1+	2.71	25+	2.49
IRF7321D2	IR	924	1+	2.61	25+	2.40
IRF7322D1	IR	924	1+	2.20	25+	2.05
IRF737LC	IR	925	1+	1.41	25+	1.32
IRF740	MOT	...	1+	2.72	25+	2.10
IRF7403	IR	924	1+	2.30	25+	2.15
IRF7404	IR	924	1+	2.43	25+	2.27
IRF740LC	IR	925	1+	2.63	25+	2.42
IRF740S	IR	...	1+	2.42	25+	2.26
IRF7413	IR	924	1+	2.68	25+	2.46
IRF7413A	IR	924	1+	2.05	25+	1.91
IRF7416	IR	924	1+	2.80	25+	2.57
IRF7422D2	IR	924	1+	2.48	25+	2.28
IRF7501TR	IR	...	1+	1.51	25+	1.50
IRF7504TR	IR	...	1+	1.79	25+	1.67
IRF7604TR	IR	...	1+	2.02	25+	1.88
IRF820	MOT	...	1+	1.31	100+	1.02
IRF820S	IR	...	1+	1.34	25+	1.25
IRF830	MOT	...	1+	2.00	25+	1.54
IRF840	MOT	...	1+	2.54	25+	1.96
IRF840S	IR	...	1+	2.35	25+	2.16
IRF9410	IR	924	1+	1.78	25+	1.66
IRF9510	IR	925	1+	1.41	25+	1.31
IRF9520	HRS	894	1+	1.51	25+	1.41
IRF9521	IR	...	1+	2.28	25+	2.12
IRF9530	HRS	894	1+	2.18	25+	2.03
IRF9530N	IR	925	1+	1.61	25+	1.50
IRF9540	IR	...	1+	3.02	25+	2.78
IRF9540N	IR	925	1+	2.61	25+	2.40
IRF9610	IR	925	1+	1.36	25+	1.27
IRF9620	IR	925	1+	1.92	25+	1.79
IRF9630	IR	925	1+	2.13	25+	1.98
IRF9640	IR	925	1+	2.75	25+	2.53
IRF9952	IR	924	1+	1.87	25+	1.74
IRF9953	IR	924	1+	1.79	25+	1.67
IRF9956	IR	924	1+	1.67	25+	1.55
IRF9Z14	IR	925	1+	1.17	100+	1.03
IRF9Z24	IR	...	1+	1.54	25+	1.43
IRF9Z24N	IR	925	1+	1.28	25+	1.19
IRF9Z30	IR	...	1+	2.30	25+	2.15
IRF9Z34	IR	...	1+	2.30	25+	2.15
IRF9Z34N	IR	925	1+	1.95	25+	1.81
IRFBC20	IR	925	1+	2.13	25+	1.98
IRFBC30	IR	925	1+	2.53	25+	2.36
IRFBC40	IR	925	1+	3.63	25+	3.33
IRFBE30	IR	925	1+	2.68	25+	2.46
IRFBF20	IR	925	1+	2.00	25+	1.86
IRFBF30	IR	925	1+	3.36	25+	3.09
IRFBG20	IR	925	1+	2.41	25+	2.24
IRFBG30	IR	925	1+	3.14	25+	2.89
IRFD014	IR	925	1+	0.89	100+	0.79
IRFD020	IR	...	1+	1.41	25+	1.31
IRFD024	IR	925	1+	1.41	25+	1.31
IRFD110	IR	925	1+	0.84	100+	0.76
IRFD120	IR	925	1+	0.99	100+	0.88
IRFD210	IR	925	1+	1.02	100+	0.90
IRFD220	IR	925	1+	1.09	100+	0.96
IRFD9014	IR	925	1+	1.02	100+	0.90
IRFD9020	IR	...	1+	1.38	25+	1.29
IRFD9024	IR	925	1+	1.38	25+	1.29
IRFD9110	IR	925	1+	1.20	100+	1.05
IRFD9120	HRS	...	1+	1.49	25+	1.38
IRFD9210	IR	925	1+	1.41	25+	1.31
IRFDC20	IR	925	1+	1.87	25+	1.74
IRFF110	HRS	894	1+	2.87	25+	2.64
IRFF120	HRS	...	1+	2.95	25+	2.71
IRFF130	HRS	894	1+	4.11	25+	3.78
IRFF210	HRS	...	1+	2.90	25+	2.66
IRFF230	HRS	...	1+	4.19	25+	3.85
IRFF9130	HRS	...	1+	4.28	25+	3.94
IRFG110	IR	...	1+	67.68	5+	60.16
IRFI1010N	IR	925	1+	3.41	25+	3.13
IRFI1310N	IR	925	1+	3.53	25+	3.25
IRFI510G	IR	925	1+	0.94	100+	0.83
IRFI520N	IR	925	1+	1.04	100+	0.92
IRFI530N	IR	925	1+	1.46	25+	1.36
IRFI540G	IR	...	1+	2.18	25+	2.03
IRFI540N	IR	925	1+	2.18	25+	2.03
IRFI620G	IR	...	1+	1.54	25+	1.43
IRFI624G	IR	925	1+	1.61	25+	1.50
IRFI630G	IR	925	1+	1.61	25+	1.50
IRFI634G	IR	...	1+	1.61	25+	1.50
IRFI640G	IR	925	1+	2.25	25+	2.10
IRFI644G	IR	925	1+	3.14	25+	2.89
IRFI720G	IR	...	1+	1.22	100+	1.08
IRFI730G	IR	925	1+	1.59	25+	1.48
IRFI820G	IR	925	1+	1.25	100+	1.10
IRFI830G	IR	925	1+	1.69	25+	1.58
IRFI840G	IR	925	1+	2.43	25+	2.27
IRFI9520G	IR	925	1+	1.67	25+	1.55
IRFI9620G	IR	925	1+	2.05	25+	1.91
IRFI9630G	IR	925	1+	2.25	25+	2.10
IRFI9Z14G	IR	925	1+	1.31	25+	1.22
IRFI9Z34G	IR	...	1+	2.43	25+	2.27
IRFIBC20G	IR	925	1+	2.25	25+	2.10
IRFIBC40G	IR	925	1+	3.75	25+	3.45
IRFIBE30G	IR	925	1+	2.80	25+	2.57
IRFIBF30G	IR	925	1+	3.48	25+	3.20
IRFIZ14G	IR	...	1+	0.97	100+	0.85
IRFIZ24N	IR	925	1+	1.14	100+	1.01
IRFIZ34G	IR	...	1+	1.46	25+	1.36
IRFIZ34N	IR	925	1+	1.46	25+	1.36
IRFIZ44G	IR	...	1+	1.74	25+	1.62
IRFIZ44N	IR	925	1+	1.74	25+	1.62
IRFIZ46N	IR	925	1+	2.14	25+	2.01
IRFIZ48N	IR	925	1+	4.02	25+	3.69
IRFK3D450	IR	...	1+	110.31	5+	96.72
IRFK4H150	IR	...	1+	82.72	5+	73.53
IRFK4H250	IR	...	1+	84.96	5+	75.52
IRFK4H350	IR	...	1+	87.19	5+	77.50
IRFL014	IR	924	1+	1.33	25+	1.24
IRFL110	IR	...	1+	1.18	100+	1.04
IRFL210	IR	924	1+	1.33	25+	1.24
IRFL4310	IR	924	1+	1.54	25+	1.43
IRFL9014	IR	924	1+	1.79	25+	1.67
IRFL9110	IR	924	1+	1.67	25+	1.55
IRFP044	IR	...	1+	3.04	25+	2.79
IRFP044N	IR	925	1+	3.18	10+	2.98
IRFP048N	IR	925	1+	4.31	10+	4.04
IRFP054N	IR	925	1+	7.11	10+	6.62
IRFP064	IR	...	1+	12.53	10+	11.84
IRFP064N	IR	925	1+	12.53	10+	11.84
IRFP140	IR	...	1+	3.60	25+	3.31
IRFP140N	IR	925	1+	3.60	25+	3.31
IRFP150	IR	...	1+	5.62	25+	5.17
IRFP150N	IR	925	1+	5.62	25+	5.17
IRFP240	IR	925	1+	4.07	25+	3.74
IRFP244	IR	925	1+	4.47	25+	4.11
IRFP250	IR	925	1+	5.62	25+	5.17
IRFP254	IR	925	1+	6.04	25+	5.55
IRFP264	IR	925	1+	10.68	10+	9.95
IRFP340	IR	925	1+	4.50	25+	4.14
IRFP350	IR	925	1+	6.04	25+	5.55
IRFP350LC	IR	925	1+	6.09	10+	5.68
IRFP360	IR	925	1+	11.65	10+	10.86
IRFP360LC	IR	925	1+	11.52	10+	10.74
IRFP3710	IR	925	1+	5.88	10+	5.48
IRFP440	IR	925	1+	6.69	10+	6.24
IRFP450	IR	925	1+	5.23	25+	4.81
IRFP450LC	IR	925	1+	7.05	10+	6.57
IRFP460	IR	925	1+	10.05	10+	9.36
IRFP460LC	IR	925	1+	9.97	10+	9.29
IRFP9140	HRS	894	1+	4.84	25+	4.45
IRFP9150	HRS	894	1+	7.18	10+	6.69
IRFP9240	IR	925	1+	4.94	25+	4.54
IRFPC30	IR	925	1+	4.70	25+	4.32
IRFPC40	IR	925	1+	7.01	10+	6.53
IRFPC50	IR	925	1+	11.39	10+	10.61
IRFPC50LC	IR	925	1+	10.09	10+	9.40
IRFPC60	IR	925	1+	14.69	10+	13.89
IRFPC60LC	IR	925	1+	14.79	10+	13.98
IRFPE30	IR	...	1+	6.84	10+	6.37
IRFPE40	IR	925	1+	7.93	10+	7.39
IRFPE50	IR	925	1+	10.78	10+	10.04
IRFPF30	IR	925	1+	6.77	10+	6.31
IRFPF40	IR	925	1+	9.27	10+	8.64
IRFPF50	IR	...	1+	12.72	10+	12.03
IRFPG40	IR	925	1+	9.73	10+	9.07
IRFPG50	IR	925	1+	12.80	10+	12.10
IRFR024	IR	...	1+	1.22	100+	1.08
IRFR110	IR	924	1+	1.02	100+	0.90
IRFR120	IR	...	1+	1.12	100+	0.99
IRFR1205	IR	924	1+	2.68	25+	2.46
IRFR120N	IR	924	1+	1.12	100+	0.99
IRFR220	IR	924	1+	1.12	100+	0.99
IRFR310	IR	924	1+	1.09	100+	0.96
IRFR320	IR	924	1+	1.38	25+	1.29
IRFR3303	IR	924	1+	1.08	100+	0.95
IRFR3910	IR	924	1+	2.00	25+	1.86
IRFR4105	IR	924	1+	2.56	25+	2.35
IRFR420	HRS	...	1+	1.39	100+	1.27
IRFR5305	IR	924	1+	1.81	25+	1.68
IRFR5505	IR	924	1+	1.31	25+	1.22
IRFR9014	IR	924	1+	1.12	100+	0.99
IRFR9024	IR	924	1+	1.56	25+	1.46
IRFR9120	IR	924	1+	1.46	25+	1.36
IRFR9214	IR	924	1+	0.84	100+	0.74
IRFR9220	HRS	...	1+	1.59	25+	1.48

Manufacturer Abbreviations:

ADI: Analog Devices; **ALG:** Allegro; **ALT:** Altera; **AMD:** Advanced Micro Devices; **AND:** AND; **APD:** American Power Devices; **DAL:** Dallas Semiconductor; **ECG:** Philips ECG; **FGR:** Fagor; **GS:** General Semiconductor; **HP:** Hewlett Packard; **HRS:** Harris Semiconductor; **HWL:** Honeywell Opto; **INT:** Intronics; **IR:** International Rectifier; **MIC:** Micrel; **MOT:** Motorola; **NAT:** National Semiconductor; **OPT:** Optek; **PHL:** Phillips Semiconductors; **PWX:** Powerex; **QT:** QT Optoelectronics; **SKN:** Semikron; **SPC:** SPC Technology; **TI:** Texas Instruments; **TSK:** Thomson SK; **VAC:** EG&G Vactec; **VAN:** Vantis; **ZIL:** Zilog

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Type	Mfg.	Pg.	Qty.	$	Qty.	$
IRFR9310	IR	924	1+	0.86	100+	0.76
IRFU010	IR	...	1+	0.89	100+	0.79
IRFU024	IR	...	1+	1.22	100+	1.08
IRFU120	IR	...	1+	1.12	100+	0.99
IRFU9020	IR	...	1+	1.51	25+	1.41
IRFU9024	IR	...	1+	1.56	25+	1.46
IRFU9120	HRS	894	1+	1.54	25+	1.43
IRFZ14	IR	925	1+	0.84	100+	0.74
IRFZ20	IR	...	1+	1.02	100+	0.90
IRFZ24	IR	...	1+	1.02	100+	0.90
IRFZ24N	IR	925	1+	1.02	100+	0.90
IRFZ34	IR	...	1+	1.33	25+	1.24
IRFZ34E	IR	925	1+	1.29	25+	1.20
IRFZ34N	IR	925	1+	1.33	25+	1.24
IRFZ34S	IR	...	1+	1.54	25+	1.43
IRFZ44	IR	...	1+	1.61	25+	1.50
IRFZ44E	IR	...	1+	1.56	25+	1.45
IRFZ44ES	IR	...	1+	1.68	25+	1.57
IRFZ44N	IR	925	1+	1.61	25+	1.50
IRFZ44S	IR	...	1+	2.05	25+	1.91
IRFZ46	IR	...	1+	2.13	25+	1.98
IRFZ46N	IR	925	1+	2.13	25+	1.98
IRFZ48	IR	...	1+	3.90	25+	3.58
IRFZ48N	IR	925	1+	3.76	25+	3.46
IRG4BC10UD	IR	...	1+	2.35	25+	2.16
IRG4BC20F	IR	923	1+	2.70	25+	2.48
IRG4BC20U	IR	923	1+	2.83	25+	2.60
IRG4BC20UD	IR	...	1+	3.69	25+	3.40
IRG4BC20W	IR	923	1+	1.93	25+	1.80
IRG4BC30F	IR	923	1+	3.63	25+	3.33
IRG4BC30U	IR	923	1+	3.77	25+	3.47
IRG4BC30UD	IR	...	1+	6.06	25+	5.57
IRG4BC30W	IR	923	1+	3.81	25+	3.50
IRG4BC40F	IR	923	1+	5.65	25+	5.19
IRG4BC40U	IR	923	1+	5.79	25+	5.32
IRG4BC40W	IR	923	1+	7.29	10+	6.79
IRG4PC30U	IR	923	1+	4.45	25+	4.09
IRG4PC30UD	IR	...	1+	6.54	10+	6.09
IRG4PC30W	IR	923	1+	4.23	25+	3.89
IRG4PC40S	IR	...	1+	5.96	25+	5.48
IRG4PC40U	IR	923	1+	6.23	10+	5.81
IRG4PC40UD	IR	...	1+	10.22	10+	9.52
IRG4PC40W	IR	923	1+	7.59	10+	7.08
IRG4PC50F	IR	...	1+	10.22	10+	9.52
IRG4PC50FD	IR	...	1+	14.61	10+	13.82
IRG4PC50S	IR	...	1+	10.22	10+	9.52
IRG4PC50U	IR	923	1+	10.49	10+	9.77
IRG4PC50UD	IR	...	1+	15.40	10+	14.56
IRG4PC50W	IR	923	1+	10.65	10+	9.92
IRG4PH50U	IR	923	1+	13.01	10+	12.30
IRG4PH50UD	IR	...	1+	20.75	10+	19.62
IRGPC40F	IR	...	1+	7.03	10+	6.55
IRGPH30S	IR	...	1+	5.89	25+	5.41
IRKD56/10	IR	927	1+	34.18	5+	32.55
IRKD71/06	IR	927	1+	34.79	5+	33.12
IRKD71/08	IR	927	1+	35.11	5+	33.43
IRKD91/04	IR	...	1+	39.51	5+	37.62
IRKD91/10	IR	927	1+	41.86	5+	39.86
IRKD91/12	IR	927	1+	43.92	5+	41.81
IRKH57/04	IR	...	1+	38.94	5+	37.08
IRKH57/08	IR	...	1+	39.37	5+	37.49
IRKH57/10	IR	...	1+	39.59	5+	37.70
IRKT250-16	IR	...	1+	226.21	5+	203.96
IRKT26/08	IR	927	1+	35.91	5+	34.19
IRKT26/12	IR	927	1+	36.34	5+	34.61
IRKT41/06	IR	927	1+	39.59	5+	37.70
IRKT41/12	IR	927	1+	40.24	5+	38.31
IRKT56/06	IR	927	1+	39.70	5+	37.80
IRKT56/08	IR	927	1+	39.81	5+	37.90
IRKT71/06	IR	927	1+	49.78	5+	47.40
IRKT91/10	IR	927	1+	57.55	5+	51.15
IRKT91/12	IR	927	1+	57.86	5+	51.43
IRKT92/04	IR	...	1+	52.91	5+	50.38
IRKT92/06	IR	...	1+	56.36	5+	50.10
IRKT92/08	IR	...	1+	56.70	5+	50.40
IRKT92/12	IR	...	1+	57.86	5+	51.43
IRL2203N	IR	925	1+	3.65	25+	3.36
IRL2505S	IR	...	1+	6.81	10+	6.35
IRL2910	IR	...	1+	5.60	25+	5.15
IRL3102	IR	925	1+	1.68	25+	1.57
IRL3103	IR	925	1+	2.68	25+	2.46
IRL3103D1	IR	924	1+	3.74	25+	3.44
IRL3103D1S	IR	924	1+	4.09	25+	3.76
IRL3103D2S	IR	924	1+	4.54	25+	4.17
IRL3202	IR	925	1+	1.39	25+	1.29
IRL3302	IR	925	1+	1.13	100+	1.00
IRL3303	IR	925	1+	2.00	25+	1.86
IRL3303D1	IR	924	1+	3.13	25+	2.88
IRL3303D1S	IR	924	1+	3.51	25+	3.22
IRL3705N	IR	925	1+	3.65	25+	3.36
IRL3803	IR	925	1+	7.06	10+	6.58
IRL510	IR	925	1+	0.87	100+	0.78
IRL520	IR	925	1+	0.92	100+	0.81
IRL530	IR	...	1+	1.20	100+	1.05
IRL530N	IR	925	1+	1.20	100+	1.05
IRL540	IR	925	1+	2.13	25+	1.98
IRL620	IR	...	1+	1.49	25+	1.38
IRL630	IR	925	1+	1.92	25+	1.79

Type	Mfg.	Pg.	Qty.	$	Qty.	$
IRL640	IR	925	1+	2.30	25+	2.15
IRLD014	IR	925	1+	1.14	100+	1.01
IRLD024	IR	925	1+	1.61	25+	1.50
IRLD110	IR	925	1+	1.07	100+	0.94
IRLI3705N	IR	925	1+	3.77	25+	3.47
IRLI520N	IR	...	1+	1.04	100+	0.92
IRLI530G	IR	...	1+	1.33	25+	1.24
IRLI530N	IR	...	1+	1.33	25+	1.24
IRLI540N	IR	925	1+	2.25	25+	2.10
IRLI620G	IR	925	1+	1.61	25+	1.50
IRLI630G	IR	925	1+	2.05	25+	1.91
IRLI640G	IR	925	1+	2.43	25+	2.27
IRLIZ24N	IR	925	1+	1.54	25+	1.43
IRLIZ34N	IR	925	1+	1.59	25+	1.48
IRLIZ44N	IR	925	1+	1.97	25+	1.84
IRLL014	IR	924	1+	1.41	25+	1.31
IRLL110	IR	924	1+	1.33	25+	1.24
IRLML2402TR	IR	924	1+	0.64	100+	0.52
IRLML2803TR	IR	924	1+	0.60	100+	0.49
IRLML5103TR	IR	924	1+	0.72	100+	0.58
IRLML6302TR	IR	924	1+	0.66	100+	0.53
IRLMS1902TR	IR	924	1+	0.84	100+	0.76
IRLR014	IR	924	1+	1.02	100+	0.90
IRLR024	IR	...	1+	1.14	100+	1.01
IRLR024N	IR	924	1+	1.14	100+	1.01
IRLR2705	IR	924	1+	1.36	25+	1.27
IRLR2905	IR	924	1+	2.68	25+	2.46
IRLR3303	IR	924	1+	1.66	25+	1.55
IRLR3410	IR	924	1+	1.44	25+	1.34
IRLZ14	IR	925	1+	0.92	100+	0.81
IRLZ24	IR	...	1+	1.41	25+	1.31
IRLZ24N	IR	925	1+	1.41	25+	1.31
IRLZ34	IR	...	1+	1.46	25+	1.36
IRLZ34N	IR	925	1+	1.46	25+	1.36
IRLZ44	IR	...	1+	1.84	25+	1.72
IRLZ44N	IR	925	1+	1.84	25+	1.72
IRPT1053C	IR	...	1+	203.05	5+	183.07
IRPT1053E	IR	...	1+	757.62	5+	683.10
IRPT1056E	IR	...	1+	909.15	5+	819.72
IRPT2051C	IR	...	1+	369.72	5+	333.36
IRPT2051E	IR	...	1+	1212.20	5+	1092.96
IRPT2055C	IR	...	1+	304.57	5+	274.61
IRPT2055E	IR	...	1+	909.15	5+	819.72
IRPT4052C	IR	...	1+	698.53	5+	629.82
IRPT4052E	IR	...	1+	1818.29	5+	1639.44
IRPT5051E	IR	...	1+	2310.12	5+	2074.14
IRSF3010S	IR	922	1+	4.47	25+	4.11
KBL02	GS	...	1+	4.92	5+	3.53
KBP02M	GS	937	1+	1.51	100+	1.29
KBP04M	GS	937	1+	1.66	100+	1.42
KBP06M	GS	937	1+	1.74	100+	1.49
KBPC102	IR	...	1+	0.84	100+	0.76
KBPC110	IR	...	1+	0.94	100+	0.82
KBPC602	IR	...	1+	2.13	25+	1.98
KBPC604	IR	...	1+	2.18	25+	2.03
KBPC606	IR	...	1+	2.30	25+	2.15
KBPC608	IR	...	1+	2.48	25+	2.31
KBPC802	IR	...	1+	2.36	25+	2.19
KBU4D	GS	...	1+	3.32	100+	2.82
KBU6G	GS	...	1+	4.31	100+	3.65
KBU8A	GS	...	1+	4.14	100+	3.51
KBU8B	GS	...	1+	4.37	100+	3.70
KBU8D	GS	...	1+	4.50	100+	3.82
KBU8G	GS	...	1+	4.60	100+	3.90
KBU8J	GS	...	1+	5.28	100+	4.48
KD221275A7	PWX	...	1+	183.17	5+	165.15
KD221K03	PWX	928	1+	79.84	5+	70.97
KD221K05	PWX	928	1+	116.17	5+	101.86
KD221K75	PWX	...	1+	167.37	5+	146.76
KD224503	PWX	928	1+	56.74	5+	50.44
KD224505	PWX	928	1+	66.83	5+	59.40
KD224575	PWX	928	1+	95.58	5+	84.96
KD324510	PWX	928	1+	113.99	5+	99.95
KD324515	PWX	928	1+	163.40	5+	143.28
KD421K10	PWX	928	1+	195.60	5+	176.36
KD421K15	PWX	928	1+	294.30	5+	265.35
KD524505	PWX	...	1+	66.83	5+	59.40
KS221K10	PWX	...	1+	120.31	5+	105.49
KS221K15	PWX	...	1+	181.09	5+	158.79
KS224510	PWX	...	1+	72.50	5+	64.45
KS324520	PWX	...	1+	126.26	5+	110.71
KS524503	PWX	928	1+	36.78	5+	35.02
KS524505	PWX	...	1+	46.25	5+	44.04
KS524575	PWX	...	1+	60.54	5+	53.82
KS621220A7	PWX	...	1+	260.15	5+	234.56
KS621260	PWX	...	1+	725.12	5+	653.80
KS621K20	PWX	928	1+	216.89	5+	195.56
KS621K30	PWX	928	1+	306.95	5+	276.76
KS621K60	PWX	...	1+	604.83	5+	545.34
KS624540	PWX	928	1+	227.69	5+	205.29
KS624550	PWX	928	1+	290.21	5+	261.67
KS8245A1	PWX	...	1+	23.65	5+	22.52
L14F1	QT	586	1+	2.00	25+	1.78
L14F2	QT	586	1+	1.89	25+	1.68
L14G1	QT	586	1+	1.48	25+	1.32
L14G2	QT	586	1+	1.37	25+	1.22
L14G3	QT	586	1+	1.60	25+	1.42
L14LTB	QT	586	1+	0.91	25+	0.81

Type	Mfg.	Pg.	Qty.	$	Qty.	$
L14P2	QT	586	1+	1.69	25+	1.50
L14R1	QT	586	1+	0.46	100+	0.38
L293DNE	TI	...	1+	2.92	25+	2.69
L293NE	TI	...	1+	2.92	25+	2.69
L4949D	MOT	865	1+	0.93	100+	0.80
L4949N	MOT	865	1+	0.93	25+	0.80
L6219DS	ALG	...	1+	3.42	25+	3.07
LED55B	QT	...	1+	1.64	25+	1.46
LED55C	QT	586	1+	1.71	25+	1.52
LED55CF	QT	...	1+	1.71	25+	1.52
LF13331N	NAT	...	1+	4.76	25+	3.57
LF13333N	NAT	...	1+	5.35	25+	4.00
LF347BN	TI	...	1+	3.04	25+	2.80
LF347N	NAT	...	1+	1.43	25+	1.07
LF351D	MOT	...	1+	0.87	100+	0.69
LF351N	NAT	...	1+	0.67	25+	0.50
LF353D	TI	...	1+	0.51	100+	0.41
LF353N	NAT	...	1+	0.74	25+	0.74
LF353P	TI	...	1+	0.51	100+	0.41
LF356M	NAT	...	1+	1.80	25+	1.80
LF356N	NAT	...	1+	1.20	25+	0.90
LF398AN	NAT	...	1+	5.45	25+	4.09
LF398N	PHL	...	1+	3.26	25+	2.45
LF411ACN	NAT	...	1+	3.89	25+	2.92
LF411CD	TI	...	1+	1.14	100+	1.01
LF411CN	NAT	...	1+	1.07	25+	0.80
LF411CP	TI	...	1+	1.14	100+	1.01
LF412CD	TI	...	1+	2.05	25+	1.91
LF412CN	NAT	...	1+	1.34	25+	1.00
LF412CP	TI	...	1+	2.05	25+	1.91
LF442CN	NAT	...	1+	0.96	25+	0.72
LF444CN	NAT	...	1+	1.96	25+	1.47
LH0070-0H	NAT	...	1+	17.16	25+	11.96
LM1036M	NAT	907	1+	2.22	25+	2.04
LM1036N	NAT	907	1+	2.22	25+	2.04
LM10CLN	NAT	...	1+	3.34	25+	2.50
LM10CN	NAT	...	1+	5.60	25+	4.17
LM1203N	NAT	...	1+	3.20	25+	2.40
LM1205N	NAT	...	1+	4.78	25+	3.59
LM12434CIWM	NAT	...	1+	37.43	5+	35.64
LM12438CIWM	NAT	...	1+	37.43	5+	35.64
LM12438EVAL	NAT	...	1+	312.52	5+	281.78
LM124J	NAT	...	1+	3.00	25+	2.25
LM13600N	NAT	...	1+	1.23	25+	0.92
LM139J	NAT	906	1+	2.00	25+	1.50
LM1458M	NAT	...	1+	0.47	25+	0.47
LM1458N	NAT	...	1+	0.47	25+	0.47
LM158AH	NAT	...	1+	7.79	10+	7.26
LM1830N	NAT	...	1+	3.07	25+	2.30
LM1875T	NAT	907	1+	2.56	25+	2.35
LM1876TF	NAT	907	1+	6.13	10+	5.72
LM1877M-9	NAT	907	1+	1.67	25+	1.55
LM1877N-9	NAT	907	1+	1.67	25+	1.55
LM1881N	NAT	...	1+	3.25	25+	2.44
LM1949N	NAT	...	1+	3.56	25+	2.67
LM1971M	NAT	907	1+	4.65	25+	4.27
LM1972M	NAT	907	1+	5.91	10+	5.51
LM1972N	NAT	907	1+	5.91	10+	5.51
LM1973M	NAT	907	1+	6.33	10+	5.90
LM1973N	NAT	907	1+	6.33	10+	5.90
LM201AD	MOT	866	1+	1.45	100+	1.38
LM201AN	MOT	...	1+	0.78	100+	0.68
LM211D	TI	905	1+	0.60	100+	0.49
LM211P	TI	905	1+	0.60	100+	0.49
LM224J	NAT	...	1+	1.78	25+	1.34
LM224N	TI	...	1+	0.60	100+	0.49
LM239AD	MOT	...	1+	0.52	100+	0.41
LM239AN	MOT	...	1+	0.52	100+	0.41
LM239D	MOT	...	1+	0.52	100+	0.41
LM239N	TI	905	1+	0.60	100+	0.49
LM2403T	NAT	906	1+	8.23	10+	7.67
LM2406T	NAT	...	1+	6.70	25+	6.70
LM2407T	NAT	906	1+	6.04	25+	5.55
LM248N	TI	...	1+	1.07	100+	0.94
LM2574-12BN	MIC	...	1+	2.05	25+	1.94
LM2574-5.0BN	MIC	918	1+	2.05	25+	1.94
LM2574BN	MIC	...	1+	2.05	25+	1.94
LM2574N-005	MOT	865	1+	1.35	25+	1.20
LM2574N-012	MOT	865	1+	1.35	25+	1.20
LM2574N-015	MOT	865	1+	1.35	25+	1.20
LM2574N-3.3	MOT	865	1+	1.35	25+	1.20
LM2575-5.0BT	MIC	918	1+	2.25	25+	2.13
LM2575-5.0BU	MIC	...	1+	2.25	25+	2.13
LM2575BN	MIC	...	1+	2.16	25+	2.04
LM2575BT	MIC	...	1+	2.25	25+	2.13
LM2575BU	MIC	...	1+	2.25	25+	2.13
LM2575D2T-005	MOT	865	1+	3.35	25+	2.46
LM2575D2T-012	MOT	...	1+	3.35	25+	2.46
LM2575D2T-015	MOT	...	1+	3.35	25+	2.46
LM2575D2T-3.3	MOT	...	1+	3.35	25+	2.46
LM2575D2T-ADJ	MOT	...	1+	3.35	25+	2.46
LM2575T-005	MOT	865	1+	2.72	25+	2.10
LM2575T-012	MOT	865	1+	1.83	25+	1.63
LM2575T-5.0	NAT	908	1+	4.90	25+	4.90
LM2575T-ADJ	MOT	...	1+	2.72	25+	2.10
LM2575TV-005	MOT	865	1+	2.32	25+	2.07
LM2576-12BT	MIC	...	1+	2.97	25+	2.81
LM2576-12BU	MIC	...	1+	2.97	25+	2.81

SEE THE REFERENCED PAGE NUMBERS ABOVE FOR PRODUCT SPECIFICATIONS.

FOR OTHER DEVICES, CONTACT YOUR LOCAL NEWARK SALES OFFICE.

Type	Mfg.	Pg.	Qty.	$	Qty.	$
LM2576-5.0BT	MIC	918	1+	2.97	25+	2.81
LM2576-5.0BU	MIC	.	1+	2.97	25+	2.81
LM2576BT	MIC	. . .	1+	2.97	25+	2.81
LM2576BU	MIC	.	1+	2.97	25+	2.81
LM2576D2T-005	MOT	865	1+	2.69	25+	2.28
LM2576S-5.0	NAT	. .	1+	5.06	25+	4.65
LM2576T-005	MOT	865	1+	2.32	25+	2.07
LM2576T-012	MOT	865	1+	2.32	25+	2.07
LM2576TV-005	MOT	865	1+	2.32	25+	2.07
LM2577T-ADJ	NAT	.	1+	6.28	10+	5.65
LM2587T-ADJ	NAT	. . .	1+	8.80	25+	6.15
LM258D	MOT	866	1+	0.55	100+	0.44
LM258N	MOT	866	1+	0.55	100+	0.44
LM258P	TI	. .	1+	0.60	100+	0.49
LM2594HVM-ADJ	NAT	. . .	1+	4.61	25+	4.24
LM2594HVN-ADJ	NAT	. . .	1+	4.61	25+	4.24
LM2594N-5.0	NAT	. . .	1+	3.00	25+	2.09
LM2597HVM-ADJ	NAT	. . .	1+	4.92	25+	4.52
LM2597HVN-ADJ	NAT	. . .	1+	4.92	25+	4.52
LM2621MM	NAT	. . .	1+	4.68	25+	4.30
LM2630MTC-ADJ	NAT	. . .	1+	6.35	10+	5.92
LM2631MTC-ADJ	NAT	. . .	1+	6.14	10+	5.72
LM2635M	NAT	. . .	1+	3.82	25+	3.51
LM2636M	NAT	. .	1+	3.69	25+	3.40
LM2637M	NAT	. . .	1+	4.42	25+	4.06
LM2641MTC-ADJ	NAT	. . .	1+	8.61	10+	8.02
LM2660M	NAT	. . .	1+	3.21	25+	2.95
LM2660MM	NAT	. . .	1+	3.38	25+	3.11
LM2661M	NAT	. . .	1+	3.21	25+	2.95
LM2661MM	NAT	. . .	1+	3.38	25+	3.11
LM2664M6	NAT	. . .	1+	2.28	25+	2.12
LM2665M6	NAT	. . .	1+	2.28	25+	2.12
LM2670S-3.3	NAT	. . .	1+	7.83	10+	7.30
LM2670S-5.0	NAT	. . .	1+	7.83	10+	7.30
LM2670T-3.3	NAT	. . .	1+	7.83	10+	7.30
LM2670T-5.0	NAT	. . .	1+	7.83	10+	7.30
LM2671M-3.3	NAT	908	1+	5.88	10+	5.48
LM2671M-5.0	NAT	. . .	1+	5.88	10+	5.48
LM2672M-ADJ	NAT	. . .	1+	6.84	10+	6.37
LM2672N-ADJ	NAT	. . .	1+	6.84	10+	6.37
LM2673S-3.3	NAT	. . .	1+	7.83	10+	7.30
LM2673S-ADJ	NAT	. . .	1+	7.83	10+	7.30
LM2673T-3.3	NAT	. . .	1+	7.83	10+	7.30
LM2673T-ADJ	NAT	. . .	1+	7.83	10+	7.30
LM2674M-3.3	NAT	908	1+	5.62	10+	5.24
LM2674M-5.0	NAT	. . .	1+	5.62	10+	5.24
LM2674M-ADJ	NAT	908	1+	5.62	10+	5.24
LM2675M-ADJ	NAT	. . .	1+	6.59	10+	6.15
LM2675N-ADJ	NAT	. . .	1+	6.59	10+	6.15
LM2676S-3.3	NAT	. . .	1+	7.57	10+	7.06
LM2676S-ADJ	NAT	. . .	1+	7.57	10+	7.06
LM2676T-3.3	NAT	. . .	1+	7.57	10+	7.06
LM2676T-ADJ	NAT	. . .	1+	7.57	10+	7.06
LM2678S-12	NAT	. . .	1+	8.58	10+	8.00
LM2678S-3.3	NAT	908	1+	8.58	10+	8.00
LM2678S-5.0	NAT	. .	1+	8.58	10+	8.00
LM2678S-ADJ	NAT	908	1+	8.58	10+	8.00
LM2678T-12	NAT	. .	1+	8.58	10+	8.00
LM2678T-3.3	NAT	908	1+	8.58	10+	8.00
LM2678T-5.0	NAT	. . .	1+	8.58	10+	8.00
LM2678T-ADJ	NAT	908	1+	8.58	10+	8.00
LM2679S-12	NAT	. .	1+	9.10	10+	8.48
LM2679S-3.3	NAT	908	1+	9.10	10+	8.48
LM2679S-5.0	NAT	. .	1+	9.10	10+	8.48
LM2679S-ADJ	NAT	908	1+	9.10	10+	8.48
LM2679T-12	NAT	. . .	1+	9.10	10+	8.48
LM2679T-3.3	NAT	908	1+	9.10	10+	8.48
LM2679T-5.0	NAT	. . .	1+	9.10	10+	8.48
LM2679T-ADJ	NAT	908	1+	9.10	10+	8.48
LM285D-1.2	MOT	. . .	1+	0.96	100+	0.75
LM285D-2.5	MOT	. . .	1+	0.96	100+	0.75
LM285Z-1.2	MOT	. .	1+	0.96	100+	0.75
LM285Z-2.5	MOT	. . .	1+	0.96	100+	0.75
LM2876T	NAT	907	1+	5.33	25+	4.90
LM2876TF	NAT	907	1+	5.79	25+	5.32
LM2879T	NAT	907	1+	3.12	25+	2.86
LM2900N	TI	. . .	1+	2.05	25+	1.91
LM2901D	TI	905	1+	0.51	100+	0.41
LM2901M	NAT	. . .	1+	0.47	25+	0.47
LM2901N	NAT	. . .	1+	0.50	25+	0.50
LM2901VN	MOT	. . .	1+	0.61	100+	0.40
LM2902N	NAT	. . .	1+	0.50	25+	0.50
LM2902VD	MOT	. . .	1+	0.66	100+	0.51
LM2903D	TI	905	1+	0.51	100+	0.41
LM2903M	NAT	. . .	1+	0.40	25+	0.40
LM2903N	NAT	. . .	1+	0.50	25+	0.50
LM2903P	TI	. . .	1+	0.51	100+	0.41
LM2903VD	MOT	. . .	1+	0.67	100+	0.53
LM2903VN	MOT	. . .	1+	0.66	100+	0.51
LM2904D	TI	. . .	1+	0.51	100+	0.41
LM2904M	NAT	. . .	1+	0.40	25+	0.40
LM2904N	NAT	. . .	1+	0.50	25+	0.50
LM2904P	TI	. . .	1+	0.51	100+	0.41
LM2904VD	MOT	. . .	1+	0.66	100+	0.51
LM2904VN	MOT	. . .	1+	0.66	100+	0.51
LM2907N	NAT	906	1+	1.45	25+	1.45
LM2907N-8	NAT	. . .	1+	1.45	25+	1.45
LM2917N	NAT	906	1+	2.78	25+	2.78

Type	Mfg.	Pg.	Qty.	$	Qty.	$
LM2917N-8	NAT	. . .	1+	2.67	25+	2.67
LM2930T-5.0	NAT	. . .	1+	0.89	25+	0.67
LM2931ACD	MOT	. . .	1+	1.27	100+	0.99
LM2931ACT	MOT	. . .	1+	1.12	100+	0.87
LM2931ACTH	MOT	. . .	1+	1.38	100+	1.08
LM2931ACTV	MOT	. . .	1+	1.38	100+	1.08
LM2931AD-5.0	MOT	. . .	1+	0.96	100+	0.75
LM2931ADT-1-5.0	MOT	. . .	1+	1.31	100+	1.02
LM2931ADT-5.0	MOT	. . .	1+	1.31	100+	1.02
LM2931AT-5.0	MOT	. . .	1+	1.08	100+	0.84
LM2931CD	MOT	. . .	1+	1.04	100+	0.81
LM2931CDR2	MOT	. . .	1+	0.86	100+	0.56
LM2931D-5.0	MOT	. . .	1+	0.87	100+	0.69
LM2931D-5.0R2	MOT	. . .	1+	0.79	100+	0.52
LM2931DT-5.0	MOT	. . .	1+	1.07	100+	0.84
LM2931T-5.0	MOT	. . .	1+	1.03	100+	0.81
LM2931Z-5.0	MOT	. . .	1+	0.63	100+	0.50
LM2935T	MOT	. . .	1+	2.18	25+	1.68
LM2937ET-5.0	NAT	. . .	1+	1.29	25+	0.97
LM2937IMP-3.3	NAT	. . .	1+	1.49	25+	1.38
LM2937IMP-5.0	NAT	. . .	1+	1.49	25+	1.38
LM293D	TI	905	1+	0.60	100+	0.49
LM293P	TI	905	1+	0.60	100+	0.49
LM2940CT-12	NAT	908	1+	1.56	25+	1.17
LM2940CT-15	NAT	. . .	1+	1.56	25+	1.17
LM2940CT-5.0	NAT	908	1+	1.56	25+	1.17
LM2940IMP-5.0	NAT	. . .	1+	1.72	25+	1.60
LM2940T-10.0	NAT	. . .	1+	1.89	25+	1.42
LM2940T-5.0	NAT	908	1+	1.89	25+	1.42
LM2940T-8.0	NAT	. . .	1+	1.89	25+	1.42
LM2941CT	NAT	. . .	1+	1.67	25+	1.25
LM2990T-5.0	NAT	. . .	1+	2.16	25+	1.62
LM2991T	NAT	. . .	1+	2.16	25+	1.62
LM301AD	MOT	. . .	1+	0.70	100+	0.61
LM301AN	NAT	. . .	1+	0.72	25+	0.54
LM306P	TI	905	1+	1.14	100+	1.01
LM308AD	MOT	866	1+	1.04	100+	0.81
LM308AN	MOT	. . .	1+	0.75	100+	0.66
LM308N	NAT	. . .	1+	0.83	25+	0.62
LM310N	NAT	. . .	1+	2.78	25+	2.09
LM311M	NAT	. . .	1+	0.47	25+	0.47
LM311N	NAT	906	1+	0.47	25+	0.47
LM311P	TI	905	1+	0.52	100+	0.46
LM317AT	NAT	908	1+	1.45	25+	1.09
LM317BD2T	MOT	. . .	1+	1.42	100+	1.11
LM317BT	MOT	. . .	1+	1.23	100+	0.96
LM317D2T	MOT	. . .	1+	1.31	100+	1.02
LM317EMP	NAT	. .	1+	0.86	100+	0.76
LM317LBD	MOT	. . .	1+	0.91	100+	0.72
LM317LBZ	MOT	. . .	1+	0.83	100+	0.66
LM317LD	MOT	. . .	1+	0.67	100+	0.53
LM317LM	NAT	. . .	1+	0.57	25+	0.57
LM317LZ	NAT	. . .	1+	0.57	25+	0.57
LM317MBDT	MOT	. . .	1+	1.42	100+	1.11
LM317MDT	MOT	. . .	1+	1.23	100+	0.96
LM317MT	MOT	. . .	1+	0.96	100+	0.75
LM317T	NAT	908	1+	0.94	25+	0.94
LM318D	TI	. . .	1+	1.28	25+	1.19
LM318N	NAT	. . .	1+	1.60	25+	1.60
LM318P	TI	. . .	1+	1.28	25+	1.19
LM320T-12	NAT	. . .	1+	1.38	25+	1.04
LM320T-15	NAT	. . .	1+	1.38	25+	1.04
LM320T-5.0	NAT	. . .	1+	1.38	25+	1.04
LM323AT	MOT	. . .	1+	2.47	25+	1.82
LM324AN	NAT	. . .	1+	0.54	25+	0.54
LM324D	TI	904	1+	0.55	100+	0.49
LM324M	NAT	. . .	1+	0.40	25+	0.24
LM324N	NAT	. . .	1+	0.47	25+	0.28
LM325N	NAT	. . .	1+	9.19	25+	6.27
LM329BZ	NAT	. . .	1+	2.23	25+	1.67
LM329CZ	NAT	. . .	1+	1.67	25+	1.25
LM329DZ	NAT	. . .	1+	0.67	25+	0.50
LM3302N	TI	905	1+	0.84	100+	0.74
LM331AN	NAT	. . .	1+	6.80	25+	5.10
LM331N	NAT	906	1+	5.25	25+	3.94
LM333T	NAT	. . .	1+	10.78	25+	7.37
LM334M	NAT	. . .	1+	1.65	25+	1.24
LM334Z	NAT	. . .	1+	1.34	25+	1.00
LM335Z	NAT	. . .	1+	1.98	25+	1.49
LM336BD-2-5	TI	. . .	1+	1.41	25+	1.31
LM336BZ-2.5	NAT	. . .	1+	2.00	25+	1.50
LM336BZ-5.0	NAT	. . .	1+	2.00	25+	1.50
LM336Z-2.5	NAT	. . .	1+	1.27	25+	1.27
LM336Z-5.0	NAT	. . .	1+	1.27	25+	0.76
LM337AT	MOT	. . .	1+	1.49	100+	1.16
LM337BT	MOT	. . .	1+	1.35	100+	1.05
LM337D2T	MOT	. . .	1+	1.57	100+	1.22
LM337IMP	NAT	. . .	1+	0.91	100+	0.80
LM337KC	TI	. . .	1+	2.44	25+	2.24
LM337LM	NAT	. . .	1+	1.16	25+	0.87
LM337LZ	NAT	. . .	1+	1.16	25+	0.87
LM337MT	MOT	. . .	1+	1.12	100+	0.87
LM337T	NAT	. . .	1+	1.47	25+	1.47
LM338T	NAT	. . .	1+	1.92	25+	1.44
LM339AD	MOT	. . .	1+	0.50	100+	0.39
LM339AN	NAT	. . .	1+	0.54	25+	0.54
LM339M	NAT	. . .	1+	0.40	25+	0.40
LM339N	NAT	. . .	1+	0.47	25+	0.47

Type	Mfg.	Pg.	Qty.	$	Qty.	$
LM340AT-012	MOT	. . .	1+	0.68	100+	0.45
LM340LAZ-5.0	NAT	. . .	1+	0.85	25+	0.64
LM340MP-5.0	NAT	. . .	1+	0.73	100+	0.66
LM340T-012	MOT	. . .	1+	0.61	100+	0.40
LM340T-015	MOT	. . .	1+	0.61	100+	0.40
LM340T-12	NAT	. . .	1+	0.67	25+	0.67
LM340T-15	NAT	. . .	1+	0.67	25+	0.67
LM340T-5.0	NAT	908	1+	0.67	25+	0.67
LM346N	NAT	. . .	1+	2.05	25+	1.54
LM3480IM3-12	NAT	. . .	1+	0.71	100+	0.64
LM3480IM3-15	NAT	. . .	1+	0.71	100+	0.64
LM3480IM3-3.3	NAT	908	1+	0.71	100+	0.64
LM3480IM3-5.0	NAT	. . .	1+	0.71	100+	0.64
LM348D	TI	904	1+	0.87	100+	0.78
LM348DR2	MOT	. . .	1+	0.72	100+	0.47
LM348M	NAT	. . .	1+	0.84	25+	0.84
LM348N	NAT	. . .	1+	0.84	25+	0.84
LM34CAZ	NAT	906	1+	7.69	10+	7.17
LM34CZ	NAT	906	1+	5.87	25+	5.39
LM34DZ	NAT	906	1+	1.92	25+	1.79
LM350BT	MOT	. . .	1+	3.26	25+	2.52
LM350T	NAT	. . .	1+	4.18	25+	3.14
LM3524DN	NAT	. . .	1+	2.23	25+	1.67
LM3578AN	NAT	. . .	1+	1.69	25+	1.27
LM358AM	NAT	. . .	1+	0.47	25+	0.47
LM358AN	NAT	. . .	1+	0.50	25+	0.50
LM358D	TI	904	1+	0.52	100+	0.46
LM358DR2	MOT	. . .	1+	0.55	100+	0.36
LM358M	NAT	. . .	1+	0.37	25+	0.37
LM358N	NAT	. . .	1+	0.44	25+	0.44
LM358P	TI	904	1+	0.52	100+	0.46
LM359N	NAT	. . .	1+	2.45	25+	1.84
LM35AH	NAT	. . .	1+	23.58	5+	22.45
LM35CAZ	NAT	906	1+	9.73	10+	9.07
LM35CZ	NAT	906	1+	7.54	25+	6.93
LM35DZ	NAT	906	1+	2.10	25+	1.96
LM360N	NAT	. . .	1+	3.78	25+	2.84
LM361N	NAT	. . .	1+	3.27	25+	2.45
LM3620M5-4	NAT	. . .	1+	1.93	25+	1.80
LM3620M5-8	NAT	. . .	1+	1.93	25+	1.80
LM380N	NAT	907	1+	1.14	100+	1.01
LM380N-8	NAT	. . .	1+	1.25	25+	0.86
LM3812FM-1.0	NAT	. . .	1+	3.74	25+	3.44
LM3812FM-7.0	NAT	. . .	1+	3.74	25+	3.44
LM3813FM-1.0	NAT	. . .	1+	3.74	25+	3.44
LM3813FM-7.0	NAT	. . .	1+	3.74	25+	3.44
LM383T	NAT	907	1+	2.18	25+	2.03
LM384N	NAT	907	1+	1.92	25+	1.79
LM385BD-1.2	MOT	. . .	1+	0.96	100+	0.75
LM385BD-2.5	MOT	. . .	1+	0.96	100+	0.75
LM385BZ-1.2	MOT	. . .	1+	0.96	100+	0.75
LM385BZ-2.5	MOT	. . .	1+	0.96	100+	0.75
LM385Z	NAT	. . .	1+	1.20	25+	0.90
LM385Z-2.5	MOT	. . .	1+	0.88	100+	0.69
LM386M-1	NAT	907	1+	0.39	100+	0.32
LM386MM-1	NAT	. . .	1+	1.02	100+	0.90
LM386N-1	NAT	907	1+	0.41	100+	0.33
LM386N-3	NAT	. . .	1+	0.58	25+	0.44
LM386N-4	NAT	. . .	1+	0.80	25+	0.60
LM3875T	NAT	907	1+	7.01	25+	6.44
LM3875TF	NAT	907	1+	6.11	25+	5.61
LM3876T	NAT	907	1+	5.62	25+	5.17
LM3876TF	NAT	907	1+	6.11	25+	5.61
LM3886T	NAT	907	1+	6.23	10+	5.81
LM3886TF	NAT	907	1+	6.47	10+	6.03
LM388N-1	NAT	. . .	1+	1.52	25+	1.05
LM3900N	TI	. . .	1+	1.14	100+	1.01
LM3914N	NAT	906	1+	2.09	25+	1.57
LM3915N	NAT	. . .	1+	2.09	25+	1.57
LM3916N	NAT	. . .	1+	2.52	25+	1.89
LM392N	NAT	. . .	1+	1.00	25+	0.75
LM393AD	TI	905	1+	1.14	100+	1.01
LM393AN	MOT	. . .	1+	0.69	100+	0.54
LM393D	TI	. . .	1+	0.52	100+	0.46
LM393M	NAT	. . .	1+	0.37	25+	0.37
LM393N	NAT	906	1+	0.44	25+	0.44
LM393P	TI	905	1+	0.52	100+	0.46
LM395T	NAT	. . .	1+	3.25	25+	2.44
LM4040AIM3-2.5 TS	MIC	. . .	1+	1.77	25+	1.67
LM4040AIM3-5.0 TS	MIC	. . .	1+	1.77	25+	1.67
LM4040BIM3-5.0 TS	MIC	. . .	1+	1.23	25+	1.16
LM4040CIM3-2.5 TS	MIC	. . .	1+	0.87	25+	0.82
LM4040CIM3-5.0 TS	MIC	. . .	1+	0.87	25+	0.82
LM4040DIM3-2.5	NAT	. . .	1+	1.00	25+	0.75
LM4040DIM3-2.5 TS	MIC	. . .	1+	0.78	25+	0.75
LM4040DIM3-5.0	NAT	. . .	1+	1.00	25+	0.75
LM4040DIM3-5.0 TS	MIC	. . .	1+	0.78	25+	0.75
LM4040DIZ-10.0	NAT	. . .	1+	1.00	25+	0.75
LM4041CIM3-1.2 TS	MIC	. . .	1+	0.87	25+	0.82
LM4041CIM3-ADJ TS	MIC	. . .	1+	0.87	25+	0.82
LM4041DIM3-1.2	NAT	. . .	1+	1.00	25+	0.75
LM4041DIM3-1.2 TS	MIC	. . .	1+	0.78	25+	0.75
LM431ACZ	NAT	. . .	1+	0.40	25+	0.40
LM4546VH	NAT	. . .	1+	9.83	10+	9.16
LM4548VH	NAT	. . .	1+	11.05	10+	10.30
LM45BIM3	NAT	906	1+	1.97	25+	1.84
LM45CIM3	NAT	906	1+	1.07	100+	0.94
LM4700TF	NAT	907	1+	4.72	25+	4.34

Manufacturer Abbreviations:

ADI: Analog Devices; **ALG:** Allegro; **ALT:** Altera; **AMD:** Advanced Micro Devices; **AND:** AND; **APD:** American Power Devices; **DAL:** Dallas Semiconductor; **ECG:** Philips ECG; **FGR:** Fagor; **GS:** General Semiconductor; **HP:** Hewlett Packard; **HRS:** Harris Semiconductor; **HWL:** Honeywell Opto; **INT:** Intronics; **IR:** International Rectifier; **MIC:** Micrel; **MOT:** Motorola; **NAT:** National Semiconductor; **OPT:** Optek; **PHL:** Philips Semiconductors; **PWX:** Powerex; **QT:** QT Optoelectronics; **SKN:** Semikron; **SPC:** SPC Technology; **TI:** Texas Instruments; **TSK:** Thomson SK; **VAC:** EG&G Vactec; **VAN:** Vantis; **ZIL:** Zilog

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Type	Mfg.	Pg.	Qty.	$	Qty.	$
LM4701T	NAT	907	1+	4.68	25+	4.30
LM4752T	NAT	...	1+	3.82	25+	3.51
LM4755T	NAT	...	1+	4.21	25+	3.87
LM4765T	NAT	...	1+	4.92	25+	4.52
LM4766T	NAT	...	1+	5.15	25+	4.73
LM4830M	NAT	907	1+	6.94	10+	6.46
LM4834MS	NAT	907	1+	5.72	25+	5.26
LM4835MTE	NAT	...	1+	7.99	10+	7.45
LM4860M	NAT	907	1+	3.04	25+	2.80
LM4861M	NAT	907	1+	3.04	25+	2.80
LM4862M	NAT	907	1+	2.38	25+	2.22
LM4862N	NAT	907	1+	2.51	25+	2.34
LM4863M	NAT	907	1+	5.09	10+	4.74
LM4863MTE	NAT	...	1+	5.41	25+	4.97
LM4863N	NAT	907	1+	6.50	10+	6.06
LM4864M	NAT	907	1+	2.23	25+	2.08
LM4864MM	NAT	...	1+	2.22	25+	2.04
LM4864N	NAT	907	1+	2.48	25+	2.31
LM4870M	NAT	907	1+	2.61	25+	2.40
LM4873MT	NAT	...	1+	4.92	25+	4.52
LM4873MTE	NAT	...	1+	5.15	25+	4.73
LM4880M	NAT	907	1+	2.02	25+	1.88
LM4880N	NAT	907	1+	2.02	25+	1.88
LM4881MM	NAT	...	1+	1.80	25+	1.66
LM4882MM	NAT	907	1+	1.87	25+	1.74
LM50BIM3	NAT	906	1+	1.88	25+	1.73
LM50CIM3	NAT	906	1+	1.08	25+	1.00
LM555CM	NAT	...	1+	0.40	25+	0.40
LM555CMM	NAT	...	1+	0.99	100+	0.88
LM555CN	NAT	...	1+	0.40	25+	0.40
LM556CN	NAT	...	1+	0.74	25+	0.74
LM565CN	NAT	...	1+	1.27	25+	0.95
LM567CN	NAT	...	1+	0.57	25+	0.57
LM56BIMM	NAT	...	1+	2.59	25+	2.38
LM56CIMM	NAT	...	1+	2.33	25+	2.17
LM60BIM3	NAT	906	1+	2.05	25+	1.88
LM60CIM3	NAT	906	1+	1.23	25+	1.15
LM6132AIN	NAT	907	1+	3.29	25+	3.02
LM6134AIN	NAT	907	1+	4.14	25+	3.80
LM6142AIN	NAT	907	1+	8.08	10+	7.53
LM6144AIN	NAT	907	1+	11.62	10+	10.98
LM6152ACN	NAT	907	1+	6.55	10+	6.10
LM6154ACN	NAT	...	1+	10.12	10+	9.43
LM6181IN	NAT	...	1+	3.31	25+	2.31
LM61BIM3	NAT	...	1+	2.08	25+	1.94
LM61BIZ	NAT	...	1+	2.05	25+	1.91
LM61CIM3	NAT	...	1+	1.18	100+	1.04
LM61CIZ	NAT	...	1+	1.18	100+	1.04
LM6321N	NAT	...	1+	6.98	10+	6.51
LM6361N	NAT	...	1+	3.46	25+	3.18
LM675T	NAT	...	1+	5.50	25+	4.12
LM7131ACM	NAT	...	1+	2.38	25+	2.22
LM7171BIN	NAT	...	1+	2.43	25+	1.82
LM723CN	NAT	...	1+	0.67	25+	0.50
LM725CN	NAT	...	1+	4.00	25+	3.00
LM7301IM5	NAT	907	1+	2.15	25+	2.00
LM741CN	NAT	...	1+	0.54	25+	0.54
LM75CIMM-5	NAT	906	1+	2.80	25+	2.57
LM7808CT	NAT	...	1+	0.84	25+	0.84
LM78L05ACM	NAT	...	1+	0.40	25+	0.40
LM78L05ACZ	NAT	...	1+	0.40	25+	0.40
LM78L12ACM	NAT	...	1+	0.40	25+	0.40
LM78L12ACZ	NAT	...	1+	0.40	25+	0.40
LM78L15ACM	NAT	...	1+	0.40	25+	0.40
LM78L15ACZ	NAT	...	1+	0.40	25+	0.40
LM78L62ACZ	NAT	...	1+	0.65	25+	0.49
LM78S40CN	NAT	...	1+	1.96	25+	1.47
LM7905CT	NAT	908	1+	0.84	25+	0.84
LM7912CT	NAT	908	1+	0.84	25+	0.84
LM7915CT	NAT	...	1+	0.84	25+	0.84
LM79L05ACM	NAT	...	1+	0.40	25+	0.40
LM79L05ACZ	NAT	...	1+	0.40	25+	0.40
LM79L15ACZ	NAT	...	1+	0.40	25+	0.40
LM79M15CT	NAT	...	1+	0.84	25+	0.84
LM81CIMT-3	NAT	...	1+	4.68	25+	4.30
LM833MM	NAT	...	1+	1.38	25+	1.29
LM833N	MOT	866	1+	0.91	100+	0.79
LM837N	NAT	...	1+	1.45	25+	1.09
LMC1982CIN	NAT	907	1+	7.30	10+	6.80
LMC1982CIV	NAT	907	1+	7.30	10+	6.80
LMC1983CIN	NAT	907	1+	7.30	10+	6.80
LMC1983CIV	NAT	907	1+	7.30	10+	6.80
LMC1992CCN	NAT	907	1+	7.30	10+	6.80
LMC2001ACM5	NAT	...	1+	2.94	25+	2.70
LMC2001AIM	NAT	...	1+	2.94	25+	2.70
LMC272CN	NAT	907	1+	0.89	100+	0.79
LMC555CMM	NAT	...	1+	1.36	25+	1.27
LMC555CN	NAT	...	1+	0.77	25+	0.77
LMC6001CIN	NAT	...	1+	3.16	25+	2.37
LMC6022IN	NAT	907	1+	1.44	25+	1.34
LMC6024IN	NAT	907	1+	2.13	25+	1.98
LMC6032IN	NAT	907	1+	0.79	100+	0.70
LMC6034IN	NAT	907	1+	1.36	25+	1.27
LMC6035IBP	NAT	...	1+	1.29	25+	1.20
LMC6035IM	NAT	907	1+	1.33	25+	1.24
LMC6036IM	NAT	907	1+	1.87	25+	1.74
LMC6041AIN	NAT	907	1+	2.51	25+	2.34
LMC6042IN	NAT	907	1+	2.38	25+	2.22

Type	Mfg.	Pg.	Qty.	$	Qty.	$
LMC6044IN	NAT	907	1+	2.75	25+	2.53
LMC6061IN	NAT	907	1+	1.49	25+	1.37
LMC6062IN	NAT	907	1+	2.48	25+	2.28
LMC6064IN	NAT	907	1+	4.21	25+	3.87
LMC6081AIM	NAT	...	1+	4.36	25+	4.03
LMC6081IN	NAT	907	1+	2.92	25+	2.69
LMC6082IN	NAT	907	1+	3.65	25+	3.36
LMC6084IN	NAT	907	1+	5.55	25+	5.10
LMC6442AIM	NAT	...	1+	3.48	25+	3.20
LMC6442AIMM	NAT	...	1+	4.58	25+	4.21
LMC6442AIN	NAT	907	1+	3.87	25+	3.56
LMC6442IM	NAT	...	1+	3.31	25+	3.04
LMC6442IMM	NAT	...	1+	4.21	25+	3.87
LMC6442IN	NAT	...	1+	3.41	25+	3.13
LMC6462AIN	NAT	907	1+	3.31	25+	3.04
LMC6464AIN	NAT	907	1+	5.21	10+	4.85
LMC6482IMM	NAT	907	1+	3.19	25+	2.93
LMC6482IN	NAT	907	1+	2.02	25+	1.86
LMC6484IN	NAT	907	1+	4.04	25+	3.71
LMC6492AEN	NAT	907	1+	2.95	25+	2.71
LMC6494AEN	NAT	907	1+	7.35	10+	6.85
LMC6572AIN	NAT	907	1+	2.07	25+	1.90
LMC6574AIN	NAT	907	1+	3.63	25+	3.33
LMC6582AIN	NAT	907	1+	3.14	25+	2.89
LMC6584AIN	NAT	907	1+	5.62	10+	5.24
LMC660CN	NAT	907	1+	1.51	25+	1.41
LMC662CN	NAT	907	1+	1.67	25+	1.55
LMC6681AIN	NAT	907	1+	3.31	25+	3.04
LMC6682AIN	NAT	907	1+	5.48	25+	5.03
LMC6684AIM	NAT	907	1+	6.96	10+	6.49
LMC6772AIM	NAT	906	1+	3.24	25+	2.98
LMC7101AIM5	NAT	...	1+	1.92	25+	1.79
LMC7101AIM5 TS	MIC	...	1+	1.01	25+	0.96
LMC7101AIN	NAT	907	1+	1.67	25+	1.55
LMC7101BIM5 TS	MIC	...	1+	0.85	25+	0.80
LMC7101BIN	NAT	...	1+	0.94	25+	0.70
LMC7111AIN	NAT	907	1+	1.84	25+	1.72
LMC7211AIM5	NAT	906	1+	2.43	25+	2.27
LMC7211BIN	NAT	...	1+	1.25	25+	0.94
LMC7215IM5	NAT	906	1+	2.07	25+	1.93
LMC7221AIM5	NAT	906	1+	2.43	10+	2.27
LMC7225IM5	NAT	906	1+	2.07	25+	1.93
LMC7660IM	NAT	906	1+	1.92	25+	1.79
LMC7660IN	NAT	906	1+	0.87	25+	0.81
LMC835N	NAT	907	1+	10.54	10+	9.82
LMD18200T	NAT	...	1+	17.50	25+	13.10
LMD18245T	NAT	...	1+	20.40	25+	15.30
LMF100CCN	NAT	...	1+	4.23	25+	3.17
LMT2901N	MOT	...	1+	0.78	100+	0.69
LMT2903N	MOT	...	1+	0.78	100+	0.69
LMT2904N	MOT	...	1+	0.78	100+	0.69
LMT324N	MOT	...	1+	0.78	100+	0.69
LMT339N	MOT	...	1+	0.78	100+	0.69
LMT358D	MOT	...	1+	0.78	100+	0.69
LMT393N	MOT	...	1+	0.78	100+	0.69
LMV321M5	NAT	...	1+	0.73	100+	0.66
LMV321M7	NAT	...	1+	0.76	100+	0.69
LMV324M	NAT	...	1+	0.81	100+	0.73
LMV324MT	NAT	...	1+	0.87	100+	0.78
LMV331M5	NAT	...	1+	0.73	100+	0.66
LMV331M7	NAT	...	1+	0.76	100+	0.69
LMV339M	NAT	...	1+	0.81	100+	0.73
LMV358M	NAT	...	1+	0.73	100+	0.66
LMV358MM	NAT	...	1+	0.76	100+	0.69
LMV393M	NAT	...	1+	0.73	100+	0.66
LMV393MM	NAT	...	1+	0.76	100+	0.69
LMV821M5	NAT	...	1+	0.99	100+	0.88
LMV821M7	NAT	...	1+	1.02	100+	0.90
LMV822M	NAT	...	1+	1.17	100+	1.03
LMV822MM	NAT	...	1+	1.20	100+	1.05
LMV824M	NAT	...	1+	1.36	25+	1.27
LMV824MT	NAT	...	1+	1.38	25+	1.29
LMX1600TM	NAT	...	1+	5.04	10+	4.70
LMX1601TM	NAT	...	1+	4.58	10+	4.27
LMX1602TM	NAT	...	1+	5.04	10+	4.70
LMX2306TM	NAT	...	1+	6.35	10+	5.92
LMX2316TM	NAT	...	1+	7.01	10+	6.53
LMX2324TM	NAT	...	1+	4.42	25+	4.06
LMX2326TM	NAT	...	1+	11.12	10+	10.36
LMX2330LTM	NAT	...	1+	8.82	10+	8.33
LMX2331LTM	NAT	...	1+	5.77	10+	5.38
LMX2332LTM	NAT	...	1+	5.60	10+	5.22
LMX2335LM	NAT	...	1+	7.13	10+	6.64
LMX2335LTM	NAT	...	1+	7.30	10+	6.80
LMX2336LTM	NAT	...	1+	8.82	10+	8.33
LMX3161VBH	NAT	906	1+	18.26	10+	17.27
LMX5080M	NAT	...	1+	9.93	10+	9.25
LP2950-02BZ	MIC	...	1+	0.76	25+	0.71
LP2950-03BZ	MIC	...	1+	0.72	25+	0.68
LP2950ACDT-3.0	MOT	...	1+	2.18	25+	1.68
LP2950ACDT-5.0	MOT	...	1+	2.03	25+	1.57
LP2950ACZ-3.0	MOT	...	1+	1.64	100+	1.28
LP2950ACZ-3.3	MOT	...	1+	1.64	100+	1.28
LP2950ACZ-5.0	NAT	...	1+	1.00	25+	0.75
LP2950CDT-3.0	MOT	...	1+	1.64	100+	1.28
LP2950CDT-3.3	MOT	...	1+	1.64	100+	1.28
LP2950CDT-5.0	MOT	...	1+	1.60	25+	1.23
LP2950CZ-3.0	MOT	...	1+	1.42	100+	1.11

Type	Mfg.	Pg.	Qty.	$	Qty.	$
LP2950CZ-3.3	MOT	...	1+	1.42	100+	1.11
LP2950CZ-5.0	NAT	...	1+	0.92	25+	0.69
LP2951-02BM	MIC	...	1+	0.81	25+	0.77
LP2951-03BM	MIC	...	1+	0.77	25+	0.73
LP2951-03BN	MIC	...	1+	0.77	25+	0.73
LP2951ACD	MOT	...	1+	1.53	25+	1.18
LP2951ACD-3.0	MOT	...	1+	1.57	100+	1.22
LP2951ACD-3.3	MOT	...	1+	1.57	100+	1.22
LP2951ACM	NAT	908	1+	1.27	25+	0.95
LP2951ACN-3.0	MOT	...	1+	1.57	100+	1.22
LP2951ACN-3.3	MOT	...	1+	1.57	100+	1.22
LP2951CD-3.0	MOT	...	1+	1.57	100+	1.22
LP2951CD-3.3	MOT	...	1+	1.57	100+	1.22
LP2951CN	NAT	...	1+	1.27	25+	0.95
LP2951CN-3.0	MOT	...	1+	1.57	100+	1.22
LP2951CN-3.3	MOT	...	1+	1.57	100+	1.22
LP2954IT	NAT	...	1+	3.54	25+	2.65
LP2975AIMM-12	NAT	...	1+	2.48	25+	2.28
LP2975AIMM-3.3	NAT	906	1+	2.48	25+	2.28
LP2975AIMM-5.0	NAT	...	1+	2.48	25+	2.28
LP2975IMM-12	NAT	...	1+	2.22	25+	2.04
LP2975IMM-3.3	NAT	906	1+	2.22	25+	2.04
LP2975IMM-5.0	NAT	...	1+	2.22	25+	2.04
LP2980AIM5-5.0	NAT	...	1+	1.16	25+	0.87
LP2980IM5-5.0	NAT	...	1+	0.96	25+	0.72
LP2985IM5-3.0	NAT	908	1+	1.63	25+	1.52
LP2985IM5-3.3	NAT	...	1+	1.63	25+	1.52
LP2985IM5-5.0	NAT	...	1+	1.63	25+	1.52
LP2987AIM-3.3	NAT	908	1+	2.28	25+	2.12
LP2987AIMM-3.3	NAT	908	1+	2.42	25+	2.26
LP2987IM-3.3	NAT	...	1+	2.08	25+	1.94
LP2987IMM-3.3	NAT	...	1+	2.28	25+	2.12
LP2988AIM-3.3	NAT	908	1+	2.13	25+	1.98
LP2988IM-3.3	NAT	908	1+	2.00	25+	1.87
LP2988IM-5.0	NAT	...	1+	2.00	25+	1.87
LP324N	NAT	...	1+	0.89	25+	0.67
LP339D	TI	905	1+	0.86	100+	0.76
LP339M	NAT	...	1+	0.89	25+	0.67
LP339N	NAT	...	1+	0.89	25+	0.67
LP3470IM5-2.63	NAT	...	1+	1.56	25+	1.45
LP3470IM5-4.8	NAT	...	1+	1.56	25+	1.45
LPC660IN	NAT	907	1+	2.46	25+	2.26
LPC662IN	NAT	907	1+	1.72	25+	1.60
LT1004CLP-2-5	TI	...	1+	2.28	25+	2.12
LT1013CP	TI	904	1+	2.48	25+	2.28
LT1030CN	TI	905	1+	2.44	25+	2.24
LT1054CP	TI	904	1+	3.65	25+	3.36
LT1054IP	TI	904	1+	4.02	25+	3.69
M5102EVM	MOT	851	1+	485.01	5+	423.30
M5202EVM	MOT	851	1+	873.01	5+	761.93
M5202GW	MOT	851	1+	132.03	5+	125.69
M5204AN	MOT	851	1+	440.91	5+	384.82
M5206AN	MOT	851	1+	793.64	5+	692.67
M57140-01	PWX	928	1+	80.25	5+	71.33
M57950L	PWX	...	1+	11.87	10+	11.07
M57958L	PWX	928	1+	19.77	10+	18.69
M57962L	PWX	928	1+	22.50	10+	21.27
M68302ADI-PC	MOT	857	1+	378.28	5+	368.48
M68302FADS	MOT	857	1+	995.80	...	...
M68302FADS-ENA	MOT	857	1+	222.24	5+	216.16
M68302FADS-LC	MOT	857	1+	1047.54	5+	1034.01
M68302FADS-PM	MOT	857	1+	1047.54	5+	1034.01
M68306AN	MOT	851	1+	377.20	...	...
M68307EVM	MOT	851	1+	615.07	5+	536.82
M68340EST	MOT	851	1+	540.40	...	...
M68CBL05A	MOT	854	1+	211.64	5+	184.71
M68CBL11E	MOT	...	1+	166.68	5+	162.12
M68DIP20SOIC	MOT	854	1+	35.03	...	...
M68DIP28SOIC	MOT	854	1+	35.03	...	...
M68EC000IDP	MOT	851	1+	899.46	5+	785.02
M68EC0201IDP	MOT	851	1+	643.08	5+	626.42
M68EC040IDP3	MOT	851	1+	789.60	...	...
M68EC060IDP	MOT	851	1+	894.88	...	...
M68EM05A24	MOT	854	1+	295.24	...	...
M68EM05BD7	MOT	854	1+	295.24	...	...
M68EM05BS8	MOT	854	1+	295.24	...	...
M68EM05CJ4	MOT	854	1+	295.24	...	...
M68EM05CL4	MOT	854	1+	295.24	...	...
M68EM05CL48	MOT	854	1+	295.24	...	...
M68EM05D32	MOT	854	1+	295.24	...	...
M68EM05F4	MOT	854	1+	295.24	...	...
M68EM05G4	MOT	854	1+	295.24	...	...
M68EM05J3	MOT	854	1+	295.24	...	...
M68EM05MC4	MOT	...	1+	295.24	...	...
M68EM05T7	MOT	854	1+	295.24	...	...
M68EM05V8	MOT	854	1+	295.24	...	...
M68EM08AS60	MOT	854	1+	327.81	...	...
M68EM08AZ60	MOT	854	1+	295.24	...	...
M68EML05L16	MOT	...	1+	295.24	...	...
M68EML05X32	MOT	854	1+	295.24	...	...
M68EML08XL36	MOT	854	1+	295.24	...	...
M68HC05L9EVM2	MOT	...	1+	538.24	5+	524.30
M68HC11EVB	MOT	855	1+	199.00	...	...
M68HC11EVBU	MOT	855	1+	175.00	...	...
M68HC12A4EVB	MOT	855	1+	445.29	5+	433.76
M68HC705E6PGMR	MOT	...	1+	186.69	5+	181.58
M68HC705K1GANG	MOT	...	1+	333.36	5+	324.24
M68HC705K1GANGY	MOT	...	1+	648.48	5+	631.68

NEW TYPES ARE BEING CONTINUALLY ADDED TO INVENTORY.

CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR AVAILABILITY.

Type	Mfg.	Pg.	Qty.	$	Qty.	$
M68HC705P9PGMR	MOT	...	1+	120.02	5+	104.75
M68HC705T10PGMR	MOT	...	1+	90.69	5+	86.34
M68MMDS0508	MOT	854	1+	2952.36	...	...
M68MMPFB0508	MOT	854	1+	395.32	...	...
M68PA11E20FN52	MOT	...	1+	264.55	5+	230.89
M68SPGMR11	MOT	...	1+	440.91	5+	384.82
M68TA05X4P28	MOT	854	1+	35.03	...	...
M68TB05A24B56	MOT	854	1+	100.08	...	...
M68TB05BD7B42	MOT	854	1+	100.08	...	...
M68TB05BD7P40	MOT	854	1+	125.10	...	...
M68TB05BD9B42	MOT	854	1+	100.08	...	...
M68TB05BD9P40	MOT	854	1+	100.08	...	...
M68TB05BS8FN52	MOT	854	1+	125.10	...	...
M68TB05SR3B42	MOT	854	1+	100.08	...	...
M68TB05T7B56	MOT	854	1+	100.08	...	...
M68TB05V8B56	MOT	854	1+	150.12	...	...
M68TB05V8FN68	MOT	854	1+	150.12	...	...
M68TB08XL36B56	MOT	854	1+	100.08	...	...
M68TC05B32FU64	MOT	854	1+	250.20	...	...
M68TC05BS8FB44	MOT	854	1+	250.20	...	...
M68TC05CJ4PB44	MOT	854	1+	250.20	...	...
M68TC05E6P28	MOT	854	1+	100.08	...	...
M68TC05F4FB44	MOT	854	1+	250.20	...	...
M68TC05F4P28	MOT	854	1+	100.08	...	...
M68TC05F6FB44	MOT	854	1+	250.20	...	...
M68TC05F6FU64	MOT	854	1+	250.20	...	...
M68TC05L1FU64	MOT	854	1+	250.20	...	...
M68TC08XL36FU64	MOT	854	1+	250.20	...	...
M68TD11K4FN84	MOT	...	1+	166.68	5+	162.12
M68TE05CL4FU80	MOT	854	1+	300.24	...	...
M68TE05G11FU100	MOT	854	1+	300.24	...	...
M68TE05G4FU80	MOT	854	1+	300.24	...	...
M68TE05L16FU80	MOT	854	1+	300.24	...	...
M68TE08AZ0PU100	MOT	854	1+	300.24	...	...
M68TE08AZ32FU64	MOT	854	1+	250.20	...	...
M68TE11K4FU80	MOT	...	1+	333.36	5+	324.24
M68TQP044SAM01	MOT	854	1+	70.06	...	...
M68TQP064SAM01	MOT	854	1+	126.70	3+	120.62
M68TQP080SBM01	MOT	854	1+	126.70	3+	120.62
M68TQP100SD1	MOT	854	1+	150.12	...	...
M68TQP100SDMO1	MOT	854	1+	150.12	...	...
M68TQP144SD1	MOT	...	1+	150.12	...	...
M68TQS044SAG1	MOT	854	1+	50.04	...	...
M68TQS064SAG1	MOT	854	1+	65.06	...	...
M68TQS080SBG1	MOT	854	1+	65.06	...	...
M68TQS100SDG1	MOT	854	1+	95.08	...	...
M68TQS144SDG1	MOT	854	1+	120.10	...	...
MAC12N	MOT	874	1+	0.72	100+	0.57
MAC15-8	MOT	874	1+	3.06	100+	2.38
MAC15A10	MOT	874	1+	1.61	100+	1.25
MAC15A10FP	MOT	874	1+	1.78	25+	1.37
MAC15A6	MOT	874	1+	1.61	100+	1.25
MAC15A6FP	MOT	...	1+	1.83	100+	1.42
MAC15A8	MOT	...	1+	1.61	100+	1.25
MAC16M	MOT	...	1+	1.57	100+	1.22
MAC210A8	MOT	874	1+	1.64	100+	1.28
MAC210A8FP	MOT	...	1+	1.64	100+	1.28
MAC212A8FP	MOT	...	1+	1.64	100+	1.28
MAC218-4	MOT	...	1+	1.74	100+	1.66
MAC218-6	MOT	...	1+	1.78	100+	1.70
MAC218A10FP	MOT	...	1+	1.64	100+	1.28
MAC218A6FP	MOT	...	1+	2.98	100+	2.32
MAC223-6	MOT	...	1+	3.18	50+	3.02
MAC223-8	MOT	...	1+	2.31	25+	2.18
MAC223A-10	MOT	...	1+	1.74	25+	1.35
MAC223A10FP	MOT	874	1+	1.96	25+	1.51
MAC223A6	MOT	874	1+	1.74	25+	1.35
MAC223A6FP	MOT	...	1+	1.96	25+	1.51
MAC223A8	MOT	874	1+	1.74	25+	1.35
MAC223A8FP	MOT	...	1+	1.96	25+	1.51
MAC224-8	MOT	...	1+	4.02	50+	3.82
MAC224A10	MOT	874	1+	2.36	25+	1.82
MAC224A4	MOT	874	1+	2.36	25+	1.82
MAC224A6	MOT	874	1+	2.36	25+	1.82
MAC224A8	MOT	874	1+	2.36	25+	1.82
MAC228A10FP	MOT	...	1+	2.33	25+	2.20
MAC228A6	MOT	874	1+	1.27	100+	0.99
MAC228A8	MOT	874	1+	1.27	100+	0.99
MAC320A6FP	MOT	...	1+	2.84	25+	2.65
MAC320A8FP	MOT	...	1+	2.18	25+	1.68
MAC97-006	MOT	...	1+	0.73	100+	0.47
MAC97-4	MOT	...	1+	0.71	100+	0.67
MAC97A4	MOT	...	1+	0.42	100+	0.29
MAC97A6	MOT	...	1+	0.42	100+	0.29
MAC97A8	MOT	...	1+	0.42	100+	0.29
MAC9N	MOT	874	1+	1.20	100+	0.93
MACH111-10JC	AMD	912	1+	13.34	10+	11.33
MACH111-12JC	AMD	912	1+	10.26	25+	8.72
MACH111-15JC	AMD	912	1+	8.70	25+	7.39
MACH111-5JC	AMD	912	1+	13.43	26+	11.82
MACH111SP-5JC	AMD	912	1+	13.43	100+	11.82
MACH131SP-5YC	AMD	912	1+	34.22	66+	30.12
MACH210-12JC	AMD	...	1+	10.10	26+	8.88
MACH210-15JC	AMD	...	1+	8.67	26+	7.63
MACH211-10JC	AMD	912	1+	17.21	10+	14.63
MACH211-12JC	AMD	912	1+	13.85	10+	11.77
MACH211-15JC	AMD	912	1+	11.80	25+	10.03
MACH211-7JC	AMD	912	1+	13.16	26+	11.58
MACH211SP-7JC	AMD	912	1+	13.16	26+	11.58
MACH220-15JC	AMD	...	1+	27.39	...	...
MACH221-10JC	AMD	912	1+	46.16	10+	39.23
MACH221-12JC	AMD	912	1+	36.93	10+	31.38
MACH221-15JC	AMD	912	1+	30.77	10+	26.15
MACH221-7JC	AMD	912	1+	32.61	18+	28.69
MACH231-10JC/1	AMD	912	1+	57.85	10+	49.16
MACH231-12JC/1	AMD	912	1+	45.00	10+	38.25
MACH231-15JC/1	AMD	912	1+	36.41	10+	30.95
MACH231-6JC	AMD	912	1+	58.87	15+	51.81
MACH231-7JC	AMD	912	1+	76.92	10+	65.37
MACH231SP-10YC	AMD	912	1+	34.06	66+	29.97
MACH435-15JC	AMD	...	1+	39.24	15+	36.73
MAN3910A	QT	...	1+	1.37	25+	1.22
MAN4610A	QT	...	1+	1.25	25+	1.12
MAN4910A	QT	...	1+	1.14	25+	1.01
MAN6440	QT	587	1+	1.63	25+	1.47
MAN6610	QT	...	1+	1.63	25+	1.47
MAN6640	QT	...	1+	1.63	25+	1.47
MAN6680	QT	...	1+	1.25	25+	1.12
MAN6710	QT	587	1+	1.71	25+	1.52
MAN6730	QT	...	1+	1.66	25+	1.48
MAN6740	QT	...	1+	1.60	25+	1.42
MAN6760	QT	587	1+	1.00	25+	0.89
MAN6780	QT	...	1+	1.00	25+	0.89
MAN6910	QT	...	1+	1.55	25+	1.38
MAN6960	QT	587	1+	1.37	25+	1.22
MAN71A	QT	...	1+	1.03	25+	0.91
MAN72A	QT	...	1+	1.03	25+	0.91
MAN73A	QT	...	1+	1.60	25+	1.42
MAN74A	QT	...	1+	1.03	25+	0.91
MAN8910	QT	...	1+	1.82	25+	1.62
MAT01AH	ADI	...	1+	11.96	10+	10.87
MAT01GH	ADI	...	1+	7.27	10+	6.61
MAT02AH	ADI	...	1+	24.42	25+	18.11
MAT02EH	ADI	...	1+	14.95	10+	13.59
MAT02FH	ADI	...	1+	7.69	10+	6.99
MAT03AH	ADI	...	1+	29.61	25+	21.95
MAT03FH	ADI	...	1+	9.40	10+	8.54
MAT04AY	ADI	...	1+	34.07	25+	25.26
MAT04EY	ADI	...	1+	20.40	25+	15.12
MAT04FP	ADI	...	1+	5.81	10+	5.05
MAT04FS	ADI	...	1+	5.81	10+	5.05
MAX232D	TI	905	1+	1.54	25+	1.43
MAX232N	TI	905	1+	2.56	25+	2.38
MBD101	MOT	...	1+	0.74	100+	0.52
MBD110DWT1	MOT	...	1+	0.34	100+	0.24
MBD301	MOT	...	1+	0.50	100+	0.35
MBD701	MOT	...	1+	0.50	100+	0.35
MBR0520LT1	MOT	875	1+	0.44	100+	0.31
MBR0530T1	MOT	875	1+	0.44	100+	0.31
MBR0540T1	MOT	875	1+	0.43	100+	0.28
MBR10100	MOT	874	1+	1.63	25+	1.26
MBR1035	MOT	874	1+	1.31	100+	1.02
MBR1045	MOT	...	1+	1.12	100+	0.87
MBR1060	MOT	874	1+	1.12	100+	0.87
MBR1100	MOT	874	1+	0.53	100+	0.42
MBR150	MOT	874	1+	0.55	100+	0.38
MBR1535CT	MOT	874	1+	1.68	100+	1.31
MBR1545CT	MOT	874	1+	1.68	100+	1.31
MBR160	MOT	874	1+	0.50	100+	0.35
MBR1635	MOT	...	1+	1.68	100+	1.31
MBR1645	MOT	874	1+	1.68	100+	1.31
MBR20100CT	MOT	874	1+	2.82	25+	2.07
MBR20200CT	MOT	874	1+	3.17	25+	2.33
MBR2030CTL	MOT	874	1+	3.17	25+	2.33
MBR2035CT	GS	...	1+	2.56	100+	2.17
MBR2045CT	MOT	874	1+	1.63	25+	1.26
MBR2060CT	MOT	874	1+	2.36	25+	1.82
MBR2535CTL	MOT	874	1+	3.08	25+	2.38
MBR2545CT	MOT	874	1+	2.54	25+	1.96
MBR3045PT	MOT	...	1+	2.82	25+	2.07
MBR3045WT	MOT	874	1+	8.13	25+	7.72
MBR3100	MOT	874	1+	0.88	100+	0.59
MBR340	MOT	874	1+	0.66	100+	0.51
MBR360	MOT	874	1+	0.67	100+	0.53
MBR390	MOT	...	1+	1.01	100+	0.79
MBR4015LWT	MOT	874	1+	7.04	25+	5.18
MBR4045PT	MOT	874	1+	3.87	25+	2.85
MBR4045WT	MOT	874	1+	6.16	25+	4.53
MBR4060PT	IR	...	1+	4.41	25+	4.05
MBR5025L	MOT	874	1+	6.16	25+	4.53
MBR6045WT	MOT	874	1+	6.87	25+	5.05
MBR7030WT	MOT	...	1+	8.00	10+	6.80
MBR735	MOT	874	1+	1.27	100+	0.99
MBR745	MOT	874	1+	1.27	100+	0.99
MBRA130LT3	MOT	...	1+	0.57	100+	0.40
MBRB1545CT	MOT	875	1+	1.63	25+	1.26
MBRB20100CT	MOT	...	1+	3.00	25+	2.20
MBRB2060CT	MOT	875	1+	2.90	25+	2.24
MBRB2535CTL	MOT	875	1+	3.12	25+	2.41
MBRD320	MOT	875	1+	1.03	100+	0.80
MBRD330	MOT	875	1+	1.93	100+	1.83
MBRD350	MOT	875	1+	1.93	50+	1.83
MBRD360	MOT	875	1+	1.93	50+	1.83
MBRD640CT	MOT	875	1+	1.12	100+	0.87
MBRD650CT	MOT	...	1+	3.28	50+	3.12
MBRD660CT	MOT	875	1+	1.12	100+	0.87
MBRD835L	MOT	875	1+	1.12	100+	0.87
MBRF20100CT	MOT	874	1+	4.40	25+	3.24
MBRF2060CT	MOT	874	1+	3.52	25+	2.59
MBRF2545CT	MOT	874	1+	2.90	25+	2.24
MBRF745	MOT	874	1+	2.36	25+	1.82
MBRM120LT3	MOT	...	1+	0.58	100+	0.38
MBRM140T3	MOT	...	1+	0.58	100+	0.38
MBRP20030CTL	MOT	875	1+	43.16	5+	33.33
MBRP20045CT	MOT	...	1+	25.93	5+	23.73
MBRP20060CT	MOT	874	1+	43.16	5+	33.33
MBRP30045CT	MOT	...	1+	43.16	5+	33.33
MBRP30060CT	MOT	...	1+	43.16	5+	33.33
MBRS1100T3	MOT	875	1+	1.60	100+	1.26
MBRS120T3	MOT	875	1+	0.52	100+	0.41
MBRS130LT3	MOT	875	1+	0.55	100+	0.44
MBRS130T3	MOT	...	1+	0.52	100+	0.41
MBRS140T3	MOT	875	1+	0.52	100+	0.41
MBRS320T3	MOT	875	1+	0.71	100+	0.56
MBRS330T3	MOT	875	1+	0.71	100+	0.56
MBRS340T3	MOT	875	1+	0.71	100+	0.56
MBRS360T3	MOT	875	1+	0.69	100+	0.54
MBS4991	MOT	874	1+	0.50	100+	0.35
MBS4992	MOT	874	1+	0.61	100+	0.43
MBS4993	MOT	874	1+	0.55	100+	0.38
MC100E016FN	MOT	862	1+	33.91	5+	26.19
MC100E104FN	MOT	863	1+	29.81	10+	22.36
MC100E111FN	MOT	...	1+	33.91	5+	26.19
MC100E116FN	MOT	864	1+	29.81	10+	22.36
MC100E131FN	MOT	863	1+	33.91	5+	26.19
MC100E136FN	MOT	...	1+	43.16	5+	33.33
MC100E141FN	MOT	864	1+	33.91	5+	26.19
MC100E195FN	MOT	864	1+	43.16	5+	33.33
MC100E196FN	MOT	864	1+	43.16	5+	33.33
MC100E416FN	MOT	864	1+	27.74	5+	21.43
MC100EL01D	MOT	863	1+	11.96	10+	8.70
MC100EL04D	MOT	863	1+	11.96	10+	8.70
MC100EL05D	MOT	863	1+	11.96	10+	8.70
MC100EL07D	MOT	...	1+	11.96	10+	8.70
MC100EL11D	MOT	862	1+	11.96	10+	8.70
MC100EL14DW	MOT	...	1+	13.69	10+	12.14
MC100EL15D	MOT	862	1+	11.18	10+	9.50
MC100EL15DR2	MOT	862	1+	11.18	10+	9.50
MC100EL16D	MOT	864	1+	11.96	10+	8.70
MC100EL16DR2	MOT	...	1+	8.24	10+	7.00
MC100EL29DW	MOT	863	1+	13.69	10+	12.14
MC100EL30DW	MOT	...	1+	13.69	10+	12.14
MC100EL31D	MOT	...	1+	11.96	10+	8.70
MC100EL32D	MOT	862	1+	11.96	10+	8.70
MC100EL33D	MOT	862	1+	11.96	10+	8.70
MC100EL33DR2	MOT	...	1+	8.24	10+	7.00
MC100EL34D	MOT	...	1+	11.18	10+	9.50
MC100EL35D	MOT	863	1+	11.96	10+	8.70
MC100EL51D	MOT	...	1+	11.96	10+	8.70
MC100EL52D	MOT	863	1+	11.96	10+	8.70
MC100EL57D	MOT	...	1+	11.18	10+	9.50
MC100EL90DW	MOT	...	1+	13.69	10+	12.14
MC100ELT20D	MOT	861	1+	8.24	10+	7.00
MC100ELT21D	MOT	861	1+	11.55	10+	7.78
MC100ELT22D	MOT	861	1+	8.24	10+	7.00
MC100ELT22DR2	MOT	...	1+	8.24	10+	7.00
MC100ELT23D	MOT	861	1+	11.55	10+	7.78
MC100ELT24D	MOT	861	1+	8.24	10+	7.00
MC100ELT25D	MOT	861	1+	8.24	10+	7.00
MC100ELT28D	MOT	861	1+	8.24	10+	7.00
MC100H600FN	MOT	864	1+	27.33	10+	20.50
MC100LVE164FA	MOT	861	1+	33.04	5+	30.24
MC100LVE210FN	MOT	861	1+	24.32	5+	22.26
MC100LVE222FA	MOT	861	1+	23.15	5+	21.19
MC100LVE310FN	MOT	861	1+	24.32	5+	22.26
MC100LVEL11D	MOT	861	1+	7.29	10+	6.49
MC100LVEL14DW	MOT	861	1+	17.78	10+	15.88
MC100LVEL39DW	MOT	861	1+	17.78	10+	15.88
MC100LVEL56DW	MOT	861	1+	17.78	10+	15.88
MC100LVEL90DW	MOT	861	1+	17.78	10+	15.88
MC100LVEL91DW	MOT	861	1+	13.69	10+	12.14
MC100LVEL92DW	MOT	861	1+	13.69	10+	12.14
MC100LVELT22D	MOT	861	1+	8.24	10+	7.00
MC10101L	MOT	...	1+	2.77	100+	2.63
MC10101P	MOT	863	1+	1.29	100+	0.90
MC10102P	MOT	863	1+	1.29	100+	0.90
MC10104P	MOT	863	1+	1.29	100+	0.90
MC10105L	MOT	...	1+	3.90	100+	3.70
MC10105P	MOT	863	1+	1.29	100+	0.90
MC10114P	MOT	...	1+	1.29	100+	0.90
MC10115P	MOT	...	1+	1.29	25+	0.90
MC10116L	MOT	...	1+	2.06	25+	1.44
MC10116P	MOT	...	1+	1.29	100+	0.90
MC10124FN	MOT	...	1+	4.85	25+	3.30
MC10124L	MOT	...	1+	6.10	25+	4.15
MC10124P	MOT	864	1+	3.13	25+	2.13
MC10125FN	MOT	...	1+	4.85	25+	3.30
MC10125L	MOT	...	1+	6.10	25+	4.15
MC10125P	MOT	864	1+	3.13	25+	2.13
MC10131L	MOT	...	1+	6.88	25+	4.69
MC10131P	MOT	863	1+	4.07	25+	2.77
MC10135L	MOT	863	1+	7.75	25+	7.36
MC10136P	MOT	862	1+	19.10	10+	13.01
MC10158L	MOT	...	1+	8.56	25+	8.13

Manufacturer Abbreviations:

ADI: Analog Devices; **ALG:** Allegro; **ALT:** Altera; **AMD:** Advanced Micro Devices; **AND:** AND; **APD:** American Power Devices; **DAL:** Dallas Semiconductor; **ECG:** Philips ECG; **FGR:** Fagor; **GS:** General Semiconductor; **HP:** Hewlett Packard; **HRS:** Harris Semiconductor; **HWL:** Honeywell Opto; **INT:** Intronics; **IR:** International Rectifier; **MIC:** Micrel; **MOT:** Motorola; **NAT:** National Semiconductor; **OPT:** Optek; **PHL:** Phillips Semiconductors; **PWX:** Powerex; **QT:** QT Optoelectronics; **SKN:** Semikron; **SPC:** SPC Technology; **TI:** Texas Instruments; **TSK:** Thomson SK; **VAC:** EG&G Vactec; **VAN:** Vantis; **ZIL:** Zilog

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Type	Mfg.	Pg.	Qty.	$	Qty.	$
MC10192L	MOT	862	1+	11.95	25+	11.35
MC10192P	MOT	862	1+	7.63	25+	5.20
MC10198P	MOT	...	1+	30.00	10+	20.43
MC10216P	MOT	...	1+	2.46	25+	1.72
MC10231P	MOT	...	1+	8.52	10+	5.74
MC10E016FN	MOT	862	1+	33.91	5+	26.19
MC10E104FN	MOT	...	1+	29.81	10+	22.36
MC10E111FN	MOT	...	1+	33.91	5+	26.19
MC10E111FNR2	MOT	862	1+	20.38	5+	18.65
MC10E131FN	MOT	863	1+	33.91	5+	26.19
MC10E1651FN	MOT	862	1+	59.90	5+	48.80
MC10E1652FN	MOT	862	1+	59.90	5+	48.80
MC10E195FN	MOT	864	1+	43.16	5+	33.33
MC10E211FNR2	MOT	...	1+	20.38	5+	18.65
MC10EL01D	MOT	863	1+	11.96	10+	8.70
MC10EL05D	MOT	863	1+	11.96	10+	8.70
MC10EL07D	MOT	863	1+	11.96	10+	8.70
MC10EL11D	MOT	862	1+	11.96	10+	8.70
MC10EL15D	MOT	862	1+	11.18	10+	9.50
MC10EL16D	MOT	864	1+	11.96	10+	8.70
MC10EL31D	MOT	...	1+	11.96	10+	8.70
MC10EL32D	MOT	862	1+	11.96	10+	8.70
MC10EL33D	MOT	862	1+	11.96	10+	8.70
MC10EL34D	MOT	862	1+	11.18	10+	9.50
MC10EL35D	MOT	...	1+	8.24	10+	7.00
MC10EL57D	MOT	863	1+	11.18	10+	9.50
MC10EL89D	MOT	863	1+	11.96	10+	8.70
MC10ELT20D	MOT	861	1+	8.24	10+	7.00
MC10ELT21D	MOT	861	1+	8.24	10+	7.00
MC10ELT22D	MOT	861	1+	8.24	10+	7.00
MC10ELT24D	MOT	861	1+	8.24	10+	7.00
MC10ELT25D	MOT	861	1+	11.55	10+	7.78
MC10ELT28D	MOT	861	1+	8.24	10+	7.00
MC10H016P	MOT	...	1+	23.75	10+	16.18
MC10H101L	MOT	...	1+	3.06	50+	2.90
MC10H101P	MOT	863	1+	2.00	25+	1.40
MC10H102L	MOT	...	1+	4.30	50+	4.08
MC10H102P	MOT	863	1+	2.00	25+	1.40
MC10H103L	MOT	...	1+	3.06	50+	2.90
MC10H104L	MOT	...	1+	4.30	50+	4.08
MC10H109L	MOT	...	1+	4.30	50+	4.08
MC10H115L	MOT	...	1+	3.06	50+	2.90
MC10H115P	MOT	864	1+	2.00	25+	1.40
MC10H116D	MOT	...	1+	4.54	25+	3.09
MC10H116FN	MOT	...	1+	3.75	25+	2.56
MC10H116L	MOT	...	1+	4.29	25+	2.92
MC10H116P	MOT	864	1+	2.00	25+	1.40
MC10H124FN	MOT	...	1+	7.60	25+	5.18
MC10H124L	MOT	...	1+	9.90	10+	6.67
MC10H124P	MOT	864	1+	5.47	25+	3.73
MC10H125FN	MOT	...	1+	7.60	25+	5.18
MC10H125L	MOT	...	1+	9.90	10+	6.67
MC10H125P	MOT	864	1+	5.47	25+	3.73
MC10H131L	MOT	...	1+	8.82	10+	5.94
MC10H131P	MOT	863	1+	4.75	25+	3.24
MC10H136L	MOT	862	1+	36.20	5+	25.34
MC10H136P	MOT	...	1+	24.38	10+	16.60
MC10H174P	MOT	...	1+	5.19	25+	3.54
MC10H176L	MOT	...	1+	8.75	25+	8.31
MC10H350FN	MOT	864	1+	26.29	10+	17.90
MC10H350L	MOT	...	1+	29.00	5+	20.30
MC10H350P	MOT	864	1+	18.88	10+	12.86
MC10H351FN	MOT	864	1+	26.29	10+	17.90
MC10H351L	MOT	864	1+	27.74	10+	26.36
MC10H351P	MOT	864	1+	18.88	10+	12.86
MC10H601FN	MOT	...	1+	20.14	10+	15.11
MC10SX1125D	MOT	...	1+	35.86	5+	32.21
MC10SX1189D	MOT	...	1+	20.17	10+	15.13
MC12002P	MOT	...	1+	10.37	10+	6.98
MC12011P	MOT	...	1+	15.37	10+	11.18
MC12013P	MOT	...	1+	15.37	10+	11.18
MC12015P	MOT	...	1+	8.75	10+	5.89
MC12016P	MOT	...	1+	9.08	10+	6.11
MC12017P	MOT	...	1+	11.32	10+	7.63
MC12019P	MOT	864	1+	10.73	10+	7.23
MC12022AD	MOT	...	1+	11.30	25+	8.31
MC12022AP	MOT	...	1+	11.30	25+	8.31
MC12022LVAD	MOT	...	1+	12.61	10+	9.17
MC12026AD	MOT	...	1+	12.48	10+	8.40
MC12028AD	MOT	...	1+	11.06	10+	7.45
MC12028AP	MOT	...	1+	11.06	10+	7.45
MC12032AD	MOT	...	1+	14.52	10+	9.78
MC12032AP	MOT	...	1+	10.39	10+	9.74
MC12040L	MOT	...	1+	28.75	10+	19.58
MC12040P	MOT	862	1+	10.94	10+	7.45
MC12061P	MOT	...	1+	8.25	10+	5.56
MC12075D	MOT	...	1+	3.09	10+	2.63
MC12080D	MOT	...	1+	13.20	10+	8.89
MC12080P	MOT	...	1+	13.20	10+	8.89
MC12083D	MOT	...	1+	12.18	10+	8.20
MC12090L	MOT	...	1+	14.85	10+	14.10
MC12093D	MOT	864	1+	7.29	10+	6.37
MC12148D	MOT	864	1+	7.72	25+	5.26
MC12179D	MOT	864	1+	6.34	25+	5.53
MC13022ADWR3	MOT	...	1+	8.61	10+	6.26
MC13028AD	MOT	...	1+	6.80	25+	5.00
MC13030DW	MOT	...	1+	9.36	25+	6.89
MC13055P	MOT	...	1+	6.04	25+	4.11
MC13060D	MOT	...	1+	1.66	25+	1.57
MC13081XB	MOT	...	1+	7.50	10+	6.55
MC13109FB	MOT	872	1+	14.37	10+	12.74
MC13110FB	MOT	872	1+	14.05	10+	12.46
MC13111FB	MOT	872	1+	11.65	10+	9.90
MC13135P	MOT	...	1+	6.10	25+	4.15
MC13142D	MOT	872	1+	3.77	25+	3.20
MC13143D	MOT	872	1+	1.61	25+	1.37
MC13144D	MOT	872	1+	1.56	25+	1.40
MC13145FTA	MOT	872	1+	6.47	10+	5.50
MC13146FTA	MOT	872	1+	3.42	25+	2.90
MC13155D	MOT	...	1+	7.44	25+	5.07
MC13156DW	MOT	...	1+	9.21	10+	6.20
MC13158FTB	MOT	872	1+	6.71	10+	5.70
MC13175D	MOT	...	1+	6.57	25+	4.47
MC13176D	MOT	...	1+	6.25	25+	4.26
MC1350D	MOT	866	1+	2.29	25+	1.60
MC1350P	MOT	866	1+	2.29	25+	1.60
MC1374P	MOT	...	1+	3.19	25+	2.17
MC1377DWR2	MOT	...	1+	4.22	25+	3.60
MC1378P	MOT	...	1+	22.79	10+	15.52
MC1391P	MOT	...	1+	1.42	100+	1.11
MC14001BCL	MOT	...	1+	2.29	25+	1.76
MC14001BCP	MOT	...	1+	0.50	100+	0.35
MC14001BD	MOT	863	1+	0.47	100+	0.33
MC14001UBCP	MOT	...	1+	0.52	100+	0.37
MC14002BCP	MOT	...	1+	0.52	100+	0.37
MC14002BD	MOT	...	1+	0.90	100+	0.45
MC14006BCP	MOT	...	1+	0.73	100+	0.58
MC14007UBCP	MOT	...	1+	0.52	100+	0.37
MC14008BCP	MOT	...	1+	0.50	100+	0.39
MC14011BCL	MOT	...	1+	2.29	25+	1.76
MC14011BCP	MOT	...	1+	0.50	100+	0.35
MC14011BD	MOT	863	1+	0.47	100+	0.33
MC14011UBCP	MOT	...	1+	0.59	100+	0.53
MC14012BCL	MOT	...	1+	2.32	100+	2.21
MC14012BCP	MOT	...	1+	0.59	100+	0.53
MC14013BCL	MOT	...	1+	2.36	25+	1.82
MC14013BCP	MOT	...	1+	0.50	100+	0.35
MC14013BD	MOT	...	1+	0.47	100+	0.33
MC14015BCL	MOT	...	1+	4.68	25+	3.45
MC14015BCP	MOT	...	1+	0.67	100+	0.53
MC14015BD	MOT	...	1+	0.63	100+	0.50
MC14016BCL	MOT	...	1+	2.36	100+	2.25
MC14016BCP	MOT	...	1+	0.55	100+	0.38
MC14016BD	MOT	863	1+	0.50	100+	0.35
MC14017BCL	MOT	...	1+	4.68	25+	3.45
MC14017BCP	MOT	...	1+	0.67	100+	0.53
MC14017BD	MOT	862	1+	0.63	100+	0.50
MC14018BCP	MOT	...	1+	0.69	100+	0.54
MC14020BCL	MOT	...	1+	3.98	25+	2.93
MC14020BCP	MOT	...	1+	0.75	100+	0.59
MC14020BD	MOT	862	1+	0.71	100+	0.56
MC14021BCL	MOT	...	1+	3.52	25+	2.59
MC14021BCP	MOT	...	1+	0.67	100+	0.53
MC14022BCP	MOT	...	1+	0.75	100+	0.59
MC14023BCL	MOT	...	1+	2.29	25+	1.76
MC14023BCP	MOT	...	1+	0.52	100+	0.37
MC14023BD	MOT	863	1+	0.47	100+	0.33
MC14024BCL	MOT	...	1+	3.19	25+	2.46
MC14024BCP	MOT	...	1+	0.67	100+	0.53
MC14024BD	MOT	862	1+	0.63	100+	0.50
MC14025BCL	MOT	...	1+	1.63	100+	1.43
MC14025BCP	MOT	...	1+	0.52	100+	0.37
MC14025BD	MOT	...	1+	0.31	100+	0.25
MC14027BCL	MOT	...	1+	3.12	25+	2.41
MC14027BCP	MOT	...	1+	0.52	100+	0.41
MC14027BD	MOT	...	1+	0.50	100+	0.39
MC14028BCP	MOT	...	1+	0.75	100+	0.59
MC14029BCP	MOT	...	1+	0.73	100+	0.57
MC14035BCP	MOT	...	1+	1.00	100+	0.78
MC1403P1	MOT	...	1+	1.27	25+	1.13
MC14040BCL	MOT	...	1+	3.87	25+	2.85
MC14040BCP	MOT	...	1+	0.67	100+	0.53
MC14040BD	MOT	862	1+	0.63	100+	0.50
MC14042BCP	MOT	...	1+	0.63	100+	0.50
MC14042BD	MOT	...	1+	0.52	100+	0.42
MC14043BCP	MOT	...	1+	0.63	100+	0.50
MC14043BD	MOT	863	1+	0.59	100+	0.47
MC14044BCP	MOT	...	1+	0.99	100+	0.80
MC14044BD	MOT	...	1+	0.47	100+	0.41
MC14046BCL	MOT	...	1+	4.40	25+	3.24
MC14046BCP	MOT	...	1+	0.73	100+	0.58
MC14046BDW	MOT	864	1+	0.71	100+	0.56
MC14049BCP	MOT	...	1+	0.68	100+	0.47
MC14049BD	MOT	863	1+	0.63	100+	0.44
MC14049UBCL	MOT	...	1+	2.94	25+	2.27
MC14049UBCP	MOT	...	1+	0.65	100+	0.46
MC14049UBD	MOT	...	1+	0.63	100+	0.44
MC1404P5	MOT	...	1+	1.27	100+	1.13
MC14050BCL	MOT	...	1+	2.79	25+	2.16
MC14050BCP	MOT	...	1+	0.48	100+	0.38
MC14050BD	MOT	...	1+	0.44	100+	0.34
MC14051BCL	MOT	...	1+	3.19	25+	2.46
MC14051BCP	MOT	...	1+	0.59	100+	0.47
MC14051BD	MOT	863	1+	0.55	100+	0.44
MC14051BDT	MOT	...	1+	0.70	100+	0.46
MC14052BCL	MOT	...	1+	3.81	25+	2.94
MC14052BCP	MOT	...	1+	0.84	100+	0.68
MC14052BD	MOT	863	1+	0.55	100+	0.44
MC14053BCL	MOT	...	1+	3.63	25+	2.80
MC14053BCP	MOT	...	1+	0.63	100+	0.50
MC14053BD	MOT	863	1+	0.59	100+	0.47
MC14060BCL	MOT	...	1+	4.68	25+	3.45
MC14060BCP	MOT	...	1+	0.67	100+	0.53
MC14060BD	MOT	862	1+	0.63	100+	0.50
MC14066BCL	MOT	...	1+	2.32	25+	1.79
MC14066BCP	MOT	...	1+	0.63	100+	0.44
MC14066BD	MOT	863	1+	0.57	100+	0.40
MC14067BCP	MOT	...	1+	2.00	25+	1.54
MC14068BCP	MOT	...	1+	0.45	100+	0.29
MC14068BD	MOT	...	1+	0.75	100+	0.38
MC14069UBCL	MOT	...	1+	2.29	25+	1.76
MC14069UBCP	MOT	...	1+	0.52	100+	0.37
MC14069UBD	MOT	863	1+	0.47	100+	0.33
MC14069UBDT	MOT	...	1+	0.45	100+	0.29
MC14070BCL	MOT	...	1+	2.29	25+	1.76
MC14070BCP	MOT	...	1+	0.52	100+	0.37
MC14070BD	MOT	863	1+	0.47	100+	0.33
MC14071BCL	MOT	...	1+	2.29	25+	1.76
MC14071BCP	MOT	...	1+	0.52	100+	0.37
MC14071BD	MOT	863	1+	0.47	100+	0.33
MC14072BCP	MOT	...	1+	0.52	100+	0.37
MC14073BCL	MOT	...	1+	2.29	100+	2.18
MC14073BCP	MOT	...	1+	0.52	100+	0.37
MC14075BCL	MOT	...	1+	1.66	100+	1.58
MC14075BCP	MOT	...	1+	0.52	100+	0.37
MC14075BD	MOT	...	1+	0.75	100+	0.38
MC14076BCP	MOT	...	1+	0.83	100+	0.66
MC14077BCP	MOT	...	1+	0.52	100+	0.37
MC14077BD	MOT	863	1+	0.75	100+	0.38
MC14078BCP	MOT	...	1+	0.59	100+	0.53
MC1408-8N	PHL	...	1+	2.27	25+	1.59
MC14081BCL	MOT	...	1+	2.29	25+	1.76
MC14081BCP	MOT	...	1+	0.50	100+	0.35
MC14081BD	MOT	863	1+	0.47	100+	0.33
MC14082BCL	MOT	...	1+	2.29	100+	2.18
MC14082BCP	MOT	...	1+	0.59	100+	0.53
MC14093BCL	MOT	...	1+	2.29	25+	1.76
MC14093BCP	MOT	...	1+	0.55	100+	0.39
MC14093BD	MOT	...	1+	0.52	100+	0.37
MC14094BCL	MOT	...	1+	3.26	50+	3.10
MC14094BCP	MOT	...	1+	0.58	100+	0.38
MC14094BD	MOT	864	1+	0.63	100+	0.50
MC14099BCP	MOT	...	1+	1.03	100+	0.93
MC14106BCP	MOT	...	1+	0.63	100+	0.50
MC14106BD	MOT	...	1+	0.59	100+	0.47
MC1413BP	MOT	...	1+	0.96	100+	0.75
MC141541P	MOT	...	1+	4.36	25+	3.70
MC1416BD	MOT	...	1+	0.96	100+	0.75
MC1416BP	MOT	...	1+	0.94	100+	0.73
MC1416P	MOT	...	1+	0.87	100+	0.69
MC14174BCL	MOT	...	1+	4.23	25+	3.11
MC14174BCP	MOT	...	1+	0.90	100+	0.73
MC14175BCL	MOT	...	1+	3.14	50+	2.98
MC14175BCP	MOT	...	1+	0.71	100+	0.56
MC143120E2DW	MOT	858	1+	15.32	10+	13.68
MC143120E2FB	MOT	858	1+	15.32	10+	13.68
MC143150B1FU1	MOT	858	1+	11.26	10+	10.06
MC143150B2FU	MOT	858	1+	11.26	10+	10.06
MC143450RDK	MOT	858	1+	431.24	5+	420.07
MC1436CP1	MOT	...	1+	1.20	100+	0.93
MC1436D	MOT	...	1+	1.91	100+	1.81
MC1436P1	MOT	866	1+	1.20	100+	0.93
MC144110DW	MOT	867	1+	17.25	25+	12.68
MC144111P	MOT	...	1+	6.23	25+	4.58
MC14467P1	MOT	877	1+	2.18	25+	1.68
MC14469P	MOT	...	1+	10.25	10+	7.46
MC14489P	MOT	...	1+	3.35	25+	2.46
MC14490DW	MOT	862	1+	8.80	25+	6.47
MC14490P	MOT	862	1+	8.51	25+	6.25
MC14495P1	MOT	867	1+	3.16	25+	2.44
MC14500BCP	MOT	...	1+	12.25	10+	8.25
MC145010DWR2	MOT	877	1+	2.95	25+	2.50
MC145012DW	MOT	877	1+	2.83	25+	2.40
MC145012DWR2	MOT	877	1+	2.83	25+	2.40
MC145012P	MOT	877	1+	2.83	25+	2.40
MC145017P	MOT	877	1+	1.47	25+	1.31
MC145018P	MOT	877	1+	1.47	25+	1.31
MC145026D	MOT	...	1+	2.61	100+	2.03
MC145026P	MOT	...	1+	2.61	100+	2.03
MC145027DW	MOT	...	1+	3.63	25+	2.80
MC145027P	MOT	...	1+	3.63	25+	2.80
MC145028P	MOT	...	1+	3.63	25+	2.80
MC14502BCP	MOT	...	1+	0.87	100+	0.69
MC14503BCP	MOT	...	1+	0.63	100+	0.50
MC14503BD	MOT	862	1+	0.59	100+	0.47
MC145041P	MOT	...	1+	6.34	25+	4.89
MC14504BCL	MOT	...	1+	4.44	25+	3.26
MC14504BCP	MOT	...	1+	1.12	100+	0.87
MC14504BD	MOT	...	1+	2.00	25+	1.40
MC145050P	MOT	...	1+	5.35	25+	3.94
MC145051DW	MOT	867	1+	5.35	25+	3.94
MC145051P	MOT	867	1+	5.35	25+	3.94
MC145053P	MOT	867	1+	5.07	25+	3.73
MC14508BCP	MOT	...	1+	2.32	25+	1.79

NEW TYPES ARE BEING CONTINUALLY ADDED TO INVENTORY.

CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR AVAILABILITY.

Type	Mfg.	Pg.	Qty.	$	Qty.	$
MC145106P	MOT	...	1+	5.11	25+	3.76
MC14510BCP	MOT	...	1+	1.04	100+	0.81
MC14511BCL	MOT	...	1+	3.30	50+	3.13
MC14511BCP	MOT	...	1+	0.79	100+	0.62
MC14512BCL	MOT	...	1+	3.17	50+	3.01
MC14512BCP	MOT	...	1+	0.75	100+	0.59
MC14513BCP	MOT	...	1+	3.82	25+	2.60
MC145146P2	MOT	...	1+	7.02	10+	6.58
MC14514BCP	MOT	...	1+	1.85	25+	1.43
MC145151DW2	MOT	...	1+	10.56	25+	7.77
MC145151P2	MOT	...	1+	10.56	25+	7.77
MC145152DW2	MOT	...	1+	10.72	25+	7.88
MC145152P2	MOT	...	1+	13.73	25+	10.10
MC145155P2	MOT	...	1+	7.39	25+	5.44
MC145156DW2	MOT	...	1+	8.27	25+	6.08
MC145156P2	MOT	...	1+	8.27	25+	6.08
MC145157P2	MOT	...	1+	8.45	25+	6.21
MC145158DW2	MOT	...	1+	8.45	25+	6.21
MC145158P2	MOT	...	1+	8.45	25+	6.21
MC145159P1	MOT	...	1+	8.53	10+	7.99
MC14515BCP	MOT	...	1+	1.74	25+	1.35
MC145162D1	MOT	...	1+	3.30	25+	2.80
MC145162P	MOT	...	1+	4.93	25+	3.63
MC14516BCL	MOT	...	1+	4.58	25+	3.37
MC14516BCP	MOT	...	1+	0.87	100+	0.69
MC145170D1	MOT	...	1+	4.00	25+	3.40
MC145170DT1	MOT	...	1+	4.02	25+	3.41
MC14518BCL	MOT	...	1+	4.68	25+	3.45
MC14518BCP	MOT	...	1+	0.73	100+	0.57
MC14518BDW	MOT	...	1+	0.77	100+	0.71
MC145190F	MOT	...	1+	7.82	25+	5.32
MC145191F	MOT	...	1+	8.79	25+	5.98
MC14519BCP	MOT	...	1+	0.67	100+	0.53
MC145200DT	MOT	...	1+	8.04	10+	7.02
MC145200F	MOT	...	1+	12.74	10+	8.58
MC145201DT	MOT	...	1+	8.23	10+	7.19
MC145201F	MOT	...	1+	13.04	10+	8.78
MC145202DT	MOT	...	1+	8.44	10+	7.37
MC145202F	MOT	...	1+	8.44	10+	7.37
MC14520BCL	MOT	...	1+	4.75	25+	3.50
MC14520BCP	MOT	...	1+	0.75	100+	0.59
MC14521BCL	MOT	...	1+	3.51	50+	3.34
MC14521BCP	MOT	...	1+	1.11	100+	0.87
MC14522BCP	MOT	...	1+	1.04	100+	0.81
MC145230FTA	MOT	873	1+	10.00	10+	8.50
MC14526BCL	MOT	...	1+	3.45	50+	3.28
MC14526BCP	MOT	...	1+	1.04	100+	0.81
MC14527BCP	MOT	...	1+	1.19	100+	0.93
MC14528BCL	MOT	...	1+	3.77	25+	2.91
MC14528BCP	MOT	...	1+	0.71	100+	0.56
MC14529BCP	MOT	...	1+	1.42	100+	1.11
MC14531BCP	MOT	...	1+	0.94	100+	0.82
MC14532BCL	MOT	...	1+	2.86	50+	2.72
MC14532BCP	MOT	...	1+	0.88	100+	0.69
MC14536BCL	MOT	...	1+	5.46	25+	4.01
MC14536BCP	MOT	...	1+	1.16	100+	0.90
MC14536BDW	MOT	864	1+	1.12	100+	0.87
MC14538BCL	MOT	...	1+	3.39	25+	2.62
MC14538BCP	MOT	864	1+	0.84	100+	0.66
MC14538BD	MOT	864	1+	0.83	100+	0.66
MC14538BDW	MOT	...	1+	0.81	100+	0.63
MC14539BCP	MOT	...	1+	0.86	100+	0.69
MC145406DW	MOT	858	1+	3.08	25+	2.38
MC145406P	MOT	858	1+	3.08	25+	2.38
MC145406SD	MOT	...	1+	2.30	25+	2.05
MC145407DW	MOT	858	1+	5.46	25+	4.01
MC145407P	MOT	858	1+	5.46	25+	4.01
MC145411P	MOT	...	1+	4.93	25+	4.62
MC14541BCL	MOT	...	1+	2.51	100+	2.38
MC14541BCP	MOT	...	1+	0.55	100+	0.44
MC14541BD	MOT	...	1+	0.52	100+	0.41
MC145429P	MOT	...	1+	6.19	100+	5.33
MC14543BCP	MOT	...	1+	0.88	100+	0.69
MC14543BD	MOT	...	1+	0.85	100+	0.66
MC145442P	MOT	...	1+	9.96	25+	7.33
MC145443P	MOT	...	1+	9.96	25+	7.33
MC145453P	MOT	...	1+	6.51	25+	4.79
MC145481DW	MOT	858	1+	6.26	25+	4.60
MC145481SD	MOT	858	1+	4.52	25+	3.84
MC145483DW	MOT	858	1+	5.86	10+	5.11
MC145483SD	MOT	858	1+	6.15	10+	5.37
MC145484DW	MOT	858	1+	5.59	25+	4.88
MC145484SD	MOT	858	1+	6.15	10+	5.37
MC145503P	MOT	858	1+	13.19	10+	9.59
MC14551BCP	MOT	...	1+	2.80	25+	1.96
MC14551BD	MOT	863	1+	2.80	25+	1.96
MC14553BCP	MOT	...	1+	9.40	25+	6.91
MC14555BCP	MOT	...	1+	0.92	100+	0.72
MC14556BCP	MOT	...	1+	0.75	100+	0.59
MC145572EVK	MOT	858	1+	900.72	...	...
MC145572FN	MOT	858	1+	37.56	5+	33.73
MC145572PB	MOT	858	1+	28.89	5+	25.95
MC145574DW	MOT	858	1+	11.58	10+	10.34
MC145574PB	MOT	858	1+	13.26	10+	9.64
MC14557BCL	MOT	...	1+	5.43	50+	5.16
MC14557BCP	MOT	...	1+	2.47	25+	1.90
MC14558BCP	MOT	...	1+	2.87	25+	2.71
MC1455BD	MOT	...	1+	0.71	100+	0.56

Type	Mfg.	Pg.	Qty.	$	Qty.	$
MC1455BP1	MOT	...	1+	0.71	100+	0.56
MC1455P1	MOT	...	1+	0.65	100+	0.46
MC14562BCP	MOT	...	1+	11.32	10+	7.63
MC14566BCP	MOT	...	1+	1.61	100+	1.25
MC14569BCP	MOT	...	1+	4.07	25+	2.77
MC14572UBCP	MOT	...	1+	0.95	100+	0.66
MC14573DR2	MOT	866	1+	1.96	25+	1.74
MC14573P	MOT	...	1+	2.90	25+	2.24
MC145740F	MOT	...	1+	10.59	10+	9.00
MC14574P	MOT	...	1+	2.90	25+	2.24
MC145750VFU	MOT	...	1+	11.18	10+	9.91
MC14575P	MOT	...	1+	2.90	25+	2.24
MC14576CP	MOT	...	1+	2.50	25+	1.93
MC14584BCL	MOT	...	1+	2.32	25+	1.79
MC14584BCP	MOT	...	1+	0.75	100+	0.53
MC14584BD	MOT	...	1+	0.55	100+	0.44
MC14585BCP	MOT	...	1+	1.09	100+	0.76
MC1458CP1	MOT	866	1+	0.55	100+	0.44
MC1458D	MOT	...	1+	0.55	100+	0.44
MC1458P	TI	...	1+	0.60	100+	0.49
MC1458P1	MOT	...	1+	0.55	100+	0.44
MC146823CP	MOT	...	1+	19.74	10+	17.63
MC1488N	TI	905	1+	0.54	100+	0.44
MC1488P	MOT	867	1+	0.70	100+	0.49
MC1489AD	MOT	...	1+	0.55	100+	0.44
MC1489AN	TI	905	1+	0.54	100+	0.44
MC1489AP	MOT	867	1+	0.55	100+	0.44
MC1489D	MOT	...	1+	0.55	100+	0.44
MC1489N	TI	905	1+	0.54	100+	0.44
MC1489P	MOT	867	1+	0.55	100+	0.44
MC1490P	MOT	866	1+	3.54	25+	2.41
MC1495D	MOT	...	1+	4.95	25+	4.64
MC1496BP	MOT	...	1+	0.98	25+	0.84
MC1496P	MOT	...	1+	1.08	100+	0.84
MC14C88BD	MOT	867	1+	1.49	100+	1.16
MC14C88BP	MOT	867	1+	1.49	100+	1.16
MC14LC5447DW	MOT	858	1+	3.32	25+	2.82
MC14LC5447P	MOT	858	1+	3.32	25+	2.82
MC14LC5472FE	MOT	...	1+	85.45	5+	75.45
MC14LC5480DW	MOT	858	1+	5.59	25+	4.88
MC14LC5480P	MOT	858	1+	5.59	25+	4.88
MC14LC5480SD	MOT	858	1+	6.15	25+	5.37
MC14LC5540DW	MOT	858	1+	12.76	10+	11.40
MC14LC5540FU	MOT	858	1+	14.68	10+	13.11
MC14LC5540P	MOT	858	1+	12.76	10+	11.40
MC1558N	PHL	...	1+	2.53	25+	1.64
MC1648D	MOT	...	1+	6.97	25+	5.13
MC1648L	MOT	...	1+	10.69	10+	7.78
MC1648P	MOT	864	1+	6.69	25+	4.92
MC1650L	MOT	862	1+	35.57	5+	27.47
MC1651L	MOT	862	1+	34.49	5+	26.64
MC1658P	MOT	864	1+	8.70	25+	6.40
MC1670L	MOT	863	1+	20.94	10+	15.70
MC1723CD	MOT	...	1+	0.71	100+	0.56
MC1723CP	MOT	...	1+	0.71	100+	0.56
MC1741CP1	MOT	866	1+	0.58	100+	0.47
MC1776CP1	MOT	866	1+	0.91	100+	0.72
MC26LS31D	MOT	...	1+	1.16	100+	1.02
MC26LS32D	MOT	...	1+	1.16	100+	1.02
MC2833D	MOT	...	1+	1.20	100+	0.84
MC2833DR2	MOT	...	1+	1.03	100+	0.88
MC2833P	MOT	...	1+	1.20	100+	0.84
MC33023DWR2	MOT	...	1+	5.28	25+	3.89
MC33023P	MOT	...	1+	5.28	25+	3.89
MC33025DW	MOT	...	1+	6.95	10+	6.51
MC3302DR2	MOT	...	1+	0.72	100+	0.47
MC3302N	PHL	...	1+	0.89	25+	0.58
MC3302P	MOT	...	1+	0.79	100+	0.62
MC33030P	MOT	...	1+	8.62	10+	5.80
MC33033DW	MOT	...	1+	4.94	25+	3.37
MC33033P	MOT	867	1+	4.69	25+	3.20
MC33035DW	MOT	...	1+	5.82	25+	3.96
MC33035P	MOT	...	1+	5.00	25+	3.41
MC33039D	MOT	...	1+	2.03	25+	1.42
MC33039P	MOT	...	1+	2.03	25+	1.42
MC3303D	MOT	866	1+	0.79	100+	0.62
MC3303P	MOT	866	1+	0.79	100+	0.62
MC33060AP	MOT	...	1+	3.25	25+	2.22
MC33063AD	MOT	...	1+	1.82	25+	1.40
MC33063AP1	MOT	...	1+	1.82	25+	1.40
MC33063AVD	MOT	...	1+	1.76	25+	1.30
MC33064D-5	MOT	...	1+	1.69	25+	1.58
MC33064P-5	MOT	865	1+	1.64	25+	1.53
MC33065P	MOT	...	1+	4.69	25+	3.20
MC33071AD	MOT	866	1+	1.57	100+	1.22
MC33071AP	MOT	866	1+	1.57	100+	1.22
MC33071P	MOT	866	1+	1.57	100+	1.22
MC33072AD	MOT	866	1+	1.72	100+	1.34
MC33072AP	MOT	866	1+	1.72	100+	1.34
MC33072P	MOT	866	1+	1.49	100+	1.16
MC33074AP	MOT	866	1+	2.18	25+	1.68
MC33074D	MOT	866	1+	1.79	100+	1.40
MC33074P	MOT	866	1+	1.74	25+	1.35
MC33076P1	MOT	866	1+	1.60	25+	1.23
MC33076P2	MOT	...	1+	1.60	25+	1.23
MC33077P	MOT	866	1+	1.89	25+	1.46
MC33078D	MOT	866	1+	1.08	100+	0.84
MC33078P	MOT	...	1+	1.08	100+	0.84

Type	Mfg.	Pg.	Qty.	$	Qty.	$
MC33079P	MOT	...	1+	1.38	25+	1.07
MC33091AP	MOT	...	1+	2.00	25+	1.79
MC33093DW	MOT	...	1+	5.42	10+	4.82
MC33094DW	MOT	...	1+	5.42	10+	4.82
MC33095D	MOT	...	1+	8.88	10+	6.46
MC33121P	MOT	857	1+	19.60	10+	13.35
MC33143DWR2	MOT	...	1+	13.39	10+	9.74
MC33151D	MOT	...	1+	1.89	25+	1.46
MC33151P	MOT	...	1+	1.89	25+	1.46
MC33151VD	MOT	...	1+	1.89	25+	1.46
MC33152D	MOT	...	1+	2.00	25+	1.54
MC33152P	MOT	...	1+	2.00	25+	1.54
MC33153D	MOT	...	1+	1.35	25+	1.20
MC33153P	MOT	867	1+	1.35	25+	1.20
MC33154P	MOT	...	1+	1.96	25+	1.74
MC33161D	MOT	...	1+	2.00	25+	1.40
MC33161P	MOT	...	1+	1.31	100+	1.02
MC33164D-005	MOT	...	1+	0.94	100+	0.74
MC33166T	MOT	...	1+	3.24	25+	2.38
MC33166TV	MOT	...	1+	4.11	25+	3.49
MC33169DTB-004	MOT	...	1+	1.53	25+	1.30
MC33171D	MOT	866	1+	1.20	100+	0.93
MC33171P	MOT	866	1+	1.20	100+	0.93
MC33172D	MOT	...	1+	1.27	100+	0.99
MC33172P	MOT	866	1+	1.27	100+	0.99
MC33174D	MOT	866	1+	1.60	25+	1.23
MC33174P	MOT	866	1+	1.60	25+	1.23
MC33178D	MOT	866	1+	1.15	100+	0.90
MC33178P	MOT	866	1+	1.15	100+	0.90
MC33179D	MOT	866	1+	1.63	25+	1.26
MC33182D	MOT	866	1+	1.68	100+	1.31
MC33182P	MOT	...	1+	1.68	100+	1.31
MC33184D	MOT	866	1+	2.00	25+	1.54
MC33184P	MOT	866	1+	2.00	25+	1.54
MC33199DR2	MOT	...	1+	3.19	25+	2.46
MC33201P	MOT	...	1+	1.68	100+	1.31
MC33202P	MOT	...	1+	1.67	25+	1.29
MC33202VD	MOT	...	1+	2.36	25+	1.82
MC33202VP	MOT	...	1+	3.08	25+	2.38
MC33204D	MOT	866	1+	2.32	25+	1.79
MC33204DTB	MOT	...	1+	2.26	25+	1.66
MC33204P	MOT	866	1+	2.32	25+	1.79
MC33204VD	MOT	...	1+	2.26	25+	1.66
MC33204VP	MOT	...	1+	2.26	25+	1.66
MC33206P	MOT	...	1+	1.59	25+	1.42
MC33218ADWR2	MOT	...	1+	9.70	10+	7.06
MC33219ADWR2	MOT	...	1+	8.27	25+	6.08
MC33264D-2.8	MOT	...	1+	1.60	25+	1.23
MC33264D-3.3	MOT	865	1+	1.08	100+	0.92
MC33264D-3.8	MOT	...	1+	1.60	25+	1.23
MC33264D-4.0	MOT	...	1+	1.60	25+	1.23
MC33264D-4.75	MOT	...	1+	1.60	25+	1.23
MC33264D-5.0	MOT	865	1+	1.08	100+	0.92
MC33267T	MOT	...	1+	3.85	25+	2.62
MC33269D-3.3	MOT	...	1+	1.82	25+	1.40
MC33269D-5.0	MOT	...	1+	1.82	25+	1.40
MC33269DT-3.3	MOT	...	1+	1.27	25+	1.13
MC33272AD	MOT	866	1+	1.89	25+	1.46
MC33272AP	MOT	866	1+	1.89	25+	1.46
MC33274AD	MOT	866	1+	2.90	25+	2.24
MC33274AP	MOT	866	1+	2.90	25+	2.24
MC33282D	MOT	866	1+	1.74	25+	1.35
MC33282P	MOT	866	1+	1.74	25+	1.35
MC33284D	MOT	866	1+	2.83	25+	2.18
MC33298DW	MOT	...	1+	10.55	10+	7.10
MC33298P	MOT	867	1+	10.99	10+	7.40
MC33304D	MOT	...	1+	2.61	25+	2.23
MC33340D	MOT	865	1+	2.90	25+	2.24
MC33340P	MOT	865	1+	5.07	25+	3.73
MC33341D	MOT	865	1+	1.22	25+	1.04
MC33341P	MOT	865	1+	1.22	25+	1.04
MC33348D-001	MOT	865	1+	1.10	100+	0.94
MC33348D-002	MOT	865	1+	1.10	100+	0.94
MC3334P	MOT	...	1+	4.54	25+	3.09
MC3335P	MOT	...	1+	3.50	25+	2.39
MC33362DW	MOT	865	1+	2.50	25+	2.13
MC33362P	MOT	...	1+	4.05	25+	2.98
MC33363DW	MOT	865	1+	2.85	25+	2.43
MC33363DWR2	MOT	...	1+	4.65	25+	3.42
MC33363P	MOT	865	1+	4.61	25+	3.39
MC33364D	MOT	865	1+	1.59	25+	1.42
MC33364D1	MOT	865	1+	1.59	25+	1.42
MC33364D2	MOT	865	1+	1.59	25+	1.42
MC33368D	MOT	865	1+	2.87	25+	2.45
MC33368DR2	MOT	...	1+	4.72	25+	3.47
MC3340P	MOT	...	1+	3.45	25+	2.66
MC33463H-30LT1	MOT	865	1+	1.35	25+	1.20
MC33463H-33LT1	MOT	865	1+	1.35	25+	1.20
MC33463H-50LT1	MOT	865	1+	1.35	25+	1.20
MC33464H-20AT1	MOT	865	1+	0.86	100+	0.56
MC33464H-20CT1	MOT	865	1+	0.86	100+	0.56
MC33464H-45AT1	MOT	865	1+	0.86	100+	0.56
MC33464H-45CT1	MOT	865	1+	0.86	100+	0.56
MC33465N-20ATR	MOT	865	1+	0.75	100+	0.59
MC33465N-20CTR	MOT	865	1+	0.75	100+	0.59
MC33465N-45ATR	MOT	865	1+	0.75	100+	0.59
MC33465N-45CTR	MOT	865	1+	0.75	100+	0.59
MC33466H-30LT1	MOT	865	1+	1.10	100+	0.94

Manufacturer Abbreviations:

ADI: Analog Devices; **ALG:** Allegro; **ALT:** Altera; **AMD:** Advanced Micro Devices; **AND:** AND; **APD:** American Power Devices; **DAL:** Dallas Semiconductor; **ECG:** Philips ECG; **FGR:** Fagor; **GS:** General Semiconductor; **HP:** Hewlett Packard; **HRS:** Harris Semiconductor; **HWL:** Honeywell Opto; **INT:** Intronics; **IR:** International Rectifier; **MIC:** Micrel; **MOT:** Motorola; **NAT:** National Semiconductor; **OPT:** Optek; **PHL:** Phillips Semiconductors; **PWX:** Powerex; **QT:** QT Optoelectronics; **SKN:** Semikron; **SPC:** SPC Technology; **TI:** Texas Instruments; **TSK:** Thomson SK; **VAC:** EG&G Vactec; **VAN:** Vantis; **ZIL:** Zilog

Type	Mfg.	Pg.	Qty.	$	Qty.	$
MC33466H-33LT1	MOT	865	1+	1.10	100+	0.94
MC33466H-50LT1	MOT	865	1+	1.10	100+	0.94
MC3346D	MOT	...	1+	1.15	100+	0.90
MC3346P	MOT	...	1+	1.15	100+	0.90
MC33470DW	MOT	...	1+	8.36	10+	7.10
MC33502D	MOT	866	1+	2.36	25+	2.00
MC33502P	MOT	866	1+	2.36	25+	2.00
MC3356DW	MOT	...	1+	3.18	25+	2.22
MC3356P	MOT	...	1+	3.18	25+	2.22
MC3357P	MOT	...	1+	1.95	25+	1.36
MC3358P1	MOT	866	1+	1.31	100+	1.02
MC3359P	MOT	...	1+	3.34	25+	2.57
MC3361BD	MOT	...	1+	2.35	100+	1.83
MC3361BP	MOT	...	1+	1.96	25+	1.51
MC3361CD	MOT	...	1+	1.52	25+	1.35
MC3361CP	MOT	...	1+	1.52	100+	1.35
MC3371P	MOT	...	1+	4.44	25+	3.03
MC3373P	MOT	...	1+	1.86	25+	1.30
MC3374FTB	MOT	...	1+	3.58	25+	3.04
MC34002BD	MOT	866	1+	1.83	100+	1.73
MC34002BP	MOT	866	1+	1.64	100+	1.28
MC34004BP	MOT	866	1+	1.23	100+	0.96
MC34010FNR2	MOT	...	1+	23.45	10+	17.59
MC34010P	MOT	...	1+	22.07	10+	15.03
MC34014P	MOT	...	1+	4.16	25+	2.83
MC34016DWR2	MOT	...	1+	3.73	25+	2.75
MC34017-1P	MOT	857	1+	2.80	25+	1.96
MC34017-2P	MOT	857	1+	3.55	25+	2.74
MC34018P	MOT	857	1+	9.87	10+	6.65
MC34023P	MOT	...	1+	5.30	25+	4.97
MC34025P	MOT	...	1+	5.99	25+	4.40
MC3403D	MOT	...	1+	0.67	100+	0.53
MC3403N	TI	...	1+	0.48	100+	0.39
MC3403P	MOT	866	1+	0.67	100+	0.53
MC34051D	MOT	...	1+	2.16	25+	1.67
MC3405P	MOT	...	1+	1.23	100+	0.96
MC34060AP	MOT	...	1+	2.49	25+	1.74
MC34063AD	MOT	...	1+	1.49	100+	1.16
MC34063AP1	MOT	...	1+	1.49	100+	1.16
MC34064P-005	MOT	...	1+	0.75	100+	0.59
MC34065P	MOT	...	1+	3.91	25+	2.66
MC34066P	MOT	...	1+	5.44	25+	3.71
MC34071AP	MOT	...	1+	1.35	100+	1.05
MC34071D	MOT	866	1+	1.08	100+	0.84
MC34071P	MOT	866	1+	1.08	100+	0.84
MC34072AD	MOT	866	1+	1.49	100+	1.16
MC34072AP	MOT	866	1+	1.49	100+	1.16
MC34072DR2	MOT	...	1+	1.23	100+	0.96
MC34072P	MOT	866	1+	1.23	100+	0.96
MC34072VD	MOT	...	1+	1.35	100+	1.05
MC34072VP	MOT	...	1+	1.38	100+	1.08
MC34074AD	MOT	866	1+	1.68	100+	1.31
MC34074AP	MOT	866	1+	1.63	25+	1.26
MC34074D	MOT	...	1+	1.57	100+	1.22
MC34074P	MOT	866	1+	1.57	100+	1.22
MC34074VD	MOT	...	1+	1.67	25+	1.29
MC34081BP	MOT	866	1+	1.49	100+	1.16
MC34082P	MOT	866	1+	1.57	100+	1.22
MC34084DW	MOT	866	1+	2.72	25+	2.10
MC34084P	MOT	866	1+	2.72	25+	2.10
MC34085BP	MOT	...	1+	2.00	25+	1.79
MC34114P	MOT	857	1+	4.16	25+	2.83
MC34115P	MOT	...	1+	6.63	25+	4.52
MC34118DW	MOT	857	1+	11.29	10+	7.60
MC34118P	MOT	857	1+	12.04	25+	8.85
MC34119D	MOT	867	1+	2.61	100+	2.05
MC34119DTB	MOT	...	1+	1.92	25+	1.49
MC34119P	MOT	867	1+	2.61	100+	2.05
MC34129P	MOT	857	1+	4.82	25+	3.28
MC34151P	MOT	...	1+	1.64	100+	1.28
MC34152D	MOT	...	1+	1.64	100+	1.28
MC34152P	MOT	...	1+	1.73	100+	1.35
MC34161D	MOT	...	1+	1.27	100+	0.99
MC34161P	MOT	...	1+	1.23	100+	0.96
MC34163P	MOT	...	1+	5.92	25+	4.35
MC34164D-005	MOT	...	1+	0.82	100+	0.65
MC34164DM-005	MOT	...	1+	2.21	25+	1.71
MC34166TV	MOT	...	1+	2.47	25+	2.10
MC34167TH	MOT	...	1+	5.11	25+	3.76
MC34167TV	MOT	...	1+	3.42	25+	2.90
MC34181P	MOT	...	1+	1.42	100+	1.11
MC34182D	MOT	...	1+	1.42	100+	1.11
MC34182P	MOT	866	1+	1.42	100+	1.11
MC34184D	MOT	866	1+	1.96	25+	1.51
MC34184P	MOT	866	1+	1.96	25+	1.51
MC34217D	MOT	...	1+	1.42	25+	1.21
MC3423P1	MOT	...	1+	0.99	100+	0.78
MC3425P1	MOT	...	1+	2.36	25+	1.82
MC34261P	MOT	...	1+	1.63	25+	1.26
MC34262D	MOT	...	1+	1.63	25+	1.26
MC34262P	MOT	...	1+	1.63	25+	1.26
MC3456P	MOT	...	1+	0.99	100+	0.78
MC3458P1	MOT	866	1+	1.08	100+	0.84
MC3479P	MOT	...	1+	5.81	25+	4.27
MC3486N	TI	...	1+	1.02	100+	0.90
MC3486P	MOT	...	1+	1.18	100+	0.93
MC3487N	TI	...	1+	1.02	100+	0.90
MC3487P	MOT	...	1+	1.18	100+	0.93

Type	Mfg.	Pg.	Qty.	$	Qty.	$
MC3488AP1	MOT	...	1+	1.68	100+	1.31
MC44604P	MOT	865	1+	3.61	25+	3.08
MC44605P	MOT	865	1+	3.81	25+	3.25
MC4558CD	MOT	...	1+	0.67	100+	0.53
MC4741CD	MOT	866	1+	1.25	100+	1.18
MC4741CP	MOT	866	1+	0.87	100+	0.69
MC54HC02AJ	MOT	...	1+	2.47	25+	1.90
MC54HC04AJ	MOT	...	1+	2.50	25+	1.93
MC54HC08AJ	MOT	...	1+	2.50	25+	1.93
MC54HC132AJ	MOT	...	1+	2.57	100+	2.44
MC54HC138AJ	MOT	...	1+	2.65	25+	2.04
MC54HC139AJ	MOT	...	1+	2.72	100+	2.58
MC54HC14AJ	MOT	...	1+	2.54	25+	1.96
MC54HC154J	MOT	...	1+	4.93	25+	3.63
MC54HC165J	MOT	...	1+	2.28	25+	2.15
MC54HC244AJ	MOT	...	1+	4.40	25+	3.24
MC54HC273AJ	MOT	...	1+	3.77	50+	3.58
MC54HC27J	MOT	...	1+	2.68	100+	2.55
MC54HC373AJ	MOT	...	1+	3.93	50+	3.73
MC54HC390J	MOT	862	1+	3.25	100+	3.09
MC54HC4040J	MOT	...	1+	1.74	25+	1.64
MC54HC4066J	MOT	...	1+	3.22	100+	3.06
MC54HC4538AJ	MOT	...	1+	3.01	50+	2.86
MC54HC589J	MOT	...	1+	3.61	50+	3.43
MC54HC688J	MOT	...	1+	4.24	50+	4.02
MC54HC74AJ	MOT	...	1+	2.58	25+	1.99
MC68020RP20E	MOT	850	1+	83.51	5+	76.32
MC68020RP25E	MOT	850	1+	86.48	5+	79.03
MC68030FE16C	MOT	850	1+	60.08	5+	54.91
MC68030FE20C	MOT	850	1+	60.08	5+	54.91
MC68030FE25C	MOT	850	1+	75.76	5+	69.24
MC68030RC16C	MOT	...	1+	110.06	3+	104.78
MC68030RC20C	MOT	...	1+	110.06	3+	104.78
MC68030RC25C	MOT	...	1+	125.11	5+	119.11
MC68030RP16B	MOT	...	1+	121.13	5+	115.32
MC6803CP-1	MOT	...	1+	18.22	10+	17.23
MC68040FE25	MOT	850	1+	187.64	...	...
MC68040FE25V	MOT	850	1+	148.99	5+	130.03
MC68040FE33V	MOT	850	1+	203.15	5+	177.31
MC68040FE40	MOT	850	1+	346.52	...	...
MC68040FE40V	MOT	...	1+	332.29	5+	290.02
MC68040RC25V	MOT	...	1+	335.49	5+	292.81
MC68040RC33V	MOT	...	1+	377.07	5+	329.10
MC68040RC40	MOT	...	1+	421.53	...	...
MC68040RC40V	MOT	...	1+	471.31	5+	411.35
MC68160CFB	MOT	867	1+	28.49	10+	21.37
MC68160FB	MOT	867	1+	19.80	10+	17.69
MC68302FC16C	MOT	857	1+	53.29	5+	37.30
MC68302PV25C	MOT	857	1+	43.18	5+	33.35
MC68306FC16A	MOT	851	1+	20.70	5+	18.60
MC68306PV16A	MOT	851	1+	24.73	10+	18.55
MC68306PV20A	MOT	851	1+	28.64	10+	21.48
MC68322FT16	MOT	851	1+	43.94	5+	40.16
MC68322FT20	MOT	851	1+	46.73	5+	42.71
MC68330PV16A	MOT	851	1+	27.37	5+	24.58
MC68330PV16VA	MOT	851	1+	33.46	5+	30.06
MC68330PV25A	MOT	851	1+	33.46	5+	30.06
MC68331CFC16A	MOT	852	1+	26.31	5+	23.63
MC68331CFC25	MOT	852	1+	26.23	5+	23.56
MC68331CPV20	MOT	852	1+	20.69	5+	18.58
MC68331CPV20B1	MOT	852	1+	19.59	5+	17.60
MC68332ACFC16	MOT	852	1+	39.46	5+	27.62
MC68332ACFC20	MOT	852	1+	41.43	5+	29.00
MC68332ACFC25	MOT	852	1+	28.67	5+	25.75
MC68332ACPV16B1	MOT	852	1+	20.87	5+	18.75
MC68332ACPV20B1	MOT	852	1+	21.93	5+	19.70
MC68332ACPV25	MOT	852	1+	24.10	5+	21.65
MC68332GCFC16	MOT	852	1+	39.46	5+	27.62
MC68332GCFC25	MOT	852	1+	28.67	5+	25.75
MC68332GCPV16	MOT	852	1+	21.91	5+	19.68
MC68332GCPV16B1	MOT	852	1+	20.87	5+	18.75
MC68332GCPV20	MOT	852	1+	23.01	5+	20.67
MC68332GCPV20B1	MOT	852	1+	21.93	5+	19.70
MC68332GCPV25	MOT	852	1+	24.10	5+	21.65
MC68340CFT16E	MOT	851	1+	32.10	5+	28.84
MC68340CFT25E	MOT	851	1+	43.63	5+	39.19
MC68340CPV16E	MOT	851	1+	34.95	5+	31.40
MC68340CPV25E	MOT	851	1+	44.31	5+	40.50
MC68340FT16E	MOT	851	1+	27.91	5+	25.07
MC68340FT25E	MOT	851	1+	37.95	5+	34.09
MC68340PV16C	MOT	...	1+	33.42	5+	32.01
MC68340PV16E	MOT	851	1+	28.61	5+	25.70
MC68340PV16VE	MOT	851	1+	40.05	5+	35.97
MC68340PV25E	MOT	851	1+	40.05	5+	35.97
MC68360EM25K	MOT	857	1+	76.39	5+	69.81
MC68360EM25VL	MOT	857	1+	87.45	5+	83.26
MC68360EM33K	MOT	857	1+	84.21	5+	76.96
MC68360RC25K	MOT	857	1+	140.17	5+	133.44
MC68360RC33K	MOT	857	1+	154.17	5+	146.77
MC68360ZP25C	MOT	...	1+	76.39	5+	69.81
MC68360ZP25K	MOT	857	1+	76.39	5+	69.81
MC68360ZP25VL	MOT	857	1+	87.45	5+	83.26
MC68360ZP33K	MOT	857	1+	84.21	5+	76.96
MC68605FN10	MOT	857	1+	53.55	5+	48.94
MC68605FN12	MOT	857	1+	66.09	5+	60.41
MC68605FN16	MOT	857	1+	85.49	5+	81.39
MC68606FN12C	MOT	857	1+	122.60	5+	116.71
MC68606FN16C	MOT	857	1+	169.75	5+	165.11

Type	Mfg.	Pg.	Qty.	$	Qty.	$
MC68705P3CS	MOT	...	1+	20.67	5+	18.56
MC68705R3CP	MOT	...	1+	23.94	100+	20.29
MC68705R3CS	MOT	...	1+	26.89	10+	24.16
MC68705U3CS	MOT	...	1+	31.09	5+	29.77
MC68837FCE	MOT	...	1+	40.82	5+	36.67
MC68840FE25B	MOT	...	1+	127.15	3+	121.04
MC68840FE33B	MOT	...	1+	165.30	3+	157.37
MC68882FN16A	MOT	850	1+	56.40	5+	51.54
MC68882FN20A	MOT	850	1+	62.32	5+	56.96
MC68882RC16A	MOT	...	1+	84.89	5+	80.81
MC68882RC25A	MOT	...	1+	96.99	5+	92.34
MC68882RC50A	MOT	...	1+	132.81	5+	126.44
MC68B03P	MOT	...	1+	18.22	10+	13.67
MC68B09CP	MOT	...	1+	15.20	10+	11.06
MC68B21CP	MOT	...	1+	10.89	25+	8.00
MC68B40CP	MOT	...	1+	8.71	10+	6.34
MC68B50CP	MOT	...	1+	9.74	10+	7.08
MC68EC000FN10	MOT	850	1+	15.82	10+	10.77
MC68EC000FU20	MOT	850	1+	18.38	10+	16.42
MC68EC030FE40C	MOT	850	1+	61.22	5+	55.95
MC68EC030RP25C	MOT	850	1+	67.27	5+	61.48
MC68EC030RP40C	MOT	850	1+	85.72	5+	81.61
MC68EC040FE20	MOT	850	1+	92.71	5+	88.26
MC68EC040FE25	MOT	850	1+	92.71	5+	88.26
MC68EC040FE33	MOT	850	1+	136.60	5+	130.04
MC68EC040FE40	MOT	850	1+	151.52	3+	144.25
MC68EC040RC40	MOT	...	1+	301.12	5+	262.81
MC68EC060RC50	MOT	850	1+	160.90	5+	153.18
MC68EC060RC75	MOT	850	1+	349.56	...	...
MC68EN360EM25K	MOT	857	1+	85.16	5+	77.83
MC68EN360EM25VL	MOT	857	1+	95.79	5+	91.19
MC68EN360EM33K	MOT	857	1+	88.37	5+	84.13
MC68EN360RC25C	MOT	...	1+	148.50	3+	141.37
MC68EN360RC25K	MOT	857	1+	148.50	5+	141.37
MC68EN360RC33K	MOT	857	1+	162.50	5+	154.70
MC68EN360ZP25C	MOT	...	1+	85.16	5+	77.83
MC68EN360ZP25K	MOT	857	1+	85.16	5+	77.83
MC68EN360ZP25VL	MOT	857	1+	95.79	5+	91.19
MC68EN360ZP33K	MOT	857	1+	88.37	5+	84.13
MC68HC000FN10	MOT	850	1+	13.09	10+	9.52
MC68HC000FN12	MOT	850	1+	15.54	10+	11.31
MC68HC000FN16	MOT	850	1+	22.06	10+	16.55
MC68HC11A0FN	MOT	...	1+	17.63	10+	12.01
MC68HC11A1CFN3	MOT	...	1+	20.38	10+	13.88
MC68HC11A1FN	MOT	...	1+	18.19	10+	12.39
MC68HC11A1MFN	MOT	...	1+	14.80	10+	14.13
MC68HC11A1P	MOT	...	1+	22.91	10+	15.60
MC68HC11A8FN1	MOT	...	1+	10.69	10+	10.21
MC68HC11A8P1	MOT	...	1+	13.94	10+	13.32
MC68HC11E1CFN2	MOT	852	1+	11.64	10+	10.40
MC68HC11E1CFN3	MOT	...	1+	20.38	10+	13.88
MC68HC11E9BCFN2	MOT	...	1+	13.34	10+	11.92
MC68HC11F0CFN2	MOT	...	1+	9.42	10+	8.00
MC68HC11F1CFN3	MOT	852	1+	23.04	10+	15.69
MC68HC11F1CFN4	MOT	...	1+	25.82	10+	17.58
MC68HC11F1CPU3	MOT	852	1+	14.70	10+	13.13
MC68HC11K1CFN4	MOT	...	1+	20.69	5+	18.58
MC68HC16V1CPU20	MOT	...	1+	15.88	10+	14.18
MC68HC16Z1CFC16	MOT	852	1+	32.52	5+	22.76
MC68HC16Z1CFC20	MOT	852	1+	22.55	5+	20.26
MC68HC16Z1CFC25	MOT	852	1+	23.63	5+	21.23
MC68HC16Z1CPV16	MOT	...	1+	18.36	10+	16.40
MC68HC16Z1CPV20	MOT	852	1+	19.28	10+	17.22
MC68HC16Z1CPV25	MOT	852	1+	19.06	5+	17.12
MC68HC16Z2BCFC16	MOT	852	1+	30.16	5+	27.09
MC68HC16Z2BCFC20	MOT	852	1+	32.76	5+	29.43
MC68HC16Z2BCPV16	MOT	852	1+	26.21	5+	23.55
MC68HC16Z2BCPV20	MOT	852	1+	28.20	5+	25.33
MC68HC24FN	MOT	...	1+	27.69	10+	20.77
MC68HC24P	MOT	...	1+	20.74	10+	15.55
MC68HC705B16CFN	MOT	853	1+	8.36	...	...
MC68HC705B16CFU	MOT	853	1+	8.66	...	...
MC68HC705BD3B	MOT	...	1+	20.22	10+	17.93
MC68HC705BD3P	MOT	...	1+	20.22	10+	17.93
MC68HC705C4ACFN	MOT	...	1+	8.81	10+	7.69
MC68HC705C8ACFN	MOT	853	1+	5.23	...	...
MC68HC705C8ACP	MOT	853	1+	5.19	...	...
MC68HC705C8ACS	MOT	853	1+	35.86	5+	32.21
MC68HC705C9ACB	MOT	853	1+	10.31	10+	9.00
MC68HC705C9ACFB	MOT	853	1+	6.38	...	...
MC68HC705C9ACFN	MOT	853	1+	5.23	...	...
MC68HC705C9ACP	MOT	853	1+	7.62	...	...
MC68HC705J1ACDW	MOT	853	1+	1.43	...	...
MC68HC705J1ACP	MOT	853	1+	1.86	...	...
MC68HC705J1ACS	MOT	853	1+	43.99	5+	40.26
MC68HC705J2CDW	MOT	...	1+	15.22	10+	10.25
MC68HC705J2CP	MOT	...	1+	15.51	10+	10.45
MC68HC705K1CP	MOT	...	1+	5.44	10+	4.75
MC68HC705K1CS	MOT	...	1+	43.99	5+	40.26
MC68HC705KJ1CDW	MOT	853	1+	1.03	...	...
MC68HC705KJ1CP	MOT	853	1+	0.92	...	...
MC68HC705KJ1CS	MOT	853	1+	37.04	5+	33.90
MC68HC705L16FU	MOT	853	1+	21.20	...	...
MC68HC705P6CP	MOT	...	1+	11.30	10+	10.09
MC68HC705P6CS	MOT	...	1+	43.99	5+	40.26
MC68HC705P9CDW	MOT	...	1+	5.84	10+	5.09
MC68HC705P9CP	MOT	...	1+	5.84	10+	5.09
MC68HC705SR3CB	MOT	853	1+	14.37	10+	12.74

NEW TYPES ARE BEING CONTINUALLY ADDED TO INVENTORY.

CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR AVAILABILITY.

Type	Mfg.	Pg.	Qty.	$	Qty.	$
MC68HC705SR3CFB	MOT	853	1+	14.37	10+	12.74
MC68HC705SR3CP	MOT	853	1+	13.50	10+	12.06
MC68HC711D3CFN2	MOT	852	1+	17.66	10+	12.03
MC68HC711D3CP2	MOT	.	1+	18.38	10+	12.52
MC68HC711D3CS2	MOT	.	1+	34.72	5+	24.30
MC68HC711E20CFN2	MOT	852	1+	25.93	10+	23.29
MC68HC711E9CFN2	MOT	852	1+	29.75	10+	20.26
MC68HC711E9CFN3	MOT	.	1+	30.46	5+	21.32
MC68HC711K4CFN3	MOT	852	1+	34.49	5+	26.64
MC68HC711K4CFU3	MOT	852	1+	41.67	5+	32.18
MC68HC711KA2CFN3	MOT	.	1+	38.31	5+	29.59
MC68HC711KA2CFN4	MOT	.	1+	39.65	5+	30.62
MC68HC711KS2CFN3	MOT	852	1+	32.78	5+	29.45
MC68HC811E2CFN2	MOT	852	1+	14.94	10+	13.35
MC68LC040FE20	MOT	850	1+	163.29	5+	155.45
MC68LC040FE25	MOT	850	1+	163.29	5+	155.45
MC68LC040FE33	MOT	850	1+	157.16	...	...
MC68LC040FE40	MOT	850	1+	316.42	5+	276.16
MC68LC040RC40	MOT	.	1+	346.87	5+	302.74
MC68LC060RC50	MOT	850	1+	360.32	..	...
MC68LC060RC75	MOT	850	1+	582.30	...	...
MC68MH360EM25K	MOT	857	1+	87.60	5+	83.40
MC68MH360EM25VL	MOT	857	1+	105.46	5+	100.40
MC68MH360EM33K	MOT	857	1+	96.54	5+	91.91
MC68MH360RC25K	MOT	857	1+	147.78	5+	140.69
MC68MH360RC33K	MOT	857	1+	162.57	5+	154.77
MC68MH360ZP25K	MOT	857	1+	87.60	5+	83.40
MC68MH360ZP25VL	MOT	857	1+	105.46	5+	100.40
MC68MH360ZP33K	MOT	857	1+	96.54	5+	91.91
MC68MMPFB0508	MOT	.	1+	579.82	5+	522.79
MC68SEC000FU10	MOT	850	1+	9.23	25+	8.06
MC68SEC000FU16	MOT	850	1+	11.86	10+	10.59
MC68SEC000FU20	MOT	850	1+	14.86	10+	13.27
MC74AC00D	MOT	.	1+	0.52	100+	0.37
MC74AC00DT	MOT	.	1+	0.50	100+	0.33
MC74AC00N	MOT	863	1+	0.57	100+	0.40
MC74AC02DT	MOT	.	1+	0.50	100+	0.33
MC74AC02N	MOT	863	1+	0.57	100+	0.40
MC74AC04D	MOT	.	1+	0.52	100+	0.37
MC74AC04N	MOT	863	1+	0.57	100+	0.40
MC74AC05D	MOT	.	1+	0.52	100+	0.37
MC74AC05N	MOT	863	1+	0.57	100+	0.40
MC74AC08DT	MOT	.	1+	0.50	100+	0.33
MC74AC08N	MOT	863	1+	0.57	100+	0.40
MC74AC11N	MOT	863	1+	0.57	100+	0.40
MC74AC125DT	MOT	.	1+	1.33	25+	1.24
MC74AC132N	MOT	.	1+	1.24	100+	1.09
MC74AC138D	MOT	.	1+	0.69	100+	0.54
MC74AC138N	MOT	.	1+	0.73	100+	0.57
MC74AC14D	MOT	.	1+	0.44	100+	0.34
MC74AC14N	MOT	864	1+	0.48	100+	0.38
MC74AC151N	MOT	863	1+	0.73	100+	0.57
MC74AC161D	MOT	.	1+	0.88	100+	0.69
MC74AC161N	MOT	.	1+	0.90	100+	0.70
MC74AC240DT	MOT	.	1+	0.72	100+	0.47
MC74AC244DW	MOT	.	1+	0.77	100+	0.60
MC74AC244N	MOT	862	1+	0.85	100+	0.66
MC74AC245DT	MOT	.	1+	0.75	100+	0.49
MC74AC245DW	MOT	862	1+	0.81	100+	0.63
MC74AC245N	MOT	862	1+	0.88	100+	0.69
MC74AC273DT	MOT	.	1+	0.75	100+	0.49
MC74AC32D	MOT	863	1+	0.52	100+	0.37
MC74AC32DT	MOT	.	1+	0.50	100+	0.33
MC74AC373DT	MOT	.	1+	0.75	100+	0.49
MC74AC373N	MOT	863	1+	0.88	100+	0.69
MC74AC374DT	MOT	.	1+	0.75	100+	0.49
MC74AC4040D	MOT	.	1+	2.75	25+	2.59
MC74AC4040N	MOT	.	1+	3.25	25+	2.22
MC74AC540N	MOT	862	1+	0.96	100+	0.75
MC74AC541DW	MOT	.	1+	0.86	100+	0.67
MC74AC573DT	MOT	.	1+	0.75	100+	0.49
MC74AC573DW	MOT	863	1+	0.79	100+	0.61
MC74AC573N	MOT	.	1+	0.86	100+	0.67
MC74AC74DT	MOT	.	1+	0.60	100+	0.39
MC74AC74N	MOT	863	1+	0.52	100+	0.41
MC74ACT00D	MOT	.	1+	0.52	100+	0.37
MC74ACT00N	MOT	.	1+	0.57	100+	0.40
MC74ACT02D	MOT	.	1+	0.43	100+	0.35
MC74ACT02N	MOT	.	1+	0.57	100+	0.40
MC74ACT04D	MOT	.	1+	0.52	100+	0.37
MC74ACT04N	MOT	.	1+	0.57	100+	0.40
MC74ACT08D	MOT	.	1+	0.52	100+	0.37
MC74ACT08DT	MOT	.	1+	0.50	100+	0.33
MC74ACT132D	MOT	.	1+	1.87	100+	1.45
MC74ACT138N	MOT	.	1+	0.73	100+	0.57
MC74ACT14D	MOT	.	1+	0.44	100+	0.34
MC74ACT14N	MOT	.	1+	0.48	100+	0.38
MC74ACT158N	MOT	.	1+	0.68	100+	0.45
MC74ACT161N	MOT	.	1+	0.90	100+	0.70
MC74ACT163N	MOT	.	1+	0.88	100+	0.69
MC74ACT20N	MOT	.	1+	0.57	100+	0.40
MC74ACT240DT	MOT	.	1+	0.72	100+	0.47
MC74ACT240N	MOT	.	1+	0.85	100+	0.66
MC74ACT244DW	MOT	.	1+	0.77	100+	0.60
MC74ACT244N	MOT	.	1+	0.85	100+	0.66
MC74ACT245DW	MOT	.	1+	0.81	100+	0.63
MC74ACT245N	MOT	.	1+	0.88	100+	0.69
MC74ACT273DT	MOT	.	1+	0.75	100+	0.49

Type	Mfg.	Pg.	Qty.	$	Qty.	$
MC74ACT273N	MOT	.	1+	0.88	100+	0.69
MC74ACT32DT	MOT	.	1+	0.50	100+	0.33
MC74ACT32N	MOT	.	1+	0.57	100+	0.40
MC74ACT373DT	MOT	.	1+	0.75	100+	0.49
MC74ACT374N	MOT	.	1+	0.88	100+	0.69
MC74ACT573N	MOT	.	1+	0.86	100+	0.67
MC74ACT574DW	MOT	.	1+	0.79	100+	0.61
MC74ACT574N	MOT	.	1+	0.86	100+	0.67
MC74ACT74D	MOT	.	1+	0.48	100+	0.38
MC74ACT74DT	MOT	.	1+	0.60	100+	0.39
MC74ACT74N	MOT	.	1+	0.52	100+	0.41
MC74ACT86N	MOT	.	1+	0.52	100+	0.41
MC74F00D	MOT	.	1+	0.63	100+	0.44
MC74F00N	MOT	.	1+	0.68	100+	0.47
MC74F02D	MOT	.	1+	0.63	100+	0.44
MC74F02N	MOT	.	1+	0.68	100+	0.47
MC74F04D	MOT	.	1+	0.63	100+	0.44
MC74F04N	MOT	.	1+	0.68	100+	0.47
MC74F08D	MOT	.	1+	0.63	100+	0.44
MC74F08N	MOT	.	1+	0.68	100+	0.47
MC74F109N	MOT	.	1+	0.79	100+	0.62
MC74F125D	MOT	.	1+	0.83	100+	0.66
MC74F125N	MOT	.	1+	1.14	100+	0.80
MC74F132N	MOT	.	1+	0.72	100+	0.58
MC74F138N	MOT	.	1+	0.75	100+	0.61
MC74F139N	MOT	.	1+	0.87	100+	0.69
MC74F14D	MOT	.	1+	0.83	100+	0.58
MC74F151N	MOT	.	1+	0.87	100+	0.69
MC74F157AN	MOT	.	1+	1.14	100+	0.80
MC74F161AN	MOT	.	1+	1.11	100+	0.87
MC74F163AN	MOT	.	1+	1.05	100+	0.85
MC74F164N	MOT	.	1+	1.11	100+	0.87
MC74F169N	MOT	.	1+	1.92	25+	1.49
MC74F175N	MOT	.	1+	0.79	100+	0.62
MC74F21N	MOT	.	1+	0.34	100+	0.28
MC74F2245DW	MOT	.	1+	1.27	100+	1.13
MC74F240N	MOT	.	1+	0.95	100+	0.75
MC74F241N	MOT	.	1+	0.95	100+	0.75
MC74F244DW	MOT	.	1+	0.87	100+	0.69
MC74F244N	MOT	.	1+	0.95	100+	0.75
MC74F245DW	MOT	.	1+	0.87	100+	0.69
MC74F245N	MOT	.	1+	0.95	100+	0.75
MC74F269DW	MOT	.	1+	6.27	25+	4.61
MC74F269N	MOT	.	1+	6.34	25+	4.66
MC74F32D	MOT	.	1+	0.63	100+	0.44
MC74F32N	MOT	.	1+	0.68	100+	0.47
MC74F367N	MOT	.	1+	2.58	25+	1.99
MC74F373SD	MOT	.	1+	1.10	100+	0.94
MC74F374N	MOT	.	1+	0.95	100+	0.75
MC74F38D	MOT	.	1+	0.63	100+	0.44
MC74F38N	MOT	.	1+	0.52	100+	0.41
MC74F574N	MOT	.	1+	1.34	100+	1.05
MC74F579DW	MOT	.	1+	3.17	25+	2.33
MC74F74D	MOT	.	1+	0.78	100+	0.55
MC74F74N	MOT	.	1+	0.83	100+	0.58
MC74F827N	MOT	.	1+	3.41	25+	2.63
MC74F85N	MOT	.	1+	1.98	100+	1.54
MC74F86N	MOT	.	1+	0.75	100+	0.59
MC74HC00AD	MOT	.	1+	0.42	100+	0.29
MC74HC00ADT	MOT	.	1+	0.40	100+	0.26
MC74HC00AN	MOT	863	1+	0.45	100+	0.32
MC74HC02AD	MOT	863	1+	0.42	100+	0.29
MC74HC02ADT	MOT	.	1+	0.40	100+	0.26
MC74HC02AN	MOT	863	1+	0.47	100+	0.33
MC74HC03AD	MOT	863	1+	0.42	100+	0.29
MC74HC03AN	MOT	863	1+	0.47	100+	0.33
MC74HC04AD	MOT	.	1+	0.42	100+	0.29
MC74HC04ADT	MOT	863	1+	0.40	100+	0.26
MC74HC04AN	MOT	863	1+	0.45	100+	0.32
MC74HC08AD	MOT	.	1+	0.42	100+	0.29
MC74HC08ADT	MOT	.	1+	0.40	100+	0.26
MC74HC08AN	MOT	863	1+	0.47	100+	0.33
MC74HC107D	MOT	.	1+	0.59	100+	0.47
MC74HC107N	MOT	863	1+	0.63	100+	0.50
MC74HC109N	MOT	.	1+	0.75	100+	0.59
MC74HC10D	MOT	.	1+	0.48	100+	0.42
MC74HC10N	MOT	863	1+	0.47	100+	0.33
MC74HC112N	MOT	.	1+	0.87	100+	0.69
MC74HC11N	MOT	863	1+	0.47	100+	0.33
MC74HC125AD	MOT	.	1+	0.63	100+	0.44
MC74HC125ADT	MOT	.	1+	0.60	100+	0.39
MC74HC125AN	MOT	862	1+	0.68	100+	0.47
MC74HC126AD	MOT	.	1+	0.48	100+	0.38
MC74HC126AN	MOT	862	1+	0.52	100+	0.41
MC74HC132AD	MOT	864	1+	0.46	100+	0.36
MC74HC132ADT	MOT	.	1+	0.58	100+	0.37
MC74HC132AN	MOT	864	1+	0.50	100+	0.39
MC74HC133D	MOT	.	1+	0.46	100+	0.37
MC74HC133N	MOT	863	1+	0.52	100+	0.41
MC74HC137N	MOT	.	1+	0.75	100+	0.59
MC74HC138AD	MOT	.	1+	0.63	100+	0.44
MC74HC138AN	MOT	.	1+	0.68	100+	0.47
MC74HC139AD	MOT	.	1+	0.48	100+	0.38
MC74HC139AN	MOT	.	1+	0.63	100+	0.51
MC74HC147N	MOT	863	1+	0.77	100+	0.60
MC74HC14AD	MOT	.	1+	0.50	100+	0.35
MC74HC14ADT	MOT	.	1+	0.48	100+	0.31
MC74HC14AN	MOT	864	1+	0.53	100+	0.37

Type	Mfg.	Pg.	Qty.	$	Qty.	$
MC74HC151D	MOT	.	1+	0.64	100+	0.52
MC74HC151N	MOT	863	1+	0.63	100+	0.50
MC74HC153N	MOT	863	1+	0.66	100+	0.53
MC74HC154DW	MOT	.	1+	2.43	25+	2.27
MC74HC154N	MOT	.	1+	1.78	25+	1.37
MC74HC157AN	MOT	863	1+	0.55	100+	0.44
MC74HC161AD	MOT	862	1+	0.55	100+	0.44
MC74HC161AN	MOT	862	1+	0.59	100+	0.47
MC74HC163AD	MOT	.	1+	0.55	100+	0.44
MC74HC163AN	MOT	.	1+	0.59	100+	0.47
MC74HC164AD	MOT	.	1+	0.70	100+	0.46
MC74HC164AN	MOT	.	1+	0.70	100+	0.46
MC74HC173N	MOT	863	1+	0.63	100+	0.50
MC74HC174AD	MOT	.	1+	0.59	100+	0.47
MC74HC174AN	MOT	.	1+	0.63	100+	0.50
MC74HC175D	MOT	.	1+	0.59	100+	0.47
MC74HC175N	MOT	863	1+	0.63	100+	0.50
MC74HC20D	MOT	.	1+	0.75	100+	0.38
MC74HC20N	MOT	863	1+	0.47	100+	0.33
MC74HC237D	MOT	.	1+	0.64	100+	0.58
MC74HC237N	MOT	.	1+	0.67	100+	0.53
MC74HC240ADT	MOT	.	1+	0.54	100+	0.35
MC74HC240AN	MOT	862	1+	0.67	100+	0.53
MC74HC244ADW	MOT	.	1+	0.59	100+	0.47
MC74HC244AN	MOT	.	1+	0.67	100+	0.53
MC74HC245ADW	MOT	862	1+	0.59	100+	0.47
MC74HC245AN	MOT	862	1+	0.67	100+	0.53
MC74HC251N	MOT	863	1+	0.67	100+	0.53
MC74HC253D	MOT	.	1+	0.63	100+	0.50
MC74HC253N	MOT	863	1+	0.67	100+	0.53
MC74HC257N	MOT	863	1+	0.67	100+	0.53
MC74HC259D	MOT	.	1+	0.63	100+	0.50
MC74HC259N	MOT	.	1+	0.67	100+	0.53
MC74HC273ADW	MOT	.	1+	0.66	100+	0.53
MC74HC273AN	MOT	.	1+	0.59	100+	0.47
MC74HC27N	MOT	863	1+	0.47	100+	0.33
MC74HC280N	MOT	864	1+	0.81	100+	0.63
MC74HC299N	MOT	864	1+	1.22	100+	1.08
MC74HC30D	MOT	.	1+	0.42	100+	0.29
MC74HC30N	MOT	863	1+	0.47	100+	0.33
MC74HC32AD	MOT	863	1+	0.42	100+	0.29
MC74HC32AN	MOT	863	1+	0.47	100+	0.33
MC74HC365AN	MOT	862	1+	0.65	100+	0.42
MC74HC367AN	MOT	862	1+	0.75	100+	0.49
MC74HC368N	MOT	.	1+	1.15	100+	0.90
MC74HC373ADT	MOT	.	1+	0.54	100+	0.35
MC74HC373ADW	MOT	.	1+	0.59	100+	0.47
MC74HC373AN	MOT	.	1+	0.67	100+	0.53
MC74HC374ADW	MOT	.	1+	0.59	100+	0.47
MC74HC374AN	MOT	.	1+	0.67	100+	0.53
MC74HC390D	MOT	862	1+	0.73	100+	0.58
MC74HC390N	MOT	862	1+	0.77	100+	0.61
MC74HC393D	MOT	.	1+	0.67	100+	0.53
MC74HC393N	MOT	862	1+	0.71	100+	0.56
MC74HC4002N	MOT	863	1+	0.52	100+	0.41
MC74HC4016N	MOT	.	1+	0.75	100+	0.69
MC74HC4017D	MOT	862	1+	0.71	100+	0.56
MC74HC4017N	MOT	862	1+	0.75	100+	0.59
MC74HC4024D	MOT	.	1+	0.63	100+	0.50
MC74HC4024N	MOT	864	1+	0.67	100+	0.53
MC74HC4040AD	MOT	862	1+	0.58	100+	0.38
MC74HC4040AN	MOT	862	1+	0.61	100+	0.40
MC74HC4046AD	MOT	.	1+	0.85	100+	0.66
MC74HC4046AN	MOT	864	1+	0.88	100+	0.69
MC74HC4049D	MOT	863	1+	0.63	100+	0.50
MC74HC4049N	MOT	863	1+	0.67	100+	0.53
MC74HC4050D	MOT	863	1+	0.63	100+	0.50
MC74HC4050N	MOT	863	1+	0.67	100+	0.53
MC74HC4051N	MOT	863	1+	0.67	100+	0.53
MC74HC4052D	MOT	.	1+	0.63	100+	0.50
MC74HC4052DT	MOT	.	1+	0.58	100+	0.38
MC74HC4052N	MOT	863	1+	0.66	100+	0.51
MC74HC4053D	MOT	.	1+	0.63	100+	0.50
MC74HC4053DT	MOT	.	1+	0.58	100+	0.38
MC74HC4053N	MOT	863	1+	0.67	100+	0.53
MC74HC4066D	MOT	863	1+	0.57	100+	0.45
MC74HC4066N	MOT	863	1+	0.61	100+	0.48
MC74HC4075D	MOT	.	1+	0.55	100+	0.44
MC74HC4075N	MOT	.	1+	0.59	100+	0.47
MC74HC4078N	MOT	.	1+	0.59	100+	0.47
MC74HC42D	MOT	.	1+	0.83	100+	0.76
MC74HC42N	MOT	.	1+	0.88	100+	0.69
MC74HC4316D	MOT	863	1+	0.67	100+	0.53
MC74HC4316N	MOT	863	1+	0.71	100+	0.56
MC74HC4351N	MOT	.	1+	1.35	100+	1.05
MC74HC4514N	MOT	.	1+	1.71	25+	1.32
MC74HC4538AD	MOT	.	1+	0.67	100+	0.53
MC74HC540AN	MOT	862	1+	0.75	100+	0.59
MC74HC541ADW	MOT	.	1+	0.67	100+	0.53
MC74HC541AN	MOT	862	1+	0.75	100+	0.59
MC74HC563DW	MOT	.	1+	1.01	25+	0.96
MC74HC573ADW	MOT	.	1+	1.50	100+	1.18
MC74HC573AN	MOT	.	1+	0.75	100+	0.59
MC74HC574ADW	MOT	.	1+	0.67	100+	0.53
MC74HC574AN	MOT	863	1+	0.75	100+	0.59
MC74HC589AN	MOT	864	1+	0.80	100+	0.64
MC74HC58N	MOT	.	1+	0.87	100+	0.69
MC74HC595AD	MOT	864	1+	0.69	100+	0.54

Manufacturer Abbreviations:

ADI: Analog Devices; **ALG:** Allegro; **ALT:** Altera; **AMD:** Advanced Micro Devices; **AND:** AND; **APD:** American Power Devices; **DAL:** Dallas Semiconductor; **ECG:** Philips ECG; **FGR:** Fagor; **GS:** General Semiconductor; **HP:** Hewlett Packard; **HRS:** Harris Semiconductor; **HWL:** Honeywell Opto; **INT:** Intronics; **IR:** International Rectifier; **MIC:** Micrel; **MOT:** Motorola; **NAT:** National Semiconductor; **OPT:** Optek; **PHL:** Phillips Semiconductors; **PWX:** Powerex; **QT:** QT Optoelectronics; **SKN:** Semikron; **SPC:** SPC Technology; **TI:** Texas Instruments; **TSK:** Thomson SK; **VAC:** EG&G Vactec; **VAN:** Vantis; **ZIL:** Zilog

Type	Mfg.	Pg.	Qty.	$	Qty.	$
MC74HC595AN	MOT	864	1+	0.75	100+	0.59
MC74HC688DW	MOT	...	1+	0.81	100+	0.63
MC74HC688N	MOT	862	1+	0.85	100+	0.66
MC74HC7266AD	MOT	...	1+	0.54	100+	0.35
MC74HC73D	MOT	...	1+	0.36	100+	0.33
MC74HC73N	MOT	...	1+	0.73	100+	0.51
MC74HC74AD	MOT	...	1+	0.52	100+	0.37
MC74HC74ADT	MOT	...	1+	0.50	100+	0.33
MC74HC74AN	MOT	863	1+	0.57	100+	0.40
MC74HC75N	MOT	863	1+	0.59	100+	0.47
MC74HC76N	MOT	...	1+	0.70	100+	0.57
MC74HC85N	MOT	862	1+	0.63	100+	0.50
MC74HC86AD	MOT	...	1+	0.50	100+	0.33
MC74HCT00AD	MOT	...	1+	0.42	100+	0.29
MC74HCT00AN	MOT	...	1+	0.47	100+	0.33
MC74HCT04AD	MOT	...	1+	0.42	100+	0.29
MC74HCT04AN	MOT	...	1+	0.47	100+	0.33
MC74HCT08AD	MOT	...	1+	0.60	100+	0.30
MC74HCT08AN	MOT	...	1+	0.47	100+	0.33
MC74HCT138AD	MOT	...	1+	0.48	100+	0.38
MC74HCT138AN	MOT	...	1+	0.68	100+	0.47
MC74HCT14AD	MOT	...	1+	0.52	100+	0.37
MC74HCT14AN	MOT	...	1+	0.57	100+	0.40
MC74HCT157AN	MOT	...	1+	0.55	100+	0.44
MC74HCT241ADW	MOT	...	1+	0.53	100+	0.48
MC74HCT244ADW	MOT	...	1+	0.59	100+	0.47
MC74HCT244AN	MOT	...	1+	0.67	100+	0.53
MC74HCT245ADW	MOT	...	1+	0.59	100+	0.47
MC74HCT245AN	MOT	...	1+	0.67	100+	0.53
MC74HCT273ADW	MOT	...	1+	0.55	100+	0.44
MC74HCT273AN	MOT	...	1+	0.63	100+	0.50
MC74HCT32AD	MOT	...	1+	0.42	100+	0.29
MC74HCT32AN	MOT	...	1+	0.47	100+	0.33
MC74HCT373AN	MOT	...	1+	0.67	100+	0.53
MC74HCT374AN	MOT	...	1+	0.67	100+	0.53
MC74HCT541ADW	MOT	...	1+	0.67	100+	0.53
MC74HCT541AN	MOT	...	1+	0.75	100+	0.59
MC74HCT573AN	MOT	...	1+	0.75	100+	0.59
MC74HCT574ADW	MOT	...	1+	0.67	100+	0.53
MC74HCT574AN	MOT	...	1+	0.75	100+	0.59
MC74HCT74AD	MOT	...	1+	0.52	100+	0.37
MC74HCT74AN	MOT	...	1+	0.57	100+	0.40
MC74LCX00D	MOT	860	1+	0.70	100+	0.46
MC74LCX02D	MOT	860	1+	0.70	100+	0.46
MC74LCX04D	MOT	860	1+	0.70	100+	0.46
MC74LCX08D	MOT	860	1+	0.68	100+	0.44
MC74LCX138D	MOT	860	1+	0.79	100+	0.52
MC74LCX157D	MOT	860	1+	0.79	100+	0.52
MC74LCX16240ADT	MOT	860	1+	2.36	25+	1.82
MC74LCX16244DT	MOT	860	1+	1.59	25+	1.42
MC74LCX16245DT	MOT	860	1+	1.59	25+	1.42
MC74LCX16373DT	MOT	860	1+	1.96	25+	1.74
MC74LCX16374DT	MOT	860	1+	2.90	25+	2.24
MC74LCX244DT	MOT	860	1+	0.86	100+	0.56
MC74LCX32D	MOT	860	1+	0.58	100+	0.38
MC74LCX32DR2	MOT	...	1+	0.70	100+	0.46
MC74LCX373DT	MOT	860	1+	0.75	100+	0.59
MC74LCX374DT	MOT	860	1+	0.95	25+	0.73
MC74LCX540DT	MOT	860	1+	0.83	25+	0.71
MC74LCX541DT	MOT	860	1+	0.83	100+	0.71
MC74LCX573DT	MOT	860	1+	0.80	100+	0.64
MC74LCX574DT	MOT	860	1+	0.80	25+	0.64
MC74LCX652DW	MOT	860	1+	3.06	25+	2.60
MC74LCX74D	MOT	860	1+	0.58	100+	0.38
MC74LVX00D	MOT	860	1+	0.50	100+	0.33
MC74LVX02D	MOT	860	1+	0.45	100+	0.29
MC74LVX04D	MOT	860	1+	0.50	100+	0.33
MC74LVX08D	MOT	860	1+	0.45	100+	0.29
MC74LVX125D	MOT	860	1+	0.60	100+	0.39
MC74LVX138D	MOT	860	1+	0.65	100+	0.42
MC74LVX14D	MOT	860	1+	0.60	100+	0.39
MC74LVX157D	MOT	860	1+	0.70	100+	0.46
MC74LVX240DT	MOT	860	1+	0.58	100+	0.38
MC74LVX244DT	MOT	860	1+	0.58	100+	0.38
MC74LVX245DT	MOT	860	1+	0.58	100+	0.38
MC74LVX32D	MOT	860	1+	0.45	100+	0.29
MC74LVX373DT	MOT	860	1+	0.58	100+	0.38
MC74LVX374DT	MOT	860	1+	0.58	100+	0.38
MC74LVX573DT	MOT	860	1+	0.65	100+	0.42
MC74LVX74D	MOT	860	1+	0.55	100+	0.36
MC74VHC00D	MOT	860	1+	0.45	100+	0.29
MC74VHC125D	MOT	860	1+	0.60	100+	0.39
MC74VHC126D	MOT	860	1+	0.60	100+	0.39
MC74VHC132D	MOT	860	1+	0.79	100+	0.52
MC74VHC138D	MOT	860	1+	0.65	100+	0.42
MC74VHC139D	MOT	860	1+	0.65	100+	0.42
MC74VHC14D	MOT	860	1+	0.53	100+	0.34
MC74VHC157D	MOT	860	1+	0.70	100+	0.46
MC74VHC244DT	MOT	860	1+	0.58	100+	0.38
MC74VHC245DT	MOT	860	1+	0.58	100+	0.38
MC74VHC32D	MOT	860	1+	0.45	100+	0.29
MC74VHC373DT	MOT	860	1+	0.58	100+	0.38
MC74VHC374DT	MOT	860	1+	0.58	100+	0.38
MC74VHC393D	MOT	860	1+	0.65	100+	0.42
MC74VHC540DT	MOT	860	1+	0.65	100+	0.42
MC74VHC541DT	MOT	860	1+	0.65	100+	0.42
MC74VHC573DT	MOT	860	1+	0.75	100+	0.49
MC74VHC574DT	MOT	860	1+	0.65	100+	0.42

Type	Mfg.	Pg.	Qty.	$	Qty.	$
MC74VHC595D	MOT	860	1+	2.72	25+	2.10
MC74VHC74D	MOT	860	1+	0.55	100+	0.36
MC75174BP	MOT	867	1+	2.90	25+	2.24
MC7805.2CT	MOT	...	1+	0.71	100+	0.56
MC7805ACT	MOT	...	1+	0.69	100+	0.54
MC7805BT	MOT	...	1+	0.65	100+	0.42
MC7805CD2TR4	MOT	...	1+	0.72	100+	0.57
MC7805CT	MOT	...	1+	0.68	100+	0.48
MC7806ACT	MOT	...	1+	0.71	100+	0.56
MC7806CT	MOT	...	1+	0.53	100+	0.42
MC7808ACT	MOT	...	1+	0.71	100+	0.56
MC7808BT	MOT	...	1+	0.65	100+	0.42
MC7808CT	MOT	...	1+	0.53	100+	0.42
MC7809ACT	MOT	...	1+	0.71	100+	0.56
MC7809BT	MOT	...	1+	2.00	25+	1.54
MC7812ACT	MOT	...	1+	0.69	100+	0.54
MC7812BT	MOT	...	1+	0.65	100+	0.42
MC7812CD2TR4	MOT	...	1+	0.72	100+	0.57
MC7812CT	MOT	...	1+	0.68	100+	0.44
MC7815ACT	MOT	...	1+	0.71	100+	0.56
MC7815BT	MOT	...	1+	0.71	100+	0.56
MC7815CD2TR4	MOT	...	1+	0.72	100+	0.57
MC7815CT	MOT	...	1+	0.68	100+	0.48
MC7818BT	MOT	...	1+	2.25	100+	2.14
MC7818CT	MOT	...	1+	0.68	100+	0.44
MC7824ACT	MOT	...	1+	0.65	100+	0.42
MC7824BT	MOT	...	1+	0.65	100+	0.42
MC7824CT	MOT	...	1+	0.68	100+	0.44
MC78BC30NTR	MOT	865	1+	0.78	100+	0.62
MC78BC50NTR	MOT	865	1+	0.78	100+	0.62
MC78FC30HT1	MOT	865	1+	0.83	100+	0.66
MC78FC50HT1	MOT	865	1+	0.83	100+	0.66
MC78L05ABD	MOT	...	1+	0.59	100+	0.47
MC78L05ABP	MOT	...	1+	0.59	100+	0.47
MC78L05ACD	MOT	...	1+	0.48	100+	0.38
MC78L05ACP	MOT	...	1+	0.60	100+	0.42
MC78L08ABP	MOT	...	1+	0.59	100+	0.47
MC78L08ACD	MOT	...	1+	0.48	100+	0.38
MC78L08ACP	MOT	...	1+	0.63	100+	0.44
MC78L09ACD	MOT	...	1+	0.48	100+	0.38
MC78L09ACP	MOT	...	1+	0.63	100+	0.44
MC78L12ABD	MOT	...	1+	0.59	100+	0.47
MC78L12ABP	MOT	...	1+	0.59	100+	0.47
MC78L12ACP	MOT	...	1+	0.63	100+	0.44
MC78L15ABP	MOT	...	1+	0.59	100+	0.47
MC78L15ACD	MOT	...	1+	0.63	100+	0.44
MC78L15ACP	MOT	...	1+	0.63	100+	0.44
MC78L18ACP	MOT	...	1+	0.63	100+	0.44
MC78L24ACP	MOT	...	1+	0.63	100+	0.44
MC78LC30HT1	MOT	865	1+	0.72	100+	0.57
MC78LC30NTR	MOT	865	1+	0.72	100+	0.57
MC78LC33HT1	MOT	865	1+	0.72	100+	0.57
MC78LC33NTR	MOT	865	1+	0.72	100+	0.57
MC78LC50NTR	MOT	...	1+	0.72	100+	0.57
MC78M05ACDT	MOT	...	1+	1.15	100+	0.90
MC78M05BDT	MOT	...	1+	1.08	100+	0.84
MC78M05BT	MOT	...	1+	0.67	100+	0.53
MC78M05CDT	MOT	...	1+	0.79	100+	0.62
MC78M05CDT-1	MOT	...	1+	0.75	100+	0.58
MC78M05CT	MOT	...	1+	0.55	100+	0.44
MC78M06BT	MOT	...	1+	0.67	100+	0.53
MC78M06CDT	MOT	...	1+	0.79	100+	0.62
MC78M08BT	MOT	...	1+	0.67	100+	0.53
MC78M08CDT	MOT	...	1+	0.79	100+	0.62
MC78M08CT	MOT	...	1+	0.55	100+	0.44
MC78M09CT	MOT	...	1+	0.55	100+	0.44
MC78M12CDT	MOT	...	1+	0.79	100+	0.62
MC78M12CT	MOT	...	1+	0.55	100+	0.44
MC78M15BDT	MOT	...	1+	1.08	100+	0.84
MC78M15CT	MOT	...	1+	0.55	100+	0.44
MC78M18CT	MOT	...	1+	0.55	100+	0.44
MC78M24CT	MOT	...	1+	0.55	100+	0.44
MC78T05ABT	MOT	...	1+	2.82	25+	2.07
MC78T05ACT	MOT	...	1+	2.80	25+	2.17
MC78T05CT	MOT	...	1+	2.36	25+	1.82
MC78T08CT	MOT	...	1+	2.36	25+	1.82
MC78T12ACT	MOT	...	1+	2.90	25+	2.24
MC78T12BT	MOT	...	1+	2.90	25+	2.24
MC78T12CT	MOT	...	1+	2.36	25+	1.82
MC78T15ABT	MOT	...	1+	2.90	25+	2.24
MC78T15ACT	MOT	...	1+	2.90	25+	2.24
MC78T15CT	MOT	...	1+	2.36	25+	1.82
MC7905ACT	MOT	...	1+	0.71	100+	0.56
MC7905CT	MOT	...	1+	0.53	100+	0.42
MC7906CT	MOT	...	1+	0.53	100+	0.42
MC79076DW	MOT	...	1+	5.63	10+	5.00
MC7908ACT	MOT	...	1+	0.65	100+	0.42
MC7908CT	MOT	...	1+	0.53	100+	0.42
MC7912ACT	MOT	...	1+	0.71	100+	0.56
MC7912BT	MOT	...	1+	0.71	100+	0.56
MC7912CD2T	MOT	...	1+	0.72	100+	0.57
MC7912CT	MOT	...	1+	0.52	100+	0.41
MC7915ACT	MOT	...	1+	0.71	100+	0.56
MC7915CT	MOT	...	1+	0.68	100+	0.48
MC7918CT	MOT	...	1+	0.53	100+	0.42
MC7924BT	MOT	...	1+	0.67	100+	0.53
MC79L05ABD	MOT	...	1+	0.59	100+	0.47
MC79L05ABP	MOT	...	1+	0.59	100+	0.47

Type	Mfg.	Pg.	Qty.	$	Qty.	$
MC79L05ACLP	TI	...	1+	0.54	100+	0.44
MC79L05ACP	MOT	...	1+	0.60	100+	0.42
MC79L12ABD	MOT	...	1+	0.59	100+	0.47
MC79L12ABP	MOT	...	1+	0.59	100+	0.47
MC79L12ACP	MOT	...	1+	0.63	100+	0.44
MC79L15ABP	MOT	...	1+	0.59	100+	0.47
MC79L15ACP	MOT	...	1+	0.48	100+	0.38
MC79L15CP	MOT	...	1+	0.43	100+	0.35
MC79L24ACP	MOT	...	1+	0.76	100+	0.62
MC79M05CDT	MOT	...	1+	0.79	100+	0.62
MC79M05CT	MOT	...	1+	0.55	100+	0.44
MC79M08CDT	MOT	...	1+	0.75	100+	0.58
MC79M08CT	MOT	...	1+	0.54	100+	0.42
MC79M12BT	MOT	...	1+	0.67	100+	0.53
MC79M15BT	MOT	...	1+	0.67	100+	0.53
MC88LV915TFN	MOT	...	1+	22.46	5+	20.17
MCF5102PV20B	MOT	851	1+	30.20	10+	27.12
MCF5102PV25B	MOT	851	1+	35.23	10+	31.65
MCF5102PV33B	MOT	851	1+	41.91	5+	37.65
MCF5102PV40B	MOT	851	1+	45.80	5+	41.86
MCF5204PU16A	MOT	851	1+	19.08	10+	17.04
MCF5204PU25A	MOT	851	1+	20.46	5+	18.38
MCF5204PU33A	MOT	851	1+	23.27	5+	20.90
MCF5206FT16	MOT	851	1+	25.21	5+	22.65
MCF5206FT25	MOT	851	1+	27.57	5+	24.77
MCF5206FT33	MOT	851	1+	31.35	5+	28.16
MCH12140D	MOT	862	1+	16.37	5+	11.46
MCM6229BBXJ20	MOT	...	1+	12.00	10+	10.72
MCM6246WJ17	MOT	...	1+	91.48	5+	80.78
MCM6246WJ20	MOT	...	1+	52.02	5+	45.94
MCM6249WJ35	MOT	...	1+	56.83	5+	51.94
MCM62X308J17	MOT	...	1+	6.88	...	...
MCM6323ATS10	MOT	859	1+	9.70	10+	8.24
MCM6323ATS12	MOT	859	1+	9.42	10+	8.00
MCM6323ATS15	MOT	859	1+	9.13	10+	7.76
MCM6323AYJ10	MOT	859	1+	20.75	5+	18.99
MCM6323AYJ12	MOT	859	1+	9.42	10+	8.00
MCM6323AYJ15	MOT	859	1+	9.13	10+	7.76
MCM6323TS12	MOT	...	1+	26.50	10+	19.88
MCM6323TS15	MOT	...	1+	23.85	10+	17.89
MCM6323YJ12	MOT	...	1+	26.50	10+	19.88
MCM6323YJ15	MOT	...	1+	23.85	10+	17.89
MCM6341ZP11	MOT	859	1+	63.55	5+	58.08
MCM6341ZP12	MOT	859	1+	43.85	5+	40.08
MCM6341ZP15	MOT	859	1+	52.59	5+	48.06
MCM6343TS12	MOT	859	1+	57.15	5+	52.23
MCM6343TS15	MOT	859	1+	54.47	5+	49.78
MCM6343YJ12	MOT	859	1+	53.64	5+	49.02
MCM6343YJ15	MOT	859	1+	50.96	5+	46.57
MCM63F733ATQ10	MOT	859	1+	35.19	5+	32.21
MCM63F733ATQ11	MOT	859	1+	32.03	5+	29.31
MCM63F733ATQ8.5	MOT	859	1+	36.95	5+	33.82
MCM63P733ATQ100	MOT	859	1+	32.03	5+	29.31
MCM63P733ATQ133	MOT	859	1+	35.23	5+	32.24
MCM63P733ATQ150	MOT	859	1+	36.82	5+	33.70
MCM63Z736TQ100	MOT	859	1+	52.45	5+	47.93
MCM63Z736TQ133	MOT	859	1+	55.08	5+	50.34
MCM63Z737TQ11	MOT	859	1+	55.08	5+	50.34
MCM63Z737TQ15	MOT	859	1+	52.45	5+	47.93
MCM63Z818TQ100	MOT	859	1+	52.45	5+	47.93
MCM63Z818TQ133	MOT	859	1+	55.08	5+	50.34
MCM63Z819TQ11	MOT	859	1+	55.08	5+	50.34
MCM63Z819TQ15	MOT	859	1+	52.45	5+	47.93
MCM6726DWJ8	MOT	...	1+	58.94	5+	53.86
MCM6729DWJ10	MOT	...	1+	45.29	5+	40.68
MCM6729DWJ12	MOT	...	1+	41.00	5+	31.66
MCM6729DWJ15	MOT	...	1+	23.34	5+	21.36
MCM6729DWJ8	MOT	...	1+	58.94	5+	53.86
MCM67B618AFN8.5	MOT	...	1+	50.68	5+	39.14
MCM67Q709AZP10	MOT	...	1+	40.57	5+	36.45
MCM67Q709AZP12	MOT	...	1+	39.22	...	...
MCM67Q709ZP10	MOT	...	1+	82.93	5+	73.23
MCM67Q804WJ10	MOT	...	1+	38.94	5+	37.08
MCM67Q909ZP12	MOT	...	1+	130.03	5+	123.79
MCM67Q909ZP15	MOT	...	1+	112.91	...	...
MCM6926AWJ10	MOT	859	1+	36.80	5+	33.06
MCM6926AWJ12	MOT	859	1+	33.97	5+	30.51
MCM6926AWJ15	MOT	859	1+	18.82	5+	17.23
MCM6926AWJ8	MOT	859	1+	52.62	5+	45.08
MCM6929AWJ10	MOT	859	1+	22.41	5+	20.51
MCM6929AWJ12	MOT	859	1+	22.41	5+	20.51
MCM6929AWJ15	MOT	859	1+	22.41	100+	20.51
MCM6929AWJ8	MOT	859	1+	22.41	5+	20.51
MCM6946YJ10	MOT	859	1+	58.94	5+	53.86
MCM6946YJ12	MOT	859	1+	49.12	5+	44.89
MCM6946YJ15	MOT	859	1+	46.05	5+	42.08
MCM6949YJ10	MOT	859	1+	61.39	5+	56.11
MCM6949YJ12	MOT	859	1+	46.05	5+	42.08
MCM6949YJ15	MOT	859	1+	46.05	5+	42.08
MCM69C232TQ20	MOT	859	1+	30.78	...	...
MCM69C432TQ20	MOT	859	1+	95.02	5+	90.46
MCM69D536TQ6	MOT	859	1+	56.47	5+	51.60
MCM69D536TQ8	MOT	859	1+	50.87	5+	46.49
MCM69D618TQ6	MOT	859	1+	56.47	5+	51.60
MCM69D618TQ8	MOT	859	1+	50.87	5+	46.49
MCM69F536ATQ10	MOT	...	1+	46.85	5+	36.19
MCM69F536ATQ12	MOT	...	1+	40.41	5+	31.21
MCM69F536ATQ8.5	MOT	...	1+	49.32	5+	38.09

NEW TYPES ARE BEING CONTINUALLY ADDED TO INVENTORY.

CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR AVAILABILITY.

Type	Mfg.	Pg.	Qty.	$	Qty.	$
MCM69F536ATQ9	MOT	...	1+	49.32	5+	38.09
MCM69F536BTQ10	MOT	...	1+	46.85	5+	36.19
MCM69F536BTQ12	MOT	...	1+	40.41	5+	31.21
MCM69F536BTQ8.5	MOT	...	1+	42.54	5+	32.85
MCM69F536BTQ9	MOT	...	1+	49.32	5+	38.09
MCM69F536CTQ10	MOT	859	1+	20.15	5+	18.45
MCM69F536CTQ8	MOT	859	1+	23.99	5+	21.95
MCM69F536CTQ9	MOT	859	1+	21.12	5+	19.33
MCM69F618ATQ10	MOT	...	1+	40.41	5+	31.21
MCM69F618ATQ12	MOT	...	1+	46.85	5+	36.19
MCM69F618ATQ8.5	MOT	...	1+	42.54	5+	32.85
MCM69F618ATQ9	MOT	...	1+	49.32	5+	38.09
MCM69F618CTQ10	MOT	859	1+	20.15	5+	18.45
MCM69F618CTQ8	MOT	859	1+	23.99	5+	21.95
MCM69F618CTQ9	MOT	859	1+	21.12	5+	19.33
MCM69F737TQ7.5	MOT	859	1+	58.71	5+	53.66
MCM69F737TQ8.5	MOT	859	1+	48.41	5+	44.25
MCM69F819TQ7.5	MOT	859	1+	161.00	5+	145.16
MCM69F819TQ8	MOT	...	1+	153.59	5+	134.68
MCM69F819TQ8.5	MOT	859	1+	133.95	5+	117.45
MCM69P536BTQ4.5	MOT	...	1+	45.61	5+	41.68
MCM69P536BTQ5	MOT	...	1+	39.25	5+	35.26
MCM69P536BTQ6	MOT	...	1+	34.35	5+	30.85
MCM69P536BTQ7	MOT	...	1+	29.64	5+	27.12
MCM69P536CTQ4.5	MOT	859	1+	23.02	5+	21.07
MCM69P536CTQ6	MOT	859	1+	20.15	5+	18.45
MCM69P536CTQ7	MOT	...	1+	20.15	5+	18.45
MCM69P618CTQ4.5	MOT	859	1+	23.02	5+	21.07
MCM69P618CTQ6	MOT	859	1+	20.15	5+	18.45
MCM69P737TQ3.0	MOT	859	1+	45.61	5+	41.68
MCM69P737TQ3.2	MOT	859	1+	44.45	5+	40.68
MCM69P737TQ3.5	MOT	859	1+	52.03	5+	47.55
MCM69P819TQ3.5	MOT	859	1+	52.03	5+	47.55
MCM69P819TQ3.8	MOT	859	1+	40.75	5+	37.29
MCM69P819TQ4	MOT	...	1+	69.57	5+	63.58
MCM69T618TQ5	MOT	...	1+	50.87	5+	46.49
MCM69T618TQ6	MOT	...	1+	58.13	5+	51.67
MCM69T618TQ7	MOT	...	1+	58.13	5+	51.67
MCR08BT1	MOT	...	1+	0.48	100+	0.38
MCR100-003	MOT	...	1+	0.40	100+	0.26
MCR100-008	MOT	...	1+	0.41	100+	0.27
MCR100-6	MOT	874	1+	0.42	100+	0.29
MCR106-3	MOT	...	1+	0.95	100+	0.90
MCR106-6	MOT	874	1+	0.65	100+	0.52
MCR106-8	MOT	874	1+	0.65	100+	0.52
MCR12D	MOT	874	1+	0.86	100+	0.73
MCR12LD	MOT	874	1+	0.86	100+	0.73
MCR12LM	MOT	874	1+	0.86	100+	0.73
MCR12LN	MOT	874	1+	0.86	100+	0.73
MCR12M	MOT	874	1+	0.86	100+	0.73
MCR12N	MOT	874	1+	0.86	100+	0.73
MCR16N	MOT	874	1+	0.98	100+	0.84
MCR218-10FP	MOT	874	1+	2.89	50+	2.75
MCR218-2	MOT	874	1+	1.34	100+	1.05
MCR218-4	MOT	874	1+	1.58	100+	1.50
MCR218-6	MOT	874	1+	1.62	100+	1.54
MCR218-6FP	MOT	874	1+	2.51	100+	2.38
MCR218-8FP	MOT	874	1+	2.79	50+	2.65
MCR22-6	MOT	874	1+	0.47	100+	0.33
MCR22-6RLRA	MOT	...	1+	0.47	100+	0.33
MCR22-8	MOT	874	1+	0.47	100+	0.33
MCR225-10FP	MOT	874	1+	4.08	50+	3.88
MCR225-2FP	MOT	874	1+	2.79	50+	2.65
MCR225-8FP	MOT	874	1+	2.36	25+	1.82
MCR25N	MOT	874	1+	1.35	25+	1.20
MCR264-4	MOT	874	1+	2.36	25+	1.82
MCR264-6	MOT	...	1+	2.36	25+	1.82
MCR264-8	MOT	874	1+	2.36	25+	1.82
MCR265-006	MOT	...	1+	2.04	25+	1.82
MCR265-10	MOT	874	1+	3.08	25+	2.38
MCR265-4	MOT	874	1+	3.08	25+	2.38
MCR265-8	MOT	874	1+	3.08	25+	2.38
MCR310-10	MOT	...	1+	1.86	100+	1.76
MCR68-002	MOT	...	1+	0.96	100+	0.82
MCR69-2	MOT	...	1+	1.53	25+	1.18
MCR69-3	MOT	...	1+	2.07	25+	1.60
MCR708A	MOT	...	1+	1.41	100+	1.34
MCR72-006	MOT	...	1+	0.82	100+	0.70
MCR72-008	MOT	...	1+	0.82	100+	0.70
MCR72-8	MOT	874	1+	1.31	100+	1.02
MCR8M	MOT	874	1+	0.83	100+	0.71
MCR8N	MOT	874	1+	0.92	100+	0.73
MCR8SD	MOT	874	1+	0.92	100+	0.73
MCR8SM	MOT	874	1+	0.92	100+	0.73
MCR8SN	MOT	874	1+	0.92	100+	0.73
MCT1413P	MOT	...	1+	1.00	100+	0.78
MCT2	QT	585	1+	0.34	100+	0.29
MCT210	QT	585	1+	0.56	100+	0.48
MCT271	MOT	...	1+	1.86	100+	1.76
MCT2E	QT	585	1+	0.40	100+	0.34
MCT6	QT	585	1+	0.67	100+	0.57
MCT61	QT	585	1+	0.70	100+	0.59
MCT62	QT	585	1+	0.65	100+	0.57
MCT9001	QT	585	1+	0.72	100+	0.62
MDC1000BLT1	MOT	...	1+	0.63	100+	0.44
MDC3105LT1	MOT	...	1+	0.50	100+	0.33
ME500810	PWX	928	1+	95.02	5+	84.46
ME501206	PWX	928	1+	89.27	5+	79.35

Type	Mfg.	Pg.	Qty.	$	Qty.	$
ME501610	PWX	928	1+	142.20	5+	124.69
ME601615	PWX	928	1+	180.36	5+	158.15
ME700803	PWX	928	1+	30.48	5+	29.02
ME701203	PWX	928	1+	42.16	5+	40.15
ME701603	PWX	928	1+	47.36	5+	45.09
MF10CCN	NAT	...	1+	3.34	25+	2.50
MF4CN-50	NAT	...	1+	1.63	25+	1.22
MGA-81563-BLK	HP	...	1+	2.05	25+	1.82
MGA-82563-BLK	HP	...	1+	2.31	10+	2.08
MGA-83563-BLK	HP	...	1+	2.74	10+	2.46
MGA-85563-BLK	HP	...	1+	2.74	10+	2.46
MGA-86563-BLK	HP	...	1+	4.07	10+	3.67
MGA-87563-BLK	HP	...	1+	2.47	10+	2.22
MGSF1N02LT1	MOT	...	1+	0.59	100+	0.47
MGSF1N03LT1	MOT	...	1+	0.59	100+	0.47
MGSF1P02ELT1	MOT	...	1+	0.72	100+	0.57
MGSF1P02LT1	MOT	...	1+	0.40	100+	0.31
MHL9125	MOT	872	1+	86.69	5+	82.53
MHL9128	MOT	872	1+	86.69	5+	82.53
MHPM6B10A120D	MOT	...	1+	66.92	5+	59.10
MHPM6B10A60D	MOT	...	1+	49.32	5+	38.09
MHPM6B15A120D	MOT	...	1+	83.36	5+	73.61
MHPM6B20A60D	MOT	...	1+	62.85	5+	48.54
MHPM6B5A120D	MOT	...	1+	64.73	5+	49.99
MHW-SOIC16	NAT	...	1+	196.99	5+	177.61
MHW1916	MOT	...	1+	264.55	5+	230.89
MHW2821-001	MOT	...	1+	52.62	5+	48.09
MHW2821-002	MOT	...	1+	52.62	5+	48.09
MHW2905	MOT	...	1+	67.49	5+	59.60
MHW5185B	MOT	...	1+	43.85	5+	40.08
MHW5342A	MOT	872	1+	70.90	5+	54.76
MHW6205-6A	MOT	...	1+	50.87	5+	46.49
MHW707-2	MOT	...	1+	56.22	5+	53.84
MHW7205A	MOT	...	1+	77.18	5+	70.54
MHW720A2	MOT	...	1+	77.41	5+	68.35
MHW820-001	MOT	...	1+	70.61	5+	64.53
MHW820-003	MOT	...	1+	72.43	5+	66.19
MHW8242	MOT	...	1+	59.64	5+	54.51
MHW8272	MOT	...	1+	63.15	5+	57.71
MHW9242	MOT	...	1+	95.50	5+	84.33
MIC10937J-40	MIC	...	1+	6.40	25+	6.14
MIC10937P-40/50	MIC	...	1+	6.40	25+	6.14
MIC10938P-50	MIC	...	1+	7.50	25+	7.20
MIC10939P-50	MIC	...	1+	7.50	25+	7.20
MIC10941P-50	MIC	...	1+	6.88	25+	6.60
MIC10957P-40/50	MIC	...	1+	6.50	25+	6.24
MIC1555BM5 TS	MIC	...	1+	0.78	25+	0.75
MIC1557BM5 TS	MIC	...	1+	0.78	25+	0.75
MIC2172BM	MIC	...	1+	2.11	25+	1.99
MIC2505BM	MIC	...	1+	2.13	25+	2.04
MIC2506BM	MIC	...	1+	2.48	25+	2.38
MIC2514BM5	MIC	...	1+	1.77	25+	1.67
MIC2557BM	MIC	...	1+	1.38	25+	1.32
MIC2558BM	MIC	...	1+	2.03	25+	1.94
MIC2559BM	MIC	...	1+	2.50	25+	2.36
MIC2560-0BWM	MIC	...	1+	4.30	25+	4.13
MIC2560-1BWM	MIC	...	1+	4.30	25+	4.13
MIC2561-1BM	MIC	...	1+	3.18	25+	3.05
MIC2562A-0BM	MIC	...	1+	3.28	25+	3.14
MIC2563A-0BSM	MIC	...	1+	4.38	25+	4.20
MIC2563A-1BSM	MIC	...	1+	4.38	25+	4.20
MIC2570-2BM	MIC	...	1+	2.00	25+	1.92
MIC2660BM5 TS	MIC	...	1+	1.44	25+	1.40
MIC29150-3.3BT	MIC	918	1+	2.88	25+	2.76
MIC29150-3.3BU	MIC	...	1+	2.88	25+	2.76
MIC29150-5.0BT	MIC	918	1+	2.88	25+	2.76
MIC29150-5.0BU	MIC	918	1+	2.88	25+	2.76
MIC29152BT	MIC	...	1+	3.25	25+	3.12
MIC29152BU	MIC	...	1+	3.25	25+	3.12
MIC29201-5.0BT	MIC	...	1+	2.75	25+	2.64
MIC29201-5.0BU	MIC	...	1+	2.75	25+	2.64
MIC29202BT	MIC	...	1+	2.75	25+	2.64
MIC29202BU	MIC	...	1+	2.75	25+	2.64
MIC29204BM	MIC	...	1+	2.50	25+	2.40
MIC2920A-3.3BS	MIC	...	1+	1.88	25+	1.80
MIC2920A-5.0BS	MIC	...	1+	1.88	25+	1.80
MIC2920A-5.0BT	MIC	918	1+	2.45	25+	2.35
MIC29300-3.3BT	MIC	918	1+	4.38	25+	4.20
MIC29300-3.3BU	MIC	...	1+	4.38	25+	4.20
MIC29300-5.0BT	MIC	918	1+	4.38	25+	4.20
MIC29300-5.0BU	MIC	918	1+	4.38	25+	4.20
MIC29301-5.0BT	MIC	...	1+	4.75	25+	4.56
MIC29301-5.0BU	MIC	...	1+	4.75	25+	4.56
MIC29302BT	MIC	...	1+	4.75	25+	4.56
MIC29302BU	MIC	...	1+	4.75	25+	4.56
MIC29312BT	MIC	...	1+	3.50	25+	3.36
MIC29312BU	MIC	...	1+	3.50	25+	3.36
MIC29371-5.0BT	MIC	...	1+	3.00	25+	2.88
MIC29371-5.0BU	MIC	...	1+	3.00	25+	2.88
MIC29372BT	MIC	...	1+	3.00	25+	2.88
MIC29372BU	MIC	...	1+	3.00	25+	2.88
MIC2937A-3.3BT	MIC	...	1+	1.62	25+	1.53
MIC2937A-3.3BU	MIC	...	1+	1.62	25+	1.53
MIC2937A-5.0BT	MIC	...	1+	1.62	25+	1.53
MIC2937A-5.0BU	MIC	...	1+	1.62	25+	1.53
MIC2940A-3.3BT	MIC	...	1+	1.71	25+	1.62
MIC2940A-3.3BU	MIC	...	1+	1.71	25+	1.62
MIC2940A-5.0BT	MIC	...	1+	1.71	25+	1.62

Type	Mfg.	Pg.	Qty.	$	Qty.	$
MIC2940A-5.0BU	MIC	...	1+	1.71	25+	1.62
MIC2941ABT	MIC	...	1+	1.89	25+	1.79
MIC2941ABU	MIC	...	1+	1.89	25+	1.79
MIC2950-05BZ	MIC	918	1+	1.08	25+	1.02
MIC2950-06BZ	MIC	918	1+	1.04	25+	0.99
MIC29500-3.3BT	MIC	918	1+	6.50	25+	6.24
MIC29500-5.0BT	MIC	918	1+	6.50	25+	6.24
MIC29501-3.3BT	MIC	...	1+	7.25	25+	6.96
MIC29501-3.3BU	MIC	...	1+	7.25	25+	6.96
MIC29502BT	MIC	...	1+	7.25	25+	6.96
MIC29502BU	MIC	...	1+	7.25	25+	6.96
MIC2951-02BM	MIC	918	1+	1.08	25+	1.02
MIC2951-03BM	MIC	918	1+	1.04	25+	0.99
MIC2951-03BN	MIC	...	1+	1.04	25+	0.99
MIC2954-02BS	MIC	...	1+	1.31	25+	1.24
MIC2954-02BT	MIC	918	1+	1.89	25+	1.79
MIC2954-02BZ	MIC	...	1+	1.17	25+	1.11
MIC2954-03BS	MIC	...	1+	1.26	25+	1.19
MIC2954-03BT	MIC	918	1+	1.98	25+	1.87
MIC2954-03BZ	MIC	...	1+	1.12	25+	1.05
MIC2954-07BM	MIC	...	1+	1.40	25+	1.33
MIC2954-08BM	MIC	...	1+	1.35	25+	1.28
MIC2981/82BN	MIC	...	1+	1.35	25+	1.28
MIC3172BM	MIC	918	1+	2.11	25+	1.99
MIC3172BN	MIC	918	1+	2.11	25+	1.99
MIC38C42BM	MIC	920	1+	1.48	25+	1.39
MIC38C42BN	MIC	920	1+	1.48	25+	1.39
MIC38C43BM	MIC	920	1+	1.48	25+	1.39
MIC38C43BN	MIC	920	1+	1.48	25+	1.39
MIC38C44-1BM	MIC	920	1+	1.71	25+	1.62
MIC38C44BM	MIC	920	1+	1.48	25+	1.39
MIC38C45BM	MIC	920	1+	1.48	25+	1.39
MIC38HC42BN	MIC	920	1+	1.71	25+	1.62
MIC38HC43BM	MIC	920	1+	1.71	25+	1.62
MIC38HC44BM	MIC	920	1+	1.71	25+	1.62
MIC38HC44BN	MIC	920	1+	1.71	25+	1.62
MIC38HC45-1BM	MIC	920	1+	2.16	25+	2.04
MIC38HC45BM	MIC	920	1+	1.71	25+	1.62
MIC4416BM4 TS	MIC	919	1+	1.36	25+	1.30
MIC4420BM	MIC	919	1+	1.26	25+	1.19
MIC4420BN	MIC	919	1+	1.26	25+	1.19
MIC4420CM	MIC	919	1+	1.17	25+	1.11
MIC4420CN	MIC	919	1+	1.17	25+	1.11
MIC4420CT	MIC	919	1+	2.21	25+	2.09
MIC4421BM	MIC	919	1+	2.00	25+	1.89
MIC4421CT	MIC	919	1+	2.61	25+	2.47
MIC4422BM	MIC	919	1+	2.00	25+	1.89
MIC4422BN	MIC	919	1+	1.80	25+	1.70
MIC4423BN	MIC	919	1+	1.80	25+	1.70
MIC4423CN	MIC	919	1+	1.62	25+	1.53
MIC4424BN	MIC	919	1+	1.80	25+	1.70
MIC4424CN	MIC	919	1+	1.62	25+	1.53
MIC4425BN	MIC	919	1+	1.80	25+	1.70
MIC4426BM	MIC	919	1+	1.31	25+	1.24
MIC4426BN	MIC	919	1+	1.31	25+	1.24
MIC4426CM	MIC	919	1+	1.04	25+	0.99
MIC4426CN	MIC	919	1+	1.17	25+	1.11
MIC4427BM	MIC	919	1+	1.31	25+	1.24
MIC4427BN	MIC	919	1+	1.31	25+	1.24
MIC4427CM	MIC	919	1+	1.04	25+	0.99
MIC4427CN	MIC	919	1+	1.17	25+	1.11
MIC4428BM	MIC	919	1+	1.31	25+	1.24
MIC4428BN	MIC	919	1+	1.31	25+	1.24
MIC4428CN	MIC	919	1+	1.17	25+	1.11
MIC4429BM	MIC	919	1+	1.76	25+	1.67
MIC4429CM	MIC	919	1+	1.53	25+	1.45
MIC4429CN	MIC	919	1+	1.53	25+	1.45
MIC4451BM	MIC	919	1+	2.23	25+	2.11
MIC4452BM	MIC	919	1+	2.23	25+	2.11
MIC4468BN	MIC	919	1+	3.20	25+	3.03
MIC4469BN	MIC	919	1+	3.20	25+	3.03
MIC4469BWM	MIC	919	1+	3.53	25+	3.33
MIC4469CN	MIC	919	1+	2.77	25+	2.62
MIC4574BN	MIC	918	1+	2.05	25+	1.94
MIC4574BWM	MIC	918	1+	2.16	25+	2.04
MIC4575BT	MIC	918	1+	2.25	25+	2.13
MIC4575BU	MIC	918	1+	2.25	25+	2.13
MIC4576BT	MIC	918	1+	2.97	25+	2.81
MIC4576BU	MIC	918	1+	2.97	25+	2.81
MIC4807BN	MIC	920	1+	13.50	25+	12.75
MIC5010BM	MIC	919	1+	13.50	25+	12.75
MIC5010BN	MIC	919	1+	3.80	25+	3.52
MIC5011BM	MIC	919	1+	3.13	25+	3.00
MIC5011BN	MIC	919	1+	3.00	25+	2.88
MIC5012BN	MIC	919	1+	4.43	25+	4.15
MIC5012BWM	MIC	919	1+	4.93	25+	4.60
MIC5013BM	MIC	919	1+	3.35	25+	3.22
MIC5013BN	MIC	919	1+	2.68	25+	2.57
MIC5014BM	MIC	919	1+	1.45	25+	1.39
MIC5014BN	MIC	919	1+	1.38	25+	1.32
MIC5015BM	MIC	919	1+	1.45	25+	1.39
MIC5015BN	MIC	919	1+	1.38	25+	1.32
MIC5016BN	MIC	919	1+	2.65	25+	2.54
MIC5016BWM	MIC	919	1+	2.70	25+	2.59
MIC5018BM4 TS	MIC	919	1+	1.36	25+	1.30
MIC5020BM	MIC	919	1+	1.85	25+	1.78
MIC5020BN	MIC	919	1+	1.85	25+	1.78
MIC5021BM	MIC	919	1+	1.98	25+	1.90

Manufacturer Abbreviations:

ADI: Analog Devices; **ALG:** Allegro; **ALT:** Altera; **AMD:** Advanced Micro Devices; **AND:** AND; **APD:** American Power Devices; **DAL:** Dallas Semiconductor; **ECG:** Philips ECG; **FGR:** Fagor; **GS:** General Semiconductor; **HP:** Hewlett Packard; **HRS:** Harris Semiconductor; **HWL:** Honeywell Opto; **INT:** Intronics; **IR:** International Rectifier; **MIC:** Micrel; **MOT:** Motorola; **NAT:** National Semiconductor; **OPT:** Optek; **PHL:** Phillips Semiconductors; **PWX:** Powerex; **QT:** QT Optoelectronics; **SKN:** Semikron; **SPC:** SPC Technology; **TI:** Texas Instruments; **TSK:** Thomson SK; **VAC:** EG&G Vactec; **VAN:** Vantis; **ZIL:** Zilog

Type	Mfg.	Pg.	Qty.	$	Qty.	$
MIC5021BN	MIC	919	1+	1.98	25+	1.90
MIC5022BN	MIC	919	1+	4.28	25+	4.10
MIC50395CN	MIC	...	1+	13.75	25+	13.20
MIC5156BM	MIC	918	1+	2.28	25+	2.18
MIC5156BN	MIC	...	1+	2.28	25+	2.18
MIC5157BM	MIC	918	1+	2.55	25+	2.45
MIC5157BN	MIC	...	1+	2.55	25+	2.45
MIC5158BM	MIC	918	1+	2.55	25+	2.45
MIC5158BN	MIC	...	1+	2.55	25+	2.45
MIC5200-3.0BM	MIC	...	1+	1.25	25+	1.20
MIC5200-3.0BS	MIC	...	1+	1.63	25+	1.56
MIC5200-3.3BM	MIC	...	1+	1.25	25+	1.20
MIC5200-3.3BS	MIC	...	1+	1.63	25+	1.56
MIC5200-5.0BM	MIC	...	1+	1.25	25+	1.20
MIC5200-5.0BS	MIC	...	1+	1.63	25+	1.56
MIC5201-3.3BM	MIC	...	1+	1.50	25+	1.44
MIC5201-3.3BS	MIC	...	1+	1.75	25+	1.68
MIC5201-5.0BM	MIC	...	1+	1.50	25+	1.44
MIC5201-5.0BS	MIC	...	1+	1.75	25+	1.68
MIC5201BM	MIC	...	1+	1.50	25+	1.44
MIC5202-3.0BM	MIC	...	1+	2.63	25+	2.52
MIC5203-3.0BM4 TS	MIC	...	1+	0.71	25+	0.67
MIC5203-3.3BM4 TS	MIC	918	1+	0.71	25+	0.67
MIC5203-3.6BM4 TS	MIC	...	1+	0.71	25+	0.67
MIC5203-5.0BM4 TS	MIC	918	1+	0.71	25+	0.67
MIC5205-3.0BM5 TS	MIC	...	1+	1.08	25+	1.01
MIC5205-3.3BM5 TS	MIC	918	1+	1.08	25+	1.01
MIC5205-3.6BM5 TS	MIC	...	1+	1.08	25+	1.01
MIC5205-5.0BM5 TS	MIC	918	1+	1.08	25+	1.01
MIC5205BM5 TS	MIC	...	1+	1.08	25+	1.01
MIC5207-2.5BM5 T&	MIC	918	1+	0.68	25+	0.64
MIC5207-2.5BM5 TS	MIC	918	1+	0.68	25+	0.64
MIC5207-3.0BM5 TS	MIC	...	1+	1.01	25+	0.96
MIC5207-3.3BM5 TS	MIC	918	1+	1.01	25+	0.96
MIC5207-5.0BM5 TS	MIC	918	1+	1.01	25+	0.96
MIC5207BM5 TS	MIC	...	1+	1.01	25+	0.96
MIC5208-3.3BMM TS	MIC	...	1+	2.11	25+	2.02
MIC5208-5.0BMM TS	MIC	...	1+	2.11	25+	2.02
MIC5209-2.5BU T&R	MIC	918	1+	1.78	25+	1.68
MIC5210-3.0BMM TS	MIC	...	1+	2.61	25+	2.50
MIC5210-5.0BMM TS	MIC	918	1+	2.61	25+	2.50
MIC5800BM	MIC	920	1+	1.16	25+	1.09
MIC5800BN	MIC	920	1+	1.04	25+	0.98
MIC5801BN	MIC	920	1+	1.57	25+	1.47
MIC5801BV	MIC	920	1+	1.85	25+	1.74
MIC5801BWM	MIC	920	1+	1.73	25+	1.63
MIC5810BN	MIC	920	1+	1.76	25+	1.67
MIC5810BWM	MIC	920	1+	1.78	25+	1.68
MIC5812BN	MIC	920	1+	2.79	25+	2.64
MIC5818BN	MIC	920	1+	4.45	25+	4.20
MIC5821BN	MIC	920	1+	1.45	25+	1.36
MIC5822BN	MIC	920	1+	1.57	25+	1.47
MIC5841BN	MIC	920	1+	2.27	25+	2.14
MIC5841BV	MIC	920	1+	2.49	25+	2.34
MIC5841BWM	MIC	920	1+	2.54	25+	2.40
MIC5891BN	MIC	920	1+	1.65	25+	1.55
MIC5891BWM	MIC	920	1+	1.68	25+	1.58
MIC58P01BN	MIC	920	1+	3.65	25+	3.50
MIC59P50BWM	MIC	920	1+	4.25	25+	4.08
MIC59P60BN	MIC	920	1+	3.75	25+	3.60
MIC6211BM5 TS	MIC	...	1+	0.80	25+	0.75
MIC6270BM5 TS	MIC	...	1+	0.78	25+	0.75
MIC7111BM5 T&R	MIC	920	1+	1.08	25+	1.03
MIC7111BM5 TS	MIC	920	1+	1.08	25+	1.03
MIC7211BM5 T&R	MIC	919	1+	1.08	25+	1.03
MIC7211BM5 TS	MIC	919	1+	1.08	25+	1.03
MIC7221BM5 T&R	MIC	919	1+	1.08	25+	1.03
MIC7221BM5 TS	MIC	919	1+	1.08	25+	1.03
MIC7300BM5 T&R	MIC	920	1+	1.20	25+	1.15
MIC7300BM5 TS	MIC	920	1+	1.20	25+	1.15
MIC94001BLM	MIC	...	1+	1.12	25+	1.05
MIC94002BLM	MIC	...	1+	1.71	25+	1.62
MIC94030BM4 TS	MIC	...	1+	0.78	25+	0.75
MIC94031BM4 TS	MIC	...	1+	0.78	25+	0.75
MICRF001BM	MIC	920	1+	4.63	25+	4.34
MICRF001BM T&R	MIC	920	1+	4.68	25+	4.39
MICRF001BN	MIC	920	1+	4.63	25+	4.34
MICRFKIT001	MIC	920	1+	139.95	25+	132.55
MID400	QT	585	1+	2.72	25+	2.44
MIM2901	MOT	872	1+	19.90	10+	17.65
MJ10005	MOT	871	1+	7.75	25+	5.70
MJ10007	MOT	871	1+	7.75	25+	5.70
MJ10009	MOT	871	1+	12.47	10+	9.07
MJ10012	MOT	871	1+	4.75	25+	3.50
MJ10015	MOT	...	1+	16.56	10+	12.42
MJ10016	MOT	...	1+	16.56	10+	12.42
MJ10020	MOT	...	1+	17.08	10+	12.42
MJ10021	MOT	...	1+	16.56	10+	12.42
MJ10023	MOT	...	1+	16.56	10+	12.42
MJ11012	MOT	...	1+	5.28	25+	3.89
MJ11015	MOT	871	1+	5.81	25+	4.27
MJ11016	MOT	871	1+	5.81	25+	4.27
MJ11017	MOT	...	1+	12.70	10+	12.07
MJ11021	MOT	871	1+	8.80	25+	6.47
MJ11022	MOT	871	1+	8.80	25+	6.47
MJ11028	MOT	...	1+	9.40	10+	6.84
MJ11029	MOT	...	1+	9.40	10+	6.84
MJ11030	MOT	...	1+	9.40	10+	6.84
MJ11032	MOT	...	1+	9.40	10+	6.84
MJ11033	MOT	...	1+	9.40	10+	6.84
MJ13333	MOT	871	1+	7.92	25+	5.83
MJ14001	MOT	...	1+	15.37	10+	11.18
MJ14002	MOT	...	1+	11.96	10+	8.70
MJ14003	MOT	...	1+	16.40	10+	11.93
MJ15001	MOT	...	1+	4.23	25+	3.11
MJ15002	MOT	...	1+	4.35	25+	3.36
MJ15003	MOT	871	1+	4.23	25+	3.11
MJ15004	MOT	871	1+	4.23	25+	3.11
MJ15011	MOT	871	1+	4.23	25+	3.11
MJ15012	MOT	871	1+	4.34	25+	4.07
MJ15015	MOT	871	1+	3.26	25+	2.52
MJ15016	MOT	871	1+	3.26	25+	2.52
MJ15020	MOT	871	1+	5.28	25+	3.89
MJ15021	MOT	...	1+	5.28	25+	3.89
MJ15022	MOT	871	1+	5.28	25+	3.89
MJ15023	MOT	871	1+	5.28	25+	3.89
MJ15024	MOT	871	1+	5.28	25+	3.89
MJ15025	MOT	871	1+	5.28	25+	3.89
MJ16010	MOT	871	1+	8.27	25+	6.08
MJ16012	MOT	871	1+	8.27	25+	6.08
MJ16018	MOT	...	1+	8.63	25+	6.34
MJ16020	MOT	...	1+	14.86	10+	10.81
MJ16110	MOT	871	1+	9.40	10+	6.84
MJ21193	MOT	871	1+	5.11	25+	3.76
MJ21194	MOT	871	1+	5.11	25+	3.76
MJ2501	MOT	871	1+	3.26	25+	2.52
MJ2955	MOT	871	1+	2.90	25+	2.24
MJ3001	MOT	871	1+	3.70	25+	2.72
MJ423	MOT	871	1+	4.75	25+	3.50
MJ4502	MOT	...	1+	4.23	25+	3.11
MJ802	MOT	871	1+	4.23	25+	3.11
MJD112	MOT	871	1+	0.87	100+	0.69
MJD112-1	MOT	...	1+	1.45	100+	1.38
MJD117	MOT	871	1+	0.87	100+	0.69
MJD122	MOT	871	1+	1.62	100+	1.54
MJD127	MOT	871	1+	0.88	100+	0.69
MJD200	MOT	871	1+	1.90	100+	1.80
MJD210	MOT	871	1+	1.00	100+	0.78
MJD210RL	MOT	...	1+	1.00	100+	0.78
MJD243	MOT	871	1+	0.92	100+	0.72
MJD2955	MOT	871	1+	1.00	100+	0.78
MJD3055	MOT	871	1+	1.00	100+	0.78
MJD31C	MOT	871	1+	0.73	100+	0.58
MJD32-C	MOT	871	1+	1.04	100+	0.99
MJD340	MOT	871	1+	2.12	100+	2.01
MJD350	MOT	871	1+	0.88	100+	0.69
MJD42C	MOT	871	1+	1.41	100+	1.34
MJD44E3T4	MOT	871	1+	0.78	100+	0.62
MJD44H11	MOT	871	1+	1.01	100+	0.79
MJD45H11	MOT	871	1+	1.01	100+	0.79
MJD45H11-1	MOT	...	1+	1.01	100+	0.79
MJD47	MOT	871	1+	1.11	100+	0.87
MJD50	MOT	871	1+	1.11	100+	0.87
MJD5731T4	MOT	...	1+	1.49	100+	1.16
MJE13003	MOT	870	1+	0.85	100+	0.66
MJE13005	MOT	871	1+	1.05	100+	0.82
MJE13007	MOT	871	1+	1.31	100+	1.02
MJE13009	MOT	871	1+	1.63	25+	1.26
MJE1320	MOT	...	1+	3.63	25+	2.80
MJE15029	MOT	...	1+	1.60	25+	1.23
MJE15030	MOT	871	1+	1.60	25+	1.23
MJE15031	MOT	871	1+	1.74	25+	1.35
MJE15032	MOT	871	1+	1.17	100+	1.00
MJE15033	MOT	871	1+	1.17	100+	1.00
MJE16002	MOT	871	1+	2.00	25+	1.54
MJE16004	MOT	...	1+	2.00	25+	1.54
MJE16204	MOT	...	1+	2.86	50+	2.72
MJE170	MOT	...	1+	0.57	100+	0.45
MJE171	MOT	870	1+	0.57	100+	0.45
MJE172	MOT	...	1+	0.57	100+	0.45
MJE180	MOT	...	1+	0.57	100+	0.45
MJE18002	MOT	871	1+	1.31	100+	1.02
MJE18004	MOT	...	1+	1.42	100+	1.11
MJE18006	MOT	...	1+	1.64	100+	1.28
MJE18008	MOT	...	1+	2.07	25+	1.60
MJE18009	MOT	...	1+	1.96	25+	1.74
MJE181	MOT	870	1+	0.55	100+	0.44
MJE182	MOT	...	1+	0.55	100+	0.44
MJE18204	MOT	...	1+	1.10	100+	0.94
MJE200	MOT	870	1+	0.57	100+	0.45
MJE210	MOT	870	1+	0.57	100+	0.45
MJE243	MOT	870	1+	0.57	100+	0.45
MJE253	MOT	870	1+	0.71	100+	0.56
MJE270	MOT	870	1+	0.94	100+	0.73
MJE271	MOT	870	1+	0.94	100+	0.73
MJE2955T	MOT	871	1+	1.00	100+	0.78
MJE3055T	MOT	871	1+	0.99	100+	0.78
MJE340	MOT	870	1+	0.65	100+	0.52
MJE3439	MOT	870	1+	0.65	100+	0.52
MJE344	MOT	870	1+	0.65	100+	0.52
MJE350	MOT	870	1+	0.65	100+	0.52
MJE371	MOT	870	1+	0.79	100+	0.62
MJE4343	MOT	871	1+	4.23	25+	3.11
MJE4353	MOT	871	1+	4.75	25+	3.50
MJE521	MOT	870	1+	0.87	100+	0.69
MJE5730	MOT	...	1+	1.34	100+	1.17
MJE5731	MOT	...	1+	1.57	100+	1.22
MJE5731A	MOT	871	1+	3.22	50+	3.06
MJE5740	MOT	...	1+	2.00	25+	1.54
MJE5742	MOT	...	1+	2.00	25+	1.54
MJE5850	MOT	...	1+	5.11	25+	3.76
MJE5851	MOT	...	1+	5.11	25+	3.76
MJE5852	MOT	871	1+	4.58	25+	3.37
MJE700	MOT	870	1+	0.63	100+	0.50
MJE702	MOT	870	1+	0.63	100+	0.50
MJE703	MOT	870	1+	0.63	100+	0.50
MJE800	MOT	870	1+	0.63	100+	0.50
MJE802	MOT	870	1+	0.63	100+	0.50
MJE803	MOT	870	1+	0.63	100+	0.50
MJF122	MOT	...	1+	1.11	100+	0.87
MJF127	MOT	...	1+	1.11	100+	0.87
MJF13007	MOT	...	1+	2.18	25+	1.68
MJF15030	MOT	...	1+	2.30	25+	1.77
MJF15031	MOT	...	1+	2.18	25+	1.68
MJF18004	MOT	...	1+	1.82	25+	1.40
MJF2955	MOT	...	1+	1.68	100+	1.31
MJF3055	MOT	...	1+	1.49	100+	1.16
MJF31C	MOT	...	1+	1.15	100+	0.90
MJF32C	MOT	...	1+	1.74	100+	1.66
MJF44H11	MOT	...	1+	1.64	100+	1.28
MJF45H11	MOT	...	1+	1.60	25+	1.23
MJF47	MOT	...	1+	1.23	100+	0.96
MJF6107	MOT	...	1+	2.01	100+	1.91
MJF6388	MOT	...	1+	1.42	100+	1.11
MJF6668	MOT	...	1+	1.45	25+	1.12
MJH10012	MOT	...	1+	5.11	25+	3.76
MJH11017	MOT	871	1+	7.77	10+	7.38
MJH11018	MOT	871	1+	6.84	10+	6.49
MJH11019	MOT	871	1+	7.92	25+	5.83
MJH11020	MOT	871	1+	7.92	25+	5.83
MJH11021	MOT	871	1+	7.92	25+	5.83
MJH11022	MOT	871	1+	7.92	25+	5.83
MJH16006A	MOT	871	1+	7.04	25+	5.18
MJH6284	MOT	871	1+	5.28	25+	3.89
MJH6287	MOT	871	1+	5.28	25+	3.89
MJL1302A	MOT	871	1+	5.28	25+	3.89
MJL21193	MOT	871	1+	4.93	25+	3.63
MJL21194	MOT	871	1+	4.93	25+	3.63
MJL3281A	MOT	871	1+	4.93	25+	3.63
MJW16010	MOT	...	1+	6.51	25+	4.79
MJW16010A	MOT	...	1+	7.04	25+	5.18
MJW16012	MOT	...	1+	7.04	25+	5.18
MJW16018	MOT	...	1+	7.69	10+	5.59
MJW16206	MOT	...	1+	7.92	25+	5.83
MJW16212	MOT	...	1+	8.54	10+	6.21
MKP3V120	MOT	...	1+	1.35	25+	1.27
MLT04GP	ADI	...	1+	20.42	10+	18.56
MM5450BN	MIC	920	1+	2.34	25+	2.21
MM5450BV	MIC	920	1+	2.34	25+	2.21
MM5451BN	MIC	920	1+	2.29	25+	2.16
MM5451BV	MIC	920	1+	2.29	25+	2.16
MM58167BN	NAT	...	1+	12.80	25+	9.60
MM58174AN	NAT	...	1+	11.80	25+	8.85
MM58274CN	NAT	...	1+	11.90	25+	8.95
MMAD1106	MOT	...	1+	10.54	10+	10.01
MMBD1000LT1	MOT	...	1+	0.28	100+	0.19
MMBD101LT1	MOT	...	1+	0.63	100+	0.44
MMBD2000T1	MOT	...	1+	0.27	100+	0.18
MMBD2005T1	MOT	...	1+	0.27	100+	0.18
MMBD2010T1	MOT	...	1+	0.27	100+	0.18
MMBD2837LT1	MOT	869	1+	0.12	100+	0.11
MMBD301LT1	MOT	...	1+	0.44	100+	0.31
MMBD352LT1	MOT	...	1+	0.70	100+	0.49
MMBD354LT1	MOT	...	1+	0.41	100+	0.36
MMBD355LT1	MOT	...	1+	0.70	100+	0.49
MMBD452LT1	MOT	...	1+	0.70	100+	0.49
MMBD6050LT1	MOT	869	1+	0.20	100+	0.14
MMBD6100LT1	MOT	869	1+	0.20	100+	0.14
MMBD7000LT1	MOT	869	1+	0.20	100+	0.14
MMBD770T1	MOT	...	1+	0.60	100+	0.39
MMBD914LT1	MOT	869	1+	0.11	100+	0.08
MMBF0201NLT1	MOT	...	1+	0.65	100+	0.42
MMBF0202PLT1	MOT	...	1+	0.65	100+	0.42
MMBF170LT1	MOT	...	1+	0.68	100+	0.47
MMBF2201NT1	MOT	...	1+	0.65	100+	0.42
MMBF2202PT1	MOT	...	1+	0.65	100+	0.42
MMBF4391LT1	MOT	...	1+	0.44	100+	0.34
MMBF4392LT1	MOT	...	1+	0.57	100+	0.40
MMBF4393LT1	MOT	869	1+	0.57	100+	0.40
MMBF4416LT1	MOT	869	1+	0.57	100+	0.40
MMBF5457LT1	MOT	869	1+	0.63	100+	0.44
MMBF5460LT1	MOT	...	1+	0.63	100+	0.44
MMBF5484LT1	MOT	...	1+	0.63	100+	0.44
MMBFJ175LT1	MOT	869	1+	0.44	100+	0.34
MMBFJ177LT1	MOT	869	1+	0.57	100+	0.40
MMBFJ309LT1	MOT	869	1+	0.57	100+	0.40
MMBFJ310LT1	MOT	...	1+	0.57	100+	0.40
MMBFU310LT1	MOT	869	1+	0.57	100+	0.40
MMBR2857LT1	MOT	...	1+	0.95	100+	0.75
MMBR5031LT1	MOT	873	1+	1.23	100+	0.96
MMBR5179LT1	MOT	873	1+	0.95	100+	0.75
MMBR521LT1	MOT	873	1+	1.98	100+	1.54
MMBR571LT1	MOT	873	1+	1.30	100+	1.03
MMBR901LT1	MOT	873	1+	0.73	100+	0.51

SEE THE REFERENCED PAGE NUMBERS ABOVE FOR PRODUCT SPECIFICATIONS.

FOR OTHER DEVICES, CONTACT YOUR LOCAL NEWARK SALES OFFICE.

Type	Mfg.	Pg.	Qty.	$	Qty.	$
MMBR911LT1	MOT	873	1+	0.87	100+	0.69
MMBR931LT1	MOT	873	1+	1.34	100+	1.05
MMBR941LT1	MOT	873	1+	0.83	100+	0.66
MMBR951LT1	MOT	873	1+	0.87	100+	0.69
MMBT2222ALT1	MOT	868	1+	0.11	100+	0.08
MMBT2222LT1	MOT	...	1+	0.12	100+	0.08
MMBT2369ALT1	MOT	...	1+	0.13	100+	0.09
MMBT2369LT1	MOT	868	1+	0.11	100+	0.08
MMBT2484LT1	MOT	868	1+	0.38	100+	0.36
MMBT2907ALT1	MOT	868	1+	0.16	100+	0.11
MMBT2907LT1	MOT	...	1+	0.12	100+	0.08
MMBT3640LT1	MOT	868	1+	0.25	100+	0.18
MMBT3904-T/R	GS	936	1+	0.13	100+	0.10
MMBT3904LT1	MOT	868	1+	0.10	100+	0.07
MMBT3906-T/R	GS	936	1+	0.13	100+	0.10
MMBT3906LT1	MOT	868	1+	0.11	100+	0.08
MMBT4124LT1	MOT	...	1+	0.36	100+	0.34
MMBT4403LT1	MOT	868	1+	0.12	100+	0.08
MMBT5087LT1	MOT	...	1+	0.13	100+	0.09
MMBT5088LT1	MOT	...	1+	0.12	100+	0.09
MMBT5089LT1	MOT	...	1+	0.12	100+	0.09
MMBT5401LT1	MOT	...	1+	0.19	100+	0.13
MMBT5550LT1	MOT	...	1+	0.21	100+	0.15
MMBT5551LT1	MOT	...	1+	0.21	100+	0.15
MMBT6429LT1	MOT	...	1+	0.21	100+	0.15
MMBT6517LT1	MOT	...	1+	0.37	100+	0.26
MMBT6520LT1	MOT	868	1+	1.11	100+	0.56
MMBTA05LT1	MOT	...	1+	0.44	100+	0.42
MMBTA06LT1	MOT	...	1+	0.19	100+	0.13
MMBTA13LT1	MOT	868	1+	0.21	100+	0.15
MMBTA14LT1	MOT	868	1+	0.21	100+	0.15
MMBTA42LT1	MOT	...	1+	0.16	100+	0.11
MMBTA55LT1	MOT	...	1+	0.44	100+	0.42
MMBTA56LT1	MOT	...	1+	0.19	100+	0.13
MMBTA64LT1	MOT	868	1+	0.24	100+	0.17
MMBTA92LT1	MOT	868	1+	0.18	100+	0.13
MMBTH10LT1	MOT	868	1+	0.34	100+	0.24
MMBV105GLT1	MOT	...	1+	0.52	100+	0.37
MMBV109LT1	MOT	869	1+	0.52	100+	0.37
MMBV2101LT1	MOT	...	1+	0.52	100+	0.41
MMBV2105LT1	MOT	...	1+	1.09	100+	1.04
MMBV2107LT1	MOT	...	1+	1.09	100+	1.04
MMBV2109LT1	MOT	869	1+	1.09	100+	1.04
MMBV3401LT1	MOT	869	1+	0.52	100+	0.37
MMBV3700LT1	MOT	869	1+	1.01	100+	0.88
MMBV409LT1	MOT	...	1+	0.75	100+	0.53
MMBV432LT1	MOT	...	1+	0.57	100+	0.45
MMBV609LT1	MOT	...	1+	0.57	100+	0.45
MMBV809LT1	MOT	869	1+	1.09	100+	1.04
MMBZ15VALT1	MOT	...	1+	0.30	100+	0.20
MMBZ15VDLT1	MOT	876	1+	0.31	100+	0.22
MMBZ20VALT1	MOT	...	1+	0.30	100+	0.20
MMBZ27VCLT1	MOT	...	1+	0.30	100+	0.20
MMBZ5221BLT1	MOT	...	1+	0.12	100+	0.08
MMBZ5226BLT1	MOT	876	1+	0.13	100+	0.09
MMBZ5227BLT1	MOT	876	1+	0.27	100+	0.25
MMBZ5228BLT1	MOT	876	1+	0.13	100+	0.09
MMBZ5229BLT1	MOT	...	1+	0.12	100+	0.08
MMBZ5230BLT1	MOT	...	1+	0.12	100+	0.08
MMBZ5231BLT1	MOT	876	1+	0.13	100+	0.09
MMBZ5232BLT1	MOT	876	1+	0.13	100+	0.09
MMBZ5234BLT1	MOT	876	1+	0.13	100+	0.09
MMBZ5235BLT1	MOT	876	1+	0.13	100+	0.09
MMBZ5236BLT1	MOT	876	1+	0.13	100+	0.09
MMBZ5237BLT1	MOT	876	1+	0.13	100+	0.09
MMBZ5239BLT1	MOT	876	1+	0.13	100+	0.09
MMBZ5240BLT1	MOT	876	1+	0.12	100+	0.08
MMBZ5242BLT1	MOT	876	1+	0.13	100+	0.09
MMBZ5245BLT1	MOT	876	1+	0.13	100+	0.09
MMBZ5246BLT1	MOT	876	1+	0.13	100+	0.09
MMBZ5248BLT1	MOT	876	1+	0.13	100+	0.09
MMBZ5250BLT1	MOT	876	1+	0.13	100+	0.09
MMBZ5251BLT1	MOT	876	1+	0.12	100+	0.08
MMBZ5252BLT1	MOT	876	1+	0.39	100+	0.28
MMBZ5254BLT1	MOT	876	1+	0.13	100+	0.09
MMBZ5256BLT1	MOT	876	1+	0.40	100+	0.38
MMBZ5257BLT1	MOT	876	1+	0.13	100+	0.09
MMBZ5259BLT1	MOT	...	1+	0.12	100+	0.08
MMBZ5V6ALT1	MOT	...	1+	0.31	100+	0.22
MMBZ6V2ALT1	MOT	...	1+	0.30	100+	0.20
MMDF1N05ER2	MOT	870	1+	0.91	100+	0.77
MMDF2C01HDR2	MOT	870	1+	0.91	100+	0.77
MMDF2N02ER2	MOT	870	1+	0.91	100+	0.77
MMDF2N05ZR2	MOT	...	1+	1.38	100+	1.08
MMDF2P02ER2	MOT	870	1+	0.91	100+	0.77
MMDF2P02HDR2	MOT	870	1+	0.91	100+	0.77
MMDF3N04HDR2	MOT	870	1+	1.34	25+	1.04
MMDF3N06HDR2	MOT	870	1+	0.96	100+	0.82
MMDF4N01HDR2	MOT	870	1+	0.91	100+	0.77
MMDF6N02HDR2	MOT	870	1+	0.91	100+	0.77
MMDF6N03HDR2	MOT	870	1+	0.91	100+	0.77
MMFT107T1	MOT	...	1+	0.88	100+	0.69
MMFT1N10ET1	MOT	870	1+	1.05	100+	0.82
MMFT2406T1	MOT	...	1+	1.01	100+	0.79
MMFT2955ET1	MOT	870	1+	1.05	100+	0.82
MMFT3055ET1	MOT	...	1+	0.96	100+	0.75
MMFT3055VLT1	MOT	870	1+	0.75	100+	0.49
MMFT3055VT1	MOT	870	1+	0.75	100+	0.49
MMFT5P03HD	MOT	870	1+	0.81	100+	0.69
MMFT6661T1	MOT	...	1+	0.69	100+	0.54
MMJT9410T1	MOT	871	1+	0.72	100+	0.57
MMJT9435T1	MOT	871	1+	0.80	100+	0.64
MMPQ2222A	MOT	...	1+	1.63	25+	1.26
MMPQ2907A	MOT	...	1+	1.64	25+	1.27
MMPQ3725	MOT	...	1+	5.78	25+	5.49
MMPQ3904	MOT	...	1+	1.64	25+	1.27
MMPQ3906	MOT	...	1+	1.63	25+	1.26
MMPQ6700	MOT	...	1+	1.63	25+	1.26
MMQA20VT1	MOT	...	1+	0.54	100+	0.35
MMQA5V6T1	MOT	...	1+	0.78	100+	0.55
MMSD914T1	MOT	...	1+	0.16	100+	0.11
MMSF3300R2	MOT	870	1+	1.71	25+	1.53
MMSF3P02HDR2	MOT	870	1+	0.86	100+	0.73
MMSF3P03HDR2	MOT	870	1+	0.86	100+	0.73
MMSF4P01HDR2	MOT	870	1+	0.86	100+	0.73
MMSF5N02HDR2	MOT	870	1+	0.86	100+	0.73
MMSF5N03HDR2	MOT	870	1+	0.86	100+	0.73
MMSF5P02HDR2	MOT	870	1+	0.86	100+	0.73
MMSF7N03HDR2	MOT	870	1+	1.31	100+	1.02
MMSZ10T1	MOT	...	1+	0.17	100+	0.12
MMSZ15T1	MOT	...	1+	0.17	100+	0.12
MMSZ2V4T1	MOT	...	1+	0.17	100+	0.12
MMSZ39T1	MOT	...	1+	0.17	100+	0.12
MMSZ4678T1	MOT	876	1+	0.17	100+	0.12
MMSZ4679T1	MOT	876	1+	0.17	100+	0.12
MMSZ4680T1	MOT	876	1+	0.17	100+	0.12
MMSZ4681T1	MOT	876	1+	0.17	100+	0.12
MMSZ4683T1	MOT	876	1+	0.17	100+	0.12
MMSZ4684T1	MOT	...	1+	0.17	100+	0.12
MMSZ4685T1	MOT	876	1+	0.17	100+	0.12
MMSZ4686T1	MOT	876	1+	0.17	100+	0.12
MMSZ4687T1	MOT	876	1+	0.17	100+	0.12
MMSZ4688T1	MOT	876	1+	0.17	100+	0.12
MMSZ4689T1	MOT	876	1+	0.17	100+	0.12
MMSZ4690T1	MOT	876	1+	0.17	100+	0.12
MMSZ4691T1	MOT	876	1+	0.17	100+	0.12
MMSZ4692T1	MOT	876	1+	0.17	100+	0.12
MMSZ4693T1	MOT	...	1+	0.17	100+	0.12
MMSZ4697T1	MOT	876	1+	0.17	100+	0.12
MMSZ4699T1	MOT	876	1+	0.17	100+	0.12
MMSZ4702T1	MOT	876	1+	0.17	100+	0.12
MMSZ4703T1	MOT	...	1+	0.17	100+	0.12
MMSZ4V7T1	MOT	...	1+	0.17	100+	0.12
MMSZ5221BT1	MOT	876	1+	0.17	100+	0.12
MMSZ5222BT1	MOT	876	1+	0.17	100+	0.12
MMSZ5225BT1	MOT	876	1+	0.17	100+	0.12
MMSZ5226BT1	MOT	876	1+	0.17	100+	0.12
MMSZ5229BT1	MOT	...	1+	0.17	100+	0.12
MMSZ5230BT1	MOT	876	1+	0.17	100+	0.12
MMSZ5231BT1	MOT	876	1+	0.17	100+	0.12
MMSZ5232BT1	MOT	876	1+	0.17	100+	0.12
MMSZ5233BT1	MOT	876	1+	0.17	100+	0.12
MMSZ5234BT1	MOT	876	1+	0.17	100+	0.12
MMSZ5235BT1	MOT	876	1+	0.17	100+	0.12
MMSZ5236BT1	MOT	876	1+	0.17	100+	0.12
MMSZ5237BT1	MOT	876	1+	0.17	100+	0.12
MMSZ5242BT1	MOT	876	1+	0.17	100+	0.12
MMSZ5243BT1	MOT	...	1+	0.17	100+	0.12
MMSZ5245BT1	MOT	876	1+	0.17	100+	0.12
MMSZ5246BT1	MOT	876	1+	0.17	100+	0.12
MMSZ5248BT1	MOT	...	1+	0.17	100+	0.12
MMSZ5253BT1	MOT	...	1+	0.17	100+	0.12
MMSZ5254BT1	MOT	...	1+	0.17	100+	0.12
MMSZ5256BT1	MOT	876	1+	0.17	100+	0.12
MMSZ5258BT1	MOT	876	1+	0.17	100+	0.12
MMSZ5260BT1	MOT	876	1+	0.17	100+	0.12
MMSZ5261BT1	MOT	...	1+	0.17	100+	0.12
MMSZ5266BT1	MOT	...	1+	0.17	100+	0.12
MMSZ5270BT1	MOT	...	1+	0.17	100+	0.12
MMSZ56T1	MOT	...	1+	0.17	100+	0.12
MMSZ5V1T1	MOT	...	1+	0.17	100+	0.12
MMSZ5V6T1	MOT	...	1+	0.17	100+	0.12
MMSZ6V2T1	MOT	...	1+	0.17	100+	0.12
MMSZ6V8T1	MOT	...	1+	0.17	100+	0.12
MMUN2211LT1	MOT	...	1+	0.24	100+	0.17
MOC119-M	QT	584	1+	0.67	100+	0.59
MOC206-M	QT	584	1+	0.83	100+	0.71
MOC207-M	QT	584	1+	0.83	100+	0.71
MOC215-M	QT	584	1+	0.75	100+	0.64
MOC216-M	QT	584	1+	0.78	100+	0.66
MOC223-M	QT	584	1+	0.83	100+	0.71
MOC2A40-10	MOT	...	1+	3.25	25+	2.51
MOC2A40-5	MOT	...	1+	4.67	25+	4.30
MOC2A60-005	MOT	...	1+	5.08	25+	3.92
MOC2A60-010	MOT	...	1+	5.08	25+	3.92
MOC2A60-10	MOT	...	1+	2.18	25+	2.03
MOC2A60-5	MOT	...	1+	4.89	25+	4.50
MOC2A60-5C	MOT	...	1+	4.93	25+	3.63
MOC2R60-010	MOT	...	1+	8.80	25+	6.47
MOC2R60-015	MOT	...	1+	3.67	25+	2.70
MOC2R60-10C	MOT	...	1+	8.54	10+	6.21
MOC2R60-10F	MOT	...	1+	4.93	25+	3.63
MOC3010	QT	585	1+	0.60	100+	0.50
MOC3020	QT	585	1+	0.60	100+	0.50
MOC3021	QT	585	1+	0.56	100+	0.48
MOC3022	QT	585	1+	0.64	100+	0.55
MOC3031-M	QT	584	1+	0.84	100+	0.74
MOC3032-M	QT	584	1+	0.86	100+	0.76
MOC3033-M	QT	584	1+	0.88	100+	0.78
MOC3041-M	QT	584	1+	0.86	100+	0.76
MOC3042-M	QT	584	1+	0.88	100+	0.78
MOC3043-M	QT	584	1+	0.91	100+	0.80
MOC3051-M	QT	...	1+	0.84	100+	0.74
MOC3052-M	QT	...	1+	0.86	100+	0.76
MOC3061-M	QT	584	1+	0.87	25+	0.77
MOC3062-M	QT	584	1+	0.89	25+	0.79
MOC3063-M	QT	584	1+	0.91	25+	0.81
MOC3081-M	QT	584	1+	1.75	25+	1.56
MOC3082-M	QT	584	1+	1.75	25+	1.56
MOC3083T	MOT	...	1+	4.46	25+	3.44
MOC3163-M	QT	584	1+	1.64	25+	1.46
MOC3163SV	MOT	...	1+	3.45	25+	2.66
MOC5007-M	QT	584	1+	1.25	25+	1.12
MOC5008-M	QT	584	1+	1.25	25+	1.12
MOC5009-M	QT	584	1+	1.25	25+	1.12
MOC70P2	QT	586	1+	0.88	100+	0.78
MOC8020-M	QT	584	1+	1.00	100+	0.88
MOC8021-M	QT	584	1+	1.00	100+	0.88
MOC8030-M	QT	584	1+	1.00	100+	0.88
MOC8030T-M	QT	584	1+	1.03	100+	0.90
MOC8050-M	QT	584	1+	1.00	100+	0.88
MOC8050T-M	QT	584	1+	1.03	100+	0.90
MOC8050TV	MOT	...	1+	1.44	100+	1.12
MOC8100	MOT	584	1+	0.96	100+	0.75
MOC8111-M	QT	584	1+	0.75	100+	0.64
MOC8112-M	QT	584	1+	0.35	100+	0.30
MOC8113-M	QT	584	1+	0.83	100+	0.71
MOC8204-M	QT	...	1+	1.64	25+	1.46
MOCD213-M	QT	584	1+	1.10	100+	0.97
MOCD217-M	QT	584	1+	1.10	100+	0.97
MOCD223-M	QT	584	1+	1.05	100+	0.92
MP52	QT	...	1+	0.07	100+	0.06
MP65	QT	...	1+	0.17	100+	0.14
MPA1/BRD	MOT	...	1+	191.34	5+	186.10
MPA1/POD	MOT	...	1+	257.33	5+	250.29
MPA1016DD-4	MOT	...	1+	15.90	10+	14.20
MPA1016DD-6	MOT	...	1+	12.24	10+	10.93
MPA1016FN-4	MOT	...	1+	14.06	10+	12.56
MPA1016FN-6	MOT	...	1+	10.84	10+	9.68
MPA1036DD-4	MOT	...	1+	24.37	5+	21.89
MPA1036DD-6	MOT	...	1+	19.48	5+	17.50
MPA1036DH-4	MOT	...	1+	25.16	5+	22.60
MPA1036DH-6	MOT	...	1+	20.10	5+	18.06
MPA1036FN-4	MOT	...	1+	22.57	5+	20.28
MPA1036FN-6	MOT	...	1+	19.12	10+	17.08
MPA1064DH-2	MOT	...	1+	42.40	5+	38.09
MPA1064DH-4	MOT	...	1+	35.69	5+	32.06
MPA1064DH-6	MOT	...	1+	30.42	5+	27.33
MPA1064DK-2	MOT	...	1+	46.67	5+	41.92
MPA1064DK-4	MOT	...	1+	39.54	5+	35.51
MPA1064DK-6	MOT	...	1+	31.08	5+	27.92
MPA1100DK-2	MOT	...	1+	122.83	3+	116.93
MPA1100DK-4	MOT	...	1+	101.57	3+	96.70
MPA1100DK-6	MOT	...	1+	85.49	5+	78.13
MPA1CD/P	MOT	...	1+	23.21	5+	20.85
MPA1CD/W	MOT	...	1+	378.64	...	...
MPA1E/P	MOT	...	1+	350.61	...	...
MPA1E/W	MOT	...	1+	707.16	...	...
MPA1M12/W	MOT	...	1+	993.94	5+	981.10
MPA1S/P	MOT	...	1+	2727.58	...	...
MPA1S/W	MOT	...	1+	4748.00	...	...
MPA1W/DLX	MOT	...	1+	6441.40	...	...
MPA1WV/BSC	MOT	...	1+	1568.70	5+	1369.11
MPA1WV/BSCPL	MOT	...	1+	2197.01	5+	1917.49
MPA1WV/STD	MOT	...	1+	4037.02	5+	3841.78
MPA1WVM/BSC	MOT	...	1+	262.61	5+	255.42
MPA1WVM/BSCPL	MOT	...	1+	295.94	...	...
MPA1WVM/DLX	MOT	...	1+	1167.82	5+	1052.95
MPA1WVM/STD	MOT	...	1+	717.96	5+	647.34
MPAA3DS	MOT	...	1+	1251.00	...	...
MPC2605ZP66	MOT	859	1+	101.41	5+	93.32
MPC27T415TQ12	MOT	...	1+	29.77	5+	28.51
MPC27T416TQ12	MOT	...	1+	29.77	5+	28.51
MPC821ADI-PC	MOT	...	1+	617.28	5+	538.74
MPC821ADS	MOT	...	1+	4664.83	5+	4071.33
MPC821ADS-PC	MOT	...	1+	5282.11	5+	4610.06
MPC850FADS	MOT	857	1+	2712.72	5+	2581.52
MPC860ADI-PC	MOT	857	1+	617.28	5+	538.74
MPC860ADI-SUN4	MOT	857	1+	378.28	5+	368.48
MPC860ADS	MOT	...	1+	4664.83	5+	4071.33
MPC860ADS-PC	MOT	...	1+	5282.11	5+	4610.06
MPC860FADS	MOT	857	1+	2712.72	5+	2581.52
MPC860SRFADS	MOT	857	1+	2712.72	5+	2581.52
MPC860TFADS	MOT	857	1+	2712.72	5+	2581.52
MPC948FA	MOT	...	1+	28.13	10+	19.16
MPC980FA	MOT	...	1+	30.64	10+	22.98
MPF102	MOT	869	1+	0.63	100+	0.44
MPF102RLRA	MOT	869	1+	0.36	100+	0.28
MPF4392	MOT	...	1+	0.79	100+	0.62
MPF6659	MOT	...	1+	0.92	100+	0.72
MPF6660	MOT	869	1+	0.65	100+	0.52
MPF6661	MOT	869	1+	0.65	100+	0.52
MPF910	MOT	869	1+	0.65	100+	0.52
MPF9200	MOT	...	1+	0.99	25+	0.93

Manufacturer Abbreviations:

ADI: Analog Devices; **ALG:** Allegro; **ALT:** Altera; **AMD:** Advanced Micro Devices; **AND:** AND; **APD:** American Power Devices; **DAL:** Dallas Semiconductor; **ECG:** Philips ECG; **FGR:** Fagor; **GS:** General Semiconductor; **HP:** Hewlett Packard; **HRS:** Harris Semiconductor; **HWL:** Honeywell Opto; **INT:** Intronics; **IR:** International Rectifier; **MIC:** Micrel; **MOT:** Motorola; **NAT:** National Semiconductor; **OPT:** Optek; **PHL:** Phillips Semiconductors; **PWX:** Powerex; **QT:** QT Optoelectronics; **SKN:** Semikron; **SPC:** SPC Technology; **TI:** Texas Instruments; **TSK:** Thomson SK; **VAC:** EG&G Vactec; **VAN:** Vantis; **ZIL:** Zilog

Type	Mfg.	Pg.	Qty.	$	Qty.	$
MPF930	MOT	...	1+	0.65	25+	0.61
MPF960	MOT	869	1+	0.67	100+	0.53
MPF990	MOT	869	1+	1.87	100+	1.77
MPN3404	MOT	...	1+	0.55	100+	0.44
MPN3700	MOT	...	1+	1.34	100+	1.05
MPQ2222	MOT	...	1+	1.37	100+	1.06
MPQ2222A	MOT	...	1+	1.37	100+	1.06
MPQ2369	MOT	...	1+	1.40	100+	1.09
MPQ2907	MOT	...	1+	1.53	100+	1.19
MPQ2907A	MOT	...	1+	1.37	100+	1.06
MPQ3467	MOT	...	1+	1.43	100+	1.11
MPQ3725	MOT	...	1+	1.79	100+	1.40
MPQ3798	MOT	...	1+	3.43	50+	3.26
MPQ3904	MOT	...	1+	1.34	25+	1.04
MPQ3906	MOT	...	1+	1.58	100+	1.23
MPQ6002	MOT	...	1+	1.89	100+	1.47
MPQ6426	MOT	...	1+	3.23	50+	3.07
MPQ6502	MOT	...	1+	1.55	100+	1.21
MPQ6600A1	MOT	...	1+	2.93	50+	2.79
MPQ6700	MOT	...	1+	1.76	100+	1.37
MPQ6842	MOT	...	1+	3.70	25+	3.47
MPQ7042	MOT	...	1+	6.91	25+	6.56
MPS2222	MOT	...	1+	0.12	100+	0.09
MPS2222A	MOT	868	1+	0.12	100+	0.09
MPS2369	MOT	...	1+	0.12	100+	0.09
MPS2369A	MOT	868	1+	0.12	100+	0.09
MPS2907	MOT	...	1+	0.12	100+	0.08
MPS2907A	MOT	868	1+	0.12	100+	0.09
MPS3563	MOT	868	1+	0.31	100+	0.22
MPS3638A	MOT	...	1+	0.31	100+	0.22
MPS3640	MOT	...	1+	0.29	100+	0.21
MPS3646	MOT	868	1+	0.31	100+	0.22
MPS3702	MOT	...	1+	0.37	100+	0.26
MPS404A	MOT	...	1+	0.56	100+	0.40
MPS4124	MOT	...	1+	0.13	100+	0.09
MPS4126	MOT	...	1+	0.13	100+	0.09
MPS4250	MOT	868	1+	0.16	100+	0.11
MPS5172	MOT	...	1+	0.15	100+	0.11
MPS5179	MOT	868	1+	0.31	100+	0.22
MPS571	MOT	...	1+	1.17	100+	0.92
MPS6428RLRA	MOT	...	1+	0.31	100+	0.22
MPS650	MOT	868	1+	0.59	100+	0.47
MPS6507	MOT	...	1+	0.52	100+	0.37
MPS651	MOT	868	1+	0.52	100+	0.37
MPS6521	MOT	...	1+	0.22	100+	0.16
MPS6523	MOT	...	1+	0.22	100+	0.16
MPS6560	MOT	...	1+	0.42	100+	0.38
MPS6601	MOT	...	1+	0.39	100+	0.28
MPS6602	MOT	868	1+	0.30	100+	0.24
MPS6651	MOT	...	1+	0.47	100+	0.33
MPS6652	MOT	868	1+	0.52	100+	0.37
MPS6717	MOT	868	1+	0.52	100+	0.37
MPS6724	MOT	...	1+	0.63	100+	0.44
MPS6725	MOT	...	1+	0.44	100+	0.31
MPS6727	MOT	...	1+	0.44	100+	0.31
MPS6729	MOT	...	1+	0.44	100+	0.31
MPS750	MOT	868	1+	0.57	100+	0.40
MPS751	MOT	868	1+	0.57	100+	0.40
MPS751RLRA	MOT	...	1+	0.55	100+	0.36
MPS8098	MOT	...	1+	0.24	100+	0.17
MPS8099	MOT	868	1+	0.24	100+	0.17
MPS8598	MOT	...	1+	0.21	100+	0.15
MPS8599	MOT	868	1+	0.21	100+	0.15
MPS901	MOT	...	1+	0.70	100+	0.55
MPS918	MOT	868	1+	0.24	100+	0.17
MPSA05	MOT	868	1+	0.14	100+	0.10
MPSA06	MOT	868	1+	0.14	100+	0.10
MPSA12	MOT	...	1+	0.17	100+	0.12
MPSA13	MOT	868	1+	0.17	100+	0.12
MPSA14	MOT	868	1+	0.17	100+	0.12
MPSA17	MOT	...	1+	0.66	100+	0.46
MPSA18	MOT	868	1+	0.37	100+	0.26
MPSA20	MOT	868	1+	0.16	100+	0.11
MPSA25	MOT	...	1+	0.29	100+	0.20
MPSA27	MOT	868	1+	0.29	100+	0.20
MPSA28	MOT	...	1+	0.39	100+	0.28
MPSA29	MOT	868	1+	0.39	100+	0.28
MPSA42	MOT	...	1+	0.19	100+	0.13
MPSA44	MOT	...	1+	0.29	100+	0.20
MPSA55	MOT	868	1+	0.19	100+	0.13
MPSA56	MOT	868	1+	0.19	100+	0.13
MPSA62	MOT	...	1+	0.73	100+	0.60
MPSA63	MOT	...	1+	0.19	100+	0.13
MPSA64	MOT	868	1+	0.19	100+	0.13
MPSA70	MOT	868	1+	0.16	100+	0.12
MPSA75	MOT	...	1+	0.19	100+	0.13
MPSA77	MOT	868	1+	0.29	100+	0.20
MPSA92	MOT	...	1+	0.19	100+	0.13
MPSA93	MOT	...	1+	0.26	100+	0.19
MPSH10	MOT	868	1+	0.24	100+	0.17
MPSH17	MOT	868	1+	0.39	100+	0.28
MPSH81	MOT	...	1+	0.31	100+	0.22
MPSL51	MOT	...	1+	0.72	100+	0.66
MPSW01	MOT	...	1+	0.42	100+	0.29
MPSW01A	MOT	868	1+	0.42	100+	0.29
MPSW05	MOT	...	1+	0.42	100+	0.29
MPSW10	MOT	...	1+	0.95	100+	0.90
MPSW13	MOT	...	1+	0.42	100+	0.29
MPSW42	MOT	...	1+	0.52	100+	0.37
MPSW45	MOT	...	1+	0.52	100+	0.37
MPSW45A	MOT	...	1+	0.52	100+	0.37
MPSW51A	MOT	868	1+	0.47	100+	0.33
MPSW55	MOT	...	1+	1.49	100+	1.42
MPSW56	MOT	868	1+	2.86	50+	2.72
MPSW63	MOT	...	1+	0.47	100+	0.33
MPSW64	MOT	868	1+	3.43	50+	3.26
MPSW92	MOT	...	1+	0.47	100+	0.33
MPTE-15	MOT	...	1+	1.08	100+	0.84
MPTE-5	MOT	...	1+	1.77	100+	1.38
MPX100A	MOT	877	1+	10.25	10+	7.46
MPX100AP	MOT	877	1+	11.96	10+	8.70
MPX100AS	MOT	...	1+	11.96	10+	8.70
MPX100GP	MOT	877	1+	11.96	10+	8.70
MPX10DP	MOT	877	1+	13.67	10+	9.94
MPX200GP	MOT	877	1+	11.96	10+	8.70
MPX2010DP	MOT	877	1+	29.81	10+	22.36
MPX2100AP	MOT	...	1+	18.09	10+	16.04
MPX2100DP	MOT	877	1+	29.81	10+	22.36
MPX2200A	MOT	877	1+	17.64	5+	16.90
MPX2200AP	MOT	877	1+	28.16	10+	21.12
MPX2200DP	MOT	877	1+	29.81	10+	22.36
MPX2300DT1	MOT	877	1+	7.06	10+	6.00
MPX2700AS	MOT	...	1+	18.87	5+	16.95
MPX4105A	MOT	877	1+	19.16	5+	16.99
MPX4115A	MOT	877	1+	29.81	10+	22.36
MPX4115AP	MOT	877	1+	31.47	10+	23.60
MPX4200A	MOT	877	1+	19.16	5+	16.99
MPX4250A	MOT	877	1+	29.81	10+	22.36
MPX4250AP	MOT	877	1+	31.47	10+	23.60
MPX4250D	MOT	877	1+	19.16	10+	16.99
MPX4250DP	MOT	877	1+	18.52	5+	16.95
MPX4250GP	MOT	877	1+	20.22	10+	17.93
MPX5010D	MOT	877	1+	28.57	5+	20.00
MPX5010DP	MOT	877	1+	31.43	5+	22.00
MPX5010DP1	MOT	...	1+	27.92	10+	20.94
MPX5010GP	MOT	877	1+	30.00	5+	21.00
MPX5050D	MOT	877	1+	28.57	5+	20.00
MPX5050DP	MOT	877	1+	37.15	5+	26.00
MPX5050GP	MOT	877	1+	35.72	5+	25.00
MPX50D	MOT	877	1+	7.06	10+	6.00
MPX50DP	MOT	...	1+	17.08	10+	12.42
MPX5100A	MOT	...	1+	28.57	5+	20.00
MPX5100AP	MOT	877	1+	35.72	5+	25.00
MPX5100D	MOT	877	1+	28.57	5+	20.00
MPX5100DP	MOT	877	1+	37.15	5+	26.00
MPX5100GP	MOT	877	1+	30.00	5+	21.00
MPX5100GVSX	MOT	...	1+	45.20	5+	43.29
MPX5500DP	MOT	877	1+	20.38	5+	18.65
MPX5500GP	MOT	...	1+	38.69	5+	34.75
MPX5500GS	MOT	...	1+	15.00	5+	13.40
MPX5700D	MOT	877	1+	18.87	5+	16.95
MPX5700DP	MOT	877	1+	20.76	5+	18.65
MPX5700GP	MOT	877	1+	19.82	5+	17.80
MPX5999D	MOT	877	1+	18.87	5+	16.95
MPX700DP	MOT	...	1+	16.56	10+	12.42
MPX700GSX	MOT	...	1+	35.87	10+	26.09
MPX7100A	MOT	...	1+	31.47	10+	23.60
MPX7100AP	MOT	...	1+	72.37	5+	55.90
MPXL10GC7U	MOT	877	1+	8.24	10+	7.00
MPXL5010G7U	MOT	877	1+	18.87	5+	16.95
MPXL5010GC7U	MOT	877	1+	19.82	10+	17.80
MPXS4100A6U	MOT	877	1+	18.87	5+	16.95
MPXS4115A6U	MOT	877	1+	18.87	5+	16.95
MPXS4115AC6U	MOT	877	1+	32.37	5+	25.00
MPXT2010G7U	MOT	...	1+	19.00	5+	16.97
MPXT4101A7U	MOT	...	1+	19.82	5+	17.80
MPXT4105A7U	MOT	...	1+	19.82	5+	17.80
MPXT4200A7U	MOT	...	1+	14.39	...	...
MPXT4250A7U	MOT	...	1+	14.39	...	...
MPXT5006D	MOT	877	1+	22.65	5+	20.34
MPXT5006DF	MOT	877	1+	29.91	5+	26.87
MR2502	MOT	...	1+	0.79	100+	0.62
MR2504	MOT	875	1+	0.79	100+	0.62
MR2510	MOT	875	1+	0.77	100+	0.60
MR2535L	MOT	875	1+	2.54	25+	1.96
MR3050	QT	587	1+	0.34	100+	0.29
MR3051	QT	587	1+	0.34	100+	0.29
MR3350	QT	587	1+	0.34	100+	0.29
MR3351	QT	587	1+	0.34	100+	0.29
MR3450	QT	587	1+	0.34	100+	0.29
MR3451	QT	587	1+	0.34	100+	0.29
MR5060	QT	587	1+	0.40	100+	0.34
MR5360	QT	587	1+	0.46	100+	0.38
MR5460	QT	587	1+	0.40	100+	0.34
MR750	MOT	875	1+	1.05	100+	0.83
MR751	MOT	875	1+	1.01	100+	0.80
MR752	MOT	875	1+	1.02	100+	0.80
MR754	MOT	875	1+	0.99	100+	0.77
MR756	MOT	875	1+	1.02	100+	0.80
MR760	MOT	875	1+	0.99	100+	0.77
MR822	FGR	...	1+	0.73	100+	0.64
MR824	FGR	...	1+	0.78	100+	0.69
MR826	FGR	...	1+	0.84	100+	0.75
MR850	SPC	938	1+	0.22	100+	0.19
MR851	SPC	938	1+	0.23	100+	0.20
MR852	SPC	938	1+	0.24	100+	0.21
MR854	SPC	938	1+	0.25	100+	0.22
MR856	SPC	938	1+	0.26	100+	0.22
MRA4003T3	MOT	...	1+	0.23	100+	0.15
MRA4004T3	MOT	...	1+	0.23	100+	0.15
MRA4005T3	MOT	...	1+	0.23	100+	0.15
MRF1001A	MOT	...	1+	9.33	25+	6.86
MRF134	MOT	873	1+	40.24	10+	30.18
MRF136	MOT	873	1+	44.70	5+	34.52
MRF136Y	MOT	873	1+	100.02	5+	88.32
MRF137	MOT	873	1+	53.17	5+	41.07
MRF148A	MOT	873	1+	35.67	5+	32.04
MRF150	MOT	873	1+	105.55	5+	93.20
MRF15060	MOT	...	1+	319.66	5+	278.99
MRF151	MOT	873	1+	118.11	5+	104.30
MRF151G	MOT	873	1+	253.53	5+	221.27
MRF160	MOT	...	1+	41.61	5+	32.14
MRF173	MOT	873	1+	77.37	5+	59.75
MRF174	MOT	...	1+	118.11	5+	104.30
MRF183	MOT	873	1+	116.85	5+	101.98
MRF184	MOT	873	1+	149.91	5+	130.84
MRF185	MOT	873	1+	222.24	5+	216.16
MRF1946	MOT	873	1+	32.36	10+	24.27
MRF1C0912	MOT	...	1+	6.88	...	...
MRF1C2401	MOT	...	1+	9.77	10+	8.30
MRF20060	MOT	...	1+	374.78	5+	327.10
MRF237	MOT	...	1+	12.02	10+	11.20
MRF247	MOT	...	1+	62.42	5+	48.21
MRF2947AT1	MOT	873	1+	1.22	25+	1.09
MRF317	MOT	873	1+	114.34	5+	100.97
MRF323	MOT	873	1+	67.81	5+	52.38
MRF327	MOT	...	1+	100.02	5+	88.32
MRF422	MOT	873	1+	83.22	5+	64.28
MRF426	MOT	873	1+	39.75	10+	29.81
MRF448	MOT	873	1+	131.94	5+	116.50
MRF454	MOT	873	1+	30.47	10+	22.86
MRF455	MOT	873	1+	25.01	10+	18.76
MRF517	MOT	...	1+	13.20	25+	9.71
MRF5211LT1	MOT	873	1+	1.96	25+	1.74
MRF531	MOT	...	1+	8.45	25+	6.21
MRF544	MOT	...	1+	10.14	25+	7.46
MRF545	MOT	...	1+	11.62	25+	8.54
MRF548	MOT	...	1+	19.71	10+	14.78
MRF553	MOT	...	1+	4.14	25+	3.88
MRF555	MOT	...	1+	6.62	25+	4.87
MRF557	MOT	...	1+	7.92	25+	5.83
MRF559	MOT	...	1+	2.61	100+	2.03
MRF571	MOT	...	1+	2.54	100+	1.97
MRF5711LT1	MOT	873	1+	1.59	100+	1.42
MRF577T1	MOT	873	1+	0.86	100+	0.69
MRF579T1	MOT	873	1+	0.98	100+	0.84
MRF581	MOT	...	1+	3.45	25+	2.66
MRF5811LT1	MOT	873	1+	2.20	25+	1.96
MRF5812	MOT	...	1+	4.35	25+	3.36
MRF581A	MOT	...	1+	3.99	25+	3.08
MRF586	MOT	...	1+	6.58	25+	4.84
MRF630	MOT	...	1+	16.47	10+	11.98
MRF641	MOT	...	1+	36.99	5+	28.57
MRF6414	MOT	...	1+	138.90	5+	135.10
MRF650	MOT	...	1+	42.64	5+	40.84
MRF652	MOT	873	1+	26.67	10+	20.00
MRF894	MOT	...	1+	52.62	5+	48.09
MRF897R	MOT	...	1+	138.37	5+	131.73
MRF901	MOT	...	1+	2.05	100+	1.60
MRF9011LT1	MOT	873	1+	0.82	100+	0.70
MRF914	MOT	...	1+	4.93	25+	4.62
MRF917T1	MOT	873	1+	0.75	100+	0.49
MRF927T1	MOT	873	1+	1.07	100+	0.91
MRF9331LT1	MOT	873	1+	1.87	25+	1.44
MRF941	MOT	...	1+	2.33	25+	2.20
MRF9411LT1	MOT	873	1+	1.03	100+	0.88
MRF947AT1	MOT	873	1+	0.98	100+	0.84
MRF947BT1	MOT	873	1+	0.98	100+	0.84
MRF949T1	MOT	873	1+	0.89	100+	0.76
MRF9511LT1	MOT	873	1+	2.40	25+	2.04
MRF959T1	MOT	873	1+	0.94	100+	0.80
MRFIC0912R2	MOT	872	1+	11.00	10+	9.83
MRFIC0913R2	MOT	...	1+	13.84	10+	12.27
MRFIC0915T1	MOT	872	1+	1.81	25+	1.61
MRFIC0916T1	MOT	872	1+	1.81	5+	1.61
MRFIC2006	MOT	872	1+	5.54	25+	4.07
MS96COR3200	ZIL	944	1+	5.00	...	...
MSA-0485	HP	...	1+	2.20	10+	1.98
MSA-1104	HP	...	1+	2.85	10+	2.57
MSD6100	MOT	...	1+	0.70	100+	0.49
MSR860	MOT	...	1+	1.10	100+	0.94
MTA15N06	MOT	...	1+	1.82	25+	1.71
MTA1N60E	MOT	...	1+	3.08	25+	2.38
MTA2955E	MOT	...	1+	2.47	25+	1.90
MTA3055E	MOT	...	1+	1.68	100+	1.31
MTA30N06E	MOT	...	1+	4.23	25+	3.11
MTB15N06V	MOT	...	1+	1.10	100+	0.94
MTB1N100E	MOT	...	1+	4.75	25+	3.50
MTB2P50E	MOT	...	1+	3.00	25+	2.20
MTB2P50ET4	MOT	...	1+	3.08	25+	2.38
MTB33N10E	MOT	...	1+	4.75	25+	3.50
MTB36N06V	MOT	...	1+	1.35	25+	1.20
MTB3N120E	MOT	...	1+	3.65	25+	3.10
MTB4N80E	MOT	...	1+	7.92	25+	5.83

NEW TYPES ARE BEING CONTINUALLY ADDED TO INVENTORY.

CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR AVAILABILITY.

Type	Mfg.	Pg.	Qty.	$	Qty.	$
MTB50N06EL	MOT	...	1+	7.04	25+	5.18
MTB50P03HDL	MOT	...	1+	6.16	25+	4.53
MTB60N06HD	MOT	...	1+	3.87	25+	2.85
MTB75N05HD	MOT	...	1+	4.23	25+	3.11
MTB8N50E	MOT	...	1+	3.00	25+	2.20
MTD1302	MOT	870	1+	1.10	100+	0.94
MTD15N06V	MOT	870	1+	0.80	100+	0.64
MTD15N06VL	MOT	870	1+	0.80	100+	0.64
MTD1N80E	MOT	...	1+	1.45	25+	1.12
MTD20N03HDL	MOT	870	1+	1.31	100+	1.02
MTD20N06HD	MOT	870	1+	1.31	100+	1.02
MTD20N06HDL	MOT	870	1+	1.31	100+	1.02
MTD20P03HDL	MOT	869	1+	1.63	25+	1.26
MTD20P06HDL	MOT	869	1+	1.10	25+	0.94
MTD2955E	MOT	...	1+	1.90	100+	1.48
MTD2955E1	MOT	...	1+	2.61	100+	2.03
MTD2955V	MOT	869	1+	0.80	100+	0.64
MTD2955V1	MOT	...	1+	0.80	100+	0.64
MTD2N50E	MOT	870	1+	1.31	100+	1.02
MTD3055E	MOT	...	1+	2.35	100+	1.83
MTD3055EL	MOT	...	1+	2.02	100+	1.57
MTD3055EL1	MOT	...	1+	2.02	100+	1.57
MTD3055V	MOT	870	1+	0.83	100+	0.54
MTD3055VL	MOT	870	1+	0.83	100+	0.54
MTD4N20E	MOT	870	1+	0.94	100+	0.73
MTD5P06V	MOT	869	1+	0.86	100+	0.69
MTD6N15	MOT	870	1+	2.32	100+	2.09
MTD6N20E	MOT	870	1+	0.86	100+	0.69
MTD6P10E	MOT	869	1+	1.82	25+	1.40
MTDF1C02HDR2	MOT	870	1+	1.10	100+	0.94
MTDF1N02HDR2	MOT	870	1+	1.49	100+	1.16
MTDF1N03HDR2	MOT	870	1+	1.49	100+	1.16
MTDF1P02HDR2	MOT	870	1+	1.49	100+	1.16
MTE125N20E	MOT	...	1+	60.88	5+	47.02
MTE215N10E	MOT	869	1+	60.88	5+	47.02
MTE53N50E	MOT	...	1+	60.88	5+	47.02
MTP10N10E	MOT	870	1+	1.27	100+	0.99
MTP10N10EL	MOT	870	1+	0.88	100+	0.75
MTP10N40E	MOT	870	1+	3.52	25+	2.59
MTP12N10E	MOT	870	1+	1.68	100+	1.31
MTP12P10	MOT	869	1+	2.00	25+	1.54
MTP1302	MOT	870	1+	1.35	25+	1.20
MTP1306	MOT	870	1+	2.59	25+	2.20
MTP15N05EL	MOT	870	1+	1.61	100+	1.25
MTP15N06V	MOT	870	1+	0.80	100+	0.64
MTP15N06VL	MOT	870	1+	0.81	100+	0.69
MTP16N25E	MOT	...	1+	3.26	25+	2.52
MTP1N100E	MOT	870	1+	3.26	25+	2.52
MTP1N60E	MOT	870	1+	1.12	100+	0.87
MTP20N06V	MOT	870	1+	1.55	25+	1.45
MTP20N20E	MOT	870	1+	3.87	25+	2.85
MTP23P06V	MOT	869	1+	1.27	25+	1.13
MTP2955E	MOT	...	1+	2.91	100+	2.26
MTP2N50E	MOT	870	1+	1.03	100+	0.88
MTP2P50E	MOT	869	1+	2.36	25+	1.82
MTP3055E	MOT	...	1+	2.58	100+	2.26
MTP3055EL	MOT	...	1+	2.09	100+	1.63
MTP3055V	MOT	870	1+	0.72	100+	0.57
MTP3055VL	MOT	870	1+	0.72	100+	0.57
MTP30N06VL	MOT	870	1+	1.17	25+	1.00
MTP30P06V	MOT	...	1+	1.71	25+	1.53
MTP36N06E	MOT	...	1+	3.34	25+	2.57
MTP36N06V	MOT	...	1+	1.17	100+	1.00
MTP3N100E	MOT	870	1+	3.35	25+	2.46
MTP3N120E	MOT	870	1+	2.95	25+	2.50
MTP3N50E	MOT	870	1+	1.82	25+	1.40
MTP3N60E	MOT	870	1+	1.96	25+	1.51
MTP40N10E	MOT	870	1+	3.18	25+	2.70
MTP4N40E	MOT	870	1+	1.68	100+	1.31
MTP4N50E	MOT	870	1+	1.92	25+	1.49
MTP4N80E	MOT	870	1+	3.35	25+	2.46
MTP50N05E	MOT	...	1+	4.35	25+	3.36
MTP50N05EL	MOT	...	1+	5.22	25+	4.03
MTP50N06E	MOT	...	1+	4.35	25+	3.36
MTP50N06EL	MOT	...	1+	5.44	25+	4.20
MTP50N06V	MOT	870	1+	1.35	25+	1.20
MTP50N06VL	MOT	870	1+	1.47	25+	1.31
MTP50P03HDL	MOT	869	1+	5.63	25+	4.14
MTP52N06V	MOT	870	1+	1.47	25+	1.31
MTP52N06VL	MOT	870	1+	1.59	25+	1.42
MTP5N40E	MOT	870	1+	2.36	25+	1.82
MTP60N06HD	MOT	870	1+	3.35	25+	2.46
MTP6N60E	MOT	870	1+	3.35	25+	2.46
MTP75N03HDL	MOT	870	1+	4.58	25+	3.37
MTP75N05HD	MOT	870	1+	4.58	25+	3.37
MTP75N06HD	MOT	870	1+	4.79	25+	3.52
MTP7N20	MOT	...	1+	2.32	100+	2.21
MTP7N20E	MOT	870	1+	0.93	100+	0.80
MTP8N20	MOT	...	1+	2.25	25+	1.74
MTP8N50E	MOT	870	1+	3.87	25+	2.85
MTSF1P02HDR2	MOT	870	1+	0.98	100+	0.84
MTSF2P02HDR2	MOT	870	1+	1.49	100+	1.16
MTSF2P03HDR2	MOT	870	1+	1.49	100+	1.16
MTSF3N02HDR2	MOT	870	1+	1.49	100+	1.16
MTSF3N03HDR2	MOT	870	1+	0.98	100+	0.84
MTW10N100E	MOT	870	1+	18.22	10+	13.67
MTW14N50E	MOT	870	1+	5.81	25+	4.27
MTW20N50E	MOT	870	1+	8.88	10+	6.46
MTW24N40E	MOT	870	1+	8.88	10+	6.46
MTW32N20E	MOT	870	1+	8.63	25+	6.34
MTW35N15E	MOT	870	1+	9.06	10+	6.59
MTW45N10E	MOT	...	1+	8.54	10+	6.21
MTW6N100E	MOT	870	1+	11.10	10+	8.08
MTW7N80E	MOT	870	1+	11.10	10+	8.08
MTW8N60E	MOT	870	1+	7.92	25+	5.83
MTY100N10E	MOT	870	1+	23.19	10+	17.39
MTY30N50E	MOT	...	1+	21.53	10+	16.15
MTY55N20E	MOT	870	1+	24.84	10+	18.63
MUN2111T1	MOT	...	1+	0.19	100+	0.13
MUN2116T1	MOT	...	1+	0.19	100+	0.13
MUN2211T1	MOT	868	1+	0.19	100+	0.13
MUN2212T1	MOT	868	1+	0.19	100+	0.13
MUN2213T1	MOT	868	1+	0.19	100+	0.13
MUN2216T1	MOT	...	1+	0.19	100+	0.13
MUR10120E	MOT	875	1+	5.28	25+	3.89
MUR10150E	MOT	875	1+	5.28	25+	3.89
MUR105	MOT	...	1+	0.50	100+	0.35
MUR110	MOT	...	1+	0.50	100+	0.35
MUR1100E	MOT	875	1+	0.65	100+	0.52
MUR115	MOT	...	1+	0.50	100+	0.35
MUR120	MOT	875	1+	0.50	100+	0.35
MUR130	MOT	...	1+	0.50	100+	0.35
MUR140	MOT	...	1+	0.50	100+	0.35
MUR150	MOT	...	1+	0.50	100+	0.35
MUR1510	MOT	...	1+	1.82	25+	1.40
MUR1520	MOT	875	1+	1.63	25+	1.26
MUR1540	MOT	875	1+	2.18	25+	1.68
MUR1550	MOT	...	1+	2.18	25+	1.68
MUR1560	MOT	875	1+	2.18	25+	1.68
MUR160	MOT	875	1+	0.50	100+	0.35
MUR1610CT	MOT	...	1+	1.61	100+	1.25
MUR1615CT	MOT	...	1+	1.61	100+	1.25
MUR1620CT	MOT	875	1+	1.61	100+	1.25
MUR1620CTR	MOT	...	1+	2.11	25+	1.62
MUR1640CT	MOT	875	1+	2.11	25+	1.62
MUR1660CT	MOT	875	1+	2.36	25+	1.82
MUR180E	MOT	875	1+	0.69	100+	0.54
MUR3020PT	MOT	875	1+	3.87	25+	2.85
MUR3020WT	MOT	...	1+	5.18	25+	4.85
MUR3040	MOT	875	1+	7.06	25+	6.71
MUR3040PT	MOT	875	1+	5.28	25+	3.89
MUR3060PT	MOT	...	1+	5.28	25+	3.89
MUR3060WT	MOT	875	1+	6.16	25+	4.53
MUR3080	MOT	875	1+	6.16	25+	4.53
MUR405	MOT	...	1+	0.67	100+	0.53
MUR410	MOT	...	1+	0.67	100+	0.53
MUR4100E	MOT	875	1+	0.96	100+	0.75
MUR415	MOT	...	1+	0.67	100+	0.53
MUR420	MOT	875	1+	0.67	100+	0.53
MUR460	MOT	875	1+	0.67	100+	0.53
MUR480E	MOT	875	1+	1.15	100+	0.90
MUR490E	MOT	...	1+	1.15	100+	0.90
MUR6040	MOT	875	1+	5.98	10+	4.35
MUR620CT	MOT	875	1+	1.27	100+	0.99
MUR810	MOT	...	1+	1.15	100+	0.90
MUR8100E	MOT	875	1+	2.18	25+	1.68
MUR815	MOT	...	1+	1.15	100+	0.90
MUR820	MOT	875	1+	1.15	100+	0.90
MUR840	MOT	875	1+	1.27	100+	0.99
MUR850	HRS	...	1+	1.80	100+	1.65
MUR860	MOT	875	1+	1.27	100+	0.99
MUR880E	MOT	875	1+	1.38	25+	1.07
MURB1620CT	MOT	...	1+	1.82	25+	1.40
MURD320	MOT	...	1+	1.99	100+	1.89
MURD620CT	MOT	...	1+	1.23	100+	0.96
MURF1620CT	MOT	875	1+	1.45	25+	1.12
MURF1660CT	MOT	...	1+	1.83	25+	1.63
MURH840CT	MOT	875	1+	3.00	25+	2.20
MURH860CT	MOT	875	1+	3.00	25+	2.20
MURP20020CT	MOT	...	1+	41.61	5+	32.14
MURS105T3	MOT	...	1+	0.63	100+	0.44
MURS110T3	MOT	875	1+	0.63	100+	0.44
MURS120T3	MOT	875	1+	0.48	100+	0.38
MURS140T3	MOT	875	1+	0.48	100+	0.38
MURS160T3	MOT	875	1+	0.48	100+	0.38
MURS320T3	MOT	875	1+	0.85	100+	0.66
MURS340T3	MOT	875	1+	0.85	100+	0.66
MURS360T3	MOT	875	1+	0.85	100+	0.66
MUX08EP	ADI	888	1+	11.28	10+	10.25
MUX08EQ	ADI	...	1+	15.51	10+	14.10
MUX08FP	ADI	888	1+	8.00	10+	7.27
MUX16ET	ADI	888	1+	22.74	10+	20.67
MUX16FP	ADI	...	1+	11.19	25+	8.30
MUX16FT	ADI	...	1+	12.40	10+	11.28
MUX24EP	ADI	...	1+	16.40	25+	12.16
MUX24FP	ADI	...	1+	9.68	10+	8.80
MUX24FQ	ADI	...	1+	16.05	25+	11.90
MUX24FS	ADI	888	1+	10.72	25+	7.95
MUX28ET	ADI	...	1+	36.29	25+	26.90
MUX28FPC	ADI	...	1+	24.84	25+	18.41
MUX28FT	ADI	888	1+	29.57	25+	21.92
MV104	MOT	...	1+	0.57	100+	0.45
MV1404	MOT	...	1+	10.01	10+	7.28
MV1628	MOT	...	1+	6.27	25+	5.95
MV209	MOT	...	1+	0.70	100+	0.49
MV2101	MOT	...	1+	0.58	100+	0.46
MV2104	MOT	...	1+	1.40	100+	1.22
MV2105	MOT	...	1+	0.53	100+	0.42
MV2107	MOT	...	1+	0.65	100+	0.51
MV2108	MOT	...	1+	0.58	100+	0.46
MV2109	MOT	...	1+	0.53	100+	0.42
MV2112	MOT	...	1+	0.83	100+	0.76
MV2113	MOT	...	1+	1.50	25+	1.42
MV2115	MOT	...	1+	0.80	100+	0.63
MV5021A	QT	587	1+	0.37	100+	0.31
MV5023A	QT	587	1+	0.37	100+	0.31
MV5024A	QT	587	1+	0.37	100+	0.31
MV5025A	QT	...	1+	0.37	100+	0.31
MV5053	QT	587	1+	0.19	100+	0.15
MV5054A1	QT	587	1+	0.19	100+	0.15
MV5054A2	QT	...	1+	0.22	100+	0.18
MV5054A3	QT	...	1+	0.23	100+	0.19
MV5074C	QT	587	1+	0.25	100+	0.20
MV5075C	QT	587	1+	0.25	100+	0.20
MV5094A	QT	...	1+	0.48	100+	0.41
MV50BL	QT	...	1+	0.40	100+	0.33
MV5153	QT	587	1+	0.34	100+	0.28
MV53164	QT	...	1+	1.74	25+	1.56
MV5352	QT	587	1+	0.22	100+	0.18
MV5353	QT	587	1+	0.22	100+	0.18
MV5374C	QT	587	1+	0.28	100+	0.23
MV54123	QT	...	1+	0.25	100+	0.20
MV54124A	QT	587	1+	0.29	100+	0.24
MV54164	QT	587	1+	1.74	25+	1.56
MV54173	QT	...	1+	1.55	25+	1.38
MV5452	QT	...	1+	0.19	100+	0.15
MV5453	QT	587	1+	0.19	100+	0.15
MV5454A	QT	587	1+	0.19	100+	0.15
MV5474C	QT	587	1+	0.28	100+	0.23
MV5491A	QT	587	1+	0.46	100+	0.39
MV57123	QT	587	1+	0.25	100+	0.20
MV57124A	QT	...	1+	0.29	100+	0.24
MV57164	QT	587	1+	1.53	25+	1.37
MV57173	QT	...	1+	1.55	25+	1.38
MV5752	QT	587	1+	0.19	100+	0.15
MV5753	QT	587	1+	0.19	100+	0.15
MV5754A	QT	587	1+	0.19	100+	0.15
MV57621	QT	...	1+	0.25	100+	0.20
MV57640	QT	587	1+	0.22	100+	0.18
MV5774C	QT	587	1+	0.25	100+	0.20
MV5777C	QT	587	1+	0.25	100+	0.20
MV5A164	QT	587	1+	2.83	25+	2.54
MV5B164	QT	587	1+	3.05	25+	2.73
MV5C164	QT	587	1+	2.83	25+	2.54
MV5D164	QT	587	1+	2.94	25+	2.64
MV5E164	QT	587	1+	2.83	25+	2.54
MV64521	QT	587	1+	0.34	100+	0.29
MV64530	QT	...	1+	0.34	100+	0.28
MV64531	QT	587	1+	0.40	100+	0.33
MV64539.MP7	QT	...	1+	0.43	100+	0.35
MV6700A	QT	...	1+	0.37	100+	0.30
MV8104	QT	587	1+	0.54	100+	0.46
MV8111	QT	587	1+	0.34	100+	0.28
MV8112	QT	587	1+	0.37	100+	0.30
MV8113	QT	587	1+	0.51	100+	0.43
MV8114	QT	587	1+	0.68	100+	0.57
MWA120	MOT	...	1+	9.06	10+	7.70
MWA130	MOT	...	1+	13.32	10+	9.69
MWA230	MOT	...	1+	13.50	10+	9.82
MXR9745T1	MOT	872	1+	4.95	25+	4.20
MZ4615	MOT	...	1+	1.05	100+	0.52
MZ4616	MOT	...	1+	1.08	100+	1.03
MZ4620	MOT	...	1+	0.57	100+	0.40
MZ4625	MOT	...	1+	0.57	100+	0.40
MZ4626	MOT	...	1+	0.67	100+	0.63
MZ5529B	MOT	...	1+	0.67	100+	0.63
MZP4729ARL	MOT	...	1+	0.47	100+	0.33
MZP4730A	MOT	...	1+	0.35	100+	0.31
MZP4735ARL	MOT	...	1+	0.47	100+	0.33
MZP4739A	MOT	...	1+	0.40	100+	0.36
MZP4740ARL	MOT	...	1+	0.47	100+	0.33
MZP4741A	MOT	...	1+	0.47	100+	0.33
MZP4746ARL	MOT	...	1+	0.47	100+	0.33
MZP4750ARL	MOT	...	1+	0.47	100+	0.33
MZP4751ARL	MOT	...	1+	0.47	100+	0.33
N80C186-16	AMD	...	1+	13.78	18+	12.13
N80C188	AMD	...	1+	8.10	100+	6.85
N82S129AN	PHL	...	1+	3.14	25+	2.11
N82S131AN	PHL	...	1+	5.32	25+	3.49
N82S135N	PHL	...	1+	4.84	25+	3.16
N82S147AN	PHL	...	1+	5.56	25+	3.65
N82S181AN	PHL	...	1+	10.08	25+	6.59
N82S191AN	PHL	...	1+	12.07	25+	7.89
NE527N	PHL	...	1+	4.64	25+	3.02
NE531N	PHL	...	1+	5.13	25+	3.54
NE5521N	PHL	...	1+	8.85	25+	8.21
NE5532AP	TI	...	1+	1.41	25+	1.31
NE5532N	PHL	...	1+	1.40	25+	1.02
NE5532P	TI	...	1+	1.02	100+	0.90
NE5534AD	TI	...	1+	1.54	25+	1.43
NE5534AP	TI	904	1+	1.54	25+	1.43
NE5534N	PHL	...	1+	0.97	25+	0.63
NE5534P	TI	904	1+	0.97	100+	0.85
NE555D	TI	...	1+	0.60	100+	0.49

Manufacturer Abbreviations:

ADI: Analog Devices; **ALG:** Allegro; **ALT:** Altera; **AMD:** Advanced Micro Devices; **AND:** AND; **APD:** American Power Devices; **DAL:** Dallas Semiconductor; **ECG:** Philips ECG; **FGR:** Fagor; **GS:** General Semiconductor; **HP:** Hewlett Packard; **HRS:** Harris Semiconductor; **HWL:** Honeywell Opto; **INT:** Intronics; **IR:** International Rectifier; **MIC:** Micrel; **MOT:** Motorola; **NAT:** National Semiconductor; **OPT:** Optek; **PHL:** Phillips Semiconductors; **PWX:** Powerex; **QT:** QT Optoelectronics; **SKN:** Semikron; **SPC:** SPC Technology; **TI:** Texas Instruments; **TSK:** Thomson SK; **VAC:** EG&G Vactec; **VAN:** Vantis; **ZIL:** Zilog

Type	Mfg.	Pg.	Qty.	$	Qty.	$
NE555N	PHL	...	1+	0.58	25+	0.41
NE555P	TI	...	1+	0.60	100+	0.49
NE5560N	PHL	...	1+	3.11	25+	2.28
NE556D	TI	...	1+	0.68	100+	0.61
NE556N	TI	...	1+	0.68	100+	0.61
NE592N14	PHL	...	1+	1.12	25+	0.74
OH090U	OPT	591	1+	1.55	25+	1.38
OH180U	OPT	591	1+	1.21	25+	1.07
OH360U	OPT	591	1+	1.32	25+	1.18
OHB900	OPT	591	1+	4.87	25+	4.37
OHN3020U	OPT	...	1+	1.12	100+	0.99
OHN3040U	OPT	...	1+	1.57	25+	1.40
OP-177EZ	ADI	879	1+	25.54	10+	23.22
OP-177FP	ADI	879	1+	5.28	10+	4.59
OP-177FZ	ADI	...	1+	5.98	10+	5.44
OP-177GP	ADI	879	1+	1.79	10+	1.56
OP-177GS	ADI	879	1+	1.79	10+	1.56
OP-64EZ	ADI	...	1+	19.87	25+	14.73
OP01CJ	ADI	...	1+	8.11	25+	6.02
OP01CP	ADI	882	1+	4.12	25+	3.05
OP01J/883C	ADI	...	1+	25.52	25+	18.92
OP02CJ	ADI	883	1+	8.77	25+	6.50
OP02CP	ADI	883	1+	5.89	25+	4.37
OP02DP	ADI	883	1+	3.88	25+	2.88
OP04CY	ADI	...	1+	7.27	10+	6.61
OP04EY	ADI	...	1+	13.67	10+	12.42
OP05CJ	ADI	...	1+	7.76	25+	5.75
OP05CP	ADI	...	1+	5.36	10+	4.56
OP05EJ	ADI	...	1+	15.54	25+	11.52
OP06GJ	ADI	...	1+	9.12	25+	6.76
OP07AZ	ADI	879	1+	20.93	10+	19.03
OP07CJ	ADI	879	1+	5.36	10+	4.66
OP07CP	TI	...	1+	1.92	25+	1.79
OP07CS	ADI	879	1+	2.15	10+	1.87
OP07CZ	ADI	879	1+	5.36	10+	4.66
OP07DP	TI	...	1+	1.28	25+	1.19
OP07EJ	ADI	879	1+	8.54	10+	7.77
OP07EP	ADI	879	1+	3.57	10+	3.11
OP07EZ	ADI	879	1+	5.98	10+	5.44
OP07J	ADI	...	1+	11.96	10+	10.87
OP09EY	ADI	...	1+	18.80	10+	17.09
OP09FP	ADI	883	1+	9.95	25+	7.38
OP10CY	ADI	...	1+	17.08	10+	15.53
OP10EY	ADI	...	1+	17.94	10+	16.31
OP113EP	ADI	883	1+	5.54	10+	4.82
OP113ES	ADI	...	1+	5.54	10+	4.82
OP113FP	ADI	...	1+	2.86	10+	2.49
OP11AY	ADI	...	1+	32.45	10+	29.50
OP11EP	ADI	...	1+	11.10	10+	10.10
OP11EY	ADI	...	1+	14.52	10+	13.20
OP11GP	ADI	...	1+	4.92	10+	4.28
OP124	OPT	590	1+	1.39	25+	1.24
OP12FJ	ADI	...	1+	13.32	25+	9.88
OP131	OPT	590	1+	1.91	25+	1.70
OP132	OPT	590	1+	1.91	25+	1.70
OP133	OPT	590	1+	1.91	25+	1.70
OP133W	OPT	...	1+	1.91	25+	1.70
OP140A	OPT	590	1+	0.79	100+	0.69
OP14AJ	ADI	...	1+	57.73	25+	42.79
OP14AZ	ADI	...	1+	49.08	25+	36.38
OP14CP	ADI	...	1+	7.94	10+	7.22
OP14CS	ADI	879	1+	5.78	25+	4.28
OP14EP	ADI	...	1+	12.69	10+	11.53
OP14EZ	ADI	...	1+	14.21	25+	9.94
OP14Z	ADI	...	1+	18.89	25+	14.00
OP15AJ	ADI	...	1+	27.33	10+	24.84
OP15EZ	ADI	...	1+	9.40	10+	8.54
OP15FJ	ADI	...	1+	6.41	10+	5.83
OP15FZ	ADI	...	1+	6.41	10+	5.83
OP15GJ	ADI	...	1+	4.47	10+	3.89
OP162GP	ADI	883	1+	2.96	10+	2.57
OP162GS	ADI	883	1+	2.96	10+	2.57
OP165A	OPT	590	1+	0.88	100+	0.78
OP165D	OPT	...	1+	0.84	100+	0.74
OP166A	OPT	590	1+	1.00	100+	0.88
OP16EZ	ADI	879	1+	14.00	25+	10.38
OP16FJ	ADI	879	1+	7.79	25+	5.77
OP16FZ	ADI	...	1+	8.29	25+	6.15
OP16GZ	ADI	...	1+	5.72	10+	4.97
OP176GP	ADI	882	1+	1.72	10+	1.49
OP176GS	ADI	880	1+	1.72	10+	1.49
OP177AZ	ADI	...	1+	34.08	10+	30.98
OP17EZ	ADI	...	1+	13.09	10+	11.90
OP17FZ	ADI	...	1+	8.88	25+	6.59
OP17GZ	ADI	...	1+	5.33	25+	3.95
OP181GP	ADI	...	1+	3.22	10+	2.80
OP181GS	ADI	...	1+	3.22	10+	2.80
OP183GP	ADI	883	1+	2.82	10+	2.46
OP184EP	ADI	883	1+	4.27	10+	3.71
OP184ES	ADI	883	1+	4.27	10+	3.71
OP184FP	ADI	880	1+	2.85	10+	2.48
OP184FS	ADI	880	1+	2.85	10+	2.48
OP191GP	ADI	883	1+	2.75	10+	2.39
OP191GS	ADI	883	1+	2.75	10+	2.39
OP196GP	ADI	883	1+	2.50	10+	2.18
OP196GS	ADI	883	1+	2.56	10+	2.23
OP200EZ	ADI	879	1+	10.08	10+	9.16
OP200GP	ADI	879	1+	5.28	10+	4.59
OP207FY	ADI	...	1+	16.58	25+	12.29
OP20FP	ADI	883	1+	5.57	25+	4.13
OP20GP	ADI	883	1+	4.12	25+	3.05
OP20HJ	ADI	883	1+	6.34	25+	4.70
OP213EP	ADI	879	1+	9.23	10+	8.39
OP213ES	ADI	...	1+	10.08	10+	9.16
OP213FP	ADI	...	1+	3.40	10+	2.95
OP213FS	ADI	...	1+	3.40	10+	2.95
OP215EZ	ADI	...	1+	15.20	10+	13.82
OP215FP	ADI	...	1+	8.54	10+	7.77
OP215FZ	ADI	...	1+	13.67	10+	12.42
OP215GS	ADI	...	1+	5.63	10+	4.90
OP21EZ	ADI	883	1+	7.23	25+	5.36
OP21FZ	ADI	883	1+	6.10	25+	4.52
OP220CJ	ADI	883	1+	10.66	25+	7.90
OP220EZ	ADI	883	1+	8.54	10+	7.77
OP220FZ	ADI	883	1+	6.84	10+	6.21
OP220GS	ADI	...	1+	3.81	10+	3.32
OP221EZ	ADI	883	1+	8.54	10+	7.77
OP221GZ	ADI	883	1+	5.10	10+	4.43
OP224	OPT	...	1+	1.62	25+	1.44
OP227EY	ADI	880	1+	18.79	10+	17.08
OP227GY	ADI	880	1+	10.00	10+	9.09
OP22FZ	ADI	883	1+	5.57	25+	4.13
OP22HZ	ADI	883	1+	4.00	25+	2.97
OP231	OPT	590	1+	2.12	25+	1.88
OP232	OPT	590	1+	2.12	25+	1.88
OP233	OPT	590	1+	2.12	25+	1.88
OP240A	OPT	590	1+	0.79	100+	0.69
OP240B	OPT	...	1+	0.79	100+	0.69
OP249EJ	ADI	...	1+	16.11	25+	11.94
OP249FZ	ADI	881	1+	6.76	10+	6.14
OP249GP	ADI	881	1+	3.13	10+	2.73
OP250GS	ADI	...	1+	3.04	100+	2.62
OP260AZ	ADI	...	1+	44.29	25+	32.83
OP260EZ	ADI	...	1+	28.75	25+	21.31
OP262GP	ADI	883	1+	4.25	10+	3.70
OP262GS	ADI	883	1+	4.25	10+	3.70
OP265A	OPT	590	1+	1.00	100+	0.88
OP269A	OPT	...	1+	1.05	100+	0.92
OP270AZ	ADI	880	1+	17.08	10+	15.53
OP270EZ	ADI	880	1+	10.25	10+	9.32
OP270FZ	ADI	880	1+	7.69	10+	6.99
OP270GP	ADI	880	1+	5.81	10+	5.05
OP270GS	ADI	...	1+	5.81	10+	5.05
OP271EZ	ADI	880	1+	11.10	10+	10.10
OP271GP	ADI	880	1+	5.98	10+	5.44
OP271GS	ADI	880	1+	7.79	25+	5.77
OP275GP	ADI	882	1+	2.15	10+	1.87
OP275GS	ADI	882	1+	2.15	10+	1.87
OP279GS	ADI	...	1+	2.24	10+	1.95
OP27AJ	ADI	880	1+	30.74	10+	27.95
OP27CZ	ADI	880	1+	12.81	10+	11.65
OP27EJ	ADI	880	1+	11.96	10+	10.87
OP27EP	ADI	880	1+	6.04	10+	5.49
OP27EZ	ADI	880	1+	11.96	10+	10.87
OP27FP	ADI	880	1+	4.13	10+	3.60
OP27GP	ADI	880	1+	1.57	50+	1.44
OP27GS	ADI	...	1+	3.17	10+	2.76
OP27GZ	ADI	880	1+	6.49	10+	5.90
OP281GP	ADI	883	1+	4.63	10+	4.03
OP281GS	ADI	...	1+	4.63	10+	4.03
OP282GP	ADI	883	1+	2.13	10+	1.86
OP282GS	ADI	...	1+	2.32	10+	2.02
OP283GP	ADI	880	1+	4.28	10+	3.72
OP283GS	ADI	883	1+	4.28	10+	3.72
OP284ES	ADI	883	1+	12.42	100+	10.69
OP284FS	ADI	883	1+	8.57	100+	7.38
OP285GP	ADI	879	1+	3.18	10+	2.77
OP285GS	ADI	879	1+	3.86	10+	3.36
OP290A	OPT	590	1+	0.84	100+	0.74
OP290EZ	ADI	...	1+	9.40	10+	8.54
OP290GP	ADI	883	1+	4.47	10+	3.59
OP291GP	ADI	883	1+	3.57	10+	3.11
OP291GS	ADI	883	1+	3.57	10+	3.11
OP292GP	ADI	...	1+	1.97	10+	1.71
OP292GS	ADI	...	1+	2.03	10+	1.76
OP293A	OPT	...	1+	0.86	100+	0.73
OP293B	OPT	590	1+	0.86	100+	0.73
OP293ES	ADI	883	1+	8.46	10+	7.69
OP295A	OPT	590	1+	0.84	100+	0.74
OP295C	OPT	...	1+	0.84	100+	0.74
OP295GP	ADI	883	1+	3.93	10+	3.42
OP295GS	ADI	883	1+	3.93	10+	3.42
OP296A	OPT	...	1+	0.84	100+	0.74
OP296B	OPT	590	1+	0.84	100+	0.74
OP296GP	ADI	883	1+	2.92	10+	2.54
OP296GS	ADI	883	1+	2.99	10+	2.60
OP297A	OPT	590	1+	0.84	100+	0.74
OP297AZ	ADI	883	1+	21.11	25+	15.65
OP297B	OPT	590	1+	0.84	100+	0.74
OP297FP	ADI	...	1+	5.54	10+	4.82
OP297GP	ADI	883	1+	4.74	10+	4.12
OP297GS	ADI	...	1+	4.74	10+	4.12
OP298A	OPT	590	1+	0.86	100+	0.73
OP37EJ	ADI	...	1+	11.96	10+	10.87
OP37EP	ADI	880	1+	5.65	10+	4.91
OP37EZ	ADI	880	1+	11.96	10+	10.87
OP37GP	ADI	880	1+	2.25	10+	1.96
OP37GS	ADI	...	1+	2.86	10+	2.49
OP37GZ	ADI	...	1+	6.49	10+	5.90
OP400AY	ADI	879	1+	30.57	10+	27.79
OP400EY	ADI	879	1+	14.52	10+	13.20
OP400FY	ADI	879	1+	9.83	10+	8.94
OP400GP	ADI	879	1+	5.98	50+	5.48
OP400GS	ADI	879	1+	9.15	10+	8.32
OP413ES	ADI	...	1+	14.52	10+	13.20
OP413FP	ADI	...	1+	5.98	10+	5.44
OP41EJ	ADI	...	1+	11.40	25+	8.45
OP41GP	ADI	...	1+	5.92	25+	4.39
OP420CY	ADI	...	1+	16.67	25+	12.36
OP420FY	ADI	...	1+	9.65	25+	7.16
OP421CY	ADI	...	1+	12.44	25+	9.22
OP421GP	ADI	883	1+	4.03	10+	3.50
OP421HY	ADI	...	1+	5.81	25+	4.30
OP42EJ	ADI	882	1+	23.95	25+	17.75
OP42EZ	ADI	...	1+	16.23	10+	14.75
OP42FZ	ADI	...	1+	6.41	10+	5.83
OP42GP	ADI	...	1+	4.03	10+	3.50
OP43GP	ADI	...	1+	5.92	25+	4.39
OP44EZ	ADI	...	1+	21.85	25+	16.20
OP44FZ	ADI	882	1+	11.52	25+	8.54
OP450GS	ADI	...	1+	4.71	100+	4.06
OP462GP	ADI	879	1+	6.62	10+	6.02
OP462GS	ADI	879	1+	6.62	10+	6.02
OP467GP	ADI	882	1+	11.10	10+	10.10
OP467GS	ADI	882	1+	11.96	10+	10.87
OP470AY	ADI	880	1+	28.18	10+	25.62
OP470EY	ADI	880	1+	14.95	10+	13.59
OP470FY	ADI	880	1+	10.00	10+	9.09
OP470GP	ADI	880	1+	8.88	10+	8.08
OP470GS	ADI	...	1+	9.57	10+	8.70
OP471AY	ADI	880	1+	30.57	10+	27.79
OP471EY	ADI	880	1+	16.23	10+	14.75
OP471GP	ADI	880	1+	9.40	10+	8.54
OP471GS	ADI	...	1+	10.34	10+	9.40
OP481GP	ADI	...	1+	5.80	10+	5.27
OP481GS	ADI	...	1+	5.80	10+	5.27
OP482GP	ADI	883	1+	3.85	10+	3.35
OP482GS	ADI	...	1+	3.85	10+	3.35
OP484EP	ADI	883	1+	14.49	10+	13.17
OP484ES	ADI	883	1+	14.49	10+	13.17
OP484FP	ADI	883	1+	10.00	10+	9.09
OP490GP	ADI	883	1+	5.90	10+	5.13
OP490GS	ADI	883	1+	5.90	10+	5.13
OP491GP	ADI	883	1+	5.86	10+	5.10
OP491GS	ADI	883	1+	5.86	10+	5.10
OP492GP	ADI	883	1+	5.13	10+	4.46
OP493EP	ADI	883	1+	10.00	10+	9.09
OP495GP	ADI	...	1+	6.76	10+	6.14
OP495GS	ADI	...	1+	6.76	10+	6.14
OP496GP	ADI	883	1+	4.47	10+	3.89
OP496GS	ADI	883	1+	4.56	10+	3.97
OP497BRC/883C	ADI	...	1+	59.39	10+	56.57
OP497FP	ADI	...	1+	12.19	10+	11.08
OP497FS	ADI	...	1+	12.19	10+	11.08
OP497GP	ADI	883	1+	8.12	10+	7.38
OP505A	OPT	590	1+	0.72	100+	0.62
OP505B	OPT	...	1+	0.72	100+	0.62
OP505C	OPT	590	1+	0.72	100+	0.62
OP505D	OPT	590	1+	0.70	100+	0.59
OP506A	OPT	590	1+	0.81	100+	0.71
OP506D	OPT	590	1+	0.81	100+	0.71
OP50EY	ADI	880	1+	18.47	25+	13.69
OP50FY	ADI	880	1+	13.68	25+	10.14
OP535B	OPT	...	1+	0.91	100+	0.80
OP550A	OPT	...	1+	0.86	100+	0.73
OP555A	OPT	...	1+	0.86	100+	0.73
OP555B	OPT	...	1+	0.86	100+	0.73
OP593A	OPT	590	1+	0.86	100+	0.73
OP593B	OPT	...	1+	0.86	100+	0.73
OP593C	OPT	590	1+	0.86	100+	0.73
OP598A	OPT	590	1+	0.86	100+	0.73
OP598B	OPT	...	1+	0.86	100+	0.73
OP598C	OPT	...	1+	0.86	100+	0.73
OP643SL	OPT	...	1+	1.62	25+	1.44
OP64GP	ADI	...	1+	13.43	10+	12.21
OP64GS	ADI	...	1+	12.23	25+	9.07
OP77AJ	ADI	...	1+	39.97	25+	29.63
OP77EJ	ADI	...	1+	9.06	10+	8.23
OP77EP	ADI	879	1+	5.36	10+	4.66
OP77EZ	ADI	879	1+	6.41	10+	5.83
OP77FJ	ADI	879	1+	3.75	10+	3.26
OP77FP	ADI	879	1+	3.13	10+	2.73
OP77FZ	ADI	...	1+	3.75	10+	3.26
OP77GP	ADI	...	1+	2.24	10+	1.95
OP802SL	OPT	...	1+	2.23	25+	1.98
OP802WSL	OPT	590	1+	1.96	25+	1.74
OP803SL	OPT	590	1+	2.23	25+	1.98
OP804SL	OPT	590	1+	2.23	25+	1.98
OP805SL	OPT	590	1+	2.23	25+	1.98
OP80GP	ADI	883	1+	4.47	10+	3.89
OP830SL	OPT	...	1+	2.23	25+	1.98
OP830WSL	OPT	...	1+	2.29	25+	2.05
OP90FZ	ADI	...	1+	4.03	10+	3.50
OP90GP	ADI	883	1+	2.96	10+	2.57

NEW TYPES ARE BEING CONTINUALLY ADDED TO INVENTORY.

CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR AVAILABILITY.

Type	Mfg.	Pg.	Qty.	$	Qty.	$
OP90GS	ADI	883	1+	2.96	10+	2.57
OP913SL	OPT	...	1+	7.41	10+	6.68
OP913WSL	OPT	...	1+	7.41	10+	6.68
OP950	OPT	590	1+	0.86	100+	0.73
OP955	OPT	590	1+	0.84	100+	0.74
OP97EJ	ADI	...	1+	11.19	25+	8.30
OP97EZ	ADI	883	1+	8.54	10+	7.77
OP97FP	ADI	883	1+	2.32	10+	2.02
OP97FS	ADI	...	1+	2.32	10+	2.02
OP993	OPT	590	1+	0.81	100+	0.71
OP999	OPT	590	1+	0.88	100+	0.78
OPB360N55	OPT	...	1+	2.22	25+	1.99
OPB360T51	OPT	591	1+	2.29	25+	2.05
OPB365T55	OPT	...	1+	2.26	25+	2.03
OPB370N51	OPT	...	1+	2.20	25+	1.97
OPB370N55	OPT	...	1+	2.21	25+	1.96
OPB370P55	OPT	...	1+	2.21	25+	1.96
OPB375T55	OPT	...	1+	2.25	25+	2.00
OPB380T51	OPT	...	1+	3.83	25+	3.44
OPB390T51	OPT	...	1+	3.68	25+	3.30
OPB390T55	OPT	...	1+	3.53	25+	3.16
OPB606B	OPT	...	1+	1.25	25+	1.12
OPB607A	OPT	590	1+	1.44	25+	1.28
OPB607B	OPT	...	1+	1.37	25+	1.22
OPB610	OPT	591	1+	1.30	25+	1.16
OPB618	OPT	...	1+	1.57	25+	1.40
OPB620	OPT	591	1+	1.30	25+	1.16
OPB625	OPT	...	1+	1.57	25+	1.40
OPB626	OPT	...	1+	1.57	25+	1.40
OPB628	OPT	591	1+	1.57	25+	1.40
OPB660N	OPT	591	1+	1.94	25+	1.72
OPB660T	OPT	591	1+	1.94	25+	1.72
OPB665T	OPT	591	1+	2.14	25+	1.90
OPB666N	OPT	...	1+	2.14	25+	1.90
OPB667N	OPT	...	1+	2.14	25+	1.90
OPB667T	OPT	591	1+	2.14	25+	1.90
OPB668N	OPT	...	1+	2.14	25+	1.90
OPB668T	OPT	...	1+	2.14	25+	1.90
OPB680	OPT	591	1+	2.26	25+	2.03
OPB696B	OPT	591	1+	3.44	25+	3.09
OPB700	OPT	590	1+	7.66	10+	6.91
OPB700AL	OPT	590	1+	8.35	10+	7.52
OPB701	OPT	590	1+	9.45	10+	8.52
OPB701AL	OPT	590	1+	10.13	10+	9.13
OPB703	QT	...	1+	2.21	25+	1.96
OPB703W	OPT	...	1+	3.20	2+	3.11
OPB704	OPT	...	1+	2.61	25+	2.34
OPB704W	OPT	...	1+	3.63	25+	3.26
OPB706A	QT	...	1+	2.00	25+	1.78
OPB706C	QT	...	1+	1.80	25+	1.60
OPB707A	OPT	...	1+	2.66	25+	2.38
OPB710	OPT	590	1+	5.94	10+	5.35
OPB710F	OPT	590	1+	6.20	10+	5.58
OPB711	OPT	590	1+	2.66	25+	2.38
OPB712	OPT	590	1+	3.00	25+	2.70
OPB730	OPT	590	1+	6.20	10+	5.58
OPB730F	OPT	590	1+	6.45	10+	5.81
OPB742	OPT	590	1+	2.29	25+	2.05
OPB745	OPT	590	1+	2.85	25+	2.56
OPB770T	OPT	...	1+	6.92	10+	6.23
OPB800L55	OPT	591	1+	2.35	25+	2.11
OPB804	QT	586	1+	1.17	100+	1.03
OPB806	OPT	...	1+	3.35	25+	3.01
OPB815W	OPT	...	1+	4.18	25+	3.75
OPB818	OPT	591	1+	1.96	25+	1.74
OPB820S5	OPT	...	1+	3.31	25+	2.97
OPB821	OPT	591	1+	3.20	25+	2.87
OPB821S5	OPT	...	1+	4.16	25+	3.73
OPB822SD	OPT	...	1+	4.61	25+	4.14
OPB825	OPT	...	1+	1.64	25+	1.46
OPB826SD	OPT	...	1+	9.03	10+	8.13
OPB828C	OPT	...	1+	2.18	25+	1.95
OPB829A	OPT	591	1+	3.79	25+	3.40
OPB829C	OPT	...	1+	3.74	25+	3.36
OPB829D	OPT	...	1+	3.66	25+	3.28
OPB830W11	OPT	...	1+	5.24	25+	4.70
OPB830W51	OPT	...	1+	4.40	25+	3.94
OPB830W55	OPT	591	1+	4.16	25+	3.73
OPB840L51	OPT	...	1+	2.46	25+	2.21
OPB840W11	OPT	...	1+	5.31	25+	4.76
OPB840W55	OPT	...	1+	4.16	25+	3.73
OPB848	OPT	591	1+	1.75	25+	1.56
OPB850	OPT	...	1+	3.53	25+	3.16
OPB854A3	OPT	...	1+	2.25	25+	2.00
OPB855	OPT	...	1+	2.00	25+	1.78
OPB857	OPT	...	1+	5.20	25+	4.66
OPB860T51	OPT	...	1+	2.35	25+	2.11
OPB865T51	OPT	...	1+	2.42	25+	2.17
OPB865T55	OPT	...	1+	2.31	25+	2.07
OPB866T55	OPT	...	1+	2.33	25+	2.09
OPB870N51	OPT	...	1+	2.26	25+	2.03
OPB870T51	OPT	...	1+	2.26	25+	2.03
OPB871N55	OPT	...	1+	2.20	25+	1.97
OPB877T55	OPT	...	1+	2.29	25+	2.05
OPB881T55	OPT	...	1+	3.85	25+	3.46
OPB890T55	OPT	...	1+	3.59	25+	3.22
OPB891T55	OPT	...	1+	3.72	25+	3.34
OPB900W55	OPT	...	1+	5.62	10+	5.06

Type	Mfg.	Pg.	Qty.	$	Qty.	$
OPB910W55	OPT	...	1+	5.49	10+	4.95
OPB911W55	OPT	...	1+	5.49	10+	4.95
OPB930W55	OPT	591	1+	5.13	25+	4.61
OPB940W51	OPT	...	1+	5.16	25+	4.63
OPB941W51	OPT	...	1+	5.16	25+	4.63
OPB941W55	OPT	591	1+	5.09	25+	4.57
OPB960N55	OPT	...	1+	2.76	25+	2.48
OPB960T51	OPT	591	1+	2.85	25+	2.56
OPB961N51	OPT	591	1+	2.85	25+	2.56
OPB961T51	OPT	...	1+	2.85	25+	2.56
OPB963N51	OPT	...	1+	2.85	25+	2.56
OPB963T51	OPT	...	1+	2.85	25+	2.56
OPB963T55	OPT	...	1+	2.76	25+	2.48
OPB970L55	OPT	...	1+	2.72	25+	2.44
OPB972T51	OPT	...	1+	2.81	25+	2.52
OPB973N51	OPT	...	1+	2.81	25+	2.52
OPB973T51	OPT	...	1+	2.81	25+	2.52
OPB980L55	OPT	...	1+	4.42	25+	3.96
OPB980T51	OPT	...	1+	4.50	25+	4.04
OPB981T51	OPT	591	1+	4.50	25+	4.04
OPB982T51	OPT	...	1+	4.50	25+	4.04
OPB990T55	OPT	...	1+	4.37	25+	3.92
OPB991L55	OPT	...	1+	4.37	25+	3.92
OPB991T55	OPT	...	1+	4.37	25+	3.92
OPF2416TC	OPT	...	1+	16.12	10+	14.36
OPF2418TC	OPT	...	1+	19.59	10+	17.44
OPF370A	OPT	591	1+	10.47	10+	9.44
OPF371A	OPT	...	1+	19.06	10+	16.97
OPF470	OPT	...	1+	4.48	25+	4.02
OPF480	OPT	591	1+	5.62	10+	5.06
OPF692-1	OPT	...	1+	12.15	10+	10.81
OPF692-2	OPT	...	1+	12.15	10+	10.81
OPF792	OPT	...	1+	10.37	10+	9.34
OPI1264A	OPT	590	1+	2.18	25+	1.95
OPI1264B	OPT	590	1+	2.22	25+	1.99
OPI1264C	OPT	590	1+	2.26	25+	2.03
OPI150	OPT	...	1+	29.93	5+	27.06
OPL551	OPT	...	1+	1.60	25+	1.42
OPL800-0C	OPT	...	1+	3.31	25+	2.97
P102KW	IR	...	1+	42.34	5+	40.31
P102W	IR	...	1+	35.48	5+	33.78
P600A	FGR	...	1+	0.50	100+	0.41
P600D	FGR	...	1+	0.58	100+	0.47
P600G	FGR	...	1+	0.62	100+	0.51
P600J	FGR	...	1+	0.67	100+	0.55
P600M	GS	...	1+	1.63	100+	1.40
P6KE100A	SPC	938	1+	0.59	100+	0.50
P6KE100C	SPC	938	1+	0.59	100+	0.50
P6KE10A	SPC	938	1+	0.59	100+	0.50
P6KE10C	SPC	938	1+	0.59	100+	0.50
P6KE10CA	MOT	...	1+	1.40	100+	1.10
P6KE120A	MOT	...	1+	0.88	100+	0.69
P6KE12A	MOT	...	1+	0.65	100+	0.42
P6KE12C	SPC	938	1+	0.59	100+	0.50
P6KE12CA	SPC	938	1+	0.37	100+	0.34
P6KE13A	GS	936	1+	1.16	100+	1.00
P6KE13CA	MOT	...	1+	0.54	100+	0.35
P6KE150A	MOT	...	1+	0.88	100+	0.69
P6KE150CA	MOT	...	1+	0.70	100+	0.59
P6KE15A	SPC	938	1+	0.59	100+	0.50
P6KE15C	SPC	938	1+	0.59	100+	0.50
P6KE15CA	MOT	...	1+	0.54	100+	0.35
P6KE16A	SPC	938	1+	0.31	100+	0.29
P6KE16C	SPC	938	1+	0.59	100+	0.50
P6KE16CA	MOT	...	1+	0.83	100+	0.76
P6KE180A	MOT	...	1+	0.50	100+	0.41
P6KE18A	SPC	938	1+	0.59	100+	0.50
P6KE18C	SPC	938	1+	0.59	100+	0.50
P6KE18CA	MOT	...	1+	0.54	100+	0.35
P6KE200A	SPC	938	1+	0.59	100+	0.50
P6KE200C	SPC	938	1+	0.59	100+	0.50
P6KE200CA	SPC	938	1+	0.42	100+	0.39
P6KE20A	MOT	...	1+	0.79	100+	0.52
P6KE20C	SPC	938	1+	0.59	100+	0.50
P6KE20CA	MOT	...	1+	0.54	100+	0.35
P6KE22A	SPC	938	1+	0.59	100+	0.50
P6KE22C	SPC	938	1+	0.59	100+	0.50
P6KE24A	SPC	938	1+	0.59	100+	0.50
P6KE24C	SPC	938	1+	0.59	100+	0.50
P6KE24CA	SPC	938	1+	0.37	100+	0.34
P6KE250A	FGR	...	1+	0.48	100+	0.39
P6KE250C	SPC	938	1+	1.04	100+	0.88
P6KE250CA	SPC	938	1+	0.83	100+	0.71
P6KE27A	SPC	938	1+	0.59	100+	0.50
P6KE27C	SPC	938	1+	0.59	100+	0.50
P6KE27CA	MOT	...	1+	0.54	100+	0.35
P6KE30A	MOT	...	1+	0.65	100+	0.42
P6KE30CA	MOT	...	1+	0.83	100+	0.66
P6KE33A	MOT	...	1+	0.65	100+	0.42
P6KE33CA	MOT	...	1+	0.54	100+	0.35
P6KE36A	MOT	...	1+	0.65	100+	0.42
P6KE36CA	MOT	...	1+	0.83	100+	0.76
P6KE39A	MOT	...	1+	0.65	100+	0.42
P6KE39CA	MOT	...	1+	0.83	100+	0.76
P6KE400A	GS	...	1+	1.75	100+	1.50
P6KE47A	MOT	...	1+	0.88	100+	0.69
P6KE47CA	MOT	...	1+	0.54	100+	0.35
P6KE51A	MOT	...	1+	0.72	100+	0.57

Type	Mfg.	Pg.	Qty.	$	Qty.	$
P6KE51C	SPC	938	1+	0.59	100+	0.50
P6KE51CA	MOT	...	1+	1.40	100+	1.10
P6KE6.8A	MOT	...	1+	0.65	100+	0.42
P6KE6.8CA	MOT	...	1+	0.54	100+	0.35
P6KE62CA	MOT	...	1+	0.54	100+	0.35
P6KE68A	MOT	...	1+	0.79	100+	0.52
P6KE68CA	MOT	...	1+	0.54	100+	0.35
P6KE7.5A	MOT	...	1+	0.65	100+	0.42
P6KE7.5CA	MOT	...	1+	0.54	100+	0.35
P6KE75A	MOT	...	1+	0.88	100+	0.69
P6KE8.2A	MOT	...	1+	0.79	100+	0.52
P6KE9.1A	MOT	...	1+	0.79	100+	0.52
P6KE91A	MOT	...	1+	0.64	100+	0.52
P6SMB100AT3	MOT	...	1+	0.79	100+	0.52
P6SMB10AT3	MOT	...	1+	0.54	100+	0.35
P6SMB13AT3	MOT	876	1+	0.54	100+	0.35
P6SMB15AT3	MOT	876	1+	0.54	100+	0.35
P6SMB18AT3	MOT	...	1+	0.54	100+	0.35
P6SMB200AT3	MOT	876	1+	0.79	100+	0.52
P6SMB22AT3	MOT	876	1+	0.54	100+	0.35
P6SMB27AT3	MOT	876	1+	0.54	100+	0.35
P6SMB33AT3	MOT	876	1+	0.54	100+	0.35
P6SMB36AT3	MOT	876	1+	0.54	100+	0.35
P6SMB39AT3	MOT	876	1+	0.54	100+	0.35
P6SMB43AT3	MOT	...	1+	0.54	100+	0.35
P6SMB51AT3	MOT	...	1+	0.54	100+	0.35
P6SMB6.8AT3	MOT	876	1+	0.54	100+	0.35
P6SMB62AT3	MOT	...	1+	0.54	100+	0.35
P82B715PN	PHL	...	1+	4.63	25+	4.29
P87C524EBFFA	PHL	...	1+	89.60	25+	59.73
PAL16L8ACN	AMD	...	1+	1.25	18+	1.10
PAL16L8D/2PC	AMD	...	1+	2.33	18+	2.05
PAL16R4ACN	AMD	...	1+	1.25	18+	1.10
PAL16R4BCN	AMD	...	1+	1.25	18+	1.10
PAL16R6ACN	AMD	...	1+	1.25	18+	1.10
PAL16R8ACN	AMD	...	1+	1.25	18+	1.10
PAL22V10-15JC	AMD	...	1+	6.47	37+	5.70
PALCE16V8H-10PC/4	AMD	912	1+	2.90	46+	2.55
PALCE16V8H-15JC/4	AMD	912	1+	1.65	46+	1.45
PALCE16V8H-15PC/4	AMD	912	1+	1.65	18+	1.45
PALCE16V8H-25JC/4	AMD	912	1+	1.52	46+	1.34
PALCE16V8H-7PC/5	AMD	912	1+	3.48	18+	3.07
PALCE16V8Q-10JC/5	AMD	912	1+	5.00	46+	4.40
PALCE16V8Q-15PC/4	AMD	912	1+	1.82	18+	1.60
PALCE16V8Q-25PC/4	AMD	912	1+	1.58	18+	1.39
PALCE20RA10H-10JC	AMD	912	1+	23.08	10+	19.62
PALCE20RA10H-10PC	AMD	912	1+	23.08	10+	19.62
PALCE20RA10H-15JC	AMD	912	1+	13.47	10+	11.44
PALCE20RA10H-15PC	AMD	912	1+	13.47	10+	11.44
PALCE20RA10H-20JC	AMD	912	1+	11.41	25+	9.70
PALCE20RA10H-20PC	AMD	912	1+	6.93	15+	6.09
PALCE20V8H-10PC/4	AMD	912	1+	4.47	15+	3.93
PALCE20V8H-15JC/4	AMD	912	1+	2.23	37+	1.96
PALCE20V8H-15PC/4	AMD	912	1+	2.23	15+	1.96
PALCE20V8H-25JC/4	AMD	912	1+	1.87	37+	1.64
PALCE20V8H-25PC/4	AMD	912	1+	1.87	15+	1.64
PALCE20V8H-5JC/5	AMD	912	1+	16.27	37+	14.31
PALCE20V8H-7JC/5	AMD	912	1+	6.51	37+	5.73
PALCE20V8H-7PC/5	AMD	912	1+	6.51	15+	5.73
PALCE22V10H-10JC5	AMD	912	1+	7.55	37+	6.64
PALCE22V10H-10PC5	AMD	912	1+	7.55	15+	6.64
PALCE22V10H-5JC/5	AMD	912	1+	19.75	37+	17.38
PALCE22V10H-7PC/5	AMD	912	1+	11.97	15+	11.45
PALCE22V10H15JC/4	AMD	912	1+	5.41	37+	4.76
PALCE22V10H15PC/4	AMD	912	1+	5.41	15+	4.76
PALCE22V10H25JC/4	AMD	912	1+	3.37	37+	2.96
PALCE22V10H25PC/4	AMD	912	1+	3.37	15+	2.96
PALCE22V10Q-25PC4	AMD	912	1+	4.42	15+	3.89
PALCE22V10Z-25PC	AMD	912	1+	9.87	15+	8.69
PALCE26V12H-10JC/	AMD	912	1+	12.59	37+	11.08
PALCE26V12H-10PC/	AMD	912	1+	12.59	13+	11.08
PALCE26V12H-15JC/	AMD	912	1+	9.76	37+	8.59
PALCE26V12H-15PC/	AMD	912	1+	9.76	13+	8.59
PALCE26V12H-20PC4	AMD	912	1+	8.83	13+	7.77
PALCE26V12H-7JC/4	AMD	912	1+	14.52	37+	12.78
PALLV16V8-10JC	AMD	912	1+	7.70	25+	6.54
PALLV16V8-10PC	AMD	912	1+	7.70	25+	6.54
PALLV22V10-10JC	AMD	912	1+	17.95	10+	15.26
PALLV22V10-15JC	AMD	912	1+	15.23	10+	12.95
PALLV22V10-15PC	AMD	912	1+	15.23	10+	12.95
PC16550DN	NAT	...	1+	6.70	25+	5.05
PKD01AY	ADI	...	1+	57.34	25+	42.51
PKD01EP	ADI	...	1+	14.06	10+	12.79
PKD01EY	ADI	...	1+	17.58	10+	15.98
PKD01FP	ADI	...	1+	11.71	10+	10.64
PKD01FY	ADI	...	1+	14.65	10+	13.31
PL-SKT/Q100	ALT	...	1+	45.00	...	...
PM100CSA060	PWX	928	1+	351.90	5+	317.29
PM100CVA120	PWX	...	1+	403.21	5+	363.55
PM100DSA120	PWX	928	1+	423.82	5+	382.13
PM100RSA060	PWX	928	1+	359.48	5+	324.12
PM1012GP	ADI	...	1+	6.10	25+	4.52
PM150CVA120	PWX	...	1+	573.89	5+	517.44
PM150RSA060	PWX	928	1+	505.07	5+	455.39
PM156AZ	ADI	...	1+	41.36	25+	30.66
PM15RSH120	PWX	928	1+	259.81	5+	234.26
PM200CSA060	PWX	928	1+	643.11	5+	579.85
PM20CSJ060	PWX	928	1+	95.08	5+	83.37

Manufacturer Abbreviations:

ADI: Analog Devices; **ALG:** Allegro; **ALT:** Altera; **AMD:** Advanced Micro Devices; **AND:** AND; **APD:** American Power Devices; **DAL:** Dallas Semiconductor; **ECG:** Philips ECG; **FGR:** Fagor; **GS:** General Semiconductor; **HP:** Hewlett Packard; **HRS:** Harris Semiconductor; **HWL:** Honeywell Opto; **INT:** Intronics; **IR:** International Rectifier; **MIC:** Micrel; **MOT:** Motorola; **NAT:** National Semiconductor; **OPT:** Optek; **PHL:** Phillips Semiconductors; **PWX:** Powerex; **QT:** QT Optoelectronics; **SKN:** Semikron; **SPC:** SPC Technology; **TI:** Texas Instruments; **TSK:** Thomson SK; **VAC:** EG&G Vactec; **VAN:** Vantis; **ZIL:** Zilog

Type	Mfg.	Pg.	Qty.	$	Qty.	$
PM300CVA060	PWX	...	1+	628.32	5+	566.52
PM400HSA120	PWX	928	1+	663.36	5+	598.11
PM50RSA060	PWX	928	1+	386.60	5+	348.57
PM50RVA120	PWX	...	1+	230.86	5+	208.15
PM7226FS	ADI	...	1+	34.81	25+	25.81
PM7524HP	ADI	...	1+	4.00	10+	3.48
PM7543EQ	ADI	...	1+	37.36	25+	27.69
PM7545FPC	ADI	...	1+	15.25	25+	11.30
PM75DSA120	PWX	928	1+	361.18	5+	325.65
PM75RSA060	PWX	928	1+	300.31	5+	270.77
PM75RSK060	PWX	928	1+	285.32	5+	257.26
PM75RVA060	PWX	...	1+	222.64	5+	200.74
PM7628FS	ADI	...	1+	9.36	25+	6.94
PM7628HP	ADI	...	1+	7.26	25+	5.38
PM7645HP	ADI	...	1+	13.26	25+	9.83
PM800HSA060	PWX	928	1+	634.81	5+	572.37
PM800HSA120	PWX	928	1+	1316.65	5+	1187.15
PMMA2001D	MOT	...	1+	21.12	5+	19.33
PN2222	MOT	...	1+	0.12	100+	0.09
PN2222A	MOT	...	1+	0.12	100+	0.09
PN2222ARLRP	MOT	...	1+	0.12	100+	0.08
PN2907	MOT	...	1+	0.17	100+	0.12
PN2907A	MOT	...	1+	0.14	100+	0.10
PVA1054	IR	711	1+	6.33	10+	5.90
PVA3354	IR	711	1+	6.33	10+	5.90
PVAZ172N	IR	711	1+	9.73	10+	9.07
PVD1054	IR	711	1+	6.69	10+	6.24
PVDZ172N	IR	...	1+	8.27	10+	7.71
PVI1050	IR	711	1+	5.48	25+	5.03
PVI5013R	IR	711	1+	3.90	25+	3.58
PVN012	IR	711	1+	5.70	25+	5.23
PVR3301	IR	711	1+	12.76	10+	12.06
PVT312	IR	711	1+	2.48	25+	2.28
PVT312L	IR	711	1+	2.45	25+	2.25
PVT322	IR	711	1+	5.21	25+	4.79
PVT412	IR	711	1+	2.48	25+	2.28
PVT422	IR	711	1+	5.06	25+	4.65
PVT422P	IR	711	1+	5.34	25+	4.91
PVT442	IR	711	1+	3.65	25+	3.35
PVU414	IR	711	1+	4.43	25+	4.07
PVX6012	IR	711	1+	8.61	10+	8.02
PZT2222AT1	MOT	...	1+	0.63	100+	0.44
PZT2907AT1	MOT	...	1+	0.63	100+	0.44
PZT651T1	MOT	...	1+	0.59	100+	0.47
PZT751T1	MOT	...	1+	0.54	100+	0.35
PZTA14T1	MOT	...	1+	0.62	100+	0.49
PZTA42T1	MOT	...	1+	0.48	100+	0.38
QEC112	QT	586	1+	0.43	100+	0.36
QEC113	QT	586	1+	0.46	100+	0.38
QEC121	QT	586	1+	0.72	100+	0.62
QEC122	QT	586	1+	0.81	100+	0.68
QED123	QT	...	1+	0.63	100+	0.53
QED223	QT	...	1+	0.60	100+	0.50
QED423	QT	586	1+	0.68	100+	0.57
QED523	QT	586	1+	0.68	100+	0.57
QEE123	QT	...	1+	0.43	100+	0.37
QSA156	QT	586	1+	2.81	25+	2.52
QSA158	QT	586	1+	2.81	25+	2.52
QSA159	QT	586	1+	2.81	25+	2.52
QSC112	QT	...	1+	0.46	100+	0.38
QSC114	QT	...	1+	0.54	100+	0.46
QSD123	QT	586	1+	0.49	100+	0.41
QSD723	QT	...	1+	0.75	100+	0.64
QSE158	QT	586	1+	0.91	25+	0.81
QUALITY TECH DATA	QT	944	1+	5.00	...	...
RC4136D	TI	...	1+	1.02	100+	0.90
RC4136N	TI	...	1+	1.02	100+	0.90
RC4558D	TI	...	1+	0.60	100+	0.49
RC4558P	TI	...	1+	0.60	100+	0.49
RC4559P	TI	...	1+	0.72	100+	0.58
REF01CJ	ADI	889	1+	5.79	10+	5.03
REF01CP	ADI	889	1+	2.82	10+	2.46
REF01CS	ADI	...	1+	3.53	10+	3.07
REF01EJ	ADI	...	1+	10.51	10+	9.56
REF01EZ	ADI	...	1+	10.23	10+	9.30
REF01HP	ADI	889	1+	4.65	10+	4.04
REF02AZ	ADI	...	1+	35.87	10+	32.61
REF02CJ	ADI	...	1+	5.79	10+	5.03
REF02CP	ADI	889	1+	3.85	10+	3.35
REF02CS	ADI	...	1+	3.85	10+	3.35
REF02CZ	ADI	889	1+	5.63	10+	4.90
REF02DP	ADI	889	1+	2.96	10+	2.57
REF02EJ	ADI	...	1+	10.51	10+	9.56
REF02EZ	ADI	...	1+	10.23	10+	9.30
REF02HP	ADI	889	1+	5.54	10+	4.82
REF08GZ	ADI	889	1+	11.70	25+	8.67
REF08HP	ADI	...	1+	8.78	10+	7.98
REF08HS	ADI	889	1+	8.00	25+	5.93
REF191GP	ADI	889	1+	4.47	10+	3.89
REF192ES	ADI	...	1+	11.65	...	...
REF192FS	ADI	...	1+	6.15	10+	5.59
REF192GP	ADI	...	1+	4.47	10+	3.89
REF192GS	ADI	...	1+	3.93	10+	3.42
REF193GS	ADI	...	1+	3.93	10+	3.42
REF194GP	ADI	...	1+	4.47	10+	3.89
REF195ES	ADI	...	1+	12.81	10+	11.65
REF195GP	ADI	889	1+	4.47	10+	3.89
REF195GS	ADI	...	1+	3.93	10+	3.42

Type	Mfg.	Pg.	Qty.	$	Qty.	$
REF196GP	ADI	...	1+	4.47	10+	3.89
REF198ES	ADI	...	1+	12.81	10+	11.65
REF198GP	ADI	...	1+	4.47	10+	3.89
REF198GS	ADI	...	1+	3.93	10+	3.42
REF43FZ	ADI	889	1+	15.25	10+	13.86
REF43GP	ADI	889	1+	6.41	10+	5.83
REF43GS	ADI	...	1+	6.41	10+	5.83
REF43GZ	ADI	889	1+	7.85	25+	5.82
RF1K49086	HRS	...	1+	1.64	25+	1.53
RF1K49090	HRS	894	1+	1.64	25+	1.53
RF1K49092	HRS	894	1+	1.67	25+	1.55
RF1K49154	HRS	894	1+	1.54	25+	1.43
RF1K49211	HRS	894	1+	1.82	25+	1.69
RF1S22N10SM	HRS	894	1+	2.53	25+	2.36
RF1S23N06LE	HRS	894	1+	2.15	25+	2.01
RF1S23N06LESM	HRS	894	1+	2.02	25+	1.88
RF1S25N06SM	HRS	894	1+	2.05	25+	1.91
RF1S30N06LE	HRS	894	1+	2.53	25+	2.36
RF1S30N06LESM	HRS	894	1+	2.23	25+	2.07
RF1S30P05SM	HRS	...	1+	3.94	25+	3.63
RF1S30P06SM	HRS	...	1+	4.14	25+	3.80
RF1S40N10LE	HRS	894	1+	4.35	25+	4.00
RF1S40N10LESM	HRS	894	1+	4.26	25+	3.92
RF1S40N10SM	HRS	894	1+	4.63	25+	4.25
RF1S45N06LE	HRS	894	1+	2.95	25+	2.71
RF1S45N06LESM	HRS	894	1+	2.70	25+	2.48
RF1S4N100SM	HRS	894	1+	5.60	25+	5.15
RF1S50N06LE	HRS	894	1+	3.21	25+	2.95
RF1S50N06LESM	HRS	894	1+	2.97	25+	2.73
RF1S530SM	HRS	...	1+	2.75	25+	2.53
RF1S630SM	HRS	...	1+	3.17	25+	2.91
RF1S70N03SM	HRS	894	1+	4.63	25+	4.25
RF1S9530SM	HRS	...	1+	3.04	25+	2.80
RF1S9630SM	HRS	...	1+	3.19	25+	2.93
RF1S9640SM	HRS	...	1+	3.70	25+	3.40
RFD10P03LSM	HRS	...	1+	1.51	25+	1.41
RFD14N05L	HRS	...	1+	1.09	100+	0.96
RFD15N06LESM	HRS	894	1+	1.33	25+	1.24
RFD15P05SM	HRS	...	1+	2.33	25+	2.17
RFD15P06SM	HRS	...	1+	2.46	25+	2.29
RFD16N03L	HRS	894	1+	1.97	25+	1.84
RFD16N05L	HRS	...	1+	1.87	25+	1.74
RFD3N08LSM	HRS	...	1+	1.07	100+	0.94
RFD4N06L	HRS	...	1+	0.94	100+	0.83
RFD8P05SM	HRS	...	1+	1.44	25+	1.34
RFG60P05E	HRS	894	1+	15.15	10+	14.32
RFG70N06	HRS	894	1+	5.48	25+	5.03
RFP10N15	HRS	...	1+	1.41	25+	1.31
RFP10P03L	HRS	...	1+	1.44	25+	1.34
RFP10P15	HRS	...	1+	3.92	25+	3.60
RFP12N06RLE	HRS	894	1+	1.07	100+	0.94
RFP12N10L	HRS	...	1+	1.82	25+	1.69
RFP12P08	HRS	894	1+	2.65	25+	2.44
RFP12P10	HRS	894	1+	3.90	25+	3.58
RFP14N05L	HRS	894	1+	1.07	100+	0.94
RFP15N05L	HRS	894	1+	1.64	25+	1.53
RFP15N15	HRS	...	1+	3.68	100+	3.37
RFP15P05	HRS	894	1+	2.43	25+	2.27
RFP22N10	HRS	894	1+	2.97	25+	2.73
RFP25N05L	HRS	894	1+	2.58	25+	2.37
RFP2N08L	HRS	...	1+	0.76	100+	0.65
RFP30N06LE	HRS	894	1+	1.54	25+	1.43
RFP30P05	HRS	894	1+	5.48	25+	5.03
RFP30P06	HRS	894	1+	5.11	25+	4.70
RFP40N10	HRS	894	1+	3.41	25+	3.13
RFP45N06	HRS	894	1+	2.00	25+	1.86
RFP4N100	HRS	894	1+	5.60	25+	5.15
RFP50N05L	HRS	...	1+	4.80	25+	4.41
RFP50N06	HRS	894	1+	2.10	25+	1.96
RFP70N03	HRS	...	1+	3.41	25+	3.13
RFP70N06	HRS	894	1+	3.53	25+	3.25
RFP8N20L	HRS	...	1+	1.84	25+	1.72
RFP8P08	HRS	894	1+	3.43	25+	3.16
RHRD4120	HRS	...	1+	1.02	25+	0.95
RHRD460	HRS	...	1+	0.90	25+	0.84
RHRD660S	HRS	...	1+	0.95	100+	0.87
RHRP15120	HRS	894	1+	2.41	25+	2.21
RHRP1560	HRS	...	1+	1.83	25+	1.68
RHRP30120	HRS	...	1+	3.65	25+	3.36
RHRP860	HRS	...	1+	1.82	100+	1.67
RHRU100120	HRS	...	1+	12.46	10+	11.78
RLY5142	ECG	...	1+	12.98	5+	9.30
RPT82FQ	ADI	...	1+	7.61	25+	5.64
RPT87FS	ADI	...	1+	13.06	25+	9.68
RURU150120	HRS	894	1+	19.86	10+	18.78
SA10A	MOT	...	1+	0.81	100+	0.53
SA11A	MOT	...	1+	0.88	100+	0.69
SA12A	MOT	...	1+	0.55	100+	0.36
SA12CA	MOT	...	1+	0.54	100+	0.35
SA13A	MOT	...	1+	0.55	100+	0.36
SA14A	MOT	...	1+	0.88	100+	0.69
SA15A	MOT	...	1+	0.55	100+	0.36
SA15CA	MOT	...	1+	0.54	100+	0.35
SA16A	MOT	...	1+	0.88	100+	0.69
SA18A	MOT	...	1+	1.21	100+	0.95
SA18ARL	MOT	...	1+	1.14	100+	0.89
SA20CA	MOT	...	1+	0.54	100+	0.35
SA24A	MOT	876	1+	0.65	100+	0.42

Type	Mfg.	Pg.	Qty.	$	Qty.	$
SA24ARL	MOT	...	1+	0.62	100+	0.51
SA26A	MOT	...	1+	0.79	100+	0.52
SA28A	MOT	...	1+	0.79	100+	0.52
SA30A	MOT	...	1+	0.55	100+	0.36
SA30CA	MOT	...	1+	0.80	100+	0.64
SA36A	MOT	...	1+	0.88	100+	0.69
SA36CA	MOT	...	1+	0.54	100+	0.35
SA40A	MOT	...	1+	0.98	100+	0.77
SA48A	MOT	...	1+	1.00	100+	0.78
SA5.0A	MOT	...	1+	0.55	100+	0.36
SA51A	MOT	...	1+	0.52	100+	0.42
SA555P	TI	...	1+	0.73	100+	0.56
SA6.0A	MOT	...	1+	0.55	100+	0.36
SA6.5C	MOT	...	1+	0.61	100+	0.51
SA7.5A	MOT	...	1+	0.58	100+	0.38
SA7.5CA	MOT	...	1+	0.86	100+	0.73
SA8.0A	MOT	...	1+	0.55	100+	0.36
SA9.0A	MOT	...	1+	0.58	100+	0.38
SAA1042V	MOT	...	1+	10.56	10+	9.43
SC141D	MOT	...	1+	0.86	100+	0.73
SC146D	MOT	...	1+	0.86	100+	0.73
SC146N	MOT	...	1+	1.49	100+	1.17
SCC2691AC1N24	PHL	...	1+	8.27	25+	7.67
SCN2681AC1N40	PHL	...	1+	6.46	25+	5.99
SD101A-T/R	GS	936	1+	0.20	100+	0.15
SD101AW-T/R	GS	...	1+	0.33	100+	0.25
SD103A-T/R	GS	936	1+	0.29	100+	0.22
SD103AW-T/R	GS	...	1+	0.25	100+	0.20
SD1410-003L	HWL	589	1+	3.42	100+	3.08
SD1420-002L	HWL	589	1+	3.42	100+	3.08
SD1440-002L	HWL	...	1+	3.34	100+	3.01
SD1440-003	HWL	589	1+	2.83	100+	2.55
SD1440-003L	HWL	589	1+	3.34	100+	3.01
SD1440-004L	HWL	...	1+	3.41	100+	3.07
SD2410-002	HWL	...	1+	2.40	100+	1.68
SD2420-002	HWL	589	1+	2.37	100+	1.66
SD2440-002	HWL	589	1+	1.88	100+	1.32
SD2440-003	HWL	...	1+	1.88	100+	1.32
SD3410-003	HWL	589	1+	3.25	100+	2.27
SD3421-002	HWL	589	1+	5.73	100+	4.02
SD3443-003	HWL	589	1+	3.18	100+	2.22
SD4324-002	HWL	...	1+	12.32	100+	9.61
SD5410-002	HWL	589	1+	3.25	100+	2.27
SD5410-003	HWL	589	1+	3.30	100+	2.32
SD5421-002	HWL	589	1+	5.73	100+	4.02
SD5443-002	HWL	589	1+	3.10	100+	2.18
SD5443-003	HWL	589	1+	3.10	100+	2.18
SD5491-004	HWL	...	1+	3.10	100+	2.18
SD5600-001	HWL	589	1+	3.90	100+	2.74
SD5610-001	HWL	589	1+	3.90	100+	2.74
SDP8106-001	HWL	589	1+	0.88	100+	0.79
SDP8276-001	HWL	589	1+	0.91	100+	0.81
SDP8371-001	HWL	589	1+	2.56	100+	2.30
SDP8405-002	HWL	589	1+	0.91	100+	0.81
SDP8405-003	HWL	...	1+	0.99	100+	0.90
SDP8406-002	HWL	...	1+	0.75	100+	0.68
SDP8406-003	HWL	589	1+	0.75	100+	0.68
SDP8436-002	HWL	589	1+	0.96	100+	0.87
SDP8436-003	HWL	...	1+	0.96	100+	0.87
SDP8475-201	HWL	589	1+	0.95	100+	0.85
SDP8476-201	HWL	589	1+	0.78	100+	0.71
SDP8600-001	HWL	589	1+	1.65	100+	1.49
SDP8601-001	HWL	...	1+	1.59	100+	1.43
SE1450-003	HWL	589	1+	3.37	100+	3.03
SE1450-003L	HWL	589	1+	3.74	100+	3.37
SE2470-001	HWL	...	1+	2.05	100+	1.44
SE2470-002	HWL	589	1+	2.19	100+	1.54
SE3455-003	HWL	589	1+	2.95	100+	2.06
SE3470-003	HWL	589	1+	3.35	100+	2.35
SE5450-012	HWL	...	1+	2.95	100+	2.06
SE5450-013	HWL	589	1+	2.95	100+	2.06
SE5455-002	HWL	589	1+	2.95	100+	2.06
SE5455-003	HWL	...	1+	2.95	100+	2.06
SE5470-001	HWL	589	1+	3.06	100+	2.15
SE5470-003	HWL	589	1+	3.21	100+	2.25
SE5470-004	HWL	589	1+	3.35	100+	2.35
SE555N	PHL	...	1+	2.01	25+	1.32
SEP8505-002	HWL	589	1+	0.99	100+	0.90
SEP8505-003	HWL	589	1+	1.02	100+	0.92
SEP8506-003	HWL	...	1+	0.88	100+	0.79
SEP8705-003	HWL	589	1+	1.13	100+	1.01
SEP8706-002	HWL	589	1+	0.91	100+	0.81
SEP8706-003	HWL	589	1+	0.96	100+	0.87
SEP8736-002	HWL	589	1+	1.02	100+	0.92
SEP8736-003	HWL	...	1+	1.12	100+	1.00
SG2524N	TI	904	1+	3.65	25+	3.36
SG3524N	TI	904	1+	1.14	100+	1.01
SG3525AN	MOT	...	1+	0.98	100+	0.84
SG3526N	MOT	...	1+	2.08	25+	1.85
SGT03U13	HRS	...	1+	1.51	25+	1.41
SK100KQ	SKN	934	1+	46.67	5+	35.00
SK10176	TSK	...	1+	8.24	100+	8.06
SK10V	TSK	...	1+	1.27	100+	1.08
SK120KQ	SKN	934	1+	57.11	5+	42.83
SK12A	TSK	...	1+	0.88	100+	0.86
SK12V	TSK	...	1+	1.27	100+	1.08
SK14X	TSK	...	1+	2.58	100+	2.52
SK15GH063	SKN	934	1+	79.74	5+	59.81

NEW TYPES ARE BEING CONTINUALLY ADDED TO INVENTORY.

CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR AVAILABILITY.

Type	Mfg.	Pg.	Qty.	$	Qty.	$
SK15V	TSK	...	1+	1.27	100+	1.08
SK15X/5130A	TSK	...	1+	2.67	100+	2.26
SK18A	TSK	...	1+	0.88	100+	0.86
SK200V	TSK	...	1+	1.22	100+	1.20
SK2041/3041	TSK	...	1+	2.57	100+	2.18
SK2086	TSK	...	1+	5.35	100+	4.54
SK25GB063	SKN	934	1+	59.06	5+	44.29
SK2A5	TSK	...	1+	0.88	100+	0.86
SK3004	TSK	...	1+	3.55	100+	2.18
SK3009	TSK	...	1+	10.65	100+	9.03
SK3017B	TSK	...	1+	2.01	100+	1.71
SK3021	TSK	...	1+	5.62	100+	4.77
SK3027	TSK	...	1+	4.64	100+	3.94
SK3044	TSK	...	1+	4.23	100+	3.59
SK3051	TSK	...	1+	1.42	100+	1.21
SK3054	TSK	...	1+	3.67	100+	3.11
SK3065	TSK	...	1+	6.65	100+	5.63
SK3081	TSK	...	1+	1.21	100+	1.04
SK3083	TSK	...	1+	3.42	100+	2.90
SK3085	TSK	...	1+	5.94	100+	5.03
SK3087	TSK	...	1+	0.81	100+	0.65
SK3090	TSK	...	1+	0.88	100+	0.86
SK30GB123	SKN	934	1+	68.24	5+	51.18
SK3100	TSK	...	1+	1.24	100+	1.06
SK3103A	TSK	...	1+	4.28	100+	3.63
SK3104A	TSK	...	1+	2.79	100+	2.36
SK3105	TSK	...	1+	2.91	100+	2.47
SK3106	TSK	...	1+	2.35	100+	1.99
SK3112	TSK	...	1+	2.76	100+	2.34
SK3114A	TSK	...	1+	2.03	100+	1.74
SK3115	TSK	...	1+	16.86	100+	14.29
SK3122	TSK	...	1+	1.99	100+	1.94
SK3124A	TSK	...	1+	1.70	100+	1.45
SK3164	TSK	...	1+	3.18	100+	2.70
SK3180/263	TSK	...	1+	4.01	100+	3.40
SK3181A	TSK	...	1+	4.94	100+	4.19
SK3182	TSK	...	1+	4.77	100+	4.04
SK3188A	TSK	...	1+	6.09	100+	5.16
SK3189A	TSK	...	1+	6.72	100+	5.70
SK3190	TSK	...	1+	2.45	100+	2.07
SK3191	TSK	...	1+	2.84	100+	2.41
SK3193	TSK	...	1+	3.02	100+	2.96
SK3197	TSK	...	1+	8.26	100+	8.09
SK3199	TSK	...	1+	3.30	100+	2.80
SK3200	TSK	...	1+	4.28	100+	3.63
SK3220/198	TSK	...	1+	3.84	100+	3.25
SK3245	TSK	...	1+	1.16	100+	0.99
SK3260	TSK	...	1+	12.61	100+	10.69
SK3265	TSK	...	1+	3.06	100+	2.59
SK3274/153	TSK	...	1+	3.30	100+	2.80
SK3275	TSK	...	1+	1.40	100+	1.20
SK3297	TSK	...	1+	9.29	100+	7.87
SK3311	TSK	...	1+	0.55	100+	0.44
SK3313	TSK	...	1+	0.74	100+	0.60
SK3433/287	TSK	...	1+	1.43	100+	1.23
SK3434	TSK	...	1+	1.52	100+	1.30
SK3439A	TSK	...	1+	13.57	100+	13.29
SK3440	TSK	...	1+	3.79	100+	3.21
SK3441/292	TSK	...	1+	4.28	100+	3.63
SK3444	TSK	...	1+	1.83	100+	1.56
SK3452/108	TSK	...	1+	2.11	100+	1.80
SK3462	TSK	...	1+	2.34	100+	2.29
SK3465	TSK	...	1+	4.57	100+	3.87
SK3466	TSK	...	1+	2.01	100+	1.96
SK3466/159	TSK	...	1+	2.11	100+	1.80
SK3467	TSK	...	1+	11.12	100+	9.42
SK3500	TSK	...	1+	5.21	100+	4.41
SK3501	TSK	...	1+	9.26	100+	7.85
SK3505	TSK	...	1+	20.03	100+	16.98
SK3506	TSK	...	1+	3.55	100+	3.01
SK3509	TSK	...	1+	16.49	100+	13.98
SK3512	TSK	...	1+	6.45	100+	6.31
SK3514	TSK	...	1+	3.30	100+	2.80
SK3518	TSK	...	1+	10.29	100+	8.72
SK3523	TSK	...	1+	1.77	100+	1.52
SK3528	TSK	...	1+	4.47	100+	3.79
SK3533	TSK	...	1+	4.47	100+	3.79
SK3552	TSK	...	1+	1.59	100+	1.36
SK3559	TSK	...	1+	13.83	100+	11.72
SK3564	TSK	...	1+	2.74	100+	2.32
SK3565	TSK	...	1+	10.20	100+	9.98
SK3569/834	TSK	...	1+	2.96	100+	2.51
SK3577	TSK	...	1+	6.11	100+	5.18
SK3582	TSK	...	1+	15.12	100+	12.82
SK3590	TSK	...	1+	2.18	100+	2.13
SK3591	TSK	...	1+	4.77	100+	4.04
SK3592/966	TSK	...	1+	4.86	100+	4.12
SK3593	TSK	...	1+	4.84	100+	4.10
SK3598	TSK	...	1+	2.54	100+	2.16
SK3602	TSK	...	1+	6.11	100+	5.18
SK3603	TSK	...	1+	6.72	100+	5.70
SK3608	TSK	...	1+	11.00	100+	9.32
SK3629	TSK	...	1+	8.36	100+	7.08
SK3638	TSK	...	1+	1.52	100+	1.30
SK3639	TSK	...	1+	2.13	100+	1.82
SK3642	TSK	...	1+	31.64	100+	26.81
SK3643	TSK	...	1+	3.37	100+	2.86
SK3647	TSK	...	1+	2.59	100+	2.20

Type	Mfg.	Pg.	Qty.	$	Qty.	$
SK3648	TSK	...	1+	2.96	100+	2.51
SK3650	TSK	...	1+	15.42	100+	13.07
SK3651	TSK	...	1+	19.45	100+	16.48
SK3659	TSK	...	1+	6.38	100+	5.41
SK3661	TSK	...	1+	28.09	100+	23.81
SK3662	TSK	...	1+	25.58	100+	21.68
SK3663	TSK	...	1+	25.28	100+	21.43
SK3670	TSK	...	1+	4.86	100+	4.12
SK3671	TSK	...	1+	6.55	100+	5.55
SK3673	TSK	...	1+	6.97	100+	5.90
SK3674	TSK	...	1+	6.72	100+	5.70
SK3678	TSK	...	1+	3.78	100+	3.70
SK3679	TSK	...	1+	9.65	100+	8.18
SK3680	TSK	...	1+	8.87	100+	7.52
SK3681	TSK	...	1+	9.87	100+	8.37
SK3682	TSK	...	1+	10.48	100+	8.88
SK3689	TSK	...	1+	3.77	100+	3.19
SK3692	TSK	...	1+	4.77	100+	4.04
SK3715	TSK	...	1+	2.23	100+	1.89
SK3717	TSK	...	1+	13.68	100+	11.60
SK3719	TSK	...	1+	9.16	100+	7.77
SK3721	TSK	...	1+	4.28	100+	3.63
SK3722	TSK	...	1+	4.18	100+	3.54
SK3747/157	TSK	...	1+	2.57	100+	2.18
SK3836	TSK	...	1+	14.42	100+	12.22
SK3841	TSK	...	1+	2.40	100+	2.03
SK3846	TSK	...	1+	16.13	100+	13.67
SK3848	TSK	...	1+	1.98	100+	1.69
SK3849	TSK	...	1+	2.42	100+	2.05
SK3854	TSK	...	1+	1.49	100+	1.46
SK3854/123AP	TSK	...	1+	1.57	100+	1.34
SK3858	TSK	...	1+	12.80	100+	10.85
SK3859	TSK	...	1+	12.97	100+	11.00
SK3861	TSK	...	1+	7.06	100+	5.99
SK3866A	TSK	...	1+	3.52	100+	2.98
SK3893/152	TSK	...	1+	2.94	100+	2.49
SK3894	TSK	...	1+	9.11	100+	7.73
SK3896	TSK	...	1+	3.28	100+	2.78
SK3925	TSK	...	1+	4.08	100+	3.46
SK3943	TSK	...	1+	24.75	25+	24.20
SK3945	TSK	...	1+	27.56	25+	23.78
SK3947	TSK	...	1+	12.09	100+	10.25
SK3953	TSK	...	1+	1.82	100+	1.78
SK3986	TSK	...	1+	4.99	100+	4.23
SK3987	TSK	...	1+	5.57	100+	4.72
SK3993	TSK	...	1+	19.18	100+	16.25
SK3996	TSK	...	1+	3.33	100+	2.82
SK3997	TSK	...	1+	3.57	100+	3.49
SK3998/506	TSK	...	1+	2.69	100+	2.64
SK3V6	TSK	...	1+	1.27	100+	1.08
SK4001B	TSK	...	1+	1.05	100+	0.90
SK4011B	TSK	...	1+	1.46	100+	1.25
SK4013B	TSK	...	1+	1.67	100+	1.63
SK4049UB	TSK	...	1+	1.83	100+	1.56
SK4066B	TSK	...	1+	2.13	100+	2.08
SK4069UB	TSK	...	1+	1.18	100+	1.01
SK45GB063	SKN	934	1+	77.01	5+	57.76
SK45KQ	SKN	934	1+	31.15	5+	23.36
SK4908	TSK	...	1+	8.67	100+	8.48
SK510	TSK	...	1+	17.11	100+	16.75
SK538	TSK	...	1+	14.59	100+	14.28
SK5538	TSK	...	1+	3.77	100+	3.19
SK5545	TSK	...	1+	5.18	100+	4.39
SK5552	TSK	...	1+	9.09	100+	7.70
SK5579	TSK	...	1+	23.48	100+	19.90
SK5V1	TSK	...	1+	1.22	100+	1.20
SK6654	TSK	...	1+	7.56	100+	7.40
SK6656/5556	TSK	...	1+	9.59	100+	9.38
SK6719	TSK	...	1+	60.93	10+	50.68
SK6794	TSK	...	1+	12.09	100+	10.25
SK6A2/5013	TSK	...	1+	0.91	100+	0.79
SK6V2	TSK	...	1+	1.27	100+	1.08
SK7076	TSK	...	1+	18.70	100+	18.30
SK70KQ	SKN	934	1+	36.39	5+	27.29
SK7362	TSK	...	1+	4.69	100+	3.98
SK7363	TSK	...	1+	4.69	100+	3.98
SK7406	TSK	...	1+	2.37	100+	2.01
SK7408	TSK	...	1+	1.88	100+	1.84
SK86NEW1	TSK	941	1+	284.44	...	...
SK86NEW2	TSK	941	1+	330.76	...	...
SK86NEW3	TSK	941	1+	237.30	...	...
SK86NEW4	TSK	941	1+	369.87	...	...
SK86NEW5	TSK	941	1+	300.95	...	...
SK86NEW6	TSK	941	1+	287.50	...	...
SK86NEW7	TSK	941	1+	399.64	...	...
SK9005	TSK	...	1+	1.27	100+	1.08
SK9007	TSK	...	1+	1.59	100+	1.36
SK9009	TSK	...	1+	2.52	100+	2.14
SK9010	TSK	...	1+	3.45	100+	2.92
SK9033	TSK	...	1+	15.03	100+	12.73
SK9034	TSK	...	1+	16.78	100+	14.22
SK9041	TSK	...	1+	2.69	100+	2.28
SK9042	TSK	...	1+	2.71	100+	2.30
SK9067	TSK	...	1+	8.19	100+	6.94
SK9072	TSK	...	1+	2.27	100+	2.22
SK9075	TSK	...	1+	2.32	100+	1.97
SK9085	TSK	...	1+	10.48	100+	8.88
SK9088	TSK	...	1+	13.00	100+	12.72

Type	Mfg.	Pg.	Qty.	$	Qty.	$
SK9091	TSK	...	1+	1.24	100+	1.06
SK9094	TSK	...	1+	7.21	100+	6.11
SK9096	TSK	...	1+	2.37	100+	2.01
SK9097	TSK	...	1+	4.50	100+	3.81
SK9103	TSK	...	1+	15.61	100+	13.23
SK9105/5344	TSK	...	1+	17.96	100+	15.22
SK9121	TSK	...	1+	3.79	100+	3.71
SK9122	TSK	...	1+	31.00	25+	26.75
SK9123	TSK	...	1+	9.65	100+	8.18
SK9131	TSK	...	1+	19.47	100+	16.50
SK9132	TSK	...	1+	2.18	100+	2.13
SK9134	TSK	...	1+	9.65	100+	8.18
SK9136	TSK	...	1+	10.80	100+	9.15
SK9140	TSK	...	1+	12.09	100+	10.25
SK9141	TSK	...	1+	8.92	100+	7.56
SK9147	TSK	...	1+	3.98	100+	3.38
SK9148	TSK	...	1+	15.88	100+	13.46
SK9157	TSK	...	1+	2.08	100+	1.78
SK9158	TSK	...	1+	9.36	100+	7.93
SK9163	TSK	...	1+	2.42	100+	2.05
SK9165	TSK	...	1+	15.00	100+	12.71
SK9169	TSK	...	1+	2.88	100+	2.82
SK9182	TSK	...	1+	15.95	100+	13.52
SK9215	TSK	...	1+	4.30	100+	3.65
SK9230	TSK	...	1+	2.08	100+	1.76
SK9262	TSK	...	1+	14.54	100+	12.32
SK9332	TSK	...	1+	7.16	100+	6.07
SK9333	TSK	...	1+	9.35	100+	9.15
SK9339/970	TSK	...	1+	15.83	100+	13.42
SK9340/932	TSK	...	1+	33.79	25+	33.04
SK9344	TSK	...	1+	22.79	100+	19.32
SK9388	TSK	...	1+	27.12	25+	26.52
SK9413	TSK	...	1+	6.38	100+	5.41
SK9415	TSK	...	1+	6.79	100+	5.76
SK9422	TSK	...	1+	8.50	100+	7.21
SK9436	TSK	...	1+	2.54	100+	2.16
SK9437	TSK	...	1+	22.42	100+	21.95
SK9440	TSK	...	1+	12.80	100+	10.85
SK9441	TSK	...	1+	12.97	100+	11.00
SK9455A/172A	TSK	...	1+	1.49	100+	1.27
SK9503	TSK	...	1+	4.25	100+	3.61
SK9808	TSK	...	1+	10.39	100+	8.80
SK9A1	TSK	...	1+	0.88	100+	0.86
SK9V1	TSK	...	1+	1.22	100+	1.20
SKB 15/16 A2	SKN	935	1+	48.66	5+	36.50
SKB 25/14	SKN	935	1+	31.56	5+	23.67
SKB 25/16	SKN	935	1+	34.43	5+	25.82
SKB 30/12 A1	SKN	935	1+	53.46	5+	40.09
SKB 30/16 A1	SKN	935	1+	64.15	5+	48.11
SKB 50/12 A3	SKN	935	1+	120.18	5+	90.14
SKB 50/16 A3	SKN	935	1+	144.15	5+	108.11
SKB 60/16	SKN	935	1+	202.40	5+	151.80
SKBT 28/08	SKN	935	1+	99.54	5+	74.65
SKD 100/12	SKN	935	1+	230.05	5+	172.53
SKD 100/16	SKN	935	1+	276.13	5+	207.10
SKD 160/12	SKN	935	1+	196.13	5+	147.10
SKD 160/16	SKN	935	1+	235.21	5+	176.41
SKD 25/16	SKN	935	1+	53.82	5+	40.37
SKD 30/16 A1	SKN	935	1+	84.06	5+	63.04
SKD 50/16 A3	SKN	935	1+	183.96	5+	137.97
SKD 51/16	SKN	935	1+	143.41	5+	107.56
SKD 51/18	SKN	935	1+	161.47	5+	121.11
SKD 60/16	SKN	935	1+	248.48	5+	186.36
SKD 62/12	SKN	935	1+	112.44	5+	84.33
SKD 62/16	SKN	935	1+	134.93	5+	101.20
SKD 82/16	SKN	935	1+	150.41	5+	112.81
SKD 82/18	SKN	935	1+	176.59	5+	132.44
SKET 400/12E	SKN	935	1+	435.02	5+	326.27
SKET 400/16E	SKN	935	1+	530.88	5+	398.16
SKG202DK1 (3 1/2)	TSK	944	1+	6.97	100+	5.90
SKIIP 10 NEC 06 I	SKN	...	1+	121.66	5+	91.24
SKIIP 10 NEC 06 T	SKN	...	1+	103.23	5+	77.42
SKIIP 11 NEC 06 I	SKN	...	1+	131.98	5+	98.99
SKIIP 11 NEC 06 T	SKN	...	1+	112.44	5+	84.33
SKIIP 20 NEB 06 I	SKN	...	1+	193.92	5+	145.44
SKIIP 21 NAB 06 I	SKN	...	1+	210.14	5+	157.60
SKIIP 21 NEB 06 I	SKN	...	1+	204.61	5+	153.46
SKIIP 22 NAB 06 I	SKN	...	1+	254.38	5+	190.78
SKIIP 22 NAB 12 T	SKN	...	1+	229.68	5+	172.26
SKIIP 31 NAB 06 T	SKN	...	1+	282.40	5+	211.80
SKIIP 31 NAB 12 T	SKN	...	1+	405.53	5+	304.15
SKIIP 32 NAB 12 T	SKN	...	1+	442.40	5+	331.80
SKIIP 81 AC 12 I	SKN	...	1+	516.13	5+	387.10
SKIIP 81 AC 12 T1	SKN	...	1+	379.72	5+	284.79
SKIIP 81 ANB 15 T	SKN	...	1+	171.43	5+	128.57
SKIIP 82 AC 06 I	SKN	...	1+	460.83	5+	345.62
SKIIP 82 AC 06 T1	SKN	...	1+	324.06	5+	243.04
SKIIP 82 AC 12 I	SKN	...	1+	674.65	5+	505.99
SKIIP 82 AC 12 T1	SKN	...	1+	541.94	5+	406.45
SKIIP 82 ANB 08 T	SKN	...	1+	152.63	5+	114.47
SKIIP 82 ANB 15 T	SKN	...	1+	182.86	5+	137.14
SKIIP 83 AC 06 I	SKN	...	1+	538.25	5+	403.69
SKIIP 83 AC 06 T1	SKN	...	1+	401.84	5+	301.38
SKIIP 83 AC 12 I	SKN	...	1+	833.18	5+	624.88
SKIIP 83 AC 12 T1	SKN	...	1+	693.09	5+	519.82
SKIIP 83 ANB 08 T	SKN	...	1+	185.44	5+	139.08
SKIIP 83 ANB 15 T	SKN	...	1+	224.88	5+	168.66
SKKD 100/12	SKN	935	1+	81.11	5+	60.83

Manufacturer Abbreviations:

ADI: Analog Devices; **ALG:** Allegro; **ALT:** Altera; **AMD:** Advanced Micro Devices; **AND:** AND; **APD:** American Power Devices; **DAL:** Dallas Semiconductor; **ECG:** Philips ECG; **FGR:** Fagor; **GS:** General Semiconductor; **HP:** Hewlett Packard; **HRS:** Harris Semiconductor; **HWL:** Honeywell Opto; **INT:** Intronics; **IR:** International Rectifier; **MIC:** Micrel; **MOT:** Motorola; **NAT:** National Semiconductor; **OPT:** Optek; **PHL:** Phillips Semiconductors; **PWX:** Powerex; **QT:** QT Optoelectronics; **SKN:** Semikron; **SPC:** SPC Technology; **TI:** Texas Instruments; **TSK:** Thomson SK; **VAC:** EG&G Vactec; **VAN:** Vantis; **ZIL:** Zilog

Type	Mfg.	Pg.	Qty.	$	Qty.	$
SKKD 100/16	SKN	935	1+	101.38	5+	76.04
SKKD 105F08	SKN	935	1+	133.09	5+	99.82
SKKD 105F12	SKN	935	1+	182.12	5+	136.59
SKKD 115F12	SKN	935	1+	164.42	5+	123.32
SKKD 150F12	SKN	935	1+	243.32	5+	182.49
SKKD 162/16	SKN	935	1+	247.74	5+	185.81
SKKD 170M17	SKN	935	1+	611.98	5+	458.99
SKKD 170M24	SKN	935	1+	744.70	5+	558.53
SKKD 42F12	SKN	935	1+	112.81	5+	84.61
SKKD 42F15	SKN	935	1+	143.41	5+	107.56
SKKD 46/14	SKN	935	1+	65.99	5+	49.49
SKKD 46/16	SKN	935	1+	73.73	5+	55.30
SKKD 50E02	SKN	935	1+	120.18	5+	90.14
SKKD 50E03	SKN	935	1+	141.94	5+	106.45
SKKD 50E04	SKN	935	1+	164.06	5+	123.04
SKKD 60F16	SKN	...	1+	254.38	5+	190.78
SKKD 75F11	SKN	...	1+	189.12	5+	141.84
SKKD 75F12	SKN	...	1+	199.08	5+	149.31
SKKD 81/14	SKN	...	1+	82.58	5+	61.94
SKKE 301F10	SKN	...	1+	210.14	5+	157.60
SKKE 301F12	SKN	...	1+	243.32	5+	182.49
SKKE 330F16	SKN	...	1+	460.83	5+	345.62
SKKE 330F17	SKN	...	1+	508.76	5+	381.57
SKKH 106/12E	SKN	935	1+	104.33	5+	78.25
SKKH 106/16E	SKN	935	1+	126.82	5+	95.12
SKKH 26/12D	SKN	935	1+	45.85	5+	40.55
SKKH 26/16E	SKN	935	1+	73.73	5+	55.30
SKKH 41/12E	SKN	935	1+	70.41	5+	52.81
SKKH 41/14E	SKN	935	1+	76.31	5+	57.24
SKKH 41/16E	SKN	935	1+	85.16	5+	63.87
SKKH 42/16E	SKN	935	1+	85.16	5+	63.87
SKKH 56/12E	SKN	935	1+	77.79	5+	58.34
SKKH 56/16E	SKN	935	1+	94.38	5+	70.78
SKKH 71/12E	SKN	935	1+	87.37	5+	65.53
SKKH 71/16E	SKN	935	1+	106.18	5+	79.63
SKKH 72/12E	SKN	935	1+	87.37	5+	65.53
SKKH 72/16E	SKN	935	1+	106.18	5+	79.63
SKKH 91/12E	SKN	935	1+	95.12	5+	71.34
SKKH 91/16E	SKN	935	1+	115.39	5+	86.54
SKKH 92/16E	SKN	935	1+	115.39	5+	86.54
SKKT 106/12E	SKN	935	1+	104.33	5+	78.25
SKKT 106/16E	SKN	935	1+	126.82	5+	95.12
SKKT 132/16E	SKN	935	1+	230.41	5+	172.81
SKKT 161/12E	SKN	935	1+	409.22	5+	306.91
SKKT 161/16E	SKN	935	1+	497.70	5+	373.27
SKKT 19/12E	SKN	935	1+	50.11	5+	44.45
SKKT 19/16E	SKN	935	1+	73.73	5+	55.30
SKKT 250/12E	SKN	935	1+	494.01	5+	370.51
SKKT 250/16E	SKN	935	1+	600.92	5+	450.69
SKKT 253/12E	SKN	935	1+	398.16	5+	298.62
SKKT 253/16E	SKN	935	1+	482.95	5+	362.21
SKKT 26/12E	SKN	935	1+	50.60	5+	45.88
SKKT 26/16E	SKN	935	1+	75.94	5+	56.96
SKKT 41/12E	SKN	935	1+	71.13	5+	70.41
SKKT 41/16E	SKN	935	1+	92.74	5+	85.16
SKKT 42/12E	SKN	935	1+	71.13	5+	63.73
SKKT 42/16E	SKN	935	1+	92.74	5+	83.10
SKKT 56/12E	SKN	935	1+	78.34	5+	70.56
SKKT 56/16E	SKN	935	1+	94.38	5+	70.78
SKKT 71/12E	SKN	935	1+	87.37	5+	65.53
SKKT 71/16E	SKN	935	1+	106.18	5+	79.63
SKKT 91/08D	SKN	935	1+	82.95	5+	62.21
SKKT 91/12E	SKN	935	1+	95.12	5+	71.34
SKKT 91/16E	SKN	935	1+	115.39	5+	86.54
SKKT 92/12E	SKN	935	1+	87.89	5+	71.34
SKKT 92/16E	SKN	935	1+	115.39	5+	86.54
SKM 100GAL123D	SKN	934	1+	188.02	5+	141.01
SKM 100GAL173D	SKN	...	1+	282.03	5+	211.52
SKM 100GAR123D	SKN	934	1+	188.02	5+	141.01
SKM 100GB063	SKN	934	1+	151.15	5+	113.36
SKM 100GB123D	SKN	934	1+	272.61	5+	163.13
SKM 121AR	SKN	934	1+	192.07	5+	144.06
SKM 121RZR	SKN	...	1+	203.50	5+	152.63
SKM 141	SKN	...	1+	203.50	5+	152.63
SKM 145GAL123D	SKN	934	1+	239.63	5+	179.72
SKM 145GAR123D	SKN	934	1+	239.63	5+	179.72
SKM 145GB123D	SKN	934	1+	287.56	5+	215.67
SKM 150GB063	SKN	934	1+	210.14	5+	157.60
SKM 150GB123D	SKN	934	1+	342.86	5+	257.14
SKM 150GB173D	SKN	934	1+	475.58	5+	356.68
SKM 151	SKN	934	1+	209.03	5+	156.77
SKM 151R	SKN	934	1+	215.30	5+	161.47
SKM 180A020	SKN	...	1+	207.56	5+	155.67
SKM 181	SKN	934	1+	281.66	5+	211.24
SKM 181R	SKN	934	1+	290.14	5+	217.60
SKM 200GA123D	SKN	934	1+	291.24	5+	218.43
SKM 200GB123D1	SKN	934	1+	486.64	5+	364.98
SKM 200GB173D	SKN	934	1+	663.59	5+	497.70
SKM 22GD123D	SKN	934	1+	191.71	5+	143.78
SKM 240B020	SKN	...	1+	685.71	5+	514.29
SKM 254F	SKN	934	1+	312.26	5+	234.19
SKM 300GA173D	SKN	934	1+	527.19	5+	395.39
SKM 300GAL123D	SKN	934	1+	468.20	5+	351.15
SKM 300GAR123D	SKN	934	1+	468.20	5+	351.15
SKM 300GB123D	SKN	934	1+	553.00	5+	414.75
SKM 310B020	SKN	...	1+	763.13	5+	572.35
SKM 400GA123D	SKN	934	1+	442.40	5+	331.80
SKM 400GA173D	SKN	934	1+	663.59	5+	497.70

Type	Mfg.	Pg.	Qty.	$	Qty.	$
SKM 40GB123D	SKN	...	1+	136.41	5+	102.30
SKM 40GDL123D	SKN	934	1+	254.38	5+	190.78
SKM 453A020	SKN	934	1+	840.55	5+	630.41
SKM 500GA123D	SKN	934	1+	553.00	5+	414.75
SKM 50GAL123D	SKN	934	1+	136.41	5+	102.30
SKM 50GB063	SKN	934	1+	121.66	5+	91.24
SKM 75GB063	SKN	934	1+	125.35	5+	94.01
SKM 75GB173D	SKN	934	1+	265.44	5+	199.08
SKM 75GD123D	SKN	934	1+	412.90	5+	309.68
SKM 75GDL123D	SKN	934	1+	412.90	5+	309.68
SKM100GB173D	SKN	934	1+	326.27	5+	244.70
SKM120B020	SKN	934	1+	264.70	5+	198.53
SKM120B025 L3	SKN	...	1+	291.24	5+	218.43
SKMD 150F10	SKN	935	1+	221.20	5+	165.90
SKMD 150F11	SKN	935	1+	232.26	5+	174.19
SKMD 150F12	SKN	935	1+	243.32	5+	182.49
SKMD 202E01	SKN	935	1+	322.95	5+	242.21
SKMD 202E03	SKN	935	1+	398.16	5+	298.62
SKMD 40F04	SKN	935	1+	82.21	5+	61.66
SKMD 40F06	SKN	935	1+	97.70	5+	73.27
SKMD 40F08	SKN	935	1+	113.55	5+	85.16
SKMD 40F10	SKN	935	1+	130.51	5+	97.88
SKMD 42F10	SKN	935	1+	96.96	5+	72.72
SKMD 42F12	SKN	935	1+	112.81	5+	84.61
SKMD 42F15	SKN	935	1+	143.41	5+	107.56
SKND 150F10	SKN	935	1+	221.20	5+	165.90
SKND 150F12	SKN	935	1+	243.32	5+	182.49
SKND 202E01	SKN	935	1+	322.95	5+	242.21
SKND 202E03	SKN	935	1+	398.16	5+	298.62
SKND 40F10	SKN	...	1+	130.51	5+	97.88
SKND 42F12	SKN	935	1+	112.81	5+	84.61
SKND 42F15	SKN	935	1+	143.41	5+	107.56
SKND 50E01	SKN	935	1+	104.33	5+	78.25
SKND 50E02	SKN	935	1+	120.18	5+	90.14
SKND 50E04	SKN	935	1+	164.06	5+	123.04
SKR 20F10	SKN	934	1+	17.25	5+	12.94
SKR 31F10	SKN	934	1+	23.89	5+	17.92
SKR 47F17	SKN	934	1+	55.12	5+	41.34
SKR 48F10	SKN	934	1+	35.91	5+	26.93
SMBJ10CA	GS	936	1+	0.50	100+	0.40
SMBJ15CA	GS	...	1+	1.49	100+	1.28
SMBJ170CA	GS	936	1+	0.50	100+	0.40
SMBJ28A	GS	936	1+	0.47	100+	0.38
SMBJ33A	GS	936	1+	0.47	100+	0.38
SMBJ40A	GS	936	1+	0.47	100+	0.38
SMBJ40CA	GS	...	1+	1.49	100+	1.28
SMBJ5.0A	GS	...	1+	1.27	100+	1.08
SMBJ5.0CA	GS	936	1+	0.50	100+	0.40
SMBJ6.5CA	GS	936	1+	0.50	100+	0.40
SMJC5.0A	GS	936	1+	0.88	100+	0.75
SMP-04EP	ADI	...	1+	8.06	10+	7.33
SMP-04ES	ADI	...	1+	8.17	10+	7.42
SMP11EY	ADI	...	1+	48.28	25+	35.79
SMP11GY	ADI	...	1+	6.54	10+	5.69
SMP18FP	ADI	...	1+	16.99	25+	12.60
SN54LS00J	MOT	...	1+	1.61	25+	1.44
SN54LS02J	MOT	...	1+	1.61	25+	1.44
SN54LS04J	MOT	...	1+	1.61	25+	1.44
SN54LS08J	MOT	...	1+	1.61	25+	1.44
SN54LS122J	MOT	...	1+	2.77	50+	2.22
SN54LS123J	MOT	...	1+	1.91	25+	1.70
SN54LS161AJ	MOT	...	1+	2.67	100+	2.14
SN54LS164J	MOT	...	1+	1.96	25+	1.74
SN54LS221J	MOT	...	1+	2.47	25+	2.10
SN54LS244J	MOT	...	1+	2.51	25+	2.14
SN54LS245J	MOT	...	1+	2.99	25+	2.54
SN54LS374J	MOT	...	1+	2.90	25+	2.46
SN54LS74AJ	MOT	...	1+	1.69	25+	1.50
SN54LS85J	MOT	...	1+	2.40	100+	1.92
SN64BCT125AD	TI	...	1+	1.67	25+	1.55
SN64BCT126AD	TI	...	1+	1.67	25+	1.55
SN64BCT126AN	TI	...	1+	1.67	25+	1.55
SN64BCT25244DW	TI	...	1+	5.84	25+	5.37
SN64BCT25245DW	TI	...	1+	6.69	10+	6.24
SN65176BD	TI	...	1+	3.41	25+	3.13
SN65176BP	TI	...	1+	3.41	25+	3.13
SN700885PAG	TI	...	1+	4.26	25+	3.92
SN7400N	TI	902	1+	0.72	100+	0.58
SN7402N	TI	902	1+	0.87	100+	0.76
SN7404N	TI	902	1+	0.72	100+	0.58
SN7405D	TI	902	1+	0.68	100+	0.61
SN7405N	TI	...	1+	0.72	100+	0.58
SN7406D	TI	902	1+	0.81	100+	0.73
SN7406N	TI	902	1+	0.81	100+	0.73
SN7407D	TI	902	1+	0.81	100+	0.73
SN7407N	TI	902	1+	0.81	100+	0.73
SN74107N	TI	...	1+	1.61	25+	1.50
SN7410N	TI	902	1+	1.07	100+	0.94
SN74121N	TI	902	1+	1.46	25+	1.36
SN74123N	TI	902	1+	1.61	25+	1.50
SN74128N	TI	902	1+	0.89	100+	0.79
SN74132N	TI	902	1+	1.02	100+	0.90
SN74145N	TI	902	1+	2.25	25+	2.10
SN74148N	TI	...	1+	2.53	25+	2.33
SN7414N	TI	902	1+	0.76	100+	0.69
SN74150N	TI	902	1+	2.41	25+	2.24
SN74154N	TI	902	1+	2.18	25+	2.03
SN74157N	TI	902	1+	1.46	25+	1.36

Type	Mfg.	Pg.	Qty.	$	Qty.	$
SN74159N	TI	902	1+	2.68	25+	2.46
SN74166N	TI	...	1+	2.25	25+	2.10
SN7416N	TI	902	1+	0.76	100+	0.69
SN74175N	TI	902	1+	1.14	100+	1.01
SN7417D	TI	...	1+	0.73	100+	0.66
SN7417N	TI	902	1+	0.71	100+	0.64
SN74193N	TI	...	1+	2.15	25+	2.00
SN74221N	TI	...	1+	2.43	25+	2.27
SN7425N	TI	902	1+	1.07	100+	0.94
SN74265N	TI	...	1+	1.38	25+	1.29
SN74273N	TI	...	1+	3.17	25+	2.91
SN7432N	TI	902	1+	0.87	100+	0.76
SN74367AN	TI	...	1+	1.41	25+	1.31
SN74368AN	TI	...	1+	1.41	25+	1.31
SN7437N	TI	902	1+	0.87	100+	0.76
SN7438N	TI	902	1+	0.66	100+	0.53
SN74393N	TI	...	1+	3.97	25+	3.65
SN7445N	TI	902	1+	1.38	25+	1.29
SN7447AN	TI	902	1+	1.44	25+	1.34
SN7474N	TI	902	1+	0.71	100+	0.64
SN7486N	TI	902	1+	1.33	25+	1.24
SN7497N	TI	...	1+	3.36	25+	3.09
SN74ABT125N	TI	902	1+	0.89	100+	0.79
SN74ABT126D	TI	...	1+	0.89	100+	0.79
SN74ABT162245DL	TI	...	1+	2.56	25+	2.35
SN74ABT16244ADL	TI	...	1+	2.44	25+	2.24
SN74ABT16245ADL	TI	...	1+	2.56	25+	2.35
SN74ABT162500DL	TI	...	1+	4.26	25+	3.92
SN74ABT162501DL	TI	...	1+	4.26	25+	3.92
SN74ABT162601DL	TI	...	1+	12.07	10+	11.41
SN74ABT162827DL	TI	...	1+	7.42	10+	6.92
SN74ABT16374ADL	TI	...	1+	2.44	25+	2.24
SN74ABT16500BDL	TI	...	1+	4.26	25+	3.92
SN74ABT16600DL	TI	...	1+	8.52	10+	7.94
SN74ABT16623DL	TI	...	1+	5.60	25+	5.15
SN74ABT16640DL	TI	...	1+	5.60	25+	5.15
SN74ABT16657DL	TI	...	1+	5.60	25+	5.15
SN74ABT16821DL	TI	...	1+	5.84	25+	5.37
SN74ABT16825DL	TI	...	1+	5.60	25+	5.15
SN74ABT16833DL	TI	...	1+	5.60	25+	5.15
SN74ABT16863DL	TI	...	1+	7.06	10+	6.58
SN74ABT16952DL	TI	...	1+	7.54	10+	7.03
SN74ABT18245ADL	TI	...	1+	12.53	10+	11.84
SN74ABT18502PM	TI	...	1+	20.50	10+	19.38
SN74ABT18504PM	TI	...	1+	20.50	10+	19.38
SN74ABT18640DL	TI	...	1+	13.10	10+	12.38
SN74ABT2241N	TI	...	1+	1.14	100+	1.01
SN74ABT2244AN	TI	...	1+	1.14	100+	1.01
SN74ABT2245DW	TI	...	1+	1.28	25+	1.19
SN74ABT240ADW	TI	...	1+	1.14	100+	1.01
SN74ABT240AN	TI	...	1+	1.14	100+	1.01
SN74ABT241ADW	TI	...	1+	1.14	100+	1.01
SN74ABT244ADW	TI	902	1+	1.14	100+	1.01
SN74ABT244AN	TI	...	1+	1.14	100+	1.01
SN74ABT245BDW	TI	...	1+	1.14	100+	1.01
SN74ABT2952ADW	TI	...	1+	4.87	25+	4.48
SN74ABT2952ANT	TI	...	1+	4.87	25+	4.48
SN74ABT3614-15PCB	TI	...	1+	68.64	5+	61.01
SN74ABT3614-20PCB	TI	...	1+	52.24	5+	49.74
SN74ABT5401DW	TI	...	1+	3.41	25+	3.13
SN74ABT5403DW	TI	...	1+	3.65	25+	3.36
SN74ABT540N	TI	902	1+	1.14	100+	1.01
SN74ABT541BDW	TI	902	1+	1.11	100+	0.98
SN74ABT543ANT	TI	...	1+	2.44	25+	2.24
SN74ABT573DW	TI	...	1+	2.05	25+	1.91
SN74ABT620DW	TI	...	1+	2.56	25+	2.35
SN74ABT620N	TI	...	1+	2.56	25+	2.35
SN74ABT623N	TI	...	1+	3.04	25+	2.80
SN74ABT646ADW	TI	...	1+	4.14	25+	3.80
SN74ABT646ANT	TI	...	1+	4.14	25+	3.80
SN74ABT651DW	TI	...	1+	5.84	25+	5.37
SN74ABT651NT	TI	...	1+	5.84	25+	5.37
SN74ABT652NT	TI	...	1+	3.65	25+	3.36
SN74ABT657ANT	TI	...	1+	3.90	25+	3.58
SN74ABT7820-30PN	TI	...	1+	51.53	5+	49.06
SN74ABT821ADW	TI	...	1+	2.92	25+	2.69
SN74ABT821ANT	TI	...	1+	2.92	25+	2.69
SN74ABT821NT	TI	...	1+	3.65	25+	3.36
SN74ABT823DW	TI	...	1+	2.80	25+	2.57
SN74ABT833DW	TI	...	1+	3.21	25+	2.95
SN74ABT833NT	TI	...	1+	3.21	25+	2.95
SN74ABT843NT	TI	...	1+	3.04	25+	2.80
SN74ABT853DBLE	TI	...	1+	4.63	25+	4.25
SN74ABT853DW	TI	...	1+	4.63	25+	4.25
SN74ABT853NT	TI	...	1+	4.63	25+	4.25
SN74ABT8543DL	TI	...	1+	10.95	10+	10.20
SN74ABT861DW	TI	...	1+	3.90	25+	3.58
SN74ABT8652DL	TI	...	1+	10.95	10+	10.20
SN74ABT8952DL	TI	...	1+	10.95	10+	10.20
SN74ABTE16245DL	TI	...	1+	7.30	10+	6.80
SN74ABTE16246DL	TI	...	1+	9.98	10+	9.30
SN74ABTH182502APM	TI	...	1+	17.31	10+	16.37
SN74ABTH18502APM	TI	...	1+	17.31	10+	16.37
SN74AC00N	TI	...	1+	0.45	100+	0.37
SN74AC04D	TI	...	1+	0.45	100+	0.37
SN74AC04N	TI	903	1+	0.45	100+	0.37
SN74AC08N	TI	903	1+	0.45	100+	0.37
SN74AC11N	TI	903	1+	0.44	100+	0.35

NEW TYPES ARE BEING CONTINUALLY ADDED TO INVENTORY.

CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR AVAILABILITY.

Type	Mfg.	Pg.	Qty.	$	Qty.	$
SN74AC14D	TI	903	1+	0.48	100+	0.39
SN74AC240N	TI	...	1+	0.87	100+	0.78
SN74AC241N	TI	...	1+	0.87	100+	0.78
SN74AC244N	TI	903	1+	0.87	100+	0.78
SN74AC32N	TI	903	1+	0.44	100+	0.35
SN74AC373N	TI	903	1+	0.84	100+	0.76
SN74AC374N	TI	903	1+	0.84	100+	0.76
SN74AC533N	TI	903	1+	0.86	100+	0.76
SN74AC534N	TI	903	1+	0.86	100+	0.76
SN74AC563N	TI	903	1+	0.86	100+	0.76
SN74AC564N	TI	903	1+	0.86	100+	0.76
SN74AC573N	TI	903	1+	0.84	100+	0.76
SN74AC574N	TI	903	1+	0.84	100+	0.76
SN74AC74N	TI	903	1+	0.51	100+	0.41
SN74AC86N	TI	903	1+	0.50	100+	0.40
SN74ACT00D	TI	903	1+	0.45	100+	0.37
SN74ACT00N	TI	903	1+	0.45	100+	0.37
SN74ACT04D	TI	...	1+	0.45	100+	0.37
SN74ACT04N	TI	903	1+	0.45	100+	0.37
SN74ACT08D	TI	903	1+	0.45	100+	0.37
SN74ACT08N	TI	903	1+	0.45	100+	0.37
SN74ACT10D	TI	...	1+	0.45	100+	0.37
SN74ACT14N	TI	903	1+	0.47	100+	0.38
SN74ACT2235-20FN	TI	...	1+	29.68	5+	28.26
SN74ACT2235-20PAG	TI	...	1+	35.09	5+	33.41
SN74ACT2235-30PAG	TI	...	1+	27.58	5+	26.26
SN74ACT2235-40FN	TI	...	1+	19.40	10+	18.35
SN74ACT240N	TI	903	1+	0.87	100+	0.78
SN74ACT241DW	TI	...	1+	0.87	100+	0.78
SN74ACT244DW	TI	...	1+	0.87	100+	0.78
SN74ACT244N	TI	903	1+	0.87	100+	0.78
SN74ACT245N	TI	903	1+	0.84	100+	0.76
SN74ACT32D	TI	903	1+	0.45	100+	0.37
SN74ACT32N	TI	903	1+	0.45	100+	0.37
SN74ACT373N	TI	903	1+	0.87	100+	0.78
SN74ACT374N	TI	903	1+	0.84	100+	0.76
SN74ACT534N	TI	903	1+	0.86	100+	0.76
SN74ACT563N	TI	903	1+	0.86	100+	0.76
SN74ACT564N	TI	903	1+	0.86	100+	0.76
SN74ACT573N	TI	903	1+	0.84	100+	0.76
SN74ACT574N	TI	903	1+	0.84	100+	0.76
SN74ACT74N	TI	903	1+	0.50	100+	0.40
SN74ACT7804-25DL	TI	...	1+	25.31	5+	24.10
SN74ACT7804-40DL	TI	...	1+	22.50	10+	21.27
SN74ACT7807-15PAG	TI	...	1+	42.08	5+	40.06
SN74ACT7807-20PAG	TI	...	1+	36.17	5+	34.44
SN74ACT7807-25PAG	TI	...	1+	33.42	5+	31.83
SN74ACT7807-40PAG	TI	...	1+	29.18	5+	27.79
SN74ACT7808-20PAG	TI	...	1+	33.42	5+	31.83
SN74ACT7808-25PAG	TI	...	1+	30.55	5+	29.09
SN74ACT7808-30FN	TI	...	1+	22.09	5+	21.03
SN74ACT7808-30PAG	TI	...	1+	27.50	5+	26.18
SN74ACT7808-40FN	TI	...	1+	16.17	10+	15.29
SN74ACT7808-40PAG	TI	...	1+	21.86	10+	20.67
SN74ACT7811-15FN	TI	...	1+	73.33	5+	65.18
SN74ACT7811-15PN	TI	...	1+	73.33	5+	65.18
SN74ACT7811-18FN	TI	...	1+	63.72	5+	56.64
SN74ACT7881-30FN	TI	...	1+	48.31	5+	46.00
SN74ACT86N	TI	903	1+	0.51	100+	0.41
SN74AHC00N	TI	902	1+	0.55	100+	0.49
SN74AHC02N	TI	902	1+	0.55	100+	0.49
SN74AHC04N	TI	902	1+	0.55	100+	0.49
SN74AHC08N	TI	902	1+	0.55	100+	0.49
SN74AHC125N	TI	902	1+	0.52	100+	0.42
SN74AHC126N	TI	902	1+	0.69	100+	0.61
SN74AHC14N	TI	902	1+	0.54	100+	0.48
SN74AHC240N	TI	902	1+	0.70	100+	0.56
SN74AHC244N	TI	...	1+	0.72	100+	0.58
SN74AHC245N	TI	902	1+	0.72	100+	0.58
SN74AHC32N	TI	902	1+	0.54	100+	0.48
SN74AHC373N	TI	902	1+	0.72	100+	0.58
SN74AHC374N	TI	902	1+	0.70	100+	0.56
SN74AHC540N	TI	902	1+	0.70	100+	0.56
SN74AHC541N	TI	902	1+	0.72	100+	0.58
SN74AHC573N	TI	902	1+	0.70	100+	0.56
SN74AHC574N	TI	902	1+	0.72	100+	0.58
SN74AHC74N	TI	902	1+	0.45	100+	0.37
SN74AHC86N	TI	902	1+	0.52	100+	0.42
SN74AHCT00N	TI	902	1+	0.54	100+	0.48
SN74AHCT02N	TI	902	1+	0.54	100+	0.48
SN74AHCT04N	TI	902	1+	0.54	100+	0.48
SN74AHCT08N	TI	902	1+	0.54	100+	0.48
SN74AHCT125N	TI	902	1+	0.52	100+	0.42
SN74AHCT126N	TI	902	1+	0.52	100+	0.42
SN74AHCT14N	TI	902	1+	0.54	100+	0.48
SN74AHCT240N	TI	902	1+	0.70	100+	0.56
SN74AHCT244N	TI	902	1+	0.70	100+	0.56
SN74AHCT245N	TI	902	1+	0.70	100+	0.56
SN74AHCT373N	TI	902	1+	0.70	100+	0.56
SN74AHCT374N	TI	902	1+	0.70	100+	0.56
SN74AHCT574N	TI	902	1+	0.70	100+	0.56
SN74AHCT74N	TI	902	1+	0.44	100+	0.35
SN74AHCT86N	TI	902	1+	0.52	100+	0.42
SN74ALS00AD	TI	...	1+	0.51	100+	0.41
SN74ALS00AN	TI	902	1+	0.48	100+	0.39
SN74ALS04BD	TI	...	1+	0.51	100+	0.41
SN74ALS04BN	TI	902	1+	0.48	100+	0.39
SN74ALS05AN	TI	902	1+	0.66	100+	0.53

Type	Mfg.	Pg.	Qty.	$	Qty.	$
SN74ALS08D	TI	902	1+	0.51	100+	0.41
SN74ALS08N	TI	902	1+	0.48	100+	0.39
SN74ALS1034N	TI	...	1+	1.28	25+	1.19
SN74ALS1035D	TI	...	1+	0.92	100+	0.81
SN74ALS1035N	TI	...	1+	0.68	100+	0.61
SN74ALS109AN	TI	...	1+	0.69	100+	0.56
SN74ALS112AN	TI	902	1+	0.68	100+	0.61
SN74ALS11AD	TI	902	1+	0.60	100+	0.49
SN74ALS11AN	TI	...	1+	0.60	100+	0.49
SN74ALS137AD	TI	...	1+	1.95	25+	1.81
SN74ALS138AN	TI	902	1+	0.81	100+	0.73
SN74ALS139D	TI	...	1+	0.99	100+	0.88
SN74ALS139N	TI	902	1+	0.92	100+	0.81
SN74ALS151D	TI	...	1+	0.99	100+	0.88
SN74ALS151N	TI	902	1+	0.92	100+	0.81
SN74ALS153N	TI	902	1+	0.92	100+	0.81
SN74ALS157AN	TI	902	1+	0.92	100+	0.81
SN74ALS161BN	TI	902	1+	0.89	100+	0.79
SN74ALS163BN	TI	902	1+	0.89	100+	0.79
SN74ALS164AN	TI	...	1+	1.02	100+	0.90
SN74ALS166D	TI	902	1+	3.04	25+	2.80
SN74ALS166N	TI	902	1+	3.04	25+	2.80
SN74ALS169BD	TI	902	1+	0.94	100+	0.83
SN74ALS174N	TI	902	1+	0.81	100+	0.73
SN74ALS175N	TI	902	1+	0.81	100+	0.73
SN74ALS193AD	TI	...	1+	1.33	25+	1.24
SN74ALS20AN	TI	...	1+	0.87	100+	0.76
SN74ALS232BDW	TI	...	1+	10.95	10+	10.20
SN74ALS233BDW	TI	...	1+	10.95	10+	10.20
SN74ALS233BFN	TI	...	1+	10.95	10+	10.20
SN74ALS240ADW	TI	...	1+	1.07	100+	0.94
SN74ALS240AN	TI	...	1+	1.02	100+	0.90
SN74ALS241CN	TI	...	1+	1.02	100+	0.90
SN74ALS244C-1DW	TI	...	1+	1.87	25+	1.74
SN74ALS244CDW	TI	...	1+	1.07	100+	0.94
SN74ALS244CN	TI	...	1+	1.02	100+	0.90
SN74ALS245A-1DW	TI	...	1+	1.92	25+	1.79
SN74ALS245ADW	TI	902	1+	1.07	100+	0.94
SN74ALS245AN	TI	902	1+	1.02	100+	0.90
SN74ALS253D	TI	...	1+	0.87	100+	0.78
SN74ALS258AD	TI	...	1+	1.95	25+	1.81
SN74ALS258AN	TI	...	1+	1.95	25+	1.81
SN74ALS273N	TI	902	1+	1.17	100+	1.03
SN74ALS27AD	TI	902	1+	0.72	100+	0.58
SN74ALS299N	TI	902	1+	3.53	25+	3.25
SN74ALS30AN	TI	...	1+	0.68	100+	0.61
SN74ALS32N	TI	902	1+	0.48	100+	0.39
SN74ALS373AN	TI	...	1+	1.02	100+	0.90
SN74ALS374AN	TI	902	1+	1.02	100+	0.90
SN74ALS38BD	TI	...	1+	1.07	100+	0.94
SN74ALS38BN	TI	...	1+	1.07	100+	0.94
SN74ALS518N	TI	...	1+	5.11	25+	4.70
SN74ALS520DW	TI	...	1+	3.53	25+	3.25
SN74ALS520N	TI	902	1+	2.30	25+	2.15
SN74ALS521N	TI	902	1+	2.30	25+	2.15
SN74ALS533AN	TI	...	1+	2.30	25+	2.15
SN74ALS534AN	TI	...	1+	1.92	25+	1.79
SN74ALS540N	TI	902	1+	1.74	25+	1.62
SN74ALS541-1DW	TI	...	1+	3.17	25+	2.91
SN74ALS541DW	TI	...	1+	1.82	25+	1.69
SN74ALS541N	TI	902	1+	1.74	25+	1.62
SN74ALS569ADW	TI	...	1+	3.17	25+	2.91
SN74ALS573CDW	TI	902	1+	0.99	100+	0.88
SN74ALS573CN	TI	902	1+	0.99	100+	0.88
SN74ALS574BDW	TI	...	1+	0.99	100+	0.88
SN74ALS574BN	TI	902	1+	0.99	100+	0.88
SN74ALS580BN	TI	...	1+	2.18	25+	2.03
SN74ALS640B-1N	TI	...	1+	2.80	25+	2.57
SN74ALS640BDW	TI	902	1+	2.02	25+	1.88
SN74ALS640BN	TI	...	1+	2.02	25+	1.88
SN74ALS641A-1DW	TI	...	1+	3.04	25+	2.80
SN74ALS641A-1N	TI	...	1+	2.80	25+	2.57
SN74ALS645A-1N	TI	...	1+	2.56	25+	2.35
SN74ALS645AN	TI	902	1+	2.02	25+	1.88
SN74ALS653DW	TI	...	1+	12.30	10+	11.63
SN74ALS653NT	TI	...	1+	12.30	10+	11.63
SN74ALS666DW	TI	...	1+	8.52	10+	7.94
SN74ALS688DW	TI	...	1+	3.90	25+	3.58
SN74ALS688N	TI	...	1+	3.90	25+	3.58
SN74ALS74AD	TI	...	1+	0.63	100+	0.51
SN74ALS74AN	TI	902	1+	0.60	100+	0.49
SN74ALS841DW	TI	...	1+	4.02	25+	3.69
SN74ALS867ADW	TI	...	1+	7.67	10+	7.14
SN74ALS867ANT	TI	...	1+	7.67	10+	7.14
SN74ALS869NT	TI	...	1+	7.67	10+	7.14
SN74ALS86N	TI	902	1+	0.60	100+	0.49
SN74ALS870DW	TI	...	1+	15.72	10+	14.86
SN74ALS990DW	TI	...	1+	5.60	25+	5.15
SN74ALS992DW	TI	...	1+	11.19	10+	10.43
SN74ALS996DW	TI	...	1+	9.73	10+	9.07
SN74ALVC7813-25DL	TI	...	1+	36.56	5+	34.81
SN74ALVC7813-40DL	TI	...	1+	26.39	5+	25.13
SN74ALVC7814-25DL	TI	...	1+	21.64	5+	20.60
SN74ALVC7814-40DL	TI	...	1+	18.79	10+	17.76
SN74AS04N	TI	902	1+	0.60	100+	0.49
SN74AS1034AN	TI	...	1+	1.14	100+	1.01
SN74AS161N	TI	902	1+	2.68	25+	2.46
SN74AS175AD	TI	...	1+	1.77	25+	1.65

Type	Mfg.	Pg.	Qty.	$	Qty.	$
SN74AS230ADW	TI	...	1+	5.35	25+	4.92
SN74AS241ADW	TI	...	1+	3.58	25+	3.29
SN74AS244AN	TI	...	1+	2.18	25+	2.03
SN74AS245N	TI	...	1+	2.30	25+	2.15
SN74AS286D	TI	...	1+	1.69	25+	1.58
SN74AS298AD	TI	...	1+	2.18	25+	2.03
SN74AS32N	TI	902	1+	0.60	100+	0.49
SN74AS374N	TI	...	1+	2.18	25+	2.03
SN74AS760DW	TI	...	1+	3.65	25+	3.36
SN74AS804BN	TI	...	1+	2.43	25+	2.27
SN74AS808BN	TI	...	1+	2.43	25+	2.27
SN74AS867NT	TI	...	1+	6.94	10+	6.46
SN74AS869DW	TI	...	1+	7.67	10+	7.14
SN74AS885NT	TI	...	1+	9.49	10+	8.84
SN74BCT125AN	TI	902	1+	1.79	25+	1.67
SN74BCT126AD	TI	902	1+	1.79	25+	1.67
SN74BCT126AN	TI	902	1+	1.79	25+	1.67
SN74BCT244N	TI	...	1+	2.30	25+	2.15
SN74BCT245N	TI	902	1+	2.43	25+	2.27
SN74BCT25245DW	TI	902	1+	3.90	25+	3.58
SN74BCT2827CNT	TI	902	1+	3.04	25+	2.80
SN74BCT373N	TI	902	1+	2.30	25+	2.15
SN74BCT540ADW	TI	902	1+	2.44	25+	2.24
SN74BCT540AN	TI	...	1+	2.44	25+	2.24
SN74BCT543DW	TI	...	1+	5.48	25+	5.03
SN74BCT646DW	TI	902	1+	7.30	10+	6.80
SN74BCT646NT	TI	902	1+	7.30	10+	6.80
SN74BCT652DW	TI	902	1+	7.30	10+	6.80
SN74BCT8244ADW	TI	902	1+	7.30	10+	6.80
SN74BCT8244ANT	TI	902	1+	7.30	10+	6.80
SN74BCT8245ADW	TI	...	1+	7.67	10+	7.14
SN74BCT8245ANT	TI	...	1+	7.67	10+	7.14
SN74CBT16214DL	TI	...	1+	3.77	25+	3.47
SN74CBT16233DL	TI	...	1+	5.60	25+	5.15
SN74CBT3125D	TI	...	1+	1.15	25+	1.08
SN74CBT3125DBLE	TI	...	1+	1.15	25+	1.08
SN74CBT3125PWLE	TI	...	1+	1.15	25+	1.08
SN74CBT3306D	TI	...	1+	1.14	100+	1.01
SN74CBT6800DW	TI	...	1+	2.18	25+	2.03
SN74F00D	TI	902	1+	0.51	100+	0.41
SN74F00N	TI	902	1+	0.51	100+	0.41
SN74F02N	TI	902	1+	0.51	100+	0.41
SN74F04D	TI	...	1+	0.51	100+	0.41
SN74F04N	TI	902	1+	0.51	100+	0.41
SN74F08N	TI	902	1+	0.51	100+	0.41
SN74F1056D	TI	...	1+	2.18	25+	2.03
SN74F109N	TI	902	1+	0.81	100+	0.73
SN74F112N	TI	902	1+	0.81	100+	0.73
SN74F11N	TI	902	1+	0.51	100+	0.41
SN74F125N	TI	902	1+	0.81	100+	0.73
SN74F138N	TI	...	1+	0.68	100+	0.61
SN74F161AN	TI	902	1+	0.89	100+	0.79
SN74F163AN	TI	...	1+	0.89	100+	0.79
SN74F175D	TI	902	1+	0.81	100+	0.73
SN74F2244DW	TI	...	1+	0.71	100+	0.64
SN74F2245N	TI	...	1+	0.71	100+	0.64
SN74F240N	TI	902	1+	0.87	100+	0.76
SN74F243D	TI	...	1+	1.28	25+	1.19
SN74F244DW	TI	902	1+	0.89	100+	0.79
SN74F244N	TI	902	1+	0.87	100+	0.76
SN74F245DW	TI	...	1+	0.89	100+	0.79
SN74F245N	TI	...	1+	0.87	100+	0.76
SN74F27D	TI	...	1+	0.72	100+	0.58
SN74F27N	TI	902	1+	0.72	100+	0.58
SN74F280BD	TI	...	1+	0.81	100+	0.73
SN74F283N	TI	...	1+	1.28	25+	1.19
SN74F30D	TI	...	1+	0.51	100+	0.41
SN74F30N	TI	902	1+	0.51	100+	0.41
SN74F32N	TI	902	1+	0.51	100+	0.41
SN74F374N	TI	902	1+	0.87	100+	0.76
SN74F521DW	TI	...	1+	1.36	25+	1.27
SN74F521N	TI	902	1+	1.28	25+	1.19
SN74F541DW	TI	902	1+	3.65	25+	3.36
SN74F541N	TI	902	1+	3.65	25+	3.36
SN74F573N	TI	...	1+	1.17	100+	1.03
SN74F74D	TI	902	1+	0.57	100+	0.46
SN74F74N	TI	902	1+	0.57	100+	0.46
SN74GTL16616DL	TI	...	1+	11.80	10+	11.00
SN74HC00D	TI	903	1+	0.45	100+	0.37
SN74HC00N	TI	903	1+	0.55	100+	0.49
SN74HC02D	TI	...	1+	0.45	100+	0.37
SN74HC02N	TI	903	1+	0.55	100+	0.49
SN74HC03N	TI	...	1+	0.81	100+	0.73
SN74HC04D	TI	...	1+	0.45	100+	0.37
SN74HC04N	TI	903	1+	0.55	100+	0.49
SN74HC05D	TI	903	1+	0.54	100+	0.44
SN74HC05N	TI	903	1+	0.51	100+	0.41
SN74HC08D	TI	903	1+	0.45	100+	0.37
SN74HC08N	TI	903	1+	0.55	100+	0.49
SN74HC109D	TI	903	1+	0.81	100+	0.73
SN74HC109N	TI	903	1+	0.81	100+	0.73
SN74HC10D	TI	...	1+	0.45	100+	0.37
SN74HC10N	TI	903	1+	0.55	100+	0.49
SN74HC112N	TI	903	1+	0.81	100+	0.73
SN74HC11D	TI	903	1+	0.81	100+	0.73
SN74HC11N	TI	903	1+	0.81	100+	0.73
SN74HC125D	TI	903	1+	0.66	100+	0.53
SN74HC125N	TI	903	1+	0.54	100+	0.44

Manufacturer Abbreviations:

ADI: Analog Devices; **ALG:** Allegro; **ALT:** Altera; **AMD:** Advanced Micro Devices; **AND:** AND; **APD:** American Power Devices; **DAL:** Dallas Semiconductor; **ECG:** Philips ECG; **FGR:** Fagor; **GS:** General Semiconductor; **HP:** Hewlett Packard; **HRS:** Harris Semiconductor; **HWL:** Honeywell Opto; **INT:** Intronics; **IR:** International Rectifier; **MIC:** Micrel; **MOT:** Motorola; **NAT:** National Semiconductor; **OPT:** Optek; **PHL:** Phillips Semiconductors; **PWX:** Powerex; **QT:** QT Optoelectronics; **SKN:** Semikron; **SPC:** SPC Technology; **TI:** Texas Instruments; **TSK:** Thomson SK; **VAC:** EG&G Vactec; **VAN:** Vantis; **ZIL:** Zilog

Type	Mfg.	Pg.	Qty.	$	Qty.	$
SN74HC126N	TI	...	1+	0.87	100+	0.78
SN74HC132D	TI	...	1+	0.94	100+	0.83
SN74HC132N	TI	...	1+	0.84	100+	0.74
SN74HC138D	TI	903	1+	0.63	100+	0.51
SN74HC138N	TI	903	1+	0.60	100+	0.49
SN74HC139N	TI	903	1+	0.63	100+	0.51
SN74HC148N	TI	...	1+	1.41	25+	1.31
SN74HC14D	TI	...	1+	0.45	100+	0.37
SN74HC14N	TI	...	1+	0.55	100+	0.49
SN74HC151N	TI	903	1+	0.63	100+	0.51
SN74HC153D	TI	903	1+	0.81	100+	0.73
SN74HC153N	TI	903	1+	0.81	100+	0.73
SN74HC157N	TI	903	1+	0.60	100+	0.49
SN74HC161D	TI	903	1+	0.84	100+	0.76
SN74HC161N	TI	903	1+	0.73	100+	0.66
SN74HC163D	TI	...	1+	0.84	100+	0.76
SN74HC163N	TI	903	1+	0.73	100+	0.66
SN74HC164D	TI	903	1+	0.84	100+	0.76
SN74HC164N	TI	903	1+	0.73	100+	0.66
SN74HC165D	TI	...	1+	0.84	100+	0.76
SN74HC165N	TI	903	1+	0.73	100+	0.66
SN74HC166N	TI	903	1+	1.14	100+	1.01
SN74HC174N	TI	903	1+	0.63	100+	0.51
SN74HC175N	TI	903	1+	0.63	100+	0.51
SN74HC191N	TI	903	1+	1.02	100+	0.90
SN74HC193D	TI	...	1+	1.02	100+	0.90
SN74HC193N	TI	903	1+	1.02	100+	0.90
SN74HC20N	TI	...	1+	0.81	100+	0.73
SN74HC21N	TI	...	1+	0.81	100+	0.73
SN74HC240DW	TI	903	1+	0.97	100+	0.85
SN74HC240N	TI	903	1+	0.92	100+	0.81
SN74HC241DW	TI	...	1+	0.97	100+	0.85
SN74HC241N	TI	...	1+	0.79	100+	0.71
SN74HC244DW	TI	903	1+	0.97	100+	0.85
SN74HC244N	TI	903	1+	0.79	100+	0.71
SN74HC245DW	TI	903	1+	0.99	100+	0.88
SN74HC245N	TI	903	1+	0.92	100+	0.81
SN74HC251D	TI	903	1+	0.71	100+	0.64
SN74HC251N	TI	903	1+	0.66	100+	0.53
SN74HC257N	TI	903	1+	0.66	100+	0.53
SN74HC259N	TI	...	1+	1.02	100+	0.90
SN74HC266N	TI	...	1+	1.89	25+	1.77
SN74HC273DW	TI	903	1+	0.97	100+	0.85
SN74HC273N	TI	903	1+	0.92	100+	0.81
SN74HC32D	TI	903	1+	0.45	100+	0.37
SN74HC32N	TI	903	1+	0.55	100+	0.49
SN74HC373DW	TI	903	1+	0.81	100+	0.73
SN74HC373N	TI	903	1+	0.79	100+	0.71
SN74HC374DW	TI	...	1+	0.81	100+	0.73
SN74HC374N	TI	903	1+	0.79	100+	0.71
SN74HC377N	TI	...	1+	1.64	25+	1.53
SN74HC393N	TI	903	1+	0.92	100+	0.81
SN74HC4020N	TI	903	1+	1.36	25+	1.27
SN74HC4040N	TI	...	1+	1.02	100+	0.90
SN74HC4060N	TI	...	1+	1.02	100+	0.90
SN74HC42N	TI	...	1+	0.68	100+	0.61
SN74HC540DW	TI	...	1+	1.25	100+	1.10
SN74HC540N	TI	903	1+	1.14	100+	1.01
SN74HC541DW	TI	903	1+	1.25	100+	1.10
SN74HC541N	TI	903	1+	1.14	100+	1.01
SN74HC573ADW	TI	...	1+	1.25	100+	1.10
SN74HC573AN	TI	903	1+	1.14	100+	1.01
SN74HC574N	TI	903	1+	0.94	100+	0.83
SN74HC590AN	TI	...	1+	1.92	25+	1.79
SN74HC594N	TI	...	1+	2.87	25+	2.64
SN74HC595N	TI	...	1+	0.81	100+	0.73
SN74HC652DW	TI	...	1+	5.60	25+	5.15
SN74HC682N	TI	...	1+	3.58	25+	3.29
SN74HC688N	TI	...	1+	2.63	25+	2.42
SN74HC74D	TI	903	1+	0.48	100+	0.39
SN74HC74N	TI	903	1+	0.45	100+	0.37
SN74HC86D	TI	903	1+	0.63	100+	0.51
SN74HC86N	TI	903	1+	0.54	100+	0.44
SN74HCT00N	TI	903	1+	0.51	100+	0.41
SN74HCT02N	TI	...	1+	0.81	100+	0.73
SN74HCT04D	TI	903	1+	0.54	100+	0.44
SN74HCT04N	TI	903	1+	0.51	100+	0.41
SN74HCT138D	TI	903	1+	0.68	100+	0.61
SN74HCT138N	TI	903	1+	0.54	100+	0.44
SN74HCT240N	TI	903	1+	0.92	100+	0.81
SN74HCT244DW	TI	903	1+	0.81	100+	0.73
SN74HCT244N	TI	903	1+	0.79	100+	0.71
SN74HCT245N	TI	...	1+	0.79	100+	0.71
SN74HCT273N	TI	903	1+	0.92	100+	0.81
SN74HCT32D	TI	903	1+	0.54	100+	0.44
SN74HCT32N	TI	903	1+	0.51	100+	0.41
SN74HCT373DW	TI	...	1+	0.97	100+	0.85
SN74HCT373N	TI	...	1+	0.92	100+	0.81
SN74HCT374DW	TI	...	1+	0.81	100+	0.73
SN74HCT374N	TI	903	1+	0.79	100+	0.71
SN74HCT540N	TI	...	1+	1.46	25+	1.36
SN74HCT541DW	TI	...	1+	1.25	100+	1.10
SN74HCT541N	TI	...	1+	1.14	100+	1.01
SN74HCT573N	TI	903	1+	1.14	100+	1.01
SN74HCT574DW	TI	903	1+	1.25	100+	1.10
SN74HCT574N	TI	903	1+	1.14	100+	1.01
SN74HCT645N	TI	...	1+	4.04	25+	3.71
SN74HCT646NT	TI	...	1+	5.60	25+	5.15
SN74HCT74D	TI	...	1+	0.57	100+	0.46
SN74HCT74N	TI	903	1+	0.45	100+	0.37
SN74HCU04D	TI	...	1+	0.45	100+	0.37
SN74HCU04N	TI	...	1+	0.55	100+	0.49
SN74LS00N	TI	903	1+	0.48	100+	0.42
SN74LS01N	MOT	...	1+	0.55	100+	0.36
SN74LS02D	MOT	...	1+	0.50	100+	0.33
SN74LS02N	TI	903	1+	0.48	100+	0.42
SN74LS03D	MOT	...	1+	0.50	100+	0.33
SN74LS04D	TI	...	1+	0.45	100+	0.37
SN74LS04N	TI	...	1+	0.48	100+	0.42
SN74LS05D	MOT	...	1+	0.50	100+	0.33
SN74LS05N	TI	903	1+	0.48	100+	0.42
SN74LS06N	TI	...	1+	0.87	100+	0.78
SN74LS07D	TI	...	1+	0.87	100+	0.78
SN74LS07N	TI	...	1+	0.87	100+	0.78
SN74LS08D	MOT	...	1+	0.50	100+	0.33
SN74LS08N	TI	903	1+	0.48	100+	0.42
SN74LS09D	MOT	...	1+	0.50	100+	0.33
SN74LS09N	MOT	...	1+	0.55	100+	0.36
SN74LS107AN	TI	...	1+	0.92	100+	0.81
SN74LS109AD	TI	903	1+	0.81	100+	0.73
SN74LS109AN	TI	...	1+	0.81	100+	0.73
SN74LS10N	TI	903	1+	0.48	100+	0.42
SN74LS112AN	TI	903	1+	0.81	100+	0.73
SN74LS11D	TI	903	1+	0.60	100+	0.49
SN74LS11N	TI	...	1+	0.60	100+	0.49
SN74LS122D	TI	...	1+	0.81	100+	0.73
SN74LS122N	MOT	...	1+	0.65	100+	0.42
SN74LS123D	TI	...	1+	0.79	100+	0.71
SN74LS123J	MOT	...	1+	2.50	100+	2.00
SN74LS123N	TI	...	1+	0.68	100+	0.61
SN74LS125AD	MOT	...	1+	0.54	100+	0.35
SN74LS125AN	TI	...	1+	0.60	100+	0.49
SN74LS126AN	TI	...	1+	0.60	100+	0.49
SN74LS132D	MOT	...	1+	0.54	100+	0.35
SN74LS133J	MOT	...	1+	1.13	100+	0.97
SN74LS136N	TI	...	1+	1.17	100+	1.03
SN74LS137N	MOT	...	1+	0.58	100+	0.38
SN74LS138D	MOT	...	1+	0.54	100+	0.35
SN74LS138J	MOT	...	1+	2.30	100+	1.84
SN74LS138N	TI	903	1+	0.57	100+	0.46
SN74LS139AD	TI	...	1+	0.68	100+	0.61
SN74LS139AN	TI	903	1+	0.69	100+	0.56
SN74LS139N	MOT	...	1+	0.58	100+	0.38
SN74LS145D	TI	...	1+	0.84	100+	0.76
SN74LS147N	MOT	...	1+	0.81	100+	0.69
SN74LS148D	TI	...	1+	1.33	25+	1.24
SN74LS148N	TI	...	1+	1.22	100+	1.08
SN74LS14D	TI	...	1+	0.51	100+	0.41
SN74LS14N	TI	...	1+	0.45	100+	0.37
SN74LS153N	TI	903	1+	0.57	100+	0.46
SN74LS155AN	TI	...	1+	0.81	100+	0.73
SN74LS155N	MOT	...	1+	0.61	100+	0.40
SN74LS156D	TI	...	1+	0.72	100+	0.58
SN74LS156N	MOT	...	1+	0.61	100+	0.40
SN74LS157D	MOT	...	1+	0.58	100+	0.38
SN74LS157N	TI	903	1+	0.57	100+	0.46
SN74LS158N	MOT	...	1+	0.61	100+	0.40
SN74LS161AN	TI	903	1+	0.63	100+	0.51
SN74LS162AN	MOT	...	1+	0.53	100+	0.43
SN74LS164D	MOT	...	1+	0.58	100+	0.38
SN74LS164N	MOT	...	1+	0.61	100+	0.40
SN74LS165AN	TI	903	1+	1.02	100+	0.90
SN74LS165N	MOT	...	1+	0.61	100+	0.40
SN74LS166N	MOT	...	1+	0.61	100+	0.40
SN74LS169BD	TI	903	1+	2.25	25+	2.10
SN74LS169BN	TI	903	1+	2.25	25+	2.10
SN74LS169N	MOT	...	1+	0.78	100+	0.62
SN74LS174N	TI	903	1+	0.57	100+	0.46
SN74LS175N	TI	903	1+	0.57	100+	0.46
SN74LS191N	TI	903	1+	0.89	100+	0.79
SN74LS192N	MOT	...	1+	0.72	100+	0.57
SN74LS193N	TI	903	1+	0.68	100+	0.61
SN74LS194AN	MOT	...	1+	0.61	100+	0.56
SN74LS195AN	MOT	...	1+	0.79	100+	0.52
SN74LS196N	MOT	...	1+	0.60	100+	0.49
SN74LS197N	MOT	...	1+	1.22	100+	1.09
SN74LS19AD	TI	...	1+	0.79	100+	0.71
SN74LS20D	MOT	...	1+	0.50	100+	0.33
SN74LS20N	TI	...	1+	0.60	100+	0.49
SN74LS221D	MOT	...	1+	0.65	100+	0.42
SN74LS221N	TI	...	1+	0.92	100+	0.81
SN74LS22N	MOT	...	1+	0.45	100+	0.37
SN74LS240DW	MOT	...	1+	0.65	100+	0.42
SN74LS240N	TI	903	1+	0.76	100+	0.69
SN74LS241DW	MOT	...	1+	0.50	100+	0.46
SN74LS242N	MOT	...	1+	0.92	100+	0.73
SN74LS243D	MOT	...	1+	0.65	100+	0.42
SN74LS243N	MOT	...	1+	0.68	100+	0.45
SN74LS244DW	TI	903	1+	0.81	100+	0.73
SN74LS244N	TI	903	1+	0.76	100+	0.69
SN74LS245J	MOT	...	1+	3.04	50+	2.54
SN74LS245N	TI	903	1+	0.76	100+	0.69
SN74LS247N	MOT	...	1+	0.89	100+	0.71
SN74LS251N	TI	903	1+	0.60	100+	0.49
SN74LS253N	MOT	...	1+	0.61	100+	0.40
SN74LS257BN	TI	903	1+	0.60	100+	0.49
SN74LS258BN	MOT	...	1+	0.58	100+	0.38
SN74LS259BN	TI	...	1+	0.84	100+	0.76
SN74LS259N	MOT	...	1+	0.65	100+	0.42
SN74LS260N	MOT	...	1+	0.61	100+	0.40
SN74LS26N	MOT	...	1+	0.70	100+	0.46
SN74LS273N	TI	903	1+	0.73	100+	0.66
SN74LS279AN	TI	...	1+	0.68	100+	0.61
SN74LS279N	MOT	...	1+	0.65	100+	0.42
SN74LS27N	TI	903	1+	0.60	100+	0.49
SN74LS283D	TI	...	1+	0.87	100+	0.78
SN74LS283N	MOT	...	1+	0.72	100+	0.47
SN74LS290N	MOT	...	1+	0.83	100+	0.54
SN74LS292N	TI	...	1+	15.94	10+	15.07
SN74LS293N	MOT	...	1+	0.86	100+	0.56
SN74LS294N	TI	...	1+	15.94	10+	15.07
SN74LS298N	MOT	...	1+	0.75	100+	0.49
SN74LS30D	MOT	...	1+	0.50	100+	0.33
SN74LS30N	TI	903	1+	0.48	100+	0.42
SN74LS31N	TI	...	1+	1.14	100+	1.01
SN74LS32D	MOT	...	1+	0.50	100+	0.33
SN74LS32N	TI	903	1+	0.45	100+	0.37
SN74LS33N	MOT	...	1+	0.55	100+	0.36
SN74LS348N	MOT	...	1+	0.83	100+	0.54
SN74LS365AD	TI	...	1+	1.07	100+	0.94
SN74LS365AN	MOT	...	1+	0.61	100+	0.40
SN74LS367AD	MOT	...	1+	0.58	100+	0.38
SN74LS367AN	TI	...	1+	0.69	100+	0.56
SN74LS368AD	TI	...	1+	0.73	100+	0.66
SN74LS373DW	MOT	...	1+	0.65	100+	0.42
SN74LS373N	TI	903	1+	0.76	100+	0.69
SN74LS374DW	MOT	...	1+	0.65	100+	0.42
SN74LS374N	TI	903	1+	0.76	100+	0.69
SN74LS375N	MOT	...	1+	0.50	100+	0.41
SN74LS377N	MOT	...	1+	0.79	100+	0.52
SN74LS378N	MOT	...	1+	0.86	100+	0.56
SN74LS38D	MOT	...	1+	0.43	100+	0.35
SN74LS38N	TI	...	1+	0.48	100+	0.39
SN74LS393N	TI	903	1+	0.79	100+	0.71
SN74LS47N	TI	...	1+	1.02	100+	0.90
SN74LS48N	MOT	...	1+	0.80	100+	0.64
SN74LS490N	MOT	...	1+	1.96	25+	1.74
SN74LS540DW	TI	903	1+	1.17	100+	1.03
SN74LS540N	TI	903	1+	1.02	100+	0.90
SN74LS541DW	TI	903	1+	1.17	100+	1.03
SN74LS541N	TI	903	1+	1.02	100+	0.90
SN74LS569AN	MOT	...	1+	1.59	25+	1.42
SN74LS590N	TI	...	1+	6.69	10+	6.24
SN74LS592N	TI	...	1+	6.69	10+	6.24
SN74LS593N	TI	...	1+	8.52	10+	7.94
SN74LS594D	TI	903	1+	14.46	10+	13.67
SN74LS594N	TI	903	1+	14.46	10+	13.67
SN74LS595N	TI	...	1+	6.69	10+	6.24
SN74LS623DW	TI	903	1+	3.58	25+	3.29
SN74LS623N	TI	903	1+	3.58	25+	3.29
SN74LS624N	TI	...	1+	2.15	25+	2.00
SN74LS628N	TI	...	1+	2.15	25+	2.00
SN74LS629N	TI	...	1+	2.80	25+	2.57
SN74LS640-1DW	TI	...	1+	3.65	25+	3.36
SN74LS640DW	TI	903	1+	1.82	25+	1.69
SN74LS640N	TI	903	1+	1.67	25+	1.55
SN74LS641N	MOT	...	1+	0.86	100+	0.69
SN74LS642N	MOT	...	1+	0.86	100+	0.69
SN74LS645-1N	TI	...	1+	3.65	25+	3.36
SN74LS645DW	TI	903	1+	1.33	25+	1.24
SN74LS645N	TI	903	1+	1.17	100+	1.03
SN74LS646DW	TI	...	1+	4.94	25+	4.54
SN74LS652DW	TI	...	1+	4.94	25+	4.54
SN74LS652NT	TI	903	1+	4.75	25+	4.36
SN74LS669N	MOT	...	1+	0.86	100+	0.69
SN74LS670D	TI	...	1+	1.25	100+	1.10
SN74LS670N	MOT	...	1+	0.75	100+	0.59
SN74LS684N	MOT	...	1+	1.27	25+	1.13
SN74LS688DW	TI	...	1+	2.38	25+	2.22
SN74LS688N	TI	...	1+	1.92	25+	1.79
SN74LS73AN	TI	...	1+	1.07	100+	0.94
SN74LS74AD	TI	...	1+	0.48	100+	0.39
SN74LS74AN	TI	903	1+	0.55	100+	0.49
SN74LS75N	TI	...	1+	1.17	100+	1.03
SN74LS76AN	MOT	...	1+	0.98	100+	0.84
SN74LS77N	MOT	...	1+	0.75	100+	0.63
SN74LS795N	MOT	...	1+	1.42	100+	1.26
SN74LS83AN	MOT	...	1+	0.53	100+	0.43
SN74LS85D	TI	...	1+	0.73	100+	0.66
SN74LS85N	TI	...	1+	0.69	100+	0.56
SN74LS86AN	TI	903	1+	0.55	100+	0.49
SN74LS86D	MOT	...	1+	0.65	100+	0.42
SN74LS86N	MOT	...	1+	0.70	100+	0.46
SN74LS90N	TI	...	1+	1.36	25+	1.27
SN74LS92D	MOT	...	1+	0.52	100+	0.42
SN74LS92N	MOT	...	1+	0.58	100+	0.38
SN74LS93D	MOT	...	1+	0.50	100+	0.46
SN74LS96N	TI	...	1+	2.13	25+	1.98
SN74LVT162245DGGR	TI	...	1+	5.11	25+	4.70
SN74S00N	TI	903	1+	0.69	100+	0.56
SN74S02N	TI	903	1+	0.69	100+	0.56
SN74S03N	TI	...	1+	0.87	100+	0.78
SN74S04N	TI	903	1+	0.69	100+	0.56
SN74S08N	TI	903	1+	0.69	100+	0.56

SEE THE REFERENCED PAGE NUMBERS ABOVE FOR PRODUCT SPECIFICATIONS.

FOR OTHER DEVICES, CONTACT YOUR LOCAL NEWARK SALES OFFICE.

Type	Mfg.	Pg.	Qty.	$	Qty.	$
SN74S1050D	TI	...	1+	1.92	25+	1.79
SN74S1050N	TI	...	1+	1.92	25+	1.79
SN74S1051D	TI	...	1+	1.92	25+	1.79
SN74S1053N	TI	...	1+	1.92	25+	1.79
SN74S1056D	TI	...	1+	2.56	25+	2.35
SN74S112AN	TI	903	1+	0.79	100+	0.71
SN74S11N	TI	...	1+	0.69	100+	0.56
SN74S124N	TI	...	1+	4.26	25+	3.92
SN74S132N	TI	...	1+	2.46	25+	2.26
SN74S133N	TI	...	1+	0.76	100+	0.69
SN74S138AN	TI	...	1+	1.07	100+	0.94
SN74S140N	TI	...	1+	1.36	25+	1.27
SN74S157N	TI	...	1+	1.07	100+	0.94
SN74S163N	TI	903	1+	2.97	25+	2.73
SN74S175N	TI	903	1+	1.07	100+	0.94
SN74S240N	TI	903	1+	2.05	25+	1.91
SN74S241DW	TI	...	1+	2.07	25+	1.93
SN74S241N	TI	...	1+	2.05	25+	1.91
SN74S244N	TI	...	1+	2.05	25+	1.91
SN74S251N	TI	903	1+	1.07	100+	0.94
SN74S257N	TI	903	1+	1.07	100+	0.94
SN74S258N	TI	...	1+	1.72	25+	1.60
SN74S280N	TI	...	1+	1.92	25+	1.79
SN74S32N	TI	...	1+	0.69	100+	0.56
SN74S374N	TI	...	1+	2.00	25+	1.86
SN74S37N	TI	...	1+	0.87	100+	0.76
SN74S38N	TI	...	1+	0.87	100+	0.76
SN74S74N	TI	...	1+	0.73	100+	0.66
SN74S86N	TI	903	1+	0.73	100+	0.66
SN75107AN	TI	...	1+	1.22	100+	1.08
SN75107BN	TI	...	1+	1.22	100+	1.08
SN75108AN	TI	...	1+	1.22	100+	1.08
SN75110AD	TI	...	1+	1.22	100+	1.08
SN75110AN	TI	...	1+	1.22	100+	1.08
SN75112D	TI	...	1+	3.04	25+	2.80
SN75112N	TI	...	1+	3.04	25+	2.80
SN75113N	TI	...	1+	3.04	25+	2.80
SN75114N	TI	...	1+	2.44	25+	2.24
SN75115D	TI	...	1+	2.44	25+	2.24
SN75115N	TI	...	1+	2.44	25+	2.24
SN75116N	TI	...	1+	4.26	25+	3.92
SN75117P	TI	...	1+	4.26	25+	3.92
SN75119P	TI	...	1+	4.26	25+	3.92
SN75121N	TI	...	1+	2.44	25+	2.24
SN75123N	TI	...	1+	2.44	25+	2.24
SN75138N	TI	...	1+	2.68	25+	2.46
SN75140P	TI	...	1+	2.44	25+	2.24
SN75146P	TI	...	1+	2.07	25+	1.93
SN75150P	TI	905	1+	1.02	100+	0.90
SN75154N	TI	905	1+	1.28	25+	1.19
SN75155D	TI	905	1+	1.28	25+	1.19
SN75155P	TI	905	1+	1.28	25+	1.19
SN75158P	TI	...	1+	4.87	25+	4.48
SN75159N	TI	...	1+	4.87	25+	4.48
SN75160BN	TI	...	1+	5.48	25+	5.03
SN75161BN	TI	...	1+	5.48	25+	5.03
SN75172N	TI	905	1+	2.68	25+	2.46
SN75173D	TI	905	1+	3.09	25+	2.84
SN75173N	TI	905	1+	2.44	25+	2.24
SN75174DW	TI	905	1+	2.68	25+	2.46
SN75174N	TI	905	1+	2.68	25+	2.46
SN75175D	TI	905	1+	3.09	25+	2.84
SN75175N	TI	905	1+	2.44	25+	2.24
SN75176AD	TI	...	1+	1.41	25+	1.31
SN75176AP	TI	...	1+	1.41	25+	1.31
SN75176BD	TI	905	1+	1.28	25+	1.19
SN75176BP	TI	...	1+	1.28	25+	1.19
SN75179BD	TI	...	1+	2.30	25+	2.15
SN75179BP	TI	...	1+	2.30	25+	2.15
SN75182N	TI	...	1+	2.44	25+	2.24
SN75183N	TI	...	1+	2.44	25+	2.24
SN75185DW	TI	905	1+	0.89	100+	0.79
SN75185N	TI	905	1+	0.89	100+	0.79
SN75188D	TI	905	1+	0.54	100+	0.44
SN75188N	TI	905	1+	0.54	100+	0.44
SN75189AD	TI	905	1+	0.54	100+	0.44
SN75189AN	TI	905	1+	0.54	100+	0.44
SN75189D	TI	905	1+	0.54	100+	0.44
SN75189N	TI	905	1+	0.54	100+	0.44
SN75196N	TI	905	1+	1.20	100+	1.06
SN75372P	TI	...	1+	1.92	25+	1.79
SN75437ANE	TI	...	1+	2.38	25+	2.22
SN754410NE	TI	...	1+	4.14	25+	3.80
SN75451BD	TI	...	1+	0.60	100+	0.49
SN75451BP	TI	...	1+	0.60	100+	0.49
SN75452BD	TI	...	1+	0.60	100+	0.49
SN75452BP	TI	...	1+	0.60	100+	0.49
SN75453BD	TI	...	1+	0.60	100+	0.49
SN75453BP	TI	...	1+	0.60	100+	0.49
SN75454BP	TI	...	1+	0.60	100+	0.49
SN75462P	TI	...	1+	1.14	100+	1.01
SN75463P	TI	...	1+	1.02	100+	0.90
SN75468D	TI	...	1+	1.67	25+	1.55
SN75468N	TI	...	1+	1.67	25+	1.55
SN75469N	TI	...	1+	1.67	25+	1.55
SN75471P	TI	...	1+	1.09	100+	0.96
SN75472P	TI	...	1+	1.28	25+	1.19
SN75477P	TI	...	1+	0.81	100+	0.73

Type	Mfg.	Pg.	Qty.	$	Qty.	$
SN75ALS085DW	TI	...	1+	11.39	10+	10.77
SN75ALS170ADW	TI	...	1+	7.40	10+	6.89
SN75ALS170DW	TI	...	1+	6.57	10+	6.12
SN75ALS171ADW	TI	...	1+	7.40	10+	6.89
SN75ALS171DW	TI	...	1+	7.79	10+	7.26
SN75ALS172ADW	TI	905	1+	4.19	25+	3.85
SN75ALS172AN	TI	905	1+	4.19	25+	3.85
SN75ALS173N	TI	905	1+	4.19	25+	3.85
SN75ALS174AN	TI	905	1+	4.19	25+	3.85
SN75ALS175N	TI	905	1+	4.19	25+	3.85
SN75ALS176BD	TI	905	1+	4.63	25+	4.25
SN75ALS176BP	TI	905	1+	4.63	25+	4.25
SN75ALS176P	TI	905	1+	2.80	25+	2.57
SN75ALS180D	TI	905	1+	2.80	25+	2.57
SN75ALS180N	TI	905	1+	2.80	25+	2.57
SN75ALS192D	TI	...	1+	2.18	25+	2.03
SN75ALS192N	TI	...	1+	2.18	25+	2.03
SN75ALS193N	TI	...	1+	2.05	25+	1.91
SN75ALS194N	TI	...	1+	2.18	25+	2.03
SN75ALS195N	TI	...	1+	2.05	25+	1.91
SN75C1406D	TI	905	1+	1.54	25+	1.43
SN75C1406N	TI	905	1+	1.54	25+	1.43
SN75C185DW	TI	905	1+	3.04	25+	2.80
SN75C188D	TI	905	1+	1.28	25+	1.19
SN75C188N	TI	905	1+	1.28	25+	1.19
SN75C189N	TI	905	1+	1.28	25+	1.19
SN75LBC174N	TI	...	1+	3.53	25+	3.25
SN75LBC176D	TI	905	1+	1.85	25+	1.70
SN75LBC176P	TI	...	1+	1.85	25+	1.70
SN75LBC180D	TI	905	1+	1.95	25+	1.79
SN75LBC184D	TI	905	1+	2.89	25+	2.66
SN75LBC184P	TI	905	1+	2.89	25+	2.66
SN75LBC978DL	TI	...	1+	22.52	5+	21.44
SN75LP185ADW	TI	905	1+	2.10	25+	1.96
SP720AB	HRS	895	1+	2.41	25+	2.24
SP720AP	HRS	895	1+	2.41	25+	2.24
SP721AB	HRS	895	1+	1.67	25+	1.55
SP721AP	HRS	895	1+	1.67	25+	1.55
SP723AB	HRS	895	1+	2.20	25+	2.05
SP723AP	HRS	895	1+	2.25	25+	2.10
SPA4191	IR	...	1+	5.31	25+	4.88
SPAKB56007FJ50	MOT	...	1+	37.74	5+	33.90
SPAKB56007FJ66	MOT	...	1+	52.66	5+	48.13
SPAKDSP56004FJ66	MOT	...	1+	44.88	5+	40.31
SPAKXC56301GC66	MOT	...	1+	78.38	5+	63.86
SPAKXC56301PW66	MOT	...	1+	60.48	5+	55.28
SPAKXC56301PW80	MOT	...	1+	66.48	5+	60.76
SPAKXC56303PV80	MOT	...	1+	47.14	5+	42.35
SPMC16Z1CPV16	MOT	...	1+	19.36	10+	17.29
SPMC16Z1CPV20	MOT	...	1+	19.19	5+	17.24
SPMC16Z2BCFC16	MOT	...	1+	31.05	5+	27.89
SPMC16Z2BCFC20	MOT	...	1+	33.72	5+	30.29
SPMC16Z2BCPV16	MOT	...	1+	27.12	5+	24.36
SPMC16Z2BCPV20	MOT	...	1+	29.16	5+	26.19
SPMC68331CPV16	MOT	...	1+	20.65	5+	18.55
SPMC68331CPV20	MOT	...	1+	21.67	5+	19.46
SPMC68332ACPV16	MOT	...	1+	22.86	5+	20.53
SPMC68332ACPV20	MOT	...	1+	24.01	5+	21.56
SPMC68332GCPV16	MOT	...	1+	22.86	5+	20.53
SPMC68332GCPV20	MOT	...	1+	24.01	5+	21.56
SSM-2142P	ADI	882	1+	3.21	50+	2.94
SSM-2210P	ADI	...	1+	4.03	10+	3.50
SSM-2402P	ADI	888	1+	6.04	10+	5.49
SSM2000P	ADI	...	1+	10.25	10+	9.32
SSM2017P	ADI	880	1+	3.22	10+	2.80
SSM2018P	ADI	882	1+	5.36	10+	4.66
SSM2018TP	ADI	882	1+	6.41	10+	5.83
SSM2024P	ADI	...	1+	5.10	10+	4.43
SSM2120P	ADI	...	1+	7.42	10+	6.45
SSM2122P	ADI	...	1+	6.84	10+	6.21
SSM2135P	ADI	882	1+	3.75	10+	3.26
SSM2135S	ADI	...	1+	4.21	10+	3.66
SSM2139P	ADI	882	1+	4.12	25+	3.05
SSM2141P	ADI	882	1+	3.49	10+	3.04
SSM2141S	ADI	...	1+	3.49	10+	3.04
SSM2142S	ADI	...	1+	5.81	10+	5.05
SSM2143P	ADI	882	1+	3.13	10+	2.73
SSM2160P	ADI	882	1+	11.88	10+	10.80
SSM2160S	ADI	882	1+	11.71	10+	10.64
SSM2161P	ADI	882	1+	8.12	10+	7.38
SSM2161S	ADI	882	1+	7.95	10+	7.23
SSM2163P	ADI	...	1+	13.67	10+	12.42
SSM2164P	ADI	...	1+	5.66	10+	4.92
SSM2164S	ADI	...	1+	5.66	10+	4.92
SSM2165-1P	ADI	882	1+	3.85	10+	3.35
SSM2165-1S	ADI	882	1+	3.85	10+	3.35
SSM2166P	ADI	882	1+	4.29	10+	3.73
SSM2166S	ADI	882	1+	4.29	10+	3.73
SSM2211P	ADI	...	1+	2.70	100+	2.33
SSM2211S	ADI	...	1+	2.52	100+	2.17
SSM2275P	ADI	...	1+	2.81	100+	2.42
SSM2300P	ADI	...	1+	7.40	25+	5.49
SSM2404P	ADI	...	1+	5.90	10+	5.37
SSM2412P	ADI	888	1+	7.85	25+	5.82
SSM2412S	ADI	...	1+	7.85	25+	5.82
ST110S12P2V	IR	...	1+	64.65	5+	57.47
ST1230C08K0	IR	927	1+	235.25	5+	212.11
ST1230C12K0	IR	927	1+	242.92	5+	219.02

Type	Mfg.	Pg.	Qty.	$	Qty.	$
ST1230C14K0	IR	927	1+	250.59	5+	225.94
ST1230C16K0	IR	927	1+	260.81	5+	235.16
SV5637-001	HWL	589	1+	9.69	100+	6.78
SW06BQ	ADI	...	1+	26.97	25+	19.99
SW06GP	ADI	888	1+	3.77	10+	3.27
SW06GS	ADI	888	1+	4.38	25+	3.25
SW201GS	ADI	...	1+	6.16	25+	4.57
SW202GP	ADI	...	1+	6.28	10+	5.46
T2500D	MOT	...	1+	0.80	100+	0.64
T2500DFP	MOT	...	1+	0.96	100+	0.91
T2800D	MOT	...	1+	0.98	100+	0.84
TC211	TI	...	1+	47.59	5+	45.32
TC215-40	TI	...	1+	3445.93	5+	3093.93
TC245-40	TI	...	1+	157.58	5+	138.18
TC255P	TI	...	1+	67.07	5+	59.62
TCA0372DP1	MOT	...	1+	1.10	100+	0.94
TCA0372DP2	MOT	...	1+	1.10	100+	0.94
TCF6000	MOT	...	1+	2.50	25+	2.13
TCM320AC36CN	TI	...	1+	4.97	25+	4.56
TCM320AC37CN	TI	...	1+	4.87	25+	4.48
TDA1020U	PHL	...	1+	3.43	25+	2.19
TDA1085C	MOT	...	1+	2.63	25+	2.24
TDA1185A	MOT	...	1+	2.37	25+	2.02
TDA2595N	PHL	...	1+	5.55	25+	3.54
TDA7000N	PHL	...	1+	4.00	25+	2.59
TDA7052ATD-T	PHL	...	1+	2.39	25+	1.53
TI380C25PGE	TI	...	1+	96.13	5+	85.45
TI380FPAFNL	TI	...	1+	41.10	5+	39.14
TIBPAL16L8-10CN	TI	...	1+	2.44	25+	2.24
TIBPAL16L8-15CN	TI	...	1+	1.36	25+	1.27
TIBPAL16L8-25CN	TI	...	1+	1.04	100+	0.92
TIBPAL16L8-7CN	TI	...	1+	4.26	25+	3.92
TIBPAL16R6-5CFN	TI	...	1+	9.73	10+	9.07
TIBPAL16R6-5CN	TI	...	1+	9.73	10+	9.07
TIBPAL20L8-15CNT	TI	...	1+	2.43	25+	2.27
TIBPAL20L8-25CNT	TI	...	1+	1.79	25+	1.67
TIBPAL20R4-5CFN	TI	...	1+	13.67	10+	12.92
TIBPAL20R4-5CNT	TI	...	1+	13.67	10+	12.92
TIBPAL20R6-5CFN	TI	...	1+	13.67	10+	12.92
TIBPAL20R6-5CNT	TI	...	1+	13.67	10+	12.92
TIBPAL22V10-10CNT	TI	...	1+	10.10	10+	9.41
TIBPAL22V10ACNT	TI	...	1+	3.90	25+	3.58
TIL111	QT	...	1+	0.34	100+	0.29
TIL113	TI	905	1+	0.71	100+	0.64
TIL116	TI	905	1+	0.71	100+	0.64
TIL117	TI	905	1+	0.71	100+	0.64
TIL119	TI	905	1+	0.84	100+	0.74
TIL126	TI	905	1+	0.71	100+	0.64
TIL128A	TI	905	1+	0.76	100+	0.69
TIL193	TI	...	1+	2.10	25+	1.96
TIL199B	TI	...	1+	2.28	25+	2.12
TIL306	TI	905	1+	12.71	10+	12.02
TIL307	TI	905	1+	12.71	10+	12.02
TIL308	TI	905	1+	12.71	10+	12.02
TIL309	TI	905	1+	12.71	10+	12.02
TIL311	TI	905	1+	13.05	10+	12.34
TIP100	MOT	871	1+	0.80	100+	0.64
TIP101	MOT	...	1+	0.80	100+	0.64
TIP102	MOT	871	1+	0.80	100+	0.64
TIP105	MOT	871	1+	0.80	100+	0.64
TIP106	MOT	...	1+	0.80	100+	0.64
TIP107	MOT	871	1+	0.80	100+	0.64
TIP110	MOT	871	1+	0.72	100+	0.47
TIP111	MOT	...	1+	0.72	100+	0.47
TIP112	MOT	871	1+	0.72	100+	0.47
TIP115	MOT	871	1+	0.72	100+	0.47
TIP116	MOT	...	1+	0.72	100+	0.47
TIP117	MOT	871	1+	0.72	100+	0.47
TIP120	MOT	871	1+	0.72	100+	0.47
TIP121	MOT	...	1+	0.72	100+	0.47
TIP122	MOT	871	1+	0.72	100+	0.47
TIP125	MOT	871	1+	0.83	100+	0.54
TIP126	MOT	...	1+	0.83	100+	0.54
TIP127	MOT	871	1+	0.83	100+	0.54
TIP140	MOT	871	1+	1.47	25+	1.31
TIP141	MOT	871	1+	1.47	25+	1.31
TIP142	MOT	871	1+	1.47	25+	1.31
TIP145	MOT	871	1+	1.47	25+	1.31
TIP146	MOT	871	1+	1.47	25+	1.31
TIP147	MOT	871	1+	1.47	25+	1.31
TIP29	MOT	...	1+	0.72	100+	0.47
TIP2955	MOT	871	1+	1.43	25+	1.28
TIP29A	MOT	...	1+	0.66	100+	0.43
TIP29B	MOT	...	1+	0.66	100+	0.43
TIP29C	MOT	871	1+	0.66	100+	0.43
TIP30	MOT	...	1+	0.66	100+	0.43
TIP3055	MOT	871	1+	1.35	25+	1.20
TIP30B	MOT	...	1+	0.61	100+	0.40
TIP30C	MOT	871	1+	0.61	100+	0.40
TIP31	MOT	...	1+	0.61	100+	0.40
TIP31A	MOT	...	1+	0.61	100+	0.40
TIP31B	MOT	871	1+	0.61	100+	0.40
TIP31C	MOT	871	1+	0.61	100+	0.40
TIP32	MOT	...	1+	0.61	100+	0.40
TIP32A	MOT	...	1+	0.61	100+	0.40
TIP32B	MOT	871	1+	0.61	100+	0.40
TIP32C	MOT	871	1+	0.61	100+	0.40
TIP33A	MOT	...	1+	1.43	25+	1.28

Manufacturer Abbreviations:

ADI: Analog Devices; **ALG:** Allegro; **ALT:** Altera; **AMD:** Advanced Micro Devices; **AND:** AND; **APD:** American Power Devices; **DAL:** Dallas Semiconductor; **ECG:** Philips ECG; **FGR:** Fagor; **GS:** General Semiconductor; **HP:** Hewlett Packard; **HRS:** Harris Semiconductor; **HWL:** Honeywell Opto; **INT:** Intronics; **IR:** International Rectifier; **MIC:** Micrel; **MOT:** Motorola; **NAT:** National Semiconductor; **OPT:** Optek; **PHL:** Phillips Semiconductors; **PWX:** Powerex; **QT:** QT Optoelectronics; **SKN:** Semikron; **SPC:** SPC Technology; **TI:** Texas Instruments; **TSK:** Thomson SK; **VAC:** EG&G Vactec; **VAN:** Vantis; **ZIL:** Zilog

Type	Mfg.	Pg.	Qty.	$	Qty.	$
TIP33C	MOT	871	1+	1.43	25+	1.28
TIP35A	MOT	871	1+	1.83	25+	1.63
TIP35C	MOT	871	1+	1.83	25+	1.63
TIP36A	MOT	871	1+	1.83	25+	1.63
TIP36C	MOT	871	1+	1.83	25+	1.63
TIP41A	MOT	...	1+	0.79	100+	0.52
TIP41B	MOT	871	1+	0.79	100+	0.52
TIP41C	MOT	871	1+	0.79	100+	0.52
TIP42	MOT	...	1+	0.79	100+	0.52
TIP42A	MOT	...	1+	0.79	100+	0.52
TIP42B	MOT	871	1+	0.79	100+	0.52
TIP42C	MOT	871	1+	0.79	100+	0.52
TIP47	MOT	871	1+	0.79	100+	0.52
TIP48	MOT	...	1+	0.79	100+	0.52
TIP50	MOT	871	1+	0.79	100+	0.52
TL034CN	TI	904	1+	1.79	25+	1.67
TL052ACP	TI	...	1+	5.04	25+	4.63
TL052CP	TI	...	1+	1.77	25+	1.65
TL054ACN	TI	...	1+	6.79	10+	6.33
TL061CP	TI	...	1+	0.63	100+	0.51
TL062ACP	TI	...	1+	0.94	100+	0.83
TL062CP	TI	...	1+	0.69	100+	0.56
TL062IP	TI	...	1+	0.94	100+	0.83
TL064ACN	TI	...	1+	1.02	100+	0.90
TL064BCN	TI	...	1+	2.05	25+	1.91
TL064CN	TI	...	1+	0.81	100+	0.73
TL071ACP	TI	...	1+	0.89	100+	0.79
TL071CD	MOT	866	1+	0.72	100+	0.47
TL071CP	TI	904	1+	0.63	100+	0.51
TL072ACP	TI	...	1+	0.94	100+	0.83
TL072CD	TI	904	1+	0.69	100+	0.56
TL072CP	TI	904	1+	0.69	100+	0.56
TL074ACD	TI	...	1+	1.02	100+	0.90
TL074ACN	MOT	866	1+	0.86	100+	0.69
TL074BCN	TI	...	1+	2.18	25+	2.03
TL074CD	TI	904	1+	0.81	100+	0.73
TL074CN	TI	904	1+	0.81	100+	0.73
TL081ACD	MOT	866	1+	0.79	100+	0.52
TL081ACP	MOT	866	1+	0.79	100+	0.52
TL081CP	TI	904	1+	0.63	100+	0.51
TL082ACP	TI	...	1+	0.89	100+	0.79
TL082CD	TI	904	1+	0.69	100+	0.56
TL082CP	TI	904	1+	0.69	100+	0.56
TL084ACD	TI	...	1+	1.02	100+	0.90
TL084ACN	TI	...	1+	1.02	100+	0.90
TL084BCN	TI	...	1+	2.18	25+	2.03
TL084CD	TI	904	1+	0.81	100+	0.73
TL084CN	TI	904	1+	0.81	100+	0.73
TL084ID	TI	...	1+	1.02	100+	0.90
TL084IN	TI	...	1+	1.02	100+	0.90
TL145406DW	TI	905	1+	1.28	25+	1.19
TL145406N	TI	905	1+	1.28	25+	1.19
TL1454CD	TI	...	1+	2.23	25+	2.08
TL16C452FN	TI	...	1+	6.57	10+	6.12
TL16C550AN	TI	...	1+	6.08	10+	5.67
TL16C550BN	TI	...	1+	4.75	25+	4.36
TL16C552FN	TI	...	1+	9.73	10+	9.07
TL16C554FN	TI	...	1+	16.51	10+	15.61
TL16C750FN	TI	...	1+	8.43	10+	7.97
TL16PC564APZ	TI	...	1+	12.53	10+	11.84
TL3016ID	TI	905	1+	2.23	25+	2.07
TL3116CD	TI	905	1+	1.98	25+	1.84
TL317CD	TI	904	1+	0.81	100+	0.73
TL317CLP	TI	904	1+	0.81	100+	0.73
TL3695P	TI	905	1+	2.05	25+	1.91
TL430CLP	TI	904	1+	0.87	100+	0.78
TL431ACP	MOT	...	1+	0.70	100+	0.46
TL431AID	TI	904	1+	0.68	100+	0.61
TL431BCLP	MOT	...	1+	0.72	100+	0.57
TL431CD	TI	904	1+	0.48	100+	0.39
TL431CLP	TI	904	1+	0.54	100+	0.44
TL431CP	TI	904	1+	0.48	100+	0.39
TL431ILP	TI	...	1+	0.68	100+	0.61
TL431IP	MOT	...	1+	0.61	100+	0.40
TL494CD	TI	904	1+	0.89	100+	0.79
TL494CN	TI	904	1+	0.89	100+	0.79
TL494ID	TI	...	1+	2.44	25+	2.24
TL497ACN	TI	904	1+	2.43	25+	2.27
TL5632CFR	TI	904	1+	8.02	10+	7.47
TL592B-8D	TI	...	1+	1.14	100+	1.01
TL594CN	TI	904	1+	1.41	25+	1.31
TL712CP	TI	...	1+	1.28	25+	1.19
TL714CD	TI	905	1+	2.94	25+	2.70
TL750L05CKC	TI	904	1+	1.46	25+	1.36
TL750M05CKC	TI	...	1+	2.92	25+	2.69
TL7702ACD	TI	905	1+	1.28	25+	1.19
TL7702ACP	TI	905	1+	1.28	25+	1.19
TL7702BCP	TI	905	1+	1.74	25+	1.62
TL7705ACD	TI	905	1+	1.28	25+	1.19
TL7705ACP	TI	905	1+	1.28	25+	1.19
TL7705BIP	TI	...	1+	1.82	25+	1.69
TL7705BQD	TI	...	1+	1.97	25+	1.84
TL7712ACP	TI	905	1+	1.28	25+	1.19
TL7757CLP	TI	905	1+	1.28	25+	1.19
TL783CKC	TI	904	1+	2.51	25+	2.34
TL851CN	TI	...	1+	4.38	25+	4.03
TL852CN	TI	...	1+	3.65	25+	3.36
TLC0831CD	TI	904	1+	2.44	25+	2.24
TLC0831CP	TI	904	1+	2.44	25+	2.24
TLC0832CD	TI	904	1+	2.44	25+	2.24
TLC0832CP	TI	904	1+	2.92	25+	2.69
TLC0834CD	TI	904	1+	2.92	25+	2.69
TLC0834CN	TI	904	1+	2.68	25+	2.46
TLC0838CDW	TI	904	1+	2.68	25+	2.46
TLC0838CN	TI	904	1+	5.29	25+	4.86
TLC1542CN	TI	904	1+	3.53	25+	3.24
TLC1543CN	TI	904	1+	3.29	25+	3.02
TLC1549CP	TI	...	1+	7.91	10+	7.37
TLC1551IFN	TI	...	1+	4.43	25+	4.07
TLC2201ACD	TI	...	1+	4.43	25+	4.07
TLC2201ACP	TI	904	1+	1.72	25+	1.60
TLC2262AID	TI	904	1+	2.18	25+	2.03
TLC2264CN	TI	...	1+	1.59	25+	1.48
TLC2272ACD	TI	904	1+	1.59	25+	1.48
TLC2272ACP	TI	904	1+	1.72	25+	1.60
TLC2272AID	TI	904	1+	1.44	25+	1.34
TLC2272CD	TI	904	1+	1.44	25+	1.34
TLC2272CP	TI	904	1+	2.41	25+	2.24
TLC2274ACD	TI	904	1+	2.41	25+	2.24
TLC2274ACN	TI	904	1+	2.18	25+	2.03
TLC2274CD	TI	...	1+	1.64	25+	1.53
TLC251CP	TI	...	1+	8.52	10+	7.94
TLC2543CDW	TI	904	1+	8.23	10+	7.67
TLC2543CFN	TI	904	1+	8.52	10+	7.94
TLC2543CN	TI	904	1+	9.98	10+	9.30
TLC2543IDW	TI	904	1+	8.27	10+	7.71
TLC2652ACP	TI	904	1+	0.89	100+	0.79
TLC271ACP	TI	904	1+	1.02	100+	0.90
TLC271AIP	TI	...	1+	1.12	100+	0.99
TLC271BCP	TI	904	1+	0.76	100+	0.69
TLC271CD	TI	904	1+	0.76	100+	0.69
TLC271CP	TI	904	1+	1.46	25+	1.36
TLC272ACP	TI	904	1+	1.84	25+	1.72
TLC272BCP	TI	904	1+	1.17	100+	1.03
TLC272CD	TI	...	1+	1.17	100+	1.03
TLC272CP	TI	904	1+	2.38	25+	2.22
TLC274ACN	TI	904	1+	2.85	25+	2.62
TLC274BCN	TI	904	1+	1.92	25+	1.79
TLC274CD	TI	904	1+	1.92	25+	1.79
TLC274CN	TI	904	1+	3.17	25+	2.91
TLC279CN	TI	904	1+	1.46	25+	1.36
TLC27L2ACP	TI	904	1+	1.84	25+	1.72
TLC27L2BCP	TI	...	1+	1.17	100+	1.03
TLC27L2CP	TI	904	1+	1.51	25+	1.41
TLC27L2MD	TI	...	1+	2.38	25+	2.22
TLC27L4ACN	TI	904	1+	1.92	25+	1.79
TLC27L4CN	TI	904	1+	2.51	25+	2.31
TLC27L7IP	TI	...	1+	1.17	100+	1.03
TLC27M2CP	TI	904	1+	2.38	25+	2.22
TLC27M4ACN	TI	...	1+	1.92	25+	1.79
TLC27M4CN	TI	904	1+	1.14	100+	1.01
TLC339CN	TI	905	1+	2.23	25+	2.08
TLC352CP	TI	905	1+	1.02	100+	0.90
TLC3702CP	TI	905	1+	1.23	100+	1.08
TLC3704CN	TI	905	1+	0.97	100+	0.85
TLC372CD	TI	905	1+	0.97	100+	0.85
TLC372CP	TI	905	1+	1.22	100+	1.08
TLC374CN	TI	905	1+	0.92	100+	0.81
TLC393CP	TI	904	1+	2.44	25+	2.24
TLC548CP	TI	904	1+	1.79	25+	1.67
TLC549CP	TI	904	1+	2.30	25+	2.15
TLC549IP	TI	...	1+	4.75	25+	4.36
TLC5510INSLE	TI	904	1+	0.76	100+	0.69
TLC555CD	TI	...	1+	0.76	100+	0.69
TLC555CP	TI	...	1+	1.14	100+	1.01
TLC555ID	TI	...	1+	1.14	100+	1.01
TLC555IP	TI	...	1+	1.38	25+	1.29
TLC556CD	TI	...	1+	1.38	25+	1.29
TLC556CN	TI	904	1+	4.23	25+	3.89
TLC5602CN	TI	904	1+	8.72	10+	8.13
TLC5613CPW	TI	904	1+	3.95	25+	3.63
TLC5615CD	TI	904	1+	3.95	25+	3.63
TLC5615CP	TI	904	1+	7.71	10+	7.19
TLC5617ACD	TI	904	1+	9.40	10+	8.76
TLC5618ACD	TI	904	1+	3.21	25+	2.95
TLC5620CD	TI	904	1+	3.21	25+	2.95
TLC5620CN	TI	904	1+	4.75	25+	4.36
TLC5628CDW	TI	904	1+	4.75	25+	4.36
TLC5628CN	TI	904	1+	5.88	10+	5.48
TLC7135CN	TI	904	1+	5.71	25+	5.25
TLC7225CDW	TI	904	1+	3.90	25+	3.58
TLC7226CDW	TI	904	1+	3.90	25+	3.58
TLC7226CN	TI	904	1+	2.92	25+	2.69
TLC7524CN	TI	904	1+	4.63	25+	4.25
TLC7524EN	TI	...	1+	3.21	25+	2.95
TLC7528CN	TI	...	1+	3.65	25+	3.36
TLC7528IFN	TI	...	1+	1.47	100+	1.30
TLC7701ID	TI	905	1+	1.49	25+	1.38
TLC7703ID	TI	905	1+	1.54	25+	1.43
TLC7705IP	TI	905	1+	1.49	25+	1.38
TLC7733IP	TI	905	1+	8.23	10+	7.67
TLC876CDW	TI	904	1+	1.02	100+	0.90
TLE2021CP	TI	904	1+	1.38	25+	1.29
TLE2022CD	TI	904	1+	1.38	25+	1.29
TLE2022CP	TI	904	1+	2.68	25+	2.46
TLE2024CN	TI	904	1+	1.56	25+	1.46
TLE2027CP	TI	904	1+	1.56	25+	1.46
TLE2037CP	TI	904	1+	1.12	100+	0.99
TLE2061CP	TI	904	1+	1.25	100+	1.10
TLE2062CD	TI	904	1+	1.25	100+	1.10
TLE2062CP	TI	904	1+	2.28	25+	2.12
TLE2064CN	TI	904	1+	1.31	25+	1.22
TLE2071CP	TI	...	1+	5.10	5+	3.66
TLE2072ACP	TI	...	1+	1.77	25+	1.65
TLE2072CD	TI	904	1+	1.77	25+	1.65
TLE2072CP	TI	904	1+	3.19	25+	2.93
TLE2074CN	TI	904	1+	1.09	100+	0.96
TLE2081CP	TI	...	1+	2.73	25+	2.51
TLE2084CN	TI	...	1+	1.17	100+	1.03
TLE2141CP	TI	904	1+	1.61	25+	1.50
TLE2142CD	TI	904	1+	1.61	25+	1.50
TLE2142CP	TI	904	1+	2.53	25+	2.33
TLE2144CN	TI	904	1+	3.60	25+	3.31
TLE2227CP	TI	904	1+	1.36	25+	1.27
TLE2425CD	TI	...	1+	1.36	25+	1.27
TLE2425CLP	TI	...	1+	1.20	100+	1.05
TLE2426CLP	TI	...	1+	0.72	25+	0.67
TLV1391CDBV	TI	905	1+	0.79	100+	0.71
TLV1393CD	TI	905	1+	5.23	25+	4.81
TLV1543CN	TI	...	1+	4.26	25+	3.92
TLV1544CD	TI	904	1+	2.56	25+	2.35
TLV2264IN	TI	...	1+	1.34	100+	1.20
TLV2352IP	TI	905	1+	1.69	25+	1.58
TLV2354IN	TI	905	1+	0.94	25+	0.88
TLV2393IP	TI	905	1+	1.54	25+	1.43
TLV2432CD	TI	904	1+	1.24	25+	1.15
TLV2711CDBV	TI	904	1+	1.24	25+	1.15
TLV2721CDBV	TI	904	1+	1.24	25+	1.15
TLV2731CDBV	TI	904	1+	2.42	25+	2.26
TLV2772AID	TI	904	1+	2.42	25+	2.26
TLV2772CD	TI	904	1+	4.97	25+	4.56
TLV2772CP	TI	904	1+	1.17	100+	1.03
TLV320AC36CN	TI	...	1+	1.09	100+	0.96
TLV431ACDBVR	TI	...	1+	8.72	10+	8.13
TLV431ACLP	TI	...	1+	1.09	100+	0.96
TLV5613CDW	TI	904	1+	8.72	10+	8.13
TLV5619CDW	TI	904	1+	8.72	10+	8.13
TLV5620CD	TI	904	1+	4.28	25+	3.94
TLV5620CN	TI	904	1+	4.28	25+	3.94
TLV5621ED	TI	904	1+	4.70	25+	4.32
TLV5621EN	TI	904	1+	4.70	25+	4.32
TLV5628CDW	TI	904	1+	5.76	25+	5.30
TLV5628CN	TI	904	1+	5.76	25+	5.30
TMC57750PM	TI	...	1+	17.65	10+	16.69
TMDS3200026	TI	901	1+	102.47	...	...
TMDS3200031	TI	901	1+	102.47	...	...
TMDS3200051	TI	901	1+	102.47	...	...
TMDS32000LO	TI	901	1+	154.22	...	...
TMP01EP	ADI	889	1+	7.27	10+	6.61
TMP01ES	ADI	...	1+	7.27	10+	6.61
TMP01FP	ADI	889	1+	4.65	10+	4.04
TMP04FS	ADI	889	1+	7.76	100+	6.68
TMP04FT9	ADI	...	1+	4.59	...	...
TMP12FS	ADI	889	1+	4.13	10+	3.60
TMP35GS	ADI	889	1+	1.31	10+	1.14
TMP36GS	ADI	889	1+	1.14	...	...
TMP37GS	ADI	889	1+	1.31	10+	1.14
TMS27C010A-10JL	TI	...	1+	2.80	25+	2.57
TMS27C020-15JL	TI	...	1+	4.26	10+	3.97
TMS27C240-12JL	TI	...	1+	6.84	10+	6.46
TMS27C256-15JL	TI	...	1+	2.12	25+	1.95
TMS27C512-10JL	TI	...	1+	2.12	25+	1.95
TMS27C512-15JL	TI	...	1+	2.12	25+	1.95
TMS27PC256-12FML	TI	...	1+	1.95	25+	1.79
TMS320C203PZ	TI	901	1+	12.06	10+	11.40
TMS320C203PZA	TI	901	1+	13.73	10+	12.98
TMS320C203PZA57	TI	901	1+	13.73	10+	12.98
TMS320C25FNL	TI	901	1+	27.95	5+	26.61
TMS320C31PQA40	TI	901	1+	65.80	5+	58.49
TMS320C31PQL40	TI	901	1+	59.81	5+	53.16
TMS320C31PQL60	TI	901	1+	69.92	5+	62.15
TMS320C32PCM40	TI	901	1+	41.00	5+	39.03
TMS320C32PCM50	TI	901	1+	32.17	5+	30.63
TMS320C32PCMA40	TI	901	1+	45.11	5+	42.95
TMS320C44GFW50	TI	901	1+	152.32	5+	137.34
TMS320C50PQ80	TI	...	1+	58.20	5+	51.73
TMS320C542PGE1-40	TI	901	1+	45.62	5+	43.44
TMS320C6201GGP16	TI	901	1+	222.62	5+	200.73
TMS320C6201GGP200	TI	901	1+	234.10	5+	211.07
TMS320F206PZ	TI	901	1+	29.24	5+	27.84
TMS320F240PQ	TI	901	1+	34.13	5+	32.50
TMS320LC203PZA	TI	901	1+	15.12	10+	14.30
TMS320LC549PGE-66	TI	...	1+	45.46	5+	43.29
TMS320LC549PGE-80	TI	...	1+	50.02	5+	47.62
TMS320P25FNL	TI	...	1+	76.26	5+	67.79
TMS320VC549GGU-10	TI	...	1+	56.86	5+	50.54
TMS370C712ANT	TI	...	1+	13.28	10+	12.55
TMS370C758AFNT	TI	...	1+	36.60	5+	34.85
TMS70C02NL	TI	...	1+	8.13	10+	7.57
TP13057BN	TI	...	1+	3.04	25+	2.80
TP3054BN	TI	...	1+	2.80	25+	2.57
TPIC2701N	TI	905	1+	3.46	25+	3.18
TPIC6259N	TI	905	1+	2.78	25+	2.55
TPIC6273N	TI	905	1+	2.78	25+	2.55

NEW TYPES ARE BEING CONTINUALLY ADDED TO INVENTORY.

CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR AVAILABILITY.

Type	Mfg.	Pg.	Qty.	$	Qty.	$
TPIC6595DW	TI	905	1+	2.78	25+	2.55
TPIC6595N	TI	905	1+	2.78	25+	2.55
TPIC6A595DW	TI	905	1+	3.41	25+	3.14
TPIC6A595NE	TI	. . .	1+	3.53	25+	3.25
TPIC6B259N	TI	905	1+	1.39	25+	1.29
TPIC6B273N	TI	905	1+	1.39	25+	1.29
TPIC6B595DW	TI	. . .	1+	1.44	25+	1.34
TPIC6B595N	TI	905	1+	1.39	25+	1.29
TPS1110DR	TI	. . .	1+	1.37	100+	1.21
TPS1120D	TI	. . .	1+	1.38	25+	1.29
TPS2012D	TI	. . .	1+	2.41	25+	2.24
TPS7148QD	TI	904	1+	2.38	25+	2.21
TPS7150QD	TI	904	1+	2.38	25+	2.21
TPS7150QP	TI	. . .	1+	2.46	25+	2.29
TPS7201QD	TI	. . .	1+	2.61	25+	2.43
TPS7233QD	TI	904	1+	1.84	25+	1.72
TPS7248QD	TI	904	1+	1.84	25+	1.72
TPS7301QD	TI	. . .	1+	2.97	25+	2.73
TPS7333QD	TI	904	1+	2.97	25+	2.73
TPS7348QD	TI	904	1+	2.97	25+	2.73
TPS76030DBVR	TI	904	1+	0.86	100+	0.76
TPS76032DBVR	TI	904	1+	0.86	100+	0.76
TPS76033DBVR	TI	904	1+	0.86	100+	0.76
TPS76038DBVR	TI	904	1+	0.86	100+	0.76
TPS76050DBVR	TI	904	1+	0.86	100+	0.76
TPV597	MOT	. . .	1+	44.44	5+	40.61
TSL230	TI	. . .	1+	3.68	25+	3.38
TSL230B	TI	. . .	1+	4.11	25+	3.78
TSL235	TI	. . .	1+	2.46	25+	2.29
TSL245	TI	. . .	1+	2.46	25+	2.29
TSL252	TI	. . .	1+	1.79	25+	1.67
TSL260	TI	. . .	1+	1.79	25+	1.67
TSL262	TI	. . .	1+	1.79	25+	1.67
UA723CD	TI	. . .	1+	0.84	100+	0.76
UA723CN	TI	904	1+	0.84	100+	0.76
UA733CN	TI	. . .	1+	0.94	100+	0.83
UA741CD	TI	. . .	1+	0.60	100+	0.49
UA741CN	PHL	. . .	1+	0.57	25+	0.44
UA741CP	TI	. . .	1+	0.60	100+	0.49
UA747CN	PHL	. . .	1+	0.97	25+	0.65
UA7805CKC	TI	. . .	1+	0.68	100+	0.51
UA7810CKC	TI	. . .	1+	0.68	100+	0.61
UA7812CKC	TI	. . .	1+	0.68	100+	0.61
UA7815CKC	TI	. . .	1+	0.68	100+	0.61
UA7824CKC	TI	. . .	1+	0.64	100+	0.56
UA78L05ACD	TI	904	1+	0.55	100+	0.49
UA78L05ACLP	TI	904	1+	0.55	100+	0.49
UA78L05CLP	TI	904	1+	0.55	100+	0.49
UA78L06ACLP	TI	. . .	1+	0.55	100+	0.49
UA78L08ACLP	TI	904	1+	0.55	100+	0.49
UA78L09ACLP	TI	904	1+	0.55	100+	0.49
UA78L10ACLP	TI	904	1+	0.55	100+	0.49
UA78L12ACLP	TI	904	1+	0.55	100+	0.49
UA78L15ACLP	TI	904	1+	0.55	100+	0.49
UA78M05CKC	TI	. . .	1+	0.68	100+	0.61
UA78M12CKC	TI	. . .	1+	0.68	100+	0.61
UA78S40PC	MOT	. . .	1+	1.15	25+	0.96
UA79M05CKC	TI	. . .	1+	1.14	100+	1.01
UA9636ACD	TI	. . .	1+	1.64	25+	1.53
UA9636ACP	TI	905	1+	1.59	25+	1.48
UA9637ACD	TI	. . .	1+	1.92	25+	1.79
UA9637ACP	TI	. . .	1+	1.92	25+	1.79
UA9638CD	TI	. . .	1+	1.92	25+	1.79
UA9638CP	TI	. . .	1+	1.92	25+	1.79
UA9639CP	TI	. . .	1+	1.92	25+	1.79
UC2842AN	MOT	. . .	1+	0.86	100+	0.73
UC2843AN	MOT	. . .	1+	0.86	100+	0.73
UC2844N	MOT	. . .	1+	0.86	100+	0.73
UC2845N	MOT	. . .	1+	0.86	100+	0.73
UC3842AD	MOT	. . .	1+	0.92	100+	0.73
UC3842AN	MOT	. . .	1+	0.92	100+	0.73
UC3842BN	MOT	. . .	1+	0.93	100+	0.80
UC3842P	TI	904	1+	1.28	25+	1.19
UC3843AD	MOT	. . .	1+	0.86	100+	0.69
UC3843AN	MOT	. . .	1+	0.86	100+	0.69
UC3843P	TI	904	1+	1.28	25+	1.19
UC3844BD	MOT	. . .	1+	0.92	100+	0.73
UC3844BN	MOT	. . .	1+	0.92	100+	0.73
UC3844N	MOT	. . .	1+	0.86	100+	0.69
UC3845N	MOT	. . .	1+	0.92	100+	0.73
UCN5800A	ALG	916	1+	1.41	25+	1.26
UCN5800L	ALG	. . .	1+	1.53	25+	1.36
UCN5801A	ALG	916	1+	2.12	25+	1.88
UCN5801EP	ALG	916	1+	2.61	25+	2.34
UCN5801LW	ALG	. . .	1+	2.25	25+	2.00
UCN5804B	ALG	916	1+	3.74	25+	3.36
UCN5804LB	ALG	916	1+	3.74	25+	3.36
UCN5810AF	ALG	916	1+	1.75	25+	1.56
UCN5810AF-1	ALG	. . .	1+	1.92	25+	1.72
UCN5811A	ALG	916	1+	3.42	25+	3.07
UCN5812AF	ALG	916	1+	3.22	25+	2.89
UCN5815A	ALG	916	1+	2.53	25+	2.27
UCN5818AF	ALG	916	1+	5.13	25+	4.61
UCN5821A	ALG	916	1+	2.25	25+	2.00
UCN5832A	ALG	916	1+	6.26	10+	5.64
UCN5832EP	ALG	916	1+	6.64	10+	5.99
UCN5833A	ALG	916	1+	4.81	25+	4.31
UCN5841A	ALG	916	1+	2.50	25+	2.25
UCN5842A	ALG	916	1+	2.57	25+	2.31
UCN5891A	ALG	916	1+	2.44	25+	2.19
UCN5895A	ALG	916	1+	2.40	25+	2.15
UDN2540B	ALG	916	1+	2.14	25+	1.90
UDN2543B	ALG	916	1+	2.87	25+	2.58
UDN2544B	ALG	916	1+	2.35	25+	2.11
UDN2547B	ALG	. . .	1+	4.90	25+	4.39
UDN2549B	ALG	. . .	1+	3.35	25+	3.01
UDN2559B	ALG	916	1+	3.35	25+	3.01
UDN2559EB	ALG	916	1+	4.44	25+	3.98
UDN2580A	ALG	916	1+	1.89	25+	1.68
UDN2585A	ALG	916	1+	1.85	25+	1.64
UDN2588A	ALG	916	1+	2.72	25+	2.44
UDN2595A	ALG	916	1+	1.64	25+	1.46
UDN2596A	ALG	916	1+	2.50	25+	2.25
UDN2597A	ALG	916	1+	2.59	25+	2.32
UDN2878W	ALG	916	1+	5.58	10+	5.03
UDN2879W	ALG	916	1+	6.03	10+	5.43
UDN2879W2	ALG	. . .	1+	5.58	10+	5.03
UDN2916B	ALG	916	1+	3.42	25+	3.07
UDN2916LB	ALG	916	1+	3.42	25+	3.07
UDN2917EB	ALG	916	1+	6.71	10+	6.04
UDN2936W	ALG	916	1+	7.43	10+	6.69
UDN2936W-120	ALG	. . .	1+	7.43	10+	6.69
UDN2943Z	ALG	. . .	1+	3.29	25+	2.95
UDN2944W	ALG	916	1+	6.79	10+	6.12
UDN2962W	ALG	916	1+	5.45	10+	4.91
UDN2981A	ALG	916	1+	1.62	25+	1.44
UDN2982A	ALG	916	1+	1.62	25+	1.44
UDN2983A	ALG	916	1+	1.71	25+	1.52
UDN2984A	ALG	916	1+	1.71	25+	1.52
UDN2985A	ALG	916	1+	1.85	25+	1.64
UDN2987A	ALG	916	1+	2.37	25+	2.13
UDN2993B	ALG	. . .	1+	2.76	25+	2.48
UDN2998W	ALG	916	1+	6.03	10+	5.43
UDN6118A	ALG	916	1+	1.25	25+	1.12
UF4002	GS	937	1+	0.57	100+	0.46
UF4004	GS	937	1+	0.57	100+	0.46
UF5402	GS	. . .	1+	0.95	100+	0.81
UF5404	GS	937	1+	0.97	100+	0.83
UGN3132LL	ALG	. . .	1+	0.88	100+	0.78
UGN3132LT	ALG	917	1+	0.88	100+	0.78
UGN3133UA	ALG	917	1+	1.14	25+	1.01
UGN3140LT	ALG	. . .	1+	1.12	100+	0.99
UGN3175U	ALG	917	1+	0.98	100+	0.86
UGN3177U	ALG	917	1+	1.14	25+	1.01
UGN3235K	ALG	917	1+	1.30	25+	1.16
UGN3503LT	ALG	. . .	1+	1.03	100+	0.90
UGN3503U	ALG	917	1+	1.03	100+	0.90
UGN3503UA	ALG	917	1+	1.03	100+	0.90
UGN5803A	ALG	. . .	1+	1.03	100+	0.90
UGQ5140K	ALG	916	1+	1.75	25+	1.56
UGS3132U	ALG	. . .	1+	1.64	25+	1.46
UGS3132UA	ALG	. . .	1+	1.39	25+	1.24
UGS3133UA	ALG	917	1+	1.69	25+	1.50
UGS3235K	ALG	917	1+	1.66	25+	1.48
ULN2002AN	TI	. . .	1+	1.02	100+	0.90
ULN2003A	ALG	916	1+	0.54	100+	0.46
ULN2003AD	TI	. . .	1+	0.68	100+	0.61
ULN2003AN	TI	. . .	1+	0.68	100+	0.61
ULN2003L	ALG	916	1+	0.54	100+	0.46
ULN2004A	ALG	916	1+	0.54	100+	0.46
ULN2004AD	TI	. . .	1+	0.68	100+	0.61
ULN2004AN	TI	. . .	1+	0.68	100+	0.61
ULN2004L	ALG	916	1+	0.54	100+	0.46
ULN2023A	ALG	916	1+	1.08	100+	0.94
ULN2023L	ALG	916	1+	1.16	25+	1.03
ULN2024A	ALG	916	1+	1.08	100+	0.94
ULN2024L	ALG	916	1+	1.16	25+	1.03
ULN2061M	ALG	. . .	1+	1.39	25+	1.24
ULN2064B	ALG	916	1+	1.48	25+	1.32
ULN2064LB	ALG	916	1+	1.60	25+	1.42
ULN2065B	ALG	916	1+	1.60	25+	1.42
ULN2068B	ALG	916	1+	1.55	25+	1.38
ULN2068LB	ALG	916	1+	1.66	25+	1.48
ULN2069B	ALG	916	1+	1.66	25+	1.48
ULN2803A	ALG	916	1+	0.86	100+	0.73
ULN2804A	ALG	916	1+	0.86	100+	0.73
ULN2823A	ALG	916	1+	1.45	25+	1.30
ULN2824A	ALG	916	1+	1.46	25+	1.30
ULN7003A	ALG	916	1+	1.48	25+	1.32
ULQ2003A	ALG	916	1+	0.54	100+	0.46
ULQ2003L	ALG	916	1+	0.54	100+	0.46
ULQ2004A	ALG	916	1+	0.54	100+	0.49
ULQ2004L	ALG	916	1+	0.54	100+	0.46
ULQ2023A	ALG	916	1+	1.16	25+	1.03
ULQ2803A	ALG	916	1+	0.86	100+	0.73
ULQ2804A	ALG	916	1+	0.86	100+	0.73
ULQ2823A	ALG	916	1+	1.60	25+	1.42
ULQ2824A	ALG	916	1+	1.46	25+	1.30
V1000LA160B	HRS	893	1+	2.43	25+	2.27
V1000LA80A	HRS	893	1+	0.92	25+	0.71
V100ZA15	HRS	892	1+	0.64	100+	0.45
V100ZA3	HRS	892	1+	0.30	100+	0.23
V100ZA4	HRS	892	1+	0.66	100+	0.53
V120ZA6	HRS	892	1+	0.64	100+	0.45
V12RA8	HRS	. . .	1+	2.07	100+	1.90
V12ZA1	HRS	892	1+	0.52	100+	0.46
V12ZA2	HRS	892	1+	0.54	100+	0.37
V130LA1	HRS	893	1+	0.52	100+	0.46
V130LA10A	HRS	893	1+	0.58	100+	0.40
V130LA10C	HRS	892	1+	0.97	100+	0.85
V130LA2	HRS	893	1+	0.37	100+	0.28
V130LA20A	HRS	893	1+	0.84	100+	0.61
V130LA20B	HRS	893	1+	0.84	100+	0.61
V130LA20C	HRS	892	1+	0.97	100+	0.85
V130LA20CX325	HRS	892	1+	0.97	100+	0.85
V130LA5	HRS	893	1+	0.54	100+	0.37
V130PA20A	HRS	893	1+	13.10	10+	12.38
V130PA20C	HRS	893	1+	13.67	10+	12.92
V131BA60	HRS	893	1+	103.42	5+	91.93
V131DA40	HRS	893	1+	38.77	5+	36.91
V131DB40	HRS	893	1+	38.77	5+	36.91
V131HA40	HRS	892	1+	14.92	10+	14.10
V140LA10A	HRS	893	1+	0.71	100+	0.64
V140LA10C	HRS	892	1+	0.97	100+	0.85
V140LA2	HRS	893	1+	0.52	100+	0.46
V140LA20A	HRS	893	1+	1.02	100+	0.90
V140LA20C	HRS	892	1+	0.97	100+	0.85
V140LA5	HRS	893	1+	0.66	100+	0.53
V14MLA0603A	HRS	893	1+	0.44	100+	0.35
V14MLA0805A	HRS	893	1+	0.47	100+	0.38
V14MLA0805A23	HRS	. . .	1+	0.48	100+	0.39
V14MLA0805LA	HRS	893	1+	0.47	100+	0.38
V150LA1	HRS	893	1+	0.52	100+	0.46
V150LA10A	HRS	893	1+	0.58	100+	0.40
V150LA10C	HRS	892	1+	0.97	100+	0.85
V150LA2	HRS	893	1+	0.37	100+	0.28
V150LA20A	HRS	893	1+	0.84	100+	0.61
V150LA20B	HRS	893	1+	0.84	100+	0.61
V150LA20C	HRS	892	1+	1.02	100+	0.90
V150LA5	HRS	893	1+	0.54	100+	0.37
V150MA2B	HRS	892	1+	0.81	100+	0.73
V150PA20A	HRS	893	1+	13.10	10+	12.38
V150PA20C	HRS	893	1+	13.67	10+	12.92
V150ZA1	HRS	892	1+	0.52	100+	0.46
V150ZA8	HRS	892	1+	0.71	100+	0.64
V151BA60	HRS	893	1+	103.42	5+	91.93
V151DA40	HRS	893	1+	38.77	5+	36.91
V151DB40	HRS	893	1+	38.77	5+	36.91
V175LA10A	HRS	893	1+	0.63	100+	0.44
V175LA2	HRS	. . .	1+	0.41	100+	0.31
V175LA20A	HRS	893	1+	1.02	100+	0.90
V175LA20C	HRS	892	1+	0.97	100+	0.85
V180MA1A	HRS	892	1+	0.66	100+	0.53
V180MA3B	HRS	892	1+	0.81	100+	0.73
V180ZA05	HRS	. . .	1+	0.45	100+	0.37
V180ZA1	HRS	892	1+	0.41	100+	0.31
V180ZA10	HRS	892	1+	0.65	100+	0.45
V180ZA5	HRS	892	1+	0.66	100+	0.53
V18MA1A	HRS	892	1+	0.72	100+	0.58
V18MA1B	HRS	892	1+	0.97	100+	0.85
V18MLA0603A	HRS	893	1+	0.44	100+	0.35
V18MLA0805A	HRS	893	1+	0.47	100+	0.38
V18MLA1210A	HRS	893	1+	1.20	100+	1.06
V18MLE0603A	HRS	893	1+	0.44	100+	0.35
V18MLE0805A	HRS	893	1+	0.47	100+	0.38
V18MLE1206A	HRS	893	1+	0.84	100+	0.74
V18ZA05	HRS	892	1+	0.47	100+	0.35
V18ZA1	HRS	892	1+	0.37	100+	0.28
V18ZA2	HRS	892	1+	0.66	100+	0.53
V18ZA3	HRS	892	1+	0.69	100+	0.56
V18ZA40	HRS	892	1+	0.78	100+	0.56
V200CH8	HRS	. . .	1+	1.33	25+	1.24
V220MA2A	HRS	892	1+	0.66	100+	0.53
V220MA4B	HRS	892	1+	0.81	100+	0.73
V220ZA05	HRS	892	1+	0.45	100+	0.37
V22MA1B	HRS	. . .	1+	0.97	100+	0.85
V22RA8	HRS	. . .	1+	2.43	25+	2.27
V22ZA05	HRS	892	1+	0.47	100+	0.35
V22ZA1	HRS	892	1+	0.37	100+	0.28
V22ZA2	HRS	892	1+	0.52	100+	0.36
V22ZA3	HRS	892	1+	0.64	100+	0.45
V230LA10	HRS	893	1+	0.66	100+	0.53
V230LA20A	HRS	893	1+	0.71	100+	0.64
V230LA20C	HRS	892	1+	0.97	100+	0.85
V230LA4	HRS	893	1+	0.52	100+	0.46
V230LA40A	HRS	893	1+	1.02	100+	0.90
V230LA40C	HRS	892	1+	0.97	100+	0.85
V242BB60	HRS	. . .	1+	210.04	10+	187.24
V24ZA50	HRS	892	1+	0.98	25+	0.77
V250LA10	HRS	893	1+	0.54	100+	0.37
V250LA2	HRS	893	1+	0.43	100+	0.32
V250LA20A	HRS	893	1+	0.58	100+	0.40
V250LA20C	HRS	892	1+	0.97	100+	0.85
V250LA4	HRS	893	1+	0.37	100+	0.28
V250LA40A	HRS	893	1+	0.84	100+	0.61
V250LA40B	HRS	893	1+	0.84	100+	0.61
V250LA40C	HRS	892	1+	0.97	100+	0.85
V250LA40CX620	HRS	892	1+	0.97	100+	0.85
V250PA40A	HRS	893	1+	13.10	10+	12.38
V250PA40C	HRS	893	1+	13.67	10+	12.92
V251BA60	HRS	893	1+	103.42	5+	91.93
V251DA40	HRS	893	1+	38.77	5+	36.91
V251DB40	HRS	893	1+	38.77	5+	36.91
V251HA32	HRS	892	1+	12.64	10+	11.95

Manufacturer Abbreviations:

ADI: Analog Devices; **ALG:** Allegro; **ALT:** Altera; **AMD:** Advanced Micro Devices; **AND:** AND; **APD:** American Power Devices; **DAL:** Dallas Semiconductor; **ECG:** Philips ECG; **FGR:** Fagor; **GS:** General Semiconductor; **HP:** Hewlett Packard; **HRS:** Harris Semiconductor; **HWL:** Honeywell Opto; **INT:** Intronics; **IR:** International Rectifier; **MIC:** Micrel; **MOT:** Motorola; **NAT:** National Semiconductor; **OPT:** Optek; **PHL:** Phillips Semiconductors; **PWX:** Powerex; **QT:** QT Optoelectronics; **SKN:** Semikron; **SPC:** SPC Technology; **TI:** Texas Instruments; **TSK:** Thomson SK; **VAC:** EG&G Vactec; **VAN:** Vantis; **ZIL:** Zilog

Type	Mfg.	Pg.	Qty.	$	Qty.	$
V251HA40	HRS	892	1+	14.92	10+	14.10
V26MLA1206A	HRS	893	1+	0.66	100+	0.59
V26MLA1206A23	HRS	...	1+	0.68	100+	0.61
V270MA4B	HRS	...	1+	0.74	100+	0.63
V270ZA05	HRS	892	1+	0.45	100+	0.37
V271BA60	HRS	893	1+	103.42	5+	91.93
V271DA40	HRS	893	1+	38.77	5+	36.91
V271DB40	HRS	893	1+	38.77	5+	36.91
V271HA40	HRS	892	1+	14.92	10+	14.10
V275LA10	HRS	893	1+	0.54	100+	0.37
V275LA2	HRS	...	1+	0.37	100+	0.28
V275LA20A	HRS	893	1+	0.58	100+	0.40
V275LA20C	HRS	892	1+	0.97	100+	0.85
V275LA4	HRS	893	1+	0.37	100+	0.28
V275LA40A	HRS	893	1+	0.84	100+	0.61
V275LA40B	HRS	893	1+	0.84	100+	0.61
V275LA40C	HRS	892	1+	0.97	100+	0.85
V275PA40A	HRS	893	1+	13.10	10+	12.38
V275PA40C	HRS	893	1+	13.67	10+	12.92
V27MA1B	HRS	892	1+	0.97	100+	0.85
V27ZA1	HRS	892	1+	0.39	100+	0.29
V27ZA2	HRS	892	1+	0.66	100+	0.53
V27ZA4	HRS	892	1+	0.64	100+	0.45
V27ZA60	HRS	892	1+	1.12	100+	0.99
V282BB60	HRS	893	1+	227.33	5+	204.97
V3.5MLA0603A	HRS	893	1+	0.44	100+	0.35
V3.5MLA0805A	HRS	893	1+	0.47	100+	0.38
V300LA10	HRS	893	1+	0.84	100+	0.74
V300LA2	HRS	893	1+	0.43	100+	0.32
V300LA4	HRS	893	1+	0.42	100+	0.31
V300LA40A	HRS	893	1+	1.02	100+	0.90
V320LA10	HRS	...	1+	0.84	100+	0.74
V320LA20A	HRS	893	1+	0.77	100+	0.54
V320LA40B	HRS	893	1+	1.02	100+	0.90
V320PA40A	HRS	893	1+	13.10	10+	12.38
V320PA40C	HRS	893	1+	13.67	10+	12.92
V321BA60	HRS	893	1+	121.49	5+	114.31
V321DA40	HRS	893	1+	38.77	5+	36.91
V321DB40	HRS	893	1+	38.77	5+	36.91
V321HA40	HRS	892	1+	15.83	10+	14.97
V330MA5B	HRS	892	1+	0.81	100+	0.73
V330ZA05	HRS	892	1+	0.45	100+	0.37
V33MA1A	HRS	892	1+	0.72	100+	0.58
V33MA1B	HRS	892	1+	0.97	100+	0.85
V33MLA1206A	HRS	893	1+	0.66	100+	0.59
V33MLA1206A23	HRS	...	1+	0.68	100+	0.61
V33ZA05	HRS	892	1+	0.45	100+	0.37
V33ZA1	HRS	892	1+	0.37	100+	0.28
V33ZA2	HRS	892	1+	0.54	100+	0.37
V33ZA5	HRS	892	1+	0.65	100+	0.46
V33ZA70	HRS	892	1+	0.98	25+	0.76
V36ZA80	HRS	892	1+	0.98	25+	0.76
V385LA20A	HRS	893	1+	0.84	100+	0.74
V385LA40B	HRS	893	1+	1.38	25+	1.29
V385LA7	HRS	893	1+	0.52	100+	0.46
V390MA6B	HRS	892	1+	0.81	100+	0.73
V390ZA05	HRS	892	1+	0.47	100+	0.35
V39MA2A	HRS	892	1+	0.72	100+	0.58
V39MA2B	HRS	892	1+	0.97	100+	0.85
V39RA8	HRS	...	1+	2.16	100+	1.98
V39ZA05	HRS	892	1+	0.45	100+	0.37
V39ZA1	HRS	892	1+	0.43	100+	0.32
V39ZA20	HRS	892	1+	1.12	100+	0.99
V39ZA3	HRS	892	1+	0.54	100+	0.37
V39ZA6	HRS	892	1+	0.65	100+	0.45
V420LA10	HRS	893	1+	0.84	100+	0.74
V420LA20A	HRS	893	1+	0.77	100+	0.54
V420LA40B	HRS	893	1+	1.18	25+	0.92
V420PA40A	HRS	893	1+	13.10	10+	12.38
V420PA40C	HRS	893	1+	13.67	10+	12.92
V421DB40	HRS	893	1+	38.77	5+	36.91
V430CH8	HRS	...	1+	1.18	100+	1.09
V430MA3A	HRS	892	1+	0.66	100+	0.53
V430MA7B	HRS	892	1+	0.81	100+	0.73
V430ZA05	HRS	892	1+	0.48	100+	0.36
V47MA2A	HRS	892	1+	0.72	100+	0.58
V47MA2B	HRS	892	1+	0.97	100+	0.85
V47RA16	HRS	...	1+	4.04	25+	3.71
V47ZA05	HRS	892	1+	0.45	100+	0.37
V47ZA1	HRS	892	1+	0.41	100+	0.31
V47ZA20	HRS	892	1+	1.12	100+	0.99
V47ZA3	HRS	892	1+	0.56	100+	0.39
V47ZA7	HRS	892	1+	0.65	100+	0.45
V480LA10	HRS	...	1+	0.84	100+	0.74
V480LA40A	HRS	893	1+	0.77	100+	0.54
V480LA80B	HRS	893	1+	1.21	25+	0.94
V480PA80A	HRS	893	1+	13.10	10+	12.38
V480PA80C	HRS	893	1+	13.67	10+	12.92
V481BA60	HRS	893	1+	121.49	5+	114.31
V481DA40	HRS	893	1+	51.57	5+	49.11
V481DB40	HRS	893	1+	51.57	5+	49.11
V481HA40	HRS	892	1+	21.41	10+	20.24
V5.5MLA0603A	HRS	893	1+	0.44	100+	0.35
V5.5MLA0805A	HRS	893	1+	0.47	100+	0.38
V5.5MLA1206A	HRS	893	1+	0.84	100+	0.74
V5.5MLA1206A23	HRS	...	1+	0.87	100+	0.76
V510LA40A	HRS	893	1+	0.96	25+	0.75
V510LA80B	HRS	893	1+	1.34	25+	1.13
V510PA80A	HRS	893	1+	13.10	10+	12.38
V510PA80C	HRS	893	1+	13.67	10+	12.92
V511BA60	HRS	893	1+	121.49	5+	114.31
V511DA40	HRS	893	1+	51.57	5+	49.11
V511DB40	HRS	893	1+	51.57	5+	49.11
V511HA40	HRS	892	1+	21.64	10+	20.46
V56MA2A	HRS	892	1+	0.72	100+	0.58
V56MA2B	HRS	892	1+	0.97	100+	0.85
V56MLA1206A	HRS	893	1+	0.70	100+	0.56
V56ZA05	HRS	892	1+	0.45	100+	0.37
V56ZA2	HRS	892	1+	0.37	100+	0.28
V56ZA20	HRS	892	1+	1.12	100+	0.99
V56ZA3	HRS	892	1+	0.54	100+	0.37
V56ZA8	HRS	892	1+	0.64	100+	0.45
V571BA60	HRS	893	1+	151.26	5+	142.32
V571DA40	HRS	893	1+	51.57	5+	49.11
V571DB40	HRS	893	1+	51.57	5+	49.11
V575LA10	HRS	...	1+	0.84	100+	0.74
V575LA40A	HRS	893	1+	0.95	25+	0.74
V575LA80B	HRS	893	1+	1.34	25+	1.13
V575PA80A	HRS	893	1+	13.10	10+	12.38
V575PA80C	HRS	893	1+	13.67	10+	12.92
V625LA40A	HRS	893	1+	1.20	100+	1.05
V625LA80B	HRS	893	1+	1.72	25+	1.60
V660LA10	HRS	893	1+	0.73	100+	0.64
V660LA100B	HRS	893	1+	1.72	25+	1.60
V660LA50A	HRS	893	1+	1.20	100+	1.05
V660PA100A	HRS	893	1+	13.67	10+	12.92
V660PA100C	HRS	893	1+	14.24	10+	13.46
V661BA60	HRS	893	1+	151.26	5+	142.32
V661DA40	HRS	893	1+	51.57	5+	49.11
V661DB40	HRS	893	1+	51.57	5+	49.11
V68MA3B	HRS	...	1+	0.97	100+	0.85
V68ZA10	HRS	892	1+	0.66	100+	0.46
V68ZA2	HRS	892	1+	0.37	100+	0.28
V68ZA20	HRS	892	1+	1.12	100+	0.99
V68ZA3	HRS	892	1+	0.66	100+	0.53
V751BA60	HRS	893	1+	151.26	5+	142.32
V751DA40	HRS	893	1+	51.57	5+	49.11
V751DB40	HRS	893	1+	51.57	5+	49.11
V82MA3B	HRS	892	1+	0.97	100+	0.85
V82ZA05	HRS	892	1+	0.45	100+	0.37
V82ZA12	HRS	892	1+	0.64	100+	0.45
V82ZA2	HRS	892	1+	0.41	100+	0.31
V881BA60	HRS	893	1+	151.26	5+	142.32
V8ZA05	HRS	892	1+	0.45	100+	0.37
V8ZA1	HRS	892	1+	0.37	100+	0.28
V8ZA2	HRS	892	1+	0.67	100+	0.55
VN0300L	MOT	...	1+	0.64	100+	0.52
VN0610LL	MOT	...	1+	1.00	100+	0.79
VN10LM	MOT	869	1+	0.65	100+	0.42
VN2406L	MOT	869	1+	0.86	100+	0.73
VN2410L	MOT	...	1+	1.80	100+	1.41
W005G	GS	937	1+	0.47	100+	0.41
W01F	FGR	...	1+	0.48	100+	0.38
W02G	GS	937	1+	0.58	100+	0.47
W04F	FGR	...	1+	0.55	100+	0.43
W04G	GS	937	1+	0.61	100+	0.49
W06G	GS	937	1+	0.65	100+	0.52
W10G	GS	937	1+	0.73	100+	0.64
WL005F	FGR	...	1+	0.44	100+	0.34
WL01F	FGR	...	1+	0.47	100+	0.37
WL04F	FGR	...	1+	0.52	100+	0.41
X68CBL08LN56	MOT	854	1+	500.40	...	...
X68EM05BD9	MOT	854	1+	295.24	...	...
X68EM05C0	MOT	854	1+	295.24	...	...
X68EM05E5	MOT	854	1+	295.24	...	...
X68EM05G11	MOT	854	1+	295.24	...	...
X68EM05JP7	MOT	854	1+	295.24	...	...
X68EM05P18	MOT	854	1+	295.24	...	...
X68EM05RC16	MOT	854	1+	295.24	...	...
X68EM05V12	MOT	854	1+	295.24	...	...
X68EM08AZ0	MOT	854	1+	295.24	...	...
X68EM08MP16	MOT	854	1+	295.24	...	...
X68EML05P6A	MOT	854	1+	295.24	...	...
X68EML08LN56	MOT	...	1+	295.24	...	...
X68TA05JJ7P20	MOT	854	1+	50.04	...	...
X68TA05JP7P28	MOT	854	1+	50.04	...	...
X68TA05MC4P28	MOT	854	1+	50.04	...	...
X68TA05RC16P28	MOT	854	1+	50.04	...	...
X68TC05C0FN44	MOT	854	1+	250.20	...	...
X68TC05V12FN68	MOT	854	1+	125.10	...	...
X68TC08MP16FU64	MOT	854	1+	250.20	...	...
XC56301GC66	MOT	856	1+	60.48	5+	55.28
XC56303GC66	MOT	856	1+	44.46	5+	39.94
XC56303GC80	MOT	856	1+	47.14	5+	42.35
XC56303PV66	MOT	856	1+	44.46	5+	39.94
XC56303PV80	MOT	856	1+	47.14	5+	42.35
XC56L811BU40	MOT	856	1+	17.82	10+	15.92
XC68HC12A0CPV8	MOT	852	1+	13.34	10+	11.92
XC68HC705JB2P	MOT	853	1+	6.75	10+	5.89
XC68HC705JJ7CDW	MOT	853	1+	4.77	25+	4.06
XC68HC705JJ7CP	MOT	853	1+	4.77	25+	4.06
XC68HC705JP7CDW	MOT	853	1+	4.98	25+	4.25
XC68HC705JP7CP	MOT	853	1+	4.98	25+	4.25
XC68HC705MC4CP	MOT	...	1+	13.20	10+	11.79
XC68HC705P6ACDW	MOT	853	1+	2.91	...	...
XC68HC705P6ACP	MOT	853	1+	2.30	...	...
XC68HC708XL36CFU	MOT	...	1+	20.08	10+	15.06
XC68HC711E9CFS3	MOT	...	1+	48.77	5+	44.57
XC68HC805K3CDW	MOT	853	1+	5.07	25+	4.32
XC68HC805KC3CP	MOT	...	1+	5.07	25+	4.32
XC68HC805P18CDW	MOT	853	1+	9.11	10+	7.95
XC68HC805P18CP	MOT	853	1+	9.11	10+	7.95
XC68HC812A4CPV8	MOT	852	1+	17.32	10+	15.47
XC68HC912B32CFU8	MOT	852	1+	28.08	5+	25.23
XCF5102PV20A	MOT	...	1+	30.20	5+	27.12
XCF5102PV25A	MOT	...	1+	35.23	5+	31.65
Z0220100ZCO	ZIL	921	1+	245.00	5+	232.75
Z0803006PSC	ZIL	...	1+	8.97	10+	7.18
Z0803606VSC	ZIL	...	1+	10.44	25+	6.84
Z0840006PSC	ZIL	921	1+	2.94	10+	2.35
Z0840006VSC	ZIL	...	1+	2.94	25+	1.92
Z0840008PSC	ZIL	...	1+	4.20	10+	3.36
Z0842004PSC	ZIL	921	1+	2.94	10+	2.35
Z0842006PSC	ZIL	921	1+	2.94	10+	2.35
Z0843004PSC	ZIL	921	1+	2.94	15+	2.35
Z0843006PSC	ZIL	921	1+	2.94	15+	2.35
Z0844004PSC	ZIL	921	1+	4.92	10+	3.94
Z0844006PSC	ZIL	921	1+	4.92	10+	3.94
Z0844206PSC	ZIL	921	1+	4.92	10+	3.94
Z0844404VSC	ZIL	...	1+	4.92	25+	3.22
Z0847004PSC	ZIL	921	1+	5.13	10+	4.10
Z0847006PSC	ZIL	921	1+	5.13	10+	4.10
Z0853004PSC	ZIL	...	1+	8.97	10+	7.18
Z0853006PSC	ZIL	...	1+	8.97	10+	7.18
Z0853006VSC	ZIL	...	1+	8.97	25+	5.87
Z0853606PSC	ZIL	...	1+	8.54	10+	6.84
Z0867108PECR002	ZIL	...	1+	15.56	25+	12.95
Z16C3001ZCO	ZIL	...	1+	236.53	...	...
Z8018006FSC	ZIL	921	1+	9.39	25+	6.15
Z8018006PSC	ZIL	...	1+	9.20	10+	7.36
Z8018006VSC	ZIL	921	1+	9.20	20+	7.36
Z8018008FSC	ZIL	921	1+	9.95	25+	6.51
Z8018008VSC	ZIL	921	1+	9.58	20+	7.66
Z8018010VSC	ZIL	921	1+	11.18	20+	9.84
Z84C0006PEC	ZIL	921	1+	4.89	10+	3.92
Z84C0008PEC	ZIL	921	1+	4.89	10+	3.92
Z84C0010PEC	ZIL	...	1+	4.89	10+	3.92
Z84C0010VEC	ZIL	...	1+	4.89	25+	3.20
Z84C1008VEC	ZIL	...	1+	11.25	25+	7.36
Z84C2006PEC	ZIL	921	1+	4.89	10+	3.92
Z84C2008PEC	ZIL	...	1+	4.89	10+	3.92
Z84C3006PEC	ZIL	921	1+	4.89	15+	3.92
Z84C3008PEC	ZIL	...	1+	4.89	15+	3.92
Z84C3010PEC	ZIL	...	1+	4.89	15+	3.92
Z84C4006PEC	ZIL	921	1+	10.87	10+	8.70
Z84C4010PEC	ZIL	921	1+	10.87	10+	8.70
Z84C4106PEC	ZIL	...	1+	10.87	10+	8.70
Z84C4206PEC	ZIL	921	1+	10.87	10+	8.70
Z84C9008VSC	ZIL	921	1+	13.67	15+	10.93
Z8523008PSC	ZIL	...	1+	12.89	10+	10.31
Z8523010PSC	ZIL	...	1+	15.76	10+	12.61
Z8523010VSC	ZIL	...	1+	15.76	25+	10.31
Z8523016VEC	ZIL	...	1+	24.30	25+	19.88
Z85C3008PSC	ZIL	...	1+	8.19	10+	6.56
Z85C3008VSC	ZIL	...	1+	8.19	25+	5.37
Z85C3010PSC	ZIL	...	1+	9.34	10+	7.48
Z85C3010VSC	ZIL	...	1+	9.34	25+	6.12
Z85C3016VSC	ZIL	...	1+	13.67	25+	8.95
Z86C9116PSC	ZIL	...	1+	9.86	10+	7.89
Z86C9320PSC	ZIL	...	1+	12.73	10+	10.19
Z86CCP01ZEM	ZIL	921	1+	99.00	5+	94.05
Z86E0208PSC1925	ZIL	921	1+	1.97	10+	1.58
Z86E0812PSC1866	ZIL	921	1+	3.63	20+	2.90
Z86E2112PSC	ZIL	...	1+	22.83	10+	18.26
Z86E2116PSC	ZIL	...	1+	22.94	10+	18.35
Z86E2116VSC	ZIL	...	1+	19.71	25+	16.13
Z86E6116FSC	ZIL	...	1+	24.61	25+	16.11
Z86E6316FSC	ZIL	...	1+	29.29	25+	19.18
Z8932301ZEM	ZIL	921	1+	99.95	5+	94.96
Z8932302ZEM	ZIL	921	1+	449.95	5+	427.46
Z8E00010HSC	ZIL	...	1+	1.65	25+	1.13
Z8E00010PEC	ZIL	...	1+	1.70	25+	1.15
Z8E00010PSC	ZIL	...	1+	1.55	25+	1.05
Z8E00010SEC	ZIL	...	1+	1.69	25+	1.14
Z8E00010SSC	ZIL	...	1+	1.54	25+	1.04
Z8E0001HSC	ZIL	...	1+	1.79	25+	1.22
Z8L18020FSC	ZIL	921	1+	13.38	25+	8.90
Z8L18020PSC	ZIL	921	1+	13.25	20+	10.60
Z8L18020VSC	ZIL	921	1+	13.39	20+	10.71
Z8S18000ZEM	ZIL	...	1+	186.30	...	...
Z8S18010FSC	ZIL	921	1+	9.39	20+	7.51
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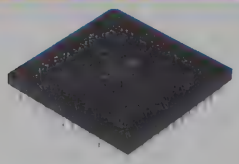
Z8S18010VSC	ZIL	921	1+	8.89	20+	7.11
Z8S18020FSC	ZIL	921	1+	11.75	20+	9.40
Z8S18020PSC	ZIL	921	1+	12.37	10+	9.89
Z8S18020VSC	ZIL	921	1+	11.89	20+	9.51
Z8S18033FSC	ZIL	921	1+	13.25	20+	10.60
Z8S18033VSC	ZIL	921	1+	13.27	20+	10.61
ZMM4-T/R	GS	936	1+	0.11	100+	0.09
ZMM5230B-T/R	GS	936	1+	0.13	100+	0.10
ZMM5236B-T/R	GS	936	1+	0.13	100+	0.10
ZMM5242B-T/R	GS	936	1+	0.13	100+	0.10
ZMM5248B-T/R	GS	936	1+	0.13	100+	0.10
ZMM5254B-T/R	GS	936	1+	0.13	100+	0.10

NEW TYPES ARE BEING CONTINUALLY ADDED TO INVENTORY.

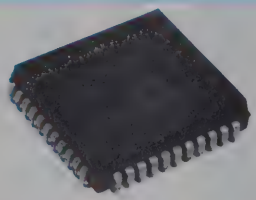
CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR AVAILABILITY.

Product Selection Guide—Semiconductors

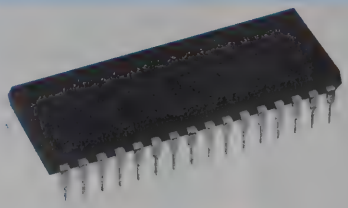
SECTION 17



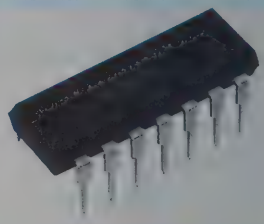
Microprocessors, Pages 850, 851, 900, 921



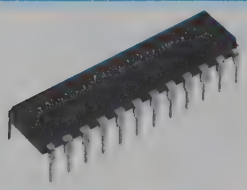
Microcontrollers, Pages 852, 853, 857, 908, 911, 913, 914, 921



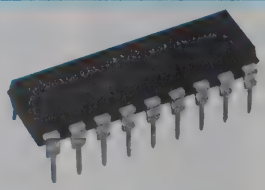
Memory, Pages 859, 910, 911, 913, 931



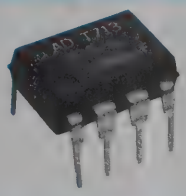
Logic, Pages 860-864, 902, 903, 911, 912, 931



Linear—Converters, Pages 867, 884-887, 898, 899, 904, 906, 917, 918



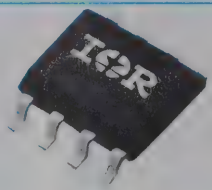
Linear—Drivers, Pages 867, 897, 905, 916, 919, 920, 928, 939



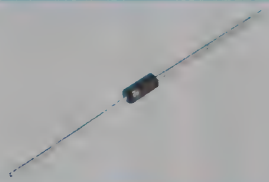
Linear—Op-Amps, Pages 866, 879-883, 889, 896, 897, 904, 907, 917, 920

Linear—Regulators, Pages 865, 876, 889, 904, 908, 918

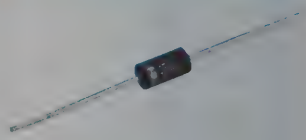
Transistors—FETs, Pages 869, 870, 873, 894, 924, 925, 934, 940



Transistors—Power, Pages 868, 870-873, 894, 909, 923, 928, 934, 936, 940, 941

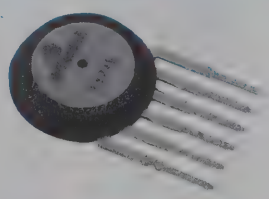


Rectifiers, Pages 874, 875, 894, 922, 923, 926, 927, 929, 930, 932, 933, 935-938, 940, 941

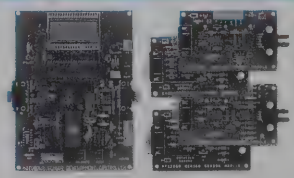


Diodes, Pages 869, 876, 909, 928, 932-936

Varistors, Pages 892, 893



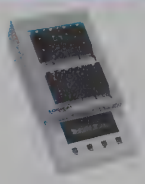
Sensors, Pages 877, 889, 891, 906, 915, 917



Semiconductor Kits, Pages 891, 901, 921, 940, 941

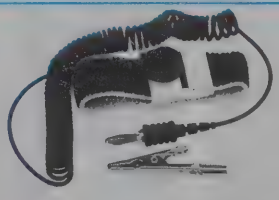
SECTION 18

Heat Sinks, Pages 947-950, 952



PROM/PLA Programmers, Page 962

UV EPROM Erasers, Page 963



Static Control Products, Pages 958, 959

Tubes, Page 946

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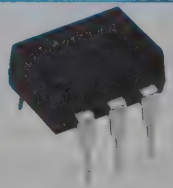
LED Products, Pages 580, 581, 587, 592, 596-600



Optocouplers/Isolators, Pages 578, 579, 584, 585

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Fiber-Optic Products, Pages 492-506

DATA SHEETS AND WEB ADDRESSES

AUTOMATED DATA SHEET FAX-BACK SERVICES

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(4657)

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Advanced Micro Devices

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Web Site: http://www.amd.com/
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Honeywell OPTOELECTRONICS GROUP

Technical support available by calling Honeywell's Technical Support at 1-800-FOR-OPTO.

Web Site: http://www.honeywell.sensing.com/
(4651) (ne09467)

Allegro MicroSystems, Inc. Formerly Sprague Semiconductor Group

Contact your local Newark sales office at 1-800-4-NEWARK (1-800-463-9275) for your Allegro Microsystems data sheet requirements.

Technical support available by calling 1-508-ALLEGRO.

Web Site: http://www.allegromicro.com/
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MICREL SEMICONDUCTOR

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Web Site (data sheets): http://www.design-net.com/

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ZiLOG Totally Logical

Contact your local Newark sales office at 1-800-4-NEWARK (1-800-463-9275) to obtain Zilog data sheets.

World Wide Web Site: http://www.zilog.com/
(4656) (ne09472)

STAND-ALONE CPUs

Type	Speed (MHz)	Package	Description	Comments
MC68EC000FN10 MC68EC000FN12 MC68EC000FN16 MC68EC000FN20 MC68EC000FU10 MC68EC000FU12 MC68EC000FU16 MC68EC000FU20	10 12 16 20 10 12 16 20	68-Lead PLCC 68-Lead PLCC 68-Lead PLCC 68-Lead PLCC 64-Lead PQFP (14mm x 14mm) 64-Lead PQFP (14mm x 14mm) 64-Lead PQFP (14mm x 14mm) 64-Lead PQFP (14mm x 14mm)	8-/16-/32-Bit HCMOS Embedded MPU	Embedded Control MPU with 8-/16-Bit Selectable Data Bus.
MC68HC000FN10 MC68HC000FN12 MC68HC000FN16 MC68HC000FN20	10 12 16 20	68-Lead PLCC 68-Lead PLCC 68-Lead PLCC 68-Lead PLCC	HCMOS 16-/32-Bit MPU	Complete **MC68000** Pin and Timing Compatibility with one-tenth the Power Dissipation
MC68SEC000FU10 MC68SEC000FU16 MC68SEC000FU20	10 16 20	64-Lead PQFP (14mm x 14mm) 64-Lead PQFP (14mm x 14mm) 64-Lead PQFP (14mm x 14mm)	8-/16-/32-Bit Static HCMOS Embedded MCU	Static Version of Low-Cost Embedded Control MPU with 8-/16-Bit Selectable Data Bus
MC68020FC16E MC68020FC20E MC68020FC25E MC68020FC33E MC68020RP16E MC68020RP20E MC68020RP25E	16 20 25 33 16 20 25	132-Lead PQFP (Gull Wing) 132-Lead PQFP (Gull Wing) 132-Lead PQFP (Gull Wing) 132-Lead PQFP (Gull Wing) 114-Lead PPGA 114-Lead PPGA 114-Lead PPGA	32-Bit MPU	Complete 32-Bit MPU. 5GB Linear Address Space. Coprocessor Interface. Instruction Cache. Dynamic Bus Sizing. Excellent MPU for Graphics Control. On-Chip Cache Speeds Drawing Alogorithms. Bit Field Support for Pixel Manipulation.
MC68EC020FG16 MC68EC020FG25 MC68EC020RP16 MC68EC020RP25	16 25 16 25	100-Lead PQFP 100-Lead PQFP 100-Lead PPGA 100-Lead PPGA	32-Bit Embedded MPU	32-Bit Data Bus MPU with 24-Bit Address Bus. Instruction Cache. Dynamic Bus Sizing. Coprocessor Interface. Low-Cost Packaging.
MC68030FE16C MC68030FE20C MC68030FE25C MC68030FE33C	16 20 25 33	132-Lead CQUAD 132-Lead CQUAD 132-Lead CQUAD 132-Lead CQUAD	Enhanced 32-Bit MPU	Complete 32-Bit MPU with On-Chip Instruction and Data Caches, Internal Parallel Buses, Enhanced Bus Controller, and On-Chip MMU.
MC68EC030FE25C MC68EC030FE40C MC68EC030RP25C MC68EC030RP40C	25 40 25 40	132-Lead CQUAD 132-Lead CQUAD 124-Lead PPGA 124-Lead PPGA	Embedded MPU	32-Bit MPU for Embedded Applications. On-Chip Instruction and Data Cache Provide High-Speed Access for Control Routines and Data. Utilizes Low-Cost DRAM Bus Interface.
MC68040FE25 MC68040FE33 MC68040FE40	25 33 40	184-Lead CQUAD 184-Lead CQUAD 184-Lead CQUAD	32-Bit MPU/MMU/FPU	Complete 32-Bit MPU with On-Chip Instruction/Data Caches (4KB each). On-Chip MMU. Full IEEE Floating-Point, Multi-processing Support with Full **M68000 Series** Compatibility.
MC68EC040FE20 MC68EC040FE25 MC68EC040FE33 MC68EC040FE40	20 25 33 40	184-Lead CQUAD 184-Lead CQUAD 184-Lead CQUAD 184-Lead CQUAD	Embedded 32-Bit MPU	High-Performance 32-Bit MPU with On-Chip Instruction and Data Cache. Provides High-Speed Access for Control Routines and Data. Utilizes Low-Cost DRAM Bus Interface.
MC68LC040FE20 MC68LC040FE25 MC68LC040FE33 MC68LC040FE40	20 25 33 40	184-Lead CQUAD 184-Lead CQUAD 184-Lead CQUAD 184-Lead CQUAD	32-Bit MPU	High-Performance **68040**-Compatible Integer Unit and MMU. Ideal Solution for Cost-Sensitive Computer or Sophisticated Embedded Applications.
MC68040FE25V MC68040FE33V	25* 33*	184-Lead CQUAD 184-Lead CQUAD	32-Bit MPU/MMU/FPU	Low-Voltage Complete 32-Bit MPU with On-Chip Insruction Data Caches (4KB each). On-Chip MMU. Full IEEE Floating-Point, Multiprocessing Support.
MC68EC060RC50 MC68EC060RC75	50 75	206-Lead PGA 206-Lead PGA	Superscalar 32-Bit MPU	RISC Hybrid Superscalar MPU with Full **M6800 Series** Compatibility. Includes Dual Integer Units, On-Chip Instruction and Data Caches (8KB each). Ideal for High-Performance Embedded Control Applications.
MC68LC060RC50 MC68LC060RC75	50 75	206-Lead PGA 206-Lead PGA	Superscalar 32-Bit MPU	RISC Hybrid Superscalar MPU with Full **M6800 Series** Compatibility. Includes Dual Integer Units, On-Chip Instruction and Data Caches (8KB each), and On-Chip MPU.
MC68882FN16A MC68882FN20A MC68882FN25A MC68882FN33A	16 20 25 33	68-Lead PLCC 68-Lead PLCC 68-Lead PLCC 68-Lead PLCC	Enhanced Floating-Point Coprocessor (EFPCP)	Pin-to-Pin Timing and Software Compatibility with **MC68881**. Dual-Ported Registers and Increased Pipelining Allows 2-4 Times the Performance of**MC68881**.

* @ 3.3V.

(19234)

(ne11169)

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COLDFIRE MPUs

NEW

Type	Speed (MHz)	Package	Description	Comments
MCF5102PV20B	20	144-Lead LQFP (20mm x 20mm)	Embedded VL-RISC MPU	Coldfire Variable-Length RISC MPU Designed for Cost-Sensitive Embedded Control Applications.Also Executes Existing **M68x0** Code. Processor Includes On-Chip Instruction/Data Caches (2K/1K Respectively).
MCF5102PV25B	25	144-Lead LQFP (20mm x 20mm)		
MCF5102PV33B	33	144-Lead LQFP (20mm x 20mm)		
MCF5102PV40B	40	144-Lead LQFP (20mm x 20mm)		
MCF5204PU16A	16	100-Lead LQFP (14mm x 14mm)	Embedded VL-RISC MPU	Coldfire Variable-Length RISC Microprocessor for Cost-Sensitive Embedded Control Applications.
MCF5204PU25A	25	100-Lead LQFP (14mm x 14mm)		
MCF5204PU33A	33	100-Lead LQFP (14mm x 14mm)		
MCF5206FT16	16	160-Lead QFP	Embedded VL-RISC MPU	Coldfire Variable-Length RISC Microprocessor for Cost-Sensitive Embedded Control Applications.
MCF5206FT25	25	160-Lead QFP		
MCF5206FT33	33	160-Lead QFP		

(36774) (ne36774)

GENERAL-PURPOSE INTEGRATED PROCESSORS

Type	Speed (MHz)	Package	Desciption	Comments
MC68306FC16A	16	132-Lead PQFP (Gull Wing)	Integrated EC000 Processor	**68000** CPU, **68681** DUART, DRAM Control All in One Chip
MC68306PV16A	16	144-Lead LQFP (20mm x 20mm)		
MC68306PV20A	20	144-Lead LQFP (20mm x 20mm)		
MC68322FT16	16	160-Lead QFP	Bandit-Integrated Printer Processor	Static **EC000** Core Processor, RISC Graphics Processor, Print Engine Video Controller, DRAM Controller, and 1284 Parallel Port.
MC68322FT20	20	160-Lead QFP		
MC68330PV16A	16	144-Lead LQFP (20mm x 20mm)	Integrated CPU32 Processor	CPU32 Core Processor with Integrated Glue Logic, Clock Chip Select, and Wait-State. Power of 32-Bit Processor with Inexpensive 16-Bit Data Bus.
MC68330PV16VA	16	144-Lead LQFP (20mm x 20mm)		
MC68330PV25A	25	144-Lead LQFP (20mm x 20mm)		
MC68340PV16E	16	144-Lead LQFP (20mm x 20mm)	Integrated Processor with DMA	CPU32 Core Processor for Data Movement Applications. 2-Channel DMA, 2 Serial Channels, 2 Timers, Chip Selects, Wait-State Generation, and Glue Logic.
MC68340CPV16E	16	144-Lead LQFP (20mm x 20mm)		
MC68340PV16VE	16 @ 3.3V	144-Lead LQFP (20mm x 20mm)		
MC68340PV25E	25	144-Lead LQFP (20mm x 20mm)		
MC68340CPV25E	25	144-Lead LQFP (20mm x 20mm)		
MC68340FT16E	16	144-Lead QFP		
MC68340CFT16E	16	144-Lead QFP		
MC68340FT25E	25	144-Lead QFP		
MC68340CFT25E	25	144-Lead QFP		

(19233) (ne11168)

MICROPROCESSOR EVALUATION TOOLS

Type	Description
M68EC000IDP	**M68EC000** Evaluation/Development System
M68EC0201IDP	**M68EC020** Evaluation/Development System
M68EC030IDP	**M68EC030** Evaluation/Development System
M68EC040IDP3	**M68EC040** Evaluation/Development System
M68EC060IDP	**M68EC060** Evaluation/Development System
M68306AN	**MC68306** Development Board from Arnewsh
M68307EVM	**XC68307** Evaluation Board with Debug Monitor from Flight Electronics
M68340EST	**MC68340** Evaluation System
M5102EVM	**MCF5102** Mezzanine Board (Requires **M68EC040IDP** or **M68EC040CPU** for Development)
M5202EVM	**MCF5202** Mezzanine Board (Requires **M68EC040IDP** or **M68EC040CPU** for Development)
M5202GW	**MCF5202** to **MC68EC000** Microprocessor Bus Interface Card
M5204AN	**MCF5204** Evaluation/Development System
M5206AN	**MCF5206** Evaluation/Development System

(19235) (ne11170)

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MICROCONTROLLERS

M68HC11 SERIES MICROCONTROLLERS

Operating temperature: –40°C to +85°C. Devices with –40°C to +105°C and –40°C to +125°C operating temperature ranges are available; *contact your local Newark sales office.* Higher bus speed devices available; *contact your local Newark sales office.*

68HC11 ROMLESS MICROCONTROLLERS

Type	EPROM	RAM	EEPROM	I/Os	Package	Description	Comments
MC68HC11ED0CFN2	0	512	0	14	44-Pin PLCC	ROMless	Enhanced DO
MC68HC11ED0CFB2	0	512	0	14	44-Pin QFP	ROMless	Enhanced DO
MC68HC11E0CFN2	0	512	0	22	52-Pin PLCC	ROMless	...
MC68HC11E0CFU3	0	512	0	22	64-Pin QFP	ROMless	...
MC68HC11E1CFN2	0	512	512	22	52-Pin PLCC	ROMless	...
MC68HC11E1CFU3	0	512	512	22	64-Pin QFP	ROMless	...
MC68HC811E2CFN2	0	256	2K	38	52-Pin PLCC	ROMless	...
MC68HC11F1CFN3	0	1K	512	30	68-Pin PLCC	ROMless	5MHz Bus Available
MC68HC11F1CPU3	0	1K	512	30	80-Pin TQFP	ROMless	5MHz Bus Available

68HC11 ONE-TIME AND MULTIPLE-TIME PROGRAMMABLE MICROCONTROLLERS

MC68HC711D3CFN2	4K	192	0	32	44-Pin PLCC	OTP	...
MC68HC711D3CFB2	4K	192	0	32	44-Pin QFP	OTP	...
MC68HC711E9CFN2	12K	512	512	38	52-Pin PLCC	OTP	...
MC68HC711E9CFU2	12K	512	512	38	64-Pin QFP	OTP	...
MC68HC711E20CFN2	20K	768	512	38	52-Pin PLCC	OTP	Drop-In Upgrade for **68HC711E9**
MC68HC711KS2CFN3	24K	768	640	51	68-Pin PLCC	OTP	4 PWM, Faster Bus Speed
MC68HC711K4CFN3	24K	768	640	62	84-Pin CLCC	Erasable	...
MC68HC711K4CFU3	24K	768	640	62	80-Pin QFP	OTP	...

(19432) (ne10991)

M68HC12 SERIES MICROCONTROLLERS

Type	EPROM	RAM	EEPROM	I/Os	Package	Description	Comments
XC68HC12A0CPV8	0	1K	0	94	112-Pin TQFP	ROMless	...
XC68HC812A4CPV8	0	1K	4K	94	112-Pin TQFP	ROMless	...
XC68HC912B32CFU8	32K	1K	768	64	80-Pin QFP	Flash	Includes J1850 Mux Protocol

(36776) (ne36776)

M68HC16 SERIES MICROCONTROLLERS

Type	ROM or EPROM	RAM	Timer*	Serial**	I/O	Clock Speed (MHz)	Operating Temperature	Operating Voltage	Package	Description
MC68HC16Z1CFC16	0	1k	3 or 4 IC; 4 or 5 OC; 2 PWM; PIT; WDOG; Pulse Accumulator	QSPI; SCI	46	0-16.78	–40°C to +85°C	4.5V-5.5V	132-Pin PQFP	External Bus BDM. 12 Chip-Selects. Synthesized Clock.
MC68HC16Z1CFC20						0-20.97		4.75V-5.25V	132-Pin PQFP	
MC68HC16Z1CFC25						0-25.17		4.75V-5.25V	132-Pin PQFP	
DSP56301ADSF						0-16.78		4.5V-5.5V	144-Pin TQFP	
MC68HC16Z1CPV20						0-20.97		4.75V-5.25V	144-Pin TQFP	
MC68HC16Z1CPV25						0-25.17		4.75V-5.25V	144-Pin TQFP	
MC68HC16Z2BCFC16	8k	2k				0-16.78		4.5V-5.5V	132-Pin PQFP	
MC68HC16Z2BCFC20						0-20.97		4.75V-5.25V	132-Pin PQFP	
MC68HC16Z2BCPV16						0-16.78		4.5V-5.5V	144-Pin TQFP	
MC68HC16Z2BCPV20						0-20.97		4.75V-5.25V	144-Pin TQFP	

* IC: input capture; OC: output capture; PWM: pulse width modulator; WDOG: watch dog timer; PIT: programmable interrupt timer.
** QSPI: queued serial peripheral interface; SCI: serial communications interface (asynchronous)
(19434) (ne11171)

M68300 SERIES MICROCONTROLLERS

Type	RAM	Timer*	Serial**	I/Os	Clock Speed (MHz)	Temperature Operating	Voltage Operating	Package	Description
MC68331CFC16A	0	3 or 4 IC; 4 or 5OC; 2 PWM; PIT; WDOG; Pulse Accumulator	QSM; QSPI; SCI	43	0-16.78	–40°C to +85°C	4.5V-5.5V	132-Pin PQFP	External Bus BDM. 12 Chip Selects, Synthesized Clock.
MC68331CFC16B1					0-16.78		4.5V-5.5V	132-Pin PQFP	
MC68331CFC25					0-25.17		4.75V-5.25V	132-Pin PQFP	
MC68331CPV20					0-20.97		4.75V-5.25V	144-Pin TQFP	
MC68331CPV20B1					0-20.97		4.75V-5.25V	144-Pin TQFP	
MC68331CFC20B1					0-16.78		4.5V-5.5V	144-Pin TQFP	
MC68332ACFC16	2K	16-Channel TPU; PIT; WDOG		47	0-16.78		4.5V-5.5V	132-Pin PQFP	
MC68332ACFC16B1					0-16.78		4.5V-5.5V	132-Pin PQFP	
MC68332ACFC20					0-20.97		4.75V-5.25V	132-Pin PQFP	
MC68332ACFC25					0-25.17		4.75V-5.25V	132-Pin PQFP	
MC68332ACPV16B1					0-16.78		4.5V-5.5V	144-Pin TQFP	
MC68332ACPV20					0-20.97		4.75V-5.25V	144-Pin TQFP	
MC68332ACPV20B1					0-20.97		4.75V-5.25V	144-Pin TQFP	
MC68332ACPV25					0-25.17		4.75V-5.25V	144-Pin TQFP	
MC68332GCFC16					0-16.78		4.5V-5.5V	132-Pin PQFP	
MC68332GCFC20					0-20.97		4.75V-5.25V	132-Pin PQFP	
MC68332GCFC25					0-25.17		4.75V-5.25V	132-Pin PQFP	
MC68332GCPV16					0-16.78		4.5V-5.5V	144-Pin TQFP	
MC68332GCPV16B1					0-16.78		4.5V-5.5V	144-Pin TQFP	
MC68332GCPV20					0-20.97		4.75V-5.25V	144-Pin TQFP	
MC68332GCPV20B1					0-20.97		4.75V-5.25V	144-Pin TQFP	
MC68332GCPV25					0-25.17		4.75V-5.25V	144-Pin TQFP	

* IC: input capture; OC: output capture; PIT: programmable interrupt timer; PWM: pulse width modulator; TPU: time processing unit; WDOG: watch dog timer.
** QSM: queued serial module; QSPI: queued serial peripheral interface; SCI: serial communications interface (asynchronous).
(19435) (ne11172)

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ONE-TIME PROGRAMMABLE (OTP)/EMULATOR MCUs

Operating voltage: 3V to 5.5V. Operating temperature: –40°C to +85°C.

Type	Package	ROM/ EPROM (Bytes)	RAM (Bytes)	EEPROM (Bytes)	Timer*	Serial**	ADC	PWM	I/O	COP	Comments†
MC68HC705B16CFN MC68HC705B16CFU	52-Pin PLCC 64-Pin QFP	15K	352	255	16-Bit (2IC, 2OC)	SCI+	8-Ch. (8-Bit)	2-Ch. (8-Bit)	32 i/o 2 o	Yes	On-Chip Charge Pump, EPROM Write Protect
MC68HC705C8ACB MC68HC705C8ACFB MC68HC705C8ACFN MC68HC705C8ACP MC68HC705C8ACS	42-Pin SDIP 44-Pin QFP 44-Pin PLCC 40-Pin DIP 40-Pin CerDIP	8K	304	...	16-Bit (1IC, 1OC)	SPI SCI	...	...	24 i/o 7 i	Yes	Mask Option Register Pullups (8 pins), KBI (8 pins); 1 High-Current Pin (20mA Sink), EPROM Security
MC68HC705C9ACB MC68HC705C9ACFB MC68HC705C9ACFN MC68HC705C9ACP	42-Pin SDIP 44-Pin QFP 44-Pin PLCC 40-Pin DIP	16K	352	...	16-Bit (1IC, 1OC)	SPI SCI	...	...	31 i/o	Yes	Mask Option Register Pullups (8 pins), KBI (8 pins); 1 High-Current Pin (20mA Sink), EPROM Security
MC68HC705J1ACDW MC68HC705J1ACP MC68HC705J1ACS	20-Pin SOIC 20-Pin DIP 20-Pin CerDIP	1.2K	64	...	MFT, RTI	...	...	...	14 i/o	Yes	KBI (4 pins), EPROM Security, 4 High-Current Pins (8mA Sink), Prog. Pulldowns (14 pins)
XC68HC705JB2P	20-Pin DIP	2K	122	...	16-Bit (1IC, ICCI) MFT, RTC	USB	...	...	11 i/o	Yes	5 mbs USB with Low-Voltage Reset, KBI (4 Pins), 3.3V Bandgao Reference.
XC68HC705JJ7CP XC68HC705JJ7CDW	20-Pin DIP 20-Pin SOIC	6K	224	...	16-Bit (1IC, ICCI) MFT, RTI	SIOP	...	...	14 i/o	Yes	2 Voltage Comparators Used with Timer i/o Create A/D (12-Bit Resolution), KBI (4 Pins), Programmable Pulldowns (14 Pins), 5 High-Current Pins, EPROM Security Feature.
XC68HC705JP7CP XC68HC705JP7CDW	20-Pin DIP 20-Pin SOIC	6K	224	...	16-Bit (1IC, ICCI) MFT, RTI	SIOP	...	...	22 i/o	Yes	2 Voltage Comparators Used with Timer i/o Create A/D (12-Bit Resolution), KBI (4 Pins), Programmable Pulldowns (14 Pins), 6 High-Current Pins, EPROM Security Feature.
MC68HC705KJ1CP MC68HC705KJ1CDW MC68HC705KJ1CS	16-Pin DIP 16-Pin SOIC 16-Pin CerDIP	1.2K	64	...	MFT, PT	...	...	...	10 i/o	Yes	KBI (2 Pins), EPROM Security Feature, A/O with 10mA Sink and Programmable Pulldowns. High-Speed 14MHz Bus Standard. RC OSC Version, 32kHz OSC Version.
MC68HC705L16FU	80-Pin QFP	16K	512	...	16-Bit: (1IC, 1OC) RTI; 8-Bit: (1IC, 1OC)	SIOP	...	...	16 i/o 8 i, 15 o	Yes	156-Segment LCD Display Driver (1-4 x 27-39), KBI (8 pins), Dual Oscillators, 8 High-Current Pins (10mA Sink), Programmable Pullups (24 pins), Open Drain (31 Pins)
XC68HC705P6ACP XC68HC705P6ACDW	28-Pin DIP 28-Pin SOIC	4K	176	...	16-Bit (1IC, 1OC)	SIOP	4-Ch. (8-Bit)	...	20 i/o 1 i	Yes	KBI (8 pins), 2 High-Current Pins (15mA Sink)
XC68HC805P18CP XC68HC805P18CDW	28-Pin DIP 28-Pin SOIC	...	192	9K	16-Bit (1IC,1OC)	SIOP	4-Ch. (8-Bit)	...	20 i/o	Yes	KBI (8 Pins) LVP, 2 High-Current Pins, Pullups (8 Pins), Clock.
MC68HC705SR3CB MC68HC705SR3CFB MC68HC705SR3CP	42-Pin SDIP 44-Pin QFP 40-Pin DIP	3.75K	192	...	8-Bit Timer (7-Bit Prescaler)	...	4-Ch. (8-Bit)	...	32 i/o	No	Programmable Pullups (24 pins), KBI (8 pins), LED Drive (8 pins), LVR
XC68HC805K3CDW	16-Pin SOIC	...	64	920 16PEEP‡	MFT, RTI	...	...	...	10 i/o	Yes	KBI (8 pins), Prog. Pulldowns (10 pins), 4 High-Current Pins (8mA Sink), On-Chip Charge Pump

* IC: input capture; MFT: multifunction timer; OC: output capture; RTI: real-time interrupt
** I^2C: inter-integrated circuit; SCI: serial communications interface (asynch.); SCI+: serial communications interface (synch & asynch.); SIOP: simple serial I/O port; SPI: serial peripheral interface
† KBI: keyboard interrupt; LVI: low-voltage interrupt; LVR: low-voltage reset
‡ PEP: Personality EPROM; PEEP: personality EEPROM
(19342)

(ne11175)

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MICROPROCESSOR DEVELOPMENT SYSTEMS

MC68HC05/08 DEVELOPMENT SYSTEMS

- **Step 1: Choose the Device to Be Emulated and Its Package Type**
- **Step 2: Select the Emulation Module that Goes with the Device**
- **Step 3: Select the Device-Specific Flex Cable**
- **Step 4: Select the Device-Specific Target Head**

The key component of the M68HC05/08 development system is the **type M68MMPFB0508** station module, which can be re-used in multiple projects. To accessorize the station, you must choose the MCU-specific components (emulation module, flex cable, target head, and surface-mount adapter, if necessary) for the device in question. Many of these supporting components can be used with multiple MCUs, and, therefore, do not need to be re-ordered for many projects. **Type M68MMDS0508** is a modular development system which works with both the M68HC05 and M68HC08 series.

Type	Description
M68MMDS0508	Motorola Module Development System for M68HC05 and M68HC08 Series Microprocessors.

Type	Devices Supported	Device Package (Suffix)	Emulation Module Type	Flex Cable Type	Target Head Adapter* Type	Surface Mount Adapters*	
						TQ Socket (or SOIC Adapter)	TQ Pack
M68MMPFB0508	68HC05A16 68HC705A24	56-Pin SDIP (B)	M68EM05A24	M68CBL05B	M68TB05A24B56	...	...
	68HC08AS20 68HC708AS60	52-Pin PLCC (FN)	M68EM08AS60	M68CBL05C	X68TC08AX48FN52	...	...
	68HC08AZ0 68HC708AZ60	100-Pin QFP (PU)	X68EM08AZ0	M68CBL05E	M68TE08AZ0PU100	M68TQS100SDG1	M68TQP100SD1
	68HC08AZ32/24/16 68HC08AB32/24/16	64-Pin QFP (FU) 64-Pin QFP (FU)	X68EM08AZ0 M68EM08AZ60	M68CBL05E M68CBL05E	M68TE08AZ32FU64 M68TE08AZ32FU64	M68TQS064SAG1 M68TQS064SAG1	M68TQP064SA1 M68TQP064SA1
	68HC05B4/B6/B8/B16/B32† 68HC705B5/B16/B32†	56-Pin SDIP (B) 64-Pin QFP (FU)	M68EM05B32 M68EM05B32	M68CBL05B M68CBL05C	M68TB05B32B56 M68TC05B32FU64	... M68TQS064SAG1	... M68TQP064SA1
	68HC05BD3/BD5/BD7 68HC705BD3/BD7	40-Pin PDIP (P) 42-Pin SDIP (B)	M68EM05BD7 M68EM05BD7	M68CBL05C M68CBL05C	M68TB05BD7P40 M68TB05BD7B42	... ...	... ...
	68HC05BD9/BD16/BD24 68HC705BD9/BD24	40-Pin PDIP (P) 42-Pin SDIP (B)	X68EM05BD9 X68EM05BD9	M68CBL05B M68CBL05B	M68TB05BD9P40 M68TB05BD9B42	... ...	... ...
	68HC05BS8 68HC705BS8	44-Pin QFP (FB) 52-Pin PLCC (FN)	M68EM05BS8 M68EM05BS8	M68CBL05C M68CBL05B	M68TC05BS8FB44 M68TB05BS8FN52	M68TQS044SAG1 ...	M68TQP044SAM01 ...
	68HC05C0†	40-Pin PDIP (P) 44-Pin QFP (FB)	X68EM05C0 X68EM05C0	M68CBL05B M68CBL05C	... ...	... M68TQS044SAG1	... M68TQP044SAM01
	68HC05C4/C4A/C8A/C12A† 68HC705C4A/705C8A†	40-Pin PDIP (P) 44-Pin QFP (FB)	M68EM05C9A M68EM05C9A	M68CBL05B M68CBL05C	M68TB05C9P40 M68TC05C9FB44	... M68TQS044SAG1	... M68TQP044SAM01
	68HC05C9/C9A† 68HC705C9/705C9A†	40-Pin PDIP (P) 44-Pin QFP (FB)	M68EM05C9A M68EM05C9A	M68CBL05B M68CBL05C	M68TB05C9P40 M68TC05C9FB44	... M68TQS044SAG1	... M68TQP044SAM01
	68HC05CJ4 68HC705CJ4	44-Pin QFP (FB)	M68EM05CJ4	M68CBL05C	M68TC05CJ4PB44	M68TQS044SAG1	M68TQP044SAM01
	68HC05CL4 68HC705CL4	80-Pin QFP (FP)	M68EM05CL4	M68CBL05E	M68TE05CL4FU80	M68TQS080SBG1	M68TQP080SBMO1
	68HC05CL48 68HC705CL48	112-Pin TQFP (FU)	M68EM05CL48	...	...	...	...
	68HC05D9/D24/D32† 68HC705D9/D32A†	40-Pin PDIP (P) 44-Pin QFP (B)	M68EM05D32 M68EM05D32	M68CBL05B M68CBL05C	M68TB05C9P40 M68TC05C9FB44	... M68TQS044SAG1	... M68TQP044SAM01
	68HC05E5 68HC705E5	28-Pin PDIP (P) 28-Pin SOIC (DW)	X68EM05E5 X68EM05E5	M68CBL05A M68CBL05A	M68TA05P9P28 M68TA05P9P28	... M68DIP28SOIC	... ...
	68HC05E6 68HC705E6	28-Pin SOIC (DW) 44-Pin QFP (FB)	M68EM05E6 M68EM05E6	M68CBL05C M68CBL05C	M68TC05E6P28 M68TC05E6FB44	M68DIP28SOIC M68TQS044SAG1	... M68TQP044SAM01
	68HC05F4† 68HC705F4†	28-Pin PDIP (P) 44-Pin QFP (FB)	M68EM05F4 M68EM05F4	M68CBL05C M68CBL05C	M68TC05F4P28 M68TC05F4FB44	... M68TQS044SAG1	... M68TQP044SAM01
	68HC05F6† 68HC705F6†	42-Pin SDIP (B) 44-Pin QFP (FB)	M68EM05F6 M68EM05F6	M68CBL05B M68CBL05C	M68TB05F6B42 M68TC05F6FB44	... M68TQS044SAG1	... M68TQP044SAM01
	68HC05G1 68HC705G1	56-Pin SDIP (B) 64-Pin QFP (FU)	M68EM05G1 M68EM05G1	M68CBL05B M68CBL05C	M68TB05G1B56 M68TC05G1FU64	... M68TQS064SAG1	... M68TQP064SAMO1
	68HC05G3 68HC705G4	80-Pin QFP (FU)	M68EM05G4	M68CBL05E	M68TE05G4FU80	M68TQS080SBG1	M68TQP080SBMO1
	68HC05G11 68HC705G11	100-Pin QFP (FU)	X68EM05G11	M68CBL05E	M68TE05G11FU100	M68TQS100SDG1	M68TQP100SDMO1
	68HC05J1 68HC705J2	20-Pin PDIP (P) 20-Pin SOIC (DW)	M68HC05JPEM M68HC05JPEM	M68CBL05A M68CBL05A	M68TA05J2P20 M68TA05J2P20	... M68DIP20SOIC	... ...
	68HC705JJ7†	20-Pin SOIC (DW)	X68EM05JP7	M68CBL05A	X68TA05JJ7P20	M68DIP20SOIC	...
	68HC705JP7†	28-Pin PDIP (P) 28-Pin SOIC (DW)	X68EM05JP7 X68EM05JP7	M68CBL05A M68CBL05A	X68TA05JP7P28 X68TA05JP7P28	... M68DIP20SOIC	... ...
	68HC05J1A 68HC705J1A	28-Pin PDIP (P) 28-Pin SOIC (DW)	M68EM05J1A M68EM05J1A	M68CBL05A M68CBL05A	M68TA05J2P20 M68TA05J2P20	... M68DIP20SOIC	... ...
	68HC05J3†	20-Pin SOIC (DW)	M68EM05J3	M68CBL05A	M68TA05J2P20	M68DIP20SOIC	...
	68HC05K0/K1/K3†	16-Pin SOIC (DW)	M68EM05K3	M68CBL05A	...	M68DIP20SOIC	...
	68HC05L1 68HC705L1	56-Pin SDIP (B) 64-Pin QFP (FU)	M68EM05L1 M68EM05L1	M68CBL05B M68CBL05C	M68TB05L1B56 M68TC05L1FU64	... M68TQS064SAG1	... M68TQP064SAMO1
	68HC05L5/L16 68HC705L5/L16	80-Pin QFP (FU)	M68EML05L16	M68CBL05E	M68TE05L16FU80	M68TQS080SBG1	M68TQP080SBMO1
	68HC08LN56 68HC708LN56	144-Pin QFP (PV)	M68TE05L16FU80	X68CBL08LN56	...**	M68TQS144SDG1	M68TQP100SDMO1
	68HC05MC4 68HC705MC4	28-Pin PDIP (P) 28-Pin SOIC (DW)	X68TA05MC4P28 X68TA05MC4P28	M68CBL05A M68CBL05A	X68TA05MC4P28 X68TA05MC4P28	... M68DIP28SOIC	... ...
	68HC708MP16	64-Pin QFP (FU)	X68EM08MP16	M68CBL05C	X68TC08MP16FU64	M68TQS064SAG1	M68TQP064SAMO1

CONTINUED

PRICES LISTED AT THE BEGINNING OF THE SECTION.

MICROPROCESSOR DEVELOPMENT SYSTEMS

MC68HC05/08 DEVELOPMENT SYSTEMS (CONT.)

Type	Devices Supported	Device Package (Suffix)	Emulation Module Type	Flex Cable Type	Target Head Adapter* Type	Surface Mount Adapters*	
						TQ Socket (or SOIC Adapter)	TQ Pack
M68MMPFB0508	68HC05P3†	28-Pin SOIC (DW)	**M68EM05P3**	**M68CBL05A**	**M68TA05X4P28**	**M68DIP28SOIC**	...
	68HC05P8†	28-Pin SOIC (DW)	**M68HC05JPEM**	**M68CBL05A**	**M68TA05P8P28**	**M68DIP28SOIC**	...
	68HC05P1/P4/P6/P7/P9 68HC705P6/705P9	28-Pin PDIP (P) 28-Pin SOIC (DW)	**M68HC05P9EM** **M68HC05P9EM**	**M68CBL05A** **M68CBL05A**	**M68TA05P9P28** **M68TA05P9P28**	... **M68DIP28SOIC**	... ...
	68HC05P1A/P4A/P9A 68HC705P6A	28-Pin PDIP (P) 28-Pin SOIC (DW)	**X68EML05P6A** **X68EML05P6A**	**M68CBL05A** **M68CBL05A**	**M68TA05P9P28** **M68TA05P9P28**	... **M68DIP28SOIC**	... ...
	68HC05P18 68HC805P18	28-Pin PDIP (P) 28-Pin SOIC (DW)	**X68EM05P18** **X68EM05P18**	**M68CBL05A** **M68CBL05A**	**M68TA05P9P28** **M68TA05P9P28**	... **M68DIP28SOIC**	... ...
	68HC05RC8/RC16/RC17/RC18 68HC705RC16/RC17	28-Pin PDIP (P) 28-Pin SOIC (DW)	**X68EM05RC16** **X68EM05RC16**	**M68CBL05A** **M68CBL05A**	**X68TA05RC16P28** **X68TA05RC16P28**	... **M68DIP28SOIC**	... ...
	68HC05SR3/SU3† 68HC705SR3†	40-Pin PDIP (P) 44-Pin QFP (FB)	**M68EM05SR3** **M68EM05SR3**	**M68CBL05B** **M68CBL05C**	**M68TB05SR3P40** **M68TC05SR3FB44**	... **M68TQS044SAG1**	... **M68TQP044SAM01**
	68HC05T10 68HC705T10	56-Pin SDIP (B)	**M68EM05T7**	**M68CBL05B**	**M68TB05T7B56**	...	...
	68HC05V7 68HC705V8	56-Pin SDIP (B) 68-Pin PLCC (FN)	**M68EM05V8** **M68EM05V8**	**M68CBL05B** **M68CBL05B**	**M68TB05V8B56** **M68TB05V8FN68**	... ...	... ...
	68HC05V12 68HC705V12	68-Pin PLCC (FN)	**X68EM05V12**	**M68CBL05C**	**X68TC05V12FN68**	...	...
	68HC05X4 68HC705X4	28-Pin PDIP (P) 28-Pin SOIC (DW)	**M68EM05X4** **M68EM05X4**	**M68CBL05A** **M68CBL05A**	**M68TA05X4P28** **M68TA05X4P28**	... **M68DIP28SOIC**	... ...
	68HC05X16/X32 68HC705X32	64-Pin QFP (FU)	**M68EML05X32**	**M68CBL05E**	**M68TE05X32FU64**	**M68TQS064SAG1**	**M68TQP064SA1**
	68HC08XL36 68HC708XL36	64-Pin QFP (FU) 56-Pin SDIP (B)	**M68EML08XL36** **M68EML08XL36**	**M68CBL05C** **M68CBL05B**	**M68TC08XL36FU64** **M68TB08XL36B56**	**M68TQS064SAG1** ...	**M68TQP064SAMO1** ...

*Each QFP package Target Head includes one TQ Socket with guides, and one TQ Pack disposable surface mount adapter M68TQPxxSy1 (1.2mm lead length) or M68TQPxxxSyM01 (1.6mm lead length). Additional TQ Sockets and TQ Packs to support multiple target systems may be ordered using the device numbers indicated. ** Target Head included with **type X68CBL08LN56** flex cable. † Additional package types available.

(19439) (ne11182)

M68HC16 AND MC68300 DEVELOPMENT SYSTEMS

Type M68MMDS1632 core station module covers the entire spectrum of devices in the M68HC16 and M68300 microcontroller series, and can be re-used for multiple projects involving these devices. To use the core station you must select the appropriate microcontroller personality board (MPB) for the device and package type with which you are working.

Type	Device Supported	Package	MPB Type
M68MMDS1632	68HC16Y1	160-Pin QFP (FT)	**M68MPB16Y1B**
	68HC16Z1	132-Pin PQFP (FC)	**M68MPB16Z1B**
	68332A	132-Pin PQFP (FC)	**M68MPB332AB**
	68F333	160-Pin QFP (FT)	**M68MPBF333C**

(19440) (ne11183)

MC68HC11 AND MC68HC12 SERIES MICROCONTROLLERS EVALUATION AND DEVELOPMENT TOOLS

M68HC11 AND MC68HC12 EVALUATION BOARDS (EVB/EVBU)

Type MC68HC11EVB evaluation board and **type MC68HC11EVBU** universal evaluation board are for development of the **type MC68HC11A8, MC68HC11E9, MC68HC711E9,** and **MC68HC811E2** microcontrollers. Both boards feature BUFFALO ROM monitor program, which resides in the on-board MC68HC11, provides one-line assembly, disassembly, and debugging commands. Both also have built-in RS-232C I/O port circuitry for communication between the evaluation board and the external terminal or host computer. **Type MC68HC11EVB** comes with an on-board MC68HC11A8. Features expanded mode of operation, with full bus access for debugging and evaluation. Requires a power supply that provides +5VDC, +12VDC, and –12VDC. Includes one flat-ribbon cable for target use. **Type MC68HC11EVBU** comes with an on-board MC68HC11E9. Has single-chip (I/O only) mode of operation. Requires a +5VDC power supply. Contains a wire-wrap area for system development. NOTE: To order the evaluation board or universal evaluation board, indicate which of the four supported devices is required.

Type	Devices Supported	Description
M68HC11EVB	MC68HC11A8/E9 MC68HC711E9 MC68HC811E2	Evaluation Board for **M68HC11 Series** MCUs. With BUFFALO ROM, RS-232 Circuitry, Expanded Mode of Operation.
M68HC11EVBU	MC68HC11A8/E9 MC68HC711E9 MC68HC811E2	Universal Evaluation Board for **M68HC11 Series** MCUs. With BUFFALO ROM, RS-232 Circuitry, Single-Chip Mode of Operation.
M68EVB912B32	MC68HC12B32	Evalutation Board for **M68HC12 series** MCUs. With 32K Internal Flash EEPROM, RS-232 Circuitry, Four Modes of Operation.
M68HC12A4EVB	MC68HC12A4	Evalutation Board for **M68HC12 series** MCUs. With 64K of Onboard EPROM, RS-232 Circuitry, Background Mode Operation.

MC68HC11 SERIES DEVELOPMENT SYSTEM

- **Step 1: Choose the Device to Be Emulated and its Package Type**
- **Step 2: Select the Emulation Module that Goes with the Device**
- **Step 3: Select the Device-Specific Flex Cable**
- **Step 4: Select the Device-Specific Target Head**

The key component of the M68HC11 development system is the **type M68MMDS11** station module, which can be re-used in multiple projects. To accessorize the station, you must choose the MCU-specific components (emulation module, flex cable, and target head) for the device in question. Many of these supporting components can be used with multiple MCUs, and, therefore, do not need to be re-ordered for many projects. **Type M68HC11PFB** platform board for MCU evaluation is also available; *contact your local Newark sales office.* Supporting components for other M68HC11 devices are also available; *contact your local Newark sales office.*

Type	Devices Supported	Package	Evaluation Module Type	Flex Cable Type	Target Head Type
M68MMDS11	68HC11A8*	52-Pin PLCC (FN)	**M68EM11E20**	**M68CBL11C**	**M68TC11E20FN52**
	68HC11D3*	44-Pin PLCC (FN)	**M68EM11D3**	**M68CBL11C**	**M68TC11D3FN44**
	68HC711D3*	44-Pin PLCC (FN)	**M68EM11D3**	**M68CBL11C**	**M68TC11D3FN44**
	68HC11E9/711E9	52-Pin PLCC (FN)	**M68EM11E20**	**M68CBL11C**	**M68TC11E20FN52**
	68HC11E20/711E20	52-Pin PLCC (FN)	**M68EM11E20**	**M68CBL11C**	**M68TC11E20FN52**
	68HC811E2*	52-Pin PLCC (FN)	**M68EM11E20**	**M68CBL11C**	**M68TC11E20FN52**

* Supporting components for devices in PDIP packages are also available; *contact your local Newark sales office.*

(19438) (ne11181)

DIGITAL SIGNAL PROCESSORS

DIGITAL SIGNAL PROCESSORS

DSP56800 FAMILY GENERAL-PURPOSE 16-BIT FIXED POINT

The **DSP56800** core family is the first architecture designed to enable digital signal processing and embedded microcontroller functionality. This multifunctional approach supports applications requiring both signal processing and control functionality, such as wireless messaging, digital answering machines, feature phones and low-cost wireline modems.

Type	Package	Speed (MHz)	Program ROM/RAM	Data ROM/RAM	Peripherals	Comments
XC56L811BU40	100-Pin TQFP	40	64/1024	.../2048	SPI x 2, Synchronous Serial Interface, Timers	On-Chip Emulator, PLL, 3.3V

DSP56000 FAMILY GENERAL-PURPOSE 24-BIT FIXED POINT

The **DSP5600** family of HCMOS, 24-bit DSP devices are source code compatible and are used extensively in telecommunications, control and audio applications.

Type	Package	Speed (MHz)	Program ROM/RAM	Data ROM/RAM	Peripherals	Comments
DSP56002FC40	132-Pin PQFP	40	64/512	2x256/2x256	Host, Synchronous Serial Interface, Serial Communications Interface, Timer	On-Chip Emulator, Phase-Lock Loop
DSP56002PV40	144-Pin TQFP	40	64/512	2x256/2x256		
DSP56002PV66	144-Pin TQFP	66	64/512	2x256/2x256		
DSP56002PV80	144-Pin TQFP	80	64/512	2x256/2x256		
DSP56004FJ50	80-Pin PQFP	50	64/512	2x256/2x256	Serial Audio Interface, Serial Host Interface, External Memory Interface	
DSP56004FJ66	80-Pin PQFP	66	64/512	2x256/2x256		
DSPE56009FJ81	80-Pin QFP	81	10240/(512/2816)	4864/8960		On-Chip Emulator, PLL, 2304 x 24 Bits Data RAM Reconfigurable as Program RAM

DSP56300 FAMILY HIGH-PERFORMANCE 24-BIT FIXED POINT

The **DSP5600** family offers a new level of performance in MIPS, rich instruction set and low power dissipation, enabling a new generation of products in wireless, telecommunications, and multimedia.

XC56301GC66	252-Pin PBGA	66	.../3072	.../4096	32-Bit Host, Enhanced Synchronous Serial Interface, Serial Communications Interface	Single Clock Cycle per Instruction, Barrel Shifter, Instruction Cache, DMA Port
XC56302PV66	144-Pin TQFP	66	20480 (RAM)	14336 (RAM)		
XC56303PV66	144-Pin TQFP	66	.../3072	.../4096	8-Bit Host, Enhanced Synchronous Serial Interface, Serial Communications Interface	
XC56303PV80	144-Pin TQFP	80	.../3072	.../4096		
XC56303GC66	196-Pin PBGA	66	.../3072	.../4096		
XC56303GC80	196-Pin PBGA	80	.../3072	.../4096		

DSP96000 FAMILY 32-BIT IEEE FLOATING POINT

Type DSP96002 has full architecture compatibility with the 16-bit DSP56000 families. Although designed primarily for image processing, other proven applications include communications, spectrum analysis, instrumentation, speech processing and pattern recognition.

DSP96002RC33	223-Pin PGA	33	64/1024	2x512/2x512	...	Dual Bus, On-Chip Emulator Port
DSP96002RC40	223-Pin PGA	40	64/1024	2x512/2x512		

(19344) (ne11177)

DIGITAL SIGNAL PROCESSOR DEVELOPMENT TOOLS

DEVELOPMENT SOFTWARE

Type	For Device Family	Description	Version
DSPTOOLSCD	DSP56800	DSP56800 Family Simulator/Assembler/Linker/Library for IBM PC DSP56800 Family Simulator/Assembler/Linker/Library for SUN-4 DSP56800 Family Simulator/Assembler/Linker/Library for Hewlett Packard Series 700	6.1A
	DSP56000	DSP56000 Family Simulator/Assembler/Linker/Library for IBM PC DSP56000 Family Simulator/Assembler/Linker/Library for SUN-4 DSP56000 Family Simulator/Assembler/Linker/Library for Hewlett Packard Series 700 DSP56000 Family C Compiler for IBM PC DSP56000 Family C Compiler for SUN-4 DSP56000 Family C Compiler for Hewlett Packard Series 700	
	DSP56300	DSP56300 Family Simulator/Assembler/Linker/Library for IBM PC DSP56300 Family Simulator/Assembler/Linker/Library for SUN-4 DSP56300 Family Simulator/Assembler/Linker/Library for Hewlett Packard Series 700 DSP56300 Family C Compiler for IBM PC DSP56300 Family C Compiler for SUN-4 DSP56300 Family C Compiler for Hewlett Packard Series 700	
	DSP96000	DSP96000 Family Simulator/Assembler/Linker/Library for IBM PC DSP96000 Family Simulator/Assembler/Linker/Library for SUN-4 DSP96000 Family Simulator/Assembler/Linker/Library for Hewlett Packard Series 700 DSP96000 Family C Compiler for IBM PC DSP96000 Family C Compiler for SUN-4 DSP96000 Family C Compiler for Hewlett Packard Series 700	

DEVELOPMENT HARDWARE

Type	Description
DSP56L811EVM	DSP56L811 Evaluation Module
DSP56002EVM	DSP56002 Evaluation Module Including Software
DSP56302EVM	DSP56302 Evaluation Module
DSP56303EVM	DSP56303 Evaluation Module

(19343) (ne11176)

CHECK NEWARK'S WEB SITE FOR PRODUCT NEWS AND INFORMATION.
http://www.newark.com

NETWORKING MCU AND TELECOM ICs

M68000 SERIES NETWORKING AND COMMUNICATIONS INTEGRATED PROCESSORS AND OPERATION DEVELOPMENT TOOLS

PROCESSORS

Type	Package	Speed	Device Name	Operating Temperature	Description
MC68302FC16C	132-Lead PQFP	16	Integrated Multiprotocol Processor (IMP)	–40°C to +85°C	68000 Core with 3 High-Performance Multiprotocol Serial Channels, On-Chip DMA, RAM, Timers, I/O, Chip Select, and Wait-State Interrupt Controller.
MC68302FC20C	132-Lead PQFP	20			
MC68302FC25C	132-Lead PQFP	25			
MC68302CFC16C	132-Lead PQFP	16			
MC68302PV16C	144-Lead TQFP	16			
MC68302PV20C	144-Lead TQFP	20			
MC68302PV25C	144-Lead TQFP	25			
MC68302RC16C	132-Lead PGA	16			
MC68302RC25C	132-Lead PGA	25			
MC68360EM25K	240-Pin PQFP	25	Quad Integrated Communications Controller (QUICC)	–40°C to +85°C	CPU32 + Core with System Integration Module (SIM) and 4 High-Performance SCCs support Numerous Protocols. Two SCCs Support Ethernet on "EN" version.
MC68360EM33K	240-Pin PQFP	33			
MC68360EM25VL	240-Pin PQFP (3.3V)	25			
MC68360RC25K	241-Pin PGA	25			
MC68360RC33K	241-Pin PGA	33			
MC68360ZP25K	357-Pin BGA	25			
MC68360ZP25VL	357-Pin BGA (3.3V)	25			
MC68360ZP33K	357-Pin BGA	33			
MC68EN360EM25K	240-Pin PQFP	25			
MC68EN360EM33K	240-Pin PQFP	33			
MC68EN360EM25VL	240-Pin PQFP (3.3V)	25			
MC68EN360RC25K	241-Pin PGA	25			
MC68EN360RC33K	241-Pin PGA	33			
MC68EN360ZP25K	357-Pin BGA	25			
MC68EN360ZP25VL	357-Pin BGA (3.3V)	25			
MC68EN360ZP33K	357-Pin BGA	33			
MC68MH360EM25K	240-Pin PQFP	25			
MC68MH360EM33K	240-Pin PQFP	33			
MC68MH360EM25VL	240-Pin PQFP (3.3V)	25			
MC68MH360RC25K	241-Pin PGA	25			
MC68MH360RC33K	241-Pin PGA	33			
MC68MH360ZP25K	357-Pin BGA	25			
MC68MH360ZP25VL	357-Pin BGA (3.3V)	25			
MC68MH360ZP33K	357-Pin BGA	33			
MC68605FN10	84-Pin PLCC	10	X.25 Protocol Controller (XPC)	–40°C to +85°C	Implements 1984 CCITT X.25 LAPB, Independently Generates Link-Level Commands and Responses Using Two 22 byte FIFOs and On-Chip DMA. Intelligent HDLC.
MC68605FN12	84-Pin PLCC	12			
MC68605FN16	84-Pin PLCC	16			
MC68606FN12C	84-Pin PLCC	12	Multi-Link Layer Access Procedure (LAPD) Protocol Controller	–40°C to +85°C	Implements CCITT Q.920/Q.921 Link Access Procedure (LAPB) Specified at ISO Level 2 for Both Signaling and Data Applications in an ISDN.
MC68606FN16C	84-Pin PLCC	16			

DEVELOPMENT TOOLS

Type	Description
M68302ADI-PC	**M68302FADS** ADI Card and Cable for IBM PC
M68302FADS	**302 Series** ADS Board; IBM-PC I/F Kit
M68302FADS-ENA	Ethernet Adapter Card with **MC68EN360RC25**
M68302FADS-LC	**M68302 Series** Application Development System with **MC68LC302RC25**
M68302FADS-PM	**M68302 Series** Application Development System with **MC68PM302RC25**
M68360QUADS	**MC68360** QUICC Application Development System for **68360** and **68EN360**
M68360ADI-PC	**M68360QUADS** I/F for IBM PC
M68360ADI-SUN4	**M68360QUADS** I/F for Sun4
MPC850FADS	**MPC850 Series** Application Development System
MPC860FADS	**MPC860** Series Apllication Development System
MPC860SRFADS	**MPC860FADS** for **MPC860SR**
MPC860TFADS	**MPC860FADS** for **MPC860T**
MPC860ADI-PC	**MPC860** ADI for IBM PC
MPC860ADI-SUN4	**MPC860** ADI for Sun4

(19530) (ne11184)

TELECOMMUNICATIONS ICs

Type	Package	Function	Features
MC33110P	PDIP	Basic Compander	2.1 to 7.0V, No Precision Externals, 80dB Range, –40 to +85°C, Independent Compressor and Expander
MC34129P	PDIP	Current Mode Regulator	For Phone Line Power Applications, Soft-Start, Current Limiting, 2% Accuracy
MC33121P	PDIP	Central Office, Remote Terminals, PBX Applications	All Gains Externally Programmable, Most BORSHT Functions, Current Limit Adjustable to 50mA, 58dB Longitudinal Balance, –21.6 to –42V
MC34017-1P	PDIP	Adjustable Tone Ringer	Differential Output, Meets FCC Requirements, Adjustable REN, Different Warble Rates
MC34017-2P	PDIP		
MC34114P	PDIP	Basic Phone Line Interface	Loop Current Interface, Speech Network, Line Length Compensation, Speech/Dialing Modes, Bell System and Foreign Countries
MC34114DW	SOIC		
MC34018P	PDIP	Complete Speaker Phone with Speaker Amplifier	All Level Detection (2 pt.), Attenuators, and Switching Controls, Mike and Speaker Amp
MC34118P	PDIP	Complete Speaker Phone with Hybrid, Filter	All Level Detection (4 pt.), Attenuators, and Switching Controls, Mike Amp with Mute, Hybrid, and Filter
MC34118DW	SOIC		
MC34119P	PDIP	Low-Voltage Audio Amp	400mW, 8.0 to 100Ω, 2.0 to 16V, Differential Outputs, Chip-Disable Input Pin
MC34119D	SOIC		

(9964) (ne09665)

NETWORK AND COMMUNICATIONS PRODUCTS

DISTRIBUTED INTELLIGENT CONTROLS (LONWORKS)

Type	Description	Package
MC143120B1DW	Neuron IC 1K RAM/512 EEPROM/10K ROM, 10MHz, 0.8µm	32-Pin SOIC
MC143150B1FU1	Neuron IC 2K RAM/512 EEPROM, 10MHz, 0.8µm (Revised)	64-Pin PQFP
MC143120E2DW	Neuron IC 2K RAM/2K EEPROM, 10MHz, 0.7µm	32-Pin SOIC
MC143120E2FB	Neuron IC 2K RAM/2K EEPROM, 10MHz, 0.7µm	44-Pin PQFP
MC143150B2FU	Neuron IC 2K RAM/512 EEPROM, 10MHz, 0.8µm (LVI)	64-Pin PQFP

(38871) (ne38871)

LONWORKS SUPPORT TOOLS

Type	Description
M143204EVK	Direct Connect Transceiver Board
M143206EVK	Neuron IC I/O Interface (GIZMO 3)
M143208EVK	Neuron IC I/O Interface Board (GIZMO 5)

(38872) (ne38872)

COMMUNICATIONS ICs

INTERFACE DEVICES

Type	Description	Package
MC145403DW	EIA-232/V.28 CMOS Driver/Receiver, 3 x 5	20-Pin SOIC
MC145404DW	EIA-232/V.28 CMOS Driver/Receiver, 4 x 4	20-Pin SOIC
MC145404P	EIA-232/V.28 CMOS Driver/Receiver, 4 x 4	20-Pin PDIP
MC145405DW	EIA-232/V.28 CMOS Driver/Receiver, 5 x 3	20-Pin SOIC
MC145406DW	EIA-232/V.28 CMOS Driver/Receiver, 3 x 3	16-Pin SOIC
MC145406P	EIA-232/V.28 CMOS Driver/Receiver, 3 x 3	16-Pin PDIP
MC145407DW	EIA-232/V.28 CMOS Driver/Rcvr, 5V Only, 3 x 3	20-Pin SOIC
MC145407P	EIA-232/V.28 CMOS Driver/Rcvr, 5V Only, 3 x 3	20-Pin PDIP
MC145408DW	EIA-232/V.28 CMOS Driver/Receiver, 5 x 5	24-Pin SOIC
ISDN TRANSCEIVERS		
MC145572FN	ISDN U-Interface Transceiver II	44-Pin PLCC
MC145572PB	ISDN U-Interface Transceiver II	44-Pin LQFP
MC145574DW	ISDN S/T-Interface Transceiver II	28-Pin SOIC
MC145574PB	ISDN S/T-Interface Transceiver II	32-Pin LQFP
MODEM FUNCTION DEVICES		
MC14LC5447DW	Calling Line I.D. Ring Detector	16-Pin SOIC
MC14LC5447P	Calling Line I.D. Ring Detector	16-Pin PDIP
UNIVERSAL DIGITAL LOOP TRANSCEIVERS		
MC145421DW	Provides Synchronous Full-Duplex 160kbps Voice and Data Communication in a 2B+2D Format for ISDN Compatibility on a Single Twisted Pair up to 1km. Single 5V Power Supply, Protocal Independent.	24-Pin SOIC
MC145421P		24-Pin PDIP
MC145425DW		24-Pin SOIC
MC145425P		24-Pin PDIP
MC145422DW	Provides Synchronous Full-Duplex 80kbps Voice and Data Communication in a 1B+2D Format on a Single Twisted Pair up to 1km. Single 5V Power Supply, Protocal Independent.	24-Pin SOIC
MC145422P		22-Pin PDIP
MC145426DW		24-Pin SOIC
MC145426P		22-Pin PDIP
VOICE AND DATA CODING DEVICES		
MC14LC5480DW	5V PCM Codec-Filter	20-Pin SOIC
MC14LC5480P	5V PCM Codec-Filter	20-Pin PDIP
MC14LC5480SD	5V PCM Codec-Filter	20-Pin SSOP
MC145481DW	3V PCM Codec-Filter	20-Pin SOIC
MC145481SD	3V PCM Codec-Filter	20-Pin SSOP
MC145483DW	3V Linear Codec-Filter	20-Pin SOIC
MC145483SD	3V Linear Codec-Filter	20-Pin SSOP
MC145484DW	5V PCM Codec-Filter	20-Pin SOIC
MC145484SD	5V PCM Codec-Filter	20-Pin SSOP
MC145502P	PCM Codec-Filter	22-Pin PDIP
MC145503DW	PCM Codec-Filter	16-Pin SOIC
MC145503P	PCM Codec-Filter	16-Pin PDIP
MC145505DW	PCM Codec-Filter	16-Pin SOIC
MC145505P	PCM Codec-Filter	16-Pin PDIP
MC14LC5540DW	3V ADPCM Codec-Filter	28-Pin SOIC
MC14LC5540P	3V ADPCM Codec-Filter	28-Pin PDIP
MC14LC5540FU	3V ADPCM Codec-Filter	32-Pin LQFP
MC145554DW	PCM Codec-Filter	16-Pin SOIC
MC145554P	PCM Codec-Filter	16-Pin PDIP

(38873) (ne38873)

CTASD DEVELOPMENT TOOLS

Type	Description	Key Device
MC143450RDK	External/Embedded Modem Reference Design Kit	MS143450SK
MC145572EVK	ISDN U-Interface Transceiver Evaluation Kit	MC145572

(38972) (ne38972)

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FAST STATIC RAM

ASYNCHRONOUS FAST STATIC RAM

Type	Density	Organization	V_{CC} (V)	Package	Access Time (ns)
MCM6946YJ10	4M	512K x 8	3.3	36-Lead SOJ	10
MCM6946YJ12	4M	512K x 8	3.3	36-Lead SOJ	12
MCM6946YJ15	4M	512K x 8	3.3	36-Lead SOJ	15
MCM6343YJ12	4M	256K x 16	3.3	44-Lead SOJ	12
MCM6343YJ15	4M	256K x 16	3.3	44-Lead SOJ	15
MCM6343TS12	4M	256K x 16	3.3	44-Lead SOJ	12
MCM6343TS15	4M	256K x 16	3.3	44-Lead SOJ	15
MCM6949YJ10	4M	1M x 4	3.3	32-Lead SOJ	10
MCM6949YJ12	4M	1M x 4	3.3	32-Lead SOJ	12
MCM6949YJ15	4M	1M x 4	3.3	32-Lead SOJ	15
MCM6341ZP11	3M	128K x 24	3.3	119-Lead PBGA	11
MCM6341ZP12	3M	128K x 24	3.3	119-Lead PBGA	12
MCM6341ZP15	3M	128K x 24	3.3	119-Lead PBGA	15
MCM6323AYJ10	1M	64K x 16	3.3	44-Lead SOJ	10
MCM6323AYJ12	1M	64K x 16	3.3	44-Lead SOJ	12
MCM6323AYJ15	1M	64K x 16	3.3	44-Lead SOJ	15
MCM6323ATS10	1M	64K x 16	3.3	44-Lead TSOP	10
MCM6323ATS12	1M	64K x 16	3.3	44-Lead TSOP	12
MCM6323ATS15	1M	64K x 16	3.3	44-Lead TSOP	15
MCM6926AWJ8	1M	128K x 8	3.3	32-Lead SOJ	8
MCM6926AWJ10	1M	128K x 8	3.3	32-Lead SOJ	10
MCM6926AWJ12	1M	128K x 8	3.3	32-Lead SOJ	12
MCM6926AWJ15	1M	128K x 8	3.3	32-Lead SOJ	15
MCM6929AWJ8	1M	256K x 4	3.3	32-Lead SOJ	8
MCM6929AWJ10	1M	256K x 4	3.3	32-Lead SOJ	10
MCM6929AWJ12	1M	256K x 4	3.3	32-Lead SOJ	12
MCM6929AWJ15	1M	256K x 4	3.3	32-Lead SOJ	15

(19236) (ne11174)

SYNCHRONOUS FAST STATIC RAM

MCM63 devices are CMOS. **MCM69** are BiCMOS. **C** in type number indicates x86 burst count and output register; **F** flow-through burst RAM; **P** pipelined burst RAM.

BURST SRAMs

Type	Density	Organization	V_{CC} (V)	Package	Access Time
MCM69P819TQ3.5	4M	256K x 18	3.3	100-Lead TQFP	3.5
MCM69P819TQ3.8	4M	256K x 18	3.3	100-Lead TQFP	3.8
MCM69F819TQ7.5	4M	256K x 18	3.3	110-Lead TQFP	7.5
MCM69F819TQ8.5	4M	256K x 18	3.3	110-Lead TQFP	8.5
MCM69P737TQ3.0	4M	128K x 36	3.3	110-Lead TQFP	3.0
MCM69P737TQ3.2	4M	128K x 36	3.3	110-Lead TQFP	3.2
MCM69P737TQ3.5	4M	128K x 36	3.3	110-Lead TQFP	3.5
MCM69F737TQ7.5	4M	128K x 36	3.3	100-Lead TQFP	7.5
MCM69F737TQ8.5	4M	128K x 36	3.3	100-Lead TQFP	8.5
MCM63P733ATQ100	4M	128K x 32	3.3	100-Lead TQFP	100MHz
MCM63P733ATQ133	4M	128K x 32	3.3	100-Lead TQFP	133MHz
MCM63P733ATQ150	4M	128K x 32	3.3	100-Lead TQFP	150MHz
MCM63F733ATQ8.5	4M	128K x 32	3.3	100-Lead TQFP	8.5
MCM63F733ATQ10	4M	128K x 32	3.3	100-Lead TQFP	10
MCM63F733ATQ11	4M	128K x 32	3.3	100-Lead TQFP	11
MCM69F618CTQ8	1M	64K x 18	3.3	100-Lead TQFP	8
MCM69F618CTQ9	1M	64K x 18	3.3	100-Lead TQFP	9
MCM69F618CTQ10	1M	64K x 18	3.3	100-Lead TQFP	10
MCM69P618CTQ4.5	1M	64K x 18	3.3	100-Lead TQFP	4.5
MCM69P618CTQ6	1M	64K x 18	3.3	100-Lead TQFP	6
MCM69F536CTQ8	1M	32K x 36	3.3	100-Lead TQFP	8
MCM69F536CTQ9	1M	32K x 36	3.3	100-Lead TQFP	9
MCM69F536CTQ10	1M	32K x 36	3.3	100-Lead TQFP	10
MCM69P536CTQ4.5	1M	32K x 36	3.3	100-Lead TQFP	4.5
MCM69P536CTQ6	1M	32K x 36	3.3	100-Lead TQFP	6

CAM (CONTENT ADDRESSABLE MEMORY) SRAMs

MCM69C432TQ20	CAM	16K x 64	3.3	100-Lead TQFP	180
MCM69C232TQ20	CAM	4K x 64	3.3	100-Lead TQFP	160

INTEGRATED CACHE SRAMs

MPC2605ZP66	Integrated Cache Solutions	32K x 72	3.3	241-Lead PBGA	66MHz

SEPARATE AND DUAL I/O DEVICES

MCM69D536TQ6	1M	32K x 36	3.3	176-Lead TQFP	6
MCM69D536TQ8	1M	32K x 36	3.3	176-Lead TQFP	8
MCM69D618TQ6	1M	64K x 18	3.3	100-Lead TQFP	6
MCM69D618TQ8	1M	64K x 18	3.3	100-Lead TQFP	8

ZBT RAMs

MCM63Z736TQ100	4M	128K x 36	3.3	100-Lead TQFP	100MHz
MCM63Z736TQ133	4M	128K x 36	3.3	100-Lead TQFP	133MHz
MCM63Z737TQ11	4M	128K x 36	3.3	100-Lead TQFP	11
MCM63Z737TQ15	4M	128K x 36	3.3	100-Lead TQFP	15
MCM63Z818TQ100	4M	256K x 18	3.3	100-Lead TQFP	100MHz
MCM63Z818TQ133	4M	256K x 18	3.3	100-Lead TQFP	133MHz
MCM63Z819TQ11	4M	256K x 18	3.3	100-Lead TQFP	11
MCM63Z819TQ15	4M	256K x 18	3.3	100-Lead TQFP	15

(19237) (ne11173)

CMOS LOGIC DEVICES

VHC SERIES VERY HIGH-SPEED CMOS LOGIC

- **Over 60% Faster than HCMOS (Close to FACT)**
- **Very Low Noise (0.3 V_{OLP} Typ.)**
- **Inputs Tolerate Voltages from 0V to 7V (At Any Specified Voltage)**
- **Low Static I_{CC}**
- **8mA Sink/Source Current at V_{CC} = 4.5V (4mA @ V_{CC} = 3.0V)**

VHC series CMOS logic is designed for operation from V_{CC} = 2V-5.5V. Feature 5V-tolerant inputs to aid 3V-5V mixed system designs, when operating at supply voltages less than 5V. Low power, low switching noise, and fast switching speeds make this series perfect for low-power, low-cost portable applications. Latch-up immunity: >±300mA.

Type	Description	Pins	Package
MC74VHC00D	Quad 2-Input NAND Gate	14	SOIC
MC74VHC14D	Hex Schmitt Trigger	14	SOIC
MC74VHC32D	Quad 2-Input OR Gate	14	SOIC
MC74VHC74D	Dual D-Type Flip/Flop	14	SOIC
MC74VHC125D	3-State Quad Buffer, Non-Inverting	14	SOIC
MC74VHC126D	3-State Quad Buffer, Non-Inverting	14	SOIC
MC74VHC132D	Quad 2-Input NAND Gate	14	SOIC
MC74VHC138D	1-of-8 Decoder/Demultiplexer	16	SOIC
MC74VHC139D	Dual 1-of-4 Decoder/Demultiplexer	16	SOIC
MC74VHC157D	Quad 2-Input Multiplexer	16	SOIC
MC74VHC244DT	Octal Buffer, 3-State, Non-Inverting	20	TSSOP
MC74VHC245DT	Octal Transceiver, 3-State, Inverting	20	TSSOP
MC74VHC373DT	Octal Transparent Latch, 3-State, Non-Inverting	20	TSSOP
MC74VHC374DT	Octal D-Type Flip/Flop, 3-State, Non-Inverting	20	TSSOP
MC74VHC393D	Dual 4-Stage Binary Ripple Counter	14	SOIC
MC74VHC540DT	Octal Buffer Flow-Through-Pinout, 3-State, Inverting	20	TSSOP
MC74VHC541DT	Octal Buffer Flow-Through-Pinout, 3-State, Non-Inverting	20	TSSOP
MC74VHC573DT	Octal Transparent Latch Flow-Through-Pinout, 3-State, Non-Inverting	20	TSSOP
MC74VHC574DT	Octal D-Type Flip/Flop Flow-Through-Pinout, 3-State, Non-Inverting	20	TSSOP
MC74VHC595D	8-Bit Serial-Input/Serial- or Parallel-Output Shift Register, 3-State	16	SOIC

(28228) (ne28228)

LCX SERIES LOW-VOLTAGE CMOS LOGIC

- **Designed for 2V to 3.6V V_{CC} Operation**
- **LVTTL and LVCMOS Compatible**
- **±24mA Balanced Output Sink and Source Capability**
- **Near Zero Static Supply Current in All Three Logic States (10µA) Substantially Reduces System Power Requirements**

LCX series 3V CMOS logic features 5V tolerant inputs. Operating temperature: –40°C to +85°C. Latch-up performance exceeds 500mA.

Type	Description	Pins	Package
MC74LCX00D	Quad 2-Input NAND Gate	14	SOIC
MC74LCX02D	Quad 2-Input NOR Gate	14	SOIC
MC74LCX04D	Hex Inverter	14	SOIC
MC74LCX08D	Quad 2-Input AND Gate	14	SOIC
MC74LCX32D	Quad 2-Input OR Gate	14	SOIC
MC74LCX74D	Dual D-Type Flip/Flop	14	SOIC
MC74LCX125D	3-State Quad Buffer	14	SOIC
MC74LCX138D	1-of-8 Decoder/Demultiplexer	16	SOIC
MC74LCX157D	Quad 2-Input Multiplexer	16	SOIC
MC74LCX244DT	Octal 3-State Buffer, Non-Inverting	20	TSSOP
MC74LCX245DT	Octal Transceiver, 3-State, Non-Inverting	20	TSSOP
MC74LCX373DT	Octal Transparent Latch, 3-State, Non-Inverting	20	TSSOP
MC74LCX374DT	Octal D-Type Flip/Flop, 3-State, Non-Inverting	20	TSSOP
MC74LCX540DT	Octal Buffer, Flow-Through-Pinout, 3-State, Inverting	20	TSSOP
MC74LCX541DT	Octal Buffer, Flow-Through-Pinout, 3-State, Non-Inverting	20	TSSOP
MC74LCX573DT	Octal Transparent Latch Flow-Through-Pinout, 3-State, Non-Inverting	20	TSSOP
MC74LCX574DT	Octal D-Type Flip/Flop Flow-Through-Pinout, 3-State, Non-Inverting	20	TSSOP
MC74LCX652DW	Octal Bus Transceiver	24	SOIC
MC74LCX16240ADT	16-Bit Buffer, 3-State, Inverting	48	TSSOP
MC74LCX16244DT	16-Bit Buffer, 3-State, Non-Inverting	48	TSSOP
MC74LCX16245DT	16-Bit Transceiver, 3-State, Non-Inverting	48	TSSOP
MC74LCX16373DT	16-Bit Transparent Latch, 3-State, Non-Inverting	48	TSSOP
MC74LCX16374DT	16-Bit D-Type Flip/Flop, 3-State, Non-Inverting	48	TSSOP

(28229) (ne28229)

LVX SERIES LOW-VOLTAGE CMOS LOGIC

- **Low-Voltage Operation: 2.0V to 3.6V V_{CC}**
- **Balanced ±4mA Output Drive Capability**
- **High-Speed Operation: 4.7ns Typ. V_{CC} = 3.3V**
- **Low Power Consumption: I_{CC} = 4µA @ 25°C**
- **Low Noise Performance: V_{OLP} = 0.5V Typ.**

Motorola's new **LVX series** features 5V-tolerant inputs. Operating temperature: –40°C to +85°C. Latch-up immunity: >±300mA.

Type	Description	Pins	Package
MC74LVX00D	Quad 2-Input NAND Gate	14	SOIC
MC74LVX02D	Quad 2-Input NOR Gate	14	SOIC
MC74LVX04D	Hex Inverter	14	SOIC
MC74LVX08D	Quad 2-Input AND Gate	14	SOIC
MC74LVX14D	Hex Schmitt Trigger	14	SOIC
MC74LVX32D	Quad 2-Input Positive OR Gate	14	SOIC
MC74LVX74D	Dual D-Type Flip/Flop	14	SOIC
MC74LVX125D	3-State Quad Buffer, Non-Inverting	14	SOIC
MC74LVX138D	1-of-8 Decoder/Demultiplexer	16	SOIC
MC74LVX157D	Quad 2-Input Multiplexer	16	SOIC
MC74LVX240DT	Octal Buffer, 3-State, Inverting	20	TSSOP
MC74LVX244DT	Octal Buffer, 3-State, Non-Inverting	20	TSSOP
MC74LVX245DT	Octal Transceiver, 3-State, Inverting	20	TSSOP
MC74LVX373DT	Octal Transparent Latch, 3-State, Non-Inverting	20	TSSOP
MC74LVX374DT	Octal D-Type Flip/Flop, 3-State, Non-Inverting	20	TSSOP
MC74LVX573DT	Octal Transparent Latch Flow-Through-Pinout, 3-State, Non-Inverting	20	TSSOP

(28230) (ne28230)

PRICES LISTED AT THE BEGINNING OF THE SECTION.

ECLinPS LOGIC DEVICES

LOW-VOLTAGE ECLinPS AND ECLinPS LITE LOGIC DEVICES

Type	Description	Package
MC100LVE111FN	1:9 Fanout Buffer	28-Pin PLCC
MC100LVE164FA	16:1 Multiplexer	32-Pin TQFP
MC100LVE210FN	1:4 and 1:5 Fanout Buffer	28-Pin PLCC
MC100LVE222FA	1:15 Fanout Buffer	52-Pin TQFP
MC100LVE310FN	2:8 Fanout Buffer	28-Pin PLCC
MC100LVEL13DW	Dual 1:3 Fanout Buffer	20-Pin SOIC
MC100LVEL14DW	1:5 Fanout Buffer	20-Pin SOIC
MC100LVEL17DW	Quad Differential Line Receiver	20-Pin SOIC
MC100LVEL29DW	Dual Differential D-Type Flip/Flop	20-Pin SOIC
MC100LVEL30DW	Triple D-Type Flip/Flop	20-Pin SOIC
MC100LVEL38DW	÷2, ÷4/÷6 Clock Driver	20-Pin SOIC
MC100LVEL39DW	ECL to PECL Translator	28-Pin PLCC
MC100LVEL56DW	Dual Differential 2:1 Multiplexer	20-Pin SOIC
MC100LVEL59DW	Triple 2:1 Multiplexer	20-Pin SOIC
MC100LVEL90DW	ECL to PECL Translator	20-Pin SOIC
MC100LVEL91DW	PECL to ECL Translator	20-Pin SOIC
MC100LVEL92DW	PECL to LVPECL Translator	20-Pin SOIC
MC100LVEL01D	4-Input OR/NOR	8-Pin SOIC
MC100LVEL11D	1:2 Fanout Buffer	8-Pin SOIC
MC100LVEL16D	Differential Receiver	8-Pin SOIC
MC100LVEL31D	D-Type Flip/Flop with Set and Rest	8-Pin SOIC
MC100LVEL32D	÷2 Divider	8-Pin SOIC
MC100LVEL33D	÷4 Divider	8-Pin SOIC
MC100LVEL51D	D-Type Flip/Flop	8-Pin SOIC

(38973) (ne38973)

ECLinPS LITE TRANSLATORS

Type	Description	Package
MC10ELT20D	TTL/Differential PECL Translator	8-Pin SOIC
MC100ELT20D	TTL/Differential PECL Translator	8-Pin SOIC
MC10ELT21D	Differential PECL/TTL Translator	8-Pin SOIC
MC100ELT21D	Differential PECL/TTL Translator	8-Pin SOIC
MC10ELT22D	Dual TTL/Differential PECL Translator	8-Pin SOIC
MC100ELT22D	Dual TTL/Differential PECL Translator	8-Pin SOIC
MC100ELT23D	Dual Differential PECL/TTL Translator	8-Pin SOIC
MC10ELT24D	TTL/Differential ECL Translator	8-Pin SOIC
MC100ELT24D	TTL/Differential ECL Translator	8-Pin SOIC
MC10ELT25D	Differential ECL/TTL Translator	8-Pin SOIC
MC100ELT25D	Differential ECL/TTL Translator	8-Pin SOIC
MC10ELT28D	TTL to Diff. PECL/Diff. PECL to TTL Translator	8-Pin SOIC
MC100ELT28D	TTL to Diff. PECL/Diff. PECL to TTL Translator	8-Pin SOIC
	LOW-VOLTAGE	
MC100LVELT22D	Dual TTL/Differential PECL Translator	8-Pin SOIC

(39170) (ne39170)

ADVANTAGES

- HIGHEST LOGIC SPEED FORM AVAILABLE
- CONSTANT SUPPLY CURRENT AS A FUNTIONS OF FREQUENCY OR LOGIC STATE. NEWER FORMS HOLD CURRENT AS A FUNCTION OF POWER SUPPLY
- COMPLEMENTARY OUTPUTS ON SAME FUNCTION
- LOW NOISE GENERATION
- COMMON MODE REJECTION OF 1V OR MORE ON THE LINE RECEIVERS
- MINIMAL DEGRADATION OF PERFORMANCE AS A FUNCTION OF TEMPERATURE OR POWER SUPPLY VARIATIONS
- HIGH ACCURACY AND MINIMAL JITTER GENERATION

(42470) (bmot1)

BOUNCE ELIMINATOR

Description	Tech.	Type	Pins	Package
Hex Contact	CMOS	MC14490P	16	PDIP
	CMOS	MC14490DW	16	SOIC

(4277) (ne09537)

BUFFERS

Description	Tech.	Type	Pins	Package
Low-Voltage Dual 1:4, 1:5 Diff. Fanout, ECL/PCL Compatible	ECL	MC100E210FN	28	PLCC

(4278) (ne09538)

BUS INTERFACE

Description	Tech.	Type	Pins	Package
Hex 3-St. Non-Inv. w/ Sep. 2- and 4-Bit Sections	CMOS	MC74HC367AN	16	PDIP
Hex with 3-State Outputs (Non-Inv.)	CMOS	MC14503BD	16	SOIC
Hex w/ 3-State Outputs Non-Inv. Buffer w/ Separate 2- and 4-Bit Sections	CMOS	MC74HC365AN	16	PDIP
Octal Bidirectional Transceiver with 3-State Inputs/Outputs	CMOS	MC74AC245N	20	PDIP
	CMOS	MC74AC245DW	20	SOIC
Octal Buffer/Line Driver with 3-State Outputs	CMOS	MC74AC244N	20	PDIP
	CMOS	MC74AC540N	20	PDIP
	CMOS	MC74AC541N	20	PDIP
Octal with 3-State Outputs Inverting Buffer/Line Driver/Line Receiver	CMOS	MC74HC240AN	20	PDIP
	CMOS	MC74HC540AN	20	PDIP
Octal w/ 3-St. Outputs Inv. Bus Xcvr	CMOS	MC74HC640AN	20	PDIP
Octal with 3-State Outputs Non-Inverting Buffer/Line Driver/Line Rcvr	CMOS	MC74HC541AN	20	PDIP
Octal with 3-State Outputs Non-Inverting Bus Transceiver	CMOS	MC74HC245AN	20	PDIP
	CMOS	MC74HC245ADW	20	SOIC
Octal with 3-State Outputs Non-Inverting Bus Transceiver and D F/F	CMOS	MC74HC646N	24	PDIP
Quad 3-State Non-Inverting Buffers	CMOS	MC74HC125AN	14	PDIP
	CMOS	MC74HC126AN	14	PDIP
Quad Bus Driver	ECL	MC10192P	16	PDIP
	ECL	MC10192L	16	CerDIP

(9903) (ne09539)

CLOCK DISTRIBUTION CHIPS

Description	Tech.	Type	Pins	Package
1:4	ECL	MC10EL15D	16	SOIC
	ECL	MC100EL15D	16	SOIC
	ECL	MC100EL15DR2	16	SOIC
Low-Voltage 1:9 ECL/PECL	ECL	MC100LVE111FN	28	PLCC

(4279) (ne09540)

CLOCK DRIVERS

Description	Tech.	Type	Pins	Package
1:2 Differential	ECL	MC10EL11D	8	SOIC
	ECL	MC100EL11D	8	SOIC
1:9 Diff. w/ Low Skew, Enable, V_{BB}	ECL	MC10E111FNR2	28	PLCC
1.9 Differential ECL/PECL RAMBus Clock Buffer	ECL	MC10E411FN	28	PLCC
+2, 4.8 Differential	ECL	MC10EL34D	16	SOIC

(4280) (ne09541)

COMPARATORS

Description	Tech.	Type	Pins	Package
4-Bit Magnitude	CMOS	MC74HC85N	16	PDIP
5-Bit Magnitude	ECL	MC10H166L	16	CerDIP
8-Bit Equality	CMOS	MC74HC688N	20	PDIP
Dual Analog with Latch	ECL	MC10E1651FN	20	PLCC
Dual Analog w/ Latch (Hi-Perf MC1651)	ECL	MC10E1652FN	20	PLCC

(4282) (ne09543)

CONVERTERS

Description	Tech.	Type	Pins	Package
Dual A/D	ECL	MC1650L	16	CerDIP
	ECL	MC1651L	16	CerDIP

(9886) (ne09544)

COUNTERS

Description	Tech.	Type	Pins	Package
12-Bit Binary	CMOS	MC14040BD	16	SOIC
12-Stage Binary Ripple Counter	CMOS	MC74HC4040AN	16	PDIP
	CMOS	MC74HC4040AD	16	SOIC
14-Bit Binary	CMOS	MC14020BD	16	SOIC
14-Bit Binary Counter and Oscillator	CMOS	MC14060BD	16	SOIC
7-Stage Ripple	CMOS	MC14024BD	14	SOIC
8-Bit Synchronous Binary Up	ECL	MC10E016FN	28	PLCC
	ECL	MC100E016FN	28	PLCC
Decade	CMOS	MC14017BD	16	SOIC
	CMOS	MC74HC4017N	16	PDIP
	CMOS	MC74HC4017D	16	SOIC
Dual 4-Stage Binary Ripple	CMOS	MC74HC393N	14	PDIP
Dual 4-Stage Binary Ripple, W+2, +5 Sections	CMOS	MC54HC390J	16	CerDIP
	CMOS	MC74HC390N	16	PDIP
	CMOS	MC74HC390D	16	SOIC
Presettable	CMOS	MC74HC161AN	16	PDIP
	CMOS	MC74HC161AD	16	SOIC
Universal Hexadecimal	ECL	MC10H136L	16	CerDIP
	ECL	MC10136P	16	PDIP

(9867) (ne09545)

DETECTORS

Description	Tech.	Type	Pins	Package
Phase-Frequency	ECL	MC12040P	14	PDIP
	ECL	MCH12140D	8	SOIC

(4266) (ne09524)

DIVIDERS

Description	Tech.	Type	Pins	Package
+2 Divider	ECL	MC10EL32D	8	SOIC
	ECL	MC100EL32D	8	SOIC
+4 Divider	ECL	MC10EL33D	8	SOIC
	ECL	MC100EL33D	8	SOIC

(4268) (ne09526)

NEW PRODUCTS ARE BEING ADDED TO OUR INVENTORY EVERY DAY.
CALL NEWARK FOR INFORMATION ON WHAT'S CURRENTLY IN STOCK.

LOGIC DEVICES

DRIVERS

Description	Tech.	Type	Pins	Package
Coaxial Cable Driver	ECL	**MC10EL89D**	8	SOIC

(4269) (ne09527)

ENCODERS

Description	Tech.	Type	Pins	Package
Decimal-to-BCD	CMOS	**MC74HC147N**	16	PDIP
	CMOS	**MC74HC147D**	16	SOIC

(4270) (ne09528)

FLIP-FLOPS

Description	Tech.	Type	Pins	Package
Dual Type-D Master-Slave	ECL	**MC10131P**	16	PDIP
	ECL	**MC10H131P**	16	PDIP
J-K	ECL	**MC100EL35D**	8	SOIC
Master-Slave	ECL	**MC1670L**	16	CerDIP
Octal D-Type with 3-State Outputs	CMOS	**MC74AC374N**	20	PDIP
Octal with 3-State Outputs Non-Inverting D	CMOS	**MC74HC574AN**	20	PDIP
Quad D w/Common Clock and Reset	CMOS	**MC74HC175N**	16	PDIP
Quad, 3-St. Outputs, Common Clock & Reset	CMOS	**MC74HC173N**	16	PDIP
4-Bit D Individual Clock,	ECL	**MC10E131FN**	28	PLCC
Reset Differential Output	ECL	**MC100E131FN**	28	PLCC
5-Bit Differential Register	ECL	**MC100E452FN**	28	PLCC
6-Bit Register w/Common Clock, Asynch. Master Reset, Diff. Outputs	ECL	**MC100E151FN**	28	PLCC
Differential Data and Clock	ECL	**MC100EL52D**	8	SOIC
Dual D	CMOS	**MC74AC74N**	14	PDIP
Dual D w/Set and Reset	CMOS	**MC74HC74AN**	14	PDIP
Dual Diff. Data & Clock w/Set / Reset	ECL	**MC100EL29DW**	20	SOIC
Dual J-K w/Reset	CMOS	**MC74HC107N**	14	PDIP
Dual J-K Master-Slaye	ECL	**MC10135L**	16	CerDIP

(9863) (ne09502)

AND/NAND GATES

Description	Tech.	Type	Pins	Package
13-Input NAND	CMOS	**MC74HC133N**	16	PDIP
8-Input NAND	CMOS	**MC74HC30N**	14	PDIP
Dual 4-Input NAND	CMOS	**MC74AC20N**	14	PDIP
	CMOS	**MC74HC20N**	14	PDIP
Quad 2-Input AND	CMOS	**MC74AC08N**	14	PDIP
	CMOS	**MC74HC08AN**	14	PDIP
	ECL	**MC10104P**	16	PDIP
	CMOS	**MC14081BD**	14	SOIC
Quad 2-Input NAND	CMOS	**MC74AC00N**	14	PDIP
	CMOS	**MC74HC00AN**	14	PDIP
	CMOS	**MC14011BD**	14	SOIC
Quad 2-Input NAND (Unbuffered)	CMOS	**MC14011UBD**	14	SOIC
Quad 2-Input NAND with Open-Drain Outputs	CMOS	**MC74HC03AN**	14	PDIP
	CMOS	**MC74HC03AD**	14	SOIC
Triple 3-Input AND	CMOS	**MC74AC11N**	14	PDIP
	CMOS	**MC74HC11N**	14	PDIP
Triple 3-Input NAND	CMOS	**MC74HC10N**	14	PDIP
	CMOS	**MC14023BD**	14	SOIC

(4259) (ne09503)

COMPLEX GATES

Description	Tech.	Type	Pins	Package
2-Input AND/NAND	ECL	**MC10EL04D**	8	SOIC
	ECL	**MC100EL04D**	8	SOIC
2-Input Differential AND/NAND	ECL	**MC10EL05D**	8	SOIC
	ECL	**MC100EL05D**	8	SOIC
2-Input XOR/NOR	ECL	**MC10EL07D**	8	SOIC
4-Input OR/NOR	ECL	**MC10EL01D**	8	SOIC
	ECL	**MC100EL01D**	8	SOIC
Dual 4-Input OR/NOR	ECL	**MC1660L**	16	CerDIP
Quad OR/NOR	ECL	**MC10H101P**	16	PDIP
	ECL	**MC10101P**	16	PDIP
Quint 2-Input AND/NAND	ECL	**MC100E104FN**	28	PLCC
Triple 2-3-2 Input OR/NOR	ECL	**MC10105P**	16	PDIP
Triple 2-Input Exclusive OR/Exclusive NOR	ECL	**MC10H107P**	16	PDIP

(4260) (ne09504)

EXCLUSIVE OR/EXCLUSIVE NOR GATES

Description	Tech.	Type	Pins	Package
Quad Exclusive OR	CMOS	**MC14070BD**	14	SOIC
Quad Exclusive NOR	CMOS	**MC14077BD**	14	SOIC

(4297) (ne09581)

NOR GATES

Description	Tech.	Type	Pins	Package
Dual 4-Input	CMOS	**MC74HC4002N**	14	PDIP
Quad 2-Input	CMOS	**MC74AC02N**	14	PDIP
	CMOS	**MC74HC02AN**	14	PDIP
	CMOS	**MC74HC02AD**	14	SOIC
	ECL	**MC10H102P**	16	PDIP
	ECL	**MC10102P**	16	PDIP
	CMOS	**MC14001BD**	14	SOIC
Triple 3-Input	CMOS	**MC74HC27N**	14	PDIP

(4298) (ne09582)

OR GATES

Description	Tech.	Type	Pins	Package
Quad 2-Input	CMOS	**MC74AC32D**	14	SOIC
	CMOS	**MC74HC32AN**	14	PDIP
	CMOS	**MC74HC32AD**	14	SOIC
	CMOS	**MC14071BD**	14	SOIC

(4299) (ne09583)

2-STATE INVERTER/BUFFERS

Description	Tech.	Type	Pins	Package
Hex Inverter	CMOS	**MC74AC04N**	14	PDIP
	CMOS	**MC74HC04AN**	14	PDIP
	CMOS	**MC74HC04ADT**	14	TSSOP
Hex Inverter Gate (Unbuffered)	CMOS	**MC14069UBD**	14	SOIC
Hex Inverter with Open-Drain Outputs	CMOS	**MC74AC05N**	14	PDIP
Hex Inverter/Buffer	CMOS	**MC14049BD**	16	SOIC
Hex Inverting Buffer/Logic-Level Down Converter	CMOS	**MC74HC4049N**	16	PDIP
	CMOS	**MC74HC4049D**	16	SOIC
Hex Non-Inverting Buffer/Logic-Level Down Converter	CMOS	**MC74HC4050N**	16	PDIP
	CMOS	**MC74HC4050D**	16	SOIC

(4300) (ne09584)

LATCHES

Description	Tech.	Type	Pins	Package
Dual 2-Bit Transparent	CMOS	**MC74HC75N**	16	PDIP
Octal D with 3-State Outputs	CMOS	**MC74AC573DW**	20	SOIC
Octal Transparent with 3-State Outputs	CMOS	**MC74AC373N**	20	PDIP
Quad NOR R-S	CMOS	**MC14043BD**	16	PDIP

(4301) (ne09585)

MULTIPLEXERS/DATA SELECTORS

Description	Tech.	Type	Pins	Package
Dual 4-Channel Analog Mux/Demux	CMOS	**MC74HC4052N**	16	PDIP
	CMOS	**MC14052BD**	16	SOIC
Dual 4-Input Data Selector/Mux	CMOS	**MC74HC153N**	16	PDIP
	CMOS	**MC74HC153D**	16	SOIC
Dual 4-Input Data Selector/Mux with 3-State Outputs	CMOS	**MC74HC253N**	16	PDIP
Quad 2-Channel Analog Mux/Demux	CMOS	**MC14551BD**	16	SOIC
Quad 2-Input Data Selector/Mux with 3-State Outputs	CMOS	**MC74HC257N**	16	PDIP
Quad 2-Input Data Selectors/Mux	CMOS	**MC74HC157AN**	16	PDIP
Quad 2:1 Mux, Individual-Select	ECL	**MC10E157FN**	28	PLCC
Quad Analog Switch/Multiplexer	CMOS	**MC14016BD**	14	SOIC
	CMOS	**MC14066BD**	14	SOIC
Quad Analog Switch/Mux/Demux	CMOS	**MC74HC4066N**	14	PDIP
	CMOS	**MC74HC4066D**	14	SOIC
Quad Analog Switch/Mux/Demux w/Sep. Analog/Digital Power Supplies	CMOS	**MC74HC4316N**	16	PDIP
	CMOS	**MC74HC4316D**	16	SOIC
Triple 2-Channel Analog/Mux/Demux	CMOS	**MC74HC4053N**	16	PDIP
	CMOS	**MC14053BD**	16	SOIC
Triple Differential 2:1 Multiplexer	ECL	**MC10E457FN**	28	PLCC
1-of-8 Decoder/Demultiplexer	CMOS	**MC74AC151N**	16	PDIP
2:1 Multiplexer	ECL	**MC10EL58D**	8	SOIC
4:1 Differential Multiplexer	ECL	**MC10EL57D**	16	SOIC
8-Channel Analog Mux/Demux	CMOS	**MC74HC4051N**	16	PDIP
	CMOS	**MC14051BD**	16	SOIC
8-Input Data Selector/Multiplexer	CMOS	**MC74HC151N**	16	PDIP
8-Input Selector/Mux w/ 3-St. Outputs	CMOS	**MC74HC251N**	16	PDIP
8-Line Multiplexer	ECL	**MC10H164L**	16	CerDIP

(9904) (ne09594)

LOGIC DEVICES

MULTIVIBRATORS

Description	Tech.	Type	Pins	Package
Dual Prec. Mono. (Retrig., Reset.)	CMOS	**MC74HC4538AN**	16	PDIP
Dual Precision Monostable	CMOS	**MC14538BD**	16	SOIC
	CMOS	**MC14538BCP**	16	SOIC
Voltage Controlled	ECL	**MC1658P**	16	PDIP

(4309) (ne09595)

OSCILLATORS

Description	Tech.	Type	Pins	Package
7-Stage Binary Ripple Counter	CMOS	**MC74HC4024N**	14	PDIP
Low Power, Voltage Controlled	ECL	**MC12148D**	8	SOIC
Voltage Controlled	ECL	**MC1648P**	14	PDIP

(4310) (ne09596)

OSCILLATOR/TIMER

Description	Tech.	Type	Pins	Package
Programmable Timer	CMOS	**MC14536BDW**	16	SOIC

(4311) (ne09597)

PARITY CHECKERS

Description	Tech.	Type	Pins	Package
9-Bit Odd/Even Parity Generator/Checker	CMOS	**MC74HC280N**	14	PDIP

(4312) (ne09598)

PHASE-LOCKED LOOP

Description	Tech.	Type	Pins	Package
Phase-Locked Loop	CMOS	**MC14046BDW**	16	SOIC

(4313) (ne09599)

PRESCALERS

Description	Tech.	Type	Pins	Package
1.1GHz ÷2/4/8 Low Power w/ Stand-By Mode	ECL	**MC12093D**	8	SOIC
225MHz ÷20/21 Dual Modulus	ECL	**MC12019P**	8	PDIP

(4314) (ne09600)

PROGRAMMABLE DELAY CHIPS

Description	Tech.	Type	Pins	Package
Dig 80ps Anal. 1.6 Ps/mv	ECL	**MC100E196FN**	28	PLCC
Digitally Selectable 20ps Res.	ECL	**MC10E195FN**	28	PLCC
Digitally Selectable 20ps Res.	ECL	**MC100E195FN**	28	PLCC

(4315) (ne09601)

RECEIVERS

Description	Tech.	Type	Pins	Package
Quad Line	ECL	**MC10H115P**	16	PDIP
Quint Differential Line	ECL	**MC10E116FN**	28	PLCC
	ECL	**MC100E116FN**	28	PLCC
	ECL	**MC100E416FN**	28	PLCC
Triple Line	ECL	**MC10H116P**	16	PDIP
Differential	ECL	**MC10EL16D**	8	SOIC
	ECL	**MC100EL16D**	8	SOIC

(4316) (ne09602)

REGISTERS

Description	Tech.	Type	Pins	Package
4 x 4 Multiport	CMOS	**MC14580BCP**	24	PDIP

(37770) (ne37770)

SCHMITT TRIGGERS

Description	Tech.	Type	Pins	Package
Hex Inverter	CMOS	**MC74AC14N**	14	PDIP
Hex Schmitt Trigger Inverter	CMOS	**MC74HC14AN**	14	PDIP
Quad 2-Input NAND Gate	CMOS	**MC74HC132AN**	14	PDIP
with Schmitt Trigger Inputs	CMOS	**MC74HC132AD**	14	SOIC

(4318) (ne09604)

SHIFT REGISTERS

Description	Tech.	Type	Pins	Package
8-Bit Bidirect. Universal w/ Parallel I/O	CMOS	**MC74HC299N**	20	PDIP
8-Bit Serial or Parallel Input/Serial Output w/ 3-St. Outputs	CMOS	**MC74HC589AN**	16	PDIP
8-Bit Serial Input/Serial or Parallel Output with Latched 3-State Outputs	CMOS	**MC74HC595AN**	16	PDIP
	CMOS	**MC74HC595AD**	16	SOIC
8-Bit	ECL	**MC100E141FN**	28	PLCC
8-Bit Static	CMOS	**MC14021BD**	16	SOIC
8-Stage Shift/Storage Register w/ 3-St. Outputs	CMOS	**MC14094BD**	16	SOIC

(4320) (ne09606)

SYNTHESIZERS

Description	Tech.	Type	Pins	Package
2.7GHz Frequency	ECL	**MC12179D**	8	SOIC

(4283) (ne09550)

TRANSLATORS

Description	Tech.	Type	Pins	Package
9-Bit TTL/ECL	ECL	**MC100H600FN**	28	PLCC
ECL/TTL (Single P.S. @ +5.0V)	ECL	**MC10H350FN**	16	PLCC
9-Bit Latch ECL/TTL	ECL	**MC10H603FN**	28	PLCC
Quad MECL/TTL	ECL	**MC10H125P**	16	PDIP
	ECL	**MC10125P**	16	PDIP
Quad TTL/MECL	ECL	**MC10124P**	16	PDIP
Quad TTL/MECL with TTL Strobe Input	ECL	**MC10H124P**	16	PDIP
Quad TTL/NMOS-to-PECL (Single P.S. @ +5.0V)	ECL	**MC10H350P**	16	PDIP
	ECL	**MC10H351L**	20	CerDIP
	ECL	**MC10H351P**	20	PDIP
	ECL	**MC10H351FN**	20	PLCC
Registered Hex ECL/TTL	ECL	**MC100H605FN**	28	PLCC
Registered Hex TTL/ECL	ECL	**MC10H604FN**	28	PLCC

(4321) (ne09607)

VCO

Description	Tech.	Type	Pins	Package
Phased-Locked Loop with VCO	CMOS	**MC74HC4046AN**	16	PDIP

(4322) (ne09608)

THIS NEWARK CATALOG IS AVAILABLE ON CD-ROM!
CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR DETAILS.

POWER MANAGEMENT ICs

SWITCHING REGULATOR CONTROL CIRCUITS

EASY SWITCHER SERIES SINGLE-ENDED CONTROLLERS WITH ON-CHIP SWITCH

Ideally suited for easy, convenient deisgn of step-down switching regulators (buck converters) with a number of external components. Other voltages available; *contact your local Newark sales office.*

Type	I_O Max. (mA)	Operating Voltage Min. (V)	Oscillator Frequency* (kHz)	Output Voltage (V)	T_J (°C)	Package
LM2574N-3.3	500	4.75 to 40	52	3.3	–40 to +125	PDIP
LM2574N-005	500	8.0 to 40	52	5.0	–40 to +125	PDIP
LM2574N-012	500	15 to 40	52	12	–40 to +125	PDIP
LM2574N-015	500	18 to 40	52	15	–40 to +125	PDIP
LM2575T-005	1000	8.0 to 40	52	5.0	–40 to +125	Mesa PAK
LM2575T-012	1000	15 to 40	52	12	–40 to +125	Mesa PAK
LM2575TV-005	1000	8.0 to 40	52	5.0	–40 to +125	Mesa PAK
LM2575D2T-005	1000	8.0 to 40	52	5.0	–40 to +125	D^2PAK
LM2576T-005	3000	8.0 to 40	52	5.0	–40 to +125	Mesa PAK
LM2576T-012	3000	15 to 40	52	12	–40 to +125	Mesa PAK
LM2576TV-005	3000	8.0 to 40	52	5.0	–40 to +125	Mesa PAK
LM2576D2T-005	3000	8.0 to 40	52	5.0	–40 to +125	D^2PAK

* Fixed internal.

GreenLine™ PWM CONTROLLERS

Type MC44604 is a high-safety, standby ladder mode, single-ended PWM controller, specifically designed for off-line and DC-to-DC converter applications. **Type MC44605** is high-safety, latched mode, current mode PWM controller, designed specifically for off-line converters. Particularly suitable for multisynchronized monitor applications.

Type	Temperature Range	Package
MC44604P	–25° to +85°	16-Pin PDIP
MC44605P	–25° to +85°	16-Pin PDIP

VERY HIGH VOLTAGE SINGLE-ENDED CONTROLLER WITH ON-CHIP POWER SWITCH

Type	Power Switch Max. Rating V_{DS} (V)	Power Switch Max. Rating I_{DS} (mA)	Startup Input Max. (V)	Max. Useful Osc. Freq. (kHz)	Feedback Threshold (V)	T_J (°C)	Package
MC33362DW	500	2000	250	1000	2.6±3.1%	–25 to +125	WSOIC
MC33363P	700	1000	450	...	...	...	PDIP
MC33363DW	700	1000	450	...	...	...	WSOIC

CMOS MICROPOWER DC-to-DC CONVETERS

Variable frequency, external switch drive. Operating temperature: T_A=–30°C to +80°C.

Type	Output Voltage (V)	Package
MC33463H-30LT1	3.0	SOT-89
MC33463H-33LT1	3.3	SOT-89
MC33463H-50LT1	5.0	SOT-89

Fixed frequency, PWM micropower, external switch drive. Operating temperature: T_A=–30°C to +80°C.

MC33466H-30LT1	3.0	SOT-89
MC33466H-33LT1	3.3	SOT-89
MC33466H-50LT1	5.0	SOT-89

CRITICAL CONDUCTION SMPS CONTROLLER

MC33364 series are variable frequency SMPS controllers that operate in the critical conduction mode. Optimized for low-power, high-density power supplies that require minimum board area, reduced component count, and low power dissipation.

Stock No.	Type	Operating Temperature	Package	Each
48F4046	MC33364D	–25°C to +125°C.	16-Pin SOIC	1.59
48F4047	MC33364D1	–25°C to +125°C.	8-Pin SOIC	1.59
48F4048	MC33364D2	–25°C to +125°C.	8-Pin SOIC	1.59

SPECIAL SWITCHING REGULATOR CONTROLLERS

POWER FACTOR CONTROLLERS

Type MC33368 is an active power factor controller that functions as a boost converter in off-line power supply applications. Optimized for low-power, high density power supplies that require minimum board area, reduced component count, and low power dissipation.

Type	Operating Temperature	Package
MC33368D	–25°C to +125°C	16-Pin SOIC

(39172) (ne39172)

VERY LOW DROPOUT VOLTAGE REGULATORS

Type L4949 is a monolithic, integrated, 5.0V voltage regulator with a very low dropout, and additional functions such as power-on reset and input voltage sense.

Type	Temperature Range	Package
L4949D	–40°C to +125°C	8-Pin SOIC
L4949N	–40°C to +125°C	8-Pin PDIP

(39381) (ne39381)

MICROPOWER VOLTAGE REGULATORS FOR PORTABLE APPLICATIONS

Other voltages are also available; *contact your local Newark sales office.*

80mA MICROPOWER VOLTAGE REGULATORS

Type	Output Voltage (V)	Operating Temperature	Package
MC78LC30HT1	3.0	–30°C to +80°C	SOT-89
MC78LC33HT1	3.3	–30°C to +80°C	SOT-89
MC78LC30NTR	3.0	–30°C to +80°C	SOT-23
MC78LC33NTR	3.3	–30°C to +80°C	SOT-23

120mA MICROPOWER VOLTAGE REGULATORS

MC78FC30HT1	3.0	–30°C to +80°C	SOT-89
MC78FC50HT1	5.0	–30°C to +80°C	SOT-89

MICROPOWER VOLTAGE REGULATORS FOR EXTERNAL POWER TRANSISTOR

MC78BC30NTR	3.0	–30°C to +80°C	SOT-23
MC78BC50NTR	5.0	–30°C to +80°C	SOT-23

MICROPOWER smallCAP™ VOLTAGE REGULATORS WITH ON/OFF CONTROL

MC33264D-3.3	3.3	–40°C to +85°C	SO-8
MC33264D-5.0	5.0	–40°C to +85°C	SO-8

(39382) (ne39382)

VOLTAGE SUPERVISORY CIRCUITS

Other voltages available; *contact your local Newark sales office.*

MICROPOWER UNDERVOLTAGE SENSING CIRCUITS

Type	Threshold Voltage (V)	Description	Operating Temperature	Package
MC33464H-20AT1	2.0	Open Drain Reset	–30°C to +80°C	SOT-89
MC33464H-45AT1	4.5	Open Drain Reset	–30°C to +80°C	SOT-89
MC33464H-20CT1	2.0	Compl. MOS Reset	–30°C to +80°C	SOT-89
MC33464H-45CT1	4.5	Compl. MOS Reset	–30°C to +80°C	SOT-89

MICROPOWER UNDERVOLTAGE SENSING CIRCUITS WITH PROGRAMMABLE OUTPUT DELAY

MC33465N-20ATR	2.0	Open Drain Reset	–30°C to +80°C	SOT-23
MC33465N-45ATR	4.5	Open Drain Reset	–30°C to +80°C	SOT-23
MC33465N-20CTR	2.0	Compl. MOS Reset	–30°C to +80°C	SOT-23
MC33465N-45CTR	4.5	Compl. MOS Reset	–30°C to +80°C	SOT-23

UNDERVOLTAGE SENSE/RESET CONTROLLER

Type	Standard Power Supply Supported	Threshold Voltage Typ. (V)	Operating Temperature	Package
MC33064P-5	5.0V±5%	4.6	–40°C to +85°C	TO-92

(39383) (ne39383)

BATTERY MANAGEMENT CIRCUITS

BATTERY FAST CHARGE CONTROLLER

Type MC33340 is a monolithic control IC, specifically designed as a fast charge controller for Nickel Cadmium (NiCd) and Nickel Metal Hydride (NiMH) batteries.

Type	Operating Temperature	Package
MC33340D	–25°C to +85°C	8-Pin SOIC
MC33340P	–25°C to +85°C	8-Pin PDIP

POWER SUPPLY BATTERY CHARGER REGULATION CONTROL UNIT

Type MC33341 is a monolithic, regulation control circuit specifically designed to close the voltage and current feedback loops in power supply and battery charger applications.

Type	Operating Temperature	Package
MC33341D	–25°C to +85°C	8-Pin SOIC
MC33341P	–25°C to +85°C	8-Pin PDIP

LITHIUM BATTERY PROTECTION CIRCUIT FOR ONE CELL BATTERY PACKS

Operating temperature: –25°C to +85°C.

Type	Charge Overvoltage Threshold (V)	Charge Overvoltage Hysteresis (mV)	Discharge Undervoltage Threshold (V)	Discharge Current Limit Threshold (mV)	Package
MC33348D-001	4.20	300	2.25	400	SO-8
MC33348D-002	4.20	300	2.25	200	SO-8

(39385) (ne39385)

ALL PRODUCTS LISTED ARE STOCKED.

AMPLIFIERS AND COMPARATORS

SINGLE OPERATIONAL AMPLIFIERS

"I" in description means industrial temperature range (–40°C to +85°C); "C" means commercial temperature range (0 to +70°C).

NONCOMPENSATED

Type	I_{IB} Max. (μA)	TC_{VIO} Typ. (μV/°C)	I_{IO} Max. (nA)	Supply Volt. Max. (V)	Description	Pkg.
LM308AD	7.0	5.0	1.0	±18	Precision, C	SOIC
LM201AD	0.075	10	10	±22	GP, –25°C to +85°C	SOIC

INTERNALLY COMPENSATED

Type	I_{IB} Max. (μA)	TC_{VIO} Typ. (μV/°C)	I_{IO} Max. (nA)	Supply Volt. Max. (V)	Description	Pkg.
LF351N	200pA	10	100pA	±18	JFET Input, C	PDIP
MC1436P1	0.04	12	10	±34	High-Voltage, C	PDIP
MC1741CP1	0.5	15	200	±18	General-Purpose	PDIP
MC1776CP1	0.003	15	3.0	±18	μPower, Programmable, C	PDIP
MC3476P1	0.05	15	25	±18	Low-Cost, μPower, Prog., C	PDIP
MC34071P	0.5	10	75	+44	High-Performance, C	PDIP
MC34071D	0.5	10	75	+44	High-Performance, C	SOIC
MC34081BP	200pA	10	100pA	±22	High-Speed, JFET Input, C	PDIP
TL071CD	200pA	10	50pA	±18	Low-Noise, JFET Input, C	SOIC
TL081ACP	200pA	10	100pA	±18	JFET Input, C	PDIP
TL081ACD	200pA	10	100pA	±18	JFET Input, C	SOIC
MC33071P	0.5	10	75	+44	High-Performance, I	PDIP
MC33071D	0.5	10	75	+44	High-Performance, I	SOIC
MC33071AP	500nA	10	50	+44	Single Supply, I	PDIP
MC33071AD	500nA	10	50	+44	Single Supply, I	SOIC
MC33171P	0.1	10	20	+44	Low-Power, Single Supply, I	PDIP
MC33171D	0.1	10	20	+44	Low-Power, Single Supply, I	SOIC

(4285) (ne09552)

DUAL OPERATIONAL AMPLIFIERS

"I" in description means industrial temperature range (–40°C to +85°C); "C" means commercial temperature range (0 to +70°C).

Type	I_{IB} Max. (μA)	TC_{VIO} Typ. (μV/°C)	I_{IO} Max. (nA)	Supply Volt. Max. (V)	Description	Pkg.
LF353N	200pA	10	100pA	±18	JFET Input, C	PDIP
LF353D	200pA	10	100pA	±18	JFET Input, C	SOIC
LF412CN	200pA	10	100pA	±18	JFET In., Low-Offset/-Drift, C	PDIP
LM358N	0.25	7.0	50	±18	Single Supply, Low-Power, C	PDIP
LM833N	1.0	2.0	200	±18	Low Noise, Audio, C	PDIP
MC1458CP1	0.7	10	300	±18	General-Purpose, C	PDIP
MC3458P1	0.5	7.0	50	±18 +36	Split Supplies/Single Supply, Low Crossover Distortion, C	PDIP
MC34002BP	100pA	10	70pA	±18	JFET Input, C	PDIP
MC34002BD	100pA	10	70pA	±18	JFET Input, C	SOIC
MC34072P	0.5	10	75	+44	High-Performance, C	PDIP
MC34072AP	500nA	10	50	+44	Single Supply, C	PDIP
MC34072AD	500nA	10	50	+44	Single Supply, C	SOIC
MC34082P	200pA	10	100pA	±22	High Speed, JFET Input, C	PDIP
MC34182P	0.1nA	10	0.05	±18	Low-Power, JFET Input, C	PDIP
TL062CP	200pA	10	200pA	±18	Low-Power, JFET Input, C	PDIP
TL062CD	200pA	10	200pA	±18	Low-Power, JFET Input, C	SOIC
TL072CD	200pA	10	50pA	±18	Low-Power, JFET Input, C	SOIC
TL082ACP	200pA	10	100pA	±18	JFET Input, C	PDIP
LM258N	0.15	10	30	±18 +36	Split or Single Supply, –25°C to +85°C	PDIP
LM258D	0.15	10	30	±18 +36	Split or Single Supply, –25°C to +85°C	SOIC
MC3358P1	5.0	10	75	±18 +36	Split or Single Supply, I	PDIP
MC33072P	0.50	10	75	+44	High-Performance, I	PDIP
MC33072AP	500nA	10	50	+44	Single Supply, I	PDIP
MC33072AD	500nA	10	50	+44	Single Supply, I	SOIC
MC33076P1	0.5	2.0	70	±18	High-Output Current, I	PDIP
MC33077P	1.0	2.0	180	±18	Low-Noise	PDIP
MC33078D	750nA	2.0	150	±18	Low Noise, I	SOIC
MC33172P	0.10	10	20	+44	Low-Power, Single Supply, I	PDIP
MC33178P	0.5	2.0	50	±18	High-Output Current, I	PDIP
MC33178D	0.5	2.0	50	±18	High-Output Current, I	SOIC
MC33182D	0.1nA	10	0.05	±18	Low-Power, JFET Input, I	SOIC
MC33272AP	650nA	0.56	25nA	±18	High-Performance, I	PDIP
MC33272AD	650nA	0.56	25nA	±18	High-Performance, I	SOIC
MC33282P	100pA	5.0	50pA	±18	Low-Input, Offset JFET, I	PDIP
MC33282D	100pA	5.0	50pA	±18	Low-Input, Offset JFET, I	SOIC
MC33502D	1.2mA	...	40	7	Low-Voltage, Rail-to-Rail	SOIC
MC33502P	1.2mA	...	40	7	Low-Voltage, Rail-to-Rail	PDIP

(4286) (ne09553)

QUAD OPERATIONAL AMPLIFIERS

"I" in description means industrial temperature range (–40°C to +85°C); "C" means commercial temperature range (0 to +70°C).

Type	I_{IB} Max. (μA)	TC_{VIO} Typ. (μV/°C)	I_{IO} Max. (nA)	Supply Volt. Max. (V)	Description	Pkg.
LF347N	200pA	10	100pA	±18	JFET Input, C	PDIP
LM324N	0.25	7.0	50	±16 +32	Low Power Consumption, C	PDIP
LM324AN	0.25	7.0	50	±16 +32	Low Power Consumption, C	PDIP
MC3403P	0.5	7.0	50	±18 +36	No Crossover Distortion, C	PDIP
MC4741CP	0.5	15	200	±18	Quad MC1741, C	PDIP
MC4741CD	0.5	15	200	±18	Quad MC1741, C	SOIC
MC34004BP	200pA	10	100pA	±18	JFET Input, C	PDIP
MC34074P	0.5	10	75	+44	High-Performance, C	PDIP
MC34074AP	500nA	10	50	+44	Single Supply, C	PDIP
MC34074AD	500nA	10	50	+44	Single Supply, C	SOIC
MC34084P	200pA	10	100pA	±22	Hi-Speed, JFET Input, C	PDIP
MC34084DW	200pA	10	100pA	±22	Hi-Speed, JFET Input, C	SOIC
MC34184P	0.1nA	10	0.05	±18	Lo-Power, JFET Input, C	PDIP
MC34184D	0.1nA	10	0.05	±18	Lo-Power, JFET Input, C	SOIC
TL074ACN	200pA	10	50pA	±18	Lo-Noise, JFET Input, C	PDIP
TL074CN	200pA	10	50pA	±18	Lo-Noise, JFET Input, C	PDIP
TL084ACN	200pA	10	100pA	±18	JFET Input, C	PDIP
LM224N	0.15	7.0	30	+16	Split or Single Supply*	PDIP
LM224D	0.15	7.0	30	+16	Split or Single Supply*	SOIC
LM2902D	0.5	...	50	±13 +26	Differential Low-Power, I	SOIC
MC3303P	0.5	10	75	±18 +36	Differential General-Purpose, I	PDIP
MC3303D	0.5	10	75	±18 +36	Differential General-Purpose, I	SOIC
MC33074P	0.5	10	75	+44	High-Perform., 1 Supply, I	PDIP
MC33074D	0.5	10	75	+44	High-Perform., 1 Supply, I	SOIC
MC33074AP	500nA	10	50	+44	High-Performance, I	PDIP
MC33079D	750nA	2.0	150	±18	Low-Noise, I	SOIC
MC33174P	0.1	10	20	+44	Low-Power, 1 Supply, I	PDIP
MC33174D	0.1	10	20	+44	Low-Power, 1 Supply, I	SOIC
MC33179D	0.5	2.0	50	±18	High Output Current, I	SOIC
MC33184P	0.1nA	10	0.05	±18	Low-Power, JFET Input, I	PDIP
MC33184D	0.1nA	10	0.05	±18	Low-Power, JFET Input, I	SOIC
MC33274AP	650nA	0.56	25nA	±18	High-Performance, I	PDIP
MC33274AD	650nA	0.56	25nA	±18	High-Performance, I	SOIC
MC33284D	100pA	5.0	50pA	±18	Low-Input, Offset JFET	SOIC
MC33204P	400pA	2.0	200pA	±6.0	Low-Volt. Rail-to-Rail™, I	PDIP
MC33204D	400pA	2.0	200pA	±6.0	Low-Volt. Rail-to-Rail™, I	SOIC

* –25°C to +85°C

(9962) (ne09554)

QUAD PROGRAMMABLE OPERATIONAL AMPLIFIER

Type	Single Supply Voltage Range	Dual Supply Voltage Range	Frequncy Range	Package
MC14573DR2	3.0 to 15V	±1.5 to ±7.5V	DC to 1.0MHz	SOIC

(35872) (ne35872)

BIPOLAR QUAD COMPARATOR

Type	I_{IB} Max. (μA)	V_{IO} Max. (mV)	I_{IO} Max. (μA)	A_V Typ. (V/V)	I_{IO} Min. (mA)	Response Time (ns)	Supply Voltage (V)	Package
LM339N	0.25	5.0	0.05	200k	6.0	1300	±1.5 to ±18 or 3.0 to 36	PDIP

(35874) (ne35874)

HIGH-FREQUENCY AGC AMPLIFIERS

Automatic gain controlled amplifiers. Recommended for applications up through 70MHz, including variable gain video and instrumentation amplifiers, IF (intermediate frequency) amplifiers for radio and TV receivers, and transmitter power output control.

Type	A_V Typ. (dB)	A_V @ BW (MHz)	V_{CC}/V_{EE} (VDC) Min.	V_{CC}/V_{EE} (VDC) Max.	Operating Temperature (°C)	Package
MC1350P	50	45	+6.0	+18	0 to +70	PDIP
MC1350D	50	45	+6.0	+18	0 to +70	SOIC
MC1490P	50/45/35	10/60/100	+6.0	+18	–40 to +85	PDIP

(4287) (ne09555)

PRICES LISTED AT THE BEGINNING OF THE SECTION.

LINEAR COMMUNICATIONS CIRCUITS

LINE RECEIVERS AND DRIVERS

LINE RECEIVERS

Type	Companion Driver Type	Single-Ended or Differential	Output Type	t_{prop} Max. (ns)	Party Line Operation	Strobe or Enable	Power Supplies (V)	Receivers Per Package	Comments	Package
MC1489P MC1489AP	MC14C88BP MC1488P	Single	Resistor Pull-Up	85	No	No	+5.0	4	EIA-232-D	PDIP PDIP

LINE DRIVERS

Type	Companion Receiver Type	Single-Ended or Differential	Output Current Capability (mA)	t_{prop} Max. (ns)	Party Line Operation	Strobe or Enable	Power Supplies (V)	Receivers Per Package	Comments	Package
MC75174BP	...	Differential	85	35	Yes	Yes	+5.0	4	EIA-485	PDIP
MC14C88BP	...	Single	15	3500	No		±7.0 to ±12		EIA-232-D/EIA-562	PDIP
MC14C88BD	...									SOIC
MC1488P	MC1489P MC1489AP		10	350			±9.0 to ±12		EIA-232-D	PDIP PDIP
AM26LS30PC	AM26LS32PC	Single/Differential	60	300		Yes (EIA-422)/ No (EIA-423)	±5.0	2 (EIA-422) 4 (EIA-423)	EIA-422 or EIA-423 Switchable	PDIP

(4326) (ne09664)

ANALOG-TO-DIGITAL AND DIGITAL-TO-ANALOG CONVERTERS

CMOS ANALOG-TO-DIGITAL CONVERTERS

Type	Resolution (Bits)	Nonlinearity Max.	Conversion Time/Rate	Input Voltage (V)	Supplies (V)	Temperature (°C)	Package	Comments
MC145051P	10	±1 LSB	44µs	0 to V_{DD}	+5.0 ±10%	–40 to +125	PDIP	Includes Internal Clock, 11-Ch MUX
MC145051DW	10	±1 LSB	44µs	0 to V_{DD}	+5.0 ±10%	–40 to +125	SOIC	Includes Internal Clock, 5-Ch MUX
MC145053P	10	±1 LSB	44µs	0 to V_{DD}	+5.0 ±10%	–40 to +125	PDIP	Includes Internal Clock, 5-Ch MUX

CMOS DIGITAL-TO-ANALOG CONVERTERS

Type								
MC144110DW	6	...	...	...	–5.0 to +15	0 to +85	WSOIC	Serial Input, HexDAC, 6 Outputs

(4302) (ne09567)

DRIVERS AND RECEIVERS

EIA-232-E/V.28 CMOS DRIVERS AND RECEIVERS

Type	Drivers	Receivers	Power Supplies	Features	Pins	Package
MC145403DW	3	5	±5.0V to ±12V	...	20	SOIC
MC145406P	3	3	±5.0V to ±12V	...	16	PDIP
MC145406DW	3	3	±5.0V to ±12V	...	16	SOIC
MC145407P	3	3	+5.0V	Charge Pump	20	PDIP
MC145407DW	3	3	+5.0V	Charge Pump	20	SOIC

PERIPHERAL DRIVERS

Type	Output Current Capability (mA)	Input Capability	Propagation Delay Time Max.	Output Clamp Diode	Off State Voltage Max. (V)	Logic Function	Package
ULN2803A	500	TTL, CMOS	1.0µs	Yes	50	Invert	PDIP
ULN2804A	500	6.0V to 15V MOS	1.0µs	Yes	50	Invert	PDIP

CMOS DISPLAY DRIVERS

Type	Display Type	Input Format	Drive Capability per Package	On-Chip Latch	Segment Drive Current	Package
MC14495P1	LED (Direct Drive)	Parallel Hex	7 Segments + A through F Indicator	Yes	10mA	PDIP

SINGLE IGBT DRIVER

Type MC33153 is specifically designed to drive the gate of an IGBT used for AC induction motors. It can be used with discrete IGBTs and IGBT modules up to 100A. Applications include: AC induction motor control, brushless DC motor control, and uninterruptable power supplies.

Type	Temperature Range	Pins	Package
MC33153P	–40°C to +105°C	8	PDIP

(4303) (ne09588)

IEEE 802.3 TRANSCEIVERS

Type	Power Supply	10 BaseT	NRZ	IEEE	Comments	Package
MC68160FB MC68160CFB	+5.0VDC	Transmit and Receive over 4 Pins	TTL, CMOS	802.3 Type 10BaseT/AUI/NRZ	Interfaces Gluelessly to Motorola's MC68360 Communications Controller	PQFP

(4305) (ne09590)

AUDIO AMPLIFIERS

Type	P_O (W)	V_{CC} Max. (VDC)	I_D Typ. (mA)	R_L (ohms)	Function	Package
MC34119D	500mW	16	2.5	8 to ∞	Low Power Audio Amp	SOIC
MC34119P	500mW	16	2.5	8 to ∞	Low Power Audio Amp	PDIP

(4306) (ne09591)

BRUSHLESS DC MOTOR CONTROLLERS

Features: Undervoltage lockout, internal thermal shutdown, forward and reverse control, output enable, 6.25V reference output, and error amplifier. Output drivers: totem pole (bottom) and open collector (top). Noninverting current-sense comparator inputs.

Type	Operating Voltage V_{CC} (V)	Sensor Electrical Phasing	Operating Temperature	Package
MC33033P	10-30	60°/300° and 120°/240°	–40°C to +85°C	PDIP

(35881) (ne35881)

OCTAL SERIAL SWITCH

Monolithic, eight-output, low-side switch, with 8-bit serial input control. Incorporates CMOS logic, bipolar/CMOS analog circuitry, and DMOS power FETs. All inputs are CMOS compatible. Designed to interface to a microcontroller, and to switch inductive or incandescent loads. Each independent output is internally clamped to 55V, current limited to ≥3.0A, and has an $R_{DS(on)}$ of ≤0.45Ω with V_{PWR} ≥9.0V. Low standby current, cascadable fault-status reporting, output diagnostics, and shutdown for each output.

Type	Operating Temperature	Pins	Package
MC33298P	–40°C to +150°C	20	PDIP

(35882) (ne35882)

BIPOLAR TRANSISTORS

BIPOLAR TRANSISTORS IN TO-92 PACKAGE

GENERAL-PURPOSE TRANSISTORS

NPN Type	PNP Type	$V_{(BR)CEO}$ Min. (V)	f_T Min. (MHz)	f_T @ I_C (mA)	I_C	N_F
MPS8099	MPS8599	80	150	10	500	...
MPSA06	MPSA56	80	100	10	500	...
MPSA05	MPSA55	60	100	10	500	...
...	MPS2907A	60	200	50	600	...
MPSA20	MPSA70	40	125	50	100	...
MPS2222A	...	40	300	20	600	...
2N4401	2N4403	40	200	20	600	...
2N4400	2N4402	40	150	20	600	...
MPS6602	MPS6652	40	100	50	1000	...
2N3904	2N3906	40	250	10	200	5.0
2N4124	...	25	250	10	200	4.0

GENERAL-PURPOSE TRANSISTORS

NPN Type	$V_{(BR)CEO}$ Min. (V)	f_T Min. (MHz)	f_T @ I_C (mA)	I_C Max. (A)	$V_{CE(SAT)}$ Max. (V)	$V_{CE(SAT)}$ @ I_C (mA)
MPS6717	80	50	200	0.5	0.5	250
MPSW06	80	50	200	0.5	0.4	250

LOW-NOISE AND GOOD h_{FE} LINEARITY

NPN Type	PNP Type	$V_{(BR)CEO}$ Min. (V)	V_T Typ. (mV)	V_T Typ. (mV)	f_T Typ. (MHz)
...	2N5087	50	...	2.0	40
MPSA18	...	45	6.5	...	160
...	MPS4250	40	...	2.0	...
2N5088	...	30	...	3.0	50
2N5089	...	25	...	2.0	50

DARLINGTON TRANSISTORS

NPN Type	PNP Type	$V_{(BR)CEO}$ Min. (V)	f_T Min. (MHz)	f_T @ I_C (mA)	I_C Max. (A)	$V_{CE(SAT)}$ Max. (V)	$V_{CE(SAT)}$ @ I_C (mA)	$V_{CE(SAT)}$ @ I_B (mA)
...	MPSW64	30	125	10	1000	1.5	100	0.1
MPSA29	...	100	125	10	500	1.5	100	0.1
MPSA27	...	60	...	...	500	1.5	100	0.1
...	MPSA77	60	...	...	500	1.5	100	0.1
MPSA14	MPSA64	30	125	10	500	1.5	100	0.1
MPSA13	...	30	125	10	500	1.5	100	0.1

HIGH-CURRENT TRANSISTORS

NPN Type	PNP Type	$V_{(BR)CEO}$ Min. (V)	f_T Min. (MHz)	f_T @ I_C (mA)	I_C Max. (A)	$V_{CE(SAT)}$ Max. (V)	$V_{CE(SAT)}$ @ I_C (mA)	$V_{CE(SAT)}$ @ I_B (mA)
MPSW01A	MPSW51A	40	50	50	1000	0.5 0.7	1000	100
MPS651	MPS751	60	75	50	2000	0.5	2000	200
MPS650	MPS750	40	75	50	2000	0.5	2000	200

RF TRANSISTORS

NPN Type	$V_{(BR)CEO}$ Min. (V)	I_C Max. (mA)	f_T Typ. (MHz)	CRE/CRB Max. (pF)	N_F Typ. (dB)	f (MHz)
MPSH10	25	...	650	0.65	...	...
MPSH17	15	...	800	0.9	6.0	200
MPS918	15	50	600	1.7	6.0	60
MPS5179	12	50	2000	...	5.0	200
MPS3563	12	50	800	1.7	6.0	60

HIGH-SPEED SATURATED SWITCHING TRANSISTORS

NPN Type	$V_{(BR)CEO}$ Min. (V)	t_{ON} & t_{OFF} Max. (ns)	t_{ON} & t_{OFF} Max. (ns)	t_{ON} & t_{OFF} @ I_C (mA)	$V_{CE(SAT)}$ Max. (V)	$V_{CE(SAT)}$ @ I_C (mA)	f_T Min. (MHz)	f_T @ I_C (mA)
MPS3646	15	18	28	300	0.2	30	350	30
MPS2369A	15	12	18	10	0.2	10	...	...

(4255) (ne09493)

SURFACE MOUNT BIPOLAR TRANSISTORS

GENERAL-PURPOSE TRANSISTORS

Type	Polarity	Marking	$V_{(BR)CEO}$ Min. (V)	h_{FE} Min.	h_{FE} Max.	h_{FE} @ I_C (mA)	f_T Min. (MHz)	Package
BC846ALT1	NPN	1A	65	110	220	2.0	100	SOT-23
BC846BLT1	NPN	1B	65	200	450	2.0	100	SOT-23
MMBT2222ALT1	NPN	1P	40	100	300	150	200	SOT-23
MMBT3904LT1	NPN	1AM	40	100	300	10	200	SOT-23
MMBT2907ALT1	PNP	2F	60	100	300	150	200	SOT-23
MMBT3906LT1	PNP	2A	40	100	300	10	250	SOT-23
MMBT4403LT1	PNP	2T	40	100	300	150	200	SOT-23

BIAS RESISTORS FOR TRANSISTORS FOR GENERAL-PURPOSE APPLICATIONS

Include bias resistors on the semiconductor chip.

Type	Polarity	Marking	$V_{(BR)CEO}$ (V)	h_{FE} Min.	h_{FE} @ I_C (mA)	I_C Max. (mA)	R_1 & R_2 (Ohms)	Package
MUN2211T1	NPN	8A	50	35	5.0	100	10K	SC-59
MUN2212T1	NPN	8B	50	60	5.0	100	22K	SC-59
MUN2213T1	NPN	8C	50	80	5.0	100	47K	SC-59

SWITCHING TRANSISTORS

Type	Polarity	Marking	$V_{(BR)CEO}$ Min. (V)	Switching Time t_{ON} (ns)	Switching Time t_{OFF} (ns)	h_{FE} Min.	h_{FE} @ I_C (mA)	Package
MMBT2369LT1	NPN	M1J	15	12	18	20	100	SOT-23
MMBT3640LT1	PNP	2J	12	25	35	20	50	SOT-23

VHF/UHF AMPLIFIERS, MIXERS, AND OSCILLATORS

Designed for small-signal RF amplifier applications to VHF/UHF frequencies. May also be used as VHF/UHF oscillators and mixers.

Type	Polarity	Marking	$V_{(BR)CEO}$ (V)	C_{cb} Max. (pF)	f_T Min. (GHz)	f_T @ I_C (mA)	Package
MMBTH10LT1	NPN	3EM	25	0.7	0.65	4.0	SOT-23
MMBTH81LT1	PNP	3D	20	0.85	0.6	5.0	SOT-23

DARLINGTON TRANSISTORS

Type	Polarity	Marking	$V_{(BR)CES}$ (V)	$V_{CE(SAT)}$ Max. (V)	h_{FE} Min.	h_{FE} @ I_C (mA)	Package
MMBTA14LT1	NPN	1N	30	1.5	20k	100	SOT-23
MMBTA13LT1	NPN	1M	30	1.5	10k	100	SOT-23
MMBTA64LT1	PNP	2V	30	1.5	20k	100	SOT-23

HIGH-VOLTAGE TRANSISTORS

Type	Polarity	Marking	$V_{(BR)CEO}$	h_{FE} Min.	h_{FE} @ I_C (mA)	f_T Min. (MHz)	Package
MMBT6520LT1	PNP	2Z	350	15	100	40	SOT-23
MMBTA92LT1	PNP	2D	300	25	30	50	SOT-23

GENERAL-PURPOSE AMPLIFIERS

Type	Polarity	Marking	$V_{(BR)CEO}$	h_{FE} Min.	h_{FE} Max.	h_{FE} @ I_C (mA)	Package
BCP53T1	PNP	AH	80	40	25	150	SOT-223

LOW-NOISE TRANSISTORS

Type	Polarity	Marking	$V_{(BR)CEO}$	h_{FE} Max.	h_{FE} @ I_C (mA)	Package
MMBT2484LT1	NPN	1U	60	800	10	SOT-23

(9961) (ne09495)

NEWARK HAS WHAT YOU NEED.
WITH SO MUCH IN STOCK, YOU HAVE THE COMPONENTS YOU NEED AT YOUR FINGERTIPS.

DIODES, FETs AND MOSFETs

SWITCHING DIODES

All come in SOT-23 (TO-236AB) packages.

PIN SWITCHING DIODES

Type	$V_{(BR)R}$ Min. (V)	C_T @ 1.0 MHz Max. (pF)	C_T @ 1.0 MHz @ V_R (V)	I_R @ $_R$ Max. (nA)	Series Resistance Max. (Ohms)	Marking
MMBV3700LT1	200	1.0	20	0.1 @150V	1.0 @ 10mA	4R
MMBV3401LT1	35	1.0	20	0.1 @ 25V	0.7 @ 10mA	4D

GENERAL-PURPOSE SIGNAL AND SWITCHING DIODES—SINGLE

Type	Marking	$V_{(BR)R}$ Min. (V)	$V_{(BR)R}$ @ I_{BR} (μA)	I_R Max. (μA)	I_R @ VR (V)	V_F Max. (V)	V_F @ I_F (mA)	C_T Max. (pF)	t_{rr} Max. (ns)
BAS21LT1	JS	250	100	0.1	200	1.0	100	5.0	50
MMBD914LT1	SD	100	100	5.0	75	1.0	10	4.0	4.0
BAS16LT1	A6	75	100	1.0	75	1.0	50	2.0	6.0
MMBD6050LT1	5A	75	100	0.1	50	1.1	100	2.5	4.0

GENERAL-PURPOSE SIGNAL AND SWITCHING DIODES—DUAL

MMBD7000LT1	M5C	100	1.0	1.0	50	1.1	100	1.5	4.0
BAV70LT1	A4	70	5.0	5.0	70	1.0	50	1.5	6.0
BAV99LT1	A7	70	2.5	2.5	70	1.0	50	1.5	4.0
MMBD6100LT1	5BM	70	0.1	0.1	50	1.1	100	2.5	4.0
MMBD2837LT1	A5	35	0.1	0.1	30	1.0	10	4.0	4.0

LOW-LEAKAGE MEDIUM-SPEED SWITCHING DIODES

BAV199LT1	JY	70	100	5.0	70	1.0	10	2.0	3000

(4254) (ne09492)

TUNING DIODES

ABRUPT JUNCTION

Type	C_T @ V_R=4.0V, 1.0MHz Min. (pF)	C_T @ V_R=4.0V, 1.0MHz Nom. (pF)	C_T @ V_R=4.0V, 1.0MHz Max. (pF)	$V_{R(BR)R}$ (V)	Cap. Ratio C2/C30 Min.	Q @ 4.0V, 50MHz Typ.	Package
MMBV2109LT1	29.7	33	36.3	30	2.5	200	SOT-23

HYPER-ABRUPT JUNCTION

MMBV109LT1	26	...	32	30	5.0	200	SOT-23
MMBV809LT1	4.5	...	6.1	20	1.8	300	SOT-23

(37773) (ne37773)

JUNCTION FIELD EFFECT TRANSISTORS (JFETs)

N-channel unless noted. All come in TO-226AA package unless otherwise noted.

LOW-FREQUENCY/LOW-NOISE

Type	$\lvert Y_{fs}\rvert$ Min. (mmho)	$\lvert Y_{fs}\rvert$ @ f (kHz)	$\lvert Y_{os}\rvert$ Max. (μmho)	$\lvert Y_{os}\rvert$ @ f (kHz)	C_{iss} Max. (pF)	C_{rss} Max. (pF)	$V_{(BR)GSS}$ $V_{(BR)GDO}$ Min. (V)	$V_{GS(off)}$ Min. (V)	$V_{GS(off)}$ Max. (V)	I_{DSS} Max. (mA)
2N5457	1.0	1.0	50	1.0	7.0	3.0	25	0.5	6.0	5.0
2N5460*	1.0	1.0	75	1.0	7.0	2.0	40	0.75	6.0	5.0
2N5461*	1.5	1.0	75	1.0	7.0	2.0	40	1.0	7.5	9.0
2N5462*	2.0	1.0	75	1.0	7.0	2.0	40	1.8	9.0	16

HIGH-FREQUENCY AMPLIFIERS

Type	$\lvert Y_{fs}\rvert$ Min. (mmho)	$\lvert Y_{fs}\rvert$ @ f (kHz)	$\lvert Y_{os}\rvert$ Max. (μmho)	$\lvert Y_{os}\rvert$ @ f (kHz)	C_{iss} Max. (pF)	C_{rss} Max. (pF)	NF @ R_G=1k Max. (dB)	NF @ R_G=1k f (MHz)	$V_{(BR)GSS}$ $V_{(BR)GDO}$ Min. (V)
MPF102	1.6	100	200	100	7.0	3.0	...	...	25
MPF102RLRA	1.6	100	200	100	7.0	3.0	...	...	25
2N5485	3.0	400	100	400	5.0	1.0	4.0	400	25
2N5486	3.5	400	100	400	5.0	1.0	4.0	400	25

TMOS SWITCHES AND CHOPPERS

Type	$R_{DS(on)}$ Max. (Ω)	$R_{DS(on)}$ @ I_D (mA)	$V_{GS(th)}$ Min. (V)	$V_{GS(th)}$ Max. (V)	$V_{(BR)DSS}$ Min. (V)	C_{iss} Max. (pF)	C_{rss} Max. (pF)	t_{on}/t_{off} Max. (ns)	
MPF960**	1.7	1.0	1.0	3.5	60	70	20	15	15
MPF990**	2.0	1.0	1.0	3.5	90	70	20	15	15
MPF6660**	3.0	1.0	0.8	2.0	60	30	4	5.0	5.0
MPF6661**	4.0	1.0	0.8	2.0	90	30	4	5.0	5.0
MPF910**	5.0	0.5	0.3	2.5	60	...	...	...	...
VN10LM**	5.0	0.5	0.8	2.5	60	60	5.0	10	10
2N7000	5.0	0.5	0.8	3.0	60	60	5.0	10	10
BS170	5.0	0.2	0.8	3.0	60	25	3.0	10	10
VN2406L	6.0	0.5	0.8	2.0	240	125	20	8.0	23
BS107A	6.4	0.25	1.0	3.0	200	60	6.0	15	15
BS107**	14	0.2	1.0	3.0	200	60	6.0	15	15

* P-channel ** TO-226AE package.

(9902) (ne09489)

SURFACE MOUNT FIELD-EFFECT TRANSISTORS (FETs)

All come in SOT-23 (TO-236AB) package. N-channel unless otherwise indicated.

RF JFETS FOR VHF/UHF AMPLIFIER APPLICATIONS

Type	Marking	N_F Typ. (dB)	N_F f (MHz)	Y_{fs} Min. (mmhos)	Y_{fs} Max. (mmhos)	Y_{fs} @ V_{DS} (V)	$V_{(BR)GSS}$ (V)
MMBFJ309LT1	6U	1.5	450	10	20	10	25
MMBFU310LT1	M6C	1.5	450	10	18	10	25
MMBF4416LT1	M6A	2	100	4.5	7.5	15	30

GENERAL-PURPOSE JFETS

Type	Marking	$V_{(BR)GSS}$ (V)	Y_{fs} Min. (mmhos)	Y_{fs} Max. (mmhos)	Y_{fs} @ V_{DS} (V)	I_{DSS} Min. (mA)	I_{DSS} Max. (mA)
MMBF5457LT1	6D	25	1.0	5.0	15	1.0	5.0
MMBF5459LT1	6L	25	2.0	6.0	15	4.0	16

JFET CHOPPERS/SWITCHES

Type	Marking	$R_{DS(on)}$ Max. (Ohms)	t_{off} Max. (ns)	$V_{GS(th)}$ Min. (V)	$V_{GS(th)}$ Max. (V)	$V_{(BR)GSS}$ (V)	I_{DSS} Min. (mA)	I_{DSS} Max. (mA)
MMBF4860LT1	6F	40	50	–2.0	–6.0	30	20	100
MMBF4393LT1	6G	100	50	–0.5	–3.0	30	5.0	30
MMBFJ175LT1*	6W	125	...	3.0	6.0	30	7.0	60
MMBFJ177LT1*	6Y	300	...	0.8	2.5	30	1.5	20

TMOS FETs

Type	Marking	$R_{DS(on)}$ (Ohms)	$R_{DS(on)}$ @ I_D (mA)	V_{DSS} (V)	$V_{GS(th)}$ Min. (V)	$V_{GS(th)}$ Max. (V)	Switching Time t_{on} (ns)	Switching Time t_{off} (ns)
BSS123LT1	SA	6.0	100	100	0.8	2.8	20	40

* P-Channel

(4252) (ne09490)

N-CHANNEL TMOS FETs

TMOS SWITCHES AND CHOPPERS

Type	$R_{DS(ON)}$ Max. (Ω)	$R_{DS(ON)}$ @ I_D (A)	$V_{GS(th)}$ Min. (V)	$V_{GS(th)}$ Max. (V)	$V_{(BR)DSS}$ Min. (V)	t_{on} Max. (ns)	t_{off} Max. (ns)	Package
2N7008	7.5	0.5	1.0	2.5	60	20	20	TO-92

ISOTOP TMOS E-FET

MTE215N10E	5.5	...	2.0	4.0	110	48	186	SOT-227B

(37871) (ne37871)

P-CHANNEL POWER MOSFETs

SOT-223 PACKAGE

$V_{(BR)DSS}$ Min. (V)	$R_{DS(on)}$ Max. (Ohms)	$R_{DS(on)}$ @ I_D (A)	Type	$I_{D(Cont.)}$ (A)	P_D Max. (W)
60	0.30	0.6	MMFT2955ET1	1.2	0.8

DPAK PACKAGE

100	0.66	3	MTD6P10E	6	1.75
60	0.20	6	MTD2955V	12	1.75
60	...	...	MTD5P06V	...	1.75
60	0.15	10	MTD20P06HDL*	20	1.75
30	0.099	10	MTD20P03HDL*	19	1.75

TO-220AB PACKAGE

500	6	1	MTP2P50E	2	75
100	0.30	6	MTP12P10	12	88
60	0.12	11.5	MTP23P06V	23	125
30	0.025	25	MTP50P03HDL	50	150

* Logic level

(4258) (ne09500)

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MOSFETs AND BIPOLAR TRANSISTORS

N-CHANNEL POWER MOSFETs

DPAK PACKAGE

$V_{(BR)DSS}$ Min. (V)	$R_{DS(on)}$ Max. (Ohms)	$R_{DS(on)}$ @ I_D (A)	Type	$I_{D(Cont.)}$ (A)	P_D Max. (W)
500	3.60	1	MTD2N50E	2	1.75
200	1.20	2	MTD4N20E	4	1.75
	0.70	3	MTD6N20E	6	1.75
150	0.30	3	MTD6N15	6	1.75
100	0.22	5	MTD10N10EL*	10	1.75
60	0.15	6	MTD3055V	12	1.75
	0.15	6	MTD3055VL	12	1.75
	0.12	7.5	MTD15N06V	15	1.75
	0.12	7.5	MTD15N06VL	15	1.75
	0.045	10	MTD20N06HD	20	1.75
	0.045	10	MTD20N06HDL*	20	1.75
30	0.035	10	MTD20N03HDL*	20	1.75
	0.022	10	MTD1302	20	1.75

TO-220AB PACKAGE

1200	5.0	1.5	MTP3N120E	3	125
1000	9	0.5	MTP1N100E	1	75
	4.0	1.5	MTP3N100E	3	125
800	3	2	MTP4N80E	4	125
600	8	0.5	MTP1N60E	1	50
	3.80	1	MTP2N60E	2	50
	2.20	1.5	MTP3N60E	3	75
	1.20	3	MTP6N60E	6	125
500	5	0.5	MTP1N50E	1	50
	3.60	1	MTP2N50E	2	75
	3	1.5	MTP3N50E	3	50
	1.50	2	MTP4N50E	4	75
	0.80	4	MTP8N50E	8	125
400	3.50	1	MTP2N40E	2	50
	1.80	2	MTP4N40E	4	50
	1	2.5	MTP5N40E	5	75
	0.55	5	MTP10N40E	10	125
200	0.70	3.5	MTP7N20E	7	75
	0.16	10	MTP20N20E	20	125
100	0.25	5	MTP10N10E	10	75
	0.22	5	MTP10N10EL	10	40
	0.11	7	IRF530	14	78
	0.16	6	MTP12N10E	12	75
	0.06	13.5	IRF540	27	145
	0.070	13.5	MTP27N10E	27	125
	0.060	16.5	MTP33N10E	33	150
	0.04	20	MTP40N10E	40	169
60	0.18	6	MTP3055VL	12	48
	0.15	6	MTP3055V	12	48
	0.12	7.5	MTP15N06V	15	60
	0.085	7.5	MTP15N06VL	15	60
	0.08	10	MTP20N06V	20	60
	0.05	15	MTP30N06VL	30	90
	0.032	21	MTP50N06VL	42	150
	0.028	21	MTP50N06V	42	150
	0.022	26	MTP52N06V	52	186
	0.025	26	MTP52N06VL	52	188
	0.014	30	MTP60N06HD	60	150
	0.01	37.5	MTP75N06HD	75	150
50	0.10	7.5	MTP15N05EL	15	75
	0.0095	37.5	MTP75N05HD	75	150
30	0.008	37.5	MTP1306	75	150
	0.022	21	MTP1302	42	75
25	0.009	37.5	MTP75N03HDL	75	150

TO-247 (ISOLATED MOUNTING HOLE) PACKAGE

1000	1.50	3	MTW6N100E	6	180
	1.30	5	MTW10N100E	10	250
800	1	3.5	MTW7N80E	7	180
600	0.50	4	MTW8N60E	8	180
500	0.32	7	MTW14N50E	14	180
	0.24	10	MTW20N50E	20	250
400	0.16	12	MTW24N40E	24	250
200	0.075	16	MTW32N20E	32	180
150	0.065	17.5	MTW35N15E	35	180

TO-264 PACKAGE

600	0.21	12.5	MTY25N60E	25	300
200	0.028	27.5	MTY55N20E	55	300
100	0.011	50	MTY100N10E	100	300

* Logic level

(4257) (ne09499)

POWER MOSFETs

MEDIUM POWER

Package: SOT-223.

Type	$V_{(BR)DSS}$ Min. (V)	$R_{DS(ON)}$ (mΩ) @ V_{GS} 10V	4.5V	2.7V	I_D Cont. (A)	P_D Max. (W)	Config-uration
MMFT1N10ET1	100	0.30	...	...	1	0.8	N-Ch.
MMFT3055VLT1	60	...	0.14	...	1.5	0.8	N-Ch.
MMFT3055VT1	60	0.13	...	...	1.7	0.8	N-Ch.
MMFT2955ET1	60	0.30	...	...	1.2	0.8	P-Ch.
MMFT2N02ELT1	20	...	0.15	...	2	0.8	N-Ch.
MMFT5P03HD	30	0.1	...	...	5.2	3.1	P-Ch.

HDTMOS POWER

Package: Micro8.

MTDF1N03HDR2	30	135	222	...	1	1.25	Dual N-Ch.
MTSF2P03HDR2	30	90	150	...	2.4	1.8	Single P-Ch.
MTSF3N03HDR2	30	40	60	...	3	1.8	Single N-Ch.
MTDF1N02HDR2	20	...	120	160	1.7	1.25	Dual N-Ch.
MTDF1P02HDR2	20	...	175	280	1.6	1.25	Dual P-Ch.
MTSF1P02HDR2	20	...	160	190	1.5	1.8	Single P-Ch.
MTSF2P02HDR2	20	...	90	120	2.4	1.8	Single P-Ch.
MTSF3N02HDR2	20	...	40	50	3.8	1.8	Single N-Ch.
MTDF1C02HDR2	20	...	120/175	160/280	1.7	1.25	Complem.

HDTMOS POWER

Package: SO-8 (Mini-MOS).

MMDF3N06HDR2	60	100	200	...	3.3	2	Dual N-Ch.
MMDF1N05ER2	50	300	500	...	1.5	2	Dual N-Ch.
MMDF3N04HDR2	40	80	100	...	3.4	2	Dual N-Ch.
MMSF3300R2	30	12.5	20	...	12	2.5	Single N-Ch.
MMSF7N03HDR2	30	28	40	...	8	2	Dual N-Ch.
MMSF5N03HDR2	30	40	50	...	5	2	Dual N-Ch.
MMDF3N03HDR1	30	70	75	...	2.8	2	Dual N-Ch.
MMDF2C03HDR1	30	70/200	75/300	...	2	2	Complem.
MMDF6N03HDR2	30	37	55	...	6	2	Dual N-Ch.
MMSF3P03HDR2	30	100	110	...	3	1.5	Single P-Ch.
MMDF2P03HDR2	30	200	300	...	2	1.5	Dual P-Ch.
MMDF6N02HDR2	20	47	...	...	6	2.5	Dual P-Ch.
MMSF5N02HDR2	20	...	30	45	8.2	2.5	Single N-Ch.
MMDF3N02HDR1	20	90	100	...	3	2	Dual N-Ch.
MMDF2N02ER2	20	100	200	...	2	2	Dual N-Ch.
MMDF2C02HDR1	20	90/160	100/180	...	2	2	Complem.
MMDF2C02ER1	20	100/250	200/400	...	2	2	Complem.
MMSF5P02HDR2	20	...	30	45	6.4	2.5	Single P-Ch.
MMSF3P02HDR2	20	75	95	...	3	1.5	Dual P-Ch.
MMDF2P02HDR2	20	160	180	...	2	1.5	Dual P-Ch.
MMDF2P02ER2	20	250	400	...	2	1.5	Dual P-Ch.
MMSF2P02ER2	20	250	400	...	2	1.5	Single P-Ch.
MMDF4N01HDR2	12	...	45	55	4	2	Dual N-Ch.
MMDF2C01HDR2	12	...	45/180	55/220	2	2	Complem.
MMSF4P01HDR2	12	...	80	90	4	1.5	Single P-Ch.

(37872) (ne37872)

BIPOLAR POWER TRANSISTORS IN TO-225AA PACKAGE

I_C Max. (A)	$V_{CEO(sus)}$ Min. (V)	NPN Type	PNP Type	Resistive Switching t_s (μs)	t_f Max. (μs)	@ I_C (A)	f_T Min. (MHz)	P_D @ 25°C (W)
0.3	350	MJE3439	...	...	...	...	15	15
0.5	200	MJE344	...	...	...	...	15	20.8
	300	MJE340	MJE350	...	...	...	...	20.8
	350	2N5657	...	3.5 Typ.	0.24 Typ.	0.1	10	20
1	80	2N4923	2N4920	0.6 Typ.	0.3 Typ.	0.5	3	30
1.5	45	BD135	BD136	...	...	...	...	12.5
	400	MJE13003	...	4	0.7	1	5	40
2	100	MJE270	MJE271	...	...	...	6	15
3	60	MJE181	MJE171	0.6 Typ.	0.12 Typ.	0.1	50	12.5
	80	...	BD180	...	...	...	3	30
4	40	MJE521	MJE371	...	...	...	...	40
	60	2N5191	2N5194	0.4 Typ.	0.4 Typ.	1.5	2	40
	60	MJE800	MJE700	...	...	...	1	40
	80	2N5192	2N5195	0.4 Typ.	0.4 Typ.	1.5	2	40
	80	MJE802	MJE702	...	...	...	1	40
	80	MJE803	MJE703	...	...	...	1	40
	80	2N6039	2N6036	1.7 Typ.	1.2 Typ.	2	25	40
	100	MJE243	MJE253	0.15 Typ.	0.07 Typ.	...	40	15
5	25	MJE200	MJE210	0.13 Typ.	0.035 Typ.	2	65	15

(4250) (ne09485)

NEWARK: YOUR ONE-STOP SHOP.

BIPOLAR POWER TRANSISTORS

BIPOLAR POWER TRANSISTORS IN METAL TO-204AA PACKAGE

I_C Max. (A)	$V_{CEO(sus)}$ Min. (V)	NPN Type	PNP Type	Resistive Switching t_s Max. (µs)	Resistive Switching t_f Max. (µs)	Resistive Switching @ I_C (A)	f_T Min. (MHz)	P_D@ 25°C (W)
4	250	MJ15020	...	...	...	...	20	150
10	80	MJ3001*	MJ2501*	...	...	...	...	150
	140	2N3442	...	...	...	...	...	117
	250	MJ15011	MJ15012	...	...	...	...	200
	325	MJ423	...	...	...	...	2.5	125
	400	MJ10007*	...	1.5	0.5	5	10	150
	400	MJ10012*	...	15	15	6	...	175
12	100	2N6059*	2N6052*	1.6 Typ.	1.5 Typ.	6	4	150
15	60	2N3055	MJ2955	0.7 Typ.	0.3 Typ.	4	2.5	115
	60	2N3055A	...	...	...	...	0.8	115
	80	2N5882	...	1	0.8	6	4	160
	120	MJ15015	MJ15016	0.7 Typ.	0.3 Typ.	4	1	180
	250	MJ11022*	...	...	...	...	3	175
	250	...	MJ11021*	4	0.7	10	6-24	175
	400/850	BUX48	...	2	0.4	10	...	175
	400/850	2N6547	...	4	0.7	10	6-24	175
	400/650	MJ16110	...	0.8 Typ.	0.1 Typ.	10	...	175
	450/1000	BUX48A	...	2	0.4	10	...	175
	450/850	MJ16010	...	1.2 Typ.	0.2 Typ.	10	...	175
	450/850	MJ16012	...	0.9 Typ.	0.15 Typ.	10	...	175
16	140	2N3773	...	1.1 Typ.	1.5 Typ.	8	4	150
	140	2N5631	2N6031	1.2 Typ.	1.2 Typ.	8	1	200
	200	MJ15022	MJ15023	...	...	...	5	250
	250	MJ15024	MJ15025	...	...	...	5	250
	250	MJ21194	MJ21193	...	...	...	4	250
20	60	2N3772	...	...	...	...	2	150
	60	2N6282*	...	2.5 Typ.	2.5 Typ.	10	4	160
	75	2N5039	...	1.5	0.5	10	60	140
	90	2N5038	...	1.5	0.5	12	60	140
	100	2N6284*	2N6287*	2.5 Typ.	2.5 Typ.	10	4	160
	140	MJ15003	MJ15004	...	...	...	2	250
	400	MJ10005*	...	1.5	0.5	10	10	175
	400	MJ13333*	...	4	0.7	10	...	175
	500	MJ10009*	...	2	0.6	10	8	175
25	80	2N5886	2N5884	1	0.8	10	4	200
30	40	2N3771	...	...	...	...	2	150
	100	MJ802	...	...	...	...	2	200
	120	MJ11016	MJ11015	...	...	...	4	200

* Darlington

(4251) (ne09487)

BIPOLAR POWER TRANSISTORS IN TO-218 PACKAGE

I_C Max. (A)	$V_{CEO(sus)}$ Min. (V)	NPN Type	PNP Type	Resistive Switching t_s Max. (µs)	Resistive Switching t_s Max. (µs)	Resistive Switching @ I_C (A)	f_T Min. (MHz)	P_D* (W)
8	500/1000	MJH16006A	...	2.5	0.25	5	...	125
10	60	TIP140	TIP145	2.5 Typ.	2.5 Typ.	5	4	125
	60	TIP141	TIP146	2.5 Typ.	2.5 Typ.	5	4	125
	100	TIP33C	...	...	...	...	3	80
	100	TIP142	TIP147	2.5 Typ.	2.5 Typ.	5	4	125
	400	BU323AP	...	15	15	6	...	125
15	60	TIP3055	TIP2955	...	...	...	2.5	80
	150	MJH11018	MJH11017	...	...	...	3	150
	200	MJH11020	MJH11019	...	...	...	3	150
	250	MJH11022	MJH11021	...	...	...	3	150
16	160	MJE4343	MJE4353	1.2 Typ.	1.2 Typ.	8	1	125
20	100	MJH6284	MJH6287	...	...	...	4	125
25	80	TIP35A	TIP36A	0.6 Typ.	0.3 Typ.	10	3	125
	100	TIP35C	TIP36C	0.6 Typ.	0.3 Typ.	10	3	125

* @ 25°C

(9860) (ne09479)

BIPOLAR POWER TRANSISTORS IN TO-264 PACKAGE

I_C Max. (A)	$V_{CEO(sus)}$ Min. (V)	NPN Type	PNP Type	h_{FE} Min./Max.	@ I_C (A)	f_T Min. (MHz)	P_D @ 25°C (W)
15	200	MJL3281A	MJL1302A	60/175	0.1	30 Typ.	200
16	250	MJL21194	MJL21193	25/75	8	4	200

(4249) (ne09484)

BIPOLAR POWER TRANSISTORS IN TO-220AB PACKAGE

I_C Max. (A)	$V_{CEO(sus)}$ Min. (V)	NPN Type	PNP Type	Resistive Switching t_s Max. (µs)	Resistive Switching t_f Max. (µs)	Resistive Switching @ I_C (A)	f_T Min. (MHz)	P_D* (W)
0.5	350	MJE2361T	...	...	...	...	10 Typ.	30
1	100	TIP29C	TIP30C	0.6 Typ.	0.3 Typ.	1	3	30
	250	TIP47	...	2 Typ.	0.18 Typ.	0.3	10	40
	400	TIP50	MJE5731A	2 Typ.	0.18 Typ.	0.3	10	40
2	60	TIP110	TIP115	1.7 Typ	1.3 Typ.	2	25	50
	100	TIP112	TIP117	1.7 Typ.	1.3 Typ.	2	25	50
	450/1000	BUX85	...	3.5	1.4	1	4	50
	450/1000	MJE18002	...	3	0.17	1	12 Typ.	40
3	80	TIP31B	TIP32B	0.6 Typ.	0.3 Typ.	1	3	40
	100	TIP31C	TIP32C	0.6 Typ.	0.3 Typ.	1	3	40
4	80	D44C12	D45C12	...	...	1	40 Typ.	30
	400/700	MJE13005	...	3	0.7	3	30	60
5	60	TIP120	TIP125	1.5 Typ.	1.5 Typ.	3	4	65
	100	TIP122	TIP127	1.5 Typ.	1.5 Typ.	4	4	75
	400/700	BUL45	...	1.7	0.15	1	12 Typ.	75
	450/1000	MJE16002	...	3	0.3	3	...	80
6	80	TIP41B	TIP42B	0.4 Typ.	0.15 Typ.	3	3	65
	100	TIP41C	TIP42C	0.4 Typ.	0.15 Typ.	3	3	65
7	70	2N6292	2N6107	0.4 Typ.	0.15 Typ.	3	4	40
	150	BU407	...	...	0.75	5	10	60
8	60	TIP100	TIP105	1.5 Typ.	1.5 Typ.	3	4	80
	100	BDX53C	BDX54C	...	...	...	...	...
	100	TIP102	TIP107	1.5 Typ.	1.5 Typ.	3	4	80
	150	MJE15030	MJE15031	...	...	...	30	50
	250	MJE15032	MJE15033	...	...	...	30	50
	350	MJE13007	...	3	0.7	5	...	80
	350	...	MJE5852	2	0.5	4	...	80
10	60	MJE3055T	MJE2955T	...	...	...	...	75
	80	2N6388	2N6668	...	...	...	20	65
	80	D44H11	D45H11	0.5 Typ.	0.14 Typ.	5	50 Typ.	50
	100	BDX33C	BDX34C	...	...	...	3	70
12	400/700	MJE13009	...	3	0.7	8	4	100
15	80	D44VH10	D45VH10	0.5	0.09	8	50 Typ.	83
	100	BDW42	BDW47	1 Typ.	1.5 Typ.	5	4	85

* @ 25°C

(9859) (ne09478)

BIPOLAR POWER TRANSISTORS IN SOT-223 PACKAGE

I_C Max. (A)	$V_{CEO(sus)}$ Min. (V)	NPN Type	PNP Type	h_{FE} Min./Max.	@ I_C (A)	P_D @ 25°C (W)
3	30	MMJT9410T1	MMJT9435T1	50	1	0.8

(39398) (ne39398)

BIPOLAR POWER TRANSISTORS IN SURFACE MOUNT DPAK

I_C Max. (A)	$V_{CEO(sus)}$ Min. (V)	NPN Type	PNP Type	Resistive Switching t_s Max. (µs)	Resistive Switching t_f Max. (µs)	Resistive Switching @ I_C (A)	f_T Min. (MHz)	P_D 25°C (W)
0.5	300	MJD340	MJD350	...	...	...	...	15
1	250	MJD47	...	2	0.2	0.3	10	15
	375	...	MJD5731	1.5	0.2	0.3	10	15
	400	MJD50	...	2	0.2	0.3	10	15
2	100	MJD112	MJD117	1.7	1.3	2	25	20
3	40	MJD31	MJD32	0.6	0.3	1	3	15
	100	MJD31C	MJD32-C	0.6	0.3	1	3	15
4	45	MJD148	...	...	...	...	3	20
	80	...	MJD6036	1.7	1.2	2	25	20
	100	MJD243	MJD253	0.16	0.04	1	40	12.5
5	25	MJD200	MJD210	0.15	0.04	2	65	12.5
6	100	MJD41C	MJD42C	0.4	0.15	3	3	20
8	80	MJD44H11	MJD45H11	0.5	0.14	5	50 Typ.	20
	100	MJD122	MJD127	1.5	2	4	4	20
10	60	MJD3055	MJD2955	1.5	1.5	3	2	20
	80	MJD44E3T4	...	2	0.5	10	...	20

(9901) (ne09486)

ORDER PRODUCTS 24 HOURS A DAY AT
http://www.newark.com

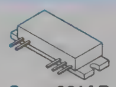
RF MEDIUM POWER TRANSISTORS

Discrete wireless transmitters. For 5.8V applications. LDMOS

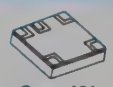
Type	Freq. (MHz)	V_{DD} (V)	Output Power Typ. (dBm)	Drain Efficiency Typ. (%)	Gain Typ. (dB)	Package
MXR9745T1	850	5.8	31.5	60	8.5	SOT-89
MRF9745T1	900	5.8	30	55	10	PLD-1

(19433) (ne11180)

LAND MOBILE / PORTABLE HIGH-POWER RF AMPLIFIERS



Case 301AB



Case 481

These amplifiers offer a wide range in power levels and gain, with performance specifications for bandwidth, stability, and ruggedness.

806-960MHz, UHF LINEAR — CLASS AB (SILICON BIPOLAR DIE)

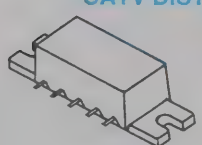
Type	Output Power P_{out} (W)	Input Power P_{in} (W)	Freq. f (MHz)	Power Gain G_P Min. (dB)	V_{CC} Supply Voltage (V)	Package
MHW916	16	0.036	925-960	26.5	26	301AB

824-845MHz (FOR AMPS), UHF LINEAR — CLASS AB (LDMOS DIE)

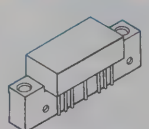
MIM2901	1.41	0.004	824-849	25.5	3.6	481

(4248) (ne09482)

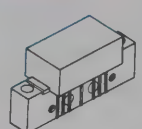
CATV DISTRIBUTION RF AMPLIFIERS



Case 448



Case 714F



Case 714Y

CELLULAR BASE STATION PRE-DRIVERS

These 50 ohm amplifiers are recommended for modem, mutli-tone, CDMA and TDMA base-station pre-driver applications. Their high-order intercept, tight phase control and excellent group delay characteristics make these amplifiers ideal for use in high-power feedforward loops.

Type	V_{CC} Nom. (V)	BW (MHz)	Gain Flatness Typ. (±dB)	Gain/Freq. Typ. (dB/MHz)	P_{1dB} Typ. (dBm)	NF/Freq. Typ. (dB/MHz)	VSWR Max. 50Ω/75Ω	Pkg.
MHL9125	15	800-960	0.5	20/900	31	7.5/960	1.5/...	448
CA2832C	28	1-200	0.5	35.5/100	33	5/200	2/...	714F
MHL9128	28	800-960	0.5	20/900	31	7.5/960	1.5/...	448

40-450MHz HYBRIDS, V_{CC}=24VDC, CLASS A, FORWARD AMPLIFIERS

Type	Hybrid Gain Nom. (dB)	Channel Loading Capacity	Max. Distortion Specifications: Output Level (dBmV)	2nd Order Test (dB)	Composite Triple Beat (db) 60 CH	Cross Modulation (dB) 60 CH	NF* Max. (dB)	Package
MHW5342A	34	60	+46	–68	–59	–59	6.0	714Y

* 450MHz

(9861) (ne09483)

RECEIVER FUNCTION RF MONOLITHIC ICs

LNA + MIXER

Type	RF Freq. (MHz)	IF Freq. (MHz)	Supply Voltage (Vdc)	Supply Current Typ. (mA)	Conv. Gain Typ. (dB)	Output Level 1dB Comp. Typ. (dBm)	Package
MRFIC2001R2	500-1000	0-250	2.7-5.0	4.7	23	–10	SO-8

INTEGRATED LNA/DOWNCONVERTER

Package: SO-16.

Type	RF Freq. (MHz)	IF Freq. (MHz)	Supply Voltage (Vdc)	Supply Current Typ. (mA)	Conv. Gain Typ. (dB)	LNA NF Typ. (dB)	Isolation Lo to RF Lo to IF Typ. (dB)
MRFIC2401R2	2400-2500	100-350	4.75-5.25	9.5	21	1.9	20

(39670) (ne39670)

TRANSMITTER FUNCTION RF MONOLITHIC ICs

Type MRFIC0001 was designed for applications in digital communication systems such as PDC (Personal Digital Cellular), NADC (North American Digital Cellular), PHS (Personal Handyphone Systems), GSM (Global System Mobile), and DCS1800 (Digital Cellular System 1800).

QUADRATURE MODULATOR

Type	Freq. (MHz)	Supply Voltage (VDC)	Supply Current Typ. (mA)	Gain Control Typ. (dB)	L_O Leakage Typ. (dBm)	SSB P_{out}, 1dB Compression Typ. (dBm)	Package
MRFIC0001	50-250	2.7-5.5	10	30	–55	–10	TSSOP-20

DRIVER INTEGRATED POWER AMPLIFIERS

Type	Freq. (MHz)	Supply Voltage (VDC)	Supply Current Typ. (mA)	Small Signal Gain Typ. (dB)	Gain Control Typ. (dB)	P_{out}, 1dB Compression Typ. (dBm)	Package
MRFIC2006	500-1000	1.8-4.0	46	23	...	15.5	SO-8
MRFIC0904	800-1000	2.7-5.0	280	27	25.5	...	SO-16

ANALOG CELLULAR INTEGRATED AMPLIFIERS

Type	Freq. (MHz)	Supply Voltage (Vdc)	Power Added Effic. Min. (%)	Power Gain Min. (dB)	Harmonic Output 2fo (dbc)	P_{OUT}/P_{IN} Min. (dBm)	Package
MRFIC0912R2	824-905	4.6	55	23.8	–25	30.8/7	16-Pin PFP

GSM CELLULAR INTEGRATED AMPLIFIERS

MRFIC0913	880-915	4.8	48	24.5	–30	34.5/10	16-Pin PFP

DECT & PHS INTEGRATED AMPLIFIERS

Type	RF Output Freq. (GHz)	Supply Voltage (Vdc)	Supply Current Typ. (mA)	Small Signal Gain (dB)	P_{OUT}/P_{IN} Typ. (dBm)	1dB Comp. Typ. (dBm)	Package
MRFIC1807R2	1.5-2.2	3.0-5.0	325	8	26.8/20	25	SO-16

GENERAL-PURPOSE CASCODE AMPLIFIER

Type	Freq. (MHz)	Supply Voltage (Vdc)	Supply Current Typ. (mA)	SS Gain Typ. (dB)	NF Typ. (dB)	Reverse Isolation Typ. (dB)	Package
MRFIC0915T1†	100-2000	2.7-5.0	2.2	16.5	1.9	38	SOT-143
MRFIC0916T1†	100-2000	2.7-5.0	4.7	16.5	1.9	44	SOT-143

* 900MHz; † Also receiver funtion RF monolithic ICs.

(4263) (ne09519)

RF/IF MONOLITHIC ICs

RF FRONT END ICs—RECEIVERS

Type	Low Noise Amp. Gain (dB)	Low Noise Amp. NF (dB)	Mixer Gain (dB)	Mixer NF (dB)	Voltage Cont Osc	V_{CC} (V)	I_{CC} (mA)	Package
MC13142D	17	1.8	±3.0	12	Yes	2.7 to 6.5	13	SO-16
MC13143D	...	...	±3.0	12	...	1.8 to 6.5	1.0	SO-8
MC13144D	13-19	1.4	...	...	...	1.8 to 6.5	2 to 9	SO-8
MC13145FTA	14	1.8	0	12	Yes	2.7 to 6.5	30	TQFP

RF FRONT END ICs—TRANSMITTERS

Type	Low Power Amp. PA Gain (dB)	Low Power Amp. NF (dB)	Mixer P_{IFOut} (dB)	Mixer NF (dB)	Voltage Cont Osc	V_{CC} (V)	I_{CC} (mA)	Package
MC13146FTA	15	...	15	...	Yes	2.7 to 6.5	25	TQFP

VHF WIDEBAND SINGLE CONVERSION RECEIVERS

FM IF/demodulator with split IF for DECT and RSSI.

Type	V_{CC} (V)	I_{CC} (mA)	Sensitivity Typ. (µV)	RF Input (MHz)	IF (MHz)	Max. Data Rate (Mb)	Package
MC13158FTB	2-6	6.0	2.0	500	21.4	>1.2	PLCC

UNIVERSAL CORDLESS PHONE SUBSYSTEM ICs

Feature: dual conversion receiver, universal PLL, compander and audio interface.

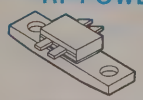
Type	V_{CC} (V)	I_{CC} Active Mode (mA)	I_{CC} Inactive Mode (µA)	Description
MC13109FB	2.0-5.5	6.7	40	1 Low Battery Detect. Pkg.: QFP.
MC13110FB	2.7-5.5	8.2	60	Voice Scrambler, 2 Low Battery Detects, Programmable R_X, T_X, Trim Gain, and LBD Voltage Reference. Pkg.: QFP.
MC13111FB	2.7-5.5	8.2	60	2 Low Battery Detects, Prog. R_X, T_X, Trim Gain, and LBD Voltage Ref. Pkg.: QFP.

(39671) (ne39671)

PRICES LISTED AT THE BEGINNING OF THE SECTION.

RF MOSFETs AND TRANSISTORS

RF POWER MOSFETs



Case 319B

Case 375

N-channel field-effect transistors with an oxide-insulated gate which controls vertical current flow. Exhibit higher gain, higher input impedance, enhanced thermal stability, and lower noise than bipolar transistors. Constructed using a planar process to enhance manufacturing repeatability. For use in RF power amplifiers.

To 150MHz HF/SSB

For military and commercial HF/SSB fixed, mobile, and marine transmitters. V_{DD} = 50V, Class AB.

Type	P_{OUT} Output Power (W)	P_{IN} Input Power Typ. (W)	G_{PS} Gain @ 30MHz Typ. (dB)	IMD Typ. d_3 (dB)	IMD Typ. d_{11} (dB)	θ_{JC} (°C/W)	Package
MRF140	150	4.7	15	–30	–60	0.6	0.380″ Flange
MRF148A*	30	0.5	18	–35	–60	1.5	0.380″ Flange
MRF150	150	3	17	–32	–60	1.5	0.500″ Flange

* V_{DD}=28V.

To 225MHz VHF AM/FM

For VHF military and commercial aircraft transmitters. Class AB.

Type	V_{DD} (V)	P_{OUT} Output Power (W)	P_{IN} Input Power Typ. (W)	G_{PS} Typ./ Freq. (dB/MHz)	η Eff. Typ. (%)	θ_{JC} (°C/W)	Package
MRF134	28	5	0.2	14/150	55	10	0.380″ Flange
MRF136	28	15	0.38	16/150	60	3.2	0.380″ Flange
MRF136Y	28	30	1.2	14/150	54	1.8	319B
MRF137	28	30	0.75	16/150	60	1.8	0.380″ Flange
MRF151	50	150	7.5	13/175	45	0.6	0.500″ Flange
MRF151G	50	300	7.5	16/175	55	0.35	375
MRF173	28	80	4	13/150	65	0.8	0.500″ Flange

To 1.0GHz

For HF/VHF/UHF military and commercial applications. Class AB.

Type	V_{DD} (V)	P_{OUT} Output Power (W)	P_{IN} Input Power Typ. (W)	G_{PS} Typ./ Freq. (dB/MHz)	η Eff. Typ. (%)	θ_{JC} (°C/W)	Package
MRF182	28	30	1.2	14/1000	60	1.75	Micro 250
MRF183	28	45	2.8	12/1000	55	1.25	Micro 250
MRF184	28	60	1.9	15/1000	36	1.1	Micro 250
MRF185	28	85	3.4	14/1000	55	0.7	Micro 860

(4289) (ne09558)

RF POWER BIPOLAR HF TRANSISTORS

1.5-30MHz BANDWIDTH, HF/SSB

Designed for broadband operation. Feature specified intermodulation distortion at rated power output. Applications include mobile, marine, fixed station, and amateur HF/SSB equipment operating from 12.5-, 13.6-, 28-, or 50-volt supplies. Class AB.

Type	V_{CC} (V)	P_{OUT} Output Power (W)	P_{IN} Input Power Max. (W)	G_{PE} Gain @ 20MHz Min. (dB)	θ_{JC} (°C/W)	Package
MRF421	12.5 or 13.6	100 PEP/CW	10	10	0.6	0.500″ Flange
MRF426	28	25 PEP/CW	0.16	22	2.5	0.380″ Flange
MRF422	28	150 PEP/CW	15	10	0.6	0.500″ Flange
MRF448	50	250 PEP/CW	15.7	12	0.6	0.500″ Flange

14-30MHz BANDWIDTH, CB/AMATEUR BAND

Designed for economical, high-volume use in CW, AM, and SSB applications. Class AB.

MRF455	12.5 or 13.6	60	3	13	1	0.380″ Flange
MRF454	12.5 or 13.6	80	5	12	0.7	0.500″ Flange

(4292) (ne09561)

RF POWER BIPOLAR VHF TRANSISTORS

All-gold metallized. High reliability. Designed for military radio and commercial aircraft VHF bands. Class AB.

Type	V_{CC} (V)	P_{OUT} Output Power (W)	P_{IN} Input Power Max. (W)	G_{PE} (Min.)/ Freq. Power Gain (dB/MHz)	θ_{JC} (°C/W)	Package
MRF314	28	30	3	10/150	2.2	0.380″ Flange
MRF317*	28	100	12.5	9/150	0.65	0.500″ CQ
MRF1946	12.5	30	3	10	1.6	0.380″ Flange

* Internal impedance matched

(4293) (ne09562)

RF POWER BIPOLAR UHF TRANSISTORS

100-400MHz BAND

Stringent military requirements are met by **type MRF392,** with gold metal systems, specific ruggedness and programmed wire-bond construction, to provide consistent input impedances for internally matched components.

Type	V_{CC} (V)	P_{OUT} Output Power (W)	P_{IN} Input Power Max. (W)	G_{PE} (Min.)/ Freq. Power Gain (dB/MHz)	θ_{JC} (°C/W)	Package
MRF392	28	125	19.8	8	0.7	Case 744A/1

400-500MHz BANDWIDTH

Nitride-passivated die, gold metal systems, specified ruggedness, and controlled wire-bond construction to meet the stringent requirements of military space applications. Class C.

MRF166C	28	20	0.62	15/500	2.5	CS-12
MRF323	28	20	2	10/400	3.2	0.280″ Stud

470-512MHz BANDWIDTH

Designed for broadband operation. Internally input-matched construction. Guaranteed ruggedness under output mismatch and RF overdrive conditions. Specified for hand-held, mobile, and base station operation. Class C.

MRF652	12.5	5	0.5	10/512	7	0.280″ Stud

** Small signal gain, P_O is typ. † Internal impedance matched

(4290) (ne09559)

PHASE-LOCKED LOOP COMPONENTS

Technologies include CMOS for lowest power consumption and bipolar for high-speed operation. Typical applications include TV. CATV, radios, scanners, WLANs, cordless telephones plus home and personal computers.

PLL FREQUENCY SYNTHESIZER

Type	Freq. (MHz)	Supply Voltage (V)	Supply Current Nom. (mA)	Phase Detector	Package
MC145230FTA	2600, 400	1.8 to 3.6	7	Loop 1 = Current Source/Sink Loop 2 = Three-State	LQFP

Type	Description	Package
MC12089D	2.8GHz ÷64/128 Prescaler	8-Pin SOIC
MC12089P	2.8GHz ÷64/128 Prescaler	8-Pin PDIP

(38371) (ne38371)

RF SMALL SIGNAL TRANSISTORS

Includes NPN and PNP silicon bipolar transistors characterized for low noise amplifiers, mixers, oscillators, multipliers, nonsaturated switches, and low-power drivers. Wide variety of package types are available: Macro-X and Macro-T, ceramic and SMT.

SOT-23 PACKAGE

Type	Gain-Bandwidth f_T Typ. (GHz)	Gain-Bandwidth I_C (mA)	N_F@ f Typ. (dB)	N_F@ f MHz	Gain @ f Typ. (dB)	Gain @ f MHz	Maximum Ratings $V_{(BR)CEO}$ (Volts)	Maximum Ratings I_C (mA)
MMBR5031LT1	1	20	2.5	450	17	450	10	20
BFS17LT1	1.3	25	5	30	...	...	15	...
BFR92ALT1	3.4	25	3.0	500	15	...	15	25
MMBR901LT1	4	30	1.9	1000	12	1000	15	30
MMBR5179LT1	1.4	50	4.5	200	15	200	12	50
MMBR941LT1	8	50	2.1	2000	8.5	2000	10	50
MMBR911LT1	6	50	2	500	17	500	12	40
MMBR571LT1	8	70	2	500	16.5	500	10	80
MMBR951LT1	8	100	2.1	2000	7.5	2000	10	100

SOT-143 PACKAGE

MRF5711LT1	8	–70	1.6	1000	13.5	1000	10	70
MRF9411LT1	8	50	2.1	2000	9.5	2000	10	50
MRF5811LT1	5	75	2.0	500	18.4	500	18	200
MRF9511LT1	8	30	2.1	2000	9	2000	10	100

SOT-323 PACKAGE

MRF917T1	6	20	2.3	1000	10	1000	12	60
MRF577T1	7	40	1.5	1000	10	1000	10	80
MRF927T1	8	5	1.7	1000	9.8	1000	10	10
MRF947T1	8	15	2.1	2000	10.5	1500	10	50
MRF947AT1	8	15	2.1	2000	10.5	1500	10	50
MRF947BT1	8	15	2.1	2000	10.5	1500	10	50
MRF957T1	9	30	2.0	2000	9	1500	10	100

SC-75 PACKAGE

MRF579T1	8	40	1.5	1000	12	1000	...	80
MRF949T1	9	15	1.5	1000	14	1000	...	50
MRF959T1	9	30	1.6	1000	8	1000	...	100

(9864) (ne09516)

RECTIFIERS, THYRISTORS AND TRIACs

SILICON CONTROLLED RECTIFIERS (SCRs)

RMS (A)	Type	I_{TSM} 60Hz (A)	V_{DRM} V_{RRM} (V)	I_{GT} (mA)	Package
0.8	2N5061	10	100	0.2	TO-92
0.8	2N5062*	10	100	0.2	TO-92
0.8	2N5064*	10	200	0.2	TO-92
0.8	MCR100-6*	10	400	0.2	TO-92
1.5	MCR22-6*	15	400	0.2	TO-92
1.5	MCR22-8*	15	600	0.2	TO-92
4	MCR106-6*	25	400	0.2	TO-126
4	2N6240*	25	400	0.2	TO-126
4	MCR106-8*	25	600	0.2	TO-126
4	C106B*	20	200	0.2	TO-126
4	C106D*	20	400	0.2	TO-126
4	C106M*	20	600	0.2	TO-126
8	MCR218-6FP†	80	400	25	221C
8	MCR218-8FP†	80	600	25	221C
8	MCR218-10FP†	80	800	25	221C
8	MCR218-2	80	50	25	TO-220AB
8	MCR218-4	80	200	25	TO-220AB
8	MCR218-6	80	400	25	TO-220AB
8	MCR72-8*	100	600	0.2	TO-220AB
8	MCR8D	80	400	15	TO-220AB
8	MCR8M	80	600	15	TO-220AB
8	MCR8N	80	800	15	TO-220AB
8	MCR8SD	80	400	0.2	TO-220AB
8	MCR8SM*	80	600	0.2	TO-220AB
8	MCR8SN*	80	800	0.2	TO-220AB
12	2N6394	100	50	30	TO-220AB
12	2N6395	100	100	30	TO-220AB
12	2N6397	100	400	30	TO-220AB
12	2N6399	100	800	30	TO-220AB
12	2N6400	160	50	30	TO-220AB
12	2N6401	160	100	30	TO-220AB
12	2N6402	160	200	30	TO-220AB
12	2N6403	160	400	30	TO-220AB
12	2N6404	160	600	30	TO-220AB
12	2N6405	160	800	30	TO-220AB
12	MCR12D	100	400	20	TO-220AB
12	MCR12M	100	600	20	TO-220AB
12	MCR12N	100	800	20	TO-220AB
12	MCR12LD	100	400	8	TO-220AB
12	MCR12LM	100	600	8	TO-220AB
12	MCR12LN	100	800	8	TO-220AB
12	MCR16D	150	400	20	TO-220AB
12	MCR16M	150	600	20	TO-220AB
16	MCR16N	150	800	20	TO-220AB
25	2N6504	300	50	40	TO-220AB
25	2N6505	300	100	40	TO-220AB
25	2N6507	300	400	40	TO-220AB
25	2N6508	300	600	40	TO-220AB
25	2N6509	300	800	40	TO-220AB
25	MCR25D	300	400	30	TO-220AB
25	MCR25M	300	600	30	TO-220AB
25	MCR25N	300	800	30	TO-220AB
25	MCR225-2FP†	300	50	40	221C
25	MCR225-8FP†	300	600	40	221C
25	MCR225-10FP†	300	800	40	221C
40	MCR264-4	400	200	50	TO-220
40	MCR264-8	400	600	50	TO-220
55	MCR265-4	550	200	50	TO-220
55	MCR265-8	550	600	50	TO-220
55	MCR265-10	550	800	50	TO-220

* Sensitive gate. † Isolated, UL recognized.

(9959) (ne04245)

THYRISTOR TRIGGERS

PROGRAMMABLE UNIJUNCTION TRANSISTORS

Similar to unijunction transistors, except that I_V, I_P, and intrinsic stand-off voltage are programmable (adjustable) by using an external voltage divider. General operating frequency range is from 0.01Hz to 10kHz. Suitable for long duration timer circuits.

Type	I_P Min. @ RG=10kΩ	I_P Max. @ RG=1MΩ	I_{GAO} @40V Max.	I_V Min. @ RG=10kΩ	I_V Max. @ RG=1MΩ	Pkg.
2N6027	5μA	2μA	10nA	70μA	50μA	TO-92
2N6028	1μA	0.15μA	10nA	25μA	25μA	TO-92

SILICON BIDIRECTIONAL SWITCHES (SBS)

Exhibits highly symmetrical bidirectional switching characteristics, which can be modified by means of a gate lead. Requires gate trigger of only 250μADC for triggering.

Type	V_S Min.	V_S Max.	I_S Max.	I_H Max.	Package
MBS4991	6V	10V	500μA	1.5mA	TO-92
MBS4992	7.5V	9V	120μA	0.5mA	TO-92
MBS4993	7.5V	9V	250μA	0.75mA	TO-92

(13329) (ne09960)

SCHOTTKY RECTIFIERS

T_J max.=150°C, unless indicated otherwise.

Type	V_{RRM} (V)	I_O (A)	I_O Rating Condition (°C)	Max. V_F@I_F T_C=25C (V)	I_{FSM} (A)	Package
1N5817	20	1	T_A=55**	0.450 @ 1.0A	25	59-04
1N5818*	30	1	T_A=55**	0.550 @ 1.0A	25	59-04
1N5819*	40	1	T_A=55**	0.600 @ 1.0A	25	59-04
MBR150	50	1	...	0.550 @ 1.0A	25	59-04
MBR160	60	1	T_A=55**	0.750 @ 1.0A	25	59-04
MBR1100	100	1	T_A=120‡	0.790 @ 1.0A	50	59-04
1N5820*	20	3	T_A=76†	0.457 @ 3.0A	80	267-03
1N5821*	30	3	T_A=71†	0.500 @ 3.0A	80	267-03
1N5822*	40	3	T_A=61†	0.525 @ 3.0A	80	267-03
MBR340	40	3	T_A=65†	0.600 @ 3.0A	80	267-03
MBR360	60	3	T_A=65†	0.740 @ 3.0A	80	267-03
MBR3100	100	3	T_A=100†	0.790 @ 3.0A	150	267-03
MBR735	35	7.5	...	0.840 @ 15A	150	TO-220AC
MBR745	45	7.5	T_C=105	0.840 @ 15A	150	TO-220AC
MBRF745	45	7.5	T_C=105	0.840 @ 15A	150	221E
MBR1035	35	10	...	0.570 @ 10A	150	TO-220AC
MBR1060	60	10	T_C=133	0.800 @ 10A	150	TO-220AC
MBR10100	100	10	T_C=133	0.800 @ 10A	150	TO-220AC
MBR1535CT	35	15	...	0.840 @ 15A	150	TO-220AB
MBR1545CT	45	15	T_C=105	0.840 @ 15A	150	TO-220AB
MBR1645	45	16	T_C=125	0.630 @ 16A	150	TO-220AC
MBR2030CTL	30	20	T_C=137	0.580 @ 20A	150	TO-220AB
MBR2045CT	45	20	T_C=135	0.840 @ 20A	150	221D
MBR2060CT	60	20	T_C=133	0.950 @ 20A	150	TO-220AB
MBRF2060CT	60	20	T_C=133	0.950 @ 20A	150	221D
MBR20100CT	100	20	T_C=133	0.950 @ 20A	150	TO-220AB
MBRF20100CT	100	20	T_C=133	0.950 @ 20A	150	221D
MBR20200CT	200	20	T_C=125	1.000 @ 20A	150	TO-220AB
MBR2535CTL*	35	25	T_C=95	0.550 @ 25A	150	TO-220AB
MBR2545CT	45	25	T_C=130	0.820 @ 30A	150	TO-220AB
MBRF2545CT	45	25	T_C=125	0.820 @ 25A	150	221D
MBR3045ST	45	30	T_C=130	0.760 @ 30A	150	TO-220AB
MBR3045WT	45	30	T_C=105	0.760 @ 30A	200	TO-247
MBR4015LWT	15	40	T_C=125	0.500 @ 40A	400	TO-247
MBR4045PT	45	40	T_C=125	0.800 @ 40A	400	TO-218AC
MBR4045WT	45	40	T_C=125	0.800 @ 40A	400	TO-247
MBR5025L	25	50	T_C=125	0.620 @ 50A	300	TO-218
MBR6045WT	45	60	T_C=125	0.750 @ 60A	500	TO-247
MBRP20060CT	60	200	T_C=125	0.800 @ 100A	1500	Powertap

* T_J max.=125°C. ** $R_{\theta JA}$ = 80°C/W. † $R_{\theta JA}$ = 28°C/W. ‡ $R_{\theta JA}$ = 50°C/W

(4245) (ne07443)

TRIACs

RMS (A)	Type	I_{TSM} 60Hz (A)	V_{DRM} (V)	Package
4	2N6073B*	30	400	TO-126
4	2N6075A	30	600	TO-126
8	MAC8D	80	400	TO-220AB
8	MAC8M	80	600	TO-220AB
8	MAC8N	80	800	TO-220AB
8	MAC9D	80	400	TO-220AB
8	MAC9M	80	600	TO-220AB
8	MAC9N	80	800	TO-220AB
8	2N6344	100	600	TO-220AB
8	MAC228A6*	80	400	TO-220AB
8	MAC228A8*	80	600	TO-220AB
10	MAC210A8	100	600	TO-220AB
12	2N6344A	120	600	TO-220AB
12	MAC12D	120	400	TO-220AB
12	MAC12M	120	600	TO-220AB
12	MAC12N	120	800	TO-220AB
15	MAC15A6◆	150	400	TO-220AB
15	MAC15-8◆	150	600	TO-220AB
15	MAC15A10◆	150	800	TO-220AB
15	MAC15A10FP	150	800	TO-220 Isolated
25	MAC223A6	250	400	TO-220AB
25	MAC223A8	250	600	TO-220AB
25	MAC223A10FP	250	800	TO-220 Isolated
40	MAC224A4	350	200	TO-220AB
40	MAC224A6	350	400	TO-220AB
40	MAC224A8	350	600	TO-220AB
40	MAC224A10	350	800	TO-220AB

* Sensitive gate. ◆ High noise immunity.

(4328) (ne51125)

AT NEWARK, YOUR ORDER IS OUR FIRST PRIORITY.

RECTIFIERS

SURFACE MOUNT ULTRA-FAST RECOVERY RECTIFIERS

SMD

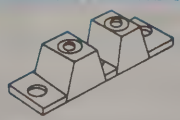
SMB/SMC

T_J= 175°C max.

Type	V_{RRM} (V)	I_O (A)	I_O Rating Condition (°C)	t_{IT} Max. (ns)	Max. V_F @ I_F T_C = 25°C (V)	I_{FSM} (A)	Device Marking	Pkg.
MURS110T3	100	1	T_l=155	35	0.875 @ 1A	40	U1B	SMB
MURS120T3	200	1	T_L=155	35	0.875 @ 1A	40	U1D	SMB
MURS140T3	400	1	T_l=150	75	1.25 @ 1A	35	U1G	SMB
MURS150T3	500	1	T_L=150	75	1.25 @ 1A	35	U1H	SMB
MURS160T3	600	1	T_l=150	75	1.25 @ 1A	35	U1J	SMB
MURS320T3	200	3	T_L=140	35	0.875 @ 3A	75	U3D	SMC
MURS340T3	400	3	T_l=130	75	1.25 @ 3A	75	U3G	SMC
MURS360T3	600	3	T_L=130	75	1.25 @ 3A	75	U3J	SMC

(9963) (ne07239)

LOW V_F SCHOTTKY RECTIFIERS



Powertap

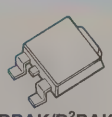
Type	V_{RRM} (V)	I_O @ T_C=125°C (A)	V_F @ I_F T_C = 25°C Max. (V)	I_{FSM} (A)	T_J Max. (°C)
MBRP20030CTL	20	200	0.52 @ 100A 0.60 @ 200A	1500	150

(37970) (ne37970)

SURFACE MOUNT SCHOTTKY RECTIFIERS

SMD

SOD-123



DPAK/D²PAK

Type	V_{RRM} (V)	I_O (A)	I_O Rating Condition (°C)	Max. V_F @ I_F T_C = 25°C (V)	I_{FSM} (A)	t_{JT} Max. (°C)	Pkg.
MBR0520LT1	20	0.5	T_l=105	0.385 @ 0.5A	5	125	SOD-123
MBR0530T1	30	0.5	T_L=105	0.430 @ 0.5A	5	125	SOD-123
MBR0540T1	40	0.5	T_l=110	0.530 @ 0.5A	20	150	SOD-123
MBRS120T3	20	1	...	0.550 @ 1.0A	40	...	SMB
MBRS130LT3	30	1	T_l=120	0.395 @ 1.0A	40	125	SMB
MBRS140T3	40	1	T_l=115	0.600 @ 1.0A	40	125	SMB
MBRS1100T3	100	1	T_l=120	0.750 @ 1.0A	40	150	SMB
MBRS320T3	20	3	...	0.500 @ 3.0A	80	125	SMC
MBRS330T3	30	3	...	0.500 @ 3.0A	80	125	SMC
MBRS340T3	40	3	T_l=100	0.525 @ 3.0A	80	125	SMC
MBRS360T3	60	3	T_l=100	0.740 @ 3.0A	80	125	SMC
MBRD320	20	3	...	...	...	...	DPAK
MBRD330	30	3	...	...	...	...	DPAK
MBRD350	50	3	...	...	...	...	DPAK
MBRD360	60	3	T_C=125	0.60 @ 3.0A	75	150	DPAK
MBRD640CT	40	6	T_C=130	0.70 @ 3.0A	75	150	DPAK
MBRD660CT	60	6	T_C=130	0.70 @ 3.0A	75	150	DPAK
MBRD835L	35	8	T_C=100	0.510 @ 8.0A	100	125	DPAK
MBRB1545CT	45	15	T_C=105	0.840 @ 15.0A	150	150	D²PAK
MBRB2060CT	60	20	T_C=110	0.950 @ 20.0A	150	150	D²PAK
MBRB2535CTL	35	25	T_C=110	0.550 @ 25.0A	150	125	D²PAK

(9885) (ne07240)

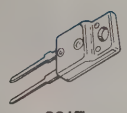
NEWARK SAVES YOU TIME.
A SIMPLE PHONE CALL CAN GET YOU
OVERNIGHT DELIVERY ANYTIME, ANYWHERE.

THRU-HOLE RECTIFIERS

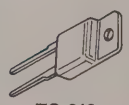
59-03/04

267-03

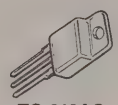
221D



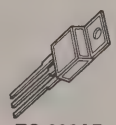
221E



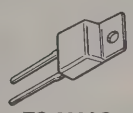
TO-218



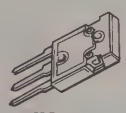
TO-218AC



TO-220AB

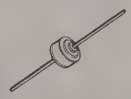


TO-220AC



TO-247

193-04



194-04

ULTRA-FAST RECTIFIERS

T_J Max. = 175°C, unless otherwise noted.

Type	V_{RRM} (V)	I_O (A)	I_O Rating Condition (°C)	t_{IT} Max. (ns)	V_F Max. @ I_F T_C=25°C (V)	I_{FSM} (A)	Pkg.
MUR120	200	1	T_A=130	25	0.875 @ 1.0A	35	59-04
MUR160	600	1	T_A=120	50	1.25 @ 1.0A	35	59-04
MUR180E	800	1	T_A=95	75	1.5 @ 1.0A	35	59-04
MUR1100E	1000	1	T_A=95	75	1.75 @ 1.0A	35	59-04
MUR420	200	4	T_A=80	25	0.875 @ 3.0A	125	267-03
MUR460	600	4	T_A=40	50	1.25 @ 3.0A	70	267-03
MUR480E	800	4	T_A=35	75	1.75 @ 3.0A	70	267-03
MUR4100E	1000	4	T_A=35	75	1.75 @ 3.0A	70	267-03
MUR620CT	200	6	T_C=130	35	0.975 @ 3.0A	75	TO-220AB
MUR820	200	8	T_C=150	35	0.975 @ 8.0A	100	TO-220AC
MUR840	400	8	T_C=150	50	1.3 @ 8.0A	100	TO-220AC
MUR860	600	8	T_C=150	50	1.50 @ 8.0A	100	TO-220AC
MUR880E	800	8	T_C=175	75	1.80 @ 8.0A	100	TO-220AC
MUR8100E	1000	8	T_C=150	75	1.80 @ 8.0A	100	TO-220AC
MURH840CT	400	8	T_C=130	28	2.0 @ 4.0A	100	TO-220AB
MURH860CT	600	8	T_C=120	35	2.8 @ 4.0A	100	TO-220AB
MUR10120E*	1200	10	T_C=125	175	2.20 @ 6.5A	100	TO-220AC
MUR10150E*	1500	10	T_C=125	175	2.20 @ 6.5A	100	TO-220AC
MUR1520	200	15	T_C=150	35	1.05 @ 15A	200	TO-220AC
MUR1540	400	15	T_C=150	60	1.25 @ 15A	150	TO-220AC
MUR1560	600	15	T_C=145	60	1.50 @ 15A	150	221E
MUR1620CT	200	16	T_C=150	35	0.975 @ 8.0A	100	TO-220AB
MUR1640CT	400	16	T_C=150	60	1.3 @ 8.0A	100	TO-220AB
MUR1660CT	600	16	T_C=150	60	1.5 @ 8.0A	100	TO-220AB
MURF1620CT*	200	16	T_C=150	25	0.975 @ 8.0A	100	221D
MUR3060WT	600	30	T_C=145	60	1.25 @ 15A	150	TO-247
MUR3020PT	200	30	T_C=150	35	1.12 @ 15A	200	TO-218AC
MUR3040PT	400	30	T_C=150	35	1.25 @ 15A	400	TO-218AC
MUR3040	400	30	T_C=70	100	1.50 @ 30A	300	TO-218
MUR3080	800	30	T_C=70	110	1.90 @ 30A	300	TO-218
MUR6040	400	60	T_C=70	100	1.50 @ 60A	600	TO-218

FAST RECOVERY & GENERAL-PURPOSE RECTIFIERS

1N4001	50	1	T_A=75	...	...	30	59-03
1N4002	100	1	T_A=75	...	...	30	59-03
1N4003	200	1	T_A=75	...	...	30	59-03
1N4004**	400	1	T_A=75	...	1.10 @ 1.00A	30	59-03
1N4005	600	1	T_A=75	...	...	30	59-03
1N4006	800	1	T_A=75	...	...	30	59-03
1N4007**	1000	1	T_A=75	...	1.10 @ 1.00A	30	59-03
1N4935**	200	1	T_A=75	200	1.20 @ 3.14A	30	59-03
1N4936**	400	1	T_A=75	200	...	30	59-03
1N4937**	600	1	T_A=75	200	1.20 @ 3.14A	30	59-03
1N5400	50	3	T_l=105	...	...	200	267-03
1N5401	100	3	T_L=105	...	...	200	267-03
1N5402	200	3	T_l=105	...	...	200	267-03
1N5404**	400	3	T_L=105	...	1.20 @ 9.40A	200	267-03
1N5406**	600	3	T_l=105	...	1.20 @ 9.40A	200	267-03
MR852**	200	3	T_A=80	200	1.25 @ 3.00A	100	267-03
MR856**	600	3	T_A=80	200	1.25 @ 3.00A	100	267-03
MR750	50	6	T_A=60	...	...	400	194-04
MR751	100	6	T_A=60	...	...	400	194-04
MR752	200	6	T_A=60	...	...	400	194-04
MR754	400	6	T_A=60	...	1.25 @ 100A	400	194-04
MR756	600	6	T_A=60	...	...	400	194-04
MR760	1000	6	T_A=60	...	1.25 @ 100A	400	194-04
MR2504	400	25	T_C=150	...	1.18 @ 78.5A	400	193-04
MR2510	1000	25	T_C=150	...	1.18 @ 78.5A	400	193-04
MR2535L	20	35	T_C=150	...	1.10 @ 100A	400	194-04

* T_J Max. = 125°C. ** T_J Max. = 150°C

(4244) (ne07241)

ZENER DIODES AND TVS

VOLTAGE REGULATOR ZENER DIODES

SMD

Nominal Zener Breakdown Voltage (V)	SMD 225mW SOT-23 Type	SMD 225mW SOT-23 Type	SMD 500mW Low Level SOD-123 Type	Thru-Hole Axial Lead 500mW Low Level Type	SMD 500mW SOD-123 Type	Thru-Hole Axial Lead 500mW Type	SMD 3 Watt SMB Type
1.8	...	...	MMSZ4678T1	1N4678	...	...	...
2.0	...	...	MMSZ4679T1	...	...	...	...
2.2	...	...	MMSZ4680T1	...	...	...	...
2.4	...	...	MMSZ4681T1	...	MMSZ5221BT1	1N5221B	...
2.5	...	...	...	...	MMSZ5222BT1	...	...
2.7	...	...	...	1N4682	...	...	...
2.8	...	...	...	...	...	...	...
3.0	...	...	MMSZ4683T1	1N4683	MMSZ5225BT1	1N5225B	...
3.3	...	MMBZ5226BLT1	...	1N4684	MMSZ5226BT1	1N5226B	1SMB5913BT3
3.6	...	MMBZ5227BLT1	MMSZ4685T1	...	...	...	...
3.9	...	MMBZ5228BLT1	MMSZ4686T1	1N4686	...	1N5228B	...
4.3	...	...	MMSZ4687T1	1N4687	...	1N5229B	...
4.7	BZX84C4V7LT1	...	MMSZ4688T1	1N4688	MMSZ5230BT1	1N5230B	...
5.1	BZX84C5V1LT1	MMBZ5231BLT1	MMSZ4689T1	1N4689	MMSZ5231BT1	1N5231D	1SMB5918BT3
5.6	BZX84C5V6LT1	MMBZ5232BLT1	MMSZ4690T1	1N4690	MMSZ5232BT1	1N5232B	1SMB5919BT3
6.0	...	...	...	...	MMSZ5233BT1	...	...
6.2	BZX84C6V2LT1	MMBZ5234BLT1	MMSZ4691T1	1N4691	MMSZ5234BT1	1N5234B	1SMB5920BT3
6.8	BZX84C6V8LT1	MMBZ5235BLT1	MMSZ4692T1	1N4692	MMSZ5235BT1	1N5235B	1SMB5921BT3
7.5	...	MMBZ5236BLT1	...	1N4693	MMSZ5236BT1	1N5236B	...
8.2	BZX84C8V2LT1	MMBZ5237BLT1	...	...	MMSZ5237BT1	1N5237B	1SMB5923BT3
8.7	...	...	...	...	...	...	...
9.1	...	MMBZ5239BLT1	...	...	MMSZ5239BT1	1N5239D	1SMB5924BT3
10	BZX84C10LT1	MMBZ5240BLT1	MMSZ4697T1	1N4697	...	1N5240B	1SMB5925BT3
11	...	...	...	1N4698	...	...	...
12	BZX84C12LT1	MMBZ5242BLT1	MMSZ4699T1	1N4699	MMSZ5242BT1	1N5242B	1SMB5927BT3
13	...	...	...	1N4700	...	...	...
14	...	...	...	...	...	...	...
15	BZX84C15LT1	MMBZ5245BLT1	MMSZ4702T1	1N4702	MMSZ5245BT1	1N5245B	1SMB5929BT3
15	...	MMBZ15VDLT1	...	...	...	...	...
16	BZX84C16LT1	MMBZ5246BLT1	...	...	MMSZ5246BT1	...	1SMB5930BT3
17	...	...	...	...	...	...	...
18	BZX84C18LT1	MMBZ5248BLT1	...	1N4705	...	...	1SMB5931BT3
19	...	...	...	...	...	...	...
20	BZX84C20LT1	MMBZ5250BLT1	...	...	...	...	1SMB5932BT3
22	...	MMBZ5251BLT1	...	...	...	...	...
24	...	MMBZ5252BLT1	...	...	...	...	1SMB5934BT3
25	...	...	...	...	...	...	...
27	...	MMBZ5254BLT1	...	...	...	...	1SMB5935BT3
28	...	...	...	...	...	...	...
30	BZX84C30LT1	MMBZ5256BLT1	...	...	MMSZ5256BT1	...	1SMB5936BT3
33	BZX84C33LT1	MMBZ5257BLT1	...	...	...	...	...
36	...	...	...	...	MMSZ5258BT1	...	1N5938B
39	...	...	...	...	MMSZ5259BT1	...	...
43	...	...	...	...	MMSZ5260BT1	...	...
47	...	...	...	...	...	...	...
120	...	...	...	...	...	...	1N5951B

(9952) (de03389)

TRANSIENT VOLTAGE SUPPRESSORS

Type	V_{BR} Min.	V_{BR} Nom.	V_{BR} Max.	@ I_r (mA)	Working Peak Reverse Voltage V_{RWM} (V)	Reverse Leakage @ V_{RWM} Max. I_R (µA)	Reverse Surge Current Max. I_{RSM} (A)	Reverse Voltage @ I_{RSM} (Clamping Voltage) Max. V_{RSM} (V)	Temperature Coefficient of V_{BR} Max. (%/°C)	Marking	Package
P6SMB6.8AT3	6.45	6.8	7.14	10	5.8	1000	57	10.5	0.057	6V8A	SMB
P6SMB13AT3	12.4	13	13.7	1	11.1	5	33	18.2	0.081	13A	SMB
P6SMB15AT3	14.3	15	15.8	1	12.8	5	28	21.2	0.084	15A	SMB
P6SMB22AT3	20.9	22	23.1	1	18.8	5	20	30.6	0.092	22A	SMB
P6SMB27AT3	25.7	27	28.4	1	23.1	5	16	37.5	0.096	27A	SMB
P6SMB33AT3	31.4	33	34.7	1	28.2	5	13.2	45.7	0.098	33A	SMB
P6SMB36AT3	34.2	36	37.8	1	30.8	5	12	49.9	0.099	36A	SMB
P6SMB39AT3	37.1	39	41	1	33.3	5	11.2	53.9	0.1	39A	SMB
P6SMB200AT3	190	200	210	1	171	5	2.2	274	0.108	200A	SMB
1SMC5.0AT3	6.40	...	...	10	5.0	1000	163.0	...	...	GDE	SMC
1.5KE16A	...	16	...	1	13.6	5	67	22.5	...	...	Case 41A (Axial)
1.5SMC27AT3	25.7	27	28.4	1	23.1	5	40	37.5	0.096	27A	SMC
1.5SMC36AT3	34.2	36	37.8	1	33.3	5	28	53.9	0.1	39A	SMC
1N6292A	...	75	...	1	64.1	5	14.6	103	...	...	Case 41A (Axial)
1N6377	17.6	...	...	1	15	2	60	25	...	...	Case 41A (Axial)
1N6389	52.9	...	...	1	45	2	19	78.9	...	...	Case 41A (Axial)
SA24A	26.7	...	29.5	1	24	1	12.8	38.9	...	...	Case 59-04 (Axial)
SA85CA	94.4	...	104	1	85	1	3.6	137	...	...	Case 59-04 (Axial)

(4296) (ne09575)

PRICES LISTED AT THE BEGINNING OF THE SECTION.

PRESSURE AND SMOKE SENSORS

PRESSURE SENSORS

MPX2000 SERIES (TEMPERATURE COMPENSATED AND CALIBRATED ON-CHIP) 4-PIN

Type	Element	Measurement/ Porting Options	Fig.	Pressure Range (psi)	Pressure Range (kPa)
MPX2010D	Basic	Differential	1	0 to 1.45	0 to 10
MPX2010DP	Ported	Differential Port	2	0 to 1.45	0 to 10
MPX2010GP	Ported	Gauge	3	0 to 1.45	0 to 10
MPX2050D	Basic	Differential	1	0 to 7.3	0 to 50
MPX2050DP	Ported	Differential	2	0 to 7.3	0 to 50
MPX2050GP	Ported	Gauge	3	0 to 7.3	0 to 50
MPX2100A	Basic	Absolute	1	0 to 14.5	0 to 100
MPX2100AP	Ported	Absolute Port	3	0 to 14.5	0 to 100
MPX2100D	Basic	Differential	1	0 to 14.5	0 to 100
MPX2100DP	Ported	Differential Port	2	0 to 14.5	0 to 100
MPX2100GP	Ported	Gauge	3	0 to 14.5	0 to 50
MPX2200A	Basic	Absolute	1	0 to 29	0 to 200
MPX2200AP	Ported	Absolute Port	3	0 to 29	0 to 200
MPX2200D	Basic	Differential	1	0 to 29	0 to 200
MPX2200DP	Ported	Differential Port	2	0 to 29	0 to 200
MPX2200GP	Ported	Gauge	3	0 to 29	0 to 200

MPX4000 SERIES (SIGNAL CONDITIONED ON-CHIP) 6-PIN

MPX4100A	Basic	Absolute	1	3 to 15	20 to 105
MPX4100AP	Ported	Absolute Port	3	3 to 15	20 to 105
MPXS4100A6U**	Basic	Absolute	6	3 to 15	20 to 105
MPX4101A	Basic	Absolute	1	2.3 to 14.7	15 to 102
MPX4105A	Basic	Absolute	1	2.18 to 14.8	15 to 105
MPX4115A	Basic	Absolute	1	2.3 to 16.6	15 to 115
MPXS4115A6U**	Ported	Absolute	5	2.3 to 16.6	15 to 115
MPXS4115AC6U**	Ported	Absolute	5	2.3 to 16.6	15 to 115
MPX4115AP	Ported	Absolute Port	3	2.3 to 16.6	15 to 115
MPX4115AS	Ported	Absolute Stovepipe	4	2.3 to 16.6	15 to 115
MPX4200A	Basic	Absolute	1	2.9 to 29	20 to 200
MPX4250A	Basic	Absolute	1	3 to 36.2	20 to 250
MPX4250AP	Ported	Absolute Port	3	3 to 36.2	20 to 250
MPX4250D	Basic	Differential	1	3 to 36.2	10 to 250
MPX4250DP	Ported	Differential Port	2	3 to 36.2	10 to 250
MPX4250GP	Ported	Gauge	3	3 to 36.2	10 to 250

MPX5000 SERIES (SIGNAL CONDITIONED ON-CHIP) 6-PIN

MPXT5006D	Ported	Differential	5	0 to 0.87	0 to 6
MPXT5006DF	Ported	Differential	6	0 to 0.87	0 to 6
MPX5010D	Basic	Differential	1	0 to 1.45	0 to 10
MPX5010DP	Ported	Differential Port	2	0 to 1.45	0 to 10
MPXL5010G7U	Basic	Gauge	7	0 to 1.45	0 to 10
MPXL5010GC7U	Ported	Gauge	8	0 to 1.45	0 to 10
MPX5010GP	Ported	Gauge	3	0 to 1.45	0 to 10
MPX5050D	Basic	Differential	1	0 to 7.3	0 to 50
MPX5050DP	Ported	Differential Port	2	0 to 7.3	0 to 50
MPX5050GP	Ported	Gauge	3	0 to 7.3	0 to 50
MPX5100D	Basic	Differential	1	0 to 14.5	0 to 100
MPX5100DP	Ported	Differential Port	2	0 to 14.5	0 to 100
MPX5100GP	Ported	Gauge	3	0 to 14.5	0 to 100
MPX5100AP	Ported	Absolute Port	3	2.3 to 14.7	15 to 115
MPX5500D	Basic	Differential	1	0 to 75	0 to 500
MPX5500DP	Ported	Differential Port	2	0 to 75	0 to 500
MPX5700D	Basic	Differential	1	0 to 100	0 to 700
MPX5700DP	Ported	Differential Port	2	0 to 100	0 to 700
MPX5700GP	Ported	Gauge	3	0 to 100	0 to 700
MPX5999D	Basic	Differential	1	0 to 150	0 to 1000

* Surface mount; ** 8-pin

COMPENSATED AND CALIBRATED (ON-CHIP) MEDICAL GRADE

Type	Fig.	Max. Pressure Rating (psi)	Max. Pressure Rating (kPa)	Supply Voltage (Vdc)	Offset Max. (mV)	Sensitivity (µV/V/mmHg)	Output Impedance Max. (Ohms)	Linearity % of FSS Min./Max.
MPX2300DT1	9	5.8	40	6.0	0.75	5.0	330	–2.0/2.0

(19531) (ne11176)

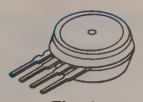


Fig. 1

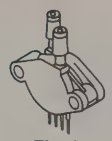


Fig. 2

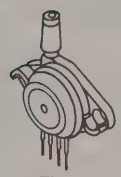


Fig. 3

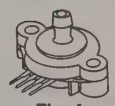


Fig. 4

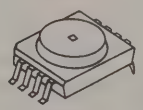


Fig. 5

Fig. 6

Fig. 7

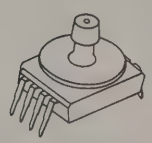


Fig. 8

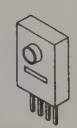


Fig. 9

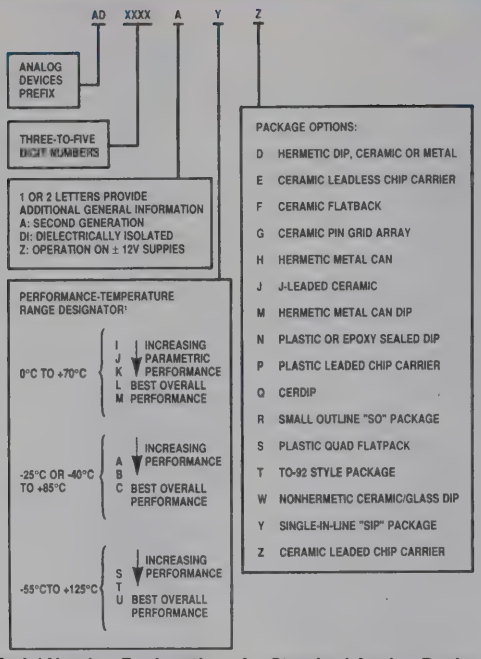
SMOKE INTEGRATED CIRCUITS (CMOS ANALOG)

NEW

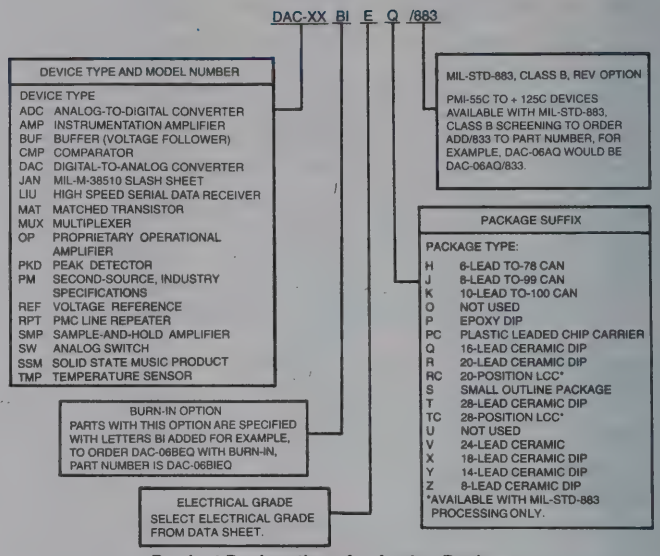
Type	Operating Voltage (V)	Horn Modulation	Primary Power Source	Interconnectable	Description	Package
MC14467P1	6-12	4/6	DC	No	Ion	PDIP
MC14468P	6-12	4/6	AC	Yes	Ion	PDIP
MC145010DWR2	6-12	4/6	DC	Yes	Photo	SOIC
MC145012DW	6-12	NFPA (New Tone)	DC	Yes	Photo	SOIC
MC145012DWR2	6-12	FNPA (New Tone)	DC	Yes	Photo	SOIC
MC145012P	6-12	FNPA (New Tone)	DC	Yes	Photo	PDIP
MC145017P	6-12	NFPA (New Tone)	DC	No	Ion	PDIP
MC145018P	6-12	NFPA (New Tone)	AC	Yes	Ion	PDIP

(39578) (ne39578)

ORDERING GUIDES



Model Number Designations for Standard Analog Devices Monolithic and Hybrid IC Products


DAC-XX BI E Q /883
DEVICE TYPE AND MODEL NUMBER
DEVICE TYPE
ADC ANALOG-TO-DIGITAL CONVERTER
AMP INSTRUMENTATION AMPLIFIER
BUF BUFFER (VOLTAGE FOLLOWER)
CMP COMPARATOR
DAC DIGITAL-TO-ANALOG CONVERTER
JAN MIL-M-38510 SLASH SHEET
LIU HIGH SPEED SERIAL DATA RECEIVER
MAT MATCHED TRANSISTOR
MUX MULTIPLEXER
OP PROPRIETARY OPERATIONAL AMPLIFIER
PKD PEAK DETECTOR
PM SECOND-SOURCE, INDUSTRY SPECIFICATIONS
REF VOLTAGE REFERENCE
RPT PMC LINE REPEATER
SMP SAMPLE-AND-HOLD AMPLIFIER
SW ANALOG SWITCH
SSM SOLID STATE MUSIC PRODUCT
TMP TEMPERATURE SENSOR
BURN-IN OPTION
PARTS WITH THIS OPTION ARE SPECIFIED WITH LETTERS BI ADDED FOR EXAMPLE, TO ORDER DAC-06BEQ WITH BURN-IN, PART NUMBER IS DAC-06BIEQ
ELECTRICAL GRADE
SELECT ELECTRICAL GRADE FROM DATA SHEET.
MIL-STD-883, CLASS B, REV OPTION
PMI-55C TO + 125C DEVICES AVAILABLE WITH MIL-STD-883, CLASS B SCREENING TO ORDER ADD/833 TO PART NUMBER, FOR EXAMPLE, DAC-06AQ WOULD BE DAC-06AQ/833.
PACKAGE SUFFIX
PACKAGE TYPE:
H 6-LEAD TO-78 CAN
J 8-LEAD TO-99 CAN
K 10-LEAD TO-100 CAN
O NOT USED
P EPOXY DIP
PC PLASTIC LEADED CHIP CARRIER
Q 16-LEAD CERAMIC DIP
R 20-LEAD CERAMIC DIP
RC 20-POSITION LCC*
S SMALL OUTLINE PACKAGE
T 28-LEAD CERAMIC DIP
TC 28-POSITION LCC*
U NOT USED
V 24-LEAD CERAMIC
X 18-LEAD CERAMIC DIP
Y 14-LEAD CERAMIC DIP
Z 8-LEAD CERAMIC DIP
*AVAILABLE WITH MIL-STD-883 PROCESSING ONLY.

Product Designations for Analog Devices Precision Monolithics Divisions (formerly PMI)

To obtain the latest data sheets available for Analog Devices products, call AnalogFax®, the 24-hour automated delivery system at 1-800-446-6212. For technical support call Analog Devices Customer Support Hotline at 1-800-ANALOGD (1-800-262-5643). *For the latest Analog Devices data books, see the technical publications listing on page 944.*
(10937) (ne09948)

INSTRUMENTATION AMPLIFIERS

Instrumentation amplifiers are available in hermetic DIP, PDIP, SOIC and 18-lead CerDIP packages. *For type number breakdown, see the ordering guides on this page.*

Type	Gain Range	Gain Error @ G = 1 Max. (±%)	T_C Gain @ G = 1 Max. (ppm/°C)	Nonlinearity @ G = 1 Max. (%)	Input Offset Voltage Max. (µV)	Input Offset Current Max. (nA)	Voltage Noise @ RTI 1kHz (Typ.) (nV√Hz)	Slew Rate (V/µs)	Power Supply (±V)	Package
AD521JD	0.1-1k	0.25	3	0.2	3000	20	...	10	5 to 18	HDIP
AD521KD	0.1-1k	0.25	3	0.2	1500	10	...	10	5 to 18	HDIP
AD521LD	0.1-1k	0.25	3	0.1	1000	10	...	10	5 to 18	HDIP
AD521SD	0.1-1k	0.25	15	0.2	1500	10	...	10	5 to 18	HDIP
AD524AD	1-1k	0.05	5	0.01	250	35	7	5	6 to 18	HDIP
AD524AR-16	1-1k	0.05	5	0.01	250	35	7	5	6 to 18	SOIC
AD524BD	1-1k	0.03	5	0.005	100	15	7	5	6 to 18	HDIP
AD524CD	1-1k	0.02	5	0.003	50	10	7	5	6 to 18	HDIP
AD526JN	1, 2, 4, 8, 16	0.05	2	0.005	1500	...	30	6	4.5 to 16.5	PDIP
AD620BN	1-10k	0.02	–50	0.004	50	0.5	9	1.2	2.3 to 18	PDIP
AD620BR	1-10k	0.02	–50	0.004	50	0.5	9	1.2	2.3 to 18	SOIC
AD620AN	1-10k	0.1	–50	0.004	125	1	9	1.2	2.3 to 18	PDIP
AD620AR	1-10k	0.1	–50	0.004	125	1	9	1.2	2.3 to 18	SOIC
AD621BN	10 or 100	0.25	5	0.001	50 (G = 100)	0.5	9 (G = 100)	1.2	2.3 to 18	PDIP
AD621BR	10 or 100	0.25	5	0.001	50 (G = 100)	0.5	9 (G = 100)	1.2	2.3 to 18	SOIC
AD621AN	10 or 100	0.15	5	0.001	125 (G = 100)	1	9 (G = 100)	1.2	2.3 to 18	PDIP
AD622AN	1-1k	0.15	10	0.001 Typ.	125	2.5	12	1.2	2.6 to 18	PDIP
AD622AR	1-1k	0.15	10	0.001 Typ.	125	2.5	12	1.2	2.6 to 18	SOIC
AD623AN	1-1k	0.1	5 Typ.	0.005 Typ.	200	2	35	0.3	2.5 to 6	PDIP
AD623AR	1-1k	0.1	5 Typ.	0.005 Typ.	200	2	35	0.3	2.5 to 6	SOIC
AD624AD	1-1k	0.05	5	0.005	200	35	4	5	6 to 18	HDIP
AD624BD	1-1k	0.03	5	0.003	75	15	4	5	6 to 18	HDIP
AD624CD	1-1k	0.02	5	0.001	25	10	4	5	6 to 18	HDIP
AD625BD	1-10k	0.03	5	0.002	50	15	4	5	6 to 18	HDIP
AD625CD	1-10k	0.02	5	0.001	25	5	4	5	6 to 18	HDIP
AD625JN	1-10k	0.05	5	0.005	200	35	4	5	6 to 18	PDIP
AD626AN	10 or 100	1	50	0.016	2500	...	250	0.22	1.2 to 6	PDIP
AD626BN	10 or 100	0.6	30	0.016	2500	...	250	0.22	1.2 to 6	PDIP
AD626AR	10 or 100	1	50	0.016	2500	...	250	0.22	1.2 to 6	SOIC
AMP01AX	0.1-10k	0.6	10	0.01	50	1	5	4.5	4.5 to 18	CerDIP
AMP01EX	0.1-10k	0.6	10	0.01	50	1	5	4.5	4.5 to 18	CerDIP
AMP01FX	0.1-10k	0.8	15	0.015	100	2	5	4.5	4.5 to 18	CerDIP
AMP02EP	1-10k	0.02	50	0.006 Typ.	100	5	9	6	4.5 to 18	PDIP
AMP02FP	1-10k	0.05	50	0.006 Typ.	200	10	9	6	4.5 to 18	PDIP
AMP02FS	1-10k	0.05	50	0.006 Typ.	200	10	9	6	4.5 to 18	SOIC
AMP03BJ	1	0.008	...	...	700	...	...	9.5	4.5 to 18	TO-99
AMP03FJ	1	0.008	...	...	400	...	...	9.5	4.5 to 18	TO-99
AMP03GP	1	0.008	...	...	750	...	...	9.5	4.5 to 18	PDIP
AMP04EP	1-1k	0.5	30 Typ.	0.005 Typ.	150	5	45	0.12	4.5 to 18	PDIP
AMP04ES	1-1k	0.5	30 Typ.	0.005 Typ.	150	5	45	0.12	4.5 to 18	SOIC
AMP04FP	1-1k	0.75	50 Typ.	...	300	10	45	0.12	4.5 to 18	PDIP
AMP04FS	1-1k	0.75	50 Typ.	...	300	10	45	0.12	4.5 to 18	SOIC
AMP05FX	0.1-2k	1	10	0.001 Typ.	2000	0.05	16	7.5	4.5 to 18	CerDIP

(9877) (de03787)

PRICES LISTED AT THE BEGINNING OF THE SECTION.

AMPLIFIERS

PRECISION OPERATIONAL AMPLIFIERS

For type number breakdown, see the ordering guides on page 878.

Type	Vos Max. (µV)	Vos TC Max. (µV/°C)	Noise 0.1-10Hz Typ. (µV p-p)	GBW Typ. MHz	Slew Rate Typ. (V/µs)	I_B Max. (nA)	CMRR (f=1kHz) Typ. (dB)	Single, Dual, or Quad	Package
AD517JH	75	...	...	0.25	0.1	2	...	Single	TO-99
AD517KH	150	...	...	0.25	0.1	2	...	Single	TO-99
AD642LH	500	...	2	1	3	0.035	80	Dual	8-Lead Can
AD647LH	250	2.5	4	1	3	0.035	80	Dual	8-Lead Can
AD707AR	90	1	0.23	0.9	0.3	2.5	140	Single	SOIC
AD707JN	90	1	0.23	0.9	0.3	2.5	140	Single	PDIP
AD707KN	90	1	0.23	0.9	0.3	2.5	140	Single	PDIP
AD708BQ	50	0.4	0.23	0.9	0.3	1	140	Dual	CerDIP
AD708JN	100	1	0.23	0.9	0.3	2.5	140	Dual	PDIP
AD711JN	1000	3	2	4	20	0.05	88	Single	PDIP
AD711KN	500	1	2	4	20	0.05	88	Single	PDIP
AD712JN	3000	20	2	4	20	0.025	88	Dual	PDIP
AD712KN	1000	10	2	4	20	0.02	88	Dual	PDIP
AD713KN	500	20	2	4	20	0.075	94	Quad	PDIP
OP07AZ	25	0.6	0.35	0.6	0.3	±2	126	Single	8-Pin CerDIP
OP07CJ	75	1.3	0.35	0.6	0.3	±3	126	Single	8-Pin Can
OP07CP	75	1.3	0.35	0.6	0.3	±3	126	Single	PDIP
OP07CS	75	1.3	0.35	0.6	0.3	±3	126	Single	SOIC
OP07CZ	75	1.3	0.35	0.6	0.3	±3	126	Single	8-Pin CerDIP
OP07DP	75	1.3	0.35	0.6	0.3	±3	126	Single	PDIP
OP07EJ	75	1.3	0.35	0.6	0.3	±3	126	Single	8-Pin Can
OP07EP	75	1.3	0.35	0.6	0.3	±3	126	Single	PDIP
OP07EZ	75	1.3	0.35	0.6	0.3	±3	126	Single	8-Pin CerDIP
OP14CS	2000	10	0.65	1.3	0.5	75	95	Dual	SOIC
OP16EZ	500	5	...	8	25	0.05	100	Single	CerDIP
OP16FJ	1000	10	...	7.6	21	0.1	100	Single	8-Lead Can
OP77EP	25	0.6	0.35	0.6	0.3	2	105	Single	PDIP
OP77EZ	25	0.3	0.35	0.6	0.3	2	105	Single	8-Pin CerDIP
OP77FJ	60	0.6	0.38	0.6	0.3	2.8	105	Single	8-Pin Can
OP77FP	60	1	0.38	0.6	0.3	2.8	105	Single	PDIP
OP162GP	325	1 Typ.	0.5	15	13	500	110	Single	PDIP
OP162GS	325	1 Typ.	0.5	15	13	500	110	Single	SOIC
OP-177EZ	25	0.3	0.35	0.6	0.3	2	140	Single	8-Pin CerDIP
OP-177FP	25	0.3	0.35	0.6	0.3	2	140	Single	PDIP
OP-177GP	25	0.3	0.35	0.6	0.3	2	140	Single	PDIP
OP-177GS	25	0.3	0.35	0.6	0.3	2	140	Single	SOIC
OP181GP	1500	10	10	0.095	0.025	10	95	Single	PDIP
OP200EZ	75	0.5	0.5	0.5	0.15	2	135	Dual	8-Pin CerDIP
OP200GP	200	2	0.5	0.5	0.15	5	130	Dual	PDIP
OP213EP	150	1	0.12	3.5	0.9	650	106	Dual	PDIP
OP250GS	7500	10	10	1	2.2	0.04	60	Dual	SOIC
OP262GP	325	1 Typ.	0.5	15	13	500	110	Dual	PDIP
OP262GS	325	1 Typ.	0.5	15	13	500	110	Dual	SOIC
OP285GP	250	5	1.1	150	20	150	86	Dual	PDIP
OP285GS	250	5	1.1	150	20	150	86	Dual	SOIC
OP400AY	150	1.2	0.5	0.5	0.15	3	140	Quad	14-Pin CerDIP
OP400EY	150	1.2	0.5	0.5	0.15	3	140	Quad	14-Pin CerDIP
OP400FY	230	2	0.5	0.5	0.15	6	140	Quad	14-Pin CerDIP
OP400GP	300	2.5	0.5	0.5	0.15	7	135	Quad	PDIP
OP400GS	300	2.5	0.5	0.5	0.15	7	135	Quad	SOIC
OP450GS	7500	10	10	1	2.2	0.04	60	Quad	SOIC
OP462GP	325	1 Typ.	0.5	15	13	500	110	Quad	PDIP
OP462GS	325	1 Typ.	0.5	15	13	500	110	Quad	SOIC

(9982) (de03705)

ISOLATION AMPLIFIERS

Type	Peak Isolation Voltage (V)	Gain Range (V/V)	Gain Nonlinearity Max.	Frequency Response (kHz)	Comments	Package
AD102JY	700	1-100	±0.05%	1.5	Economy, 2-Port, General Purpose, Input Isolation	SIP
AD202JN	1000	1-100	±0.05%	2	Economy, Small, Single Channel	PDIP
AD202JY	1000	1-100	±0.05%	2	Economy, Small, Single Channel	SIP
AD202KN	2000	1-100	±0.025%	2	Economy, Small, Single Channel	PSIP
AD202KY	2000	1-100	±0.025%	2	Economy, Small, Single Channel	SIP
AD204JY	1000	1-100	±0.05%	5	Economy, Small, Multichannel	SIP
AD204KY	2000	1-100	±0.025%	5	Economy, Small, Multichannel	SIP
AD210AN	3500	1-100	±0.025%	20	Precision, 3-Port Isolation, Wide Band	PDIP
AD210BN	3500	1-100	±0.012%	20	Precision, 3-Port Isolation, Wide Band	PDIP
AD210JN	1500	1-100	±0.025%	20	Precision, 3-Port Isolation, Wide Band	PDIP
AD215BY	1060	1-10	±0.015%	120	2-Port, Wide Band	SIP

(4352) (ne03707)

HIGH CURRENT DRIVE AND CLAMP AMPLIFIERS

Type	Slew Rate Typ. (V/µs)	GBW Typ. (MHz)	Settling Time Typ. (ns to %)	Vos Typ. (mV)	I_{OUT} (mA)	Supply Current Typ. (mA)	Single, Dual, or Quad	Temperature Range	Package	Description
AD815AY	900	120	70-0.1	10	500 Min.	30	Dual	Industrial	SIP	High-Current Drive Amp
AD815AVR	900	120	70-0.1	10	500 Min.	30	Dual	Industrial	DDPAK	High-Current Drive Amp
AD8532AN	5	3	1,600-0.01	25	250 Typ.	2.8	Dual	Industrial	PDIP	High-Current Drive Amp
AD8532AR	5	3	1,600-0.01	25	250 Typ.	2.8	Dual	Industrial	SOIC	High-Current Drive Amp
AD8534AN	5	3	1,600-0.01	25	250 Typ.	5.6	Quad	Industrial	PDIP	High-Current Drive Amp
AD8036AN	1200	240	10-0.1	2	70 Typ.	20.5	Single	Industrial	PDIP	Clamp Amp
AD8037AN	1500	270	10-0.1	2	70 Typ.	18.5	Single	Industrial	PDIP	Clamp Amp

(4358) (ne08811)

LOW-VOLTAGE NOISE OPERATIONAL AMPLIFIERS

Type	Voltage Noise en (f = 1kHz) Typ. (nV√Hz)	Voltage Noise en (f = 10kHz) Typ. (nV√Hz)	Current Noise In ± in- Typ. (@ f = 1kHz) (pA√Hz)	I_B Typ. (nA)	V_{OS} Typ. (mV)	GBW Typ. (MHz)	SR Typ. (V/µs)	Single, Dual, or Quad	Package
AD545AJH	35	55	0.05	0.002	1	1	0.3	Single	8-Lead Can
AD545AKH	35	55	0.05	0.001	1	1	0.3	Single	8-Lead Can
AD743AN	3.2	2.9	0.007	0.15	0.25	4.5	2.8	Single	PDIP
AD743JN	3.2	2.9	0.007	8.8	0.25	4.5	2.8	Single	PDIP
AD743KN	3.2	2.9	0.007	0.15	0.1	4.5	2.8	Single	PDIP
AD745AN	3.2	2.9	0.007	0.15	0.25	20	12.5	Single	PDIP
AD745JN	3.2	2.9	0.007	0.15	0.1	20	12.5	Single	PDIP
AD745JR-16-REEL7	3.2	2.9	0.007	0.15	0.25	20	12.5	Single	SOIC
AD797AN	0.9	0.9	2	800	0.025	110	18	Single	PDIP
AD797AR	0.9	0.9	2	800	0.025	110	18	Single	SOIC
AD797BN	0.9	...	2	250	0.01	110	20	Single	PDIP
AD797BR	0.9	...	2	250	0.025	110	20	Single	SOIC
AD812AN	...	3.5	...	2000	1.5	50	60	Dual	PDIP
AD829AQ	...	...	1.5	3300	0.1	600	150	Single	CerDIP
AD829JN	...	...	1.5	3300	0.2	600	150	Single	PDIP
AD829JR	...	...	1.5	3300	0.2	600	150	Single	SOIC
AD844AN	2	2	12	200	0.05	60	2000	Single	PDIP
AD846AN	2	...	20	150	0.025	80	450	Single	PDIP
AD846BQ	2	...	20	100	0.025	80	450	Single	CerDIP
AD846BN	2	...	20	100	0.025	80	450	Single	PDIP
AD849AQ	...	3	1.5	3300	0.1	725	300	Single	CerDIP
AD849JN	...	3	1.5	3300	0.3	725	300	Single	PDIP
AD8004AN	...	1.5	38 (10kHz)	40,000	1	250	2000	Quad	PDIP
AD8047AN	...	...	1pA (100kHz)	1000	1	250	750	Single	PDIP
AD8048AN	...	...	1pA (100kHz)	1000	1	260	1000	Single	PDIP
AD9618AQ	...	...	...	5000	0.5	160	1800	Single	CerDIP
AD9618JN	...	...	...	5000	0.5	160	1800	Single	PDIP
AD9618JR	...	1.2	...	4500	2.2	160	1800	Single	SOIC
OP27AJ	3	...	0.4	10	0.01	8	2.8	Single	TO-99
OP27CZ	3.2	3.5	0.4	±15	0.03	8	2.8	Single	CerDIP
OP27EJ	3	3.5	0.4	±10	0.01	8	2.8	Single	8-Lead Can
OP27EP	3	3.5	0.4	±10	0.01	8	2.8	Single	PDIP
OP27EZ	3	3.5	0.4	±10	0.01	8	2.8	Single	CerDIP
OP27FP	3	3.5	0.4	±12	0.02	8	2.8	Single	PDIP
OP27GP	3.2	3.5	0.4	±15	0.03	8	2.8	Single	PDIP
OP27GZ	3.2	3.5	0.4	±15	0.03	8	2.8	Single	CerDIP
OP37EP	3	3.5	0.4	±10	0.01	63	17	Single	PDIP
OP37EZ	3	3.5	0.4	±10	0.01	63	17	Single	CerDIP
OP37GP	3.2	3.5	0.4	±15	0.03	63	17	Single	PDIP
OP50EY	5.5	...	0.23	1	0.01	25	3	Single	CerDIP
OP50FY	5.5	...	0.23	1	0.05	25	3	Single	CerDIP
OP162GP	9.5	...	0.4	360	45	15	10	Single	PDIP
OP162GS	9.5	...	0.4	360	45	15	10	Single	SOIC
OP176GP	6	...	0.5	350	1	10	25	Single	PDIP
OP183GP	10	...	0.4	350	0.025	5	10	Single	PDIP
OP184FP	3.9	...	0.4	60	0.125 Max.	3.25	2.4	Single	PDIP
OP184FS	3.9	...	0.4	60	0.125 Max.	3.25	2.4	Single	SOIC
OP227EY	3	...	0.4	10	0.02	5	1.7	Dual	HDIP
OP227GY	3.2	...	0.4	15	0.06	8	2.8	Dual	CerDIP
OP227FY	3	...	0.4	12	0.04	5	1.7	Dual	HDIP
OP270EZ	3.2	3.6	0.6	5	0.01	5	2.4	Dual	HDIP
OP270FZ	3.2	3.6	0.6	10	0.02	5	2.4	Dual	HDIP
OP270GP	3.2	3.6	0.6	15	0.05	5	2.4	Dual	PDIP
OP271AZ	7.6	...	...	4	0.075	5	8.5	Dual	HDIP
OP271EZ	7.6	...	...	4	0.075	5	8.5	Dual	HDIP
OP271GP	7.6	16	0.6	12	0.02	5	8.5	Dual	PDIP
OP271GS	7.6	...	...	12	0.2	5	8.5	Dual	SOIC
OP275GP	6	...	1.5	100	1	9	22	Dual	PDIP
OP283GP	10	...	0.4	350	0.025	5	10	Dual	PDIP
OP284EP	3.9	0.3	0.4	300	0.1	4.25	4	Dual	PDIP
OP284FP	3.9	...	0.4	80	0.175	4.25	4	Dual	PDIP
OP284FS	3.9	...	0.4	80	0.175	4.25	4	Dual	SOIC
OP285GP	6	...	0.9	100	0.035	9	22	Dual	PDIP
OP470AY	3.2	3.8	0.4	6	0.1	6	2	Quad	CerDIP
OP470EY	3.2	3.8	0.4	6	0.1	6	2	Quad	CerDIP
OP470FY	3.2	3.8	0.4	15	0.2	6	2	Quad	CerDIP
OP470GP	3.2	3.8	0.4	25	0.4	6	2	Quad	PDIP
OP471AY	6.5	...	0.4	7	0.25	6.5	8	Quad	HDIP
OP471EY	6.5	...	0.4	7	0.25	6.5	8	Quad	HDIP
OP471GP	6.5	...	0.4	25	1	6.5	8	Quad	PDIP
OP484EP	3.9	...	0.4	80	0.15	4.25	4	Quad	PDIP
OP484ES	3.9	...	0.4	80	0.15	4.25	4	Quad	SOIC
OP484FP	3.9	0.3	0.4	80	0.2	4.25	4	Quad	PDIP
SSM2017P	107.14	11.83	2	6000	0.1	4	17	Single	PDIP

(ne03708)

CONTACT NEWARK FOR LARGE-QUANTITY PRICING.

AMPLIFIERS AND COMPARATORS

LOW CURRENT NOISE AMPLIFIERS

For type number breakdown, see the ordering guides on page 878.

Type	I_B Max. (pA)	Input Noise I_N (@ f=1kHz) $f_A\sqrt{Hz}$	Input Impedance Differential Ω‖pF	Input Impedance Common Mode Ω‖pF	CMRR (@ f=1kHz) Typ. (dB)	V_{OS} Max. (mV)	V_{OS} TC Max. (µV/°C)	BW Typ. (MHz)	Single, Dual, or Quad	Package
AD515AJH	3	...	10^{13}‖1.6	10^{15}‖0.8	94	3	50	1	Single	Metal Can
AD515AKH	0.15	...	10^{13}‖1.6	10^{15}‖0.8	80	1	15	1	Single	Metal Can
AD515ALH	0.075	...	10^{13}‖1.6	10^{15}‖0.8	70	1	25	1	Single	Metal Can
AD546JN	1	0.4	10^{13}‖1	10^{15}‖0.8	90	2	100	1	Single	PDIP
AD546KN	0.5	0.4	10^{13}‖1	10^{15}‖0.8	100	1	20 (Typ.)	1	Single	PDIP
AD547JH	50	...	10^{12}‖6	10^{12}‖3	76	1	5	1	Single	TO-99
AD547LH	25	...	10^{12}‖6	10^{12}‖3	80	0.25	1	1	Single	TO-99
AD548AH	20	1.8	10^{12}‖3	3×10^{12}‖3	90	2	20	1	Single	TO-99
AD548AQ	20	1.8	10^{12}‖3	3×10^{12}‖3	90	2	20	1	Single	CerDIP
AD548BH	10	1.8	10^{12}‖3	3×10^{12}‖3	92	0.5	5	1	Single	TO-99
AD548BR	10	1.8	10^{12}‖3	3×10^{12}‖3	92	0.5	5	1	Single	SOIC
AD548CQ	10	1.8	10^{12}‖3	3×10^{12}‖3	98	0.25	2	1	Single	CerDIP
AD548JN	20	1.8	10^{12}‖3	3×10^{12}‖3	90	2	20	1	Single	PDIP
AD548JR	20	1.8	10^{12}‖3	3×10^{12}‖3	90	2	20	1	Single	SOIC
AD548KR	10	1.8	10^{12}‖3	3×10^{12}‖3	92	0.5	5	1	Single	SOIC
AD549JH	0.25	0.22	10^{13}‖1	10^{15}‖0.8	90	1	20	1	Single	Metal Can
AD549KH	0.1	0.16	10^{13}‖1	10^{15}‖0.8	100	0.25	5	1	Single	Metal Can
AD549LH	0.06	0.11	10^{13}‖1	10^{15}‖0.8	100	0.5	10	1	Single	Metal Can
AD645AH	5	0.6	10^{12}‖1	10^{14}‖2.2	110	0.5	5	2	Single	Metal Can
AD645BH	3	0.6	10^{12}‖1	10^{14}‖2.2	110	0.25	2	2	Single	TO-99
AD645CH	3	0.6	10^{12}‖1	10^{14}‖2.2	110	0.25	1	2	Single	TO-99
AD645JN	3	0.6	10^{12}‖1	10^{14}‖2.2	110	0.5	10	2	Single	PDIP
AD648JN	20	1.8	10^{12}‖3	3×10^{12}‖3	76	2	20	1	Dual	PDIP
AD711AQ	50	10	3×10^{12}‖5.5	3×10^{12}‖5.5	88	1	20	4	Single	CerDIP
AD711CQ	25	10	3×10^{12}‖5.5	3×10^{12}‖5.5	94	2.5	3	4	Single	CerDIP
AD711JN	50	10	3×10^{12}‖5.5	3×10^{12}‖5.5	88	2	20	4	Single	PDIP
AD711JR	50	10	3×10^{12}‖5.5	3×10^{12}‖5.5	88	2	20	4	Single	SOIC
AD711KN	50	10	3×10^{12}‖5.5	3×10^{12}‖5.5	88	0.5	10	4	Single	PDIP
AD712AH	75	10	3×10^{12}‖5.5	3×10^{12}‖5.5	88	1	20	4	Dual	Metal Can
AD712AQ	75	10	3×10^{12}‖5.5	3×10^{12}‖5.5	88	1	20	4	Dual	CerDIP
AD712CH	50	10	3×10^{12}‖5.5	3×10^{12}‖5.5	94	0.3	5	4	Dual	Metal Can
AD712CQ	50	10	3×10^{12}‖5.5	3×10^{12}‖5.5	94	0.3	5	4	Dual	CerDIP
AD712JN	75	10	3×10^{12}‖5.5	3×10^{12}‖5.5	88	3	20	4	Dual	PDIP
AD712KN	75	10	3×10^{12}‖5.5	3×10^{12}‖5.5	88	1	10	4	Dual	PDIP
AD713AQ	150	10	3×10^{12}‖5.5	3×10^{12}‖5.5	88	1.5	5	4	Quad	CerDIP
AD713JN	150	10	3×10^{12}‖5.5	3×10^{12}‖5.5	88	1.5	5	4	Quad	PDIP
AD713KN	75	10	3×10^{12}‖5.5	3×10^{12}‖5.5	94	0.5	20	4	Quad	PDIP
AD741KH	7500	...	2MΩ	...	100	2	15	1	Single	TO-99
AD741KN	7500	...	2MΩ	...	100	2	15	1	Single	PDIP
AD743JN	400	6.9	10^{10}‖20	3×10^{11}‖18	95	1	2	4.5	Single	PDIP
AD743KN	250	6.9	10^{10}‖20	3×10^{11}‖18	102	0.5	1	4.5	Single	PDIP
AD744AQ	100	10	3×10^{12}‖5.5	3×10^{12}‖5.5	88	1	2	13	Single	CerDIP
AD744JN	100	10	3×10^{12}‖5.5	3×10^{12}‖5.5	88	1	20	13	Single	PDIP
AD745AN	400	6.9	10^{10}‖20	3×10^{11}‖18	95	0.8	2	20	Single	PDIP
AD745JN	400	6.9	10^{10}‖20	3×10^{11}‖18	95	1	2	20	Single	PDIP
AD746AQ	250	10	2.5×10^{11}‖5.5	2.5×10^{11}‖5.5	88	1.5	20	13	Single	CerDIP
AD746JN	200	10	2.5×10^{11}‖5.5	2.5×10^{11}‖5.5	88	1.5	20	13	Dual	PDIP
AD795JR	2	0.6	10^{12}‖1	10^{14}‖2.2	110	0.5	10	1.6	Single	SOIC
AD795KN	1	0.6	10^{12}‖1	10^{14}‖2.2	110	0.25	3	1.6	Single	PDIP
AD820AN	25	0.8	10^{13}‖0.5	10^{13}‖2.8	80	0.8	2 Typ.	1.8	Single	PDIP
AD820AR	25	0.8	10^{13}‖0.5	10^{13}‖2.8	80	0.8	2 Typ.	1.8	Single	SOIC
AD820BN	10	0.8	10^{13}‖0.5	10^{13}‖2.8	80	0.4	2 Typ.	1.8	Single	PDIP
AD820BR	10	0.8	10^{13}‖0.5	10^{13}‖2.8	80	0.4	2 Typ.	1.8	Single	SOIC
AD824AN	12	0.8	10^{13}‖3.3	10^{13}‖3.3	80	1	2 Typ.	2	Quad	PDIP
AD824BN	12	9.8	10^{13}‖3.3	10^{13}‖3.3	80	0.3	2 Typ.	2	Quad	PDIP
OP249FZ	75	3	10^{12}‖6	...	90	0.7	6	4.7	Dual	CerDIP
OP249GP	75	3	10^{12}‖6	...	90	2	25	4.7	Dual	PDIP

(10001) (ne03709)

COMPARATORS

For type number breakdown, see the ordering guides on page 878.

Type	Propagation Delay Max. (ns)	V_{OS} Max. (mV)	Voltage Range I/P CM (V)	Supply Current (mA)	Dispersion (ps)	Logic	Single, Dual, or Quad	Package
AD790JN	45	1	...	...	...	TTL	Single	PDIP
AD790JR	45	1	...	...	...	TTL	Single	SOIC
AD8561AN	9.8	7	0 to +3	6	1	...	Single	PDIP
AD96687BQ	3.5	2	...	...	50	ECL	Dual	CerDIP
CMP01CJ	180	2.8	...	8.5	...	TTl	Single	TO-99
CMP01CP	180	2.8	...	8.5	...	TTl	Single	PDIP
CMP02CP	270	2.8	...	...	...	TTL	Single	PDIP
CMP02CS	270	2.8	...	...	...	TTL	Single	SOIC
CMP04FP	300	1	...	...	...	TTL	Single	PDIP
CMP04FS	300 (Typ.)	1	...	2	...	TTL, ECL, CMOS	Quad	SOIC
CMP05GP	55	1	...	18	...	TTL	Single	PDIP
CMP05GS	55	1	...	18	...	TTL	Single	SOIC
CMP-08FZ	9.5	2.5	...	26	...	ECL	...	CerDIP
CMP401GP	23	3	0 to +4	8.5	...	...	Quad	PDIP

(9879) (ne03748)

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AMPLIFIERS

HIGH-SPEED OPERATIONAL AMPLIFIERS

For type number breakdown, see the ordering guides on page 878.

CURRENT FEEDBACK

Type	Slew Rate Typ. (V/µs)	GBW Typ. (mHz)	Settling Time Typ. (ns to %)	V_{OS} Typ. (mV)	I_{OUT} Min. (mA)	Supply Current Per Amp Typ. (mA)	Single, Dual, Triple or Quad	Temperature Range	Package
AD8004AN	3000	250	21-0.1	1	50 Typ.	3.5	Quad	Industrial	PDIP
AD811AN	2500	1000	65-0.01	0.5	100 Typ.	0.5	Single	Ext. Industrial	PDIP
AD811JR	2500	1000	65-0.01	0.5	100 Typ.	0.5	Single	Commercial	SOIC
AD8012AR	2250	350	35-0.02	1.5	70	1.7	Dual	Industrial	SOIC
AD844AN	2000	60	100-0.1	0.05	60	6.5	Single	Ext. Industrial	PDIP
AD9617JN	1600	190	10-0.1	0.5	60	34	Single	Commercial	PDIP
AD9617JR	1600	190	10-0.1	0.5	60	34	Single	Commercial	SOIC
AD8005AN	1500	270	28-0.1	5	10 Typ.	0.4	Single	Industrial	PDIP
AD8005AR	1500	270	28-0.1	5	10 Typ.	0.4	Single	Industrial	SOIC
AD8001AR	1200	880	10	2	50	5	Single	Ext. Industrial	SOIC
AD8002AR	1200	600	16-0.1	2	70 Typ.	5	Dual	Industrial	SOIC
AD846AN	450	80	110-0.01	0.025	65	5	Single	Ext. Industrial	PDIP

VOLTAGE FEEDBACK

AD9632AR	1500	250	11-0.1	2	70 Typ.	16	Single	Ext. Industrial	SOIC
AD9631AN	1300	320	11-0.1	3	70 Typ.	17	Single	Ext. Industrial	PDIP
AD9631AR	1300	320	11-0.1	3	70 Typ.	17	Single	Ext. Industrial	SOIC
AD8055AN	1000	300	20-0.1	3	55	5.4	Single	Industrial	PDIP
AD8056AN	1000	300	20-0.1	3	55	5	Dual	Industrial	PDIP
AD818AR	500	260	80-0.01	0.5	50	7	Single	Ext. Industrial	SOIC
AD828AN	500	260	80-0.01	0.5	50	7	Dual	Ext. Industrial	PDIP
AD828AR	500	260	80-0.01	0.5	50	7	Dual	Ext. Industrial	SOIC
AD840JN	400	400	100-0.01	0.2	50	10.5	Single	Commercial	PDIP
AD842JN	375	80	100-0.01	0.5	100	13	Single	Commercial	PDIP
AD817AN	350	50	70-0.01	0.5	50	7	Single	Ext. Industrial	PDIP
AD817AR	350	50	70-0.01	0.5	50	7	Single	Ext. Industrial	SOIC
AD826AR	350	50	70-0.01	0.5	50	7	Dual	Ext. Industrial	SOIC
AD827JN	300	50	120-0.1	0.5	20 Typ.	10.5	Dual	Commercial	PDIP
AD841JN	300	40	110-0.01	0.8	50	11	Single	Commercial	PDIP
AD847JN	300	50	120-0.01	0.5	32	5.3	Single	Commercial	PDIP
AD847JR	300	50	120-0.01	0.5	32	5.3	Single	Commercial	SOIC
AD848JR	300	175	100-0.1	0.2	20 Typ.	5.1	Single	Commercial	SOIC
AD843JN	250	34	135-0.01	1	50	12	Single	Commercial	PDIP
AD843KN	250	34	135-0.01	0.5	50	12	Single	Commercial	PDIP
AD829JN	230	750	65-0.1	0.2	20 Typ.	5.3	Single	Commercial	PDIP
AD829JR	230	750	65-0.1	0.2	20 Typ.	5.3	Single	Commercial	SOIC
AD841KN	200	40	110-0.01	0.8	50	12	Single	Commercial	PDIP
OP467GP	170	25	170-0.01	0.2	10	8	Quad	Ext. Industrial	PDIP
OP467GS	170	25	170-0.01	0.2	10	8	Quad	Ext. Industrial	SOIC
AD8054AR	140	150	40-0.1	1.7	30	2.75	Quad	Industrial	SOIC
AD8051AR	100	110	50-0.1	1.7	45	4.4	Single	Industrial	SOIC
AD8052AR	100	110	50-0.1	1.7	45	4.4	Dual	Industrial	SOIC
OP44FZ	80	23	200-0.01	0.4	20	6.5	Single	Industrial	CerDIP
OP42EJ	50	10	800-0.01	0.3	20	5.1	Single	Industrial	TO-99
OP01CP	12	2.5	700-0.1	2	...	3	Single	Commercial	PDIP

DIFFERENCE AMPLIFIERS

AD830AN	530	100	25-0.1	1.5	50	14.5	Single	Ext. Industrial	PDIP
AD830JR	530	100	25-0.1	1.5	50	14.5	Single	Commercial	SOIC

(9983)

(de03711)

BUFFER AMPLIFIERS

For type number breakdown, see the ordering guides on page 878.

Type	–3dB BW Typ. (MHz)	Slew Rate Min. (V/µs)	Settling Time to 0.02% Typ. (ns)	Rise Time (1V Step) Typ. (ns)	I_{OUT} Min. (mA)	V_{OS} Typ. (mV)	I_{SS} Max. (mA)	Package
AD9630AN	750	700	8	1.1	50	±3	26	PDIP
AD9630AR	750	700	8	1.1	50	±3	26	SOIC
AD8079BR	260	800	40-0.1	2.5-2V Step	70 Typ.	10, RTO	11.5	SOIC
BUF04GP	110	2000	60 (0.1%)	0.5	±65	0.3	8.5	PDIP
BUF04GS	110	2000	60 (0.1%)	0.5	±65	0.3	8.5	SOIC

(9872)

(de03714)

AUDIO AMPLIFIERS

For type number breakdown, see the ordering guides on page 878.

Type	Description	Package
OP176GP	Low-Noise, High-Output Drive Amp with a Bipolar JFET Front-End. For High-Performance Applications.	PDIP
OP275GP	Dual, Bipolar/JFET Amp Featuring Low Distortion (0.0006%) at Low Supply Current (5mA). Noise 6nV/√Hz; SR: 22V/µs; GBW: 9MHz.	PDIP
OP275GS	Dual, Bipolar/JFET Amp Featuring Low Distortion (0.0006%) at Low Supply Current (5mA). Noise 6nV/√Hz; SR: 22V/µs; GBW: 9MHz.	SOIC
SSM2017P	Ultra Low-Noise Audio Pre-Amp Features 0.95nV/√Hz @ BW = 20kHz.	PDIP
SSM2018P	Voltage Controlled Amp. No External Amp Required.	PDIP
SSM2018TP	Trimless Voltage Controlled Amp	PDIP
SSM2135P	Dual, Single Supply Amp with High-Output Drive Capability. Excellent Sonic Characteristics. Noise: 5nV/√Hz; THD + N @ 1kHz: 0.001%.	PDIP
SSM2139P	Dual, Low-Noise, High-Speed, Audio Amp	PDIP
SSM2141P	High-CMR, Differential Line Receiver, Complementing **Type SSM2142** Line Driver.	PDIP
SSM-2142P	Balanced Differential Line Driver Capable of Driving 10VRMS into a 600Ω Load.	PDIP
SSM2143P	–6dB Differential Line Receiver. CMR: 90dB typ. Ultra-Low THD (0.0006% typ.).	PDIP
SSM2165-1P	Microphone Pre-Amp with Variable Compression and Noise Gating.	PDIP
SSM2166P	Microphone Pre-Amp with Variable Compression and Noise Gating.	PDIP

(9986)

(de03724)

SINGLE SUPPLY OPERATIONAL AMPLIFIERS

For type number breakdown, see the ordering guides on page 878.

Type	I_{SY} Max. (mA)	V_{OS} Max. (mV)	Supply Voltage Range (V)	GBW Typ. (MHz)	Slew Rate Typ. (V/µs)	Single, Dual or Quad	Package
AD824AN	0.6	1	+3 to +30	2	2	Quad	PDIP
AD824AR-14	0.6	1	+3 to +30	2	2	Quad	SOIC
AD824BN	0.6	0.3	+3 to +30	2	2	Quad	PDIP
OP113EP	3	0.075	+4 to +18	3.4	1.2	Single	PDIP
OP162GP	0.7	325	+3 to +12	15	10	Single	PDIP
OP183GP	1.5	1	+3 to +36	5	10	Single	PDIP
OP184EP	1.35	65	+3 to +15	3.25	2.4	Single	PDIP
OP184ES	1.35	65	+3 to +15	3.25	2.4	Single	SOIC
OP196GP	0.06	300	+3 to +12	0.35	0.25	Single	PDIP
OP196GS	0.06	300	+3 to +12	0.35	0.25	Single	SOIC
OP220CJ	0.135	0.75	+5 to +30	0.2	0.06	Dual	TO-99
OP220EZ	0.115	0.15	+5 to +30	0.2	0.05	Dual	8-Pin CerDIP
OP220FZ	0.125	0.3	+5 to +30	0.2	0.05	Dual	8-Pin CerDIP
OP221EZ	0.5	0.15	+5 to +30	0.6	0.30	Dual	8-Pin CerDIP
OP221GZ	0.65	0.5	+5 to +30	0.6	0.30	Dual	8-Pin CerDIP
OP262GP	0.7	325	+3 to +12	15	10	Dual	PDIP
OP262GS	0.7	325	+3 to +12	15	10	Dual	SOIC
OP283GS	1.5	1	+3 to ±18	5	10	Quad	SOIC
OP284EP	2	0.1	+3 to +36	4.25	4	Dual	PDIP
OP284ES	2	0.1	+3 to +36	4.25	4	Dual	SOIC
OP284FP	2	0.175	+3 to +36	4.25	4	Dual	PDIP
OP284FS	2	0.175	+3 to +36	4.25	4	Dual	SOIC
OP291GP	0.35	0.7	+2.7 to +12	3	0.4	Dual	PDIP
OP291GS	0.35	0.7	+2.7 to +12	3	0.4	Dual	SOIC
OP293ES	0.03	0.1	+1.7 to ±18	0.035	0.015	Dual	SOIC
OP293FP	0.03	0.25	+1.7 to ±18	0.035	0.015	Dual	PDIP
OP295GP	0.3	0.3	+3 to +36	0.075	0.03	Dual	PDIP
OP295GS	0.3	0.3	+3 to +36	0.075	0.03	Dual	SOIC
OP296GP	0.06	0.3	+3 to +12	0.35	0.3	Dual	PDIP
OP296GS	0.06	0.3	+3 to +12	0.35	0.3	Dual	SOIC
OP484EP	2	0.15	+3 to +36	4.25	4	Quad	PDIP
OP484ES	2	0.15	+3 to +36	4.25	4	Quad	SOIC
OP484FP	2	0.25	+3 to +36	4.25	4	Quad	PDIP
OP484FS	2	0.25	+3 to +36	4.25	4	Quad	SOIC
OP491GP	0.35	0.7	+2.7 to +12	3	0.4	Quad	PDIP
OP491GS	0.35	0.7	+2.7 to +12	3	0.4	Quad	SOIC
OP492GP	4.8	1	+4.5 to +33	4	3	Quad	PDIP
OP496GP	0.06	0.3	+3 to +12	0.35	0.3	Quad	PDIP
OP496GS	0.06	0.3	+3 to +12	0.35	0.3	Quad	SOIC

(4340) (de09557)

LOW/MICRO POWER OPERATIONAL AMPLIFIERS

For type number breakdown, see the ordering guides on page 878.

Type	I_{SY} Max. (mA)	V_{OS} Max. (mV)	I_B Max. (nA)	GBW Typ. (MHz)	Slew Rate Typ. (V/µs)	Single, Dual, or Quad	Package
AD704JN	2.4	0.15	0.27	0.8	0.1	Quad	PDIP
AD705AQ	0.6	0.09	0.15	0.8	0.15	Single	CerDIP
AD705JN	0.6	0.09	0.15	0.8	0.15	Single	PDIP
AD706JN	1.2	0.1	0.2	0.8	0.15	Dual	PDIP
AD706JR	1.2	0.1	0.2	0.8	0.15	Dual	SOIC
OP02CJ	3	2	50	1.3	0.5	Single	TO-99
OP02CP	3	2	50	1.3	0.5	Single	PDIP
OP02DP	3	5	100	1.3	0.5	Single	PDIP
OP09FP	6	2.5	500	3	1	Quad	PDIP
OP20FP	0.08	0.25	25	0.1	0.05	Single	PDIP
OP20GP	0.085	0.5	30	0.1	0.05	Single	PDIP
OP20HJ	0.095	1	40	0.1	0.05	Single	TO-99
OP21EZ	0.3	0.1	100	0.6	0.25	Single	CerDIP
OP21FZ	0.36	0.2	120	0.6	0.25	Single	CerDIP
OP22FZ	0.19	0.5	35	0.25	0.08	Single	CerDIP
OP22HZ	0.21	1	50	0.25	0.08	Single	CerDIP
OP80GP	0.325	2.5	0.002	0.3	0.4	Single	PDIP
OP90GP	0.015	0.45	25	0.02	...	Single	PDIP
OP90GS	0.015	0.45	25	0.02	...	Single	SOIC
OP97EZ	0.6	0.075	±0.15	0.9	0.2	Single	8-Lead CerDIP
OP97FP	0.6	0.075	±0.15	0.9	0.2	Single	PDIP
OP281GP	0.005	1,500	10	0.105	0.025	Dual	PDIP
OP282GP	0.5	3	0.1	4	9	Dual	PDIP
OP290GP	0.03	0.5	25	0.02	...	Dual	PDIP
OP297AZ	1.25	0.05	0.1	0.5	0.15	Dual	CerDIP
OP297GP	0.625	0.2	±0.2	0.5	0.15	Dual	PDIP
OP420HY	0.6	6	40	0.15	0.05	Quad	CerDIP
OP421GP	2.3	4	80	1.9	0.5	Quad	PDIP
OP421GP	2.3	4	80	1.9	0.5	Quad	CerDIP
OP462GP	0.7	325	600	15	10	Quad	PDIP
OP462GS	0.7	325	600	15	10	Quad	SOIC
OP482GP	1	4	0.1	4	9	Quad	PDIP
OP490FY	0.06	0.75	20	0.02	...	Quad	14-Lead CerDIP
OP490GP	0.06	1	25	0.02	...	Quad	PDIP
OP490GS	0.06	1	25	0.02	...	Quad	SOIC
OP497FY	2.5	0.075	0.15	0.5	0.15	Quad	CerDIP
OP497GP	2.5	0.15	0.2	0.5	0.15	Quad	PDIP

(9988) (de03710)

ANALOG-TO-DIGITAL CONVERTERS

HIGH-SPEED ANALOG-TO-DIGITAL CONVERTERS

For type number breakdown, see the ordering guides on page 878.

Type	Resolution (Bits)	Throughput Rate Max. (MSPS)	DNL Linearity Error (LSB @ T_A= 25°C)	Full Power BW Typ. (MHz)	Bus Interface* (Bits)	Reference Voltage Int/Ext**	Package	Comments
AD7829BN	8	2	0.75	10	8	+2.5V, Int	PDIP	3V/5V, 8-Bit, 8-Channel, 2 MSPS, Data Acquisition System
AD9012AJ	8	75	0.75	160	8	–2.0V, Ext	LCC	High-Speed, 8-Bit, TTL ADC
AD9048JQ	8	35	0.75	15	8, µP	–2V Ext	CerDIP	8-Bit Video ADC, 16pF Input Capacitance
AD9054BST-200	8	200	0.9	380	8	+2.5V, Int	TQFP	8-Bit, 200 MSPS ADC
AD9058JJ	8	50	0.25	175	8	+2.0V, Int	LCC	Dual, 8-Bit, 50 MSPS ADC
AD9059BRS	8	60	1.5 Max.	120	8	+2.5V Int/Ext	SSOP	8-Bit Video ADC, 16pF Input Capacitance
AD9280ARS	8	32	0.2	300	8	+2.0V, Int	SSOP	8-Bit, Complete, 32 MSPS ADC
AD9281ARS	8	32	0.1	245	8	+2.0V, Int	SSOP	Dual-Channel, 8-Bit Resolution, CMOS ADC
AD9283BRS-100	8	100	0.5	475	8	+1.25V, Int	SSOP	8-Bit, 100 MSPS ADC
AD9483KS-100	8	100	0.8	330	8	+2.5V, Int	MQFP	Triple, 8-Bit, Monolithic ADC
AD876JR	10	20	1	150	10	4.0V, 2.0V, Ext	SOIC	10-Bit, 20 MSPS, 160mW, CMOS ADC
AD9050BR	10	40	1.0	40	10	+2.5V Int	SOIC	10-Bit, 40 MSPS ADC w/T/H Amplifier
AD9070BR	10	100	0.6	230	10	–2.5V, Int	SOIC	10-Bit, 100 MSPS ADC
AD9071BR	10	100	0.8	230	10	+2.5V, Int	SOIC	10-Bit, 100 MSPS ADC
AD9200JRS	10	20	0.5	300	10	+2.0V, Int	SSOP	Complete 10-Bit, 20 MSPS, 80mW, CMOS ADC
AD9200JST	10	20	0.5	300	10	+2.0V, Int	TQFP	Complete 10-Bit, 20 MSPS, 80mW, CMOS ADC
AD9201ARS	10	20	0.4	90	10	+2.0V, Int	SSOP	Dual-Channel, 20MHz, 10-Bit Resolution, CMOS ADC
AD9202JRS	10	32	0.5	300	10	+2.0V, Int	SSOP	Complete 10-Bit, 32 MSPS, 90mW, CMOS ADC
AD9042AD	12	41	0.75	140	12	+2.4V Int	CerDIP	12-Bit, 41 MSPS ADC
AD9042AST	12	41	0.3	100	12	+2.4V, Int	SSOP	Complete 12-Bit, 40 MSPS, Monolithic ADC
AD9220AR	12	10	0.75	50	12	Int	CerDIP	10-Bit, 40 MSPS ADC w/T/H Amplifier
AD9223AR	12	1	...	...	12	Int	SOIC	12-Bit ADC, 3 MSPS ADC
AD9225AR	12	25	0.4	105	12	+2.0V, Int	SOIC	Complete, 12-Bit, 25 MSPS, Monolithic
AD9240AS	14	10	0.6	70	14	+2.5V, Int	MQFP	Complete, 14-Bit, 10 MSPS, Monolithic ADC
AD9241AS	14	1.25	0.6	25	14	+2.5V, Int	MQFP	Complete 14-Bit, 1.25 MSPS, Monolithic ADC
AD9243AS	14	3	0.6 Typ	40	14,µP	+1 to +2.5V, Int/Ext	MQFP	14-Bit, 3 MSPS ADC, 44-Pin

* Data format for the bus. "µP" indicates microprocessing capability, e.g., for a 12-bit converter 8/12, µP indicates that the data can be formatted for an 8-bit bus, or can be in parallel (12 bits) and is microprocessor compatible.
** "Ext" indicates external voltage reference with the range of values listed where applicable. "Int" indicates reference is internal. A voltage value is given if the reference is pinned out.
(4353)

(ne03721)

NON-SAMPLING ANALOG-TO-DIGITAL CONVERTERS

Type	Resolution (Bits)	Conversion Rate Max. (µs)	Linearity Error (LSB @ T_A = 25°C)	Reference Voltage Int/Ext*	Bus Interface** (Bits)	Package	Comments
AD570JD	8	25	±0.5	Int	8	HDIP	Complete 8-Bit ADC
AD670JN	8	10	±0.5	Int	8, µP	PDIP	Single +5V Supply, including In-Amp and Reference
AD673JN	8	30	±0.5	Int	8, µP	PDIP	Complete 8-Bit ADC with Reference, Clock and Computer
AD7574AQ	8	...	±4.75	–10V Ext	8, µP	CerDIP	CMOS, µP-Compatible, 8-Bit ADC
AD7574KN	8	...	±4.5	–10V Ext	8, µP	PDIP	CMOS, µP-Compatible, 8-Bit ADC
AD571JD	10	25	±1	Int	10	HDIP	Complete 10-Bit ADC
AD571KD	10	25	±0.5	Int	10	HDIP	Complete 10-Bit ADC
AD573JN	10	30	±1	Int	8/10, µP	PDIP	Complete 10-Bit ADC, Byte or Parallel Interface
AD573JP	10	30	±1	Int	8/10, µP	PLCC	Complete, 10-Bit ADC, Byte or Parallel Interface
AD573KN	10	30	±0.5	Int	8/10, µP	PDIP	Complete 10-Bit ADC, Byte or Parallel Interface
AD572AD	12	25	±0.5	10V Int	12	CerDIP	12-Bit Successive Approximation ADC
AD574AJD	12	35	±1	10V Int	8/12, µP	HDIP	Complete ADC with Reference and Clock; Industry Standard
AD574AJN	12	35	±1	10V Int	8/12, µP	PDIP	Complete ADC with Reference and Clock; Industry Standard
AD574AKD	12	35	±0.5	10V Int	8/12, µP	HDIP	Complete ADC with Reference and Clock; Industry Standard
AD574AKN	12	35	±0.5	10V Int	8/12, µP	PDIP	Complete ADC with Reference and Clock; Industry Standard
AD671JD-750	12	0.75	±2	5V Ext	12	HDIP	12-Bit 750ns Monolithic ADC
AD674BAR	12	15	±1	10V Int	8/12, µP	SOIC	Monolithic, 12-Bit ADC with Ref., Clock, and Output Buffers
AD7672KN05	12	...	±4.1	–5V Ext	8, µP	PDIP	LC^{2}MOS, High-Speed, 12-bit ADC

* "Ext" indicates external voltage reference with the range of values listed where applicable. "Int" indicates reference is internal. A voltage value is given if the reference is pinned out.
** Data format for the bus. "µP" indicates microprocessing capability, e.g., for a 12-bit converter 8/12, µP indicates that the data can be formatted for an 8-bit bus, or can be in parallel (12 bits) and is microprocessor compatible.
(9984)

(de03722)

SIGMA DELTA ANALOG-TO-DIGITAL CONVERTERS

Type	Resolution (Bits)	Input BW (Hz)	Linearity Error (LSB @ T_A = 25°C)	Throughput Rate (kHz)	Reference Voltage Int/Ext*	Bus Interface** (Bits)	Package	Comments
AD7721AR	12	468k	1	229.2	+2.5V Ext	12/Serial, µP	SOIC	12-Bit, 468kHz Sigma-Delta ADC
AD7705BN	16	5-131	0.0003% FS	20-500Hz	+2.5V Ext	Serial, µP	PDIP	3V/5V, 1mW, 2-Channel, 16-Bit Sigma Delta ADC
AD7706BN	16	5-131	0.0003% FS	20-500Hz	+2.5V Ext	Serial, µP	PDIP	3V/5V, 1mW, 3-Channel, 16-Bit Sigma Delta ADC
AD7715AN-5	16	5-131	0.0015%	20 - 500Hz	+2.5V Ext	Serial, µP	PDIP	3V, 16-Bit Sigma-Delta ADC w/PGA
AD7715AR-5	16	5-131	0.0015% FS	20-500Hz	+2.5V Ext	Serial, µP	SOIC	5V, 16-Bit, Sigma-Delta ADC w/PGA
AD7722AS	16	90.625k	2	195.3	+2.5V, Int/Ext	16 Serial/Par, µP	PQFP	16-Bit, 195 kSPS, Sigma-Delta ADC
AD7723BS	16	460k	0.5	1200	+2.5V Int	Serial, µP	PQFP	16-Bit, 1.2 MSPS, CMOS Sigma Delta ADC
AD9260AS	16	...	...	2.5 MSPS	2.5V Int	Serial, µP	MQFP	16-Bit, High-Speed, Oversampled ADC
AD7716BP	22	36.5-584	0.003%	1 Max.	2.5V Ext	Serial	PDIP	Quad Input, 22-Bit Sigma-Delta ADC
AD7712AN	24	2.62-262	±0.0045% FSR Typ.	0.01 - 1	+2.5V Int	Serial, µP	PDIP	24-Bit w/1 Differential Input and 1 H/V Input
AD7714AN-5	24	2.62-262	0.0015%	0.01 - 1.0	+2.5V Ext	Serial, µP	PDIP	24-Bit, 3V/5V Sigma-Delta ADC, 5-Channels
AD7714AR-5	24	2.62-262	0.0015% FS	0.01-1.0	+2.5V Ext	Serial, µP	SOIC	24-Bit, 5-Channel, 5V, Sigma Delta ADC
AD7730BN	24	2-47	0.0015% FS	0.05-1.2	+2.5V Ext	Serial, µP	PDIP	Bridge Transducer ADC
AD7731BN	24	2-1676	0.0015% FS	0.05-6.4	+2.5V Ext	Serial, µP	PDIP	Low-Noise, High-Throughput, 24-Bit, Sigma Delta ADC
AD7731BR	24	2-1676	0.0015% FS	0.05-6.4	+2.5V Ext	Serial, µP	SOIC	Low-Noise, High-Throughput, 24-Bit, Sigma Delta ADC

* "Ext" indicates external voltage reference with the range of values listed where applicable. "Int" indicates reference is internal. A voltage value is given if the reference is pinned out.
** Data format for the bus. "µP" indicates microprocessing capability, e.g., for a 12-bit converter 8/12, µP indicates that the data can be formatted for an 8-bit bus, or can be in parallel (12 bits) and is microprocessor compatible.
(4354)

(ne03723)

PRICES LISTED AT THE BEGINNING OF THE SECTION.

A/D, V/F AND DC-TO-DC CONVERTERS

SAMPLING ANALOG-TO-DIGITAL CONVERTERS

For type number breakdown, see the ordering guides on page 878.

Type	Resolution (Bits)	Throughput Rate Max. (kSPS)	Linearity Error (LSB @ T_A = +25°C)	SHA BW Typ. (kHz)	Reference Voltage Int/Ext*	Bus Interface** (Bits)	Package	Comments
AD7819YN	8	200	±0.5	10000	1.2V Ext	8, µP	PDIP	+2.7V to +5.5V, 200kSPS, 8-Bit Sampling ADC
AD7821KN	8	100	±1	100	0-5V Ext	8, µP	PDIP	CMOS, Bipolar or Unipolar Operation
AD7822BN	8	2000	±0.75	5000	2.5V Int	8, µP	PDIP	3V/5V, 8-Bit, 2 MSPS, Sampling ADC
AD7823YN	8	135	±0.5	10000	2.5V Ext	Serial, µP	PDIP	2.7V to 5.5V, 4.5µs, 8-Bit ADC
AD7824KN	8	400	±1	10	0-5V Ext	8, µP	PDIP	CMOS, 4-Channel, 8-Bit
AD7824LN	8	400	±0.5	10	0-5V Ext	8, µP	PDIP	LC²MOS, High-Speed, 4-Channel, 8-Bit ADC
AD7825BN	8	2000	±0.75	5000	2.5V Int	8, µP	PDIP	3V/5V, 8-Bit, 4-Channel, 2 MSPS, Sampling ADC
AD7827BN	8	1000	±0.5	5000	2.5V Int	Serial, µP	PDIP	3V/5V, 1 MSPS, 8-Bit, Serial, Sampling ADC
AD7828BR	8	400	±1	10	0-5V Ext	8, µP	PDIP	LC²MOS, High-Speed, 8-Channel, 8-Bit ADC
AD7828KN	8	400	±1	10	0-5V Ext	8, µP	PDIP	CMOS, 8-Channel, 8-Bit
AD7810YN	10	350	±1	10000	1.2V Ext	Serial, µP	PDIP	2.7V to 5.5V, 2µs, 10-Bit ADC, 8-Lead microDIP
AD7811YN	10	350	±1	5000	2.5V Ext	Serial, µP	PDIP	10-Bit, 4-Channel, 350 kSPS, Serial ADC
AD7812YN	10	350	±1	5000	2.5V Ext	Serial, µP	PDIP	10-Bit, 8-Channel, 350 kSPS, Serial ADC
AD7813YN	10	400	±1	10000	1.2V Ext	8, µP	PDIP	2.7V to 5.5V, 400 kSPS, Sampling ADC
AD7817AR	10	100	±1	2500	2.5V Ext	Serial, µP	SOIC	4-Channel, 8µs, 10-Bit ADC with On-Chip Temp. Sensor
AD7818AR	10	100	±1	2500	2.5V Ext	Serial, µP	SOIC	8µs, 10-Bit ADC with On-Chip Temp. Sensor
AD1671JP	12	1.25	±2.5	2000	2.5V Int	12	PLCC	Complete Monolithic, 12-Bit, 1.25 kSPS ADC
AD1674JN	12	100	±1	500	10V Int	8/12, µP	PDIP	AD574A Pinout Compatible, AC/DC
AD1674KN	12	100	±0.5	500	10V Int	8/12, µP	PDIP	AD574A Pinout Compatible, AC/DC
AD7853LARS	12	200	±1	1000	2.5V Int	Serial, µP	SSOP	3V, 200 kSPS, 12-Bit Sampling ADC
AD7862AN-3	12	250	±1 Max.	3000	2.5V Int/Ext	12, Parallel, µP	PDIP	Dual, Simultaneous Sampling, ±2.5V Input, 28-Pin
AD7862AN-10	12	250	±1 Max.	3000	2.5V Int/Ext	12, Parallel, µP	PDIP	Dual, Simultaneous Sampling, ±2.5V Input, 28-Pin
AD7864AS-1	12	147	±1	3000	2.5V Int	12, µP	PQFP	High-Speed, Low-Power, 4-Channel, Simultaneous Sampling
AD7870JN	12	100	±0.5 Typ.	500	3V Int	8/12/Serial, µP	PDIP	CMOS, 100kHz Throughput, 3V Input
AD7870KN	12	100	±1	500	3V Int	8/12/Serial, µP	PDIP	CMOS, 100kHz Throughput, 3V Input
AD7876BN	12	100	±1	500	3V Int	8/12/Serial, µP	PDIP	CMOS, 100kHz Throughput, 10V Input
AD7880BN	12	66	±1	33	5V Ext	12, µP	PDIP	Single 5V Supply, Low-Power Shutdown
AD7891AP-1	12	500	±1	1200	2.5V Int	8/12, Serial, µP	PLCC	8-Channel, 500 kSPS, 12-Bit ADC
AD7891AS-1	12	500	±1	1200	2.5V Int	8/12, Serial, µP	PQFP	8-Channel, 500 kSPS, 12-Bit ADC
AD7891BS-1	12	500	±1	1200	2.5V Int	8/12, Serial, µP	PQFP	8-Channel, 500 kSPS, 12-Bit ADC
AD7892AN-3	12	600	...	600	2.5V Int	12, Serial, µP	PDIP	12-Bit, 600kHz ADC; 5V Supply
AD7892AR-1	12	600	...	600	2.5V Int	12, Serial, µP	SOIC	12-Bit, 600kHz ADC; 5V Supply
AD7892BN-2	12	600	...	600	2.5V Int	12, Serial, µP	PDIP	12-Bit, 600kHz ADC; 5V Supply
AD7892BN-3	12	600	...	600	2.5V Int	12, Serial, µP	PDIP	12-Bit, 600kHz ADC; 5V Supply
AD7893AN-10	12	117	±1	1000	2.5V Ext	Serial	PDIP	CMOS, Single Supply, Sampling ADC in 8-Pin Package
AD7895AN-2	12	192	±1 Max.	100+	2.5V Ext	Serial, µP	PDIP	+5V, 12-Bit, Serial ADC, 0 to 2.5V Input, 8-Pin
AD7895AN-10	12	192	±1 Max.	100+	2.5V Ext	Serial, µP	PDIP	+5V, 12-Bit, Serial ADC, ±10V Input, 8-Pin
AD7895AN-3	12	192	±1 Max.	100+	2.5V Ext	Serial, µP	PDIP	+5V, 12-Bit, Serial ADC, ±2.5V Input, 8-Pin
AD679JN	14	128	±2 Typ.	1000	5V Int	8, µP	PDIP	BiMOS, High-Impedance/-Bandwidth, 10V, AC/DC
AD679KN	14	128	±2	1000	5V Int	8, µP	PDIP	BiMOS, High-Impedance/-Bandwidth, 10V, AC/DC
AD779JN	14	128	±2 Typ.	1000	5V Int	14, µP	PDIP	BiMOS, High-Impedance/-Bandwidth, 10V, AC/DC
AD676KD	16	100	±1.5	1000	3-10V Int	16	HDIP	Autocalibrating, 28-Pin DIP, Parallel Output
AD677KD	16	100	±1.5	1000	3-10V Ext	Serial	HDIP	Autocalibrating, 16-Pin DIP, Serial Output
AD7884AP	16	166	±0.003% FSR Typ.	83	3V Ext	16, µP	PLCC	CMOS, 250mW, 5.3µs Conversion
AD7884BP	16	166	±0.006% FSR Typ.	83	3V Ext	16, µP	PLCC	CMOS, 250mW, 5.2µs Conversion
AD976AAN	16	200	±6 Max.	2700	2.5V Int/Ext	16,8 Par/Byte,µP	PDIP	16-Bit, 100 kSPS ADC
AD977AAN	16	200	±3	1000	2.5V Int	Serial, µP	PDIP	16-Bit, 200 kSPS, BiCMOS SDC
AD1876JN	16	100	...	...	...	16	PDIP	Complete 16-Bit, 1.25 MSPS, Monolithic ADC

* "Ext" indicates external voltage reference with the range of values listed where applicable. "Ext (M)" indicates external reference with multiplying capability. "Int" indicates reference is internal. A voltage value is given if the reference is pinned out.
** Data format for the bus. "µP" indicates microprocessing capability, e.g., for a 12-bit converter 8/12, µP indicates that the data can be formatted for an 8-bit bus, or can be in parallel (12 bits) and is microprocessor compatible.

(9987) (de03725)

VOLTAGE-TO-FREQUENCY CONVERTERS

For type number breakdown, see the ordering guides on page 878.

Type	Full-Scale Frequency (MHz)	Linearity Max.	FS Calibration Error Typ.	Output Format	Input Range (V)	Package	Comments
AD537JD	0.15	0.15%	5%	Square Wave	$-V_S$ to (+ V_S-4)	HDIP	Economy V-F Converter
AD537JH	0.15	0.15%	5%	Square Wave	$-V_S$ to (+ V_S-4)	Metal Can	Economy V-F Converter
AD537KH	0.15	0.07%	5%	Square Wave	$-V_S$ to (+ V_S-4)	Metal Can	Economy V-F Converter
AD537KD	0.15	0.07%	5%	Square Wave	$-V_S$ to (+ V_S-4)	HDIP	Economy V-F Converter
AD650JN	1	0.005%	5%	Pulse Train	0 to 10, ±5, 0 to -10	PDIP	Low Nonlinearity, Multiple Input Ranges
AD650JP	1	0.005%	5%	Pulse Train	0 to 10, ±5, 0 to -10	PLCC	Low Nonlinearity, Multiple Input Ranges
AD650KN	1	0.005%	5%	Pulse Train	0 to 10, ±5, 0 to -10	PDIP	Low Nonlinearity, Multiple Input Ranges
AD652AQ	2	±0.02%	0.5%	Pulse Train	0 to 10, ±5, 0 to -10	CerDIP	Synchronous, Multiple Input Ranges
AD652BQ	2	±0.01%	0.25%	Pulse Train	0 to 10, ±5, 0 to -10	CerDIP	Synchronous, Multiple Input Ranges
AD654JN	0.5	0.1%	10% Max.	Square Wave	0 to (V_S)	PDIP	Economy, Monolithic, Single Supply
AD654JN/+	0.5	0.10%	10% Max.	Square Wave	0 to (V_S)	PDIP	Economy, Monolithic, Single Supply
AD654JR	0.5	0.1%	10% Max.	Square Wave	0 to (V_S)	SOIC	Economy, Monolithic, Single Supply

(4336) (de03726)

DC-TO-DC CONVERTERS

For type number breakdown, see the ordering guides on page 878.

Type	VDC Input (Volts)	Integral EMI Filter	VDC Output (Volts)	I_{OUT} (Amps)	Package	Description
ADP3603AR	+4.5 to +6.0	No	–3	0.05	SOIC	Switched Capacitor Voltage Converter with Regulated Output
ADP3604AR	+4.5 to +6.0	No	–3	0.12	SOIC	Switched Capacitor Voltage Converter with Regulated Output

(10932) (ne09952)

DIGITAL-TO-ANALOG CONVERTERS

SINGLE DIGITAL-TO-ANALOG CONVERTERS

Digital-to-analog converters (DAC) accept digital input and produce an analog output. The basic DAC consists of a voltage or current reference, binary weighted precision resistors, a set of electronic switches and a means of summing the weighted currents. *For type breakdown, see the ordering guides on page 878.*

CURRENT OUTPUT

Type	Resolution (Bits)	Settling Time Typ. (µs)	Linearity Error (LSB @ T_A=25°C)	Bus Interface* (Bits)	Reference Voltage Int/Ext**	Package	Description
AD7524JN	8	0.100	±0.5	8, µP	Ext (M)	PDIP	CMOS, Economy, 8-Bit Multiplying DAC with Latch
AD9701BQ	8	8.000	±0.5	8	Int	CerDIP	250MHz Video Digital-to-Analog Converter
DAC08CP	8	0.085	±0.39% FS	8	Ext (M)	DIP	8-Bit, High-Speed, Multiplying DAC
DAC08CS	8	0.085	±0.39% FS	8	Ext (M)	SOIC	8-Bit, High-Speed, Multiplying DAC
DAC08EQ	8	0.085	±0.19% FS	8, µP	Ext (M)	CerDIP	8-Bit, High-Speed, Multiplying DAC
AD7533JP	10	0.6	±0.2% FS	10	Ext (M)	PLCC	CMOS, 10-Bit, Multiplying DAC
DAC100CCQ3	10	0.1	±0.2% FS	8/10, µP	Int	CerDIP	10-Bit, Current-Output DAC
AD565AJD	12	0.250	±0.5	12	10V Int	HDIP	Industry Standard, High-Speed
AD565AKD	12	0.250	±0.25	12	10V Int	HDIP	Industry Standard, High-Speed
AD568JQ	12	0.035	±0.5	12	Int	CerDIP	Highest Accuracy 12-Bit Ultra High-Speed
AD568KQ	12	0.035	±0.25	12	Int	CerDIP	Highest Accuracy 12-Bit Ultra High-Speed
AD668JQ	12	0.05	±0.5	12	Ext (M)	CerDIP	Multiplying, 12-Bit, Ultra High-Speed
AD7542GKN	12	2	±0.5	12, µP	Ext (M)	PDIP	CMOS, µP-Compatible, 12-Bit DAC
AD7543KN	12	2	±0.5	Serial, µP	Ext (M)	PDIP	CMOS, Serial Input, 12-Bit DAC
AD7545LN	12	2	±0.5	8/16, µP	Ext (M)	PDIP	CMOS, 12-Bit, Buffered, Multiplying DAC
AD7945BN	12	0.6	±0.5	12, µP	Ext (M)	PDIP	3V to 5V Supply, 12-Bit Multiplying DAC, 12-Bit Bus
ADDAC80N-CBI-V	12	4.0 (Max.)	±0.5	12	6.3V ±2%	PDIP	Economy 12-Bit
DAC312HP	12	0.250	±0.05% FS	12	Ext (M)	PDIP	Economy, High-Speed, 12-Bit Multiplying
DAC312HS	12	0.250	±0.05% FS	12	Ext (M)	SOIC	Economy, High-Speed, 12-Bit Multiplying
DAC8043FP	12	0.250	±1	Serial, µP	Ext (M)	PDIP	8-Pin DIP, Serial Input, 12-Bit CMOS Multiplying
AD7535JP	14	1.5	±2	8/16, µP	Ext (M)	PLCC	LC^2MOS, µP-Compatible, 14-Bit DAC
AD7536JN	14	1.5	±2	8/16, µP	Ext (M)	PDIP	LC^2MOS, µP-Compatible, 14-Bit DAC
AD7536KN	14	1.5	±1	8/16, µP	Ext (M)	PDIP	LC^2MOS, µP-Compatible, 14-Bit DAC
AD7538JN	14	1.500	±2	14, µP	Ext (M)	PDIP	CMOS, Parallel Load
AD420AN-32	16	3.000	±0.012% FS	Serial, µP	5V ±1%	PDIP	Serial Input, 16-Bit, 4-20mA, 0-20mA
AD420AR-32	16	3.000	±0.012% FS	Serial, µP	5V ±1%	SOIC	Serial Input, 16-Bit, 4-20mA, 0-20mA
AD421BN	16	8.000	...	Serial, µP	2.5V Int/Ext	PDIP	Loop-Powered, 4-20mA DAC
DAC16FP	16	0.5	±4	16	Ext (M)	PDIP	16-Bit, High-Speed, Multiplying DAC
AD7111ABR	17	...	...	8, µP	Ext (M)	SOIC	LC^2MOS LOGDAC Logarithmic DAC

VOLTAGE OUTPUT

Type	Resolution (Bits)	Settling Time Typ. (µs)	Linearity Error (LSB @ T_A=25°C)	Bus Interface* (Bits)	Reference Voltage Int/Ext**	Package	Description
AD557JN	8	0.8	±1	8, µP	Int	PDIP	Economy 8-Bit DACPORT®; Single +5V Supply
AD557JP	8	0.8	±1	8, µP	Int	PLCC	Economy 8-Bit DACPORT®; Single +5V Supply
AD558JD	8	2	±0.5	8, µP	Int	CerDIP	DACPORT®, µP-Compatible, Complete
AD558JN	8	3.0	±0.5	8, µP	Int	PDIP	10V Output DACPORT®, Single or Dual Supply
AD558KD	8	3.0	±0.25	8, µP	Int	HDIP	10V Output DACPORT®, Single or Dual Supply
AD558KN	8	3.0	±0.25	8, µP	Int	PDIP	10V Output DACPORT®, Single or Dual Supply
AD558KP	8	2	±0.25	8, µP	Int	PLCC	DACPORT®, µP-Compatible, Complete
AD5300BRM	8	4	±1	8, µP	Int	µSOIC	2.7V to 5.5V, 140µA, Rail-to-Rail, Voltage Output
AD7224KN	8	5.0 (Max.)	±2	8, µP	2-12.5 Ext	PDIP	CMOS, Economy 8-Bit DAC
AD7224LN	8	5.0 (Max.)	±1	8, µP	2-12.5 Ext	PDIP	CMOS, Economy 8-Bit DAC
AD7569JN	8	2	±2	8, µP	Int	PDIP	LC^2MOS Complete, 8-Bit, Analog I/O System
AD7801BR	8	1.2	±1	8, µP	Int/Ext	SOIC	2.7V to 5.5V, Parallel Input, Voltage Output
AD5310BRM	10	6	±4	10	Int	µSOIC	2.7V to 5.5V, 140µA, Rail-to-Rail, Voltage Output
AD7391AN	10	60	±0.9	Serial, µP	2.5V Ext	PDIP	+3V Serial, Micropower, 10-Bit DAC
AD7391AR	10	60	±0.9	Serial, µP	2.5V Ext	SOIC	+3V Serial, Micropower, 10-Bit DAC
AD7393AN	10	60	±0.8	10, µP	2.5V Ext	PDIP	+3V Parallel, Micropower, 10-Bit DAC
DAC210GX	10	1.5	±0.1% FS	10	Int	CerDIP	11-Bit, Voltage-Output DAC
AD667JN	12	3.0	±0.5	4/8/12, µP	10V Int	PDIP	High Accuracy Complete 12-Bit DAC
AD667KN	12	3.0	±0.25	4/8/12, µP	10V Int	PDIP	High Accuracy Complete 12-Bit DAC
AD667SD	12	3	±0.5	4/8/12, µP	Int	CerDIP	Microprocessor-Compatible, 12-Bit DAC
AD7243AN	12	10.0 (Max.)	±1	Serial	Int(+5V), Ext	PDIP	Economy 12-Bit Serial DACPORT® in 16-Pin SOP
AD7243AR	12	10.0 (Max.)	±1	Serial	Int(+5V), Ext	SOIC	Economy 12-Bit Serial DACPORT® in 16-Pin SOP
AD7243BN	12	10.0 (Max.)	±0.5	Serial	Int(+5V), Ext	PDIP	Economy 12-Bit Serial DACPORT® in 16-Pin SOP
AD767JN	12	3.0	±1	12, µP	Int	PDIP	Microprocessor-Compatible, 12-Bit DAC
AD767KN	12	3.0	±0.5	12, µP	10V Int	PDIP	Fast Interface, Complete 12-Bit DAC
AD7845JN	12	2.5	±1	12, µP	Ext (M)	PDIP	CMOS, 12-Bit Multiplying DAC with Output Amplifier
AD7845JP	12	2.5	±1	12, µP	Ext (M)	PLCC	LC^2MOS, 12-Bit Multiplying DAC with Output Amplifier
AD7845KN	12	2.5	±0.5	12, µP	Ext (M)	PDIP	CMOS, 12-Bit Multiplying DAC with Output Amplifier
AD7233AN	12	10.0 (Max.)	±1	Serial, µP	Int	PDIP	Small, 12-Bit, Serial DACPORT® (8-Pin) Bipolar ±5V Output Range
AD7390AN	12	60	±0.9	Serial, µP	2.5V Ext	PDIP	+3V Serial, Micropower, 12-Bit DAC
AD7390AR	12	60	±0.9	Serial, µP	2.5V Ext	SOIC	+3V Serial, Micropower, 12-Bit DAC
AD7392AN	12	60	±0.9	12, µP	2.5V Ext	PDIP	+3V Parallel, Micropower, 12-Bit DAC
AD7392AR	12	60	±0.9	12, µP	2.5V Ext	SOIC	+3V Parallel, Micropower, 12-Bit DAC
AD8300AN	12	6	±1	Serial, µP	Int	PDIP	3V, 12-Bit Complete DAC
DAC8512EP	12	16	±1	8, µP	Int	PDIP	5V, 12-Bit, Serial Input, Complete DAC
DAC8562EP	12	16	±0.5	8, µP	Int	PDIP	5V, 12-Bit, Serial Input, Complete DAC
AD7840JN	14	2	±2	14/Serial, µP	Int(+3V), Ext	PDIP	CMOS, 14-Bit Complete DAC, Parallel or Serial Load
AD569JN	16	3.0	±0.04% FS	8/16, µP	+5V Ext (M)	PDIP	Monolithic, 16-Bit Monotonic DAC
AD569KN	16	3.0	±0.024% FS	8/16, µP	+5V Ext (M)	PDIP	Monolithic, 16-Bit Monotonic DAC
AD669AN	16	8.0	±4	16, µP	10V Int	PDIP	Monolithic, Complete 16-Bit DAC
AD669AR	16	8.0	±4	16, µP	10V Int	SOIC	Monolithic, Complete 16-Bit DAC
AD766JN	16	1.5	±2% FSR Typ.	Serial, µP	Int	PDIP	Zero-Chip Interface 16-Bit DSP DACPORT®
AD7846JN	16	6.0	±16	16, µP	Ext (M)	PDIP	CMOS, 16-Bit Multiplying DAC with Readback Capability
AD7846KN	16	6	±8	16, µP	Ext (M)	PDIP	CMOS, 16-Bit Multiplying DAC with Readback Capability
AD1139J	18	40	±1	18	Int	Special	High-Accuracy, 18-Bit DAC

* Data format for the bus. "µP" indicates microprocessing capability, e.g., for a 12-bit converter 8/12, µP indicates that the data can be formatted for an 8-bit bus, or can be in parallel (12 bits) and is microprocessor compatible. ** "Ext" indicates external voltage reference with the range of values listed where applicable. "Ext (M)" indicates external reference with multiplying capability. "Int" indicates reference is internal. A voltage value is given if the reference is pinned out.

(9960)

(de03730)

DIGITAL-TO-ANALOG CONVERTERS

MULTIPLE DIGITAL-TO-ANALOG CONVERTERS

VOLTAGE OUTPUT

Type	Resolution (Bits)	Settling Time Typ. (µs)	Linearity Error (LSB @ T_A=25°C)	Bus Interface* (Bits)	Reference Voltage Int/Ext**	Pkg.	Comments
AD7225KN	8	5.0 (max.)	±2	8, µP	2-12.5V Ext	PDIP	CMOS, Separate References for each DAC
AD7226KN	8	3.0	±2	8, µP	2-12.5V Ext	PDIP	CMOS, No User Trims, Specified with Single or Dual Supplies
AD7226KR	8	3.0	±2	8, µP	2-12.5V Ext	SOIC	CMOS, No User Trims, Specified with Single or Dual Supplies
AD7228ABN	8	5.0 (max.)	±2	8, µP	2-10V Ext	PDIP	CMOS, Specified for Single or Dual Supply, 5V to 15V
AD7228ACN	8	5.0 (max.)	±1	8, µP	2-10V Ext	PDIP	CMOS, Specified for Single or Dual Supply, 5V to 15V
AD7302BN	8	1.2	±1	8, µP	Int/Ext	PDIP	+2.7 to +5.5, Dual, Parallel-Input, Voltage-Output DAC
AD7303BN	8	1.2	±1	Serial, µP	Int V_{DD}/2, Ext 1V to V_{DD}/2	PDIP	Dual, +3V, Serial, 8-Bit DAC
AD7304BN	8	1.1	±1	8, µP	Ext (M)	PDIP	+3V/+5V, Rail-to-Rail, Serial Input, Qaud, 8-Bit DAC
AD7305BN	8	1.1	±1	8, µP	Ext (M)	PDIP	+3V/+5V, Rail-to-Rail, Parallel Input, Qaud, 8-Bit DAC
DAC8228FP	8	2	±1	8/16, µP	Ext (M)	PDIP	Dual, 8-Bit, CMOS, Voltage-Output DAC
DAC8229FP	8	2.0	±0.5	8, µP	Ext (M)	PDIP	CMOS, Single or Dual Supply Operation
AD8402AN10	8	25 (to 1%)	±1.5	Serial, µP	...	PDIP	2-Channel Digital Potentiometer (R-DAC)
AD8402AN100	8	25 (to 1%)	±1.5	Serial, µP	...	SOIC	2-Channel Digital Potentiometer (R-DAC)
AD8402AR10	8	25 (to 1%)	±1.5	Serial, µP	...	SOIC	2-Channel Digital Potentiometer (R-DAC)
AD8403AR10	8	25 (to 1%)	±1.25	Serial, µP	...	SOIC	4-Channel Digital Potentiometer (R-DAC)
AD7395AN	10	60	±1.5	10	Ext (M)	PDIP	+3V, DUal, Serial-Input, 10-Bit DAC
AD7804BN	10	4	±2-3	Serial, µP	Int, +1.2V	PDIP	Quad, 10-Bit DAC; Serial Interface, 3.3V
AD664AD-BIP	12	8	±0.75	8/16, µP	Ext (M)	CerDIP	Monolithic, 12-Bit, Quad DAC
AD664BD-BIP	12	8	±0.5	8/16, µP	Ext (M)	CerDIP	Monolithic, 12-Bit, Quad DAC
AD664BD-UNI	12	10.0	±0.5	12, µP	Ext (M)	HDIP	Readback, Reset, Low-Power Quad DAC
AD7224LN	12	10.0	±0.75	12, µP	Ext (M)	PDIP	Readback, Reset, Low-Power Quad DAC
AD7237JN	12	5.0	±1	8, µP	Ext (M)	PDIP	CMOS, MDAC, Byte Load, Double Buffered
AD7237KN	12	5.0	±0.5	8, µP	Ext (M)	SOIC	CMOS, MDAC, Byte Load, Double Buffered
AD7245AAN	12	10.0 (max.)	±1	12, µP	5V Int	PDIP	Faster Interface, 12V and 15V **AD7245**
AD7245AAQ	12	10	±0.5	8, µP	Int	CerDIP	LC^2MOS, 12-Bit DACPORT
AD7245ABN	12	10.0 (max.)	±0.5	12, µP	5V, Int	PDIP	Faster Interface, 12V and 15V **AD7245**
AD7245ATQ	12	10	±0.5	8, µP	Int	CerDIP	LC^2MOS, 12-Bit DACPORT
AD7247JN	12	5.0	±1	12, µP	Ext (M)	PDIP	CMOS, MDAC, Parallel Load
AD7247JR	12	5.0	±1	12, µP	Ext (M)	SOIC	CMOS, MDAC, Parallel Load
AD7247KN	12	5.0	±0.5	12, µP	Ext (M)	PDIP	CMOS, MDAC, Parallel Load
AD7248AAN	12	10.0 (max.)	±1	8, µP	5V Int	PDIP	Faster Interface, 12V and 15V **AD7248**
AD7394AN	12	60	±1.5	12	Ext (M)	PDIP	+3V, Dual, Serial-Input, 12-Bit DAC
AD7837BN	12	5.0	±0.5	8, µP	Ext (M)	PDIP	CMOS, MDAC, Byte Load, Double Buffered
DAC8413FPC	12	6	±1	12	Ext (M)	LCC	Quad, 12-Bit, Voltage-Output DAC w/Readback
DAC8420FP	12	8	±2	12	Ext (M)	PDIP	Quad, 12-Bit, Serial-Input, Voltage-Output DAC
AD8522AN	12	16	±2	Serial, µP	Int (2.5V)	PDIP	Dual, 12-Bit DAC; 5V
AD75004KP	12	2	±0.5	8/12, µP	Int	PLCC	Quad, 12-Bit DAC

CURRENT OUTPUT

Type	Resolution (Bits)	Settling Time Typ. (µs)	Linearity Error (LSB @ T_A=25°C)	Bus Interface* (Bits)	Reference Voltage Int/Ext**	Pkg.	Comments
AD7528JN	8	0.18	± 1	8, µP	Ext (M)	PDIP	CMOS, 5V to 15V Operation, TTL Compatible at V_{DD} = 5V
AD7528KN	8	0.18	± 0.5	8, µP	Ext (M)	PDIP	CMOS, 5V to 15V Operation, TTL Compatible at V_{DD} = 5V
AD7528TQ	8	0.18	± 0.5	8, µP	Ext (M)	CerDIP	CMOS, Dual, 8-Bit, Buffered, Multiplying DAC
AD7628KP	8	0.35	± 0.5	8, µP	Ext (M)	PLCC	CMOS, Dual, 8-Bit, Buffered, Multiplying DAC
AD7628KR	8	0.35	± 0.5	8, µP	Ext (M)	SOIC	CMOS, Dual, 8-Bit, Buffered, Multiplying DAC
AD7628TQ	8	0.4	± 0.5	8, µP	Ext (M)	CerDIP	CMOS, Dual, 8-Bit, Buffered, Multiplying DAC
DAC8408GP	8	0.19	± 0.25	8, µP	Ext (M)	PDIP	CMOS, 5V to 15V Operation, Data Readback Memory Function, Separate VREF
AD7537JN	12	1.5 (max.)	± 1	8, µP	Ext (M)	PDIP	CMOS, Byte Load, Double Buffered
AD7537KN	12	1.5 (max.)	± 0.5	Serial, µP	Ext (M)	PDIP	CMOS, Byte Load, Double Buffered
AD7564BR	12	0.5	± 0.5	12 µP	Ext (M)	SOIC	Quad, 12-Bit Multiplying DAC, 5V Supply
DAC8221FP	12	0.45	± 1	12, µP	Ext (M)	PDIP	CMOS, Buffered Inputs, 5V Operation
DAC8221GP	12	0.45	± 0.5	12	Ext (M)	PDIP	Dual, 12-Bit, Buffered, Multiplying DAC

* Data format for the bus. "µP" indicates microprocessing capability, e.g., for a 12-bit converter 8/12, µP indicates that the data can be formatted for an 8-bit bus, or can be in parallel (12 bits) and is microprocessor compatible.
** "Ext" indicates external voltage reference with the range of values listed where applicable. "Ext (M)" indicates external reference with multiplying capability. "Int" indicates reference is internal. A voltage value is given if the reference is pinned out.
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HIGH-SPEED VIDEO DIGITAL-TO-ANALOG CONVERTERS

Type	Resolution (Bits)	Settling Time Typ. (ns)	Bus Interface (Bits)	Throughput Rate (MSPS)	Package	Comments
AD9708AR	8	35	8	100	SOIC	8-Bit, 100 MSPS+ TxDAC
AD9731BR	10	3.8	10	170	SOIC	10-Bit, 170 MSPS DAC
AD9732BRS	10	4.75	10	200	SSOP	10-Bit, 200 MSPS DAC
AD9761ARS	12	35	12	40	SSOP	Dual, 10-Bit TxDAC+, w/2x Interpolation Filters
AD9764AR	14	35	14	100	SOIC	14-Bit, 100 MSPS+, TxDAC
AD9774AS	14	35	14	32	MQFP	14-Bit, 32 MSPS, TxDAC+, w/4x Interpolation Filters
AD768AR	16	25	16	30	SOIC	16-Bit, 30 MSPS DAC

(34805)

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NEWARK ELECTRONICS® IS AN ISO 9002 COMPANY.

ANALOG SWITCHES & MULTIPLEXERS

Solid-state analog multiplexers and switches provide ability to control and select specified transmission path for analog signal. Suit variety of applications, including data acquisition, process control, instrumentation, video systems and telephony. *For type breakdown see the ordering guides on page 878.*

Type	Function	Analog Input Leakage Current Max. (nA)	Resistance R_{ON} Max. (Ohms)	Latch	Package	Comments
AD7501SQ	8:1 Mux	5	300	No	CerDIP	8-Channel Analog Multiplexer
AD7502JN	Diff. 4:1 Mux	5	300	No	PDIP	Dual 4-Channel Multiplexer
AD7503KN	8:1 Mux	10	300	No	PDIP	8-Channel Analog Multiplexer
AD7506KN	16:1 Mux	5	450	No	PDIP	16-Channel Analog Multiplexer
AD7510DIKP	Quad SPST	5	100	No	PLCC	DI CMOS Protected Switches
AD8108AST	8x8 Crosspoint Switch	...	...	No	TQFP	325MHz, 8x8 Buffered Video Crosspoint Switch
AD8109AST	8x8 Crosspoint Switch	...	...	No	TQFP	325MHz, 8x8 Buffered Video Crosspoint Switch
AD8110AST	16x8 Crosspoint Switch	...	...	No	TQFP	260MHz, 16x8 Buffered Video Crosspoint Switch
AD8111AST	16x8 Crosspoint Switch	...	...	No	TQFP	260MHz, 16x8 Buffered Video Crosspoint Switch
AD8116JST	16x16 Crosspoint Switch	1,000 Typ.	...	Serial, µP	TQFP	200MHz, Buffered, 16x16, Video Crosspoint Switch
ADG201HSJN	Quad SPST	1	50	No	PDIP	LC^2MOS Quad High-Speed SPST Switch
ADG201HSKN	Quad SPST	1	50	No	PDIP	LC^2MOS Quad Higher Speed SPST Switch
ADG202AKN	Quad SPST	2	90	No	PDIP	LC^2MOS Quad SPST Switch
ADG201AKN	Quad SPST	2	90	No	PDIP	LC^2MOS Quad SPST Switch
ADG211AKN	Quad SPST	5	115	No	PDIP	LC^2MOS Quad SPST Switch
ADG211AKR	Quad SPST	5	115	No	SOIC	LC^2MOS Quad SPST Switch
ADG212AKN	Quad SPST	5	115	No	PDIP	LC^2MOS Quad SPST Switch
ADG222KR	Quad SPST	2	90	Yes	SOIC	LC^2MOS Quad SPST Switch
ADG333ABN	Quad SPDT	±0.25	45	No	PDIP	Precision, Quad SPDT Analog Switch
ADG406BN	16:1 Mux	±20	80	No	PDIP	LC^2MOS 16-Channel Analog Multiplexer
ADG406BP	16:1 Mux	±20	80	No	PDIP	LC^2MOS 16-Channel Analog Multiplexer
ADG407BN	Diff. 8:1 Mux	±20	80	No	PDIP	LC^2MOS 8-Channel Analog Multiplexer
ADG407BP	Diff. 8:1 Mux	±20	80	No	PLCC	LC^2MOS Differential 8-Channel Analog Multiplexer & Control Latches
ADG408BN	8:1 Mux	±0.5	100	No	PDIP	LC^2MOS 8-Channel Analog Multiplexer
ADG408BR	8:1 Mux	±0.5	100	No	SOIC	LC^2MOS 8-Channel Analog Multiplexer
ADG409BN	Diff. 4:1 Mux	±0.5	100	No	PDIP	LC^2MOS Differential 4-Channel Analog Multiplexer
ADG409BR	Diff. 4:1 Mux	±0.5	100	No	SOIC	LC^2MOS Differential 4-Channel Analog Multiplexer
ADG412BR	Quad SPST	0.25	35	No	SOIC	DI LC^2MOS Precision Quad SPST Switch
ADG417BN	Single SPST	±0.25	25	No	PDIP	LC^2MOS Precision Mini-DIP Analog Switch
ADG419BN	Single SPDT	±0.25	25	No	PDIP	LC^2MOS Precision Mini-DIP Analog Switch
ADG419BR	Single SPDT	±0.25	25	No	SOIC (0.15")	LC^2MOS Precision Mini-DIP Analog Switch
ADG426BN	16:1 Mux	±20	80	Yes	PDIP	LC^2MOS 16-Channel Mux w/Address Decoder & Control Latches
ADG426BRS	16:1 Mux	±20	80	Yes	PQFP	LC^2MOS 16-Channel Mux w/Address Decoder & Control Latches
ADG428BN	8:1 Mux	±0.5	100	Yes	PDIP	LC^2MOS 8-Channel Multiplexer w/Address Decoder & Control Latches
ADG431BN	Quad SPST	0.25	24	No	PDIP	DI LC^2MOS Quad SPST Switch
ADG432BN	Quad SPST	±0.25	24	No	PDIP	DI LC^2MOS Quad SPST Switch
ADG433BN	Quad SPST	0.25	24	No	PDIP	DI LC^2MOS Quad SPST Switch
ADG436BN	Dual SPDT	±0.25	15	No	PDIP	Precision, Dual SPDT Analog Switch
ADG441BN	Quad SPST	0.5	70	No	PDIP	LC^2MOS Quad SPST Switch
ADG451BN	Quad SPST	0.5	5	No	PDIP	Quad SPST Switch
ADG452BN	Quad SPST	0.5	5	No	PDIP	Quad SPST Switch
ADG453BN	Quad SPST	0.5	5	No	PDIP	Dual SPDT/Quad SPST Switch
ADG508AKR	8:1 Mux	1	300	No	SOIC	Second Source **DG508A**
ADG508AKN	8:1 Mux	1	300	No	PDIP	Second Source **DG508A**
ADG508FBN	8:1 Mux	±1	300	No	PDIP	8-Channel, Fault-Protected, Analog Multiplexer
ADG509AKN	Diff. 4:1 Mux	1	300	No	PDIP	Second Source to **DG509A**
ADG512BN	Quad SPST	±0.1	50	No	PDIP	DI LC^2MOS Precision 5V/3V Quad SPST Switch
ADG512BR	Quad SPST	±0.1	50	No	SOIC	DI LC^2MOS Precision 5V/3V Quad SPST Switch
ADG526AKN	16:1 Mux	1	450	Yes	PDIP	Latched 16-Channel Analog Multiplexer
ADG527AKN	Diff. 8:1 Mux	1	450	Yes	PDIP	Dual, Latched 8-Channel Analog Multiplexer
ADG608BN	8:1 Mux	±0.5	40	No	PDIP	3V/5V, High-Performance, 8-Channel, Analog Multiplexer
ADG608BRU	8:1 Mux	±0.5	40	No	TSSOP	3V/5V, High-Performance, 8-Channel, Analog Multiplexer
ADG661BRU	Quad SPST	0.1	38	No	TSSOP	LC^2CMOS Precision, 5V Quad SPST Switch
ADG662BRU	Quad SPST	0.1	38	No	TSSOP	LC^2CMOS Precision, 5V Quad SPST Switch
ADG663BRU	Quad SPST	0.1	38	No	TSSOP	LC^2CMOS Precision, 5V Quad SPST Switch
ADG701BRM	Single SPST	0.25	3	No	µSOIC	Monolithic CMOS SPST Switch (Closed with a Logic Input of "1")
ADG702BRM	Single SPST	0.25	3	No	µSOIC	Monolithic CMOS SPST Switch (Open with a Logic Input of "1")
ADG719BRM	Single SPDT	0.25	4	No	µSOIC	CMOS Low-Voltage 4Ω SPDT Switch
ADG721BRM	Single SPST	0.25	4	No	µSOIC	Monolithic CMOS SPST Switch
ADG774BR	Quad 2:1 mux	0.5	5	No	SOIC	3V/5V, Wide Bandwidth, Quad 2:1 Multiplexer
MUX08EP	8:1 Mux	1	300	No	PDIP	JFET Analog Mux with Overvoltage & Power Supply Loss Protection
MUX08FP	8:1 Mux	2	400	No	PDIP	JFET Analog Mux with Overvoltage & Power Supply Loss Protection
MUX16ET	16:1 JFET Mux	1	380	No	CerDIP	JFET Analog Multiplexer with Overvoltage Protection
MUX24FS	Diff. 4:1 Mux	2	400	No	SOIC	Dual 4-Channel JFET Analog Multiplexer
MUX28FT	Diff. 8:1 Mux	2	580	No	CerDIP	Dual 8-Channel JFET Analog Multiplexer
SSM-2402P	Dual SPST	10	85	No	PDIP	Clickless Bilateral Dual Audio Switch
SSM2412P	Dual SPST	10	85	No	PDIP	Dual Audio Analog Switch
SW06GP	Quad SPST	60	175	No	PDIP	Quad, JFET, Analog Switch
SW06GS	Quad SPST	60	175	No	SOIC	Quad, JFET, Analog Switch

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CALL NEWARK FOR FAST, DEPENDABLE SERVICE.

VOLTAGE REFERENCES AND REGULATORS

Type	Output Voltage (V)	Initial Accuracy Max. (mV)	Temp. Stability Max. (ppm/°C)	Package	Comments
AD588BQ	Selectable	±1	1.5	CerDIP	High-Precision
ADM663AN	Selectable	...	...	PDIP	5V Fixed/Adj. Linear
REF08GZ	–10	±40	80	CerDIP	Neg. 10V/10.24V
REF08HS	–10	±40	80	SOIC	Neg. 10V/10.24V
AD589JH	+1.235	5	100	Metal Can	2-Terminal, 1.2V
AD589JR	+1.235	5	100	SOIC	2-Terminal, 1.2V
AD589KH	+1.235	5	50	Metal Can	2-Terminal, 1.2V
AD589LH	+1.235	5	25	Metal Can	2-Terminal, 1.2V
AD589MH	+1.235	5	10	Metal Can	2-Terminal, 1.2V
REF191GP	2.048	10	25	PDIP	Low Power/Dropout
AD580JH	+2.5	±75	15	Metal Can	3-Terminal, 2.5V
AD580KH	+2.5	±25	7	Metal Can	3-Terminal, 2.5V
AD580LH	+2.5	±10	4.3	Metal Can	3-Terminal, 2.5V
AD580MH	+2.5	±10	1.75	Metal Can	3-Terminal, 2.5V
AD680JR	+2.5	±10	25	SOIC	Low Power, 2.5V
AD680JT	+2.5	±10	30	TO-92	Low Power, 2.5V
AD680AN	+2.5	±5	20	PDIP	Low Power, 2.5V
AD1403AN	+2.5	10	25	PDIP	2nd Source, 3.5V
ADR291ER	+2.5	±2	8	SOIC	Low-Noise, µPower
REF43FZ	+2.5	±1.5	10	CerDIP	Precision Bandgap
REF43GP	+2.5	±2.5	25	Epoxy	Precision Bandgap
REF43GZ	+2.5	±2.5	25	CerDIP	Precision Bandgap
AD780AN	+2.5/+3.0	5	7	PDIP	Precision Bandgap
AD780AR	+2.5/+3.0	±5	7	SOIC	2.5V/3.0V High-Precision
AD780BN	+2.5/+3.0	1	3	PDIP	Precision Bandgap
AD780BR	+2.5/+3.0	1	3	SOIC	Precision Bandgap
AD586AR	+5	±5	15	SOIC	Buried Zener, 5V
AD586JQ	+5	±20	25	CerDIP	Buried Zener, 5V
AD586JR	+5	±20	25	SOIC	Buried Zener, 5V
AD586KN	+5	±5	15	PDIP	Buried Zener, 5V
AD586KQ	+5	±5	15	CerDIP	Buried Zener, 5V
AD586KR	+5	±5	15	SOIC	Buried Zener, 5V
AD586LN	+5	±2.5	5	PDIP	Buried Zener, 5V
AD586LQ	+5	±2.5	5	CerDIP	Buried Zener, 5V
AD586MN	+5	±25	2	PDIP	Buried Zener, 5V
ADP3301AR-5	+5	...	...	SOIC	High-Accuracy, LDO, 100mA
ADP3303AR-5	+5	...	...	SOIC	High-Accuracy, LDO, 200mA
REF02DP	+5	±10	250	PDIP	Temp. Transducer
REF02CP	+5	±5	65	PDIP	Temp. Transducer
REF02HP	+5	±2.5	25	PDIP	Temp. Transducer
REF195GP	+5	±10	20	PDIP	Low Dropout, µpower, Precision
AD581JH	+10	±30	30	TO-78 Can	3-Terminal, 10V
AD581KH	+10	±10	15	Metal Can	3-Terminal, 10V
AD581LH	+10	±5	5	Metal Can	3-Terminal, 10V
AD587JN	+10	±10	20	PDIP	Buried Zener, 10V
AD587KN	+10	±5	10	PDIP	Buried Zener, 10V
AD587KR	+10	±5	10	SOIC	Buried Zener, 10V
AD587LN	+10	±5	5	PDIP	Buried Zener, 10V
AD587LQ	+10	±5	5	CerDIP	Buried Zener, 10V
AD688AQ	+10	5	3	CerDIP	High Precision, 10V
REF01CP	+10	±10	65	PDIP	Precision Bandgap
REF01HP	+10	±5	25	PDIP	Precision Bandgap
REF01CJ	+10	±10	65	TO-99 Can	Precision Bandgap
AD584JH	Selectable	±7.5*	30	Metal Can	Prog. Bandgap
AD584JN	Selectable	±7.5*	30	Metal Can	Prog. Bandgap
AD584KN	Selectable	±3.5*	15	PDIP	Prog. Bandgap
AD584LH	Selectable	±2.5*	5	Metal Can	Prog. Bandgap
AD588JQ	Selectable	+3	+3	CerDIP	Monolithic, Program

*Based on maximum error for nominal outputs of 2.5V at Pin 1.

SWITCHING REGULATORS

Micropower step-up/step-down, high-frequency switching regulators.

Type	Step-Up Mode VDC Input (V)	Step-Down Mode VDC Input (V)	VDC Output (V)	Package
ADP3000AN-3.3	2-12.6	30	3.3	PDIP
ADP3000AN-5	2-12.6	30	5	PDIP
ADP3000AR-12	2-12.6	30	12	SOIC

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BATTERY CHARGERS

Secondary side, off-line battery charger/controller.

Type	Final Charge Voltage	Final Charge Voltage Accuracy	Package
ADP3810AR-4.2	+4.2V	1.0%	SOIC
ADP3810AR-8.4	+8.4V	1.0%	SOIC
ADP3810AR-12.6	+12.6V	1.0%	SOIC
ADP3811AR	Adjustable	1.8%	SOIC

(18326) (ne10979)

SIGNAL COMPRESSION DEVICES

Variable-gain amplifiers use technology which allows the amplifier gain to be varied as the dynamic range of the input signal changes. Variable-gain amplifiers are typically employed as fast-response automatic gain (AGC) elements in RF and IF systems. They can also provide time gain control (TGC) in applications such as commercial sonar. Logarithmic amplifiers provide output voltage proportional to logarithmic of input voltage for signal from DC to 120MHz. Excellent in applications that require compression of wide-range analog input data.

VARIABLE-GAIN AMPLIFIERS

Type	Gain Range	Gain Accuracy Max.	BW Typ. (MHz)	Channel Type	Package
AD600JN	0dB to +40dB	±0.5dB*	35	Dual	PDIP
AD602JN	–10dB to +30dB	±0.5dB*	35	Dual	PDIP
AD602JR	–10dB to +30dB	±0.5dB*	35	Dual	SOIC
AD603AQ	–11dB to +31dB	±1.0dB	90	Single	CerDIP
AD603AR	–11dB to +31dB	±1.0dB	90	Single	SOIC
AD604AN	0dB to +48dB or +6dB to 54dB	±1dB**	40	Dual	PDIP
AD604AR	0dB to +48dB or +6dB to 54dB	±1dB**	40	Dual	SOIC
AD605AN	–14dB to +34dB or 0dB to +48dB	±1dB†	40	Dual	PDIP
AD605AR	–14dB to +34dB or 0dB to +48dB	±1dB†	40	Dual	SOIC
AD8320ARP	0 to +36dB	±0.75dB	150	Single	SOIC

*Over the 3dB to 37dB gain range. **Over the 3dB to 43dB gain range. †Over the –11dB to 29dB gain range.

LOGARITHMIC AMPLIFIERS

Type	Input Range	Log Conformity RTI Max.	Bandwidth Typ. (MHz)	Package
AD606JN	–80 to +10dBm (50Ω)	±1.5dB	50	PDIP
AD606JR	–80 to +10dBm (50Ω)	±1.5dB	50	SOIC
AD640JN	±0.75mV to ±200mV	±1.2dB	DC-120	PDIP
AD8307AN	-72 to +16dB	±1dB	500	PDIP

(9874) (de03746)

BALANCED MODULATOR/DEMODULATOR

Type AD630 is a fast, flexible, switched dual-input operational amplifier with an on-chip comparator. It is intended to operate in wide-band, low-level and wide-dynamic range instrumentation applications and coherent systems. Capable of many analog signal processing functions, such as balanced modulation and demodulation, phase detection, square-wave multiplication, absolute-value amplification, and two-channel precision multiplexing. Can also be used as a lock-in amplifier, synchronous detector, rectifier and more.

Type	Unity Gain BW* Typ. (MHz)	Open Loop Gain Min. (dB)	Input Offset Voltage Max. (µV)	Output Voltage Swing Min.	Package
AD630JN	2	90	500	+10V	PDIP
AD630KN	2	100	100	+10V	PDIP
AD630AD	2	90	500	+10V	HDIP
AD630BD	2	100	100	+10V	HDIP

*Unity gain small signal bandwidth.

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TEMPERATURE SENSORS

TEMPERATURE SENSORS

Operating temperature: –50°C to +150°C (**types AD22100** and **AD22103**); –55°C to +150°C (**types TMP35/36/37**); –40°C to +105°C (**type TMP17**).

Type	Output @ 25°C	Output Scale Factor (mV/°C)	Linearity	Accuracy @ 25°C (°C)	Supply Voltage (V)	I_Q (µA)	Pkg.
AD22100AR	1.375V	22.5	1% FS	±2	4 to 6	650	SOIC
TMP01EP	1.49V	5mV/K	...	±1.5	+4.5 to +13.2	500	PDIP
TMP01FP	1.49V	5mV/K	...	±3.0	+4.5 to +13.2	500	PDIP
TMP04FS	Digital	...	0.5°C	±1.5	+4.5 to +7.0	1300	SOIC
TMP36GS	750mV	10	0.5°C	±3	2.7 to 5.5	50	SOIC

TEMPERATURE SWITCHES

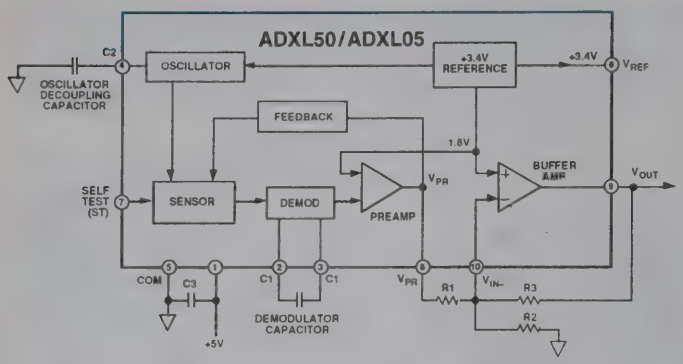
Type AD22105AR is a low-voltage, resistor programmable, thermostatic switch. **Type TMP12F** is an airflow and temperature sensor.

Type	Accuracy @ 25°C (°C)	Linearity Typ. (% FS)	Operating Temperature	Supply Voltage (V)	I_Q (µA)	Pkg.
AD22105AR	±2	...	–40°C to +150°C	2.7 to 150	NS	SOIC
TMP12FS	±3	0.5	–40°C to +125°C	4.5 to 12	600	PDIP
TMP12FP	±3	0.5	–40°C to +125°C	4.5 to 12	600	SOIC

(4360) (ne09474)

ACCELEROMETERS AND MULTIPLIERS/DIVIDERS

SINGLE CHIP ACCELEROMETERS WITH SIGNAL CONDITIONING



- **Complete Acceleration Measurement System on a Single Monolithic IC**
- **User-Selectable Full Scale Ranges: 0g to ±50g**
- **Post Filtering with External Passive Components**
- **High Shock Survival**

The **ADXL** single chip accelerometers with signal conditioning measure acceleration on a single monolithic IC. Three external capacitors and a +5V power supply are all that is needed. TTL compatible self test on digital command can electrostatically deflect the sensor beam at any time to verify all components are functioning correctly. The **ADXL05** measures accelerations with ranges of ±5g. Extremely low noise level — typical noise floor is 500µg/√Hz. Shock survival is 1000g. Output scale selectable from 200mV/g to 1V/g. The **ADXL50** has a full-scale measurement range of ±50g. Sensitivity is factory trimmed to 19mV/g, resulting in a full-scale output swing of ±0.95V for ±50g applied acceleration. Shock survival is >2000g unpowered. Zero-g output level is 1.8V.
(4339)

0 to ±5g ACCELEROMETERS

Type	Measurement Range	Temperature Range	Package
ADXL05JH	0 to ±5g	0 to +70°C	TO-100
ADXL05AH	0 to ±5g	–40 to +85°C	TO-100

ADXL05SP Sample Pack: 2 pcs. **ADXL0AH** devices plus product literature available; *contact your local Newark sales office.*

0 to ±50g ACCELEROMETERS

Type	Measurement Range	Temperature Range	Package
ADXL50JH	0 to ±50g	0 to +70°C	TO-100
ADXL50AH	0 to ±50g	–40 to +85°C	TO-100
ADXL150JQC	0 to ±50g	0 to +70°C	14-Pin SOIC
ADXL202JQC	0 to ±50g	0 to +70°C	14-Pin SOIC
ADXL250JQC	0 to ±50g	0 to +70°C	14-Pin SOIC

ADXL50SP Sample Pack: 2 pcs. **ADXL50AH** devices plus product literature available; *contact your local Newark sales office.*

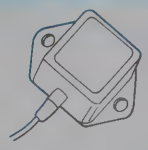
EVALUATION BOARDS

Type ADXL05EB/50EB evaluation boards are complete with non-resonant, surface mount capacitors and resistors. Allow uses to configure and customize the accelerometer's scale factor, zero g bias level, and bandwidth. AC or DC coupling. Board size: 0.8 x 0.8″.

Type	Description
ADXL05EB	ADXL05 Evaluation board
ADXL50EB	ADXL50 Evaluation Board

(de03749)

ADXL SERIES ACCELEROMETER EVALUATION MODULES



- **High-Performance, Prepackaged Accelerometers**
- **Complete Acceleration Measurement System**
- **Single and Multiaxis Versions**
- **Small, Economical, and Ready to Use**
- **Available in ±4g, ±10g and ± 50g Full-Scale Ranges**
- **+5V Single-Supply Operation**
- **Reliable Industrial Packaging with Screw-Down Mounting**

ADLXEM series evaluation modules provide a complete acceleration measurement system in an economical package. The modules simplify the evaluation and testing of the **ADXL series** of monolithic accelerometer ICs. Each module contains one or more accelerometers precalibrated to a convenient output scale factor with onboard low-pass filtering. Supply voltage: +5V±0.25V max. Bandwidth: DC-100Hz (±5%). Span output: ±2.0V±0.1V @ +25°C. Nonlinearity: ±0.2% FS typ. Alignment: ±2° typ. Transverse sensitivity: ±3.5% FS typ.

Type	Span ±5% (g)	Sensitivity ±5% (mV/g)	Noise Typ. (mg rms)	Orientation	Zero g Output (@ 25°C) (V)	Zero g Drift (@ 0 to +70°C) (mV)	Operating Temperature	Shock		Output Loading Max.	Supply Current Typ. (mA)
								Powered (g)	Unpowered (g)		
ADXL05EM-1	±4	500	5	Horizontal	+2.5±0.1	±60	–40°C to 85°C	500	1000	>10kΩ<1nF	8
ADXL05EM-3	±4	500	5	Triaxial	+2.5±0.1	±60	–40°C to 85°C	500	1000	>10kΩ<1nF	24
ADXL50EM-1	±25	80	130	Horizontal	+2.5±0.1	±60	–40°C to 85°C	500	2000	>10kΩ<1nF	10
ADXL150EM-1	±10	200	10	Horizontal	+2.5±0.1	±0.2	0 to +70°C	500	2000	>2kΩ<1nF	3.5
ADXL150EM-3	±10	200	10	Triaxial	+2.5±0.1	±0.2	0 to +70°C	500	2000	>2kΩ<1nF	10

(5180) (ne09475)

ANALOG MULTIPLIERS/DIVIDERS

Accept analog voltages and multiply, divide, square and/or square-root them. Devices process signals over wide frequency range (DC to 500MHz). 4-quadrant multipliers accept any combination of input signal polarity and provide output signals of appropriate polarity. Analog multipliers can be used to implement various signal processing functions, including modulation and demodulation, fixed and variable remote gain adjustment, power measurement and mathematical operations in analog computing, curve computing and linearizing.
For type number breakdown, see the ordering guides on page 878.

Type	BW Typ. (MHz)	Accuracy FS Max. (%)	Supply Voltage Range	Output Voltage Swing Min.	Package	Comments
AD534JD	1	±1	±8V to ±18V	±11V	HDIP	High-Accuracy, 4-Quadrant Multiplier/Divider
AD534JH	1	±1	±8V to ±18V	±11V	Hermetic Can	High-Accuracy, 4-Quadrant Multiplier/Divider
AD534KD	1	±0.5	±8V to ±18V	±11V	HDIP	High-Accuracy, 4-Quadrant Multiplier/Divider
AD534LD	1	±0.25	±8V to ±18V	±11V	HDIP	High-Accuracy, 4-Quadrant Multiplier/Divider
AD633JN	1	±2	±8V to ±18V	±11V	PDIP	4-Quadrant Multiplier/Divider
AD633JR	1	±2	±8V to ±18V	±11V	SOIC	4-Quadrant Multiplier/Divider
MLT04GS	8	±5	±4.75V to ±5.25V	±3V	SOIC	4-Channel, 4-Quadrant Multiplier/Divider
AD734AN	10	±0.4	±8V to ±16.5V	±12V	PDIP	Very High-Accuracy Replacement for **AD534**
AD734BQ	10	±0.25	±8V to ±16.5V	±12V	CerDIP	Very High-Accuracy Replacement for **AD534**
AD835AN	250	...	±4.5V to ±5.5V	±2.2V	PDIP	High-Speed, Voltage Output, 4-Quadrant Multiplier/Divider
AD835AR	250	...	±4.5V to ±5.5V	±2.2V	SOIC	High-Speed, Voltage Output, 4-Quadrant Multiplier/Divider
AD834JN	>500	±2	±4V to ±9V	Current O/P	DIP	Very High-Speed, 4-Quadrant Multiplier/Divider
AD834JR	>500	±2	±4V to ±9V	Current O/P	SOIC	Very High-Speed, 4-Quadrant Multiplier/Divider

(9876) (de03762)

PRICES LISTED AT THE BEGINNING OF THE SECTION.

SHARC EZ-KIT LITE DSP DEVELOPMENT KIT

DSP BOARD
- ADSP-21061 SHARC 40MHz Processor
- RS-232 Interface with UART
- AD1847 SoundPort Audio CODEC
- Line In/Line Out with Stereo Jacks
- Socketed EPROM, 128K P8 (27C010)
- EZ-ICE Emulation Header
- Power Regulator (5V/1.5A DC) with Heat Sink Connected to Ground
- Power-On Reset and Pushbutton Reset
- Power LED and 4 Flag LEDs

CODE DEVELOPMENT AND PROTOTYPING TOOLS
- Assembler and Linker
- Instruction-Level Simulator
- C Source-Level Debugger
- C Runtime Library
- SHARC Kernel for Power-On Self-Test and Host Interface
- Windows 3.1 Uploader/Downloader
- Diagnostic Utilities for Program Operation and DSP Memory

ACCESSORIES/CABLE, POWER SUPPLY DOCUMENTATION, MANUALS, CD-ROM

91F2886 Type ADDS-2106X-EZLITE. **Each** **178.56**
(19238) (ne10965)

ADSP-2100 SERIES EZ-KIT LITE DSP DEVELOPMENT KIT

EVALUATION TOOLS
- MPEG Audio Decode
- Echo Cancellation
- ADPCM & LPC Speech Compression
- DTME and Filtering

CODE DEVELOPMENT TOOLS
- Assembler
- Linker

DSP BOARD
- Full 16-Bit Stereo Audio I/O
- ADSP-2181 16-Bit DSP
- 32K Words On-Chip RAM
- 128K x 8 Socketed EPROM

PROTOTYPING TOOLS

66F3812 Type ADDS-21XX-EZLITE. **Each** **88.78**
(4415) (ne07413)

DIGITAL SIGNAL PROCESSORS

Type ADSP-2105 offers 1k x 24-bit on-chip program memory, 512k x 16-bit data memory and a single serial port to the core architecture and computation units. Includes boot loading hardware, an on-chip timer, and code and pin-compatibility. **Type ADSP-2181** includes 32k words of internal memory — 16k x 24-bit program memory and 16k x 16-bit data memory. 8-bit wide DMA port provides DSP runtime access to 4 Mbytes of external memory. Includes addressing for 32k words of external memory. 2k words of DSP I/O address space (2k x 16-bit) with programmable waitstates.

Stock No.	Type
52F2097	ADSP2181KS-133
66F1859	ADSP2105KP-55

(4361) (ne09476)

DIGITAL POTENTIOMETERS

Digitally controlled potentiometers. Differential linearity error (LSB @ TA = operating temperature): 1. Input voltage range: +3V to +5V.

Type	Resolution (Bits)	Nominal Resistance Typ. (kOhms)	Bus Interface (Bits)	Single, Dual or Quad	Package
AD5203AN10	1 in 64	10	Serial, µP	Quad	PDIP
AD7376AN10	1 in 128	10	Serial, µP	Single, Dual	PDIP
AD8400AN50	1 in 256	50	Serial, µP	Single	PDIP
AD8402AN1	1 in 256	1	Serial, µP	Dual	PDIP
AD8402AR1	1 in 256	1	Serial, µP	Dual	SOIC
AD8402AN10	1 in 256	10	Serial, µP	Dual	PDIP
AD8402AN50	1 in 256	50	Serial, µP	Dual	PDIP
AD8402AN100	1 in 256	100	Serial, µP	Dual	PDIP
AD8402AR100	1 in 256	100	Serial, µP	Dual	SOIC
AD8403AN10	1 in 256	10	Serial, µP	Quad	PDIP
AD8403AN50	1 in 256	50	Serial, µP	Quad	PDIP

(19239) (ne09950)

TEMPERATURE SENSORS

CURRENT OUTPUT

Metal Can Type	CQFP Type	Current Output @ 25°C (µA)	Output Scale Factor (µA/°K)	Accuracy @ 25°C (µA)	Linearity (°C)	Operating Temperature (°C)	Supply Voltage (V)	I_Q (µA)
AD590JH*	AD590JF	298.2	1	±5.0	±1.50	–55 to +150	+4 to +30	$I_{OUT} = I_Q$
AD590KH*	AD590KF	298.2	1	±2.5	±0.80	–55 to +150	+4 to +30	$I_{OUT} = I_Q$
AD590LH*	AD590LF	298.2	1	±1.0	±0.40	–55 to +150	+4 to +30	$I_{OUT} = I_Q$
AD590MH*	AD590MF	298.2	1	±0.5	±0.30	–55 to +150	+4 to +30	$I_{OUT} = I_Q$
AD592AN**	...	298.2	1	±2.5	±0.50	–55 to +150	+4 to +30	$I_{OUT} = I_Q$
AD592BN**	...	298.2	1	±1.0	±0.40	–55 to +150	+4 to +30	$I_{OUT} = I_Q$
AD592CN**	...	298.2	1	±0.5	±0.35	–55 to +150	+4 to +30	$I_{OUT} = I_Q$

*TO-52; **TO-92
(19247) (ne10986)

SIGNAL CONDITIONERS

THERMOCOUPLE SIGNAL CONDITIONERS

TO-116 Type	CerDIP Type	Voltage Output @ +25°C (V)	Output Scale Factor (mV/°C)	Accuracy @ +25°C	Operating Temperature (°C)	Digital Output	Voltage Supply (V)	I_Q (µA)
AD594AD	AD594AQ	0.250	10	±3	+25 to +100	1 Open Collector	+5 to ±15	300
AD594CD	AD594CQ	0.250	10	±1	+25 to +100	1 Open Collector	+5 to ±15	300
AD595AD	AD595AQ	0.250	10	±3	+25 to +100	1 Open Collector	+5 to ±15	300
AD595CD	AD595CQ	0.250	10	±1	+25 to +100	1 Open Collector	+5 to ±15	300
AD596AH*	...	0.282	10	±4	+25 to +100	1 Open Collector	+5 to ±15	160

*TO-100

STRAIN GAGE SIGNAL CONDITIONERS

Type	Ports	Power Supply (V)	Power Supply (mA)	CMRR @ 60Hz Min. (dB)	BW $A_V = 1$ (Hz)	Linearity Max. (%)	Gain Error @ +25°C (%)	Output Offset @ +25°C Max. (mV)	Output Offset T_C Max. (µV)	Package
1B32AN	0	±15	+4/–1	140 @ $A_V = 1000$	4	0.005	±0.1	±40.0	±0.2	PDIP
1B31AN	0	±15	±10	100 @ $A_V = 1000$	1000	0.005	±3.0	±0.2	±2.0	PDIP

4-to-20mA TRANSMITTER SIGNAL CONDITIONERS

Type	Power $+V_{CC}$ (V)	CMV (Vrms)	CMR Min. (dB)	Accuracy Max. (%)	Input Voltage (V)	Int. (V_{REF})	Output Current (mA)	Package
1B22AN	±15 @ 7.5mA	1500	90	±0.050	0 to +5/10	N	0, 4 to 20	PDIP
AD693AQ*	+12 to +36 @ 0.7mA	V_{CC} to 4V	80	±0.050 to ±0.07	@ 30mV/60mV	Y	0, 4 to 20	CerDIP
AD694JN	+4.5 to +36 @ 2.0mA	...	...	±0.015 to ±0.30	or 0 to +2	Y	0, 4 to 20	PDIP

*Loop power, no local supply needed

LVDT SIGNAL CONDITIONERS

Type	Transfer Function	Gain Error (%)	Gain Drift Max. (ppm)	Excitation Output Voltage (Vrms)	Supply Voltage (V)	Operating Temperature (°C)	Package
AD598AD	V_{OUT} = (Va –Vb)/(Va+Vb) * 500µA * R	±1	±50	+2.1 to +24	+13 to +36, ±13	–40 to +85	20-Pin CerDIP

(19245) (ne10987)

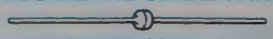
VARISTORS

ZA SERIES VARISTORS

Type	Disc Dia. (mm)	Maximum Ratings @ +85°C: Continuous V_{RMS} AC/DC (V)	Transient: Energy 10/1000µs (J)	Transient: Peak Current 8/20µs (A)
V8ZA05	5	4/5.5	0.1	25
V8ZA1	7	4/5.5	0.4	100
V8ZA2	10	4/5.5	0.8	250
V12ZA05	5	6/8	0.14	50
V12ZA1	7	6/8	0.6	250
V12ZA2	10	6/8	1.2	250
V18ZA05	5	10/14	0.17	50
V18ZA1	7	10/14	0.8	250
V18ZA2	10	10/14	1.5	500
V18ZA3	14	10/14	3.5	1000
V18ZA40	20	10/14	80.0	2000
V22ZA05	5	14/18	0.2	50
V22ZA1	7	14/18	0.9	250
V22ZA2	10	14/18	2.0	500
V22ZA3	14	14/18	4.0	1000
V24ZA50	20	14/18	100.0	2000
V27ZA1	7	17/22	1.0	250
V27ZA2	10	17/22	2.5	500
V27ZA4	14	17/22	5.0	1000
V27ZA60	20	17/22	120.0	2000
V33ZA05	5	20/26	0.3	50
V33ZA1	7	20/26	1.2	250
V33ZA2	10	20/26	3.0	500
V33ZA5	14	20/26	6.0	1000
V33ZA70	20	21/27	150.0	2000
V36ZA80	20	23/31	160.0	2000
V39ZA05	5	25/31	0.35	50
V39ZA1	7	25/31	1.2	250
V39ZA3	10	25/31	3.5	500
V39ZA6	14	25/31	6.0	1000
V39ZA20	20	25/31	20	2000
V47ZA05	5	30/38	0.4	50
V47ZA1	7	30/38	1.8	250
V47ZA3	10	30/38	4.5	500
V47ZA7	14	30/38	8.8	1000
V47ZA20	20	30/38	23	2000
V56ZA05	5	35/45	0.5	50
V56ZA2	7	35/45	2.3	250
V56ZA3	10	35/45	5.5	500
V56ZA8	14	35/45	10.0	1000
V56ZA20	20	35/45	30	2000
V68ZA2	7	40/56	3.0	250
V68ZA3	10	40/56	6.5	500
V68ZA10	14	40/56	13.0	1000
V82ZA05	5	50/68	0.7	200
V82ZA2	7	50/68	4.0	1200
V68ZA20	20	40/56	33	2000
V82ZA12	14	50/68	15.0	4500
V100ZA3	7	60/81	5.0	1200
V100ZA4	10	60/81	10.0	2500
V100ZA15	14	60/81	20.0	4500
V120ZA1	7	75/120	6.0	1200
V120ZA6	14	75/120	22.00	4500
V150ZA05	5	92/127	4.0	200
V150ZA1	7	95/127	8.0	1200
V150ZA8	14	95/127	20.0	4500
V180ZA1	7	115/153	10.0	1200
V180ZA5	10	115/153	18.0	2500
V180ZA10	14	115/153	35.0	4500
V220ZA05	5	140/180	6.0	400
V270ZA05	5	175/225	7.5	400
V330ZA05	5	210/275	9.0	400
V390ZA05	5	250/330	10.0	400
V430ZA05	5	275/369	11.0	400

(9960) (ne07134)

MA SERIES METAL OXIDE VARISTORS



PEAK CURRENT (8/20µs): 40A

Type	Maximum Ratings @ +75°C: Continuous RMS AC/DC (V)	Transient Energy 10/1000µs (J)	C @ f = 1 MHz (pF)
V18MA1A	9/13	0.06	550
V18MA1B	10/14	0.07	550
V27MA1B	17/22	0.11	370
V33MA1A	18/23	0.13	300
V33MA1B	20/26	0.15	300
V39MA2A	22/28	0.16	250
V39MA2B	25/31	0.18	250
V47MA2A	27/34	0.19	210
V47MA2B	30/38	0.21	210
V56MA2A	32/40	0.23	180
V56MA2B	35/45	0.25	180
V82MA3B	50/66	1.10	14
V100MA4S	60/81	0.42	100
PEAK CURRENT (8/20µs): 100A			
V150MA2B	92/127	0.60	32
V180MA1A	105/144	0.60	27
V180MA3B	110/152	0.70	27
V220MA2A	132/181	0.80	21
V220MA4B	138/191	0.90	21
V390MA6B	242/334	1.30	12
V330MA5B	50/66	0.37	120
V430MA3A	253/349	1.50	11
V430MA7B	264/365	1.70	11

(4231) (de51566a)

HA SERIES MOV VARISTORS

Industrial, high-energy, AC line applications. 32mm and 40mm disc packages. UL recognized.

Type	Maximum Ratings @ +85°C: Continuous V_{RMS} $V_{M(AC)}$ (V)	Continuous VDC $V_{M(DC)}$ (V)	Transient: Energy (10/1000µs) W_{TM} (V)	Transient: Peak Current (8/20µs) I_{TM} (A)
V131HA40	130	175	270	30000
V251HA32	250	330	330	25000
V251HA40	250	330	370	40000
V271HA40	275	369	400	40000
V321HA40	320	420	460	40000
V421HA32	420	560	400	25000
V421HA40	420	560	600	40000
V481HA40	480	640	650	40000
V511HA40	510	675	700	40000

(4329) (ne51566d)

C-III SERIES MOV VARISTORS

Radial lead, high-energy, high-surge current. TOV rated. UL recognized for AC line applications.

Type	Disc Dia. mm	Max. Ratings @ +85°C: Continuous RMS $V_{M(AC)}$ (V)	Transient: Withstand Energy (2ms) W_{TM} (J)	Transient: Current (8 x 20µs) I_{TM1} 1 Pulse (A)
V130LA10C	14	130	45	6000
V130LA20C	20	130	90	9000
V130LA20CX325	20	130	90	9000
V140LA10C	14	140	50	6000
V140LA20C	20	140	100	9000
V150LA10C	14	150	55	6000
V150LA20C	20	150	110	9000
V175LA20C	20	175	120	9000
V230LA20C	14	230	80	6000
V230LA40C	20	230	160	9000
V250LA20C	14	250	100	6000
V250LA40C	20	250	170	9000
V250LA40CX620	20	250	170	9000
V275LA20C	14	275	110	6000
V275LA40C	20	275	190	9000
V275LA40CX680	20	275	190	9000
V300LA40C	20	300	210	9000

(9958) (ne03805)

CALL NEWARK FOR
FAST, DEPENDABLE SERVICE.

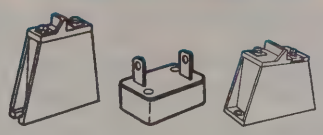
PRICES LISTED AT THE BEGINNING OF THE SECTION.

LA SERIES METAL OXIDE VARISTORS

Type	Disc Dia. (mm)	Maximum Ratings @ +85°C: Cont. RMS AC/DC (V)	Transient: Energy 10/1000µs (J)	Transient: Peak Current 8/20µs (A)
V130LA1	7	130/175	11	1200
V130LA2	7	130/175	11	1200
V130LA5	10	130/175	20	2500
V130LA10A	14	130/175	38	4500
V130LA20A	20	130/175	70	6500
V130LA20B	20	130/175	70	6500
V140LA2	7	140/180	12	1200
V140LA5	10	140/180	22	2500
V140LA10A	14	140/180	42	4500
V140LA20A	20	140/180	75	6500
V150LA1	7	150/200	13	1200
V150LA2	7	150/200	13	1200
V150LA5	10	150/200	25	2500
V150LA10A	14	150/200	45	4500
V150LA20A	20	150/200	80	6500
V150LA20B	20	150/200	80	6500
V175LA10A	14	175/225	55	4500
V175LA20A	20	175/225	90	6500
V230LA4	7	230/300	20	1200
V230LA10	10	230/300	35	2500
V230LA20A	14	230/300	70	4500
V230LA40A	20	230/300	122	4500
V250LA2	7	250/330	21	1200
V250LA4	7	250/330	21	1200
V250LA10	10	250/330	40	2500
V250LA20A	14	250/330	72	4500
V250LA40A	20	250/330	130	6500
V250LA40B	20	250/330	130	6500
V275LA4	7	275/369	23	1200
V275LA10	10	275/369	45	2500
V275LA20A	14	275/369	75	4500
V275LA40A	20	275/369	140	6500
V275LA40B	20	275/369	140	6500
V300LA2	7	300/405	25	1200
V300LA4	7	300/405	25	1200
V300LA10	10	300/405	46	2500
V300LA20A	14	300/405	77	4500
V300LA40A	20	300/405	165	6500
V320LA20A	14	320/420	90	4500
V320LA40B	20	320/420	160	6500
V385LA7	7	385/505	27	1200
V385LA20A	14	385/505	85	4500
V385LA40B	20	385/505	160	6500
V420LA10	10	420/560	45	2500
V420LA20A	14	420/560	90	4500
V420LA40B	20	420/560	160	6500
V480LA40A	14	480/640	105	4500
V480LA80B	20	480/640	180	6500
V510LA40A	14	510/675	110	4500
V510LA80B	20	510/675	190	6500
V575LA40A	14	575/730	120	4500
V575LA80B	20	575/730	220	6500
V625LA40A	14	625/825	125	4500
V625LA80B	20	625/825	230	6500
V660LA10	10	660/850	70	2500
V660LA50A	14	660/850	140	4500
V660LA100B	20	660/850	250	6500
V1000LA80A	14	1000/1200	220	4500
V1000LA160B	20	1000/1200	360	6500

(9888) (ne51567)

BA/BB AND DA/DB SERIES BASE-MOUNT VARISTORS



BA/BB SERIES

Type	Maximum Ratings @ +75°C: Continuous RMS AC/DC (V)	Transient: Energy 10/1000µs (J)	Transient: Peak Current 8/20µs (A)
V131BA60	130/175	450	50000
V151BA60	150/200	530	50000
V251BA60	250/330	880	50000
V271BA60	275/369	950	50000
V321BA60	320/420	1100	50000
V421BA60	420/560	1500	70000
V481BA60	480/640	1600	70000
V511BA60	510/675	1800	70000
V571BA60	575/730	2100	70000
V661BA60	660/850	2300	70000
V751BA60	750/970	2600	70000
V881BA60	880/1150	3200	70000
V142BB60	1400/1750	5000	70000
V172BB60	1700/2150	6000	70000
V282BB60	2800/3500	10000	70000

DA/DB SERIES

Type	Maximum Ratings @ +75°C: Cont. RMS AC/DC (V)	Transient: Energy 10/1000µs (J)	Transient: Peak Current 8/20µs (A)
V131DA40 V131DB40	130/175	270	30000
V151DA40 V151DB40	150/200	300	30000
V251DA40 V251DB40	250/330	370	30000
V271DA40 V271DB40	275/369	400	30000
V321DA40 V321DB40	320/420	460	30000
V421DA40 V421DB40	420/560	600	40000
V481DA40 V481DB40	480/640	650	40000
V511DA40 V511DB40	510/675	700	40000
V571DA40 V571DB40	575/730	770	40000
V661DA40 V661DB40	660/850	900	40000
V751DA40 V751DB40	750/970	1050	40000

(4232) (de51568)

PA SERIES BASE-MOUNT VARISTORS

Peak current (0.4µs): 6500 A.

Type	Maximum Ratings @ +75°C: Cont. RMS AC/DC (V)	Transient: Energy 10/1000µs (J)	Transient: Peak Current 8/20µs (A)
V130PA20A	130/175	70	100
V130PA20C	130/175	70	100
V150PA20A	150/200	80	100
V150PA20C	150/200	80	100
V250PA40A	250/330	130	100
V250PA40C	250/330	130	100
V275PA40A	275/369	140	100
V275PA40C	275/369	140	100
V320PA40A	320/420	160	100
V320PA40C	320/420	160	100
V420PA40A	420/560	160	100
V420PA40C	420/560	160	100
V480PA80A	480/640	180	100
V480PA80C	480/640	180	100
V510PA80A	510/675	190	100
V510PA80C	510/675	190	100
V575PA80A	575/730	220	100
V575PA80C	575/730	220	100
V660PA100A	660/850	250	100
V660PA100C	660/850	250	100

(16737) (ne10464)

ML SERIES SURFACE MOUNT TRANSIENT SURGE SUPPRESSORS

Leadless multilayer construction for protection of ICs and transistors. Smaller size than TVS zeners. **ML series** available in JEDEC chip sizes in 0603, 0805, 1206, 1210; **MLE series** (ESD) available in 0603, 0805, and 1206; **MLA series** (automotive) available in 1206, 1210, and 2220; *contact your local Newark sales office.*

Type	Max. Ratings (+125°C): Cont. Working Volt. $V_{M(DC)}$ (V)	Nonrepetitive Surge Energy (.01µs) W_{TM} (J)	Clamp Volt. (8/20µs) V_C (V)	Typ. Cap. @ f = 1MHz (+25°C) (pF)
V3.5MLA0603A	3.5	0.1	10*	1100
V3.5MLA0805A	3.5	0.3	10†	2200
V5.5MLA0603A	3.5	0.1	15.5*	660
V5.5MLA0805A	5.5	0.3	15.5*	1600
V5.5MLA1206A	5.5	0.4	15.5†	4500
V14MLA0603A	14	0.1	30*	150
V14MLA0805A	14	0.3	30†	480
V14MLA0805LA	14.0	0.1	30*	450
V18MLA0603A	18	0.1	40*	125
V18MLA0805A	18	0.3	40†	450
V18MLA1210A	18	2.5	10*	1250
V18MLE0603A	18	...	...	<100
V18MLE0805A	18	...	...	<500
V18MLE1206A	18	...	...	<1700
V26MLA1206A	26.0	0.6	56‡	900
V33MLA1206A	33.0	0.8	72‡	550
V56MLA1206A	56.0	1.0	110‡	150

* @ 2A; † @ 5A; ‡ @ 10A.

(4239) (ne03804)

AT NEWARK, THERE'S ALWAYS MORE THAN MEETS THE EYE!
CONTACT US FOR PRODUCTS NOT LISTED IN THIS CATALOG.

UltraFET LOW $R_{DS(on)}$ POWER MOSFETs

Features: Run cooler, low V_{SD}, low Q_{RR}, faster t_{rr}, lower gate charge, and faster t_f. Applications include: Power conversion, power supplies, motor controls, and general-purpose load switching.

30V UltraFETs

Type	Current (A)	$R_{DS(on)}$ (mΩ)	Package
HP4936DY	5.8	37	SOP-8
HP4410DY	10	13.5	SOP-8
HUF76131SK8	12	13	SOP-8
HUF76129D3S	20	16	TO-252AA
HPLR3103	52	19	TO-252
HPLU3103	52	19	TO-251
HUF76129P3	61	16	TO-220AB
HUF76129S3S	61	16	TO-263
HUF76137P3	75	9	TO-220AB
HUF76137S3S	75	9	TO-263AB
HUF76139P3	75	7.5	TO-220AB
HUF76139S3S	75	7.5	TO-263AB
HUF76143P3	75	5.5	TO-220AB
HUF76145P3	75	4.5	TO-220AB
HUF76145S3S	75	4.5	TO-263AB

55V UltraFETs

HUF75307P3	13	90	TO-220AB
HUF75309P3	17	70	TO-220AB
HUF75321D3S	20	36	TO-252AA
HUF75329D3S	20	26	TO-252AA
HUF75321P3	31	34	TO-220AB
HUF75321S3S	31	34	TO-263AA
HUF75329P3	42	24	TO-220AB
HUF75329S3S	42	24	TO-263AA
HUF75332G3	52	19	TO-247
HUF75332P3	52	19	TO-220AB
HUF75332S3S	52	19	TO-263AA
HUF75337P3	58	14	TO-220AB
HRF3205	59	8	TO-220AB
HRF3205L	59	8	TO-262AA
HRF3205S	59	8	TO-263AB
HUF75337G3	62	14	TO-247
HUF75337S3S	62	14	TO-263AA
HUF75339G3	70	12	TO-247
HUF75343G3	75	9	TO-247
HUF75344G3	75	8	TO-247
HUF75344P3	75	8	TO-220AB
HUF75344S3S	75	8	TO-263AB
HUF75345G3	75	7	TO-247
HUF75345P3	75	7	TO-220AB

100V UltraFETs

HUF75639G3	53	28	TO-247
HUF75639P3	53	28	TO-220AB
HUF75639S3S	53	28	TO-263AB

(28771) (ne28771)

N-CHANNEL STANDARD POWER MOSFETs

TO-204AA TO-220AB TO-247

TO-251AA TO-252AA TO-263AB

Current/voltage limiting. ESD protection. Ultra-high speed buffered FET.

TO-204AA PACKAGE

Type	BV_{dss} Volts	I_D Amps	$R_{ds(on)}$ Ohms
IRF130	100	14	0.16
IRF450	500	13	0.4

TO-204AE PACKAGE

IRF140	100	28	0.077
IRF240	200	18	0.18

TO-205AF PACKAGE

IRFF110	100	3.5	0.6
IRFF130	100	8	0.18

TO-220AB PACKAGE

BUZ11	50	30.00	0.040
RFP14N05	50	14.00	0.100
RFP70N06	60	70.00	0.014
RFP50N06	60	50.00	0.022
RFP45N06	60	45.00	0.028

CONTINUED

N-CHANNEL STANDARD POWER MOSFETs (CONT.)

TO-220AB PACKAGE (CONT.)

Type	BV_{dss} Volts	I_D Amps	$R_{ds(on)}$ Ohms
RFP3055	60	12.00	0.150
RFP40N10	100	40.00	0.040
IRF540	100	28.00	0.077
RFP22N10	100	22.00	0.080
IRF530	100	14.00	0.160
IRF520	100	9.20	0.270
IRF510	100	5.60	0.540
IRF640	200	18.00	0.180
IRF610	200	3.30	1.500
IRF820	500	2.50	3.000
RFP4N100	1000	4.30	3.500

TO-220AB PACKAGE—LOGIC LEVEL

RFP25N05L	50	25.00	0.047
RFP14N05L	50	14.00	0.100
RFP15N05L	50	15.00	0.140
RFP12N06RLE	60	12.00	0.135
RFP30N06LE	100	30.00	0.047

TO-247 PACKAGE

RFG70N06	60	70.00	0.014
IRFP150	100	40.00	0.055
IRFP360	400	23.00	0.200
IRFP350	400	16.00	0.300
IRFP460	500	20.00	0.270
IRFPG40	1000	4.30	3.500

TO-251AA PACKAGE—LOGIC LEVEL

RFD16N03L	30	16.00	0.022
RFD14N06L	60	12.00	0.100

TO-252AA PACKAGE

IRFR110	100	4.70	0.540
IRFR220	200	4.60	0.800

TO-252AA PACKAGE—LOGIC LEVEL

RFD16N03LSM	30	16.00	0.022
RFD12N06RLE	60	12.00	0.135
RFD15N06LESM	60	15.00	0.065
RFD7N10LESM	100	7.00	0.300

TO-263AA PACKAGE

RF1S70N03SM	30	70.0	0.010
RF1S23N06LE	60	23	0.65
RF1S25N06SM	60	25.0	0.047
RF1S30N06LESM	60	30	0.047
RF1S22N10SM	100	22.0	0.080
RF1S40N10LE	100	40	0.04
RF1S540SM	100	28.0	0.077
RF1S40N10SM	100	40.0	0.040
RF1S4N100SM	1000	4.3	3.500

TO-263AA PACKAGE—LOGIC LEVEL

RF1S17N06LSM	60	17.0	0.010
RF1S23N06LESM	60	23.0	0.650
RF1S30N06LE	60	30.0	0.047
RF1S45N06LE	60	45.0	0.028
RF1S45N06LESM	60	45.0	0.028
RF1S50N06LE	60	50.0	0.220
RF1S50N06LESM	60	50.0	0.220
RF1S40N10LESM	100	40.0	0.040

SO-8 PACKAGE—LOGIC LEVEL

RF1K49211	12	7.0	0.020
RF1K49090	12	3.5	0.050
RF1K49092	12	3.5	0.050
RF1K49088	30	3.5	0.060
RF1K49154	60	2.0	0.150

(9953) (de03853)

P-CHANNEL STANDARD POWER MOSFETs

TO-220AB TO-247 TO-251AA

All IRF types are avalanche capable. BV_{DSS} up to 1000V.

TO-220AB PACKAGE

Type	BV_{dss} Volts	I_D Amps	$R_{ds(on)}$ Ohms
RFP30P05	50	30.00	0.065
RFP15P05	50	15.00	0.150
RFP8P05	50	8.00	0.300
RFP30P06	60	30.00	0.075

CONTINUED

P-CHANNEL STANDARD POWER MOSFETs (CONT.)

Type	BV_{dss} Volts	I_D Amps	$R_{ds(on)}$ Ohms
RFP12P08	80	12.00	0.300
RFP8P08	80	8.00	0.400
RFP6P08	80	6.00	0.600
RFP2P08	80	2.00	3.500
IRF9540	100	19.00	0.200
IRF9530	100	12.00	0.300
RFP12P10	100	12.00	0.300
RFP8P10	100	8.00	0.400
IRF9520	100	6.00	0.600
IRF9510	100	3.00	1.200
IRF9640	200	11.00	0.500
IRF9630	200	6.50	0.800
IRF9620	200	3.50	1.500

TO-247 PACKAGE

RFG60P05E	50	30.00	0.026
RFG30P06	60	30.00	0.075
IRFP9150	100	25.00	0.150
IRFP9140	100	19.00	0.200
IRFP9240	200	12.00	0.500

TO-251AA PACKAGE

RFD8P06E	60	8	0.300
IRFU9120	100	5.6	0.600
IRFU9110	100	3.1	1.200

(9856) (de03854)

RECTIFIERS

FAST RECOVERY

Type	V_{RRM}	I_F	Package
RHRG3060	600V	30A	TO-247
RURU15060	600V	150A	TO-218
RHRP15120	1200V	15A	TO-220
RHRG30120	1200V	30A	TO-247
RHRG75120	1200V	75A	TO-247
RURU150120	1200V	150A	TO-218

ULTRAFAST RECOVERY

Type	V_{RRM}	I_F	T_{RR}	Package
MUR1560	600V	15A	<55ns	TO-220
MUR3020PT	200V	15A	<35ns	TO-218
MUR3040PT	400V	15A	<60ns	TO-218
MUR3060PT	600V	15A	<60ns	TO-218
MUR8100E	1000V	8A	<110ns	TO-220
MUR860	600V	8A	<60ns	TO-220

(13253) (ne09959)

UFS SERIES IGBTs

IGBTs are MOS-gated, high-voltage switching devices combining the best features of MOSFETs and bipolar transistors. Type numbers with **suffix D** have integral reverse diode. **R suffix** denotes rugged device.

Type	BV_{CES} (V)	I_{C90} (A)	Package
HGTD3N60B3S	600	3	TO-252AA
HGTD3N60C3S	600	3	TO-252
HGTD6N50E1S	500	6	TO-252AA
HGTD7N60B3S	600	7	TO-252AA
HGTD7N60C3S	600	7	TO-252
HGTD8P50G1S	500	8	TO-251AA
HGTG10N120BN	1200	10	TO-247
HGTG12N60B3	600	12	TO-247
HGTG12N60C3D	600	12	TO-247
HGTG15N120C3	1200	15	TO-247
HGTG18N120BN	1200	18	TO-247
HGTG20N60B3	600	20	TO-247
HGTG20N60B3D	600	20	TO-247
HGTG20N60C3R	600	20	TO-247
HGTG20N60C3DR	600	20	TO-247
HGTG20N120C3D	1200	20	TO-247
HGTG27N60C3DR	600	27	TO-247
HGTG30N60C3	600	30	TO-247
HGTG30N60C3D	600	30	TO-247
HGTG40N60B3	600	40	TO-247
HGTP3N60C3	600	3	TO-220AB
HGTP3N60C3D	600	3	TO-220
HGTP7N60C3	600	7	TO-220AB
HGTP7N60C3D	600	7	TO-220
HGTP10N50C1D	500	10	TO-220
HGTP12N60C3	600	12	TO-250AB
HGTP20N60C3R	600	20	TO-247

(10935) (ne09951)

POWER CONTROL ICs

CMOS POWER SUPPLY SUPERVISORY CIRCUITS

VOLTAGE CONVERTERS (8-PIN)

Positive to negative; needs only two capacitors. Acts as voltage doubler. Voltage range: **ICL7660**—1.5 to 12V; **ICL7662**—4.5 to 20V.

Type	Package	Temperature Range
ICL7660CPA	DIP	Commercial
ICL7660SCBA	SOIC	Commercial
ICL7660SCPA	DIP	Commercial
ICL7660SIBA	SOIC	Industrial
ICL7660SIPA	DIP	Industrial
ICL7662CPA	DIP	Commercial
ICL7662IPA	DIP	Industrial

AUTOMATIC BATTERY BACK-UP SWITCHES (8-PIN)

Automatically connects output to greater volt supply.

ICL7673CPA	DIP	Commercial
ICL7673CBA	SOIC	Commercial

PROGRAMMABLE MICROPOWER UNDER/OVER VOLTAGE (8-PIN)

Two low-power, individually-programmable detectors; one CMOS chip. Voltage range: 1.6 to 16V. 20mA sink 10µA max. quiescent current.

ICL7665SACBA	SOIC	Commercial
ICL7665SACPA	SOIC	Commercial
ICL7665SAIBA	PDIP	Commercial
ICL7665SCBA	SOIC	Commercial
ICL7665SCPA	DIP	Commercial
ICL7665SIBA	SOIC	Industrial
ICL7665SIPA	PDIP	Industrial

PROGRAMMABLE VOLTAGE LEVEL DETECTORS (8-PIN)

7mA limited sinking when voltage is below 1.15V.

ICL8211CPA	DIP	Commercial

Switches output on when voltage exceeds 1.15V.

ICL8212CPA	DIP	Commercial

POWER SUPPLY/CONTROL CIRCUITS

Type	Pins	Description
ICL7663SCPA ICL7663SACBA ICL7663SACPA	8 DIP 8 SOIC 8 DIP	High-efficiency CMOS programmable µpower voltage regulator accepts 1.6 to 16V puts.
CA3094AE CA3094E	8 8	Programmable power switch/amplifier for control and general-purpose application.
CA3524E CA3277E	16 16	Regulating PWM. Dual 5V regulator.

(9954) (de03895)

GENERAL-PURPOSE LOAD CONTROL

QUAD AND OCTAL DRIVERS—LOW-SIDE

Types 3252 and **3262** are four-gated, inverted-power drivers. **Type 3282** is an 8 serial driver.

Type	Vmax	Imax	Vsat	Package
CA3252E	50	0.8A	0.8	16-Pin DIP
CA3252M	50	0.8A	0.8	20-Pin SOIC
CA3262E	60	0.7A	0.6	16-Pin DIP
CA3262AE	60	0.7A	0.6	16-Pin DIP
CA3282AS1	32	1.25A	0.5	15-Pin SIP
CA3282AS2	32	1.25A	0.5	15-Pin SM
HIP0050IB	50	0.3A	...	20-Pin DIP
HIP0050IP	50	0.3A	...	24-Pin SOIC
HIP0051IB	50	0.25A	...	20-Pin SOIC

Motor control circuit. 5A peak.

Type	Freq.	V_S	I_O	Package
HIP4020IB	250kHz	15	0.5A	20-Pin SOIC

CIRCUIT PROTECTION

SP720/21 has 14/6 signal ESD, overvolt protection, and 5-30V.

Type	Features	Package
SP720AP	±15KV	16-Pin DIP
SP720AB	±15KV	16-Pin SOIC
SP721AP	±15KV	8-Pin DIP
SP721AB	±15KV	8-Pin SOIC
SP723AB	±15KV	8-Pin DIP
SP723AP	±15KV	8-Pin SOIC

MOSFET DRIVER CIRCUITS—HALF-BRIDGE

2100 has 116VDC bootstrap supply max. voltage.

Type	Frequency Max.	Op. VDC	Output Drive	Package
HIP2100IB	2MHz	–0.3-18V	10A	8-Pin SOIC
ICL7667CPA	1MHz	4.5-15V	0.3A	8-Pin DIP

HIGH-FREQUENCY H-BRIDGE DRIVERS, (60-80VDC)

Type	Temperature Range	Package
HIP4080AIB	–40 to +85°C	20-Pin SOIC
HIP4080AIP	–40 to +85°C	20-Pin PDIP
HIP4080IB	–40 to +85°C	20-Pin SOIC

CONTINUED

GENERAL-PURPOSE LOAD CONTROL (CONT.)

Type	Temperature Range	Package
HIP4080IP	–40 to +85°C	20-Pin PDIP
HIP4081AIB	–40 to +85°C	20-Pin SOIC
HIP4081AIP	–40 to +85°C	20-Pin PDIP
HIP4081IB	–40 to +85°C	20-Pin SOIC
HIP4081IP	–40 to +85°C	20-Pin PDIP
HALF-BRIDGE FET DRIVERS (80V)		
HIP4082EVAL	...	Eval. Board
HIP4082IB	–55 to +125°C	16-Pin SOIC
HIP4082IP	–55 to +125°C	16-Pin PDIP
THREE-PHASE HIGH-SIDE N-CHANNEL DRIVERS		
HIP4083AB	–40 to +105°C	16-Pin SOIC
HIP4083AP	–40 to +105°C	16-Pin PDIP
HIP4083EVAL	...	Eval. Board
THREE-PHASE FULL-WAVE DRIVERS (80V, 1.25A)		
HIP4086AB	–40 to +105°C	24-Pin SOIC
HIP4086AP	–40 to +105°C	24-Pin PDIP
HIP4086EVAL	...	Eval. Board
DUAL POWER MOS DRIVERS		
ICL7667CBA	0 to +70°C	8-Pin SOIC
ICL7667CPA	0 to +70°C	8-Pin PDIP

FULL-BRIDGE

Type HIP are high-frequency, N-channel drivers with 80VDC.

Type	Frequency Max.	Op. VDC	Output Drive	Package
HIP4081AIB	1MHz	8-15V	2.5A	20-Pin SOIC
HIP4082IP	200KHz	9.5-16V	1.25A	16-Pin DIP
HIP4082IB	200KHz	9.5-16V	1.25A	16-Pin SOIC

SYNCHRONOUS BUCK REGULATOR (SynchroFET™)

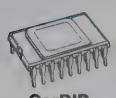
Industrial temperature range. **Type HIP5015** have active high-power PWM.

Type	Voltage Output	Current Output	Package
HIP5010IB	0 to 5V	0 to 8A	16-Pin SOIC
HIP5010IS1	0 to 5V	0 to 8A	7-Lead SIP
HIP5010IS	0 to 5V	0 to 8A	7-Lead TO-220
HIP5011IB	0 to 5V	0 to 8A	16-Pin SOIC
HIP5011IS1	0 to 5V	0 to 8A	7-Lead SIP
HIP5011IS	0 to 5V	0 to 8A	TO-263
HIP5011EVAL	0 to 3.3V	0 to 7A	Eval. Board
HIP5015IS	2.2 to 7V	7.0A	TO-263
HIP5015IS1	2.2 to 7V	7.0A	7-Lead SIP
HIP5015EVAL2	0 to 3.3V	0 to 3A	Eval. Board
HIP5020DB	3.3 to 5V	3.5A	28-Pin SOIC
HIP5020EVAL1	0 to 3.3V	0 to 3A	Eval. Board
HIP5020EVAL2	0 to 3.3V	0 to 3A	Eval. Board

(9955) (de03902)

NEWARK STOCKS MORE PRODUCTS THAN ANY OTHER ELECTRONICS DISTRIBUTOR!

LINEAR CIRCUIT OPERATIONAL AMPLIFIERS


CerDIP

PDIP

TO-5 with Formed Leads (DIL-CAN)

TO-5 with Straight Leads

Type number **suffix A:** Modified Version, Unilaterally Interchangeable Prototype; **suffix B:** Modified Version, Unilaterally Interchangeable with A Version and with Prototype: **suffix C:** Modified Version.

GENERAL-PURPOSE OPERATIONAL AMPLIFIERS

WIDEBAND SINGLE-UNIT TYPES

Type	V_{IO} Max. (mV)	I_I Max. (nA)	SR Typ. (V/µs)	Description	Package
CA3100E	5	2000	70	...	8-Pin PDIP
CA3100T	5	2000	70	...	8-Lead TO-5 (Straight)
CA3130AE	5	30pA	9	BIMOS	8-Pin PDIP
CA3130AT	5	30pA	30	BIMOS	8-Lead TO-5 (Straight)
CA3130E	15	50pA	9	BIMOS	8-Pin PDIP
CA3130S	15	50pA	9	BIMOS	8-Lead TO-5 (Formed)
CA3130T	15	50pA	9	BIMOS	8-Lead TO-5 (Straight)
CA3140AE	5	30pA	9	BIMOS	8-Pin PDIP
CA3140AS	5	30pA	9	BIMOS	8-Lead TO-5 (Formed)
CA3140AT	5	30pA	9	BIMOS	8-Lead TO-5 (Straight)
CA3140E	15	50pA	9	BIMOS	8-Pin PDIP
CA3140S	15	50pA	9	BIMOS	8-Lead TO-5 (Formed)
CA3140T	15	50pA	9	BIMOS	8-Lead TO-5 (Straight)
CA3160AE	5	30pA	10	BIMOS	8-Pin PDIP
CA3160E	15	50pA	10	BIMOS	8-Pin PDIP
CA3450E	15	350	330	...	16-Pin PDIP
WIDEBAND DUAL-UNIT TYPES					
CA3240AE	5	40pA	9	BIMOS	8-Pin PDIP
CA3240E	15	50pA	9	BIMOS	8-Pin PDIP
CA3260AE	5	30pA	10	BIMOS	8-Pin PDIP
CA3260E	15	50pA	10	BIMOS	8-Pin PDIP
WIDEBAND HIGH-SLEW RATE TYPES (≥50V/µs)					
CA3080E	5	5000	50	OTA	8-Pin PDIP
CA3280AE	0.5	5000	125	OTA	16-Pin PDIP
HIGH-CURRENT TYPES					
CA3094AE	5	5000	50	...	8-Pin PDIP
CA3094AT	5	5000	50	...	8-Lead TO-5 (Straight)
CA3094E	5	5000	50	...	8-Pin PDIP
SINGLE GENERAL-PURPOSE AMPS					
CA0741E	5	500	0.5	...	8-Pin PDIP
CA0741T	5	500	0.5	...	8-Lead TO-5 (Straight)
LM741CN	6	500	0.5	...	14-Pin PDIP
DUAL AMPS					
LM358N	7	250	...	...	8-Pin PDIP
CA0358E	3	100	...	...	8-Pin PDIP
CA1458E	6	500	0.5	...	8-Pin PDIP
LM1458N	6	500	0.5	OTA	8-Pin PDIP
CA1558E	5	500	0.5	...	8-Pin PDIP
CA1558T	5	500	0.5	...	8-Pin PDIP
QUAD AMPS					
HA1-4741-5	5	60	1.6	...	14-Pin CerDIP
HA1-4905-5	7.5	...	...	...	16-Pin CerDIP
HA1-5320-5	10	...	45	...	14-Pin PDIP
HA3-4741-5	5	60	1.6	...	14-Pin PDIP
LM324N	7	15	...	...	14-Pin PDIP
QUAD COMPARATORS					
CA0124E	5	...	...	...	14-Pin PDIP
LM339N	5	250	...	...	14-Pin PDIP
SINGLE OPERATIONAL TRANSCONDUCTANCE AMPS					
CA3078E	4.5	32	1.5	...	8-Pin PDIP

* Triple unit
(9905)

(ne51613)

GENERAL-PURPOSE DIFFERENTIAL AMPLIFIERS

Type	Frequency (MHz)	A Typ. (dB)	AGC Range Typ. (dB)	Pins
CA3028A	120	40	62	8
CA3049T	500	22	75	8

(4233)

(de51614)

AMPLIFIERS

RADIO/TV/COMMUNICATIONS

Type	Description	Pins
CA3020A	Multipurpose Diff. Power Amp and Switch Control Circuit	12
TV/CATV		
CA3088E	AM Receiver Subsystem and General-Pupose Amplifier Array	16
CA3154E	Horizontal/Vertical Countdown and Sync Processor	16
RADIO COMMUNICATIONS		
CA3089E	IF Amplifier and Detector	16
CA3189E	IF Amplifier and Detector	16
CA3179E	Prescaler/Band Switches	14

(12850)

(ne09962)

OPERATIONAL AMPLIFIERS

LOW/ULTRA-LOW-INPUT OFFSET VOLTAGES

CMOS super chopper-stabilized. Low long-term and temperature drifts of input offset voltage; high- gain, low-supply current. I_{OS} (max.) = 20pA; I_{BIAS} (max.) = 10pA.

Type	Package	V_{OS} Max. (µV)	I_{BIAS} Max. (pA)	I_{OS} Max. (pA)
ICL7650SCPA-1	8-Pin Plastic	+5	10	20
ICL7650SCPD	14-Pin Plastic			
ICL7650SCTV-1	8-Pin TO-99			

LOW POWER/LOW INPUT BIAS CURRENT CMOS

Provide high performance at low supply voltages, selectable quiescent currents. Internal compensation. I_{BIAS} (max.) = 50pA; I_{OS} (max.) = 30pA. Single amps (**type ICL7642ECPD** is quad amp).

Type	V_{OS} Max.	Package
ICL7611BCPA*	5	8-pin Mini-DIP
ICL7611DCPA*	15	8-pin Mini-DIP
ICL7612BCPA	5	8-pin Mini-DIP
ICL7642ECPD	20	14-pin Mini-DIP

LOW-INPUT BIAS CURRENT

Internal compensation, commercial temp. range. **CPA** suffix = CMOS Dual amp; **CPD** = quad amp. V_{OS} is in µV.

Type	V_{OS} Max.	Package
ICL7621BCPA*	5	8-pin Mini-DIP
ICL7621DCPA*	15	8-pin Mini-DIP
ICL7641ECPD*	20	14-pin DIP

* General-Purpose amplifiers
(4236)

(de52989)

LINEAR CIRCUITS

POWER CONTROL CIRCUITS*

Type	Description	Function	Pins
CA3059	0V Switch–50/60Hz and Thyristor Control	Special Purpose	14

ANALOG TIMERS

Type	Description	Function	Pins
CA0555E	Analog Timer for Delay, Oscillator Applications	Special	8
LM555CN			8

RF FRONT END LINEAR ICs

Type	Description	Pins
CA3082	NPN Transistor Array	16
CA3127M	NPN Transistor Array	16
CA3130AT	NPN Transistor Array	16
HFA3101B	Gilber Cell Array	8
HFA3102B	Dual Longtailed Pair	14
HFA3127B	NPN Transistor Array	16
HFA3128B	PNP Transistor Array	16

*All are plastic dual-in-line package.
(4234)

(de52208)

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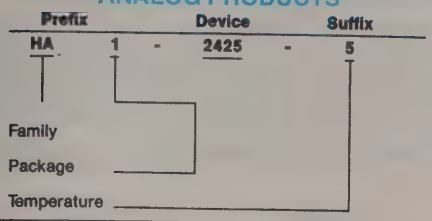
OP AMPS AND MPU PERIPHERALS

ANALOG PRODUCTS



Family:	Package:	Temperature:
A: Analog	**1:** Ceramic DIP	**2:** –55°C to +125°C
C: Communications	**2:** TO-5	**5:** 0°C to +70°C
D: Digital	**3:** Epoxy DIP	**7:** 0°C to +75°C with 96-hour burn-in
I: Interface	**9P:** SOIC	
M: Memory		

OP-AMP WIDE BANDWIDTH (SINGLE)

Type	Pins	Gain Bandwidth Product (MHz)	Full Power Bandwidth (MHz)	Minimum Gain Stable
HA2-2525-5	8	20	1.6	3
HA3-2525-5	8	20	1.6	3
HA7-2525-5	8	20	1.6	3
HA3-2539-5	14	600	9.5	10
HA1-2540-5	14	400	6.0	10
HA3-2540-5	14	400	6.0	10
HA3-2540C-5	14	400	6.0	10
HA1-2541-5	14	40	4.5	Unity
HA1-2542-5	14	70	5.5	2
HA3-2625-5	8	100	0.6	5
HA2-5160-5	8	100	1.0	10
HA1-5195-5	14	150	6.5	5

OP-AMP WIDE BANDWIDTH (QUAD)

HA1-5104-5	14	8	0.05	Unity
HA1-2405-5	16	40	0.50	10
HA3-5104-5	14	8	0.05	Unity

HIGH VOLTAGE AMPS

Type	Pins	Input Offset Voltage	Offset Current	Supply Range
HA2-2645-5	8	4mV	5nA	±10V to 40V
HA7-2645-5	8	4mV	5nA	±10V to 40V

PRECISION QUAD COMPARATOR

Type	Pins	Offset Voltage	Offset Current	Response Time
HA3-4905-5	16	2.0mV	10nA	130ns
HA9P4905-5	16	2.0mV	10nA	130ns

(9900) (de52986)

ULTRA HIGH-SPEED OPERATIONAL AMPLIFIERS

Ultra high-speed amplifiers deliver almost equal bandwidth without a gain-bandwidth trade-off. The **HFA-1130 series** features a user-defined output clamping level, which works well for high-speed video (HDTV) and imaging applications. High slew rate up to 2500V. Gain flatness up to 100 MHz; unity gain bandwidth up to 850 MHz. Fast settling time s 11ns ±0.1%. Available packages: PDIP (**IP suffix** on type number) or SOIC (**IB suffix**).

SINGLE OP AMPS & BUFFERS

Type	Description	Slew Rate (V/µs)	Package
HFA1100IB	850MHz	2300	SOIC
HFA1100IP	850MHz	2300	PDIP
HFA1109IB	500MHz Op Amp	1200	SOIC
HFA1113IB	850MHz	2300	SOIC
HFA1130IP	850MHz w/Output Limiting	2300	PDIP
HFA1135IP	350MHz w/Output Limiting	1200	PDIP

DUAL OP AMPS & BUFFERS

HFA1205IP	400MHz	1275	PDIP

(9858) (de03918)

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WIDEBAND VIDEO OPERATIONAL AMPLIFIERS

HA-2841 is available in PDIP and SOIC packages. **HA-5020** series is an enhanced pin compatible version of the EL-2020 series; replaces EL-2030 in many instances. Minimum/maximum about +25°C. Gain bandwidth product typically up to 1000 MHz.

SINGLE BUFFERS: VIDEO AMPLIFIERS

Type	Pins	–3dB Bandwidth (MHz)	Output Current (mA)
HA3-2544C-5	8	45	35
HA3-2841-5	8	50	30
HA9P2842-5	8	80	100
HA3-5002-5	8	110	220
HA9P5020-5	8	100	30
HA3-5033-5	8	250	100

(9899) (de03917)

MICROPROCESSOR PERIPHERALS

OSCILLATORS/DIVIDERS

Type	V_{DD}	I_{DD} (mA) Max.	f_{OSC} (MHz)	Crystal Freq. (MHz)	Pins	Package
ICM7207AIPD	4-5.5	1000	2-10	5.24288	14	PDIP
ICM7209IPA	4.5-5.5	20	2 Min.	1-10	14	PDIP
HA7210IB	2-7	15	0.01	0.01	8	SOIC
HA7210IP	2-7	15	0.01	0.01	8	PDIP

TIMER/COUNTERS WITHOUT DISPLAY DRIVERS

Type	Supply Current Typ.	Description	Pins	Pkg.
ICM7555IPA	60µA	Single CMOS RC Timer	8	Mini-DIP
ICM7555CBA	60µA	Single CMOS RC Timer	8	SOIC
ICM7555MTV	60µA	Single CMOS RC Timer	8	TO-99
ICM7556MJD	120µA	Dual CMOS RC Timer	14	CerDIP
ICM7556IPD	120µA	Dual CMOS RC Timer	14	Plastic

TIMER/COUNTERS WITH DISPLAY DRIVERS

Type	Digits	Display	Count Unit	Package
ICM7217IJI	4	LED Common Anode Mux	Up/Down Decade	28-Pin CDIP
ICM7224IPL	4.5	LCD Direct Drive	Up Decade Only	40-Pin PDIP
ICM7208IPI	7	LED Common Anode Mux	Up Decade Only	28-Pin PDIP

LONG RANGE FIXED TIMER

Type	Supply Voltage	Description	Package
ICM7242IPA	2 to 16V	RC Oscillator + 8-Bit Counter	8-Pin PDIP

REAL-TIME CLOCKS

Time keeping and date stamping for personal computers, communications, robotics, auto, etc.

Type	Standby Current	Description
ICM7170IPG	20µA	8-Bit, µP Bus, Selectable 12/24-Hour Format, On-Chip
ICM7170AIPG	5µA	Battery Back-Up

DISPLAY DRIVERS

Type ICML711 drive conventional LCD displays. Include RC oscillator, divider chain, latches, interface and LCD drivers. **Types ICM7211** and **ICM7211M** have hexadecimal font (0-9, A-F). **Types ICM7211A** and **ICM7211AM** have Code B font (0-9, H, E, L, P, -, and blank). Come in 40-pin plastic DIP. **Type 7212AM** drive common anode, non-multiplexed LED displays, and have Code B font. Come in 40-pin DIP. **Type ICML7218** feature 3 decode formats and drive up to 64 independent LEDs. Include 8 x 8 memory, multiplexed LED drivers, encoders, interface and control. Compatible with both hexadecimal and Code B fonts. Come in 28-pin ceramic DIP. **Type ICM7243B** can be daisy-chained or cascaded. Have ASCII font. Come in 40-pin DIP.

Type	7-Segment Digits	Display Type	Interface*	Cycle Time (ns)
ICM7211IPL	4	LCD Direct Drive	Mux BCD	1000
ICM7211AIPL	4	LCD Direct Drive	Mux BCD	1000
ICM7211MIPL	4	LCD Direct Drive	Random Access	200
ICM7211AMIPL	4	LCD Direct Drive	Random Access	200
ICM7212AMIPL	4	LED Common Anode	Random Access	1000
ICM7218AIJI	8	LED Common Anode Mux	Bit Parallel	550
ICM7218BIJI	8	LED Common Cathode Mux	Bit Parallel	550
ICM7218CIJI	8	LED Common Anode Mux	Random Access	500
ICM7218DIJI	8	LED Common Cathode Mux	Random Access	500
ICM7243BIPL	8**	LED Common Cathode Mux	Random Access	250

* Mux BCD = BCD + digital select strobes; Random Access = data + address + WR
** 8 Alphanumeric characters + decimal point

(9957) (de90095)

A/D AND D/A CONVERTERS AND MUXES

HIGH-SPEED ANALOG-TO-DIGITAL CONVERTERS

Type	Resolution (Bits)	Conversion Rate (MSPS)	Band-width (MHz)	INL (LSB)	Pins	Package
HI3304JIP	4	25	40	0.1	16	PDIP
HI3304JIB	4	25	40	0.1	16	SOIC
HI3306JIB/10	6	15	30	0.2	18	SOIC
HI3306JIP/10	6	15	30	0.2	18	PDIP
HI1172JCB	6	20	18	0.5	16	SOIC
HI1172JCP	6	20	18	0.5	16	PDIP
HI1826JCQ	6	140	200	...	32	PQFP
HI1866JCQ	6	140	110	...	48	PQFP
HI3318JIP	8	15	5	1.5 (Max.)	24	PDIP
HI1175JCB	8	20	18	0.5	24	SOIC
HI1175JCP	8	20	18	0.5	24	PDIP
HI2301JCQ	8	30	20	0.5	32	PQFP
HI1179JCQ	8	35	25	0.3	32	PQFP
HI5714/4CB	8	40	18	0.75	24	SOIC
HI2302JCQ	8	50	100	0.5	32	PQFP
HI5714/6CB	8	60	18	0.75	24	SOIC
HI5714/7CB	8	75	18	0.75	34	SOIC
HI3026JCQ	8	120	200	...	48	PQFP
HI5710AJCQ	10	20	100	1.3	48	PQFP
HI5702KCB	10	40	250	1	28	SOIC
HI5703KCB	10	40	250	1	28	SOIC
HI3-574AJN-5	12	25	...	1	28	PDIP
HI3-574AKN-5	12	25	...	0.5	28	PDIP

(4240) (ne07135)

HIGH-SPEED DIGITAL-TO-ANALOG CONVERTERS

Type	Resolution (Bits)	Update Rate (MHz)	INL (LSB)	Pins	Package
HI2304JCQ	8	20	2.5	48	PQFP
HI1260JCQ	8	35	1	48	PQFP
HI1106JCB	8	35	0.5	24	SOIC
HI1171JCB	8	40	1.3 (Max.)	24	SOIC
HI1177JCQ	8	40	0.5	32	PQFP
HI1178JCQ	8	40	0.5	48	PQFP
HI3338KIB	8	50	0.75 (Max.)	16	SOIC
HI3338KIP	8	50	0.75 (Max.)	16	PDIP
HI2307JCQ	10	50	2	64	PQFP
HI2309JCQ	10	50	2	48	PQFP
HI5721BIB	10	125	1.5 (Max.)	28	SOIC
HI5731BIB	12	100	1.5 (Max.)	28	SOIC
HI5731BIP	12	100	1.5 (Max.)	28	PDIP

(4241) (ne07136)

CMOS ANALOG MULTIPLEXERS

Type	Description	$R_{DS(ON)}$ (Ω Max.)	$I_{D(OFF)}$ (±nA) Typ.	T_{ON} (ns) Typ.	T_{OFF} (ns) Typ.
DG408DJ	Single 1 x 8	40	0.5	115	105
DG406DJ	Single 1 x 16	40	0.5	115	105
DG409DJ	Dual 1 x 4	40	0.5	115	105
DG407DJ	Dual 1 x 8	40	0.5	115	105
HI3-0508-5	Single 1 x 8	400	0.3	250	250
DG506ACJ	Single 1 x 16	450	0.02	1000	400
DG508ACJ	Single 1 x 8	450	0.01	1000	400
DG509ACJ	Dual 1 x 4	450	0.005	1000	400
HI1-0506-5	Single 1x 16	400	...	1000	1000
HI1-0508-5	Single 1 x 8	500	...	1000	1000
HI3-0506-5	Single 1 x 16	400	...	1000	1000
HI3-0508A-5	Single 1 x 8*	1800	0.1	300	300

*Overvoltage protection

(4243) (ne07141)

ANALOG-TO-DIGITAL CONVERTERS

INTEGRATING CONVERTERS WITH DISPLAY DRIVERS

Rollover and linearity error of less than one count. 40-pin plastic DIP package, commercial temperature range. Converters for 3½-digit LCD/LED 7-segment displays contain all necessary active devices. **ICL7116PCL** has hold reading input for indefinite retention of display. **ICL7136** and **ICL7137** are improved versions of **ICL7126** and **ICL7107,** respectively. Converters for 4½-digit LCD multiplexed, 7-segment displays require only a few passive components and a reference.

3 ½-DIGIT FOR DIRECT DRIVE OF LCD/LED 7-SEGMENT DISPLAYS

Type	Display	Conv./ Sec. Max.	Supply Voltage	Pins	Package
ICL7106CPL	LCD Direct Drive	15	± 15V	40	PDIP
ICL7107CPL	LED Common Anode	15	+ 6V to –9V	40	PDIP
ICL7116CPL	LCD Direct Drive	15	± 15V	40	PDIP
ICL7117CPL	LED Common Anode	15	+ 6V to –9V	40	PDIP
ICL7126CPL	LCD Direct Drive	4	± 15V	40	PDIP
ICL7136CPL	LCD Direct Drive	4	± 15V	40	PDIP
ICL7137CPL	LED Common Anode	4	+ 6V to –9V	40	PDIP

3 ½ DIGIT LCD/LED SINGLE-CHIP A/D CONVERTER

Type	Display Type	Supply Voltage	Temp. Range	Package
ICL7107RCPL	LED Common Anode	–9, +6V	0°C to +70°C	40-Pin PDIP

µP-COMPATIBLE INTEGRATING CONVERTERS

Monolithics. Up to 12-bit resolution and guaranteed accuracy of ±1 count or 1 LSB. Output may be directly accessed by two separate enables, except for **ICL7135CPI,** which has multiplexed BCD, count accuracy of ±1 in 20,000 and added functions for display applications and more sophisticated systems. Commercial temperature range.

Type	Resolution	Conv./ Sec. Max.	Supply Voltage	Pins	Package
ICL7135CPI	4½-Digit	15	+6V to –9V	28	PDIP
ICL7109CPL	12-Bit	30	+6.2V to –9V	40	PDIP

Analog-to-digital converter provides a 3-digit, multiplexed BCD output.

Type	Conversions per Second	Supply Voltage	Pins	Package
CA3162E	4 or 16	5V	16	PDIP

Integrated circuit performs the BCD to seven-segment function. Features constant-current segment drivers.

Type	Constant Current Segment Output	Supply Voltage	Pins	Package
CA3161E	25mA	5V	16	PDIP

2-CHIP A/D CONVERTER

2-chip set. When combined with the **ICL8052** or **ICL8068** , the **ICL7104** performs the analog switching and digital functions of an A/D converter (either 14- or 16-bit binary 3-state latched outputs, plus polarity and overrange). Guaranteed zero reading for zero V_{IN}.

ICL7104

Type	Resolution	Conv./ Sec. Max.	Supply Voltage	Pins	Package
ICL7104-14CPL	14-Bit	12.2	±17V	40	PDIP
ICL7104-16CPL	16-Bit	32.2	±17V	40	PDIP

MATCHING AMPLIFIERS FOR ICL7104

Type	V_{OS}	I_{IN}	CMRR	Supply Voltage	Pins	Package
ICL8052ACPD	75	10	70	±18	14	PDIP
ICL8068ACJD	65	150	70	±18	14	CerDIP

µP COMPATIBLE SUCCESSIVE APPROXIMATION CONVERTERS

The **ADC0802** family is designed for the **8080A** control bus, with a modified potentiometric ladder and 3-state outputs.

Type	Reso-lution	Conversion Time (µs)	Supply Voltage	Pins	Package
ADC0802LCN	8-bit	100	6.5V	20	PDIP
ADC0803LCN	8-bit	100	6.5V	20	PIDIP
ADC0804LCN	8-bit	100	6.5V	20	PDIP

(4237) (de53570a)

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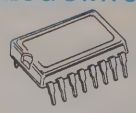
DIGITAL BUILDING BLOCKS

Type	Description	Pin	Package
HSP43124SC-45	Serial I/O Filter	28	SOIC
HSP43168JC-33	Dual FIR Filter	84	PLCC
HSP43168VC-40	Dual FIR Filter	100	MQFP
HSP50016JC-52	Digital Down Converter	44	PLCC
HSP50110JC-52	Digital Quadrature Tuner	84	PLCC
HSP50210JC-52	Digital Costas Loop	84	PLCC

(10933) (ne09955)

ANALOG SWITCHES



All devices listed below are plastic DIP. Most devices are also available in SOIC and CerDIP packages; *contact your local Newark sales office.*

DUAL SINGLE-POLE SINGLE-THROW (2 × SPST)

Type	$R_{DS(ON)}$ Max. (Ω)	$I_{S(OFF)}$ Typ. (± nA)	T_{ON} Typ. (ns)	T_{OFF} Typ. (ns)
DG200CJ	80	5.0	1000	500
IH5341CPD	75	60.0	150	80

QUAD SINGLE-POLE SINGLE-THROW (4 × SPST)

DG201ACJ	115 Typ.	0.01	480	370
DG201BK	125	5.0	1000	500
DG202CJ	115 Typ.	0.01	480	370
DG211CJ	150 Typ.	0.01	460	360
DG212CJ	150 Typ.	0.01	460	360
DG308ACJ	60 Typ.	0.01	130	90
DG309CJ	60 Typ.	0.1	130	90
DG411DJ	35	–0.1	110	100
DG412DJ	35	–0.1	110	100
DG412DY	35	0.1	110	100
DG413DJ	35	–0.1	110	100
DG441DJ	85	0.01	150	90
DG442DJ	85	0.01	150	110
DG444DJ	85	0.01	150	90
HI3-0201-5	80	2.0	185	220
HI3-0201HS-5	50	0.3	30	40

SINGLE-POLE DOUBLE-THROW (SPDT)

DG301ACJ	50	0.04	150	130
DG303ACJ	75	0.04	210	160

DUAL SINGLE-POLE DOUBLE-THROW (2 × SPDT)

DG403DJ	45	–0.01	100	60
DG403DY	45	0.01	100	60
HI3-0303-5	50	0.04	210	160

DUAL-DOUBLE-POLE SINGLE THROW (2 × DPST)

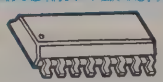
DG405DJ	45	–0.01	100	60

CROSS POINT SWITCHES

Type	Bandwidth (MHz)	Switching	Pins	Package
HA4314BCB	400	4 x 1	14	SOIC
HA4404BCB	330	4 x 1	16	SOIC
HA4314BCP	400	4 x 1	14	PDIP
HA456CM	80	8 x 8	44	PLCC
HA456CN	80	8 x 8	44	MQFP

(9880) (ne06126)

RS-232 TRANSMITTERS/RECEIVERS



SOIC package.

Type	RS-232 Drivers	RS-232 Receivers	External Components	Low-Power Shutdown/ TTL Tri-State	No. of Leads	1-9
HIN200CB	5	0	4 Capacitors	Yes/No	20	3.65
HIN201CB†	2	2	2 Capacitors	No/No	16	2.78
HIN202CB†	2	2	4 Capacitors	No/No	16	2.78
HIN204CB	4	0	4 Capacitors	No/No	16	4.94
HIN206CB†	4	3	4 Capacitors	Yes/Yes	24	6.33
HIN207CB†	5	3	4 Capacitors	No/No	24	6.33
HIN208CB†	4	4	4 Capacitors	No/No	24	6.33
HIN211CB‡	4	5	4 Capacitors	Yes/Yes	28	6.33
HIN232CB†	2	2	4 Capacitors	No/No	16	1.58
ICL232CBE†	2	2	4 Capacitors	No/No	16	2.80

† Also available in PDIP; *contact your local Newark sales office.* ‡ Also available in SSOP; *contact your local Newark sales office.*

(4355) (ne03932)

ANALOG-TO-DIGITAL AND DIGITAL-TO-ANALOG CONVERTERS

Analog-to-digital and digital-to-analog high-speed converters operate at speeds over 1MHz. Used in numerous applications in which digital data is gathered and transmitted in an analog format, such as video, wireless communications, cable communications, and measurement equipment.

ANALOG-TO-DIGITAL

Type	Res. (Bits)	Conv. Rate (MSPS)	Band-width (MHz)	INL (LSB)	Pins	Package
HI2303JCQ	3 x 8	50	100	0.7	80	PQFP
HI5662/6IN	2 x 8	60	250	1	44	MQFP
HI5714/8CB	8	85	15	0.75	24	SOIC
HI5762/6IN	2 x 10	60	250	1	44	MQFP
HI5767/2CB	10	20	250	1	28	SOIC
HI5767/4CB	10	40	250	1	28	SOIC
HI5767/6CB	10	60	250	1	28	SOIC
HI5905IN	14	5	100	2	44	MQFP

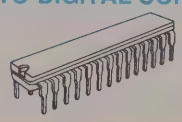
DIGITAL-TO-ANALOG

Type	Res. (Bits)	Update Rate (MHz)	INL (LSB)	Pins	Package
HI5760BIB	10	125	1	28	SOIC

INL = Integral Nonlinearity

(28775) (ne28775)

ANALOG-TO-DIGITAL CONVERTERS



4½-DIGIT CONVERTERS

Type	Max. Conv./s	Supply Voltage	Temp. Range	Pins	Package
ICL71C03ACPI	30	–17V, +6.5V	0°C to +70°C	28	PDIP

MICROPOCESSOR COMPATIBLE CONVERTERS

Analog-to-digital converters complete with reference and clock.

Type	Supply Voltage	Temperature Range	Pins	Package
HI1-574AJD-5	±12, +15V	0° to 75°C	28	CerDIP
HI1-574AKD-5	±12, +15V	0° to 75°C	28	CerDIP

FLASH CONVERTERS

Low-power, CMOS, video-speed, analog-to-digital converters.

Type	Resolution (Bits)	Sampling Rate (MHz)	INL (LSB)	Pins	Package
CA3306CE	6	10	0.5	18	PDIP
CA3318CE	8	15	1.5	24	PDIP

(4350) (de53570b)

DIGITAL-TO-ANALOG CONVERTERS

Type	Resolution	Settling Time (ns)	Non-Linearity	Pins	Package
AD7520JN	10-Bit	500 Typ.	±0.2%	16	PDIP
AD7521JN	12-Bit	500 Typ.	±0.2%	18	PDIP
AD7523JN	8-Bit	150 Max.	±0.2%	16	PDIP
AD7533JN	10-Bit	600 Max.	±0.2%	16	PDIP
AD7533KN	10-Bit	600 Max.	±0.1%	16	PDIP
AD7541JN	12-Bit	1µs Max.	±0.02%	18	PDIP

Low-power, CMOS, video-speed, rail-to-rail, digital-to-analog converter.

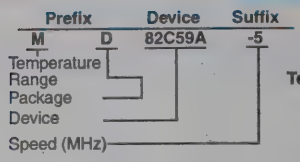
Type	Resolution (Bits)	Update Rate	INL (LSB)	Pins	Package
CA3338AE	8	50MHz	0.75	16	PDIP

(4351) (de53577)

NEW PRODUCTS ARE CONTINUALLY ADDED.
CALL NEWARK FOR CURRENT SELECTION.

MICROPROCESSORS AND MPU PERIPHERALS

x86 MICROPROCESSORS AND PERIPHERALS



Temperature Range:
C: Commercial (0°C to +70°C)
I: Industrial (-40°C to +85°C)
M: Military (-55°C to +125°C)

Package Type:
P: PDIP
D: Ceramic DIP
S: Plastic LCC
R: Ceramic LCC

Speed:
CPU (80C286)
12: 12.5MHz
16: 16MHz
20: 20MHz

Speed:
Peripherals
5: 5MHz
Blank: 8MHz
CPU (80C86/88)
Blank: 5MHz
2: 8MHz

Type	Description	Package
CP80C86	5MHz CMOS 16-Bit Microprocessor	40-Pin PDIP
CP80C86-2	8MHz CMOS 16-Bit Microprocessor	40-Pin PDIP
CP80C88	5MHz CMOS 8/16-Bit Microprocessor	40-Pin PDIP
CP80C88-2	8MHz CMOS 8/16-Bit Microprocessor	40-Pin PDIP
CP82C37A	Programmable DMA Controller	40-Pin PDIP
CP82C37A-12	Programmable DMA Controller	40-Pin PDIP
CP82C37A-5	Programmable DMA Controller	40-Pin PDIP
CP82C52	Serial Controller Interface	28-Pin PDIP
CP82C54	Programmable Interval Timer	24-Pin PDIP
CP82C54-10	Programmable Interval Timer	24-Pin PDIP
CP82C54-12	Programmable Interval Timer	24-Pin PDIP
CP82C55A	Programmable Peripheral Interface	40-Pin PDIP
CP82C59A	Priority Interrupt Controller	28-Pin PDIP
CP82C59A-12	Priority Interval Timer	28-Pin PDIP
CP82C59A-5	Priority Interval Timer	28-Pin PDIP
CP82C83H	Octal Latching Inverting Bus Driver	20-Pin PDIP
CP82C84A	Clock Generator Driver	18-Pin PDIP
CP82C86H-5	Octal Bus Transceiver	20-Pin PDIP
CP82C88	CMOS Bus Controller	20-Pin PDIP
CP82C89	Bus Arbiter	20-Pin PDIP
CS80C86	5MHz CMOS 16-Bit Microprocessor	44-Pin PLCC
CS80C88	5MHz CMOS 8/16-Bit Microprocessor	44-Pin PLCC
CS82C88	CMOS Bus Controller	20-Pin PLCC

(9882) (ne09660)

MICROPROCESSOR PERIPHERALS

Type 82C50A asynchronous communications element (ACE) will support data rates from DC to 625k baud (0-10MHz clock). **Type CP82C52** will support data rates up to 1M baud asynchronously with a 16x clock (16MHz clock frequency). **Type CP82C55A** has 24 I/O pins which may be individually programmed in 2 groups of 12, and used in 3 major modes of operation.

Type	Operating Temperature	Operating Frequency	Operating Voltage	Description	Package
CP82C50A-5	0°C to +70°C	10.0MHz	5.0V	UART/BRG	40-Pin PDIP
CP82C52	0°C to +70°C	16MHz	5.0V	UART/BRG	28-Pin PDIP
CP82C55A	0°C to +70°C	8.0MHz	5.0V	Programmable I/O	40-Pin PDIP
CS82C55A	0°C to +70°C	8.0MHz	5.0V	Programmable I/O	44-Pin PLCC
CS82C55A-5	0°C to +70°C	8.0MHz	5.0V	Programmable I/O	44-Pin PLCC

(18341) (ne10976)

DATA COMMUNICATIONS PRODUCTS

Type HD3-6402B-9 applications include modems, printers, peripherals, and remote data acquisition systems. **Type HD3-4702-9** generates 13 commonly used bit rates using an on-chip crystal oscillator or an external input. **Type HD3-6409-9** is intended for use in serial data communication. Easily interfaces to protocol controllers.

Type	Operating Temperature	Operating Frequency	Operating Voltage	Description	Package
HD3-6402B-9	–40°C to +85°C	8.0MHz	5.0V	UART	40-Pin PDIP
HD3-4702-9	–40°C to +85°C	...	5.0V	Bit Rate Generator	16-Pin PDIP
HD3-6409-9	–40°C to +85°C	1.00MHz	5.0V	Manchester Encoder-Decoder	20-Pin PDIP

(18340) (ne10977)

CDP1800 SERIES CMOS MICROPROCESSORS

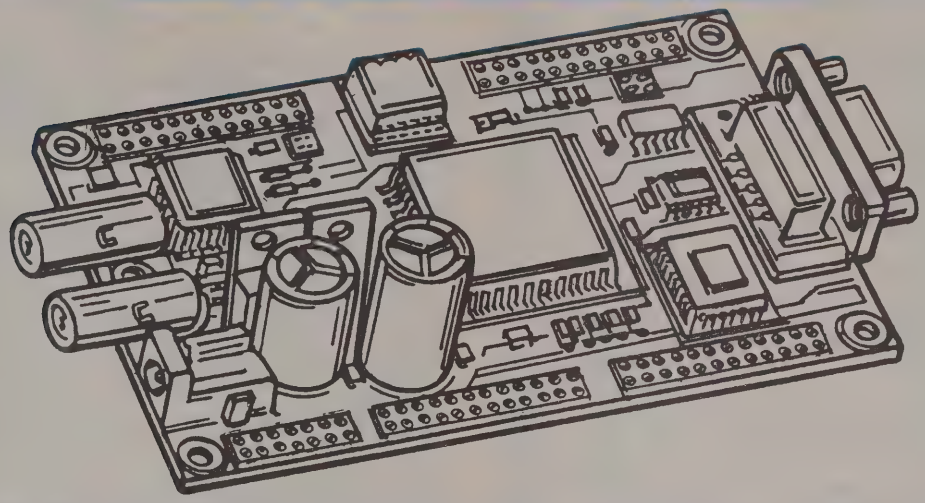
CDP1800 series are CMOS 8-bit microprocessors with 64k memory addressing. General-purpose CPUs designed for multi-system applications requiring large memory address space and extensive external I/O. Low-power drain and military temperature range allow for use in military applications, battery-operated systems, and situations in which low heat dissipation is important. Wide operating voltage ranges reduce the need for power regulation. **Type CDP1805ACE** has on-board RAM. **Types CDP1805ACE** and **CDP1806ACE** have counter/timer.

Type	DC V_{RANGE}	Clock Frequency (MHz)	Instruction Time Min./Max. (µs)	Package
CDP1802ACE	4-6.5	3.2	5/7.5	40-Pin PDIP
CDP1805ACE	4-6.5	5.0	3.2/16	40-Pin PDIP
CDP1806ACE	4-6.5	5.0	3.2/16	40-Pin PDIP
CDP1802BCE	4-6.5	5.0	3.2/4.8	40-Pin PDIP

(4372) (ne09661)

OVERNIGHT SHIPMENT IS AVAILABLE WHEN YOU NEED IT.
CONTACT YOUR LOCAL NEWARK SALES OFFICE.

TMDS320 DIGITAL SIGNAL PROCESSOR EVALUATION KITS



Texas Instruments' **TMDS320DSP** DSP Starter Kits (DSK) are an ideal low-cost tool for first-time users interested in evaluating a DSP platform. The DSK allows users to write, run and evaluate real-time source code and debug their system. Each DSK comes with a **TMDS320** evaluation board, its own easy-to-use assembler/linker/debugger, and a complete documentation package. All DSKs run on PC-AT with MS-DOS or PC-DOS (ver. 4.01 and later).

Type TMDS3200026 digital signal processor evaluation kit features: a **TMS320C26** 16-bit, fixed-point DSP, a **TLC32040** analog interface chip with 14-bit linear resolution, and RS-232 serial port for PC communication. Includes standard RCA plug connectors for analog I/O, and a 2.5mm jack for an AC transformer power supply.

Type TMDS3200026. DSP Evaluation Kit. **Each** **102.47**

Type TMDS3200031 digital signal processor evaluation kit features: a **TMS320C3X** 32-bit floating point DSP, 40ns instruction cycle, standard or enhanced parallel printer port interface, **XDS5510** emulator connector, and 14-bit dynamic range A/D and D/A converters. Includes standard RCA plug connectors for analog I/O, and an I/O expansion bus for daughtercards.

Type TMDS3200031. DSP Evaluation Kit. **Each** **102.47**

Type TMDS3200051 digital signal processor evaluation kit features: a **TMS320C5X** 16-bit fixed-point DSP, 50ns instruction cycle, a **TLC32040** Analog Interface Chip with 14-bit linear resolution, RS-232 serial port for PC communications, and 32K PROM for PC interface. Includes standard RCA plug connectors for analog I/O, and a 2.1mm jack for an AC transformer power supply.

Type TMDS3200051. DSP Evaluation Kit. **Each** **102.47**

Type TMDS32000LO digital signal processor evaluation kit features: 40 Mips C542 DSP; Code Explorer Windows-based debugger and sample program; universal power supply (5 VDC); parallel printer port (with cable) supporting 4-bit/8-bit ports; 2 mini-plug I/O jacks for multimedia; socketed PAL; **TLC320AC01** AIC; and literature.

Type TMDS32000LO. DSP Evaluation Kit. **Each** **154.22**
(9881) (ne07410b)

TMS320 DIGITAL SIGNAL PROCESSOR FAMILY

FIXED POINT

Type	Memory (words) On-Chip RAM	ROM	OTP	Off-Chip Data/Proc.	I/O Serial	Parallel	DMA	Com.	On-Chip Timer	Cycle Time (ns)	Package Type	Pins
TMS320C25FNL	544	4K	...	64K/64K	1	16 x 16	Ext	...	1	100	PLCC	68
TMS320C203PZ	544	...	...	64K/64K	2	64K x 16	Ext.	...	1	50	LQFP	100
TMS320C203PZA	544	Boot	...	64K/64K	2	64K x 16	Ext	...	1	50	TQFP	100
TMS320C203PZA57	544	Boot	...	64K/64K	2	64K x 16	Ext	...	1	35	TQFP	100
TMS320C542PGE1-40	10K	2K	...	64K/64K	2	64K x 16	Ext	...	1	50	TQFP	144
TMS320C6201GGP16	...	...	...	512K/512K	...	...	4	...	2	167	BGA	352
TMS320C6201GGP200	...	...	...	512K/512K	...	...	4	...	2	200	BGA	352
TMS320F206PZ	544	...	...	64K/64K	2	64K x 16	Ext	...	1	50	LQFP	100
TMS320F240PQ	544	...	...	64K/64K	2	64K x 16	Ext	...	4	50	BQFP	132
TMS320LC203PZA	544	Boot	...	64K/64K	2	64K x 16	Ext	...	1	50	TQFP	100
TMS320P15FNL25	256	...	4K	... /4K	...	8 x 16	...	...	...	160	PLCC	44

FLOATING POINT

TMS320C31PQA40	2K	Boot	...	16M	1	16M x 32	1	...	2	50	PQFP	144
TMS320C31PQL40	2K	Boot	...	16M*	1	16M x 32	Int/Ext	...	2	50	PQFP	132
TMS320C31PQL60	2K	...	...	16M	1	16M x 32	1	...	2	60	PQFP	132
TMS320C32PCM40	512	Boot	...	16M	1	16M x 32	2	...	2	50	PQFP	144
TMS320C32PCM50	512	...	...	16M	1	16M x 32	2	...	2	50	QFP	144
TMS320C32PCMA40	512	Boot	...	16M	1	16M x 32	2	...	2	50	PQFP	144
TMS320C44GFW50	2K	Boot	...	16M	1	16M x 32	6 (12%)	4	2	40	BGA	388

"DMA" = Direct Memory Access; "Com." = Parallel Communication Ports; + = 16 of these parallel I/O ports are Memory Mapped; * = Single logical memory space for program, data, and I/O–minus on-chip RAM, peripherals, and reserved spaces.
(9995) (de53234)

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SN7400 SERIES TTL LOGIC

Description	Pins	PDIP Type	SOIC Type
Quad 2-Input Positive-NAND Gate	14	SN7400N	...
Quad 2-Input Positive-NOR Gate	14	SN7402N	...
Hex Inverter	14	SN7404N	...
Hex Inverter with Open Collector Outputs	14	SN7406N	SN7406D
Hex Buffer with Open Collector Outputs	14	SN7407N	SN7407D
Triple 3-Input Positive-NAND Gate	14	SN7410N	...
Hex Schmitt Trigger Inverter	14	SN7414N	...
Hex Inverter/Driver	14	SN7416N	...
Hex Buffer/Driver with Open Collector Outputs	14	SN7417N	...
Dual 4-Input NOR Gate	14	SN7425N	...
Quad 2-Input Positive-OR Gate	14	SN7432N	...
Quad 2-Input Positive-NAND Buffer	14	SN7437N	...
Quad 2-Input Positive-NAND Buffer w/O.C. Outputs	14	SN7438N	...
BCD-to-Decimal Decoder/Driver	14	SN7445N	...
BCD-to-7 Segment Decoder/Driver	16	SN7447AN	...
Dual D-Type Flip-Flop	14	SN7474N	...
Quad 2-Input Exclusive-OR Gate	14	SN7486N	...
One-Shot Multivibrator	14	SN74121N	...
Dual Monostable Multivibrator	16	SN74123N	...
50Ω Line Driver	14	SN74128N	...
Quad 2-Input Positive-NAND Schmitt Trigger	14	SN74132N	...
BCD-to-Decimal Decoder/Driver	16	SN74145N	...
Data Selector/Multiplexer	24	SN74150N	...
4-Line to 16-Line Decoder/Demultiplexer	24	SN74154N	...
Quad 1-of-2 Data Selector/Multiplexer	16	SN74157N	...
4-Line to 16-Line Decoder/Demultiplexer	24	SN74159N	...
Quad D-Type Flip-Flop	16	SN74175N	...

(12937) (ne09964)

SN74ABT SERIES ADVANCED BiCMOS TTL LOGIC

Description	Pins	PDIP Type	SOIC Type
Quad Bus Buffer, 3-State	14	SN74ABT125N	...
Octal Buffer/Line Driver, 3-State	20	SN74ABT244N	SN74ABT244ADW
Octal Buffer/Line Driver, 3-State	20	SN74ABT540N	...
Octal Buffer/Line Driver, 3-State	20	SN74ABT541N	SN74ABT541BDW

(12941) (ne09965)

SN74AHC SERIES ADVANCED HIGH-SPEED CMOS LOGIC

Package: PDIP.

Description	Pins	Type
Quad 2-Input Positive-NAND Gate	14	SN74AHC00N
Quad 2-Input Positive-NOR Gate	14	SN74AHC02N
Quad 2-Input Positive-AND Gate	14	SN74AHC08N
Hex Schmitt Trigger Inverter	14	SN74AHC14N
Quad 2-Input Positive-OR Gate	14	SN74AHC32N
Dual D-Type Flip-Flop	14	SN74AHC74N
Quad 2-Input Exclusive-OR Gate	20	SN74AHC86N
Quad Bus Buffer Gate, 3-State	14	SN74AHC125N
Quad Bus Buffer Gate, 3-State	14	SN74AHC126N
Octal Buffer/Line Driver, 3-State	20	SN74AHC240N
Octal Transceiver, 3-State	20	SN74AHC245N
Octal D-Type Flip-Flop, 3-State	20	SN74AHC373N
Octal D-Type Flip/Flop, 3-State	20	SN74AHC374N
Octal Buffer/Line Driver, 3-State	20	SN74AHC540N
Octal Buffer/Line Driver, 3-State	20	SN74AHC541N
Octal D-Type Transparent Latch, 3-State	20	SN74AHC573N
Octal D-Type Flip-Flop, 3-State	20	SN74AHC574N

(12944) (ne09974)

SN74AHCT SERIES ADVANCED CMOS LOGIC

Package: PDIP.

Description	Pins	Type
Quad 2-Input Positive-NAND Gate	14	SN74AHCT00N
Quad 2-Input Positive-NOR Gate	14	SN74AHCT02N
Hex Inverter	14	SN74AHCT04N
Quad 2-Input Positive-NAND Gate	14	SN74AHCT08N
Hex Schmitt Trigger Inverter	14	SN74AHCT14N
Dual D-Type Flip/Flop	14	SN74AHCT74N
Quad 2-Input Exclusive-OR Gate	14	SN74AHCT86N
Quad Bus Buffer Gate, 3-State	14	SN74AHCT125N
Hex Inverter	14	SN74AHCT126N
Octal Buffer/Line Driver, 3-State	20	SN74AHCT240N
Octal Bus Driver, 3-State	20	SN74AHCT244N
Octal Transceiver, 3-State	20	SN74AHCT245N
Octal D-Type Transparent Latch, 3-State	20	SN74AHCT373N
Octal D-Type Flip/Flop, 3-State	20	SN74AHCT374N
Octal D-Type Flip/Flop, 3-State	20	SN74AHCT574N

(32273) (ne32273)

SN74ALS SERIES ADVANCED LOW-POWER SCHOTTKY TTL LOGIC

Description	Pins	PDIP Type	SOIC Type
Quad 2-Input Positive-NAND Gate	14	SN74ALS00AN	...
Hex Inverter	14	SN74ALS04BN	...
Hex Inverter w/Open Collector Output	14	SN74ALS05AN	...
Quad 2-Input Positive-AND Gate	14	SN74ALS08N	SN74ALS08D
Triple 3-Input Positive-NAND Gate	14	SN74ALS10AN	...
Triple 3-Input Positive-AND Gate	14	...	SN74ALS11AD
Quad 2-Input Positive-OR Gate	14	SN74ALS32N	...
Dual D-Type Flip-Flop	14	SN74ALS74AN	...
Quad 2-Input Exclusive-OR Gate	14	SN74ALS86N	...
Dual J-K Negative Edge Flip-Flop	16	SN74ALS112AN	...
3-to-8 Decoder/Demultiplexer	16	SN74ALS138AN	...
Dual 2-to-4 Decoder/Demultiplexer	16	SN74ALS139N	...
Dual 4-to-1 Data Selector/Multiplexer	16	SN74ALS153N	...
Quad 1-of-2 Data Selector/Mux	16	SN74ALS157AN	...
4-Bit Synchronous Binary Counter	16	SN74ALS161BN	...
4-Bit Synchronous Binary Counter	16	SN74ALS163BN	...
4-Bit Synch. Binary Up/Down Counter	16	...	SN74ALS169BD
Hex D-Type Flip-Flop	16	SN74ALS174N	...
Quad D-Type Flip-Flop	16	SN74ALS175N	...
Octal Bus Transceiver, 3-State	20	SN74ALS245AN	SN74ALS245ADW
Quad 2-to-1 Data Sel./Mux, 3-State	16	SN74ALS257N	...
Octal D-Type Flip-Flop	20	SN74ALS273N	...
8-Bit Universal Shift/Storage Register	20	SN74ALS299N	...
Octal D-Type Flip-Flop 3-State	20	SN74ALS374AN	SN74ALS374ADW
8-Bit Identity Comparator	20	SN74ALS520N	...
8-Bit Identity Comparator	20	SN74ALS521N	...
Octal Buffer/Line Driver, 3-State	20	SN74ALS540N	...
Octal Buffer/Line Driver, 3-State	20	SN74ALS541N	...
Octal D-Type Transp. Latch, 3-State	20	SN74ALS573CN	SN74ALS573CDW
Octal D-Type Flip-Flop, 3-State	20	SN74ALS574BN	...
Octal Bus Transceiver, 3-State	20	...	SN74ALS640BDW
Octal Bus Transceiver, 3-State	20	SN74ALS645AN	...

(12959) (ne09966)

SN74AS SERIES ADVANCED SCHOTTKY TTL LOGIC

Description	Pins	PDIP Type	SOIC Type
Quad 2-Input Positive-NOR Gate	14	SN74AS02N	...
Hex Inverter	14	SN74AS04N	SN74AS04D
Quad 2-Input OR Gate	14	SN74AS32N	...
Quad 1-of-2 Data Selector/Multiplexer	16	...	SN74AS158D
4-Bit Synchronous Binary Counter	16	SN74AS161N	...

(12953) (ne09967)

SN74BCT SERIES BiCMOS INTERFACE LOGIC

Description	Pins	PDIP Type	SOIC Type
Quad Bus Buffer Gates, 3-State	14	SN74BCT125AN	...
Octal Bus Transceiver, 3-State	20	SN74BCT245N	...
Octal D Transp. Latch, 3-State	20	SN74BCT373N	...
Octal Buffer/Line Driver, 3-State	20	...	SN74BCT540ADW
Octal Buffer/Line Driver, 3-State	20	...	SN74BCT541ADW
Octal Registered Xcvr, 3-State	24	SN74BCT543NT	...
Octal Bus Xcvr and Reg., 3-State	24	SN74BCT646NT	SN74BCT646DW
Octal Bus Xcvr and Reg., 3-State	24	SN74BCT652NT	SN74BCT652DW
10-Bit Buff., 3-St (Series Resistor)	24	SN74BCT2827CNT	SN74BCT2827CDW

(12946) (ne09973)

SN74F SERIES ADVANCED SCHOTTKY TTL LOGIC

Description	Pins	PDIP Type	SOIC Type
Quad 2-Input Positive-NAND Gate	14	SN74F00N	SN74F00D
Quad 2-Input Positive-NOR Gate	14	SN74F02N	...
Hex Inverter	14	SN74F04N	SN74F04D
Quad 2-Input Positive-AND Gate	14	SN74F08N	...
Triple 3-Input Positive-AND Gate	14	SN74F11N	...
Triple 3-Input Positive-NOR Gate	14	SN74F27N	...
Quad 2-Input Positive-OR Gate	14	SN74F32N	SN74F32D
Dual D-Type Flip-Flop	14	SN74F74N	SN74F74D
Dual J-K Flip-Flop	16	SN74F109N	...
Dual J-K Negative Edge Flip-Flop	16	SN74F112N	...
Quad Bus Buffer, 3-State	14	SN74F125N	...
4-Bit Synch. Binary Counter	16	SN74F161AN	...
Octal Buffer/Line Driver, 3-State	20	SN74F240N	...
Octal Buffer/Line Driver, 3-State	20	SN74F244N	SN74F244DW
Quad 2-to-1 Data Selector/Mux, 3-State	16	SN74F257N	...
Octal D-Type Transparent Latch, 3-State	20	SN74F373N	...
Octal D-Type Flip-Flop, 3-State	20	SN74F374N	...
8-Bit Identity Comparator	20	SN74F521N	...
Octal Buffer/Line Driver, 3-State	20	SN74F541N	SN74F541DW

(12954) (ne09968)

PRICES LISTED AT THE BEGINNING OF THE SECTION.

SN74HC SERIES HIGH-SPEED CMOS LOGIC

Description	Pins	PDIP Type	SOIC Type
Quad 2-Input Positive-NAND Gate	14	SN74HC00N	SN74HC00D
Quad 2-Input Positive-NOR Gate	14	SN74HC02N	...
Hex Inverter	14	SN74HC04N	SN74HCT04D
Hex Inverter, Open Collector Outputs	14	SN74HC05N	SN74HC05D
Quad 2-Input Postive-AND Gate	14	SN74HC08N	SN74HC08D
Triple 3-Input NAND Gate	14	SN74HC10N	...
Triple 3-Input AND Gate	14	SN74HC11N	SN74HC11D
Quad 2-Input OR Gate	14	SN74HC32N	SN74HC32D
Dual D-Type Flip-Flop	14	SN74HC74N	SN74HC74D
Quad 2-Input Excl. OR Gate	14	SN74HC86N	SN74HC86D
Dual J-K Flip-Flop	16	SN74HC109N	SN74HC109D
Dual J-K Negative Edge Flip-Flop	16	SN74HC112N	...
Quad Bus Buffers, 3-State	14	SN74HC125N	SN74HC125D
3-to-8 Decoder/Demultiplexer	16	SN74HC138N	SN74HC138D
Dual 2-to-4 Decoder/Demux.	16	SN74HC139N	...
8-to-1 Data Selector Mux	16	SN74HC151N	...
Dual 4-to-1 Data Selector/Mux	16	SN74HC153N	SN74HC153D
Quad 1-of-2 Data Selector/Mux	16	SN74HC157N	...
4-Bit Synchronous Binary Counter	16	SN74HC161N	SN74HC161D
4-Bit Synchronous Binary Counter	16	SN74HC163N	...
8-Bit Parallel-Out Serial Shift Reg.	14	SN74HC164N	SN74HC164D
8-Bit Parallel-Load Shift Reg.	16	SN74HC165N	...
8-Bit Parallel-Load Shift Reg.	16	SN74HC166N	...
Hex D-Type Flip-Flop	16	SN74HC174N	SN74HC174D
Quad D-Type Flip-Flop	16	SN74HC175N	SN74HC175D
4-Bit Synch. Up/Down Binary Counter	16	SN74HC191N	...
4-Bit Synch. Up/Down Binary Counter	16	SN74HC193N	...
Octal Buffer/Line Driver, 3-State	20	SN74HC240N	SN74HC240DW
Octal Buffer/Line Driver, 3-State	20	SN74HC244N	SN74HC244DW
Octal Bus Transceiver, 3-State	20	SN74HC245N	SN74HC245DW
1-of-8 Data Selector/Mux, 3-State	16	SN74HC251N	SN74HC251D
Quad 2-to1 Data Sel./Mux, 3-State	16	SN74HC257N	...
Octal D-Type Flip-Flop	20	SN74HC273N	SN74HC273DW
Octal D-Type Transp. Latch, 3-State	20	SN74HC373N	SN74HC373DW
Octal D-Type Flip-Flop, 3-State	20	SN74HC374N	...
Dual 4-Bit Binary Counter	14	SN74HC393N	...
Octal Buffer/Line Driver, 3-State	20	SN74HC540N	...
Octal Buffer/Line Driver, 3-State	20	SN74HC541N	SN74HC541DW
Octal D-Type Transp. Latch, 3-State	20	SN74HC573AN	...
Octal D-Type Flip-Flop, 3-State	20	SN74HC574N	...
Octal Bus Xcvr and Reg., 3-State	24	SN74HC652NT	...
14-Bit Asynchronous Binary Counter	16	SN74HC4020N	SN74HC4020D

(12982) (ne09969)

SN74HCT SERIES HIGH-SPEED CMOS TTL LOGIC

Description	Pins	PDIP Type	SOIC Type
Quad 2-Input Positive-NAND Gate	14	SN74HCT00N	...
Hex Inverter	14	SN74HCT04N	SN74HCT04D
Quad 2-Input Positive-OR Gate	14	SN74HCT32N	SN74HCT32D
Dual D-Type Flip-Flop	14	SN74HCT74N	...
3-to-8 Decoder/Demultiplexer	16	SN74HCT138N	SN74HCT138D
Octal Buffer/Line Driver, 3-State	20	SN74HCT240N	SN74HCT240DW
Octal Buffer/Line Driver, 3-State	20	SN74HCT244N	SN74HCT244DW
Octal D-Type Flip-Flop	20	SN74HCT273N	SN74HCT574DW
Octal D-Type Flip-Flop, 3-State	20	SN74HCT374N	...
Octal D-Type Transp. Latch, 3-State	20	SN74HCT573N	SN74HCT573DW
Octal D-Type Flip-Flop, 3-State	20	SN74HCT574N	...

(12993) (ne09970)

SN74AC SERIES ADVANCED HIGH-SPEED CMOS LOGIC

Description	Pins	PDIP Type	SOIC Type
Hex Inverter	14	SN74AC04N	...
Quad 2-Input Positive-AND Gate	14	SN74AC08N	...
Triple 3-Input Positive-AND Gate	14	SN74AC11N	...
Hex Scmitt Trigger Inverter	14	SN74AC14N	SN74AC14D
Quad 2-Input Positive-OR Gate	14	SN74AC32N	...
Dual D-Type Flip/Flop	14	SN74AC74N	...
Quad 2-Input Exclusive-OR Gate	14	SN74AC86N	...
Octal Transceiver	20	SN74AC244N	...
Octal D-Type Transparent Latch, 3-State	20	SN74AC373N	...
Octal D-Type Flip/Flop, 3-State	20	SN74AC374N	...
Octal D-Type Transparent Latch	20	SN74AC533N	...
Octal D-Type Flip/Flop, 3-State	20	SN74AC534N	...
Octal D-Type Transparent Latch, 3-State	20	SN74AC563N	...
Octal D-Type Flip/Flop, 3-State	20	SN74AC564N	...
Octal D-Type Transparent Latch, 3-State	20	SN74AC573N	...
Octal D-Type Flip/Flop, 3-State	20	SN74AC574N	...

(32272) (ne32272)

SN74LS SERIES LOW-POWER SCHOTTKY TTL LOGIC

Description	Pins	PDIP Type	SOIC Type
Quad 2-Input Positive-NAND Gate	14	SN74LS00N	...
Quad 2-Input Positive-NOR Gate	14	SN74LS02N	...
Hex Inverter w/Open Collector Outputs	14	SN74LS05N	...
Quad 2-Input Positive-AND Gate	14	SN74LS08N	...
Triple 3-Input Positive-NAND Gate	14	SN74LS10N	...
Triple 3-Input Positive-AND Gate	14	...	SN74LS11D
8-Input Positive-NAND Gate	14	SN74LS30N	...
Quad 2-Input Positive-OR Gate	14	SN74LS32N	...
Dual D-Type Flip-Flop	14	SN74LS74AN	...
Quad 2-Input Exclusive-OR Gate	14	SN74LS86AN	...
Dual J-K-Bar Flip-Flop	16	...	SN74LS109AD
Quad Bus Buffer, 3-State	14	...	SN74LS125AD
3-to-8 Decoder/Demultiplexer	16	SN74LS138N	SN74LS138D
Dual 2-to-4 Decoder/Demultiplexer	16	SN74LS139AN	...
8-to-1 Data Selector/Multiplexer	16	SN74LS151N	...
Quad 1-of-2 Data Selector/Multiplexer	16	SN74LS157N	...
4-Bit Synchronous Binary Counter	16	SN74LS161AN	...
8-Bit Serial-Out Serial Shift Register	14	...	SN74LS164D
Hex D-Type Flip-Flop	16	SN74LS174N	...
Quad D-Type Flip-Flop	16	SN74LS175N	...
4-Bit Synch. Up/Down Binary Counter	16	SN74LS193N	...
Octal Buffer/Line Driver, 3-State	20	SN74LS240N	...
Octal Buffer/Line Driver, 3-State	20	SN74LS244N	SN74LS244DW
Octal Bus Transceiver, 3-State	20	SN74LS245N	...
Quad 2-to-1 Data Selector/Mux, 3-State	16	SN74LS257BN	...
Octal D-Type Flip-Flop	20	SN74LS273N	...
Octal D-Type Transparent Latch, 3-State	20	SN74LS373N	...
Octal D-Type Flip-Flop, 3-State	20	SN74LS374N	...
Dual 4-Bit Binary Counter	14	SN74LS393N	...
Octal Buffer/Line Driver, 3-State	20	SN74LS541N	SN74LS541DW
8-Bit Shift Register w/Output Register	16	SN74LS594N	SN74LS594D
Octal Transceiver, 3-State	20	SN74LS623N	SN74LS623DW
Octal Bus Transceiver and Reg., 3-State	24	SN74LS652NT	...

(12998) (ne09971)

SN74S SERIES SCHOTTKY TTL LOGIC

Description	Pins	PDIP Type
Quad 2-Input NAND Gate	14	SN74S00N
Quad 2-Input NOR Gate	14	SN74S02N
Hex Inverter	14	SN74S04N
Quad 2-Input AND Gate	14	SN74S08N
Quad 2-Input Exclusive-OR Gate	14	SN74S86N
Dual J-K Negative Edge Flip-Flop	16	SN74S112AN
Quad 1-of-2 Data Selector/Multiplexer	16	SN74S158N
4-Bit Synchronous Binary Counter	16	SN74S163N
Hex D-Type Flip-Flop	16	SN74S174N
Octal 3-State Buffer/Driver	20	SN74S240N

(12978) (ne09972)

SN74ACT SERIES ADVANCED CMOS LOGIC

Description	Pins	PDIP Type	SOIC Type
Quad 2-Input Positive-NAND Gate	14	SN74ACT00N	SN74ACT00D
Hex Inverter	14	SN74ACT04N	SN74ACT04N
Quad 2-Input Positive-AND Gate	14	SN74ACT08N	SN74ACT08D
Hex Schmitt Trigger Inverter	14	SN74ACT14N	...
Quad 2-Input Positive-OR Gate	14	SN74ACT32N	SN74ACT32D
Dual D-Type Flip/Flop	14	SN74ACT74N	...
Quad 2-Input Exclusive-OR Gate	14	SN74ACT86N	...
Octal Transceiver	20	SN74ACT240N	...
Octal Transceiver	20	SN74ACT244N	...
Ocatl Bus Transceiver, 3-State	20	SN74ACT245N	...
Octal D-Type Transparent Latch, 3-State	20	SN74ACT373N	...
Octal D-Type Flip/Flop, 3-State	20	SN74ACT374N	...
Octal D-Type Flip/Flop, 3-State	20	SN74ACT534N	...
Octal D-Type Transparent Latch, 3-State	20	SN74ACT563N	...
Octal D-Type Flip/Flop, 3-State	20	SN74ACT564N	...
Octal D-Type Transparent Latch, 3-State	20	SN74ACT573N	...
Octal D-Type Flip/Flop, 3-State	20	SN74ACT574N	...

(32274) (ne32274)

SAME-DAY SHIPMENT ON ORDERS PLACED BY 5:00 PM C.S.T.

AMPS, CONVERTERS AND VOLTAGE REGULATORS

OPERATIONAL AMPLIFIERS

Operating temp.: **C suffix** indicates 0 to 70°C; **I** = -40 to +85°C; **Z** = -40 to +150°C.

Type	V_{IO} Max. (mV)	I_{CC} Max. (mA)	I_{IB} Typ. (nA)	CMRR Typ. (dB)	V_N(1kHz) Typ. (nV/√Hz)	SR Typ. (V/µs)	GBW Typ. (MHz)
LM324N	7	...	0.3	–20	80	23	0.25
LM324D	7	...	0.3	–20	80	23	0.25
LM348N	6	...	1.125	30	90	23	0.5
LM348D	6	...	1.125	30	90	23	0.5
LM358P	3 to 7	...	1	–20	80	23	...
LM358D	3 to 7	...	1	–20	80	23	...
LT1013CP	0.3	0.55	15	117	22	0.4	...
NE5532P	4	...	8	200	100	5	9
NE5534AP	4	...	8	500	100	3.5	13
TL034CN	4	0.28	0.2	94	43	5.1	1.1
TLC27L2ACP	5	0.017	0.0006	94	68	0.03	0.085
TL071CP	3 to 10	...	0.0006	0.065	18	13	3
TL072CP	3 to 10	...	2.5	0.065	18	13	3
TL074CN	3 to 10	...	2.5	0.065	18	13	3
TL074CD	3 to 10	...	2.5	0.065	18	13	3
TL081CP	3 to 15	...	2.8	0.03	18	13	3
TL082CD	3 to 15	...	2.8	0.03	18	13	3
TL082CP	3 to 15	...	2.8	0.03	18	13	3
TL084CN	3 to 15	...	2.8	0.03	18	13	3
TL084CD	3 to 15	...	2.8	0.03	18	13	3
TLC27M2CP	10	0.28	0.0006	91	32	0.43	3
TLC274CN	10	1.6	0.0006	80	25	3.6	1.7
TLC274CD	10	1.6	0.0006	80	25	3.6	1.7
TLC274ACN	5	1.6	0.0006	80	25	3.6	1.7
TLC27M4CN	10	0.28	0.0006	91	32	0.43	0.525
TLC271CP	10	0.28	0.0006	91	32	0.43	0.525
TLC271CD	10	0.28	0.0006	91	32	0.43	0.525
TLC271ACP	5	0.28	0.0006	91	32	0.43	0.525
TLC272CP	10	1.6	0.0006	80	25	3.6	1.7
TLC272ACP	5	1.6	0.0006	80	25	3.6	1.7
TLC27L2CP	10	0.017	0.0006	94	68	0.03	0.085
TLC277CP	0.5	1.6	0.0006	80	25	6	1.7
TLC279CN	0.9	1.6	0.0006	80	25	6	1.7
TLC27M7CP	0.5	0.28	0.0006	91	32	0.43	0.525
TLC1079CN	0.85	0.017	0.0006	95	68	0.032	0.085
TLC2201ACP	0.2	1.5	0.001	110	8	0.5	1.8
TLC2272CP	2.5	3	0.001	75	9	3.6	2.18
TLC2272CD	2.5	3	0.001	75	9	3.6	2.18
TLC2272AID	2.5	3	0.001	75	9	3.6	2.18
TLC2272ACP	0.95	3	0.001	75	9	3.6	2.18
TLC2272ACD	0.95	3	0.001	75	9	3.6	2.18
TLC2274ACN	0.95	3	0.001	75	9	3.6	2.18
TLC2274ACD	0.95	3	0.001	75	9	3.6	2.18
TLC2652ACP	0.001	2.4	0.004	140	23	2.8	1.9
TLE2022CP	0.5	0.35	25	100	15	0.65	2.8
TLE2024CN	1	0.35	50	102	15	0.7	2.8
TLE2027CP	0.1	5.3	15	131	3.3	2.8	13
TLE2037CP	0.1	5.3	15	131	3.3	2.8	76
TLE2061CP	3	0.35	0.004	90	40	3.4	2
TLE2062CP	4	0.345	0.004	90	40	3.4	2
TLE2064CN	6	0.35	0.004	90	40	3.4	2
TLE2072CP	6	1.8	0.02	98	11.6	40	10
TLE2074CN	5	1.875	0.025	98	11.6	40	10
TLE2141CP	0.9	4.5	–700	108	10.5	45	6
TLE2142CP	1.2	4.5	–700	108	10.5	45	6
TLE2144CN	2.4	4.5	–700	108	10.5	45	6
TLE2227CP	0.35	5.3	15	115	2.5	2.5	13
TLV2432CD	2	0.125	1	83	22	0.25	0.5
TLV2711CDBV	...	0.025	1	83	21	0.025	0.065
TLV2772CD	2.7	2	2	96	17	10.5	5.1
TLV2772CP	2.7	2	2	96	17	10.5	5.1
TLV2772AID	2.7	2	2	96	17	10.5	5.1

(9980) (de03668)

DIGITAL-TO-ANALOG CONVERTERS

Advanced LinCMOS 8-bit multiplying DACs. Linearity error (LSB): ±0.5.

Type	Conversion Rate (MHz)	DACs	Outputs	Package
TL5632CFR	60	3	Parallel	44-Pin PQFP
TLC5602CN	20	1	Parallel	18-Pin PDIP
TLC5613CPW	34	1	Parallel	20-Pin TSSOP
TLC5615CD	0.08	1	Serial	8-Pin SOIC
TLC5615CP	0.08	1	Serial	8-Pin PDIP
TLC5617ACD	0.4	2	Serial	8-Pin SOIC
TLC5618ACD	0.4	2	Serial	8-Pin SOIC
TLC5620CD	80	4	Single	14-Pin SOIC
TLC7225CDW	0.05	4	Parallel	24-Pin SOIC
TLC7226CN	...	4	Parallel	20-Pin PDIP
TLC7524CN	100	2	Parallel	16-Pin PDIP
TLV5613CDW	34	1	Parallel	20-Pin SOIC
TLV5619CDW	34	1	Parallel	20-Pin SOIC
TLV5620CD	0.1	4	Serial	14-Pin SOIC
TLV5620CN	0.1	4	Serial	14-Pin PDIP
TLV5621ED	0.1	4	Serial	14-Pin SOIC
TLV5628CN	0.1	8	Serial	16-Pin SOIC

(9975) (de03663)

ANALOG-TO-DIGITAL CONVERTERS

Type	Resolution (Bits)	Output	Sampling Rate Max. (kSPS)	Analog Outputs	Package
TLC0831CP	8	Serial	31	1	8-Pin PDIP
TLC0832CP	8	Serial	22	2	8-Pin PDIP
TLC0834CD	8	Serial	20	4	14-Pin SOIC
TLC0838CN	8	Serial	20	8	20-Pin PDIP
TLC1541IN	10	Serial	21	11	20-Pin PDIP
TLC1542CN	10	Serial	38	11	20-Pin PDIP
TLC1543CN	10	Serial	38	11	20-Pin PDIP
TLC1549CP	10	Serial	21	1	20-Pin PDIP
TLC2543CDW	12	Serial	66	11	20-Pin PDIP
TLC2543CFN	12	Serial	66	11	20-Pin PDIP
TLC2543CN	12	Serial	66	11	20-Pin PDIP
TLC2543IDW	12	Serial	66	11	20-Pin SOIC
TLC7135CN	4.5	BCD	0.003	1	28-Pin PDIP
TLC876CDW	10	Parallel	20,000	1	28-Pin SOIC
TLV1544CD	10	Serial	...	4	16-Pin SOIC
TLC549CP	8	Serial	17	1	8-Pin PDIP

(9977) (de03662)

LINEAR VOLTAGE REGULATORS

ADJUSTABLE SHUNT

Type	Temp. Drift Coefficient (mV/°C)	Temperature Range	Output Current (mA)	Supply Voltage Max.	Package
TL430CLP	...	0 to +70°C	150	30	TO-226A
TL431ACLP	0.21	0 to +70°C	150	36	TO-226A
TL431ACD	0.21	0 to +70°C	150	36	8-Pin SOIC
TL431AID	0.20	–40 to +85°C	150	36	8-Pin SOIC
TL431CLP	0.24	0 to +70°C	150	36	TO-226A
TL431CP	0.24	0 to +70°C	150	36	8-Pin SOIC

ADJUSTABLE OUTPUT

TL317CLP	1.0%	0 to +125°C	35	35*	TO-226A
TL317CD	1.0%	0 to +125°C	35	35*	8-Pin SOIC
TL783CKC	0.4%	0 to +125°C	125	125*	TO-220
UA723CN	0.015%	0 to +70°C	38	40*	14-Pin PDIP

*V_I-V_O

(4331) (de02636)

VOLTAGE REGULATORS

Operating temperature: 0°C to 125°C.

FIXED-OUTPUT, POSITIVE VOLTAGE REGULATORS

Type	Output Voltage Typ. (V)	Supply Voltage Max. (V)	Dropout Voltage (V)	Output Current (mA)	Package
TPS7148QD	3.3	10	0.06	500	8-Pin SOIC
TPS7150QD	4.85	10	0.037	500	8-Pin SOIC
TPS7233QD	5	10	0.033	500	8-Pin SOIC
TPS7248QD	4.85	10	0.1	250	8-Pin SOIC
TPS7250QD	5	10	0.85	250	8-Pin SOIC
TPS7333QD	3.3	10	0.06	500	8-Pin SOIC
TPS7348QD	4.85	10	0.037	500	8-Pin SOIC
TPS7350QD	5	10	0.033	500	8-Pin SOIC
TPS76030DBVR	3	16	0.18	50	5-Pin TSSOP
TPS76032DBVR	3.2	16	0.18	50	5-Pin TSSOP
TPS76033DBVR	3.3	16	0.18	50	5-Pin TSSOP
TPS76038DBVR	3.8	16	0.18	50	5-Pin TSSOP
TPS76050DBVR	5	16	0.18	50	5-Pin TSSOP
UA78L05ACLP	5.0	20	1.7	100	TO-226A
UA78L05ACD	5.0	20	1.7	100	8-Pin SOIC
UA78L05CLP	5.0	20	1.7	100	TO-226A
UA78L08ACLP	8.0	23	1.7	100	TO-226A
UA78L09ACLP	9.0	24	1.7	100	TO-226A
UA78L10ACLP	10.0	25	1.7	100	TO-226A
UA78L12ACLP	12.0	27	1.7	100	TO-226A
UA78L15ACLP	15.0	30	1.7	100	TO-226A

FIXED-OUTPUT, LOW-DROPOUT VOLTAGE REGULATORS

TL750L05CKC	5.0	26	0.6	150	TO-220

(4334) (de03661)

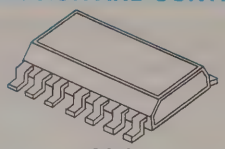
SWITCHING VOLTAGE REGULATORS

Type	Description	Oper. Temp. (°C)	Switch Current (mA)	Pins/ Pkg.
LT1054CP	Switched-Capacitor Voltage Converter w/Regulator	0 to 70	300	8/PDIP
LT1054IP	Switched-Capacitor Voltage Converter w/Regulator	–40 to 85	300	8/PDIP
SG2524N	Regulating Pulse-Width Modulator	–25 to 85	100	16/PDIP
SG3524N	Regulating Pulse-Width Modulator	0 to 70	100	16/PDIP
TL494CN	Pulse-Width-Modulation Control Circuit	0 to 70	200	16/PDIP
TL494CD	Pulse-Width-Modulation Control Circuit	0 to 70	200	16/SOIC
TL497ACN	Pulse-Width-Modulation Control Circuit	0 to 70	500	14/PDIP
TL594CN	Pulse-Width-Modulation Control Circuit	0 to 70	200	16/PDIP
UC3842P	Current-Mode PWM Controller	0 to 70	200	8/PDIP

(4332) (de02637)

PRICES LISTED AT THE BEGINNING OF THE SECTION.

DATA TRANSMISSION AND CONTROL CIRCUITS



SOIC

RS-232 TRANSCEIVERS/RECEIVERS/DRIVERS
SINGLE-ENDED OUTPUT/INPUT: TEMPERATURE RANGE 0 TO 70°C

Type	Description	Drivers/ Receivers Per Package	Package
MAX232D	Dual Driver/Receiver	2/2	16-Pin SOIC
MAX232N	Dual Driver/Receiver	2/2	16-Pin PDIP
MC1488N	Quad Line Driver	4/0	14-Pin PDIP
MC1489AN	Quad Line Receiver	0/4	14-Pin PDIP
MC1489N	Quad Line Receiver	0/4	14-Pin PDIP
SN75150P	Dual Line Driver	2/0	8-Pin PDIP
SN75150D	Dual Line Driver	2/0	8-Pin SOIC
SN75154N	Quad Line Receiver	0/4	16-Pin PDIP
SN75155P	Line Driver and Receiver	1/1	8-Pin PDIP
SN75185DW	Multiple Driver/Receiver	3/5	20-Pin SOIC
SN75185N	Multiple Driver/Receiver	3/5	20-Pin PDIP
SN75188N	Line Driver	4/0	14-Pin PDIP
SN75188D	Line Driver	4/0	14-Pin SOIC
SN75189N	Line Receiver	0/4	14-Pin PDIP
SN75189AN	Quad Line Receiver	0/4	14-Pin SOIC
SN75189AD	Quad Line Receiver	0/4	14-Pin PDIP
SN75196N	Driver and Receiver	5/3	20-Pin PDIP
SN75C1406N	Triple Low-Power Driver/Receiver	3/3	16-Pin PDIP
SN75C1406D	Triple Low-Power Driver/Receiver	3/3	16-Pin SOIC
SN75C185N	Low-Power Multiple Driver/Receiver	3/5	20-Pin PDIP
SN75C188N	Low-Power Line Driver	4/0	14-Pin PDIP
SN75LP185ADW	Low-Power Multiple Driver/Receiver	3/5	20-Pin SOIC
TL145406DW	Triple Driver/Receiver	3/3	16-Pin SOIC
UA9636ACP	Driver w/Adjustable Slew Rate	2/0	8-Pin PDIP

RS-485 TRANSCEIVERS/RECEIVERS
DIFFERENTIAL OUTPUT/INPUTS: TEMPERATURE RANGE: 0 TO 70°C

SN75172N	Quad Differential Line Driver	4/0	16-Pin PDIP
SN75173N	Quad Differential Line Receiver	0/4	16-Pin PDIP
SN75173D	Quad Differential Line Receiver	0/4	16-Pin SOIC
SN75174N	Quad Differential Line Driver	4/0	16-Pin PDIP
SN75174DW	Quad Differential Line Driver	4/0	16-Pin SOIC
SN75175N	Quad Differential Line Receiver	0/4	16-Pin PDIP
SN75175D	Quad Differential Line Receiver	0/4	16-Pin SOIC
SN75176BD	Differential Bus Transceiver	1/1	8-Pin SOIC
SN75ALS172ADW	Quad Differential Line Driver	4/0	20-Pin SOIC
SN75ALS172AN	Quad Differential Line Driver	4/0	16-Pin PDIP
SN75ALS173N	Quad Differential Line Driver	0/4	16-Pin PDIP
SN75ALS174AN	Quad Differential Line Driver	4/0	16-Pin PDIP
SN75ALS175N	Quad Differential Line Receiver	0/4	16-Pin PDIP
SN75ALS176BP	Differential Bus Transceiver	1/1	8-Pin PDIP
SN75ALS176BD	Differential Bus Transceiver	1/1	8-Pin SOIC
SN75ALS176P	Differential Bus Transceiver	1/1	8-Pin PDIP
SN75ALS180N	Differential Driver/Receiver Pair	1/1	14-Pin PDIP
SN75ALS180D	Differential Driver/Receiver Pair	1/1	14-Pin SOIC
SN75LBC176D	Differential Bus Transceiver	1/1	8-Pin SOIC
SN75LBC180D	Differential Bus Transceiver	1/1	8-Pin SOIC
SN75LBC184D	Integrated Transient Suppression Xcvr	1/1	8-Pin SOIC
SN75LBC184P	Integrated Transient Suppression Xcvr	1/1	8-Pin PDIP
TL3695P	Differential Bus Transceiver	1/1	8-Pin PDIP

(9974) (de02638)

POWER LOGIC/POWER ARRAY CIRCUITS

POWER LOGIC CIRCUITS

Type	Description	Low $R_{DS(on)}$ (Ω)	Output (V)	Continuous Current	Package
TPIC6595N	8-Bit Shift Register	1.3	45	250mA	PDIP
TPIC6273N	Octal D-Type Latch	1.3	45	250mA	PDIP
TPIC6259N	8-Bit Addressable Latch	1.3	45	250mA	PDIP
TPIC6259DW	8-Bit Addressable Latch	1.3	45	250mA	SOIC
TPIC6A595DW	8-Bit Shift Register	1	50	350mA	SOIC
TPIC6B259N	8-Bit Addressable Latch	5	50	150mA	PDIP
TPIC6B273N	Octal D-Type Latch	5	50	50mA	PDIP
TPIC6B595N	8-Bit Shift Register	5	50	50mA	PDIP

POWER ARRAY CIRCUITS

TPIC2701N	7-Channel Common Source	0.5	60	0.5A	PDIP
TPIC2302D	3-Channel Source Driver	0.4	60	1.0A	SOIC

(9914) (de03659)

COMPARATORS

Type	Features	Supply Voltage Max. (V)	Current Supply Per Channel (mA)	Input Offset Max. (mV)	Package
LM139AN	Bipolar	30.0	0.5	2.0	14-Pin PDIP
LM211D	Push-Pull Output, Bipolar	30.0	6.0	3.0	8-Pin SOIC
LM211P	Push-Pull Output, Bipolar	30.0	6.0	3.0	8-Pin PDIP
LM239N	Bipolar	30.0	0.5	5.0	14-Pin PDIP
LM293P	Bipolar	30.0	1.25	5.0	8-Pin PDIP
LM311D	Push-Pull Output, Bipolar	30.0	7.5	7.5	8-Pin SOIC
LM311P	Push-Pull Output, Bipolar	30.0	7.5	7.5	8-Pin PDIP
LM293D	Bipolar	30.0	1.25	5.0	8-Pin SOIC
LM306P	High-Speed	12	6.8	5	8-Pin PDIP
LM339D	General-Purpose	30	0.5	5	14-Pin SOIC
LM393AD	Bipolar	30.0	1.25	5.0	8-Pin SOIC
LM393P	Bipolar	30.0	1.25	5.0	8-Pin PDIP
LM2901D	Bipolar	30.0	0.5	7.0	14-Pin SOIC
LM2901N	Bipolar	30.0	0.5	7.0	14-Pin PDIP
LM2903D	Bipolar	30.0	1.25	7.0	8-Pin SOIC
LM3302N	Bipolar	26.0	0.05	20.0	14-Pin PDIP
LP339D	Low-Power	30	0.5	5	14-Pin SOIC
TL714CD	High-Speed	5.25	12	10+	8-Pin SOIC
TL3016ID	High-Speed, Low-Power	7	12.5	3	8-Pin SOIC
TL3116CD	High-Speed, Low-Power	7	14.7	3	8-Pin SOIC
TLC339CN	CMOS, µPower	16.0	0.02	5.0	14-Pin PDIP
TLC352CP	Low-Voltage, CMOS	16.0	0.075	5.0	8-Pin PDIP
TLC372CD	CMOS	16.0	0.15	5.0	8-Pin SOIC
TLC372CP	CMOS	16.0	0.15	5.0	8-Pin PDIP
TLC374CN	Low-Voltage, CMOS	16.0	0.15	5.0	14-Pin PDIP
TLC393CP	Low-Power	16	0.02	5	8-Pin PDIP
TLC3702CP	Low-Power	16	0.02	5	8-Pin PDIP
TLC3704CN	Low-Power	16	0.02	5	14-Pin PDIP
TLV1391CDBV	Low-Power, Low-Voltage	7	0.15	5	5-Pin SOIC
TLV1393CD	Low-Power, Low-Voltage	7	0.125	5	8-Pin SOIC
TLV2352IP	Low-Voltage	8	0.125	5	8-Pin PDIP
TLV2354IN	Low-Voltage	8	0.125	5	14-Pin PDIP
TLV2393IP	Low-Power, Low-Voltage	7	0.65	5	8-Pin PDIP

(9971) (de03656)

SUPPLY VOLTAGE SUPERVISOR CIRCUITS

Type	Temperature Range (°C)	Comparison Chart Undervoltage Threshold	Package
TL7702ACP	0 to 70	2.53V	8-Pin PDIP
TL7702BCP	0 to 70	2.53V	8-Pin PDIP
TL7705ACP	0 to 70	4.55V	8-Pin PDIP
TL7705ACD	0 to 70	4.55V	8-Pin SOIC
TL7705BCD	0 to 70	4.55V	8-Pin SOIC
TL7712ACP	0 to 70	10.80V	8-Pin PDIP
TL7715ACP	0 to 70	13.50V	8-Pin PDIP
TL7757CLP	0 to 70	4.55V	TO-226A
TLC7701ID	–25 to +85	1.1V	8-Pin SOIC
TLC7703ID	–25 to +85	2.63V	8-Pin SOIC
TLC7705IP	–25 to +85	4.55V	8-Pin PDIP
TLC7733IP	–25 to +85	2.93V	8-Pin PDIP

(9972) (de03657)

OPTOCOUPLERS

Plastic Dip

All devices packaged as 6-pin plastic DIPs. All UL File E-65085 except **TIL128A**.

Type	Isolation Voltage (kV) @ f = 60 Hz. Peak	Isolation Voltage (kV) @ f = 60 Hz. RMS	CTR Min. (%)
4N35	3.54	2.5	100
4N37	1.5	1.05	100
TIL113	1.5	...	300
TIL116	2.5	...	20
TIL117	2.5	...	50
TIL119	1.5	...	300
TIL128A	5.0	...	300

(4347) (de50966)

HYBRID DISPLAYS

Type	Characters	Character Height
TIL306	7-Segment	6.9mm (0.270″)
TIL307	7-Segment	6.9mm (0.270″)
TIL308	7-Segment	6.9mm (0.270″)
TIL309	7-Segment	6.9mm (0.270″)
TIL311	Hexadecimal	7.6mm (0.300″)

(13052) (de50971)

LINEAR CIRCUITS

ANALOG-TO-DIGITAL CONVERTERS AND DATA ACQUISITION ICs

Type	Description	Package
ADC12H034CIN	Self-Calibrating, 12-Bit, Plus Sign, Serial I/O, A/D Converter with Mux and Sample/Hold	24-Pin DIP
LM12434CIWM LM12438CIWM	12-Bit, Plus Sign, Data Acquisition System with Serial I/O and Self-Calibration	28-Pin SOIC 28-Pin SOIC
LM12438EVAL	Windows-Based Evaluation System for **LM12438**	...
ADC16071CIN	16-Bit, Sigma-Delta, 192kSPS A/D Converter	24-Pin DIP

(17836) (ne10953)

HIGH-PERFORMANCE ANALOG SIGNALING PRODUCTS

Type	Description	Package
CLC400AJE	Fast-Settling, Wideband, Monolithic Op. Amp	8-Pin SOIC
CLC400AJP	Fast-Settling, Wideband, Monolithic Op. Amp	8-Pin DIP
CLC402AJE	Low-Gain Op. Amp, with Fast, 14-Bit Settling	8-Pin SOIC
CLC404AJE	Wideband, High Slew Rate, Monolithic Op. Amp	8-Pin SOIC
CLC407AJE	High-Speed Video Op. Amp, With Disable	8-Pin DIP
CLC409AJE	Very Wideband, Low-Distortion, Monolithic Op. Amp	14-Pin SOIC
CLC411AJE	High-Speed Video Op. Amp, With Disable	8-Pin SOIC
CLC414AJE	Quad, Low-Power, Monolithic Op. Amp	14-Pin SOIC
CLC420AJE	High-Speed, Voltage-Feedback Op. Amp	8-Pin SOIC
CLC425AJE	Ultra Low-Noise, Wideband Op. Amp	8-Pin SOIC
CLC426AJP	Low-Noise, Voltage Feedback Op Amp	8-Pin MDIP
CLC430AJE	General-Purpose 100MHz Op. Amp	8-Pin SOIC
CLC430AJP	General-Purpose 100MHz Op. Amp	8-Pin DIP
CLC432AJE	Dual Wideband Monolithic Op. Amp	8-Pin SOIC
CLC440AJE	High-Speed, Low-Power, Voltage-Feedback, Op. Amp	8-Pin SOIC
CLC449AJE	1.2GHz Ultra-Wideband, Monolithic Op. Amp	8-Pin SOIC
CLC502AJE	Clamping, Low-Gain, Op. Amp with Fast, 14-Bit Settling	8-Pin SOIC
CLC505AJE	High-Speed, Programmable Supply Current, Op. Amp	8-Pin SOIC
CLC520AJE	Amplifier with Voltage Controlled Gain, AGC + Amp	8-Pin SOIC
CLC522AJE	Wideband Variable Gain Amplifier	14-Pin SOIC
CLC5602IM	Dual, High-Output, Video Amp	8-Pin SOIC
CLC5612IM	Dual, High-Output, Prog. Gain Buffer	8-Pin SOIC
CLC5622IM	Dual, High-Output, Video Amp	8-Pin SOIC
CLC5623IM	Triple, High-Output, Video Amp	14-Pin SOIC
CLC5632IM	Dual, High-Output, Prog. Gain Buffer	8-Pin SOIC
CLC5633IM	Triple, High-Output, Video Amp	14-Pin SOIC
CLC5644IN	Low-Power, High-Speed, Quad Op Amp	14-Pin MDIP
CLC5654IM	Low-Power, High-Speed, Quad Op Amp	14-Pin MDIP
LM6321N	High-Speed Buffer	8-Pin DIP
LM6361N	High-Speed Op. Amp	8-Pin DIP

(19032) (ne10983)

SWITCHED CAPACITOR VOLTAGE CONVERTERS

Frequency control input.

Type	Mode	I_{OUT} (mA)	R_{OUT} (Ohms)	V_{IN} Max. (V)	Package
LMC7660IM	Invert, Double	25	100	5.5	8-Pin SOIC
LMC7660IN	Invert, Double	25	100	5.5	8-Pin DIP
LM2907N	...	...	...	...	14-Pin MDIP
LM2917N	...	...	...	...	14-Pin MDIP
LM331N	...	...	...	...	8-Pin MDIP

(17837) (ne10954)

COMPARATORS

CMOS, low-power, rail-to-rail input comparators. CMR (typ.): –0.2V to 5.2V.

Type	I_S per Channel Typ. (µA)	Spec. Supply Range (V)	V_{OS} Typ. (mV)	Output Configuration	Resp. Time Typ. (µs)	Package
LMC7215IM5*	0.7	2 to 8	1	Push-Pull	12	SOT-23
LMC7211AIM5**	7	2.7 to 15	3	Push-Pull	4	SOT-23
LMC7221AIM5**	7	2.7 to 15	3	Open Drain	4	SOT-23
LMC6772AIM**	6	2.7 to 15	3	Open Drain	4	8-Pin DIP
LM111H	...	...	0.7	Open Drain	0.2	8-Pin TO-5
LM139J	...	2 to 36	3	Open Drain	1.3	14-Pin CerDIP
LM311N	...	...	2	Open Drain	0.2	8-Pin MDIP
LM393N	...	2 to 36	1	Open Drain	16	8-Pin MDIP

*1µA supply; **Micropower

(17838) (ne10955)

LINE DRIVERS, RECEIVERS, AND TRANSCEIVERS

Type	Description	Package
DS14185WM	±12V, +5V 3x5 Driver/Receiver	20-Pin SOIC
	EIA/TIA-422/423-B (RS-422/423)	
DS89C21TM	Line Driver and Receiver Pair	8-Pin SOIC
DS8935WM	LocalTalk 2x3 Dual Drvr./Triple Rcvr. w/Enable	20-Pin SOIC
DS26LV31TM	3V Quad Driver/Receiver, Ganged Enable	16-Pin SOIC
DS26LV32ATM	3V Quad Driver/Receiver, Ganged Enable	16-Pin SOIC
	EIA/TIA-485 (RS-485)	
DS36276M	Failsafe Transceiver	8-Pin SOIC
DS36C278TM	CMOS Transceiver	8-Pin SOIC
DS36C279M	CMOS Transceiver with Sleep Mode	8-Pin SOIC
DS36C279TM	CMOS Transceiver with Sleep Mode	8-Pin SOIC
DS36C280M	Slew Rate CMOS Controlled Single Transceiver	8-Pin SOIC
DS1487M	Low-Power Single Transceiver	8-Pin SOIC
DS36F95M	RS-485/-422 Bus Transceiver	8-Pin SOIC
DS3695N	Multipoint Transceiver	8-Pin MDIP
DS75176BN	Multipoint Transceiver	8-Pin MDIP
DS90LV018ATM	3V Single, LVDS Receiver	8-Pin SOIC
DS90LV019TM	3.3V LVDS Driver/Receiver	14-Pin SOIC
DS90LV027M	LVDS 3.3V 100 Mbps, Dual Driver	8-Pin SOIC
DS90LV028ATM	LVDS 3.3V 100 Mbps, Dual Receiver	8-Pin SOIC
DS92LV010ATM	Low Swing Differential Bus Xcvr	8-Pin SOIC
LM2403T	Triple 80MHz CRT Driver	11-Pin TO-220
LM2407T	Triple 50MHz CRT Driver	11-Pin TO-220
LMX3161VBH	Single Chip Dect. Transceiver	48-Pin PQFP
LP2975AIMM-3.3	MOSFET LDO Driver/Controller	8-Pin MSOP
LP2975IMM-3.3	MOSFET LDO Driver/Controller	8-Pin MSOP
LM3914N	Dot/Bar Display Driver	18-Pin MDIP

(17839) (ne10956)

INTERFACE DATA TRANSMISSION CIRCUITS

Type	Type	No. of Receivers	Power Supply (V)	Temp. Range	Data Rate (Mbps)	I_{CC} @1Mbps (Approx.)	I_{CC} Disabled Max.	Driver Prop. Delay Max.	Driver Channel Skew Max.	Receiver Prop. Delay Max.	Receiver Channel Skew Max.	Package
DS90C031TM	4	0	5	Industrial	>155	21	4	3.5	1.0	...	...	16-Pin SOIC
DS90C032TM	0	4	5	Industrial	>155	11	10	...	...	6.0	1.5	16-Pin SOIC
DS36C200M	2	2	5	Commercial	>155	17	10	5.5	...	9.0	...	16-Pin SOIC
DS90LV031TM	4	0	3.3	Industrial	>100	19	3	5.0	1.8	...	...	16-Pin SOIC
DS90LV032TM	0	4	3.3	Industrial	>100	19	15	...	...	6.5	1.7	16-Pin SOIC

(17840) (ne10957)

TEMPERATURE SENSORS

Type	Description	Operating Temperature	Accuracy (T Min. to T Max.)	Supply Voltage	Quiescent Current (T Min. to T Max.)	Sensor Gain (T Min. to T Max.)	Package
LM34CAZ	Precision Fahrenheit Temperature Sensor	–40°F to +230°F	+2°F	+5V to +30V	142µA	10mV/°F	TO-92
LM34CZ		–40°F to +230°F	+3°F	+5V to +30V	159µA	10mV/°F	TO-92
LM34DZ		+32°F to +212°F	+4°F	+5V to +30V	159µA	10mV/°F	TO-92
LM35CAH	Precision Celsius Temperature Sensor	–40°C to +110°C	+1.5°C	+4V to +30V	116µA	10mV/°C	TO-46
LM35CAZ		–40°C to +110°C	+1.0°C	+4V to +30V	116µA	10mV/°C	TO-92
LM35CZ		–40°C to +110°C	+1.5°C	+4V to +30V	141µA	10mV/°C	TO-92
LM35DZ		0°C to +100°C	+2.0°C	+4V to +30V	141µA	10mV/°C	TO-92
LM45BIM3	Precision Celsius Temperature Sensor	–20°C to +100°C	+3.0°C	+4V to +10V	160µA	10mV/°C	SOT-23
LM50BIM3		–25°C to +100°C	+3°C/–3.5°C	+4.5V to +10V	180µA	10mV/°C	SOT-23
LM50CIM3		–40°C to +125°C	+4°C	+4.5V to +10V	180µA	10mV/°C	SOT-23
LM60BIM3	2.7V Precision Celsius Temperature Sensor	–25°C to +125°C	+3.0°C	+2.7V to +10V	124µA	6.25mV/°C	SOT-23
LM60CIM3		–40°C to +125°C	+4.0°C	+2.7V to +10V	124µA	6.25mV/°C	SOT-23
LM135H	Precision Celsius Temperature Sensor	–55°C to +150°C	+1.5°C	Shunt	400µA	10mV/°C	TO-46

(17841) (ne10958)

PRICES LISTED AT THE BEGINNING OF THE SECTION.

AMPLIFIERS AND AUDIO CONTROLS

AMPLIFIERS

Type	No. of Amps	I_S per Channel Typ. (µA)	Spec. Supply Range (V)	V_{OS} Max. (mV)	I_B Over Temp. Max. (pA)	CMVR Typ.	Output Swing Typ. (V)	GBW Typ. (MHz)	Description	Package
LF411ACN	1	2.8	±22	0.5	50nA	+19.5	±13.5	3	Low-Offset, Low-Drift, JFET Input	8-Pin MDIP
LF411CN	1	3.4	±18	2	50nA	+14.5	±13.5	3	Low-Offset, Low-Drift, JFET Input	8-Pin MDIP
LF412CN	2	6.5	±18	1	50nA	+19.5	±14.5	3	Low-Offset, Low-Drift, JFET Input	8-Pin MDIP
LM10CLN	1	500	7	...	...	...	...	0.09	Op Amp and Voltage Reference	8-Pin MDIP
LM10CN	1	500	45	5	40nA	...	...	0.09	Op Amp and Voltage Reference	8-Pin MDIP
LM318N	1	10	±20	10	500nA	11.5	±13	...	Op Amp	8-Pin MDIP
LM358AN	2	1.2	3 to 32	5	100nA	±2	0 to –1.5	1	Low-Power, Dual Op Amp	8-Pin MDIP
LM675T	1	18	±30	10	200	±20	±18	...	Power Operational Amplifier	5-Pin TO-220
LM6134AIN	4	360	2.7 to 24	2, 6	140nA, 180nA*	0 to +5	0.02 to 4.98	10	High-Speed, Low-Power, Rail-to-Rail I/O	8-Pin DIP
LM6142AIN	2	650	2.7 to 24	1, 2.5	250nA, 300nA*	–0.25 to +5.25	0.005 to 4.995	17	High-Speed, Low-Power, Rail-to-Rail I/O	8-Pin DIP
LM6144AIN	4	650	2.7 to 24	1, 2.5	250nA, 300nA*	–0.25 to +5.25	0.005 to 4.995	17	High-Speed, Low-Power, Rail-to-Rail I/O	8-Pin DIP
LM6152ACN	2	1400	2.7 to 24	2.5	980nA*	–0.25 to +5.25	0.006 to 4.992	75	High-Speed, Rail-to-Rail Input/Output	8-Pin DIP
LM7301IM5	1	720	2.2 to 30	6	200nA*	–0.1 to +5.1	0.07 to 4.93	4	TinyPak, 4MHz Rail-to-Rail Input/Output	SOT-23
LMC660CN	4	750	5 to 15	3, 6	2, 4, 60, 100	–0.4 to +3.1	0.10 to 4.87	1.4	Rail-to-Rail Output	8-Pin DIP
LMC662CN	2	750	5 to 15	3, 6	2, 4, 60, 100	–0.4 to +3.1	0.10 to 4.87	1.4	Rail-to-Rail Output	8-Pin DIP
LMC6022IN	2	40-43	5 to 15	9	200	–0.04 to +3.1	0.004 to 4.987	0.35	Low-Power	8-Pin DIP
LMC6024IN	4	40-43	5 to 15	9	200	–0.04 to +3.1	0.004 to 4.987	0.35	Low-Power	14-Pin DIP
LMC6035IM	2	650-1300	2 to 15	6	90	–0.5 to +4.5	0.001 to 4.995	1.4	Mid-Range, Rail-to-Rail Output into 600Ω	14-Pin SOIC
LMC6036IM	4	650-1300	2 to 15	6	90	–0.5 to +4.5	0.001 to 4.995	1.4	Mid-Range, Rail-to-Rail Output into 600Ω	14-Pin SOIC
LMC6042IN	2	10-14	5 to 15	3, 6	4	–0.4 to +3.1	0.004 to 4.987	0.1	µPower, Rail-to-Rail Output	8-Pin DIP
LMC6061IN	1	16-20	5 to 15	0.35, 0.8	4, 100	–0.4 to +3.1	0.005 to 4.995	0.1	µPower, Precision, Rail-to-Rail Output	8-Pin DIP
LMC6062IN	2	16-20	5 to 15	0.35, 0.8	4, 100	–0.4 to +3.1	0.005 to 4.995	0.1	µPower, Precision, Rail-to-Rail Output	8-Pin DIP
LMC6064IN	4	16-20	5 to 15	0.35, 0.8	4, 100	–0.4 to +3.1	0.005 to 4.995	0.1	µPower, Precision, Rail-to-Rail Output	14-Pin DIP
LMC6442AIN	2	...	±16	4	...	1.3 to –0.3	60	0.0095	Dual, µPower, Rail-to-Rail Output	8-Pin MDIP
LMC6462AIN	2	20	3 to 15	0.5, 3	10, 200	–0.2 to +5.2	0.01 to 4.99	0.050	µPower, Rail-to-Rail Input/Output	8-Pin DIP
LMC6464AIN	4	20	3 to 15	0.5, 3	10, 200	–0.2 to +5.2	0.01 to 4.99	0.050	µPower, Rail-to-Rail Input/Output	14-Pin DIP
LMC6482IMM	2	...	±16	3.7	...	0.3	...	1.5	CMOS, Dual, Rail-to-Rail Input/Output	8-Pin MSOP
LMC6482IN	2	500	3 to 15	0.75, 3	4, 10	0 to +5	0.03 to 4.97	1.5	Rail-to-Rail Input/Output	8-Pin DIP
LMC6492AEN	2	500	5 to 15	3, 6	200	–0.3 to +5.3	0.1 to 4.9	1.5	Rail-to-Rail Input/Output	8-Pin DIP
LMC6494AEN	4	500	5 to 15	3, 6	200	–0.3 to +5.3	0.1 to 4.9	1.5	Rail-to-Rail Input/Output	14-Pin DIP
LMC6574AIN	4	40	2.7 to 5	3, 7	10	–0.1 to +2.2	0.005 to 2.995	0.22	Low-Power, Guaranteed Down to 2.7V	14-Pin DIP
LMC7111AIN	1	25	2.7 to 10	7	20	–0.01 to +2.8	–0.01 to 2.69	0.040	TinyPak, µPower, Rail-to-Rail I/O	8-Pin DIP
LMC6582AIN	2	700	1.8 to 10	1, 3	20	–0.3 to +3.23	0.01 to 2.99	1.2	Very Low-Voltage, Rail-to-Rail I/O	8-Pin DIP
LMC6584AIN	4	700	1.8 to 10	1, 3	20	–0.3 to +3.23	0.01 to 2.99	1.2	Very Low-Voltage, Rail-to-Rail I/O	14-Pin DIP
LMC6681AIN	1	700	1.8 to 10	1, 3	20	–0.3 to +3.23	0.01 to 2.99	1.2	Very Low-Volt., Rail-to-Rail I/O, Shutdown	8-Pin DIP
LMC6682AIN	2	700	1.8 to 10	1, 3	20	–0.3 to +3.23	0.01 to 2.99	1.2	Very Low-Volt., Rail-to-Rail I/O, Shutdown	14-Pin DIP
LMC6684AIM	4	700	1.8 to 10	1, 3	20	–0.3 to +3.23	0.01 to 2.99	1.2	Very Low-Volt., Rail-to-Rail I/O, Shutdown	16-Pin SOIC
LMC7101AIN	1	500	2.7 to 15	4, 7	64	–0.3 to +5.3	0.1 to 4.9	1.0	TinyPak, Rail-to-Rail Input/Output	8-Pin DIP
LPC660IN	4	43-55	5 to 15	3, 6	4, 4, 100	–0.4 to +3.1	0.004 to 4.987	0.35	Low-Power, Rail-to-Rail Output	14-Pin DIP
LPC661IN	1	43-55	5 to 15	3, 6	4, 4, 100	–0.4 to +3.1	0.004 to 4.987	0.35	Low-Power, Rail-to-Rail Output	8-Pin DIP
LPC662IN	2	43-55	5 to 15	3, 6	4, 4, 100	–0.4 to +3.1	0.004 to 4.987	0.35	Low-Power, Rail-to-Rail Output	8-Pin DIP

* @ 25°C

(17741) (ne10480)

BOOMER SERIES LOW-POWER AUDIO AMPLIFIERS

Boomer series power amplifiers are designed to deliver maximum output power from low supply voltages, while consuming minimal supply current. Feature ultra-low power shutdown/mute modes.

Type	Power*	Stereo/ Mono	Single-Ended/ Bridged	Package
LM4834MS	70mW	Mono	Bridged	28-Pin SSOP
LM4860M	1W	Mono	Bridged	16-Pin SOIC
LM4861M	500mW	Mono	Bridged	8-Pin SOIC
LM4862M	400mW	Mono	Bridged	8-Pin SOIC
LM4862N	400mW	Mono	Bridged	8-Pin DIP
LM4863M	1.1W	Stereo	Bridged	16-Pin SOIC
LM4863N	1.1W	Stereo	Bridged	8-Pin DIP
LM4864M	550mW	Mono	Bridged	16-Pin SOIC
LM4864N	550mW	Mono	Bridged	8-Pin DIP
LM4870M	250mW	Stereo	Single	8-Pin MSOP
LM4880M	250mW	Stereo	Single	8-Pin SOIC
LM4880N	250mW	Stereo	Single	8-Pin DIP
LM4882MM	1.1W	Stereo	Bridged	16-Pin SOP

* Power is continuous RMS @ THD≤1% with 8Ω load and 5V supply.

(17744) (ne10482)

AUDIO POWER AMPLIFIERS

Type	Power (W)	Stereo/ Mono	Supply Range	Package
LM380N	2.25	Mono	10V to 22V	14-Pin DIP
LM383T	7	Mono	5V to 20V	TO-220
LM384N	5	Mono	12V to 26V	14-Pin DIP
LM386M-1	0.35	Mono	4V to 18V	8-Pin SOIC
LM386N-1	0.35	Mono	4V to 18V	8-Pin DIP
LM1875T	20	Stereo	16V to 60V	TO-220
LM1877M-9	1.75	Stereo	6V to 24V	14-Pin SOIC
LM1877N-9	1.75	Stereo	6V to 24V	14-Pin DIP
LM2878P	2.0	Stereo	6V to 32V	11-Pin SIP
LM2879T	1.25	Stereo	6V to 32V	TO-220
LM4701T	30	Stereo	9V to 20V	9-Pin TO-220

(17743) (ne10483)

OVERTURE™ SERIES HIGH-POWER AUDIO AMPLIFIERS

Overture series amplifiers deliver click- and pop-free performance. SPiKe™ protection makes the output stage virtually "bullet" proof.

Type	Power*	Supply Voltage	Stereo/ Mono	Package
LM1876TF	20W	±22V	Stereo	Isolated TO-220
LM4700TF	30W	±28V	Stereo	Isolated TO-220
LM3886TF	68W**	±28V	Mono	Isolated TO-220
LM3886T	68W**	±35V	Mono	Non-Isolated TO-220
LM3875TF	56W	±35V	Mono	Isolated TO-220
LM3875T	56W	±35V	Mono	Non-Isolated TO-220
LM2876TF	40W	±30V	Mono	Isolated TO-220
LM2876T	40W	±30V	Mono	Non-Isolated TO-220

* Power is continuous RMS @ THD≤1% with 8Ω load at listed supply voltage.
** Power is continuous RMS @ THD≤1% with 4Ω load at listed supply voltage.

(17745) (ne10481)

AUDIO CONTROLS AND INTEGRATED SYSTEMS

Type	Description	Package
LM1971N	Single-Channel Audio Attenuator with Serial Control	8-Pin DIP
LM1972N	2-Channel Audio Attenuator with Serial Control	20-Pin DIP
LM1973N	3-Channel Audio Attenuator with Serial Control	20-Pin DIP
LMC1983CIV	Digitally Controlled Tone/Volume/Balance w/6 Channels	28-Pin PLCC
LMC1992CCN	Digitally Controlled Tone/Volume/Balance w/8 Channels	28-Pin DIP
LMC835N	Digitally Controlled 7-Band Stereo Graphic Equalizer	28-Pin DIP
LMC835V	Digitally Controlled 7-Band Stereo Graphic Equalizer	28-Pin PLCC
LM4830M	Stereo 1W Power Amp w/Internal Switching between Bridged and Single	24-Pin SOIC

(17742) (ne10952)

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MICROCONTROLLERS AND VOLTAGE REGULATORS

COP8SA SERIES ZERO EXTERNAL COMPONENT OTP MICROCONTROLLERS

Key Features:
- OTP Program Space with Read/Write Protection
- Quiet Design (Low-Radiated Emissions)
- Multi-Input Wake-Up Pins with Optional Interrupts (4 to 8 Pins)
- User-Selectable Clock Options (Crystal Resonator; Crystal Resonator w/On-Chip Bias Resistor; External Oscillator; Internal RC Oscillator)
- Internal Power-On Reset (User-Selectable)
- WATCHDOG™ and Clock Monitor Logic (User-Selectable)
- Up to 12 High-Current Outputs
- 2.7V to 5.5V

CPU Features:
- Versatile, Easy-to-Use Instruction Set
- 1µs Instruction Cycle Time
- Eight Multi-Sourced, Vectored Interrupts Servicing: External Interrupt; Idle Timer; One Time (2 Interrupts); MICROWIRE/PLUS™ Serial Interface; Multi-Input Wake-Up; Software Trap; Default VIS (Default Interrupt)
- 8-Bit Stack Pointer (Stack-In RAM)
- Two 8-Bit Register Indirect Data Memory Pointers
- True Bit Manipulation
- Memory-Mapped I/O
- BCD Arithmetic Instructions

Peripheral Features:
- Multi-Input Wake-Up Logic
- One 16-Bit Timer with Two 16-Bit Registers Supporting: Processor Independent PWM Mode; External Event Counter Mode; and Input Capture Mode
- Idle Timer
- MICROWIRE/PLUS™ Serial Interface (SPI Compatible)

I/O Features:
- Software Selectable I/O Options: TRI-STATE® & Push-Pull Output; Weak Pull-Up & High-Impedance Input
- Schmitt Trigger Inputs on Ports "G" and "L"
- Up to 12 High Current Outputs
- Pin Efficient (40 Pins in a 44-Pin Package are Devoted to Useful I/O)

Type COPSAx7 one-time programmable microcontrollers are members of the COP8™ feature family. Devices are offered in a variety of packages. A wide operating voltage range helps simplify design in a variety of applications. Many devices are also available in industrial temperature grade; *contact your local Newark sales office.*

Type	ROM	RAM	I/Os	Operating Temperature	Supply Voltage	Supply Current Max.	Oscillator*	Frequency Range Min./Max.	Package
COP8SAA716M9	1K x 8	64	12	0°C to 70°C	2.7V to 5.5V	6.0mA	Internal RC	DC-10MHz	16-Pin SOIC
COP8SAA720M9	1K x 8	64	16	0°C to 70°C	2.7V to 5.5V	6.0mA	Internal RC	DC-10MHz	20-Pin SOIC
COP8SAA720N9	1K x 8	64	16	0°C to 70°C	2.7V to 5.5V	6.0mA	Internal RC	DC-10MHz	20-Pin DIP
COP8SAA728M9	1K x 8	64	24	0°C to 70°C	2.7V to 5.5V	6.0mA	Internal RC	DC-10MHz	28-Pin SOIC
COP8SAA728N9	1K x 8	64	24	0°C to 70°C	2.7V to 5.5V	6.0mA	Internal RC	DC-10MHz	28-Pin DIP
COP8SAB720M9	2K x 8	128	16	0°C to 70°C	2.7V to 5.5V	6.0mA	Internal RC	DC-10MHz	20-Pin SOIC
COP8SAB720N9	2K x 8	128	16	0°C to 70°C	2.7V to 5.5V	6.0mA	Internal RC	DC-10MHz	20-Pin DIP
COP8SAB728M9	2K x 8	128	24	0°C to 70°C	2.7V to 5.5V	6.0mA	Internal RC	DC-10MHz	28-Pin SOIC
COP8SAB728N9	2K x 8	128	24	0°C to 70°C	2.7V to 5.5V	6.0mA	Internal RC	DC-10MHz	28-Pin DIP
COP8SAC720M9	4K x 8	128	16	0°C to 70°C	2.7V to 5.5V	6.0mA	Internal RC	DC-10MHz	20-Pin SOIC
COP8SAC720N9	4K x 8	128	16	0°C to 70°C	2.7V to 5.5V	6.0mA	Internal RC	DC-10MHz	20-Pin DIP
COP8SAC728M9	4K x 8	128	24	0°C to 70°C	2.7V to 5.5V	6.0mA	Internal RC	DC-10MHz	28-Pin SOIC
COP8SAC728N9	4K x 8	128	24	0°C to 70°C	2.7V to 5.5V	6.0mA	Internal RC	DC-10MHz	28-Pin DIP
COP8SAC740N9	4K x 8	128	36	0°C to 70°C	2.7V to 5.5V	6.0mA	Internal RC	DC-10MHz	40-Pin DIP
COP8SAC744V9	4K x 8	128	40	0°C to 70°C	2.7V to 5.5V	6.0mA	Internal RC	DC-10MHz	44-Pin PLCC
COP8SGE728M8	1K x 8	256	24	-40°C to +85°C	2.7V to 5.5V	9.9mA	Internal RC	DC-10MHz	28-Pin SOIC
COP8SGE740N8	1K x 8	256	36	-40°C to +85°C	2.7V to 5.5V	9.9mA	Internal RC	DC-10MHz	40-Pin DIP
COP8SGR728M8	4K x 8	512	24	-40°C to +85°C	2.7V to 5.5V	9.9mA	Internal RC	DC-10MHz	28-Pin SOIC
COP8SGR740N8	4K x 8	512	36	-40°C to +85°C	2.7V to 5.5V	9.9mA	Internal RC	DC-10MHz	40-Pin DIP

(18246) (ne10962)

VOLTAGE REGULATORS

Type	Description	Output Current	Input Voltage Max.	Package
LM117H	3-Terminal, Adjustable	1.5A	40V	3-Pin TO-39
LM309H	5V Regulator	1A	35V	3-Pin TO-39
LM317AT	3-Terminal, Adjustable	500mA	40V	3-Pin TO-220
LM317H	3-Terminal, Adjustable	500mA	40V	3-Pin TO-220
LM317HVKSTEEL	3-Terminal, Adjustable	500mA	60V	2-Pin TO-3
LM317T	3-Terminal, Adjustable	500mA	40V	3-Pin TO-220
LM340K-5.0	3-Terminal, Positive	1A	35V	2-Pin TO-3
LM340T-5.0	3-Terminal, Positive	1A	35V	3-Pin TO-220
LM350KSTEEL	Adjustable Regulator	3A	35V	2-Pin TO-3
LM2575T-5.0	Step-Down	1A	40V	5-Pin TO-220
LM2671M-3.3	High-Efficiency Switcher	...	40V	8-Pin SOIC
LM2674M-3.3	High-Efficiency Switcher	...	40V	8-Pin SOIC
LM2674M-ADJ	High-Efficiency Switcher	...	40V	8-Pin SOIC
LM2678T-3.3	Step-Down	5A	40V	7-Pin TO-263
LM2678S-ADJ	Step-Down	5A	40V	7-Pin TO-263
LM2678S-3.3	Step-Down	5A	40V	7-Pin TO-220
LM2678T-ADJ	Step-Down	5A	40V	7-Pin TO-220
LM2679S-3.3	Adjustable, Step-Down	5A	40V	7-Pin TO-220
LM2679S-ADJ	Adjustable, Step-Down	5A	40V	7-Pin TO-220
LM2679T-3.3	Adjustable, Step-Down	5A	40V	7-Pin TO-263
LM2679T-ADJ	Adjustable, Step-Down	5A	40V	7-Pin TO-263
LM2940CT-5.0	LDO	1A	26V	3-Pin TO-220
LM2940CT-12	LDO	1A	26V	3-Pin TO-220
LM2940T-5.0	LDO	1A	26V	3-Pin TO-220
LM3480IM3-3.3	Quasi-LDO	100mA	30V	3-Pin SOT
LM7805CT	3-Terminal	1A	35V	TO-220
LM7812CT	3-Terminal	1A	35V	TO-220
LM7815CT	3-Terminal	1A	35V	TO-220
LM7905CT	3-Terminal	1.5A	25V	TO-220
LM7912CT	3-Terminal	1.5A	35V	TO-220
LP2951ACM	Adjustable, Micropower	...	30V	8-Pin SOIC
LP2985IM5-3.0	Low Noise LDO	150mA	...	5-Pin SOT-23
LP2987AIM-3.3	Power LDO	200mA	...	8-Pin SOIC
LP2987AIMM-3.3	Power LDO	200mA	...	8-Pin MSOP
LP2988AIM-3.3	Power LDO	200mA	...	8-Pin MSOP
LP2988IM-3.3	Power LDO	200mA	...	8-Pin MSOP

(28780) (ne28780)

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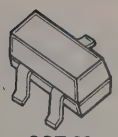
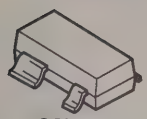
SCHOTTKY DIODES


SOT-23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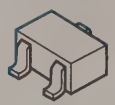
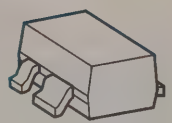

SOT-323


SOT-343

Suffix **-BLK** indicates bulk. Also available in tape & reel; *contact your local Newark sales office.*

Type	V_F Max. (mV)	C_T Max. (pF)	V_{BR} Min. (V)	R_S Typ. (Ohms)	Package
HBAT-5400-BLK	800	3.0	30	2.4	SOT-23
HBAT-5402-BLK	800	3.0	30	2.4	SOT-23
HBAT-540B-BLK	800	3.0	30	2.4	SOT-323
HBAT-540C-BLK	800	3.0	30	2.4	SOT-323
HSMS-2700-BLK	550	6.7	15	0.65	SOT-23
HSMS-2702-BLK	550	6.7	15	0.65	SOT-23
HSMS-270B-BLK	550	6.7	15	0.65	SOT-323
HSMS-270C-BLK	550	6.7	15	0.65	SOT-323

Type	V_F Max. (mV)	C_T Max. (pF)	V_{BR} Min (V)	Package
5082-2800	70	2.0	410	Glass
HSMS-2800-BLK	70	2.0	400	SOT-23
HSMS-2802-BLK	70	2.0	400	SOT-23
HSMS-2803-BLK	70	2.0	400	SOT-23
HSMS-2805-BLK	70	2.0	400	SOT-143
HSMS-2807-BLK	70	2.0	400	SOT-143
HSMS-2808-BLK	70	2.0	400	SOT-143
5082-2810	20	1.2	410	Glass
HSMS-2812-BLK	20	1.2	400	SOT-23
HSMS-2813-BLK	20	1.2	400	SOT-23
HSMS-2814-BLK	20	1.2	400	SOT-23
HSMS-2817-BLK	20	1.2	400	SOT-143
HSMS-2818-BLK	20	1.2	400	SOT-143
HSMS-2820-BLK	15	1.0	340	SOT-23
HSMS-2822-BLK	15	1.0	340	SOT-23
HSMS-2825-BLK	15	1.0	340	SOT-143
HSMS-2827-BLK	15	1.0	340	SOT-143
5082-2835	...	...	480	Glass

DC electrical specifications; T_A = +25°C, single diode.

Type	V_F Max. @ I_F = 0.1mA (mV)	V_F Max. @ I_F = 1.0mA (mV)	C_T Typ. (pF)	Package
HSMS-2850-BLK	150	250	0.3	SOT-23
HSMS-2860-BLK	250	350	0.25	SOT-23
HSMS-2862-BLK	250	350	0.25	SOT-23
HSMS-2863-BLK	250	350	0.25	SOT-23
HSMS-2864-BLK	250	350	0.25	SOT-23

(17533) (ne10479)

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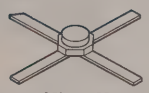
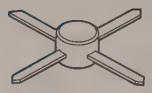
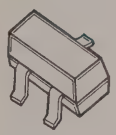
MICROWAVE TRANSISTORS

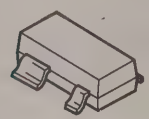
70 Mil


Micro X


Plastic 85 mil

Plastic SMD


SOT-23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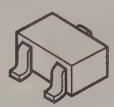
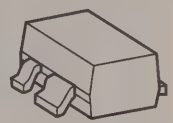

SOT-323


SOT-343

GaAs FETs

Type	N_F (dB)	P_{1dB} (dBm)	Ga (dB)	Package
ATF-21170*	0.9	+23.0	13.0	Hermetic 70 mil

LOW-NOISE TRANSISTORS

AT-32011-BLK	1.0	+13.0	14.0	SOT-143
AT-32032-BLK**	1.0	+13.0	15.0	SOT-323
AT-32033-BLK	1.0	+13.0	12.5	SOT-23
AT-41511-BLK	1.0	+14.5	15.5	SOT-143
AT-41532-BLK**	1.0	+14.5	15.0	SOT-323
AT-41533-BLK	1.0	+14.5	14.5	SOT-23
AT-41410	1.3	+19.0	14.0	Hermetic 100 mil
AT-41435	1.3	+19.0	18.5	Ceramic Micro-X
AT-41485	1.4	+18.5	18.5	Plastic 85 mil
AT-41411-BLK	1.4	+17.0	18.0	SOT-143
AT-41486-BLK	1.4	+18.0	18.0	Plastic 85 mil SMD
HBFP-0405-BLK†	1.2	+5.0	18.0	SOT-343
HBFP-0420-BLK†	1.1	+12.0	17.0	SOT-343

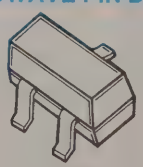
MEDIUM-POWER AND GENERAL-PURPOSE TRANSISTORS

AT-42035	1.9	+21.0	17.0	Ceramic Micro-X
AT-42086-BLK	1.4	+20.5	17.0	Plastic 85 mil SMD

* Typ. @ 4GHz; ** typ. @ 900MHz; † typ. @ 2GHz.

(9855) (ne08777)

MICROWAVE PIN DIODES


SOT-23

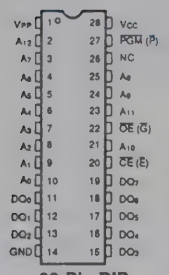
Surface mount SOT-23.

Type	V_{BR} Min. (V)	C_T Max. (pF)	R_S Max. (Ω)	Lifetime t Typ. (ns)	Package
HSMP-3802-BLK	100	0.40	2.5	2500	SOT-23
HSMP-3804-BLK	100	0.40	2.5	2500	SOT-23
HSMP-3812-BLK	100	0.35	4.0	1500	SOT-23
HSMP-3813-BLK	100	0.35	4.0	1500	SOT-23
HSMP-3820-BLK	35	1.0	0.6	70	SOT-23
HSMP-3824-BLK	35	1.0	0.6	70	SOT-23
HSMP-3830-BLK	200	0.3	1.5	500	SOT-23
HSMP-3832-BLK	200	0.3	1.5	500	SOT-23
HSMP-3833-BLK	200	0.3	1.5	500	SOT-23
HSMP-3834-BLK	200	0.3	1.5	500	SOT-23
HSMP-3893-BLK	50	0.3	2.5	200	SOT-23

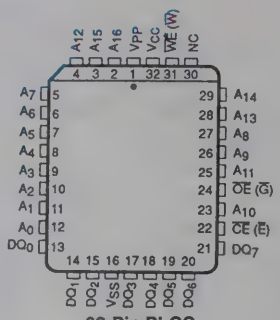
Type	V_{BR} Min. (V)	C_T Typ. (pF)	R_S Typ. (Ω)	Package
HSMP-3860-BLK	50	0.20	5.0	SOT-23
HSMP-3862-BLK	50	0.20	5.0	SOT-23
HSMP-3863-BLK	50	0.20	5.0	SOT-23
HSMP-3864-BLK	50	0.20	5.0	SOT-23

(9467) (ne51199)

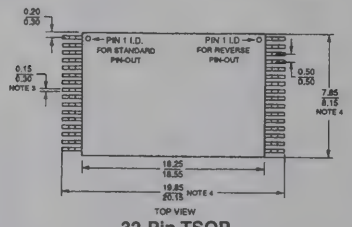
CMOS FLASH NONVOLATILE MEMORIES



32-Pin DIP



32-Pin PLCC



32-Pin TSOP

Unlike EPROMs, electrically erasable and programmable flash memories provide in-system reprogrammability—no need for UV erasure. Single NOR cell architecture reduces component cost. The **Am29F010** is 1Mb flash device with 5.0 volt-only operation, unlike the older 12V write/erase, 5V read, bulk erase devices. Uniform 16Kb sector architecture design allows storage of power-up firmware and data codes on the same chip. A sector-protect feature further prevents accidental erasure and provides virus-proof environment. Endurance is 100K write/erase cycles. Embedded Program and Embedded Erase algorithms reduce system firmware. The **Am29F040** is similar to the **Am29F010**, but is 4Mb and offers an erase suspend/resume feature that allows an erase operation to be suspended in one sector, so that a read operation can be performed in another sector of same device. **Am28F256, Am28F512, Am28F010,** and **Am28F020,** are erased and programmed by using standard Flasherase and Flashrite algorithms. All **Am28Fxxx** devices are available in easy-to-use embedded algorithm versions (**Am28FxxxA**).

CMOS (128K x 8) SINGLE 5V SUPPLY FLASH MEMORY

Type	Access Time (ns)	Power Supply Voltage	Package
AM29F010-45JC	45	5V±5%	PLCC
AM29F010-55PC	55	5V±10%	PDIP
AM29F010-55JC	55	5V±10%	PLCC
AM29F010-70JC	70	5V±10%	PLCC
AM29F010-90PC	90	5V±10%	PDIP
AM29F010-120EC	120	5V±10%	TSOP
AM29F010-120PC	120	5V±10%	PDIP
AM29F010-120JC	120	5V±10%	PLCC
CMOS (128K x 8) SINGLE 5V SUPPLY FLASH MEMORY			
AM29F010A-45JC	45	5V±10%	PLCC
AM29F010A-55JC	55	5V±10%	PLCC
AM29F010A-70JC	70	5V±10%	PLCC
AM29F010A-90JC	90	5V±10%	PLCC
AM29F010A-120JC	120	5V±10%	PLCC
CMOS (2MB x 8) SINGLE 5V SUPPLY FLASH MEMORY			
AM29F016B-75EC	75	5V±10%	TSOP
AM29F016B-90EC	90	5V±10%	TSOP
AM29F016B-120EC	120	5V±10%	TSOP
AM29F016B-150EC	150	5V±10%	TSOP
CMOS (512K x 8) SINGLE 5V SUPPLY FLASH MEMORY			
AM29F040B-55EC	55	5V±10%	TSOP
AM29F040B-55JC	55	5V±10%	PLCC
AM29F040B-70JC	70	5V±10%	PLCC
AM29F040B-90EC	90	5V±10%	TSOP
AM29F040B-90JC	90	5V±10%	PLCC
AM29F040B-90PC	90	5V±10%	PDIP
AM29F040B-120EC	120	5V±10%	TSOP
AM29F040B-120JC	120	5V±10%	PLCC
AM29F040B-150JC	160	5V±10%	PLCC
CMOS (1M x 8) SINGLE 5V SUPPLY FLASH MEMORY			
AM29F080B-75SC	75	5V±10%	SOIC
AM29F080B-85EC	85	5V±10%	TSOP
AM29F080B-85SC	85	5V±10%	SOIC
AM29F080B-120EC	120	5V±10%	TSOP
AM29F080B-150EC	150	5V±10%	TSOP

CONTINUED

CMOS FLASH NONVOLATILE MEMORIES (CONT.)

CMOS (32K x 8) 12V FLASH MEMORY

Type	Access Time (ns)	Power Supply Voltage	Package
AM28F256-70PC	70	5V±10%	PDIP
AM28F256-70JC	70	5V±10%	PLCC
AM28F256-70EC	70	5V±10%	TSOP
AM28F256-90JC	90	5V±10%	PLCC
CMOS (32K x 8) 12V FLASH MEMORY			
AM28F256A-70JC	70	5V±10%	PLCC
AM28F256A-70PC	70	5V±10%	PDIP
AM28F256A-90JC	90	5V±10%	PLCC
AM28F256A-120JC	120	5V±10%	PLCC
AM28F256A-120PC	120	5V±10%	PDIP
AM28F256A-200PC	200	5V±10%	PDIP
CMOS (64K x 8) 12V FLASH MEMORY			
AM28F512-70EC	70	5V±10%	TSOP
AM28F512-90PC	90	5V±10%	PDIP
AM28F512-90JC	90	5V±10%	PLCC
CMOS (64K x 8) 12V FLASH MEMORY			
AM28F512A-120JC	120	5V±10%	PLCC
AM28F512A-120PC	120	5V±10%	PDIP
AM28F512A-150JC	150	5V±10%	PLCC
AM28F512A-200JC	200	5V±10%	PLCC
AM28F512A-70EC	70	5V±10%	TSOP
AM28F512A-70JC	70	5V±10%	PLCC
AM28F512A-70PC	70	5V±10%	PDIP
AM28F512A-90JC	90	5V±10%	PLCC
CMOS (128K x 8) 12V FLASH MEMORY			
AM28F010-70JC	70	5V±10%	PLCC
AM28F010-70PC	70	5V±10%	PDIP
AM28F010-90PC	90	5V±10%	PDIP
AM28F010-90JC	90	5V±10%	PLCC
AM28F010-120PC	120	5V±10%	PDIP
AM28F010-120JC	120	5V±10%	PLCC
AM28F010-150PC	150	5V±10%	PDIP
CMOS (128K x 8) 12V FLASH MEMORY (EMBEDDED ALGORITHM)			
AM28F010A-70PC	70	5V±10%	PDIP
AM28F010A-90PC	90	5V±10%	PDIP
AM28F010A-90EC	90	5V±10%	TSOP
CMOS (256K x 8) 12V FLASH MEMORY			
AM28F020-90PC	90	5V±10%	PDIP
AM28F020-90EC	90	5V±10%	TSOP
AM28F020-120JC	120	5V±10%	PLCC
AM28F020-150PC	150	5V±10%	PDIP

(9965) (de01056)

LOW-VOLTAGE FLASH MEMORY

High-performance, low-voltage flash memory devices. All devices in the series offer a true 3.0V-only solution, ideal for battery-powered operations. Features include: single power-supply operation, 2.7V to 3.6Voperating range, choice of architectures, high-performance read/write, and high-reliability.

Type	Access Time (ns)	Bits	Words x Bits	Package
AM29LV001BB-55JC	55	1M	128K x 8	PLCC
AM29LV001BB-70JC	70	1M	128K x 8	PLCC
AM29LV001BB-90JC	90	1M	128K x 8	PLCC
AM29LV001BT-55JC	55	1M	128K x 8	PLCC
AM29LV001BT-70JC	70	1M	128K x 8	PLCC
AM29LV001BT-90JC	90	1M	128K x 8	PLCC
AM29LV002B-120EC	120	2M	256K x 8	TSOP
AM29LV002T-120EC	120	2M	256K x 8	TSOP
AM29LV002B-90REC	90	2M	256K x 8	TSOP
AM29LV002T-90REC	90	2M	256K x 8	TSOP
AM29LV200B-120EC	120	2M	128K x 16	TSOP
AM29LV200B-90REC	90	2M	128K x 16	TSOP
AM29LV200T-120EC	120	2M	128K x 16	TSOP
AM29LV200T-90REC	90	2M	128K x 16	TSOP
AM29LV800BB-120EC	120	8M	512K x 16	TSOP
AM29LV800BT-120EC	120	8M	512K x 16	TSOP
AM29LV800BB-70EC	70	8M	512K x 16	TSOP
AM29LV800BT-70EC	70	8M	512K x 16	TSOP

(34977) (ne34977)

PRICES LISTED AT THE BEGINNING OF THE SECTION.

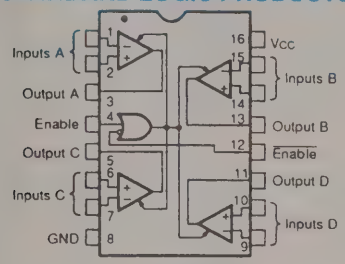
E86 SERIES x86-COMPATIBLE EMBEDDED MICROCONTROLLERS

AMD's integrated 16-bit versions, **type AM186EM** and **AM188EM** microcontrollers, offer new combinations of price, power consumption, and additional on-chip features which are moving 8-bit and 16-bit customers up to high performance.

Type	Description	Pins	Pkg.
AM186ED-20KC\W	CMOS, High-Integration, 16-Bit Embedded MCU	100	PQFP
AM186EM-20KC/W	CMOS, High-Integration, 16-Bit Embedded MCU	100	PQFP
AM186ER-20KC\W	CMOS, High-Integration, 16-Bit Embedded MCU	100	PQFP
AM186ES-20KC\W	CMOS, High-Integration, 16-Bit Embedded MCU	100	PQFP
AM186ED-40KC\W	CMOS, High-Integration, 16-Bit Embedded MCU	100	PQFP
AM186EM-40KC\W	CMOS, High-Integration, 16-Bit Embedded MCU	100	PQFP
AM186ER-40KC\W	CMOS, High-Integration, 16-Bit Embedded MCU	100	PQFP
AM186ES-40KC\W	CMOS, High-Integration, 16-Bit Embedded MCU	100	PQFP
AM188EM-20KC/W	CMOS, High-Integration, 16-Bit Embedded MCU	100	PQFP
AM188ER-20KC\W	CMOS, High-Integration, 16-Bit Embedded MCU	100	PQFP
AM188ES-20KC\W	CMOS, High-Integration, 16-Bit Embedded MCU	100	PQFP
AM188EM-40KC\W	CMOS, High-Integration, 16-Bit Embedded MCU	100	PQFP
AM188ES-40KC\W	CMOS, High-Integration, 16-Bit Embedded MCU	100	PQFP

(9869) (ne08766)

DATA COMMUNICATIONS INTERFACE STANDARD LOGIC PRODUCTS



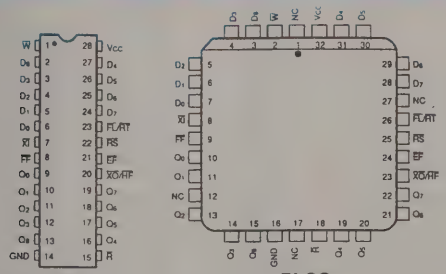
Type	Description	Pins	Pkg.
AM26LS29PC	Quad RS-423 Transmission Line Driver	16	PDIP
AM26LS30PC	Quad RS-422/-423 Transmission Line Driver	16	PDIP
AM26LS31PC	High-Speed Quad RS-422 Transmission Line Driver	16	PDIP
AM26LS31SC	High-Speed Quad RS-422 Transmission Line Driver	16	SOIC
AM26LS32PC	Quad RS-422/-423 Transmission Line Receiver	16	PDIP
AM26LS32SC	Quad RS-422/-423 Transmission Line Receiver	16	SOIC
AM26LS32BPC	Quad RS-422/-423 Transmission Line Receiver	16	PDIP
AM26LS33PC	Quad High V_{CM} Line Transmission Receiver	16	PDIP

COMMUNICATIONS AND NETWORKING PRODUCTS

Type	Description	Pins	Pkg.
AM7968-125DC	Taxi Transmitter	28	CerPDIP
AM7968-125JC	Taxi Transmitter	28	PLCC
AM7969-125DC	Taxi Receiver	28	CerPDIP
AM7969-125JC	Taxi Receiver	28	PLCC

(9887) (de00523b)

HIGH-DENSITY FIRST-IN FIRST-OUT DEVICES (FIFO)



Access time: 25ns.

Type	Description	Pins	Package
AM7202A-25RC	1K x 9 RAM-Based CMOS FIFO	28	PDIP
AM7203A-25RC	2K x 9 RAM-Based CMOS FIFO	28	PDIP
AM7204A-25PC	4K x 9 RAM-Based CMOS FIFO	28	PDIP
AM7204A-25RC	4K x 9 RAM-Based CMOS FIFO	28	PDIP
AM7205A-25RC	8K x 9 RAM-Based CMOS FIFO	28	PDIP

(9913) (de00522)

HIGH-SPEED CMOS ULTRAVIOLET AND OTP EPROMs

EPROMs have a static standby mode, and feature fast Flashrite single address location programming (12.75V programming voltage). Fast read access time allows operation with high-performance microprocessors without any WAIT states. Offer separate output enable and chip enable controls, thus eliminating bus contention in a multiple bus microprocessor system. Provide high speed, low power consumption (100µA maximum standby current), and high noise immunity. All signals are TTL levels, including programming signals. Bit locations may be programmed singly, in small blocks, or at random. Have latch-up protection to 100 mA from –1V to Vcc + 1V. Temperature range: 0 to +70°C. All devices come in ceramic DIP packages, unless otherwise indicated.

Type	Bits	Words x Bits	Time Access (ns)	Pins	Power Supply Voltage	Package
AM27C64-55DC	64K	8K x 8	55	28	5V±10%	CerDIP
AM27C64-90DC	64K	8K x 8	90	28	5V±10%	CerDIP
AM27C64-120DC	64K	8K x 8	120	28	5V±10%	CerDIP
AM27C64-120PC	64K	8K x 8	120	28	5V±10%	PDIP
AM27C64-150DC	64K	8K x 8	150	28	5V±10%	CerDIP
AM27C128-70DC	128K	16K x 8	70	28	5V±10%	CerDIP
AM27C128-90DC	128K	16K x 8	90	28	5V±10%	CerDIP
AM27C128-120DC	128K	16K x 8	120	28	5V±10%	CerDIP
AM27C128-150DC	128K	16K x 8	150	28	5V±10%	CerDIP
AM27C128-200DC	128K	16K x 8	200	28	5V±10%	CerDIP
AM27C256-55DC	256K	32K x 8	55	28	5V±5%	CerDIP
AM27C256-70DC	256K	32K x 8	70	28	5V±10%	CerDIP
AM27C256-90DC	256K	32K x 8	90	28	5V±10%	CerDIP
AM27C256-120DC	256K	32K x 8	120	28	5V±10%	CerDIP
AM27C256-120JC	256K	32K x 8	120	32	5V±10%	PLCC
AM27C256-150DC	256K	32K x 8	150	28	5V±10%	CerDIP
AM27C256-150PC	256K	32K x 8	150	28	5V±10%	PDIP
AM27C256-200DC	256K	32K x 8	200	28	5V±10%	CerDIP
AM27C512-55DC	512K	64K x 8	55	28	5V±10%	CerDIP
AM27C512-90DC	512K	64K x 8	90	28	5V±10%	CerDIP
AM27C512-120DC	512K	64K x 8	120	28	5V±10%	CerDIP
AM27C512-120JC	512K	64K x 8	120	32	5V±10%	PLCC
AM27C512-150DC	512K	64K x 8	150	28	5V±10%	CerDIP
AM27C512-150JC	512K	64K x 8	150	28	5V±10%	PLCC
AM27C512-150PC	512K	64K x 8	150	28	5V±10%	PDIP
AM27C512-200DC	512K	64K x 8	200	28	5V±10%	CerDIP
AM27C010-45DC	1M	128K x 8	45	32	5V±10%	CerDIP
AM27C010-55DC	1M	128K x 8	55	32	5V±10%	CerDIP
AM27C010-70DC	1M	128K x 8	70	32	5V±10%	CerDIP
AM27C010-90DC	1M	128K x 8	90	32	5V±10%	CerDIP
AM27C010-120DC	1M	128K x 8	120	32	5V±10%	CerDIP
AM27C010-120JC	1M	128K x 8	120	32	5V±10%	CerDIP
AM27C010-150DC	1M	128K x 8	150	32	5V±10%	CerDIP
AM27C010-150JC	1M	128K x 8	150	32	5V±10%	PLCC
AM27C010-200DC	1M	128K x 8	200	32	5V±10%	CerDIP
AM27C1024-55DC	1M	64K x 16	55	40	5V±10%	CerDIP
AM27C1024-55JC	1M	64K x 16	55	44	5V±10%	PLCC
AM27C1024-70DC	1M	64K x 16	70	40	5V±10%	CerDIP
AM27C1024-90DC	1M	64K x 16	90	40	5V±10%	CerDIP
AM27C1024-120DC	1M	64K x 16	120	40	5V±10%	CerDIP
AM27C1024-150DC	1M	64K x 16	150	40	5V±10%	CerDIP
AM27C1024-255DC	1M	64K x 16	255	40	5V±10%	CerDIP
AM27C020-120DC	2M	256K x 8	120	32	5V±10%	CerDIP
AM27C020-150DC	2M	256K x 8	150	32	5V±10%	CerDIP
AM27C2048-70DC	2M	128K x 16	70	40	5V±10%	CerDIP
AM27C2048-90DC	2M	128K x 16	90	40	5V±10%	CerDIP
AM27C2048-120DC	2M	128K x 16	120	44	5V±10%	CerDIP
AM27C2048-120JC	2M	128K x 16	120	40	5V±10%	PLCC
AM27C2048-150DC	2M	128K x 16	150	40	5V±10%	CerDIP
AM27C2048-255DC	2M	128K x 16	255	40	5V±10%	CerDIP
AM27C040-90DC	4M	512K x 8	90	32	5V±10%	CerDIP
AM27C040-90JC	4M	512K x 8	90	32	5V±10%	PLCC
AM27C040-95DC	4M	512K x 8	95	32	5V±10%	CerDIP
AM27C040-120DC	4M	512K x 8	120	32	5V±10%	CerDIP
AM27C040-150DC	4M	512K x 8	150	32	5V±10%	CerDIP

(9870) (de01055)

TTL BIPOLAR PROMs (TRI-STATE)

Type	Description	Access Time (ns)	Pins	Pkg.
AM27S19PC	32 x 8 High-Speed PROM	40	16	PDIP
AM27S19APC	32 x 8 High-Speed PROM	25	16	PDIP
AM27S21PC	256 x 4 High-Speed PROM	45	16	PDIP
AM27S13PC	512 x 4 High-Speed PROM	50	16	PDIP
AM27S29PC	512 x 8 High-Speed PROM	55	20	PDIP
AM27S29APC	512 x 8 High-Speed PROM	40	20	PDIP
AM27S191APC	2048 x 8 High-Speed PROM	35	24	PDIP

(9915) (de08767)

SAME-DAY SHIPMENT ON ORDERS PLACED BY 5:00 PM C.S.T.

PROGRAMMABLE LOGIC

LOW-POWER HIGH-SPEED EECMOS PAL® CIRCUITS

16V8 FAMILY

Type	Power	Dedicated Inputs	I/Os	PT per Output	t_{PD} (ns)	f_{CNT} (MHz)	I_{CC} Static (mA)	Features	Package
PALCE16V8H-7PC/5	Half	8	8	8	7.5	125	115	GAL Device Equivalent	20-Lead PLCC
PALCE16V8H-10PC/4	Half	8	8	8	10	71.4	115	GAL Device Equivalent	20-Pin PDIP
PALCE16V8H-15JC/4	Half	8	8	8	15	71.4	90	GAL Device Equivalent	20-Lead PLCC
PALCE16V8H-15PC/4	Half	8	8	8	15	50	90	GAL Device Equivalent	20-Pin PDIP
PALCE16V8Q-15PC/4	Quarter	8	8	8	15	50	55	GAL Device Equivalent	20-Pin PDIP
PALCE16V8H-25JC/4	Half	8	8	8	25	40	90	GAL Device Equivalent	20-Lead PLCC
PALCE16V8Q-25JC/4	Quarter	8	8	8	25	40	90	GAL Device Equivalent	20-Lead PLCC
PALCE16V8Q-25PC/4	Quarter	8	8	8	25	40	90	GAL Device Equivalent	20-Pin PDIP
20V8 FAMILY									
PALCE20V8H-5JC/5	Half	12	8	8	5	166	125	GAL Device Equivalent	28-Lead PLCC
PALCE20V8H-7JC/5	Half	12	8	8	5	166	125	GAL Device Equivalent	28-Lead PLCC
PALCE20V8H-7PC/5	Half	12	8	8	7.5	125	115	GAL Device Equivalent	24-Pin PDIP
PALCE20V8H-10PC/4	Half	12	8	8	10	71.4	115	GAL Device Equivalent	24-Pin PDIP
PALCE20V8H-15PC/4	Half	12	8	8	15	50	90	GAL Device Equivalent	24-Pin PDIP
PALCE20V8H-25PC/4	Half	12	8	8	25	40	90	GAL Device Equivalent	24-Pin PDIP
22V10 FAMILY									
PALCE22V10H-7PC/5	Half	12	10	8 to 16	7.5	133	115	Varied Product Term	24-Pin PDIP
PALCE22V10H-10JC/5	Half	12	10	8 to 16	10	110	120	Varied Product Term	28-Lead PLCC
PALCE22V10H-10PC/5	Half	12	10	8 to 16	10	110	120	Varied Product Term	24-Pin PDIP
PALCE22V10H-15JC/4	Half	12	10	8 to 16	15	58.8	90	Varied Product Term	28-Lead PLCC
PALCE22V10H-15PC/4	Half	12	10	8 to 16	15	58.8	90	Varied Product Term	24-Pin PDIP
PALCE22V10H-25JC/4	Half	12	10	8 to 16	25	35.7	90	Varied Product Term	28-Lead PLCC
PALCE22V10H-25PC/4	Half	12	10	8 to 16	25	35.7	90	Varied Product Term	24-Pin PDIP
PALCE22V10Q-25PC/4	Quarter	12	10	8 to 16	25	35.7	55	Varied Product Term	24-Pin PDIP
PALCE22V10Z-25PC	Zero	12	10	8 to 16	25	35.7	0.03	Varied Product Term	24-Pin PDIP
26V12 FAMILY									
PALCE26V12H-10JC/4	Half	14	12	8 to 16	10	105	115	Advanced 22V10 M/C	28-Lead PLCC
PALCE26V12H-10PC/4	Half	14	12	8 to 16	10	105	115	Advanced 22V10 M/C	28-Pin PDIP
PALCE26V12H-15JC/4	Half	14	12	8 to 16	15	58.8	130	Advanced 22V10 M/C	28-Lead PLCC
PALCE26V12H-15PC/4	Half	14	12	8 to 16	15	58.8	130	Advanced 22V10 M/C	28-Pin PDIP
PALCE26V12H-20PC/4	Half	14	12	8 to 16	20	43	130	Advanced 22V10 M/C	28-Pin PDIP
WITH PROGRAMMABLE CLOCK									
PALCE20RA10H-10JC	Half	10	10	4	10	76.9	100	Programmable Clock	28-Pin PLCC
PALCE20RA10H-15JC	Half	10	10	4	15	52.6	100	Programmable Clock	28-Pin PLCC
PALCE20RA10H-20JC	Half	10	10	4	20	37	90	Programmable Clock	28-Pin PLCC
PALCE20RA10H-10PC	Half	10	10	4	10	76.9	100	Programmable Clock	24-Pin PDIP
PALCE20RA10H-15PC	Half	10	10	4	15	52.6	100	Programmable Clock	24-Pin PDIP
PALCE20RA10H-20PC	Half	10	10	4	20	37	90	Programmable Clock	24-Pin PDIP
LOW-VOLTAGE									
PALLV16V8-10JC	3.3V	10	8	8	10	83.3	55	Low-Voltage	20-Pin PLCC
PALLV16V8-10PC	3.3V	10	8	8	10	83.3	55	Low-Voltage	20-Pin PLCC
PALLV22V10-10JC	3.3V	12	10	8 to 16	10	110	60	Low-Voltage	28-Pin PLCC
PALLV22V10-15JC	3.3V	12	10	8 to 16	15	58.8	60	Low-Voltage	28-Pin PLCC
PALLV22V10-10PC	3.3V	12	10	8 to 16	10	110	60	Low-Voltage	24-Pin PDIP
PALLV22V10-15PC	3.3V	12	10	8 to 16	15	58.8	60	Low-Voltage	24-Pin PDIP

(19240) (ne10984)

MACH SERIES PROGRAMMABLE LOGIC

Type	Family	I/Os	Macrocells	Dedicated Inputs	PT per Output	t_{PD} (ns)	f_{CNT} (MHz)	I_{CC} Static (mA)	Package
MACH111-5JC	MACH 1	32	32	6	0 - 12	5	182	40	44-Lead PLCC
MACH111-10JC	MACH 1	32	32	6	0 - 12	10	100	40	44-Pin PLCC
MACH111-12JC	MACH 1	32	32	6	0 - 12	12	76.9	40	44-Pin PLCC
MACH111-15JC	MACH 1	32	32	6	0 - 12	15	66.6	40	44-Pin PLCC
MACH211-7JC	MACH 2	32	64	6	0 - 16	7.5	133	40	44-Lead PLCC
MACH211-10JC	MACH 2	64	32	6	0 - 16	10	100	40	44-Pin PLCC
MACH211-12JC	MACH 2	64	32	6	0 - 16	12	83.3	40	44-Pin PLCC
MACH211-15JC	MACH 2	64	32	6	0 - 16	15	66.6	40	44-Pin PLCC
MACH221-7JC	MACH 2	48	96	8	0 - 16	7.5	133	70	96-Lead PLCC
MACH221-10JC	MACH 2	96	48	8	0 - 16	10	100	70	68-Pin PLCC
MACH221-12JC	MACH 2	96	48	8	0 - 16	12	83.3	70	68-Pin PLCC
MACH221-15JC	MACH 2	96	48	8	0 - 16	15	66.6	70	68-Pin PLCC
MACH231-6JC	MACH 2	64	128	8	0 - 16	6	166	135	84-Lead PLCC
MACH231-7JC	MACH 2	128	64	6	0 - 16	7.5	133	135	84-Pin PLCC
MACH231-10JC/1	MACH 2	128	64	6	0 - 16	10	100	135	84-Pin PLCC
MACH231-12JC/1	MACH 2	128	64	6	0 - 16	15	83.3	135	84-Pin PLCC
MACH231-15JC/1	MACH 2	128	64	6	0 - 16	15	66.6	135	84-Pin PLCC
MACH 1 AND MACH 2 IN-SYSTEM PROGRAMMING FAMILY									
MACH111SP-5JC	MACH 1	32	32	2	0 - 12	5	167	45	44-Lead PLCC
MACH131SP-5YC	MACH 1	64	64	6	0 - 12	5.5	167	75	100-Lead PQFP
MACH211SP-7JC	MACH 2	32	64	2	0 - 16	7.5	133	40	44-Lead PLCC
MACH231SP-10YC	MACH 2	64	128	4	0 - 16	10	100	90	100-Lead PQFP

(19241) (ne10985)

ONE-STOP SHOPPING . . . WITH ONE CALL AND ONE PURCHASE ORDER.

DALLAS SEMICONDUCTOR

PRODUCT SELECTION GUIDE

NONVOLATILE SRAM

Integrate a lithium power source and intelligent control circuitry to retain data even in the absence of system power. Control circuitry monitors system voltage available to the memory at all times, and switches to the lithium power source to protect memory contents when necessary. Feature unlimited write endurance, automatic data protection, and read/write access times as fast as 70ns. **Types DS13xx** have built-in lithium battery monitor, CPU reset. DIP packages have JEDEC standard pinouts, 0.600″ row spacing. Low Profile Module (LPM) packages are 0.25″ thick, fit standard 68-pin PLCC sockets. PowerCap Module (PCM) are surface-mount, require **type DS9034PC** for proper operation. Operating temp.: 0°C to +70°C. Some devices also available in industrial temperature range (–40°C to +85°C); *contact your local Newark sales office.*

Type	Organization	V_{CC} Tolerance	Access Time (ns)	Pins	Package
DS1220AB-150	2k x 8	±5%	150	24	DIP
DS1220AB-200	2k x 8	±5%	200	24	DIP
DS1220AD-100	2k x 8	5V±10%	100	24	DIP
DS1220AD-200	2k x 8	±10%	200	24	DIP
DS1220Y-150	2k x 8	±10%	150	24	DIP
DS1220Y-200	2k x 8	±10%	200	24	DIP
DS1225AB-85	8k x 8	5V±5%	85	28	DIP
DS1225AB-150	8k x 8	±5%	150	28	DIP
DS1225AB-200	8k x 8	±5%	200	28	DIP
DS1225AD-85	8k x 8	5V±10%	85	28	DIP
DS1225AD-150	8k x 8	±10%	150	28	DIP
DS1225AD-200	8k x 8	±10%	200	28	DIP
DS1225Y-150	8k x 8	±10%	150	28	DIP
DS1225Y-170	8k x 8	±10%	170	28	DIP
DS1225Y-200	8k x 8	±10%	200	28	DIP
DS1230AB-70	32k x 8	5V±5%	70	28	DIP
DS1230AB-100	32k x 8	±5%	100	28	DIP
DS1230AB-120	32k x 8	±5%	120	28	DIP
DS1230AB-150	32k x 8	±5%	150	28	DIP
DS1230AB-200	32k x 8	±5%	200	28	DIP
DS1230ABP-70	32k x 8	5V±5%	70	34	PCM
DS1230BL-70	32k x 8	±5%	70	34	LPM
DS1230BL-100	32k x 8	±5%	100	34	LPM
DS1230Y-70	32k x 8	5V±10%	70	28	DIP
DS1230Y-100	32k x 8	±10%	100	28	DIP
DS1230Y-150	32k x 8	±10%	150	28	DIP
DS1230Y-200	32k x 8	±10%	200	28	DIP
DS1230YL-70	32k x 8	±10%	70	34	LPM
DS1230YL-100	32k x 8	±10%	100	34	LPM
DS1230YP-70	32k x 8	5V±10%	70	34	PCM
DS1230W-150	32k x 8	3.3V±10%	150	28	DIP
DS1230WP-150	32k x 8	3.3V±10%	150	34	PCM
DS1330ABP-70	32k x 8	5V±5%	70	34	PCM
DS1330BL-70	32k x 8	±5%	70	34	LPM
DS1330YL-70	32k x 8	±10%	70	34	LPM
DS1330YL-100	32k x 8	±10%	100	34	LPM
DS1330YP-70	32k x 8	5V±10%	70	34	PCM
DS1330WP-150	32k x 8	3.3V±0.3V	150	34	PCM
DS1245AB-120	128k x 8	±5%	120	32	DIP
DS1245ABP-70	128k x 8	5V±5%	70	34	PCM
DS1245Y-100	128k x 8	±10%	100	32	DIP
DS1245YP-70	128k x 8	5V±10%	70	34	PCM
DS1245W-150	128k x 8	3.3V±0.3V	150	32	DIP
DS1245WP-150	128k x 8	3.3V±0.3V	150	34	PCM
DS1345ABP-70	128k x 8	5V±5%	70	34	PCM
DS1345BL-100	128k x 8	±5%	70	34	LPM
DS1345BL-70	128k x 8	±5%	100	34	LPM
DS1345YL-70	128k x 8	±10%	70	34	LPM
DS1345YL-100	128k x 8	±10%	100	34	LPM
DS1345YP-70	128k x 8	5V±10%	70	34	PCM
DS1345WP-150	128k x 8	3.3V±0.3V	150	34	PCM
DS1249AB-70	256k x 8	5V±5%	70	32	DIP
DS1250AB-100	512k x 8	±5%	100	32	DIP
DS1250ABP-70	512k x 8	5V±5%	70	34	PCM
DS1250BL-70	512k x 8	±5%	70	34	LPM
DS1250BL-100	512k x 8	±5%	100	34	LPM
DS1250Y-100	512k x 8	±10%	100	32	DIP
DS1250YL-70	512k x 8	±10%	70	34	LPM
DS1250YL-100	512k x 8	±10%	100	34	LPM
DS1250YP-70	512k x 8	5V±10%	70	34	PCM
DS1250W-150	512k x 8	3.3V±0.3V	150	32	DIP
DS1250WP-150	512k x 8	3.3V±0.3V	150	34	PCM
DS1350ABP-70	512k x 8	5V±5%	70	34	PCM
DS1350BL-70	512k x 8	±5%	70	34	LPM
DS1350YL-70	512k x 8	±10%	70	34	LPM
DS1350YP-70	512k x 8	5V±10%	70	34	PCM
DS1350WP-150	512k x 8	3.3V±0.3V	150	34	PCM
DS1265AB-70	1024k x 8	5V±5%	70	40	DIP
DS1265Y-70	1024k x 8	5V±10%	70	40	DIP
DS1270AB-70	2048k x 8	5V±5%	70	40	DIP
DS1270Y-70	2048k x 8	5V±10%	70	40	DIP
DS1258AB-100	128k x 16	±5%	100	40	DIP
DS1258Y-100	128k x 16	±10%	100	40	DIP
DS1658AB-70	128k x 16	±5%	70	40	DIP
DS1658Y-70	128k x 16	±10%	70	40	DIP
DS1658Y-100	128k x 16	±10%	100	40	DIP

(10010) (ne01879)

HIGH-SPEED MICROCONTROLLERS

Dallas Semiconductor high-speed microcontrollers are revolutionary products in the 8051 microcontroller family, which deliver up to 3 times the performance of industry standard 8051s just by dropping into an existing socket. This is accomplished by using 4 clocks per instruction instead of the usual 12, without changing crystal frequency. All parts are instruction set compatible with the 80C51/87C51. **Type DS80C320** is pin-for-pin compatible with 80C32, including the 3-volt version, **type DS80C323. Type DS80C310** is a cost-reduced version of **type DS80C320. Type DS87C520** is pin-for-pin compatible with the 80C51/87C51, and includes 16kB of EPROM, 1.2kB of SRAM. **Type DS87C530** contains same features as **type DS87C520**, plus a real-time clock and 1kB non-volatile SRAM. All of the high-speed controllers, except **type DS80C310,** include dual serial ports, power-on reset, and watchdog timer.

Type	Pins	Package	Clock Speed Max.
DS80C310-ECG	44	TQFP	25 MHz
DS80C320-ECG	44	TQFP	25 MHz*
DS80C320-MCG	40	PDIP	25 MHz*
DS80C320-QCG	44	PLCC	25 MHz*
DS80C320-QCL	44	PLCC	33 MHz*
DS80C323-ECD	44	TQFP	18 MHz
DS80C323-MCD	40	PDIP	18 MHz
DS80C323-QCD	44	PLCC	18 MHz
DS87C520-ECL	44	TQFP	33 MHz*
DS87C520-MCL	40	PDIP	33 MHz*
DS87C520-QCL	44	PLCC	33 MHz*
DS87C520-WCL	40	Windowed	33 MHz
DS87C530-ECL	52	TQFP	33 MHz*
DS87C530-QCL	52	PLCC	33 MHz*
DS80C530-KCL	52	Windowed	33 MHz

* Industrial temp. version available; *contact your local Newark sales office.*

(9433) (de01881)

CPU SUPERVISORS

POWER MONITORS

Type DS1231 monitors high-voltage inputs and uses a precise temperature-compensated reference circuit to provide an orderly shutdown and automatic restart of processor-based systems.

Type	Sense Input Hysteresis		Package
	Low Voltage Trip	High Voltage Trip	
DS1231-20	2.30V	2.50V	8-Pin DIP
DS1231-35	2.30V	2.50V	8-Pin DIP

MICROMONITORS

Type DS1232 monitors power supply, software execution and external override. Resets to active state when an out-of-tolerance condition occurs, and maintains active state for 250 ms to allow the power supply and processor to stabilize when V_{CC} returns to in-tolerance condition. Features pushbutton reset control Watchdog timer can be set to 150 ms, 600 ms, or 1.2 seconds. **Type DS1232LP** is a low-power design.

Type	Operating Current Max.	Package
DS1232	2 mA	8-Pin DIP
DS1232N	2 mA	8-Pin DIP
DS1232S	2 mA	16-Pin SOIC
DS1232LP	50 µA	8-pin DIP
DS1232LPS	50 µA	16-Pin SOIC
DS1232LPS-2	50 µA	8-Pin SOIC (150mil)

ECONORESET MONITORS

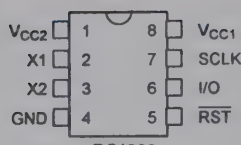
Type DS1232/1833 monitors power supply and external override. Resets to active state when an out-of-tolerance condition occurs, and maintains active state for 350 ms to allow the power supply and processor to stabilize when V_{CC} returns to in-tolerance condition. **Type DS1233** and **DS1233A** feature pushbutton reset control. **Type DS1832** have reset and watchdog.

Type	V_{CC}	Tolerance	Package
DS1233-5	5.0V	5%	TO-92
DS1233-10	5.0V	10%	TO-92
DS1233-15	5.0V	15%	TO-92
DS1233Z-5	5.0V	5%	SOT-223
DS1233Z-10	5.0V	10%	SOT-223
DS1233A-15	3.3V	15%	TO-92
DS1233D-10	5.0V	10%	TO-92
DS1233D-15	5.0V	15%	TO-92
DS1233DZ-10	5.0V	10%	SOT-223
DS1832	3.0V	Selectable	8-Pin DIP
DS1832S	3.0V	Selectable	8-Pin SOIC
DS1833-5	5.0V	5%	TO-92
DS1833-10	5.0V	10%	TO-92

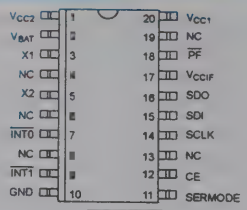
(10012) (ne01882)

SAME-DAY SHIPMENT ON ORDERS PLACED BY 5:00 PM C.S.T.

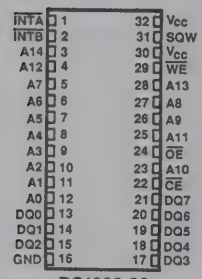
REAL-TIME CLOCKS



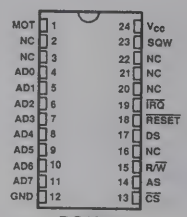
DS1302



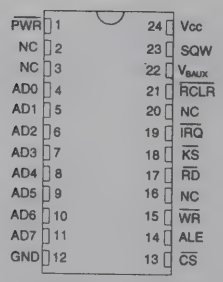
DS1305E



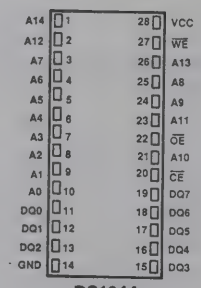
DS1386-32



DS12887



DS1687, DS17287, DS17487, DS17887



DS1644

REAL-TIME CLOCKS AND ELAPSED TIME COUNTERS WITH SERIAL INTERFACES

Serial clocks provide 4-, 3-, 2-wire interface for systems requiring small packages and low pin count.

Type	Pin	Pkg.*	Description
DS1302	8	DIP	RTC, 3-Wire Interface, 31 Bytes RAM, Trickle Charger
DS1305E	20	TSSOP	RTC, 3- or 4-Wire Interface, 96 Bytes RAM, Trickle Charger, 2 Time-of-Day Alarms
DS1602	8	DIP	2 Counters, 3-Wire Interface

REAL-TIME CLOCKS WITH BYTEWIDE INTERFACE

Bytewide interface clocks provide additional general-purpose RAM. Accept SRAMs or ROMs or densities indicated. Phantom interface clocks are transparent to the system until a particular 64-bit data sequence has been recognized.

DS1243Y	28	Module	8KB RAM, Phantom Interface for RTC
DS1244Y	28	Module	32KB RAM, Phantom Interface for RTC
DS1244Y-120	28	Module	32KB RAM, Phantom Interface for RTC
DS1642-120	24	Module	2KB RAM
DS1642-150	24	Module	2KB RAM
DS1643-120	28	Module	8KB RAM
DS1643-150	28	Module	8KB RAM
DS1644-120	28	Module	32KB RAM
DS1647-120	32	Module	512KB RAM

WATCHDOG TIMEKEEPERS WITH BYTEWIDE INTERFACE

Watchdog timekeepers provide, in addition to the clock and calendar, two alarms, programmable interrupt outputs, and 1kHz square wave output.

DS1286	28	Module	50 Bytes RAM, Time-of-Day Alarm
DS1386-32-150	32	Module	32KB RAM, Time-of -Day Alarm
DS1486-120	32	Module	128KB RAM, Time-of-Day Alarm

REAL-TIME CLOCKS WITH MULTIPLEXED ADDRESS/DATA BUS

Multiplexed address/data bus clocks provide time of day alarm, programmable square wave output and a programmable interrupt output in addition to clock and calendar.

DS12887	24	Module	114 Bytes RAM
DS14287	24	Module	114 Bytes RAM, NVRAM Control

CONTINUED

REAL-TIME CLOCKS (CONT.)

YEAR 2000 CLOCKS WITH CENTURY ROLLOVER

Year 2000-compliant clocks contain a 4-digit year counter that rolls over at the turn of the century from 1999 to 2000 with proper leap-year compensation. Most devices offer pin compatibility as NVRAM density is increased from 242 bytes to 8Kbytes.

DS1687-5	28	Module	114+128 Bytes RAM, KS, S/N, WU, V_{BAUX}, 5V
DS1742-70	28	Module	8KB RAM, Y2K-Compliant
DS1742-85	24	Module	2K RAM, Y2K-Compliant
DS1742-100	28	Module	8KB RAM, Y2K-Compliant
DS1743-70	24	Module	2KB RAM, Y2K-Compliant
DS1743-85	28	Module	8K RAM, Y2K-Compliant
DS1743-100	24	Module	2KB RAM, Y2K-Compliant
DS17287-5	24	Module	114+2KB RAM, KS, S/N, WU, V_{BAUX}, 5V

SOCKETS WITH REAL-TIME CLOCKS

DS1216B	28	Socket	RAM: 2KB, 8KB
DS1216C	28	Socket	RAM: 8KB, 32KB
DS1216D	32	Socket	RAM: 8KB, 32KB, 128KB, 512KB
DS1216E	28	Socket	ROM: 8KB, 32KB
DS1216F	32	Socket	ROM: 8KB, 32KB, 128KB

* All modules contain 32.768KHz crystal and embedded lithium energy source.

(9434) (de01883)

DS5000T SOFT MICROCONTROLLERS

Soft microcontrollers with embedded clock/calendar permit logging of events with time and date stamp. 8-bit µC provides nonvolatile RAM for program and/or data memory storage via lithium power source. 128 internal nonvolatile registers for variable retention. Capable of modifying program/memory in end-use. Maintains all nonvolatile resources for 10 years in absence of V_{CC}. On-chip full duplex serial I/O port and 32 parallel I/O lines. Compatible with 8051 instruction set and pinout. Temperature range: 0-70°C. 0.100″ (2.54) pin spacing. 0.600″ (15.24) row spacing. **Type DS5000FP-16** is an 80-pin quad flat pack containing a stand alone **DS5000** soft microcontroller die. Supports up to 32 Kbytes of data memory, 32 Kbytes of program memory. This gives user the flexibility of using their own lithium cells and memory to implement a nonvolatile microcontroller solution with the soft features of the **DS5000. DS5000TK** evaluation kit has **type DS5000T-32-12** microcontroller, software diskette, user's guide, in system loader software. Supports downloading from IBM PC host and downloads/verifies Intel Hex absolute object file.

Type	Program/Data RAM	Max. Clock Speed
DS5000T-08-08	8 Kbytes	8MHz
DS5000T-32-12	32 Kbytes	12MHz
DS5000T-32-16	32 Kbytes	16MHz
DS5000TK	Evaluation Kit	

(4377) (de01886)

BATTERY MANAGEMENT ICs

Battery managment ICs acquire battery parameters such as temperature, voltage, and current, providing an important link to a Smart Battery System (SBS), and helping to determine the cut-off point of charge and discharge cycles. Dallas' 1-Wire™ interface links the chip to an embedded system, microcontroller, or processor. **Type DS2434** features a user-defineable ID code for battery packs. Direct-to-digital thermometer allows for self-discharge calculations based on battery environment and eliminates the need for a thermistor in the battery pack. **Type DS2435** adds an elapsed time counter and a time-temperature histogram for more sophisticated prediction of battery self-discharge. **Type DS2436** has 64-bit serial number, which allows multiple battery packs to be charged at once, and a voltage A/D converter for battery voltage measurement. **Type DS2437** adds a fuel gauge for measuring the remaining battery charge. Multiple DS2436 and DS2437 devices can operate on the same single data line for remote data acquisition systems or gang charger circuits.

Type	DS2434	DS2435	DS2436	DS2437
Manufacturing ID Code	Yes	Yes	Yes	...
Temperature	Yes	Yes	Yes	Yes
NV Memory (Bytes)	24 + 8	24 + 8	24 + 8	40
32 Bytes SRAM Memory	Yes	Yes	Yes	...
Cycle Counter	Yes	Yes	...	...
dT/dt Histogram	...	Yes	...	...
Elapsed Time Counter	...	Yes	...	...
Addressable	...	...	Yes	Yes
Voltage A/D	...	...	Yes	Yes
Current A/D	...	...	...	Yes
Crystal Time Base	...	...	...	Yes
Package	PR-35	PR-35	PR-35	16-Pin SSOP
Kit Type	DS2434K	DS2435K	...	DS2437K

(10928) (ne09947)

CAN'T LOCATE A PARTICULAR PRODUCT?
NEWARK STOCKS THOUSANDS OF ITEMS NOT LISTED IN THIS CATALOG. CALL US TODAY!

PRICES LISTED AT THE BEGINNING OF THE SECTION.

ECONOSCILLATOR FIXED FREQUENCY OSCILLATORS

EconOscillators are user-programmable to set frequency values in the 30kHz to 100MHz range through an on-chip prescaler and EEPROM divider. Replacements for bulky oscillators, they offer 1% accuracy over specified temperature and voltage ranges with no external timing components. **Type DS1075** can be used as either a stand-alone oscillator or slaved to an external reference to provide sub-multiples of the reference frequency. **Type DS1073** is a 3V device suitable for small, battery-powered, handheld applications and systems requiring low-voltage operation. **Type DS1065** incorporates the programmable feature of the original **type DS1075**, and is available in a space-saving 3-lead TO-92 package. An internal oscillator circuit is factory-programmable from 60MHz to 110MHz, and two on-chip dividers are user-programmable from 1-513. EconOscillators come preprogrammed in four standard master frequencies: 60, 66, 80, and 100MHz with a divide-by-two. Using **type DS1075K** development kit, parts can be programmed to user's setting during prototyping and reprogrammed as designs change.

Type	Package	Clock Speed
DS1065T-60	TO-92	60MHz
DS1065T-100	TO-92	100MHz
DS1073M-60	8-Pin DIP	60MHz
DS1073M-100	8-Pin DIP	100MHz
DS1073Z-60	8-Pin SOIC	60MHz
DS1073Z-100	8-Pin SOIC	100MHz
DS1075M-60	8-Pin DIP	60MHz
DS1075M-66	8-Pin DIP	66MHz
DS1075M-80	8-Pin DIP	80MHz
DS1075M-100	8-Pin DIP	100MHz
DS1075Z-60	8-Pin SOIC	60MHz
DS1075Z-80	8-Pin SOIC	80MHz
DS1075Z-100	8-Pin SOIC	100MHz
DS1075K	EconOscillator Development Kit	

(10939) (ne09946)

DUAL ADDRESSABLE SWITCHES

Type DS2407 dual-addressable switch simplifies distributed closed-loop control from a central PC. Each **DS2407** contains a guaranteed-unique serial number that serves as a node address and allows multiple chips to reside on a single 1-Wire™ bus. The PC can activate the switch in a remote **DS2407** to turn on an LED. Alternately, its high-impedance sensor inputs are designed to capture a one-shot pulse, such as one generated by a piezo sensor. The device features 1024 bits of EPROM memory to store application-specific data. PIO pin channel "A" has sink capability of 50mA at 0.4V with soft turn-on. Channel "B" has 8mA at 0.4V.

Type	Description	Package
DS2407	Addressable Switch (1 Channel)	TO-92
DS2407P	Dual-Addressable Switch	TSOC
DS2409P	MicroLAN Coupler	6-Pin TSOC
DS2423	4K 1-Wire RAM with Counters	TSOC
DS2480	Serial 1-Wire Line Driver	8-Pin TSOC

(10941) (ne09944)

PC BOARD LABEL EEPROMs

Type DS2430A 256-bit, 1-Wire™ EEPROM identifies and stores relevant information, such as manufacturing history or revision data, about the product to which it is associated. The lot, or product-specific, information can be accessed with minimal interface, for example via a single port pin of a microcontroller. **Type DS2430A** communicates at up to 16.3Kbps. The power to read and write the device is derived entirely from the 1-Wire™ communication line. Data is transferred serially via the 1-Wire™ protocol, which requires only a single data lead and a ground return. The 48-bit serial number, factory-lasered into each **DS2430A**, provides a guaranteed unique identity which allows for absolute traceability.

Type	Description	Package
DS2430A	Silicon Label EEPROM	TO-92
DS2430AP	Silicon Label EEPROM	TSOC
DS2502	1K Add-Only Memory	TO-92
DS2502P	1K Add-Only Memory	TSOC
DS2505	16K Add-Only Memory	TO-92
DS2505P	16K Add-Only Memory	TSOC
DS2506	64K Add-Only Memory	PR35
DS2506S	64K Add-Only Memory	SOIC

(10943) (ne09945)

DIGITAL POTENTIOMETERS

Digital potentiometers are solid-state replacements for mechanical pots in many applications. They offer numerous advantages including greater reliability, improved accuracy, and direct processor control of the wiper setting. Listed devices come in PDIP packages. Some device types listed are also available in SOIC and TSSOP packages and industrial temperature grade; *contact your local Newark sales office.*

Type	Taper	Resolution	Power Supply (V)	Interface	Memory
DS1267-010	Linear	256 Positions, Dual	4.5 to 10	3-Wire Serial	Volatile
DS1267-050	Linear	256 Positions, Dual	4.5 to 10	3-Wire Serial	Volatile
DS1267-100	Linear	256 Positions, Dual	4.5 to 10	3-Wire Serial	Volatile
DS1669-10	Linear	64 Positions	4.5 to 8.0	Pushbutton	Non-Volatile
DS1669-50	Linear	64 Positions	4.5 to 8.0	Pushbutton	Non-Volatile
DS1669-100	Linear	64 Positions	4.5 to 8.0	Pushbutton	Non-Volatile
DS1801	Log	64 Steps, 1dB, Dual	2.7 to 5.5	3-Wire Serial	Volatile
DS1802	Log	128 Positions, Dual	2.7 to 5.5	3-Wire Serial	Volatile
DS18030-100	Linear	256 Positions, Dual	2.7 to 5.5	2-Wire Serial	Volatile
DS1804-010	Linear	100 Positions	2.7 to 5.5	Inc./Decrement	Non-Volatile
DS1804-050	Linear	100 Positions	2.7 to 5.5	Inc./Decrement	Non-Volatile
DS1804-010	Linear	100 Positions	2.7 to 5.5	Inc./Decrement	Non-Volatile
DS1844-010	Linear	64 Positions, Quad	2.7 to 5.5	3-Wire/Z-Wire	Volatile
DS1844-050	Linear	64 Positions, Quad	2.7 to 5.5	3-Wire/Z-Wire	Volatile
DS1844-100	Linear	64 Positions, Quad	2.7 to 5.5	3-Wire/Z-Wire	Volatile

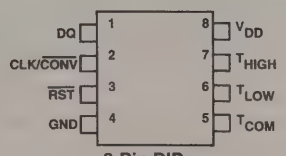
(4451) (ne09567)

DIRECT-TO-DIGITAL TEMPERATURE SENSORS

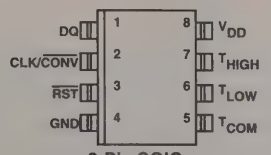
Digital and analog temperature sensors, many with thermostat capability. The core feature set of this series is a direct-to-digital readout of the temperature (≥9 bits); over- and under-temperature non-volatile thermostat set points; factory calibration; and dedicated thermostat logic outputs. Variations include three types of serial interfaces (1-Wire™, 2-wire and 3-wire), on-chip E^2PROM memory (up to 256 bytes), and multi-sense capability (up to ∞). The digital sensors require no external components to sense temperature and convert it to a digital word that can be read by a µP. Factory calibration eliminates the need for the designer to perform any compensation or linearization over the operating range. The nonvolatile thermostat trip points and dedicated thermostat outputs allow for stand-alone (no µP required) thermostat operation. Applications include: thermal management of personal computers and servers, office electronics, equipment racks, HVAC environmental control, and process monitoring/control. Some of the devices offer demonstration kits to allow users to explore the operation of this temperature sensing technology. The kits, which include software and hardware to interface the sensor to an IBM-compatible PC, allow the user to measure temperature, set thermostat trip point, and view thermostat output operation. Demo kits are available for **type DS1620** and **type DS1820**; *contact your local Newark sales office.*

Type	Package	Power Supply	Interface	Accuracy	Unique Feature
DS1620	8-Pin DIP	3V/5V	3-Wire	±0.5°C	Standalone Thermostat Mode
DS1620S	8-Pin SOIC	3V/5V	3-Wire	±0.5°C	Standalone Thermostat Mode
DS1621	8-Pin DIP	3V/5V	2-Wire	±0.5°C	Addressable Interface
DS1621S	8-Pin SOIC	3V/5V	2-Wire	±0.5°C	Addressable Interface
DS1624	8-Pin DIP	3V/5V	2-Wire	±0.5°C	256 Bytes EEPROM
DS1624S	8-Pin SOIC	3V/5V	2-Wire	±0.5°C	256 Bytes EEPROM
DS1629S	8-Pin SOIC	3V/5V	2-Wire	±2.0°C	On-Chip Real Time Clock
DS1720S	8-Pin SOIC	3V/5V	3-Wire	±2.5°C	Relaxed Spec, Economy **DS1620**
DS1721S	8-Pin SOIC	3V/5V	2-Wire	±1.0°C	Relaxed Spec, Economy **DS1621**
DS1780E-000	24-Pin TSSOP	3V/5V	2-Wire	±2.0°C	Monitors 6 Voltages, 2 Fan Speeds, 8-Bit DAC to Control Fan Speed
DS1820	PR-35	5V	1-Wire™	±0.5°C	Digital Interface w/Multiport Sensing
DS1820S	16-Pin SSOP	5V	1-Wire™	±0.5°C	Digital Interface w/Multiport Sensing
DS1821	PR-35	5V	1-Wire™	±1.0°C	Dig. Interface w/Standalone Thermostat Mode
DS1821T	TO-220	5V	1-Wire™	±1.0°C	Dig. Interface w/Standalone Thermostat Mode
DS56S	8-Pin SOIC	3V/5V	Analog Voltage	±2.0°C	Dual Independant Thermostat Settings
DS60R	SOT23-3	3V/5V	Analog Voltage	±2.0°C	Linear Output Sensor
DS75S	8-Pin SOIC	3V/5V	2-Wire	±2.0°C	**LM75** Compatible w/Higher Resolution

(10006) (ne03684)



8-Pin DIP



8-Pin SOIC

DRIVERS AND SWITCHES

PERIPHERAL POWER AND DISPLAY DRIVER ICs

SINK DRIVERS

Type	Output mA	Output V	Drivers	Serial Input	Latched Drivers	Diode Clamp	Package
UDN2595A	100	20	8	...	...	...	DIP
A2595ELW	100	20	8	...	...	...	DIP
UCN5833A	100	30	32	X	X	...	DIP
UCN5832A	100	40	32	X	X	...	DIP
UCN5832EP	100	40	32	X	X	...	PLCC
ULN7003A	250	150	7	...	...	X	DIP
UGQ5140K	300	45	1	Hall Sensor/Driver		X	4-pin mini-SIP
UDN2596A	300	50	8	...	...	X	DIP
UCN5800A	350	50	4	...	X	X	DIP
ULN2003A	350	50	7	...	...	X	DIP
ULQ2003A	350	50	7	...	...	X	DIP‡‡
ULN2003L	350	50	7	...	...	X	SOIC
ULQ2003L	350	50	7	...	...	X	SOIC‡‡
ULN2004A	350	50	7	...	...	X	DIP
ULQ2004A	350	50	7	...	...	X	DIP‡‡
ULN2004L	350	50	7	...	...	X	SOIC
ULQ2004L	350	50	7	...	...	X	SOIC‡‡
ULN2803A	350	50	8	...	...	X	DIP
ULQ2803A	350	50	8	...	...	X	DIP‡‡
ULN2804A	350	50	8	...	...	X	DIP
ULQ2804A	350	50	8	...	...	X	DIP‡‡
UCN5801A	350	50	8	...	X	X	DIP
UCN5801EP	350	50	8	...	X	X	PLCC
UCN5821A	350	50	8	X	X	...	DIP
UCN5841A	350	50	8	X	X	X	DIP
A5841SLW	350	50	8	X	X	X	SOIC
UCN5842A	350	80	8	X	X	X	DIP
A5842SLW	350	80	8	X	X	X	20-Lead SOIC
ULN2023A	350	95	7	...	...	X	DIP
ULQ2023A	350	95	7	...	...	X	DIP‡‡
ULN2023L	350	95	7	...	...	X	SOIC
ULN2024A	350	95	7	...	...	X	DIP
ULN2024L	350	95	7	...	...	X	SOIC
ULN2823A	350	95	8	...	...	X	DIP
ULQ2823A	350	95	8	...	...	X	DIP‡‡
ULN2824A	350	95	8	...	...	X	DIP
ULQ2824A	350	95	8	...	...	X	DIP‡‡
A6817SEP	450	30	28	Dual 4 to 14-line Decoder/Driver			PLCC
UDN2547B	600	60	4	...	...	...	DIP*
UDN2547EB	600	60	4	...	...	...	PLCC
UDN2543B	700	60	4	...	...	X	DIP*
UDN2559B	700	60	4	...	...	X	DIP*
UDN2559EB	700	60	4	...	...	X	PLCC
UDN2597A	750	50	8	...	...	X	DIP
UCN5804B	1250	50	4	Stepper Motor Translator/Driver			DIP*
UCN5804LB	1250	50	4	Stepper Motor Translator/Driver			SOIC*
ULN2064B	1250	50	4	...	...	X	DIP*
ULN2064LB	1250	50	4	...	...	X	SOIC*
ULN2068B	1250	50	4	...	...	X	DIP*
ULN2068LB	1250	50	4	...	...	X	SOIC*
ULN2065B	1500	80	4	...	...	X	DIP*
ULN2069B	1500	80	4	...	...	X	DIP*
UDN2544B	1800	50	4	...	...	X	DIP*
UDN2540B	1800	50	4	...	...	X	DIP*
UDN2878W	4000	50	4	...	...	X	12-Lead SIP**
A2540SLB	1800	50	4	...	...	X	SOIC*
UDN2879W	4000	80	4	...	...	X	12-Lead SIP**

SOURCE DRIVERS

Type	Output mA	Output V	Drivers	Serial Input	Latched Drivers	Diode Clamp	Package
UCN5815A	–25	60	8	...	X	...	DIP
UCN5810AF	–25	60	10	X	X	†	DIP
UCN5811A	–25	60	12	X	X	...	DIP
UCN5812AF	–25	60	20	X	X	†	DIP
UCN5818AF	–25	60	32	X	X	†	DIP
UDN6118A	–25	85	8	...	...	...	DIP
A6118SLW	–25	85	8	...	...	...	SOIC
UDN2585A	–120	–25	8	...	...	X	DIP
A2585SLW	–120	–25	8	...	...	X	SOIC
UDN2985A	–120	30	8	...	...	X	DIP
UCN5895A	–120	50	8	X	X	X	DIP
UCN5895LW	–120	50	8	X	X	X	18-Lead SOIC
A5895SLW	–120	50	8	X	X	X	SOIC
UDN2987A	–350	35	8	...	...	X	DIP
UDN2981A	–350	50	8	...	...	X	DIP
UDN2982A	–350	50	8	...	...	X	DIP
A2982SLW	–350	50	8	...	...	X	SOIC
UCN5891A	–350	50	8	X	X	X	DIP‡
UDN2580A	–350	–50	8	...	...	X	DIP
A2580SLW	–350	–50	8	...	...	X	SOIC
UDN2588A	–350	–50	8	...	...	X	DIP

CONTINUED

PERIPHERAL POWER AND DISPLAY DRIVER ICs (CONT.)

SOURCE DRIVERS (CONT.)

Type	Output mA	Output V	Drivers	Serial Input	Latched Drivers	Diode Clamp	Package
A2588SLW	–350	–50	8	...	...	X	SOIC
UCN5890A	–350	80	8	X	X	X	DIP‡
UDN2983A	–350	80	8	...	...	X	DIP
UDN2984A	–350	80	8	...	...	X	DIP
A2984SLW	–350	80	8	...	...	X	SOIC
UDN2944W	–4000	60	4	...	...	X	12-Lead SIP**

SOURCE/SINK (BRIDGE) DRIVERS

All have diode clamp except **UDN2936W**.

Type	Output mA	Output V	Drivers	Serial Input	Latched Drivers	Diode Clamp	Package
A3966SA	±650	30	4	Dual PWM Full-Bridge			DIP*
A3966SLB	±650	30	4	Dual PWM Full-Bridge			SOIC*
UDN2916B	±750	45	4	Dual PWM Full-Bridge			DIP*
UDN2916LB	±750	45	4	Dual PWM Full-Bridge			SOIC
A2919SB	±750	45	4	Dual PWM Full-Bridge			DIP*
A3953SB	±1300	50	2	PWM Full-Bridge			DIP*
A3953SLB	±1300	50	4	PWM Full-Bridge			SOIC*
A3955SB	±1300	50	4	PWM Full-Bridge Microstepping			DIP*
A3955SLB	±1300	50	4	PWM Full-Bridge Microstepping			SOIC*
UDN2917EB	±1500	45	4	Dual PWM Full-Bridge			PLCC
UDN2936W	±2000	45	3	3-Ø Brushless Controller/Driver			12-Lead SIP**
UDN2998W	±2000	50	4	Dual Full Bridge			12-Lead SIP**
A3951SB	±2000	50	4	PWM Full-Bridge			DIP**
A3951SW	±2000	50	4	PWM Full-Bridge			12-Lead SIP**
A3952SB	±2000	50	4	PWM Full-Bridge			DIP*
UDN2962W	±3000	45	2	PWM Control			12-Lead SIP**
UDN2961W	±3400	45	1	PWM Control			12-Lead SIP**

* With heat-sink tabs. ** Power-tab. † Active pull-down. ‡ Also available as SOIC; *contact your local Newark sales office.* ‡‡ Extended temperature range.

(4456) (ne90608)

1.5A QUAD DARLINGTON SWITCHES

High-voltage, high-current Darlington arrays interface between low-level logic and a variety of peripheral loads such as relays, solenoids, DC and stepper motors, magnetic print hammers, multiplexed LED and incandescent displays, heaters and similar loads. Intended for use with TTL, low-speed TTL, and 5V MOS logic. Feature transient-protected outputs. Can drive loads up to 480W. Both types have predriver stages. Temperature range: –20°C to +85°C.

Type	V_{CEX} Max.	V_{CE} Min.	Package
ULN2068B	50V	35V	16-pin PDIP w/Heat Sink Tabs
ULN2069B	80V	50V	16-pin PDIP w/Heat Sink Tabs

(4436) (ne08764)

AT NEWARK, THERE'S ALWAYS MORE THAN MEETS THE EYE!
CONTACT US FOR PRODUCTS NOT LISTED IN THIS CATALOG.

PRICES LISTED AT THE BEGINNING OF THE SECTION.

SENSORS, AMPS AND DATA CONVERTERS

HALL-EFFECT SENSORS

Allegro MicroSystems, Inc. Formerly Sprague Semiconductor Group

Type number **suffix LU and KU** and types beginning **UGQ** are extended temperature range. Additional package types available; *contact your local Newark sales office.*

UNIPOLAR HALL-EFFECT SWITCHES

Type	Switch Points Over Temp. (°C) Operate Max.	Release Min.	Description	Package
A3141EU	+175	+10	Unipolar Switch	3-Lead mini-SIP
A3141LU	+175	+10	Unipolar Switch	3-Lead mini-SIP
A3141ELT	+175	+10	Unipolar Switch	SOT-89
UGN3235K	±200	±15	Unipolar Switch*	4-Pin mini-SIP
UGS3235K	±200	±15	Unipolar Switch	4-Pin mini-SIP
UGQ5140K	±240	±25	Unipolar Switch‡	4-Pin mini-DIP
A3142EU	+245	+60	Unipolar Switch	3-Lead mini-SIP
A3142LU	+245	+60	Unipolar Switch	3-Lead mini-SIP
A3143EU	+355	+150	Unipolar Switch	3-Lead mini-SIP
A3144EU	+450	+25	Unipolar Switch	3-Lead mini-SIP
A3144LU	+450	+25	Unipolar Switch	3-Lead mini-SIP
A3123EU	+470	+160	Unipolar Switch	3-Lead mini-SIP
A3123LU	+470	+160	Unipolar Switch	3-Lead mini-SIP
A3121EU	+500	+80	Unipolar Switch	3-Lead mini-SIP
A3121LU	+500	+80	Unipolar Switch	3-Lead mini-SIP

* Output 1 switches on south pole, output 2 switches on north pole. ‡ 300mA output.

BIPOLAR HALL-EFFECT LATCHES

Latches will not switch on removal of magnetic field.

Type	Switch Points Over Temp. (°C) Operate Max.	Release Min.	Description	Package
UGN3177U	+150	–150	Bipolar Latch	3-Lead mini-SIP
A3187LU	+175	–175	Bipolar Latch	3-Lead mini-SIP
A3197EU	+200	–200	Bipolar Latch	3-Lead mini-SIP
A3197LU	+200	–200	Bipolar Latch	3-Lead mini-SIP
A3189LU	+250	–250	Bipolar Latch	3-Lead mini-SIP
UGN3275K	+250	–250	Bipolar Latch	4-Lead mini-SIP

** Complementary output for 2-phase bifilar-wound, unipolar driver brushless DC motor control.

SPECIAL PURPOSE HALL-EFFECT SENSORS

Type	Switch Points Over Temp. (°C) Operate Max.	Release Min.	Description	Package
A3054SU	+300	+5	Unipolar Multiplex Sensor†	3-Lead mini-SIP
A3054KU	+300	+5	Unipolar Multiplex Sensor†	3-Lead mini-SIP

† Multiplexed two-wire sensor; after proper address, power/signal bus current indicates magnetic field condition.

LINEAR HALL-EFFECT SENSORS

Type	Output Typ.	Description	Package
UGN3503U	1.3 mV/G	Linear Sensor	3-Lead mini-SIP
UGN3503UA	1.3 mV/G	Linear Sensor	3-Lead ultramini-SIP
A3507EU	1.3 mV/G	Linear Sensor	3-Lead mini-SIP
A3507LU	2.5 mV/G	Linear Sensor	3-Lead mini-SIP
A3508SU	2.5 mV/G	Linear Sensor	3-Lead mini-SIP
A3515EUA	5.0 mV/G	Linear Sensor	3-Lead ultramini-SIP
A3515LUA	5.0 mV/G	Linear Sensor	3-Lead ultramini-SIP
A3516EUA	2.5 mV/G	Linear Sensor	3-Lead ultramini-SIP
A3516LUA	2.5 mV/G	Linear Sensor	3-Lead ultramini-SIP
A3517SUA	5.0 mV/G	Linear Sensor	3-Lead ultramini-SIP
A3518SUA	2.5 mV/G	Linear Sensor	3-Lead ultramini-SIP
A3518LUA	2.5 mV/G	Linear Sensor	3-Lead ultramini-SIP

(10017) (ne08765)

AMPLIFIERS

intronics

The isolation amplifiers listed below are currently manufactured with the identical high-performance levels and wide bandwidth as when they werre manufactured by Analog Devices. The operational amplifiers and log/antilog or log/ratio amplifiers, as well as the other listed parts, are now exclusively manufactured by Intronics to the exact same specifications as when they were manufactured by Analog Devices.

Type	Description
284J	High-Performance, Self-Contained Isolation Amp
286J	High CMV, High-Performance, Synchronized Isolation Amp
289J	Precision, Wide Bandwidth, Synchronized Isolation Amp
289K	Precision, Wide Bandwidth, Synchronized Isolation Amp
289L	Precision, Wide Bandwidth, Synchronized Isolation Amp
290A	Multichannel Isolation Amp
310J	Operational Amplifier
755N	Log/Antilog Amplifier
755P	Log/Antilog Amplifier
757N	Log Ratio Amplifier
757P	Log Ratio Amplifier
759N	Log/Antilog Amplifier
759P	Log/Antilog Amplifier

ACCESSORIES

92F621 Type AC1214 Shielded Socket for **Type 289. Each** **62.10**
92F618 Type AC1017 Socket for **Type 310. Each** **101.43**
92F617 Type AC1016 Socket for **Type 755/759. Each** **61.07**
(34806) (ne34806)

DATA CONVERTERS

intronics

Converters, in addition to the amplifiers, conditioners, and sockets, contain the same manufacturing components, and documention as when they were manufactured by Analog Devices. Operating voltages, linearity, etc. are also identical.

Type	Description
2B20A	4-20mA Voltage-to-Current Converter
2B20B	4-20mA Voltage-to-Current Converter
2B22J	Isolated Voltage-to-Current Converter
2B23J	Isolated Voltage-to-Current Converter
451J	Frequency-to-Voltage Converter
451K	Frequency-to-Voltage Converter
451L	Frequency-to-Voltage Converter
460J	Voltage-to-Frequency Converter
ADC1140	Analog-to-Digital Converter
DAC1136K	Digital-to-Analog Converter
DAC1146	Digital-to-Analog Converter

ACCESSORIES

92F620 Type AC1213 Socket for **Type 451. Each** **184.23**
92F617 Type AC1016 Socket for **Type 460. Each** **61.07**
(34801) (ne34801)

CONDITIONERS

intronics

Type	Description
2B31J	Strain Gage/RTD Conditioner
2B31K	Strain Gage/RTD Conditioner
2B31L	Strain Gage/RTD Conditioner
2B34J	Strain Gage/RTD Conditioner
2B50A	Isolated T_C Conditioner
2B54A	4-Channel T_C/mV Conditioner
2B56A	T_C Cold Junction Compensator

ACCESSORIES

92F620 Type AC1213 Socket for **Type 2B30. Each** **184.23**
(34802) (ne34802)

PANEL METER

intronics

92F622 Type AD2026-111 Panel Meter. **Each** **111.78**
(34803) (ne34803)

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VOLTAGE CONVERTERS AND REGULATORS

VOLTAGE CONVERTERS

INTEGRATED BUCK (STEP-DOWN) CONVERTERS

Type	Switch Curent (A)	Input Voltage (V)	Switching Frequency (kHz)	Efficiency* Typ. (%)	Output Voltage (V)	Package
LM2574-5.0BN	0.5	4.0-40	52	80	5	DIP-8
LM2575-5.0BN	1.0	4.0-40	52	80	5	DIP-16
LM2575-5.0BT	1.0	4.0-40	52	80	5	TO-220
LM2576-5.0BT	3.0	4.0-40	52	80	5	TO-220
MIC4574-3.3BN	0.5	4.0-24	200	80	3.3	DIP-8
MIC4574-3.3BWM	0.5	4.0-24	200	80	3.3	SO-14W
MIC4574-5.0BN	0.5	4.0-24	200	80	5.0	DIP-8
MIC4574-5.0BWM	0.5	4.0-24	200	80	5.0	SO-14W
MIC4574BN	0.5	4.0-24	200	80	Adj.	DIP-8
MIC4574BWM	0.5	4.0-24	200	80	Adj.	SO-14W
MIC4575-3.3BT	1.0	4.0-24	200	80	3.3	TO-220
MIC4575-3.3BU	1.0	4.0-24	200	80	3.3	TO-263
MIC4575-5.0BT	1.0	4.0-24	200	80	5.0	TO-220
MIC4575-5.0BU	1.0	4.0-24	200	80	5.0	TO-263
MIC4575BT	1.0	4.0-24	200	80	Adj.	TO-220
MIC4575BU	1.0	4.0-24	200	80	Adj.	TO-263
MIC4576-3.3BT	3.0	4.0-36	200	80	3.3	TO-220
MIC4576-3.3BU	3.0	4.0-36	200	80	3.3	TO-263
MIC4576-5.0BT	3.0	4.0-36	200	80	5.0	TO-220
MIC4576-5.0BU	3.0	4.0-36	200	80	5.0	TO-263
MIC4576BT	3.0	4.0-36	200	80	Adj.	TO-220
MIC4576BU	3.0	4.0-36	200	80	Adj.	TO-263
MIC2177-3.3BWM	2.5	4.5-16.5	200	95	3.3	SO-20W
MIC2177-5.0BWM	2.5	4.5-16.5	200	95	5.0	SO-20W
MIC2177BWM	2.5	4.5-16.5	200	95	Adj.	SO-20W
MIC2178-3.3BWM	2.5	4.5-16.5	200	95	3.3	SO-20W
MIC2178-5.0BWM	2.5	4.5-16.5	200	95	5.0	SO-20W
MIC2178BWM	2.5	4.5-16.5	200	95	Adj.	SO-20W
MIC2179-3.3BSM	1.5	4.5-16.5	200	95	3.3	SSOP-20
MIC2179-5.0BSM	1.5	4.5-16.5	200	95	5.0	SSOP-20
MIC2179BSM	1.5	4.5-16.5	200	95	Adj.	SSOP-20

INTEGRATED BOOST (STEP-UP) CONVERTERS

MIC3172BM	1.25	3.0-4.0	100	75	Adj.	SO-8
MIC3172BN	1.25	3.0-4.0	100	75	Adj.	PDIP

* Specified as an approximate guide. Actual efficiency depends on external components and input-to-output voltage differential.

(36276) (ne36276)

LOW DROP-OUT VOLTAGE REGULATORS

Type	Output Current	Dropout Voltage (mV)	Output Voltage (V)	Accuracy	Package
MIC29150-3.3BT	1.5A	350	3.3	1%	TO-220
MIC29150-5.0BT	1.5A	350	5	1%	TO-220
MIC29150-5.0BU	1.5A	350	5	1%	TO-263
MIC2920A-5.0BT	400mA	450	5	1%	TO-220
MIC29300-3.3BT	3.0A	370	3.3	1%	TO-220
MIC29300-5.0BT	3.0A	370	5	1%	TO-220
MIC29300-5.0BU	3.0A	370	5	1%	TO-263
MIC2950-05BZ	150mA	300	5	0.5%	TO-92
MIC2950-06BZ	150mA	300	5	1%	TO-92
MIC29500-3.3BT	5.0A	370	3.3	1%	TO-220
MIC29500-5.0BT	5.0A	370	5	1%	TO-220
MIC2951-02BM	150mA	300	5, Adj.	0.5%	SO-8
MIC2951-03BM	150mA	300	5, Adj.	1%	SO-8
MIC2954-02BT	250mA	375	5	0.5%	TO-220
MIC2954-03BT	250mA	375	5	1%	TO-220
MIC5156BM	...*	I x $R_{DS(ON)}$	Adj.	1%	SO-8
MIC5157BM	...*	I x $R_{DS(ON)}$	3.3, 5, 12	1%	SO-14
MIC5158BM	...*	I x $R_{DS(ON)}$	5, Adj.	1%	SO-14
MIC5203-3.3BM4 TS	80mA	300	3.3	3%	SOT-143
MIC5203-5.0BM4 TS	80mA	300	5	3%	SOT-143
MIC5205-3.3BM5 TS	150mA	165	3.3	1%	SOT23-5
MIC5205-5.0BM5 TS	150mA	165	5	1%	SOT23-5
MIC5207-3.3BM5 TS	180mA	165	3.3	3%	SOT23
MIC5207-5.0BM5 TS	180mA	165	5	3%	SOT23
MIC5210-5.0BMM TS	150mA	165	5	1%	MSOP-8

* Dependant on MOSFET used

Type	Output	Accuracy	Dropout @ 25°C Max.	Error Flag	Enable/ Shutdown	Package
MIC5207-2.5BM5 T&	180mV	3%	165mA	No	Yes	SOT-23-5
MIC5207-2.5BM5 TS	180mV	3%	165mA	No	Yes	SOT-23-5
MIC5209-2.5BU T&R	500mA	1%	300mV	No	Yes	SOT-263-5

(29472) (ne29472)

CONTACT NEWARK FOR LARGE-QUANTITY PRICING.

PRICES LISTED AT THE BEGINNING OF THE SECTION.

MOSFET DRIVERS AND COMPARATORS

MOSFET DRIVERS

LOW-SIDE DRIVERS

Type	Single, Dual, or Quad	Logic	Peak Current Output (A)	Output Impedance Ω	On-Delay	Operating Temperature	Package
MIC4416BM4 TS	Single	Noninverting	1.2	3.5	37ns into 1000pF	–40°C to +85°C	SOT-143
MIC4420BM	Single	Noninverting	6	2.5	25ns into 2500pF	–40°C to +85°C	SO-8
MIC4420BN	Single	Noninverting	6	2.5	25ns into 2500pF	–40°C to +85°C	PDIP
MIC4420CM	Single	Noninverting	6	2.5	25ns into 2500pF	0 to +70°C	SO-8
MIC4420CN	Single	Noninverting	6	2.5	25ns into 2500pF	0 to +70°C	PDIP
MIC4420CT	Single	Noninverting	6	2.5	25ns into 2500pF	0 to +70°C	TO-220-5
MIC4421BM	Single	Inverting	9	1	25ns into 10,000pF	–40°C to +85°C	SO-8
MIC4421CT	Single	Inverting	9	1	25ns into 10,000pF	0 to +70°C	TO-220-5
MIC4422BM	Single	Noninverting	9	1	25ns into 10,000pF	–40°C to +85°C	SO-8
MIC4422BN	Single	Noninverting	9	1	25ns into 10,000pF	–40°C to +85°C	PDIP
MIC4423BN	Dual	Inverting	3	3.5	25ns into 1800pF	–40°C to +85°C	PDIP
MIC4423CN	Dual	Inverting	3	3.5	25ns into 1800pF	0 to +70°C	PDIP
MIC4424BN	Dual	Noninverting	3	3.5	25ns into 1800pF	–40°C to +85°C	PDIP
MIC4424CN	Dual	Noninverting	3	3.5	25ns into 1800pF	0 to +70°C	PDIP
MIC4425BN	Dual	Inverting +	3	3.5	25ns into 1800pF	–40°C to +85°C	PDIP
MIC4426BM	Dual	Inverting	1.5	6	30ns into 1000pF	–40°C to +85°C	SO-8
MIC4426BN	Dual	Inverting	1.5	6	30ns into 1000pF	–40°C to +85°C	PDIP
MIC4426CM	Dual	Inverting	1.5	6	30ns into 1000pF	0 to +70°C	SO-8
MIC4426CN	Dual	Inverting	1.5	6	30ns into 1000pF	0 to +70°C	PDIP
MIC4427BM	Dual	Noninverting	1.5	6	30ns into 1000pF	–40°C to +85°C	SO-8
MIC4427BN	Dual	Noninverting	1.5	6	30ns into 1000pF	–40°C to +85°C	PDIP
MIC4427CM	Dual	Noninverting	1.5	6	30ns into 1000pF	0 to +70°C	SO-8
MIC4427CN	Dual	Noninverting	1.5	6	30ns into 1000pF	0 to +70°C	PDIP
MIC4428BM	Dual	Inverting +	1.5	6	30ns into 1000pF	–40°C to +85°C	SO-8
MIC4428BN	Dual	Inverting +	1.5	6	30ns into 1000pF	–40°C to +85°C	PDIP
MIC4428CN	Dual	Inverting +	1.5	6	30ns into 1000pF	0 to +70°C	PDIP
MIC4429BM	Single	Inverting	6	2.5	25ns into 2500pF	–40°C to +85°C	SO-8
MIC4429CM	Single	Inverting	6	2.5	25ns into 2500pF	0 to +70°C	SO-8
MIC4429CN	Single	Inverting	6	2.5	25ns into 2500pF	0 to +70°C	PDIP
MIC4451BM	Single	Inverting	12	0.8	25ns into 15,000pF	–40°C to +85°C	SO-8
MIC4452BM	Single	Noninverting	12	0.8	25ns into 15,000pF	–40°C to +85°C	SO-8
MIC4468BN	Quad	Noninverting and Inverting +	1.2	10	25ns into 470pF	–40°C to +85°C	PDIP
MIC4469BN	Quad	Noninverting AND	1.2	10	25ns into 470pF	–40°C to +85°C	PDIP
MIC4469BWM	Quad	Noninverting AND	1.2	10	25ns into 470pF	–40°C to +85°C	SO-8
MIC4469CN	Quad	Noninverting AND	1.2	10	25ns into 470pF	0 to +70°C	PDIP

* IttyBitty™ device

HIGH-SIDE DRIVERS

Type	Function	Single or Dual	Logic	On-Delay	Supply Voltage	Package
MIC5010BM	High- or Low-Side Driver	Single	Noninverting	60µs into 1nF	7V to 32V	SO-8
MIC5010BN	High- or Low-Side Driver	Single	Noninverting	60µs into 1nF	7V to 32V	PDIP
MIC5011BM	High- or Low-Side Driver	Single	Noninverting	60µs into 1nF	4.5V to 32V	SO-8
MIC5011BN	High- or Low-Side Driver	Single	Noninverting	60µs into 1nF	4.5V to 32V	PDIP
MIC5012BN	High- or Low-Side Driver	Dual	Noninverting	60µs into 1nF	4.75V to 32V	PDIP
MIC5012BWM	High- or Low-Side Driver	Dual	Noninverting	60µs into 1nF	4.75V to 32V	SO-16W
MIC5013BM	High- or Low-Side Driver	Single	Noninverting	60µs into 1nF	7V to 32V	SO-8
MIC5013BN	High- or Low-Side Driver	Single	Noninverting	60µs into 1nF	7V to 32V	PDIP
MIC5014BM	High- or Low-Side Driver	Single	Noninverting	...	2.75V to 30V	SO-8
MIC5014BN	High- or Low-Side Driver	Single	Noninverting	...	2.75V to 30V	PDIP
MIC5015BM	High- or Low-Side Driver	Single	Inverting	...	2.75V to 30V	SO-8
MIC5015BN	High- or Low-Side Driver	Single	Inverting	...	2.75V to 30V	PDIP
MIC5016BN	High- or Low-Side Driver	Dual	Noninverting	...	2.75V to 30V	PDIP
MIC5016BWM	High- or Low-Side Driver	Dual	Noninverting	...	2.75V to 30V	SO-16W
MIC5018BM4 TS	High- or Low-Side Driver	Single	Noninverting	2.1ms into 3,000pF	2.7V to 9V	SOT-143
MIC5020BM	High-Speed	Single	Noninverting	175ns into 2,000pF	11V to 50V	SO-8
MIC5020BN	High-Speed	Single	Noninverting	175ns into 2,000pF	11V to 50V	PDIP
MIC5021BM	High-Speed	Single	Noninverting	550ns into 1,000pF	12V to 36V	SO-8
MIC5021BN	High-Speed	Single	Noninverting	550ns into 1,000pF	12V to 36V	PDIP
MIC5022BN	High-Speed	Half-Bridge	Noninverting	500ns into 1,000pF	12V to 36V	PDIP

(29474) (ne29474)

COMPARATORS

PUSH-PULL OUTPUT

Type	Response Time (µs)	Supply Current (µA)	Input Offset Voltage (mV)	Input Bias Current (pA)	Supply Voltage	Package
MIC7211BM5 T&R	4µs	5µA	10mV	5pA	2.2V-12V	SOT-23-5
MIC7211BM5 TS	4µs	5µA	10mV	5pA	2.2V-12V	SOT-23-5
OPEN-DRAIN OUTPUT						
MIC7221BM5 T&R	4µs	5µA	10mV	5pA	2.2V-12V	SOT-23-5
MIC7221BM5 TS	4µs	5µA	10mV	5pA	2.2V-12V	SOT-23-5

(36376) (ne36376)

NEW PRODUCTS ARE BEING ADDED TO OUR INVENTORY EVERY DAY.
CALL NEWARK FOR INFORMATION ON WHAT'S CURRENTLY IN STOCK.

PRODUCT SELECTION GUIDE

DRIVERS

LATCHED DRIVERS

Type	Output Channels	Sink Current (mA)	Source Current (mA)	Output Voltage Max. (V)	Input	Package
MIC4807BN*	8	100	...	80	Parallel	PDIP
MIC5800BM	4	400	...	50	Parallel	SO-14
MIC5800BN	4	400	...	50	Parallel	PDIP
MIC5801BN	8	400	...	50	Parallel	PDIP
MIC5801BV	8	400	...	50	Parallel	PDIP
MIC5801BWM	8	400	...	50	Parallel	SO-24
MIC5810BN	10	15	40	60	Serial	PDIP
MIC5810BWM	10	15	40	60	Serial	SO-18W
MIC5812BN	20	15	50	60	Serial	PDIP
MIC5818BN	32	15	40	60	Serial	PDIP
MIC5821BN	8	400	...	50/35	Serial	PDIP
MIC5822BN	8	400	...	80/50	Serial	PDIP
MIC5841BN	8	400	...	50/35	Serial	PDIP
MIC5841BV	8	400	...	50/35	Serial	SO-18W
MIC5841BWM	8	400	...	50/35	Serial	SO-18W
MIC5891BN	8	...	400	50/35	Serial	PDIP
MIC5891BWM	8	...	400	50/35	Serial	SO-16W
MIC58P01BN*	8	400	...	80	Serial	PDIP
MIC59P50BWM*	8	400	...	80/50	Parallel	SO-24W
MIC59P60BN*	8	400	...	80/50	Serial	PDIP

LED DISPLAY DRIVERS

MM5450BN	10	15	25	35	Parallel	PDIP
MM5450BV	10	15	25	35	Serial	PLCC
MM5451BN	10	15	25	35	Parallel	PDIP
MM5451BV	10	15	25	35	Serial	PLCC

* Fully protected

(29473) (ne29473)

PWM CONTROLLERS

Type	MOSFET Drive Current (A)	Duty Cycle	Start-Up Current (µA)	Start-Up Voltage (V)	Switch Freq. Max. (kHz)	Package
MIC38C42BM	0.5	0-96%	50	14.5	500	SO-8
MIC38C42BN	0.5	0-96%	50	14.5	500	PDIP
MIC38C43BM	0.5	0-96%	50	8.4	500	SO-8
MIC38C43BN	0.5	0-96%	50	8.4	500	PDIP
MIC38C44-1BM	0.5	0-96%	50	8.4	500	PDIP
MIC38C44BM	0.5	0-50%	50	14.5	500	SO-8
MIC38C45BM	0.5	0-50%	50	8.4	500	SO-8
MIC38HC42BN	1.0	0-96%	50	14.5	500	PDIP
MIC38HC43BM	1.0	0-96%	50	8.4	500	SO-8
MIC38HC44BM	1.0	0-50%	50	14.5	500	SO-8
MIC38HC44BN	1.0	0-50%	50	14.5	500	PDIP
MIC38HC45-1BM	1.0	0-50%	50	14.5	500	PDIP
MIC38HC45BM	1.0	0-50%	50	8.4	500	SO-8

(29970) (ne29970)

OPERATIONAL AMPLIFIERS

Rail-to-rail i/o.

Type	GBW (kHz)	Slew Rate (mV/µs)	Supply Range (V)	Package
MIC7111BM5 T&R	25	20	1.8-11	SOT-23-5
MIC7111BM5 TS	25	20	1.8-11	SOT-23-5
MIC7300BM5 T&R	500	500	2.2-12	SOT-23-5
MIC7300BM5 TS	500	500	2.2-12	SOT-23-5

(36375) (ne36375)

QWIKRADIO™ RF RECEIVER/DEMODULATOR

- Complete UHF Receiver on a Monolithic Chip
- Frequency Range: 300 to 440MHz
- Typical Range over 100m with Monopole Antenna
- Date Rates to 4.8kbps
- Automatic Tuning (No Manual Adjustment)
- No Filters or Inductors Required
- Very Low RF Re-Radiation at the Antenna
- Direct CMOS Logic Interface to Standard Decoder and MPU ICs
- Applications: Keyless Entry; Security Systems; Remote Fan/Light Control; Garage Door Openers

Type	Operating Current @ T_A=25°C (mA)	Receiver Sensitivity (dBm)	IF Center Freq. (MHz)	IF Bandwidth (MHz)	Receive Data Rate Min./Max. (kbps)	CTH Source Imped. (Ohms)	CTH Source Imped. Variation	Supply Voltage (V)	Operating Temperature	Package
MICRF001BM	6.3	–95	2.25	1.0	0.1/4.8	200k	±15%	4.75 to 5.5	-40°C to +85°C	14-Pin PDIP
MICRF001BM T&R	6.3	–95	2.25	1.0	0.1/4.8	200k	±15%	4.75 to 5.5	-40°C to +85°C	14-Pin PDIP
MICRF001BN	6.3	–95	2.25	1.0	0.1/4.8	200k	±15%	4.75 to 5.5	-40°C to +85°C	14-Pin SOIC
MICRFKIT001	MICRF001 Evaluation Kit									

(41470) (ne41470)

PRICES LISTED AT THE BEGINNING OF THE SECTION.

MICROCONTROLLERS AND MICROPROCESSORS

Z8 FAMILY

Z8 architecture consists of a highly-integrated microcontroller on a single chip and a fully-expandable microprocessor for I/O and memory-intensive applications. The **Z8** can also address up to 124K bytes of external program and data memory which can provide full, memory-mapped I/O capacity. Features: WDT; 2 counter/timers; 256 internal register file, including 236 bytes RAM; 3.0-5.5V; 6-bit programmable prescaler; 6 vectored priority interrupts; brown-out protection; 2 sStandby modes—STOP and HALT; low power consumption. **Z86E02** offers ½ Kbyte of one-time programmable PROM, 61 bytes of general-purpose RAM, 1 on-chip counter/timer, and 14 I/O, low-noise, and ROM protect programmable. **Z86E04** offers 1 Kbyte of one-time PROM, 124 bytes of general-purpose RAM, two on-chip counter/timers, 14 I/O, low noise and ROM protect programmable and low-power consumption. The device allows easy software development and debug, prototyping and small production runs not economically desirable with a masked ROM version. **Z86E08** is a 2KROM featuring Z8 architecture in a low-cost plastic DIP. Low power I/O ideal for hand-held and computer applications. Compatible with the entire Z8 family. 141-byte register file. 3-volt operation.

Type	Pins	MCU	Speed (MHz)	Pkg.	Temp. (°C)	Std. Flow
Z86E0208PSC1925	18	OTP	8	DIP	0 to 70	Plastic
Z86E0408PSC1860	18	OTP	8	DIP	0 to 70	Plastic
Z86E0812PSC1866	18	OTP	12	DIP	0 to 70	Plastic

(10004) (de02120)

Z80 FAMILY

The **Z80** family of state-of-the-art microprocessors and peripheral controllers simplifies hardware requirements. Two index registers provide additional memory addressing flexibility and simplify the task of programming. 4MHz versions of the devices below are also available; *contact your local Newark branch.* **Z08400** (NMOS)/**Z84C00** (CMOS) provide exceptional computational power and allow Z80 microprocessors and associated peripherals to be linked by a vectored interrupt system. Internal registers contain 208 bits of read/write accessible memory and include two sets of six general-purpose registers which may be used individually as 8-bit registers or as 16-bit register pairs. **Z08420** (NMOS)/**Z84C20** (CMOS) interface between Z80 microcomputer systems and peripheral devices such as keyboards, paper tape reads, printers, and PROM programmers. **Z08430** (NMOS)/**Z84C30** (CMOS) utilize a counter/timer circuit for peripheral counting and timing applications. Four independently programmable channels fulfill requirements for event counting. **Z08440** (NMOS)/**Z84C40** (CMOS) function as serial-to-parallel, parallel-to-serial converter/controllers that can be programmed by a CPU for a broad range of serial communication applications. **Z08442** (NMOS) features the same characteristics as **Z08440/Z84C40** but utilizes a bonding option of "2". Preferred version for most applications. **Z08470** is a dual asynchronous receiver/transmitter (DART) peripheral component. Dual-channel multi-function capabilities. 40-pin plastic DIP. **Z84C15** integrates the **Z84C00** CPU with **Z84C40** (S10), **Z84C30** (CTC), **Z84C20** (P10) in 100-pin QFP package.

Type	Pins	MCU Type	Speed (MHz)	Pkg.	Temp. (°C)	Std. Flow
NMOS						
Z0840006PSC	40	CPU	6	DIP	0 to 70	Plastic
Z0842006PSC	40	PIO	6	DIP	0 to 70	Plastic
Z0843006PSC	28	CTC	6	DIP	0 to 70	Plastic
Z0844006PSC	40	SIO/O	6	DIP	0 to 70	Plastic
Z0844106PSC	40	SIO	6	DIP	0 to 70	Plastic
Z0844206PSC	40	SIO/2	6	DIP	0 to 70	Plastic
Z0847006PSC	40	DART	6	DIP	0 to 70	Plastic
CMOS						
Z84C0008PEC	40	CPU	8	DIP	–40 to 100	Plastic
Z84C1510FEC	100	IPC	10	QFP	–40 to 100	Plastic
Z84C2006PEC	40	PIO	6	DIP	–40 to 100	Plastic
Z84C3006PEC	28	CTC	6	DIP	–40 to 100	Plastic
Z84C4008PEC	40	SIO	8	DIP	–40 to 100	Plastic
Z84C4010PEC	40	SIO	10	DIP	–40 to 100	Plastic
Z84C9008VSC	80	KIO	8	PLCC	0 to 70	Plastic
Z84C9010VSC	84	KIO	10	PLCC	0 to 70	Plastic

(9432) (de02021)

Z8® CCP™ IN-CIRCUIT EMULATOR

- **In-Circuit Debug Program Emulation**
- **Real-Time Emulation**
- **Z8 GUI Emulator Software with Windows-Based User Interface**
- **One-Time Programmable (OTP) Support**
- **Selectable Baud Rates—9600 to 57.6 kpbs**
- **Bisync Error-Correcting Communications Protocol**
- **Source-Level Debugging**
- **Symbolic Disassembly in the Debug Window**

The Z8 CCP emulator (**type Z86CCP01ZEM**) is a member of Zilog's ICEBOX™ product family of in-circuit emulators for the Consumer Controller Processor (CCP™) microcontrollers. The emulator provides essential timing and I/O circuitry to simplify user emulation of the prototype hardware and software product. The emulator can be connected to the COM ports of the host computer and uses GUI software. Operating temperature: 20°C±10°C. Supply voltage: +7.5VDC to +10.0VDC (+8.0VDC typ.). Emulation speed: 6MHz internal SCLK max., 1MHz internal SCLK min.

83F4697 Type Z86CCP01ZEM In-Circuit Emulator. **Each**..... **99.00**
(28133) (ne28133)

Z8® MCU DESIGNER CERTIFICATION KIT

Hardware:
- **Z8 CPP™ Emulator Board**
- **18-Pin DIP-to-DIP Target Cable**
- **Z86E08 18-Pin DIP OTP-Device**

Software:
- **Z8 GUI Software Diskette**
- **ZASM Cross-Assembler/MOBJ Disk**
- **PLC COMPASS/Z8™ (Eval. Disk)**

Documentation:
- **Zilog Z8 Emulator User's Manual**
- **Z8 Microcontrollers Technical Manual**
- **Discrete Z8 Microcontrollers Databook**
- **Registration Card**

Training Materials:
- **Z8 Training Manual**
- **Z8 Windows-based Cert. Prog. 3.5" Disk**

Zilog's Z8 certification kit contains everything needed to become a certified Z8 designer. Emulator board features: real-time emulation, hardware breakpoints, symbolic debug, software trace and OTP programming support. User interface is Windows-based.

66F1106 Type Z86CCP00ZTK. Z8 Certification Kit. **Each**..... **232.39**
(4413) (ne07411)

DSP EMULATORS FOR Z89323 SERIES DSPs

- **Source-Level Debugging for DSP Codes**
- **Symbolic Disassembly in the Debug Window**
- **Selectable Baud Rates—9600 to 57.6 kbps**
- **Zilog Macro Cross Assembler (ZMASM)**
  - **Structered Assembly and Data Code**
  - **Source-Level Debug Support**
  - **Built-In Register Equates**
  - **Linker**

Type Z89323x emulators for **Z89323 series** DSPs provide essential timing and I/O circuitry to simplify user emulation of the prototype hardware and software product. Emulators include a full-featured macro cross-assembler. Kits include: Z89323 emulator board; RS-232C 9-pin M/F serial cable; 9VDC AC adapter; software; and documentation. Emulators may require additional accessory kits for use with certain devices, as detailed in the table below; *contact your local Newark sales office.*

DEVICES SUPPORTED

Package	Z8932301ZEM Emulation	Z8932301ZEM OTP Prog.	Z8932302ZEM Emulation	Z8932302ZEM OTP Prog.
44-Pin PLCC	Z89223/273	Z89273*	Z89223/273*	Z89273*
44-Pin QFP	Z89223	...	...	...
68-Pin PLCC	Z89323/373	Z89373†	Z89323/373	Z89273
80-Pin QFP	Z89323/373	Z89373†	...	Z89273

*Requires **type Z8922300ZAC** accessory kit, *ordered separately.* †Requires **type Z8937300ZAC** accessory kit, *ordered separately.*

83F4699 Type Z8932301ZEM DSP Emulator. **Each**..... **99.95**
83F4700 Type Z8932302ZEM DSP Emulator. **Each**..... **449.95**
(28131) (ne28131)

TYPE Z0220100ZCO MODEM EVALUATION KIT

- **Supported Protocols: V.22bis, V.22, V.21, V.23, Bell 103, Bell 212A**
- **Board Connections for Phone Network (RJ-11) and PC (RS-232)**
- **Eye-Pattern Output for X-Y Oscilloscope Display**
- **Speaker for Modem Handshake and Dial Tone**
- **Software Configurable for Worldwide Country Support**
- **Software Configurable Object Code**

Type Z0220100ZCO modem evaluation kit is designed for evaluation of the **type Z02201** modem DSP and analog front end, and the **type Z02205** modem controller. Kit includes assembled circuit board, software, and documentation.

83F4698 Type Z0220100ZCO Modem Evaluation Kit. **Each**..... **245.00**
(28132) (ne28132)

Z180 FAMILY (S180, Z180)

Z180/S180 (static version)/**L180** (low-voltage version): The **Z180 MPU** series is an upgraded Z80 core with on-board peripherals. It includes a memory management unit (MMU) which translates 16-bit addresses to 20 bits and two 16-bit counter/timers, a pair of DMA controllers and three serial ports. **Z181™ SAC™ Smart Access Controller:** The Z181 contains the complete Z180 along with a channel of the **Z85C30** (SCC) and 16 I/O lines with the **Z84C30** (CTC). **Z182 Zilog Intelligent Peripheral (ZIP™) Controller:** Used for modems, faxes, voice messaging and other communication applications, the Z182 incorporates the S180 MPU linked with two channels of the **Z85230** (ESCC™), 24 bits of parallel I/O and a 166550 MIMIC for direct connection to the IBM PC, XT, AT bus.

Type	Pins	MCU Type	Speed (MHz)	Pkg.	Temp. (°C)	Std. Flow
Z8018006VSC	68	MPU	6	PLCC	0 to 70	Plastic
Z8018008VSC	68	MPU	6	PLCC	0 to 70	Plastic
Z8018010VSC	68	MPU	6	PLCC	0 to 70	Plastic
Z8018006FSC	80	MPU	6	QFP	0 to 70	Plastic
Z8018008FSC	80	MPU	8	QFP	0 to 70	Plastic
Z8S18010VSC	68	MPU	10	PLCC	0 to 70	Plastic
Z8S18020VSC	68	MPU	20	PLCC	0 to 70	Plastic
Z8S18020PSC	64	MPU	20	DIP	0 to 70	Plastic
Z8S18033VSC	68	MPU	33	PLCC	0 to 70	Plastic
Z8L18020VSC	68	MPU	20	PLCC	0 to 70	Plastic
Z8L18020PSC	64	MPU	20	DIP	0 to 70	Plastic

(10003) (de02025)

RECTIFIERS AND CONTROL ICs

AXIAL-LEAD SCHOTTKY RECTIFIERS

Type	V_{RRM} (V)	$I_{F(AV)}$ @ T_C (A)	V_{FM} @ I_{FM} (V)	T_J Max. (°C)	Package
11DQ04	40	1.1	0.5	125	DO-204AL
11DQ06	60	1.1	0.53	125	DO-204AL
11DQ10	100	1.1	0.68	125	DO-204AL
31DQ04	40	3.3	0.51	125	DO-201AD
31DQ06	60	3.3	0.53	125	DO-201AD
31DQ10	100	3.3	0.69	125	DO-201AD

(36770) (ne36770)

SURFACE MOUNT SCHOTTKY RECTIFIER DIODES

SMD

SMB/SMC

SOT-223

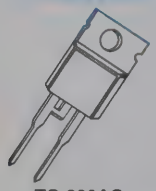
D-Pak

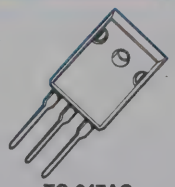
D^2Pak

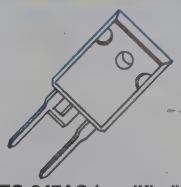
Type	V_{RRM} (V)	$I_{F(AV)}$@T_C (A)	V_{FM}@I_{FM} (V)	T_J Max. (°C)	Package
10BQ015	15	1	0.34	100	SMB
10BQ040	40	3	0.45	150	SMB
10MQ040N	40	2.1	0.56	150	SMA
10MQ060N	60	2.1	0.63	150	SMA
30BQ040	40	3	0.45	150	SMC
30BQ100	100	3	0.62	175	SMC
CENTER TAP					
6CWQ04FN	40	5.5	0.56	150	D-Pak
6CWQ06FN	60	5.5	0.61	150	D-Pak
16CTQ100S	100	16	0.69	175	D^2Pak (TO-263/SMD-220)
20CJQ030	30	2.0	0.52	150	SOT-223
20CJQ045	45	2.0	0.60	150	SOT-223
20CTQ045S	45	20	0.68	175	D^2Pak (TO-263/SMD-220)
20CJQ100	100	2.0	0.76	175	SOT-223
30WQ04FN	40	3.5	0.62	150	D-Pak
30WQ06FN	60	3.5	0.65	150	D-Pak
32CTQ030S	30	30	0.53	150	D^2Pak (TO-263/SMD-220)
50WQ04FN	40	5.5	0.62	150	D-Pak
50WQ06FN	60	5.5	0.65	150	D-Pak

(9848) (ne03775)

HEXFRED™ FAST RECOVERY RECTIFIER DIODES


TO-220AC

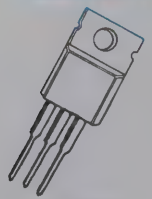

TO-247AC

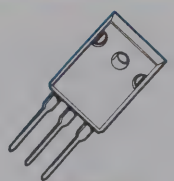

TO-247AC (modified)

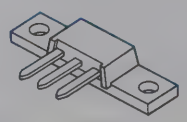
Type	V_{RWM} (V)	$I_{F(AV)}$@T_C Per Pkg. (A)	V_{FM}@I_{FM} (V)	t_{rr} Max. (ns)	Package
HFA08TB60	600	8	1.7	55	TO-220AC
HFA15TB60	600	15	1.7	60	TO-220AC
HFA25TB60	600	25	1.7	75	TO-220AC
HFA25PB60	600	25	1.7	75	TO-247AC Modified
HFA15PB60	600	15	1.7	60	TO-247AC Modified
HFA30PA60C	600	30	1.7	60	TO-247AC
HFA50PA60C	600	50	1.7	75	TO-247AC

(9849) (ne08080)

CENTER TAP SCHOTTKY RECTIFIER DIODES


TO-220AB


TO-247AB


D61-8

DISCRETE

Type	V_{RRM} (V)	$I_{F(AV)}$@T_C (A)	V_{FM}@I_{FM} (V)	T_J Max. (°C)	Package
16CTQ100	100	16	0.69	175	TO-220AB
19TQ015	15	19	0.32	100	TO-220AC
32CTQ030	30	30	0.53	150	TO-220AB
30CPQ045	45	30	0.64	150	TO-247AC
MBR3045PT	45	30	0.72	150	TO-247AC
40CPQ045	45	40	0.56	150	TO-247AC
30CTQ045	45	30	0.70	175	TO-220AB

CONTINUED

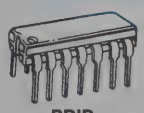
CENTER TAP SCHOTTKY RECTIFIER DIODES (CONT.)

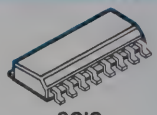
MODULES

Type	V_{RRM} (V)	$I_{F(AV)}$@T_C (A)	V_{FM}@I_{FM} (V)	T_J Max. (°C)	Package
80CNQ045	45	80	0.47	150	D61-8
82CNQ030	30	80	0.35	150	D61-8
83CNQ100	100	80	0.67	175	D61-8
85CNQ015	15	80	0.32	100	D61-8

(9848) (ne03777)

CONTROL INTEGRATED CIRCUITS


PDIP


SOIC

PLCC

Rated up to 600V.

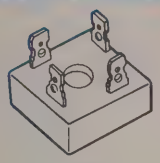
Type	Package	Features	Configuration
IR2117	8-Lead DIP	Basic	High- or Low-Side
IR2118	8-Lead DIP		
IR2117S	8-Lead SOIC Narrow Body		
IR2118S	8-Lead SOIC Narrow Body		
IR2121	8-Lead DIP	Over-Current Shutdown	
IR2125	8-Lead DIP		
IR2127	8-Lead DIP	Current-Limiting	
IR2128	8-Lead DIP		
IR2127S	8-Lead SOIC Narrow Body		
IR2128S	8-Lead SOIC Narrow Body		
IR2101	8-Lead DIP	Basic	High- and Low-Side
IR2102	8-Lead DIP		
IR2103	8-Lead DIP		
IR2101S	8-Lead SOIC Narrow Body		
IR2102S	8-Lead SOIC Narrow Body		
IR2103S	8-Lead SOIC Narrow Body		
IR2110	14-Lead DIP	With Shutdown Enable	
IR2112	14-Lead DIP		
IR2113	14-Lead DIP		
IR2111	8-Lead DIP	Basic	Half-Bridge
IR2111S	8-Lead SOIC Narrow Body		
IR2104	8-Lead DIP	With Shut-down Enable	
IR2104S	8-Lead SOIC Narrow Body		
IR2151	8-Lead DIP	Self-Oscillating	
IR2152	8-Lead DIP		
IR2153	8-Lead DIP		
IR2153S	8-Lead SOIC Narrow Body		
IR2155	8-Lead DIP		
IR2151S	8-Lead SOIC Narrow Body		
IR2152S	8-Lead SOIC Narrow Body		
IR51H214	9-Lead SIP		
IR51H224	9-Lead SIP		
IR51H420	9-Lead SIP		
IR01H214	7-Lead SIP	High-Voltage	
IR01H224	7-Lead SIP		
IR01H420	7-Lead SIP		
IR2131	28-Lead DIP	Basic	3 High-Side and 3 Low-Side
IR2131S	28-Lead SOIC Wide Body		
IR2131J	44-Lead PLCC w/out 12 Leads		
IR2130	28-Lead DIP	2.5µs Deadtime	3-Phase Bridge
IR2130S	28-Lead SOIC Wide Body		
IR2132	28-Lead DIP	0.8µs Deadtime	
IR2132J	44-Lead PLCC w/out 12 Leads		
IR2233	44-Lead PLCC	0.2µs Deadtime	
IRSF3010S	3-Lead SOT-223	Fully-Protected	Low-Side Switch
IRSF3011	3-Lead TO-220		
IR6210	5-Lead TO-220	Fully-Protected	High-Side Switch
IR6216	5-Lead TO-220		
IR6220	5-Lead TO-220		
IR6224	5-Lead TO-220		
IR6226	5-Lead TO-220		

(9909) (ne03772)

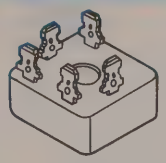
SAME-DAY SHIPMENT ON ORDERS PLACED BY 5:00 PM C.S.T.

PRICES LISTED AT THE BEGINNING OF THE SECTION.

SINGLE-PHASE AND THREE-PHASE BRIDGE RECTIFIERS



D-34A



D-63

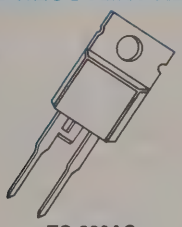
MB series are isolated base types. **MT series** are three-phase. Must be used with suitable heatsink *(see product index for complete heat sink listings)*. UL recognized.

I_O (A) Output Current	25	35	35
@ Max. T_C (°C)	65	60	60
I_{FSM} (A) (Surge)	350	420	420
Case Style	D-34A	D-34A	D-63
V_{RRM}	Type	Type	Type
50 Volts	26MB5A	36MB05A	...
100 Volts	26MB10A	36MB10A	36MT10
200 Volts	26MB20A	36MB20A	36MT20
400 Volts	26MB40A	36MB40A	36MT40
600 Volts	26MB60A	36MB60A	36MT60
800 Volts	26MB80A	36MB80A	36MT80
1000 Volts	26MB100A	36MB100A	36MT100
1200 Volts	26MB120A	36MB120A	36MT120
1200 Volts	26MB140A	36MB140A	36MT140
1200 Volts	26MB160A	36MB160A	36MT160

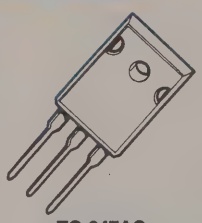
(4389) (de51114)

STANDARD RECOVERY RECTIFIER DIODES

D^2Pak



TO-220AC



TO-247AC

Type	V_{RRM} (V)	$I_{F(AV)}$ @ T_C = 105°C (A)	V_{FM} @ I_{FM} (V)	R_{thJC}DC (°C/W)	Package
20ETS08	800	20	1.1	1.3	TO-220AC
20ETS12	1200	20	1.1	1.3	TO-220AC
20ETS12S	1200	20	1.1	1.3	D^2Pak
20ETS16S	1600	20	1.1	1.3	D^2Pak

SafeIR™ SERIES RECTIFIER DIODES

SafeIR™ series are designed to increase the safety margins of the input function, and to allow the final product design to meet the most demanding enivronmental standards.

Type	V_{RRM} (V)	$I_{F(AV)}$ @ T_C = 105°C (A)	V_{FM} @ I_{FM} (V)	R_{thJC}DC (°C/W)	Package
60EPS08	800	60	1.1	0.45	TO-247
60EPS12	1200	60	1.1	0.45	TO-247
60EPS16	1600	60	1.1	0.45	TO-247
80EPS08	800	80	1.1	0.35	TO-247
80EPS12	1200	80	1.1	0.35	TO-247
80EPS16	1600	80	1.1	0.35	TO-247
10ETS08*	800	10	1.1	2.5	TO-220AC
10ETS12*	1600	10	1.1	2.5	TO-220AC
8EWS08S	800	8	1.1	3	D-PAK
8EWS12S	1200	8	1.1	3	D-PAK

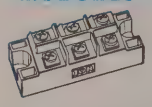
* Also available in D^2PAK; *contact your local Newark sales office.*

(4443) (ne08785)

CHECK NEWARK'S WEB SITE FOR PRODUCT NEWS AND INFORMATION.

http://www.newark.com

INT-A-pak™ THREE-PHASE BRIDGE RECTIFIER POWER MODULES



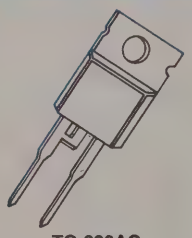
Intended for use in general-purpose and heavy-duty applications. Feature package fully compatible with INT-A-pak power modules series; high thermal conductivity package, electrically insulated case; outline for easy connections to power transistor modules. T_J = –40°C to +125°C. Barrier and lead gates sold separately; *contact your local Newark sales office.*

Type	V_{RRM} (V)	I_O (A)	I_O @ T_C (°C)	I_{FSM} (A) 50 Hz	I_{FSM} (A) 60 Hz	I^2t (A) 50 Hz	I^2t (A) 60 Hz	$I^2\sqrt{t}$
90MT120KB	1200	90	90	770	810	3000	2700	30,000
90MT160KB	1600	90	90	770	810	3000	2700	30,000
110MT120KB	1200	110	90	950	1000	4500	4100	45,000
130MT160KB	1600	130	85	1130	1180	6400	5800	64,000
160MT120KB	1200	160	85	1430	1500	10,200	9300	102,000
160MT160KB	1600	160	85	1430	1500	10,200	9300	102,000

(4388) (de51113)

QuietIR™ SERIES FAST-RECOVERY RECTIFIER DIODES

D-PAK



TO-220AC

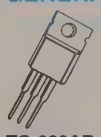
QuietIR™ series rectifiers are designed to increase noise immunity while maintaining fast-recovery characteristics. Also designed to meet new EMI regulations. Features: soft-recovery characteristics, low forward voltage, and diffused processing.

Type	V_{RRM} (V)	$I_{F(AV)}$ @ T_C = 105°C (A)	V_{FM} @ I_{FM} (V)	R_{thJC}DC (°C/W)	Package
8EWF02S	200	8	1.2	2.5	D-PAK
8EWF04S	400	8	1.2	2.5	D-PAK
8EWF06S	600	8	1.2	2.5	D-PAK
10ETF02*	200	10	1.5	1.5	TO-220AC
10ETF04*	400	10	1.5	1.5	TO-220AC
10ETF06*	600	10	1.5	1.5	TO-220AC

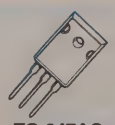
* Also available in D^2PAK; *contact your local Newark sales office.*

(35170) (ne35170)

GENERATION-4 IGBTs



TO-220AB



TO-247AC

STANDARD SPEED DISCRETE IGBTs

Applications include DC switching, UPS, power supplies, welders, and motor drives. Additonal types and speeds available; *contact your local Newark sales office.*

Type	V_{CES} Max. (V)	I_C Collector Current @ 25°C (A)	P_D Power Dissipation Max. (W)	Speed	Package
IRG4BC20F	600	16	60	Fast	TO-220AB
IRG4BC20U*	600	13	60	Ultra-Fast	TO-220AB
IRG4BC20W	600	13	60	Warp	TO-220AB
IRG4BC30F	600	31	100	Fast	TO-220AB
IRG4BC30U*	600	23	100	Ultra-Fast	TO-220AB
IRG4BC30W	600	23	100	Warp	TO-220AB
IRG4PC30U*	600	23	100	Ultra-Fast	TO-220AB
IRG4PC30W	600	23	100	Warp	TO-247AC
IRG4BC40F	600	49	160	Fast	TO-220AB
IRG4BC40U	600	40	160	Ultra-Fast	TO-220AB
IRG4BC40W	600	40	160	Warp	TO-220AB
IRG4PC40U*	600	40	160	Ultra-Fast	TO-247AC
IRG4PC40W	600	40	160	Warp	TO-247AC
IRG4PC50U*	600	55	200	Ultra-Fast	TO-247AC
IRG4PC50W	600	55	200	Warp	TO-247AC
IRG4PH50U*	1200	45	200	Ultra-Fast	TO-247AC

* Also available in CoPack™ IGBT/diode combinations (TO-220AB and TO-247); *contact your local Newark sales office.*

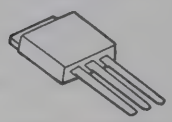
(10016) (ne08786)

POWER MOSFETs

D-PAK HEXFET™ POWER MOSFETs

SMD

D-Pak (TO-252AA)



I-Pak (TO-251AA)

Also available in TO-251AA thru-hole equivalent; *contact your local Newark sales office.*

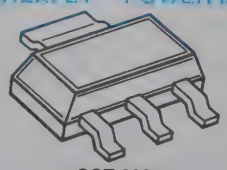
N-CHANNEL

Type	$V(BR)_{DSS}$ (V)	$R_{DS(on)}$ (Ω)	I_D @ 25°C (A)	P_D (mW)
IRFR3303	30	0.031	33	57
IRFR1205	55	0.027	37	69
IRFR4105	55	0.045	25	48
IRFR024N	55	0.075	16	38
IRFR3910	100	0.11	15	52
IRFR110	100	0.54	4.3	25
IRFR120N	100	0.21	9.1	39
IRFR210	200	1.5	2.6	25
IRFR220	200	0.8	4.8	42
IRFR224	250	1.1	3.8	42
IRFR310	400	3.6	1.7	25
IRFR320	400	1.8	3.1	42
LOGIC LEVEL N-CHANNEL				
IRLR3103	30	0.019	46	69
IRLR3303	30	0.031	33	57
IRLR2705	55	0.035	24	46
IRLR2905	55	0.027	36	69
IRLR024N	55	0.065	17	38
IRLR014	60	0.2	7.7	25
IRLR120	100	0.27	7.7	42
IRLR3410	100	0.1	15	52
P-CHANNEL				
IRFR5305	−55	0.065	−28	89
IRFR5505	−55	0.11	−18	57
IRFR9014	−60	0.5	−5.1	25
IRFR9024	−60	0.28	−8.8	42
IRFR9110	−100	1.2	−3.1	25
IRFR9120	−100	0.6	−5.6	42
IRFR9220	−200	1.5	−3.6	42
IRFR9214	−250	3	−2.7	50
IRFR9310	−400	7	−1.8	50

(4406) (ne03763)

SOT-223 HEXFET™ POWER MOSFETs

SMD



SOT-223

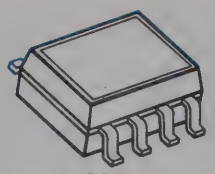
The SOT-223 package is capable of dissipating more than 1W in a typical printed circuit board application. Package design allows for maximum die size, optimum thermal performance and ease of surface mount manufacturing. Suitable for use with all soldering techniques.

N-CHANNEL

Type	$V(BR)_{DSS}$ (V)	$R_{DS(on)}$ (Ω)	I_D@25°C (A)	P_D (W)
IRFL4105	55	0.045	5.2	2.1
IRFL014	60	0.2	5.2	2
IRFL4310	100	0.20	2.2	2.1
IRFL210	200	1.5	0.96	2
LOGIC LEVEL N-CHANNEL				
IRLL3303	30	0.031	6.5	2.1
IRLL2705	55	0.04	5.2	2.1
IRLL014	60	0.2	2.7	2
IRLL110	100	0.54	1.5	2
P-CHANNEL				
IRFL9014	−60	0.5	−1.8	2
IRFL9110	−100	1.2	−1.1	2

(9845) (ne03767)

SO-8 HEXFET™ POWER MOSFETs



SO-8

LOGIC LEVEL N-CHANNEL

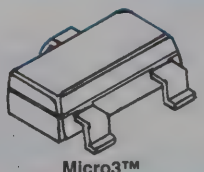
Type	$V(BR)_{DSS}$ (V)	$R_{DS(on)}$ (Ω)	I_D @25°C (A)	P_D (mW)
IRF7201	30	0.03	7	2.5
IRF7403	30	0.022	6.7	2.5
IRF7413	30	0.011	12	2.5
IRF7413A	30	0.0136	12	2.5
IRF9410	30	0.3	7	2.5
LOGIC LEVEL P-CHANNEL				
IRF7204	−20	0.06	−5.3	2.5
IRF7404	−20*	0.04	−5.3	2.5
IRF7205	−30	0.07	−4.6	2.5
IRF7406	−30	0.045	−4.7	2.5
IRF7416	−30	0.02	−8.8	2.5
LOGIC LEVEL DUAL N-CHANNEL				
IRF7101	20	0.1	3.5	2.0
IRF7301	20*	0.05	4.3	2.0
IRF7303	30	0.05	4	2.0
IRF7311	20*	0.029	6.6	2.0
IRF7313	30	0.029	7	2.0
IRF9956	30	0.1	3.5	2.0
IRF7103	50	0.13	3	2.0
LOGIC LEVEL DUAL P-CHANNEL				
IRF7104	−20	0.25	−2.3	1.4
IRF7304	−20*	0.09	−3.6	1.4
IRF7314	−20	0.058	−4.2	2.0
IRF7316	−30	0.058	−4.9	2.0
IRF9953	−30	0.25	−2.3	2.0
LOGIC LEVEL DUAL N AND P-CHANNEL				
IRF7307	20* −20	0.05 0.09	4.3 −3.6	1.4 1.4
IRF7317	20 −20	0.029 0.058	6.6 −5.3	2.0 2.0
IRF7105	25 −25	0.1 0.25	3.5 −2.3	2.0 2.0
IRF7309	30 −30	0.05 0.1	4.0 −3.0	2.0 2.0
IRF7319	30 −30	0.029 0.058	6.5 −4.9	2.0 2.0
IRF9952	30 −30	0.1 0.25	3.5 −1.8	2 2

* Indicates 'low VGS(th)' which can operate at VGS = 2.7V ** @TC = 25°C

(10011) (ne06738)

Micro3™ HEXFET™ POWER MOSFETs

SMD



Micro3™

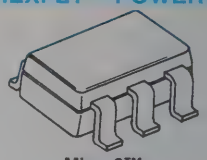
LOGIC LEVEL N-CHANNEL

Type	$V(BR)_{DSS}$ (V)	$R_{DS(on)}$ (Ω)	I_D @25°C (A)	P_D (mW)
IRLML2402TR	20	0.25	0.93	540
IRLML2803TR	30	0.25	0.91	540
LOGIC LEVEL P-CHANNEL				
IRLML6302TR	−20	0.60	−0.61	540
IRLML5103TR	−30	0.60	−0.60	540

(9851) (ne08093)

Micro6™ HEXFET™ POWER MOSFETs

SMD



Micro6™

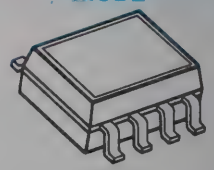
N-CHANNEL

Type	$V(BR)_{DSS}$ (V)	$R_{DS(on)}$ (Ω)	I_D@25°C (A)
IRLMS1902TR	20	0.10	2.2
P-CHANNEL			
IRLMS5703TR	−30	0.20	1.6
IRLMS6702TR	−20	0.20	1.6

(4416) (ne08094)

FETKY™ CO-PACKAGED HEXFET™ POWER MOSFET AND SCHOTTKY DIODE

SMD



SO-8

The FETKY™ series of co-packaged HEXFET™ power MOSFETs and Schottky diodes offer the designer an innovative board space-saving solution for switching regulator applications. Generation 5 HEXFETs utilize advanced processing techniques to achieve extremely low on-resistance per silicon area. Combining this technology with International Rectifier's low forward drop, Schottky rectifiers results in an extremely efficient device suitable for use in a wide variety of portable electronics applications. Ideal in buck generator or battery charge control circuit applications.

N-CHANNEL

Type	BV_{DSS} (V)	$R_{DS(on)}$ (Ω)	V_{FM} @ I_{FM} (V)	I_D* (A)	Package
IRL3103D1S	30	0.014	0.5	64	D^2PAK
IRL3103D2S	30	0.014	0.6	64	D^2PAK
IRL3303D1S	30	0.026	0.5	38	D^2PAK
IRL3103D1	30	0.014	0.42	64	TO-220AB
IRL3303D1	30	0.026	0.42	38	TO-220AB
P-CHANNEL					
IRF7422D2	−20	0.09	0.52	−4.6	SO-8
IRF7321D2	−30	0.058	0.52	...	SO-8
IRF7322D1	−20	0.058	0.39	...	SO-8

* @ 25°C

(9850) (ne08092)

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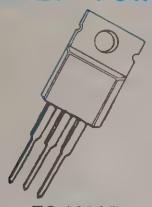
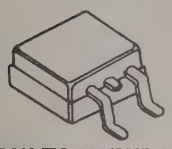
POWER MOSFETs

TO-220AB HEXFET™ POWER MOSFETs



TO-220AB



D²PAK (TO-263/SMD-220)

N-CHANNEL

Type	V(BR)DSS (V)	RDS(on) (Ω)	ID@25°C (A)	PD (W)
IRFZ46N†	55	0.020	46	88
IRF1010N*†	55	0.012	72	130
IRF3205	55	0.008	98	150
IRFZ24N†	55	0.07	17	45
IRFZ34N*†	55	0.040	26	56
IRFZ44N*†	55	0.024	41	83
IRFZ48N†	55	0.016	53	94
IRF1010E†	60	0.014	81	170
IRFZ14†	60	0.20	10	43
IRFZ34E†	60	0.04	28	68
IRFZ44E†	60	0.026	48	110
IRF2807†	75	0.013	71	150
IRF510†	100	0.54	5.6	43
IRF530N†	100	0.11	15	60
IRF540N†	100	0.052	27	94
IRF1310N†	100	0.036	36	120
IRF3710	100	0.028	46	150
IRF3315†	150	0.082	21	94
IRF3415†	150	0.042	37	150
IRF610†	200	1.5	3.3	36
IRF620†	200	0.8	5.2	50
IRF630†	200	0.40	9.0	74
IRF640†	200	0.18	18	125
IRF614†	250	2.0	2.7	36
IRF624†	250	1.1	4.4	50
IRF634†	250	0.45	8.1	74
IRF644†	250	0.28	14	125
IRF710†	400	3.6	2.0	36
IRF720†	400	1.8	3.3	50
IRF730†	400	1.0	5.5	74
IRF740†	400	0.55	10	125
IRF820†	500	3	2.5	50
IRF830†	500	1.5	4.5	74
IRF840†	500	0.85	8.0	125
IRFBC20	600	4.4	2.2	50
IRFBC30	600	2.2	3.6	74
IRFBC40	600	1.2	6.2	125
IRFBE30	800	3.0	4.1	125
IRFBF20	900	8.0	1.7	54
IRFBF30	900	3.7	3.6	125
IRFBG20	1000	11	1.4	54
IRFBG30	1000	5.0	3.1	125
LOGIC LEVEL N-CHANNEL				
IRL3102†	20	0.013	61	89
IRL3202†	20	0.016	48	69
IRL3302†	20	0.02	39	57
IRL2203N†	30	0.007	100	130
IRL3103†	30	0.014	56	83
IRL3303†	30	0.026	34	56
IRL3803†	30	0.006	120	150
IRL2505†	55	0.008	90	2.1
IRL3705N†	55	0.01	77	130
IRLZ24N†	55	0.06	18	45
IRLZ34N†	55	0.035	27	56
IRLZ44N†	55	0.022	41	83
IRLZ14†	60	0.2	10	43
IRL510†	100	0.54	5.6	43
IRL520†	100	0.27	9.2	60
IRL530N†	100	0.1	15	63
IRL540†	100	0.077	28	150
IRL630†	200	0.4	9	74
IRL640	200	0.18	17	125
LOW-CHARGE N-CHANNEL				
IRF737LC†	300	0.75	6.1	74
IRF740LC†	400	0.55	10	125

CONTINUED

TO-220AB HEXFET™ POWER MOSFETs (CONT.)

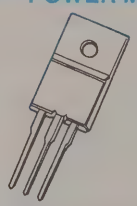
P-CHANNEL

Type	V(BR)DSS (V)	RDS(on) (Ω)	ID@25°C (A)	PD (W)
IRF4905†	–55	0.020	–64	150
IRF5305†	–55	0.06	–31	110
IRF9Z14†	–60	0.5	–6.7	43
IRF9Z24N†	–60	0.28	–11	60
IRF9Z34N†	–60	0.14	–18	88
IRF5210†	–100	0.06	–35	150
IRF9510†	–100	1.2	–4.0	43
IRF9520†	–100	0.6	–6.8	60
IRF9530N†	–100	0.3	–12	88
IRF9540N†	–100	0.2	–19	150
IRF6215†	–150	0.29	–11	83
IRF9610†	–200	3.0	–1.8	20
IRF9620†	–200	1.5	–2.5	40
IRF9630†	–200	0.8	–6.5	74
IRF9640†	–200	0.5	–11	125

* Also available as 60V device; *contact your local Newark sales office.* † Also available in D²PAK (TO-263/SMD-220); *contact your local Newark sales office.*

(10009) (ne00276)

FULLY ISOLATED TO-220 FULLPAK HEXFET™ POWER MOSFETs



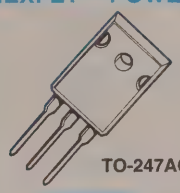
TO-220 Fullpack

N-CHANNEL

Type	V(BR)DSS (V)	RDS(on) (Ω)	ID @ 25°C (A)	PD (W)
IRFI1010N	55	0.012	44	47
IRFIZ24N	55	0.07	13	26
IRFIZ34N	55	0.04	19	31
IRFIZ44N	55	0.024	28.0	38
IRFIZ46N	55	0.020	31.0	40
IRFIZ48N	55	0.016	36.0	42
IRFI510G	100	0.540	4.5	27
IRFI520N	100	0.2	7.2	27
IRFI530N	100	0.110	11.0	33
IRFI540N	100	0.052	18.0	42
IRFI1310N	100	0.036	22	45
IRFI630G	200	0.400	5.9	32
IRFI640G	200	0.180	9.8	40
IRFI614G	250	2	2.1	23
IRFI624G	250	1.1	3.4	30
IRFI644G	250	0.280	7.9	40
IRFI730G	400	1.000	3.7	32
IRFI740G	400	0.550	5.4	40
IRFI820G	500	3	2.1	30
IRFI830G	500	1.500	3.1	32
IRFI840G	500	0.850	4.6	40
IRFIBC20G	600	4.4	1.7	30
IRFIBC40G	600	1.200	3.5	40
IRFIBE30G	800	3.000	2.1	35
IRFIBF20G	900	8	1.2	30
IRFIBF30G	900	3.7	1.9	30
LOGIC LEVEL N-CHANNEL				
IRLI3705N	55	0.01	47	47
IRLIZ24N	55	0.06	14	26
IRLIZ34N	55	0.035	20	31
IRLIZ44N	55	0.022	28	38
IRLI540N	100	0.044	20	42
IRLI620G	200	0.8	4.1	30
IRLI630G	200	0.4	5.9	32
IRLI640G	200	0.18	9.8	40
P-CHANNEL				
IRFI9620G	–200	1.500	–3.0	30
IRFI9630G	–200	0.800	–4.3	40
LOGIC LEVEL P-CHANNEL				
IRFI9520G	–100	0.6	–5.2	37
IRFI9Z14G	–60	0.5	–5.3	27
IRFI9Z24G	–60	0.285	–8.5	37

(9844) (ne00328)

TO-247AC HEXFET™ POWER MOSFETs



TO-247AC

N-CHANNEL

Type	V(BR)DSS (V)	RDS(on) (Ω)	ID @ 25°C (A)	PD (W)
IRFP044N	55	0.020	49.0	100
IRFP048N	55	0.016	62.0	130
IRFP054N	55	0.012	72.0	130
IRFP064N	55	0.008	98.0	150
IRFP140N	100	0.052	27.0	94
IRFP150N	100	0.055	41.0	230
IRFP3710	100	0.028	51	180
IRFP240	200	0.180	20.0	150
IRFP250	200	0.085	30.0	190
IRFP244	250	0.28	15	150
IRFP254	250	0.140	23.0	190
IRFP264	250	0.075	38.0	280
IRFP340	400	0.550	11.0	150
IRFP350	400	0.300	16.0	190
IRFP360	400	0.200	23.0	280
IRFP440	500	0.850	8.8	150
IRFP448	500	0.6	11	180
IRFP450	500	0.400	14.0	190
IRFP460	500	0.270	20.0	280
IRFPC30	600	2.2	4.3	100
IRFPC40	600	1.200	6.8	150
IRFPC50	600	0.600	11.0	180
IRFPC60	600	0.400	16.0	280
IRFPE40	800	2.000	5.4	150
IRFPE50	800	1.200	7.8	190
IRFPF30	900	3.7	3.6	125
IRFPF40	900	2.500	4.7	150
IRFPG40	1000	3.5	4.3	150
IRFPG50	1000	2	6.1	190
P-CHANNEL				
IRFP9140	–100	0.200	–21.0	180
IRFP9240	–200	0.500	–12.0	150
LOW-CHARGE N-CHANNEL				
IRFP350LC	400	0.3	18	190
IRFP360LC	400	0.2	23	280
IRFP450LC	500	0.4	16	190
IRFP460LC	500	0.27	20	280
IRFPC50LC	600	0.6	13	190
IRFPC60LC	600	0.4	0.4	280

(9908) (ne00326)

HEXDIP HEXFET™ POWER MOSFETs

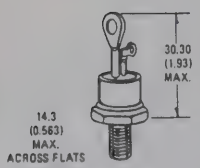
HEXDIP (HD-1)

N-CHANNEL

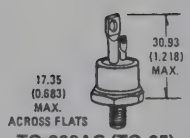
Type	V(BR)DSS (V)	RDS(on) (Ω)	ID @ 25°C (A)	PD (W)
IRFD014	60	0.20	1.7	1.3
IRFD024	60	0.10	2.5	1.3
IRFD110	100	0.54	1.0	1.3
IRFD120	100	0.27	1.3	1.3
IRFD210	200	1.5	0.6	1.3
IRFD220	200	0.80	0.8	1.3
IRFDC20	600	4.4	0.32	1.3
LOGIC LEVEL N-CHANNEL				
IRLD014	60	0.20	1.7	1.3
IRLD024	60	0.10	2.5	1.3
IRLD110	100	0.54	1.0	1.3
P-CHANNEL				
IRFD9014	-60	0.50	-1.1	1.3
IRFD9024	-60	0.28	-1.6	1.3
IRFD9110	-100	1.2	-0.7	1.3
IRFD9120	-100	0.60	-1.0	1.3
IRFD9210	-200	3.0	-0.4	1.3

(9910) (ne08088)

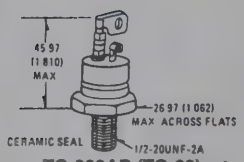
PHASE CONTROL SCRs (THYRISTORS)



TO-208AA (TO-48)



TO-208AC (TO-65)



TO-208AD (TO-83)

TO-209AB (TO-93)

TO-209AC (TO-94)

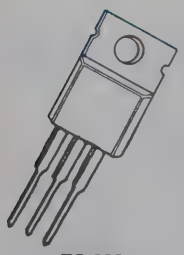
TO-209AE (TO-118)

Phase control-type SCRs are available from 25 to 125 amps rms with voltages up to 1300 Volts. Included are state-of-the-art SCRs as well as a full range of high quality industry-standard devices in the most widely used packages. Companion series (listed in the notes) are different only in package configuration, unless otherwise specified.

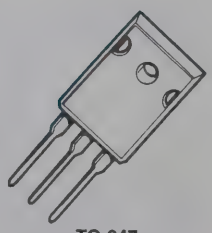
$I_{T(RMS)}$ (A)	25	25	35	35	40	80	110	125	370	520
$I_{T(AV)}$ (A) @ T_C Max. (°C)	16 @ 65	16 @ 51	22 @ 60	22 @ 85	25 @ 85	50 @ 94	70 @ 65	80 @ 91	180 @ 85	330 @ 75
I_{GT} Max. (mA) @ 25°C	40	60	60	60	60	100	70	120	150	200
dv/dt Min. (V/µs)	...	100	100	100	100	200	...	200	500	500
I_{TSM} (A)	150	200	300	355	370	1,255	1,000	1,677	5,000	7,920
Companion Series	...	11RIA**	17RIA**	23RIA**	26RIA**	51RIA**	...	82RIA*	...	...
Package	TO-48	TO-48	TO-48	TO-48	TO-48	TO-65	TO-83	TO-94	TO-93	TO-118
V_{RRM}/V_{DRM}	Type	Type	Type	Type	Type	Type	Type	Type	Type	Type
100 Volts	2N683	10RIA10	16RIA10	22RIA10	25RIA10	50RIA10	...	...	...	...
200 Volts	2N685	10RIA20	16RIA20	22RIA20	25RIA20	50RIA20	...	...	...	...
300 Volts	2N687	...	...	...	...	...	...	...	...	...
400 Volts	2N688	10RIA40	16RIA40	22RIA40	25RIA40	50RIA40	...	80RIA40	ST230S04P0V	ST330S04P0
600 Volts	2N690	10RIA60	16RIA60	22RIA60	25RIA60	50RIA60	2N1800	...	...	...
800 Volts	2N692	10RIA80	16RIA80	22RIA80	25RIA80	50RIA80	2N1802	80RIA80	ST230S08P0V	ST330S08P0
900 Volts	...	...	...	...	...	...	2N1803	...	...	...
1000 Volts	...	10RIA100	16RIA100	22RIA100	25RIA100	50RIA100	2N1804	...	...	...
1200 Volts	...	10RIA120	16RIA120	22RIA120	25RIA120	50RIA120	...	80RIA120	ST230S12P0V	ST330S12P0
1400 Volts	...	...	16RIA140	22RIA140	25RIA140	50RIA140	...	...	ST230S14P0	ST330S14P0
1600 Volts	...	...	16RIA160	22RIA160	25RIA160	50RIA160	...	...	ST230S16P0	ST330S16P0

* Uses flag terminal case TO-208AD (TO-83) (A-14); *contact your local Newark sales office.* ** Flexible main cathode and gate leads; *contact your local Newark sales office.*
(5182)

(de50245)



TO-220



TO-247

SafeIR™ SERIES PHASE CONTROL

SafeIR™ series phase-control SCRs are designed to increase the safety margins of the input function and allow the final product design to meet the most demanding environmental standards.

I_{RMS} (A)	16	25	55
$I_{T(AV)}$ (A)	10	16	35
@ T_C (°C)	10	16	79
I_{TSM} (A)	200	210	600
dv/dt (V/µs)	500	500	500
I_{GT} (A)	45	45	150
Package	TO-220	TO-220	TO-247
V_{RRM}/V_{DRM}	Type	Type	Type
800V	16TTS08*	25TTS08*	40TPS08
1200V	16TTS12*	25TTS12*	40TPS12
1600V	16TTS16*	25TTS16*	40TPS16

* Also available in D²PAK; *contact your local Newark sales office.*
(32979)

(ne32979)

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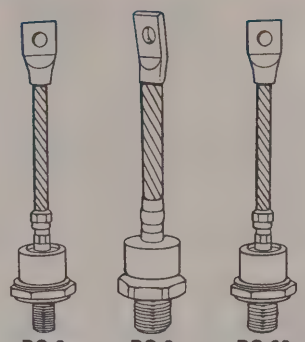
RECTIFIERS AND THYRISTORS

GENERAL-PURPOSE ALLOY TYPE SILICON STANDARD RECOVERY RECTIFIERS

$I_{F(AV)}$ (A) @ Max. T_C (°C)	100 @ 130	150 @ 150	150 @ 150	150 @ 150	250 @ 135	275 @ 120	300 @ 130
I_{FSM} (A)	2,300	3,000	3,140	3,140	4,500	5,000	5,750
Notes	(1)(3)	(1)	(1)(2)	(1)(2)	(1)(4)	(1)	(1)(2)
Case Style	DO-8	DO-30	DO-8	DO-30	DO-9	DO-9	DO-9
V_{RRM}	Type	Type	Type	Type	Type	Type	Type
50 Volts	...	1N3111	150K5A	150L5A	1N2054	1N4044	300U5A
100 Volts	1N3288A	1N3085	150K10A	150L10A	1N2055	1N4045	300U10A
200 Volts	1N3289A	1N3086	150K20A	150L20A	1N2057	1N4047	300U20A
250 Volts	...	...	...	...	...	1N4048	...
300 Volts	1N3290A	1N3087	150K30A	150L30A	1N2059	1N4049	300U30A
400 Volts	1N3291A	1N3088	150K40A	150L40A	1N2061	1N4050	300U40A
500 Volts	1N3292B	1N3089	...	...	...	1N4051	...
600 Volts	1N3293A	1N3090	150K60A	150L60A	1N2064	1N4052	300U60A
800 Volts	1N3294A	1N3091	150K80A	150L80A	1N2066	1N4054	300U80A
1000 Volts	1N3295A	1N3092	150K100A	150L100A	1N2068	1N4056	300U100A

Notes: (1) Cathode-to-stud. Anode-to-stud versions also available; *contact your local Newark sales office.* (2) Also available in stud-topped case and flag terminal; *contact your local Newark sales office.* (3) **1N3288** series also available; *contact your local Newark sales office.* (4) **1N3735** series also available; *contact your local Newark sales office.*

(5292) (de90135)



DO-8 DO-9 DO-30

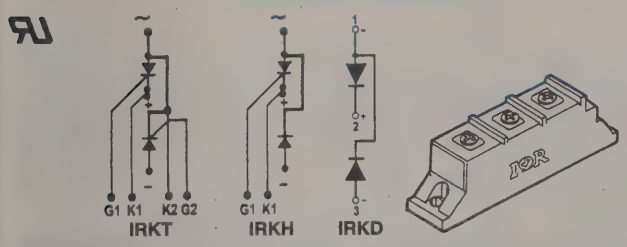
STUD MOUNT SILICON STANDARD RECOVERY RECTIFIERS—6 TO 85 AMPS

$I_{F(AV)}$ (A) @ Max. T_C (°C)	6 @ 158	12 @ 144	12 @ 150	15 @ 165	16 @ 140	35 @ 140	40 @ 140	40 @ 150	60 @ 140	70 @ 140	85 @ 140
I_{FSM} (A)	141	235	240	250	310	500	500	800	900	1,050	1,500
Companion Series	...	...	...	...	...	...	41HF	...	...	71HF	86HF
Notes	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)	(5)(8)	(5)(8)
Case Style	DO-4	DO-4	DO-4	DO-5	DO-4	DO-5	DO-5	DO-5	DO-5	DO-5	DO-5
V_{RRM}	Type	Type	Type	Type	Type	Type	Type	Type	Type	Type	Type
50 Volts	...	...	1N1199A	1N3208	...	1N1183	...	1N1183A	1N2128A	...	...
100 Volts	6F10	12F10	1N1200A	1N3209	16F10	1N1184	40HF10	1N1184A	1N2129A	70HF10	85HF10
150 Volts	...	...	1N1201A	...	...	1N1185	...	1N1185A	1N2130A	...	...
200 Volts	6F20	12F20	1N1202A	1N3210	16F20	1N1186	40HF20	1N1186A	1N2131A	70HF20	85HF20
300 Volts	...	...	1N1203A	1N3211	...	1N1187	...	1N1187A	1N2133A	...	...
400 Volts	6F40	12F40	1N1204A	1N3212	16F40	1N1188	40HF40	1N1188A	1N2135A	70HF40	85HF40
500 Volts	...	...	1N1205A	1N3213	...	1N1189	...	1N1189A	1N2137A	...	...
600 Volts	6F60	12F60	1N1206A	1N3214	16F60	1N1190	...	1N1190A	1N2138A	...	...
700 Volts	...	...	1N3670A	...	...	1N3765	...	...	...	...	...
800 Volts	6F80	12F80	1N3671A	...	16F80	1N3766	40HF80	...	...	70HF80	85HF80
1000 Volts	6F100	12F100	1N3673A	...	16F100	1N3768	40HF100	...	...	70HF100	85HF100
1200 Volts	6F120	12F120	...	...	16F120	...	40HF120	...	...	70HF120	85HF120
1400 Volts	...	...	...	...	...	...	40HF140	...	...	70HF140	85HF140
1600 Volts	...	...	...	...	...	...	40HF160	...	...	70HF160	85HF160

(5) Cathode-to-stud. Anode-to-stud versions also available; *contact your local Newark sales office.* (8) Companion series provided with flexible lead.

(4454) (ne90135a)

THYRISTOR MODULES



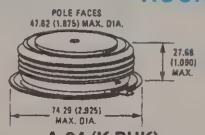
Standard with auxiliary cathode. Devices without auxiliary cathode also available; *contact your local Newark sales office.* Gate and cathode leads sold separately; *contact your local Newark sales office.*

$I_{T(RMS)}$ (A)	55.5	89	122	155	200
$I_{T(AV)}$ Min. (A)	25	40	55	70	90
@ T_C (°C)	85	85	85	85	85
I_{TSM} (A) @ 60 Hz	525	750	1150	1470	1570
dv/dt (V/µs)	500	500	500	500	500
I_{GT} Max.* (mA)	100	100	100	120	120
V_{RRM}/V_{DRM}	Type	Type	Type	Type	Type
800V	IRKH26/08	IRKH41/08	IRKH56/08	IRKH71/08	IRKH91/08
1000V	IRKH26/10	IRKH41/10	IRKH56/10	IRKH71/10	IRKH91/10
1200V	IRKH26/12	IRKH41/12	IRKH56/12	IRKH71/12	IRKH91/12
800V	IRKD56/08	IRKD71/08	IRKD91/08	...	...
1000V	IRKD56/10	IRKD71/10	IRKD91/10	...	...
1200V	IRKD56/12	IRKD71/12	IRKD91/12	...	...
800V	IRKT26/08	IRKT41/08	IRKT56/08	IRKT71/08	IRKT91/08
1000V	IRKT26/10	IRKT41/10	IRKT56/10	IRKT71/10	IRKT91/10
1200V	IRKT26/12	IRKT41/12	IRKT56/12	IRKT71/12	IRKT91/12

* @ 25°C

(4387) (de51112)

HOCKEY PUK THYRISTORS



A-24 (K PUK)

TO-200AB (A PUK)

TO-200AB (E PUK)

$I_{T(RMS)}$ Min. (A)	470	2310
$I_{T(AV)}$ Min. (A)	300	1470
@ T_C (°C)	70	70
dv/dt Min. (V/µs)	500	500
I_{GT} Max. (mA) @ 25°C	150	200
Case Style	TO-200AB	A-24
V_{RRM}/V_{DRM}	Type	Type	Type
200V	ST230C02C0	ST330C02C0	...
400V	ST230C04C0	ST330C04C0	ST1230C04K0
600V	ST230C06C0	ST330C06C0	ST1230C06K0
800V	ST230C08C0	ST330C08C0	ST1230C08K0
1000V	ST230C10C0	ST330C10C0	ST1230C10K0
1200V	ST230C12C0	ST330C12C0	ST1230C12K0
1400V	ST230C14C0	ST330C14C0	ST1230C14K0
1600V	ST230C16C0	ST330C16C0	ST1230C16K0

(4455) (ne90135b)

NEWARK: YOUR ONE-STOP SHOP.

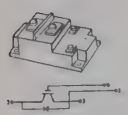
TRANSISTORS, TRIACS AND IGBTs

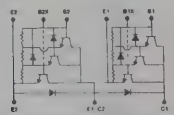
DARLINGTON TRANSISTOR MODULES

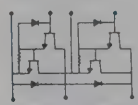
KS52

KD42

KD32


KS62

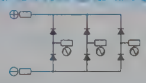

KD2/KD3/KD4 (1000V)


KD2/KD3 (450V)

Type	I_C (Amps)	$V_{CEV(SUS)}$ (Volts)	V_{ISOL} V_{rms}	Diode I_{FSM} (Amps)	Diode V_{FM} @ I_F (Volts)	Package
KS324520	200	540	2500	200	1.75	KS32
KS524503	30	600	2500	300	7.85	KS52
KS621240	400	1200	2500	400	1.80	KS62
KS624530	300	600	2500	3000	1.85	KS62
KS621K20	200	1000	2500	200	1.80	KS62
KS621K30	300	1000	2500	3000	1.8	KS62
KS624540	400	600	2500	4000	1.8	KS62
KS624550	600	500	2500	500	1.8	KS62
DUAL DARLINGTON TRANSISTOR MODULES						
KD224503	30	600	2500	300	1.85	KD2
KD221K03	30	1000	2500	300	1.5	KD2
KD224505	50	600	2500	500	1.75	KD2
KD221K05	50	1000	2500	500	1.8	KD2
KD224575	75	600	2500	750	1.85	KD2
KD324510	100	600	2500	1000	1.5	KD32
KD421K10	100	1000	2500	1000	1.8	KD42
KD324515	150	600	2500	1500	1.85	KD32
KD421K15	150	1000	2500	1500	1.8	KD42

(4390) (de51435)

THREE-PHASE BRIDGE DIODE MODULES



Type	I_{DC} @ T_C (Amps)	(°C)	V_{RRM} (Volts)	I_{FSM} (Amps)	V_{ISOL} (Vrms)	Diagram
ME500810	100	102	800	1000	2500	ME5/6/7
ME501206	60	103	1200	600	2500	ME5/6/7
ME501210	100	102	1200	1000	2500	ME5/6/7
ME501606	60	103	1600	600	2500	ME5/6/7
ME501610	100	102	1600	1000	2500	ME5/6/7
ME601615	150	97	1600	1500	2500	ME5/6/7
ME700803	30	103	800	400	2000	ME5/6/7
ME701203	30	103	1200	300	2500	ME5/6/7
ME701603	30	103	1600	300	2500	ME5/6/7

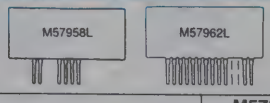
(4391) (de51436)

C-SERIES FAST SINGLE DIODE MODULES

Type	V_{RRM} (V)	I_{RRM} (mA)	$I_{T(AV)}$ (A)	V_{RMS} (V)	Pkg.
CS240610	600	20	100	2500	CS2
CS240650	600	10	50	2500	CS2
CS241020	1000	40	200	2500	CS2
CS241210	1200	20	100	2500	CS2
CS241250	1200	10	50	2500	CS2

(4393) (de51438)

HYBRID IGBT GATE DRIVERS



Type	M57958L	M57962L
Peak Output Current	5A	5A
Short Circuit Protection	No	Yes
Optimum Application Range with 600V IGBT Modules	Up to 400A	Up to 400A
Usable Application Range with 600V IGBT Modules*	Up to 600A	Up to 600A
Optimum Application Range with 1200V IGBT Modules	Up to 200A	Up to 200A
Usable Application Range with 1200V IGBT Modules*	Up to 600A	Up to 600A

* Power dissipation and peak output current ratings of the hybrid driver must not be exceeded.

(4453) (ne51798)

H-SERIES AND U-SERIES IGBT MODULES

H-SERIES SINGLE MODULES

Type	I_C (Amps)	V_{CES} (Volts)	V_{RMS} (Volts)	Diode I_{FM} (Amps)	Diode V_{FM} (Volts)
CM300HA-12H	300	600	2500	300	2.5
CM400HA-24H	400	1200	2500	400	3.5
CM600HA-24H	600	1200	2500	600	3.4
CM600HA-28H	600	1200	2500	600	2.8
H-SERIES DUAL MODULES					
CM50DY-12H	50	600	2500	50	2.5
CM50DY-24H	50	1200	2500	50	2.5
CM100DY-24H	100	1200	2500	100	2.5
CM150DY-12H	150	600	2500	150	2.5
CM150DY-24H	150	1200	2500	150	2.5
CM300DY-12H	300	300	2500	300	...

U-SERIES SINGLE MODULES

Type	I_C (Amps)	V_{CES} (Volts)	V_{RMS} (Volts)	Diode I_{FM} (Amps)	Diode V_{FM} (Volts)
CM600HU-24H	600	1200	2500	600	3.2
U-SERIES DUAL MODULES					
CM100DU-12H	100	600	2500	100	2.6
CM150DU-12H	150	600	2500	150	2.6
CM200DU-12H	200	600	2500	200	2.6
CM200DU-24H	200	1200	2500	200	3.2
CM300DU-12H	300	600	2500	300	2.6
CM300DU-24H	300	1200	2500	300	3.2

(4379) (de03674)

INTELLIMOD™ ORDERING GUIDE

PM 100 CSA 060
(1) (2) (3) (4)

(1) Device Type:
PM = Intellimod™

(2) Current Rating I_C (Amperes)

(3) For INTELLIMOD™:
HSA = Single Device
DSA/DVA = Dual Device
CSA/CSJ/CVA = 6 Pack
RSA/RSH/RSK/RVA = 7 Pack Device
(7th IGBT used for braking)

(4) Voltage Class (X10)
060: 600V/for AC 220V line
120: 1200V/for AC 440V line

(4444) (ne08787)

INTELLIMOD™ INTELLIGENT POWER IGBT MODULES

These intelligent power modules can run at low, medium, and high power and speed, with a high frequency of ≤20kHz and a total loss reduction of 20%. The packages of the modules are small and slim. All have integrated functions: OT, SC, OC, UV, and BR (where applicable). New features include improved short circuit capability 'RTC' and fault output available from P-side.

Type	Volts	Amps	Descripton
PM20CSJ060	600	20	3-Phase IGBT Inverter Output
PM30RSF060	600	30	3-Phase and Break IGBT Inverter Output
PM50RSA060	600	50	3-Phase and Brake IGBT Inverter Output
PM75RSA060	600	75	3-Phase and Brake IGBT Inverter Output
PM75RSK060	600	75	3-Phase and Brake IGBT Inverter Output
PM75RVA060	600	75	V-Series IPM, 7-Pack
PM100CSA060	600	100	3-Phase IGBT Inverter Output
PM100RSA060	600	100	3-Phase and Brake IGBT Inverter Output
PM150RSA060	600	150	3-Phase and Brake IGBT Inverter Output
PM200CSA060	600	200	3-Phase IGBT Inverter Output
PM300CVA060	600	300	V-Series IPM, 7-Pack
PM800HSA060	600	800	Half-Phase
PM15RSH120	1200	15	3-Phase and Brake IGBT Inverter Output
PM50RVA120	1200	50	V-Series IPM, 7-Pack
PM75DSA120	1200	75	Single-Phase
PM100CVA120	1200	100	V-Series IPM, 6-Pack
PM100DSA120	1200	100	Single-Phase
PM150CVA120	1200	150	V-Series IPM, 6-Pack
PM200DSA120	1200	200	Single Phase
PM400HSA120	1200	400	Half-Phase
PM800HSA120	1200	800	Half-Phase

DC-to-DC CONVERTER MODULE

Isolated power for Intellimod™ power modules.

Type	Input	Output	Power
M57140-01	20V	4A @ +15V	3W

(4378) (de03648)

PRICES LISTED AT THE BEGINNING OF THE SECTION.

SILICON CONTROLLED RECTIFIERS

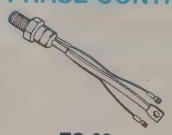
C SERIES PHASE-CONTROL SCRs

(A)	300V	400V	500V	600V	700V	800V	900V	1000V	1100V	1200V	1300V	1400V	1500V	1600V	Pkg.
80	C150C	C150D	C150E	C150M	C150S	C150N	C150T	C150P	C150PA	C150PB	...	...	...	...	A
80	C152C	C152D	C152E	C152M	C152S	C152N	...	C152P	C152PA	C152PB	...	...	...	...	B
115	...	...	...	...	C350S	C350N	C350T	C350P	C350PA	C350PB	C350PC	...	...	...	C
150	C180C	C180D	C180E	C180M	C180S	C180N	C180T	C180P	...	C180PB	...	...	...	...	D
250	...	...	C380E	C380M	C380S	C380N	C380T	C380P	C380PA	C380PB	C380PC	...	...	...	C
490	...	...	...	C391M	C391S	C391N	C391T	C391P	C391PA	C391PB	C391PC	C391PD	C391PE	C391PM	E
600	...	...	...	C431M	C431S	C431N	C431T	C431P	C431PA	C431PB	C431PC	C431PD	C431PE	C431PM	E
680	...	...	...	...	...	C430N	...	C430P	C430PA	C430PB	...	...	...	...	C
750	...	...	...	C441M	C441S	C441N	C441T	C441P	C441PA	C441PB	C441PC	C441PD	C441PE	C441PM	C
900	...	C440D	C440E	C440M	C440S	C440N	C440T	C440P	C440PA	C440PB	...	...	...	...	E
1600	C450C2	C450D2	C450E2	C450M2	C450S2	C450N2	C450T2	C450P2	C450PA2	C450PB2	...	...	...	...	E
1500	C451C2	C451D2	C451E2	C451M2	C451S2	C451N2	C451T2	C451P2	C451PA2	C451PB2	C451PC2	C451PD2	C451PE2	C451PM2	E

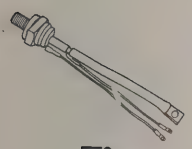
Package: A=TO-94; B=TO-83; C=TO-200AB; D=TO-93; E=TO-200AC.

(13160) (ne09958)

T-SERIES PHASE-CONTROL SCRs



TO-93



T70

T-72

T9G

TO-93

Type	Volts	Amps	Type	Volts	Amps	Each
T6000713	700	125	T6100213	200	125	48.52
T6000813	800	125	T6100313	300	125	51.12
T6000913	900	125	T6100413	400	125	53.30
T6001013	1000	125	T6100513	500	125	66.51
T6001213	1200	125	T6100613	600	125	73.76
T6000715	700	150	T6100215	200	150	51.12
T6000915	900	150	T6100415	400	150	59.65
T6001215	1200	150	T6100615	600	150	79.35
T6000718	700	175	T6100218	200	175	51.12
T6000818	800	175	T6100318	300	175	58.82
T6000918	900	175	T6100418	400	175	66.51
T6001018	1000	175	T6100518	500	175	77.11
T6001218	1200	175	T6100618	600	175	84.78

T70

Type	Volts	Amps	Type	Volts	Amps	Each
T7000325	300	250	T7000830	800	300	167.35
T7000425	400	250	T7000930	900	300	180.63
T7000625	600	250	T7001230	1200	300	190.94
T7000725	700	250	T7000235	200	350	91.95
T7000825	800	250	T7000335	300	350	106.48
T7000925	900	250	T7000435	400	350	121.26
T7001025	1000	250	T7000535	500	350	142.31
T7000330	300	300	T7000835	800	350	180.63
T7000430	400	300	T7000935	900	350	193.38
T7000530	500	300	T7001035	1000	350	206.16
T7000630	600	300	T7001235	1200	350	202.67

T9G

Type	Volts	Amps	Type	Volts	Amps	Each
T9G00410	400	1000	T9G00412	400	1200	174.73
T9G00610	600	1000	T9G00612	600	1200	195.15
T9G00810	800	1000	T9G00812	800	1200	232.90
T9G01010	1000	1000	T9G01012	1000	1200	270.74

T-72

Type	Volts	Amps	Type	Volts	Amps	Each
T7200835	800	350	T7300635	600	350	90.37
T7201035	1000	350	T7300245	200	450	79.08
T7201235	1200	350	T7300345	300	450	82.16
T7200845	800	450	T7300445	400	450	86.39
T7201045	1000	450	T7300545	500	450	90.61
T7201245	1200	450	T7300645	600	450	94.84
T7200855	800	550	T7300355	300	550	89.96
T7201055	1000	550	T7300455	400	550	98.41
T7201255	1200	550	T7300555	500	550	106.69
T7300435	400	350	T7300655	600	550	109.68

TO-83

T5100150	100	50	T5100670	600	70	50.12
T5100250	200	50	T5100080	50	80	27.48

CONTINUED

T-SERIES PHASE-CONTROL SCRs (CONT.)

TO-83 (CONT.)

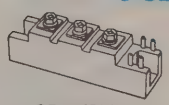
Type	Volts	Amps	Type	Volts	Amps	Each
T5100550	500	50	T5100280	200	80	27.48
T5100650	600	50	T5100380	300	80	34.79
T5100070	50	70	T5100480	400	80	34.79
T5100170	100	70	T5100580	500	80	34.79
T5100270	200	70	T5100680	600	80	34.79
T5100470	400	70	...	...	...	

JEDEC TO-200AB

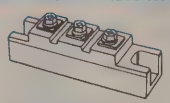
Type	Volts	Amps	Type	Volts	Amps	Each
T6201230	1200	300	T6300330	300	300	58.29
T6300320	300	200	T6300430	400	300	62.18
T6300420	400	200	T6300530	500	300	66.09
T6300520	500	200	T6300630	600	300	70.00

(5181) (de50528)

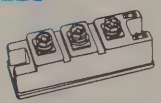
C-SERIES RECTIFIER MODULES



CD43/CM43



CDD/CD6



CD62/63/67

DUAL SCR MODULES

Type	$I_{T(AV)}$ @ T_C (Amps)	(T_C °C)	V_{DRM} V_{RRM} (Volts)	V_{GT} (Volts)	I_{FSM} (Amps)	Package
CM4308A2	25	93	800	3	490	CM43
CM430890	90	86	800	3	1800	CM43
CM431255	55	81	1200	2	1100	CM43
CD631215	150	89	1200	3	4500	CD62/63/67

DUAL DIODE MODULES

Type	$I_{T(AV)}$ @ T_C (Amps)	(T_C °C)	V_{RRM} (Volts)	I_{FSM} (Amps)	V_{ISOL} (Vrms)	Package
CDD11210	100	87	1200	2000	2500	CDD/CD6
CD431290	90	125	1200	3	1900	CDD/CD6
CD611216	160	89	1200	3500	3000	CDD/CD6
CD611616	160	89	1600	3500	3000	CDD/CD6
CD631615	150	80	1600	3	5000	CDD/CD6

(4394) (de51439)

INVERTER GRADE SCRs

TO-94

Type	V	RMS	Package
C158PB	1200	110	TO-94

(4382) (de50531)

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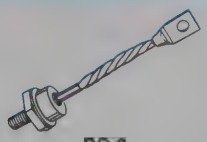
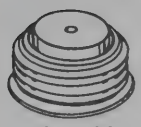
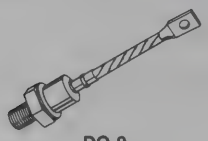
RECTIFIERS AND TRIACS

STANDARD RECOVERY RECTIFIERS


DO-8


DO-200AA


DO-9

R62

R70

Amps	100	250	500
Case	DO-8	DO-9	DO-200AA
Volts	Type	Type	Type
100	A170A	A190A	...
200	A170B	A190B	...
300	A170C	A190C	...
400	A170D	A190D	...
500	A170E	A190E	...
600	A170M	A190M	...
700	A170S	...	...
800	A170N	...	A390N
900	A170P	...	A390P
1000	A170T	...	A390T
1100	A170PA	...	A390PA
1200	A170PB	...	A390PB
1300	A170PC	...	A390PC
1400	A170PD	...	A390PD

R72

Type	Volts	Amps
R7200406	400	600
R7200606	600	600
R7200806	800	600
R7201206	1200	600
R7200209	200	900
R7200409	400	900
R7200609	600	900
R7200809	800	900
R7201009	1000	900
R7201209	1200	900
R7200212	200	1200
R7200412	400	1200
R7200612	600	1200
R7200812	800	1200
R7201012	1000	1200

R70

Type	Volts	Amps
R7000203	200	300
R7000403	400	300
R7000603	600	300
R7000803	800	300
R7000204	200	450
R7000404	400	450
R7000604	600	450
R7000804	800	450
R7010204	200	450
R7000205	200	550
R7000405	400	550
R7000605	600	550
R7000805	800	550
R6200230	200	300
R6200630	600	300
R6200830	800	300
R6201030	1000	300
R6201230	1200	300
R6200240	200	400

CONTINUED

STANDARD RECOVERY RECTIFIERS (CONT.)

R70 (CONT.)

Type	Volts	Amps
R6200440	400	400
R6200640	600	400
R6200840	800	400
R6201040	1000	400
R6201240	1200	400
R6200250	200	500
R6200450	400	500
R6200650	600	500
R6201050	1000	500
R6201250	1200	500

DO-9

Type	Volts	Amps
1N3267*	400	160
1N3268*	500	160
1N3269*	600	160
1N3270*	700	160
1N3271*	800	160
1N3272*	900	160
1N3273*	1000	160
1N3737*	300	250
1N3738*	400	250
1N3739*	500	250
1N3740*	600	250
1N3742*	1000	250
1N3743*	1200	250
1N4048*	250	275
1N4049*	300	275
1N4050*	400	275
1N4051*	500	275
1N4052*	600	275
1N4053*	700	275
1N4054*	800	275
1N4055*	900	275
1N4056*	1000	275
R6000425	400	250
R6000625	600	250
R6000825	800	250
R6001025	1000	250
R6001225	1200	250
R6000230	200	300
R6000830	800	300
R6001030	1000	300
R6001230	1200	300
R6010225	200	250
R6010425	400	250
R6010625	600	250
R6010825	800	250
R6011025	1000	250
R6010230	200	300
R6010830	800	300
R6011230	1200	300
R6100225	200	250
R6100425	400	250
R6100625	600	250
R6100825	800	250
R6101025	1000	250
R6100230	200	300
R6100430	400	300
R6100630	600	300
R6100830	800	300
R6101030	1000	300
R6110225	200	250
R6110425	400	250
R6110625	600	250
R6110825	800	250
R6111025	1000	250
R6110230	200	300
R6110430	400	300
R6110630	600	300
R6110830	800	300
R6111030	1000	300

DO-8

Type	Volts	Amps
1N3289A	200	100
1N3296A*	1200	100
1N3290A*	300	100
1N3291A*	400	100
1N3292A*	500	100
1N3293A*	600	100
1N3294A*	800	100
1N3295A	1000	100
R5000215	200	150
R5001210	1200	100

CONTINUED

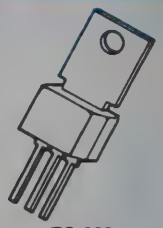
STANDARD RECOVERY RECTIFIERS (CONT.)

DO-8 (CONT.)

Type	Volts	Amps
R5100210	200	100
R5100610	600	100
R5101010	1000	100
R5100215	200	150
R5100515	500	150
R5100815	800	150
R5101015	1000	150
R5110210	200	100
R5110410	400	100
R5110510	500	100
R5110610	600	100
R5110810	800	100
R5111010	1000	100
R5110215	200	150
R5110315	300	150
R5110415	400	150
R5110615	600	150
R5110815	800	150
R5111015	1000	150

*Indicates reverse polarity version available; *contact your local Newark sales office.*
(4407) (ne04287)

CR SERIES SCRs


TO-202

Type	$I_{T(rms)}$ (Amps)	Voltage Rating (V)	Package
CR02AM-8	0.47	400	TO-92
CR3JM-8*	0.80	400	TO-220
CR2AM-8	3.15	400	TO-202
CR3CM-12	4.70	600	TO-202
CR6CM-12	4.70	400	TO-202
CR6CM-12	9.40	600	TO-220
CR6CM-8	9.40	400	TO-220
CR8AM-12	12.60	600	TO-220
CR8AM-8	12.60	400	TO-220

*Thyristor for pulse applications.
(4375) (de01484b)

BCR SERIES TRIACs

Type	$I_{T(rms)}$ (Amps)	Voltage Rating (V)	Package
BCR1AM-8	1.00	400	TO-92
BCR3AM-8	3.00	400	TO-202
BCR6AM-12L	6.00	600	TO-220
BCR6AM-8L	6.00	400	TO-220
BCR8CM-8L	8.00	400	TO-220
BCR8PM-12L	8.00	600	Overmold
BCR8PM-8L	8.00	400	Overmold
BCR10CM-12L	10.00	600	TO-220
BCR10CM-8L	10.00	400	TO-220
BCR16CM-8L	16.00	400	TO-220
BCR16PM-12L	16.00	600	Overmold
BCR16PM-8L	16.00	400	Overmold
BCR30GM-12	30.00	600	I-PL/Fast-Ons
BCR30GM-12L	30.00	600	I-PL/Fast-Ons

(4374) (de01484a)

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PRICES LISTED AT THE BEGINNING OF THE SECTION.

ALTERA

PROGRAMMABLE LOGIC DEVICES

FLEX 10K SERIES COMPLEX PROGRAMMABLE LOGIC DEVICES

Configuration EPROMs ordered separately on this page.

Type*	Typical Gates	Package	Pins	Speed Grade	Flip-Flops	Logic Elements	RAM Bits
EPF10K10QC208-3	10,000	PQFP	208	–3	720	576	6,144
EPF10K20RC208-3	20,000	RQFP	208	–3	1,344	1,152	12,228
EPF10K20RC240-3	20,000	RQFP	240	–3	1,344	1,152	12,228
EPF10K30RC240-3	30,000	RQFP	240	–3	1,968	1,728	12,228
EPF10K40RC208-3	40,000	RQFP	208	–3	2,576	2,304	16,384
EPF10K40RC240-3	40,000	RQFP	240	–3	2,576	2,304	16,384
EPF10K50BC356-3	50,000	BGA	356	–3	3,184	2,880	20,480
EPF10K50GC403-4	50,000	PGA	403	–4	3,184	2,880	20,480
EPF10K50RC240-4	50,000	RQFP	240	–4	3,184	2,880	20,480
EPF10K70RC240-3	70,000	RQFP	240	–3	4,096	3,744	18,432
EPF10K100GC503-3	100,000	PGA	503	–3	5,392	4,992	24,576

* Fastest speeds listed. *See the Semiconductor Price Guide at the front of this section for an expanded listing, or call your local Newark sales office.*
(4437)

(ne08770)

FLEX 8000 SERIES COMPLEX PROGRAMMABLE LOGIC DEVICES

Configuration EPROMs ordered separately on this page.

Type*	Usable Gates	Package	Pins	I/O	Flip-Flops	Logic Elements
EPF81188AQI208-4	12,000	PQFP	208	148	1,188	1,008
EPF81188ARC240-2	12,000	RQFP	240	184	1,188	1,008
EPF81500AGC280-2	16,000	PGA	280	208	1,500	1,296
EPF81500ARC304-2	16,000	RQFP	304	208	1,500	1,296
EPF8282ATC100-2	2,500	TQFP	100	78	282	208
EPF8452ALC84-3	4,000	PLCC	84	68	452	336
EPF8452AQC160-3	4,000	PQFP	160	68	452	336
EPF8452ATC100-3	4,000	TQFP	100	68	452	336
EPF8636AGC192-3	6,000	PGA	192	136	636	504
EPF8636ALC84-3	6,000	PLCC	84	68	636	504
EPF8636AQC160-3	6,000	PQFP	160	118	636	504
EPF8636ARC208-3	6,000	RQFP	208	136	636	504
EPF8820AGC192-2	8,000	PGA	192	120	820	672
EPF8820ABC225-3	8,000	BGA	225	152	820	672

* Fastest speeds listed. *See the Semiconductor Price Guide at the front of this section for an expanded listing, or call your local Newark sales office.*
(4438)

(ne08771)

CONFIGURATION EPROMs FOR FLEX CPLDs

Type	Description	Package	Pins
EPC1064PC8	64K x 1-Bit Serial EPROM Designed to Configure FLEX CPLDs	PDIP	8
EPC1213LC20	213K x 1-Bit Serial EPROM Designed to Configure FLEX CPLDs	PLCC	20
EPC1213PC8	213K x 1-Bit Serial EPROM Designed to Configure FLEX CPLDs	PDIP	8
EPC1PC8	1x Mbit Serial EPROM Designed to Configure FLEX CPLDs	PDIP	8

(4439)

(ne08772)

MAX 9000 SERIES COMPLEX PROGRAMMABLE LOGIC DEVICES

Type*	Package	Pins	Macro Cells	I/O Pins	Temperature	Speed Grade
EPM9320LC84-15	PLCC	84	320	60	Commercial	–15
EPM9320RC208-15	RQFP	208	320	132	Commercial	–15
EPM9400LC84-15	PLCC	84	400	59	Commercial	–15
EPM9400RC208-15	RQFP	208	400	139	Commercial	–15
EPM9400RC240-15	RQFP	240	400	159	Commercial	–15
EPM9480RC208-15	RQFP	208	480	146	Commercial	–15
EPM9480RC240-15	RQFP	240	480	175	Commercial	–15
EPM9560GC280-15	PGA	280	560	216	Commercial	–15

* Fastest speeds listed. *See the Semiconductor Price Guide at the front of this section for an expanded listing, or call your local Newark sales office.*
(4440)

(ne08773)

MAX 7000 SERIES COMPLEX PROGRAMMABLE LOGIC DEVICES

Type*	Package	Pins	Macro Cells	I/O Pins	T_{pd1} Max. (ns)	f_{CNT} (MHz)
EPM7032LC44-6	PLCC	44	32	32	6	100
EPM7032QC44-7	PQFP	44	32	32	7.5	125
EPM7032TC44-6	TQFP	44	32	32	6	125
EPM7032VTC44-12	TQFP (3.3V)	44	32	32	12	90.9
EPM7064LC44-7	PLCC	44	64	36	7.5	125
EPM7064LC68-7	PLCC	68	64	36	7.5	125
EPM7064LC84-7	PLCC	84	64	36	7.5	100
EPM7064TC44-15	TQFP	44	64	36	15	76.9
EPM7096LC68-7	PLCC	68	96	52	7.5	125
EPM7096LC84-7	PLCC	84	96	64	7.5	125
EPM7128ELC84-10	PLCC	84	128	64	10	100
EPM7128EQI100-15	PQFP	100	128	64	15	100
EPM7128SQC100-7	PQFP (ISP)	100	128	64	7.5	125
EPM7192EGC160-12	PGA	160	192	120	12	90.9
EPM7192EQC160-12	PQFP	160	192	120	12	90.9
EPM7192SQC160-10	PQFP (ISP)	160	192	120	10	90.9
EPM7256EGC192-12	PGA	192	256	120	12	90.9
EPM7256EQC160-12	PQFP	160	256	160	12	90.9

* Fastest speeds listed. *See the Semiconductor Price Guide at the front of this section for an expanded listing, or call your local Newark sales office.*
(4441)

(ne08774)

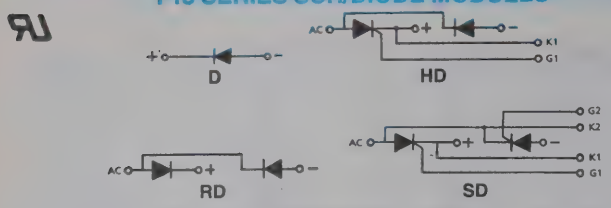
DATABOOK AND SELECTOR GUIDES

Reference set of primary Altera product information, including the Altera Databook, the Component Selector Guide and the Development System Selector Guide.

84F580 Type DB-0198-01. Databook/Selector Guide (Set of three). **Each**..... 5.00
(4411) (ne06093)

THYRISTOR/DIODE MODULES

F18 SERIES SCR/DIODE MODULES



Modules come in an industry standard package, offering nine circuits that can be used single or as power control building blocks. Feature highly efficient thermal management for greatly extended cycle life. UL recognized. V_{DRM}/V_{RRM} is indicated in last digits of type number (PIV).

FORWARD CURRENT 40A

Stock No.	Type	ITSM (A)	I^2T (A^2S)	VRMS (VAC)	1-9	10-24	25-49	50-99
95F6095	F1842SD600	1000	4150	240	35.76	32.90	30.04	27.54
95F6096	F1842SD1200	1000	4150	480	42.08	38.71	35.35	32.40

FORWARD CURRENT 55A

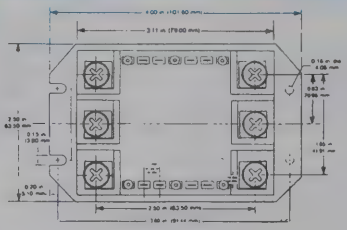
95F6097	F1857D1200	1500	9350	480	34.51	31.75	28.99	26.57
95F6110	F1857HD1200	1500	9350	480	43.49	40.02	36.54	33.49
95F6112	F1857RD1200	1500	9350	480	37.44	34.44	31.45	28.83
95F6114	F1857SD1200	1500	9350	480	44.94	41.35	37.75	34.61

FORWARD CURRENT 90A

95F6115	F1892D600	1950	15800	240	32.51	29.91	27.31	25.04
95F6120	F1892HD1200	1950	15800	480	65.03	59.83	54.63	50.08
95F6121	F1892RD600	1950	15800	240	37.93	34.89	31.86	29.20
95F6122	F1892RD1200	1950	15800	480	49.97	45.98	41.98	38.48
95F6123	F1892SD600	1950	15800	240	63.41	58.34	53.26	48.82
95F6124	F1892SD1200	1950	15800	480	74.59	68.62	62.65	57.43

(4398) (de52371)

EF SERIES SCR/DIODE MODULES



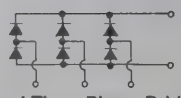


Fig. 1 Three Phase Bridge

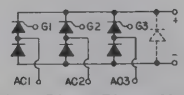


Fig. 2 Three Phase Half Controlled Bridge

Both single phase and three phase circuits available. **"F"** is added to type number for free-wheeling diode option.

V_{DRM}/V_{RRM} = 1200 PIV, V_{RMS} = 480VAC

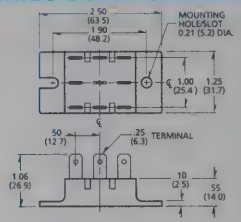
Stock No.	Type	Fig.	IO (A)	ITSM (A)	I^2T (A^2S)	1-9	10-24	25-49	50-99
50F8579	EFE15F	1	100	600	1500	73.72	67.82	61.92	56.76
52F9146	EFE19FF	2	100	600	1500	80.27	73.85	67.43	61.81
50F8583	EFG15F	1	170	1950	15800	88.50	81.42	74.34	68.14

(4399) (de52372)

FOR COMPLETE PRODUCT SPECIFICATIONS:
FAX-ON-DEMAND, CALL 888-267-9184 FOR INSTANT SPEC ON YOUR FAX
F18 SERIES – CODE 229
M50 SERIES – CODE 228
EF SERIES – CODE 230
L SERIES – CODE 226

(32981) (ne32981)

M25 SERIES SCR/DIODE MODULES



Units feature 2500VACrms terminal-to-base isolation and ultra-high surge current capabilities. Circuit types featured: in type numbers, **1** before last numeral indicates hybrid bridge common cathode SCRs; **4** before last numeral indicates AC switch. **"F"** after last digit indicates freewheeling diode; **"V"** indicates voltage suppressor; **"FV"** indicates both. UL recognized.

V_{DRM}/V_{RRM} = 600V, V_{RMS} = 240VAC

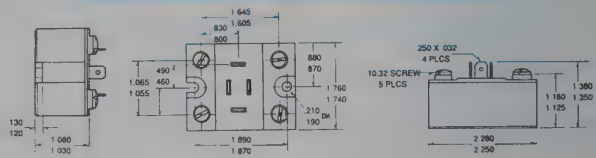
Stock No.	Type	IO (A)	ITSM (A)	I^2T (A^2s)	1-9	10-24	25-49	50-99
50F8615	M252512F	25	300	370	26.41	24.29	22.18	20.33
50F8616	M252512FV	25	300	370	27.67	25.46	23.24	21.31
50F8628	M254042	40	400	660	28.31	26.05	23.78	21.80

V_{DRM}/V_{RRM} = 1200V, V_{RMS} = 480VAC

50F8617	M252515F	25	300	370	43.91	40.40	36.88	33.81

(4445) (ne08908)

M50 SERIES SCR/DIODE MODULES



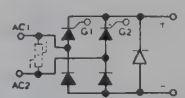


Fig. 1 Common Cathode Half Controlled Bridge

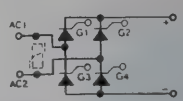


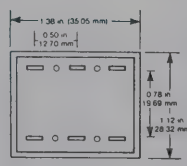
Fig. 2 4 SCR Bridge

"V" in type number indicates external suppressor option. **"F"** in type number indicates freewheeling diode option. Forward currents 50A, I_{TSM} = 600A, and I^2T = 1500A^2S.

Stock No.	Type	Fig.	VDRM/ VRRM (PIV)	VRMS (VAC)	1-9	10-24	25-49	50-99
50F8632	M505012F	1	600	240	47.69	43.87	40.06	36.72
50F8633	M505012FV	1	600	240	52.51	48.31	44.11	40.43
50F8634	M505015F	1	1200	480	67.47	62.07	56.67	51.95
50F8635	M505015FV	1	1200	480	99.56	91.60	83.63	76.66
50F8636	M505032	2	600	240	61.70	56.76	51.83	47.51

(4401) (de52374)

L SERIES SCR/DIODE MODULES



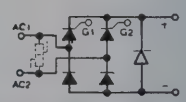


Fig. 1 Common Cathode Half Controlled Bridge

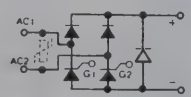


Fig. 2 Common Anode

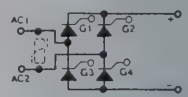


Fig. 3 4 SCR Bridge

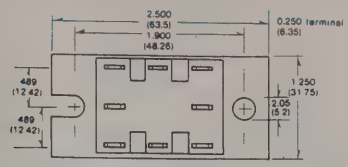
Allow construction of most standard SCR circuits into smaller package. Smallest power module available. For use with PC boards. V_{DRM}/V_{RRM} for modules listed is 600 PIV, V_{RMS} is 240VAC.

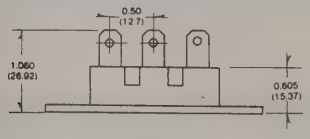
Stock No.	Type	Fig.	IO (A)	ITSM (A)	I^2T (A^2S)	1-9	10-24	25-49	50-99
50F8603	L512F	1	25	250	260	24.31	22.36	20.42	18.72
50F8604	L522F	2	25	250	260	20.66	19.01	17.36	15.91
50F8605	L542	3	25	250	260	31.58	29.06	26.53	24.32

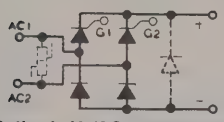
(4400) (de52373)

THYRISTOR/DIODE MODULES

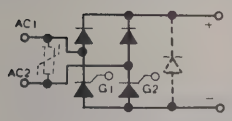
T, B2, AND B-2T SERIES SCR/DIODE MODULES



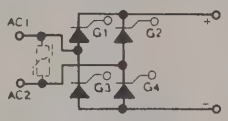




Common Cathode Half Controlled Bridge Fig. 1



Common Anode Fig. 2



4 SCR Bridge Fig. 3

All packages feature 2500V isolation terminal to base. The **B-2T series** has an exposed ceramic construction; **T series** packages have a metal base. **SE** indicates external suppressor. **Type B512F2** comes with isolation barriers.

T SERIES SCR/DIODE MODULES, I_O = 25A, I_{TSM} = 300A, I^2T = 370A^{2}S

Stock No.	Type	Fig.	VDRM/ VRRM (PIV)	VRMS (VAC)	1-9	10-24	25-49	50-99
50F8652	T512F	1	600	240	36.04	33.16	30.28	27.75
50F8653	T512FSE	1	600	240	38.87	35.76	32.65	29.93
50F8654	T514F	1	1200	480	42.51	39.11	35.71	32.73
50F8656	T522F	2	600	240	36.04	33.16	30.28	27.75
50F8657	T542	3	600	240	36.85	33.90	30.95	28.38
I_O = 42.5A, I_{TSM} = 600A, I^2T = 1500A^{2}S								
50F8661	T612F	1	600	240	40.97	37.69	34.41	31.55
50F8609	T612FSE	1	600	240	42.14	38.77	35.40	32.45
50F8610	T614F	1	1200	480	46.96	43.20	39.45	36.16

B-2 AND B-2T SERIES SCR/DIODE MODULES, I_O = 25A, I_{TSM} = 300A, I^2T = 370A^{2}S

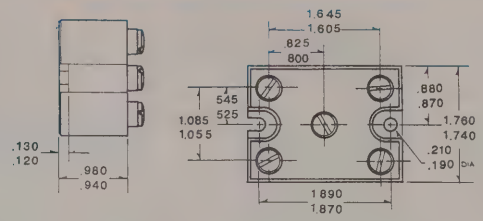
98F8580	B512F2	1	600	240	24.31	22.36	20.42	18.72
50F8566	B512F-2T	1	600	240	24.31	22.36	20.42	18.72
50F8568	B522F-2T	2	600	240	24.31	22.36	20.42	18.72
I_O = 42.5A, I_{TSM} = 600A, I^2T = 1500A^{2}S								
50F8573	B612F-2T	1	600	240	33.58	30.89	28.21	25.86
50F8576	B642-2T	3	600	240	45.05	41.44	37.84	34.69

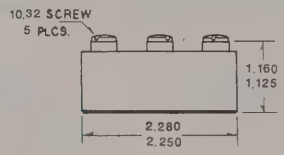
(4395) (de52351)

FOR COMPLETE PRODUCT SPECIFICATIONS:
CALL FAX-ON-DEMAND 888-267-9184 FOR INSTANT SPECS ON YOUR FAX
B2, B-2T SERIES – CODE 227
M50 SERIES – CODE 232
B48-2T, B48-2 SERIES – CODE 231

(32980) (ne32980)

M50 SERIES DIODE MODULES





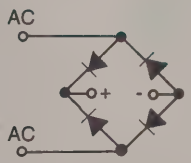


Fig. 1
Single Phase Full Wave Bridge

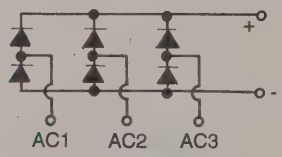


Fig. 2
Three Phase Bridge

Diode modules feature rectifier circuits rated 60 and 100 amps, both single and three phase circuits.

I_O = 60A, I_{TSM} = 1000A, I^2T = 4150A^{2}S

Stock No.	Type	Fig.	VDRM/ VRRM (PIV)	VRMS (VAC)	1-9	10-24	25-49	50-99
52F9144	M5060SB400	1	400	120	28.95	26.64	24.32	22.29
50F8640	M5060SB600	1	600	240	30.02	27.62	25.22	23.12
50F8641	M5060SB1200	1	1200	480	35.31	32.48	29.66	27.19
98F6716	M5060TB600	2	600	240	38.85	35.74	32.63	29.91
52F9142	M5060TB1400	2	1400	530	47.98	44.14	40.30	36.94
I_O = 100A, I_{TSM} = 2000A, I^2T = 16,700A^{2}S								
50F8644	M50100SB600	1	600	240	48.42	44.55	40.67	37.28
50F8645	M50100SB1200	1	1200	480	56.96	52.40	47.85	43.86
50F8646	M50100TB600	2	600	240	58.56	53.88	49.19	45.09
50F8647	M50100TB1200	2	1200	480	68.89	63.38	57.87	53.05

(4396) (de52352)

T48 AND B48 DIODE MODULES

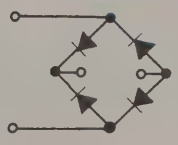


Fig. 1

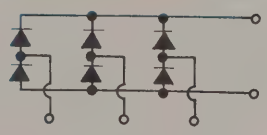


Fig. 2

Several different rectifier circuits contained in the traditional hybrid package. 35 Amps/ single phase; 50 Amps/3-phase bridges, with 600 or 1200 volt PIV ratings. For **type T48** modules, I_{TSM} = 400A, and I^2T = 650A^{2}S. For **type B48** modules, I_{TSM} 600A, and I^2T = 1500A^{2}S. Optional isolation barriers available.

T48 DIODE MODULES

Stock No.	Type	Fig.	IO (A)	VDRM/ VRRM (PIV)	VRMS (VAC)	1-9	10-24	25-49	50-99
50F8648	T483C	1	35	600	240	23.22	21.36	19.50	17.88
50F8649	T483F	1	35	1200	480	31.14	28.65	26.16	23.98
50F8650	T485C	2	50	600	240	30.30	27.87	25.45	23.33
50F8651	T485F	2	50	1200	480	38.87	35.76	32.65	29.93

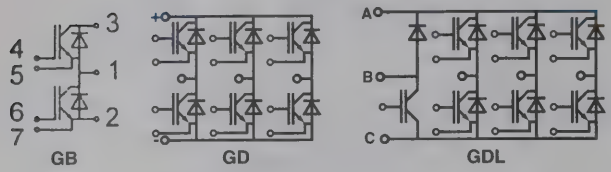
B48 DIODE MODULES

95F6082	B483F-2	1	35	1200	480	26.49	24.37	22.25	20.40
95F6083	B485C-2	2	50	600	240	26.78	24.64	22.49	20.62
95F6084	B485F-2	2	50	1200	480	30.56	28.11	25.67	23.53

(4397) (de52353)

IGBT, THYRISTOR AND MOSFET MODULES

SEMITRANS® IGBT MODULES



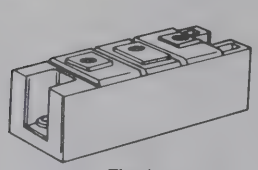


Fig. 1

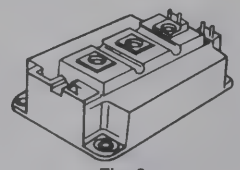


Fig. 2

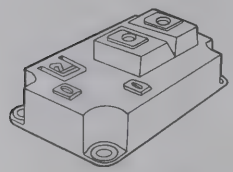


Fig. 3

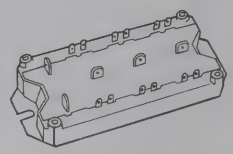


Fig. 4

N-channel. Voltage-controlled MOS input. 2 IGBTs in series. **Suffix D**: fast recovery, soft inverse diode built-in.

Type	Fig.	V_{CES} (V)	I_C (A)	$V_{CE(sat)}$ Typ. (V)	P_{tot} (W)	$R_{\Theta JC}$ Single IGBT (°C/W)	$R_{\Theta CH}$ Module (°C/W)	Case
SKM 200GA123D	2	1200	200	2.8	1250	0.10	0.038	D59
SKM 300GA173D	2	1700	300	3.8	1750	0.07	0.038	D59
SKM 400GA123D	2	1200	400	2.8	2500	0.05	0.038	D59
SKM 400GA173D	2	1700	400	3.8	2500	0.05	0.038	D59
SKM 500GA123D	3	1200	550	2.8	2700	0.045	0.038	D60
SKM 50GAL123D	1	1200	50	2.8	310	0.50	0.05	D62
SKM 100GAL123D	1	1200	100	2.8	625	0.20	0.05	D62
SKM 145GAL123D	1	1200	145	3.0	700	0.18	0.05	D62
SKM 300GAL123D	2	1200	300	3.0	1400	0.09	0.038	D57
SKM 100GAR123D	1	1200	100	2.8	625	0.20	0.05	D63
SKM 145GAR123D	1	1200	145	3.0	700	0.18	0.05	D63
SKM 300GAR123D	2	1200	300	3.0	1400	0.09	0.038	D58
SKM 50GB063	1	600	50	2.1	200	0.6	0.05	D61
SKM 75GB063	1	600	75	2.1	310	0.4	0.05	D61
SKM 75GB173D	1	1700	75	3.8	500	0.25	0.05	D61
SKM 100GB063	1	600	100	2.1	400	0.30	0.05	D61
SKM 100GB123D	1	1200	100	2.8	625	0.20	0.05	D61
SKM100GB173D	1	1700	100	3.8	625	0.20	0.05	D61
SKM 145GB123D	2	1200	145	3.0	700	0.18	0.05	D56
SKM 150GB063	2	600	150	2.1	560	0.22	0.038	D56
SKM 150GB123D	2	1200	150	3.0	800	0.16	0.038	D56
SKM 150GB173D	2	1700	150	3.8	1000	0.13	0.038	D56
SKM 200GB123D1**	2	1200	200	2.8	1250	0.10	0.038	D56
SKM 200GB173D	2	1700	200	3.8	1250	0.10	0.038	D56
SKM 300GB123D	2	1200	300	3.0	1400	0.09	0.038	D56
SKM 22GD123D	4	1200	22	3.0	145	0.86	0.05	D67
SKM 75GD123D	4	1200	75	3.0	400	0.35	0.05	D67
SKM 40GDL123D	4	1200	40	3.1	200	0.60	0.05	D73
SKM 75GDL123D	4	1200	75	3.0	400	0.35	0.05	D73

* Single IGBT @ T_C=25°C; ** Enlarged diode
(28581) (ne28581)

SEMITOP® IGBT MODULES

N-channel devices. Homogeneous Si. Voltage-controlled MOS input. Very low tail current with low temperature dependence. Low thermal impedance. Screw-mount.

Type	V_{CES} (V)	I_C (A)	V_{CEsat} @ I_C Typ. (V)	(A)	$R_{\Theta jh}$ IGBT Max. (°K/W)	Circuit
SK15GH063	600	15	2.1	15	2.8	IGBT H-Bridge
SK25GB063	600	25	1.8	18	1.8	Dual IGBT Half-Bridge
SK45GB063	600	45	1.8	30	1.0	Dual IGBT Half-Bridge
SK30GB123	1200	30	2.5	25	1.0	Dual IGBT Half-Bridge

(28582) (ne28582)

SEMITOP® TYRISTOR MODULES

Glass-passivated thyristor chips. High surge currents. Copper-bonded aluminum-oxide ceramic base plate. Applications: soft starters, light control, and temperature control.

Type	V_{RRM} V_{DRM} (V)	I_{RMS} (A)	I_{TSM} (A)	i^2c (A^2s)	$R_{\Theta jc}$ (per Thyristor) Sin. 180 (°K/W)	Circuit
SK45KQ	1200-1600	45	450	1000	1.30	Dual SCR AC Switch
SK70KQ	1200-1600	70	1000	5000	0.90	Dual SCR AC Switch
SK100KQ	1200-1600	100	1500	11,250	0.65	Dual SCR AC Switch
SK120KQ	1200-1600	120	2000	20,000	0.55	Dual SCR AC Switch

(29870) (ne29870)

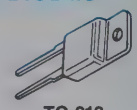
SEMITRANS® M POWER MOSFET MODULES

Type	V_{DS} (V)	I_D* (A)	$R_{DS(on)}$ @ T_j=25°C Max. (mΩ)	P_D* (W)	$R_{\Theta jc}$ (°C/W)
SKM120B020	200	120	20	500	0.25
SKM 121AR	200	130	20	700	0.18
SKM 151	500	34	110	700	0.18
SKM 151R	500	34	110	700	0.18
SKM 181	800	36	240	700	0.18
SKM 181R	800	36	240	700	0.18
SKM 254F	500	35	170	400	0.31
SKM 453A020	200	450	4.3	2000	0.06

* @ T_C=25°C
(32271) (ne32271)

CAL (CONTROLLED AXIAL LIFETIME) TECHNOLOGY FAST RECTIFIER DIODES

TO-220AC


TO-218

Typical applications include: inverters, UPS, and snubber and clamping diodes.

Type	V_{RRM} V_{RSM} (V)	I_{FRMS} (A)	I_{FAV} @ T_C (A)	(°C)	I_{FSM}* (A)	i^2t* (A^2s)	t_{rr} Max. (ns)	Package
SKR 20F10	1000	30	20	85	150	110	80	TO-220AC
SKR 31F10	1000	47	31	85	320	510	100	TO-218
SKR 47F17	1700	74	47	85	500	1250	120	TO-218
SKR 48F10	1000	72	48	85	500	1250	80	TO-218

* @ 25°C, 10ms
(28584) (ne28584)

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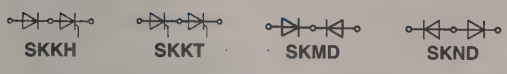
THYRISTOR/DIODE MODULES AND RECTIFIERS

SEMIPACK® THYRISTOR/DIODE MODULES



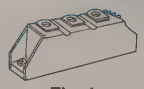


Fig. 1

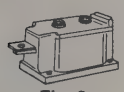


Fig. 2

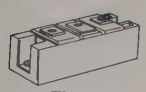


Fig. 3

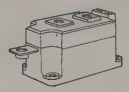


Fig. 4

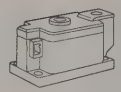


Fig. 5

Type SKET single thyristor; **type SKKD** two diodes; **type SKKH**, thyristor (cathode side) + diode; **type SKKT**, two thyristors. dv/dt grade: 500V/µs (type number suffix **D**); 1000V/µs (type number suffix **E**). Applications: DC motor and temperature control, light dimming, and rectifiers for AC/AC converters and transistorized AC motor controllers.

Type	Fig.	V_{RRM} V_{DRM} (V)	I_{TRMS} I_{FRMS} (A)	I_{TAV} I_{FAV} (A)	@ T_C	I_{TSM}* I_{FSM} (A)	i^2t* (A^2s)	T_{vj} Max. (°C)	$R_{\Theta JC}$ sin. 180 (°C)
SKET 400/12E	5	1200	600	330	78°C	9,000	405,000	130	0.095
SKET 400/16E	5	1600	600	330	78°C	9,000	405,000	130	0.095
SKKD 46/14	1	1400	90	45	86°C	700	2,450	125	0.60
SKKD 46/16	1	1600	90	45	86°C	700	2,450	125	0.60
SKKD 100/12	1	1200	175	100	85°C	2,500	31,250	125	0.35
SKKD 100/16	1	1200	175	100	85°C	2,500	31,250	125	0.35
SKKD 162/16	3	1600	250	160	95°C	6,000	180,000	135	0.18
SKKH 26/12D	1	1200	50	25	85°C	550	1,500	125	0.95
SKKH 26/16E	1	1600	50	25	85°C	550	1,500	125	0.95
SKKH 41/12E	1	1200	75	40	85°C	1,000	5,000	125	0.69
SKKH 41/14E	1	1400	75	40	85°C	1,000	5,000	125	0.69
SKKH 41/16E	1	1600	75	40	85°C	1,000	5,000	125	0.69
SKKH 42/16E	1	1600	75	40	85°C	1,000	5,000	125	0.69
SKKH 56/12E	1	1200	95	55	80°C	1,500	11,000	125	0.60
SKKH 56/16E	1	1600	95	55	80°C	1,500	11,000	125	0.60
SKKH 71/12E	1	1200	125	70	85°C	1,600	13,000	125	0.37
SKKH 71/16E	1	1600	125	70	85°C	1,600	13,000	125	0.37
SKKH 72/12E	1	1200	125	70	85°C	1,600	13,000	125	0.37
SKKH 72/16E	1	1600	125	70	85°C	1,600	13,000	125	0.37
SKKH 91/12E	1	1200	150	95	85°C	2,000	20,000	125	0.30
SKKH 91/16E	1	1600	150	95	85°C	2,000	20,000	125	0.30
SKKH 92/16E	1	1600	150	95	85°C	2,000	20,000	125	0.30
SKKH 106/12E	1	1200	180	106	85°C	2,250	510	125	0.30
SKKH 106/16E	1	1600	180	106	85°C	2,250	510	125	0.30
SKKT 19/12E	1	1200	40	18	85°C	320	1,500	125	1.3
SKKT 19/16E	1	1600	40	18	85°C	320	1,500	125	1.3
SKKT 26/12E	1	1200	50	25	85°C	550	5,000	125	0.95
SKKT 26/16E	1	1600	50	25	85°C	550	5,000	125	0.95
SKKT 41/12E	1	1200	75	40	85°C	1,000	5,000	125	0.69
SKKT 41/16E	1	1600	75	40	85°C	1,000	5,000	125	0.69
SKKT 42/12E	1	1200	75	40	85°C	1,000	5,000	125	0.69
SKKT 42/16E	1	1600	75	40	85°C	1,000	5,000	125	0.69
SKKT 56/12E	1	1200	95	55	80°C	1,500	11,000	125	0.60
SKKT 56/16E	1	1600	95	55	80°C	1,500	11,000	125	0.60
SKKT 71/12E	1	1200	125	70	85°C	1,600	13,000	125	0.37
SKKT 71/16E	1	1600	125	70	85°C	1,600	13,000	125	0.37
SKKT 91/08D	1	800	150	95	85°C	2,000	20,000	125	0.30
SKKT 91/12E	1	1200	150	95	85°C	2,000	20,000	125	0.30
SKKT 91/16E	1	1600	150	95	85°C	2,000	20,000	125	0.30
SKKT 92/12E	1	1200	150	95	85°C	2,000	20,000	125	0.30
SKKT 92/16E	1	1600	150	95	85°C	2,000	20,000	125	0.30
SKKT 106/12E	1	1200	180	106	85°C	2,250	25,000	130	0.3
SKKT 106/16E	1	1600	180	106	85°C	2,250	25,000	130	0.3
SKKT 132/16E	3	1600	220	130	87°C	4,700	111,000	125	0.19
SKKT 161/12E	2	1200	270	160	85°C	5,400	145,000	130	0.20
SKKT 161/16E	2	1600	270	160	85°C	5,400	145,000	130	0.20
SKKT 250/12E	2	1200	420	250	85°C	9,000	405,000	130	0.15
SKKT 250/16E	2	1600	420	250	85°C	9,000	405,000	130	0.15
SKKT 253/12E	4	1200	420	250	85°C	9,000	405,000	130	0.115
SKKT 253/16E	4	1600	420	250	85°C	9,000	405,000	130	0.115

* @ 25°C; 10ms

FAST THYRISTOR/DIODE MODULES

Type SKKD, all diodes in series connection with center terminal; **type SKMD**, all diodes in center tap connection (cathodes connected); **type SKND**, all diodes in center tap connection (anodes connected). Diode type: **E** in type number, fast epitaxial; **F** in type number, fast; **M** in type number, medium fast. Applications: self-commutated inverters, DC choppers, AC motor speed control, inductive heating, uninterruptible power supplies, electronic welders, general power switching applications, snubbers for GTO thyristors.

Type	Fig.	V_{DRM} V_{RRM} (V)	I_{TRMS}* I_{FRMS} (A)	I_{TAV} I_{FAV} (A)	@ T_C	I_{TSM}* I_{FSM} (A)	i^2t* (A^2s)	t_{rr} (µs)	Q_{rr} Diode (µC)
SKKD 42F12	1	1200	120	42	85°C	1,200	7,200	0.7	75
SKKD 42F15	1	1500	120	42	85°C	1,200	7,200	0.7	75
SKKD 50E02	1	200	110	48.5	85°C	800	3,200	0.06	0.7

CONTINUED

SEMIPACK® THYRISTOR/DIODE MODULES (CONT.)

Type	Fig.	V_{DRM} V_{RRM} (V)	I_{TRMS}* I_{FRMS} (A)	I_{TAV} I_{FAV} (A)	@ T_C	I_{TSM}* I_{FSM} (A)	i^2t* (A^2s)	t_{rr} (µs)	Q_{rr} Diode (µC)
SKKD 50E03	1	300	110	48.5	85°C	800	3,200	0.06	0.7
SKKD 50E04	1	400	110	48.5	85°C	800	3,200	0.06	0.7
SKKD 105F08	1	800	200	105	83°C	2,500	31,250	0.5	50
SKKD 105F12	1	1200	200	105	83°C	2,500	31,250	0.5	50
SKKD 115F12	1	1200	200	115	83°C	2,500	31,250	0.8	90
SKKD 150F10**	3	1000	220	117	85°C	2,000	20,000	0.18	35
SKKD 150F12**	3	1200	220	117	85°C	2,000	20,000	0.18	35
SKKD 170M17	2	1700	400	170	85°C	7,000	245,000	2	300
SKKD 170M24	2	2400	400	170	85°C	7,000	245,000	2	300
SKMD 40F04	1	400	110	36	85°C	1,000	6,000	0.2	3
SKMD 40F06	1	600	110	36	85°C	1,000	6,000	0.2	3
SKMD 40F08	1	800	110	36	85°C	1,000	6,000	0.2	3
SKMD 40F10	1	1000	110	36	85°C	1,000	6,000	0.2	3
SKMD 42F10	1	1000	120	42	85°C	1,200	7,200	0.7	75
SKMD 42F12	1	1200	120	42	85°C	1,200	7,200	0.7	75
SKMD 42F15	1	1500	120	42	85°C	1,200	7,200	0.7	75
SKMD 150F10**	3	1000	220	117	85°C	2,000	20,000	0.18	35
SKMD 150F11**	3	1100	220	117	85°C	2,000	20,000	0.18	35
SKMD 150F12**	3	1200	220	117	85°C	2,000	20,000	0.18	35
SKMD 202E01	3	100	325	207	85°C	3,000	51,000	0.1	2
SKMD 202E03	3	300	325	207	85°C	3,000	51,000	0.1	2
SKND 42F12	1	1200	120	42	85°C	1,200	7,200	0.7	75
SKND 42F15	1	1500	120	42	85°C	1,200	7,200	0.7	75
SKND 50E01	1	100	110	48.5	85°C	800	3,200	0.06	0.7
SKND 50E02	1	200	110	48.5	85°C	800	3,200	0.06	0.7
SKND 50E04	1	400	110	48.5	85°C	800	3,200	0.06	0.7
SKND 150F10**	3	1000	220	117	85°C	2,000	20,000	0.18	35
SKND 150F12**	3	1200	220	117	85°C	2,000	20,000	0.18	35
SKND 202E01	3	100	325	207	85°C	3,000	51,000	0.1	2
SKND 202E03	3	300	325	207	85°C	3,000	51,000	0.1	2

* @ 25°C; 10ms. ** Controlled axial lifetime (CAL) technology.

(28580) (ne28580)

SEMIPONT® POWER BRIDGE RECTIFIERS

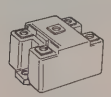
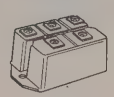


Fig. 1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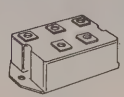


Fig. 3

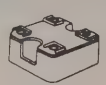


Fig. 4

Fig. 5

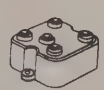


Fig. 6

Fig. 7

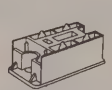


Fig. 8

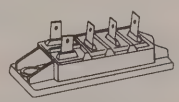


Fig. 9

Non-controllable power bridge rectifiers. **Type SKB** and **type SKBT** are single-phase bridge rectifiers. **Type SKD** are three-phase bridge rectifiers. Additional voltage values available; *contact your local Newark sales office.*

Type	Fig.	V_{RSM} V_{RRM} (V)	I_D @ T_C (A)	(°C)	I_{FSM}* (A)	i^2t* (A^2s)
SKB 15/16 A2	4	1600	15	117	370	680
SKB 25/14	5	1400	15	85	370	680
SKB 25/16	5	1600	15	85	370	680
SKB 30/12 A1	6	1200	33	85	370	680
SKB 30/16 A1	6	1600	55	85	370	680
SKB 50/12 A3	7	1200	55	85	750	2800
SKB 50/16 A3	7	1600	55	85	750	2800
SKB 60/16	1	1600	67	85	1000	5000
SKBT 28/08	8	800	30	85	320	510
SKD 25/16	5	1600	17.5	85	370	680
SKD 30/16 A1	6	1600	35	85	370	680
SKD 50/16 A3	7	1600	55	85	750	2800
SKD 51/16	9	1600	50	125	775	3000
SKD 51/18	9	1800	50	125	775	3000
SKD 60/16	1	1600	85	92	1000	5000
SKD 62/12	2	1200	60	110	500	1250
SKD 62/16	2	1600	60	110	500	1250
SKD 82/16	2	1600	80	110	750	2800
SKD 82/18	2	1800	80	110	750	2800
SKD 100/12	1	1200	110	85	1150	6600
SKD 100/16	1	1600	110	85	1150	6600
SKD 160/12	3	1200	160	100	1800	16,200
SKD 160/16	3	1600	160	100	1800	16,200

* @ 25°C, 10ms

(28583) (ne28583)

TRANSISTORS, SMALL SIGNAL DIODES AND TVS

SMALL SIGNAL TRANSISTORS

NEW

SILICON EPITAXIAL PLANAR TRANSISTORS

Type	$V_{(BR)CEO}$ @ 1.0mA Min. (V)	Collector Current I_C (mA)	DC Gain h_{FE}	Channel
2N3904	40	200	100-300 @ 1V/10mA	NPN
2N3906	40	200	100-300 @ 1V/10mA	PNP
2N4124	25	200	120-360 @ 1V/2mA	NPN
2N4126	25	200	120-360 @ 1V/2mA	PNP

SOT-23 SURFACE MOUNT PACKAGE

MMBT3904-T/R	40	200	100-300 @ 1V/10mA	...
MMBT3906-T/R	40	200	100-300 @ 1V/10mA	...

DMOS ENHANCEMENT MODE TRANSISTORS

Type	$V_{(BR)DSS}$ @ I_D=100µA Min. (V)	Drain Current I_D (mA)	$R_{DS(ON)}$ @ V_{GS}=10V, I_D=0.5A Max. (Ohms)	Channel
2N7000	60	300	5.0	NPN
2N7002	60	300	5.0	PNP

(34807) (ne34807)

500mW SMALL SIGNAL ZENER DIODES

NEW

Type	Zener Voltage V_Z Min./Max. (V)	Zener Current I_{ZT} (mA)	Reverse Leakage Current I_R @ V_R (µA)	Package
ZMM4-T/R	4.4-5.0	5.0	5.0 @ 2V	SOD-80C
ZMM5230B-T/R	4.47-4.93	20.0	5.0 @ 2V	SOD-80C
ZMM5236B-T/R	7.12-7.87	20.0	3.0 @ 6V	SOD-80C
ZMM5242B-T/R	11.4-12.6	20.0	1.0 @ 9.1V	SOD-80C
ZMM5248B-T/R	17.1-18.9	7.0	0.1 @ 14V	SOD-80C
ZMM5254B-T/R	25.6-28.3	4.6	0.1 @ 21V	SOD-80C

(34808) (ne34808)

SCHOTTKY RECTIFIERS

NEW

Package: glass DO-35.

Type	Reverse Voltage V_R (V)	Forward Current I_O (A)	@ T_A (°C)	Surge @ t_P (A)
BAT42-T/R	30	200	30	4.0
BAT43-T/R	30	200	30	4.0
BAT46-T/R	100	150	30	0.75
BAT54-T/R	30	200	30	0.6
BAT85-T/R	30	200	30	0.6
BAT86-T/R	50	200	30	0.6
SD101A-T/R	60	100	30	2*
SD103A-T/R	40	400	50	15.0

* @ 10µs.

(34809) (ne34809)

SCHOTTKY RECTIFIERS

Type	V_R (V)	I_O (A)	@ T_A (°C)	Surge (A)	Package
1N5817	20	1	80	25	DO-204AL
1N5818	30	1	80	25	DO-204AL
1N5819	40	1	80	25	DO-204AL
1N5820	20	3	95	80	DO-201AD
1N5821	30	3	95	80	DO-201AD
1N5822	40	3	95	80	DO-201AD
MBR745	45	7.5	105	150	TO-220AC
MBR1045	45	10.0	135	150	TO-220AC

(4423) (ne08294)

SURFACE MOUNT TRANSORBS™ TRANSIENT VOLTAGE SUPPRESSORS

NEW

Type	Breakdown Voltage $V_{(BR)}$ Min. (V)	Breakdown Voltage $V_{(BR)}$ @ I_T (mA)	Reverse Voltage V_{RWM} (V)	Peak Pulse Power @ 1ms P_{PK} (W)	Peak Pulse Power @ 1ms I_{PPM} (A)	Peak Pulse Power @ 1ms V_C (V)
SMBJ10CA	11.1	1.0	10.0	600	35.3	17
SMBJ170CA	189	1.0	170.0	600	2.2	275
SMBJ28A	31.1	1.0	28.0	600	13.2	45.4
SMBJ33A	36.7	1.0	33.0	600	11.3	53.3
SMBJ40A	44.4	1.0	40.0	600	9.3	64.5
SMBJ5.0CA	6.4	1.0	5.0	600	65.2	9.2
SMBJ6.5CA	7.22	1.0	6.5	600	53.6	11.2
SMJC5.0A	6.4	1.0	5.0	1500	163	9.2

(34804) (ne34804)

TRANSIENT VOLTAGE SUPPRESSORS

1.5KE SERIES, 1500W SURGE

Type	Breakdown Voltage Min. (V)	Breakdown Voltage @I_T (mA)	Reverse Stand-off Voltage V_{WM} (V)
1.5KE6.8A	6.45	10.0	5.8
1.5KE15A	14.30	1.0	12.8
1.5KE18A	17.10	1.0	15.3
1.5KE30A	29.70	1.0	26.8
1.5KE39A	38.70	1.0	34.8
1.5KE51A	50.40	1.0	45.4
1.5KE200A	198.00	1.0	175.0
1.5KE220A	225.00	1.0	202.0

P6KE SERIES, 600W SURGE

P6KE6.8A	6.12	10.0	5.5
P6KE13A	12.40	1.0	11.1
P6KE15A	14.30	1.0	12.8
P6KE30A	28.50	1.0	25.6
P6KE39A	37.10	1.0	31.6

(4424) (ne08295)

GLASS-PASSIVATED JUNCTION TRANSIENT VOLTAGE SUPPRESSORS

Type†	Breakdown Voltage V_{BR} Min.	Breakdown Voltage V_{BR} Max.	@I_T (mA)	Reverse Stand-Off Voltage V_{RWM} (V)	Max. Peak Impulse Current I_D (µA)
SA5.0A	6.40	7.00	10.0	5.0	600.0
SA12A	13.30	14.70	1.0	12.0	3.0
SA15A	16.70	18.50	1.0	15.0	3.0
SA28A	31.10	34.40	1.0	28.0	3.0
SA30A	33.30	36.80	1.0	30.0	3.0

† All except **type SA5.0A** are available in bidirectional version; *contact your local Newark sales office.*

(10013) (ne08298)

NEWARK STOCKS MORE PRODUCTS THAN ANY OTHER ELECTRONICS DISTRIBUTOR!

RECTIFIERS

BRIDGE RECTIFIERS

Available 1.0 to 8.0 amperes and surge overload rating of 30 to 300 amps. Ideal for PC boards. Plastic package. UL recognized, file no. E54214.

I_O (A)	1.0	1.5	1.5	1.0	2.0	2.0
@ T_A (°C)	40	25	50	75	50	55
Surge (A)	50	50	50	30	60	60
V_R	Type	Type	Type	Type	Type	Type
50V	DF005M	W005G	KBP005M	3N246	2KBP005M	3N253
100V	DF01M	...	...	3N247	2KBP01M	3N254
200V	DF02M	W02G	KBP02M	3N248	2KBP02M	3N255
400V	DF04M	W04G	KBP04M	3N249	2KBP04M	3N256
600V	DF06M	W06G	KBP06M	3N250	2KBP06M	3N257
1000V	DF10M	W10G	...	...	2KBP10M	...

(4404) (de90146)

PLASTIC RECTIFIERS

Type	V_R (V)	I_O (A)	@ T_A (°C)	Surge (A)
1N4001	50	1	75	30
1N4002	100	1	75	30
1N4003	200	1	75	30
1N4004	400	1	75	30
1N4005	600	1	75	30
1N4006	800	1	75	30
1N4007	1000	1	75	30
1N4933	50	1	75	30
1N4935	200	1	75	30
1N4937	600	1	75	30
1N5401	100	3.0	105	200
1N5402	200	3.0	105	200
1N5403	300	3.0	105	200
1N5404	400	3.0	105	200
1N5406	600	3.0	105	200
1N5408	1000	3.0	105	200
GI504	400	3.0	95	100
GI506	600	3.0	95	100
GI510	1000	3.0	95	100
GI821	100	5.0	55	300
GI750	50	6.0	60	400
GI751	100	6.0	60	400
GI754	400	6.0	60	400

(4422) (ne08293)

FAST EFFICIENT RECTIFIERS

Type	V_R (V)	I_O (A)	@ T_A (°C)	Surge (A)
UF4002	100	1	55	30
UF4004	400	1	55	30
UF5404	400	3	55	150
FE6C	150	6	55	150
FES8DT	200	8	100	125
FES8GT	400	8	100	125
FEP16DT	200	16	100	200
FEP16GT	400	16	100	200
FEP30GP	400	30	100	300

(10015) (ne08292)

GLASS-PASSIVATED RECTIFIERS

Type	V_R (V)	I_O (A)	@ T_A (°C)	Surge (A)
1N5059	200	1.0	55	50
1N5060	400	1.0	55	50
1N5061	600	1.0	55	50
1N5062	800	1.0	55	50
1N4004GP	400	1.0	75	30

(4425) (ne08296)

GLASS PASSIVATED SINGLE-PHASE BRIDGE RECTIFIERS

Type	V_R (V)	I_O (mA)	@ T_A (°C)	Surge (A)
GBPC25-01	100	25	30	300
GBPC25-02	200	25	30	300
GBPC25-04	400	25	30	300
GBPC25-06	600	25	30	300
GBPC25-08	800	25	30	300
GBPC35-01	100	35	25	400
GBPC35-04	400	35	25	400
GBPC35-06	600	35	25	400
GBPC35-08	800	35	25	400
GBPC35-10	1000	35	25	400

(36671) (ne36671)

SURFACE MOUNT RECTIFIERS

Sold in bulk or tape & reel.

1 AMP SUPERECTIFIERS®

Type	V_{RRM} (V)	Peak Forward Surge (A)	Full Reel Quantity	Package
GL41A T/R	50	30	1500	DO-213AB (MELF)
GL41D T/R	200	30	1500	DO-213AB (MELF)
GL41G T/R	400	30	1500	DO-213AB (MELF)
GF1G T/R	100	30	1500	DO-214BA (GFI)
GF1J T/R	600	30	1500	DO-214BA (GFI)

1 AMP SCHOTTKY RECTIFIERS

SGL41-40	40	30	1500	DO-213AB (MELF)

1 AMP STANDARD RECTIFIERS

Type	V_{RRM} (V)	Peak Forward Surge (A)	Axial Equivalent	Full Reel Quantity	Package
S1A	50	30	1N4001	1800	DO-214AC (SMA)
S1D	200	30	1N4003	1800	DO-214AC (SMA)

(17827) (ne10960)

SWITCHING RECTIFIER DIODES

DO-35 GLASS PACKAGE

Type	V_R (V)	I_O (mA)	@ T_A (°C)	Surge @ t=1ms (A)	t_{rr} (ns)
BAV18-T/R	60	250	30	1.0	50
BAV19-T/R	100	250	30	1.0	50
BAV20-T/R	150	250	30	1.0	50
BAV21W-T/R	200	250	30	1.0	50
1N4148-T/R	100	150	30	0.5	4.0
1N4150-T/R	50	200	30	0.5	4.0
1N4151-T/R	75	150	30	0.5	4.0
SOT-23 PACKAGE					
BAV70-T/R	70	250	30	1.0	6.0
BAV99-T/R	70	250	30	1.0	6.0

(36673) (ne36673)

NEED IT FAST? OVERNIGHT SHIPMENT IS AVAILABLE ANYWHERE, ANYTIME.
CONTACT YOUR LOCAL NEWARK SALES OFFICE.

SILICON RECTIFIERS

BVR (V)	I_O Average Rectified Forward Current		
	1.0A	1.5A	3.0A
50	1N4001	1N5391	1N5400
100	1N4002	1N5392	1N5401
200	1N4003	1N5393	1N5402
300	...	1N5394	...
400	1N4004	1N5395	1N5404
500	...	1N5396	...
600	1N4005	1N5397	1N5406
800	1N4006	1N5398	1N5407
1000	1N4007	1N5399	1N5408
Package	DO-41	DO-15	DO-201AD

(4368) (ne09514)

FAST RECOVERY SILICON RECTIFIERS

BVR (V)	I_O Average Rectified Forward Current	
	1.0A	1.5A
50	1N4933	...
100	1N4934	FR152
200	1N4935	FR153
300	1N4936	FR154
400	1N4937	FR155
600	...	FR156
800	...	FR157
Package	DO-41	DO-15

(17651) (ne10767)

GLASS PASSIVATED SILICON RECTIFIERS

BVR (V)	I_O Average Rectified Forward Current
	3.0A
100	1N5401G
200	1N5402G
400	1N5404G
600	1N5406G
800	1N5407G
1000	1N5408G
Package	DO-201AD

(17750) (ne10769)

FAST RECOVERY SILICON RECTIFIERS

BVR (V)	I_O Average Rectified Forward Current
	A
50	MR850
100	MR851
200	MR852
400	MR854
600	MR856
Package	DO-201

(17650) (ne10768)

HIGH-EFFICIENCY RECTIFIERS

BVR (V)	I_O Average Rectified Forward Current		
	1.0A	3.0A	6.0A
50	HER101	HER301	HER601
100	HER102	HER302	HER602
200	HER103	HER303	HER603
400	HER104	HER304	HER604
600	HER105	HER305	HER605
800	HER106	HER306	HER606
1000	HER107	HER307	HER607
Package	DO-41	DO-201AD	R-6

(4369) (ne09515)

GLASS PASSIVATED SILICON BRIDGE RECTIFIERS

BVR (V)	I_O Average Rectified Forward Current			
	1.0A	25.0A	35.0A	50.0A
50	DB101G	GBPC25005	GBPC35005	GBPC5005
100	DB102G	GBPC2501	GBPC3501	GBPC5001
200	DB103G	GBPC2502	GBPC3502	GBPC5002
400	DB104G	GBPC2504	GBPC3504	GBPC5004
600	DB105G	GBPC2506	GBPC3506	GBPC5006
800	DB106G	GBPC2508	GBPC3508	GBPC5008
1000	DB107G	GBPC2510	GBPC3510	GBPC5010
Package	DB	GBPC	GBPC	GBPC

(4367) (ne09513)

SCHOTTKY BARRIER RECTIFIERS

BVR (V)	I_O Average Rectified Forward Current	
	1.0A	3.0A
20	1N5817	1N5820
30	1N5818	1N5821
40	1N5819	1N5822
Package	DO-41	DO-201AD

(4365) (ne09511)

TRANSIENT VOLTAGE SUPPRESSORS

Type	Power (W)	Voltage (V)	Direction
P6KE10C	600	10	Bipolar
P6KE12C	600	12	Bipolar
P6KE15C	600	15	Bipolar
P6KE16C	600	16	Bipolar
P6KE18C	600	18	Bipolar
P6KE20C	600	20	Bipolar
P6KE22C	600	22	Bipolar
P6KE24C	600	24	Bipolar
P6KE27C	600	27	Bipolar
P6KE51C	600	51	Bipolar
P6KE100C	600	100	Bipolar
P6KE200C	600	200	Bipolar
P6KE250C	600	250	Bipolar
P6KE12CA	600	12	Bipolar
P6KE24CA	600	24	Bipolar
P6KE200CA	600	200	Bipolar
P6KE10A	600	10	Unipolar
P6KE12A	600	12	Unipolar
P6KE15A	600	15	Unipolar
P6KE16A	600	16	Unipolar
P6KE18A	600	18	Unipolar
P6KE20A	600	20	Unipolar
P6KE22A	600	22	Unipolar
P6KE24A	600	24	Unipolar
P6KE27A	600	27	Unipolar
P6KE51A	600	51	Unipolar
P6KE100A	600	100	Unipolar
P6KE200A	600	200	Unipolar
1.5KE10C	1500	10	Bipolar
1.5KE12C	1500	12	Bipolar
1.5KE15C	1500	15	Bipolar
1.5KE16C	1500	16	Bipolar
1.5KE18C	1500	18	Bipolar
1.5KE20C	1500	20	Bipolar
1.5KE22C	1500	22	Bipolar
1.5KE30C	1500	30	Bipolar
1.5KE36C	1500	36	Bipolar
1.5KE39C	1500	39	Bipolar
1.5KE51C	1500	51	Bipolar
1.5KE68C	1500	68	Bipolar
1.5KE75C	1500	75	Bipolar
1.5KE82C	1500	82	Bipolar
1.5KE91C	1500	91	Bipolar
1.5KE100C	1500	100	Bipolar
1.5KE120C	1500	120	Bipolar
1.5KE150C	1500	150	Bipolar
1.5KE180C	1500	180	Bipolar
1.5KE200C	1500	200	Bipolar
1.5KE250C	1500	250	Bipolar
1.5KE300C	1500	300	Bipolar
1.5KE36CA	1500	36	Bipolar
1.5KE51CA	1500	51	Bipolar
1.5KE82CA	1500	82	Bipolar
1.5KE160CA	1500	160	Bipolar
1.5KE200CA	1500	200	Bipolar
1.5KE10A	1500	10	Unipolar
1.5KE12A	1500	12	Unipolar
1.5KE15A	1500	15	Unipolar
1.5KE16A	1500	16	Unipolar
P6KE250CA	1500	18	Unipolar
1.5KE20A	1500	20	Unipolar
1.5KE22A	1500	22	Unipolar
1.5KE30A	1500	30	Unipolar
1.5KE36A	1500	36	Unipolar
1.5KE39A	1500	39	Unipolar
1.5KE51A	1500	51	Unipolar
1.5KE68A	1500	68	Unipolar
1.5KE75A	1500	75	Unipolar
1.5KE82A	1500	82	Unipolar
1.5KE91A	1500	91	Unipolar
1.5KE100A	1500	100	Unipolar
1.5KE120A	1500	120	Unipolar
1.5KE150A	1500	150	Unipolar
1.5KE180A	1500	180	Unipolar
1.5KE200A	1500	200	Unipolar
1.5KE250A	1500	250	Unipolar
1.5KE300A	1500	300	Unipolar

(4366) (ne09512)

PRICES LISTED AT THE BEGINNING OF THE SECTION.

SOLID-STATE RELAYS AND SURGE ARRESTERS

AC, CG, CG2, CG3 AND PMT3 (310) SERIES SURGE ARRESTERS

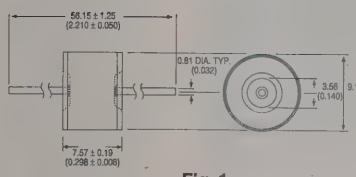


Fig. 1

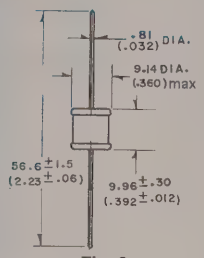


Fig. 3

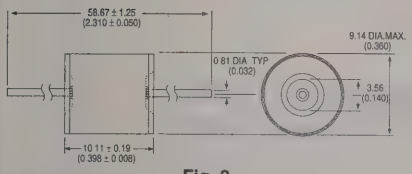


Fig. 2

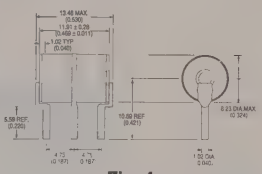


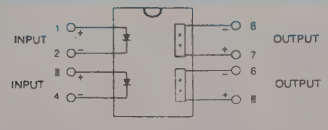
Fig. 4

AC, CG, CG2 and **CG3 series** surge arresters constructed of two metal electrodes hermetically sealed in gas-filled ceramic cylinder. **CG** devices for low VDC captive discharge applications. Use **CG2** devices where microsecond transient rise times are expected. Use **CG3** devices where bias voltages or signal levels of several hundred volts are normally present. **PMT3(310) series** units provide general purpose, three electrode surge arrester for telecommunication applications. AC designed for AC line protection. UL recognized, CSA certified. Meet REA PE-80,IEEE587.

Stock No.	Type	Fig.	Breakdown Voltage (VDC) dV/dt = 500V/s Min.	Max.	1-24	25-49
44F3903	CG75L	1	60	90	**4.35**	**3.92**
65F1453	CG90L	1	72	108	**3.59**	**3.23**
46F3579	CG110L	1	88	132	**3.59**	**3.23**
65F1458	CG2-145L	1	116	174	**3.59**	**3.23**
65F1459	CG2-230L	1	195	265	**3.59**	**3.23**
46F3581	CG2-300L	1	255	345	**3.59**	**3.23**
65F1460	CG2-350L	1	297	403	**3.59**	**3.23**
44F3905	CG2-470L	1	400	540	**3.59**	**3.23**
50F1081	CG2-600L	1	510	690	**4.30**	**3.87**
65F1456	CG2-800L	1	680	920	**4.30**	**3.87**
65F1457	CG2-1000L	1	850	1150	**4.30**	**3.87**
46F3582	CG3-1.5L	2	1200	1800	**6.09**	**5.48**
44F3906	CG3-7.5L	3	6000	8000	**6.42**	**5.77**
87F186	PMT3(310)25010	4	200	350	**7.18**	**6.46**
87F187	PMT3(310)40010	4	300	500	**7.88**	**7.09**
50F6018	AC120L	1	225	...	**3.75**	**3.38**
50F6019	AC240L	1	425	...	**3.75**	**3.38**

(3632) (de00880)

SOLID-STATE MOSFET DRIVER

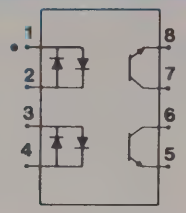


The **FDA series** offers a significant reduction in drive circuit complexity and board space. Used in conjunction with discrete MOSFETs, the **FDA215** is designed for use in programmable controls, process control, instrumentation, and telecommunications, and for replacing TRIAC/drivers, mechanical relays, and bipolar components. Output switch device: IC. Load voltage: 10V. Load current: 1mA. Package type: 8-pin DIP. Operating time: 5ms. UL recognized, CSA certified.

Stock No.	Type	Control Characteristics (mA)	Off-State Clamping Resistance	I/O Isolation (Vrms)	1-24	25-49
92F3168	FDA215	5	0.25K	3750	**8.68**	**7.81**

(3717) (ne03799)

TYPE LDA SOLID-STATE CURRENT SENSORS

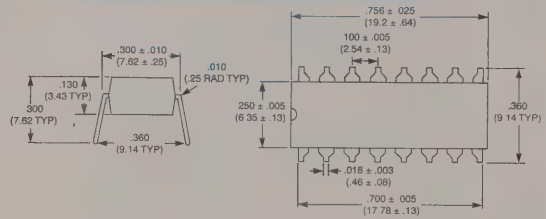


Used for telecommunications, instrumentation circuits, and industrial controls where input-to-output electrical isolation is desired. Typical applications include ringing current sensing, loop current sensing, AC/DC current monitoring, and off-hook detection. Single phototransistor optically coupled with 2 light-emitting input diodes. Available with 1 or 2 sensors. Feature optical isolation to 3750V, small dual inline package to conserve board space. Machine insertable, wave solderable. Simplifies circuit design. **Type LDA200** has 2 sensors. Offers current sensing and bidirectional inputs to detect AC or DC. Delivers 100% current transfer ratio, 0.5V saturation, 20V breakdown (minimum), and 100mA maximum continuous input. UL recognized, CSA certified, BSI and VDE approved.

Stock No.	Type	BV_{CEO}(V)	V_{SAT}(V)	1-24	25-49	50-99
51F4179	LDA200	50	0.3	**5.33**	**4.61**	**3.69**

(3715) (ne03155)

LINEAR ISOLATION AMPLIFIER

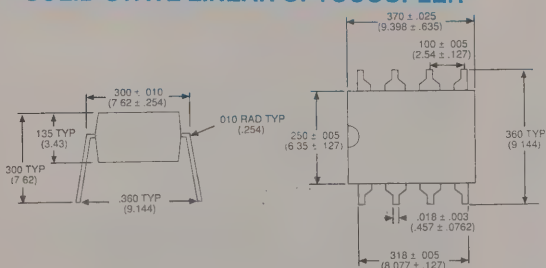


Type LIA100 contains a linear optocoupler and 2 **LF356** operational amplifiers that can be connected to form a complete isolation amplifier. Couples AC and DC signals in either unipolar or bipolar modes while maintaining linearity and isolation up to 3750V. Housed in either a 16-pin DIP or 16-lead SOIC package. **Type LIA100** is 16-pin DIP thru-hole mount but can be used easily as surface mount. Operation temperature range: -40°C to +85°C. Machine insertable, wave solderable. Offered in a photovoltaic mode amplifier. UL recognized, CSA certified.

Stock No.	Type	Linearity (Typ.)	Isolation Voltage	Bandwidth	1-9	10-24
52F7360	LIA100	0.01%	3750Vrms	≥ 40kHz	**11.43**	**9.72**

(3741) (ne07121)

SOLID-STATE LINEAR OPTOCOUPLER



LOC 110

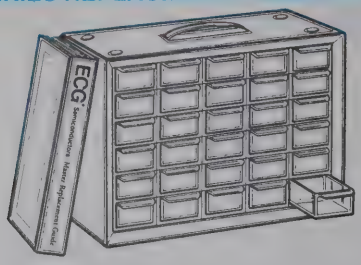
Intended for telecommunications, industrial controls, medical, and instrumentation markets. Typical applications include digital telephone isolation (replacement for transformers), power supply feedback, voltage/current and audio and signal interfacing. **Type LOC 110** is 8-pin DIP, **type LOC211P** is 16-pin SOIC. Features include coupling analog and digital signals, wide bandwidth 200kHz, high-gain stability, and low input/output capacitance. Provides solid-state reliability along with board space savings. LED operating current: 1. Common mode rejection ratio: 130 typ./dB. Package: 8-pin DIP/flatpack. UL recognized, CSA certified.

Stock No.	Type	Total Harmonic Distortion	Servo Linearity (%)	Bandwidth (kHz)	I/O Isolation (Vrms)	1-9	10-24
92F3166	LOC110	87dB	.01	< 200	3750	**5.33**	**4.80**
83F6793	LOC211P	87dB	.01	< 200	3750	**15.41**	**13.11**

(3716) (ne03798)

ECG SEMICONDUCTORS

ECGKCOM SERIES REPLACEMENT SEMICONDUCTOR KITS



Each kit is housed in a 30-drawer cabinet and comes with a Philips ECG Semiconductor Master Replacement Guide. All devices provided in these kits are also available separately; *contact your local Newark sales office.*

Type ECGKCOM1 transistor/diode kit has 30 of the most popular transistors, diodes, rectifiers, and MOSFETS that replace 33,187 devices. Contains 138 pieces total.

Type	Description	Qty.	Crosses
ECG109	Diode, Ge, General-Purpose,100 PRV, DO-7	5	3129
ECG116	Diode, Si, 600 PRV, 1.0A, DO-41	10	9923
ECG123AP	Transistor, NPN, Si, AF/RF Amp, CB Dr TO-92	5	3358
ECG125	Rectifier, Si, 1000 PRV, 2.5A, DO-41	10	2493
ECG128P	Trans., NPN, Si, General-Purpose Amp, Sw., TO-237	5	173
ECG129P	Trans., PNP, Si, General-Purpose Amp, Sw., TO-237	5	178
ECG156	Rectifier, Si, 1000 PRV, 3A	5	787
ECG159	Transistor, PNP, Si, AF Preamp, Dr, TO-92	10	7007
ECG261	Trans., NPN, Si, Darl 80V, 8A, h_{fe}=1000(Min), TO-220	5	342
ECG262	Trans., PNP, Si, Darl 80V, 8A, h_{fe}=1000(Min), TO-220	5	293
ECG263	Trans., NPN, Si, Darl 80V, 10A, h_{fe}=1000(Min), TO-220	5	122
ECG264	Trans., PNP, Si, Darl 80V, 10A, h_{fe}=1000(Min), TO-220	5	88
ECG331	Transistor, NPN, Si, AF PO, Reg, Sw., TO-220	5	227
ECG332	Transistor, PNP, Si, AF PO, Reg, Sw., TO-220	5	207
ECG377	Transistor, NPN, Si, Pwr. Dr., PO, Sw., Reg, TO-220	5	489
ECG378	Transistor, PNP, Si, Pwr. Dr., PO, Sw., Reg, TO-220	5	390
ECG379	Transistor, NPN, Si, HV Hi-Speed Pwr Sw., TO-220	5	328
ECG392	Transistor, NPN, Si, Pwr. Amp, Hi-Speed Sw., TO-3P	2	64
ECG519	Diode, Si, Fast Switching, 4ns, 100 PRV, DO-35	5	1750
ECG558	Rectifier, Si, Fast Recovery, 1500 PRV, 1A, 250ns	5	474
ECG2302	Trans., NPN, Si, Horiz. Out w/Damper Diode, TO-3PJ	5	248
ECG2312	Transistor, NPN, Si, HV, Hi-Speed Sw., TO-220	2	37
ECG2324	Transistor, NPN, Si, Horiz. Out, HV, Sw., TO-3PJ	2	191
ECG2331	Trans., NPN, Si, Horiz. Out w/Damper Diode, HV, Sw., TO-3PM	5	198
ECG2337	Transistor, NPN, Si, HV, Hi-Speed Sw, t_f=.3µs Max, TO-220J	2	163
ECG2377	MOSFET-N-Ch, Enhancement, Hi-Speed Sw., TO-3PJ	2	146
ECG2385	MOSFET-N-Ch, Enhancement, Hi-Speed Sw., TO-220	2	87
ECG2389	MOSFET-N-Ch, Enhancement, Hi-Speed Sw., TO-220	2	93
ECG2393	MOSFET-N-Ch, Enhancement, Hi-Speed Sw., TO-3P	2	163
ECG2395	MOSFET-N-Ch, Enhancement, Hi-Speed Sw., TO-220	2	39

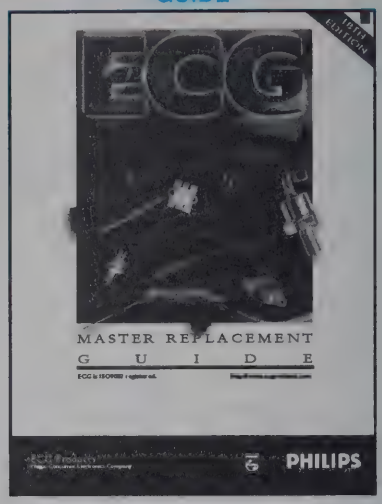
91F1830 Type ECGKCOM1. **Each** **232.00**

Type ECGKCOM2 transistor/diode kit has the next 30 most popular transistors, diodes, rectifiers, and MOSFETS that replace 14,751 devices. Contains 122 pieces total.

Type	Description	Qty.	Crosses
ECG31	Trans., NPN, Si, AF Amp (Compl to **ECG32**), TO-92M	3	114
ECG32	Trans., PNP, Si, AF Amp (Compl to **ECG31**), TO-92M	3	92
ECG129	Transistor, PNP, Si, AF Preamp, Dr., Vid. Amp, TO-39	3	1790
ECG135A	Zener Diode, 5.6V, 1W, Axial Lead	6	484
ECG137A	Zener Diode, 6.2V, 1W, Axial Lead	6	766
ECG142A	Zener Diode, 12.0V, 1W, Axial Lead	6	859
ECG145A	Zener Diode, 15.0V, 1W, Axial Lead	6	725
ECG152	Transistor, NPN, Si, AF PO, TO-220	5	1635
ECG253	Trans., NPN, Si, Darl. 80V, 4A, h_{fe}=2000(Typ), TO-126	5	114
ECG289A	Transistor, NPN, Si, AF PO, Pd 0.6W, TO-92	5	1846
ECG290A	Transistor, PNP, Si, AF PO, Pd 0.6W, TO-92	5	2163
ECG373	Transistor, NPN, Si, AF Driver TO-126	5	653
ECG385	Transistor, NPN, Si, HV Hi-Speed Sw TO-3	5	160
ECG393	Transistor, PNP, Si, Power Amp, Hi-Speed Sw. TO-3P	5	42
ECG396	Transistor, NPN, Si, Linear Amp & Hi-Speed Sw. TO-39	5	157
ECG399	Transistor, NPN, Si, Video Output, Horizontal Dr. T-16	5	778
ECG577	Rect., Si, Fast Rec., HV, 1000V, PRV 5A, 70ns, DO-27	5	173
ECG588	Rect., Si, Ultrafast Recov., 200 PRV, 3A 35 ns DO-27	5	335
ECG2310	Transistor, NPN, Si, HV, Hi-Speed Sw., TO-3P	3	81
ECG2311	Trans., NPN, Si, HV, Hi-Speed Sw., Hi-Current TO-3P	3	198
ECG2353	Trans., NPN, Si, HV, Horiz-Out w/Damper Diode, HV Sw ., SP-92	3	88
ECG2394	MOSFET, N-CH, Enhancement, Hi-Speed Sw., TO-3P	3	293
ECG2396	MOSFET, N-CH, Enhancement, Hi-Speed Sw., TO-220	3	48
ECG2397	MOSFET, N-CH, Enhancement, Hi-Speed Sw., TO-220	3	42
ECG2398	MOSFET, N-CH, Enhancement, Hi-Speed Sw., TO-220	3	139
ECG5127A	Zener Diode, Si, 12V, 5W, Axial Lead	4	167
ECG5304	Rectifier, Si, Bridge, 400 PRV, 1.5A	2	270
ECG5322	Rectifier, Si, Bridge, 200 PRV, 25A	2	202
ECG5344	Rectifier, Si, Bridge, 1000 PRV, 40A	2	76
ECG5804	Rectifier, 400 PRV, 3A, Axial Lead	3	261

91F1831 Type ECGKCOM2. **Each** **269.00**
(19242) (ne10989)

PHILIPS ECG SEMICONDUCTOR MASTER REPLACEMENT GUIDE



The Philips ECG Semiconductor Master Replacement Guide features approximately 300,000 crosses. The ECG semiconductor product line encompasses a wide variety of quality devices that cover the complete spectrum of semiconductor technologies from simple diodes to microprocessors. Guidebook includes complete specifications, including pin diagrams.

83F4162 Type ECG212T. **Each** **5.00**

The Philips ECG Semiconductor Cross Reference Guide on disk features new Instant Cross™ software that gives ECG replacement, description, case style, and special notes instantly. For IBM-PCs and compatibles with MS-DOS, 640K RAM. 3.5″ floppy disk.

83F4163 Type ET-2604W1.1 for Windows®. **Each** **12.09**
(19244) (ne10990)

PHILIPS ECG REPLACEMENT SEMICONDUCTORS

Philips ECG replacement semiconductors are available for off-the-shelf delivery. Listed below is a sampling of items available. Additional devices are available; *contact your local Newark sales office.*

Type	Description
ECG109	Diode, Ge, Gen Purp, 100 PRV, DO-7
ECG116	Diode, Si, 600 PRV, 1.0A, DO-41
ECG123A	Transistor, NPN, Si, AF/RF Amp, Sw., TO-18
ECG123AP	Transistor, NPN, Si, AF/RF Amp, CB DR, TO-92
ECG125	Rectifier, Si, 1000 PRV, 2.5A, DO-41
ECG128	Transistor, NPN, Si, AF Preamp, Driver, TO-39
ECG129	Transistor, PNP, Si, AF Preamp, Dr, Vid Amp, TO-39
ECG156	Rectifier, Si, 1000 PRV, 3A
ECG159	Transistor, PNP, Si, AF Preamp., Driver TO-92
ECG2311	Transistor, NPN, Si, HV, Hi Speed Sw, Hi Current, TO-218
ECG2331	Transistor, NPN, SI, Horiz Out w/Damper Diode, HV, Sw, TO-3PM
ECG2353	Transistor, NPN, SI, Horiz Out w/Damper Diode, HV, Sw, TO-3PM
ECG261	Transistor, NPN, Si, Darl. 80V, TO-220
ECG264	Transistor, PNP, Si, Darl, 100V, 10A, hfe=1000(min.), TO-220
ECG284	Transistor, NPN, Si, AF PO, Pd 150W, TO-3
ECG289A	Transistor, NPN, Si, AF PO, Pd 0.6W, TO-92
ECG377	Transistor, NPN, Si, Pwr. Dr., PO, Sw., Reg. TO-220
ECG378	Transistor, PNP, Si, Pwr. Dr., PO, Sw., Reg. TO-220
ECG379	Transistor, NPN, Si, HV, Hi-Speed Pwr Sw., TO-3P
ECG386	Transistor, NPN, Si, HV Hi Speed Sw, TO-3
ECG506	Rectifier, Si, Hi Current/Fast Sw, Damp, Blank
ECG53	Transistor, NPN, Si-HV, Hi Speed Sw, tf=0.7µs typ., TO-3
ECG5313	Rectifier, Si, Bridge, 200 PRV, 8A
ECG5322	Rectifier, Si, Bridge, 200 PRV, 25A, 4-Spade Connectors
ECG5324	Rectifier, Si, Bridge, 400 PRV, 25A, 4-Spade Connectors
ECG5326	Rectifier, Si, Bridge, 600 PRV, 25A
ECG5332	Rectifier, Si, Bridge, 600 PRV
ECG5342	Rectifier, Si, Bridge, 600 PRV, 40A, 4-Spade Connectors
ECG5344	Rectifier, Si, Bridge, 1000 PRV, 40A
ECG5460	SCR, 800 VRM, 25A
ECG56026	TRIAC 600 VRM, 40A, Isolated Stud, TO-48
ECG5645	TRIAC, 600V, 10A, Isolated Tab, TO-220
ECG5679	TRIAC 600 VRM, 40A, TO-3
ECG5700	Industrial Power Mod, 100V, 25A
ECG580	Rectifier, Si, 600PRV, 3A, Axial Lead
ECG5809	Rectifier, 1000 PRV, 3A, Axial Lead
ECG5817	Rectifier, 1000 PRV, 6A/22A, Axial Lead
ECG94	Transistor, NPN, Si, HV Gen Purp Amp, TO-3
ECG947D	IC-Dual Freq-Compensated Op Amp, 14-Lead DIP
ECG960	IC-Voltage Regulator, Positive, 5V, 1A, TO-220
ECG98	Transistor, NPN, Si, Pwr Darl HV Amp, Fast Sw TO-3
ECG987	Quad Op-Amp, 14-Pin DIP

(19243) (ne10995)

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REPLACEMENT SEMICONDUCTOR KITS

SK SERIES REPLACEMENT SEMICONDUCTOR KITS

Newark Electronics® has packaged the most requested SK Series replacement semiconductors in convenient kits. Each kit is housed in a 30-drawer cabinet, and comes with its own SK Semiconductor cross-reference software on 3.5″ HD diskette. (Also available separately; *contact your local Newark sales office.*) All kit components, as well as hundreds of additional SK Series devices, are available separately from Newark for immediate delivery.

Combination Kit #1 consists of the 25 most-requested devices. Selection of transistors, diodes, rectifiers, and SCRs in a variety of package styles. The 145 pieces in this kit replace 42,723 devices.

Type	Description	Qty.
SK3004	PNP Ge Transistor, AF Low Power, TO-1	5
SK3009	PNP Ge Transistor, AF High Power, TO-3	5
SK3027	NPN Si Transistor, AF High Power, TO-39	5
SK3051	Si, Axial Lead Rectifier, 1000V, 3A	5
SK3054	NPN Si Transistor, AF Deflection, TO-220	5
SK3081	Si, Axial Lead Rect., 1000V, 2.5A DO-41	10
SK3087	Ge, Ax. Ld. Signal Diode, AF/RF, 75V, 50mA, DO-7	5
SK3090	Ge, Ax. Ld. Signal Diode, AF/RF, 100V 100mA, DO-7	5
SK3100	Si, Ax. Ld. Rect. Switching, DO-35	5
SK3114A	PNP Si Transistor, AF Power Amp, TO-92	5
SK2124A	NPN Si Transistor, AF Power Amp, TO-92	5
SK3220	NPN Si Transistor, Deflection, AF, TO-220	5
SK3311	Si, Ax. Ld. Rect. 200V, 1A, DO-41	5
SK3312	Si, Ax. Ld. Rect. 400V, 1A, DO-41	10
SK3313	Si, Ax. Ld. Rect. 600V, 1A, DO-41	10
SK3440	NPN Si Transistor, AF Med. Power, TO-220	5
SK3444	NPN Si Transistor, RF/AF Osc./Amp, TV Vid., TO-18	5
SK3466	PNP Si Transistor, AF Med Pwr., Preamp/Drvr., TO-92	5
SK3854	NPN Si Transistor, AF/RF Osc./Amp, TV Vid., TO-92	5
SK3893	NPN Si Transistor, Audio Amp/Sw., TO-220	5
SK3998	Si, Fast Recov. SCR, 1500V, 1A, DO-15	5
SK9091	Si, Diode, 200V, 200mA, DO-35	5
SK9118	NPN Si Transistor, Vert. Defl./AF amp, TO-220	5
SK9229	NPN Si Transistor, Gen. Purpose, Amp/Sw., TO-92	5
SK9422	NPN Si Trans., w/Damper Diode, Hor., Def., TO-3P	5
SK9487	NPN Si Trans., w/Damper Diode, Hor., Def., TO-3P	5

46F8606 Type SK86NEW1. Kit #1. **Each** **284.44**

Combination Kit #2 consists of the second most-requested 25 devices. Selection of transistors, diodes, rectifiers, and SCRs. The 125 pieces in this kit replaces 19,029 devices.

Type	Description	Qty.
SK6V2	Zener Diode, 6.2V ±5%, 1W	5
SK3017B	Si, Axial Lead Rectifier, 600V, 1A, Glass	5
SK3020	NPN Si Transistor, AF Med. Pwr., TO-39	5
SK3021	NPN Si Transistor, AF Pwr., TO-66	5
SK3044	NPN Si Transistor, High Voltage, TO-39	5
SK3083	PNP Si Transistor, AF/Deflection, TO-220	5
SK3122	NPN Si Transistor, AF/RF Med. Pow., Plastic	5
SK3180	NPN Si Darlington, High Power, TO-220	5
SK3190	NPN Si Transistor, AF High Power, TO-126	5
SK3191	PNP Si Transistor, AF High Power, TO-126	5
SK3201	NPN Si Transistor, AF TV Video/Chroma amp, TO-220	5
SK3245	NPN Si Transistor, AF Preamp., TO-92	5
SK3274	PNP Si Transistor, AF Out/Power Sw., TO-220	5
SK3275	NPN Si Transistor, FM AF Driver/Output, TO-220	5
SK3433	NPN Si Transistor, AF High Voltage, TO-92	5
SK3441	PNP Si Transistor, Med. Power, TO-220	5
SK3452	NPN Si Transistor, RF, AM/FM/RF, TV VHF/RF/IF, TO-92	5
SK3639	Si, Axial Lead Rectifier, 200V, 6-22 A	5
SK3747	NPN Si Transistor, AF High Power, TO-126	5
SK3896	NPN Si Darlington, Power Amp, TO-220	5
SK3929	NPN Si Transistor, Med. Pwr., Drvr./Output, TO-220	5
SK9000	Si Fast Recov Rectifier, 600V, 1A, DO-15	5
SK9041	NPN Si Transistor, AF Driver, TO-126	5
SK9119	NPN Si Transistor, W/Damper Diode, Hor. Defl., TO-3	5
SK9455A	NPN Si Darlington, AF AM, TO-92	5

46F8607 Type SK86NEW2. Kit #2. **Each** **330.76**

Zener Diode Kit 78 most-requested zener diodes in a variety of voltage and wattage ratings. All have a ±5% tolerance. The 180 pieces in this kit replace 21,122 devices.

Type	Description	Qty.	Type	Description	Qty.
SK2A5	2.5V/0.5W ± 5%	2	SK22A	22V/0.5W ± 5%	2
SK3A3	3.3V/0.5W ± 5%	2	SK24A	24V/0.5W ± 5%	5
SK3A6	3.6V/0.5W ± 5%	2	SK25A	25V/0.5W ± 5%	2
SK3A9	3.9V/0.5W ± 5%	2	SK27A	27V/0.5W ± 5%	2
SK4A3	4.3V/0.5W ± 5%	2	SK28A	28V/0.5W ± 5%	2
SK4A7	4.7V/0.5W ± 5%	2	SK30A	30V/0.5W ± 5%	2
SK5A1	5.1V/0.5W ± 5%	5	SK3V3	3.3V/1W ± 5%	2
SK5A6	5.6V/0.5W ± 5%	2	SK3V6	3.6V/1W ± 5%	2
SK6A0	6.0V/0.5W ± 5%	2	SK3V9	3.9V/1W ± 5%	2
SK6A2	6.2V/0.5W ± 5%	2	SK4V3	4.3V/1W ± 5%	2
SK6A8	6.8V/0.5W ± 5%	2	SK4V7	4.7V/1W ± 5%	2
SK7A5	7.5V/0.5W ± 5%	2	SK5V1	5.1V/1W ± 5%	5
SK8A2	8.2V/0.5W ± 5%	2	SK5V6	5.6V/1W ± 5%	2
SK8A7	8.7V/0.5W ± 5%	2	SK6V0	6.0V/1W ± 5%	2
SK9A1	9.1V/0.5W ± 5%	2	SK6V2	6.2V/1W ± 5%	2
SK10A	10V/0.5W ± 5%	2	SK6V8	6.8V/1W ± 5%	2
SK11A	11V/0.5W ± 5%	2	SK7V5	7.5V/1W ± 5%	2

CONTINUED

SK SERIES REPLACEMENT SEMICONDUCTOR KITS (CONT.)

Type	Description	Qty.	Type	Description	Qty.
SK12A	12V/0.5W ± 5%	5	SK8V2	8.2V/1W ± 5%	2
SK13A	13V/0.5W ± 5%	2	SK8V7	8.7V/1W ± 5%	2
SK14A	14V/0.5W ± 5%	2	SK9V1	9.1V/1W ± 5%	2
SK15A	15V/0.5W ± 5%	5	SK10V	10V/1W ± 5%	2
SK16A	16V/0.5W ± 5%	2	SK11V	11V/1W ± 5%	2
SK17A	17V/0.5W ± 5%	2	SK12V	12V/1W ± 5%	5
SK18A	18V/0.5W ± 5%	2	SK13V	13V/1W ± 5%	2
SK19A	19V/0.5W ± 5%	2	SK14V	14V/1W ± 5%	2
SK20A	20V/0.5W ± 5%	2	SK15V	15V/1W ± 5%	5
SK16V	16V/1W ± 5%	2	SK4X7	4.7V/5W ± 5%	2
SK17V	17V/1W ± 5%	2	SK5X1	5.1V/5W ± 5%	5
SK18V	18V/1W ± 5%	2	SK5X6	5.6V/5W ± 5%	2
SK19V	19V/1W ± 5%	2	SK6X0	6.0V/5W ± 5%	2
SK20V	20V/1W ± 5%	2	SK6X2	6.2V/5W ± 5%	2
SK22V	22V/1W ± 5%	2	SK6X8	6.8V/5W ± 5%	2
SK24V	24V/1W ± 5%	5	SK7X5	7.5V/5W ± 5%	2
SK25V	25V/1W ± 5%	2	SK8X2	8.2V/5W ± 5%	2
SK27V	27V/1W ± 5%	2	SK8X7	8.7V/5W ± 5%	2
SK28V	28V/1W ± 5%	2	SK9X1	9.1V/5W ± 5%	2
SK30V	30V/1W ± 5%	2	...	...	...

87F873 Type SK86NEW6. Zener Diode Kit. **Each** **287.50**

SCR/TRIACs Kit 21 consist of the most-requested SCRs and TRIACs in a variety of package styles, including TO-5, TO-15, TO-20, TO-92 and TO-220. The 105 pieces in this kit replace 1,648 devices.

Type	Description	Qty.
3503	SCR, 600V, 7A, TO-5	5
3506	TRIACS, 400V, 2.5A, TO-5	5
3523	DIAC, Trigger for SCR/TRIAC, DO-15	5
3533	TRIAC, 400V, 16A, TO-220	5
3597	SCR, 200V, Sensitive Gate, TO-20	5
3598	SCR, 400V, Sensitive Gate, TO-20	5
3627	SCR, 200V, 0.8A, Sensitive Gate, TO-92	5
3638	SCR, 100V, 0.8A, Sensitive Gate, TO-92	5
3666	TRIAC, 400V, 4A, TO-126	5
3683	SCR, 200V, 5A, TO-66	5
3950	SCR, 30V, 0.8A, Sensitive Gate, TO-92	5
5237	SCR, 400V, 10A, Sensitive Gate, TO-220	5
6708	TRIAC, 400V, 8A, TO-220	5
9292	SCR, 200V, 10A, TO-220	5
9293	SCR, 400V, 10A, TO-220	5

87F872 Type SK86NEW5. SCR/TRIAC Kit. **Each** **300.95**

Transistor Kit 26 consists of the most-requested transistors in a variety of package styles, including TO-1, TO-3, TO-92, and TO-220. The 104 pieces in this kit replace 35,684 devices.

Type	Description	Qty.
SK3004	PNP Ge Transistor, AF Low Power, TO-1	5
SK3009	PNP Ge Transistor, AF High Power, TO-3	5
SK3027	NPN Si Transistor, AF High Power, TO-39	3
SK3054	NPN Si Transistor, AF Deflection, TO-220	3
SK3114A	PNP Si Transistor, AF Power Amp, TO-92	3
SK3115	NPN Si Transistor, Deflection, TO-3	3
SK3124A	NPN Si Transistor, AF Power, TO-92	5
SK3180	NPN Si Darlington, High Power, TO-220	2
SK3190	NPN Si Transistor, AF High Power, TO-126	2
SK3220	NPN Si Transistor, Deflection, AF, TO-220	3
SK3245	NPN Si Transistor, AF Preamp., TO-92	2
SK3274	PNP Si Transistor, AF Out/Power Swit., TO-220	2
SK3440	NPN Si Transistor, AF Med. Power, TO-220	3
SK3441	PNP Si Transistor, AF Med. Power, TO-220	3
SK3444	NPN Si Trans., RF/AF Osc./Amp, TV Video, TO-92	10
SK3466	PNP Si Trans., AF Med. Power, Pre-Amp Dr. TO-92	10
SK3710	NPN Si Transistor, Deflection, TO-3	2
SK3854	NPN Si Trans., RF/AF Out/Amp, TV Video, TO-92	10
SK3893	NPN Si Transistor, Audio Amp/Switch, TO-220	5
SK3896	NPN Si Darlington, Power Amp, TO-92	2
SK9085	NPN Si Transistor, High Volt/Speed, SW, TO-220	2
SK9118	NPN Si Transistor, Vert. Defl./AF Amp, TO-220	3
SK9119	NPN Si Trans., w/Damper Diode, Hor. Defl., TO-3	3
SK9229	NPN Si Trans., Gen Purpose Amp/SW, TO-92	3
SK9422	NPN Si Trans., w/Damper Diode, Hor. Defl., TO-3P	5
SK9487	NPN Si Trans., w/Damper Diode, Hor. Defl., TO-3P	5

87F870 Type SK86NEW3. Transistor Kit. **Each** **237.30**
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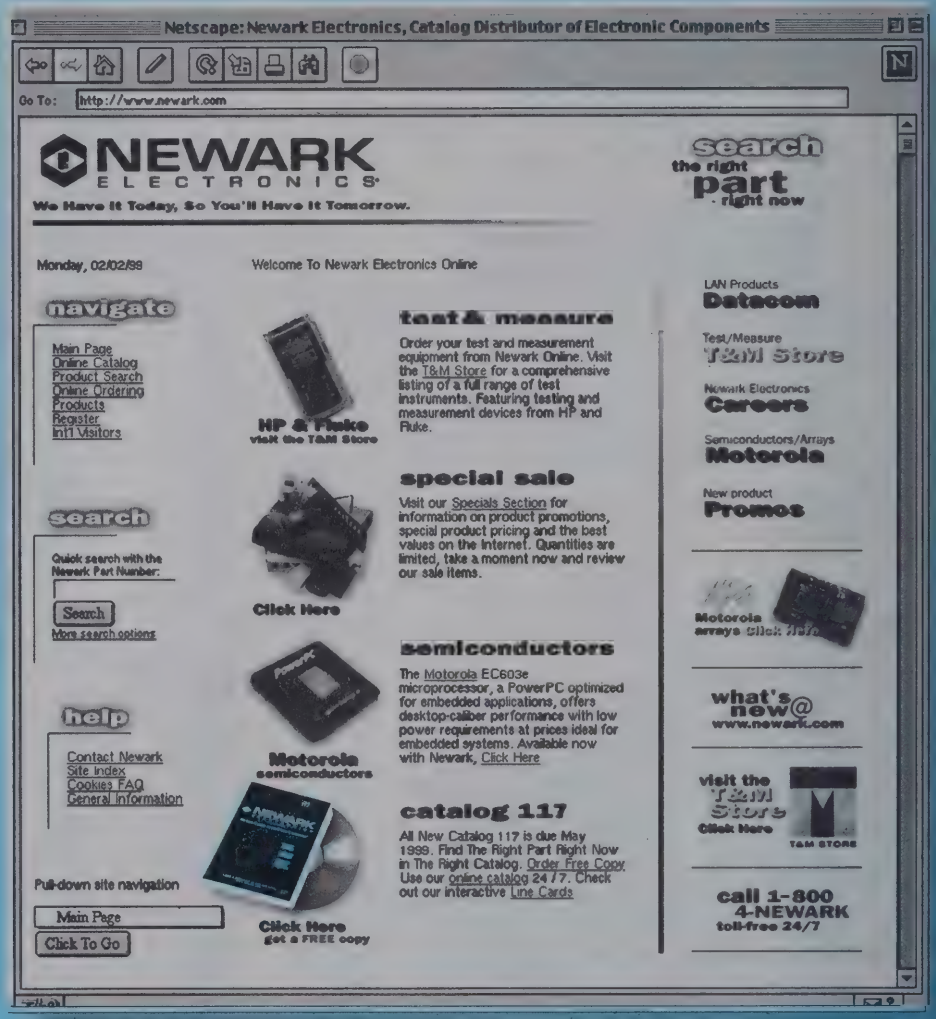
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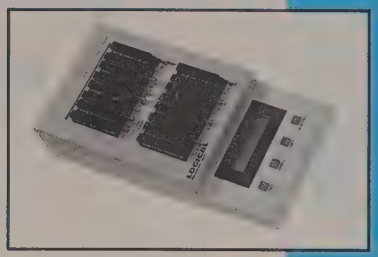

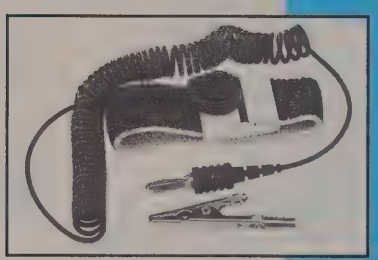

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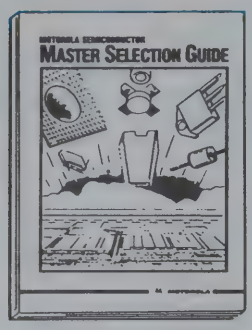

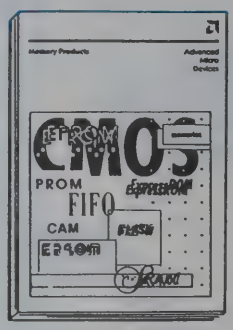

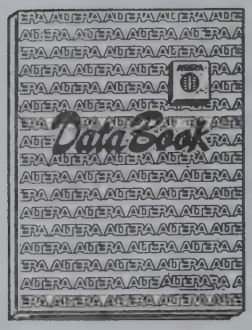

REPLACEMENT GUIDES

Manufacturer	Title	Type	Stock No.	Each
Howard Sams	Semi Replacement Guide	61080	50F1287	25.83
Philips ECG	Semi Master Replacement Guide	ECG212T	83F4162	5.00
	3½" Floppy 720k Density	ET-2604W1.1	83F4163	12.09
Thomson Consumer	Semiconductor Cross Referencing Software: 3½" HD Format	SKG202DK1	93F4630	6.97

SELECTOR GUIDES/DATA BOOKS

Manufacturer	Title	Type	Stock No.	Each
Advanced Micro Devices (AMD)	Product Selector Guide	19542D	95F7394	5.00
	PAL Databook	10173	84F579	5.00
	EPROM Products	17061B	96F4456	5.00
Allegro	Data Book	AMS-502B	84F593	5.00
Altera	Data Book	DB-0198-01	84F580	5.00
Analog Devices	Designers Reference Manual	G2132-150	66F7015	5.00
	Short Form Designers Reference Manual	G1238E-200	93F2436	5.00
	Designers CD Reference Manual	DES-CD-1998-DOM-DISC	01F824	5.00
	DSP-2100 Family Users Manual	82-000780-03	01F823	5.00
	Applications Reference Manual	G1799-40	01F822	5.00
General Semiconductor	Data Book	GI Data Book/98	83F8118	5.00
Harris Semiconductor	Selector Guide	PSG201.25	84F648	5.00
	Data Acquisition	DB301.3	93F6307	5.00
	Telecom ICs	DB500.3	84F647	5.00
	Transient Voltage Suppression	DB450.5	84F643	5.00
	Microprocessors	DB303.1	93F6304	5.00
	Intelligent Power ICs	DB304.1	93F6306	5.00
	Signal Solutions, Vol. 1	DB309.1	16F2093	5.00
	Analog Switches, Mixes and Interface Solutions	DB314	16F2094	5.00
	Communications Data Book	DB317	91F9747	5.00
Hewlett Packard	OPTO Data Book	5965-0987E	84F704	5.00
Honeywell Optoelectronics	Infrared Products	E27	16F8751	5.00
	Fiber Optic Products	E26	16F8750	5.00

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REPLACEMENT GUIDES AND DATA BOOKS (CONT.)

SELECTOR GUIDES/DATA BOOKS (CONT.)

Manufacturer	Title	Type	Stock No.	Each
Motorola	Master Selector Guide	SG73/D Rev. 17	83F4592	5.00
	Bipolar Power Selector Guide	SG266/D	96F8214	5.00
	D2PAK Selector Guide	SG271/D	95F6325	5.00
	Discrete Surface Mount Selector Guide	SG370/D	50F9316	5.00
	Rectifier Selector Guide	SG267/D	96F8215	5.00
	RF Selector Guide	SG46/D	50F9303	5.00
	Thyristor Selector Guide	SG268/D	96F8216	5.00
	TMOS Selector Guide	SG265/D	96F8213	5.00
	Bipolar Data Book	DL111/D	50F9294	5.00
	Pressure Sensor Data Book	DL200/D	95F6329	5.00
	Rectifier Data Book	DL151/D	84F1530	5.00
	RF Data Book	DL110/D	50F9293	5.00
	Small Signal, FETs, Diodes Data Book	DL126/D	50F9299	5.00
	Thyristor Data Book	DL137/D	50F9332	5.00
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Optek	Data Book	500-0090-094	84F649	5.00
Powerex	Product Selector Guide	12A-100	09F5080	5.18
	Low Power Data Book	8B-100	92F5922	5.00
	IGBT Intellimod Data Book	9DB-100	83F5591	5.00
QT Optoelectronics	Data Book	QT Data	50F9344	5.00
Texas Instruments	Master Selector Guide	SSYC005B	84F592	8.96
	TTL Logic	SDLD001A	84F587	25.83
	MOS Memory	SMYD095	84F586	15.27
	OP AMP Volume A	SLYD011A Vol. A	52F6075	18.58
	OP AMP Volume B	SLYD012A Vol. B	52F6076	18.58
Zilog	Master Selector Guide	MS96COR3200	50F9339	5.00
	Z80 Family Data Book	DB95Z80010	95F7380	5.00
	Z180 Tech Manual	DC-8276-04	95F7383	5.00
	DSP Product Spec Data Book	DP9505DSP0105	95F7385	5.00

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IC Master 3-volume set features Internet access to the most current IC Master database, including pinout and package data for over 95,000 devices, with on-line search capability and direct links to manufacturers' home pages on the World Wide Web at http://icmaster.com. It's a functional and numerical search guide to 100,000 current ICs and related products that are commercially available today. It also includes over 13,000 new device listings and provides device data, organized in parametric search format, to help locate the precise IC to solve design problems.

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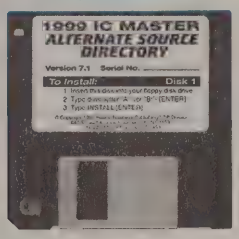

Designed for users who do frequent cross-referencing and second-source searching. Its menu-driven industry-wide listing of 120,000 current and discontinued pin-for-pin equivalents, including the complete NTE and ECG IC parts list, can be customized by adding and deleting device numbers and by adding comments to device listings. Comes with complete vendor contact information on 3.5" diskette. For use with IBM® XT and compatibles. Hard drive required. NOTE: Device specifications and data sheets are not included in the ASD on diskette, but they can be found in the IC Master Catalog, *ordered separately on this page*, and the IC Master CD-ROM, *ordered separately on this page.*

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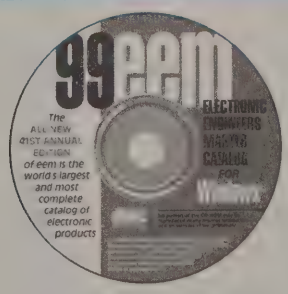
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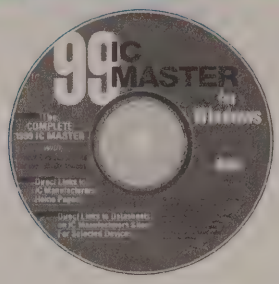

The 1999 IC Master CD-ROM for Windows® features true parametric/specification search capability. Users can search on values or on multiple parameters. Search results can be sorted by multiple parameters as well. Includes pinout and package data for over 90,000 devices. The web-interactive CD has links to application notes and selected data sheets. Users also have ability to access the most current IC Master database with on-line search capability and direct links to manufacturers' home pages on the Internet at http://icmaster.com. The expanded IC Master CD-ROM is the entire IC Master database with specifications on over 130,000 current and discontinued devices, on a single compact disk. It includes the Alternate Source Directory with NTE and ECG IC parts, manufacturer supplied data pages, the complete IC Master Manufacturers and Distributors Directory, and the entire IC Master Directory of IC Manufacturers' Data Pages. The CD-ROM permits device selection by flexible category search and key word search. It features a redesigned and simplified interface to speed searches. Requires PC 486 or higher, 16MB RAM and Windows95 or NT. Multiuser network version also available; *contact your local Newark sales office for details.*

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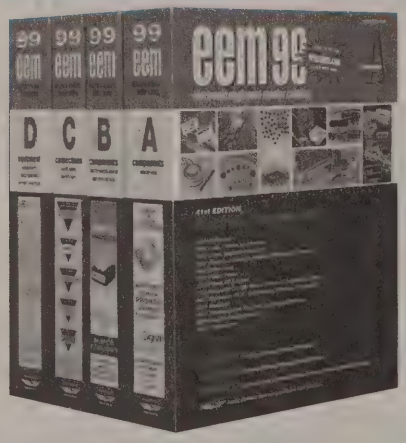

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3CX1500D3	1407.45	1379.31
3CX3000-A7	1502.82	1472.77
4CX1500B/8660	1618.95	1586.57
4CX250B	128.80	126.21
4CX350A/8321	526.07	515.50
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5CX1500A	2203.00	2158.94
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NL5870ST	150.97	147.93
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NL-841	151.18	148.14
NL-8422/5991	171.03	167.59

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6AN5	17.68	17.33
6AR5	96.99	95.06
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NL5684/NE	246.98	242.01
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NL604L/7015	411.62	403.35
NL606/7016	515.68	490.05
NL-606L/7017	540.75	513.87
NL615/7018	150.76	147.73
NL-619	293.16	287.26
NL-635L/7020	487.92	478.12
NL-678	798.59	758.89
NL-710/6011	219.59	215.18
NL-710A	407.61	399.41
NL710L/7509A	273.08	267.59
NL-740L/7022	447.77	438.76
NL-740P/6857	455.80	446.63
NL5632/C3J	187.29	183.52
NL5684/NE	246.98	242.01
NL-7723-NE	267.05	261.69

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1K95B-5	22.90	22.44
5822A	1203.97	1179.89
NL1009A	1861.45	1824.22
NL-1051A	584.98	555.90
NL1052A	1089.00	1067.22
NL1053A	3415.50	3347.19

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NL91124	13.92	13.65
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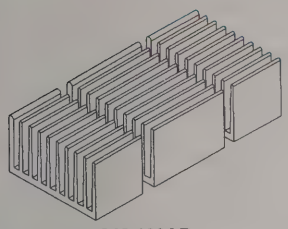
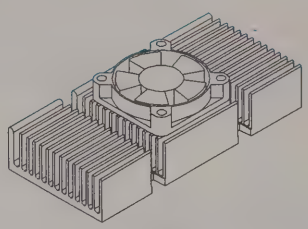
HEAT SINKS

848 AND 859 SERIES HEAT SINKS FOR INTEL PENTIUM II™

NEW



848-130AB



859-124D

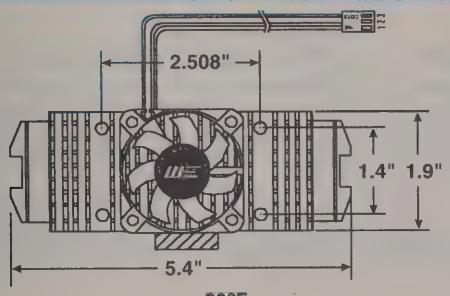
848 series and **859 series** heatsinks are for Intel Pentium II™ microprocessors up to 450MHz. Providing optimal thermal performance for ATX/NLX standard PC chassis formats. *Robust spring clip available separately below.*

Stock No.	Type	Number of Pins	1-4	5-9	10-24
48F4326	848-130ABS5	10	14.35	13.18	12.70
48F4327	859-124D3S5	14	16.17	15.44	14.70

48F4329 Type 829-SC Spring Clip. **Each** **0.52**
(34775) (ne34775)

866 SERIES HEAT SINKS FOR THE INTEL CELERON™

NEW



866F

866 series heat sinks are for the Intel Celeron™ microprocessor. **Type 866H** convoluted fin sinks and **type 866F** meet Intel's thermal specifications, and exceed shock and vibration test requirements. *Order robust spring clip separately below.*

Stock No.	Type	Height	1-24	25-49	50-99
48F4324	866H-100APS5	1.0″	5.03	4.82	4.61
48F4325	866F100APS5	1.0″	19.79	18.17	17.52

48F4328 Type 866-SC Spring Clip. **Each** **2.21**
(34774) (ne34774)

879 SERIES AND 709 SERIES FAN/HEAT SINK SOCKETCLIP™ ASSEMBLIES FOR INTEL P6.0 PROCESSORS

Designed to meet the stringent performance requirements expected for the Intel P6.0 high-performance processors. Include pre-installed four-point captivated SocketClip™ for attachment to ZIF Socket 8 and 387 SPGA LIF sockets. Fit Pentium™, Pentium MMX™, AMD K6™, AMD K6-2™, Cyrix 6x86™, and Media GX™.

879 SERIES FAN/HEAT SINKS

Thermal performance: Θ_{SA} = 0.62°C/W. (Θ_{CA} = 0.75°C/W, with use of **Type 120** thermal compound; *available separately on page 951.*) Height: 1.31″ max. Require 0.40″ minimum inlet air headspace above fansink assembly. Weight: 0.37 lbs. (170g).

Stock No.	Type	VDC	Socket Type	1-4	5-9	10-24
16F7422	879L-130AB121S3	12	LIF	24.58	22.56	22.18

709 SERIES CONVOLUTED FAN/HEAT SINKS

Stock No.	Type	VDC	Socket Type	1-49	50-99
52F4998	709-80AB121S3	12	ZIF	29.16	26.73
52F4999	709-80AB124S3	12	ZIF	23.88	21.89

(4636) (ne09434)

SOCKETCLIP™ HEAT SINKS FOR INTEL PENTIUM™

899 series for Intel Pentium™ 90 and 100MHz requires mating ZIF socket 5 (Newark stock numbers 92F5404, 92F5405, and 97F8589). **779 series** designed for forced convection applications. Include pre-installed four-point captivated SocketClip™ for attachment to ZIF Socket 8 and 387 SPGA LIF sockets. Also include channels for chip capacitors on the top ceramic surface of the P6.0 processor.

Stock No.	Type	Type	Height	1-24	25-49	50-99
92F5012	899-80AB	899-80AB	0.800″ (20.3)	8.05	7.72	7.53
92F5011	899-100AB	899-100AB	1.000″ (25.4)	11.44	10.97	10.70
16F7414	779L-150ABS3	779L-150ABS3	1.5″ (38.1)	16.14	14.82	14.57
16F7415	779Z-150ABS3	779Z-150ABS3	1.5″ (38.1)	16.14	14.82	14.57

(4593) (ne06006)

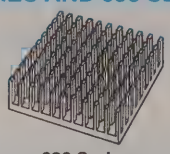
698/798 SERIES PIN FIN HEAT SINKS

698 series is for Intel Pentium™ processors (60-, 66 MHz) and Hewlett Packard PA and MIPS R4000/R4400 RISC processors. Yield forced convection thermal resistance (θ_{SA}) values low as 1.4°C/W (100LFM) for desktop and 0.75°C/W (400 LFM) for multiprocessor server applications. **798 series** same, but for Intel Pentium™ 90 and 100MHz processors. Base dimensions: 2.100 x 1.920″ (53.3 x 48.7).

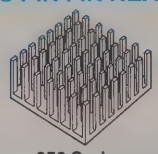
Stock No.	Type	Height	1-24	25-49	50-99
93F6554	698-40AB	0.400″ (10.16)	5.29	5.07	4.95
95F3496	698-100AB	1.000″ (25.40)	9.05	8.67	8.46
92F4626	798-40AB	0.400″ (10.2)	5.20	4.98	4.86
92F4628	798-80AB	0.800″ (20.3)	6.35	6.09	5.94
92F4629	798-100AB	1.000″ (25.4)	8.95	8.57	8.36

(4578) (ne00972)

628 SERIES AND 658 SERIES PIN FIN HEAT SINKS



628 Series



658 Series

628 series for adhesive attachment to 17x17 ceramic PGAs. These omnidirectional pin fin heat sinks are for Intel 80486 microprocessors, AMD Am29K microprocessors, and TI TMS320C40. Black anodized finish. **658 series** designed for heat dissipation for Olin Corporation MQuad™ aluminum Quad flat packs and Amkor Power Quad thermally enhanced PQFPs. Pre-applied, pressure-sensitive adhesive versions available; *contact your local Newark sales office.*

Stock No.	Type	Height	1-24	25-49	50-99
628 SERIES					
95F3500	628-25AB	0.250″ (6.35)	2.80	2.68	2.62
95F3501	628-40AB	0.400″ (10.16)	2.84	2.72	2.65
95F3502	628-65AB	0.650″ (16.51)	3.82	3.66	3.57
658 SERIES					
93F6542	658-25AB	0.250″ (6.35)	1.92	1.84	1.79
93F6543	658-45AB	0.450″ (11.43)	2.10	2.02	1.97
93F6544	658-60AB	0.600″ (15.24)	2.17	2.08	2.02

(4591) (ne06004)

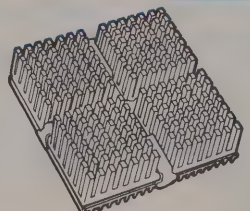
DELTEM™ & DELTEM™ II COMPOSITE HEAT SINKS

Type D10850-40 is specifically designed for the Intel 80486SX microprocessor (196-lead PQFP), i960KA embedded controller (196 PQFP), and Cyrix486 microprocessor. **Type D10650-40** is for the Intel 80386SX microprocessor (100-lead PQFP) and Intel 82490/82491 cache RAM. **Type D20850-40T1** Deltem™ II heat sink is designed for ASICs, the Intel i960KA embedded controller, and Intel's 486DX2 microprocessor. Works with 168-208 pin PQFPs, PowerQuad™ 2, and PBGAs and CBGAs.

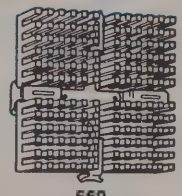
Stock No.	Type	Description	Dimension	1-49
93F6545	D10650-40	Pin Fin	0.650″ sq. x 0.400″H	1.12
93F6546	D10850-40	Pin Fin	0.850″ sq. x 0.400″H	1.38
16F8579	D20850-40T2	Pin Fin	0.850″ sq. x 0.400″H	1.56

(4580) (ne00978)

669 SERIES AND 649 SERIES SPIDERCLIP™ HEAT SINK ASSEMBLIES



649



669
17 x 17 PGA

- **For Motorola 68040, 68060**
- **For Intel 80486DX2, Intel 486DX4**

669 series for Intel 80486DX/DX2™ and i960CA/CF™. No thermal compound or interface material is required in typical PC and server applications. Black anodized except **669-32AG** gold iridite. *Order* **type 163-IT** *assembly tool separately; contact your local Newark sales office.* **Type 649-33AB** designed for attachment to Motorola MC68040 microprocessor.

Stock No.	Type	Height	1-24	25-49	50-99
93F1915	669-32AG	0.315″ (8.00)	4.57	4.38	4.28
93F6537	669-33AB	0.315″ (8.00)	4.57	4.38	4.28
93F6538	669-40AB	0.400″ (10.16)	5.03	4.82	4.71
93F6539	669-52AB	0.520″ (13.21)	6.02	5.76	5.62
92F4657	649-33AB	0.315″ (8.0)	6.97	6.68	6.52

(4592) (ne06005)

HEAT SINKS

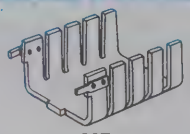
680 SERIES CIRCUIT BOARD HEAT SINKS

Provide natural convection cooling. Mount in any position. High thermal conductivity black anodized aluminium alloy. 1.81″ sq. base with 1.50″ between mounting holes. Mounting pattern indicated by type suffix: "**A**" case style TO-3. "**K**" indicates no holes (blank). **Sold in multiples of 5.**

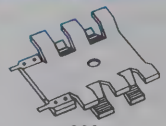
Stock No.	Type	Height	5-24	25-49	50-99
58F401	680-5A	0.50″	3.32	3.18	3.10
58F399	680-5K	0.50″	3.32	3.18	3.10
58F396	680-.75K	0.75″	3.69	3.54	3.45
58F393	680-1.0K	1.00″	3.85	3.69	3.60
58F392	680-1.25A	1.25″	3.93	3.77	3.67
01F7289	680-125K	1.25″	3.32	3.18	3.10

(4581) (ne01002)

286-288 SERIES WAVE SOLDERABLE HEAT SINKS



287



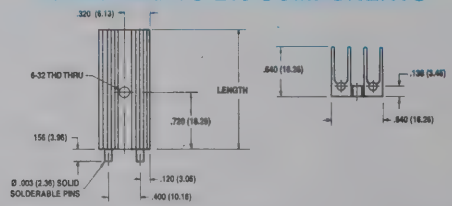
288

286, 287, 288 accept TO-220 semis. Mount vertically. **287** and **288** have wave solderable, pre-tinned mounting tabs. Black anodized aluminum. **Sold in multiples of 10.**

Stock No.	Type	Height	10-49	50-99	100-499
30F1286	287-1AB	0.500″	0.93	0.83	0.78
30F1288	288-1-AB	0.215″	0.84	0.75	0.71
46F7866	286-AB	0.500″	0.53	0.47	0.44

(4465) (de00936)

BOARD LEVEL HEAT SINKS FOR TO-220 AND TO-218 COMPONENTS



Vertical mount, slim profile, unidirectional fin heat sinks offer two assembly alternatives for vertically mounting TO-220 and TO-218 components. Available with or without wave solderable pins on 0.40″ (10.2) centers. Ideal for a variety of applications where quick assembly and space are considerations. Footprint: 0.640″ x 0.640″ (16.26 x 16.26). Material: black anodized aluminum.

PLAIN PIN

Stock No.	Type	PC Board Clearance	1-24	25-49	50-99
91F3673	634-10ABP	1.000″ (25.4)	1.81	1.74	1.26
91F3674	634-15ABP	1.500″ (38.1)	1.95	1.87	1.36
91F3675	634-20ABP	2.000″ (50.8)	2.05	1.96	1.43
		WITHOUT PIN			
91F3676	634-10AB	1.000″ (25.4)	1.68	0.64	0.59
91F3677	634-15AB	1.500″ (38.1)	1.81	1.74	1.26
91F3678	634-20AB	2.000″ (50.8)	1.92	1.84	1.34

(17826) (ne10726)

FRIENDLY, QUALITY SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

HEAT SINKS FOR "HALF BRICK" DC/DC CONVERTERS

Standard mounting hole pattern allows mating with AT&T **JC/JW/BF series** and Computer Products **BXB series** power modules with output power ratings of 30 to 150 watts. Aluminum extruded fin construction keeps DC/DC converter modules cool in both forced and natural convection applications. Vertical and horizontal fin configurations are available in a variety of fin heights. Integral thermal interface pad option eliminates need to order and install pad separately. Material: black anodized aluminum. For Deltalink IV thermal interface material, add **S4 suffix** to type number when ordering.

HORIZONTAL FIN ORIENTATION — 2.28″ x 2.40″ (57.9 x 61.0) FOOTPRINT

Stock No.	Type	Height	No. of Fins	Typical Thermal Performance: Natural Convection Power Dissipation*	Typical Thermal Performance: Forced Convection Thermal Resistance†	Each
91F3667	517-95AB	0.95″ (24.1)	8	11W	2.0°C/W	4.45
91F3670	527-45AB	0.45″ (11.4)	11	7W	3.2°C/W	3.79
91F3669	527-24AB	0.24″ (6.1)	11	5W	5.8°C/W	3.13
		VERTICAL FIN ORIENTATION — 2.40″ x 2.28″ (61.0 x 57.9) FOOTPRINT				
91F3668	518-95AB	0.95″ (24.1)	8	11W	2.0°C/W	4.77
91F3672	528-45AB	0.45″ (11.4)	11	7W	3.2°C/W	4.12
91F3671	528-24AB	0.24″ (6.1)	11	5W	5.8°C/W	3.46

* @ 60°C rise heat sink to ambient † @ 300′/min.

(17927) (ne10727)

910 SERIES FAN/HEAT SINKS FOR MPUs AND ASICs

910 series fan/heat sinks for AMD AM486™ DX4, IntelDX4™, Intel™ Pentium™ P54C combine an integral 40mm ball bearing 12VDC or 5VDC axial fan with an effective unidirectional heat sink and factory preapplied pressure-sensitive adhesive. No tools required for installation. Provides direct impingement processor cooling in areas where there is limited or no system-level airflow. Base dimensions: 1.70 x 1.79″. Black anodize finish.

Stock No.	Type	Height	Θ_{SA} (°C/W)	VDC	1-4	5-9	10-24
16F7433	910-65AB123T3	0.65″	1.69	12	18.43	16.92	16.63
16F7437	910-85AB123T3	0.85″	1.24	12	18.43	16.92	16.63

(4637) (ne09435)

626/627/657 SERIES HEAT SINKS FOR VERTICAL BOARD MOUNTING

626 and **627 series** for TO-218 and TO-220 devices. **657 series** for TO-220, TO-247, and TO-218 devices.

Stock No.	Type	Height	Thermal Convection: Natural @ 6W	Thermal Convection: Forced @ 200 LFM	1-24	25-49	50-99
52F6219	626-15ABP	1.500″	65°C	5.5°C/W	1.86	1.78	1.10
52F6220	626-20ABP	2.000″	55°C	4.7°C/W	2.53	2.43	1.50
16F7418	626-25ABP	2.500″	48°C	4.2°C/W	2.66	2.55	1.58
16F7419	627-25ABP	2.500″	48°C	4.2°C/W	2.66	2.55	1.58
46F7863	657-15-ABP	1.500″	38°C	3.3°C/W	3.60	3.45	2.13
46F7864	657-20-ABP	2.500″	32°C	2.9°C/W	3.94	3.78	2.33
46F7865	657-25-ABP	2.500″	25°C	2.7°C/W	4.15	3.98	2.46

(4642) (ne09440)

250 AND 251 SERIES SLIM-PROFILE HEAT SINKS

Slim-profile heat sinks with integral self-locking clips occupy minimum board space. **250 series** fits a variety of multiwatt devices. Footprint dimensions: 1.000 x 0.500″. **Type 250-122AB** is both vertical and horizontal mount; other types are vertical mount only. **251 series** is for 15-lead multiwatt devices. Footprint dimensions: 1.000 x 0.500″. **Type 251-80AB** and **251-80AB** is horizontal and vertical mount.

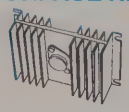
Stock No.	Type	Height	Tab Length	Thermal Convection: Natural @ 4W*	Thermal Convection: Forced @ 400 LFM	1-49	50-99
52F6203	250-122AB	1.220″	N/A	50°C	3.7°C/W	1.05	0.94
52F6204	250-122AB-09	1.220″	0.032″	50°C	3.7°C/W	1.40	1.34
52F6205	250-122AB-25	1.380″	0.020″	50°C	3.7°C/W	1.41	1.35
16F7417	251-80AB	0.845″	N/A	64°C	6.4°C/W	0.65	0.58

* 251 series @ 3W.

(4641) (ne09439)

HEAT SINKS

DOUBLE SURFACE HEAT SINKS

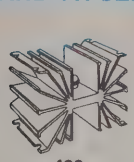


For space-critical applications where high power is dissipated. Black anodized finish aluminum alloy. Type suffixes: **A** = one TO-3 semi-mounting hole; **K** = blank (no holes).

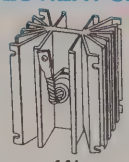
Stock No.	Type	Thermal Resistance	H x W x D	1-24	25-49	50-99
58F500	401A	1.95°C/W	1.50 x 4.75 x 1.25″	**10.20**	**7.50**	**6.39**
58F502	401K	1.95°C/W	1.50 x 4.75 x 1.25″	**6.85**	**5.04**	**4.30**
58F503	403A	1.30°C/W	3.00 x 4.75 x 1.25″	**12.26**	**9.03**	**7.69**
58F505	403K	1.30°C/W	3.00 x 4.75 x 1.25″	**9.65**	**5.36**	**4.88**
58F1003	413A	0.95°C/W	3.00 x 4.75 x 1.88″	**14.69**	**13.48**	**12.18**
58F1004	413K	0.95°C/W	3.00 x 4.75 x 1.88″	**14.46**	**10.19**	**8.74**
58F506	421A	1.10°C/W	3.00 x 4.75 x 2.63″	**12.56**	**9.24**	**7.88**
58F508	421K	1.10°C/W	3.00 x 4.75 x 2.63″	**12.26**	**9.03**	**7.69**
58F509	423A	0.67°C/W	5.50 x 4.75 x 2.63″	**19.65**	**18.04**	**16.30**
58F511	423K	0.67°C/W	5.50 x 4.75 x 2.63″	**18.86**	**17.31**	**15.63**

(4575) (ne00945)

433 AND 441 SERIES HEAT SINKS



433



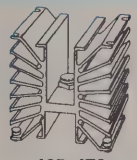
441

Type 433 high-performance heat sink uses minimum space for required cooling. **Type 441** high density heat sink for mounting on vertical surface (no brackets required) for better natural convection. Black anodized finish aluminum alloy. Both are blank (no semi mounting holes).

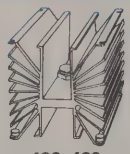
Stock No.	Type	Thermal Resistance	H x W x D	1-4	5-9	10-24
58F334	433K	0.37°C/W	5.50 x 4.75 x 3.00″	**27.18**	**24.95**	**22.53**
58F521	441K	0.40°C/W	5.50 x 4.75 x 4.50″	**32.54**	**29.88**	**26.99**

(4469) (de00946)

HEAT SINKS FOR HIGH-POWER SCR/RECTIFIERS



465, 476



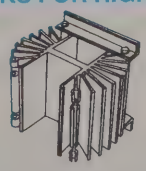
486, 489

Type 465 for 1.06″ hex style devices. **Type 476** allows 1.25″ hex style devices to be mounted. **Type 489** is 3″ longer than **Type 486,** both mount hex SCRs up to 1.75″ and utilize decreased conduction path length between semis and fin surface area for maximum cooling of devices. Black anodized finish aluminum alloy. All are blank (no semi mounting holes).

Stock No.	Type	H x W x D	1-4	5-9	10-24
58F420	465-K	5.00 x 4.00 x 4.00″	**31.55**	**28.96**	**26.16**
58F422	476-K	6.00 x 5.00 x 5.00″	**48.06**	**44.12**	**39.86**
58F425	486-K	6.00 x 6.25 x 6.25″	**64.06**	**61.14**	**54.58**
58F428	489-K	9.00 x 6.25 x 6.25″	**86.12**	**82.21**	**73.39**

(4470) (de00947)

490 SERIES HEAT SINKS FOR HIGH-POWER RECTIFIERS



Type 109 mounting brackets *(ordered separately)* can be used where mounting and/or electrical isolation is desired. Black anodized finish aluminum alloy. Blank (no semi mounting holes).

Stock No.	Type	H x W x D	1-4	5-9	10-24
58F409	490-3.5-K	3.50 x 9.25 x 6.75″	**63.89**	**60.98**	**54.44**
58F408	490-6-K	6.00 x 9.25 x 6.75″	**98.88**	**94.39**	**84.26**
58F407	490-12-K	12.00 x 9.25 x 6.75″	**166.82**	**151.65**	**...**

58F403 Type 109 Mounting Bracket. **Each** **27.62**

(4471) (de00948)

301, 302 AND 303 SERIES HEAT SINKS FOR STUD-MOUNTED SEMICONDUCTORS

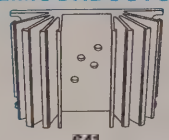
Radial fins and large surface area provide effective natural convection cooling per unit volume. All 3 types have tapped hole in one end for mounting semi. Black anodized finish aluminum alloy. Type suffixes: **M** = 10-32 tapped, 0.625″ deep; **N** = ¼-28 tapped, 0.625″ deep.

Stock No.	Type	H x W x D	1-24	25-49	50-99
58F496	301M	0.75 x 2.00 x 2.00″	**12.77**	**9.39**	**8.00**
58F495	301N	0.75 x 2.00 x 2.00″	**12.51**	**9.20**	**7.84**
58F493	302M	1.50 x 2.00 x 2.00″	**17.52**	**16.08**	**14.52**
58F492	302N	1.50 x 2.00 x 2.00″	**16.70**	**15.33**	**13.85**
58F487	303N	3.00 x 2.00 x 2.00″	**16.22**	**11.42**	**9.81**

(4467) (de00941)

621, 623 AND 641 SERIES SINGLE-CHANNEL HEAT SINKS FOR METAL-CASED SEMICONDUCTORS

621, 623



641

Replace marginal flat plate dissipators. Accept most transistor case styles. **641 series** has fin design that provides large surface area for maximum natural convection. Black anodize finish aluminum alloy. Type suffixes: **A** = 1 TO-3 semi mounting hole; **K** = (blank, no holes).

Stock No.	Type	H x W x D	1-24	25-49	50-99
58F482	621A	1.50 x 4.81 x 0.46″	**4.50**	**3.31**	**2.83**
58F538	621K	1.50 x 4.81 x 0.46″	**4.38**	**3.22**	**2.74**
58F480	623A	3.00 x 4.81 x 0.46″	**6.85**	**5.04**	**4.30**
58F539	623K	3.00 x 4.81 x 0.46″	**6.35**	**4.67**	**3.98**
58F467	641A	3.00 x 4.12 x 1.00″	**8.70**	**6.40**	**5.45**
58F540	641K	3.00 x 4.12 x 1.00″	**8.40**	**6.18**	**5.26**

(4468) (de00942)

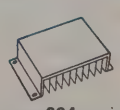
392 SERIES HIGH-PERFORMANCE HEAT SINKS FOR POWER MODULES

The **392 series** heat sinks are designed for effective cooling of single and multiple isolated power modules, IGBTs, relays, and rectifiers. Standardized 80mm mounting in both natural and forced convection. Base width: 4.921″ (125.0). Height: 5.346″ (135.8).

Stock No.	Type	Length	1-4	5-9	10-24
92F4663	392-120AB	4.725″ (120.0)	**64.69**	**61.75**	**55.12**
92F4664	392-180AB	7.087″ (180.0)	**97.54**	**93.11**	**83.12**
97F953	392-300AB	11.811″ (300.0)	**165.31**	**150.29**	**...**

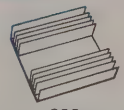
(4588) (ne04083)

394/395/396 SERIES LOW-PROFILE HEAT SINKS FOR POWER MODULES



394

395



396

High-performance extruded fin heat sinks designed to provide maximum cooling for unit volume. Width: 5.000″ (127.0). **394 series** are flat back designs, while the **395** and **396 series** are open-channel designs which permit mounting of standard semiconductor module styles.

Stock No.	Type	L x H	1-4	5-9	10-24
97F7508	394-1AB	3.00 x 1.50″	**24.22**	**22.24**	**20.68**
97F7509	394-2AB	5.50 x 1.50″	**30.91**	**28.38**	**26.38**
97F7510	395-1AB	3.00 x 2.50″	**24.40**	**22.40**	**20.83**
97F7511	395-2AB	5.50 x 2.50″	**33.10**	**30.39**	**28.26**
97F7512	396-1AB	3.00 x 1.38″	**21.72**	**19.94**	**18.54**
97F7513	396-2AB	5.50 x 1.38″	**28.24**	**25.92**	**24.11**

(4589) (ne04084)

HEAT SINKS

291 SERIES CLIP-ON HEAT SINKS

For cooling plastic semiconductors in case styles TO-202, TO-220. **Type 291-C2-36AB** has clip with tabs for TO-220; **type 291-H-36AB** has 0.140″ diameter mounting hole only. Black anodized aluminum.

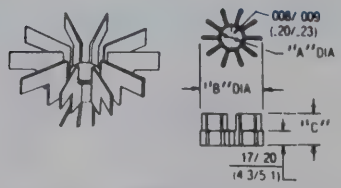
Stock No.	Type	1-49	50-99	100-499
58F154	291-C2-36AB	0.52	0.46	0.43
58F156	291-H-36AB	0.53	0.48	0.45

(4474) (de01004)

200 SERIES SNAP-ON HEAT SINKS

201, 202, 204, 205, 211

203, 207, 213



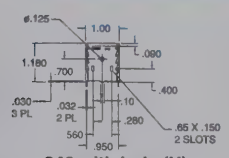
209, 215

Friction-mount heat sinks allow easy installation/removal of semis. *Order installation tools separately below.* Spring-like action assures excellent thermal contact between heat sink and semi case. Fin design permits horizontal or vertical positioning of semi axis. Can mount transistor after wave soldering without danger of flux entrapment. Black Ebonol C finish beryllium copper. **Sold in multiples of 5.**

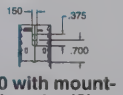
Stock No.	Type	Dimensions A	B	C	Fits Case Diameter Min./Max.	5-49	50-99	100-499
58F527	201CB	0.150″	0.640″	0.187″	0.161/0.240″	1.70	1.52	1.43
58F388	202CB	0.150″	0.490″	0.187″	0.161/0.240″	1.57	1.40	1.31
58F528	203CB	0.150″	0.640″	0.375″	0.161/0.240″	2.17	2.08	2.03
58F387	204CB	0.255″	0.550″	0.187″	0.275/0.370″	1.44	1.29	1.21
58F529	205CB	0.255″	0.720″	0.187″	0.275/0.370″	1.66	1.59	1.55
58F530	207CB	0.255″	0.720″	0.375″	0.275/0.370″	2.22	2.13	2.08
58F531	209CB	0.255″	1.280″	0.437″	0.275/0.370″	3.15	3.02	2.95
58F441	211CB	0.420″	0.830″	0.187″	0.440/0.544″	1.97	1.89	1.84
58F442	213CB	0.420″	0.830″	0.375″	0.440/0.544″	2.46	2.36	2.30
58F443	215CB	0.420″	1.400″	0.437″	0.440/0.544″	3.51	3.37	3.28

58F532 Type 160-IT Tool for **201-209. Each** **42.37**
(4576) (ne00949)

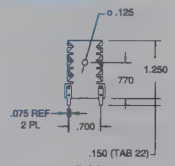
240, 242 SERIES TWISTED-FIN HEAT SINKS



240 with hole (H)



240 with mounting slot (S)



242

Twisted fin design for efficient cooling of vertically-mounted TO-220 devices occupies minimum board space. **240 series** has optional mounting slot. Material: aluminum, black anodized.

Stock No.	Type*	Height	1-49	50-99	100-499
92F5821	240-118ABH-22	1.18″	1.13	1.01	0.95
92F5827	242-125AB-22	1.25″	0.95	0.85	0.80

*Order speed clips **330SC** and **285SC** separately at right.
(4517) (de04439)

246/247/248/249 SERIES BOARD LEVEL HEAT SINKS

NEW

Minimum height, deep-profile, wave solderable, folded-fin heat sinks designed for TO-220, TO-218 multiwatt components. Aluminum, black anodized material.

Stock No.	Type	Height Above PC Board	1-24	25-49	50-99
48F4330	246-197AB	1.968″	0.78	0.75	0.72
48F4331	247-195AB	1.950″	0.95	0.91	0.87
48F4332	248-162AB	1.620″	0.64	0.61	0.59
48F4333	249-113AB	1.130″	0.59	0.57	0.54

(41870) (ne41870)

635, 690 SERIES HEAT SINKS

635

690

635 series space-saver heat sinks conform to shape of TO-3 devices in high-density applications. Interchangeable with other TO-3 heat sinks. Aluminum construction with black anodize finish. **690 series** circuit-board heat sinks are aluminum alloy with black anodize finish in mounting patterns for TO-3 or TO-66 JEDEC packages. **Sold in multiples of 10.**

635 SERIES

Stock No.	Type	Height	10-24	25-49	50-99
58F1341	635-.5B2	0.50″(12.70)	0.97	0.87	0.81
58F1342	635-.75B2	0.75″(19.05)	1.12	1.00	0.94
58F1343	635-1.0B2	1.00″(25.40)	1.42	1.27	1.19
58F1344	635-1.25B2	1.25″(31.75)	1.38	1.32	1.29

690 SERIES

Stock No.	Type	Fits	W x H	10-24	25-49	50-99
58F1312	690-3-B	TO-3	1.80 x 1.31″	1.61	1.44	1.35
58F1313	690-66-B	TO-66	1.86 x 1.31″	2.27	2.17	2.12

(4472) (de00975)

ECONOMY HEAT SINKS

270, 271, 272

273

274

270 and **272 series** heat sinks for plastic-case TO-220 devices. **272 series** accepts two TO-220 devices. Provide two-sided cooling by adding **271 series** heat sink to **270** or **272** heat sink on top of TO-220 device. **273** and **274 series** heat sinks for plastic-case power SCRs and transistors. Black anodized finish aluminum. Available with wave-solderable tabs.

WITHOUT TABS – SOLD IN MULTIPLES OF 10

Stock No.	Type	L x H x W	10-49	50-99	100-499
81F042	270AB	1.75 x 0.375 x 0.53″	0.40	0.35	0.33
81F043	271AB	1.75 x 0.500 x 0.70″	0.41	0.37	0.35
81F044	272AB	1.75 x 0.375 x 1.45″	0.47	0.42	0.40
81F046	273AB	0.75 x 0.375 x 0.75″	0.31	0.28	0.26
81F047	274-1AB	0.75 x 0.375 x 0.52″	0.32	0.28	0.27
81F048	274-2AB	0.75 x 0.500 x 0.52″	0.33	0.29	0.28

WITH TABS – SOLD INDIVIDUALLY

Stock No.	Type	L x H x W	Tab Length	1-49	50-99	100-499
92F5867	274-1AB-01	0.75 x 0.375 x 0.52″	0.250″	0.51	0.46	0.43

(4577) (ne00951)

637/647/657/667 SERIES WAVE-SOLDERABLE

637, 647

667

Speed Clip (for 667)

637, 647 series for plastic power transistors. **657 series** for TO-218 devices. **667** for TO-220 plastic-case transistors. Order speed clip for fast, vertical PCB mounting. Black anodized aluminum. **Sold in multiples of 5.** *Order speed clips separately below.*

637/647 SERIES

Stock No.	Type	L x W x H	5-24	25-49	50-99
81F055	637-10ABP	1.375 x 0.050 x 1.00″	2.44	2.34	1.45
81F056	637-15ABP	1.375 x 0.050 x 1.50″	2.53	2.42	1.50
81F057	637-20ABP	1.375 x 0.050 x 2.00″	2.86	2.74	1.69
46F7853	647-10-ABP	1.650 x 1.00 x 1.00″	3.33	3.20	1.98
46F7854	647-15-ABP	1.650 x 1.00 x 1.50″	3.57	3.42	2.11
46F7855	647-20-ABP	1.650 x 1.00 x 2.00″	4.50	4.32	2.67
46F7856	647-25-ABP	1.650 x 1.00 x 2.50″	4.68	4.49	2.77

657/667 SERIES

Stock No.	Type	Height	5-24	25-49	50-99
46F7864	657-20-ABP	2.50″	3.94	3.78	2.33
90F1413	667-10ABPP	1.00″	3.26	3.12	1.93
90F1414	667-15ABPP	1.50″	3.73	3.57	2.21
90F1415	667-20ABPP	2.00″	4.06	3.89	2.40
90F1416	667-25ABPP	2.50″	4.39	4.20	2.60

SPEED CLIPS FOR FAST DEVICE ASSEMBLY

Stock No.	Type	Height	5-49	50-99	100-499
90F1417	330-SC	...	0.37	0.33	0.31
46F7897	285SC	...	0.15	0.13	0.13

(4466) (de00937)

HEAT SINK ACCESSORIES

120/126 SERIES THERMAL JOINT COMPOUNDS

120 series is a silicone oil-based compound which fills minute air gaps between major mating surfaces with grease-like material containing zinc oxide in silicone oil carrier. **126 series** is a non-toxic, synthetic, ester-based (non-silicone) compound with metal-oxide fillers.

Stock No.	Type	Size	1-4	5-9	10-24
00Z1245	120-2	2 oz. Jar	8.97	7.18	6.40
00Z1246	120-5	5 oz. Tube	17.28	15.86	14.92
00Z1247	120-8	8 oz. Jar	21.49	19.73	18.56
00Z1248	120-80	5 lb. Can	101.39	96.78	89.96
00Z754	120-320	20 lb. Can	335.84	305.31	...
00Z1252	126-2	2 oz. Jar	13.63	12.51	11.76
00Z1703	126-4S	4 oz. Syringe	28.06	25.76	24.23

(4582) (ne01006)

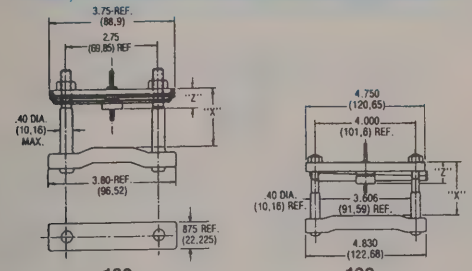
150 SERIES THERMALLY CONDUCTIVE ADHESIVES

Delta Bond 152 thermally bonds components to chassis or heat sinks. Includes resin and hardener. **Delta Bond 155** thixotropic paste offers high heat transfer, low shrinkage and a coefficient of thermal expansion comparable to copper and aluminum. Includes resin and hardener. **Delta Bond 156** is a modified acrylic adhesive for permanent mounting of components where heat must be effectively transmitted. **Type 156-K** comes in a kit with hardener and syringe.

Stock No.	Type	Size	1-4	5-9	10-24
00Z745	152-1-A	1 oz.	15.56	14.28	13.01
00Z1242	152-1B	1 oz.	23.06	21.17	19.26
00Z746	152-K-A	7.5 oz.	61.83	56.76	51.65
00Z1243	152-Q	1 qt.	70.48	67.27	60.50
00Z1255	153-Q	1 qt.	71.75	65.87	59.94
00Z1256	154-Q	1 qt.	64.65	59.36	54.01
00Z743	155	6 oz.	22.71	20.85	18.98
00Z1257	156-K	4.2 oz.	55.92	51.33	37.78

(4479) (de01010)

130, 139 SERIES MOUNTING CLAMPS



130 139

130 series 2000 lbs. clamping force. **130-1** has automotive-grade rust-resistant steel springs. **130-5** has stainless steel springs with force indicator that reads in pounds per leaf. **139 series** available 3000 or 5000 lbs. clamping force and has automotive-grade rust-resistant steel springs. 5000VAC. *Order cross bar and spring assembly separately.*

130 SERIES CROSS BARS

Stock No.	Type	"X" Minimum	"X" Maximum	1-4	5-9	10-24
10F8017	130-C	2.36″	2.74″	17.66	16.21	13.46

139 SERIES CROSS BARS

10F8001	139-5E	2.77″	3.14″	42.34	38.87	34.42
10F8003	139-5G	3.39″	3.77″	42.59	39.10	34.62
10F8004	139-5H	3.70″	4.08″	42.67	39.17	34.68
10F8005	139-5J	4.01″	4.39″	43.20	39.66	35.12

130 SERIES SPRING ASSEMBLIES

Stock No.	Type	Leaves	"Z" Dim.	Max. Force	1-4	5-9	10-24
10F7991	130-1	2	0.90″	2000 lbs.	19.36	17.77	14.56
46F8610	130-5	5	0.83″	2000 lbs	29.45	27.04	22.16

139 SERIES SPRING ASSEMBLIES

10F8013	139-1	1	0.87″	3000 lbs.	30.36	27.87	22.83
10F8014	139-2	2	1.25″	5000 lbs.	42.00	38.56	31.59

(4574) (ne00940)

NEW PRODUCTS ARE CONTINUALLY ADDED.
CALL NEWARK FOR CURRENT SELECTION.

177 SERIES INSULATING WAFERS

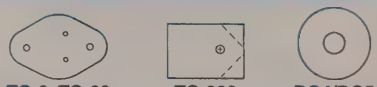
177-3-62

Have thermal conductivity comparable to aluminum. Exhibit excellent electrical insulating characteristics. 99.5% pure beryllium oxide content. Breakdown voltage: 700 volts/MIL. *Mount dry or, to improve thermal resistance, use* **120 series** *thermal compound, sold separately on this page.* **Sold in packages of 10.**

Stock No.	Type	Fits Case Style	Thermal Resistance Case-to-Sink (°C/W) Dry Mount	w/120 Compound	Thickness	Per Package 1-2	3-4
58F1031	177-3-62	TO-3	0.4 to 1.0	0.14 max.	0.062″	221.67	161.26

(4477) (de01008)

175 SERIES KAPTON® REINFORCED INSULATORS



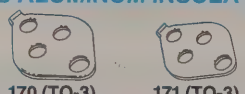
TO-3, TO-66 TO-220 DO4/DO5

Interface transistors to heat sinks and eliminate thermal grease, burr cut-through, and cracked or torn insulators. 3-layer construction, Kapton® film sealed between silicone rubber layers. Dielectric strength: 6000V. Thickness: .006″±.001″. Continuous use temperature range –60°C to +200°C.

Stock No.	Type	Fits Semiconductors	10-49	50-99	100-499
46F7842	175-6-310-P	TO-3	0.57	0.51	0.48
46F7843	175-6-320-P	TO-3	0.68	0.61	0.57
46F7844	175-6-330-P	TO-3	0.59	0.53	0.50
84F723	175-6-340P	TO-3	1.14	1.02	0.96
46F7845	175-6-610-P	TO-66	0.84	0.75	0.70
46F7846	175-6-210-P	TO-220	0.42	0.38	0.35
46F7847	175-6-220-P	TO-220	0.42	0.38	0.35
46F7848	175-6-230-P	TO-220	0.42	0.38	0.35
46F7883	175-6-240-P	TO-220	0.26	0.23	0.22
46F7884	175-6-250-P	TO-220	0.40	0.36	0.34
46F7885	175-6-410-P	DO4/DO5	0.29	0.26	0.25
46F7886	175-6-510-P	DO4/DO5	0.40	0.36	0.34
46F7887	175-6-520-P	DO4/DO5	0.50	0.45	0.42

(4476) (de01007)

170/171 SERIES ALUMINUM INSULATING WAFERS



170 (TO-3) 171 (TO-3)

Available hard-coat-anodized finish **(type suffix HC)** or Delta Coate 151 thermally-conductive coating **(type suffix DC)** on transistor side. *Mount dry or to improve thermal resistance, use* **120 series** *thermal compound, ordered separately on this page.* **Sold in packages of 10.**

Stock No.	Type	Fits Case Style	Thermal Resistance Case-to-Sink (°C/W) Dry Mount	Mount with 120 Compound	HYPOT Max. Cont. Operating	Per Package 1-4	5-9
58F177	170-DC	TO-3	1.0/1.4	0.3	200VDC	14.90	13.68
58F1337	171-DC	TO-3	1.0/1.4	0.3	400VDC	15.91	13.62
58F1339	171-HC	TO-3	1.0/1.4	0.3	400VDC	16.60	15.24

(4475) (de01005)

CUP CLIPS FOR TO-5 DEVICES

Tapped Tapped Hex Stud Hex

For TO-5 case style semiconductors. Available non-insulated **(no type suffix)**, epoxy insulated **(type suffix "E")** or beryllium oxide wafer insulated **(suffix "B")**. Continuous operating temperature: 300°F max. 0.29″ I.D. cup clip available in 0.38″ dia. max round base (**) or 0.37″ (across flats) hex-shaped base. **Sold in packages of 10 (except †, which is sold individually).**

Stock No.	Type	For Base Thread Size	Mounting Style	Per Package 1-4	5-9	10-24
58F184	260-4T5**	4-40	Tapped	52.91	33.74	29.18
58F185	260-4T5E**	4-40	Tapped	75.51	48.11	41.60
58F1057	260-4TH5B	4-40	Tapped Hex	105.43	69.88	59.76
58F1058	260-4TH5E†	4-40	Tapped Hex	8.18	6.62	5.31
58F1061	260-6SH5	6-32	Stud	60.49	38.61	33.39
58F188	260-6SH5B	6-32	Stud	114.99	76.29	65.14

(4478) (de01009)

HEAT SINKS

TYPES 2225B, 2226B, AND 2227B HEAT SINKS

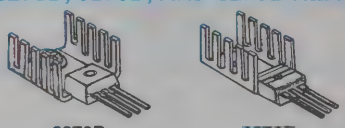
2225B/2227B 2226B

Provide cooling for TO-5 devices. Thermal resistance: **Type 2225B**, 46.0°C/W; **Type 2226B**, 57.5°C/W; **Type 2227B**, 21.0°C/W.

Stock No.	Type	Height	Width	1-24	25-49	50-99
46F4149	2225B	0.40″	0.75″	4.52	3.72	3.18
46F4136	2226B	0.25″	0.75″	3.84	3.16	2.70
46F4137	2227B	0.40″	1.250″	6.58	5.23	4.59

(34772) (ne34772)

TYPES 6273B, 6278B, AND 6279B HEAT SINKS



6273B 6278B

Low-profile cooling for TO-202 devices. Minimal heat sink space requirement. For use on PC boards with 0.50″ centering between boards. All have black anodized finish per MIL-A-8625, type II. **Sold in multiples of 10.**

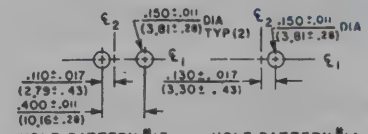
Stock No.	Type	Height	Width	10-24	25-49	50-99
46F4096	6273B	0.375″	0.750″	0.54	0.43	0.38
46F4088	6278B	0.375″	0.520″	0.48	0.38	0.33
46F4089	6279B	0.500″	0.520″	0.48	0.38	0.33

(4489) (de01108)

TYPES 6106B AND 6107B HEAT SINKS

6107B-14

6106B



Economy heat sinks for TO-220 plastic power transistors and SCRs. Designed for PC board applications with 0.15″ diameter hole. Mount vertically or horizontally. Black anodized finish per MIL-A-8625, type II. Type number **suffixes -13** and **-14** refer to hole patterns. **Sold in multiples of 10.**

Stock No.	Type	Height	Width	10-24	25-49	50-99
46F4105	6106B-13	1.18″	1.0″	0.67	0.53	0.47
46F4106	6106B-14	1.18″	1.0″	0.74	0.59	0.51
46F4107	6107B-14	0.71″	1.0″	0.67	0.53	0.47

(4490) (de01109)

TYPES 6070B, 6071B, 6072B, AND 6073B HEAT SINKS

6070B 6072B 6071B 6073B

Low-profile cooling for TO-220 plastic power devices. Designed for use on PC boards with 0.50″ centering between boards. **Type 6071B** can be added to **types 6070B** or **6072B** for double-sided cooling of TO-220 device. **Sold in multiples of 10.**

Stock No.	Type	Height	Width	10-24	25-49	50-99
46F4114	6070B	0.375″	1.75″	0.58	0.46	0.40
46F4102	6072B	0.375″	1.75″	0.74	0.59	0.51
46F4101	6071B	0.500″	1.75″	0.67	0.53	0.47
46F4103	6073B	0.375″	0.75″	0.48	0.38	0.33

(4491) (de01110)

NEW PRODUCTS ARE BEING ADDED TO OUR INVENTORY EVERY DAY.
CALL NEWARK FOR INFORMATION ON WHAT'S CURRENTLY IN STOCK.

TYPES 6208B, 6013B-6016B, AND 6002B-2 HEAT SINKS

6208B 6013B 6002B-2

Type 6208B "Hat" for TO-3 used with heat sink where extra cooling needed or as stand-alone unit. **Types 6013B-6016B** space saver cooling for TO-3 cases in high density application. **Type 6002B-2** high performance heat sink for TO-3. Slanted fins create turbulence for high thermal efficiency. **Sold in multiples of 10.**

Stock No.	Type	Height	Width	10-24	25-49	50-99
46F4135	6208B	0.50″	1.08″	0.76	0.61	0.53
46F4124	6013B	0.50″	1.88″	1.31	1.03	0.90
46F4125	6014B	0.75″	1.88″	1.40	1.10	0.96
46F4126	6015B	1.00″	1.88″	1.56	1.23	1.08
46F4127	6016B	1.25″	1.88″	1.72	1.36	1.19
98F1045	6002B-2	0.75″	1.81″	2.44	1.93	1.69

(4493) (de01112)

TYPES 6060B, 6051B, AND 6054B HEAT SINKS

6060B 6051B, 6054B

Type 6060B for high-density PC board packaging application. Total height of heat sink is 0.375″. **Types 6051B** and **6054B** outperform many extruded shapes. Offer high-performance cooling for TO-3. **Sold in multiples of 10.**

Stock No.	Type	Height	Width	10-24	25-49	50-99
46F4113	6060B	0.375″	1.75″	0.76	0.61	0.53
46F4111	6051B	0.500″	1.78″	1.23	0.99	0.86
46F4112	6054B	1.250″	1.78″	2.09	1.66	1.45

(4494) (de01113)

TYPE 7020B HEAT SINK

Type 7020B high-performance heat sink for TO-220. Black anodized finish per MIL-A-8625, type II. **Sold in multiples of 10.**

Stock No.	Type	Height	Width	1-24	25-49	50-99
87F2603	7020B	1.45″	1.30″	0.89	0.70	0.61

(4495) (de01114)

TYPE 6237B HEAT SINK FOR PLASTIC CASE DEVICES

Clip-on heat sink for TO-220. Black anodized finish per MIL-A-8625, type II. **Sold in multiples of 10.**

Stock No.	Type	Height	Width	10-24	25-49	50-99
46F4094	6237B	0.700″	0.900″	0.67	0.53	0.47

(4497) (de01116)

TYPES 6021PB, 6098B, AND 6025B HEAT SINKS

6021PB 6098B 6025B, 6025B-TT

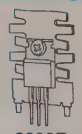
Type 6021PB stake-on wave solderable tab heat sink for TO-220. **Type 6098B** solderable-pin heat sink designed for TO-202, TO-220 plastic power transistors. **Types 6025B** and **6025B-TT** are vertical mount heat sinks for TO-220. **Type 6025B** integral, scored mounting tab may be bent for PC board retention. **Type 6025B-TT** tinned-tab may be soldered directly into PC board. Black anodized finish per MIL-A-8625, type II. **Sold in multiples of 10.**

Stock No.	Type	Height	Width	10-24	25-49	50-99
46F4128	6021PB	1.18″	1.000″	1.31	1.03	0.90
46F4134	6098B	1.00″	1.375″	1.87	1.48	1.29
46F4116	6025B	1.25″	0.875″	0.58	0.46	0.40
46F4117	6025B-TT	1.25″	0.875″	2.00	1.58	1.38

(4496) (de01115)

HEAT SINK ACCESSORIES

HEAT SINKS FOR TO-220 DEVICES



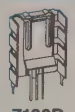
6022B

Easily installed heat sinks for TO-220 devices. **Types 6021B** and **6022B** feature pre-anodized black material. **Types 6078B**, **6079B**, and **6099B** feature black anodized finish. **Type 6030B-TT** features black, enamel finish.

Stock No.	Type	Height	Width	1-24	25-49	50-99
97F2808	6021B	1.18″ (29.97)	1″ (25.40)	**1.46**	**1.15**	**1.01**
46F4115	6022PB	1.21″ (30.73)	0.875″ (22.22)	**1.08**	**0.86**	**0.75**
46F4120	6030B-TT	1.18″ (29.97)	1.0″ (25.40)	**2.50**	**1.98**	**1.73**
94F1442	6078B	0.75″ (19.05)	0.52″ (13.21)	**0.48**	**0.38**	**0.33**
94F3383	6079B	0.75″ (19.05)	0.52″ (13.21)	**0.48**	**0.38**	**0.33**
98F7436	6099B	1.5″ (38.10)	1.375″ (34.92)	**2.23**	**1.76**	**1.54**

(34773) (ne34773)

TYPES 7128D AND 7138D PLASTIC POWER HEAT SINKS



7128D 7138D

Solderable heat sinks for TO-220 devices have clip-on tabs for device retention. Material: copper.

Stock No.	Type	Height	Width	1-24	25-49	50-99
95F715	7128D	1.040″ (26.42)	0.866″ (22.00)	**1.05**	**0.83**	**0.73**
95F716	7138D	1.075″ (27.30)	1.005″ (25.53)	**1.40**	**1.10**	**0.96**

(4485) (de01096)

HEAT SINKS FOR AT&T MICRO ELECTRONICS PC BOARD MOUNT POWER MODULES

6336B 6338B 6341B

High-performance heat sinks for natural and forced convection applications. Pre-punched to mount top of power module using existing thread holes.

Stock No.	Type	Height	Width	1-24	25-49	50-99
95F706	6336B	2.50″ (63.50)	4.766″ (121.06)	**7.16**	**5.54**	**4.95**
95F707	6338B	2.50″ (63.50)	4.766″ (121.06)	**6.68**	**5.17**	**4.63**
95F708	6341B	2.50″ (63.50)	4.800″ (121.92)	**6.62**	**5.12**	**4.58**

(4486) (de01097)

TYPES 6010PB, 6011B, AND 6012B DIP HEAT SINKS

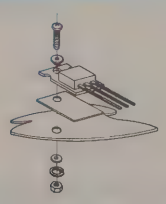
6010PB 6011B 6012B

Bond-on heat sinks for 14- or 16-pin DIPs. No additional PC board space needed. Heat sink may be added after assembly. Black anodized finish per MIL-A-8625, Type II, except **type 6010PB** which is black pre-anodized material. **Sold in multiples of 10.**

Stock No.	Type	Height	Width	10-24	25-49	50-99
46F4123	6010PB	0.212″ (5.38)	0.604″ (15.34)	**0.39**	**0.30**	**0.26**
46F4130	6011B	0.190″ (4.83)	0.250″ (6.35)	**1.08**	**0.86**	**0.75**
46F4131	6012B	0.190″ (4.83)	0.250″ (6.35)	**1.08**	**0.86**	**0.75**

(4481) (de01092)

TYPE 4880 MOUNTING KIT FOR TO-220

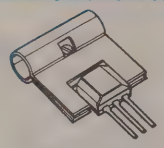


Includes one thermal film insulator, one shoulder washer, one No. 4 flat washer, one No. 4-40 UNC-2B hex nut, one No. 4-40 UNC-2A x 1/2 long PPH screw, and one No. 4 lockwasher. **Sold in multiples of 10.**

Stock No.	Type	Description	10-24	25-49	50-99
46F4081	4880	Mounting Kit for TO-220	**1.15**	**0.91**	**0.79**

(4482) (de01093)

TYPE 6047PB CLIP-ON HEAT SINK

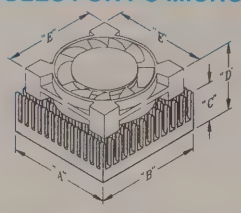


Economical, clip-on heat sink for TO-202 devices. Easy installation.

Stock No.	Type	Height	Width	1-24	25-49	50-99
46F4110	6047PB	0.850″ (21.59)	0.800″ (20.32)	**0.45**	**0.35**	**0.31**

(4483) (de01094)

COOLING MODULES FOR PC MICROPROCESSORS



- **Heat Sink with Cooling Fan Attached**

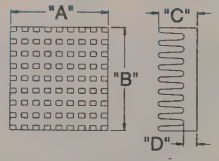
Cools Intel i486, i960, and Pentium® Pro, AMD AM29000, and Motorola 68040. Significantly reduces volumetric space with direct impingement down airflow compared to natural convection. Thermal performance approaching recirculated liquid. Typical DC brushless, ball-bearing fan has life expectancy of 50,000 hours. Type numbers with **suffix "2S"** are 12 volt fans and with **suffix "5S"** are 5-volt fans.

Stock No.	Nominal Dimensions A	B	C	D	E	PGA Size	1-24
95F709	1.495″	1.500″	0.650″	1.045″	1.575″	15x15	**25.65**
95F710	(37.97)	(38.10)	(16.51)	(26.54)	(40.00)	15x15	**25.65**
95F711	1.625″	1.700″	0.350″	0.745″	1.575″	17x17	**25.89**
95F712	(41.28)	(43.18)	(8.89)	(18.42)	(40.00)	18x18	**25.89**
95F713	2.015″ (51.18)	2.100″ (53.34)	0.650″ (16.51)	1.045″ (26.54)	1.575″ (40.00)	21x21	**27.60**
91F7264	2.660″	2.460″	0.350″	0.744″	2.362″	*	**28.63**
91F7265	(67.56)	(62.48)	(8.89)	(18.90)	(60.00)	*	**28.63**
91F7266	2.660″	2.460″	0.450″	0.844″	2.362″	*	**32.72**
91F7267	(67.56)	(62.48)	(11.43)	(21.44)	(60.00)	*	**38.28**
91F7268	3.185″	2.460″	0.450″	0.844″	2.362″	*	**33.28**
91F7269	(80.90)	(62.48)	(11.43)	(21.44)	(60.00)	*	**38.84**

*For Intel Pentium® Pro which is a 2.66 x 2.46″ (67.56 x 62.48) rectangular PGA with pedestal lid and chip capacitors on top.

(4484) (de01095)

HEAT SINKS FOR BALL GRID ARRAYS



High-performance digital heat sinks provide effective thermal management for BGA devices.

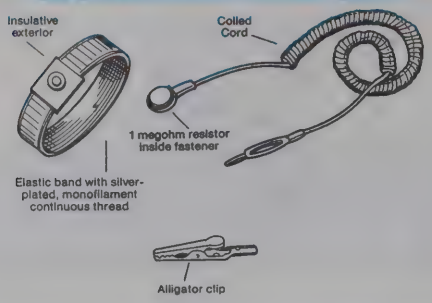
Stock No.	Type	Fits BGA Size	Rsa*	Dimensions A	B	C	D	1-24
91F7270	2317B	27mm	18.5	0.806″	1.029″	0.600″	0.150″	**1.11**
91F7271	2518B	35mm	11.1	1.105″	1.200″	0.615″	0.165″	**3.49**
91F7272	2521B	40mm	11.6	1.235″	1.300″	0.490″	0.165″	**3.55**
91F7273	2318B	40mm	15.6	1.235″	1.300″	0.490″	0.130″	**3.51**
91F7274	2522B	45mm	10.6	1.495″	1.500″	0.615″	0.165″	**3.71**
91F7275	2320B	45mm	14.3	1.495″	1.500″	0.400″	0.120″	**5.72**

*°C/Watt at 50°C rise

(18147) (ne10886)

NEWARK STOCKS MORE PRODUCTS THAN ANY OTHER ELECTRONICS DISTRIBUTOR!

3M BRAND WRIST STRAP SETS



Wrist straps dissipate static from personnel before it can damage devices being handled. Feature a band made of silver-plated, monofilament, continuous thread woven together with elastic nylon to assure full conductivity, comfort, and reliability. Provide rapid and continuous drain of static charge. 1-megohm resistor built into strap for safety. Set includes 1 wrist band, 1 cord, 1 alligator clip. UL listed. Replacement wrist straps and cords are available; *order separately on this page.*

WRIST STRAP SET WITH 5′ EXTENDED COILED CORD

Stock No.	Type	Size	Color	1-9	10-24
46F7411	2211	Small, Fits Wrist 4½ - 6″	Gray	22.36	21.24
46F7412	2212	Medium, Fits Wrist 5½ - 7¼″	Burgundy	22.36	21.24
46F7413	2213	Large, Fits Wrist 6½″ - Up	Blue	22.36	21.24
WRIST STRAP SET WITH 10′ EXTENDED COILED CORD					
46F7422	2221	Small, Fits Wrist 4½ - 6″	Gray	26.93	25.59
46F7423	2222SP	Medium, Fits Wrist 5½ - 7¼″	Burgundy	26.93	25.59
46F7424	2223	Large, Fits Wrist 6½″ - Up	Blue	26.93	25.59
REPLACEMENT WRIST BANDS					
46F7417	2201	Small, Fits Wrist 4½ - 6″	Gray	8.85	8.41
46F7418	2202	Medium, Fits Wrist 5½ - 7¼″	Burgundy	8.85	8.41
46F7419	2203	Large, Fits Wrist 6½″ - Up	Blue	8.85	8.41

(4658) (ne51194)

4600 SERIES WRIST STRAPS AND GROUND CORDS

NEW

Wrist straps ground static charge from personnel before static sensitive devices/ printed circuit boards can be damaged. Features an insulative thermoplastic band with an integrally molded conductive interior insert providing full conductivity, comfort, and reliability; easy-on/easy-off adjustable zipper-style latching mechanism. **Sold individually, except type 4659, which is sold in packages of 5.**

WRIST STRAPS

Stock No.	Type	Color	1-9	10-24	25-49
83F8462	4620	Blue	2.00	1.90	1.81
83F8463	4621	Green	2.00	1.90	1.81
83F8464	4622	Purple	2.00	1.90	1.81
83F8465	4623	Maroon	2.00	1.90	1.81
83F8466	4624	Lime	2.00	1.90	1.81
WRIST STRAP SETS (BAND AND CORD*)					
83F8467	4650	Blue	7.19	6.83	6.49
83F8468	4651	Green	7.19	6.83	6.49
83F8469	4652	Purple	7.19	6.83	6.49
83F8470	4653	Maroon	7.19	6.83	6.49
83F8471	4654	Lime	7.19	6.83	6.49
83F8472	4659	5-Color Set	35.91	34.14	32.43

*Cord length is 5′

(33074) (ne33074)

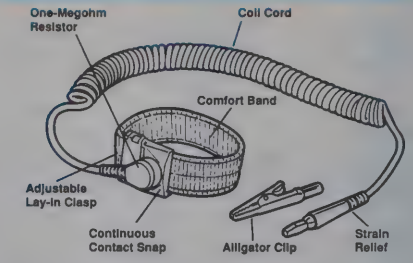
3M BRAND DISPOSABLE WRIST STRAP

Type 2209 disposable wrist straps are ideally suited for shipping with valuable products to ensure protection at the receiving end; or in the plant environment for short-term usage by visitors and others who don't need the durability of a reusable strap. Hypo-allergenic adhesive provides 360° contact with skin to minimize skin-to-band resistance. Adhesive-backed copper foil at other end adheres to any convenient electrical ground. 1-megohm resistor contained in the black volume-conductive layer. UL listed.

Stock No.	Type	1-9	10-24
89F876	2209	1.23	1.16

(4662) (ne52032)

3M ADJUSTABLE WRIST STRAP SETS



Type 2272 adjustable wrist strap set includes 5′ cord (extendable to 6′), monofilament band, and alligator clip. One-megohm resistor and molded-in strain relief. Average cord flex life: 350K. Blue-and-white band. **Type 2259** adjustable lay-in wrist strap set includes 4 to 9″ comfort wrist band, 5′ working length coil grounding cord and alligator clip. Silver plated, continuous monofilament threads establish a 360° contact zone and a reliable path to ground. Cord meets EOS/ESD standards. One-megohm resistor. Average cord flex life: 600K. Green band.

HIGHLAND™ STANDARD-DUTY WRIST STRAPS

Stock No.	Type	Description	1-9	10-24
92F1282	2272	Wrist Strap Set	8.34	7.92
92F1283	2270	Grounding Cord and Alligator Clip	5.40	5.13
92F1284	2271	Wrist Band	3.79	3.61
HEAVY-DUTY WRIST STRAPS				
66F3034	2259	Wrist Strap Set	12.64	12.01
95F5389	2216	Wrist Band	4.25	4.03
66F9499	2250	5′ Coil Grounding Cord	7.76	7.36

(4583) (ne02034)

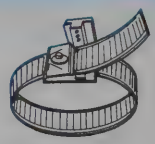
REPLACEMENT CORDS

Use with either standard or adjustable wrist straps, *order separately on this page.*

Stock No.	Type	Description	1-9	10-24
46F7420	2210	Coiled Cord, 5′ Extended	17.95	17.05
46F7425	2220	Coiled Cord, 10′ Extended	21.75	20.66
89F877	2240	Heavy-Duty Coiled Cord, 5′ Extended	19.16	18.21
16F1761	2248	Heavy-Duty Coiled Cord, 10′ Extended	21.81	20.72

(4536) (de51195)

3M BRAND ADJUSTABLE WRIST STRAP SETS

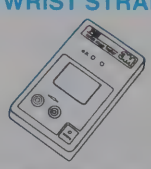


Comfortable, custom fit. One size adjusts to any size wrist to provide reliable, 360° protection. Average cord flex life exceeds 1000K. Burgundy band. UL listed. *Order replacement cords separately on this page.*

Stock No.	Type	Description	1-9	10-24
89F878	2204	Adjustable Wrist Band Only	10.83	10.29
89F879	2214	Wrist Strap with 5′ Coiled Cord	26.28	24.97
89F880	2224	Wrist Strap with 10′ Coiled Cord	32.69	31.05
89F882	2244	Wrist Strap with 5′ Lightweight Heavy-Duty Cord	27.65	26.28
16F1762	2249	Wrist Strap with 10′ Lightweight Heavy-Duty Cord	30.07	28.57

(4561) (de52283)

TYPE 745 WRIST STRAP TESTER



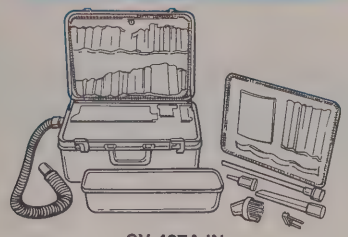
Provides periodic testing of wrist straps while the strap is being worn. Accepts both standard and shrouded (European) banana plugs. PASS/FAIL LED indicates if strap resistance is within acceptable limits, (7509K ohms to 10 megohms). Operates on one 9-volt battery (included). Complete with wall mounting kit, cover for wrist strap, plug-in jack and instructions. 6.25 x 3.75″. This unit is certified and calibrated.

Stock No.	Type	1-4	5-9
96F7023	745C	371.35	363.92

(4663) (ne52033)

FIELD SERVICE KITS AND STATIC CONTROL PRODUCTS

ELECTRONICS VACUUMS



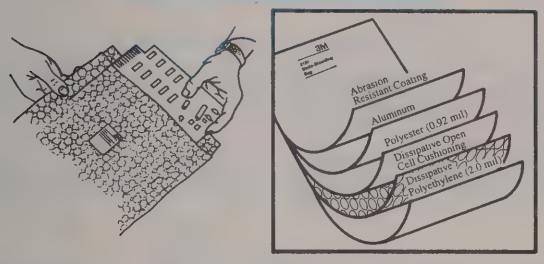
SV-497AJN

Constructed of a plastic with a resistivity that dissipates electrostatic buildup, yet high enough to limit current to levels of 220V or less. Motors are continuous-duty rated with one sealed ball bearing and one sleeve bearing lubricated for life. Comes complete with a type 2 toner/dirt filter, stretch hose, wand, crevice tool and brush, needle nozzle and dusting brush for toner and dust particles. Easy-to-service, replaceable 1 HP motor. 115VAC, 50/60Hz, 5.0 amps. UL listed, CSA certified. 3-year warranty. **Type SV-497AJM** is encased in a high-impact case, has a detachable power cord for effortless storage, and measures 17.8L x 7.75W x 9.25"H; weighs 9⅞ lb. **Type SV-497AJN** offers ample storage for service tools and cleaning supplies; two tool pallets, a removable tray to store extra tools, and storage to place paperwork, vacuum tools, and power cord. 18.25L x 14.25W x 9.87"H.

Stock No.	Type	Description	Each
50F944	SV-MODEL-497AJM	Vacuum	231.04
50F946	SV-MODEL-497AJN	Tool Case Vacuum	351.61

(4540) (de51212)

METAL-OUT CUSHIONED REUSABLE STATIC-SHIELDING BAGS



For physical protection as well as static shielding. Cost-effective and convenient, the five-layer construction protects against direct discharge, triboelectric charge and static fields. The inside layer (closest to components) is a smooth, static-dissipative polyethylene liner that minimizes snagging of pins or sharp edges during insertion and removal. Open-cell cushioning enhances shock protection. Metal-out construction makes bags easily testable and reusable. Thickness: 125 mil. Strength tested to ASTM D882 (tensile), FTMS 101 (puncture) and MIL-B-81705 (seal) standards. **Sold in package of 100.**

Stock No.	Type	W x L*	1-4	5-9
52F7568	2120R 6x7	6 x 7"	82.94	78.80
52F7569	2120R 8x7	8 x 7"	102.16	97.06
52F7570	2120R 10x7	10 x 7"	116.58	110.75
52F7571	2120R 8x11	8 x 11"	127.62	121.24
52F7572	2120R 12x11	12 x 11"	177.02	168.17
52F7573	2120R 14x11	14 x 11"	198.68	188.75

* First dimension is opening size.
(4608) (ne07233)

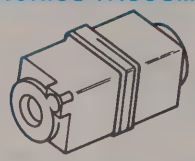
METAL-IN STATIC-SHIELDING BAGS

Economical static control bags have an aluminum shielding layer bonded between two layers of static-dissipative film, one 0.48 mil polyester and the other 2.5 mil polyethylene. Designed for less demanding applications in which reuse and high durability are not prime considerations. Can be tested and are heat sealable. **Type 1910** bags offer a dual-track resealable closure for easy opening/closing. Meet requirements in MIL-STD-1686A par. 5.10, MIL-HDBK-263A par. 5.10, and EIA-541 specifications for static shielding and dissipative packaging. Other bag sizes available; *contact your local Newark sales office.* **Sold in packages of 100.**

Stock No.	Type	Size*	1-4	5-9
50F7146	1900	3 x 5" W	7.44	7.06
50F7147		5 x 8" W	12.17	11.55
92F1298		6 x 10" W	15.92	15.13
50F7148		8 x 10" W	19.61	18.62
92F1299		10 x 14" W	27.06	25.70
50F7158		12 x 16" W	36.76	34.92
50F7159		18 x 18" W	57.25	54.39
50F7149	1910	3 x 5" W	10.15	9.64
92F1300		4 x 6" W	11.73	11.14
50F7150		5 x 8" W	18.85	17.91
50F7151		8 x 10" W	26.77	25.43
92F1302		10 x 14" W	41.72	39.64
50F7152		12 x 16" W	56.24	53.43
50F7153		18 x 18" W	92.58	87.95

* First dimension is opening size.
(4631) (ne08627)

ELECTRONICS VACUUM FILTER

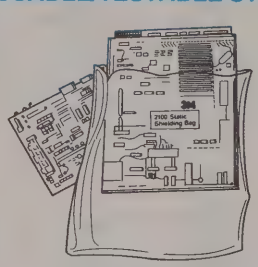


Type 1 filter traps extremely fine particles that can get into highly sensitive equipment such as color copiers and laser printers; it has a thinner, more concentrated weave. Type 2 filter traps unwanted toner from copiers and laser printers; ideal for cleaning typewriters and data processing equipment.

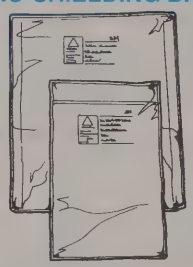
Stock No.	Type	Description	Each
50F948	SV-SPF1	Fine Particle	24.69
50F949	SV-MPF2	Medium Particle	16.29

(4544) (ne51214)

REUSABLE/TESTABLE STATIC-SHIELDING BAGS



2100R



2110R

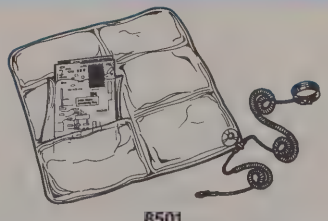
High-performance static-control bags designed to protect the most static-sensitive products against electrostatic fields, direct discharge and triboelectric charges, as well as contaminants that affect sensitive connector surfaces and circuit traces. Produced with a proprietary "metal" out construction in which the shielding layer is very near the exterior surface. A thin, abrasion-resistant coating protects this metal surface from scratches, but still permits measurement of electrical continuity with common volt-ohmmeters for easy verification of shielding performance prior to reuse. The interior features a volume-loaded, amine-free antistat that limits triboelectric charging of parts as they slide around inside the bag. "Volume loaded" means that the antistat is compounded into the polyethylene prior to extrusion rather than topically applied to the finished film. Thickness: 3.5 mil. Tensile strength: 30 lbs./in. width. Can be quickly and easily tested with **type 705** bag check tester *ordered separately; contact your local Newark sales office.* **Type 2110R** bags offer an anti-static reclosable zipper. Meet requirements in MIL-STD-1686A par. 5.10, MIL-HDBK-263A par. 5.10, and EIA-541 specifications for static and dissipative packaging. Passed ASTM E595 out-gassing test based on NASA spec. SP-R-0022A. The **2100R** and **2110R series** bags offer an aluminum shielding layer with increased seam strength. Other bag sizes available; *contact your local Newark sales office.* **Sold in packages of 100.**

TYPE 2100R/2110R METAL-OUT STATIC SHIELDING BAGS

Stock No.	Type	Size*	1-4	5-9
66F3380	2100R(3X5)	3 x 5" W	15.80	15.01
66F3381	2110R(5X8)	5 x 8" W	34.06	32.35
66F3382	2100R(8X10)	8 x 10" W	43.30	41.13
66F3377	2100R(10X12)	10 x 12" W	61.00	57.94
66F3378	2100R(11X15)	11 x 15" W	85.62	81.33
66F3379	2100R(18X18)	18 x 18" W	154.28	146.57
66F3385	2110R(3X5)	3 x 5"W	20.75	19.71
66F3386	2110R(5X8)	5 x 8"W	44.73	42.49
66F3387	2110R(8X10)	8 x 10" W	56.88	54.03
66F3383	2110R(10X12)	10 x 12" W	80.10	76.10
66F3384	2110R(11X15)	11 x 15" W	112.55	106.92

*First dimension is opening size.
(4659) (ne51201)

PORTABLE FIELD SERVICE GROUNDING KITS



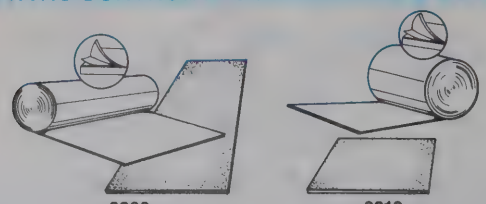
8501

Portable grounding kits provide all the basic items needed to create a static-safe work environment for field service work. All kits contain adjustable wrist band, ground cords, and a static-dissipative work surface.

Stock No.	Type	Description	Each
46F7444	8501	Portable, compact	61.26
95F2864	8505	Standard version	64.08
91F2907	8506	Economy version	44.60

(4660) (ne51202)

STATIC CONTROL FLOOR AND TABLE MATS



8200 8210

Rubber static control mats feature a 2-layer construction consisting of a top layer of static-dissipative rubber laminated to a bottom layer of conductive rubber. The synthetic rubber work surface offers excellent resistance to oil, grease, and most common solvents, plus a higher degree of resistance to heat and hot solder than vinyl.

RUBBER STATIC CONTROL TABLE MATS

Each table mat includes 1 **type 3048** wrist strap/table mat grounding system and 2 **type 3034** female snap fasteners (installed).

Stock No.	Type	Size	Color	1-4
66F9500	8810	2 × 4′	Gray	91.42
66F9501	8811	2 × 4′	Blue	91.42
66F9502	8820	2.5 × 4′	Gray	114.25
66F9503	8821	2.5 × 4′	Blue	114.25

RUBBER STATIC CONTROL TABLE RUNNERS

Each table runner includes 2 **type 3040** 15′ grounding cords and 5 **type 3034** female snap fasteners (not installed).

Stock No.	Type	Size	Color	1-4
66F9504	8840	2 × 24′	Gray	417.43
66F9505	8841	2 × 24′	Blue	417.43
66F9506	8850	2.5 × 24′	Gray	571.19
66F9507	8851	2.5 × 24′	Blue	571.19

RUBBER STATIC CONTROL FLOOR MATS

Each floor mat includes 1 **type 3040** 15′ grounding cord and 2 **type 3034** female snap fasteners (installed).

Stock No.	Type	Size	Color	1-4
66F9508	8870	4 × 6′	Gray	215.82
66F9509	8871	4 × 6′	Blue	215.82

Vinyl static control mats feature a 3-layer construction. The top layer is semiconductive vinyl, with a resistivity sufficiently low to discharge static-laden conductors while preventing the shorting of PC boards laid on the mat. The second layer is a highly conductive scrim, which provides the main discharge path to ground. The third layer is nonconductive foam backing, which prevents the bypassing of the protective conductive layers.

VINYL STATIC CONTROL FLOOR MATS

Each 4 x 6′ floor mat includes 1 15′ ground cord and 2 female ground cord snap connectors (installed).

Stock No.	Type	Color	1-4
46F7456	8201	Brown	215.82
90F2065	8202	Beige	215.82
90F2067	8204	Blue	208.52
92F1289	8205	Granite	215.82

VINYL STATIC CONTROL TABLE MATS

Each 2 x 4′, 3-layer construction table mat includes 2 female snap fasteners (installed) and 1 **type 3048** wrist strap/table mat grounding system.

Stock No.	Type	Color	1-4
46F7457	8210	Gold	93.67
46F7458	8211	Brown	91.42
90F2068	8212	Beige	91.42
90F2069	8213	Gray	91.42
90F2070	8214	Blue	91.42
92F1290	8215	Granite	91.42

ECONOMY VINYL STATIC CONTROL MATS

Economy vinyl static control mats have a 2-layer construction consisting of a static-dissipative vinyl top layer and a static-dissipative, foam-cushioned backing. Come in a variety of sizes. Include 1 15′ ground cord and 2 female snap fasteners (installed). Color: green.

Stock No.	Type	Size	1-4
92F1291	8610	2 × 4′	37.14
92F1292	8611	2.5 × 4′	43.90
92F1293	8612	3 × 4′	52.11
92F1294	8613	2 × 24′	233.50

(4661) (ne51226)

DISSIPATIVE RIGID WORK SURFACES

Work surfaces have the high abrasion resistance of a laminate, yet they are easy to install. Nonglare surfaces resist staining, scorching, and common solvents. Come with 2 factory-installed female snap fasteners and 1 grounding system.

Stock No.	Type	Size	Color	1-4
01F374	8343	24 x 36″	Beige	223.76
94F7902	8344	24 x 36″	Gray	209.13
94F8843	8353	24 x 48″	Beige	245.29
66F6107	8354	24 x 48″	Gray	245.29

(12427) (ne09847)

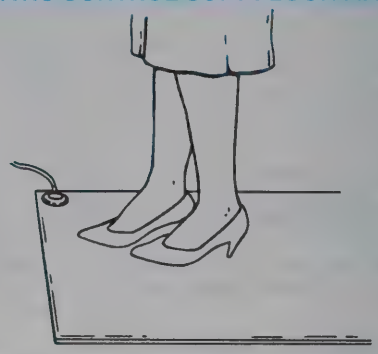
STATIC CONTROL ANTIFATIGUE MATS

NEW

Static control anti-fatigue mats have a smooth surface of black ½″ thick rubber bonded to a base of a highly resilient, insulative vinyl and rubber sponge, which provides cushioning and reduces stress on the spine and lower back. Features: Carbon loaded rubber material to improve product reliability, insulative sponge cushioning backing to provide for worker comfort, and beveled edges for safety. Mat size is 3′ x 5′. Surface to ground resistance is 2.5×10^4 to 1×10^7.

83F8474 Type 9500. **Each** **193.73**
(33073) (ne33073)

STATIC CONTROL SOFT FLOOR MATS



Feature a special cushioning layer to enhance comfort in areas where personnel stand to operate equipment. Consist of upper semiconductive vinyl layer followed by highly conductive scrim that provides instant discharge path to ground.

Stock No.	Type	Color	Size	1-4
90F2111	9111	Brown	36 x 48″ (0.9 x 1.2)	160.07
90F2112	9121	Brown	48 x 96″ (1.2 x 2.4)	412.80

(4548) (de51228)

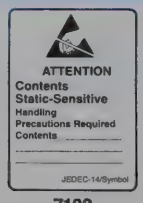
CLEANER FOR STATIC CONTROL MATS AND WORK SURFACES

Water-based, extra-strength formula removes stains, dirt, and grime from all types of static control surfaces without leaving residue and increasing contact resistance of surface. Also serves as an effective topical antistat. Ready to use full-strength; no rinsing required. Contains no chlorides or sulfides. Nonflammable. Fresh, clean scent. Supplied in 1-quart plastic trigger-spray bottles.

00Z1495 Type 8001 QT. **Each** **5.66**
(4498) (de02018)

STATIC AWARENESS LABELS

7101



7102

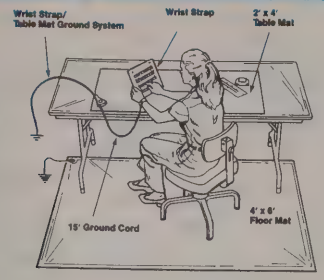
7201/7202

Designed to alert personnel handling bags, boxes or other carriers that the contents are static-sensitive. Help prevent improper handling of static-sensitive components. Available in single-use or reusable forms using the accepted industry static symbols: JEDEC-14 (Joint Electric Device Engineering Council) and MIL-STD-129M (**types 7201** and **7202**). **Sold in rolls of 500.**

Stock No.	Type	Legend	Color	1-4	5-9
46F7439	7101	Attention: Static-Sensitive Devices (Reusable)	Orange	17.36	16.49
46F7440	7102	Attention: Contents Static-Sensitive (Destructible)	Yellow	17.36	16.49
46F7441	7201	Attention: Electrostatic Sensitive Devices (Reusable)	Yellow	19.75	18.76
46F7442	7202	Attention: Electrostatic Sensitive Devices (Destructible)	Yellow	19.75	18.76

(4609) (ne07234)

STATIC CONTROL WORKSTATION GROUNDING KITS



Each kit includes:

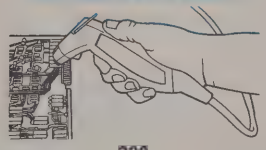
- **2′ x 4′ Table Mat**
- **4′ x 6′ Floor Mat**
- **Type 3040 15′ Ground Cord**
- **Type 2214 Adjustable Wrist Strap**
- **Type 3048 Wrist Strap/Table Mat Grounding System**

Workstation grounding kits provide the basic items needed to create a static-safe work environment for fabrication, assembly, storage, kitting, testing, and repair operations. **8020 series** kits floor and table mats are made from three-layer static-dissipative material to ensure resistance-to-ground measurement will be same from any point on surface of material. **8030 series** kits' table mat is made of softer three-layered, static-dissipative material, while floor mat is of more-rigid, durable, volume-conductive Velostat™ material. Table and floor mats connect to building ground using components included in kit. Up to 2 wrist straps connect to the wrist strap/table mat grounding system. Wrist strap features 1-megohm resistor to protect personnel from electrical shock through cord. Other colors available; *contact your local Newark sales office.*

Stock No.	Type	Mat Color	Description	1-4
46F7448	8023	Gray	Kits with 3-layer	281.48
46F7449	8024	Blue	material table & floor mats	281.48
46F7453	8033	Gray	Kits with 3-layer	269.42
46F7454	8034	Blue	material table mat &	269.42
92F1286	8035	Granite	Velostat™ floor mat	269.42

(4552) (de51249)

IONIZED AIR GUN



980

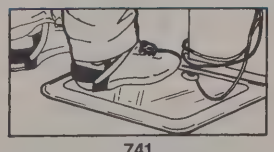
Type 980 lightweight, ergonomically designed air gun is an excellent tool for blowing particulate contamination off any surface. Releases a constantly balanced stream of compressed ionized air or gas that neutralizes static charges that attract particulates to a surface. Its unique ionization system is completely self-balancing; it maintains balance to within ±30V of 0V at a distance of 6″. Maintenance-free gun uses safe, efficient, low-voltage power allowing for the use of much lighter wiring. Includes a transformer that converts line power from a standard 120V outlet to 24V. *Order accessories separately below.* UL listed, CSA certified, CE approved.

Stock No.	Type	Description	1-9
91F2938	980	Ionized Air Gun	836.68
91F2935	980-F	Air Filter (Package of 3)	92.22
91F2936	980-T	Emitter Points (1 Pair)	30.74
91F2937	980-S	Foot Switch	83.84

(10944) (ne09868)

WRIST STRAP AND FOOTWEAR TESTER

740



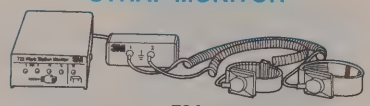
741

Type 740 wrist strap and footwear tester for daily testing of employees' static control wrist straps is simple to operate. Wall-mounted unit tests the wrist strap and cord while they are being worn and can also test each component independently to isolate an identified fault. Red and green LEDs give a clear "go" or "no go" indication. Can be used at four different resistance levels. A digital output allows the unit to interface with a computer, automatic door lock, alarm or other control devices. **Type 741** shoe electrode, *ordered separately,* connects to **type 740**, converting it into a footwear tester as well. By standing on the shoe electrode test plate, the user can check static control footwear, heel straps, etc.

Stock No.	Type	Description	1-4
16F1764	740	Wrist Strap and Footwear Tester	430.76
16F1765	741	Shoe Electrode	111.30

(4622) (ne08028)

TYPE 724 WORKSTATION MONITOR AND TYPE 725 WRIST STRAP MONITOR



724

Type 724 workstation monitor is designed to monitor the operation of the wrist strap grounding systems of 2 operators and to detect electrostatic discharge (ESD). System incudes monitor, remote dual conductor jack, AC adapter, ground cord, and monitor/table mat cord. **Type 725** is a small, compact battery-powered unit that is used to ground and monitor 1 dual conductor wrist strap. *Order dual conductor fabric or metal wrist straps separately below.*

MONITORS

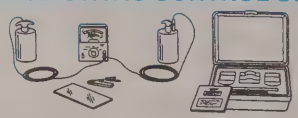
Stock No.	Type	Description	1-4
83F8473	724	Workstation Monitor	175.35
83F8475	725	Wrist Strap Monitor	76.61

WRIST STRAPS

Stock No.	Type	Description	1-9
99F5712	2368GT	Fabric Wrist Strap, Adjustable	15.07
96F6824	2382GT	Metal Wrist Strap, Medium	51.65
96F6825	2383GT	Metal Wrist Strap, Large	51.65

(4499) (de02040)

TEST KIT FOR STATIC CONTROL SURFACES



Type 701 kit for testing the effectiveness of static control working surfaces. Meg-ohmmeter has separate scales and settings for measuring surface-to-ground and surface-to-surface resistance at 10V and 100V, plus system continuity, and open circuit tests. Compatible with EOS/ESD standard S4.1-1990 and MIL-W-87893A. Kit also includes two 10′ test leads, two 5-lbs. test weights, bulldog clip, alligator clip, continuity test plate, 22.5V battery, 1.5V battery, instructions, and foam-lined carrying case.

Stock No.	Type	1-4
98F6963	701	830.32

(4500) (de02041)

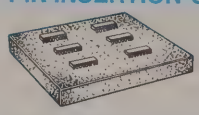
HEEL GROUNDING ASSEMBLIES

Heel grounding assembly provides greater freedom of movement without compromising static control protection. Effectively grounds worker in contact with conductive flooring materials. **Type 2051** and **type 2051-M2** assemblies have a 1-megohm resistor; **type 2052** has a 240kΩ resistor. Both versions feature comfortable elastic ankle strap and a non-marking insulating interior. Simply place assembly over shoe, adjust strap for a comfortable fit and insert extra long contact ribbon between shoe and sock. Foot perspiration produces enough moisture to create electrical contact between conductive ribbon and the body. The intrinsic resistance in the heel strap does not increase shock hazard to wearer. Accommodates most shoes and boots.

Stock No.	Type	1-4
50F7138	2051	10.70
50F7139	2052	10.70
92F891	2051-M2	11.00

(4534) (de51193)

VELOSTAT™ PIN INSERTION-GRADE FOAM

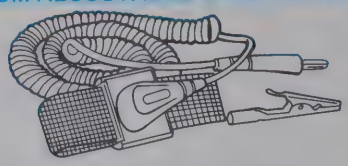


2802 series crosslinked polyethylene electrically conductive foam is intrinsically conductive, noncorrosive, and ideal for long-term storage. Carbon is compounded directly into the polyethylene, providing permanent, uniform protection for ICs and DIPs. High conductivity and low puncture resistance permit insertion of delicate device leads safely. Size: 39 x 39″. **2803 series** has a density of approx. 3 lbs. and is primarily a cushioning foam, but can be used for pin insertion with sturdier device leads. Size: 24 x 36″.

Stock No.	Type	Description	1-4
89F883	2802 1/8	0.125″ (3.18) Thick Sheet	43.34
89F884	2802 1/4	0.250″ (6.35) Thick Sheet	85.02
89F885	2802 3/8	0.375″ (9.53) Thick Sheet	126.43
89F886	2802 1/2	0.500″ (12.70) Thick Sheet	166.01
46F8208	2803 1/8	0.125″ (3.18) Thick Sheet	22.77
46F8209	2803 1/4	0.250″ (6.35) Thick Sheet	39.85
46F8210	2803 (3/8")	0.375″ (9.53) Thick Sheet	56.30

(4538) (de51203)

PREMIUM ADJUSTABLE WRIST STRAP SETS



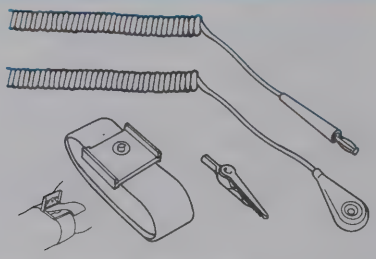
- **Unique Patented Adjustment Design for Added Safety**
- **Extra-Wide, Soft Elastic Material for Superior Comfort**

Personnel grounding wrist straps help prevent static generation on the body. For added safety, unique patented adjustment design guards against exposed conductive "tails." Once adjusted and locked, the material will not slip or slough, making it safe for microelectronics. The band has silver-impregnated nylon knitted on the inside for superior conductivity. Nonallergenic stainless steel is used throughout. Built-in 1-megohm nonslip resistor provides safety for the user. Set includes one blue wrist strap, one cord, and one alligator clip. UL listed. *Order adjustable wrist band separately below.*

Stock No.	Type	Description	1-9
52N8347	8404-0018-ASQ	Set with 6′ Coil Cord	**17.55**
52N8350	8404-0021-ASQ	Set with 5′ Light Coil Cord	**18.58**
52N8348	8404-0019-ASQ	Set with 12′ Coil Cord	**20.65**
52N8349	8404-0020-ASQ	Set with 4′ Straight Cord	**15.48**
52N8346	8404-0017-ASQ	Adjustable Wrist Band	**9.27**

(18148) (ne10185)

STANDARD ADJUSTABLE WRIST STRAP SETS



Soft, comfortable elastic wrist band easily adjusts to fit any size wrist. Easy-to-open plastic clasp secures elastic material in place. Nonallergenic stainless steel plate provides excellent skin contact for superior grounding. 1-megohm resistor molded within snap assembly limits current to provide safety for the operator. Set includes one burgundy wrist strap, one 5′ coil cord, and one alligator clip. *Order adjustable wrist band separately below.*

Stock No.	Type	Description	1-9
10N310	8404-1066-ASQ	Set with 5′ Coil Cord	**9.95**
10N311	8404-1067-ASQ	Adjustable Wrist Band	**3.95**

(18149) (ne10186)

DISPOSABLE WRIST STRAP

This disposable wrist strap is durable and can be reused. Ideal for field service technicians or visitors. This wrist strap can be shipped with loaded PC boards and other sensitive materials so that appropriate ESD precautions are taken by end-users. Provides an economical alternative when temporary ESD protection is needed. Equipped with alligator clip. Color: navy blue.

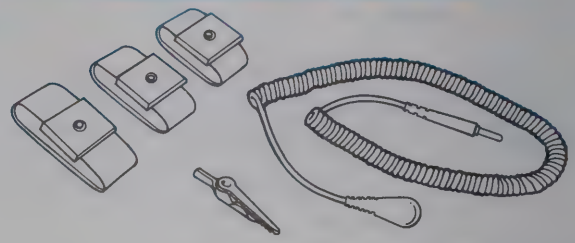
52N8351 Type 8404-0022-ASQ. **Each** **1.45**
(4611) (ne07394)

DISPOSABLE HEEL GROUNDER

Economical heel grounder is designed for temporary visitors to ESD control areas. Provides an effective contact to grounded floor surface. Lightweight strip clips to top of shoe and opposite end adheres to underside of shoe.

10N312 Type 8404-1082-ASQ. **Each** **0.52**
(18150) (ne10187)

FIXED SIZE WRIST STRAP SETS



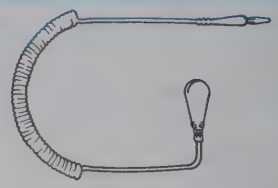
Extra-wide, soft wrist bands have silver-impregnated nylon knitted on the inside for superior conductivity. No adjustments are necessary. Includes 1-megohm resistor for user safety. Set includes one blue wrist strap, one cord, and one alligator clip. UL listed. *Order fixed size wrist bands separately.*

WRIST STRAP SET WITH 6′ COIL CORD

Stock No.	Type	Description	1-9
52N8330	8404-0001-ASQ	Small (Wrist Size 5″ to 9″)	**20.65**
52N8331	8404-0002-ASQ	Medium (Wrist Size 6″ to 11″)	**20.65**
52N8332	8404-0003-ASQ	Large (Wrist Size 6.5″ to 12″)	**20.65**
	WRIST STRAP SET WITH 12′ COIL CORD		
52N8333	8404-0004-ASQ	Small (Wrist Size 5″ to 9″)	**23.76**
52N8334	8404-0005-ASQ	Medium (Wrist Size 6″ to 11″)	**23.76**
52N8335	8404-0006-ASQ	Large (Wrist Size 6.5″ to 12″)	**23.76**
	WRIST BAND ONLY		
52N8339	8404-0010-ASQ	Small (Wrist Size 5″ to 9″)	**7.20**
52N8340	8404-0011-ASQ	Medium (Wrist Size 6″ to 11″)	**7.20**
52N8341	8404-0012-ASQ	Large (Wrist Size 6.5″ to 12″)	**7.20**

(4610) (ne07393)

BANANA GROUNDING CORDS



8404-0013-ASQ

Type 8404-0013-ASQ has a retracted size of 12″ and extended size of 8.5′. **Type 8404-0014-ASQ** has a retracted size of 24″ and extended size of 17′. Both types feature 0.107″ O.D. polyester tinsel cord with black PVC insulation. **Type 8404-0015-ASQ** is a straight wire ground cord with high-flex copper wire with black PVC insulation. **Type 8404-0016-ASQ** is a feather-lite retractile coiled ground cord with (0.055″ O.D.) Kevlar tinsel cord and black PVC insulation. All cords have a banana plug at ground end and a 4mm snap socket. UL listed.

Stock No.	Type	Description	Each
52N8342	8404-0013-ASQ	Banana Plug, 6′ Coil Cord	**13.41**
52N8343	8404-0014-ASQ	Banana Plug, 12′ Coil Cord	**14.44**
52N8344	8404-0015-ASQ	Banana Plug, 4′ Straight Cord	**9.27**
52N8345	8404-0016-ASQ	Banana Plug, Lite 5′ Coil Cord	**15.48**

(4624) (ne08395)

HEEL GROUNDERS

Comfortable fitting heel grounders use adjustable hook-and-loop system. 0.060″ thick, multilayered, rubber sole material. Non-marking inner layer is a neoprene, reinforced polyester mesh insert. Black outer layer provides highly conductive neoprene surface for superior grounding when in contact with conductive flooring materials . Reversible cup design allows heel ground to be worn on either foot. Charge decay is less than 0.01 seconds. One heel grounder on each foot is recommended for proper grounding. UL listed.

52N8360 Type 8404-0031-ASQ Includes 1 Megohm Resistor. **Each**..... **9.75**
52N8361 Type 8404-0032-ASQ Without Resistor. **Each** **9.75**
(4612) (ne07395)

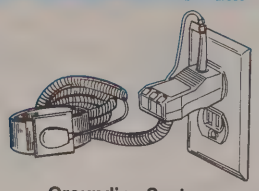
ANTISTATIC TAPE

Prevents ESD damage to sensitive electronic components. Transparent polyester film with acrylic adhesive. Generates low levels of static charge even in extremely dry conditions. Width: ¾″. **Sold in rolls of 72 yards.**

52N8383 Type 8404-0054-ASQ. **Per Roll** **12.94**
(4625) (ne08396)

STATIC CONTROL PRODUCTS

MOBILE GROUNDING SYSTEM



MADE IN USA

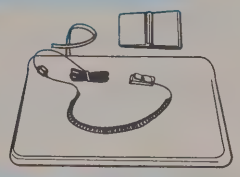
Grounding System

Easy-to-use personnel grounding system includes an adjustable wrist strap that plugs into the ground checker and a 12′ coil cord that provides extra freedom of movement. Polarity ground checker confirms proper wiring before grounding. *Order ground checker separately below.* Made in the U.S.A.

Stock No.	Type	Description	Each
10N145	1427	Mobile Grounding System	49.50
10N137	1426	Ground Checker	31.00

(18040) (ne10183)

FIELD SERVICE KITS



MADE IN USA

POCKET FIELD SERVICE KIT

Kit is designed to be folded to fit into a shirt or pants pocket. Includes one ground clip, adjustable wrist strap, and ground cord. Mat is made of 18-mil red laminated vinyl. Size: 15 × 20″ (381 × 508). Surface resistivity: 10^8 - 10^9 ohms/sq. per ASTM-D257. Large grounding clip provides additional holding power. Made in the U.S.A.

52N8382 Type 8404-0053-ASQ. **Each** **46.53**

LARGE FIELD SERVICE KIT

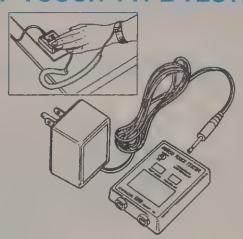
Kit is designed to comply with MIL-W-87893A, Type III. The adjustable elastic wrist strap has a 1-megohm resistor and is designed for use with the common print ground, which is also included. Mat is made of 18-mil red laminated vinyl with two 8 x 11″ storage pockets. Size: 22 x 24″ (558.8 x 609.6). Surface resistivity: 10^8 - 10^9 ohms/sq. per ASTM-D257. Large grounding clip provides additional holding power. Made in the U.S.A.

52N8381 Type 8404-0052-ASQ. **Each** **56.15**

(4613) (ne07396)

WRIST STRAP TOUCH-TYPE TESTER

NEW UL



MADE IN USA

Quick and easy installation; provides grounding and testing of two wrist straps and table mats. Effortlessly attaches to the workstation for testing. Range: 750k to10M ohms. Plugs into 120VAC outlet. UL listed. Made in the U.S.A.

84N2612 Type SPC4638. **Each** **64.99**

(33389) (ne33389)

COMBO WRIST STRAP/ FOOTWEAR TESTER

NEW

MADE IN USA

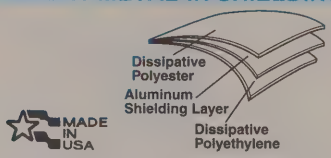
This static control tester is an easy-to-use, single-station fixture with both wrist and heel straps. A green light notifies user of "Passing" test range. Red LEDs along with an audible signal warn user of "Failing" test results. Tester has a nominal press range of 750k to 10M ohms for wrist straps and 750k to100M ohms for footwear. Uses either one 9-volt alkaline battery (included) or a special 120VAC adapter; *order separately below.* Made in the U.S.A.

Stock No.	Type	Description	Each
84N2613	SPC4639	Combo Tester	249.99
84N2614	SPC4640	120VAC Adapter	22.99

(33388) (ne33388)

TRANSPARENT METAL-IN SHIELDING BAGS

NEW



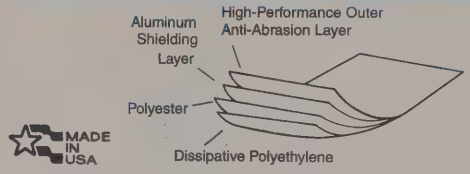
MADE IN USA

Metal-in ESD shielding bags offer enhanced durability provided by the metallized layer buried between the polyester and polyethylene layers. This metal layer prevents the penetration of damaging electrostatic fields. Tribocharging is minimized by the specially processed polyethylene liner. Greater than 50% light transmission allows for easy identification of bag contents. Made in the U.S.A. **Sold in packages of 100.**

Stock No.	Type	Description	W x L	Per Pkg.
84N2616	SPC4642	Shielding Bag Metal-In 3 x 5″	3 x 5″	6.85
84N2617	SPC4643	Shielding Bag Metal-In 5 x 8″	5 x 8″	11.85
84N2618	SPC4644	Shielding Bag Metal-In 8 x 10″	8 x 10″	18.99
84N2619	SPC4645	Shielding Bag Metal-In 3 x 5″	3 x 5″	9.85
84N2620	SPC4646	Shielding Bag, w/Zipper Metal-In, 5 x 8″	5 x 8″	17.99
84N2621	SPC4647	Shielding Bag, w/Zipper Metal-In, 8 x 10″	8 x 10″	29.95

(33390) (ne33390)

METAL-OUT TRANSPARENT SHIELDING BAGS



MADE IN USA

Metal-out shielding bags are designed to protect against static-induced damage. Feature conductive antiabrasive exterior. Better than 40% light transmission allows for easy identification of bag contents. Bags will dissipate a 5000V static charge to zero in less than 100 microseconds. Made in the U.S.A. **Sold in packages of 100.**

WITHOUT ZIPPER

Stock No.	Type	W x L*	Per Pkg.
52N8371	8404-0042-ASQ	3 x 5″	14.95
10N289	8404-1037-ASQ	4 x 6″	18.58
52N8372	8404-0043-ASQ	5 x 8″	31.00
10N290	8404-1038-ASQ	6 x 10″	33.07
52N8373	8404-0044-ASQ	8 x 10″	42.39
10N291	8404-1039-ASQ	8 x 12″	44.46
10N292	8404-1040-ASQ	10 x 12″	51.70
10N293	8404-1041-ASQ	10 x 14″	55.84
10N294	8404-1042-ASQ	10 x 24″	90.00
52N8387	8404-0058-ASQ	12 x 16″	68.26
10N295	8404-1043-ASQ	12 x 18″	82.75
10N296	8404-1044-ASQ	15 x 18″	93.10
52N8374	8404-0045-ASQ	18 x 18″	149.95
10N297	8404-1045-ASQ	18 x 24″	165.55

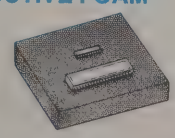
WITH ZIPPER

52N8375	8404-0046-ASQ	3 x 5″	19.95
10N298	8404-1046-ASQ	4 x 6″	23.76
52N8376	8404-0047-ASQ	5 x 8″	43.25
10N299	8404-1047-ASQ	6 x 10″	43.42
52N8377	8404-0048-ASQ	8 x 10″	55.95
10N300	8404-1048-ASQ	8 x 12″	58.95
10N301	8404-1049-ASQ	10 x 12″	69.30
10N302	8404-1050-ASQ	10 x 14″	72.40
10N303	8404-1051-ASQ	10 x 24″	126.22
52N8388	8404-0059-ASQ	12 x 16″	77.58
10N304	8404-1052-ASQ	12 x 18″	111.73
10N305	8404-1053-ASQ	15 x 18″	128.29
10N306	8404-1054-ASQ	18 x 18″	144.85
10N307	8404-1055-ASQ	18 x 24″	217.30
10N308	8404-1056-ASQ	14 x 10″	82.75
10N309	8404-1057-ASQ	16 x 12″	77.58

*Width denotes bag opening size.

(4616) (ne07399)

CONDUCTIVE FOAM



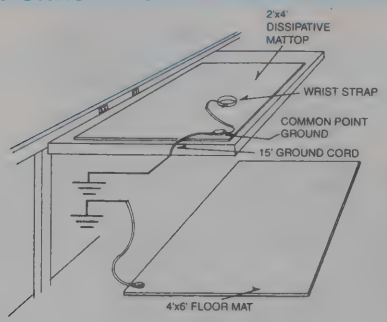
MADE IN USA

Conductive polyurethane foam is an open cell foam designed to protect devices from electrostatic discharge as well as physical damage. Carbon-impregnated material provides permanent and uniform protection for sensitive electronic components. Size: 24 x 36″. Color: black. Made in the U.S.A.

Stock No.	Type	Size	Each
52N8378	8404-0049-ASQ	0.125″	18.58
52N8379	8404-0050-ASQ	0.250″	29.97
52N8380	8404-0051-ASQ	0.375″	41.35

(4626) (ne08397)

WORKSTATION GROUNDING KITS



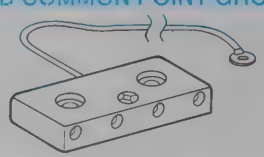
Kit Includes:
- **2 x 4′ Mattop**
- **15′ Ground Cord**
- **4 x 6′ Floor Mat**
- **Common Point Ground**

Static control workstation grounding kits include everything needed to install an ESD-safe work area, protecting ESD-sensitive components. Vinyl mattop and floor mat consists of a highly effective 3-layer material. Durable top layer makes it ideally suited for use as an ESD-protective bench or floor mat. Highly conductive middle layer provides a superior discharge path to ground. A closed cell foamed dissipative bottom layer provides excellent protection against physical damage. RTT: 4.0 x 10^7 ohms per EOS/ESD-S4.1; RTG: 2.3 x 10^7 ohms per EOS/ESD-S4.1. Thickness: 0.100″ (2.5). Colors: beige, blue, brown, and gray. Grounding components and a premium wrist strap with 6′ coil cord are included. Floor mat is also available in conductive polyethylene for durability in high-traffic areas. Hard surface is ideal for heavy carts and chairs, and it resists acids and alkali solutions. Thickness: 0.060″. Color: black.

Stock No.	Type	Mat Color	Description	Each
52N8352	8404-0023-ASQ	Brown	Kits with 3-Layer Vinyl Material Mattop and Floor Mat	271.12
52N8353	8404-0024-ASQ	Beige		271.12
52N8354	8404-0025-ASQ	Gray		271.12
52N8355	8404-0026-ASQ	Blue		271.12
52N8356	8404-0027-ASQ	Brown	Kits with 3-Layer Vinyl Material Mattop and Black Conductive Polyethylene Floor Mat	269.05
52N8357	8404-0028-ASQ	Beige		269.05
52N8358	8404-0029-ASQ	Gray		269.05
52N8359	8404-0030-ASQ	Blue		269.05

(12949) (ne09928)

QUAD COMMON POINT GROUND



Dual-purpose common point ground features 4 banana plugs. Compact design does not get in the way when used under a workbench. Two mounting holes allow the unit to be permanently installed at a workbench. Unit includes a 10mm snap stud to snap directly to the mat and 10′ of ground wire terminated with a ring terminal. No resistor.

52N8384 Type 8404-0055-ASQ. **Each** **18.58**
(4619) (ne07402)

COMMON POINT GROUND FOR BENCH MATS AND WRIST STRAPS

Common point ground for 10mm mats with 10mm socket. 15′ of wire, terminated with a #10 (0.200″) ring terminal. An extra ring terminal is provided for custom installation.

52N8385 Type 8404-0056-ASQ. **Each** **16.51**
(4618) (ne07401)

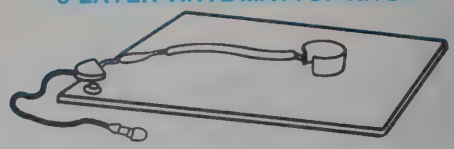
STATIC-DISSIPATIVE HAND LOTION

Blue static-dissipative lotion is enriched with aloe vera and vitamins A, D, and E. Natural moisturizers help achieve healthier, softer, younger looking hands and nails. This non-acidic lotion relieves chapping, skin flaking, irritation, and skin sensitivity problems caused by regular use of latex gloves and finger cots. Non-petroleum, non-contaminating, greaseless formula contains no glycerin, mineral oil, silicones, or lanolin and absorbs immediately into the skin without interfering with grip or dexterity.

Stock No.	Type	Size	Each
10N670	1447	1 oz.	1.92
10N671	1448	8 oz.	3.89
10N672	1449	16 oz.	11.65
10N673	1450	32 oz.	15.01
10N674	1451	1 gallon	48.96

(17131) (ne10821)

3-LAYER VINYL MATTOP KITS



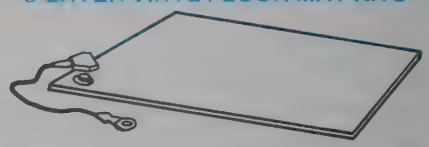
Kit Includes:
- **2 x 4′ 3-Layer Vinyl Mattop**
- **15′ Ground Cord**
- **Adjustable Wrist Strap with 6′ Coil Cord**

Highly effective 3-layer material. Durable top layer makes it ideally suited for use as an ESD-protective bench mat. Its highly conductive middle layer provides a superior discharge path to ground. A closed cell foamed dissipative bottom layer provides excellent protection against physical damage. RTT: 4.0 x 10^7 ohms per EOS/ESD-S4.1; RTG: 2.3 x 10^7 ohms per EOS/ESD-S4.1. Thickness: 0.100″ (2.5). Colors: beige, blue, brown, and gray

Stock No.	Type	Description	1-24
52N8366	8404-0037-ASQ	Mattop, Brown	78.61
52N8367	8404-0038-ASQ	Mattop, Beige	78.61
52N8368	8404-0039-ASQ	Mattop, Gray	78.61
52N8369	8404-0040-ASQ	Mattop, Blue	78.61

(4615) (ne07398)

3-LAYER VINYL FLOOR MAT KITS



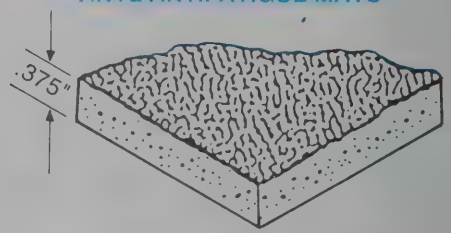
Kit Includes:
- **4 x 6′ 3-Layer Vinyl Floor Mat**
- **15′ Ground Cord**

Highly effective 3-layer material. Durable top layer makes it ideally suited for use as an ESD-protective floor mat. Its highly conductive middle layer provides a superior discharge path to ground. A closed cell foamed dissipative bottom layer provides excellent protection against physical damage. RTT: 4.0 x 10^7 ohms per EOS/ESD-S4.1; RTG: 2.3 x 10^7 ohms per EOS/ESD-S4.1. Thickness: 0.100″ (2.5). Colors: brown, beige, and blue.

Stock No.	Type	Description	1-24
52N8362	8404-0033-ASQ	Floor Mat, Brown	186.25
52N8363	8404-0034-ASQ	Floor Mat, Beige	186.25
52N8365	8404-0036-ASQ	Floor Mat, Blue	186.25

(12947) (ne09915)

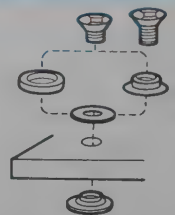
VINYL ANTIFATIGUE MATS



Foamed, soft antifatigue floor mat is designed to reduce fatigue or to use where cushioning is required. This material will not lose electrical properties due to wear and aging for up to ten years. Beveled edges add safety. The material should be grounded at approximately 6′ intervals. Use with **type 8404-0057-ASQ** universal snap kit; *ordered separately on this page.* RTT: 2.5 x 10^9 ohms per EOS/ESD-S4.1; RTG: 4.6 x 10^9 ohms per EOS/ESD-S4.1. Size: 36 x 48″. Thickness: 0.375″ (9.5). Color: brown.

52N8370 Type 8404-0041-ASQ. **Each** **113.80**
(4617) (ne07400)

UNIVERSAL SNAP KIT

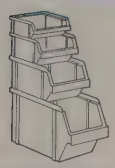


Kit includes a 10mm stud, 10mm socket, threaded backing washer, long screw, and short screw. Everything needed to field install a stud or socket on all soft materials. Just punch a hole through the mat and screw on the socket or stud, whichever is preferred. All that is needed is a Phillips screwdriver. Recommended for homogeneous material.

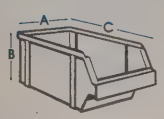
52N8386 Type 8404-0057-ASQ. **Each** **3.00**
(4620) (ne07403)

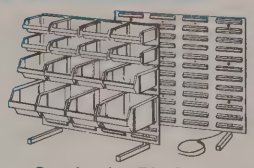
STATIC CONTROL STORAGE SYSTEMS

CONDUCTIVE STACKABLE STORAGE BINS



Stacking Bins





Conductive Bin Stand

Stackable, conductive storage bins are designed for static-sensitive components. Hi-impact carbon-filled plastic meets MIL-B-81 specifications. **Type DSC3209C** conductive bin stand can be ordered separately or as part of **type FSC3200C** storage system. Color: black.

CONDUCTIVE STORAGE BINS

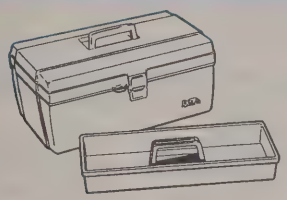
Stock No.	Type	Bin Dimensions A	B	C	Shpg. Wt.	Pieces per Carton	1-23	24-47
84N1460	SBC-3206	4⅞″	2″	5⅛″	4 lbs	24	**3.75**	**3.38**
84N1461	SBC-3207	4⅞″	3″	6⅝″	6 lbs	24	**6.25**	**5.63**
84N1462	SBC-3208	4⅞″	3⅞″	8⅞″	4.7 lbs	12	**10.59**	**9.54**
84N1463	SBC-3205	4⅞″	5⅞″	12″	9.7 lbs	12	**14.29**	**12.87**

CONDUCTIVE STORAGE BIN STANDS

Stock No.	Type	Description	H x W x D	Shpg. Wt.	Each
84N1464	DSC-3209	Stand Only	17¼ x 20 x 8⅞″	5.7 lbs.	**84.99**
84N1465	FSC-3200	Stand w/16 Bins	...	9.0 lbs.	**169.99**

(7054) (de00222)

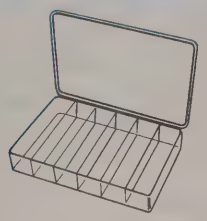
CONDUCTIVE UTILITY STORAGE BOXES



Utility tool box transports and stores small static-sensitive tools, equipment, and components. Constructed of black, break-resistant, carbon-filled, conductive, copolymer materials. Features positive-action latch, padlock tab, recessed handle, and lift-out tray with handle. Size: 5.25H x 14.50W x 7.50″D.

84N1452 Type TC-320-2C. **Each** **29.99**
(18227) (ne10190)

MULTICOMPARTMENT CONDUCTIVE UTILITY BOXES



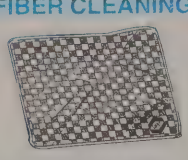
- **Choose from a Variety of Compartment Configurations**

Rugged utility boxes are ideal for organizing hardware, precision parts, electronic components, and medical or lab supplies. Hinged overlapping lid fastens securely. Constructed of conductive carbon-filled plastic for static-sensitive parts.

Stock No.	Type	Compartments	H x W x D	1-9	10-24
87N2414	CB-6018	18	6.75 x 11.00 x 1.75″	**19.99**	**18.00**
87N2413	CB-6001	1	6.75 x 11.00 x 1.75″	**18.99**	**17.10**
87N2416	CB-8024	24	9.00 x 13.125 x 2.313″	**34.99**	**31.50**
87N2415	CB-8001	1	9.00 x 13.125 x 2.313″	**19.99**	**18.00**

(18226) (ne10189)

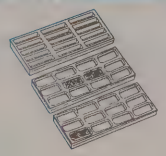
MICRO-FIBER CLEANING CLOTH



Micro-fiber cloth is ideal for cleaning computer monitor screens, copier glass, TV screens, eyeglasses, and lenses of all kinds. 50/50 polyester/nylon cloth is made up of super-fine, high-density lint-free fibers that lift dirt, fingerprints, oil, and water from delicate surfaces without scratching, streaking, or smearing. It is washable and can be reused thousands of times. Cloth contains no chemicals and does not require chemicals for use. Size: 7⅞″ square.

92N4432 Type 2943. **Each** **7.24**
(18042) (ne10180)

STATIC-DISSIPATIVE SMALL PARTS TRAYS

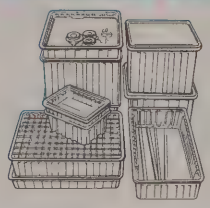


Static-dissipative parts trays are perfect for storage of small parts, fasteners, etc. These trays offer a wide variety of cavity sizes and compartment sizes. All tray sizes: 14⅜ L x 6⅝″ W.

Stock No.	Type	Tray Height	Compartments No.	Length	Width	Each
92N5614	2850	2.2″	3	6.5/13.25″	2.5″	**16.99**
92N5615	2851	2.2″	6	4.125″	2.5″	**16.99**
92N5616	2852	2.2″	9	4.125″	1.5″	**16.99**
92N5617	2853	2.2″	12	1.875″	2.5″	**16.99**
92N5618	2854	1.37″	15	2.75″	1.375″	**16.99**

(18043) (ne10181)

STATIC-DISSIPATIVE STACKABLE MODULAR TOTE BOXES



Static-dissipative tote boxes are vacuum formed from sheets of high-density polyethylene. Vacuum forming produces a stress-free container with maximum resistance to cracking. These containers are impervious to oils, most chemicals, rot, solvents, and temperature extremes. Totes stack with or without lids so they do not rest on the storage contents. Divider grooves on 1¼″ centers allow for the formation of 1⅛ x 1⅛″ compartments or multiples thereof. *Order lids, dividers, and standard card holders separately below.*

MODULAR TOTE BOXES

Stock No.	Type	Outside Dimensions L	W	H	Inside Dimensions L	W	Each
92N5583	2819	11″	8″	3.5″	9″	6.25″	**49.95**
92N5584	2820	11″	8″	5″	9″	6.25″	**14.99**
92N5585	2821	16.63″	11″	3.5″	14.75″	9″	**19.99**
92N5586	2822	16.63″	11″	7″	14.75″	9″	**26.99**
92N5587	2823	22.38″	17.5″	3″	20″	15″	**39.99**
92N5588	2824	22.38″	17.5″	6″	20″	15″	**49.99**
92N5589	2825	22.38″	17.5″	9″	20″	15″	**64.99**
92N5590	2826	22.38″	17.5″	12″	20″	15″	**72.99**

TOTE BOX SNAP-ON LIDS

Stock No.	Type	Dimensions L	W	Each
92N5591	2827	11″	8″	**9.99**
92N5592	2828	16.63″	11″	**16.99**
92N5593	2829	22.38″	17.5″	**23.99**

SHORT DIVIDERS

Stock No.	Type	Use with Tote Box Type	Max. per Tote	Each
92N5594	2830	2819	7	**1.99**
92N5595	2831	2820	7	**2.19**
92N5596	2832	2821	11	**2.49**
92N5597	2833	2822	11	**2.99**
92N5598	2834	2823	15	**2.49**
92N5599	2835	2824	15	**3.99**
92N5600	2836	2825	15	**4.99**
92N5601	2837	2826	15	**6.99**

LONG DIVIDERS

Stock No.	Type	Use with Tote Box Type	Max. per Tote	Each
92N5602	2838	2819	5	**2.19**
92N5603	2839	2820	5	**2.39**
92N5604	2840	2821	7	**2.69**
92N5605	2841	2822	7	**3.99**
92N5606	2842	2823	11	**2.69**
92N5607	2843	2824	11	**4.49**
92N5608	2844	2825	11	**5.99**
92N5609	2845	2826	11	**7.99**

STANDARD CARD HOLDERS

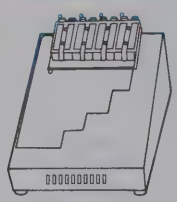
Stock No.	Type	Dimensions H	W	Each
92N5610	2846	1.5″	6.25″	**1.99**
92N5611	2847	3″	2.25″	**1.99**
92N5612	2848	3.5″	7.5″	**2.19**
92N5613	2849	6.25″	8.25″	**2.39**

(18044) (ne10182)

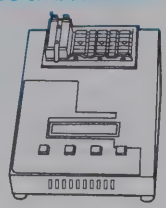
PROM/PAL PROGRAMMERS

HUSKY-LC PC-BASED AND SHOOTER-LC STAND-ALONE EPROM/FLASH PROGRAMMERS

NEW



Husky



Shooter

- **Program EPROMs to 8MB**
- **Program 32-Pin DIP Devices**
- **Program 1 or 4 Devices**
- **Windows 3.1/95/NT Software**
- **RS-232 Serial Port**
- **Automatic Label Printing**

Program and verify 32-pin EPROMs and flash memory from 1MB to 4MB. Devices program 1 or 4 devices. Windows-based software. Updates available via the internet. Compatible with Xlink software.

HUSKY-LC PC-BASED PROGRAMMERS

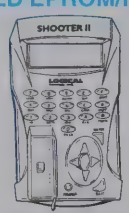
Stock No.	Type	Description	Each
83F7433	PROHUL-D11	1MB Buffer, 1 Socket	519.75
83F7434	PROHUL-D14	1MB Buffer, 4 Sockets	624.75
83F7435	PROHUL-D44	4MB Buffer, 4 Sockets	729.75
83F7436	PROHUL-D84	8MB Buffer, 4 Sockets	939.75

SHOOTER-LC STAND-ALONE PROGAMMERS

Stock No.	Type	Description	Each
83F7437	PROSHL-D11	1MB Buffer, 1 Socket	624.75
83F7438	PROSHL-D14	1MB Buffer, 4 Sockets	729.75
83F7439	PROSHL-D44	4MB Buffer, 4 Sockets	834.75
83F7440	PROSHL-D84	8MB Buffer, 4 Sockets	1044.75

(31988) (ne31988)

SHOOTER II HANDHELD EPROM/FLASH PROGRAMMER

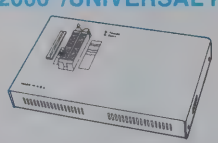


PROSTR-002

Type PROSTR-002 Shooter II is a 1 lb. EPROM/Flash Programmer. Device support: EPROMs, EEPROMs, FLASH, CMOS PROMS, Serial to 8 Mbit Dip packages in 8, 24, 28, and 32 pins with 0.3″ and 0.6 pitch; PLCC, SOIC, and TSOP adapters available. Fully updateable internal device library in non-volatile FLASH memory. Menu-driven device selection uses full manufacturer electronic ID to verify that the correct device is in the socket. Devices checks include connect test, reverse/faulty part test, bit check, empty check, verify, and marginal verify. 8, 16, and 32 bit modes automatically handled by "Interlace 2" method of splitting and shuffling data without the intervention of the user. AC or portable battery powered. 1Mbit standard, upgradeable to 8Mbit.

01F318 Type PROSTR-002. **Each** **755.30**
(13131) (ne09872)

CHIPMASTER 2000®/UNIVERSAL PROGRAMMER



Work station with 48-pin universal DIP socket, PC parallel port interface. Software driven PC-based programmer. No adaptor needed for DIP devices. Supports over 1000 devices, EPROM's, FLASH, PLD, Bipoplar PROM, GAL, MACH, Micros, all on the same socket.

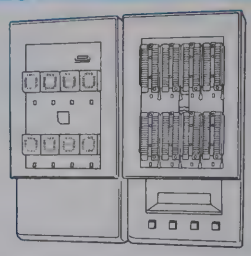
66F1964 Type PROCM2-000 PC-Based **Each** **1081.32**
(4555) (de51485)

PALMERASE® EPROM ERASER

Ideal for field service and engineering applications where space and portability are important. Erases in less than five minutes. Tray holds a single 24-, 28- or 40-pin EPROM. 4Lx2Wx2H″ (101.6x50.8x50.8).

89F600 Type ERAPME-000. **Each** **65.15**
(4557) (de51487)

XPRO-1 SERIES EPROM/MICRO PROGRAMMERS



The **XPRO-1 series** can program eight EPROMs simultaneously. Include DOS or Windows PC-updatable software, internal backup RAM for storage, 1 Megabit of upgradable internal memory, front panel LCD and display for stand-alone operation, and a high-speed serial port. The **XPRO system** consists of a base unit with interchangeable socket head (modules), *which can be ordered separately below for device-specific applications.* Also available are "pre-configured" systems (base unit including a particular head). *Contact your local Newark sales office for additional base units, modules, and pre-configured systems.*

XPRO SERIES BASE UNITS

Stock No.	Type	Description	Each
92F4475	PROXP1-104	4 Meg. RAM	1081.32

XPRO SERIES MODULES

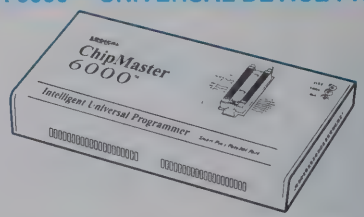
92F4479	MODXP1-GD32	Gang 32-Pin DIP EPROM, (8)*	646.62

PRE-CONFIGURED XPRO SERIES SYSTEMS

92F5917	PROXPR-GD4	PROXP1-104, MODXP1-GD32	1624.70

*Number in parentheses indicates the number of sockets on the module.
(4510) (de03816)

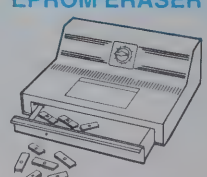
CHIPMASTER 6000™ UNIVERSAL DEVICE PROGRAMMER



Type PROCM6-000 universal device programmer with true 48-pin universal DIP sockets. Windows and PC interface. Printer port PC interface with auto-switch power. Includes universal 44-pin PLCC socket adaptor. Includes CUPL PLD design software starter kit. Device insertion and pin contact check. Auto device sense and self programming (mass production mode). Fast programming times: 13 seconds for 1 Meg EPROM; 8 seconds for 1 Meg FLASH. Supports 3.3V devices in VCC and logic level. Current limit/over current shut down on all pins. Universal adapters for PLCC, TSOP, PSOP QFP, SOIC packages. Auto-ID detection and search on EPROM/FLASH. Auto-increment function for memory devices. Optional ROM emulation. Fast device selection operations. Full-screen editor with search/fill functions. Statistics function. Project file save/load. Auto file format detection and conversion. TTL and user-definable digital IC tester. User-changeable programming parameters. Context-sensitive on-line help. *3-year warranty.*

01F319 Type PROCM6-000. **Each** **1624.70**
(13128) (ne09891)

EPROM ERASER



Ideal high performance UV eraser for production or engineering applications. Erase time is approximately 15 minutes. Holds as many as 50 24-pin EPROM's on the maximum exposure area of the tray. Tray can accommodate an entire circuit board. Tray size: 10.5 x 8″ (266.7 x 203.2). Safe light intensity level assures long device life. 60-minute auto shut-off timer. Safety interlock switch. 10.5D x 12.75W x 4.75″H (266.7 x 323.85 x 120.65).

90F1016 Type ERALUV-000. **Each** **324.94**

ERAT8T and **ERAT8Z** feature 5 x 8" slide-out tray with antistatic pad. 60-minute timer with auto shut-off. Lamp life: 770 hours. Safety interlock switch. Intensity: 1500 micro-Watts/second at 1″ from center line UV indicator. Dimensions: 5D x 13W x 3H″. **Type ERAT8T** is a standard model for industrial use. Will erase 15 EPROMs in 20 to 30 minutes. **Type ERAT8Z** is a deluxe industrial-grade unit that will erase 30 EPROMs in 10 minutes or 15 EPROMs in 15 minutes. Also features a chrome parabolic reflector.

90F1018 Type ERAT8T-000. **Each** **135.79**
90F1017 Type ERAT8Z-000. **Each** **184.70**
(4559) (de51490)

UV EPROM ERASERS

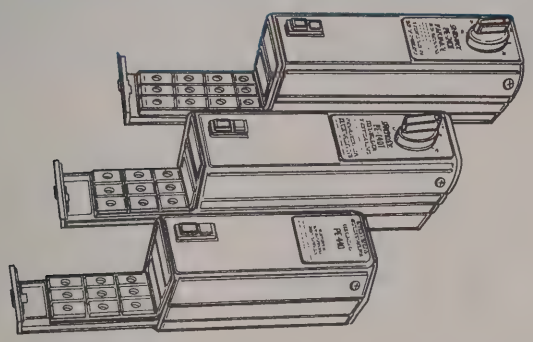
SPECIFICATIONS FOR UV EPROM ERASERS

All erasers styled of rugged, silver anodized aluminum and stainless steel. Have safety interlock mechanism to protect user against accidental exposure to short wave (254nm) UV radiation. All erasers (except **type PE-140**) have 60-minute exposure timer for automatic unit shut-off. All UV EPROM units on this page are UL listed and are OSHA compliant. *Order Spectroline EPROM erasers separately on this page.*

Type	Auto Timer Shut-Off	Chip-Erasing Capacity	Typical Intensity ($\mu W/cm^2$)
PE-140	No	9	8,000
PE-140T	Yes	9	8,000
PE-240T	Yes	12	9,600
PL-265T	Yes	30	9,600
PR-125T	Yes	25	17,000
PR-320T	Yes	42	17,000
PC-1100A	Yes	84	18,500
PC-2200A	Yes	168	18,500

(4457) (de00525)

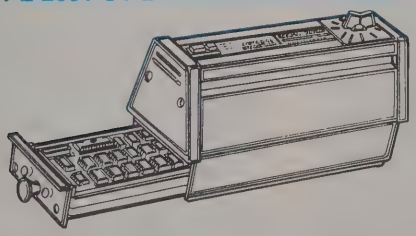
PE SERIES UV EPROM ERASING LAMPS



Small capacity, medium intensity. **PE-140, PE-140T** and **PE-240T** are personal user lamps specially designed for small systems users. They are the fastest, most efficient units of their size. The **PE-140** and **PE-140T** utilize a single 4-watt tube; the **PE-240T** uses two 4-watt tubes. Tubes have rated life of 6,000 hours. *Order replacement tubes* **BLE-2537S** *separately.* A UV-absorbing light indicator in the tray endcap shows tubes are operating, while protecting eyes from UV exposure. Tray has conductive foam pad to prevent electrostatic build-up and protect chips from possible static charge. **PE-140** and **PE-140T** erase 9 chips with an erasing time of 12.5 minutes for 1 chip; **PE-240T** erases 12 chips with an erasing time of 10.4 minutes for 1 chip. Automatic timer included on **PE-140T** and **PE-240T**. Inside tray dimensions are 2.00W x 6.63L x 0.63″H (50.80 x 168.40 x 16.00). *For specifications, refer to the chart shown separately on this page.*

87F3961 Type PE-140. **Each** **181.13**
87F3962 Type PE-140T. **Each** **222.53**
87F3963 Type PE-240T. **Each** **247.37**
87F3967 Type BLE-2537S. **Each** **22.77**
(4458) (de00526)

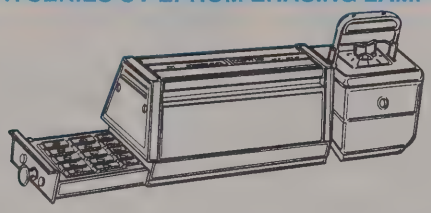
PL-265T UV EPROM ERASING LAMP



Ideal lamp for data-processing centers and medium capacity industrial requirements. Will erase up to thirty 24-pin EPROM chips at once. Erasing time: 10.4 minutes. Accommodates PC boards to 4.00 x 9.00″ (101.60 x 228.60). Lamp with timer utilizes two 6-watt tubes with rated life of 6,000 hours. UV-absorbing light indicator in tray endcap shows tubes are operating, while protecting eyes from UV exposure. Tray insert adjusts to varying heights to maintain optimum exposure distance and has a conductive foam pad to prevent electrostatic build-up and to protect chips from possible static charge. Inside tray dimensions: 4.13W x 9.88L x 1.38″H (104.90 x 250.95 x 35.05). *For specifications, refer to the chart shown separately on this page. Order* **type BLE-6254S** *replacement tube separately.*

87F3964 Type PL-265T. **Each** **351.90**
87F3968 Type BLE-6254S. **Each** **25.88**
(4459) (de00527)

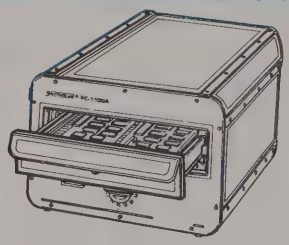
PR SERIES UV EPROM ERASING LAMPS



For large-volume EPROM users. Includes automatic timer and grid. Features high-intensity grid tube for fast, efficient erasing. **PR-125T** erases 25 chips; **PR-320T** erases 42 chips. Accepts PC boards to 4.00 x 9.00″ (101.60 x 228.60). Grid tubes have rated life of 5,000 hours and are OSHA compliant. UV-absorbing light indicator shows grid is operating, while protecting eyes from UV rays. Carrying handle for portability. Adjustable tray insert varies heights to keep optimum exposure distance. Includes conductive foam pad to prevent static damage to chips. Inside tray dimensions for **PR series:** 4.13W x 9.88L x 1.38″H (104.90 x 250.95 x 35.05). *For specifications, refer to the chart shown separately on this page.* Replacement grid for **PR-125T** is **G260NO,** 2.00 x 6.00″ (50.80 x 152.40) grid area, **PR-320T** is **G480NO,** 4.00 x 8.00″ (101.60 x 203.20) grid area.

87F3965 Type PR-125T. **Each** **615.83**
87F3966 Type PR-320T. **Each** **822.83**
87F3969 Type G260N0. **Each** **284.63**
87F3970 Type G480N0. **Each** **429.53**
(4460) (de00528)

PC SERIES UV EPROM ERASING CABINETS

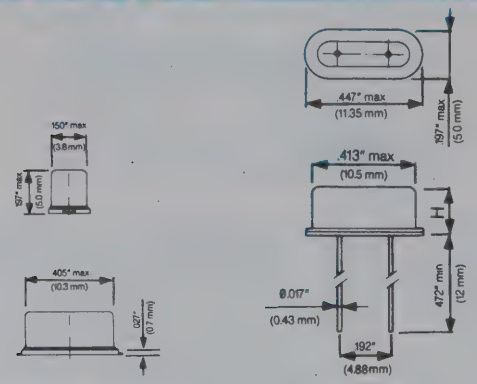


For high-volume production. Typical peak irradiance of 18,50 $\mu W/cm^2$ provides erasure in as few as 6 minutes. Accepts metric cards, silicon wafers and PC boards. Cooling fans control chamber temperature to maintain maximum UV intensity and prolong grid life, rated at 5,000 hours. Feature 8.00 x 8.00″ (203.20 x 203.20) quartz grid assemblies mounted to specular aluminum reflector. UV-absorbing light indicator shows grids are operating, while protecting eyes from UV rays. Adjustable tray maintains optimum exposure distance. Tray comes with antistatic foam pad. **PC-1100A** with timer and grid erases 84 chips, inside tray dimensions 8.38W x 12L x 1.38″H (212.85 x 304.80 x 35.05). **PC-2200A** with timer and two grids erases 168 chips; inside tray dimensions 16.38W x 12L x 1.38″H (416.05 x 304.80 x 35.05). For specifications, *refer to the chart shown separately on this page.* Additional models available. *Contact your local Newark sales office for information.*

87F3971 Type PC-1100A. **Each** **1888.88**
87F3972 Type PC-2200A. **Each** **3015.74**
(4461) (de00529)

SAME-DAY SHIPMENT ON ORDERS PLACED BY 5:00 PM C.S.T.

LOW PROFILE MICROPROCESSOR CRYSTALS



Surface Mount Version **Leaded Version**

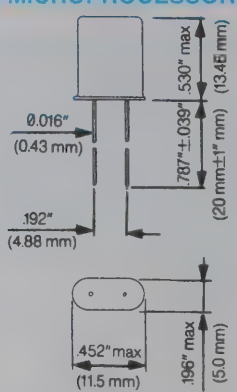
In surface mount and leaded versions. Tolerance: ±50 ppm max. Stability: ±100ppm max. over –10° to +60°C. Fundamental mode. Parallel resonance, 18pF load capacitance. **SMD** in type = surface mount version. Surface mount version also available in tape-and-reel quantities; *contact your local Newark sales office.*

ESR: 200 OHM MAX.

Stock No.	Type	Frequency (MHz)	1-49	50-99	100-249	250-499
96F2757	AS-3.579545-18SMD	3.579545	2.32	1.99	1.90	0.92
96F2787	AS-3.579545-18	3.579545	0.96	0.92	0.90	0.86
	ESR: 60 OHM MAX.					
96F2758	AS-11.059218SMDT	11.0592	2.32	1.99	1.90	1.05
96F2788	AS-11.0592-18	11.0592	0.81	0.78	0.76	0.72
	ESR: 50 OHM MAX.					
96F2830	AS-12.000-18	12.000	0.81	0.78	0.76	0.72
96F2759	AS-14.7456-18SMDT	14.7456	2.32	1.99	1.90	0.90
96F2831	AS-16.000-18	16.000	0.81	0.78	0.76	0.72
96F2760	AS-20.000-18SMDT	20.000	2.32	1.99	1.90	0.97
96F2832	AS-20.000-18-FUND	20.000	0.81	0.78	0.76	0.72
96F2833	AS-24.000-18-FUND	24.000	0.96	0.92	0.90	0.86

(4505) (de02757)

STANDARD MICROPROCESSOR CRYSTALS

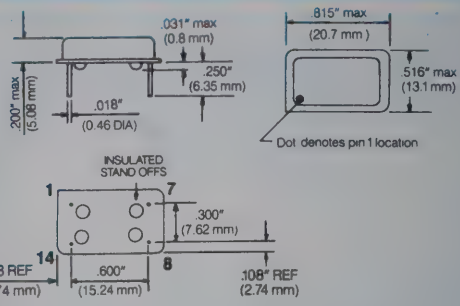


Crystals are packaged in the industry standard HC49/U holder. Tolerance ±50ppm max. Stability ±100ppm max over –20° to +70°C. Parallel resonance, 18pF load capacitance. Types with **FUND** indicate fundamental mode (over 20.0 MHz).

Stock No.	Type	Freq. MHz	ESR Ω max.	1-49	50-99	100-249	250-499
96F2797	A-1.8432-18	1.8432	700	1.71	1.64	1.60	1.53
96F2798	A-3.579545-18	3.57945	180	0.63	0.61	0.59	0.56
96F2799	A-3.6864-18	3.6864	160	0.63	0.61	0.59	0.56
96F2800	A-4.000-18	4	100	0.63	0.61	0.59	0.56
88F3657	A-4.000-32	4	100	1.28	0.92	0.71	0.64
96F2801	A-4.9152-18	4.9152	70	0.63	0.61	0.59	0.56
96F2802	A-6.000-18	6	50	0.63	0.61	0.59	0.56
96F2794	A-7.3728-18	7.3728	40	0.63	0.61	0.59	0.56
96F2803	A-10.000-18	10	30	0.63	0.61	0.59	0.56
96F2805	A-11.0592-18	11.0592	30	0.63	0.61	0.59	0.56
96F2806	A-12.000-18	12	30	0.65	0.62	0.60	0.58
96F2808	A-14.31818-18	14.31818	25	0.65	0.62	0.60	0.58
96F2809	A-14.7456-18	14.7456	25	0.65	0.62	0.60	0.58
96F2810	A-16.000-18	16	25	0.65	0.62	0.60	0.58
96F2811	A-16.000312-32	16.000312	25	1.22	1.17	0.92	0.88
96F2812	A-20.000-18-FUND	20	20	3.15	3.01	2.43	2.32

(4506) (de02758)

TTL-COMPATIBLE CLOCK OSCILLATORS

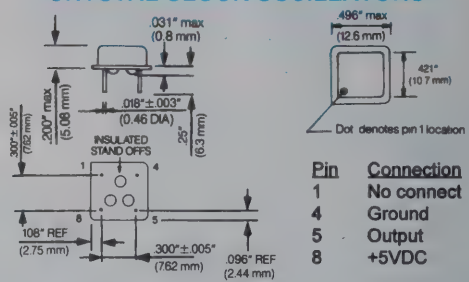


TTL-compatible clock oscillators in 14-pin DIP style package. Output: "0" level: +0.4V max, "1" level +2.4V min. Load: 1 to 10 TTL. Supply voltage: +5VDC ± 0.5VDC. Tolerance: ±100ppm. Operating temperature: 0°C to +70°C.

Stock No.	Type	Freq. (MHz)	1-49	50-99	100-249	250-499
96F2819	CO1100-10.000-MHZ	10.000	2.35	2.26	2.20	2.10
96F2820	CO1100-12.000-MHZ	12.000	2.35	2.26	2.20	2.10
96F2821	CO1100-16.000-MHZ	16.000	2.35	2.26	2.20	2.10
96F2822	CO1100-20.000-MHZ	20.000	2.35	2.26	2.20	2.10
96F2823	CO1100-24.000-MHZ	24.000	2.35	2.26	2.20	2.10
96F2824	CO1100-32.000-MHZ	32.000	2.35	2.26	2.20	2.10
96F2825	CO1100-40.000-MHZ	40.000	4.81	4.61	3.67	3.50

(4504) (de02756)

CRYSTAL CLOCK OSCILLATORS



Pin	Connection
1	No connect
4	Ground
5	Output
8	+5VDC

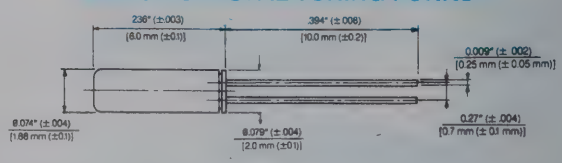
8 Pin DIP

HCMOS compatible clock oscillators in 8- or 14-pin DIP-style packages. Output: "0" level +0.5V max; "1" level +4.5V min. Load: 15pF (typ.) or 10LSTTL max. Supply voltage: +5±0.5VDC. Tolerance: ± 100ppm. Operating temperature: 0°C to +70°C. **CO61** are 14-pin DIP; **CO12** are 8-pin DIP.

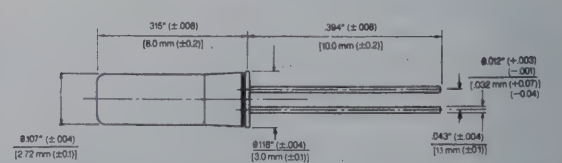
Stock No.	Type	Freq. (MHz)	Pins	1-49	50-99	100-249	250-499
96F2834	CO12100-73728MHZ	7.3728	8	7.18	6.88	6.07	5.79
96F2835	C01210014.31818MH	14.31818	8	3.76	3.60	2.88	2.75
96F2778	CO12100-16.000MHZ	16.000	8	3.76	3.60	3.52	3.36
96F2836	CO12100-20.000MHZ	20.000	8	3.76	3.60	2.88	2.75
96F2782	CO12100-40.000MHZ	40.000	8	3.76	3.60	3.52	3.36

(4501) (de02753)

WATCH CRYSTAL TUNING FORKS



R26



R38

Frequency 32.768kHz ±30ppm. Operating temperature: –10°C to +60°C. ESR: 35kΩ max. **(R26)**; 50kΩ max. **(R38)** .

96F2829 Type R26-32.768-KHZ. **Each** **1.01**
96F2828 Type R38-32.768-KHZ. **Each** **0.50**

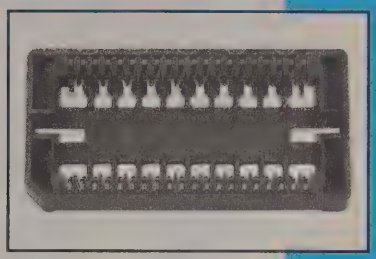
(4508) (de02762)

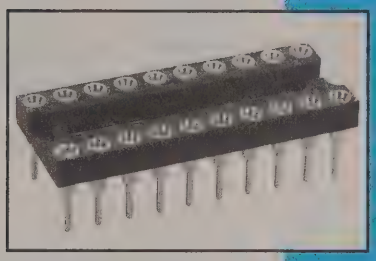
Sockets

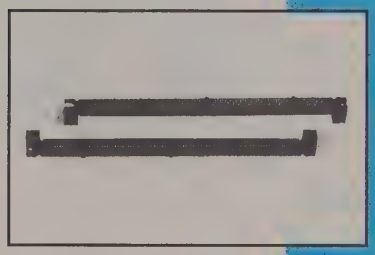
Pages 966—985

19

- AMP®
- Berg Electronics
- Cambion/IPI
- 3M
- 3M/Textool™
- Mill-Max
- Pomona
- Robinson Nugent
- SPC Technology
- Thomas & Betts/Augat®
- Waldom/Molex







Products include...

Chip Carrier (PLCC)

DIMM

DIP

Low Insertion Force (LIF)

Pin Grid Array (PGA)

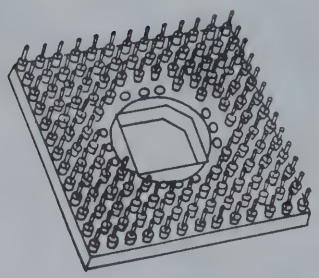
SIMM

Small Outline (SOJ/SOIC)

Test Clips

ZIF

NEW VOLTREX™ brand

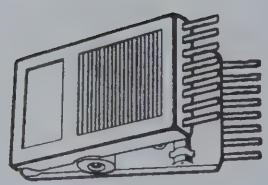


PIN GRID ARRAY SOCKETS

Current rating: 1A. Voltage rating: 10mV to 60V. Contact resistance: ≤7mOhms. Insulation resistance: $>10^{12}$ Ohms. Dielectric strength: >1000V (RMS). Material: Plastic; PBT glass-filled, rated UL94V-0. Sleeve: turned brass, 5µm tin plated. Clip: beryllium copper, 0.25µm gold plated. Solder tail contacts. Insertion depth: 2.4mm min. to 3.9mm max. Insertion diameter: 0.4mm min. to 0.56mm max. Mechanical life: 100 cycles. Operating temperature: -55°C to +125°C, 260°C for 5 sec. (solder bath resistant).

Stock No.	Type	Contacts	1-24	25-49	50-99	100-249
84N2675	SPC4667	68	3.39	2.89	2.60	2.39
84N2676	SPC4668	68	3.39	2.89	2.60	2.39
84N2677	SPC4669	101	4.69	3.99	3.59	3.31
84N2678	SPC4670	132	6.19	5.27	4.74	4.36
84N2679	SPC4671	88	4.39	3.74	3.36	3.09
84N2680	SPC4672	84	4.19	3.57	3.21	2.95
84N2681	SPC4673	114	5.29	4.50	4.05	3.73
84N2682	SPC4674	121	5.69	4.84	4.36	4.01
84N2683	SPC4675	144	6.69	5.69	5.12	4.71
84N2684	SPC4676	145	6.79	5.78	5.20	4.78
84N2685	SPC4677	168	7.79	6.63	5.96	5.49
84N2686	SPC4678	169	7.89	6.71	6.04	5.56
84N2687	SPC4679	179	8.29	7.05	6.35	5.84
84N2688	SPC4680	273	12.49	10.62	9.56	8.80

(34983) (ne34983)



INTEGRATED CIRCUIT TEST CLIPS

Designed for use with standard DIP ICs in the following sizes: 14/16 pin, 24 pin, 28 pin, and 40 pin. Insulating pin hood surrounds DIP pins to prevent accidental shorting. Compression spring provides positive pin contact. Gold-plated contacts provide low resistance connections.

Stock No.	Type	Pins	1-49	50-99	100-249	250-499
46N6569	ICT-4482	14/16	8.15	7.42	5.52	5.17
87N1361	ICTC-66024	24	20.98	19.11	14.20	13.31
87N1362	ICTC66528	28	23.94	21.80	16.20	15.18
87N1363	ICTC67040	40	32.08	29.22	21.72	20.35

(4567) (de53246)

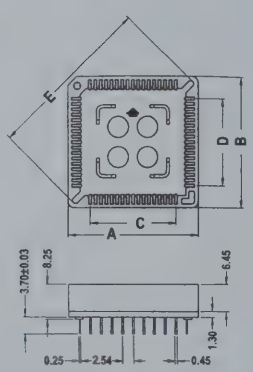
ICET-4641

NEW

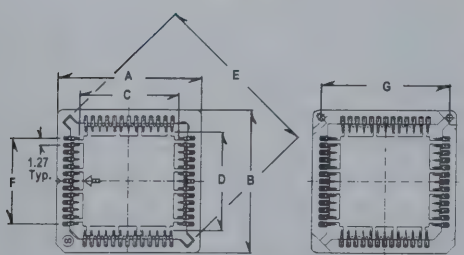
IC EXTRACTION TOOL

Ideal for removing all types of ICs without bending pins. Made of chrome-plated spring steel.

46N6568 Type ICET-4641. **Each** **2.66**
(4568) (de53247)



Thru-Hole



Surface Mount

PLASTIC LEADED CHIP CARRIERS

Current rating: 1A. Dielectric strength: 600VAC for 1 minute. Insulator resistance: 500 MΩ (min). Insulator for thru-hole versions: PBT glass filled, rated UL94V-0; for surface mount versions: PPS glass filled, rated UL94V-0. Contacts: phosphor bronze. Plating: tin over nickel. Operating temperature for thru-hole versions: -55°C to +110°C; for surface mount versions: -55°C to +170°C.

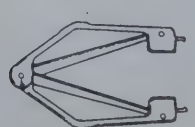
THRU-HOLE PLASTIC LEADED CHIP CARRIERS

Stock No.	Type	Contacts	Dimensions A	B	C	D	E	Each
84N2694	SPC4686	28	0.712″	0.712″	0.300″	0.300″	0.854″	1.29
84N2695	SPC4687	32	0.712″	0.812″	0.300″	0.400″	0.931″	1.39
84N2696	SPC4688	44	0.912″	0.912″	0.500″	0.500″	1.122″	1.49
84N2697	SPC4689	68	1.212″	1.212″	0.800″	0.800″	1.574″	1.59
84N2698	SPC4690	84	1.412″	1.412″	1.000″	1.000″	1.000″	1.79

SURFACE MOUNT PLASTIC LEADED CHIP CARRIERS

Stock No.	Type	Contacts	Dimensions A	B	C	D	E	F	G	Each
84N2689	SPC4681	28	0.685″	0.685″	0.385″	0.385″	0.757″	0.300″	0.600″	1.09
84N2690	SPC4682	32	0.765″	0.665″	0.486″	0.385″	0.853″	0.300″	0.507″	1.19
84N2691	SPC4683	44	0.885″	0.885″	0.585″	0.585″	1.066″	0.500″	0.800″	1.29
84N2692	SPC4684	68	1.556″	1.556″	0.885″	0.874″	1.480″	0.800″	1.100″	1.39
84N2693	SPC4685	84	1.412″	1.412″	1.087″	1.087″	1.776″	1.000″	1.300″	1.49

(34984) (ne34984)



4007

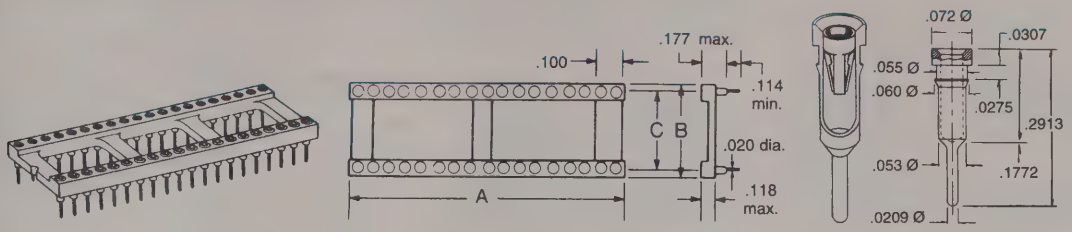
CHIP CARRIER EXTRACTION TOOL

Fits four-sided plastic leaded chip carriers with 20-124 positions.

92N4239 Type 4007 **Each** **5.99**
(43171) (ne43171)

VOLTREX™ brand

VOLTREX™ BRAND LOW-PROFILE MACHINED PIN SOLDER-TAIL SOCKETS



- **Glass-Filled Polyester Insulating Body Conforms to UL94V-0**

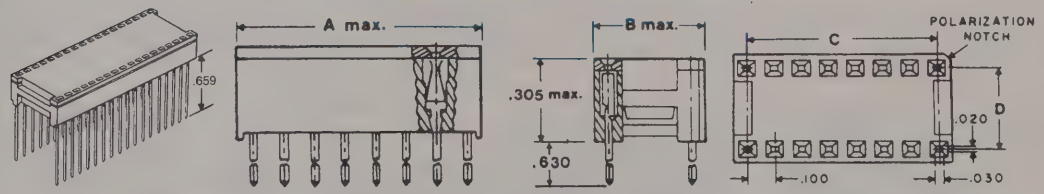
Outer sleeves come in 2 versions: tin-plated-over-nickel-over-copper flash, per MIL-T-10727 Type I; gold-over-nickel-over-copper flash, per MIL-G-45204B. Inner contacts are beryllium copper with gold-over-copper flash, per MIL-G-45204B. Sockets available in tubes for use with automatic insertion equipment. Contact resistance: 0.004 ohms maximum. Overload voltage: 1500V eff. 50Hz. Working voltage: 10mV to 60V. Operating temperature: –55°C to +155°C. Soldering temperature: 260°C maximum for 5 seconds. Resistance against Freon, Frigen, Akrolone, Alpha-detergent (short treatment only). Able to withstand 1000-cycle insertions and withdrawals with steel pin diameter of 0.018″ (0.457).

MP SERIES IC SOCKETS WITH GOLD SLEEVE PLATING

Stock No.	Type	Pins	Dimensions A	B	C	1-49	50-99	100-249	250-499
84N2661	SPC4653	6	0.300″	0.400″	0.300″	0.52	0.45	0.40	0.37
81N9123	MP-08-3G	8	0.400″	0.400″	0.300″	0.71	0.68	0.66	0.64
81N9124	MP-14-3G	14	0.700″	0.400″	0.300″	0.89	0.82	0.78	0.73
81N9125	MP-16-3G	16	0.800″	0.400″	0.300″	1.09	1.01	0.95	0.90
81N9126	MP-18-3G	18	0.900″	0.400″	0.300″	1.19	1.10	1.04	0.98
81N9127	MP-20-3G	20	1.000″	0.400″	0.300″	1.39	1.28	1.21	1.14
81N9129	MP-24-3G	24	1.200″	0.700″	0.600″	1.59	1.47	1.39	1.31
81N9130	MP-28-3G	28	1.400″	0.400″	0.600″	1.89	1.74	1.65	1.55
84N2663	SPC4655	32	1.600″	0.700″	0.600″	2.15	1.83	1.65	1.52
81N9131	MP-40-3G	40	2.000″	0.700″	0.600″	2.69	2.48	2.34	2.21
82N9962	MP-48-3G	48	2.400″	0.700″	0.600″	2.89	2.66	2.52	2.37
82N9963	MP-64-3G	64	3.200″	1.000″	0.900″	3.49	3.21	3.04	2.87
			MP SERIES IC SOCKETS WITH TIN SLEEVE PLATING						
84N2662	SPC4654	6	0.300″	0.400″	0.300″	0.34	0.29	0.26	0.24
81N9132	MP-08-3T	8	0.400″	0.400″	0.300″	0.39	0.36	0.34	0.32
81N9133	MP-14-3T	14	0.700″	0.400″	0.300″	0.69	0.64	0.60	0.57
81N9134	MP-16-3T	16	0.800″	0.400″	0.300″	0.79	0.73	0.69	0.65
81N9135	MP-18-3T	18	0.900″	0.400″	0.300″	0.89	0.82	0.78	0.73
81N9136	MP-20-3T	20	1.000″	0.400″	0.300″	0.99	0.91	0.87	0.82
81N9138	MP-24-3T	24	1.200″	0.700″	0.600″	1.19	1.10	1.04	0.98
81N9191	MP-28-3T	28	1.400″	0.400″	0.600″	1.39	1.28	1.21	1.14
84N2664	SPC4656	32	1.600″	0.700″	0.600″	1.54	1.31	1.18	1.09
81N9192	MP-40-3T	40	2.000″	0.700″	0.600″	1.89	1.74	1.65	1.55
82N9964	MP-48-3T	48	2.400″	0.700″	0.600″	2.39	2.20	2.08	1.96
84N2665	SPC4657	64	3.200″	1.000″	0.900″	2.99	2.55	2.29	2.11

(4664) (ne53242)

VOLTREX™ BRAND DIP SOCKETS



SP series standard-profile DIP sockets are available with solder or wire-wrap termination. Closed entry insulator design virtually eliminates contact damage. Sockets have mounting holes for fastening to circuit boards. Twin beam edge wipe contacts provide optimum performance, extended life. Contact material: phosphor bronze. Solder pin dimensions: 0.008″ x 0.025″ x 0.125″ long; solderless pin dimensions: 0.025″ square x 0.630″ long. Operating temperature range: –65°C to +125°C.

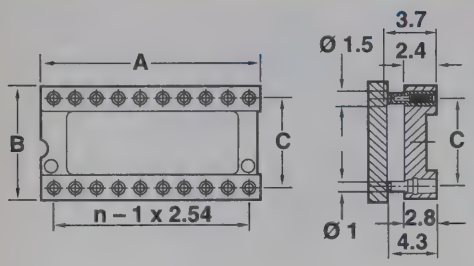
SP SERIES STANDARD-PROFILE IC SOCKETS

Stock No.	Type	No. of Pins	Terminals	Contact Plating	A Max.	B Max.	C	D	1-49	50-99	100-249	250-499
31N2916	SP-14-5G	14	Wire-Wrap	Gold	0.745″	0.395″	0.600″	0.300″	1.58	1.40	1.19	0.98
31N2917	SP-14-5T	14	Wire-Wrap	Tin	0.745″	0.395″	0.600″	0.300″	1.26	1.11	0.96	0.79
31N2918	SP-14-2G	14	Solder	Gold	0.745″	0.395″	0.600″	0.300″	1.05	0.92	0.80	0.70
31N2919	SP-14-2T	14	Solder	Tin	0.745″	0.395″	0.600″	0.300″	0.98	0.87	0.75	0.65
31N2920	SP-16-5G	16	Wire-Wrap	Gold	0.845″	0.395″	0.700″	0.300″	1.77	1.56	1.35	1.10
31N2921	SP-16-5T	16	Wire-Wrap	Tin	0.845″	0.395″	0.700″	0.300″	1.41	1.24	1.08	0.88
31N2922	SP-16-2G	16	Solder	Gold	0.845″	0.395″	0.700″	0.300″	1.15	1.02	0.91	0.81
31N2923	SP-16-2T	16	Solder	Tin	0.845″	0.395″	0.700″	0.300″	1.08	0.96	0.84	0.72
31N2924	SP-18-5G	18	Wire-Wrap	Gold	0.945″	0.395″	0.800″	0.300″	2.11	1.87	1.62	1.32
31N2926	SP-24-5G	24	Wire-Wrap	Gold	1.245″	0.695″	1.100″	0.600″	2.81	2.48	2.15	1.75
31N2927	SP-24-2T	24	Solder	Tin	1.245″	0.695″	1.100″	0.660″	1.78	1.57	1.37	1.20
31N2928	SP-28-5G	28	Wire-Wrap	Gold	1.445″	0.695″	1.300″	0.600″	3.19	2.82	2.44	1.99
31N2931	SP-40-5G	40	Wire-Wrap	Gold	2.045″	0.695″	1.900″	0.600″	4.37	3.96	3.57	3.21
31N2932	SP-40-2T	40	Solder	Tin	2.045″	0.695″	1.900″	0.600″	2.73	2.41	2.12	1.85

(4585) (ne02938)

SOCKETS

NEW VOLTREX™ brand

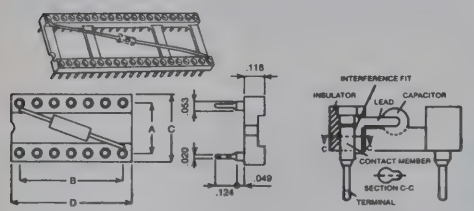


SMT MACHINED DIP SOCKETS

Sockets are 4-finger clip with funnel design entry. Insertion diameter: 0.40mm minimum to 0.56mm maximum. Insertion depth: 2.4mm minimum to 3.8mm maximum. Process temperature: 260°C for 10 sec./215°C for 2 minutes. Side- and end-stackable. Pin 1 is polarized.

Stock No.	Type	Positions	Dimensions A	B	C	Each
84N2667	SPC4659	8	0.400″	0.396″	0.300″	0.95
84N2668	SPC4660	14	0.700″	0.396″	0.300″	1.69
84N2669	SPC4661	16	0.800″	0.396″	0.300″	1.79
84N2670	SPC4662	18	0.900″	0.396″	0.300″	1.99
84N2671	SPC4663	20	1.00″	0.396″	0.300″	2.19
84N2672	SPC4664	24	1.200″	0.696″	0.600″	2.89
84N2673	SPC4665	28	1.400″	0.396″	0.600″	3.39
84N2674	SPC4666	40	2.00″	0.696″	0.600″	4.39

(34980) (ne34980)

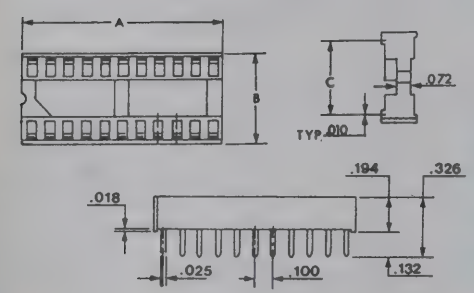


DIP SOCKETS WITH INTEGRAL DECOUPLING CAPACITOR

DIP sockets eliminate noise at the source before it can reach the chip—an advantage in high-speed logic and memory applications. Center-to-center pin spacing: 0.100″ (2.54). Integral glass-encapsulated ceramic capacitor: 0.1mF 50VDC. Capacitor leads are connected directly to the ground and voltage pin of socket to an interference fit. Insulator body material: glass-filled polyester, rated UL94V-0.

Stock No.	Type	Pins	Dimensions A	B	C	D	1-49	50-99	100-249	250-499
87N426	ICDC-14-T	14	0.300″	0.600″	0.400″	0.700″	1.89	1.74	1.65	1.55
87N427	ICDC-16-T	16	0.300″	0.700″	0.400″	0.800″	1.99	1.83	1.74	1.64
87N428	ICDC-18-T	18	0.300″	0.800″	0.400″	0.900″	2.09	1.93	1.82	1.72
87N429	ICDC-20-T	20	0.300″	0.900″	0.400″	1.000″	2.15	1.98	1.87	1.77
87N430	ICDC-24-T	24	0.600″	1.100″	0.700″	1.200″	2.75	2.53	2.40	2.26
87N431	ICDC-28-T	28	0.600″	1.300″	0.700″	1.400″	2.85	2.63	2.48	2.34
84N2666	SPC4658	32	0.600″	1.100″	0.700″	1.600″	2.99	2.55	2.29	2.11
87N432	ICDC-40-T	40	0.600″	1.900″	0.700″	2.000″	3.39	3.12	2.95	2.78

(4566) (de53243)

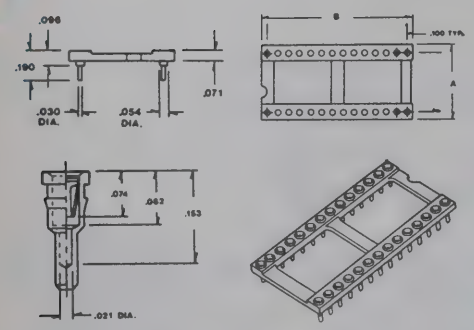


LOW-PROFILE DIP SOCKETS

ICD series low-profile DIP sockets feature high reliability contacts with a two-point contacting structure. Phosphor bronze contacts have a tin alloy plating rated at 1A, 250VAC. Contact resistance: 30MΩ maximum. Dielectric withstanding voltage: 500VAC rms for 1 minute. Housing standoffs accommodate board cleaning. Sockets can be stacked on 0.100″ (2.54) centers end-to-end. Visible polarization. Glass-filled polyester housing, rated UL94V-0. Operating temperature: –40°C to +120°C. **Sold in multiples of 5.**

Stock No.	Type	Pins	Dimensions A	B	C	1-49	50-99	100-499	500-999
84N2656	SPC4648	6				0.05	0.05	0.04	0.04
46N2850	ICD-8-2T	8	0.400″	0.395″	0.300″	0.07	0.07	0.06	0.06
46N2851	ICD-14-2T	14	0.700″	0.395″	0.300″	0.11	0.11	0.10	0.09
46N2852	ICD-16-2T	16	0.800″	0.395″	0.300″	0.13	0.12	0.12	0.11
46N2853	ICD-18-2T	18	0.900″	0.395″	0.300″	0.14	0.13	0.13	0.12
46N2854	ICD-20-2T	20	1.000″	0.395″	0.300″	0.16	0.15	0.14	0.14
46N2856	ICD-24-2T	24	1.200″	0.695″	0.600″	0.19	0.18	0.17	0.16
46N2857	ICD-28-2T	28	1.400″	0.695″	0.600″	0.22	0.21	0.20	0.18
84N2657	SPC4649	32	1.600″	0.700″	0.600″	0.26	0.23	0.20	0.19
46N2858	ICD-40-2T	40	2.000″	0.695″	0.600″	0.32	0.30	0.28	0.27
84N2658	SPC4650	48	2.400″	0.700″	0.600″	0.38	0.33	0.29	0.27

(4571) (de53445)

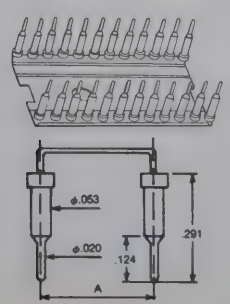


SUPER-FLAT MACHINED PIN LOW-PROFILE DIP SOCKETS

Open frame design allows better access to printed circuit and improves cooling capacity. Contacts: inner four-finger contact, beryllium copper. Outer sleeves: tin-nickel over copper flash finish. Insulator: thermoplastic polyester with 30% glass fiber, self-extinguishing UL 94V-0. Resistance: <10 megohms. Overload voltage: @ 50Hz >1000Vrms. Contact resistance: <10 megohms. Operating temperature: –55°C to +185°C. Mounting height: 0.096″ (2.44) above board.

Stock No.	Type	Pins	Dimensions A	B	1-49	50-99	100-249	250-499
87N406	MPSL-08-T	8	0.400″	0.400″	0.69	0.64	0.60	0.57
87N407	MPSL-14-T	14	0.399″	0.700″	1.15	1.06	1.00	0.95
87N408	MPSL-16-T	16	0.399″	0.800″	1.35	1.25	1.18	1.11
87N409	MPSL-18-T	18	0.399″	0.900″	1.45	1.34	1.27	1.19
87N410	MPSL-20-T	20	0.399″	1.000″	1.65	1.52	1.44	1.36
87N411	MPSL-24-T	24	0.699″	1.200″	1.99	1.83	1.74	1.64
87N412	MPSL-28-T	28	0.699″	1.400″	2.19	2.02	1.91	1.80
87N413	MPSL-40-T	40	0.699″	2.000″	3.09	2.85	2.69	2.54

(4572) (de53446)



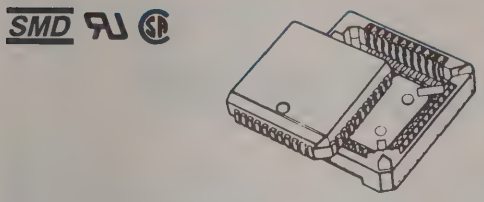
SOCKET PIN TERMINALS WITH DISPOSABLE CARRIER ASSEMBLIES

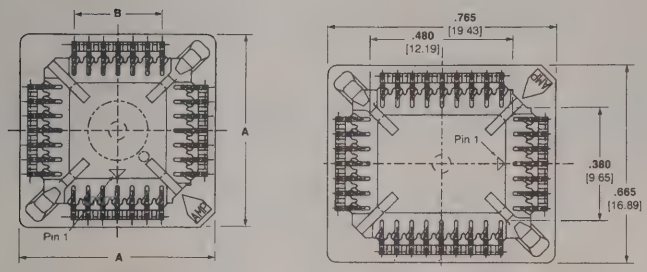
PTCA series pin terminal carrier assembly sockets are based on the very high specific pressure (VHSP) contact system. Heat-treated, four-finger contacts are gold-plated beryllium copper. Drilling low-profile board enables the contacts to be inserted down the shoulder and leaves 0.030″ (0.762) maximum profile above board. Closed bottom pin protects from wicking and flux contamination. Meets severe environmental requirements of high shock and vibration. Permits maximum air circulation under ICs and eliminates head entrapment under the insulator. Air-cooled. Throw-away metal carrier eases installation.

Stock No.	Type	Pins	Dimension A	1-49	50-99	100-249	250-499
46N6783	PTCA-08-01-L1	8	0.300″	0.99	0.91	0.87	0.82
46N6784	PTCA-14-01-L1	14	0.300″	1.59	1.47	1.39	1.31
46N6785	PTCA-16-01-L1	16	0.300″	1.79	1.65	1.56	1.47
46N6788	PTCA-24-01-L1	24	0.600″	2.69	2.48	2.34	2.21
46N6790	PTCA-40-01-L1	40	0.600″	4.29	3.95	3.74	3.52

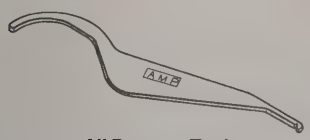
(4573) (de53447)

LOW PROFILE, LOW INSERT FORCE SURFACE MOUNT PLCC SOCKETS





Square Rectangular



All Purpose Tool

Extraction Tool

Low profile Plastic Leaded Chip Carrier (PLCC) sockets for surface mounting accommodate plastic "J" leaded, tin plated devices made to JEDEC specifications MS-018 (square packages) and MO-052-AE (rectangular packages). Low insertion force allows PLCC device to be easily inserted into socket. Low profile 0.185" (4.7) high allows high density PC board stacking. Features high normal force phosphor bronze contacts with tin-lead over nickel plating. One-piece polyphenylene sulfide housing that withstands vapor-phase or I.R. soldering temperatures and prevent flux and solvent entrapment. Plastic standoffs provide clearance for heat dissipation and cleaning. Compatible footprint allows for socket or direct mounting. Open bottom design enables easy socket placement on PC board footprint pattern, facilitates solder joint repair and inspection, and permits heat source to penetrate to solder pad and surface mount contact. Available with or without locating posts. UL recognized, CSA certified. *Order tools separately below.*

WITHOUT LOCATING POSTS

Stock No.	Type	Positions	Package	Dimensions A	Dimensions B	1-24	25-49
92F9042	822269-1	20	Square	0.565"	0.200"	0.73*	0.71*
92F9043	822271-1	28	Square	0.665"	0.300"	0.88*	0.86*
66F1661	822273-1	32	Rectangular	...	...	0.92*	0.88
66F1482	822275-1	44	Square	0.865"	0.500"	1.11*	1.08*
66F4268	822277-1	52	Square	1.000"	0.600"	1.34*	1.31*
66F1656	822279-1	68	Square	1.200"	0.800"	1.54*	1.50*
92F7637	822281-1	84	Square	1.400"	1.000"	1.77*	1.72*

WITH LOCATING POSTS

Stock No.	Type	Positions	Package	Dimensions A	Dimensions B	1-24	25-49
66F6143	822270-1	20	Square	0.565"	0.200"	0.73*	0.71*
66F6144	822272-1	28	Square	0.665"	0.300"	0.88*	0.86*
66F4266	822274-1	32	Rectangular	...	...	0.44*	0.43*
66F4267	822276-1	44	Square	0.865"	0.500"	1.11*	1.08*
66F6145	822278-1	52	Square	1.000"	0.600"	1.34*	1.31*
66F3036	822280-1	68	Square	1.200"	0.800"	1.54*	1.50*
66F6146	822282-1	84	Square	1.400"	1.000"	1.77*	1.72*

*Price column quantities vary from above; *contact your local Newark sales office for details.*

EXTRACTION TOOLS FOR LOW PROFILE PLCC SOCKETS

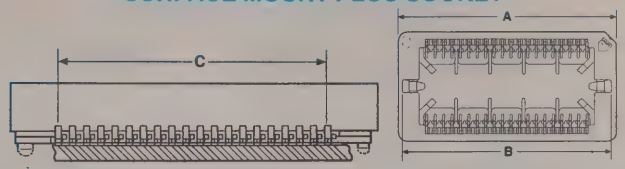
Stock No.	Type	Positions	Socket Type	1-24	25-49
50F2272	822011-1	20	Square	45.29	43.02
50F2273	822045-1	28	Square	45.29	43.02
50F2287	821980-1	32	Rectangular	45.29	43.02
50F2274	821981-1	44	Square	45.29	43.02
50F2275	822049-1	52	Square	45.29	43.02
50F2276	822026-1	68	Square	45.29	43.02
92F4862	822268-1	84	Square	54.34	48.91

Type 822154-1 all purpose tool.

95F2998 Type 822154-1. **1-49** **1.32**

(4594) (ne06271)

LOW-PROFILE, SOJ-STYLE SURFACE MOUNT PLCC SOCKET

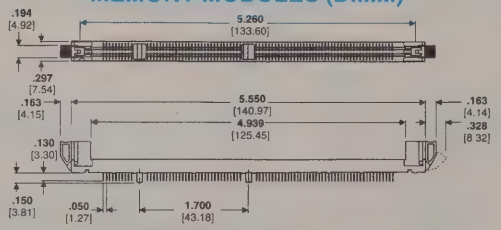


The one-piece low profile housing is only 0.185" (4.70) high. It features an open bottom for easy placement, testing, inspection, and repair. Made from high-temperature polyphenylene sulfide material. The use of this socket allows expansion of memory up to 4MB initially or as required on video graphic accelerator boards. Without locating pins.

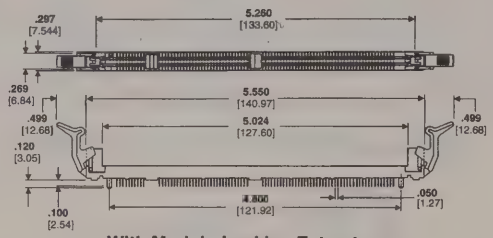
Stock No.	Type	Positions	Dimensions A	Dimensions B	Dimensions C	1-24	25-49
83F7718	822265-2	40	1.315"	1.228"	0.95"	0.84	0.69

(32872) (ne32872)

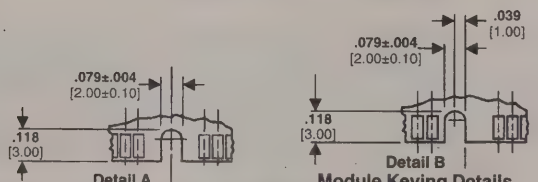
SIMM SOCKETS—8 BYTE DUAL IN-LINE MEMORY MODULES (DIMM)



With Standard Extractors



With Module-Locking Extractors



Module Keying Details

SIMM sockets for 8 byte DIMM are designed to accept 168-pin modules per JEDEC Standard MO161. Provide increased memory capacity in a space-saving design that's twice the density of standard SIMM sockets. Offer increased lead-in geometry to reduce insertion force. Advanced 5.0V and 3.3V keying protects against damage during assembly. Keying also allows for DRAM, SRAM and VRAM custom modules. Built-in standard or enhanced lever-type module extractors, at both ends or right end only, to provide easy removal of module board from socket. Feature 0.050" x 0.075" (1.27 x 1.91) hole pattern, cleaning channels and slots, automatic insertion and socket-to-board hold-downs. Liquid crystal polymer housing, rated UL 94V-0. Phosphor bronze contacts with gold over nickel in contact area and tin-lead over nickel on solder tail. Current rating: 1A per contact. Dielectric withstanding voltage: 1.0KVAC. Operating temperature: –55°C to +105°C. UL recognized, CSA certified.

SOCKETS WITH STANDARD EXTRACTORS

Stock No.	Type	Std. DRAM	Key Detail 1	Key Detail 2	Levers*	1-24	25-49
66F6147	382830-1	5V	A	B	2	6.20†	6.03†
66F6149	382830-4	3.3V	A	A	2	9.52	8.56

SOCKETS WITH MODULE-LOCKING EXTRACTORS

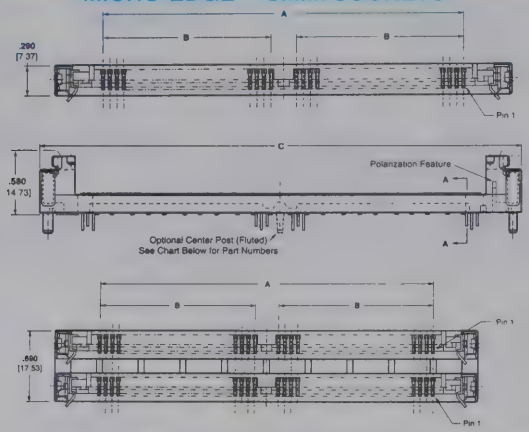
Stock No.	Type	Std. DRAM	Key Detail 1	Key Detail 2	Levers*	1-24	25-49
66F6151	382824-1	5V	A	B	2	9.82	8.83
66F6152	382824-4	3.3V	A	A	2	5.32†	5.18†

*Extractor Lever Positions: 1 = right end only; 2 = both ends

†Price column quantities vary from above; *contact your local Newark sales office for details.*

(4595) (ne06273)

MICRO-EDGE™ SIMM SOCKETS



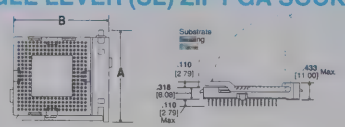
The metal latch version of the AMP MICRO-EDGE™ SIMM sockets eliminates the breakage associated with the misuse of SIMM sockets. Additionally, the metal latches will prevent shaving and/or skiving, as happens with plastic latches. The metal latch MICRO-EDGE™ sockets are available in 0.050″ (1.27) and 0.100″ (2.54) centerline configurations.

VERTICAL, SINGLE ROW, 0.050″ CENTERLINES

Stock No.	Type	Positions	Plating	A	B	C	1-24	25-49
66F1542	822032-2	64	Gold	3.35″	1.55″	4.14″	2.57*	2.50*
95F1809	822032-4	72	Gold	3.75″	1.75″	4.54″	3.32*	3.23*
50F7168	822021-4	72	Tin	3.75″	1.75″	4.54″	1.87*	1.82*
VERTICAL, DOUBLE ROW, 0.050″ CENTERLINES								
50F7176	822090-4	72	Tin	3.75″	1.75″	4.54″	5.61*	5.46*
LOW PROFILE, SINGLE ROW, 0.050″ CENTERLINES								
83F4508	822110-3	72	Tin	3.75″	1.75″	4.54″	2.92*	2.84*
66F3003	822097-3	72	Gold	3.75″	1.75″	4.54″	1.90*	1.85*
VERTICAL, SINGLE ROW, 0.100″ CENTERLINES								
50F7181	822056-2	30	Tin	2.9″	3.79″	3.65″	1.75*	1.70*

*Price column quantities vary from above; *contact your local Newark sales office for details.*
(32870) (ne32870)

SINGLE LEVER (SL) ZIF PGA SOCKETS



Designed for Intel's upgrade devices, including Pentium™ processor. Zero insertion force sockets feature single-lever actuation that operates a free-moving cam, allowing the substrate to be inserted/extracted without force when in open position. Positive detent-locking lever eliminates inadvertent opening. High temperature thermoplastic housing; many permit attachment of quick connect/disconnect heat sink. Chromate treated zinc alloy actuator. Normally closed, full wiping copper alloy contacts plated with 30μ″ gold over nickel in contact area, tin-lead over nickel in solder tail area. Large funnel entry cavity. Contact resistance: 20mΩ initial/30mΩ final. Dielectric withstanding voltage: 1000VAC. UL listed.

Stock No.	Type	Position	Description‡	A	B	1-24	25-49
97F8583	916503-1*	168	1,2,3	2.079″	2.224″	7.02	6.32
97F8586	916541-1+	237	1,2,4	2.276″	2.421″	9.24**	8.99**
83F7709	916668-1*	288	1	2.050″	2.224″	8.80**	8.56**
83F7710	916716-1+	321	1,2,4	2.165″	2.421″	3.95**	3.84**
83F7711	916738-3†	387	1,2,4	2.658″	3.228″	8.32**	8.09**
92F5405	916560-2+	320	1,2,4,5,6	2.188″	2.528″	9.68**	9.42**

**Price column quantities vary from above; *contact your local Newark sales office for details.*
* 17 x 17 grid; + 19 x 19 grid; †26 x 24 grid; ‡ Description: 1 = Open Center Design, 2 = Heat Sink Compatible, 3 = Blue Housing, 4 = Ivory Housing, 5 = Interstitial Pattern, 6 = Socket 5 for Intel Pentium™ Processors
(4509) (de03542)

PC TEST PROBE RECEPTACLES

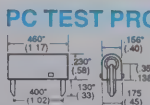


Fig. 1

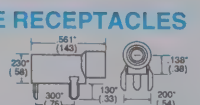


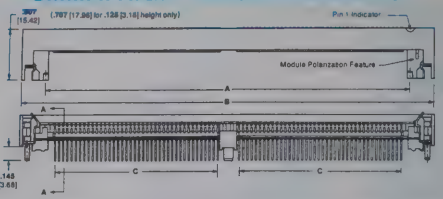
Fig. 2

Available in 2-legged mounts for maximum density with tin lead or gold-plated contact and 3-legged mounts for maximum stability with gold-plated contact. Accept 0.080″ (2.03) test probe.

Stock No.	Type	Fig.	Plating	Color	1-24	25-49
95F1488	1-582118-0	1	Tin lead	Black	0.33	0.30
95F1496	350180-0	2	Gold	Black	1.98	1.79
95F1499	350180-9	2	Gold	White	1.98	1.79

(4563) (de53117)

SIMM II RIGHT-ANGLE SOCKETS

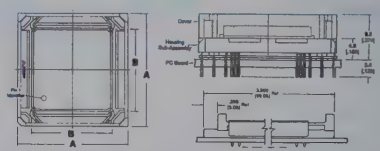


SIMM II right-angle, 72-position sockets with 0.50″ (1.27) centerlines and 0.25″H liquid crystal polymer (LCP), glass filled, and UL94V-0 rated. Phosphor bronze contacts plated: 0.000150″ (0.0038) minimum tin-lead or 0.000030″ (0.00076) minimum on the contact area, 0.000150″ (0.0038) minimum tin-lead on the solder tails, all over 0.000050″ (0.00127) minimum nickel underplating. The metal latches are made of brass and are nickel-plated.

Stock No.	Type	Plating	A	B	C	1-24	25-49
50F7200	7-382486-2	Tin	3.984″	4.55″	1.75″	3.40	3.31
66F3070	7-382487-2	Gold	3.984″	4.55″	1.75″	9.36*	9.36*

*Price column quantities vary from above; *contact your local Newark sales office for details.*
(32871) (ne32871)

STANDARD AND METRIC MICRO-PITCH™ SOCKETS



Two-piece design aids handling and insertion of standard and metric JEDEC plastic quad flat pack (PQFP) ICs. Tin-plated sockets provide a minimum of 0.020″ (0.508) wipe. Low 0.375″ (9.53) profile. Phosphor bronze contacts with tin over nickel plate. High temperature thermoplastic housing and cover rated UL94V-0. *Order 1 housing and 1 cover per IC.* (*) To convert ceramic quad flat pack (CQFP) to outline configuration of plastic quad flat pack (PQFP), *order* **type 822054-2** *132-position MICRO-PITCH™ ceramic T-Quad converter separately below.*

MICRO-PITCH™ SOCKET HOUSINGS

Stock No.	Type	PQFP Type	Positions	A	B	1-24	25-49
50F7206	821949-5	Standard	132*	1.340″	0.950″	19.90	14.33
COVERS FOR MICRO-PITCH™ SOCKET HOUSINGS							
50F7209	821942-1	Standard	132	1.340″	0.950″	2.75	2.68
MICRO-PITCH™ SOCKET HOUSINGS							
93F3031	822114-3	Metric	144	1.504″	1.102″	19.70*	14.18*
93F3033	822114-4	Metric	160	1.504″	1.102″	21.50*	15.46*
COVERS FOR MICRO-PITCH™ SOCKETS							
93F3032	822115-3	Metric	144	1.504″	1.102″	2.78*	2.71*
93F3034	822115-4	Metric	160	1.504″	1.102″	3.13*	3.05*

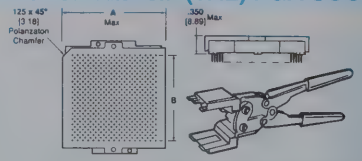
*Price column quantities vary from above; *contact your local Newark sales office for details.*

MICRO-PITCH™ CONVERTER AND APPLICATION TOOL

Stock No.	Type	Description	Each
50F7215	822054-2	132-Position Ceramic T-Quad Converter	1.18
95F1480	822253-4	Insertion/Extraction Tool	84.53

(4565) (de53120)

TOOL ACTUATED ZIF (TAZ) PGA SOCKETS



Zero insertion force sockets with spring-loaded cover keeps empty sockets in open position. Hand tool, *ordered separately below,* actuates socket. Interstitial 0.050 x 0.100″ (1.27 x 2.54) TAZ 50 contact pattern with NC contacts. Accept PGA packages with pin diameters of 0.018″ (0.457) and length of 0.150-0.210″ (3.81-5.33). Beryllium copper contacts with gold over nickel plate in contact area. Tin-lead over nickel on 0.110″ (2.79) solder tail. 1 amp DCrms or ACrms, 60Hz.

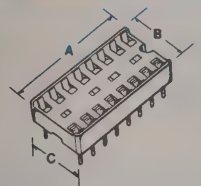
Stock No.	Type	Grid Size	Positions	Dimensions A	Dimensions B	1-24	25-49
95F1483	1-382533-0	18 x 18	325	2.060″	2.260″	69.02	62.12
95F1484	382584-4	20 x 20	447	2.260″	2.460″	94.93	85.43

ACTUATION HAND TOOLS

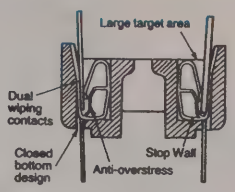
Stock No.	Type	Grid Size	1-2	3-4
95F1481	854234-1	18 x 18	163.85	155.66
95F1482	854234-2	20 x 20	163.85	155.66

(4562) (de53116)

DIPLOMATE® DUAL LEAF (DL) DIP SOCKETS



Closed Frame



Thru-hole mount DIP sockets with closed frame construction. Feature dual wiping contacts with straight solder tail in tin or 30µ" gold plating over beryllium copper, phosphor bronze or copper alloy. Glass-filled thermoplastic housing with lead-in ramps for easy insertion and standoffs for easy board cleaning. Internal anti-over-stress walls prevent contact damage. Closed bottom design inhibits solder wicking and flux contamination and meets EIA 486, Class I. Stackable end-to-end or side-to-side (brickwalling) for high board density packaging. Visual polarization. Designed for automatic machine insertion. Accept 0.008-0.014" (0.203-0.355) thick IC leads. Low profile: 0.210" (5.33) above PC board. Contact spacing: 0.100" (2.54). Rating: 250VAC. Dielectric withstanding voltage: 1000VRMS minimum. Insulation resistance: 5000 megohms minimum. Contact resistance: 20 milliohms maximum. Meets EIA RS-415, MIL-S-83734 specifications. UL recognized, CSA certified.

CLOSED FRAME — BERYLLIUM COPPER/TIN PLATING

Stock No.	Type	Contacts	Dimensions (Inches) A	B	C	1-24	25-49
44F7961	2-641296-1	6	0.295	0.394	0.300	0.16	0.15
44F7963	2-640357-1	14	0.695	0.394	0.300	0.28	0.25
44F7964	2-640358-1	16	0.795	0.394	0.300	0.32	0.29
44F7965	2-640359-1	18	0.895	0.394	0.300	0.36	0.33
44F7966	2-640464-1	20	0.995	0.394	0.300	0.40	0.36
44F7967	2-640360-1	22	1.095	0.494	0.400	0.45	0.40
44F7968	2-640361-1	24	1.195	0.694	0.600	0.49	0.44
44F7969	2-640362-1	28	1.395	0.694	0.600	0.57	0.51
44F7970	2-640379-1	40	1.995	0.694	0.600	0.81	0.73

CLOSED FRAME — BERYLLIUM COPPER/GOLD PLATING

44F7971	2-641296-2	6	0.295	0.394	0.300	0.26	0.23
44F7972	2-640463-2	8	0.395	0.394	0.300	0.26	0.23
44F7973	2-640357-2	14	0.695	0.394	0.300	0.43	0.38
44F7974	2-640358-2	16	0.795	0.394	0.300	0.49	0.44
44F7975	2-640359-2	18	0.895	0.394	0.300	0.55	0.49
44F7976	2-640464-2	20	0.995	0.394	0.300	0.61	0.55
44F7978	2-640361-2	24	1.195	0.694	0.600	0.73	0.66
44F7979	2-640362-2	28	1.395	0.694	0.600	1.22	1.10
44F7980	2-640379-2	40	1.995	0.694	0.600	1.22	1.10

CLOSED FRAME — PHOSPHOR BRONZE/TIN PLATING

Stock No.	Type	Contacts	Dimensions (Inches) A	B	C	1-24	25-49
44F7981	2-641296-3	6	0.295	0.394	0.300	0.07	0.06
44F7982	2-640463-3	8	0.395	0.394	0.300	0.07	0.07
44F7983	2-640357-3	14	0.695	0.394	0.300	0.09	0.08
44F7984	2-640358-3	16	0.795	0.394	0.300	0.10	0.09
44F7985	2-640359-3	18	0.895	0.394	0.300	0.12	0.11
44F7986	2-640464-3	20	0.995	0.394	0.300	0.14	0.13
44F7988	2-640361-3	24	1.195	0.694	0.600	0.33	0.30
44F7989	2-640362-3	28	1.395	0.694	0.600	0.21	0.19
44F7990	2-640379-3	40	1.995	0.694	0.600	0.30	0.27

CLOSED FRAME — PHOSPHOR BRONZE/GOLD PLATING

44F7992	2-640463-4	8	0.395	0.394	0.300	0.23	0.20
44F7993	2-640357-4	14	0.695	0.394	0.300	0.37	0.34
44F7994	2-640358-4	16	0.795	0.394	0.300	0.43	0.38
44F7995	2-640359-4	18	0.895	0.394	0.300	0.48	0.44
44F7996	2-640464-4	20	0.995	0.394	0.300	0.53	0.48
44F7998	2-640361-4	24	1.195	0.694	0.600	0.64	0.58
44F7999	2-640362-4	28	1.395	0.694	0.600	0.75	0.68
44F8000	2-640379-4	40	1.995	0.694	0.600	1.08	0.97

(4462) (de00909)

NEWARK HAS WHAT YOU NEED.
WITH SO MUCH IN STOCK, YOU HAVE THE COMPONENTS YOU NEED AT YOUR FINGERTIPS.

DIMM II SOCKETS JEDEC MO-161

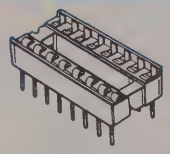
Base Part No. 390052

DIMM II sockets with high-temperature thermoplastic housing. Phosphor bronze contacts plated: gold-flash over 0.000015" (0.00038) minimum palladium-nickel over 0.000050" (0.00127) minimum nickel in contact area, 0.000150" (0.00381) minimum tin-lead over 0.000050" (0.00127) minimum nickel in solder tail area. Positions: 168.

Stock No.	Type	Solder-Tail Length	Center Reten. Hole Dia.	1-24	25-49
83F7715	390052-6	0.110"	0.092"	1.66*	1.62*
83F7716	390074-6	0.110"	0.096"	1.66*	1.62*
83F7717	390104-6	0.125"	0.092"	1.66*	1.62*

*Price column quantities vary from above; *contact your local Newark sales office for details.*
(32873) (ne32873)

DIPLOMATE® OVER-THE-COMPONENT DUAL LEAF DIP SOCKETS

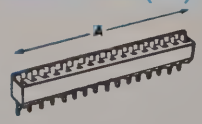


Thru-hole 32-position OTC (over-the component) low profile DIP sockets feature dual wiping contacts with straight solder tails in tin or 30µ" gold plating over beryllium copper, phosphor bronze or copper alloy. Can be inserted manually or automatically over a board-mounted capacitor. Large target area with lead-in ramp. Accept 0.008-0.014" (0.203-0.355) thick IC leads. Glass-filled thermoplastic housing, rated UL94V-0, with closed bottom design. Dimensions: 1.595" (40.51) long, 0.694" (17.63) wide, 0.600" (15.24) between row spacing. Other sizes available, *contact your local Newark sales office.*

Stock No.	Type	Contact Material/Plating	1-24	25-49
90F4595	2-644018-1	Beryllium Copper/Tin	0.48*	0.47*
50F2200	2-644018-2	Beryllium Copper/Gold	0.97	0.88
50F2201	2-644018-4	Phosphor Bronze/Gold	1.04	0.81
50F2202	2-644018-5	Copper Alloy/Tin	0.20	0.18

*Price column quantities vary from above; *contact your local Newark sales office for details.*
(4463) (de00910)

DIPLOMATE® DUAL LEAF (DL) SIP SOCKETS



SIP sockets have dual wiping contacts with retention tails available in tin or 30µ" gold plating over beryllium copper, and with tin plating over phosphor bronze. Large target area with tapered lead-in ramps for easy insertion. Accept 0.008"-0.015" (0.203-0.381) thick x 0.030" (0.762) maximum wide rectangular leads. Low profile: 0.210" (5.33) above PC board. Glass-filled thermoplastic housing, rated UL94V-0, with closed bottom design and standoffs. Stackable end-to-end, side-to-side. Contact spacing: 0.100" (2.54). Rating: 250VAC. Meet EIA RS-415, MIL-S-83734 specifications. UL recognized, CSA certified.

BERYLLIUM COPPER/TIN PLATING

Stock No.	Type	Contacts	Dimension A	1-24	25-49
95F4266	382439-1	5	0.495" (12.57)	0.16	0.14
83F7712	382440-1	6	0.495" (12.57)	0.24	0.22
83F7713	382441-1	7	0.495" (12.57)	0.27	0.26
50F2203	643640-1	8	0.795" (20.19)	0.33	0.29
50F2205	643642-1	10	0.995" (25.27)	0.31	0.28
50F2207	643644-1	12	1.195" (30.35)	0.38	0.34
50F2209	643646-1	14	1.395" (35.43)	0.57	0.51
50F2210	643647-1	15	1.395" (35.43)	0.76	0.68
50F2214	643652-1	20	1.995" (50.61)	0.63	0.57
83F7714	643653-1	21	1.995" (50.61)	0.81	0.77
50F2215	643654-1	22	2.195" (55.75)	0.69	0.62
50F2216	643657-1	25	2.195" (55.75)	0.79	0.71

BERYLLIUM COPPER/GOLD PLATING

50F2218	643640-2	8	0.795" (20.19)	0.30	0.27
50F2225	643648-2	16	1.595" (40.51)	0.60	0.54

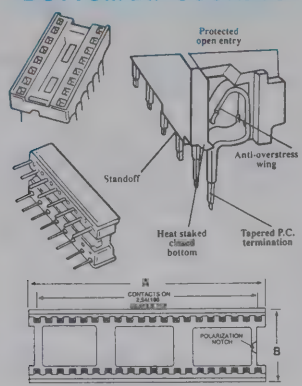
PHOSPHOR BRONZE WITH TIN PLATING

50F2237	643641-3	9	0.895" (22.73)	0.26	0.24
50F2239	643643-3	11	1.095" (27.81)	0.44	0.39
50F2244	643648-3	16	1.595" (40.51)	0.47	0.42
50F2245	643649-3	17	1.695" (43.05)	0.68	0.61
50F2246	643650-3	18	1.795" (45.59)	0.72	0.65
50F2248	643652-3	20	1.995" (50.61)	0.59	0.53
50F2249	643653-3	21	2.095" (53.21)	0.80	0.72
50F2264	643662-3	30	2.995" (76.07)	1.14	1.03

(4464) (de00911)

AUGAT® SOCKETS

200C SERIES STAMPED SINGLE BEAM CONTACT CLOSED BOTTOM DIP SOCKETS



Provides maximum normal force and consistent mechanical performance. Non-wicking, closed bottom design protects against flux and solder contamination. Protected open entry for easy insertion of ICs by hand or automatically. High normal force results in gas tight connections. Offers tapered PC termination for ease of targeting PC holes during insertion. Contacts on 0.100″ (2.54) centers. PC tail length: 0.125-0.135″ (3.18-3.43). PC board thickness: standard 0.062″ (1.57) and 0.092″ (2.34). PC board hole size: .035″ (0.889) ± 0.003″ (0.076) standard tail. Thermoplastic polyester insulator, rated 94V-0. UL recognized.

PHOSPHOR BRONZE CONTACT, TIN LEAD PLATED

Stock No.	Type	Contacts	A mm	B mm	1-49
65F2130	208-AG19DC	8	10.16	10.16	0.14
65F2131	214-AG19DC	14	17.78	10.16	0.16
65F2132	216-AG19DC	16	20.32	10.16	0.18
65F2133	218-AG19DC	18	22.86	10.16	0.20
65F2134	220-AG19DC	20	25.40	10.16	0.22
50F1699	224-AG10DC*	24	30.48	10.16	0.26
65F2136	224-AG19DC	24	30.48	17.78	0.26
50F1700	228-AG10DC*	28	35.56	10.16	0.30
65F2137	228-AG19DC	28	35.56	17.78	0.30
50F1701	232-AG19DC	32	40.64	17.78	0.36
65F2138	240-AG19DC	40	50.80	17.78	0.44

BERYLLIUM COPPER CONTACT, TIN LEAD PLATED

Stock No.	Type	Contacts	A mm	B mm	1-49
13F179	208-AG39DC	8	10.16	10.16	0.18
13F180	214-AG39DC	14	17.78	10.16	0.27
13F181	216-AG39DC	16	20.32	10.16	0.31
13F182	218-AG39DC	18	22.86	10.16	0.35
13F183	220-AG39DC	20	25.40	10.16	0.39
50F1704	224-AG30DC*	24	30.48	10.16	0.46
50F1705	228-AG30DC*	28	35.56	10.16	0.53
13F187	240-AG39DC	40	50.80	17.78	0.76

* 0.300" (7.62) Centers

(4733) (de50196)

300C SERIES STAMPED DUAL WIPE CONTACT DIP SOCKETS

Low profile design for low contact resistance, high normal force. Closed bottom to prevent solder wicking. Dual wiping contacts on 0.100″ (2.54) centers. Large target area for easy insertion. Thermoplastic polyester insulator; rated UL94V-0. PC board thickness range: standard 0.062″ (1.57) and 0.092″ (2.34). PC board hole size range: 0.035″ (0.889) ± 0.003″ (0.076) standard tail. UL recognized.

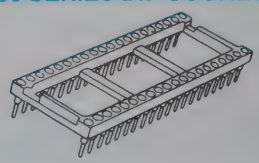
PHOSPHOR BRONZE CONTACTS, TIN LEAD PLATED

Stock No.	Type	Contacts	Dimensions (mm) A	Dimensions (mm) B	1-49
50F1713	306-AG19DC	6	7.62	10.16	0.11
50F1714	308-AG19DC	8	10.16	10.16	0.15
50F1715	314-AG19DC	14	17.78	10.16	0.16
50F1716	316-AG19DC	16	20.32	10.16	0.18
50F1717	318-AG19DC	18	22.86	10.16	0.20
50F1718	320-AG19DC	20	25.40	10.16	0.22
50F1720	324-AG10DC*	24	30.48	10.16	0.27
50F1721	324-AG19DC	24	30.48	17.78	0.27
50F1722	328-AG19DC	28	35.56	17.78	0.31
50F1723	332-AG19DC	32	40.64	17.78	0.36
50F1724	340-AG19DC	40	50.80	17.78	0.45
50F1725	342-AG19DC	42	53.34	17.78	0.47

* 0.300" (7.62) Center

(4734) (de50200)

800 SERIES DIP SOCKETS



4-finger inner contact is machined beryllium copper with gold-over-nickel plating. Low-profile, XY stackable sockets feature open ladder construction for cooling, cleaning, inspection. Non-wicking, closed-bottom machined brass outer sleeve protects against flux and solder contamination. Thermoplastic polyester insulator, rated UL94V0. 0.125″ (3.18) PC termination. UL recognized.

GOLD-PLATED SLEEVE

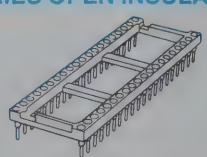
Stock No.	Type	Contacts	Spacing	1-49
67F1800	808-AG10D	8	0.300″ (7.62)	1.74
67F1801	814-AG10D	14		2.58
67F1802	816-AG10D	16		2.88
67F1803	818-AG10D	18		3.64
67F1804	820-AG10D	20		4.16
67F1805	822-AG10D	22	0.400″ (10.16)	4.29
67F1806	824-AG10D	24	0.600″ (15.24)	4.97
67F1807	828-AG10D	28		5.53
67F1808	840-AG10D	40		7.57

TIN-LEAD-PLATED SLEEVE

Stock No.	Type	Contacts	Spacing	1-49
67F1809	808-AG11D	8	0.300″ (7.62)	1.29
67F1810	814-AG11D	14		1.78
67F1811	816-AG11D	16		1.96
67F1812	818-AG11D	18		2.48
67F1813	820-AG11D	20		2.83
67F1814	822-AG11D	22	0.400″ (10.16)	3.07
67F1815	824-AG11D	24	0.600″ (15.24)	3.42
67F1816	828-AG11D	28		3.86
67F1817	840-AG11D	40		5.23

(4755) (de50737)

800 ECONOMY SERIES OPEN INSULATOR DIP SOCKETS



800 series low-profile DIP sockets feature precision 4-fingered, stamped beryllium copper inner contacts that provide concentric funnel entry for easy flat and round lead insertion. XY-stackable, open ladder thermoplastic polyester insulator, rated UL94V-0, facilitates cooling, cleaning, and inspection. Non-wicking, closed-bottom sleeve protects against flux and solder contamination. 0.125″ (3.18) PC termination. Type numbers with **ES suffix** have gold over nickel or tin-lead contact plating; type numbers with **ESL suffix** have low gold-over-nickel contact plating. UL recognized.

GOLD-PLATED CONTACT — TIN-LEAD PLATED SLEEVE

Stock No.	Type	Contacts	Pkg. of	1-49
95F8919	808-AG11D-ES•	8	60	35.53
95F8899	814-AG11D-ES•	14	34	23.64
95F8900	816-AG11D-ES•	16	30	23.84
95F8901	820-AG11D-ES•	20	24	23.83
95F8920	824-AG11D-ES†	24	20	23.19
95F8903	828-AG11D-ES†	28	17	23.06
95F8904	832-AG11D-ES†	32	15	23.30
95F8905	840-AG11D-ES†	40	12	23.23
95F8902	824-AG31D-ES	24	20	23.19
95F8914	808-AG11D-ESL	8	60	30.74
95F8915	814-AG11D-ESL	14	34	20.10
95F8916	816-AG11D-ESL	16	30	20.52
95F8896	820-AG11D-ESL	20	24	20.31
95F8895	828-AG11D-ESL†	28	17	20.30
95F8898	840-AG11D-ESL†	40	12	20.87
95F8918	824-AG31D-ESL•	24	20	20.40

TIN-LEAD PLATED CONTACT AND SLEEVE

Stock No.	Type	Contacts	Pkg. of	1-49
95F8921	814-AG12D-ES•	14	60	17.35
95F8922	816-AG12D-ES•	16	34	17.39
95F8923	820-AG12D-ES•	20	30	17.53
95F8924	828-AG12D-ES†	28	24	17.35
95F8925	832-AG12D-ES†	32	20	18.26
95F8907	840-AG12D-ES†	40	17	17.90

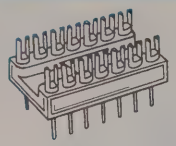
• 0.3″ spacing † 0.6″ spacing

(4715) (de02481)

VISIT NEWARK'S WEB SITE AT www.newark.com

AUGAT® SOCKETS

600 SERIES PLUG ADAPTER ASSEMBLIES



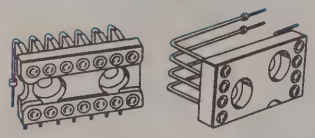
Machined-pin molded adapter used to assemble hybrid and special network circuits, and to interpose discrete components. Type number indicates pin style: **A** = round; **B** = solder pocket; **C, D** = slotted. Gold-plated 0.018″ (0.457) diameter pins. Machined printed circuit and mounting terminals. Thermoplastic polyester insulator, rated UL 94V-0.

0.300″ (7.62) ROW SPACING

Stock No.	Type	Pins	1-49
14F2935	614-AG1	14	**4.31**
14F2937	614-CG1	14	**4.43**
14F2938	616-AG1	16	**4.93**
14F2940	616-CG1	16	**4.93**
50F1671	620-CG1	20	**6.93**
UNIVERSAL 0.600″ (15.24) ROW SPACING			
56F1246	616-CG3	16	**5.02**
14F2946	616-DG5	16	**2.28**
14F2945	614-DG5	14	**2.00**

(4751) (de50578)

500 SERIES ANGLE MOUNT AND GANGED DIP SOCKETS

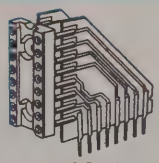


Four-fingered, gold-plate beryllium copper inner contact and machined brass tin/lead plate sleeve. Contact center spacing: 0.100″ (2.54). Thermoplastic polyester insulator, rated UL94V-0.

Stock No.	Type	Contacts	Spacing	1-49
14F2725	508-AG8D	8	0.600″ (15.24)	**3.00**
14F2728	514-AG7D	14	0.300″ (7.62)	**4.38**
14F2730	516-AG7D	16	0.300″ (7.62)	**4.85**
95F5877	520-AG7D	20	0.300″ (7.62)	**5.71**
14F2722	540-AG70D	40	...	**8.58**

(4789) (de53386)

500 SERIES LED NUMERIC DISPLAY 90° SOCKETS



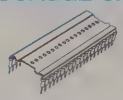
516-AG21D

Feature gold over nickel-plated, beryllium copper/four-fingered inner contact, with tin/lead-plated brass outer sleeve. Glass epoxy board holds tin-plated copper circuitry. Delrin spacer. Contact center spacing: 0.100″ (2.54). Phosphor bronze, solder-coated socket terminal. 90° socket angle.

Stock No.	Type	Contacts	Spacing	1-49
14F2723	514-AG21D	14	0.300″ (7.62)	**9.15**

(4786) (de53382)

700 SERIES DISPOSABLE CARRIER SOCKETS



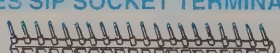
Aluminum carriers are for IC applications requiring maximum airflow for cooling. Allow gang-insertion of pins into PC boards and easy solder-joint inspection, cleaning, and repair. XY stackable to save PC board space and for circuit flexibility. 100% non-wicking of flux and solder. Outer sleeve is machined brass. 4-fingered inner contact is machined beryllium-copper with gold-over-nickel plating. Pins are aligned 0.100″ (2.54) centers. Standard mount.

GOLD-OVER-NICKEL-PLATED SLEEVE

Stock No.	Type	Contacts	Spacing	1-49
65F1613	706-AG1D	6	0.300″ (7.62)	**1.27**
65F1614	708-AG1D	8		**1.42**
65F1615	714-AG1D	14		**2.25**
65F1616	716-AG1D	16		**2.50**
65F1618	720-AG1D	20		**3.13**
65F1620	724-AG1D	24		**3.78**
65F1623	724-AG3D	24	0.600″(15.24)	**3.78**
65F1624	728-AG3D	28		**4.31**
65F1625	732-AG3D	32		**4.81**
65F1627	740-AG3D	40		**6.11**

(4754) (de50736)

510 SERIES SIP SOCKET TERMINAL STRIPS



Break into desired lengths. Stackable for 0.100″ (2.54) grid spacing. Closed ends eliminate solder or flux wicking. 2-piece tapered-closed entry inner gold-over-nickel plate beryllium copper contact and machined brass outer sleeve. Accept leads 0.016″-0.021″ (0.406-0.533) diameter, 0.105″ (2.67) minimum length. Type numbers with 6th and 7th digits **90** = gold plate sleeve; **91** = tin/lead plate sleeve.

Stock No.	Type	Contacts	1-49
67F1822	510-AG90D-10	10	**1.71**
67F1823	510-AG91D-10	10	**1.24**
50F1736	510-AG90D-20	20	**4.02**
50F9345	510-AG91D-20	20	**2.59**

(4788) (de53384)

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504 AND 506 SERIES CRYSTAL OSCILLATOR SOCKETS

PC Terminals

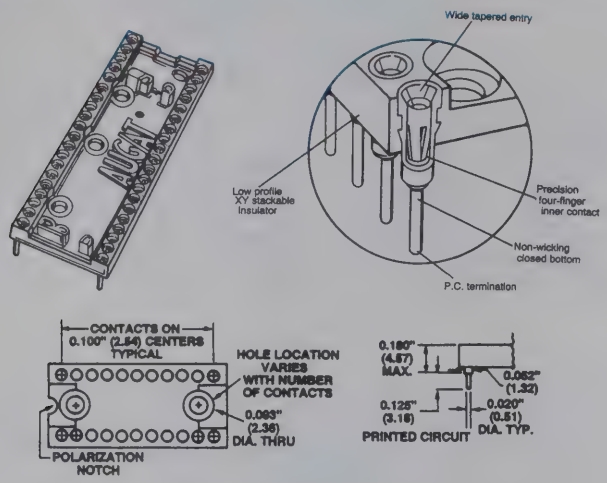
504 series have 4 contacts. **506 series** have 6 contacts. For component leads with 0.016″ to 0.021″ (0.406 to 0.533) diameter, PC terminals.

Stock No.	Type	Sleeve Plate	1-49
21F986	504-AG10D	Gold	**0.86**
94F3802	504-AG11D	Tin/Lead	**0.60**
94F3959	506-AG10D	Gold	**1.54**
94F3803	506-AG11D	Tin/Lead	**1.12**

(4787) (de53383)

AUGAT® SOCKETS

500 SERIES STAMPED ECONOMY SOLID INSULATOR DIP SOCKETS



500 series DIP sockets feature precision 4-finger, stamped beryllium copper inner contacts that provide concentric funnel entry for easy insertion of flat and round leads. Low-profile, XY-stackable thermoplastic polyester solid insulator, rated UL94V-0. Non-wicking, closed-bottom sleeve protects against flux and solder contamination. 0.125″ (3.18) PC termination. Contact center spacing: 0.100″ (2.54). Type numbers with **ES suffix** have gold over nickel or tin-lead contact plating; type numbers with **ESL suffix** have low gold over nickel contact plating. Machined brass/formed copper outer sleeve with tin-lead or gold plating. Contact rating: 3 amps. UL recognized.

GOLD-PLATED CONTACT AND SLEEVE

Stock No.	Type	Contacts	Pkg. of	1-49
95F8937	508-AG10D-ES*	8	60	49.87
95F8938	514-AG10D-ES*	14	34	36.00
95F8939	516-AG10D-ES*	16	30	36.55
95F8940	520-AG10D-ES*	20	24	36.34
95F8941	524-AG10D-ES†	24	20	36.44
95F8942	528-AG10D-ES†	28	17	36.00
95F8943	532-AG10D-ES†	32	15	36.89
95F8944	540-AG10D-ES†	40	12	36.34

GOLD-PLATED CONTACT— TIN-LEAD-PLATED SLEEVE

Stock No.	Type	Contacts	Pkg. of	1-49
95F8926	508-AG11D-ES*	8	60	35.53
95F8927	514-AG11D-ES*	14	34	23.26
95F8908	516-AG11D-ES*	16	30	23.84
95F8909	520-AG11D-ES*	20	24	23.83
95F8928	524-AG11D-ES†	24	20	23.19
95F8910	528-AG11D-ES†	28	17	23.06
95F8929	532-AG11D-ES†	32	15	23.30
95F8911	540-AG11D-ES†	40	12	23.83
95F8912	516-AG11D-ESL*	16	30	20.38
95F8934	528-AG11D-ESL†	28	17	20.30
95F8936	540-AG11D-ESL†	40	12	20.46

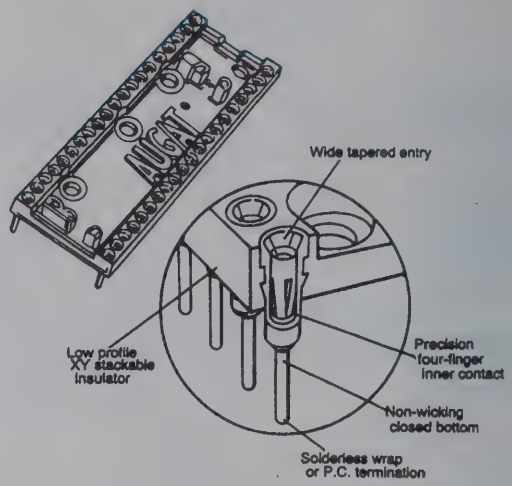
TIN-LEAD-PLATED CONTACT AND SLEEVE

Stock No.	Type	Contacts	Pkg. of	1-49
95F8945	508-AG12D-ES*	8	60	30.06
95F8946	514-AG12D-ES*	14	34	17.35
95F8947	516-AG12D-ES*	16	30	17.39
95F8948	520-AG12D-ES*	20	24	17.53

• 0.3″ spacing † 0.6″ spacing

(4714) (de02480)

500 SERIES MACHINED CONTACT SOLID INSULATOR DIP SOCKETS


Wide tapered entry
Low profile XY stackable insulator
Precision four-finger inner contact
Non-wicking closed bottom
Solderless wrap or P.C. termination

Precision-machined beryllium copper four-finger inner contact provides entry for flat or round lead insertion, plus maximum mechanical and electrical performance. Low profile, machine loadable, X-Y stackable thermoplastic polyester insulator, rated UL94V-O. Non-wicking, closed bottom sleeve protects against flux and solder contamination. Available PC termination: 0.125″ (3.18) or solderless wrap. **Type 516-AG12F** has tin/lead contact and sleeve. Withstand high shock and vibration. Contacts on 0.100″ (2.54) centers. Machined brass outer sleeve. PC board thickness 0.062″ (1.57) and 0.092″ (2.34). PC board hole size: 0.035″ (0.89) + 0.003″ (0.076) PC termination; 0.055″ (1.40) + 0.0015″ (0.038) solderless wrap. Contact rating: 3A. UL recognized.

PC TERMINATION GOLD CONTACT & SLEEVE

Stock No.	Type	Contact	Spacing	1-49
14F2700	508-AG10D	8	0.3″ (7.62)	1.77
14F2701	514-AG10D	14	0.3″ (7.62)	2.63
14F2702	516-AG10D	16	0.3″ (7.62)	2.94
14F2703	518-AG10D	18	0.3″ (7.62)	3.70
14F2704	520-AG10D	20	0.3″ (7.62)	4.25
14F2705	522-AG10D	22	0.4″ (10.16)	4.37
14F2706	524-AG65D	24	0.4″ (10.16)	4.93
14F2707	524-AG10D	24	0.6″ (15.24)	5.07
14F2708	528-AG10D	28	0.6″ (15.24)	5.64
14F2709	532-AG10D	32	0.6″ (15.24)	6.51
14F2711	540-AG10D	40	0.6″ (15.24)	7.73

3-LEVEL SOLDERLESS WRAP, GOLD CONTACT AND SLEEVE

Stock No.	Type	Contact	Spacing	1-49
65F1921	514-AG10F	14	0.3″ (7.62)	3.69
65F1922	516-AG10F	16	0.3″ (7.62)	4.23
14F3317	516-AG12F	16	0.3″ (7.62)	1.78
65F1924	520-AG10F	20	0.3″ (7.62)	5.90

PC TERMINATION GOLD CONTACT & TIN/LEAD SLEEVE

Stock No.	Type	Contact	Spacing	1-49
14F2712	508-AG11D	8	0.3″ (7.62)	1.29
13F703	514-AG11D	14	0.3″ (7.62)	1.78
13F704	516-AG11D	16	0.3″ (7.62)	1.96
13F705	518-AG11D	18	0.3″ (7.62)	2.48
14F2713	520-AG11D	20	0.3″ (7.62)	2.83
14F2714	522-AG11D	22	0.4″ (10.16)	3.07
14F2716	524-AG11D	24	0.6″ (15.24)	3.42
14F2717	528-AG11D	28	0.6″ (15.24)	3.70
14F2718	532-AG11D	32	0.6″ (15.24)	4.34
14F2720	540-AG11D	40	0.6″ (15.24)	5.23

PC TERMINATION TIN/LEAD CONTACT & SLEEVE

Stock No.	Type	Contact	Spacing	1-49
14F3300	506-AG12D	6	0.3″ (7.62)	0.74
14F3301	508-AG12D	8	0.3″ (7.62)	0.95
14F3303	514-AG12D	14	0.3″ (7.62)	1.17
14F3304	516-AG12D	16	0.3″ (7.62)	1.34
14F3305	518-AG12D	18	0.3″ (7.62)	1.49
14F3306	520-AG12D	20	0.3″ (7.62)	1.67
14F3308	524-AG12D	24	0.6″ (15.24)	2.01
14F3310	528-AG12D	28	0.6″ (15.24)	2.34
14F3311	532-AG12D	32	0.6″ (15.24)	2.68
14F3313	540-AG12D	40	0.6″ (15.24)	3.35

(4790) (de53388)

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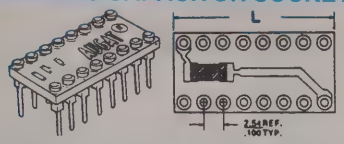
AUGAT® SOCKETS

DS SERIES CAPACITOR SOCKETS



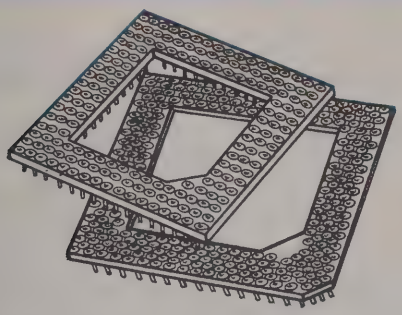
4-fingered contact, surface mount capacitor with circuit assembly creates decoupling (dual-in-line) sockets. 0.125″ (3.18) PC tail termination. Gold-over-nickel plated beryllium copper contact; tin/lead plated brass outer sleeve. Contact spacing: 0.100″ (2.54). Row spacing: 0.300″ (7.62). Socket width: 0.400″ (10.16).

0.10 µF CAPACITORS

Stock No.	Type	Contacts	Length	1-49
90F6684	DS2-314-1AR	14	0.7″ (17.78)	2.37
90F6685	DS2-316-1AR	16	0.8″ (20.32)	2.72
90F6686	DS2-320-1AR	20	1.0″ (25.40)	3.40
90F6687	DS2-324-1AR	24	1.2″ (30.48)	4.07

(4756) (de50739)

GSM SERIES SURFACE MOUNT (LIF) PGA SOCKETS

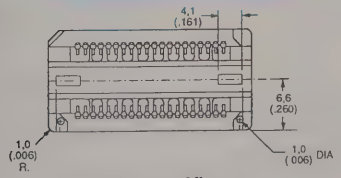


Surface mount "butt-style" terminals feature low-insertion force (1.3 oz.) contact. High-temperature insulators allow sockets to be soldered with vaporphase and infrared reflow soldering process. Contact plating: 30Ω″ gold.

Stock No.	Type	Contacts	1-49
16F6360	GSM068-1F1132-V	68	5.69
16F6361	GSM132-1F1414-V	132	11.02
16F6362	GSM168-1F1715-V	168	15.78
16F6363	GSM169-1F1708-V	169	15.78
16F6364	GSM237-1F1925-V	237	19.57
16F6365	GSM238-1F1916-V	238	20.38
16F6367	GSM114-1F1345-V	114	10.54
16F6369	GSM179-1F1818-V	179	16.67
16F6370	GSM068-1F1006-V	68	5.69

(4812) (ne08199)

SOJ SERIES SOCKETS



Bottom View

For socketing SOJ devices. High normal force provides excellent retention and contact reliability. Open body permits inspection of solder joints. Thermoplastic housing and insulator allows IR soldering. Phosphor bronze contacts. Current rating: 1 Amp. Dielectric withstanding voltage: 600 VAC RMS (60 seconds). Insulation resistance: 10,000 Megohms/500 VDC. Operating temperature: –55°C to +105°C.

Stock No.	Type	Pins	1-49
97F7991	165-200005-03	28	1.53
97F7990	165-200005-02	32	1.86

(4722) (de03575)

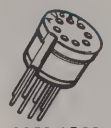
TRANSISTOR AND IC SOCKETS

8060 (Typical)

8059-2G5

8059-2G7

8080-1G



8058-1G32

8059-2G9

8060 series has pin circle diameter of 0.100″ (2.54); **8058 series** 0.200″ (5.08) diameter. Teflon® insulator. Two-piece machine socket terminal: gold plated brass outer sleeve and gold plated beryllium copper contacts. **8080-1G series** TO-3 power transistor sockets come with one or two solder lugs. Beryllium copper contacts with electro-tin plating and black phenolic insulator (Ph/ET), or silver plating with green diallyl phthalate insulator (Dp/SL), or 30µ″ gold plating and black phenolic insulator (Ph/GL). **8059 series** TO-5 transistor and IC sockets are ultra-low profile and come in red, blue, green, orange or yellow glass-filled polyamide nylon insulator rated UL 94V-0. Gold or tin/lead plated beryllium copper contacts. All have 0.255″ diameter, except **8058-1G23, 8058-1G49** and **8058-1G32** which have 0.406″ diameter.

8058, 8060 SERIES MINIATURE SOCKETS—PC TERMINALS

Stock No.	Type	Contacts	Ht.	1-49
65F1648	8058-1G23	8	0.290″	2.92
50F1730	8058-1G49	3	0.572″	5.86
89F606	8058-1G32	8	0.585″	5.86
65F1868	8060-1G3	3	0.310″	3.33
65F1869	8060-1G4	4	0.298″	3.52
65F1860	8060-1G5	3	0.350″	5.69
65F1866	8060-1G7	3	0.577″	3.42
65F1864	8060-1G11	3	0.570″	3.46
97F3266	8060-1G17	3	0.427″	7.62

8080-1G SERIES TO-3 POWER TRANSISTOR SOCKETS

Stock No.	Type	Description	1-49
65F1870	8080-1G1	Ph/ET/2 Lugs	1.91
65F1872	8080-1G3	Ph/ET/1 Lug	3.01
65F1873	8080-1G4	Ph/GL/2 Lugs	3.73
65F1874	8080-1G7	DP/SL/1 Lug	3.51

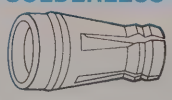
8059 SERIES TRANSISTOR/IC SOCKETS—ULTRA LOW PROFILE

Stock No.	Type	Contacts	Insulator	1-49
50F1673	8059-2G2*	3	Red	1.39
65F1876	8059-2G1	3	Red	1.55
65F1878	8059-2G3	4	Blue	2.04
65F1879	8059-2G5	8	Green	3.44
65F1880	8059-2G7	8	Orange	3.44
50F1675	8059-2G8*	8	Orange	3.13
65F1881	8059-2G9	10	Yellow	4.25

* Tin/lead sleeves.

(4742) (de50285)

HOLTITE® SOLDERLESS SOCKETS



Solderless, zero-profile sockets are designed to be press-fit into the plated through-hole of printed wiring boards. Gold plated 0.000030″ per MIL-P-81728 over nickel per QQ-N-290 or tin/lead per MIL-T-10727. Beryllium copper contacts. Board thickness: 0.030″. MIL-qualified parts available.

Stock No.	Type	Contact Finish	Lead Size	1-49
14F2869	8134-HC-5P2	Gold	0.016″- 0.021″	0.12
93F2865	8134-HC-5P3	Tin/Lead	0.016″- 0.021″	0.09
14F2870	8134-HC-6P2	Gold	0.020″- 0.030″	0.13
14F2871	8134-HC-8P2	Gold	0.025″- 0.035″	0.14
01F8722	8134-HC-12P2	Gold	0.035″- 0.045″	0.18

(4723) (de03576)

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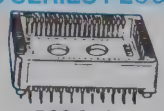
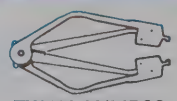
AUGAT® SOCKETS

PCS SERIES PLCC CHIP CARRIER SOCKETS



PCS Series



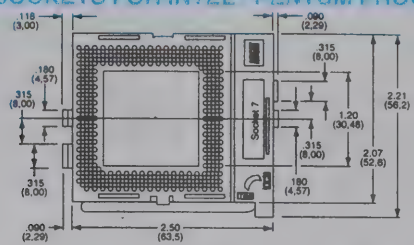
TX8136-20/84PCS

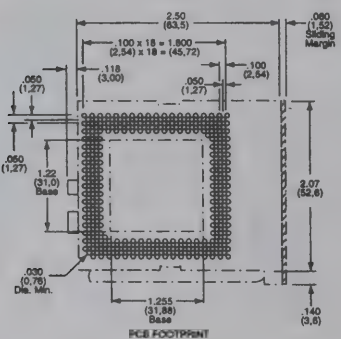
Solder tail allows through-hole board patterns in 0.100″ (2.54) grid. Accepts JEDEC type "A" plastic leaded chip carriers on 0.050″ (1.27) centers. Tin-lead over nickel-plated phosphor bronze contacts. High normal force (200 grams minimum) internal standoff assures proper positioning. UL recognized. *Order* **type TX8136-20/84PCS** *"universal" extraction tool for PLCC sockets separately below.*

Stock No.	Type	Contacts	Configuration	1-49
50F1681	PCS-020A-1	20	0.395″ Square	1.30
52F7332	PCS-028A-1	28	0.495″ × 0.485″	1.60
50F1683	PCS-032A-1	32	0.595″ x 0.495″	1.70
50F1684	PCS-044A-1	44	0.695″ Square	2.04
52F7333	PCS-052A-1	52	0.795″ × 0.785″	2.52
50F1686	PCS-068A-1	68	0.995″ Square	2.38
50F1687	PCS-084A-1	84	1.195″ Square	3.04

50F1688 TypeTX8136-20/84PCSTool. **Each** **22.91**
(4843) (ne50287)

ZIF PGA SOCKETS FOR INTEL® PENTUM PROCESSORS



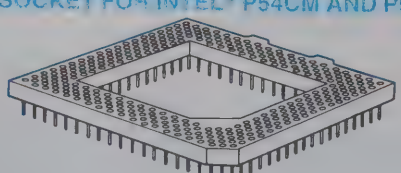


1-amp sockets feature 20 milliohms maximum contact resistance, 50 mate/unmate cycle performance. Meet or exceed EIA-364-28, Cond. 5 and are rated for one amp, for vibration and EIA-364-27 Cond. A for shock. Solderability is 95 percent coverage per EIA-364-52. Operating temperature: –55°C to +105°C. Acceptable lead diameter: 0.018″ ±0.002″. Acceptable lead length: 0.070″ minimum. Made of phosphor bronze (duplex plated with gold in contact area) with stainless steel mechanical lever and tin/lead on tails.

Stock No.	Type	W x H	Description	1-49
16F4415	MP-AX159BCD203A	2.50″ × 0.49″	Socket 5	7.94
16F4416	MP-AX164BCD213A	2.50″ × 0.49″	Socket 7	9.03

(4721) (de03529)

PGA (LIF) SOCKET FOR INTEL® P54CM AND P55 DEVICE

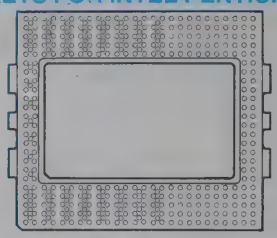


Low insertion force sockets designed for 0.062″ thick PCB. Includes gold inner contact. Will accommodate wire formed and metal frame heat sink clips from a variety of suppliers. Socket has 15% smaller surface area to allow more space for components. Contact rating: 3 amps. Dielectric withstanding voltage: 1000Vrms. Insulation resistance: 1000 megohms.

Stock No.	Type	Device	1-49
16F4417	PIM320-7D37B5-V	P54CM	12.73
91F3213	PIM321-7D37-B6-V	P55	12.71

(4816) (ne08385)

PGA (LIF) SOCKETS FOR INTEL PENTIUM PRO DEVICES

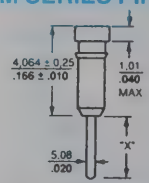


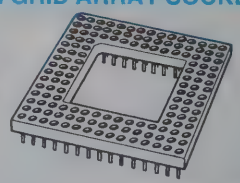
Low insertion force sockets are designed to provide properly formed solder joints for 0.062″ and 0.093″ thick PCBs, greatly reducing costly solder-bridging of terminals. Will accommodate wire formed and metal frame heat sink clips from a variety of suppliers. 15 percent smaller surface area to allow more space for components. Contact rating: 3 amps. Dielectric withstanding voltage (DWV): 1000Vrms. Insulation resistance: 1000 megohms.

Stock No.	Type	Termination for PCB Thickness	1-49
66F9764	PIM387-22220-1	0.062″	22.29
66F9765	PIM387-22220-2	0.093″	17.27

(4800) (ne06062)

PGM SERIES PIN GRID ARRAY SOCKETS



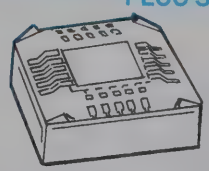


Low insertion force stamped and rolled beryllium copper inner contact with gold over nickel plating. Non-wicking closed bottom protects against flux and solder contamination. 0.125″ (3.18) PC terminations. Sleeve recessed into molded thermoplastic polyester insulator for automatic insertion systems. UL recognized.

Stock No.	Type	Pins	Grid	1-49
50F1694	PGM068-1A1132-V	68	11 x 11	3.97
50F1696	PGM168-1A1715-V	168	17 x 17	9.80
04F1155	PGM169-1A1708-V	169	17 x 17	13.70
97F8310	PGM273-1A2111-V	273	21 x 21	22.83

(4744) (de50288)

PCS-SMU SERIES ULTRA LOW PROFILE SURFACE MOUNT PLCC SOCKETS



0.175″ (4.45)H for JEDEC dimension PLCC devices. Fit high-density disk drive and laptop applications. Feature internal and external polarization markings and open insulator design. Tin/lead over nickel plated phosphor bronze contacts. Insulator rated UL94V-0. UL recognized. *Order* **type TX8136-20/84PCS** *extraction tool for PLCC sockets separately on this page.*

PLCC SOCKETS WITH LOCATING POSTS

Stock No.	Type	Contacts	Configuration	1-49
04F1127	PCS-020SMU-12	20	0.613" Square	1.53
04F1129	PCS-028SMU-12	28	0.713" Square	1.77
04F1131	PCS-032SMU-12	32	0.713" x 0.813"	1.91
04F1133	PCS-044SMU-12	44	0.913" Square	2.12
04F1117	PCS-052SMU-12	52	1.000" Square	2.80
04F1119	PCS-068SMU-12	68	1.213" Square	2.78
04F1121	PCS-084SMU-12	84	1.413" Square	2.92

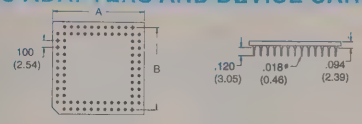
PLCC SOCKETS WITHOUT LOCATING POSTS

Stock No.	Type	Contacts	Configuration	1-49
04F1126	PCS-020SMU-11	20	0.613″ Square	1.58
04F1128	PCS-028SMU-11	28	0.713″ Square	1.77
04F1130	PCS-032SMU-11	32	0.713″ x 0.813″	1.91
04F1132	PCS-044SMU-11	44	0.913″ Square	2.12
04F1116	PCS-052SMU-11	52	1.000″ Square	2.80
04F1118	PCS-068SMU-11	68	1.213″ Square	2.78
04F1120	PCS-084SMU-11	84	1.413″ Square	2.92

(4743) (de50286)

SOCKETS AND EXTRACTION TOOLS

PLCC ADAPTERS AND DEVICE CARRIER



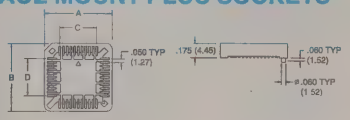
Adapts JEDEC plastic leaded chip carrier to standard PGA footprint. Allows device to be socketed or thru-hole mounted. **Type ADP68DC** is device carrier.

Stock No.	Type	PGA Pattern	A	B	1-9	10-24
66F8694	ADP84PGA/PLCC	1354	1.400″ (35.56)	.:.	149.63	134.67
66F8692	ADP68DC-PLCC/PGA	0802	0.850″ (21.59)	0.700″ (17.78)	20.20	18.18

(4597) (ne06503)

SURFACE MOUNT PLCC SOCKETS

SMD



Surface mount PLCC sockets feature a low profile, 0.175″ (4.45), and an inspection window. Center pad provides area for pick and place/socket bonding. Accepts standard JEDEC mounting pad layout. Temperature range: –50°C to +105°C. Current rating: 1A. Capacitance: 1.0 pF min. Insulation resistance: 1000MΩ max. Withstanding voltage: 600VAC. Contact material: phosphor bronze. Contact plating: 150µ″ tin/40µ″ nickel (min.). Insulator: hi-temp PPS. Flammability rated: UL94V-0, 220°C. Dimensions: *See chart below.*

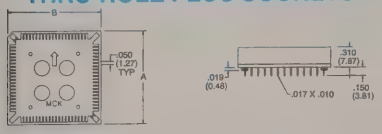
DIMENSION CHART (Refers to letters in line drawing above)

Type	A	B	C	D
	±0.008 (0.20)			
PLCC28P-T-SMT	0.700″ (17.78)	0.700″ (17.78)	0.300″ (7.62)	0.300″ (7.62)
PLCC32P-T-SMT	0.700″ (17.78)	0.800″ (20.32)	0.300″ (7.62)	0.400″ (10.16)
PLCC44P-T-SMT	0.900″ (22.86)	0.900″ (22.86)	0.500″ (12.70)	0.500″ (12.70)
PLCC68P-T-SMT	1.213″ (30.81)	1.213″ (30.81)	0.800″ (20.32)	0.800″ (20.32)
PLCC84P-T-SMT	1.413″ (35.89)	1.413″ (35.89)	1.000″ (25.40)	1.000″ (25.40)

Stock No.	Type	No. of Leads	Reel Qty.	1-9	10-24
66F8681	PLCC28P-T-SMT	28	400	0.51	0.46
66F8683	PLCC32P-T-SMT	32	400	0.50	0.45
66F8667	PLCC44PT-SMT	44	250	0.71	0.64
66F8669	PLCC68P-T-SMT	68	220	0.94	0.84
66F8671	PLCC84P-T-SMT	84	200	1.10	0.99

(4598) (ne06504)

THRU-HOLE PLCC SOCKETS



Plastic leaded chip carrier sockets conform to EIA JEDEC outline for plastic leaded chip carriers on 0.050″ (1.27) centers. Polarization indicators identify positive chip carrier orientation. Operating temperature range: –55°C to +105°C. Current rating: 1A. Capacitance: 1.0pF max. Contact resistance: 30mΩ max. Insulation resistance: 1000MΩ min. Withstanding voltage: 600VAC. Socket body material: hi-temp PPS. Flammability rated: UL94V-0, 200°C. Contact material: phosphor bronze alloy 5210, full-hard. Plating: 0.000150″ tin/0.000040″ nickel (min.).

Stock No.	Type	No. Pos.	A	B	1-9
66F8682	PLCC32P-T	32	0.795″ (20.19)	0.700″ (17.78)	0.50
66F8684	PLCC44P-T	44	0.913″ (23.19)	0.913″ (23.19)	0.52
66F8668	PLCC68P-T-2	68	1.217″ (30.91)	1.217″ (30.91)	0.59
66F8670	PLCC84P-T-2	84	1.417″ (35.99)	1.417″ (35.99)	0.71

(4599) (ne06505)

PLCC EXTRACTION TOOL

Extracts PLCC devices from 20- to 100-pin thru-hole and SMT-style sockets.

Stock No.	Type	Description	1-9
66F8691	TOLPLCC-XT-2	PLCC Extraction Tool	16.72

(4607) (ne06513)

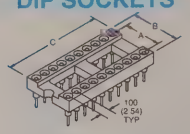
PGA EXTRACTION TOOL

Removes both standard socketed and flush socketed devices. Made of stainless steel to facilitate parallel device removal. Thin wall construction and cutaways minimize interference with adjacent components.

Stock No.	Type	Minimum	Maximum	1-9
66F8687	TOLPGAX-11X11-1	1.140″(28.96)	1.180″(29.97)	145.16
66F8688	TOLPGAX-14X14-1	1.440″(36.58)	1.480″(37.59)	184.75
66F8689	TOLPGAX-17X17-1	1.732″(43.99)	1.780″(45.21)	224.34
66F8690	TOLPGAX-20X20-1	2.040″(51.82)	2.080″(52.83)	263.93

(4600) (ne06506)

DIP SOCKETS

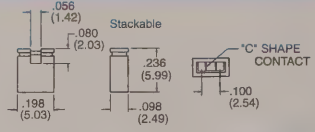


Contact material: 10µ″ gold. Shell: 200µ″ tin. 0.125″ solder tail. Open frame. Flammability rating: UL94V-0.

Stock No.	Type	No. of Contacts	A	B	C	1-9
66F8695	D1P314-011B	14	0.300″ (7.62)	0.400″ (10.16)	0.700″ (17.78)	0.27
66F8696	D1P316-011B	16	0.300″ (7.62)	0.400″ (10.16)	0.800″ (20.32)	0.31
66F8697	D1P320-011B	20	0.300″ (7.62)	0.400″ (10.16)	1.000″ (25.40)	0.39
66F8698	D1P328-011B	28	0.300″ (7.62)	0.400″ (10.16)	1.400″ (35.56)	0.55
66F8699	D1P628-011B	28				0.55
66F8676	D1P632-0-011B	32	0.600″ (15.24)	0.700″ (17.78)	1.600″ (40.64)	0.62
66F8677	D1P640-011B	40	0.600″ (15.24)	0.700″ (17.78)	2.000″ (50.80)	0.78

(4601) (ne06507)

ECONOMY SERIES MICROSHUNT™

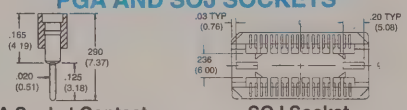


MicroShunt™ is very low profile with 0.236″ (6.0) high testpoint. Temperature range: –40°C to +140°C. Maximum load: 3A. Contact resistance: less than 10 milliohms. Contact material: dual-wipe phosphor bronze. Plating: 15µ″ gold over 40µ″ nickel.

66F8678 Type MSB2360-G-C-STP. **Each** **0.20**

(4602) (ne06508)

PGA AND SOJ SOCKETS



PGA Socket Contact **SOJ Socket**

Square center-hole versions have 10µ″ gold contact and 200µ″ tin shell. UL recognized.

Stock No.	Type	No. of Contacts	1-9
66F8679	PGA132H012B11414R	132	6.53
66F8680	PGA168H008B51706R	168	3.05

(4603) (ne06509)

PZA SOCKETS

Types PZA296, PZA320, and **PZA447** meet MIL spec QQ-B-626, QQ-C-533, MIL-P-81728, and QQ-N-290. **Types PZA320** and **PZA447** meet MIL-G-45204 Type 1. All are glass-reinforced polyphenylene sulfide (PPS). Flammability rated: UL94V-0.

Stock No.	Type	No. of Contacts	1-9
66F8672	PZA296H011A-37AH	296	9.64
66F8673	PZA320H011A-37AL	320	10.44
66F8674	PZA325H011A-35AA	325	10.59
66F8675	PZA447H011A-39AC	447	14.56

(4604) (ne06510)

SOJ SOCKET

SOJ socket has 40 positions. Contact resistance: initial = 15mΩ max.; final = 10mΩ max. after testing. Insulation resistance: greater than 10,000 ohms. Operating temperature: –50°C to +105°C. Dielectric withstanding voltage: 1000VAC rms (1 min.). Capacitance: less than 1.0pF at 1000kHz. Durability: 25 cycles.

Stock No.	Type	Description	1-9
66F8686	SOJ40P-4.0	SOJ Socket	0.67

(4606) (ne06512)

HIGH-PROFILE ELEVATED SIP SOCKET

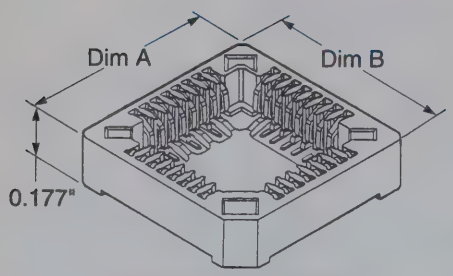
Elevated SIP socket allows for greater package density, stacking of PCB, and maximizes airflow. Contact material: half-hard brass. Shell: beryllium copper.

Stock No.	Type	Description	1-9
66F8685	SIP1X32-011B	High-Profile Elevated SIP Socket	0.62

(4605) (ne06511)

SURFACE MOUNT PLCC SOCKETS

Surface mount PLCC sockets are designed to accept square and rectangular JEDEC chip configurations. Features an extremely low profile – 0.177″ (4.5mm). High normal force contacts are designed to enhance chip retention. Standoffs are provided to ease process cleaning and heat dissipation. Contact resistance: 20mΩ max. Durability: 25 cycles. Contact: phosphor bronze with tin-lead plating over nickel. Temperature range: –55°C to +85°C. *Order PLCC extraction tool separately below.* Optional polarization peg versions are also available for automated socket placement; *contact your local Newark sales office.*



Surface Mount PLCC Socket

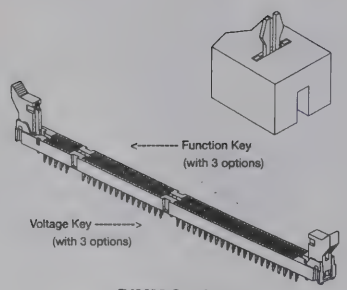
SOCKETS

Stock No.	Type	Circuits	Dimensions A	Dimensions B	1-9	10-24	25-49	50-99
91F2765	89289-2000	20	0.615″ (15.63)	0.615″ (15.63)	2.58	2.32	1.98	1.58
91F2766	89289-2800	28	0.715″ (18.17)	0.715″ (18.17)	2.71	2.44	2.07	1.66
91F2767	89289-3200	32	0.816″ (20.73)	0.816″ (20.73)	2.80	2.52	2.15	1.72
91F2768	89289-4400	44	0.917″ (23.28)	0.917″ (23.28)	3.33	3.00	2.55	2.04
91F2769	89289-5200	52	1.016″ (25.81)	1.016″ (25.81)	3.78	3.40	2.89	2.31
91F2770	89289-6800	68	1.218″ (30.94)	1.218″ (30.94)	4.18	3.76	3.20	2.56
91F2771	89289-8400	84	1.419″ (36.04)	1.419″ (36.04)	4.62	4.16	3.54	2.83

EXTRACTION TOOL

Stock No.	Type	Description	1-9
91F2748	820-48-0000	PLCC Extraction Tool	121.31

(18337) (ne09857)



DIMM Socket

DIMM SOCKETS

Surface mount compatible 0.50″ center DIMM (Dual In-line Memory Module) sockets accept all JEDEC module outlines. Come equipped with metal fork locks, which are preferred when used with wave soldering processes. Sockets also include polarizing posts to orient the socket on the PC board. Keyed to prevent mating with the wrong module. Voltage: 100V. Current: 1A. Contact resistance: 20mΩ max. Mating force per pair: 5 oz. max. Durability: 25 cycles. Contact: phosphor bronze with select paladium nickel/gold flash. Temperature range: –40°C to +85°C.

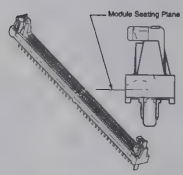
8-BYTE DIMM SOCKET—168 CIRCUITS

Stock No.	Type	Function	1-9	10-24	25-49	50-99
91F2749	71736-0001	DRAM	13.74	12.37	10.52	8.41
91F2751	71736-0006	SDRAM	13.74	12.37	10.52	8.41
91F2753	71736-0011	Unbuffered	13.74	12.37	10.52	8.41

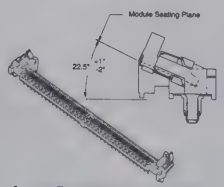
8-BYTE DIMM SOCKET—200 CIRCUITS

Stock No.	Type	Function	1-9	10-24	25-49	50-99
91F2755	71736-3001	LTR	13.74	12.37	10.52	8.41

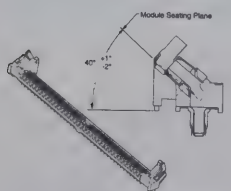
(18338) (ne09859)



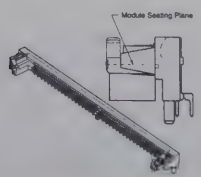
Vertical SIMM



Low-Profile 22.5° SIMM



Low-Profile 40° SIMM



Right-Angle SIMM

SIMM SOCKETS

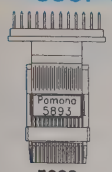
Surface mount compatible 0.50″ center SIMM (Single In-line Memory Module) sockets have 2 points of contact with standard JEDEC modules. Include polarizing posts to orient the socket on the PC board and polarizing ribs to orient the module in the socket. Sockets also include metal latch. Voltage: 250V. Current: 1A. Contact resistance: 30mΩ max. Normal force: 150g. Durability: 25 cycles. Contact: phosphor bronze. Temperature range: –40°C to +85°C. Other circuit sizes are available; *contact your local Newark sales office.*

VERTICAL

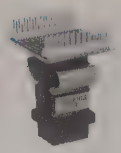
Stock No.	Type	Plating	Tail Length	1-9	10-24	25-49	50-99
91F2763	15-82-0775	Tin	0.110″	4.49	4.04	3.44	2.75
91F2762	15-82-0762	Gold	0.110″	2.73	2.45	2.09	1.67
LOW-PROFILE 22.5°							
91F2761	15-82-0678	Tin	0.110″	2.61	2.35	2.00	1.60
91F2760	15-82-0675	Gold	0.110″	6.55	5.90	5.01	4.01
LOW-PROFILE 40°							
91F2758	15-82-0627	Gold	0.090″	2.73	2.45	2.09	1.67
91F2759	15-82-0649	Tin	0.090″	4.65	4.18	3.56	2.85
RIGHT-ANGLE							
91F2764	15-82-1538	Tin	0.110″	4.28	3.86	3.28	2.62
91F2757	15-82-0312	Gold	0.110″	10.64	9.61	9.14	8.51

(18339) (ne09860)

SSOP TEST CLIP



5893



5894

For 48 lead SSOP clip. Body width, 0.30″. Clip lead spacing, 0.025″. Top interface: 0.025″ square pins on 0.100″ centers, with pin numbers.

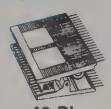
Stock No.	Type	Lead Count	1-4
95F1306	5893	48	424.49
95F1307	5894	56	456.38

(9145) (ne08213)

DIP CLIP IC TEST CLIPS

14-Pin

24-Pin



40-Pin

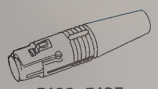
IC test clips with spring-loaded wiping action for positive connections. Molded contact barriers allow connections on live boards without shorting adjacent contacts. Spring-tempered nickel-silver contacts except **types 5120** and **5220** which are gold-plated beryllium copper. Rated 1 amp, +102°C.

Stock No.	Type	Description	Test Clips	1-9	10-24
89F342	5014	14 Pin DIP	Standard	10.32	8.87
35F1064	3916A	16 Pin DIP	Standard	9.30	8.00
87F027	5120	20 Pin DIP	Standard	15.05	13.31
35F1004	4124A	24 Pin DIP	Standard	19.55	17.28
35F1005	4140A	40 Pin DIP	Standard	28.61	25.29
89F343	5114*	14 Pin DIP	High Density	10.32	8.87
35F1006	4236A*	16 Pin DIP	High Density	9.30	8.00
87F024	5220*	20 Pin DIP	High Density	15.05	13.31
35F1007	4324A*	24 Pin DIP	High Density	19.55	17.28
35F1008	4340A*	40 Pin DIP	High Density	28.61	25.29

* Contacts are exposed for testing

(8935) (de01183)

XLR STYLE AUDIO CONNECTORS



5109, 5125

5110, 5126

5117, 5130

15 amps; 133Vrms operating voltage. Temperature range: –55°C to +125°C. Satin-finish, nickel-plated zinc or aluminum shell. Low noise/vibration performance. Precision stamped tin-plated copper alloy contacts. Nickel-plated steel barrel. Cable clamp accommodates 3 to 8mm diameter cable. Mate with competitive units.

STRAIGHT CORD PLUGS

Stock No.	Type	XLR Style	Description	1-24	25-49
44F5388	5109	3-11	3 Socket Female	6.09	5.57
44F5391	5110	3-12	3 Pin Male	5.54	5.05
44F5390	5125	5-11	5 Socket Female	13.23	11.38
44F5393	5126	5-12	5 Pin Male	10.02	9.15
WALL/FLOOR MOUNT RECEPTACLE					
44F5379	5117	3-32	3 Pin Male	5.40	4.93
44F5381	5130	5-32	5 Pin Male	10.86	9.91

(8930) (de01174)

QUAD CLIP® TEST KIT

5515A

Quad Clip® test adapter kit contains 1 each: 20, 28, 32, 44, 52, 68, 84 pin test adapters.

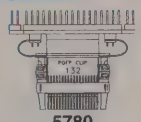
Stock No.	Type	Description	1-4
90F2335	5515A	Test Adapter Kit	308.60

(8933) (ne10303)

132-PIN PQFP TEST CLIPS

5711

5778



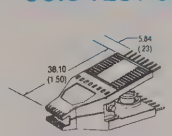
5780

Body size: 0.95 x 0.95″. Lead spacing: 0.025″. Lead pattern: 33 x 33mm.

Stock No.	Type	Leads	Interface	Pkg. Type	1-4
50F3873	5711	132	0.012 x 0.22″ Pins @ 0.075″	PQFP	211.62
95F1329	5778	132	0.025″ Sq. Pins @ 0.10″	PQFP	408.11
95F1328	5780	132	Flexible Interface Network	PQFP	513.92

(9146) (ne08214)

SOIC TEST CLIPS



5250-5254, 5437

6107-6109

Spring-loaded clips for testing SOIC and SOJ small outline ICs.

8-, 14-, AND 16-PIN SOIC CLIPS—BODY WIDTHS 0.15″ – 0.3″

Stock No.	Type	Pins	1-24	25-49
46F2416	5250	8	10.86	9.34
46F2417	5251	14	11.88	10.21
46F2418	5252	16	12.89	11.10

20-, 24-, AND 28-PIN SOIC CLIPS—BODY WIDTHS 0.15″ – 0.3″

Stock No.	Type	Pins	1-9	10-24
46F2419	5253	20	14.27	12.62
46F2420	5254	24	20.79	18.38
89F422	5437	28	25.41	22.47

32-, 40-, AND 44-PIN SOIC/SOJ CLIPS—BODY WIDTHS 0.30″ – 0.60″

Stock No.	Type	Pins	Dimensions A	Dimensions B	1-4	5-9
91F2996	6107	32	0.870″	0.870″	35.27	33.19
91F2997	6108	40	1.070″	1.070″	39.05	36.74
91F2998	6109	44	1.170″	1.170″	41.57	39.11

(16327) (de01180)

SOIC TEST CLIP KIT

5514

SOIC test clip kit contains 1 each: 8, 14, 16, 20, 24, 28 pin test adapter.

Stock No.	Type	Description	1-4
90F2177	5514	SOIC Test Clip Kit	81.88

(8934) (ne10302)

QUAD CLIP® TEST ADAPTERS

5279

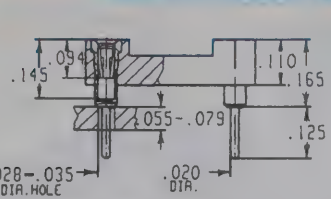
For plastic chip carriers (PCC or PLCC) with "J" leads. Fit directly on IC, allowing hands-free testing. Glass-filled nylon insulation. Gold-plated beryllium copper contacts rated 1 amp, +102°C maximum.

Stock No.	Type	Pins	1-4	5-9
87F009	5279	20	25.41	22.47
87F010	5280	28	40.18	37.81
50F1528	5733	32	42.20	39.70
87F011	5281	44	47.24	44.44
87F012	5312	52	55.43	52.15
87F6609	5401	68	62.98	59.26
90F2334	5402	84	75.58	71.11

(16326) (de01179)

SOCKETS

LOW-PROFILE DIP SOCKETS



Standard low-profile DIP sockets have 0.020″ (0.53) diameter solder tail. Open frame design. Stamped beryllium copper, four-finger inner clip screw-machined brass receptacle sleeves. Glass-filled thermoplastic polyester insulator, rated UL 94V-0. Current rating: 3 amps. UL recognized. All are 0.100″ (2.54) pin spacing; 6th digit of type number indicates row spacing: **3** = 0.300″ (7.62), **4** = 0.400″ (10.16), **6** = 0.600″ (15.24).

PLATING: SLEEVE, 10µ″ GOLD; CONTACT, 30µ″ GOLD

Stock No.	Type	Pins	Dimensions A × B	Pkg. of	1-4	5-9
66F9182	110-13-306-41-001	6	0.3 × 0.4″	67	16.61	14.95
66F9183	110-13-308-41-001	8	0.4 × 0.4″	50	16.60	14.94
66F9184	110-13-314-41-001	14	0.7 × 0.4″	28	16.24	14.62
66F9185	110-13-316-41-001	16	0.8 × 0.4″	25	16.55	14.89
66F9186	110-13-318-41-001	18	0.9 × 0.4″	22	16.41	14.77
66F9187	110-13-320-41-001	20	1.0 × 0.4″	20	16.56	14.90
66F9188	110-13-324-41-001	24	1.2 × 0.4″	16	15.90	14.31
66F9190	110-13-624-41-001	24	1.2 × 0.7″	16	15.90	14.31
66F9191	110-13-628-41-001	28	1.4 × 0.7″	14	16.24	14.62
66F9192	110-13-632-41-001	32	1.6 × 0.7″	12	15.66	14.09
66F9193	110-13-640-41-001	40	2.0 × 0.7″	10	16.56	14.90

PLATING: SLEEVE, 200µ″ TIN; CONTACT, 30µ″ GOLD

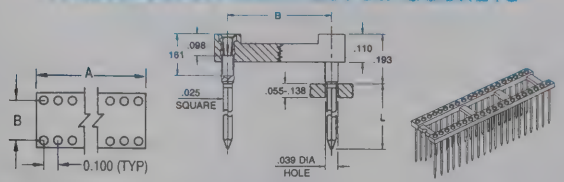
Stock No.	Type	Pins	Dimensions A × B	Pkg. of	1-4	5-9
93F4069	110-93-306-41-001	6	0.3 × 0.4″	68	11.52	10.36
93F4070	110-93-308-41-001	8	0.4 × 0.4″	50	11.49	10.34
93F4071	110-93-314-41-001	14	0.7 × 0.4″	28	11.31	10.18
93F4072	110-93-316-41-001	16	0.8 × 0.4″	25	11.49	10.34
93F4073	110-93-318-41-001	18	0.9 × 0.4″	22	11.39	10.25
93F4074	110-93-320-41-001	20	1.0 × 0.4″	20	11.51	10.36
93F4075	110-93-324-41-001	24	1.2 × 0.4″	16	11.07	9.96
93F4077	110-93-624-41-001	24	1.2 × 0.7″	16	11.07	9.96
93F4078	110-93-628-41-001	28	1.4 × 0.7″	14	11.28	10.15
93F4079	110-93-632-41-001	32	1.6 × 0.7″	12	11.06	9.95
93F4080	110-93-640-41-001	40	2.0 × 0.7″	10	11.51	10.36

PLATING: SLEEVE, 200µ″ TIN; CONTACT, 200µ″ TIN

Stock No.	Type	Pins	Dimensions A × B	Pkg. of	1-4	5-9
66F9195	110-99-308-41-001	8	0.4 × 0.4″	50	9.04	8.13
66F9196	110-99-314-41-001	14	0.7 × 0.4″	28	8.89	8.00
66F9197	110-99-316-41-001	16	0.8 × 0.4″	25	9.09	8.18
66F9199	110-99-320-41-001	20	1.0 × 0.4″	20	9.08	8.17
66F9200	110-99-324-41-001	24	1.2 × 0.4″	16	8.71	7.84
66F9202	110-99-624-41-001	24	1.2 × 0.7″	16	8.71	7.84
66F9203	110-99-628-41-001	28	1.4 × 0.7″	14	8.89	8.00
66F9204	110-99-632-41-001	32	1.6 × 0.7″	12	8.73	7.85
66F9205	110-99-640-41-001	40	2.0 × 0.7″	10	9.08	8.17

(4791) (ne00106)

THREE-LEVEL WRAP POST DIP SOCKETS

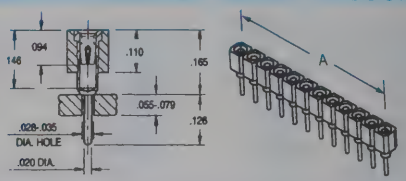


Open-frame dual in-line sockets feature solderless wrap post terminals that are firmly locked in the insulator body to withstand the torque of a wrapping tool. Sleeve (pin): 200µ″ tin plating. 4-finger #30 contact (clip): 30µ″ gold plating.

Stock No.	Type	Pins	Dimensions A	Dimensions B	Pkg. of	1-4	5-24
93F4094	123-93-308-41-001	8	0.4″	0.3″	50	25.26	22.73
93F4095	123-93-314-41-001	14	0.7″	0.3″	28	24.75	22.28
93F4096	123-93-316-41-001	16	0.8″	0.3″	25	25.26	22.73
93F4097	123-93-318-41-001	18	0.9″	0.3″	22	25.01	22.50
93F4098	123-93-320-41-001	20	1.0″	0.3″	20	25.26	22.73
93F4099	123-93-324-41-001	24	1.2″	0.3″	16	24.25	21.82
91F9184	1239332841001	28	1.4″	0.3″	14	25.12	22.61
93F4101	123-93-624-41-001	24	1.2″	0.6″	16	24.25	21.82
93F4102	123-93-628-41-001	28	1.4″	0.6″	14	24.75	22.28
93F4103	123-93-632-41-001	32	1.6″	0.6″	12	24.25	21.82
93F4104	123-93-640-41-001	40	2.0″	0.6″	10	25.26	22.73
91F9656	1239364841001	48	2.4″	0.6″	8	24.61	22.15

(18144) (ne10270)

SINGLE-ROW SOLDER-TAIL STRIP SOCKETS



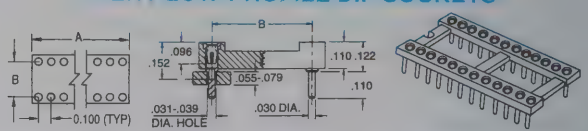
Single-row strip sockets have 0.020″ diameter solder-tail pin receptacles spaced at 0.100″. Four-finger inner clip and precision-machined brass receptacle shells. Glass-filled thermoplastic polyester insulator, rated UL 94V-0. Current rating: 3 amps. Standard package=10.

PLATING: SLEEVE, 200µ″ TIN; CONTACT, 30µ″ GOLD

Stock No.	Type	Pins	Dimension A	1-49	50-99
66F9240	310-93-108-41-001	8	0.800″	0.24	0.21
66F9241	310-93-110-41-001	10	1.00″	0.30	0.27
66F6053	310-93-120-41-001	20	2.00″	0.59	0.53
66F9244	310-93-130-41-001	30	3.00″	0.90	0.81
66F9245	310-93-132-41-001	32	3.20″	0.94	0.85
66F9246	310-93-164-41-001	64	6.40″	1.87	1.69

(4732) (de06349)

VERY LOW-PROFILE DIP SOCKETS

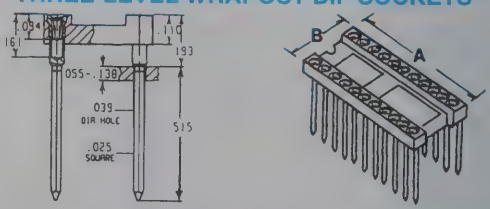


Open-frame dual in-line sockets have a low profile (only 0.122″ above PC board). Sleeve (pin): 200µ″ tin plating. 4-finger #30 contact (clip): 30µ″ gold plating.

Stock No.	Type	Pins	Dimensions A	Dimensions B	Pkg. of	1-4	5-24
91F9175	1159331441001	14	0.7″	0.3″	28	18.95	17.05
91F9176	1159331641001	16	0.8″	0.3″	25	19.33	17.40
91F9177	1159331841001	18	0.9″	0.3″	22	19.14	17.23
91F9178	1159332041001	20	1.0″	0.3″	20	18.66	16.79
91F9179	1159332441001	24	1.2″	0.3″	16	17.92	16.13
91F9180	1159332841001	28	1.4″	0.3″	14	18.30	16.47
91F9182	1159362841001	28	1.4″	0.6″	14	18.30	16.47
91F9183	1159363241001	32	1.6″	0.6″	12	17.90	16.11
98F9641	115-93-640-41-001	40	2.0″	0.6″	10	22.43	20.22

(18142) (ne10268)

THREE-LEVEL WRAPOST DIP SOCKETS



Three-level DIP sockets same as low profile DIP sockets, *ordered separately*, except with three-level solderless wrapost terminals. These terminals are firmly locked in insulator to withstand torque of wrapping tool.

PLATING: SLEEVE, 10µ″ GOLD; CONTACT, 30µ″ GOLD

Stock No.	Type	Pins	Dimensions A × B	Pkg. of	1-4	5-9
66F9206	123-13-306-41-001	6	0.3 × 0.4″	67	0.49	0.44
66F3251	123-13-308-41-001	8	0.4 × 0.4″	50	32.57	29.31
66F3252	123-13-314-41-001	14	0.7 × 0.4″	28	31.95	28.75
66F3253	123-13-316-41-001	16	0.8 × 0.4″	25	32.62	29.36
66F9210	123-13-318-41-001	18	0.9 × 0.4″	22	32.27	29.04
66F3254	123-13-320-41-001	20	1.0 × 0.4″	20	32.61	29.35
66F9212	123-13-324-41-001	24	1.2 × 0.4″	16	31.30	28.17
66F9213	123-13-422-41-001	22	1.1 × 0.5″	18	32.30	29.07
66F9214	123-13-624-41-001	24	1.2 × 0.7″	16	31.30	28.17
66F9215	123-13-628-41-001	28	1.4 × 0.7″	14	31.95	28.75
66F9216	123-13-632-41-001	32	1.6 × 0.7″	12	31.32	28.19
66F9217	123-13-640-41-001	40	2.0 × 0.7″	10	32.61	29.35

(4792) (ne00108)

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PIN RECEPTACLES, PCB PINS AND INTERCONNECTS

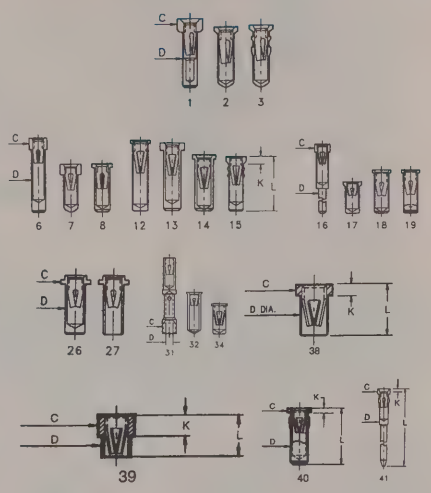
PIN RECEPTACLES

200µ" tin-plated, precision machined brass shell fitted with stamped and hardened, 30µ" gold-plated beryllium copper multi-finger spring contact. **Sold in packages of 100.**

Stock No.	Type	Fig.	Mount Style	Spring Range	Mtg. Hole	C Dia.	D Dia.	K	L	1-9
95F6568	0548-015011127100	1	PC Solder	*	.036"	.058"	.034"	.031"	.155"	19.47
95F6569	0552-115011127100	2	PC Solder	*	.040"	.055"	.038"	.018"	.136"	15.53
95F6570	0552-215011127100	2	PC Solder	*	.040"	.055"	.038"	.018"	.170"	15.53
95F6573	1407-015011127100	4	PC Solder	*	.043"	.055"	.038"	.031"	.146"	15.53
95F6575	0677-015013027100	6	PC Solder	**	.053"	.063"	.049"	.041"	.248"	26.93
95F6576	0555-015013027100	7	PC Solder	**	.053"	.072"	.051"	.038"	.160"	21.87
95F6577	0667-015013027100	8	PC Solder	**	.057"	.072"	.055"	.016"	.161"	15.53
95F6581	0295-015010627100	12	PC Solder	***	.063"	.077"	.060"	.014"	.259"	29.22
95F6582	0292-015010627100	13	PC Solder	***	.071"	.093"	.068"	.030"	.250"	26.48
95F6585	0300-115014727100	16	PC Solder	+	.042"	.078"	.040"	.040"	.320"	30.98
95F6587	0331-015011827100	17	PC Solder	±	.071"	.090"	.069"	.025"	.150"	50.68
95F6588	0327-015013427100	18	PC Solder	‡	.075"	.091"	.072"	.018"	.206"	26.48
95F6589	0329-015013427100	19	PC Solder	‡	.075"	.090"	.072"	.018"	.206"	70.16
95F6594	0317-015013427100	24	PC Solder	+	.093"	.120"	.088"	.032"	.253"	53.88
95F6600	0358-015013427100	30	PC Solder	+	.089"	.110"	.082"	.240"	.343"	40.41
95F6602	0355-015010227100	32	PC Solder	++	.102"	.118"	.100"	.016"	.290"	32.66
95F6604	0364-015011327100	34	PC Solder	◆	.100"	.120"	.098"	.018"	.213"	42.54
95F6596	0316-015013427100	26	PC Solder	‡	.087"	.126"	.084"	.036"	.236"	32.96
91F4899	0287015011627100	39	PC Solder	***	.065"	.080"	.062"	.045"	.090"	12.64
91F4900	0305015014727100	38	PC Solder	+	.059"	.074"	.056"	.025"	.095"	18.94
95F6572	0553-215011127100	3	Hex Fit	*	.041"	.055"	.038"	.016"	.170"	20.55
95F6584	0279-015014727100	15	Hex Fit	+	.061"	.078"	.057"	.028"	.200"	52.51
91F4898	0293015011627100	40	Press Fit	***	.067"	.086"	.061"	.015"	.200"	9.13
95F6597	0314-015013427100	27	PC	‡	.087"	.126"	.084"	.036"	.236"	33.02
95F6601	0348-033013427100	31	▲	‡	...	.105"	.049"	.224"	.530"	103.47
95F6612	0039-217013027020	41	▲▲	**	.055"	.072"	.052"	.031"	.560"	16.28
95F6613	0038-317013027020	41	▲▲	**	.055"	.072"	.052"	.031"	.700"	52.51

Spring Range: * = .015-.021"; ** = .015-.025"; *** = .022-.032"; + = .025-.037"; ± = .037-.043"; ‡ = .032-.047"; ++ = .040-.050"; ◆ = .048-.064". ▲=#20A Crimp Barrel; ▲▲=Knurled Press Fit

(4712) (de02035)



PRINTED CIRCUIT PINS

Precision machined, 20µ" gold plated brass pins mate with receptacles *ordered separately on this page.* Annealed for crimping to wires or swaging to circuit boards. Board thickness: 0.0625". **Sold in packages of 100.**

PC SWAGE MOUNT

Stock No.	Type	Fig.	D Dia.	A	V	L	1-9
95F6615	3117-200210000080	42+	.024"	.188"	.078"	.291"	15.53
95F6617	3112-200210000080	43*	.024"	.125"	.082"	.232"	15.53
95F6623	3103-200210000080	44*	.040"	.300"	.082"	.402"	15.53
95F6624	3222-200210000080	45*	.040"	.150"	.082"	.252"	16.99
95F6628	3301-214210000080	46*	.040"	.257"	.082"	...	42.09

#20A CRIMP BARREL

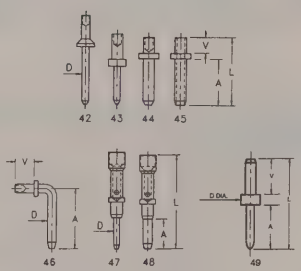
Stock No.	Type	Fig.	D Dia.	A	V	L	1-9
95F6625	3603-007210000080	47	.040"	.188"	...	.588"	56.24
95F6626	3602-007210000080	48	.062"	.188"	...	.588"	67.26

SOLDER MOUNT

Stock No.	Type	Fig.	D Dia.	A	V	L	1-9
91F4901	3137100210000080	49*	.062"	.180"	.082"	.302"	5.68
91F4902	3137300210000080	49*	.062"	.180"	.115"	.365"	3.84

+ .035" mounting hole; * .043" mounting hole

(4713) (de02036)

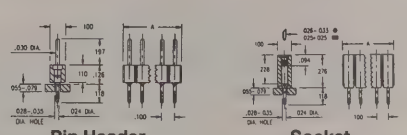


SINGLE ROW SERIES INTERCONNECTS

Interconnects feature straight solder tail. Accept 0.030" diameter and 0.025" square pins. Current rating: 3A. **Type 800** pin header features 10µ" gold pins. **Type 801** socket features 200µ" tin shells, 30µ" gold contacts/clips.

Stock No.	Type	No. of Pins	Length	1-9
16F4815	800-10-064-10-001	64	6.400"	8.21
16F4816	801-93-036-10-001	36	3.600"	5.16
16F4817	801-93-050-10-001	50	5.000"	7.17

(4819) (ne08391)

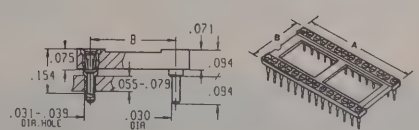


ULTRA-LOW PROFILE DIP SOCKETS

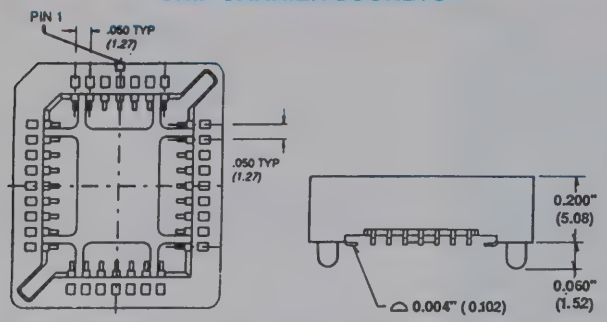
Ultra-low profile, open frame DIP sockets equipped with specially designed short contacts allowing 0.095" (2.41) height above PCB. Require 0.075" (1.91) insertion depth and have 0.030" (0.762) diameter solder tail. All are 0.100" (2.54) pin spacing; 6th digit of type number indicates row spacing: **3** = 0.300" (7.62), **4** = 0.400" (10.16), **6** = 0.600" (15.24).

Stock No.	Type	Pins	Dimensions A×B	Std. Pkg.	1-9
93F4082	115-93-308-41-003	8	0.400 x 0.400"	50	19.36
93F4083	115-93-314-41-003	14	0.700 x 0.400"	28	18.20
93F4084	115-93-316-41-003	16	0.800 x 0.400"	25	18.58
93F4086	115-93-320-41-003	20	1.000 x 0.400"	20	17.93
93F4087	115-93-324-41-003	24	1.200 x 0.400"	16	17.19
93F4090	115-93-628-41-003	28	1.400 x 0.700"	14	17.57
93F4092	115-93-640-41-003	40	2.000 x 0.700"	10	17.93

(4668) (de00107)



PLCC-SMT SERIES SURFACE MOUNT PLASTIC LEADED CHIP CARRIER SOCKETS



High-density, low-profile 0.200″ (5.08) height. Phosphor bronze contacts with tin-over-nickel plating. High-temperature, black polyphenylene sulfide insulator, rated UL94V-0, is compatible with IR reflow and wave soldering. Insertion force: 180g/pin maximum. Withdrawal force: 28.35g/pin minimum. Contact resistance: 20mΩ. Rated 1A. Temperature range: –55°C to +105°C. For automatic assembly.

SURFACE MOUNT PLCC SOCKETS WITH LOCATION POSTS

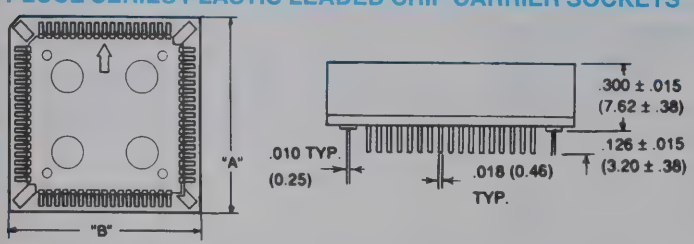
Stock No.	Type	Contacts	Configuration	1-24	25-49
04F773	PLCC-20-SMTL-TT	20	0.600″ (15.24) Square	0.82	0.68
04F774	PLCC-28-SMTL-TT	28	0.700″ (17.78) Square	0.82	0.68
04F775	PLCC-32-SMTL-TT	32	0.700″ (17.78) x 0.800″ (20.32) Rectangular	0.82	0.68
04F776	PLCC-44-SMTL-TT	44	0.900″ (22.86) Square	1.12	0.93
04F778	PLCC-68-SMTL-TT	68	1.200″ (30.48) Square	1.54	1.27
04F779	PLCC-84-SMTL-TT	84	1.400″ (35.56) Square	1.73	1.43

SURFACE MOUNT PLCC SOCKETS WITHOUT LOCATION POSTS

50F1089	PLCC-28-SMT-TT	28	0.700″ (17.78) Square	0.82	0.68
50F1090	PLCC-32SMT-TT	32	0.700″ (17.78) x 0.800″ (20.32) Rectangular	0.82	0.68
50F1091	PLCC-44SMT-TT	44	0.900″ (22.86) Square	1.12	0.93
50F1092	PLCC-52-SMT-TT	52	1.000″ (25.40) Square	3.36	2.82
50F1093	PLCC-68-SMT-TT	68	1.200″ (30.48) Square	1.54	1.27
50F1094	PLCC-84-SMT-TT	84	1.400″ (35.56) Square	1.73	1.43

(4757) (de51482)

PLCCE SERIES PLASTIC LEADED CHIP CARRIER SOCKETS



Accept chip carriers conforming to latest JEDEC specifications. Molded-in standoffs for easy cleaning and heat dissipation. High-temperature, surface mount compatible PPS body, rated UL94V-0. Phosphor bronze contacts with tin-over-nickel plating. Current rating: 1A. Temperature range: –55°C to +105°C.

Stock No.	Type	Positions	A	B	1-24	25-49
16F2168	PLCCE-020-S1-TT	20	0.590″ (14.99)	0.590″ (14.99)	0.93	0.77
16F2169	PLCCE-028-S1-TT	28	0.690″ (17.53)	0.690″ (17.53)	1.89	1.81
16F2170	PLCCE-032-S1-TT	32	0.690″ (17.53)	0.790″ (20.07)	1.99	1.91
16F2171	PLCCE-044-S1-TT	44	0.890″ (22.61)	0.890″ (22.61)	1.08	0.89
16F2172	PLCCE-052-S1-TT	52	0.990″ (25.15)	0.990″ (25.15)	2.53	2.42
16F2173	PLCCE-068-S1-TT	68	1.190″ (30.23)	1.190″ (30.23)	1.14	0.95
04F772	PLCCE-084-S1-TT	84	1.390″ (35.31)	1.390″ (35.31)	2.93	2.46

(4777) (de51670)

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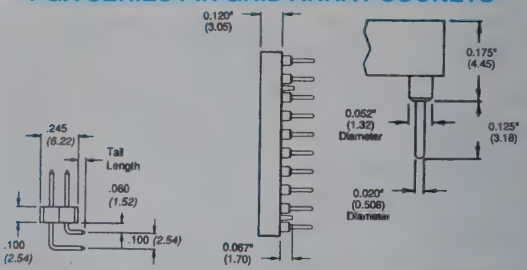
PGA SERIES PIN GRID ARRAY SOCKETS

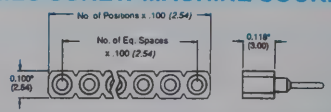


6-finger beryllium copper contacts provide consistent insertion/withdrawal and contact resistance. Plated with 10μ″ gold over nickel on contact area and 200μ″ tin on terminal area. Low insertion force for easy installation and removal. Precision machined half-hard brass shell protects against flux contamination and solder wicking. Current rating: 1A. Temperature range: –65°C to +105°C. High temperature IR compatible. Black glass-filled polyester housing, rated UL94V-0.

Stock No.	Type	Pins	Grid	Dimensions A	Dimensions B	1-24
90F6644	PGA-068CH3-S-TG	68	11 x 11	1.100″ (27.94)	0.500″ (12.70)	2.01
90F6649	PGA-121AH3-S-TG	121	13 x 13	1.300″ (33.02)	0.500″ (12.70)	6.05
90F6651	PGA-132AH3-S-TG	132	14 x 14	1.400″ (35.56)	0.600″ (15.24)	2.88

(4776) (de51669)

SBE SERIES SCREW MACHINE SOCKET STRIP

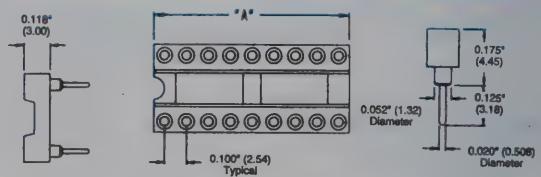


Beryllium copper contacts deliver reliability and retention. Plated 10μ″ gold over nickel on contact area, 200μ″ tin on terminal area. Notched, black glass-filled polyester housing, rated UL94V-0. 64-position body snaps to custom sizes. 100% solder/flux proof. Capacitance: 1pF max. Current rating: 1A. Temp. range: –65°C to +125°C.

Stock No.	Type	Contacts	Description	1-24
90F6657	SBE-640-S-TG	64	Solder tail	3.36

(4775) (de51668)

ICE SERIES SCREW MACHINE DIP SOCKETS



Reliable 4-finger beryllium copper contact provides stable contact resistance and prevents "IC walkout" during vibration. Plated with 10μ″ gold over nickel on contact area and 200μ″ tin on terminal area. Pin socket design prevents solder wicking and flux entrapment. Open body design provides excellent convection cooling. Black glass-filled polyester housing, rated UL94V-0. Current rating: 1A. Temperature range: –65°C to +125°C.

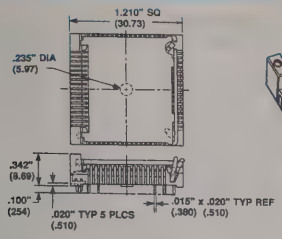
Stock No.	Type	Contacts	1-24
16F2189	ICE-063-S-TT	6	0.35
16F2190	ICE-063-S-TG	6	0.37
16F8286	ICE-083-S-TT	8	0.19
04F792	ICE-083-S-TG	8	0.31
16F2215	ICE-143-S-TT	14	0.32
04F757	ICE-143-S-TG	14	0.35
16F2194	ICE-163-S-TT	16	0.35
04F758	ICE-163-S-TG	16	0.40
16F2196	ICE-183-S-TT	18	0.41
04F759	ICE-183-S-TG	18	0.45
96F8826	ICE-203-S-TT	20	0.44
04F760	ICE-203-S-TG	20	0.50
96F8809	ICE-243-S-TT	24	0.53
04F761	ICE-243-S-TG	24	0.58
04F762	ICE-246-S-TG	24	0.58
16F2205	ICE-283-S-TT	28	1.55
90F6375	ICE-283-S-TG	28	0.69
96F8810	ICE-286-S-TT	28	0.62
04F763	ICE-286-S-TG	28	1.28
04F764	ICE-326-S-TG	40	0.78
04F765	ICE-406-S-TG	40	0.97

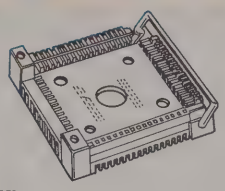
(4774) (de51667)

3M

TEXTOOL™ IC SOCKETS

TEXTOOL™ LEADLESS CHIP CARRIER SOCKETS



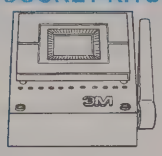


68-lead sockets accept JEDEC leadless "type A" chip carrier package. 0.015 x 0.200″ (0.381 x 5.08) rectangular leads resist bending and distorting. 0.050″ (1.27) thick aluminum lid makes socket ideal for less demanding heat sink requirements. 0.100″ x 0.100″ (2.54 x 2.54) PC-pin pattern and 0.342″ (8.69) profile allow mounting on 0.500″ (12.70) centers. Device to socket and socket to PC board orientation polarized for 1-way fit. Hole in body facilitates board cleaning. Rated 1A. Socket material UL94V-0 rated. **Type 268-5400-00-1102** has full lid. **Type 268-5400-11-1102** has no lid. UL recognized file no. E68080.

Stock No.	Type	1-9	10-24
44F7761	268-5400-00-1102	**15.87**	**14.79**
94F8957	268-5400-11-1102	**14.09**	**13.13**

(4740) (de50256)

TEXTOOL™ GRID ZIP® ZERO INSERTION FORCE SOCKET KITS



For test and burn-in of pin grid array devices, sockets feature zero insertion force to protect PGA devices from damage. Package locks securely in place by lever-operated cam. Optical locating holes on sockets allow robotic loading and unloading. Includes instructions. **Type 2XX-6311-70-1900** has 121 contacts; **type 2XX-6321-70-1900** has 441 contacts. *Order contacts separately below.*

Stock No.	Type	Grid Matrix	1-4	5-9
87F6713	2XX-6311-70-1900	11 x 11	**50.11**	**46.33**
87F357	2XX-6321-70-1900	21 x 21	**50.11**	**46.33**

CONTACTS FOR GRID ZIP® FORCE SOCKETS

Sold in packages of 100.

Stock No.	Type	Description	1-4	5-9
87F358	300-2740-06-0002	Beryllium Copper with Gold Plating	**34.01**	**31.45**

(4735) (de50251)

TEXTOOL™ ECONO ZIP® SOCKETS

Zero insertion pressure DIP sockets are ideal for field device failure, IC update, reprogramming, and initial programming at installation. Contact material: beryllium copper. Insulator material: glass fortified polyetherimide UL94V-0 rated. Choice of contact plating: 250μ″ bright tin plate over 75μ″ copper; or gold flash 5μ″ MIL-G-45204, Type II, Grade C over 50μ″ nickel QQ-N-290, Class 2. Contact normal force: 150 gram min./ contact. Rated 1A. Dielectric withstanding voltage: 1000Vrms.

BeCu TIN PLATE

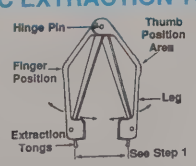
Stock No.	Type	Contacts	1-9	10-24
50F2909	228-4845-00-3327	28	**7.72**	**7.20**

BeCu GOLD FLASH

Stock No.	Type	Contacts	1-9	10-24
50F2908	228-4845-00-3303	28	**8.08**	**7.53**

(4739) (de50255)

PLCC EXTRACTION TOOL



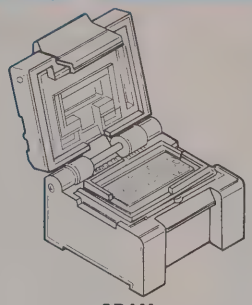
Fits plastic leaded chip carriers with 20-100 positions.

Stock No.	Type	1-4
95F3004	290N	**30.72**

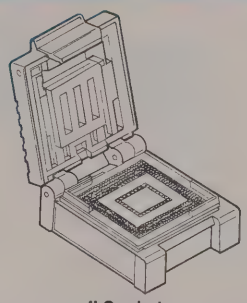
(de50253)

(4737)

TEXTOOL™ BALL GRID ARRAY SOCKET PLATFORMS



SRAM



II Socket

Ball Grid Array (BGA) socket platforms are designed for testing and burn-in applications. 1.27mm pitch sockets feature modular construction that allows for a cost-effective socket proliferation for standard or custom packages. Course alignment on device body is followed by a secondary fine alignment to the solder balls. Flat contact head provides for low resistance and minimal solder ball deformation. Insulation material is polyethersulfone (PES), rated UL94V-0. Current rating: 1 amp. Dielectric withstanding voltage: 1000Vrms. Temperature rating: –55°C to +150°C. Can be adapted to either BGA or LGA formats; for other options, *contact your local Newark sales office.*

SRAM SOCKET PLATFORM

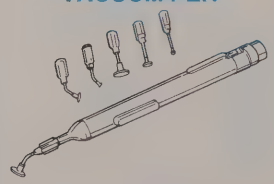
Stock No.	Type	Matrix	Lead Count	Package Size	1-4
91F2940	2119-8310-00-1902	7 x 17	119	14 x 22mm	**122.30**

II SOCKET PLATFORM

91F2941	2256-8313-00-1902	20 x 20	256	27 x 27mm	**213.91**

(12328) (ne09866)

VACUUM PEN

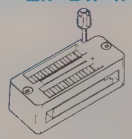


Vacuum pen comes with both straight and angled suction attachments for easier chip handling. Eliminates the need to touch fragile QFP and SOIC packages. Built-in, self-contained vacuum. Brushed aluminum body. Comes with 6 tips: 3 straight and 3 angled.

Stock No.	Type	1-4
91F2939	VP66	**73.20**

(12329) (ne09867)

TEXTOOL™ ZIP DIP II SOCKETS



Protect DIP packages and ICs from damage during test, burn-in or EPROM programming, while providing secure connection. DIP locks/releases by lever-operated metal cam. Exit contacts on 0.100″ (2.54) spacing for mounting standard boards. Insulator material: UL94V-0 rated. Contacts: beryllium copper with 30μ″ gold plating per MIL-G-45204, type II grade C, over 50μ″ nickel per QQ-N-290 class 2. 5 amps max., 25°C. Temperature rating: –55°C to +150°C.

GOLD-PLATED CONTACTS

Stock No.	Type	Contacts	1-9	10-24
46F2893	214-3339-00-0602	14	**13.82**	**12.65**
46F2894	216-3340-00-0602	16	**15.04**	**14.02**
46F2895	218-3341-00-0602	18	**16.38**	**15.27**
46F2896	220-3342-00-0602	20	**17.57**	**16.38**
46F2898	224-3344-00-0602	24	**19.85**	**18.50**
46F2899	228-3345-00-0602	28	**22.30**	**20.79**
46F2900	240-3346-00-0602	40	**29.53**	**27.53**
46F2901	264-4493-00-0602	64	**46.10**	**42.62**

(4736) (de50252)

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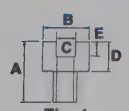


Fig. 1

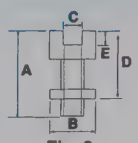


Fig. 2

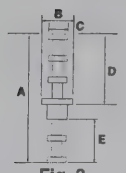


Fig. 3

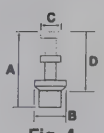


Fig. 4

Fig. 5

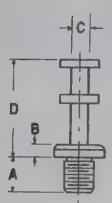


Fig. 6

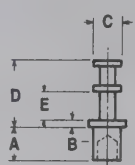
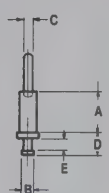


Fig. 7



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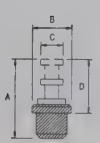

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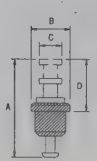

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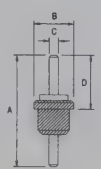

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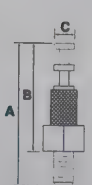


Fig. 12

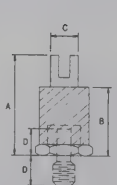


Fig. 13

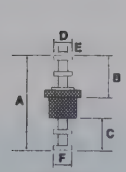


Fig. 14

UNINSULATED SOLDER TERMINALS

Terminal finish is identified by -01 or -05 in the type number. -01 = silver plated: -05 = electrosolder. All the below terminals are for board thickness of 0.062″. All terminals are suitable for swage mount—Tooling available on request.

Stock No.	Type	Fig.	Mtg. Hole Diam.	Dimensions (in.) A	B	C	D	E	Solder Turrets Top	Bot.	1-99
13F2192	140-1018-02-01-00	1*	0.052″	.176	.072	.028	.094	.068	...	...	0.32
97F4831	140-1385-02-01-00	1*	0.067″	.238	.094	.044	.156	.093	...	...	0.25
13F2190	140-1019-02-01-00	2*	0.052″	.238	.072	.028	.156	.068	...	...	0.31
40F6003	140-1025-02-01-00	2	0.116″	.500	.188	.063	.391	.125	...	...	0.48
40F6032	140-1785-02-01-00	1††	0.067″	.250	.094	.036	.156	.093	...	...	0.30
40F6056	140-2089-02-01-00	5	0.052″	.082	.047	.025	.156	.031	...	...	0.32
39F3641	160-1512-02-05-00	3††	0.067″	.240	.125	.093	.156	...	1	...	0.31
13F3080	160-3653-02-01-00	3	0.067″	.240	.094	.062	.156	...	2	...	0.26
40F6043	160-2027-02-01-00	3††	0.076″	.281	.125	.096	.187	...	1	...	0.29
40F6045	160-2040-02-01-00	3	0.076″	.432	.094	.050	.186	.164	2	2	0.36
40F6048	160-2043-02-01-00	3	0.076″	.268	.094	.050	.186	...	2	...	0.26
40F6049	160-2044-02-01-00	3	0.076″	.350	.094	.050	.186	.082	2	1	0.31
40F6016	160-1457-02-01-00	3	0.082″	.296	.125	.075	.187	...	1	...	0.30
40F6004	160-1026-02-01-00	3	0.094″	.342	.125	.094	.237	...	2	...	0.30
97F4799	160-1026-02-05-00	7	0.094″	.042	1.07	.094	.237	.092		...	0.30
40F6023	160-1558-02-01-00	3	0.094″	.328	.125	.093	.219	...	2	...	0.28
40F6026	160-1582-02-01-00	6	...	.188	.047	.065	.357	...		...	0.76
40F6044	160-2034-02-01-00	3	0.094″	.390	.156	.109	.291	...	2	...	0.35
40F6029	160-1724-02-01-00	3	0.116″	.468	.188	.142	.359	...	2	...	0.39
40F6054	160-2085-02-01-00	3	0.052″	.176	.062	.040	.094	...	1	...	0.21
97F4775	160-1797-02-01-00	3+	0.113″	.297	.188	.138	.188	...	1	...	0.33
39F3642	180-7337-02-05-00	4	0.064″	.267	.094	.060	.173	...	...	...	0.33
40F6039	140-1969-02-01-00	1	0.116″	.437	.118	.053	.328	.207	...	...	0.42
13F2193	160-1026-03-01-00	3	0.094″	.094	.402	.125	.094	.237	...	...	0.30
40F6071	180-2753-02-05-00	4	0.062″	.064	.230	.125	.060	.136	...	...	0.32
40F6006	120-1032-01-01-00	8	0.031″	.067	.272	.078	.045	.078	...	...	0.22

Thru-Hole= *=0.026″ †=0.046″ ††=0.043″ +=0.067″

(4719) (de03272)

INSULATED SOLDER TERMINALS, PRESS MOUNT

Insulator: white Teflon®. Terminal plating: electro-solder. Fits up to 0.062″ thick panels. FT = feed through.

Stock No.	Type	Fig.	Mntg. Hole	Dimensions A	B	C	D	Solder Turret	1-49
40F6239	571-4015-01-05-19	9	0.083″	0.280″	0.125″	0.080″	0.180″	2	1.59
39F3648	571-4016-01-05-19	9	0.083″	0.350″	0.125″	0.080″	0.250″	2	1.59
40F6242	571-4026-01-05-19	9	0.136″	0.390″	0.172″	0.080″	0.290″	2	1.62
39F3647	571-4179-01-05-19	10	0.136″	0.350″	0.172″	0.080″	0.165″	1+FT	1.67
40F6261	571-4182-03-05-19	10	0.136″	0.500″	0.172″	0.080″	0.250″	2+FT	1.67
97F5788	571-4283-01-05-19	11	0.083″	0.343″	0.125″	0.040″	0.165″	FT	1.84
40F5150	571-4176-01-05-19	11	0.136″	0.515″	0.172″	0.040″	0.250″	FT	1.67

(4799) (ne03270)

INSULATED SOLDER TERMINALS, STAND-OFFS

Diallyl phthalate insulated terminals are blue and plated with electro-solder. Ceramic insulated terminals are plated with silver. Other platings and styles are also available; *contact your local Newark sales office.*

Stock No.	Type	Fig.	Mounting Thread	Hex	Insulator	Dimensions A	B	C	D	1-49
40F6233	572-4870-01-05-16	12*	2-56 Male	0.156″	Diallyl	0.391″	0.235″	0.072″	0.125″	3.34
40F6237	572-4894-01-05-16	12*	2-56 Male	0.156″	Diallyl	0.372″	0.216″	0.093″	0.218″	3.86
40F6217	570-2045-01-01-00	12†	4-40 Male	0.250″	Ceramic	0.545″	0.326″	0.093″	0.250″	7.15
40F1762	570-3650-01-01-00	12†	4-40 Female	0.250″	Ceramic	0.624″	0.405″	0.093″	0.125″	6.83
40F6224	572-4810-01-05-16	12†	4-40 Male	0.250″	Diallyl	0.719″	0.375″	0.093″	0.219″	3.34
40F6225	572-4814-01-05-16	12†	4-40 Female	0.250″	Diallyl	0.719″	0.375″	0.093″	0.156″	2.94
40F6228	572-4826-01-05-16	12†	4-40 Female	0.250″	Diallyl	0.594″	0.375″	0.093″	0.156″	2.94
40F6213	570-1994-02-01-00	12†	6-32 Male	0.312″	Ceramic	0.561″	0.342″	0.093″	0.250″	7.45
40F6231	572-4862-01-05-16	13††	4-40 Female	0.250″	Diallyl	0.625″	0.375″	0.065″	0.156″	3.27

Turret: *=1 †=2 ††=Slot

Stock No.	Type	Fig.	Hex	Thread	Insulator	Dimensions A	B	C	1-49
40F6200	570-1503-01-05-19	12	.156	4-4	Teflon	.750	.500	.066	3.93
40F6201	570-1504-01-05-19	12	.250	6-32	Teflon	.890	.640	.140	4.73
			TAP						
40F6202	570-1510-01-05-19	12	.156	4-40	Teflon	.500	...	.066	3.93
40F6203	570-1511-01-05-19	12	.250	6-32	Teflon	.718	...	.140	4.13
40F6227	572-4820-01-05-16	12	.250	4-40	Diallyl	.438	...	.140	2.94
40F1782	570-3648-02-01-00	12	.312	6-32	Ceramic	.624	...	.093	7.19

(4820) (ne08513)

INSULATED SOLDER TERMINALS, FEED-THRU FIG. 14

Teflon® insulated terminals are white and plated with silver. Ceramic terminals are plated with electro-solder. Insulator: Teflon except **type 570-1990-01-05-00**, ceramic.

Stock No.	Type	Mntg. Thread	Hex	Turrets Top	Bot.	Dimensions A	B	C	D	1-49
13F3143	570-2643-01-01-19	4-40	0.156″	Pin	Pin	0.590″	0.262″	0.155″	0.029″	8.35
39F3645	570-2642-01-01-19	6-32	0.188″	2	2	0.878″	0.368″	0.260″	0.040″	8.35
13F3141	570-2641-01-01-19	8-32	0.250″	2	2	0.990″	0.425″	0.315″	0.040″	7.27
39F3646	570-2640-01-01-19	10-32	0.312″	2	2	0.990″	0.425″	0.315″	0.062″	7.30
40F1805	570-1990-01-05-00	1/4-28	0.375″	2	2	0.923″	0.383″	0.290″	0.062″	13.57

(4821) (ne08514)

450 SERIES GOLD-PLATED JACKS/SOCKETS

Insulated and uninsulated jacks/sockets feature mating pins from .020″ to .080″. Last two digits in insulated type number designate color. 10 = black; 12 = red. For other plating, color and style options, *contact your local Newark sales office.*

UNINSULATED JACKS/SOCKETS

Stock No.	Type	Fig.	Mate Pin	Mounting Hole	Dimensions A	B	C	1-99
39F2922	450-3772-01-03-00	1	.020″	.052″	.227″	.059″	.015″	0.65
40F6125	450-3703-01-03-00	1	.025″	.055″	.158″	.074″	.016″	0.55
97F4937	450-3703-01-04-00	2	.025″	.055″	.158″	.074″	.020″	0.40
40F6102	450-3230-01-03-00	2	.025″	.062″	.192″	.080″	.080″	0.65
97F4946	450-3718-01-03-00	1	.030″	.076″	.204″	.090″	.018″	0.63
40F6303	450-3704-01-03-00	1	.040″	.076″	.204″	.090″	.018″	0.63
40F6119	450-3388-01-03-00	3	.040″	.089″	.235″	.125″	.035″	0.62
39F2912	450-3286-01-03-00	4	.040″	.089″	.235″	.125″	.035″	0.62
65F1793	450-3752-01-03-00	6	.040″	.076″	.220″	.102″	.080″	0.65
65F1791	450-3366-01-03-00	5	.040″	.089″	.317″	.125″	.192″	1.14
10F7942	450-3422-01-03-00	3	.040″	.047″	.416″	.125″	.100″	3.13
10F7941	450-3326-01-03-00	1	.060″	.102″	.212″	.120″	.018″	0.71
97F4942	450-3708-01-03-00	1	.080″	.116″	.370″	.143″	.020″	1.03
97F4933	450-3398-01-03-00	3	.080″	.144″	.411″	.188″	.100″	1.17

INSULATED JACKS/SOCKETS

40F6130	450-4352-01-03-10	7	.040″	.136″	.390″	.172″	.046″	1.79
97F6139	450-4352-01-03-12	7	.040″	.136″	.390″	.172″	.046″	1.79

PATCH CORD ENDS, GOLD-PLATED (CRIMP OR SOLDER)

Stock No.	Type	Fig.	Mate Pin	Description	Dimensions A	B	1-99
65F1800	460-3308-01-03-00	8	.040″	Male	.586″	.105″	0.82

(4797) (ne03000)

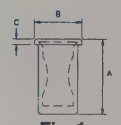


Fig. 1

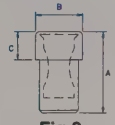


Fig.2

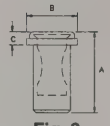


Fig. 3

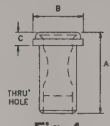


Fig. 4

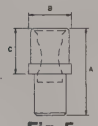


Fig. 5

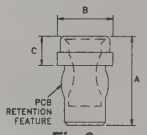


Fig.6

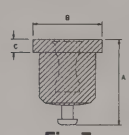


Fig. 7

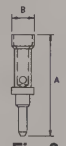


Fig. 8

461 SERIES GOLD-PLATED SHORTING LINKS/PLUGS

Stock No.	Type	Fig.	Mating Pin	Dimension A	B	Color	1-99
65F1797	461-2872-01-03-10	9	0.040″	0.200″	0.125″	Black	0.58
65F1798	461-2872-01-03-12	9	0.040″	0.200″	0.125″	Red	0.58
39F2985	461-2871-01-03-10	10	0.040″	0.200″	0.500″	Black	0.54
65F1795	461-2871-01-03-12	10	0.040″	0.200″	0.500″	Red	0.54
10F7945	461-2871-02-03-10	11	0.040″	0.250″	0.500″	Black	0.54
10F7948	461-3771-01-03-12	11	0.040″	0.08″	0.500″	Red	0.78

(4716) (de03002)

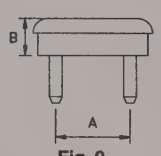


Fig. 9

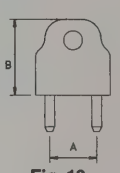


Fig. 10

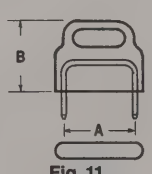


Fig. 11

702 SERIES COMPONENT TO FLAT PIN SOCKET ADAPTERS

Plug into standard IC sockets. Terminals are phosphor bronze. Board material: 0.062″ type FR4 fiber board.

Stock No.	Type	Fig.	No. of Pins	Dimensions A	B	C	D	1-99
13F3186	702-3725-01-03-00	12	14	0.450″	0.750″	0.300″	0.100″	8.03
13F3188	702-3728-01-03-00	12	16	0.450″	0.850″	0.300″	0.100″	10.94

(4718) (de03005)

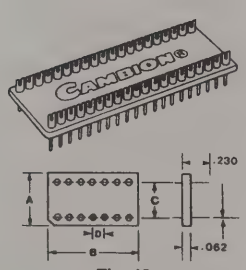


Fig. 12

MOLDED BATTERY HOLDERS

All holders feature interlocking dovetails, for grouping multiple batteried together. UL94V-0 rated plastic bodies.

Stock No.	Type	Fits Battery	Fig.	1-49
13F3155	400-2800-01-00-20	"C" size	13	7.85
13F3156	400-2801-01-00-20	"D" size	13	8.60
65F1801	400-2802-01-00-20	"AA" size	13	5.00
81F3822	400-1800-01-00-20	PP3-9V	*	5.88

*Not shown
(4717) (de03004)

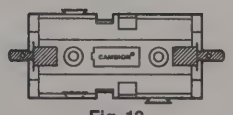
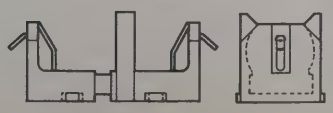


Fig. 13



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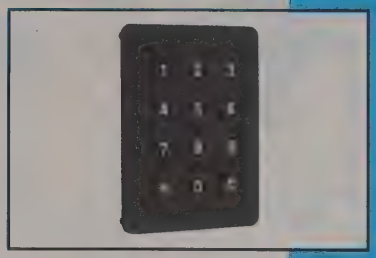
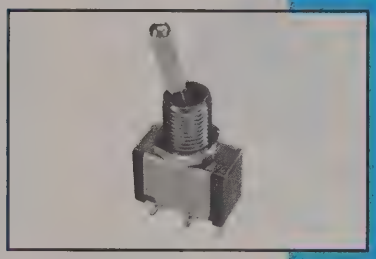
Switches, Commercial Sensors & Knobs

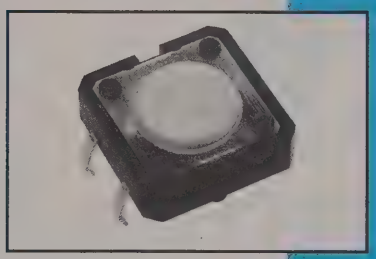
Pages 989—1072

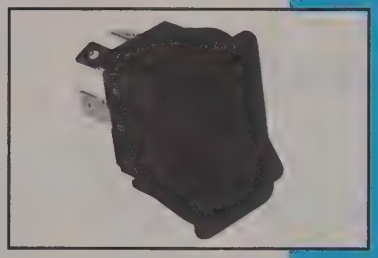
20

- AMP®
- APM Hexseal
- Bourns Inc.
- Bulgin Components
- C&K
- Carlingswitch
- Cherry Electric
- Dialight
- EAO Switch Corporation
- Eaton/Cutler-Hammer
- Electronic Hardware Corp.
- Electroswitch
- Grayhill Inc.
- Hamlin
- ITW Switches
- Micro Switch
- Multicomp
- Ohmite
- Omron
- Schurter
- SPC Technology
- Switchcraft
- Thomas & Betts/ Alcoswitch™







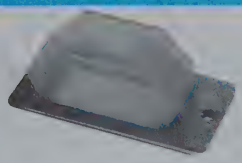


Products include...

- DIP & Snap-Acting Switches
- Emergency & Keylock Switches
- Keyboards & Keypads
- Knobs
- Pushbutton, Rotary & Toggle Switches
- Reed & Hall-Effect Switches
- Rocker & Paddle Switches
- Sensors
- Slide & Thumbwheel Switches
- Switch & Circuit Breaker Boots
- Switch Kits

Product Selection Guide—Switches, Sensors & Knobs

SECTION 20



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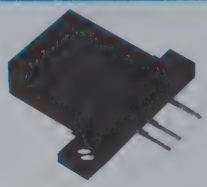

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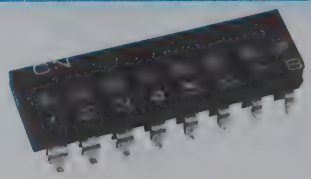

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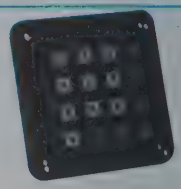

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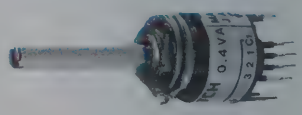

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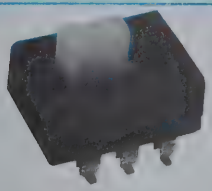

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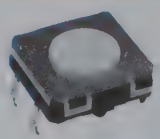

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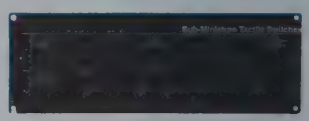

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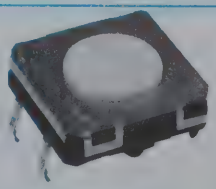

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SUBMINIATURE SWITCHES

TSP, TST TINY SUBMINIATURE SEALED SWITCHES

Fig. 1

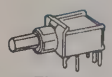
Fig. 2

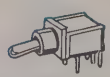
Fig. 3

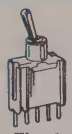
Fig. 4

Available in toggle or pushbutton versions. Specially designed for thru-hole and surface mount applications. Washable process sealed construction. Contacts: 0.4VA max. at 20VDC or peak AC; gold over nickel. Initial contact resistance: 20 milliohms max. Operating temperature range: –30°C to +85°C. 0.100″ pin spacing. Bushing: 0.170″. **Washable sealed construction.**

TSP SERIES PUSHBUTTON SWITCHES, OFF (ON) ACTION

Stock No.	Type	Fig.	Circuits	1-24	25-49	50-99	100-249
84F782	TSPD11CGPC0	1	SPST	5.22	4.87	4.69	4.56
84F783	TSPD11CGRA0	2	SPST	5.99	5.58	5.38	5.23

TST SERIES TOGGLE SWITCHES ON-NONE-ON ACTION

Stock No.	Type	Fig.	Circuits	1-24	25-49	50-99	100-249
84F790	TST11DGRA1D	3	SPDT	7.32	7.00	6.68	6.37
84F792	TST11DGPCV1D	4	SPDT	7.50	7.18	6.85	6.53

(4762) (de51588)

TT SERIES SUBMINIATURE TOGGLES

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

Fig. 7

Fig. 8

Fig. 9

Fig. 10

Fig. 11

Fig. 12

TT Series fit 0.100″ grid PC. Units indicating letter **"G"** in type number have gold contacts rated 0.4VA max. @ 20VDC or peak AC; other **TT** units have silver contacts rated 3A, 125VAC or 28VDC resistive. Type number code for PC terminal table below: **PC** = straight terminals, **RA** = right angle, **VRA** = vertical right angles. Type number suffix indicates actuator dimension and bushing: **1** =0.21″, **2** =.29″, **3** =.57″, **6** =.590″, **7** =.458″, **8**=.530″, **9**=.415″. **T** = 10-48 bushing, **T¼** = ¼-40 bushing. Units black, but red and white available on special order; *contact your local Newark sales office.*

PC TERMINALS, SPST CIRCUITRY

Stock No.	Type	Fig.	Action	1-24	25-49	50-99	100-249
13F4038	TT11AG-PC-1	1	On-None-Off	5.76	5.37	5.18	5.03
13F4040	TT11AG-PC-9T-1/4	1	On-None-Off	5.76	5.37	5.18	5.03
61F784	TT11DG-PC-1	1	On-None-Off	5.81	5.42	5.22	5.08

PC TERMINALS, SPDT CIRCUITRY

Stock No.	Type	Fig.	Action	1-24	25-49	50-99	100-249
13F4041	TT11DG-PC-9T-1/4	1	On-None-Off	5.81	5.42	5.22	5.08
61F788	TT11DG-RA-1	5	On-None-Off	6.21	5.94	5.67	5.40
13F4050	TT11DG-RA-9T-1/4	5	On-None-Off	6.21	5.94	5.67	5.40
44F1752	TT11DG-VRA-1	2	On-None-Off	6.21	5.94	5.67	5.40
61F785	TT11EG-PC-1	1	On-Off-On	6.79	6.49	6.20	5.91
61F789	TT11EG-RA-1	...	On-Off-On	7.32	7.00	6.68	6.37

PC TERMINALS, DPST CIRCUITRY

13F4043	TT21KG-PC-9T-1/4	1	On-None-Off	8.83	8.45	8.06	7.68

PC TERMINALS, DPDT CIRCUITRY

61F786	TT21NG-PC-1	1	On-None-On	8.93	8.54	8.15	7.77
13F4044	TT21NG-PC-9T-1/4	1	On-None-On	8.83	8.45	8.06	7.68
61F790	TT21NG-RA-1	1	On-None-On	10.02	9.58	9.14	8.71
13F4052	TT21NG-RA-9T-1/4	...	On-None-On	10.02	9.58	9.14	8.71
46F2266	TT21PG-PC-1	...	On-Off-On	9.97	9.53	9.10	8.67
14F3145	TT21PG-PC-7T-1/4	...	On-Off-On	6.82	...	...	...

PC TERMINALS, 4PDT CIRCUITRY

Stock No.	Type	Fig.	Action	1-24	25-49	50-99	100-249
46F2270	TT41NG-PC-9T1/4	3	On-None-On	12.58	12.36	11.89	11.44
46F2267	TT41NG-RA-1	4	On-None-On	14.10	13.84	13.33	12.82

SOLDER TERMINALS, SPST CIRCUITRY

Stock No.	Type	Fig.	Action	1-24	25-49	50-99	100-249
13F3970	TT13A-2T	7	On-None-Off	5.65	5.27	5.08	4.94
13F3976	TT13A-3T	7	On-None-Off	5.65	5.27	5.08	4.94
13F3990	TT13A-6T(0)	6	On-None-Off	7.58	7.25	6.91	6.59
13F4002	TT13A-9T-1/4	7	On-None-Off	6.57	6.28	6.00	5.72
14F3135	TTE13D-8T-1/4	9	On-None-On	13.99	13.74	13.23	12.73

SOLDER TERMINALS, SPDT CIRCUITRY

Stock No.	Type	Fig.	Action	1-24	25-49	50-99	100-249
13F3971	TT13D-2T	8	On-None-On	5.65	5.27	5.08	4.94
61F780	TT13D-3T	8	On-None-On	6.42	6.14	5.86	5.58

CONTINUED

TT SERIES SUBMINIATURE TOGGLES (CONT.)

Stock No.	Type	Fig.	Action	1-24	25-49	50-99	100-249
14F3132	TT13D-7T-1/4	6	On-None-On	11.97	11.45	10.93	10.41
61F781	TT13E-3T	7	On-Off-On	6.60	6.31	6.02	5.74
13F3992	TT13E-6T(0)	...	On-Off-On	6.75	6.46	6.17	5.87

SOLDER TERMINALS, DPST CIRCUITRY

13F4005	TT23K-9T-1/4	7	On-None-Off	11.65	11.14	10.63	10.13

SOLDER TERMINALS, DPDT CIRCUITRY

13F3974	TT23N-2T	8	On-None-On	8.68	8.30	7.92	7.55
61F782	TT23N-3T	8	On-None-On	8.68	8.30	7.92	7.55
61F783	TT23P-3T	7	On-Off-On	9.75	9.33	8.90	8.48
14F3140	TTE23N-8T-1/4	9	On-None-On	15.13	14.86	14.31	13.77

SOLDER TERMINALS, 4PDT CIRCUITRY

46F2269	TT43N-2T	10	On-None-On	12.35	12.13	11.68	11.23

WIRE WRAP TERMINALS, SPDT CIRCUITRY

13F4046	TT11DG-WW-2T	12	On-None-On	6.16	5.74	5.53	5.38

WIRE WRAP TERMINALS, DPDT CIRCUITRY

13F4048	TT21NG-WW-2T	11	On-None-On	9.58	9.16	8.74	8.33

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TP SERIES SUBMINIATURE PUSHBUTTONS

Fig. 1

Fig. 2

Fig. 3

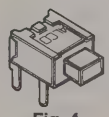


Fig. 4

Fig. 5

Fig. 6

Fig. 7

Fig. 8

All are momentary, normally open. Available in straight or right angle PC terminals. Gold-plated contacts rated 0.4VA max. @ 20VDC or peak AC. Dielectric strength: 1000Vrms. –30°C to +65°C. Life expectancy: 1 pole, 80,000 operations; 2 pole, 60,000 operations. All buttons are black, except **type TP11CGPC2** and **typeTP11CGRA2** = Red.

STRAIGHT PC TERMINALS

Stock No.	Type	Fig.	Circuits	Bushing Dia.	1-24	25-49	50-99	100-249
13F3632	TP11CG-PC(0)	2	SPST	...	4.61	4.30	4.14	4.02
13F3633	TPA11CG-PC(0)	1	SPST	...	4.61	4.30	4.14	4.03
46F2275	TP11CG-PC-2	...	SPST	...	4.61	4.30	4.14	4.03
13F3650	TPD11CG-PC(0)	5	SPST	.250″	4.61	4.30	4.14	4.03
13F3651	TPF11CG-PC(0)	...	SPST	¼ -40	6.07	5.80	5.54	5.28
46F2273	TPF11FG-PC-0	6	SPDT	¼ -40	6.16	5.74	5.53	5.38
13F3653	TPF21MG-PC(0)	...	DPST	¼-40	9.13	8.74	8.34	7.95

RIGHT ANGLE PC TERMINALS

13F3637	TP11CG-RA(0)	4	SPST	...	5.17	4.82	4.64	4.51
13F3638	TPA11CG-RA(0)	3	SPST	...	5.17	4.82	4.64	4.51
13F3646	TPB11CG-RA(0)	7	SPST	.188″	5.16	4.81	4.63	4.50
44F1756	TPB11FG-RA-0	8	SPDT	10-48	6.54	6.25	5.97	5.69
46F2271	TP11CG-RA-2	4	SPST	...	5.17	4.82	4.64	4.51
13F3647	TPC11CG-RA(0)	8	SPST	10-48	5.17	4.82	4.64	4.51
13F3654	TPD11CG-RA(0)	7	SPST	.250"	5.17	4.82	4.64	4.51
13F3655	TPF11CG-RA(0)	8	SPST	¼ -40	5.92	5.52	5.32	5.17

(4763) (de51589)

SWITCH SAMPLER KIT

Type N switch kit contains 35 of the most common Alcoswitch part numbers, including toggles, rockers, pushbutton, slide, DIP/SIP and pushwheel switches.

Toggle	Rocker	Pushwheel
A101SYZQ	XRM110D00	SH6131AK
MTG106F	A101J1ZQ0	SMC141AK
TST11DGPC1D	TR11DGRA0	CAP
A101MD9AV2Q		C220
Slide	**DIP/SIP**	**Pushbutton**
MSSA1450R	ADSE06	164SL11
MSS2200	ADP04	FSM
SE1DGRA	DRD16RA	FSM1J
SSB22	GDH06S	FSM4J
SLSA120	GDR08	MPA106D
ASE62G	GDS10	MPS103F
TSS11DGPC	GDP08	TP11CGCO
STS131PC	GDP04S	
MHS123K	SSV06	

92F2941 Type SAMPLE KIT N. **Each** **91.37**
(4725) (de03785)

ALCOSWITCH™ MINIATURE SWITCHES

GEMINI SERIES MINIATURE SWITCHES

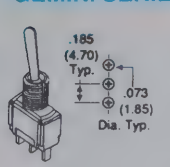


Fig. 1

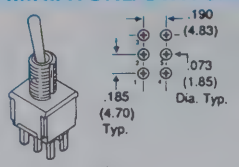


Fig. 2

Fig. 3

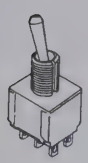


Fig. 4

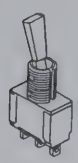


Fig. 5

Fig. 6

Fig. 7

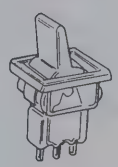


Fig. 8

Contact rating: gold 0.04VA at 20VDC; silver 3A at 250VAC, 5A at 125VAC. Epoxy sealed terminals. Dielectric strength: 1,000V RMS. Contact resistance: 30mΩ. –30°C to +85°C. Hardware supplied with toggle models includes 2 hex nuts, 1 lockwasher, 1 locking ring. Types with **Q suffix** are UL recognized, CSA certified. Wire lug terminals, silver contacts. **B suffix** = gold.

LONG PC TERMINAL, BAT TOGGLE, ¼-40 THREADED, 0.35″ L, SLOTTED BUSHING, GOLD CONTACTS, FIG 1.

Stock No.	Type	Circuit	Action	1-24	25-49	50-99
46F2986	A101SYCB	SPDT	On-On	2.74	2.56	2.46
46F2987	A103SYCB	SPDT	On-Off-On	3.31	3.09	2.97
46F2988	A105SYCB	SPDT	(On)-Off-(On)	3.61	3.36	3.24
46F2989	A107SYCB	SPDT	(On)-Off-On	3.61	3.36	3.24
46F2990	A108SYCB	SPDT	(On)-On	3.42	3.19	3.07
			FIG. 2			
46F2991	A201SYCB	DPDT	On-On	4.50	4.30	4.10
46F2992	A203SYCB	DPDT	On-Off-On	5.32	4.96	4.78
46F2993	A205SYCB	DPDT	(On)-Off-(On)	5.08	4.86	4.63
46F2995	A208SYCB	DPDT	(On)-On	5.39	5.16	4.92
			LONG BAT TOGGLE, ¼-40 THREADED, 0.35″ L, SLOTTED BUSHING, FIG. 3			
46F2973	A101SYZQ	SPDT	On-On	2.88	2.68	2.59
46F2974	A103SYZQ	SPDT	On-Off-On	3.31	3.09	2.97
46F2975	A105SYZQ	SPDT	(On)-Off-(On)	3.61	3.36	3.24
46F2976	A107SYZQ	SPDT	(On)-Off-On	3.61	3.36	3.24
46F2977	A108SYZQ	SPDT	(On)-On	3.42	3.19	3.07
			FIG. 4			
46F2978	A201SYZQ	DPDT	On-On	4.22	4.03	3.85
46F2979	A203SYZQ	DPDT	On-Off-On	5.29	4.94	4.75
46F2980	A205SYZQ	DPDT	(On)-Off-(On)	4.82	4.61	4.40
46F2981	A207SYZQ	DPDT	(On)-Off-On	5.29	5.06	4.83
46F2982	A208SYZQ	DPDT	(On)-On	5.14	4.91	4.69
46F2983	A211SYZQ	DPDT	On-On-On	6.05	5.64	5.43
46F2984	A213SYZQ	DPDT	On-On-(On)	5.61	5.36	5.12
46F2985	A215SYZQ	DPDT	(On)-On-(On)	5.61	5.36	5.12
			FLATTED TOGGLE, ¼-40 THREADED, 0.35″L, SLOTTED BUSHING, FIG. 5			
46F2996	A101P3YZQ	SPDT	On-On	3.94	3.68	3.54
46F2997	A103P3YZQ	SPDT	On-Off-On	4.50	4.20	4.04
46F2998	A105P3YZQ	SPDT	(On)-Off-(On)	4.69	4.49	4.28
46F2999	A107P3YZQ	SPDT	(On)-Off-On	4.69	4.49	4.28
46F3000	A108P3YZQ	SPDT	(On)-On	4.61	4.30	4.14
			FIG. 6			
46F3001	A201P3YZQ	DPDT	On-On	5.19	4.96	4.73
46F3002	A203P3YZQ	DPDT	On-Off-On	6.08	5.81	5.55
46F3003	A205P3YZQ	DPDT	(On)-Off-(On)	5.98	5.72	5.46
46F3004	A207P3YZQ	DPDT	(On)-Off-On	5.98	5.72	5.46
46F3005	A208P3YZQ	DPDT	(On)-On	6.30	6.02	5.75
			SNAP-IN ROCKER WITH BEZEL (FITS .600″ x .500″ CUTOUT) Fig. 7			
46F3056	A101J51ZQ00	SPDT	On-On	3.34	3.11	3.00
46F3058	A105J51ZQ	SPDT	(On)-Off-(On)	4.17	3.88	3.74
46F3061	A201J51ZQ00	DPDT	On-On	4.75	4.43	4.27
46F3062	A203J51ZQ00	DPDT	On-Off-On	5.66	5.41	5.16
46F3063	A205J51ZQ	DPDT	(On)-Off-(On)	5.56	5.32	5.07
46F3064	A207J51ZQ	DPDT	(On)-Off-On	5.56	5.32	5.07
			SNAP-IN PADDLE WITH BEZEL (FITS .600″ x .500″ CUTOUT), FIG. 8			
46F3066	A101J61ZQ00	SPDT	On-On	4.67	4.36	4.20
46F3067	A103J61ZQ	SPDT	On-Off-On	3.87	3.61	3.48
46F3068	A105J61ZQ00	SPDT	(On)-Off-(On)	4.27	3.98	3.83
46F3071	A201J61ZQ	DPDT	On-On	4.87	4.66	4.45

(4780) (de52116)

NEWARK: YOUR ONE-STOP SHOP.

GEMINI SERIES MINIATURE PROCESS SEALED SWITCHES

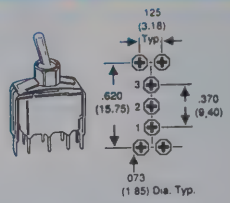


Fig. 1

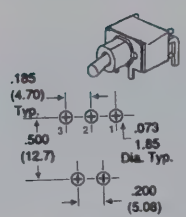


Fig. 2

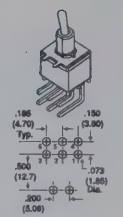


Fig. 3

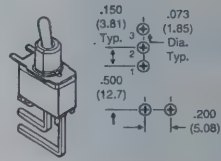


Fig. 4

Washable toggle and rocker are processes sealed to MIL-STD-202 method 112A and D. PC mountable switches have gold contacts, 0.4VA @ 20VDC. Initial contact resistance: 30 megohms. Insulation resistance: 1000 meg-ohms @ 500VDC. Dielectric strength: 100V RMS. Epoxy sealed terminals. Toggles have a 0.250″ bushing. Bushing and cover: nylon, with integral O-ring, UL 94V0. *UL recognized, CSA certified versions available; contact your local Newark sales office.*

LONG BAT TOGGLE, VERTICAL SUPPORT BRACKET SPDT CIRCUITRY-FIG. 1

Stock No.	Type	Action	1-24	25-49	50-99	100-249
50F5482	AE101SD1V30B	On-On	3.14	2.93	2.82	2.74

SHORT BAT TOGGLE, RIGHT ANGLE SPDT CIRUITRY-FIG. 2

50F5492	AE101MD1AB	On-On	3.50	3.26	3.14	3.05

SHORT BAT TOGGLE, RIGHT ANGLE DPDT CIRCUITRY-FIG. 3

Stock No.	Type	Action	1-24	25-49	50-99	100-249
50F5497	AE201MD1AB	On-On	6.12	5.85	5.58	5.32
50F5498	AE203MD1AB	On-Off-On	5.51	5.27	5.03	4.79

SHORT BAT TOGGLE, VERTICAL RIGHT ANGLE SPDT CIRCUITRY-FIG. 4

50F5502	AE101MD1AV2B	On-On	3.67	3.42	3.30	3.21

(4781) (de52117)

TRD SERIES ROCKER AND PADDLE SWITCHES

WL Suffix
WLLR(*) Suffix

Panel mount rocker uniquely fits in 15/32″ round hole. Contact rating: gold 0.5VA max. @ 20VDC or peak AC. Silver 1.5A @ 125VAC or 28VDC. **TRD11** prefix = gold, **TRD13/23** = silver. Contact timing: break-before-make. Dielectric strength: 1500VRMS at sea level. Operating temp.: –20°C to +80°C. Case material: thermoplastic. Terminals/fixed contacts: gold over nickel or silver plate. Paddle switch **suffix: 20WL**; rocker; **10WL**. Type numbers with **WLLR** feature red LED in rocker.

Stock No.	Type	Circuit	Action
44F1758	TRD13D10WL	SPDT	On-None-On
90F1925	TRD13D10WL-UL*	SPDT	On-None-On
44F1762	TRD23N10WL	DPDT	On-None-On
44F1763	TRD23P10WL	DP3T	On-Off-On
44F1764	TRD23N20WL	DPDT	On-None-On
44F1765	TRD23P20WL	DP3T	On-Off-On
94F9972	TRD11D10WL	SP2T	On-None-On
92F2905	TRD11H10WL	SP3T	On-Off-(On)
92F2906	TRD13H10WLLR2	SP3T	On-Off-(On)
90F1921	TRD13D10WLLR2	SPDT	On-None-On

Stock No.	Type	1-24	25-49	50-99	100-249
44F1758	TRD13D10WL	3.63	3.39	3.26	3.17
90F1925	TRD13D10WL-UL*	4.54	4.21	4.13	3.41
44F1762	TRD23N10WL	5.95	5.55	5.34	5.20
44F1763	TRD23P10WL	7.12	6.81	6.50	6.19
44F1764	TRD23N20WL	6.12	5.71	5.50	5.35
44F1765	TRD23P20WL	7.29	6.97	6.65	6.34
94F9972	TRD11D10WL	3.37	3.15	3.03	2.95
92F2905	TRD11H10WL	4.35	4.06	3.91	3.80
92F2906	TRD13H10WLLR2	6.53	6.24	5.96	5.68
90F1921	TRD13D10WLLR2	5.28	4.92	4.74	4.61

* UL recognized
(4704) (de01594)

SWITCHES AND VOLTAGE DIVIDERS

MT SERIES MINIATURE TOGGLE SWITCHES

Feature molded-in, gold flash terminals to prevent solder, flux and contaminants from entering contact area. Contacts are solid silver and are rated 6A at 125VAC, 3A at 250VAC, 4A at 28VDC. Cases are green diallyl phthalate. All have ¼-40 high-torque bushings except **MTG**: 15/32" bushings. UL listed. ( ) denotes momentary position.

MTA SERIES WITH MINIATURE BAT TOGGLES AND LUG TERMINALS

Terminals accept two 20AWG wires.

Stock No.	Type	Circuit	Action	1-24	25-49
61F1245	MTA-106D	SPDT	On-None-On	5.42	5.05
61F1246	MTA-106E	SPDT	On-Off-On	6.43	6.15
61F800	MTA-106F	SPDT	On-None-(On)	6.67	6.38
61F801	MTA-106G	SPDT	(On)-Off-(On)	6.88	6.58
61F1247	MTA-206N	DPDT	On-None-On	7.23	6.91
61F1248	MTA-206P	DPDT	On-Off-On	8.51	8.13
61F803	MTA-206R	DPDT	On-None-(On)	8.72	8.34
61F804	MTA-206S	DPDT	(On)-Off-(On)	8.93	8.54
61F805	MTA-206T	DPDT	On-Off-(On)	8.93	8.54
61F1249	MTA-206PA	SP3T	On-On-On	10.34	9.89
61F1250	MTA-306D	3PDT	On-None-On	11.94	11.72
61F1251	MTA-306E	3PDT	On-Off-On	12.95	12.72
61F1254	MTA-406PA	DP3T	On-On-On	19.63	19.28
61F1252	MTA-406N	4PDT	On-None-On	15.42	15.15
61F1253	MTA-406P	4PDT	On-Off-On	16.57	16.27

MTA SERIES WITH MINIATURE BAT TOGGLES AND PC TERMINALS

Pin spacing on 0.170″ centers.

61F792	MTA-106D-PC	SPDT	On-None-On	5.53	5.16
61F793	MTA-106E-PC	SPDT	On-Off-On	6.43	6.15
61F794	MTA-106F-PC	SPDT	On-None-(On)	6.80	6.51
46F2249	MTA-106G-P/C	SPDT	(On)-Off-(On)	7.01	6.70
46F2248	MTA-106H-P/C	SPDT	On-Off-(On)	7.01	6.70
61F795	MTA-206N-PC	DPDT	On-None-On	7.43	7.11
61F796	MTA-206P-PC	DPDT	On-Off-On	8.72	8.34
61F797	MTA-206R-PC	DPDT	On-None-(On)	8.93	8.54
46F2247	MTA-206S-P/C	DPDT	(On)-Off-(On)	9.16	8.76
46F2250	MTA-406N-P/C	4PDT	On-None-On	15.82	15.53

MTA SERIES WITH MINIATURE TOGGLES AND EXTENDED PC TERMINALS

61F798	MTA-8106D-WW	SPDT	On-None-On	6.14	5.87

MTA SERIES WITH STANDARD TOGGLES AND VERTICAL RIGHT ANGLE PC TERMINALS

77B8332	MTA-8106DVRA	SPDT	On-None-On	7.03	6.73

MTB SERIES MINIATURE BATON TOGGLES WITH LUG TERMINALS

Baton: 0.600″ long with balck plastic tip.

61F813	MTB-106D	SPDT	On-None-On	5.95	5.55
61F815	MTB-206N	DPDT	On-None-(On)	7.94	7.41

MTM SERIES WITH SHORT TOGGLES AND PC TERMINALS

Pin spacing on 0.170″ centers. 0.270″long toggle.

61F820	MTM-106D-PC	SPDT	On-None-On	5.53	5.16
61F822	MTM-206N-PC	DPDT	On-None-On	7.43	7.11

MTM SERIES WITH SHORT TOGGLES AND RIGHT ANGLE PC TERMINALS

Spacing: 0.185″ unthreaded bushing. 0.270″ toggle.

83F7291	MTM8106DRA	SPDT	On-None-On	8.59	8.22

MTM SERIES WITH SHORT TOGGLES AND VERTICAL RIGHT ANGLE PC TERMINALS

92F2939	MTM8106DVRA	SPDT	On-None-On	4.93	4.59

MTG SERIES WITH SHORT MUSTANG TOGGLES AND LUG TERMINALS

61F1187	MTG-106D	SPDT	On-None-On	7.55	7.22
61F819	MTG-106E	SPDT	On-Off-On	8.95	8.56
61F884	MTG-206N	DPDT	On-None-On	9.58	9.16
61F885	MTG-206P	DPDT	On-Off-On	10.74	10.27
61F886	MTG-206PA	DPDT	On-On-On	12.14	11.93
61F887	MTG-306D	3PDT	On-None-On	14.08	13.83
61F890	MTG-406P	4PDT	On-Off-On	19.34	18.99

MTL SERIES WITH MINIATURE LOCKING TOGGLES AND LUG TERMINALS

61F972	MTL-106D	SPDT	On-None-On	9.74	9.31
61F973	MTL-106E	SPDT	On-Off-On	10.62	10:16
61F974	MTL-206N	DPDT	On-None-On	11.09	10.61
61F975	MTL-206P	DPDT	On-Off-On	12.44	12.22
61F989	MTL-206PA	SP3T	On-On-On	15.04	14.38
61F990	MTL-306D	3PDT	On-None-On	15.86	15.58
61F991	MTL-406N	4PDT	On-None-On	19.12	18.78

(4764) (de51624a)

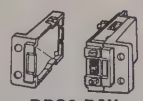
ALL PRODUCTS LISTED ARE STOCKED.

PUSHWHEEL CODE SWITCHES

PICO-P
PICO-131-AK

SMC-P/K
SMC-131AK

DPS9/10-P
DPS9-131AK



DPS8-P/W
DPS8-AK

PICO series are sub-mini with 0.130″ (3.30) characters, 0.300W″ x 0.590H″ x 0.950D″. (7.62 x 14.99 x 24.13). **DPS8** are mini, bi-directional with 0.200″ (5.08) characters, 0.314W″ x 0.940″ x 1.39D″. (7.98 x 23.88 x 35.31). **DPS9** are bi-directional with 0.275″ (6.99) characters, 0.315W″ x 1.30H″ x 1.54D″ (8.00 x 33.02 x 39.12). **SMC** are mini, bi-directional with 0.200″ (5.08) characters (except **SMC-301**, 0.140″ [3.56]), 0.30W″ x 0.95H″ x 1.26D″. (7.62 x 24.13 x 32.00). All have gold-plated contacts rated 0.4VA @ 20VDC. All except **DPS8** have snap-in mounting.

Stock No.	Type	Description	Wheel Marks	1-24	25-49	50-99
81F692	PIC0-131-AK	BCD, 1-2-4-8	0.9	8.68	7.47	7.12
81F695	PICO-P-2	End Plate, Pair	...	1.58	1.33	1.28
87F1662	DPS8-131-AK-2	BCD, 1-2-4-8	0-9	8.75	8.37	7.98
87F1836	DPS8-P/W	End Plate, Pair	...	4.07	3.36	2.99
81F696	DPS9-111-AK-2	Decimal (1 of 10)	0-9	8.45	8.08	7.71
81F697	DPS9-131-AK	BCD, 1-2-4-8	0-9	8.45	7.27	6.94
81F700	DPS9-SG-902	Hexadecimal (16 pos.)	0-15	10.21	8.79	8.39
81F702	DPS9/10-P-2	End Plate, Pair	...	2.11	1.76	1.68
77B7621	DPS10-131-AK	BCD, 1-2-4-8	0-9	8.45	7.27	6.94
87F1843	SMC-131-AK-2	BCD, 1-2-4-8	0-9	8.75	7.52	7.18
87F1845	SMC-301-AK	Hexadecimal (16 pos.)	0-9, A-F	10.21	8.79	8.39
87F1841	SMC-P/K	End Plate, Pair	...	1.81	1.51	1.45

(4928) (de52136)

D5 SERIES DIGITAL VOLTAGE DIVIDERS

3-Digit Voltage Divider

Use pushwheel switches having Kelvin-Varley circuit for resistance selection. Changes in output voltage obtained by adjusting individual switches in an assembly, using lightly detented pushbuttons. Front panel mounting, resistors are laser-trimmed, thick-film, surface-mount arrays. Gold contacts. Power rating: 1 watt @ 25°C max. Accuracy: 0.1% of input voltage. Life expectancy per selection: 100,000 cycles. Operating temperature: -20°C to +80°C. Voltage dividers are miniature with 0.945H x 0.300W x 1.29″D.

Stock No.	Type	Resist.	1-24	25-49	50-99
46F3816	D5-C2K-3D-2-OP	2K	76.88	70.22	63.48
46F3817	D5-C10K-3D-2-OP	10K	64.93	53.38	51.89

(4929) (de52139)

SPLASHPROOF TOGGLE AND PUSHBUTTON SWITCH SEALS

B14400 BP15320 BT-14400

For toggle, pushbutton switching applications. Protect against contaminants such as dirt, dust, gas, liquids. Sealing boots flexible black neoprene.

Stock No.	Type	Thread Size	Use With Series:
23F5645	B-10480	10-48	TT
23F5648	B-14400	¼-40	TT, Gemini, MTA
67F886	BPA-14400	¼-40	TP
23F5651	B15320	15/32-32	MTG
23F5652	BP10480	10-48	TP
23F5655	BP14400	¼-40	MSPM, MPA-3
23F5658	BP15320	15/32-32	MSPF, MPG
99F6322	BT15320	15/32-32	MTG
92F2918	BT14400	¼-40	TT, MTA, Gemini
23F5656	BP5890	15/32-32	MSPF, MPG

Stock No.	Type	1-24	25-49	50-99	100-249	250-500
23F5645	B-10480	2.42	2.24	2.20	2.14	1.38
23F5648	B-14400	2.64	2.45	2.40	2.34	1.51
67F886	BPA-14400	2.85	2.64	2.59	2.52	1.62
23F5651	B15320	2.85	2.64	2.59	2.52	1.62
23F5652	BP10480	2.51	2.33	2.28	2.22	1.43
23F5655	BP14400	2.64	2.45	2.40	2.34	1.51
23F5658	BP15320	2.85	2.64	2.59	2.52	1.62
99F6322	BT15320	3.05	2.83	2.78	2.71	1.74
92F2918	BT14400	2.87	2.66	2.61	2.54	1.63
23F5656	BP5890	3.05	2.83	2.78	2.71	1.74

(4930) (de52252)

MINIATURE PUSHBUTTONS

MPA-6 SERIES MINIATURE PUSHBUTTONS

Solid silver with gold flash contacts rated 6A @ 125VAC, 3A @ 250VAC, 4A @ 28VDC. Gold flash solder terminals. Dielectric strength: 1,500Vrms. Life expectancy: 50,000 operations. High-torque bushing shoulder, 0.280″L, ¼-40 UNS 2A. SPDT W x L: 0.320 x 0.510″. DPDT W x L: 0.510 x 0.510″. *Order* **type C-22** *or* **C-23** *switch caps separately on this page.*

Stock No.	Type	Circuits	Action	1-24	25-49	50-99
61F752	MPA-106D	SPDT	Push-On/Off	8.14	7.79	7.43
61F753	MPA-106F	SPDT	Momentary	8.14	7.79	7.43
61F754	MPA-206N	DPDT	Push-On/Off	10.49	10.03	9.57
61F755	MPA-206R	DPDT	Momentary	10.49	10.03	9.57
77B7995	MPA-406R	4PDT	Momentary	18.55	18.22	17.54
77B7993	MPA-306F	3PDT	Momentary	13.75	13.50	13.00

(4770) (de51645)

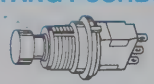
MPA-3 SERIES SUB-MINI PUSHBUTTON SWITCHES

Includes cap. Silver-Clad contacts rated 500mA @ 125VAC for butt contact **types MPA-103B** and **MPA-103C**; 3A @ 125VAC for snap-action **types MPA-103D** and **MPA-103F.** Bushing: 0.240″L, ¼-40 UNS 2A. Dia.: 0.350″.

Stock No.	Type	Action	Contacts	1-24	25-49	50-99
25F2020	MPA-103B	Normally Closed	SPST	4.30	4.01	3.86
25F2021	MPA-103C	Normally Open	SPST	4.18	3.90	3.75
25F2022	MPA-103D	Momentary, Tactile	SPDT	7.21	6.90	6.58
25F2023	MPA-103F	Momentary, Tactile	SPDT	7.21	6.90	6.58

(4766) (de51640)

MPG SERIES MUSTANG PUSHBUTTON SWITCHES



Includes cap. Solid silver with gold flash contacts rated 6A @ 125VAC, 3A @ 250VAC, 4A @ 28VDC. Gold flash wire/lug terminals. Bushing: 0.470″L for SPDT and 4PDT; 0.320″L for DPDT; 15/32-32UNS-2A. Dielectric strength: 1,500Vrms. Life expectancy: 50,000 operations. SPDT W x L: 0.320 x 0.510″. DPDT W x L: 0.510 x 0.510″. 4PDT W x L: 0.890 x 0.510″.

Stock No.	Type	Circuits	Action	1-24	25-49
61F756	MPG-106D	SPDT	Push-On/Off	10.64	10.18
94F211	MPG306F	3PDT	Momentary	16.21	15.92
61F757	MPG-106F	SPDT	Momentary	10.64	10.18
61F993	MPG-206N	DPDT	Push-On/Off	12.33	12.11
61F994	MPG-206R	DPDT	Momentary	12.33	12.11
61F758	MPG-406R	4PDT	Momentary	22.07	21.67

(4771) (de51646)

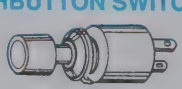
MPE-6 SERIES SEALED PUSHBUTTONS

Solid silver contacts rated 6A @ 125VAC, 3A @ 250VAC, 4A @ 28VDC. Gold flash solder terminals. Life expectancy: 50,000 operations. High-torque bushing shoulder, 0.280″L, ¼-40 UNS-2A. SPDT W x L: 0.320 x 0.510″. DPDT W x L: 0.510 x 0.510″. 4PDT W x L: 0.890 x 0.510″. Splashproof seal. *Order* **type C-22** *or* **C-23** *switch caps separately on this page.*

Stock No.	Type	Circuits	Action	1-24	25-49
61F959	MPE-106D	SPDT	Push-On/Off	9.94	9.51
61F957	MPE-106F	SPDT	Momentary	9.94	9.51
61F960	MPE-206N	DPDT	Push-On/Off	11.67	11.46
61F958	MPE-206R	DPDT	Momentary	11.67	11.46
61F961	MPE-406N	4PDT	Push-On/Off	21.00	20.63
61F1211	MPE-406R	4PDT	Momentary	22.07	21.67

(4767) (de51642)

MSPM SERIES MAGNETIC-REED MOMENTARY LONG LIFE PUSHBUTTON SWITCHES



Glass-to-metal hermetically-sealed gold contacts rated 1.0VA optimum (100mA max., 50VDC max.). Bushing length: 0-320″L. ¼-40 UNS-2A. Dia.: 0.510″. Life expectancy: 5,000,000 cycles @ 0.1VA; 50,000 cycles @ 5VA. With cap.

Stock No.	Type	Action	Term.	1-24	25-49	50-99
61F1207	MSPM101B0	N.C.	Pin	13.41	12.82	12.24
61F1208	MSPM-101C-2	N.O.	Pin	12.82	12.59	12.12
61F1210	MSPM-101C-1	N.O.	Lug	12.82	12.59	12.12
61F1209	MSPM-101B-1	N.C.	Lug	13.41	12.82	12.24

(4772) (de51647)

MPS SERIES SNAP-ACTING PUSHBUTTONS

MPS-103-RA

MPS-203

MPS-203-PCV

MPS-103-PC

Silver contacts rated 3 amps @ 115VAC or 28VDC. Epoxy sealed wired terminals or 3 styles of PC terminals available. Bushing length: 0.315″, ¼-40 UNS-2A. **Type MPS-103** W X L: 0.320 X 0.510″. **Type MPS-203** W x L: 0.510 x 0.510″. Terminals: silver. Life expectancy: 50,000 operations. *Order* **Type C-22** *or* **C-23** *switch caps separately on this page.*

Stock No.	Type	Circuits	Action	1-24	25-49
81F517	MPS-103D	SPDT	Push-On/Off	8.46	8.09
81F519	MPS-103D-PC	SPDT	Push-On/Off	8.68	8.30
12F1200	MPS-103F	SPDT	Momentary	6.68	6.39
12F1202	MPS-103F-PC	SPDT	Momentary	7.00	6.69
12F1206	MPS-103F-PCV	SPDT	Momentary	8.14	7.79
12F1204	MPS-103F-RA	SPDT	Momentary	8.46	8.09
81F518	MPS-203N	DPDT	Push-On/Off	10.64	10.18
81F520	MPS-203N-PC	DPDT	Push-On/Off	10.86	10.39
12F1201	MPS-203R	DPDT	Momentary	8.93	8.54
12F1203	MPS-203R-PC	DPDT	Momentary	9.16	8.76

(4768) (de51643a)

MPB SERIES PUSHBUTTON SWITCHES

Momentary with over-travel, **Type MPB** switches have silver plated terminals and contacts-rated 3A @ 125VAC. Dielectric strength 1000 Vrms. SPST, 20,000 cycle life expectancy. Bushing 0.240L, ¼-40 UNS 2A.

Stock No.	Type	Circuits	Action	1-24	25-49
70B3171	MPB-103C	SPST	Normally Open	4.43	4.13

(4724) (de03779)

MSP-3/MSPS SERIES SPST PUSHBUTTONS

MSP103B

MSPS103B

- **Include Cap**

Silver-plated brass contacts rated 3A @ 125VAC, for over-travel **type MSP**; 0.5A @ 125VAC for butt contact **MSPS**. Life expectancy: 10,000 cycles @ rated current. Silver plate solder terminals. **Type MSP** Dia.: 0.410″. **Type MSPS** Dia.: 0.310″. Bushing ¼-40 UNS-2A.

MSP-3 SERIES MOMENTARY PUSHBUTTON SWITCHES

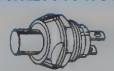
Stock No.	Type	Action	Plunger	Bushing L	1-24	25-49
61F1212	MSP-103B (BLACK)	N.C.	Black	0.235″	3.58	3.34
61F1213	MSP-103-C	N.O.	Red	0.234″	3.58	3.34
61F1214	MSP103C0	N.O.	Black	0.235″	3.58	3.34

MSPS SERIES MOMENTARY PUSHBUTTON SWITCHES

Stock No.	Type	Action	Plunger	Bushing L	1-24	25-49
57F2072	MSPS-103B(BLACK)	N.C.	Black	0.245″	2.07	1.92
61F1215	MSPS103C	N.O.	Red	0.245″	2.07	1.92
98F181	MSPS103C-0(BLK)	N.O.	Black	0.245″	2.07	1.92

(4773) (de51648)

MSPF SERIES MOMENTARY PUSHBUTTONS

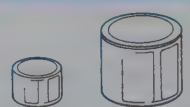


Silver-plated brass contacts rated 0.5A @ 125VAC. Dielectric strength: 1000Vrms. Life expectancy: 10,000 operations at rated current. SPST, but **type MSPF-101BC** is 2-circuit contact. Silver plate solder terminals. Bushing length is 0.370″ 15/32-32 UNS2A. Complete with cap and decorative nut.

Stock No.	Type	Action	Plunger	1-24	25-49	50-99
11F402	MSPF-101B	N.C.	Black	5.01	4.67	4.50
11F403	MSPF-101C	N.O.	Red	4.87	4.54	4.38
11F404	MSPF-101BC(0)	N.O./N.C.	Black	5.90	5.50	5.30

(4765) (de51639)

COLOR CODED SWITCH CAPS



C-22 C-23

Type C-22 are 0.39″ diameter and **type C-23** are 0.59″ diameter. Used with **MPA, MPE,** and **MPS** series.

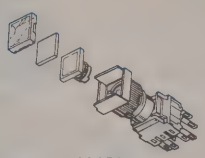
Black Stock No.	Red Stock No.	Green Stock No.	Type	1-24	25-49
61F764	61F765	61F766	C225-AG	0.57	0.49
61F767	61F768	61F769	C235-AG	0.75	0.64

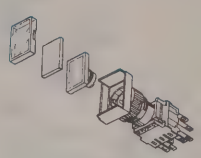
(4769) (de51644)

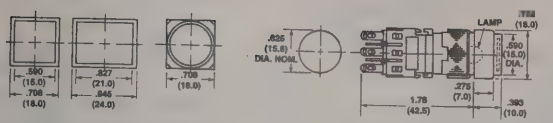
LIGHTED PUSHBUTTON SWITCHES

COMMAND SERIES 16mm LIGHTED PUSHBUTTON SWITCHES

164EL


164SL


164TL



Instrument-grade switches feature snap-acting double-break, gold-plated, silver-clad contacts that satisfy logic level and power switching requirements. Electrically independent of one another and isolated from the lamp circuit, contacts are rated 0.4VA at 20VDC or peak AC, 5A at 250VAC or 24VDC resistive. Dielectric strength: 1,500Vrms. Life: 100,000 operations. Fit 0.625″ (15.8) D panel hole. UL recognized E-51302. Units accept T-1¾ midget flanged base lamp. *Order lens button sets separately on this page.*

NON-OILTIGHT SWITCHES
1 N.O. AND 1 N.C. CONTACTS

Stock No.	Type	Action	Shape
46F3130	164EL-11	Momentary	Round
46F3132	164EL5-11	Push-On/Off	Round
46F3134	164SL-11	Momentary	Square
46F3136	164SL5-11	Push-On/Off	Square
46F3124	164TL-11	Momentary	Rect.
46F3126	164TL5-11	Push-On/Off	Rect.

Stock No.	Type	1-24	25-49	50-99	100-249
46F3130	164EL-11	11.54	10.26	9.79	8.73
46F3132	164EL5-11	12.59	11.51	11.08	10.66
46F3134	164SL-11	11.54	10.26	9.79	8.73
46F3136	164SL5-11	12.59	11.51	11.08	10.66
46F3124	164TL-11	11.54	10.26	9.79	8.73
46F3126	164TL5-11	12.59	11.51	11.08	10.66

2 N.O. AND 2 N.C. CONTACTS

Stock No.	Type	Action	Shape
46F3131	164EL-22	Momentary	Round
46F3133	164EL5-22	Push-On/Off	Round
46F3123	164SL5-22	Push-On/Off	Square
46F3135	164SL-22	Momentary	Square
46F3125	164TL-22	Momentary	Rect.
46F3127	164TL5-22	Push-On/Off	Rect.

Stock No.	Type	1-24	25-49	50-99	100-249
46F3131	164EL-22	13.76	12.57	12.10	11.64
46F3133	164EL5-22	15.32	13.99	13.47	12.96
46F3123	164SL5-22	15.32	13.99	13.47	12.96
46F3135	164SL-22	13.76	12.57	12.10	11.64
46F3125	164TL-22	13.76	12.57	12.10	11.64
46F3127	164TL5-22	15.32	13.99	13.47	12.96

3 N.O. AND 3 N.C. CONTACTS

Stock No.	Type	Action	Shape
92F2880	164SL33	Momentary	Square
92F2881	164SL533	Push-On/Off	Square

Stock No.	Type	1-24	125-49	50-99	100-249
92F2880	164SL33	16.64	16.34	15.73	15.13
92F2881	164SL533	18.22	17.89	17.22	16.57

OIL-TIGHT SWITCHES
1 N.O. AND 1 N.C. CONTACT

Stock No.	Type	Action	Shape
92F2882	165SL511	Push-On/Off	Square
92F2883	165TL11	Momentary	Rect.

Stock No.	Type	1-24	25-49	50-99	100-249
92F2882	165SL511	14.74	14.48	13.94	13.41
92F2883	165TL11	12.92	11.80	11.36	10.93

2 N.O. AND 2 N.C. CONTACTS

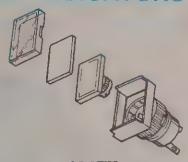
Stock No.	Type	Action	Shape	1-24	25-49	50-99	100-249
92F2884	165SL22	Momentary	Square	15.79	15.51	14.93	14.36
92F2885	165SL522	Push-On/Off	Square	17.49	17.18	16.54	15.91
94F9980	165TL-22	Momentary	Rect.	15.79	15.51	14.93	14.36
92F2886	165TL522	Push-On/Off	Rect.	17.33	15.83	15.24	14.66

(4699) (de01589)

COMMAND SERIES 164 & 165 PILOT LIGHT INDICATORS

164EZ

164SZ


164TZ

Non-oil-tight indicators (**type 164**) and oil-tight indicators (**type 165**) match the appearance of all **Command Series** pushbutton switches. Lamp dissipation: 1.2W max. Panel hole: 0.625″D (15.8). Dielectric strength: 2,000VAC. Insulation resistance: greater than 100MΩ. Temperature range: –20°C to +50°C. UL recognized. *Order lens button sets separately on this page. Order T-1¾ midget flange base lamps separately on this page.*

Stock No.	Type	Description	1-24	25-49	50-99	100-249
46F3128	164-EZ	Round Pilot Light	5.02	4.35	4.19	3.81
46F3129	164-SZ	Square Pilot Light	5.22	4.87	4.69	3.97
46F3113	164-TZ	Rectangular Pilot Light	5.22	4.53	4.37	3.97
92F6185	165SZ	Square Pilot Light	6.95	6.48	6.25	5.28
92F6186	165TZ	Rectangular Pilot Light	6.95	6.48	6.25	5.28

(4700) (de01590)

COMMAND SERIES LENS BUTTON SETS

ROUND

Stock No.	Type	Color	1-24	25-49	50-99	100-249
94F3301	64E-9 (WHITE)	White	0.84	0.72	0.59	0.48
46F3148	64E-2 RED	Red	0.84	0.72	0.59	0.48
46F3149	64E-3 ORANGE	Orange	0.84	0.67	0.59	0.48
46F3150	64E-4 YELLOW	Yellow	0.84	0.67	0.59	0.48
46F3151	64E-5 GREEN	Green	0.84	0.72	0.59	0.48

SQUARE

94F3303	64S-9 (WHITE)	White	0.84	0.72	0.59	0.48
46F3143	64S-2 RED	Red	0.84	0.72	0.59	0.48
46F3144	64S-3 ORANGE	Orange	0.84	0.67	0.59	0.48
46F3145	64S-4 YELLOW	Yellow	0.84	0.72	0.59	0.48
46F3146	64S-5 GREEN	Green	0.84	0.72	0.59	0.48

RECTANGULAR

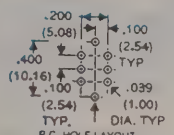
94F3306	64T-9 (WHITE)	White	0.83	0.66	0.59	0.48
46F3138	64T-2 RED	Red	0.83	0.66	0.59	0.48
46F3139	64T-3 ORANGE	Orange	0.84	0.72	0.59	0.48
46F3140	64T-4 YELLOW	Yellow	0.84	0.72	0.59	0.48
46F3141	64T-5 GREEN	Green	0.84	0.72	0.59	0.48

(4701) (de01591)

TP-200 SERIES LIGHTED PUSHBUTTON SWITCHES

Round Frame

Square Frame

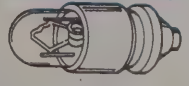


Low-profile, red LED illuminated, PC mount switches with DPDT action. Contacts rated 0.4VA max. at 28VDC; contact resistance 50mΩ max. Electrical life: 10,000 operations. Epoxy sealed terminals, dark gray frame. Momentary action except for (*) which is latching.

Stock No.	Type	Frame	1-24	25-49	50-99	100-249
87F1668	TP2M2CL2FC8	Round	8.26	7.70	7.41	7.21
87F1666	TP2M2AL2FA8	Square	9.43	8.79	8.47	8.23
87F1667	TP2L2AL2FA8	Square	9.51	8.86	8.54	8.30

(4702) (de01592)

LAMPS (T-1 ¾)



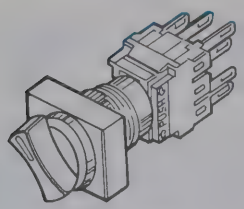
Types **387** and **327** are 28.0V at 0.04A.

Stock No.	Type	11-24	25-49	50-99	100-249
57F2254	387	0.80	0.68	0.66	0.47
57F2250	327-AG	0.85	0.73	0.70	0.62

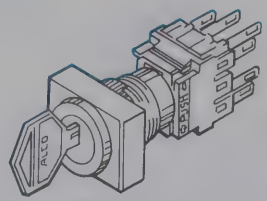
(4705) (de01595)

ROTARY AND KEYLOCK SWITCHES

COMMAND 164 SERIES SELECTORS & KEYLOCKS



164P Selector



164J Keylock w/2 Keys

Feature snap-acting double break gold plate over silver-clad contacts. Rated 0.4VA at 20VDC or peak AC, 5A at 250VAC or 24VDC resistive. 90° throw. Contacts provide reliable operation at logic levels and for power switching applications. Contacts electrically isolated from one another. Life: 100,000 operations. Temperature range: –20° to +70°C. UL recognized.

COMMAND 164 SERIES SELECTOR SWITCHES

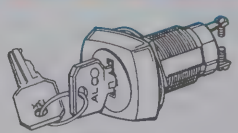
Stock No.	Type	Contacts	Description	1-24	25-49
46F3114	164P2B-11	1N.O. & 1N.C.	2-Position	20.45	20.08
46F3115	164P2B-22	2N.O. & 2N.C.	2-Position	23.39	21.36
46F3116	164P3B-22	2N.O. & 2N.C.	3-Position/Center Off	23.17	22.76
87F6896	164P0B22	2N.O. & 2N.C.	2-Position/Momentary Right	50.99	50.07

COMMAND SERIES 164 KEYLOCK SWITCHES

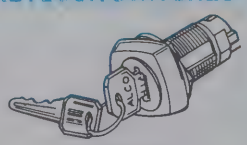
46F3117	164J2A-11	1N.O. & 1N.C.	2-Position/Keypull Left	31.42	26.68
46F3118	164J2A-22	2N.O. & 2N.C.	2-Position/Keypull Left	34.28	29.12
46F3120	164J2B-22	2N.O. & 2N.C.	2-Position/Keypull Both	34.28	29.12
46F3121	164J3D-22	2N.O. & 2N.C.	3-Position/Keypull Center	52.57	51.62
46F3122	164J3C-22	2N.O. & 2N.C.	3-Position/Keypull All	32.50	31.92
87F6893	164J0A11	1N.O. & 1N.C.	2-Position/Momentary Right, Keypull Left	31.71	26.94
87F6894	164J0A22	2N.O. & 2N.C.	2-Position/Momentary Right, Keypull Left	52.44	51.50

(4908) (de50444)

SKF AND SKT SERIES KEYLOCK SWITCHES



SKF-13



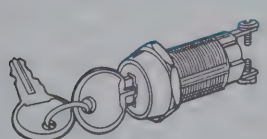
SKT-33

SKF-13 series are 5-tumbler, SPST, medium-security switches. Contacts: 1A at 120VAC resistive. Screw terminals. Life: 10,000 cycles. **SKT-33 series** are DPDT models. Gold-plated contacts rated 0.4VA max. at 20VDC or peak AC. Dielectric strength: 1000Vrms. Solder lug terminals. Two brass keys included.

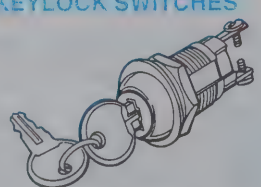
Stock No.	Type	Positions	Remove Key	1-24	25-49
11F445	2SKF131AEL01	Off-On	Off	10.55	10.09
11F446	2SKF132AEL01	Off-On	Off or On	10.55	10.09
11F450	SKT331AEL01	On-None-On	On Posit. 1	27.13	26.65
11F451	SKT332AEL01	On-None-On	On or On	13.12	12.89
11F440	SK13-23-AEL01	Spare Key		1.84	1.58

(4912) (de50448)

SWK SERIES SECURITY KEYLOCK SWITCHES



SWK-12



SWK-13/23

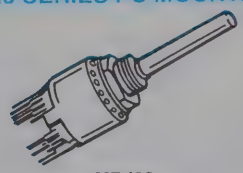
- **2 Brass Keys Included**

SWK-12 are 8-tumbler, SPST, high security models. Contacts: 5A @ 115VAC resistive, 15A @ 24VDC resistive. Life: 20,000 cycles. **SWK-13/23** 5-tumbler, SPST, medium security. Silver contacts rated 1A @ 120VAC; 4A @ 110VAC/28VDC.

Stock No.	Type	Positions	Remove Key	1-24	25-49
57F2159	SWK12F315	On-Off	On or Off	14.51	14.25
61F845	SWK121F315	On-Off	Off	14.51	14.25
61F846	SWK123F315	On-Off	On	14.65	14.39
61F847	2SWK131AL101	Off-On	Off	10.55	10.09
61F848	2SWK132AL101	Off-On	Off or On	10.55	10.09
11F452	2SWK231AL101	Off-Mom. On	Off	10.84	10.36
11F454	SWK-12K-F315	Spare Key Fits All SWK-12		1.99	1.85
11F455	SWK1323AL101	Spare Key Fits All SWK-13		1.99	1.85

(4911) (de50447)

MRJ SERIES PC MOUNTABLE ROTARY SWITCHES



MRJ26

MRJE26

Waterproof PC mount miniature switches have 30° angle of throw. Contact rating: 4VA max. at 20VDC or peak AC. Terminals/fixed contacts are gold-plated. Actuator material is brass. Dielectric strength: 1000Vrms. Operating temperature range: –20°C to +70°C. Shaft is 0.750″ (19.05) long, with a 0.125″ (3.18) diameter. **Type MRJE** has waterproof seal on shaft, bushing and base.

ADJUSTABLE POSITION SWITCHES

Stock No.	Type	Poles	Positions	1-24	25-49	50-99	100-249
10F7791	MRJ-1-12	1	2 to 12	8.24	8.09	7.79	7.49
10F7792	MRJ-2-6	2	2 to 6	8.22	8.07	7.77	7.47
10F7793	MRJ-3-4	3	2 to 4	19.55	19.20	18.48	17.78
10F7794	MRJ-4-3	4	2 to 3	15.68	15.40	11.85	9.98

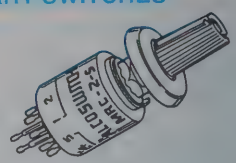
FIXED POSITION SWITCHES

94F213	MRJE2-6	2	6 Fixed	8.75	8.60	8.28	7.96
10F7797	MRJE-4-3	4	3 Fixed	11.84	11.63	11.20	10.77

(4909) (de50445)

MRC SERIES ROTARY SWITCHES

MRC-3-3



MRC-2-5

Adjustable stop with gold-flashed solid silver contacts; rated 500mA at 125VAC or 28VDC resistive. Dielectric strength: 1,500Vrms. 36° throw angle. Life: 10,000 cycles full rating. UL type 1007, 24 AWG, 8.5″L (215.90) wire leads. Available with or without knobs.

Stock No.	Type	Poles	Description	Positions	1-24	25-49	50-99	100-249
61F830	MRC-1-10	1	With Knob	2-10	9.54	9.37	9.02	8.68
61F834	MRC-1-10S	1	Without Knob*	2-10	9.54	9.37	9.02	8.68
61F831	MRC-2-5	2	With Knob	2-5	10.91	10.71	10.31	9.92
61F835	MRC-2-5S	2	Without Knob*	2-5	10.91	10.71	10.31	9.92
61F832	MRC-3-3	3	With Knob	2-3	12.07	11.54	11.02	10.50
61F836	MRC-3-3S	3	Without Knob*	2-3	11.54	11.34	10.91	10.50
61F833	MRC-4-2	4	With Knob	2	11.89	11.68	11.24	10.81

*Switches without knobs have a 0.750″ L Shaft.

(4910) (de50446)

PILOT LIGHTS

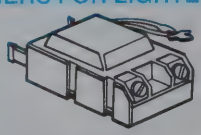
SR601

Type SR601 full-voltage lights, front-lampable. Use T-3¼ lamps, miniature bayonet base. Fit 0.875″ panel hole. UL recognized.

Stock No.	Type	Color	1-24	25-49	50-99	100-249
46F2933	SR601-2	Red	7.33	6.67	6.36	5.94
46F2934	SR601-4	Yellow	7.33	6.67	6.36	5.94
46F2935	SR601-5	Green	7.33	6.67	6.36	5.94

(4915) (de51076)

TRANSFORMERS FOR LIGHTED SWITCHES



Step-down transformers; AC line voltage to 6V/6.3V. Snap mount on **Types T2100, M6100, QR22, T6632** switches. Lamp watts: 0.9 - 1.35W. UL recognized.

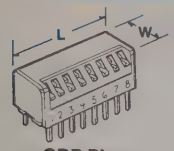
Stock No.	Type	Primary Voltage	1-24	25-49	50-99
65F426	5B0	110-120VAC	13.30	12.40	11.94

(4916) (de51077)

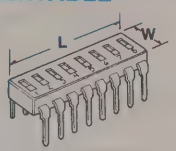
NEWARK: YOUR ONE-STOP SHOP.

DIP SWITCHES

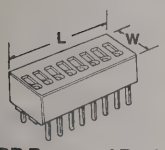
GD SERIES SEALED DIP SWITCHES MACHINE INSERTABLE



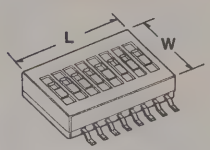
GDP Piano



GDS Slide



GDR Recessed Rocker



GDH Slide

Conventional gold wiping contact system (0.25 micron) withstands wave soldering temperature of 245°C for 60 seconds. Base, cover and actuator materials are high temperature thermoplastic. Terminals are gold flash over brass.

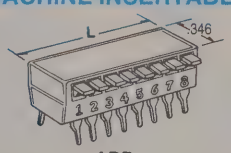
LOW PROFILE SLIDE ACTUATORS 0.335″ WIDTH

End-stackable, auto-insertable. Vacuum pick-and-place-compatible.

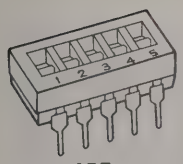
Stock No.	Type	Positions	L	1-24	25-49	50-99	100-249
50F5549	GDS02	2	0.194″	2.54	2.35	2.31	2.25
50F5550	GDS04	4	0.394″	2.87	2.66	2.61	2.54
50F5551	GDS06	6	0.594″	3.32	3.08	3.03	2.95
50F5552	GDS08	8	0.794″	3.61	3.36	3.24	3.15
50F5553	GDS10	10	0.994″	4.09	3.81	3.68	3.57
CLASSIC PROFILE PIANO ACTUATORS 0.300″ WIDTH							
50F5557	GDP08	8	0.838″	4.40	4.10	3.95	3.84
50F5535	GDP10	10	1.038″	4.98	4.65	4.48	4.35
CLASSIC PROFILE RECESSED ROCKER ACTUATORS 0.300″ WIDTH							
84F802	GDR04	4	0.438″	3.34	3.11	3.00	2.91
84F804	GDR08	8	0.838″	4.40	4.10	3.95	3.84
HALF PITCH, 0.050″ TERMINAL SPACING 0.320″ WIDTH							
Vacuum pick-and-place-compatible. Surface mount.							
50F5536	GDH02S	2	0.144″	4.07	3.79	3.65	3.55
50F5537	GDH04S	4	0.244″	4.82	4.50	4.33	4.21
50F5538	GDH06S	6	0.344″	5.69	5.31	5.11	4.97
50F5539	GDH08S	8	0.444″	6.39	6.11	5.83	5.56
50F5540	GDH10S	10	0.544″	7.33	7.02	6.69	6.38

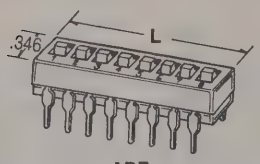
(4731) (de04454)

AD SERIES LOW PROFILE DIP SWITCHES MACHINE INSERTABLE



ADP


ADF



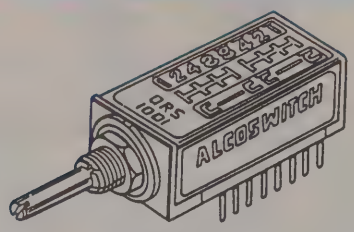
ADE

Solder coated brass contacts rated 0.4VA @ 20VDC max. Dielectric strength: 500VAC rms. Life: 5,000 cycles. Withstand aqueous solution or solvent cleaning, and can withstand vapor phase reflow or wave soldering conditions as well. Ceramic substrate allows soldering temperatures to 245° for up to 30 seconds. **Type ADE** units have extended actuators. **Type ADF** have flush actuators and are auto-insertable. **Type ADP** have piano (on down) actuators. **Type ADPA** have piano (on up) actuators.

Stock No.	Type	Stock No.	Type	Positions	L	1-24	25-49
46F2966	ADE04	...	...	4	0.478″	2.73	2.53
...	...	46F2943	ADE-05	5	0.578″	2.94	2.72
...	...	46F2944	ADE-06	6	0.678″	3.17	2.94
...	...	46F2945	ADE-07	7	0.778″	3.21	3.00
46F2970	ADE08	46F2946	ADE-08	8	0.878″	3.44	3.20
...	...	46F2948	ADE-10	10	1.078″	3.89	3.63
46F2950	ADPA04	...	...	4	0.478″	3.18	2.96
46F2940		...	...	2	0.278″	2.42	2.24
46F2942		...	...	4	0.478″	2.73	2.53
...	ADP06	46F2956	ADP-06	6	0.578″	3.17	2.94
...	ADP08	46F2957	ADP-08	8	0.878″	3.44	3.20

(4782) (de52126)

DRS SERIES ROTARY DIP SWITCHES WITH METAL SHAFT ACTUATORS



DRS-1001

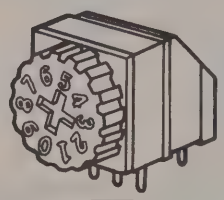
Heavy gold-flashed nickel contacts rated 0.4VA maximum @ 20VDC or peak AC. Initial contact resistance: 50 milliohms maximum. Dielectric strength: 500V RMS at sea level. Life expectancy of 10,000 rotations. Operating force of seven inch-ounces maximum torque. Dual in-line mounting. **Types DRS-1-12** and **DRS-2-6** are decimal code switches. **Type DRS-1001** is a BCD and BCD complement. 2.05″ L x 0.590″W (52.07 x 14.99).

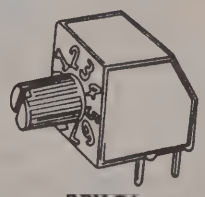
Stock No.	Type	No. Poles	Positions	1-24	25-49	50-99	100-249
81F706	DRS-1-12	1	12	25.51	25.05	24.11	23.20
81F707	DRS-2-6	2	6	25.82	25.36	24.41	23.48
81F710	DRS-1001	1	10	28.74	28.23	27.17	26.14

(4784) (de52138)

DR SERIES ROTARY DIP SWITCHES

DRD


DRW


DRM-RA

Gold-flashed brass contacts rated 0.4VA @ 20VDC max. Dielectric strength: 300 VAC rms. PC and right angle PC ("**RA**" suffix) terminals. Circuit type reference for table below: A = 10-position BC decimal; B = BCD complement; C=16 position Hexadecimal; D = 16-position Hexadecimal complement. **DRD** are flush actuators with 0.236H x 0.394W x 0.394D. **DRM** are mini-shaft actuator with 0.523H x 0.394W x 0.394D. **DRW** are flush rotary wheels with 0.39H x 0.39W x 0.48D.

FLUSH ACTUATORS

Stock No.	Type	Circuit	Color
44F3987	DRD-10	A	Red
44F3988	DRD-10C	B	Orange
44F1916	DRD-10-RA	A	Red
44F3989	DRD-16E	C	Black
44F3990	DRD-16C	D	White
MINI PLASTIC SHAFT ACTUATORS			
44F1924	DRM-10-RA	A	Red
44F1922	DRM-16	C	Black
44F1927	DRM-16C-RA	D	White
44F1926	DRM-16-RA	C	Black
FLUSH ROTARY WHEELS			
92F2931	DRW10	A	Red
92F2932	DRW16RA	C	Black

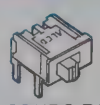
Stock No.	Type	1-24	25-49	50-99	100-249
44F3987	DRD-10E	4.39	4.09	3.94	3.07
44F3988	DRD-10CE	4.39	4.09	3.94	3.83
44F1916	DRD-10-RA	5.29	4.94	4.75	4.62
44F3989	DRD-16E	4.95	4.61	4.44	4.32
44F3990	DRD-16CE	4.95	4.61	4.44	4.32
44F1924	DRM-10-RA	6.30	6.02	5.75	5.48
44F1922	DRM-16	6.10	5.69	5.48	5.32
44F1927	DRM-16C-RA	7.00	6.53	6.29	6.11
44F1926	DRM-16-RA	6.83	6.53	6.23	5.94
92F2932	DRW-16-RA	6.57	6.29	6.00	5.72

(4783) (de52137)

SLIDE SWITCHES

TSS-PC, TSS-RA SUBMINIATURE SLIDES

TSS11DG-1-PC


TSS11DG-RA

Non-shorting, gold-plated contacts: 0.4VA max. at 20VDC or peak AC. Pin spacing: 0.100″ (2.54) on centers. Actuator height: 0.10″ (2.54). Instrument grade. **TSS-RA** units are right angle terminals.

Stock No.	Type	Action	Circuits	1-24	25-49	50-99	100-249
13F4009	TSS11DG-PC	On-None-On	SPDT	3.19	2.96	2.91	2.12
13F4010	TSS11EG-PC	On-Off-On	SPDT	3.74	3.49	3.36	3.27
13F4012	TSS21NG-PC	On-None-On	DPDT	5.81	5.42	5.22	5.08
13F4018	TSS21NG-1-PC	On-None-On	DPDT	13.23	12.65	12.07	11.51
13F4026	TSS11DG-RA	On-None-On	SPDT	3.22	3.01	2.90	2.82
13F4028	TSS21NG-RA	On-None-On	DPDT	10.49	10.03	9.57	9.12

(4750) (de50432)

MSS, MSSA SERIES TELECOM GRADE SLIDES

MSS-2250RG

MSSA1450

Compact PC board units have silver contacts rated 300mA at 125VAC, or gold (**G suffix**) rated 0.4VA at 20VDC or peak AC. Initial contact resistance: 20mΩ maximum. **MSS** contacts: moving, beryllium, fixed, brass; electrical, make-before-break. Epoxy terminal seal. **MSSA** contacts: moving, beryllium copper, fixed-brass. Lever type UP = upright, RA = right angle.

Stock No.	Type	Lever Type	Circuits	1-24	25-49	50-99
65F355	MSS-1200G	UP	SPDT	1.24	1.18	1.05
57F2135	MSS-1200RG	RA	SPDT	1.32	1.25	1.11
57F2133	MSS-2250	UP	DPDT	1.09	1.03	0.91
57F2140	MSS-2250R	RA	DPDT	0.75	0.71	0.63
57F2141	MSS-2250RG	RA	DPDT	1.50	1.42	1.26
10F7804	MSSA-1450	UP	SP4T	2.91	2.76	2.45
10F7805	MSSA-2350	UP	DP3T	3.33	3.15	2.80
10F7812	MSSA-2350R	RA	DP3T	3.21	3.04	2.70

(4748) (de50430)

MSSA-04 HIGH-CURRENT SLIDES

MSSA104D

PC board instrumentation-grade units have non-shorting bifurcated silver contacts rated 4A at 115VAC. Case material is polyester and nylon; moving contacts beryllium copper. Life expectancy: 30,000 cycles.

Stock No.	Type	Action	Circuit	1-24	25-49	50-99
10F7821	MSSA104D	SPDT	On-None-On	3.19	3.02	2.69
10F7824	MSSA204N	DPDT	On-None-On	4.51	4.27	3.80

(4727) (de03905)

MHS SERIES TELECOM GRADE SLIDE SWITCHES

MHS-122

MHS-233

Subminiature slides feature moving contact for positive wiping action. Package height 0.300″ (7.62). Actuator height: 0.18″ (4.57). Contact rating: silver, 300mA at 25VAC; gold-plated (with 7th digit "**G**" in type), 0.4VA @ 20VDC or peak AC.

Stock No.	Type	Action	Circuit	1-24	25-49	50-99	100-249
81F540	MHS-122	On-None-On	SPDT	1.71	1.47	1.40	0.75
81F543	MHS-222	On-None-On	DPDT	1.66	1.54	1.51	1.47
46F2260	MHS-222G	On-None-On	DPDT	3.58	3.34	3.22	3.13
46F2262	MHS-233G	On-On-On	DP3T	3.76	3.50	3.37	3.28

(4746) (de50428)

MMS SERIES INSTRUMENT GRADE SLIDES

Micro size switches. Double wipe contacts for low resistance. Silver-plated contacts rated 100mA at 30VDC or peak AC. Moving contacts: phosphor bronze. Fixed contacts: brass. Initial contact resistance: 20mΩ maximum. Terminal seal included. Lever: UP = upright. RA = right angle.

Stock No.	Type	Lever	Circuits	1-24	25-49	50-99	100-249
46F2263	MMS-12	UP	SPDT	1.46	1.36	1.33	1.30
46F2254	MMS-22R	RA	DPDT	1.94	1.80	1.77	1.72
46F2255	MMS-42	UP	4PDT	2.61	2.42	2.38	2.32

(4749) (de50431)

BUTTON GUARDS FOR MPA AND MPE SERIES SWITCHES

G12

G13K

Type number suffix = color: **A** = natural aluminum, **B** = black aluminum, **C** = chromed brass.

PLAIN FINISH GUARDS

Stock No.	Type	Matching Button	1-24	25-49	50-99	100-249
57F2113	G-12-A	C22	1.37	1.18	1.13	0.71
57F2114	G-12-B	C22	1.37	1.18	1.13	0.71
57F2112	G-12-C	C22	1.37	1.27	1.25	1.22

KNURLED FINISH GUARDS

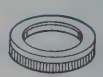
57F2110	G-12-KA	C22	1.37	1.27	1.25	1.22
57F2111	G-12-KB	C22	1.37	1.27	1.25	1.22
25F2035	G12K-C	C22	1.50	1.39	1.37	1.33
57F2119	G-13-A	C23	1.64	1.52	1.50	1.46
57F2120	G-13-B	C23	1.64	1.52	1.50	1.46
57F2118	G-13-C	C23	1.75	1.62	1.59	1.55
57F2116	G-13-KA	C23	1.75	1.62	1.59	1.55
57F2117	G-13-KB	C23	1.75	1.62	1.59	1.55
57F2115	G-13-KC	C23	1.90	1.76	1.73	1.69

(4931) (de52253)

ALUMINUM SWITCH PLATES AND NUTS

SPA42

N-2


N-1B

ON/OFF SWITCH PLATES

Stock No.	Type	Dimensions	1-24	25-49	50-99	50-99
77B6956	SPA-42	1.125″Lx0.680W, 0.469″ dia.	0.68	0.58	0.56	0.32

BRIGHT NICKEL FINISH SWITCH NUTS

Stock No.	Type	Description	1-24	25-49	50-99	100-249
61F914	N-1A	¼-40 Knurled nut	0.52	0.44	0.43	0.33
61F915	N-1B	15/32-32 Knurled nut	0.71	0.61	0.58	0.45
61F916	N2-AG	¼-40 Hex nut	0.27	0.23	0.22	0.18

(4932) (de52254)

ASE/F SERIES AUTO-INSERTABLE SLIDES

ASE-42

ASF-42

ASF-62R

Units withstand aqueous or solvent cleaning processes. High temperature antistatic plastic withstands surface mount, vapor phase reflow or wave soldering. **Type ASE** extended actuator open-ended case allows washout after cleaning. **ASF**: DIP package with flush actuator allows auto insertion on standard IC equipment. Tape seal and closed case provide process seal. Bevel length 0.260″ (6.60) except 4P3T: 0.360″ (9.14). Surface mount terminals (not shown) 0.100″ (2.54) on center. R = right angle. L = surface mount.

Stock No.	Type	Circuits	1-24	25-49	50-99	100-249
92F2868	ASE22L	DPDT	2.46	2.28	2.24	1.53
92F2869	ASE42L	4PDT	2.68	2.48	2.44	1.66
92F2924	ASE42R	4PDT	2.03	1.88	1.85	1.26
87F1671	ASE-22	DPDT	1.80	1.67	1.64	1.11
87F1672	ASE-42	4PDT	2.03	1.88	1.85	1.26
87F1676	ASF-22	DPDT	2.10	1.94	1.91	1.30
87F1663	ASF-42	4PDT	2.33	2.16	2.12	1.45
87F1673	ASE-62	6PDT	2.81	2.60	2.56	1.74
87F1664	ASF-62	6PDT	3.12	2.89	2.84	1.93

(4745) (de50427)

STS SERIES CONSUMER GRADE MINIATURE SLIDES

SP3P

DP2T

PC mount units have silver-plated, bifurcated contacts rated 300mA at 125VAC/30VDC. Initial contact resistance: 20mΩ maximum. 2.5mm pin spacing, wave solderable/washable.

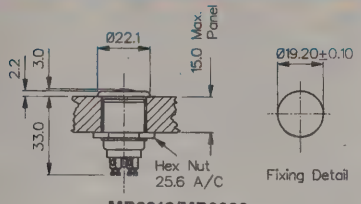
Stock No.	Type	Circuit	1-24	25-49	50-99	100-249
92F2926	STS121PC	SPDT	1.42	1.21	1.16	0.72
90F1938	STS1300PC	SP3T	1.80	1.54	1.48	0.92
90F1947	STS220PC	DPDT	2.15	1.84	1.77	1.10

(4747) (de5042

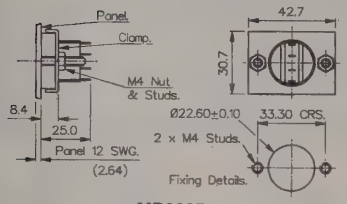
SWITCHES AND VOLTAGE SELECTORS

VANDAL-RESISTANT SWITCHES

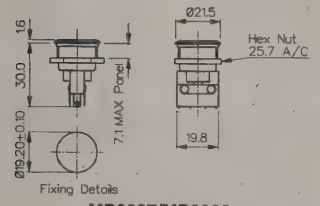
NEW



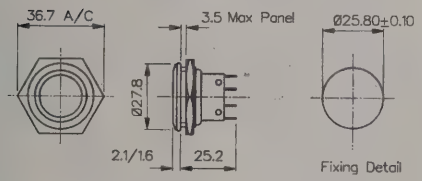
MP0013/MP0033

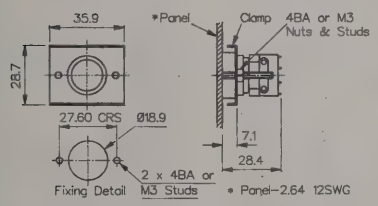


MP0025

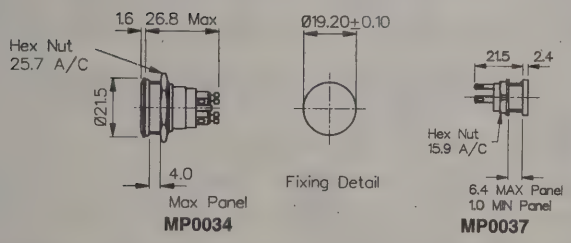


MP0027/MP0038





MP0031



MP0034 **MP0037**

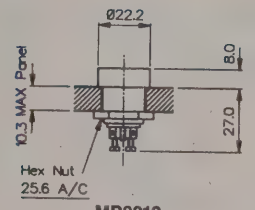
An extensive range of sealed and nonsealed momentary stainless steel switches. Vandal-resistant switches are suitable for most security applications including door-entry systems and elevators. **Types MP0013/33/37"** 1A @ 5V. **Types MP0013/25/27/31/34/38**: 5A @ 250V.

Stock No.	Type	Sealed	Circuit	Termination	Tag Terminals	1-9
48F2526	MP0013	No	S.P. Push To Make	Screw Terminals	Copper/Silver Plated	6.11
48F2527	MP0033	Yes	S.P. Push To Make	Screw Terminals	Fine Silver	9.95
48F2528	MP0025	No	S.P.C.O.	Solder Tags	Fine Silver	14.21
48F2529	MP0027	No	S.P.C.O.	Solder Tags	Fine Silver	14.21
48F2530	MP0031	Yes	S.P.C.O.	Solder Tags	Fine Silver	12.79
48F2531	MP0034	No	S.P.C.O.	Solder Tags	Brass/Silver	12.41
48F2532	MP0037	Yes	S.P. Push To Make	Screw Terminals Plated/Silver	Brass/Silver	8.58
48F2533	MP0038	Yes	S.P.C.O.	Solder Tags	Fine Silver	14.27

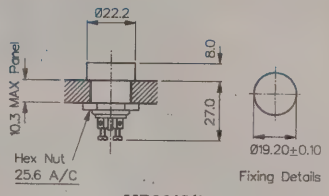
(33387) (ne33387)

PUSHBUTTON SWITCHES

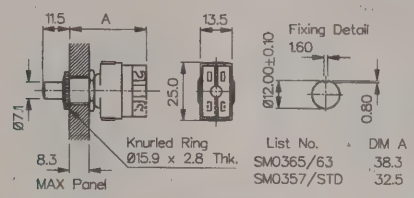
NEW



MP0012



MP0012/1



SM0357/SM0365

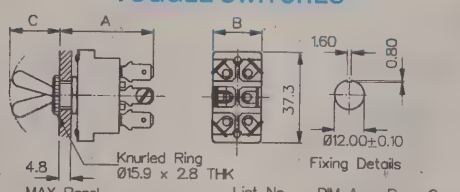
Types MP0012/BK and **MP00112/RD** are 0.25A @ 250VAC, 1A @ 110VAC, 2A @ 12VAC; polished chrome bezel. **Type SM0357**: 2A @ 250V. **Type SM0365**: 3A @ 250V. Tag terminal material: brass, silver-plated.

Stock No.	Type	Circuit	Termination	1-24	25-49
48F2534	MP00112/BK	S.P. Push To Make	Screw Terminals	5.40	4.86
48F2535	MP00112/RD	S.P. Push To Make	Screw Terminals	5.46	4.91
48F2536	SM0357	S.P.C.O.	Solder Tags	5.78	4.60
48F2537	SM0365/63	S.P.M.B.	Solder Tags	5.69	4.50

(33385) (ne33385)

TOGGLE SWITCHES

NEW



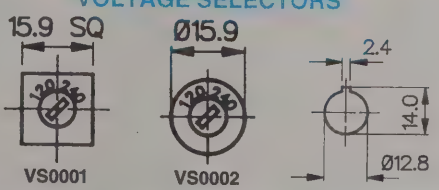
SX0780/SX0790

Single- and double-pole switches with screw terminals or 6.3mm tabs. **Types SX0780/790**: 10A @ 250VAC; 10A@ 0-28VDC.Tag terminal material: copper with silver face.

Stock No.	Type	Circuit	Termination	1-49	50-99
48F2538	SX0780	Change Over	Screw Terminals	11.23	8.87
48F2539	SX078/63	Center Off	6.3 Solder Tags	9.23	7.29
48F2540	SX0783	Change Over	Screw Terminals	11.23	8.87
48F2541	SX0783/63	2 Positions Only	6.3 Solder Tags	9.23	7.29
48F2542	SX0790	Change Over	Screw Terminals	7.23	5.71
48F2543	SX0790/63	Center Off	6.3 Solder Tags	6.69	5.29
48F2544	SX0793	Change Over	Screw Terminals	7.23	5.71
48F2545	SX0793/63	2 Positions Only	6.3 Solder Tags	6.69	5.29
48F2546	SX0550	Water/Dust Resistant PVC Cover		0.90	0.68

(33386) (ne33386)

VOLTAGE SELECTORS



VS0001 **VS0002**

6.3A connection series -240V, connection parallel -120V. Tag terminal material: copper and silver alloy.

Stock No.	Type	Termination	1-49	50-99
48F2547	VS0001	2.8 Solder Tags	2.41	1.81
48F2548	VS0002		2.41	1.81

(33384) (ne33384)

MINIATURE BASIC SWITCHES

V3 SERIES MINIATURE BASIC SWITCHES

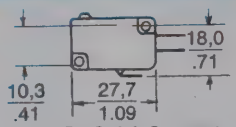


Fig. 1 D8 Quick Connect

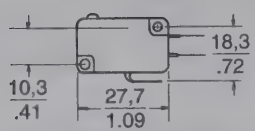


Fig. 2 D9 Quick Connect

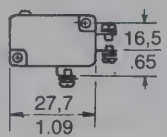


Fig. 3 Screw

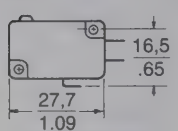
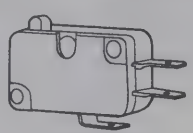
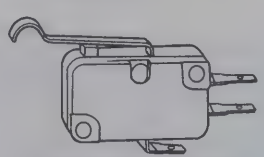
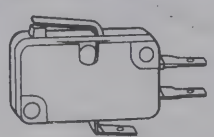


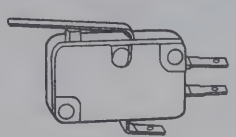
Fig. 4 Solder


Pin Plunger

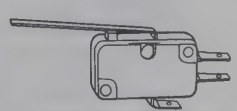
Pin Plunger-- Screw Terminals

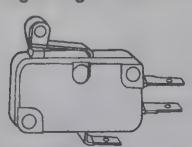

Simulated Roller Lever


Short Straight Lever


Straight Lever

Long Straight Lever


Longer Straight Lever


Short Roller Lever

Roller Lever

SPDT switches feature high electrical capacity, long life, beryllium copper springs, and silver contacts. Temperature tolerance to +82°C. Size and shape meet design requirements for all types of applications. Wear-resistant phenolic case and plunger. UL recognized, CSA certified. **D8** suffix denotes 0.187″ x 0.020″ quick-connect termination. **D9** suffix denotes 0.250″ x 0.032″ quick-connect termination.

Stock No.	Type	Description	Fig.	Amps	Actuator Type
23F4227	V3-1-D8	14 oz. O.F.	1	15	Pin Plunger
23F1751	V3-15	Gen. Use	4	15	Pin Plunger
23F1752	V3-19	Gen. Use	4	15	Pin Plunger
23F1777	V3-3001-D8	5.3 oz. O.F.	1	15	Pin Plunger
23F4070	V3-101-D8	Most Appl.	1	11	Pin Plunger
23F1764	V3-129	150° C Temp.	3	11	Pin Plunger
23F1769	V3-1001	M/S-8805	3	10	Pin Plunger
23F1772	V3-1101-D8	Gen. Use	1	10	Pin Plunger
23F1773	V3-1101-D9	Gen. Use	2	10	Pin Plunger
23F1765	V3-245	204° C Temp.	3	10	Pin Plunger
50F5126	V3-70101-D8	Low Current	1	5	Pin Plunger
23F1776	V3-2451-D8	.53 oz. O.F.	1	3	Pin Plunger
23F1766	V3-343-D8	Gold X Point	1	1	Pin Plunger
23F4231	V3L-5-D8	8 oz. O.F.	1	15	Simulated Roller
23F1818	V3L-3014-D8	3.4 oz. O.F.	1	15	Simulated Roller
23F1791	V3L-121-D8	4 oz. O.F.	1	11	Simulated Roller
23F1801	V3L-1123-D8	Gen. Use	1	10	Simulated Roller
23F1779	V3L-1-D8	14 oz. O.F.	1	15	Short Straight Lever
23F1785	V3L-101-D8	9 oz. O.F.	1	11	Short Straight Lever
23F1780	V3L-2-D8	8 oz. O.F.	1	15	Straight Lever
23F1816	V3L-3005-D8	3.1 oz. O.F.	1	15	Straight Lever
23F4075	V3L-104-D8	4 oz. O.F.	1	11	Straight Lever
23F1797	V3L-1108-D8	Gen. Use	1	10	Straight Lever

CONTINUED

V3 SERIES MINIATURE BASIC SWITCHES (CONT.)

Stock No.	Type	Description	Fig.	Amps	Actuator Type
23F1784	V3L-6-D8	4 oz. O.F.	1	15	Long Straight Lever
23F4077	V3L-131-D8	2.1 oz. O.F.	1	11	Long Straight Lever
23F1810	V3L-2106-D8	.56 oz. O.F.	1	10	Long Straight Lever
23F1813	V3L-2425-D8	.25 oz. O.F.	1	5	Long Straight Lever
50F5197	V3L-14-D8	3 oz. O.F.	1	15	Longer Straight Lever
23F1794	V3L-145-D8	1.93 oz. O.F.	1	11	Longer Straight Lever
23F1802	V3L-1124-D8	Gen. Use	1	10	Longer Straight Lever
50F5198	V3L-2472-D8	.11 oz. O.F.	1	3	Longer Straight Lever
23F1814	V3L-3003-D8	6.8 oz. O.F.	1	15	Short Roller Lever
23F4230	V3L-3-D8	6.8 oz. O.F.	1	15	Short Roller Lever
23F1799	V3L-1117-D8	Gen. Use	1	11	Short Roller Lever
23F4078	V3L-139D8	8 oz. O.F.	1	11	Short Roller Lever
23F1807	V3L-2103-D8	2.1 oz. O.F.	1	10	Short Roller Lever
23F1783	V3L-4-D8	8 oz. O.F.	1	15	Roller Lever
23F1815	V3L-3004-D8	3.2 oz. O.F.	1	15	Roller Lever
23F4076	V3L-111-D8	4 oz. O.F.	1	11	Roller Lever
23F1796	V3L-1101-D8	Gen. Use	1	10	Roller Lever
50F5205	V3L-398-D8	Gold Contacts	1	1	Roller Lever

Stock No.	Type	1-5	6-10	11-15	16-20
23F4227	V3-1-D8	3.23	2.85	2.60	2.44
23F1751	V3-15	3.76	3.32	3.03	2.84
23F1752	V3-19	4.12	3.63	3.31	3.11
23F1777	V3-3001-D8	3.23	2.85	2.60	2.44
23F4070	V3-101-D8	2.82	2.49	2.27	2.13
23F1764	V3-129	5.58	4.92	4.49	4.22
23F1769	V3-1001	8.17	7.20	6.57	6.17
23F1772	V3-1101-D8	2.82	2.49	2.27	2.13
23F1773	V3-1101-D9	2.82	2.49	2.27	2.13
23F1765	V3-245	11.22	9.89	9.03	8.48
50F5126	V3-70101-D8	2.94	2.59	2.37	2.22
23F1776	V3-2451-D8	3.47	3.06	2.79	2.62
23F1766	V3-343-D8	6.23	5.49	5.01	4.71
23F4231	V3L-5-D8	3.71	3.26	2.98	2.80
23F1818	V3L-3014-D8	3.71	3.26	2.98	2.80
23F1791	V3L-121-D8	3.29	2.90	2.65	2.49
23F1801	V3L-1123-D8	3.29	2.90	2.65	2.49
23F1779	V3L-1-D8	3.59	3.16	2.89	2.71
23F1785	V3L-101-D8	3.18	2.80	2.56	2.40
23F1780	V3L-2-D8	3.59	3.16	2.89	2.71
23F1816	V3L-3005-D8	3.59	3.16	2.89	2.71
23F4075	V3L-104-D8	3.18	2.80	2.56	2.40
23F1797	V3L-1108-D8	3.18	2.80	2.56	2.40
23F1784	V3L-6-D8	3.59	3.16	2.89	2.71
23F4077	V3L-131-D8	3.18	2.80	2.56	2.40
23F1810	V3L-2106-D8	3.18	2.80	2.56	2.40
23F1813	V3L-2425-D8	3.35	2.95	2.70	2.53
50F5197	V3L-14-D8	3.82	3.37	3.07	2.89
23F1794	V3L-145-D8	3.18	2.80	2.56	2.40
23F1802	V3L-1124-D8	3.29	2.90	2.65	2.49
50F5198	V3L-2472-D8	4.88	4.30	3.93	3.69
23F1814	V3L-3003-D8	4.29	3.78	3.45	3.24
23F1799	V3L-1117-D8	3.76	3.32	3.03	2.84
23F4078	V3L-139-D8	3.76	3.32	3.03	2.84
23F1807	V3L-2103-D8	3.76	3.32	3.03	2.84
23F1783	V3L-4-D8	4.18	3.68	3.36	3.15
23F1815	V3L-3004-D8	4.18	3.68	3.36	3.15
23F4076	V3L-111-D8	3.76	3.32	3.03	2.84
23F1796	V3L-1101-D8	3.76	3.32	3.03	2.84
50F5205	V3L-398-D8	7.17	6.32	5.77	5.42

(4872) (de01440)

VX SERIES SOLID-STATE BASIC SWITCHES

Plunger or lever operated Hall-effect switches are physically interchangable with **V3** or **V7 series**. Tested to over 100 million electrical operations. Digital current sink output. Supply voltage: 4.5-24VDC. Supply current: 15mA max. Current per output: 10mA. UL recognized, CSA certified. 0.62H x 0.40W x 1.135″L. Switches with different operating forces than those listed below are available; *contact your local Newark sales office.*

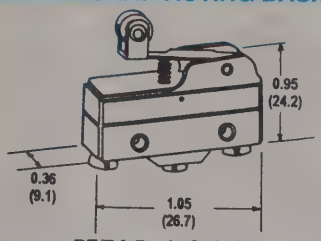
Stock No.	Type	Lever Style	Operating Force
94F5372	VX10	Plunger	0.35 oz.
50F5165	VX10-B1	Sim. Roller	0.20 oz.
16F3157	VX10-A3	Long Straight	0.10 oz.
16F3158	VX10-C1	Short Roller	0.40 oz.

Stock No.	Type	1-5	6-10	11-15	16-20
94F5372	VX10	5.99	5.59	5.24	4.94
50F5165	VX10-B1	6.21	5.80	5.44	5.12
16F3157	VX10-A3	6.21	5.80	5.44	5.12
16F3158	VX10-C1	6.71	6.26	5.87	5.53

(4926) (de51480)

SNAP-ACTING BASIC SWITCHES

TYPE BZ/BA/BE/BM SNAP-ACTING BASIC SWITCHES



BZ/BA Basic Switch

Fig. 1
Roller Leaf

Fig. 2
Lever

Fig. 3
Roller Lever

Fig. 4
Panel Mount
Roller Plunger

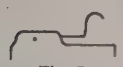


Fig. 5
Simulated Roller Lever

SPDT circuitry for power load switching and motor handling capacity applications. Rated: 125, 250, and 480VAC. Cover and case are general-purpose phenolic. **HT series** High temperature versions, that withstand temperatures up to +1000°F, are also available; *contact your local Newark sales office.* Type number suffix descriptions: **-A2** = bottom-facing screw terminals (6-32 screws); **-P4** = side-facing screw terminals; no suffix = solder terminals. Meet ML-S-8805 standard. UL recognized, CSA certified.

Stock No.	Type	Fig.	A	Operating Force (Oz.)	Oper. Position	Min. Overtravel
23F5022	BA-2RL2-A2	1	20	9	1.125	0.060″ (1.52)
23F4097	BZ-2RL2-A2	1	15	5	0.750	0.060″ (1.52)
23F5027	BA-2RV-A2	2	20	2.5	1.125	0.078″ (1.98)
23F5029	BA-2RV6-A2	2	20	1	0.750	0.297″ (7.54)
23F4026	BZ-2RW80-A2	2	15	2.5	0.750	0.219″ (5.56)
23F4034	BZ-2RW863-A2	2	15	1	0.750	0.578″ (14.68)
23F4142	BZ-2RW80	2	15	2.5	0.750	0.219″ (5.56)
23F4166	BZ-2RW80147-A2	5	15	6	1.188	0.094″ (2.39)
23F4149	BZ-2RW84-A2	2	15	1	0.750	0.219″ (5.56)
23F4156	BZ-2RW855-A2-S	2	15	2.5	0.750	0.219″ (5.56)
23F4061	BZ-RW8435	2	10	0.25	0.750	0.219″ (5.56)
23F4161	BZ-2RW8244-A2	2	5	2.5	0.750	0.219″ (5.56)
23F5053	BE-2RV22-A4	3**	25	6	1.172	0.030″ (0.76)
23F5055	BM-1RW82-A2	3	22	3.5	1.188	0.156″ (3.96)
23F4004	BA-2RV2-A2	3	20	3.5	1.188	0.060″ (1.52)
23F4005	BA-2RV22-A2	3**	20	6	1.172	0.030″ (0.76)
23F5030	BA-2RV22	3**	20	6	1.172	0.030″ (0.76)
23F5032	BA-2RV136-A2	2	20	8	0.750	0.050″ (1.27)
23F4056	BZ-RW84-A2	2	15	1	0.750	0.219″ (5.56)
23F4027	BZ-2RW82-A2	3	15	3.5	1.188	0.156″ (3.96)

Stock No.	Type	1-5	6-10	11-15	16-20
23F5022	BA-2RL2-A2	14.38	13.15	12.11	11.22
23F4097	BZ-2RL2-A2	13.02	11.91	10.97	10.16
23F5027	BA-2RV-A2	12.46	11.39	10.49	9.72
23F5029	BA-2RV6-A2	14.32	13.09	12.06	11.18
23F4026	BZ-2RW80-A2	11.27	10.30	9.49	8.79
23F4034	BZ-2RW863-A2	12.40	11.34	10.44	9.68
23F4142	BZ-2RW80	11.27	10.30	9.49	8.79
23F4166	BZ-2RW80147-A2	12.40	11.34	10.44	9.68
23F4149	BZ-2RW84-A2	11.27	10.30	9.49	8.79
23F4156	BZ-2RW855-A2-S	21.68	19.82	18.26	16.92
23F4061	BZ-RW8435	13.64	12.47	11.49	10.65
23F4161	BZ-2RW8244-A2	15.74	14.39	13.26	12.28
23F5053	BE-2RV22-A4	16.36	14.96	13.78	12.77
23F5055	BM-1RW82-A2	16.19	14.80	13.64	12.64
23F4004	BA-2RV2-A2	15.57	14.23	13.11	12.15
23F4005	BA-2RV22-A2	15.57	14.23	13.11	12.15
23F5030	BA-2RV22	15.57	14.23	13.11	12.15
23F5032	BA-2RV136-A2	18.68	17.08	15.73	14.58
23F4056	BZ-RW84-A2	12.96	11.85	10.92	10.12
23F4027	BZ-2RW82-A2	13.96	12.77	11.76	10.90

Stock No.	Type	Fig.	A	Operating Force (Oz.)	Oper. Position	Min. Overtravel
23F4029	BZ-2RW822-A2	3**	15	6	1.188	0.094″ (2.39)
23F4032	BZ-2RW825-A2	3	15	8	1.140	0.060″ (1.52)
23F4028	BZ-2RW822	3**	15	6	1.188	0.094″ (2.39)
23F4030	BZ-2RW822T	3**	15	6	1.188	0.094″ (2.39)
23F4160	BZ-2RW8225-A2-S	3**	15	6	1.188	0.094″ (2.39)
23F4209	BZ-2RW8225551-A2	3**	15	6	1.188	0.094″ (2.39)
23F4145	BZ-2RW82T	3	15	3.5	1.188	0.156″ (3.96)

CONTINUED

TYPE BZ/BA/BE/BM SNAP-ACTING BASIC SWITCHES (CONT.)

Stock No.	Type	Fig.	A	Operating Force (Oz.)	Oper. Position	Min. Overtravel
23F4136	BZ-2RW82-A2	3	15	1-3.5	1.156	0.140″ (3.56)
23F4214	BZ-2RW82	3	15	3.5	1.188	0.156″ (3.96)
23F4151	BZ-2RW822-P4	3**	15	6	1.188	0.094″ (2.39)
23F4062	BZ-RW8435-A2	2	10	0.25	0.750	0.219″ (5.56)
23F4060	BZ-RW922-A2	3**	10	12	1.235	0.100″ (2.54)
23F4014	BZ-2RQ18-A2	4	15	9-13	1.312	0.140″ (3.56)
23F4019	BZ-2RQ181-A2	4†	15	9-13	1.312	0.140″ (3.56)
23F4121	BZ-2RQ181T	4†	15	14-24	1.312	0.141″ (3.58)
23F4124	BZ-2RQ785	4	15	9-13	1.953	0.140″ (3.56)
23F4159	BZ-2RW899-A2	2	15	2.5	Adjustable	0.125″ (3.18)
23F4116	BZ-2RQ18	4	15	9-13	1.132	0.140″ (3.56)
23F4203	BZ-2RW805551-A2	2	15	2.5	0.750	0.214″ (3.56)

Stock No.	Type	1-5	6-10	11-15	16-20
23F4029	BZ-2RW822-A2	14.50	13.26	12.21	11.32
23F4213	BZ-2RW22-A2	36.63	32.88	29.83	27.29
23F4032	BZ-2RW825-A2	17.61	16.10	14.83	13.74
23F4028	BZ-2RW822	14.50	13.26	12.21	11.32
23F4030	BZ-2RW822T	14.50	13.26	12.21	11.32
23F4160	BZ-2RW8225-A2-S	16.93	15.47	14.26	13.21
23F4209	BZ-2RW8225551-A2	19.02	17.39	16.02	14.85
23F4145	BZ-2RW82T	14.10	12.89	11.87	11.00
23F4136	BZ-2RW82-A2	14.10	12.89	11.87	11.00
23F4214	BZ-2RW82	14.10	12.89	11.87	11.00
23F4151	BZ-2RW822-P4	15.51	14.18	13.07	12.11
23F4062	BZ-RW8435-A2	13.64	12.47	11.49	10.65
23F4060	BZ-RW922-A2	46.32	41.57	37.71	34.50
23F4014	BZ-2RQ18-A2	29.91	26.85	24.35	22.28
23F4019	BZ-2RQ181-A2	29.91	26.85	24.35	22.28
23F4121	BZ-2RQ181T	29.91	26.85	24.35	22.28
23F4124	BZ-2RQ785	31.78	28.52	25.87	23.67
23F4159	BZ-2RW899-A2	13.53	12.37	11.40	10.56
23F4116	BZ-2RQ18	29.91	26.85	24.35	22.28
23F4203	BZ-2RW805551-A2	15.23	13.92	12.83	11.89

**Short roller lever
†Cross roller
(15028)

(ne10580)

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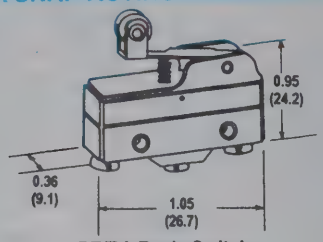
BASIC SWITCHES

BZ/BA SNAP-ACTING BASIC SWITCHES



BZ/BA Basic Switch

Fig. 5 Panel Mount Plunger

Fig. 6 Pin Plunger

Fig. 7 Overtravel Plunger

Fig. 8 One Way Roller Lever

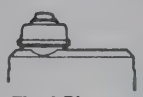


Fig. 9 Plunger

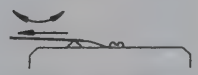


Fig. 10 Leaf

SPDT circuitry for power load switching and motor handling capacity applications. Rated 125, 250, and 480VAC. Cover and case are general-purpose phenolic. **HT** high temperature switches that are able to withstand temperatures up to 1000°F are also available. Type number suffix descriptions:–**A2** = bottom-facing screw terminals (6-32 screws); –**P4** = side-facing screw terminals; –**A4** = bottom-facing screw terminals #8 screw; –**P7** = back-facing screw terminal; –**P1** = left-side facing screw terminal. Type numbers without a suffix are solder terminals. Meets MIL-S-8805 standard. UL recognized, CSA certified;

Stock No.	Type	Fig.	A	O.F. * Oz.	O.P. +	Min. O.T. *
23F5024	BA-2RQ1-A2	5	20	14-22	0.859	0.219″ (5.56)
23F4013	BZ-2RQ1-A2	5	15	9-13	0.859	0.060″ (1.52)
23F4016	BZ-2RQ66	5	15	9-13	1.500	0.219″ (5.56)
23F4012	BZ-2RN702	5	15	9-13	1.906	0.125″ (3.18)
23F4018	BZ-2RQ77	5	15	9-24	1.720	0.219″ (5.56)
23F4122	BZ-2RQ784	5	15	6-9.5	1.953	0.140″ (3.56)
23F4204	BZ-2RQ68	5	15	10-20	1.500	0.219″ (5.56)
23F4017	BZ-2RQ69	5	15	9-13	1.709	0.219″ (5.56)
23F4111	BZ-2RQ1T	5	15	9-13	0.859	0.219″ (5.56)
23F4108	BZ-2RQ1	5	15	9-13	0.859	0.219″ (5.56)
23F4037	BZ-RQ1-A2	5	15	6-9.5	0.859	0.219″ (5.56)
23F4107	BZ-2RQ-A2	7	15	9-13	1.500	0.219″ (5.56)
23F5034	BA-3ST	6	25	26-38	0.640	0.010″ (0.25)
23F5013	BA-2R-A2	6	20	14-22	0.640	0.010″ (0.25)
23F5015	BA-2R708-P7	6	20	14-22	0.640	0.010″ (0.25)
23F4009	BZ-2R-A2	6	15	9-13	0.625	0.005″ (0.13)
23F4071	BZ-2R-P1	6	15	9-13	0.625	0.005″ (0.13)
23F4073	BZ-2R55-A2-S	6	15	9-15	0.625	0.005″ (0.13)
23F4007	BZ-R88-A2	6	10	9	0.625	0.005″ (0.13)
23F4003	BA-2RB-A2	7	20	14-22	1.030	0.094″ (2.39)
23F5017	BA-2RB-A4	7	20	14-22	1.030	0.094″ (2.39)
23F4212	BZ-2RS-A2	7	15	9-13	1.110	0.060″ (1.52)
23F4010	BZ-2RD-A2	7	15	9-13	0.835	0.060″ (1.52)
23F4093	BZ-2RDT	7	15	9-13	1.835	0.060″ (1.52)
23F4125	BZ-2RS	7	15	9-13	1.110	0.060″ (1.52)
23F4215	BZ-2RW826-A2	8	15	6	1.625	0.094″ (2.39)
23F4090	BZ-2RDS-A2-S	9	15	13-19	1.110	0.060″ (1.52)
23F4284	BZ-2RL-A2	10	15	5	0.688	0.060″ (1.52)
23F4094	BZ-2RL	10	15	5	0.688	0.060″ (1.52)
23F1955	2HT1	6	3	10-20	0.660	0.010″ (0.25)

*O.F.=Operating force; O.T.=Overtravel O.P. + =Operating position

Stock No.	Type	1-5	6-10	11-15	16-20
23F5024	BA-2RQ1-A2	20.15	18.43	16.97	15.73
23F4013	BZ-2RQ1-A2	19.08	17.44	16.07	14.89
23F4016	BZ-2RQ66	20.32	18.58	17.12	15.86
23F4012	BZ-2RN702	30.91	28.26	26.03	24.12
23F4018	BZ-2RQ77	26.89	24.58	22.65	20.99
23F4122	BZ-2RQ784	31.93	28.66	26.00	23.78
23F4204	BZ-2RQ68	29.26	26.76	24.65	22.84
23F4017	BZ-2RQ69	31.98	28.70	26.04	23.82
23F4111	BZ-2RQ1T	19.08	17.44	16.07	14.89
23F4108	BZ-2RQ1	19.08	17.44	16.07	14.89
23F4037	BZ-RQ1-A2	21.96	20.08	18.50	17.14
23F4107	BZ-2RQ-A2	17.15	15.68	14.45	13.39
23F5034	BA-3ST	20.72	18.94	17.45	16.17
23F5013	BA-2R-A2	9.97	9.11	8.39	7.78
23F5015	BA-2R708-P7	29.38	26.86	24.74	22.93
23F4009	BZ-2R-A2	9.06	8.28	7.63	7.07
23F4071	BZ-2R-P1	16.08	14.70	13.54	12.55
23F4073	BZ-2R55-A2-S	18.06	16.51	15.21	14.09
23F4007	BZ-R88-A2	11.15	10.20	9.39	8.71

CONTINUED

BZ/BA SNAP-ACTING BASIC SWITCHES (CONT.)

Stock No.	Type	1-5	6-10	11-15	16-20
23F4003	BA-2RB-A2	12.00	10.97	10.11	9.37
23F5017	BA-2RB-A4	11.94	10.92	10.06	9.32
23F4212	BZ-2RS-A2	12.74	11.65	10.73	9.94
23F4010	BZ-2RD-A2	11.72	10.71	9.87	9.15
23F4093	BZ-2RDT	11.72	10.71	9.87	9.15
23F4125	BZ-2RS	13.53	12.37	11.40	10.56
23F4215	BZ-2RW826-A2	17.61	16.10	14.83	13.74
23F4090	BZ-2RDS-A2-S	28.19	25.77	23.74	22.00
23F4284	BZ-2RL-A2	10.87	9.94	9.16	8.49
23F4094	BZ-2RL	10.87	9.94	9.16	8.49
23F1955	2HT1	237.13	226.10	216.25	210.08

(4913) (de50934)

DPDT SNAP-ACTING BASIC SWITCHES

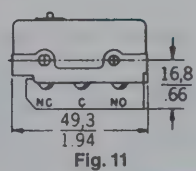


Fig. 11

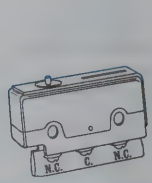


Fig. 12

Bottom Facing Screw Terminals

Two independent single-pole double-throw circuits in one housing. Temperature tolerance to +82°C. Provides mounting interchangeability with **type Z** switches. UL recognized, CSA certified.

Stock No.	Type	Fig.	Amps	Lever Type
23F4046	DT-2R-A7	11	10	Pin Plunger
23F4048	DT-2RV212-A7	11	10	1.19″ Roller, Rev. Position
23F4049	DT-2RV3-A7	11	10	2.5″ Straight, Rev. Position
23F5064	DT-2RV22-A7	11	10	1.03″ Steel Roller
23F4047	DT-2RV23-A7	11	10	1.9″ Roller, Reversed Position
23F5062	DT-2RV-A7	11	10	2.5″ Straight
23F5060	DT-2R4-B6	12	10	Pin Plunger

Stock No.	Type	1-5	6-10	11-15	16-20
23F4046	DT-2R-A7	65.20	58.52	53.09	48.57
23F4048	DT-2RV212-A7	65.43	59.49	53.42	49.39
23F4049	DT-2RV3-A7	68.83	61.77	56.04	51.27
23F5064	DT-2RV22-A7	72.45	65.02	58.99	53.96
23F4047	DT-2RV23-A7	70.12	62.93	57.09	52.23
23F5062	DT-2RV-A7	70.12	62.93	57.09	52.23
23F5060	DT-2R4-B6	71.41	64.09	58.14	53.19

(4914) (de50935)

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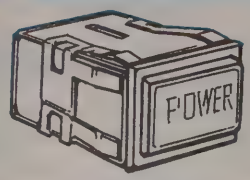
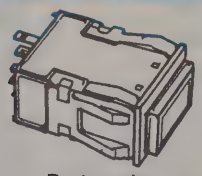


Rectangular units with black bezel. 0.187x0.020" (4.75x0.508) solder or quick-connect terminal. 2-pole 2 form A silver contacts. Alternate action, except (*) is momentary. *Order* **type AML91** *incandescent lamps separately on this page.* UL recognized, CSA certified. *Order* **type AML51** *buttons separately on page 1002.*

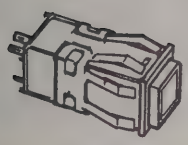
Stock No.	Type	Description	1-5	6-10	11-15
23F2444	AML31EBA4AD	Non-Lighted	19.24	17.96	16.83
23F4285	AML31FBA4AD	Incandescent	21.07	19.67	18.44
50F9242	AML31FBA4AC*	Incandescent	20.57	19.20	18.00
51F2624	AML31FBE4AD	28V, Incandescent	23.01	21.48	20.13

(4921) (de51470)

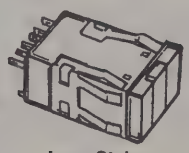
AML41 LIGHTED INDICATORS



Rectangular



Square



Lens Style

Pushbutton style indicators match display of lighted switches. Black Bezel. 0.110 x 0.020" (2.79 x 0.508) solder/quick-connect terminal. *Order* **type AML91** *incandescent lights separately on this page. Order switch buttons separately (buttons for* **type AML41JBA2** *are ordered below.)* UL recognized, CSA certified.

Stock No.	Type	Description	1-5	6-10	11-15
23F4430	AML41CBA2	Square, 1 Lamp*	7.38	6.88	6.45
23F4363	AML41DBA2	Square, 2 Lamp*	9.32	8.70	8.15
23F4364	AML41FBA2	Rectangular, 1 Lamp	7.99	7.45	6.99
23F4365	AML41GBA2	Rectangular, 2 Lamp	10.26	9.57	8.98

* Square indicators use AML51C lenses *on page 1002*

AML51J INDICATOR LENSES

For **AML41JBA2** indicator.

Stock No.	Type	Color	1-5	6-10	11-15
50F5207	AML51-J10W	White	1.72	1.61	1.51
23F4422	AML51-J10R	Red	1.72	1.61	1.51

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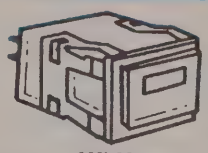
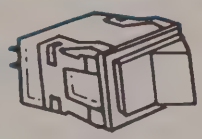


AML32



AML34

AML32 series switch is a rectangular pushbutton unit with black bezel. 125-volt red neon lamp (included), and 0.187 x 0.020" (4.75 x 0.508) solder/quick connect terminals with integral lamp circuit. Switch is alternate action, DPST, normally open, form X. **AML34 series** switch is a rectangular rocker unit with black bezel, 0.187 x 0.020" (4.75 x 0.508) solder/quick connect terminals, 2-pole 2 form A silver contacts, maintained action. UL recognized. CSA certified. *Order switch buttons and rockers separately on this page.*

Stock No.	Type	Description	1-5	6-10	11-15
23F4354	AML32FBB7AD	Red Neon	22.68	21.17	19.84
23F4357	AML34EBA4AC01	Non-Lighted	20.30	18.94	17.76
23F4358	AML34FBA4AC01	Incandescent	22.24	20.75	19.45
23F4426	AML32FBB4AD	Red Neon*	23.85	22.25	20.86
23F4355	AML32FBC7AD	Clear Neon	22.68	21.17	19.84
23F4356	AML32FBK4AD	Red Neon	23.85	22.25	20.86

*Isolated lamp circuit

AML52 SWITCH BUTTONS

For **AML32 pushbuttons, neon display**

Stock No.	Type	Color	1-5	6-10	11-15
23F4452	AML52N10R	Red	1.44	1.35	1.26
23F4434	AML52-N10K	Black	1.44	1.35	1.26
50F5208	AML52-N10G	Green	1.44	1.35	1.26
23F4435	AML52-N10W	White	1.44	1.35	1.26

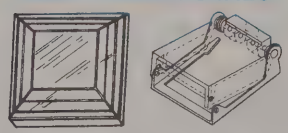
AML54 ROCKER OPERATORS

For **AML34 rocker switches**

Stock No.	Type	Color	Each
23F4461	AML54-F10W	White	1.72
50F5206	AML54-F10Y	Yellow	1.72
23F4458	AML54-F10R	Red	1.72
23F4457	AML54-F10K	Black	1.72

(4924) (de51473)

AML75 PANEL SEALS



Protect displays from contamination by dust, dirt, or spills. No effect on color, light intensity, or legend quality. Fit both 0.19" (4.83) standard-height square or rectangular pushbuttons.

Stock No.	Type	Pushbutton Shape	1-5	6-10	11-15
23F4468	AML75ABC	Square	4.22	3.94	3.69
23F4469	AML75BBC	Rectangular	4.16	3.88	3.64

AML76 SWITCH GUARDS

For square and rectangular pushbuttons, these clear, polycarbonate thermoplastic guards prevent accidental pushbutton operation. The word "LIFT" is molded into top front edge of guard. Bracket bright-finished stainless steel.

Stock No.	Type	Description	1-5	6-10	11-15
23F4474	AML76C10TO1P	Square	6.88	6.42	6.02
23F5001	AML76F10TO1P	Rectangular	6.88	6.42	6.02

(4925) (de51474)

AML91 INCANDESCENT LAMPS

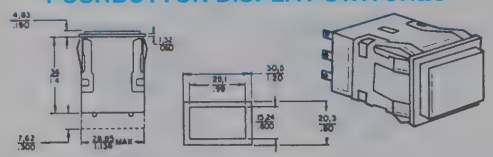
T-1¾ wedge base lamps for **AML 11/21/31/34/41 series** incandescent pushbutton switches.

Stock No.	Type	Lamp Voltage	1-5	6-10	11-15
23F4473	AML91LA86	6.3	1.89	1.76	1.65
23F4471	AML91LA73	14.0	1.89	1.76	1.65
23F4472	AML91LA85	28.0	1.89	1.76	1.65

(4923) (de51472)

PUSHBUTTON SWITCHES

AML11 SERIES LIGHTED & NON-LIGHTED SOLID-STATE PUSHBUTTON DISPLAY SWITCHES



Hall-effect reliability and low-volt signals interface with nearly all DC logic level loads. Max. supply current: 3.5mA (released). Black bezel. Type numbers with 9th digit **"2"** have 0.110″ x 0.020″ (2.79 x 0.508) solder/QC terminals; **"3"** have 0.025″ (0.635) sq. PC terminals. All are 5VDC sinking, momentary action. Alternate action units are also available. Panel cutout: 1.14″ x 0.750″. Lighted units use incandescent T-1 ¾ wedge base lamp nos. 73, 85, 86 ordered separately; *contact your local Newark sales office. Order* **AML51** *switch buttons separately on this page.*

NON-LIGHTED

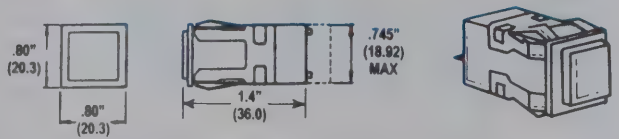
Stock No.	Type	Terminal	Bezel	Each	2-5	6-10
23F4316	AML11BBA2AA	Q-C	Square	12.09	11.28	10.58

LIGHTED

23F4318	AML11CBA2AA	Q-C	Square	14.25	13.30	12.47
23F4320	AML11CBA3AA	PC	Square	14.25	13.30	12.47
23F4321	AML11FBA3AA	PC	Rectangle	15.20	14.18	13.29
98F3142	AML11GBA3AE	PC	Rectangle	27.63	25.79	24.18

(4860) (de01379)

AML21 SERIES INCANDESCENT & NON-LIGHTED ELECTRONIC CONTROL PUSHBUTTON SWITCHES



Meet CEE requirements. Type numbers with 10th digit **"A"** have silver contacts rated 2A, 250VAC and 24VDC resistive; 3A 125VAC. 10th digit **"B"** have gold contacts rated 100mA, 12VAC/DC resistive. Terminals are solder or quick-connect, except those with ninth digit **"3"**, which are PC board or push-on. Panel cutout: 0.75″ square. Lighted units use incandescent T-1¾ wedge base lamp nos. 73, 85, 86 *ordered separately; contact your local Newark sales office. Order* **AML51** *switch buttons separately on this page.*

SQUARE DISPLAY NON-LIGHTED

Stock No.	Type	Poles	Action	Each	2-5	6-10
23F4409	AML21BBA2AA	SPDT	Mom.	8.71	8.13	7.62
23F4325	AML21BBA2AC	DPDT	Mom.	11.43	10.66	10.00
23F4410	AML21BBA2BA	SPDT	Mom.	10.26	9.57	8.98
50F9237	AML21BBA2AB	SPDT	Alt.	9.04	8.44	7.91

SQUARE DISPLAY LIGHTED, SINGLE LAMP CIRCUIT

23F4411	AML21CBA2AA	SPDT	Mom.	11.09	10.35	9.71
23F4328	AML21CBA2BA	SPDT	Mom.	12.65	11.80	11.06
23F4331	AML21CBA3AA	SPDT	Mom.	11.09	10.35	9.71
23F4333	AML21CBA3BA	SPDT	Mom.	12.65	11.80	11.06
23F4412	AML21CBA2AB	SPDT	Alt.	11.43	10.66	10.00
23F4413	AML21CBA2AC	DPDT	Mom.	13.81	12.89	12.08
23F4414	AML21CBA2AD	DPDT	Alt.	14.09	13.15	12.32
23F4332	AML21CBA3AC	DPDT	Mom.	13.81	12.89	12.08

RECTANGULAR DISPLAY LIGHTED, SINGLE LAMP CIRCUIT

23F4417	AML21FBA2AA	SPDT	Mom.	12.03	11.23	10.53
23F4339	AML21FBA2BA	SPDT	Mom.	13.59	12.68	11.89
23F4342	AML21FBA3BA	SPDT	Mom.	13.59	12.68	11.89
23F4337	AML21FBA2AB	SPDT	Alt.	12.37	11.54	10.82
23F4418	AML21FBA2AC	DPDT	Mom.	14.75	13.77	12.91
23F4338	AML21FBA2AD	DPDT	Alt.	15.03	14.03	13.15

RECTANGULAR DISPLAY NON-LIGHTED

23F4334	AML21EBA2AA	SPDT	Mom.	9.65	9.01	8.44
23F4336	AML21EBA2BA	SPDT	Mom.	11.20	10.46	9.80
23F4335	AML21EBA2AC	DPDT	Mom.	12.37	11.54	10.82
23F4336	AML21EBA2BA	SPDT	Mom.	11.20	10.46	9.80

RECTANGULAR LIGHTED, 2 LAMP CIRCUIT

51F2632	AML21GBA2AB	SPDT	Alt.	14.59	13.61	12.76
23F4345	AML21GBA2AD	DPDT	Alt.	17.25	16.10	15.09
23F4343	AML21GBA2AA	SPDT	Mom.	14.25	13.30	12.47
50F9238	AML21GBA2BA	SPDT	Mom.	15.80	14.75	13.83

FULL GUARD, SQUARE DISPLAY LIGHTED, SINGLE LAMP CIRCUIT

51F2619	AML21JBA2AC	DPDT	Mom.	14.70	13.71	12.86

(4864) (de01383)

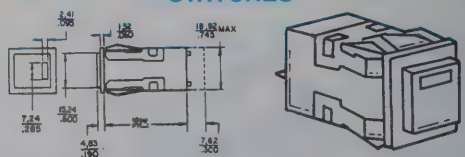
AML12 SERIES LED SOLID-STATE PUSHBUTTON DISPLAY SWITCHES

Same as **AML11** except have high-efficiency LED display. Rated 5V.**AML12J** has full guard bezel. Momentary action. Alternate action is also available; *contact your local Newark sales office.* UL recognized. *Order* **AML52** *buttons separately on this page.*

Stock No.	Type	LED Color	Each	2-5	6-10
23F4323	AML12CBC2AA*	Red	20.96	19.56	18.34
23F4324	AML12CBS2AA*	Green	20.96	19.56	18.34
50F9236	AML12JBB3BA	Red	22.02	20.54	19.26

*Internal resistor to maintain LED drive current 20mA.
(4862) (de01381)

AML22 SERIES ELECTRONIC CONTROL LED DISPLAY SWITCHES

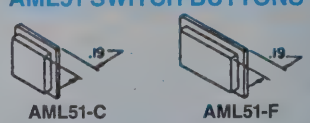


Identical to **AML21 series** except high-efficiency LED display. 5 volts. Quick-connect terminals. Units are momentary action. **Type AMLCBE** has 15V LED. **Type AMLCBF** has 24V LED. *Order* **AML52** *buttons separately on this page.*

Stock No.	Type	LED Color	Poles	Each	2-5	6-10
23F4347	AML22CBC2AA*	Red	SPDT	18.19	16.98	15.91
23F4348	AML22CBJ2AA*	Yellow	SPDT	18.19	16.98	15.91
23F4349	AML22CBS2AA*	Green	SPDT	18.19	16.98	15.91
51F2621	AML22CBE2AD*	Red	DPDT	21.18	19.77	18.53
51F2622	AML22CBF2AC*	Red	SPDT	21.63	20.18	18.92
84F652	AML22CBB2AA	Red	SPDT	17.30	16.15	15.14

*Internal resistor to maintain LED drive current 20mA.
(4865) (de01384)

AML51 SWITCH BUTTONS



AML51-C AML51-F

For **AML11**, **AML21**, and **AML31 series** incandescent and non-lighted pushbuttons and **AML41** indicators.

SQUARE PUSHBUTTON STYLE

Stock No.	Type	Color	Each	2-5	6-10
23F4382	AML51-C10A	Amber	1.00	0.93	0.88
23F4300	AML51-C10W	White	1.00	0.93	0.88
23F4384	AML51-C10Y	Yellow	1.00	0.93	0.88
23F4443	AML51-C10R	Red	1.00	0.93	0.88
23F4441	AML51-C10G	Green	1.00	0.93	0.88

RECTANGULAR PUSHBUTTON STYLE

23F4398	AML51-F10A	Amber	1.44	1.35	1.26
23F4401	AML51-F10W	White	1.44	1.35	1.26
23F4449	AML51-F10Y	Yellow	1.44	1.35	1.26
23F4447	AML51-F10R	Red	1.44	1.35	1.26
23F4446	AML51-F10G	Green	1.44	1.35	1.26

(4861) (de01380)

AML52 SWITCH BUTTONS

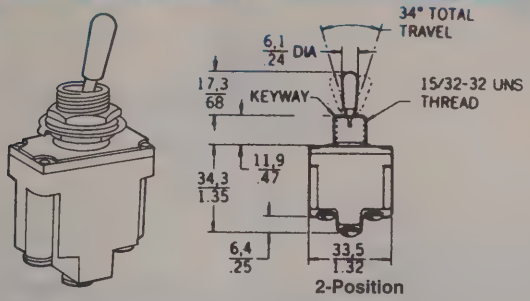
For **AML12**, **AML22**, **AML32**, and **AML42** series LED displays.

Stock No.	Type	Color	Each	2-5	6-10
23F4432	AML52-C10W	White	1.00	0.93	0.88
23F4428	AML52-C10K	Black	1.00	0.93	0.88
23F4431	AML52-C10R	Red	1.00	0.93	0.88
23F4427	AML52-C10G	Green	1.00	0.93	0.88

(4863) (de01382)

TOGGLE SWITCHES

TL SERIES 2-POSITION ENVIRONMENTAL SEALED TOGGLE SWITCHES, MILITARY APPROVED TO MIL-S-3950



2-Position

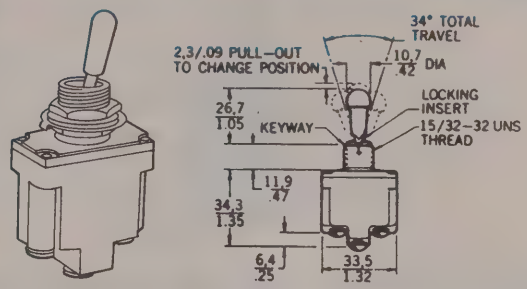
Sealed switches feature strong non-tracking case, screw terminals, silver-cadmium oxide contacts. **A, D,** and **E** suffixes in type numbers denote pull switches: **A** locks in 3-positions, **D** locks out of center position, **E** locks in center position. Operating temperature range: –65°C to +71°C. Lever operates on direct-action, spring-loaded mechanism. L191 UL/CSA rating code: 15A-125/250/277VAC; ½HP-125VAC; 1HP-250/277VAC; 5A-120VAC. L192 UL/CSA rating code: 10A-125/250/277VAC; ¼HP-125VAC; ½HP-250/277VAC; 3A125VAC. ( ) indicates momentary action.

Stock No.	Type	Mil No. MS-	Keyway	Opposite	Pole	UL/CSA Code	Each
23F1895	1TL1-2	24523-22	OFF	ON	1	L191	18.98
23F1896	1TL1-2D	24658-22D	OFF	ON	1	L191	32.19
23F1900	1TL1-6	24523-30	ON	OFF	1	L192	18.98
23F1897	1TL1-3	24523-23	ON	ON	1	L191	18.98
23F1901	1TL1-8	24523-26	(ON)	ON	1	L192	18.98
23F1898	1TL1-3D	24658-23D	ON	ON	1	L191	32.19
94F5341	1TL1-4	24523-29	(OFF)	ON	1	L192	18.98
23F1978	2TL1-2	24524-22	OFF	ON	2	L191	25.42
23F1982	2TL1-6	24524-30	(ON)	OFF	2	L192	25.42
23F1979	2TL1-3	24524-23	ON	ON	2	L191	25.42
23F1985	2TL1-8	24524-26	(ON)	ON	2	L192	25.42
23F1980	2TL1-3D	24659-23D	ON	ON	2	L191	39.19
50F5255	2TL1-4	24524-29	(OFF)	ON	2	L192	25.42
23F2014	4TL1-2	24525-22	OFF	ON	4	L191	40.76
23F2015	4TL1-3	24525-23	ON	ON	4	L191	40.76
23F2017	4TL1-8	24525-26	(ON)	ON	4	L192	40.76
50F5256	4TL1-3D	24525-23D	ON	ON	4	L191	54.58

Stock No.	Type	1-5	6-10	11-15	16-20
23F1895	1TL1-2	18.98	18.24	17.55	16.31
23F1896	1TL1-2D	32.19	30.93	29.21	27.19
23F1900	1TL1-6	18.98	18.24	17.55	16.31
23F1897	1TL1-3	18.98	18.24	17.55	16.31
23F1901	1TL1-8	18.98	18.24	17.55	16.31
23F1898	1TL1-3D	32.19	30.93	29.21	27.19
94F5341	1TL1-4	18.98	18.24	17.55	16.31
23F1978	2TL1-2	25.42	24.42	23.06	21.47
23F1982	2TL1-6	25.42	24.42	23.06	21.47
23F1979	2TL1-3	25.42	24.42	23.06	21.47
23F1985	2TL1-8	25.42	24.42	23.06	21.47
23F1980	2TL1-3D	39.19	37.65	35.56	33.10
50F5255	2TL1-4	25.42	24.42	23.06	21.47
23F2014	4TL1-2	40.76	39.16	36.98	34.43
23F2015	4TL1-3	40.76	39.16	36.98	34.43
23F2017	4TL1-8	40.76	39.16	36.98	34.43
50F5256	4TL1-3D	54.58	52.44	49.53	46.10

(4866) (de01385)

TL SERIES 3-POSITION ENVIRONMENTAL SEALED TOGGLE SWITCHES, MILITARY APPROVED TO MIL-S-3950



Sealed switches feature strong non-tracking case, screw terminals, silver-cadmium oxide contacts. **A, D,** and **E** suffixes in type numbers denote pull switches: A locks in 3-positions, **D** locks out of center position, **E** locks in center position. Operating temperature range: –65°C to +71°C. Lever operates on direct-action, spring-loaded mechanism. L191 UL/CSA rating code: 15A-125/250/277VAC; ½HP-125VAC; 1HP-250/277VAC; 5A-120VAC. L192 UL/CSA rating code: 10A-125/250/277VAC; ¼HP-125VAC; ½HP-250/277VAC; 3A125VAC. ( ) indicates momentary action.

Stock No.	Type	Mil. No. MS-	Circuit Made at			Pole	UL/CSA Code
			Keyway	Center	Opposite Keyway		
23F1894	1TL1-1	24523-21	ON	OFF	ON	1	L191
23F1899	1TL1-5	24523-31	(ON)	OFF	ON	1	L192
23F4232	1TL1-7	24523-27	(ON)	OFF	(ON)	1	L192
50F5254	1TL1-1E	24658-21E	ON	OFF	ON	1	L191
23F1977	2TL1-1	24524-21	ON	OFF	ON	2	L191
23F1981	2TL1-5	24524-31	(ON)	OFF	ON	2	L192
23F1983	2TL1-7	24524-27	(ON)	OFF	(ON)	2	L192
23F1986	2TL1-10	27407-4	ON	ON	ON	2	L191
23F1988	2TL1-50	27407-5	(ON)	ON	ON	2	L192
23F1989	2TL1-70	27407-6	(ON)	ON	(ON)	2	L192
23F1987	2TL1-10A	27408-4	ON	ON	ON	2	L191
23F2013	4TL1-1	24525-21	ON	OFF	ON	4	L191
23F2016	4TL1-7	24525-27	(ON)	OFF	(ON)	4	L192
50F5257	4TL1-5	24525-31	(ON)	OFF	ON	4	L192
50F5112	4TL1-70	...	(ON)	ON	(ON)	4	L192

Stock No.	Type	1-5	6-10	11-15	16-20
23F1894	1TL1-1	18.98	18.24	17.55	16.31
23F1899	1TL1-5	18.98	18.24	17.55	16.31
23F4232	1TL1-7	18.98	18.24	17.55	16.31
50F5254	1TL1-1E	32.19	30.93	29.21	27.19
23F1977	2TL1-1	25.42	24.42	23.06	21.47
23F1981	2TL1-5	25.42	24.42	23.06	21.47
23F1983	2TL1-7	25.42	24.42	23.06	21.47
23F1986	2TL1-10	29.23	28.08	26.52	24.69
23F1988	2TL1-50	29.23	28.08	26.52	24.69
23F1989	2TL1-70	29.23	28.08	26.52	24.69
23F1987	2TL1-10A	43.11	41.42	39.12	36.41
23F2013	4TL1-1	40.76	39.16	36.98	34.43
23F2016	4TL1-7	40.76	39.16	36.98	34.43
50F5257	4tl1-5	40.76	39.16	36.98	34.43
50F5112	4TL1-70	54.08	51.96	49.07	45.68

(12432) (ne010016)

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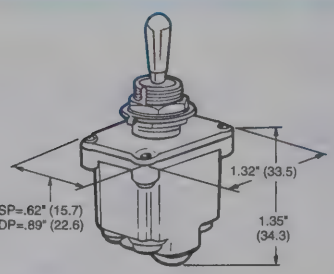
SEALED TOGGLE SWITCHES

NT SERIES TOGGLE SWITCHES



Features• Screw terminals
- **Completely sealed switching chamber (complies with UL 508, paragraph 13.3 hose-down tests**
- **Step-design case for added space between terminals preventing shorting**
- **Pull to unlock levers available**
- **Spring-loaded actuating mechanism provides excellent tactile feedback**
- **High-impact strength, non-tracking case enhances electrical stability**
- **Temperature range: –40° to 71°C (–40° to 160°F)**
- **UL recognized, CSA certified**

Designed to meet severe environment application needs for a rugged, cost-effective toggle switch. Quality construction features include a molded in elastomer seal between the toggle lever and bushing, and between the cover and case. Terminal inserts are molded into the high-impact strength thermoplastic case. Includes mounting hardware. "NONE" in table indicates toggle lever is blocked from these positions. Toggle becomes 2-position with center being one extreme position. See table below for electrical ratings. 15⁄32"-32 UNS thread.

UL AND CSA ELECTRICAL RATINGS FOR NT SERIES

Rating Code	Electrical Rating
L192	10A, 125, 250, 277VAC; ¼ HP, 125VAC, ½ HP, 250, 277VAC; 3A, 125VAC "L"
L191	15A, 125, 250, 277VAC; ½ HP, 125VAC, 1 HP, 250, 277VAC; 5A, 125VAC "L"

2-POSITION SWITCHES

Stock No.	Type	Poles	Circuits Made At: Keyway Pos.	Circuits Made At: Opposite Keyway	UL Code
95F5208	1NT1-2	1	OFF	2-3	L191
95F5209	1NT1-3	1	1-2	2-3	L191
95F5210	1NT1-4	1	OFF*	2-3	L192
95F5211	1NT1-6	1	1-2*	OFF	L192
95F5212	1NT1-8	1	1-2*	2-3	L192
95F5213	2NT1-2	2	OFF	2-3,5-6	L191
95F5214	2NT1-3	2	1-2,4-5	2-3,5-6	L191

*Momentary positions. All others are maintained.

3-POSITION SWITCHES

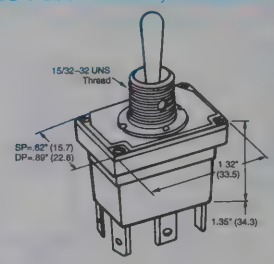
Stock No.	Type	Poles	Circuits Made At: Keyway Pos.	Circuits Made At: Center Pos.	Circuits Made At: Opposite Keyway	UL Code
95F5218	1NT1-1	1	1-2	OFF	2-3	L191
95F5219	1NT1-5	1	1-2*	OFF	2-3	L192
95F5220	1NT1-7	1	1-2*	OFF	2-3*	L192
95F5221	1NT1-21	1	NONE	OFF	2-3	L191
95F5225	2NT1-1	2	1-2,4-5	OFF	2-3,5-6	L191
95F5226	2NT1-5	2	1-2,4-5*	OFF	2-3,5-6	L192
95F5227	2NT1-7	2	1-2,4-5*	OFF	2-3,5-6*	L192
95F5232	2NT1-12	2	2-3,4-5	1-2,4-5	2-3,5-6	L191
95F5233	2NT1-50	2	1-2,4-5*	1-2,5-6	2-3,5-6	L192
95F5234	2NT1-70	2	1-2,4-5*	1-2,5-6*	2-3,5-6	L192

*Momentary positions. All others are maintained.

Stock No.	Type	Each	2-5	6-10	11-15
95F5208	1NT1-2	14.45	13.88	13.36	12.42
95F5209	1NT1-3	14.45	13.88	13.36	12.42
95F5210	1NT1-4	14.45	13.88	13.36	12.42
95F5211	1NT1-6	14.45	13.88	13.36	12.42
95F5212	1NT1-8	14.45	13.88	13.36	12.42
95F5213	2NT1-2	20.21	19.42	18.69	17.37
95F5214	2NT1-3	20.21	19.42	18.69	17.37
95F5216	2NT1-6	20.21	19.42	18.69	17.37
95F5218	1NT1-1	14.45	13.88	13.36	12.42
95F5219	1NT1-5	14.45	13.88	13.36	12.42
95F5220	1NT1-7	14.45	13.88	13.36	12.42
95F5221	1NT1-21	16.07	15.44	14.86	13.81
95F5225	2NT1-1	20.21	19.42	18.69	17.37
95F5226	2NT1-5	20.21	19.42	18.69	17.37
95F5227	2NT1-7	20.21	19.42	18.69	17.37
95F5232	2NT1-12	22.34	21.46	20.27	18.87
95F5233	2NT1-50	23.01	22.11	20.88	19.44
95F5234	2NT1-70	23.01	22.11	20.88	19.44

(4880) (de02552)

NT SERIES FLAT BASE, SEALED TOGGLES



Features• Quick connect
- **Sealed switching chamber**
- **Flat base with quick-connect terminals mating connectors are available separately; *contact your local Newark sales office***
- **Spring-loaded actuating mechanism provides tactile feedback**
- **High-impact strength, non-tracking case enhances electrical stability**
- **Temperature range: –40° to –71°C (–40° to 160°F)**
- **UL recognized, CSA certified**

Designed to meet severe environment application needs for rugged cost-effective manual switches. Identical to the stepped base style in construction and features. Allows for PC Board or connector use for easy wiring/connection. See table below for electrical ratings. 15⁄32"-32 UNS thread. Mounting hardware included.

UL AND CSA ELECTRICAL RATINGS FOR NT SERIES

Rating Code	Electrical Rating
L192	10A, 125, 250, 277VAC; ¼ HP, 125VAC, ½ HP, 250, 277VAC; 3A, 125VAC "L"
L191	15A, 125, 250, 277VAC; ½ HP, 125VAC, 1 HP, 250, 277VAC; 5A, 125VAC "L"

2-POSITION

Stock No.	Type	No. of Poles	Keyway Position	Center Position	Opposite Keyway	UL Rating Code
92F2951	31NT91-2	1	OFF	...	2-3	L191
92F2952	31NT91-3	1	1-2	...	2-3	L191
92F2957	32NT91-3	2	1-2,4-5	...	2-3,5-6	191

3-POSITION

Stock No.	Type	No. of Poles	Keyway Position	Center Position	Opposite Keyway	UL Rating Code
92F2961	31NT91-1	1	1-2	OFF	2-3	L191
92F2963	31NT91-7	1	1-2	OFF	2-3	L192
92F2964	31NT91-21	1	NONE	OFF	2-3	L191
92F2968	32NT91-1	2	1-2,4-5	OFF	2-3,5-6	191
92F2970	32NT91-7	2	1-2,4-5	OFF	2-3,5-6	192
92F2976	32NT91-70	2	1-2,4-5	1-2,5-6	2-3,5-6	L192

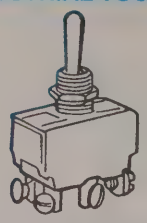
Stock No.	Type	Each	2-5	6-10	11-15
92F2951	31NT91-2	14.45	13.88	13.36	12.42
92F2952	31NT91-3	14.45	13.88	13.36	12.42
92F2957	32NT91-3	20.21	19.42	18.69	17.37
92F2958	32NT91-4	20.21	19.42	18.69	17.37
92F2961	31NT91-1	14.45	13.88	13.36	12.42
92F2962	31NT91-5	14.45	13.88	13.36	12.42
92F2963	31NT91-7	14.45	13.88	13.36	12.42
92F2964	31NT91-21	16.07	15.44	14.86	13.81
92F2967	31NT91-61	16.07	15.44	14.86	13.81
92F2968	32NT91-1	20.21	19.42	18.69	17.37
92F2970	32NT91-7	20.21	19.42	18.69	17.37
92F2971	32NT91-21	23.01	22.11	20.88	19.44
92F2974	32NT91-61	22.28	21.41	20.22	18.82
92F2976	32NT91-70	23.01	22.11	20.88	19.44

(4903) (de04442)

AT NEWARK, THERE'S ALWAYS MORE THAN MEETS THE EYE!
CONTACT US FOR PRODUCTS NOT LISTED IN THIS CATALOG.

TOGGLE AND PUSHBUTTON SWITCHES

TS SERIES INDUSTRIAL TOGGLE SWITCHES



For use in light industrial applications. Provided with lever-to-bushing seals. Electrical ratings: 15A @ 125, 250, 277VAC; ½HP @ 125VAC; 1HP @ 250/277VAC. 5A @ 125VAC. UL recognized. CSA certified. Models with **"15"** suffix have screw terminals, **"115"** have solder terminals, and **"95"** have quick-connect terminals. **"511"** prefix identifies models having a pre-molded, pressed-in seal instead of a standard O-ring. 1-POLE versions are 1.08H x 0.62W x 1.13L" (27.40 x 15.70 x 28.70); 2-POLE versions are 1.06H x 0.75W x 1.31L" (27.00 x 19.00 x 33.30).

Stock No.	Type	Keyway Position	Center Position	Opposite Keyway	Poles
23F2114	11TS15-2	OFF	NONE	ON	1
23F2113	11TS15-1	ON	OFF	ON	1
23F2126	11TS115-3	ON	NONE	ON	1
23F2118	11TS15-7	(ON)	OFF	(ON)	1
23F2120	11TS95-1	ON	OFF	ON	1
23F2124	11TS95-7	(ON)	OFF	(ON)	1
94F5347	511TS1-2	OFF	NONE	ON	1
23F2304	511TS1-4	(OFF)	NONE	ON	1
23F2146	12TS15-2	OFF	NONE	ON	2
23F2145	12TS15-1	ON	OFF	ON	2
23F2153	12TS115-1	ON	OFF	ON	2
23F2154	12TS115-2	OFF	NONE	ON	2
23F2155	12TS115-3	ON	NONE	ON	2
50F5244	12TS115-5	(ON)	OFF	ON	2
23F2151	12TS95-3	ON	NONE	ON	2
23F2152	12TS95-7	(ON)	OFF	(ON)	2

Stock No.	Type	1-5	6-10	11-15	16-20
23F2114	11TS15-2	12.99	12.48	12.01	11.16
23F2113	11TS15-1	15.51	14.90	14.34	13.33
23F2126	11TS115-3	14.72	14.15	13.61	12.65
23F2118	11TS15-7	16.35	15.71	15.12	14.05
23F2120	11TS95-1	14.84	14.26	13.72	12.75
23F2124	11TS95-7	15.68	15.06	14.50	13.47
94F5347	511TS1-2	14.50	13.93	13.41	12.46
23F2304	511TS1-4	14.61	14.04	13.51	12.56
23F2146	12TS15-2	16.80	16.14	15.53	14.44
23F2145	12TS15-1	20.10	19.31	18.58	17.27
23F2153	12TS115-1	18.25	17.54	16.88	15.69
23F2154	12TS115-2	15.23	14.63	14.08	13.09
23F2155	12TS115-3	18.25	17.54	16.88	15.69
50F5244	12TS115-5	20.27	19.47	18.74	17.42
23F2151	12TS95-3	18.64	17.91	17.24	16.02
23F2152	12TS95-7	20.83	20.01	19.26	17.90

(4867) (de01386)

DM SERIES PUSHBUTTON SWITCHES

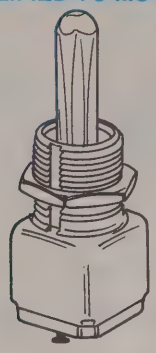
Switches have integral operating plungers and may be used in manual and door applications. Momentary action. Electrical rating: 10A, ½Hp; 125, 250 or 277VAC. 16A DPDT, and pull-to-cheat plunger versions available. UL recognized, CSA certified.

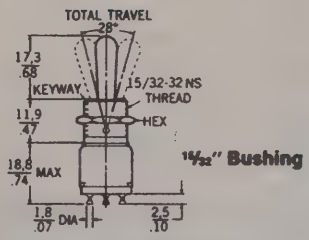
Stock No.	Type	Circuit	Plunger
23F1825	1DM1	SPDT	Bullet
50F5300	1DM3	SPNO	Bullet
23F1828	1DM18	SPDT	Concave
50F5301	1DM21	SPDT	Convex
23F1830	1DM401	SPDT	Pull-to-Cheat
23F1943	2DM409	DPDT	Pull-to-Cheat
94F5352	2DM1	DPDT	Bullet

Stock No.	Type	1-5	6-10	11-15	16-20
23F1825	1DM1	4.41	3.89	3.55	3.33
50F5300	1DM3	4.35	3.83	3.50	3.29
23F1828	1DM18	4.59	4.04	3.69	3.46
50F5301	1DM21	4.59	4.04	3.69	3.46
23F1830	1DM401	5.82	5.13	4.68	4.40
23F1943	2DM409	9.05	7.97	7.28	6.84
94F5352	2DM1	7.64	6.73	6.15	5.77

(4927) (de51794)

TW SERIES MINIATURE TOGGLE SWITCHES MILITARY QUALIFIED TO MS-83731





Switches are high reliability and MIL-S-83731 qualified. Solder terminals. Rated for use at 5 amps-125VAC. Type nos. beginning with **"1"** and **"2"** are ¼" unsealed bushing; those beginning with **"11"** and **"12"** are 15/32" sealed bushing. Operating temperature range: –65°C to +71°C. UL recognized, CSA certified.

Stock No.	Type	MS- Number	Keyway	Center	Opposite Keyway	Poles
23F1906	1TW1-3	27716-23-1	ON	NONE	ON	1
23F2130	11TW1-3	27718-23-1	ON	NONE	ON	1
23F1994	2TW1-3	27717-23-1	ON	NONE	ON	2
23F2158	12TW1-3	27719-23-1	ON	NONE	ON	2
23F2131	11TW1-7	27718-27-1	(ON)	OFF	(ON)	1
23F2157	12TW1-1	27719-21-1	ON	OFF	ON	2
23F2130	11TW1-3	27718-23-1	ON	NONE	ON	1
50F5249	11TW8-3G	...	ON	NONE	ON	1
23F2159	12TW1-7	27719-27-1	(ON)	OFF	(ON)	2

Stock No.	Type	1-5	6-10	11-15	16-20
23F1906	1TW1-3	15.14	14.39	13.51	12.92
23F2130	11TW1-3	23.66	22.50	21.11	20.19
23F1994	2TW1-3	16.94	16.10	15.11	14.45
23F2158	12TW1-3	24.76	23.54	22.09	21.13
23F2131	11TW1-7	29.40	27.95	26.23	25.09
23F2157	12TW1-1	24.76	23.54	22.09	21.13
23F2130	11TW1-3	23.66	22.50	21.11	20.19
50F5249	11TW8-3G	62.11	58.11	55.41	53.00
23F2159	12TW1-7	26.79	25.47	23.91	22.86

(4868) (de01387)

NEWARK ALWAYS CARRIES MORE MICRO SWITCH PRODUCTS THAN MEETS THE EYE!

NEWARK STOCKS THE COMPLETE LINE OF MICRO SWITCH COMMERCIAL SWITCHES, PUSHBUTTONS, AND SENSORS TO MEET YOUR NEEDS. FOR MORE DETAILS, CONTACT YOUR LOCAL NEWARK SALES OFFICE AT: 1-800-4-NEWARK (1-800-463-9275).

(12962) (ne85139)

SNAP-ACTING SWITCHES

SM SERIES SUBMINIATURE BASIC SNAP-ACTING SWITCHES

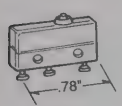


Fig. 1

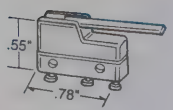


Fig. 2

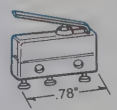


Fig. 3

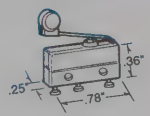
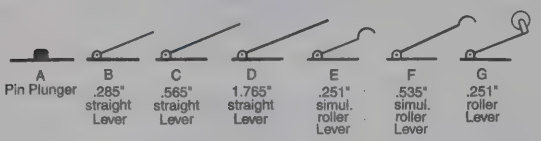
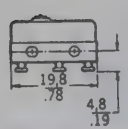


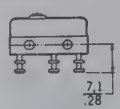
Fig. 4





"T" Terminals

Solder Terminals



"T2" Terminals

ELECTRICAL DATA AND UL CODES FOR SM SWITCHES

Code	Ratings
J	5 amps res., 3 amps ind., (sea level). 28VDC, 250AC. UL recognized
K	5 amps, 125 or 250VAC, UL recognized
M	11 amps and ¼-HP, 125 or 250VAC, UL recognized
N	1 amp res., 0.5 amp ind., 30VDC, UL recognized
S	4 amps, 250VAC, UL recognized

Silver contacts, except code N which is gold contacts. UL recognized, CSA certified as shown in the table above. MIL-S-8805 qualified versions available. *Contact your local Newark sales office.*

PIN PLUNGERS

Stock No.	Type	Code	O.F. Max.	O.T. Min.	Fig.	Each
23F4086	1SM1*	K	3-5 oz.	0.005″ (0.127)	1	4.66
23F1881	1SM1-T	K	3-5 oz.	0.005″ (0.127)	1A	4.87
23F4178	11SM1*	J	3-5 oz.	0.005″ (0.127)	1	3.47
23F4360	11SM1-T	J	3-5 oz.	0.005″ (0.127)	1A	3.47
23F2096	11SM3-T	J	3-5 oz.	0.005″ (0.127)	1A	3.57
23F2099	11SM23-T	N	3-5 oz.	0.005″ (0.127)	1A	9.22
23F2105	11SM401-T	K	3.5 oz.	0.005″ (0.127)	1A	7.40
23F2202	41SM1-T	M	3-5 oz.	0.005″ (0.127)	1A	4.30
23F2203	41SM1-T2	M	3-5 oz.	0.005″ (0.127)	1A	4.30
23F4239	411SM1*	K	3-7.5 oz.	0.005″ (0.127)	1	8.44

INTEGRAL LEVERS

23F4375	311SM1-T	J	1.4 oz.	0.020″ (0.51)	2B	4.25
95F5235	311SM23-T	N	1.4 oz.	0.020″ (0.51)	2B	9.53
23F2289	311SM2-T	J	1.1 oz.	0.026″ (0.66)	2C	4.09
23F2293	311SM702-T	S	.4 oz.	0.026″ (0.66)	2C	4.35
23F4190	311SM3-T	J	.53 oz.	0.057″ (1.45)	2D	4.09
23F4237	311SM703-T	S	.2 oz.	0.057″ (1.45)	2D	4.35
23F4236	311SM4-T	J	1.4 oz.	0.018″ (0.48)	2E	4.25
23F2290	311SM5-T	J	1.1 oz.	0.026″ (0.66)	2F	4.45
23F4192	311SM6-T	J	1.4 oz.	0.018″ (0.48)	2G	4.61
23F2296	311SM706-T	S	.57 oz.	0.018″ (0.48)	2G	4.97

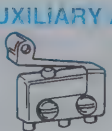
INTEGRAL LEAF

23F4372	111SM1-T	J	7.0 oz.	0.030″ (0.76)	3	5.23
23F2238	111SM1*	J	7.0 oz.	0.030″ (0.76)	3	5.39
23F4189	111SM2-T	J	7.0 oz.	0.030″ (0.76)	4	5.90
23F2240	111SM2*	J	7.0 oz.	0.030″ (0.76)	4	6.11

* Denotes solder terminals.
(4917)
(de51449)

JS SERIES AUXILIARY ACTUATORS

JS-2


JS-5

JS-7

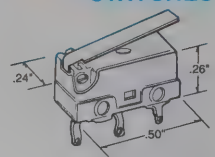
Provide basic switches (not included) with an easier means of operation and adjustment. Auxiliary actuators adapt switches to different operating motions by supplying supplemental overtravel. Mounting hardware included.

Stock No.	Type	Description	Actuator Length	O.F. Max.	O.T. Min.	Each
23F4053	JS-2	Straight Leaf	0.66″ (16.76)	10 oz.	0.015″ (0.38)	1.66
23F4054	JS-5	Bronze Roller	0.59″ (14.99)	10 oz.	0.015″ (0.38)	3.57
23F4750	JS-7	Formed Leaf	0.58″ (14.73)	10 oz.	0.031″ (0.79)	2.70

(4918)
(de51450)

UX SERIES EXTRA- SUBMINIATURE SNAP-ACTING SWITCHES

NEW



UX

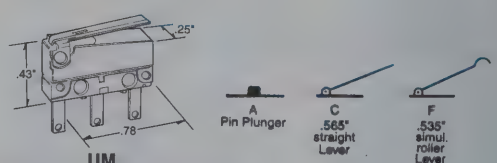
- **Small Size with Power Duty or Low Energy Power Ratings**
- **Cost-Effective, Rugged Construction**
- **Similar Size and Mounting as SX Series**
- **Variety of Termination and Lever Options**

Extra-subminiature switches feature choice of solder or PCB mount terminals, low-energy or power-duty ratings. Operating temperature: –25° to +85°C. UL recognized, CSA certified. Mounting similar to SX-style switches.

Stock No.	Type	Ratings	Oper. Force	Terminal	Actuator	Each
95F5237	UX10E10C01	0.1A, 125VAC	50g	Solder	C	1.79
93F2058	UX30C10C01	1A, 125VAC	25g	Solder	C	1.60
93F2051	UX30C30A01	1A, 125VAC	75g	PCB	A	1.37
93F2056	UX40E10C01	3A, 125VAC	50g	Solder	C	1.60
93F2053	UX40E30A01	3A, 125VAC	150g	PC S.S.	A	1.37
95F5238	UX40E10E01	3A, 125VAC	55g	Solder	E	1.60

PC S.S.=PC Self- Supporting
(33670)
(de02231)

UM SERIES SUB-MINIATURE SNAP-ACTING SWITCHES



UM

- **Cost-Effective, Rugged Construction**
- **Feature Same Mounting Dimensions as SM Series**
- **Variety of Termination and Lever Options**
- **European Approvals**

Subminiature switches feature choice of solder or .110″ quick connect terminals, and either low-energy or power-duty ratings. Operating temperature: –25° to +85°C. UL recognized, CSA certified, VDE and SEMKO approved.

Stock No.	Type	Rating	Oper. Force	Terminal	Actuator	Each
93F2071	UM10B70A01	0.1A, 125/250VAC/30VDC	50g	QC	A	2.30
95F5247	UM10D10A01	0.1A, 125/250VAC/30VDC	100g	Solder	A	2.30
95F5245	UM50E10A01	5.0A, 125/250VAC/30VDC	150g	Solder	A	1.72
95F5248	UM50E10C01	5.0A, 250VAC	55g	Solder	C	2.02
95F5246	UM50E70A01	5.0A, 125/250VAC/30VDC	150g	QC	A	1.72
99F8651	UM50E70F01	5.0A, 125/250VAC/30VDC	60g	QC	F	4.09
95F5251	UM50E10E01	5.0A, 250VAC	55g	Solder	E	2.02

QC=Quick-Connect
(4879)
(ne33670)

SX SERIES SUBMINIATURE SWITCHES

Pin Plunger

Type 311SX-T

Small, snap-action switches ideal where space and weight savings are important. Various termination styles are available. Electrical ratings as low as .01 amp with gold contacts to 7 amps with silver contacts are available. *Contact your local Newark sales office.* A = 5A res., 3A ind. (sea level); 4A res., 2A ind. (50,000 ft.) 28VDC. UL rating: 3 amps at 250VAC. B = 7A res., 4A ind. (sea level); 7A res., 2.5A ind. (50,000 ft.) 28VDC. UL/CSA rating: 5 amps at 250VAC. For "Fig." reference and electrical codes *on this page* MIL-S-8805 qualified versions available. *Contact your local Newark sales office.*

Stock No.	Type	Code	O.F. Max.	O.T. Min.	Actuator Description	Each
23F4089	1SX1-T	B	5.0 oz.	0.004″ (0.10)	Pin Plunger	8.18
23F1975	2SX1-T	B	3.0 oz.	0.004″ (0.10)	Pin Plunger	9.53
23F1888	1SX48-T	B	5.0 oz.	0.010″ (0.25)	Pin Plunger	8.85
23F4180	11SX21-T	A	2.5-5 oz.	0.004″ (0.10)	Pin Plunger	7.15
23F2298	311SX1-T	A	1.76 oz.	0.014″ (0.36)	.135″ Straight Lever	8.34
23F4193	311SX2-T	A	1.1 oz.	0.025″ (0.64)	.505″ Straight Lever	8.54
23F4194	311SX3-T	A	0.71 oz.	0.024″ (0.61)	.965″ Straight Lever	8.80
23F2299	311SX4-T	A	2.1 oz.	0.010″ (0.25)	.042″ Roller Lever	9.01
23F2300	311SX5-T	A	1.1 oz.	0.022″ (0.56)	.459″ Roller Lever	9.27

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MINIATURE BASIC SWITCHES

V7 SERIES MINIATURE BASIC SWITCHES

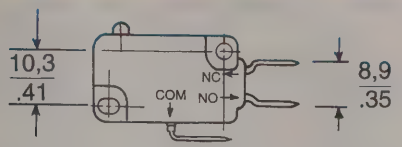

Fig. 1 Pin Plunger

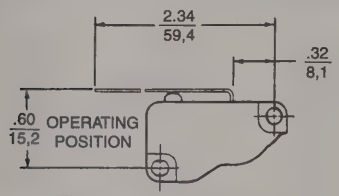

Fig. 2 Long Straight Lever

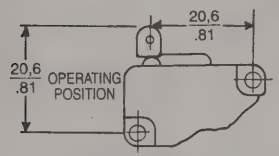

Fig. 3 Short Roller Lever

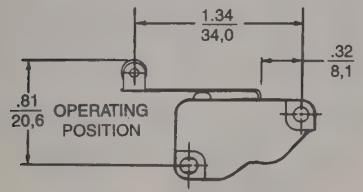

Fig. 4 Roller Lever

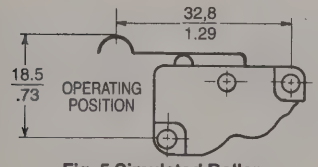

Fig. 5 Simulated Roller

Physically interchangeable with **V3 series**. UL recognized, CSA certified. SPDT circuitry. 0.114″ (2.90) mounting holes. **D8** suffix denotes 0.187″ x 0.020″ quick-connect termination. **E9** suffix denotes 0.250″ x 0.032″ quick-connect termination. Also available in high temperature (to 350°F), high current (to 25 amps), and VDE approved and CE compliant versions; *contact your local Newark sales office.*

Stock No.	Type	Fig.	Amps	Actuator
50F5146	V7-1C17E9	1	15.0	Pin Plunger
50F5157	V7-1C17D8	1	15.0	Pin Plunger
50F5132	V7-2B17D8	1	11.0	Pin Plunger
50F5121	V7-3S17E9	1	0.1	Pin Plunger
50F5160	V7-1C17D8-048	2	15.0	Long Straight Lever
50F5136	V7-2B17D8-201	3	11.0	Short Roller Lever
50F5162	V7-1C17D8-207	4	15.0	Roller Lever
50F5070	V7-2A17D8-207	4	5.0	Roller Lever
50F5081	V7-2S17D8-207	4	0.1	Roller Lever
50F5163	V7-1C17D8-263	5	15.0	Simulated Roller Lever
50F5151	V7-1C17E9-263	5	15.0	Simulated Roller Lever
50F5138	V7-2B17D8-263	5	11.0	Simulated Roller Lever
50F5071	V7-2A17D8-263	5	5.0	Simulated Roller Lever

Stock No.	Type	Each	2-5	6-10	11-15
50F5146	V7-1C17E9	2.76	2.44	2.22	2.09
50F5157	V7-1C17D8	2.76	2.44	2.22	2.09
50F5132	V7-2B17D8	2.71	2.38	2.18	2.04
50F5121	V7-3S17E9	4.06	3.57	3.26	3.06
50F5160	V7-1C17D8-048	3.12	2.75	2.51	2.35
50F5136	V7-2B17D8-201	3.65	3.21	2.93	2.75
50F5162	V7-1C17D8-207	3.71	3.26	2.98	2.80
50F5070	V7-2A17D8-207	3.53	3.11	2.84	2.66
50F5081	V7-2S17D8-207	5.06	4.45	4.07	3.82
50F5163	V7-1C17D8-263	3.23	2.85	2.60	2.44
50F5151	V7-1C17E9-263	3.23	2.85	2.60	2.44
50F5138	V7-2B17D8-263	3.18	2.80	2.56	2.40
50F5071	V7-2A17D8-263	3.06	2.70	2.46	2.31

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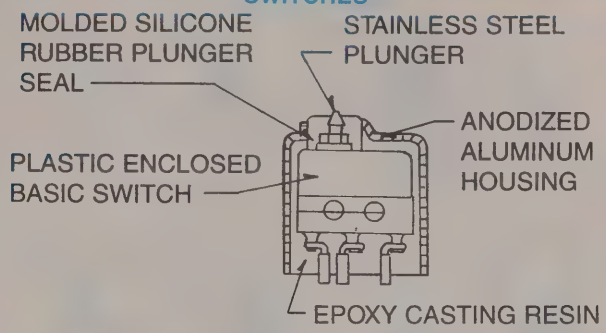
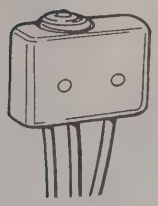
SE/XE SERIES MINIATURE SEALED BASIC SNAP-ACTING SWITCHES





Epoxy potted in corrosion-resistant aluminum housing. **Types 1SE, 5SE** switches enclose an **SM series** basic switch and **type 1XE** switches use an **SX series** basic switch and are qualified to MIL-S-8805. Operating force 5-17 oz. Units with **"T"** suffix have solder terminals; listings without suffix (i.e., **type 1SE1**) have 1′ wire leads. Numerical suffixes signify lead wire length in feet (i.e., -3=3′. Dimensions: **Type SE:** 0.75H x 0.34W x 0.88″L. **Type XE:** 0.75H x 0.32W x 0.62″L.

Stock No.	Type	Amps	O.T.	Circuitry	Travel (max.)
23F1873	1SE1	5	0.003″ (0.08)	SPDT	0.004″ (0.10)
23F1874	1SE1-T	5	0.003″ (0.08)	SPDT	0.004″ (0.10)
23F1875	1SE1-3	5	0.003″ (0.08)	SPDT	0.004″ (0.10)
23F1878	1SE3	5	0.003″ (0.08)	SPDT	0.004″ (0.10)
23F1909	1XE1	5	0.003″ (0.08)	SPDT	0.004″ (0.10)
23F1910	1XE1-T	5	0.003″ (0.08)	SPDT	0.004″ (0.10)
23F2025	5SE1*	5	0.003″ (0.08)	SPDT	0.004″ (0.10)

*Oil-resistant fluorosilicone

Stock No.	Type	Each	2-5	6-10	11-15
50F5113	1XE1-6	48.61	45.48	43.37	41.48
23F1873	1SE1	40.13	38.16	35.80	34.24
23F1874	1SE1-T	27.14	25.81	24.21	23.16
23F1875	1SE1-3	44.19	42.01	39.43	37.71
23F1878	1SE3	39.32	37.38	35.08	33.55
23F1909	1XE1	48.60	45.47	43.36	41.47
23F1910	1XE1-T	38.63	36.72	34.46	32.96
23F2025	5SE1	40.48	38.49	36.11	34.54

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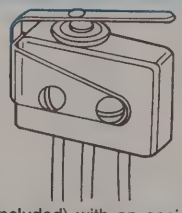
AUXILIARY ACTUATORS



Provide sealed switches (not included) with an easier means of operation and adjustment. Auxiliary actuators adapt switches to different operating motions by supplying supplemental overtravel. Mounting hardware included.

JE Auxiliary Actuators for SE Switches

Stock No.	Type	Description	Length	O.F.	O.T.
23F4747	JE-1	Straight Leaf	0.66″	12 oz.	0.15
23F4223	JE-5	Roller Leaf	0.56″	12 oz.	0.15

JM Auxiliary Actuators for XE Switches

93F6651	JM-1	Straight Leaf	0.45″	21 oz.	0.009
93F6652	JM-5	Roller Leaf	0.38″	21 oz.	0.009

Stock No.	Type	Each	2-5	6-10	11-15
23F4747	JE-1	5.23	4.88	4.58	4.31
23F4223	JE-5	9.27	8.65	8.11	7.63
93F6651	JM-1	5.59	5.22	4.89	4.61
93F6652	JM-5	9.78	9.13	8.56	8.06

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TOGGLE SWITCHES

7000 SERIES PANEL MOUNT TOGGLE SWITCHES

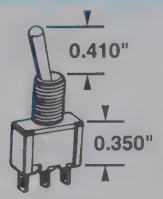

Fig.1

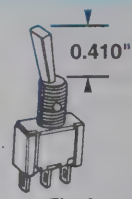

Fig. 2

Fig. 3

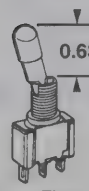

Fig. 4

Fig. 5

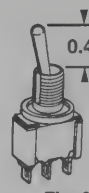

Fig. 6

Rating: 5 amps at 120VAC or 28VDC; 2 amps at 250VAC. Operating temperature: –30°C to +85°C. Actuator: brass, chrome-plated. Bushing: brass or zinc, nickel-plated. Housing: stainless steel. Case: UL 94V-0. End contacts: coin silver, silver-plated. Center contact and all terminals: copper alloy, silver-plated, epoxy seal. Hardware: nuts, locking ring, lock washer. Panel mounting: all (excluding **Fig. 5**): .250" (6.35) dia. hole; **Fig. 5**: 0.469" (11.91) dia. hole. NOTE: (On) in table indicates momentary action.

SPDT—STANDARD ROUND TOGGLE - (FIG. 1)

Stock No.	Type	Action	1-24	25-99	100-249
21F650	7101SYZQE	On-None-On	5.43	4.61	4.13
21F651	7103SYZQE	On-Off-On	6.13	5.21	4.66
21F652	7105SYZQE	(On)-Off-(On)	6.44	5.48	4.90
21F653	7107SYZQE	On-Off-(On)	6.44	5.48	4.90
21F654	7108SYZQE	On-None-(On)	6.44	5.48	4.90
		DPDT—STANDARD ROUND TOGGLE - (FIG. 1)			
21F655	7201SYZQE	On-None-On	7.71	6.56	5.86
21F656	7203SYZQE	On-Off-On	8.87	7.54	6.74
21F657	7205SYZQE	(On)-Off-(On)	8.87	7.54	6.74
21F658	7207SYZQE	On-Off-(On)	9.13	7.76	6.94
21F659	7208SYZQE	On-None-(On)	9.13	7.76	6.94
21F660	7211SYZQE	On-On-On	9.62	8.18	7.31
21F661	7213SYZQE	On-On-(On)	10.41	8.84	7.91
21F662	7215SYZQE	(On)-On-(On)	11.38	9.67	8.65
		3PDT—STANDARD ROUND TOGGLE - (FIG. 1)			
21F663	7301SYZQE	On-None-On	13.53	11.50	10.28
21F664	7303SYZQE	On-Off-On	14.38	12.22	10.93
21F665	7305SYZQE	(On)-Off-(On)	18.12	15.40	13.77
		4PDT—STANDARD ROUND TOGGLE - (FIG. 1)			
21F666	7401SYZQE	On-None-On	18.75	15.94	14.25
21F667	7403SYZQE	On-Off-On	19.94	16.95	15.15
21F668	7405SYZQE	(On)-Off-(On)	21.79	18.52	16.56
21F670	7408SYZQE	On-None-(On)	21.79	18.52	16.56
21F671	7411SYZQE	On-On-On	23.09	19.63	17.55
21F672	7413SYZQE	(On-On-(On)	23.09	19.63	17.55
21F673	7415SYZQE	(On)-On-(On)	23.09	19.63	17.55
		SPDT—FLATTED TOGGLE - (FIG. 2)			
21F684	7101P3YZQE	On-None-On	6.40	5.44	4.86
21F685	7103P3YZQE	On-Off-On	7.10	6.04	5.40
21F686	7105P3YZQE	(On)-Off-(On)	7.41	6.30	5.64
21F687	7107P3YZQE	On-Off-(On)	7.41	6.30	5.64
21F688	7108P3YZQE	On-None-(On)	7.41	6.30	5.64
		DPDT—FLATTED TOGGLE - (FIG. 2)			
21F689	7201P3YZQE	On-None-On	8.69	7.38	6.60
21F690	7203P3YZQE	On-Off-On	9.85	8.37	7.48
21F691	7205P3YZQE	(On)-Off-(On)	9.85	8.37	7.48
21F692	7207P3YZQE	On-Off-(On)	10.11	8.59	7.68
21F693	7208P3YZQE	On-None-(On)	10.11	8.59	7.68
		SPDT—LONG ROUND TOGGLE - (FIG. 3)			
21F727	7101L1YZQE	On-None-On	5.43	4.61	4.13
		DPDT—LONG ROUND TOGGLE - (FIG. 3)			
21F732	7201L1YZQE	On-None-On	7.71	6.56	5.86
		3PDT— LONG ROUND TOGGLE - (FIG. 3)			
21F734	7301L1YZQE	On-None-On	13.53	11.50	10.28
		4PDT— LONG ROUND TOGGLE - (FIG. 3)			
21F736	7401L1YZQE	On-None-On	18.75	15.94	14.25
		SPDT— LOCKING TOGGLE - (FIG. 4)			
21F694	7101K2ZQE	On-None-On	7.22	6.14	5.49
21F695	7103K2ZQE	On-Off-On	7.92	6.73	6.02

CONTINUED

7000 SERIES PANEL MOUNT TOGGLE SWITCHES (CONT.)

SPDT— LOCKING TOGGLE - (FIG. 4) (CONT.)

Stock No.	Type	Action	1-24	25-99	100-249
21F696	7105K2ZQE	(On)-Off-(On)	8.23	7.00	6.26
21F697	7107K2ZQE	On-Off-(On)	8.23	7.00	6.26
21F698	7108K2ZQE	On-None-(On)	8.23	7.00	6.26
		DPDT—LOCKING TOGGLE - (FIG. 4)			
21F699	7201K2ZQE	On-None-On	9.52	8.09	7.23
21F700	7203K2ZQE	On-Off-On	10.66	9.07	8.11
		SPDT—LARGE ROUND TOGGLE - (FIG. 5)			
21F716	7101TZQE	On-None-On	6.79	5.78	5.16
21F717	7103TZQE	On-Off-On	7.50	6.37	5.70
21F718	7105TZQE	(On)-Off-(On)	7.81	6.64	5.93
21F720	7108TZQE	On-None-(On)	7.81	6.64	5.93
		DPDT—LARGE ROUND TOGGLE - (FIG. 5)			
21F721	7201TZQE	On-None-On	9.08	7.72	6.90
21F722	7203TZQE	On-Off-On	10.24	8.70	7.78
		3PDT— LARGE ROUND TOGGLE - (FIG. 5)			
21F723	7301TZQE	On-None-On	14.90	12.66	11.32
21F724	7303TZQE	On-Off-On	15.75	13.38	11.97
		4PDT— LARGE ROUND TOGGLE - (FIG. 5)			
21F725	7401TZQE	On-None-On	20.11	17.10	15.29
21F726	7403TZQE	On-Off-On	21.30	18.11	16.19
		SPDT—SPLASH PROOF TOGGLE - (FIG. 6)			
21F705	7101SCWZQE	On-None-On	6.29	5.34	4.78
21F706	7103SCWZQE	On-Off-On	6.99	5.94	5.31
21F707	7105SCWZQE	(On)-Off-(On)	7.30	6.21	5.55
		DPDT—SPLASH PROOF TOGGLE - (FIG. 6)			
21F710	7201SCWZQE	On-None-On	8.57	7.29	6.52

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7000 SERIES PC MOUNT TOGGLE SWITCHES

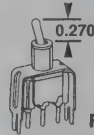


Fig. 1

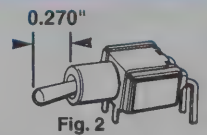


Fig. 2

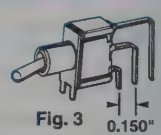


Fig. 3

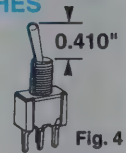


Fig. 4

Models with **"B"** in type number: rating: 0.4VA max. at 20VAC or DC max. Contacts and terminals: copper alloy, with gold plate over nickel plate, epoxy seal. Models with **"Q"** in type number: rating: 5 amps at 120VAC or 28VDC; 2 amps at 250VAC. End contacts: coin silver, silver-plated. Center contact and terminals: copper alloy, silver-plated, epoxy seal. Hardware: nuts, locking ring, lock washer. Panel mounting: 0.250 (6.35) dia. hole. Operating temperature: –30°C to 85°C. Actuator: brass, chrome plated. Bushing: brass or zinc, nickel-plated. Housing: stainless steel. Case: UL 94V-0. Switch support: brass, or steel tin-plated.

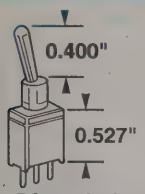
SPDT— PC TERMINALS - VERTICAL SUPPORT BRACKET - (FIG. 1)

Stock No.	Type	Action	1-24	25-99	100-249
21F818	7101MD9V3BE	On-None-On	6.04	5.13	4.59
90F2193	7103MD9V3BE	On-Off-On	6.63	5.63	5.04
		DPDT— PC TERMINALS - VERTICAL SUPPORT BRACKET - (FIG. 1)			
90F2194	7201MD9V3BE	On-None-On	8.59	7.31	6.53
		SPDT— PC TERMINALS - RIGHT-ANGLE MOUNTING - (FIG. 2)			
21F798	7101MD9ABE	On-None-On	5.76	4.90	4.38
21F799	7103MD9ABE	On-Off-On	6.46	5.49	4.91
21F800	7105MD9ABE	(On)-Off-(On)	6.77	5.76	5.15
21F801	7107MD9ABE	On-Off-(On)	6.77	5.76	5.15
21F802	7108MD9ABE	On-None-(On)	6.77	5.76	5.15
		DPDT— PC TERMINALS - RIGHT-ANGLE MOUNTING - (FIG. 2)			
21F803	7201MD9ABE	On-None-On	8.32	7.07	6.32
21F804	7203MD9ABE	On-Off-On	9.47	8.05	7.20
		SPDT—PC TERMINALS - VERTICAL RIGHT-ANGLE MOUNTING - (FIG. 3)			
46F1823	7101MD9AV2BE	On-None-On	5.92	5.04	4.50
46F1824	7103MD9AV2BE	On-Off-On	6.63	5.63	5.04
46F1825	7107MD9AV2BE	On-Off-(On)	6.94	5.90	5.27
		DPDT— PC TERMINALS - VERTICAL RIGHT-ANGLE MOUNTING - (FIG. 3)			
46F1815	7201MD9AV2BE	On-None-On	8.63	7.33	6.56
46F1817	7207MD9AV2BE	On-Off-(On)	10.04	8.54	7.63
		SPDT—PC TERMINALS - TOGGLE - (FIG. 4)			
46F1827	7101SYCQE	On-None-On	5.52	4.69	4.20
46F1441	7103-SY-C-QE	On-Off-On	6.22	5.29	4.73
46F1828	7105SYCQE	(On)-Off-(On)	6.53	5.55	4.97
46F1830	7108SYCQE	On-None-(On)	6.53	5.55	4.97
		DPDT—PC TERMINALS - TOGGLE - (FIG. 4)			
46F1831	7201SYCQE	On-None-On	7.88	6.70	5.99
46F1819	7203SYCQE	On-Off-On	9.04	7.68	6.87
46F1820	7205SYCQE	(On)-Off-(On)	9.04	7.68	6.87

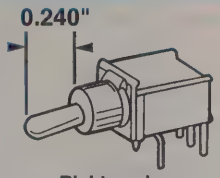
(4939) (de52685)

TOGGLE SWITCHES

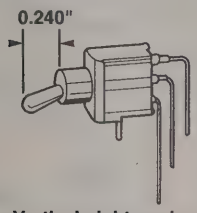
ET SERIES SEALED TINY TOGGLE SWITCHES



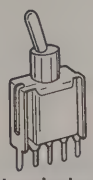
PC terminals



Right-angle PC terminals



Vertical, right-angle PC terminals


PC terminals with support bracket

Withstands machine soldering and cleaning. Rating: 0.4VA max. at 20VAC or DC max. Operating temperature: –30°C to 85°C. Actuator: brass, chrome plated with internal O-ring seal. Case and bushing: Gf nylon (UL94V-O). Contact and terminals: copper alloy with gold plate over nickel plate, epoxy seal. Spacing: 0.100 (2.54) typ. Switch support: brass, tin-plated. (On) denotes momentary action.

PC TERMINALS

Stock No.	Type	Circuit	Action
96F1565	ET01SD1CBE	SPDT	On-None-On
96F1566	ET03SD1CBE	SPDT	On-Off-On
96F1568	ET21SD1CBE	DPDT	On-None-On

Stock No.	Type	1-24	25-99	100-249
96F1565	ET01SD1CBE	5.79	4.92	4.40
96F1566	ET03SD1CBE	6.56	5.57	4.98
96F1568	ET21SD1CBE	8.22	6.99	6.25

PC TERMINALS - RIGHT-ANGLE MOUNTING

Stock No.	Type	Circuit	Action
94F9151	ET01MD1ABE	SPDT	On-None-On
96F1572	ET21MD1ABE	DPDT	On-None-On

Stock No.	Type	1-24	25-99	100-249
94F9151	ET01MD1ABE	6.02	5.11	4.57
96F1572	ET21MD1ABE	8.45	7.18	6.42

PC TERMINALS - VERTICAL RIGHT-ANGLE MOUNTING

Stock No.	Type	Circuit	Description
96F1574	ET01MD1AVBE	SPDT	On-None-On

Stock No.	Type	1-24	25-99	100-249
96F1574	ET01MD1AVBE	6.36	5.41	4.83

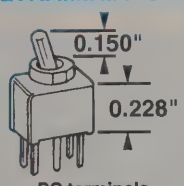
PC TERMINALS - SUPPORT BRACKET

Stock No.	Type	Circuit	Action
98F4174	ET01MD1V3BE	SPDT	On-None-On

Stock No.	Type	1-24	25-99	100-249
98F4174	ET01MD1V3BE	6.06	5.15	4.61

(4963) (de52982)

GT SERIES SEALED ULTRAMINIATURE TOGGLE SWITCHES



PC terminals

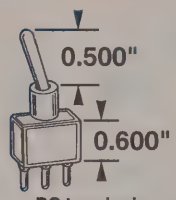
Withstands machine soldering and cleaning. Rating: 0.4VA max. at 20VAC or DC max. Operating temperature: –30°C to 85°C. Case and actuator: Gf nylon (UL94V-O) with standard internal O-ring seal. Movable contact: Phosphor bronze with gold plate over nickel plate. Stationary contact: copper alloy with gold plate over nickel plate. Terminals: copper alloy with tin-lead alloy over nickel plate, epoxy seal. Spacing: 0.100 (2.54) typ. Switch support: brass, tin-plated. (On) denotes momentary action.

PC TERMINALS

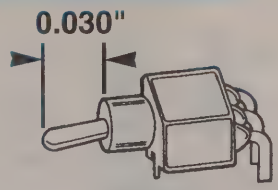
Stock No.	Type	Circuit	Action	1-24	25-99	100-249
90F7249	GT11MCKE	SPDT	On-None-On	5.53	4.70	4.20
96F1544	GT21MCKE	DPDT	On-None-On	7.42	6.31	5.64

(4962) (de52981)

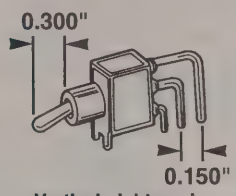
E SERIES SEALED TOGGLE SWITCHES



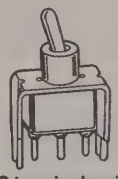
PC terminals



Right-angle PC terminals



Vertical, right-angle PC terminals


PC terminals with support brackets

Withstands machine soldering and cleaning. Rating: 0.4VA max. at 20VAC or DC max. Operating temperature: –30°C to 85°C. Actuator: brass, chrome-plated with internal O-ring seal. Case and bushing: gf nylon (UL94V-O). Contacts and terminals: copper alloy with gold plate over nickel plate, epoxy seal. Spacing: .185 (4.70) typ. Switch support: brass or steel, tin-plated. (On) denotes momentary action.

PC TERMINALS

Stock No.	Type	Circuit	Action
46F1794	E101 SD1CBE	SPDT	On-None-On
46F1786	E201 SD1CBE	DPDT	On-None-On
96F1581	E301 SD1CBE	3PDT	On-None-On

Stock No.	Type	1-24	25-99	100-249
46F1794	E101SD1CBE	5.25	4.46	3.99
46F1786	E201SD1CBE	7.70	6.55	5.86
96F1581	E301SD1CBE	12.60	10.71	9.58

PC TERMINALS - RIGHT-ANGLE MOUNTING

Stock No.	Type	Circuit	Action
46F1779	E101 MD1ABE	SPDT	On-None-On

Stock No.	Type	1-24	25-99	100-249
46F1779	E101MD1ABE	5.48	4.66	4.16

PC TERMINALS - VERTICAL RIGHT-ANGLE MOUNTING

Stock No.	Type	Circuit	Action
46F1772	E101 MD1AV2BE	SPDT	On-None-On
96F1589	E303 MD1AV2BE	3PDT	On-Off-On

Stock No.	Type	1-24	25-99	100-249
46F1772	E101MD1AV2BE	5.64	4.80	4.29
96F1589	E303MD1AV2BE	14.80	12.58	11.25

PC TERMINALS - SUPPORT BRACKET

Stock No.	Type	Circuit	Action
46F1648	E101 MD1V3BE	SPDT	On-None-On

Stock No.	Type	1-24	25-99	100-249
46F1648	E101MD1V3BE	5.76	4.90	4.38

(4961) (de52980)

NEW PRODUCTS ARE BEING ADDED TO OUR INVENTORY EVERY DAY.
CALL NEWARK FOR INFORMATION ON WHAT'S CURRENTLY IN STOCK.

PUSHBUTTON AND TOGGLE SWITCHES

T SERIES TINY TOGGLE SWITCHES

Fig.1 Fig. 2 Fig. 3 Fig. 4 Fig. 5

Fig. 1, 2: Types with ON-NONE-ON function rated 3A @ 120VAC or 28VDC; all others rated 2A @ 120VAC or 28VDC, UL. Operating Temperature: –30°C to +85°C. End contact: coin silver, silver plated. Center contact and terminals: copper alloy, silver-plated, epoxy seal. Hardware: nut, locking ring, lockwasher. Panel mounting: 0.195″ (4.95) dia. hole. Fig. 3, 4, 5: rating: 0.4VA max. @ 20V AC or DC max. Contacts and terminals: copper alloy, gold-over-nickel plated, epoxy seal. Actuator: brass, chrome plated. Bushing: brass, nickel-plated. Housing: stainless steel. Case: diallyl phthalate or gf nylon (UL 94V-0). Switch support: brass, tin-plated. 0.100″ pin spacing.

SOLDER TERMINALS-FIG. 1

Stock No.	Type	Circuit	Action	1-24	25-99
21F598	T101SHZQE	SPDT	On-None-On	5.94	5.05
21F599	T103SHZQE		On-Off-On	7.17	6.09
96F1759	T105SHZQE		(On)-Off-(On)	7.17	6.09
21F600	T108SHZQE		On-None-(On)	7.80	6.63
21F601	T201SHZQE	DPDT	On-None-On	8.72	7.41
21F602	T203SHZQE		On-Off-On	9.98	8.48
81F961	T211SHZQE		On-On-On	11.30	9.60

PC TERMINALS-FIG. 2

46F1718	T101SHCQE	SPDT	On-None-On	5.87	4.99
46F1720	T201SHCQE	DPDT	On-None-On	8.65	7.35

RIGHT-ANGLE MOUNTING PC TERMINALS-FIG. 3

21F610	T101MH9ABE	SPDT	On-None-On	6.11	5.19
21F611	T103MH9ABE		On-Off-On	7.33	6.23
21F613	T201MH9ABE	DPDT	On-None-On	8.88	7.55

VERTICAL RIGHT-ANGLE MOUNTING PC TERMINALS-FIG. 4

21F616	T101MH9AVBE	SPDT	On-None-On	6.26	5.32
21F619	T201MH9AVBE	SPDT	On-None-On	9.03	7.68

SUPPORT BRACKETS-FIG. 5

21F622	T101MH9V3BE	SPDT	On-None-On	6.09	5.18
46F1722	T103MH9V3BE		On-Off-On	7.31	6.22

(4933) (de52533)

TP SERIES TINY PUSHBUTTON SWITCHES

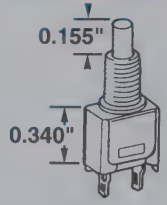


Fig. 1

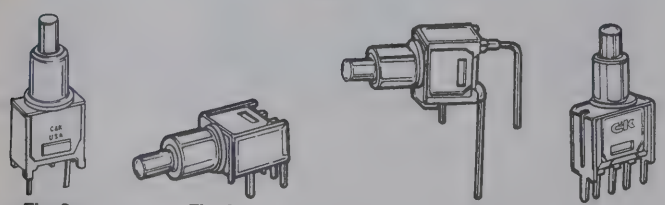


Fig. 2 Fig. 3 Fig. 4 Fig. 5

Models with **"Q"** in type number: rating: 1A @ 120VAC or 28VDC. End contacts: coin silver, silver-plated. Center contact and terminals: copper alloy, silver-plated, epoxy seal. Models with **"B"** in type number: rating: 0.4 VA max. @ 20V AC or DC max. Contacts and terminals: copper alloy, gold-over-nickel plated, epoxy seal. Operating temperature: –30°C to +85°C. Actuator: polyester, (UL 94V-0). Bushing: brass, nickel-plated. Housing: stainless steel. Case: diallyl phthalate or gf nylon (UL 94V-0). Hardware: nut, locking ring, lockwasher. Panel mounting: 0.195″ (4.95) dia. hole. Switch support: brass, tin-plated.

SOLDER TERMINALS-FIG. 1

Stock No.	Type	Circuit	Action	1-24	25-99
21F628	TP11SHZQE	SPST	Off-(On)	5.09	4.32
81F965	TP12SHZQE	SPDT	On-(On)	6.84	5.81
44F3144	TP21SHZQE	DPST	Off-(On)	8.83	7.51

VERTICAL MOUNTING PC TERMINALS-FIG. 2

96F1762	TP12SH9CBE	SPDT	On-(On)	6.94	5.90

CONTINUED

TP SERIES TINY PUSHBUTTON SWITCHES (CONT.)

RIGHT-ANGLE MOUNTING PC TERMINALS-FIG. 3

Stock No.	Type	Circuit	Action	1-24	25-99
21F629	TP11SH8ABE	SPST	Off-(On)	5.42	4.60
96F1764	TP11SH9ABE	SPST	Off-(On)	5.42	4.60
81F966	TP12SH9ABE	SPDT	On-(On)	7.17	6.09

VERTICAL RIGHT-ANGLE MOUNTING PC TERMINALS-FIG. 4

96F1765	TP11SH9AVBE	SPST	Off-(On)	5.56	4.73
81F967	TP12SH9AVBE	SPDT	On-(On)	7.31	6.22

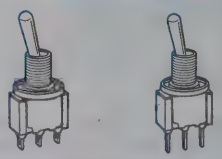
SUPPORT BRACKET PC TERMINALS-FIG. 5

81F968	TP12SH9V3BE	SPDT	On-(On)	7.15	6.07

(4935) (de52535)

MIL-S-83731 QPL TOGGLE SWITCHES

M83731/9M83731/10 Solder terminals



M83731/9 PC terminals

Qualified to QPL, MIL-S-83731/09, 10. Rating: 5A @ 28VDC, 125VAC resistive load; 2A @ 28VDC, 125VAC inductive load; 1A @ 28VDC, 125VAC lamp load; 0.5VA max. @ 28VAC or 28VDC. Case: diallyl phthalate (DAP) (UL 94V-0). Actuator: brass, chrome-plated. Bushing: brass, nickel-plated. All supplied with sealed terminals. Right-angle and vertical right-angle terminals are available; *contact your local Newark sales office.* MIL-S-83731/09 and MIL-S-8373/10 supplied with internal actuator seal.

SOLDER TERMINALS

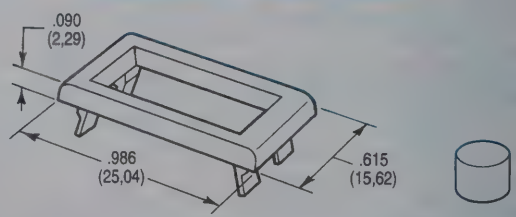
Stock No.	Type	Circuit	Action	1-24	25-99
92F5089	M83731/9-211	SPDT	On/Off/On	12.39	10.53
92F5090	M83731/9-231	SPDT	On/None/On	11.85	10.08
92F5096	M83731/10-231	DPDT	On/None/On	14.27	12.13
92F5098	M83731/10-271	DPDT	(On)/Off/(On)	15.20	12.92

PC TERMINALS

92F5107	M83731/9-272	SPDT	(On)/Off/(On)	12.53	10.65

(4899) (de04033)

HARDWARE FOR SWITCHES



Plastic caps for miniature and subminiature pushbutton switches. Nickel-plated hex nuts and dress nuts for miniature and subminiature toggle and pushbutton switches. Bezels snap into panel opening and are independent from switch mounting. Accurate positioning of the PC-mounted switch relative to the panel opening is necessary to provide proper clearance between actuator and bezel. Material: nylon. Finish: Round caps-Gloss; Square cap-Matte.

CAPS FOR PUSHBUTTON SWITCHES

Stock No.	Type	Cap Dia.	Color	Plunger	1-24	25-99
92F5159	708902000	0.200″	Black	0.122″	0.33	0.32
92F5160	708903000	0.200″	Red	0.122″	0.56	0.54
92F5161	798202263	0.450″ sq.	Black	0.122″	0.46	0.39
92F5162	508102000	0.200″	Black	0.100″	0.70	0.67
92F5163	465802000	0.300″	Black	0.100″	0.38	0.36
92F5165	752702000	0.375″	Black	0.122″	0.29	0.25
92F5166	752703000	0.375″	Red	0.122″	0.50	0.43
92F5167	801802000	0.310″	Black	0.122″	0.29	0.25
92F5168	801803000	0.310″	Red	0.122″	0.67	0.57

HEX NUTS – NICKEL-PLATED

Stock No.	Type	Thread	1-24	25-99
94F2595	700201201	¼-40	0.21	0.20

DRESS NUTS – NICKEL-PLATED

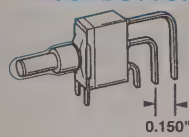
Stock No.	Type	Thread	Height	1-24	25-99
94F2356	702501201	¼-40	0.325″	0.35	0.34
92F5169	776001201	¼-40	0.090″	0.29	0.25
70B9168	709901201	¼-40 Blind	0.118″	0.28	0.27
94F2583	780701201	¼-40	0.118″	0.26	0.25

FRAMES FOR 7000 SERIES ROCKERS

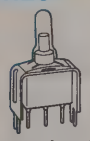
Stock No.	Type	Panel Thickness	Bezel Opening	1-24	25-99
92F5172	452802263	0.090″	0.703 × 0.388″	0.56	0.54

(4900) (de04035)

E20 SERIES SEALED SNAP-ACTING MOMENTARY PUSHBUTTON SWITCHES



Vertical right angle


Support bracket

Withstand machine soldering and cleaning. Model with **suffix "G"**: Rating: 1 amp at 120VAC or 28VDC or 0.4VA max. at 20VAC or DC max. UL/CSA. N.O. and N.C. Contacts: coin silver with gold plate over nickel plate. Common contacts and terminals: copper alloy with gold plate over nickel plate, epoxy seal. Model with **suffix "B"**: Rating 0.4VA max. at 20VAC or DC max. All contacts and terminals: copper alloy with gold plate over nickel plate, epoxy seal. Actuator: Gf nylon or polyester (UL94V-0). Std. disposable splashproof boot for machine wash after soldering. Case and bushing: Gf nylon (UL94V). Switch support: brass or steel, tin plated. Terminal spacing: 0.185 (4.70) typ.

PC TERMINALS–VERTICAL RIGHT-ANGLE MOUNT

Stock No.	Type	Circuit	Action
96F1533	E121SD1AV2GE	SPDT	On-(On)

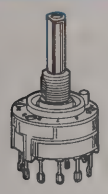
PC TERMINALS — SUPPORT BRACKET

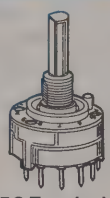
87F386	E125SD1V3BE	SPDT	On-(On)

Stock No.	Type	1-24	25-99	100-249
96F1533	E121SD1AV2GE	9.17	7.80	6.97
87F386	E125SD1V3BE	6.70	5.70	5.09

(4884) (de03139)

A SERIES ROTARY SWITCHES


Solder Terminals


PC Terminals

Switch rating: 2.5A at 125VAC; 350mA at 125VDC. Nonshorting contacts. Indexing: 30°. Operating temperature: –30°C to +65°C. Actuator: Gf nylon. Housing and bushing: Gf nylon. Movable contacts: coin silver, silver-plated. Stationary contacts and terminals: brass, silver-plated. Panel mounting: 0.386″ (9.80) dia. hole. Hardware: nut, lockwasher, stop ring for user-selectable stops. UL recognized, CSA certified.

SOLDER TERMINALS

Stock No.	Type	Circuit	1-49	50-99	100-249
81F1011	A11215RNZQ	SP 12-Position	4.89	4.38	3.63
81F1012	A20615RNZQ	DP 6-Position	5.19	4.64	3.85
81F1013	A30415RNZQ	3P 4-Position	5.11	4.58	3.79
81F1014	A40315RNZQ	4P 3-Position	5.61	5.02	4.16

PC TERMINALS

81F1015	A11215RNCQ	SP 12-Position	4.89	4.38	3.63
81F1016	A20615RNCQ	DP 6-Position	5.19	4.64	3.85
81F1017	A30415RNCQ	3P 4-Position	5.11	4.58	3.79
81F1018	A40315RNCQ	4P 3-Position	5.61	5.02	4.16

(4889) (de03152)

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(1-800-463-9275)

EP SERIES SEALED TINY PUSHBUTTON SWITCHES

SMD

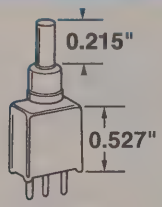


Fig. 1

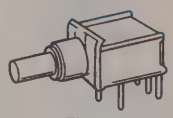


Fig. 2

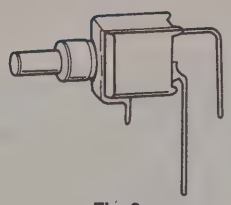


Fig. 3

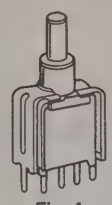


Fig. 4

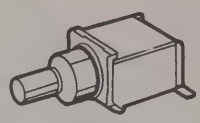


Fig. 5

Withstand machine soldering and cleaning. Rating: 0.4VA max. at 20VAC or DC max. Operating temperature: –30°C to +85°C. Actuator: Gf nylon or polyester with internal O-ring seal (UL 94V-0). Case and bushing: Gf nylon (UL 94V-0). Contacts and terminals: copper alloy with gold plate over nickel plate, epoxy seal, spacing is 0.100 (2.54) typ. Switch support: brass, tin plated. Models with **SAKE** in type number are surface mount.

PC TERMINAL – FIG. 1

Stock No.	Type	Circuit	Action
46F1758	EP11SD1CBE	SPST	Off-(On)
46F1759	EP12SD1CBE	SPDT	On-(On)

PC TERMINALS – RIGHT-ANGLE MOUNT – FIG. 2

46F1760	EP11SD1ABE	SPST	Off-(On)
46F1747	EP12SD1ABE	SPDT	On-(On)

PC TERMINALS – VERTICAL RIGHT-ANGLE MOUNT – FIG. 3

46F1748	EP11SD1AVBE	SPST	Off-(On)

PC TERMINALS – SUPPORT BRACKET – FIG. 4

46F1750	EP11SD1V3BE	SPST	Off-(On)

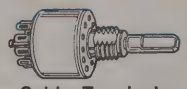
SURFACE MOUNT – EXTENDED ACTUATOR – FIG. 5

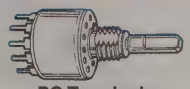
96F1593	EP11SD1SAKE	SPST	Off-(On)

Stock No.	Type	1-24	25-99	100-249
46F1758	EP11SD1CBE	4.38	3.72	3.33
46F1759	EP12SD1CBE	5.91	5.03	4.49
46F1760	EP11SD1ABE	4.59	3.90	3.49
46F1747	EP12SD1ABE	6.12	5.20	4.65
46F1748	EP11SD1AVBE	4.37	3.72	3.32
46F1750	EP11SD1V3BE	4.59	3.90	3.49
96F1593	EP11SD1SAKE	4.74	4.03	3.61

(4885) (de03141)

M SERIES HALF-INCH ROTARY SWITCHES


Solder Terminals


PC Terminals

Carry rating: 6A continuous. Switch rating: 250mA max. at 125VAC or 28VDC. Nonshorting contacts. Indexing: **prefix ME** and **MF** in type number = 36°; **prefix MG** and **MH** in type number = 30°. Operating temperature: –30°C to +85°C. Actuator: zinc alloy, nickel-plated. Housing and bushing: zinc alloy. Base: diallyl phthalate or melamine phenolic. Contacts and terminals: copper alloy, silver-plated. All terminals insert molded. Panel mounting: 0.250″ (6.35) dia. hole. Hardware: nut, lockwasher. All models have 360° rotation with no stops. Stop rings are supplied for user-selectable stops.

SOLDER TERMINALS

Stock No.	Type	Circuit	No. of Pos.	1-24	25-99	100-249
96F1677	ME00L1NZQD	SP	10	12.57	10.68	9.55
96F1678	MG00L1NZQ	SP	12	12.91	10.97	9.81
96F1679	MF00L1NZQ	DP	5	13.95	11.85	10.60
96F1680	MH00L1NZQD	DP	6	14.35	12.20	10.91

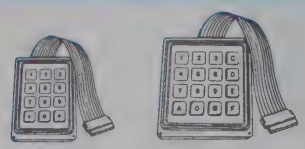
PC TERMINALS

96F1681	ME00L1NCQD	SP	10	12.83	10.90	9.75
96F1683	MF00L1NCQ	DP	5	14.20	12.07	10.80
96F1684	MH00L1NCQ	DP	6	18.74	15.93	14.24

(4888) (de03151)

PUSHBUTTON SWITCHES AND KEYPADS

4000 SERIES MEMBRANE KEYPADS



4A01 4B01

Rated: 100mA max. at 30VDC max., 0.5W max. Models with detent electrical life: 2,000,000 operations typ. Operating temperature: –30°C to +60°C. Models without detent electrical life: 5,000,000 operations typ. Operating temperature: –30°C to +70°C. Graphic overlay: polycarbonate/polyester embossed keys on models with detent. Base: rigid polyester (UL 94V-0). Contacts and circuits: conductive silver on heat-stabilized polyester.

MEMBRANE KEYPAD WITH DETENT

Stock No.	Type	Keyboard	1-24	25-99	100-249
87F377	4A01T322PCFQ	3x4	13.91	11.83	10.58
87F378	4B01H322PCFQ	4x4	15.59	13.25	11.85

MEMBRANE KEYPAD WITHOUT DETENT

87F379	4A01T322NCFQ	3x4	12.59	10.70	9.57
87F380	4B01H322NCFQ	4x4	14.11	11.99	10.72

(4950) (de52935)

PN SERIES ALTERNATE ACTION PUSHBUTTON SWITCHES

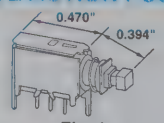


Fig. 1

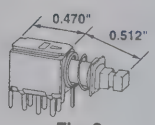


Fig. 2

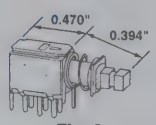


Fig. 3

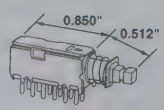


Fig. 4

PN-1 = momentary, PN-2 = locking. Incorporate a bifurcated wiping contact design that offers high reliability. Rating: 0.2A @ 30VDC max. Electrical life: 10,000 make-and-break cycles at full load. Mechanical life: 10,000 on/off cycles. Operating temperature: –10°C to +60°C. Actuator: polyacetal. Movable contacts: silver-plated (or clad) phosphor bronze. Terminals: silver-plated brass, epoxy seal.

SPDT

Stock No.	Type	Action	Contacts	Fig.	1-24	25-99	100-249
91F3597	PN11SHNA03QE	Off-(On)	Nonshorting	1	0.79	0.67	0.60
91F3598	PN12SHNA03QE	Off-On	Nonshorting	1	0.86	0.73	0.66
91F3599	PN11SHSA03QE	Off-(On)	Shorting	1	0.79	0.67	0.60
91F3600	PN12SHSA03QE	Off-On	Shorting	1	0.86	0.73	0.66

DPDT

91F3601	PN21SJNA03QE	Off-(On)	Nonshorting	2	0.91	0.78	0.70
91F3602	PN22SJNA03QE	Off-On	Nonshorting	2	0.97	0.82	0.73
91F3603	PN21SJSA03QE	Off-(On)	Shorting	2	0.91	0.78	0.70
91F3604	PN22SJSA03QE	Off-On	Shorting	2	0.97	0.82	0.73
91F3605	PN21LENA03QE	Off-(On)	Nonshorting	3	0.91	0.78	0.70
91F3606	PN22LENA03QE	Off-On	Nonshorting	3	0.97	0.82	0.73
91F3607	PN21LESA03QE	Off-(On)	Shorting	3	0.97	0.82	0.73
91F3608	PN22LESA03QE	Off-On	Shorting	3	0.97	0.82	0.73

4PDT

91F3609	PN41LENA02QE	Off-(On)	Nonshorting	4	1.09	0.93	0.83
91F3611	PN42LENA02QE	Off-On	Nonshorting	4	1.24	1.05	0.94
91F3610	PN41LESA02QE	Off-(On)	Shorting	4	1.09	0.93	0.83
91F3612	PN42LESA02QE	Off-On	Shorting	4	1.24	1.05	0.94

(13130) (ne09991)

8500 SERIES SUBMINIATURE PUSHBUTTON SWITCHES

=MZQE2 =TZQE2 –MCQE2 –TCQE2

Type 853: 1 amp at 120VAC or 28VDC. **Type 855**: 3 amps at 120VAC or 28VDC. Operating temperature: –30°C to +65°C. Actuator: UL94V-0. Housing and Base: Gf phenolic or diallyphthalate (DAP). UL94V-0. Contacts: coin silver, silver-plated. Terminals: copper alloy, silver-plated, epoxy seal. Includes nut, lockwasher. UL recognized.

¼"-40-THREAD BUSHING WITH SOLDER TERMINALS

Stock No.	Type	Circuit	Action	1-24	25-99	100-249
96F1638	8551MZQE2	SPST	Off-(On)	4.93	4.19	3.75
96F1639	8552MZQE2	SPST	Off-(On)	4.93	4.19	3.75

CONTINUED

8500 SERIES SUBMINIATURE PUSHBUTTON SWITCHES (CONT.)

15/32"-32-THREAD BUSHING WITH SOLDER TERMINALS

Stock No.	Type	Circuit	Action	1-24	25-99	100-249
96F1640	8551TZQE2	SPST	Off-(On)	5.42	4.60	4.12

¼"-40-THREAD BUSHING WITH PC TERMINALS

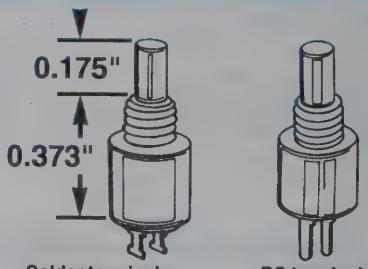
21F640	8531MCQE2	SPST	Off-(On)	5.02	4.27	3.82
21F641	8532MCQE2	SPST	Off-(On)	5.02	4.27	3.82
21F642	8533MCQE2	SPST	On-(Off)	5.61	4.77	4.27
96F1642	8534MCQE2	SPST	On-(Off)	5.61	4.77	4.27

15/32"-32-THREAD BUSHING WITH PC TERMINALS

46F1705	8531TCQE2	SPST	Off-(On)	5.51	4.68	4.19
46F1713	8532TCQE2	SPST	Off-(On)	5.51	4.68	4.19
46F1714	8533TCQE2	SPST	On-(Off)	6.10	5.19	4.64
46F1717	8552TCQE2	SPST	Off-(On)	5.51	4.68	4.19

(4952) (de52938)

8600 SERIES MICROMINIATURE PUSHBUTTON SWITCHES



Solder terminals PC terminals

"Q" in type numbers **8631** and **8632** indicates rating of 500mA at 120VAC or 28VDC, 250mA at 250VAC. Contacts: coin silver, silver-plated. Terminals: copper alloy, silver-plated. **"Q"** in type number **8633** indicates rating of 250mA at 120VAC or 28VDC, 125mA at 250VAC. Contacts and terminals: coin silver, silver-plated. All types with **"B"** in type number are rated 0.4VA max. at 20VAC or DC max. Contacts and terminals: copper alloy with gold plate over nickel plate. Operating temperature: –30°C to +65°C. Actuator: Black Gf nylon (UL 94V-0). Bushing: nickel-plated brass. Case: diallyl phthalate or gf phenolic (UL94V-0), epoxy seal **8633** types only. Panel mount: 0.172" (4.37) diameter hole. UL recognized.

SOLDER TERMINALS, SPST

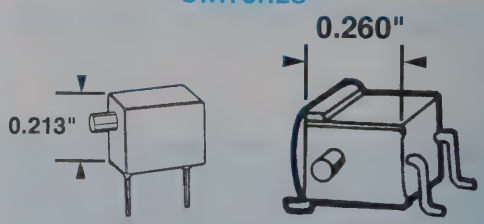
Stock No.	Type	Action	1-24	25-99	100-249
21F644	8631ZQD2	Off-(On)	4.69	3.99	3.57
96F1643	8631ZBD2*	Off-(On)	4.69	3.99	3.57
21F645	8632ZQD2	Off-(On)	4.69	3.99	3.57
21F646	8633ZQE2*	On-(Off)	4.88	4.15	3.71

PC TERMINALS, SPST

21F647	8631CQD2	Off-(On)	4.79	4.07	3.64
21F648	8632CQD2	Off-(On)	4.79	4.07	3.64

*Not UL recognized.
(4953) (de52939)

GP SERIES SEALED, ULTRAMINIATURE PUSHBUTTON SWITCHES



C terminals GP11MSAKE

Withstand machine soldering and cleaning. Rated 0.4VA max. at 20VAC or DC max. Operating temperature: –30°C to +85°C. Case and actuator: Gf nylon (UL 94V-0) with standard internal O-ring seal. Movable contact: gold plate over nickel plate. Stationary contact: copper alloy with gold plate over nickel plate. Terminals: tin-lead, epoxy seal with insert molded terminals and spacing of 0.100" (2.54) spacing. Switch support: brass, tin-plated.

MODELS WITH PC TERMINALS

Stock No.	Type	Circuit	Action	1-24	25-99	100-249
96F1648	GP11MCKE	SPST	Off-(On)	5.35	4.55	4.07
96F1649	GP12MCKE	SPDT	On-(On)	5.85	4.97	4.45

SURFACE MOUNT TERMINALS

96F1602	GP11MSAKE	SPST	Off-(On)	6.21	5.28	4.72

(4954) (de52940)

PUSHBUTTON SWITCHES

8020 SERIES SNAP-ACTING MOMENTARY PUSHBUTTON SWITCHES

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

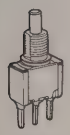


Fig. 6

Fig. 7

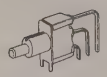


Fig. 8

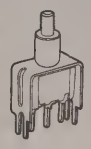


Fig. 9

All switches have On-(On) action. **"G"** in type number: Rating: 0.4 VA max. at 20VAC or DC max. or 1 amp at 120VAC or 28VDC. N.O. and N.C. Contacts: coin silver, with gold plate over nickel plate. Common contact and terminals: copper alloy, with gold plate over nickel plate, epoxy seal. **"B"** in type number: Rating: 0.4 VA max. at 20 VAC or DC max. Contacts and terminals: copper alloy, with gold plate over nickel plate, epoxy seal. Actuator cap and bezel: nylon, black. Plunger: Gf nylon or polyester UL 94V-0. Bushing: brass or zinc, nickel plated. Housing: stainless steel. Case: Gf nylon or diallyl phthalate UL 94V-0. Switch support: brass or steel, tin plated. Operating temperature: –30°C to +75°C. Panel mounting: **"H"** in type number: 0.250″ (6.35) dia. hole. Nuts, lockwasher, locking ring supplied. **"J"** in type number: 0.500″ (12.70) x 0.600″ (15.24) mounting hole. Red LED supplied only with **J85** (non-replaceable). *Order T-1¾ LED's separately for* **J82**; *contact your local Newark sales office.*

PANEL MOUNT, SOLDER TERMINAL — FIG. 1

Stock No.	Type	Circuit	1-24	25-99	100-249
21F632	8121SHZGE	SPDT	8.16	6.94	6.20
21F633	8125SHZBE		5.33	4.53	4.05
21F634	8221SHZGE	DPDT	11.88	10.09	9.03
21F635	8225SHZBE		7.33	6.23	5.57
44F3271	8321SHZGE	3PDT	17.38	14.77	13.21
46F1707	8421SHZGE	4PDT	21.22	18.04	16.13

RAISED CAP AND SQUARE BEZEL PANEL MOUNT, SOLDER TERMINAL — FIG. 2

Stock No.	Type	Circuit	1-24	25-99	100-249
44F3273	8121J81ZGE22	SPDT	8.76	7.45	6.66
46F1443	8125J81ZBE22		5.93	5.04	4.51
44F3274	8221J81ZGE22	DPDT	12.48	10.60	9.48
46F1709	8225J81ZBE22		7.93	6.74	6.03

RAISED CAP, BEZEL, FRAME FOR LED, PANEL MOUNT, SOLDER TERMINAL — FIG. 3

Stock No.	Type	Circuit	1-24	25-99	100-249
44F3275	8121J82ZGE22	SPDT	8.78	7.46	6.67
46F1710	8125J82ZBE22		5.96	5.06	4.53

FLUSH CAP AND SQUARE BEZEL, PANEL MOUNT, SOLDER TERMINAL — FIG. 4

Stock No.	Type	Circuit	1-24	25-99	100-249
96F1746	8121J83ZGE22	SPDT	8.76	7.45	6.66
96F1747	8125J83ZBE22	SPDT	5.93	5.04	4.51
96F1748	8221J83ZGE22	DPDT	12.48	10.60	9.48

RAISED CAP, SQUARE BEZEL AND BUILT-IN RED LED, PANEL MOUNT, SOLDER TERMINAL — FIG. 5

Stock No.	Type	Circuit	1-24	25-99	100-249
44F3284	8121J85ZGE223	SPDT	10.28	8.74	7.81

PC MOUNT, VERTICAL — FIG. 6

Stock No.	Type	Circuit	1-24	25-99	100-249
94F2590	8121SHCGE	SPDT	8.25	7.02	6.27
94F2315	8125SHCBE	SPDT	5.43	4.61	4.13

PC MOUNT, RIGHT ANGLE — FIG. 7

Stock No.	Type	Circuit	1-24	25-99	100-249
46F1712	8121SD9AGE	SPDT	8.48	7.21	6.45
94F2313	8125SD9ABE	SPDT	5.66	4.81	4.30

PC MOUNT, VERTICAL RIGHT ANGLE — FIG. 8

Stock No.	Type	Circuit	1-24	25-99	100-249
94F9238	8121SD9AV2GE	SPDT	8.63	7.33	6.56
96F1741	8125SD9AV2BE	SPDT	5.80	4.93	4.41

PC MOUNT, SUPPORT BRACKET — FIG. 9

Stock No.	Type	Circuit	1-24	25-99	100-249
96F1742	8121SD9V3GE	SPDT	8.46	7.19	6.43

(4936) (de52626)

8060 SERIES ALTERNATE ACTION & MOMENTARY PUSHBUTTON SWITCHES

Fig. 10

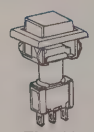


Fig. 11

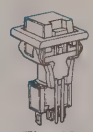


Fig. 12

Fig. 13

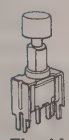


Fig. 14

"G" in type number: Rating: 0.4 VA max. at 20VAC or DC max. or 6 amps at 120VAC or 28VDC; 3 amps at 250VAC, UL/CSA. End contacts: coin silver, with gold plate over nickel plate. Center contact and terminals: copper alloy, with gold plate over nickel plate, epoxy seal. **"B"** in type number: Rating: 0.4 VA max. at 20VAC or DC max. Contacts and terminals: copper alloy, with gold plate over nickel plate, epoxy seal. Actuator and bezel: nylon, black. Bushing: brass or zinc, nickel plated. Housing: stainless steel. Case: Gf nylon or diallyl phthalate UL 94V-0. Switch support: brass or steel, tin plated. Operating temperature: –30°C to +65°C. Panel mounting: **"H"** in type number: 0.250″ (6.35) dia. hole. Nuts, lockwasher, locking ring supplied. **"J"** in type number: 0.500″ (12.70) x 0.600″ (15.24) mounting hole. Red LED supplied only with **J86** (non-replaceable). UL recognized, CSA certified.

SOLDER TERMINAL, PANEL MOUNT - FIG. 10

Stock No.	Type	Circuit	Action
96F1749	8161SHZGE2	SPDT	On-On
96F1750	8168SHZGE2	SPDT	On-(On)
21F829	8168SHZQE2	SPDT	On-(On)
96F1751	8261SHZGE2	DPDT	On-On

Stock No.	Type	1-24	25-99	100-249
96F1749	8161SHZGE2	6.25	5.31	4.75
96F1750	8168SHZGE2	6.25	5.31	4.75
21F829	8168SHZQE2	5.99	5.09	4.55
96F1751	8261SHZGE2	11.34	9.64	8.62

CAP AND SQUARE BEZEL, PANEL MOUNT, SOLDER TERMINAL - FIG. 11

Stock No.	Type	Circuit	Action
96F1753	8168J81ZGE22	SPDT	On-(On)
21F832	8168J81ZQE22	SPDT	On-(On)
96F1754	8261J81ZGE22	DPDT	On-On

Stock No.	Type	1-24	25-99	100-249
96F1753	8168J81ZGE22	7.12	6.06	5.41
21F832	8168J81ZQE22	6.87	5.84	5.22
96F1754	8261J81ZGE22	12.22	10.39	9.29

CAP, SQUARE BEZEL AND BUILT-IN RED LED, PANEL MOUNT, SOLDER TERMINAL - FIG. 12

Stock No.	Type	Circuit	Action
96F1745	8168J86ZGE223	SPDT	On-(On)

Stock No.	Type	1-24	25-99	100-249
96F1745	8168J86ZGE223	8.54	7.26	6.49

PC MOUNT, RIGHT ANGLE - FIG. 13

Stock No.	Type	Circuit	Action
46F1702	8168SH9ABE2	SPDT	On-(On)

Stock No.	Type	1-24	25-99	100-249
46F1702	8168SH9ABE2	5.66	4.81	4.30

PC MOUNT, VERTICAL SUPPORT BRACKET - FIG. 14

Stock No.	Type	Circuit	Action
44F3280	8161SH9V3BE2	SPDT	On-On
44F3281	8168SH9V3BE2	SPDT	On-(On)

Stock No.	Type	1-24	25-99	100-249
44F3280	8161SH9V3BE2	6.47	5.50	4.92
44F3281	8168SH9V3BE2	8.54	7.26	6.49

(4937) (de52627)

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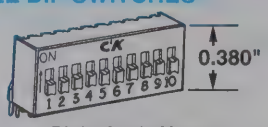
DIP AND ROTARY SWITCHES

BD SERIES WASHABLE DIP SWITCHES

Vertical Mount



Right-Angle Mount

Withstands machine soldering and cleaning. Carry rating: 100mA max. at 50VDC. Switch rating: 100mA max. at 5VDC or 25mA max. at 25VDC. SPST function. Operating temperature: –40°C to +85°C. Actuator: Gf nylon (UL94V-0). Housing: Gf polyester (UL94V-0). Terminals: Tin-lead alloy. Terminal spacing: 0.100″ (2.54).

VERTICAL MOUNT DIP SWITCHES

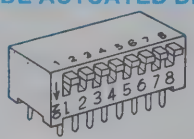
Stock No.	Type	No. of Pos.	Overall Length (in.)	1-24	25-99	100-249
87F375	BD01	1	.180	1.66	1.41	1.26
81F997	BD02	2	.280	1.69	1.44	1.29
81F998	BD03	3	.380	1.72	1.46	1.31
81F999	BD04	4	.480	1.85	1.57	1.40
81F1000	BD05	5	.580	1.87	1.59	1.42
81F1001	BD06	6	.680	1.98	1.68	1.51
81F1002	BD07	7	.780	2.05	1.75	1.56
81F1003	BD08	8	.880	2.13	1.81	1.62
81F1005	BD10	10	1.08	2.32	1.97	1.77
46F1793	BD12	12	1.28	2.39	2.04	1.82

RIGHT-ANGLE MOUNT DIP SWITCHES

Stock No.	Type	No. of Pos.	Overall Length (in.)	1-24	25-99	100-249
44F3617	BD08AV	8	.88	2.51	2.13	1.91

(4886) (de03148)

BP SERIES SIDE ACTUATED DIP SWITCHES



Body height: 8mm, width 13mm. Carry rating: 100mA max. @ 50VDC. Switch rating: 100mA max. @ 5VDC or 25mA max. @ 25VDC, SPST function. Operating temperature: –20°C +60°C. Actuator and housing: UL94V-0. Contacts: gold plated. Terminals: tin-plated, epoxy seal. Terminal spacing: 0.100″ (2.54).

Stock No.	Type	No. of Pos.	Overall Length (in.)	1-24	25-99	100-249
91F3613	BP02KE	2	.306	2.26	1.92	1.72
91F3614	BP03KE	3	.406	2.42	2.05	1.84
91F3615	BP04KE	4	.506	2.49	2.12	1.89
91F3616	BP05KE	5	.606	2.57	2.19	1.95
91F3617	BP06KE	6	.706	2.79	2.37	2.12
91F3618	BP07KE	7	.806	2.85	2.42	2.17
91F3619	BP08KE	8	.906	3.03	2.57	2.30

(12433) (ne09988)

SD SERIES SEALED DIP SWITCHES

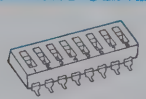


Fig. 1

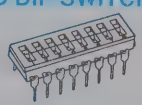


Fig. 2

Tape-sealed, low-profile SPST DIP switches withstand soldering and cleaning processes. **SK** models are surface mount. **H0**: flush actuator. To order extended actuator, replace "**H**" with "**H1**". Rating: 100mA max @ 20VDC for 2000 cycles. Terminals are tin-lead.

Stock No.	Type	No. of Positions	Overall Length (in.)	Fig.	1-24	25-99	100-249
91F3580	SD02H0SK	2	.258	1	2.37	2.02	1.80
91F3581	SD03H0SK	3	.358	1	2.44	2.07	1.85
91F3582	SD05H0SK	5	.558	1	3.04	2.58	2.31
91F3583	SD06H0SK	6	.658	1	3.35	2.85	2.54
91F3584	SD07H0SK	7	.758	1	3.50	2.98	2.66
91F3585	SD08H0SK	8	.858	1	3.61	3.07	2.74
91F3586	SD09H0SK	9	.958	1	3.94	3.35	2.99
91F3587	SD10H0SK	10	.1058	1	4.14	3.52	3.15
91F3588	SD12H0SK	12	.1258	1	4.33	3.68	3.29
91F3571	SD02H0K	2	.258	2	1.66	1.41	1.26
91F3572	SD03H0K	3	.358	2	1.75	1.49	1.33
91F3573	SD04H0K	4	.458	2	1.85	1.57	1.40
91F3574	SD05H0K	5	.558	2	2.04	1.74	1.55
91F3575	SD06H0K	6	.658	2	2.29	1.95	1.74
91F3576	SD07H0K	7	.758	2	2.44	2.07	1.85
91F3577	SD09H0K	9	.958	2	2.77	2.35	2.10
91F3579	SD12H0K	12	1.258	2	3.21	2.73	2.44

(12439) (ne09989)

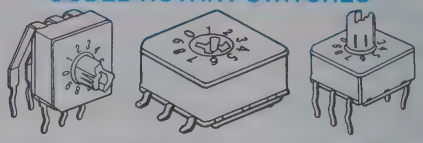
TD SERIES ULTRA-MINIATURE SURFACE MOUNT HALF-PITCH DIP SWITCHES

Surface mountable, low-profile SPST DIP switches with spacing of 0.050″ between terminals. Body height of 0.098″. Gull wing terminals are tin-lead plated. Taped sealed switch is vacuum pick and place compatible and will withstand machine soldering and cleaning. Can withstand vapor phase and IR soldering up to 260°C. Contact rating: 0.4VA @ 20VDC. Contacts: gold plated. Life expectancy: 1,000 cycles min. Initial contact resistance: 50 milliohms max.

Stock No.	Type	Pos.	Term.	1-24	25-99	100-249
52F8406	TD08H0SK1	8	0.450″	5.44	4.62	4.13

(4980) (ne07384)

CD SERIES ULTRA-MINIATURE DIP CODED ROTARY SWITCHES



Withstand machine soldering and cleaning. 8- and 10-position with BCD output and 16-position with hexadecimal output, real or complement codes. Flush version with cross-slotted rotor, or available with extended shaft actuator. PC or right angle terminals. Surface mount, gull wing terminals available on upright version, vapor phase or IR reflowable to 260°C. Contact rating: 0.4VA @ 20VDC. Electrical life: 20,000 position changes. Initial contact resistance: 50m max. Insulation resistance: 100MΩ min. Operating temperature: –25°C to +85°C. Contacts: gold over nickel. Terminals: 90/10 tin-lead. 8mm square case made with UL94V-0 materials. Switch body approximately 0.315 sq. x 0.158 high.

Stock No.	Type	Code	Terminals	Each
52F8408	CD10RM0CK	BCD	PC	4.30
52F8409	CD10CM0AK	BCD Comp.	Right Angle	4.94
52F8403	CD10CL1AK	BCD Comp.	Right Angle	5.54
52F8389	CD16CM0AK	Hex-Comp.	Right Angle	5.44
52F8390	CD16CM0CK	Hex-Comp.	PC	4.73
52F8391	CD16RL1AK	Hexadecimal	Right Angle	5.96
52F8392	CD16RL1CK	Hexadecimal	PC	5.25
52F8393	CD16CL1AK	Hex-Comp.	Right Angle	5.96
52F8395	CD10RM0SK	BCD	Gull Wing	4.80
52F8396	CD10CM0SK	BCD Comp.	Gull Wing	4.80
91F5315	CD08RM0AK	BCD	Right-Angle	4.94
91F5317	CD08RM0CK	BCD	PC	4.30
91F5316	CD08CM0AK	BCD Comp.	Right-Angle	4.94
91F5318	CD08CM0CK	BCD Comp.	PC	4.30
91F5319	CD08RL1AK	BCD	Right-Angle	5.54
91F5321	CD08RL1CK	BCD	PC	4.82
91F5320	CD08CL1AK	BCD Comp.	Right-Angle	5.54
91F9937	CD08RM0SK	BCD	Gull Wing	4.80
91F9938	CD08CM0SK	BCD Comp.	Gull Wing	4.80

(4981) (ne07365)

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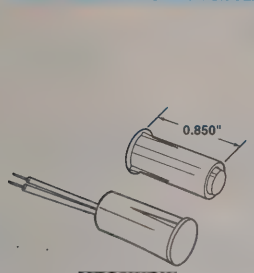
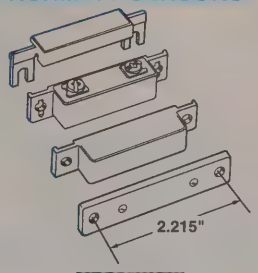
SWITCHES AND SENSORS

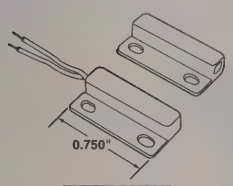
MPS SERIES MAGNETIC PROXIMITY SENSORS



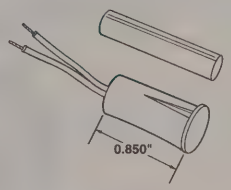
MPS9WGW



MPS20WGW



MPS45WGW



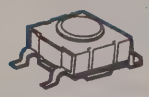
MPS95WGW

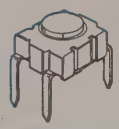
Sensors have SPST normally open reed switch. Reed switch opens when separately encased magnet is removed from proximity. Contacts are held closed when magnet is within actuation range. Contact rating: 0.3A @ 100VAC; 100VA max. @ 100 VDC; max. carry current 1.0A. Max. operating time: 1 ms, including bounce. Life expectancy: 10 million operations. Housing: UL94V-0, impact-resistant white ABS plastic, with patented O-ring protecting the reed switch. Potted 12″ wire leads, 22AWG.

Stock No.	Type	Make Gap	1-24	25-99	100-249
52F8399	MPS9WGW	1.25″	**6.29**	**5.34**	**4.78**
52F8400	MPS20WGW	1.25″	**7.61**	**6.47**	**5.79**
52F8401	MPS45WGW	1.00″	**6.68**	**5.68**	**5.08**
52F8402	MPS95WGW	1.25″	**6.29**	**5.34**	**4.78**

(4982) (ne07386)

KT SERIES SEALED MINIATURE KEY SWITCHES


S Surface Mount

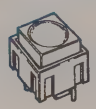

PCB Mount

Withstand machine soldering and cleaning. Rating: 1.0VA max. at 50V AC or DC max. SPST N.O. momentary function. Operating temperature: –40°C to +90°C. Actuator: nylon with silicone rubber seal. Base dim. approx. 0.250″ (6,35) sq. Movable contacts: stainless steel, silver-plated. Terminals: tin-lead.

Stock No.	Type	Actuator Height	1-24	25-99	100-249
S SURFACE MOUNT TERMINALS					
96F1633	KT11P2SM	0.093″ (2.36)	**3.25**	**2.77**	**2.47**
96F1634	KT11P3SM	0.044″ (1.18)	**3.34**	**2.84**	**2.54**
PCB MOUNT TERMINALS					
96F1657	KT11P2CM	0.093″ (2.36)	**3.42**	**2.91**	**2.60**
96F1658	KT11P3CM	0.044″ (1.18)	**3.25**	**2.77**	**2.47**

(4992) (ne52996)

KS SERIES PUSHBUTTON KEY SWITCHES

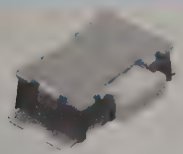


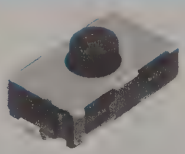
KS series pushbutton key switches are rated 25mA at 50VAC or DC max. Operating temperature: –30°C to +65°C. Actuator: ABS or polycarbonate/ABS blend. Housing: nylon (UL 94V-0). Base: 0.488″ (12.40) square. Movable contacts: beryllium copper, silver-plated. Stationary contacts and terminals: copper alloy, silver-plated, epoxy seal. **Types KS11** are SPST Off-(On) and **type KS12** is SPDT On-(On).

Stock No.	Type	Cap Color	1-24	25-99	100-249
46F1754	KS11R21CQD	White	**1.25**	**1.06**	**0.95**
46F1755	KS11R22CQD	Black	**1.25**	**1.06**	**0.95**
46F1757	KS12R22CQD	Black	**1.64**	**1.39**	**1.25**

(4951) (de52936)

KN SERIES ULTRAMINIATURE TACTILE SWITCH


KN01


KN11

Rating: 1.0VA max. @ 5VDC min. SPST normally open, momentary. Body height: **type KN11** is 1.6mm; **type KN01** is 1.63mm. **Sold in tape and reel quantities**. UL recognized.

Stock No.	Type	Operating Force (g)	Operating Life (kc)	1-24	25-99	100-249
83F7346	KN11B1FLM	120	100	**0.39**	**0.34**	**0.30**
83F7347	KN11B1DJM	200	200	**0.39**	**0.34**	**0.30**
83F7348	KN11B1NJM	450	100	**0.39**	**0.34**	**0.30**
83F7344	KN01P1DSAQ	200	100	**0.43**	**0.37**	**0.33**
83F7345	KN01P3LSAQ	400	100	**0.43**	**0.37**	**0.33**

(31870) (ne31870)

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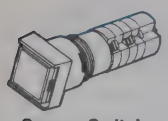
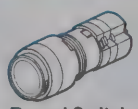
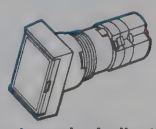
LIGHTED SWITCHES AND INDICATORS

LUMOTAST 75 SERIES LIGHTED PUSHBUTTON SWITCHES AND INDICATORS


Square Switch


Round Switch


Rectangular Indicator

High quality, long-life SPDT and DPDT momentary and maintained pushbutton switches and indicators. Threaded mounting ring included, fits standard 0.638" (16.20) mounting hole dia. Three bezel styles, color: black. 4A at 250V AC or DC. Electrical Life: 60,000 - 2,000,000 operations, depending on load. Operating Temperature: –25°C to +55°C. T-4½ incandescent lamp. Housing: Polyamid, with solder terminals. Complete assembly length: 2.24" (57). Additional lens colors and LED lamps available. *For complete assembly, order switch lens, housing, lens, diffuser and lamp separately; contact your local Newark sales office.*

75 SERIES SWITCHES AND INDICATORS

Stock No.	Type	Description	1-4	5-9	10-24
96F1815	1.15108.451	Round, Momentary, SPDT	24.16	23.17	22.16
96F1817	1.15108.251	Square, Momentary, SPDT	24.16	23.17	22.16
96F1819	1.15108.051	Rectangular, Momentary, SPDT	24.16	23.17	22.16
96F1821	1.15108.551	Round, Maintained, SPDT	28.89	27.70	26.49
96F1823	1.15108.351	Square, Maintained, SPDT	28.89	27.70	26.49
96F1824	1.15108.352	Square, Maintained, DPDT	40.26	38.61	36.92
96F1825	1.15108.151	Rectangular, Maintained, SPDT	28.89	27.70	26.49
96F1826	1.15108.152	Rectangular, Maintained, DPDT	40.26	38.61	36.92
96F1829	1.65111.051	Rectangular, Indicator Lamp	8.18	7.65	6.98

LENS

Stock No.	Type	Description	1-9	10-24	25-49
96F1830	5.49257.011/1002	Round, Colorless	0.94	0.91	0.63
96F1831	5.49257.011/1303	Round, Red	0.94	0.91	0.63
96F1833	5.49257.011/1502	Round, Green	0.94	0.91	0.63
96F1835	5.49275.036/1002	Square, Colorless	0.86	0.83	0.53
96F1836	5.49275.036/1303	Square, Red	0.86	0.83	0.53
96F1838	5.49275.036/1502	Square, Green	0.86	0.83	0.53
96F1840	5.49275.032/1002	Rectangulor, Colorless	0.86	0.83	0.53
96F1841	5.49275.032/1303	Rectangular, Red	0.86	0.83	0.53
96F1843	5.49275.032/1502	Rectangular, Green	0.86	0.83	0.53

DIFFUSERS

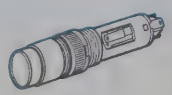
96F1776	5.72050.000/0202	Round, White	0.65	0.62	0.40
96F1778	5.73012.000/0202	Square, White	0.65	0.62	0.40
96F1777	5.73013.000/0202	Rectangular, White	0.41	0.39	0.27

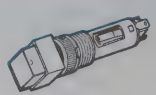
T-4.5 LAMPS

96F1779	1.90100.021	6V/0.3W Incandescent	5.33	5.12	3.53
96F1780	1.90100.022	12V/0.48W Incandescent	5.33	5.12	3.53
96F1781	1.90100.023	24V/0.48W Incandescent	6.15	5.90	4.06

(4895) (de03359)

8.1mm LIGHTED PUSHBUTTON SWITCHES AND INDICATORS


Round


Square

Extremely compact design, fits .319 (8.1) mounting hole dia., mounts with threaded ring. Round and square bezels available, color: black. Rating: 250mA at 42V AC or DC. Electrical Life: 10^5 operations min. Operating Temperature: –25°C to +55°C Lamp: T1 Incandescent. Housing: Polyamid, with solder terminals. Complete assembly length: 1.57" (40). *For complete assembly, order switch body, lens, and lamp separately, below.* Other keycap/lens colors, LED lamps also available. Momentary switches are SPST N.O.; maintained are SPST.

8.1mm SWITCH HOUSING

Stock No.	Type	Description	1-4	5-9	10-24
96F1803	1.15116.001	Round, Momentary	14.44	13.85	13.24
96F1804	1.15116.011	Round, Maintained	15.24	14.62	13.98
96F1805	1.15116.021	Square, Momentary	14.44	13.85	13.24
96F1806	1.15116.031	Square, Maintained	15.24	14.62	13.98

KEYCAP — SWITCHES ONLY

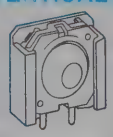
Stock No.	Type	Description	1-9	10-24	25-49
96F1810	5.05510.470/1303	Round, Green	1.66	1.59	0.99
96F7270	5.05510.471/1303	Square, Red	1.66	1.59	0.99
96F7271	5.05510.471/1502	Square, Green	1.66	1.59	0.99

T1 LAMPS

96F1813	1.90180.472	12V Incandescent	5.73	5.50	3.78
96F1814	1.90180.473	24V Incandescent	7.48	7.00	6.39

(4896) (de03361)

RACON 12mm VERTICAL KEY SWITCHES



High quality, long-life, PCB mounted key switch. Operating life: 1 million cycles minimum. Operating temperature: –40°C to +80°C. Rating: 42V AC or DC and 100mA. Right angle, thru-hole terminal style. Switches are momentary, SPDT.

Stock No.	Type	1-9	10-24	25-49
91F3317	1.14001.005	3.90	3.74	3.74
91F3318	1.14001.015	2.33	2.24	2.17

(13039) (ne09993)

LUMOTAST® 25 EMERGENCY STOP SWITCH AND ACCESSORIES

Low-profile, emergency stop pushbutton for low-power applications, 25VAC or VDC @ 100mA. Operating life: >5 x 10^4 operations. Operating temperature: -25°C to +70°C. Terminal style: gold contacts. *Order multiple-contact socket and flat cable for switch separately below.*

Stock No.	Type	Description	1-4	5-9	10-24	25-49
96F1787	1.15154.006/0301	Push-Off, Pull-On, SPST, Red Button Switch	30.51	29.26	27.98	16.02
96F1791	5.92025.368	Multiple-Contact Socket	3.05	2.94	2.17	2.09
96F1792	5.37700.124	Flat Cable, 4-Pin Wire, 1 Meter Length	3.15	3.03	2.29	2.21

(31874) (ne31874)

RACON 8mm/12mm SHORT-TRAVEL KEY SWITCHES

Fig. 1

Fig. 2

High quality, long-life momentary SPST PCB mounted key switches are solder proof and wash proof. Operating life: 1,000,000 cycles minimum. Key switches are rated at 42VAC or DC and 100mA. Actuator height: 5mm. Other actuator heights available; *contact your local Newark sales office.*

Stock No.	Type	Terminal Style	Fig.	1-9	10-24	25-49
91F3319	1.14100.001	Outward, 8mm sq.	1	4.32	4.15	3.63
91F3320	1.14100.002	Inward, 8mm sq.	1	4.32	4.15	3.63
91F3321	1.14100.003	SMD, 8mm sq.	1	4.09	3.92	3.43
91F3322	1.14001.001	Outward, 12mm sq.	2	4.32	4.15	3.63
91F3323	1.14001.002	Inward, 12mm sq.	2	4.32	4.15	3.63
91F3324	1.14001.003	SMD, 12mm sq.	2	4.33	4.16	3.64

(13035) (ne09992)

RF 15mm/19mm SHORT-TRAVEL KEY SWITCHES

Fig. 1

Fig. 2

High quality, long-life momentary SPST PCB mounted key switches available in 15mm square and 19mm square. Switches are nonilluminated. Operating life: 1 million cycles minimum. Operating temperature: –25°C to 70°C. Gold contacts are rated to 42V and 100mA AC/DC. Minimum power: 2W. Other actuator heights and spot or full-illumination versions available; *contact your local Newark sales office.*

Stock No.	Type	Description	Fig.	1-9	10-24
91F3325	3.14100.001	Gold contacts, 15mm sq.	1	2.96	2.85
91F3326	3.14100.006	Silver contacts, 15mm sq.	1	2.60	2.50
91F3327	3.14001.001	Gold contacts, 19mm sq.	2	2.96	2.85
91F3328	3.14001.006	Silver contacts, 19mm sq.	2	2.60	2.50

(13041) (ne09994)

NEW PRODUCTS ARE CONTINUALLY ADDED.
CALL NEWARK FOR CURRENT SELECTION.

ROCKER SWITCHES

7000 SERIES PANEL MOUNTED ROCKER AND LEVER HANDLE SWITCHES

Fig. 1

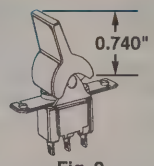


Fig. 2

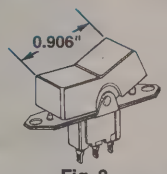


Fig. 3

5A at 120VAC or 28VDC; 2A at 250VAC. Operating temperature: –30°C to +85°C. Actuator: Nylon, black. Housing: Stainless steel. Case: (UL 94V-0). End Contact: Coin silver, silver plated. Center contact & terminals: copper alloy, silver plated, epoxy seal. Mounting bracket: stainless steel. Type numbers with sixth digit **1** and **2** mount 0.094″ (2.39) dia. holes, 0.937″ (23.80) spacing type with sixth digit **3** mount 0.125″ (3.18) dia. holes, 1.375″ (34.93) spacing. Include all hardware. ( ) indicates momentary action.

SPDT SMALL ROCKER FIG. 1

Stock No.	Type	Action	1-24	25-99	100-249
21F738	7101J1ZQE2	On-None-On	5.98	5.08	4.54
21F740	7105J1ZQE2	(On)-Off-(On)	6.99	5.94	5.31
DPDT SMALL ROCKER FIG. 1					
21F743	7201J1ZQE2	On-None-On	8.75	7.44	6.65
SPDT SMALL LEVER HANDLE FIG. 2					
21F748	7101J2ZQE2	On-None-On	6.46	5.49	4.91
21F749	7103J2ZQE2	On-Off-On	7.17	6.09	5.45
21F750	7105J2ZQE2	(On)-Off-(On)	7.48	6.36	5.68
DPDT SMALL LEVER HANDLE FIG. 2					
21F754	7203J2ZQE2	On-Off-On	9.91	8.42	7.53
SPDT LARGE ROCKER FIG. 3					
21F758	7101J3ZQE2	On-None-On	6.46	5.49	4.91
21F760	7105J3 ZQE2	(On)-Off-(On)	7.48	6.36	5.68
DPDT LARGE ROCKER FIG. 3					
21F763	7201J3ZQE2	On-None-On	8.75	7.44	6.65
21F764	7203J3ZQE2	On-Off-On	9.91	8.42	7.53
21F765	7205J3ZQE2	(On)-Off-(On)	9.91	8.42	7.53

(4940) (de52712)

C SERIES POWER ROCKER SWITCHES

Contact rating: 15A @ 125VAC; 10A @ 250VAC. Electrical life: 10,000 make-and-break cycles at full load. Mechanical life: 100,000 cycles min. Insulation resistance: 10^9 ohms min. Dielectric strength: 2,500Vrms min. at sea level. Housing and actuator: 6/6 nylon (UL94V-2), black (std.). Movable contacts: copper, silver-plated. Stationary contacts: **type C121** = copper, silver-plated; **type C221** = copper; **type C222** with **suffix QA** = copper; **type C222** with **suffix QF** = copper, silver-plated. UL recognized, CSA certified.

Stock No.	Type	Circuit	Switch Func. Pos. 1	Switch Func. Pos. 2	1-49	50-99	100-249
46F1689	C222J12S205PQF	DPST	ON	OFF	4.06	3.63	3.01
81F1008	C121J12S205QA	SPDT	ON	ON	2.34	2.09	1.74
81F1009	C221J12S205QA	DPDT	ON	ON	3.19	2.85	2.36
81F1010	C222J12S205QA	DPST	ON	OFF	3.06	2.74	2.27

(31873) (ne31873)

D SERIES MINIATURE POWER ROCKER SWITCHES

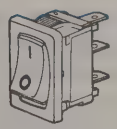


Fig. 4

Fig. 5

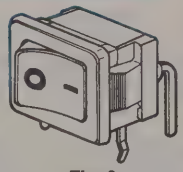


Fig. 6

10A at 125VAC; 5A at 250VAC, UL/CSA; 10(6)A at 125VAC; 5(3)A at 250VAC, T85, VDE. Actuator: Nylon, black, with on-off markings. Housing: Nylon, black. Movable Contacts: Coin silver, silver plated. Stationary Contacts & Terminals: Copper, silver plated. Mounting Hole: SPDT: 0.764″(19.40) x 0.508″(12.90) for 0.073″(1.85) thick panel. DPDT: 0.764″(19.40) x 0.887″(22.53) for 0.073″ (1.85) thick panel. UL recognized, CSA certified.

Stock No.	Type	Circuit	Fig.
96F1710	D501J12S215PQF	SPDT	4
46F1692	D501J12S215QA	SPDT	...
96F1711	D601J12S215PQF	DPDT	5
96F1709	D501J12S2APQF	SPDT	6

Stock No.	Type	1-49	50-99	100-249
96F1710	D501J12S215PQF	3.06	2.74	2.27
46F1692	D501J12S215QA	2.16	1.93	1.60
96F1711	D601J12S215PQF	4.46	3.99	3.31
96F1709	D501J12S2APQF	3.71	3.32	2.76

(4942) (de52714)

7000 SERIES SNAP-IN ROCKER SWITCHES

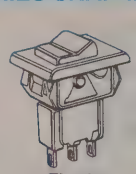


Fig. 1

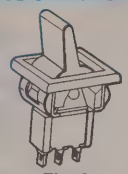


Fig. 2

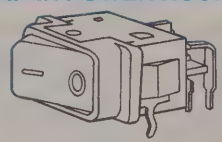
5A at 120VAC or 28VDC; 2A at 250VAC. Operating Temperature: –30°C to +85°C. Actuator & Bezel: Nylon, black. Housing: Stainless steel. Case: (UL 94V-0). End Contact: Coin silver, silver plated. Center Contact & Terminals: Copper alloy, silver plated, epoxy seal. Mounting Bracket: Stainless steel. Mounting Hole: 0.5″(12.70) x 0.6″ (15.24). ( ) indicates momentary action.

SPDT SNAP-IN ROCKER SWITCHES - FIG. 1

Stock No.	Type	Action	1-24	25-99	100-249
21F778	7101J51ZQE22	On-None-On	6.46	5.49	4.91
21F779	7103J51ZQE22	On-Off-On	7.17	6.09	5.45
21F780	7105J51ZQE22	(On)-Off-(On)	7.48	6.36	5.68
21F781	7107J51ZQE22	On-Off-(On)	7.48	6.36	5.68
21F782	7108J51ZQE22	On-None-(On)	7.48	6.36	5.68
DPDT SNAP-IN ROCKER SWITCHES FIG. 1					
21F783	7201J51ZQE22	On-None-On	8.75	7.44	6.65
21F784	7203J51ZQE22	On-Off-On	9.91	8.42	7.53
21F785	7205J51ZQE22	(On)-Off-(On)	9.91	8.42	7.53
SPDT SNAP-IN LEVER SWITCHES - FIG. 2					
21F788	7101J61ZQE22	On-None-On	6.46	5.49	4.91
21F790	7105J61ZQE22	(On)-Off-(On)	7.48	6.36	5.68
96F1713	7107J61ZQE22	On-Off-(On)	7.48	6.36	5.68
98F6462	7108J61ZQE22	On-None-(On)	7.48	6.36	5.68
DPDT SNAP-IN LEVER SWITCHES - FIG. 2					
21F793	7201J61ZQE22	On-None-On	8.75	7.44	6.65
96F1714	7203J61ZQE22	On-Off-On	9.91	8.42	7.53
96F1715	7205J61ZQE22	(On)-Off-(On)	9.91	8.42	7.53
96F1716	7207J61ZQE22	On-Off-(On)	10.17	8.64	7.73

(4941) (de52713)

DF SERIES SNAP-IN POWER ROCKER SWITCHES

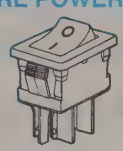


16A at 125VAC or 250VAC ¼ HP at 125VAC, ½ HP at 250VAC, UL/CSA; 16(2)A at 250VAC, T100, VDE. Actuator: Nylon, black with on-off markings. Housing: Nylon, black. Movable Contacts: Fine silver, silver plated. Stationary Contacts & Terminals: Copper, silver plated. Mounting Hole: 1.029″(26.14) x 0.483″(12.27) for 0.073″(1.85) thick panel. Switches are DPST circuitry with black actuator. UL recognized, CSA certified.

Stock No.	Type	1-49	50-99	100-249
96F1701	DF62J12S215PQF	4.07	3.65	3.02
96F1702	DF62J19S215PQF	4.07	3.65	3.02
91F4835	DF62J12S2APQF	3.70	3.31	2.75

(4943) (de52715)

DM SERIES MINIATURE POWER ROCKER SWITCHES



10A at 125VAC; 5A at 250VAC, UL/CSA. Actuator: Nylon, black, with on-off markings. Housing: Nylon, black. Movable Contacts: Coin silver, silver plated. Stationary Contacts & Terminals: Copper, silver plated. Mounting Hole: 0.764″(19.40) x 0.508″(12.90) for 0.073″ (1.85) thick panel. **Type DM61J**: DPDT circuitry. **Type DM62J**: DPST circuitry. UL recognized, CSA certified.

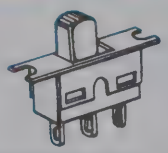
Stock No.	Type	1-49	50-99	100-249
96F1707	DM61J12S205PQ	4.89	4.38	3.63
96F1708	DM62J12S205PQ	4.47	4.00	3.32

(4944) (de52716)

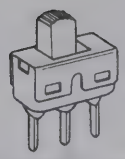
AT NEWARK, YOUR ORDER IS OUR FIRST PRIORITY.

SLIDE SWITCHES

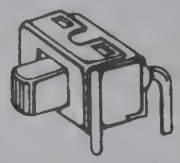
1000 SERIES MINIATURE SLIDE SWITCHES



Solder terminals, panel mount



PC terminals, vertical mount



PC terminals, right-angle mount

"Q" in type number indicates that type is rated 6 amps at 120VAC or 28VDC; 3 amps at 250VAC. End contacts: coin silver, silver-plated. Center contact and terminals: copper alloy, silver-plated, epoxy seal. "B" in type number indicates that type is rated 0.4VA max. at 20 VAC or DC max. Contacts and terminals: copper alloy, with gold plate over nickel plate, epoxy seal. Actuator: black nylon. Housing: stainless steel. Case: diallyl phthalate (UL 94V-0). Switch support: brass or steel, tin-plated. Operating temperature: –30°C to +65°C. Panel mounting: 0.094″ (2.39) diameter holes, 0.690″ (17.53) spacing. Action for all switches is On-None-On. UL recognized, CSA certified.

SOLDER TERMINALS, PANEL MOUNT

Stock No.	Type	Circuit	1-24	25-99	100-249
90F2178	1101M1S3ZQE2	SPDT	3.83	3.26	2.91
81F951	1201M1S3ZQE2	DPDT	6.89	5.85	5.23

PC TERMINALS, VERTICAL MOUNT

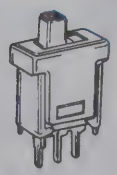
96F1719	1101M2S3CBE2	SPDT	3.92	3.33	2.98
94F9177	1101M2S3CQE2	SPDT	4.14	3.52	3.15
96F1722	1201M2S3CBE2	DPDT	6.97	5.92	5.30
96F1723	1201M2S3CQE2	DPDT	6.97	5.92	5.30

PC TERMINALS, RIGHT-ANGLE MOUNT

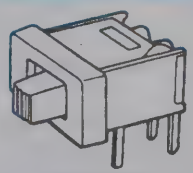
90F2182	1101M2S3ABE2	SPDT	4.14	3.52	3.15

(4890) (de03297)

TS SERIES TINY SLIDE SWITCHES



PC terminals



PC terminals, right-angle mount

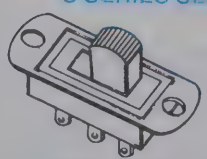
Rated: 0.4VA max. at 20VAC or DC max. Circuitry: SPDT. Operating temperature: –30°C to +85°C. Switches listed have On-None-On action. Contacts and terminals: copper alloy, with gold plate over nickel plate, epoxy seal. Actuator: nylon, black. Housing: stainless steel. Case: diallyl phthalate or gf nylon. UL 94V-0. **Suffix CBE** in type number indicates vertical PC terminals; **suffix ABE** indicates right-angle PC terminals. Terminal spacing: 0.100″ (2.54).

PC TERMINALS

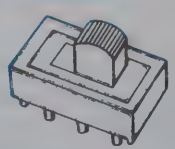
Stock No.	Type	1-24	25-99	100-249
46F1724	TS01CBE	4.85	4.12	3.68
96F5476	TS01ABE	5.00	4.25	3.80

(4891) (de03298)

S SERIES SLIDE SWITCHES



Panel mount



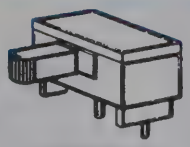
PC mount

Rated: 6 amps at 125VAC; 6 amps at 250VAC; 1 amp at 125 VDC. Actuator and housing: nylon, black. Contacts and terminals: copper, silver-plated. **Type S1** switches are SPDT; **type S2** are DPDT. Panel mounting: 0.150″ (3.81) diameter holes, 1.125″ (28.58) spacing. UL recognized, CSA certified.

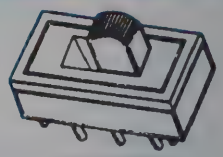
Stock No.	Type	Mount Style	1-49	50-99	100-249
21F441	S102031SS03Q	Panel	1.90	1.70	1.41
96F1718	S102031MS02Q	PC	1.90	1.70	1.41
21F445	S202031SS03Q	Panel	2.31	2.07	1.72
21F450	S202031MS02Q	PC	2.31	2.07	1.72

(4893) (de03301)

L SERIES MINIATURE SLIDE SWITCHES



L102021ML04Q
L202021MA04Q



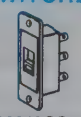
L202011MS02Q
L203011MS02Q

Rated: 4 amps at 125VAC or 28VDC; 2 amps at 250VAC; 0.5 amp at 125VDC. Actuator and housing: nylon, black. Contacts and terminals: copper, silver-plated. Terminal spacing: 0.181″ (4.60). UL recognized, CSA certified.

Stock No.	Type	Circuit	1-49	50-99	100-249
21F465	L102021ML04Q	SPDT	1.45	1.30	1.08
21F461	L202011MS02Q	DPDT	2.43	2.17	1.80
90F2197	L202021MA04Q	DPDT	2.72	2.44	2.02
90F2198	L203011MS02Q	DP3T	2.60	2.32	1.93

(4892) (de03300)

V SERIES POWER AND LINE VOLTAGE SELECT SLIDE SWITCHES



V80212SS05Q

V80201SS05Q

V80212MS02Q

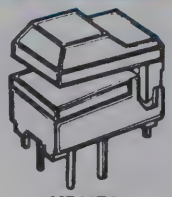
V80212MA08Q

Rated: 10.1 amps at 125VAC; 4 amps at 28VDC; 2 (0.5) amps at 250VAC, T85. Actuator: polyester, red, with 115V-230V markings except **type V80201SS05Q** which has polyester, black, no marking. Housing: nylon, black. Contacts and terminals: copper, silver-plated. Panel mounting: 0.140″ (3.56) diameter holes, 1.338″ (34.00) spacing. Circuitry is DPDT. UL recognized, CSA certified, VDE approved.

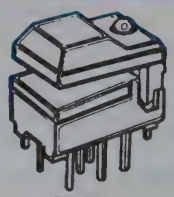
Stock No.	Type	Mounting	1-49	50-99	100-249
46F1695	V80212SS05Q	Panel	3.49	3.13	2.59
46F1696	V80201SS05Q	Panel	3.29	2.94	2.44
46F1697	V80212MS02Q	PC	3.49	3.13	2.59
46F1698	V80212MA08Q	PC	4.07	3.65	3.02

(4894) (de03302)

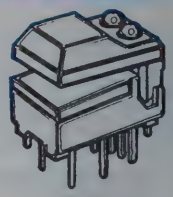
MP SERIES MECHANICAL PUSHBUTTON SWITCHES



MP01R0
MP01S0



MP01R1
MP01S1



MP01R2
MP01S2

Rating: 0.4 VA max. at 20VAC or DC max. SPDT momentary function. Electrical life: 1,000,000 operations typ. Operating temperature: –30°C to +65°C. Actuator: polycarbonate/ABS blend (UL 94V-0). Housing: gf nylon. Contacts and terminals: brass alloy, with gold plate over nickel plate, epoxy seal. Terminal spacing: .200 x .300″ (5.08 x 7.62).

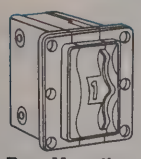
Stock No.	Type	Cap Width	Cap Color	LED
44F3136	MP01R01CBE	.486	White	None
44F3135	MP01R02CBE		Black	None
44F3138	MP01R113CBE		White	Red
44F3137	MP01R123CBE		Black	Red
44F3134	MP01R2236CBE		Black	Red, Green
44F3141	MP01S02CBE	.679	Black	None
44F3130	MP01S123CBE		Black	Red
44F3142	MP01S2236CBE		Black	Red, Green

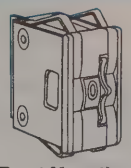
Stock No.	Type	1-49	50-99	100-249
44F3136	MP01R01CBE	3.66	3.28	2.72
44F3135	MP01R02CBE	3.49	3.13	2.59
44F3138	MP01R113CBE	4.33	3.87	3.21
44F3137	MP01R123CBE	4.16	3.73	3.09
44F3134	MP01R2236CBE	4.97	4.45	3.69
44F3141	MP01S02CBE	3.53	3.16	2.62
44F3130	MP01S123CBE	4.23	3.78	3.14
44F3142	MP01S2236CBE	5.01	4.48	3.72

(4934) (de52534)

THUMBWHEEL SWITCHES

3 SERIES THUMBWHEEL SWITCHES


Rear Mounting


Front Mounting

Multi-section switches can be made by ordering number of sections desired and accessories such as screws, nuts, endplates, blank sections and connectors. Type numbers indicate individual switch sections. Thumbwheel is matte black with unsealed switch contacts. Operates at 50mV to 28VDC or 120VAC. Operating temperature range: –10°C to +65°C. ABS plastic body and wheel. Rotor contacts: precious metal on copper alloy. Stator contacts: hard gold over nickel over copper on epoxy fiberglass. Rated 1A continuous carry current, 100mA maximum switch current. Insulation resistance 10 ^{9} ohms minimum. Dielectric strength: 500Vrms minimum at sea level between common terminal and any output. *Order hardware separately on this page.*

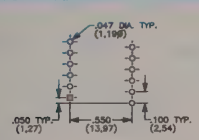
Type (Individual Sections)

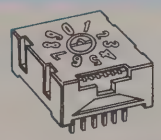
Front Mount	Rear Mount	Front Mount with Diode Provision	Rear Mount with Diode Provision
...	301119000	301109100	301119100
...	...	301409100	...
302109000	302119000	302109100	302119100
302109300	302119300	...	...
...	302319000	...	...
302309000	...	303509100	303519100
303509300	...	...	...
307109000	307119000	307109100	...

Stock No.	Type	Function Code	1-24	25-99	100-249
21F546	301119000	Decimal; 1 pole 10 positions	6.06	5.15	4.61
21F510	301409100	Resistor decade; 1-2-2-2-2-code, resistors not supplied.	7.16	6.08	5.44
21F512	302109000	BCD 1-2-4-8; 10 positions, w/solder pin terminals	6.06	5.15	4.61
21F552	302119000		6.06	5.15	4.61
21F513	302109100		7.16	6.08	5.44
21F514	302109300		8.26	7.02	6.28
21F553	302119100		7.16	6.08	5.44
96F1676	302119300		8.26	7.02	6.28
21F520	302309000	Complement of BCD 1-2-4-8; 10 positions	6.06	5.15	4.61
21F560	302319000		6.06	5.15	4.61
21F542	307109000	Binary coded hexadecimal; 16 positions	12.12	10.31	9.21
21F582	307119000		12.12	10.31	9.21

(4947) (de52863)

3M SERIES MINI-THUMBWHEEL SWITCHES





Mount directly to PC board as individual units or side by side without hardware. Contact rating: 1A carry continuous, 100mA switch @ 28VDC. Electrical life: 10^{5} detent operations. Insulation resistance: 10^{8} ohms minimum. Dielectric strength: 250V rms @ sea level. Operating temperature range: –10°C to +65°C. Thumbwheel nylon. Rotor contacts: hard gold over nickel. Stator contacts: copper alloy, with gold over nickel. Terminals solder-clad over copper alloy. 10 positions (0-9).

Stock No.	Type	Description	Rotation	1-24	25-99
81F956	3M120	Decimal	CW	5.61	4.77
81F958	3M220	BCD	CW	5.61	4.77

(4949) (de52865)

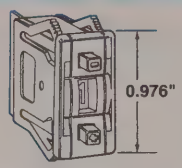
KS SERIES SNAP-ACTING SWITCHES

Switch rating: 20A @ 125, 250, and 480VAC; 0.5A @ 125VDC; 0.25A @ 250VDC. Electrical rating: 150,000 cycles at 20A @ 250VAC. Mechanical life: 150,000 cycles typical. Insulation resistance: 1,000 megohms min. Dielectric strength: 1,500V RMS min. @ sea level. Operating temperature: -32°C to +85°C. Housing: cast aluminum. Housing insulator: varnished glass cloth. Basic switch: HB series. Terminals: screw-type.

Stock No.	Type	Description	1-24	25-49	50-99	100-249
07F013	KSBOTS	Sealed Plunger	31.94	27.05	24.46	23.31
07F015	KSBOTS	Sealed Flexible Rod	31.94	27.05	24.46	23.31
07F017	KSJOTS	Unsealed Plunger	29.86	25.29	22.87	21.79
07F019	KSROTS	Unsealed Roller Plunger	34.45	29.17	26.38	25.14
07F021	KSBPTS	Sealed Lever Roller	43.60	36.93	33.39	31.82

(31872) (ne31872)

3P SERIES MINIATURE PUSHWHEEL SWITCHES



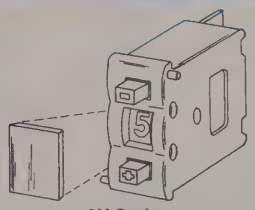
Rating: carry—1A continuous. Switch: 100mA max. Operating voltage: 50mV to 28VDC. Operating temperature: –10°C to 65°C. Housing: ABS plastic, black. Pushwheel and Pushbutton: acetal, black. Rotor contacts: gold over nickel. Stator contacts: hard gold over nickel. *Order endplates, blank sections, and spacers separately, below.*

BCD; 1-2-4-8; 10-POSITION

Stock No.	Type	Description	1-24	25-99	100-249
96F7222	3P0210002	Std. terminals	7.32	6.22	5.57
96F7223	3P0210A02	Solder pin terminals	8.87	7.54	6.74
96F7224	3P0210102	Extended board	7.91	6.73	6.01
ACCESSORIES					
96F7225	623502000	Left endplate (black)	0.42	0.40	0.38
96F7226	623602000	Right endplate (black)	0.42	0.40	0.38
96F7227	663602000	Spacer .100 (2,54) Thick (black)	0.54	0.52	0.48

(4897) (de03732)

3U SERIES TINY PUSHWHEEL SWITCHES

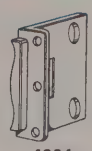

3U Series

Subminiature switches are 0.622″ (15.80). Rating: carry-1A continuous. Switches are 100mA max. Operating voltage: 50mV to 28VDC. Operating temperature is –10°C to +65°C. Rotor contacts are gold over nickel on copper alloy. Stator contacts are hard gold over nickel. Housing is polycarbonate (UL94V-0) black. Pushwheel and pushbutton are polycarbonate (UL94V-0) black. *Order switch sections, endplates, blank sections, and spacers individually; contact your local Newark sales office.*

Stock No.	Type	Description	1-24	25-99	100-249
52F655	3U0210L02	Right angle	8.40	7.14	6.38
52F656	627502000	Left endplate (black)	0.33	0.32	0.29
52F657	627602000	Right endplate (black)	0.33	0.32	0.29

(4972) (ne06340)

HARDWARE FOR 3 SERIES THUMBWHEEL SWITCHES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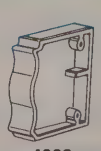
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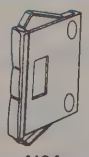
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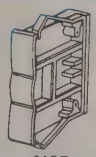

4135

4035

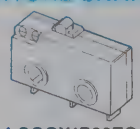
SCREWS (2 NEEDED PER ASSEMBLY)

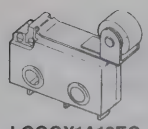
Stock No.	Type	Number of Sections: Front Mounting	Number of Sections: Rear Mounting	1-24	25-99
21F592	412701000	3-4	3	2.10	2.01
21F593	412702000	5-7	4-6	2.10	2.01
21F594	412703000	8-10	7-9	2.10	2.01
21F597	402900000	Stop Pins		0.21	0.20
ACCESSORIES					
21F586	400802000	Rear mounting, blank section (plain)		1.31	1.25
21F587	400402000	Rear mounting, end plate		0.42	0.40
21F588	413502000	Front mounting, blank section (plain)		1.75	1.67
21F589	413402000	Front mounting endplate		1.45	1.38
21F591	403500000	Nut (2 required per assembly)		0.21	0.20

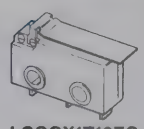
(4948) (de52864)

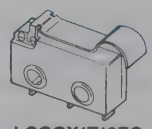
SNAP-ACTING SWITCHES

LC SERIES SUBMINIATURE SNAP-ACTING SWITCHES


LCGGX1P00EC


LCGGX1A10EC


LCGGX1T10EC


LCGGX1T13EC

Four actuator styles and SPDT function. Rated 1 amp at 125VAC or 30VDC. Contacts are gold over copper alloy, with solder lug terminals. Mounting holes 0.088″ (2.24) dia. on centers 0.375″ (9.53). UL recognized, CSA certified, and VDE approved.

Stock No.	Type	Actuators	Op. Force (g)	Pre-travel	1-49	50-99	100-249
96F7236	LCGGX1P00EC	Pin Plunger	142	0.03″	5.00	4.47	3.71
96F7238	LCGGX1A10EC	Short Roller	48	0.14″	5.52	4.94	4.10
96F7239	LCGGX1T10EC	Standard Lever	48	0.14″	5.32	4.76	3.95
96F7240	LCGGX1T13EC	Simulated Roller	52	0.13″	5.41	4.84	4.01

(4968) (de53025)

TM SERIES MINIATURE SNAP-ACTING SWITCHES

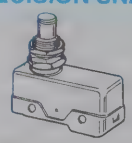
Contact rating: from low level to 15A @ 250VAC. Electrical life: 150,000 cycles at 15A @ 250VAC. Mechanical life: 1,000,000 cycles typical. Insulation resistance: 1000 meg-ohms min. Operating temperature: –55°C to +150°C. Movable contacts: gold alloy for ratings 1A @ 125VAC or less; fine silver for ratings greater than 1A @ 125VAC. Mounting: torque screws 2-5 in-lb.

Stock No.	Type	Actuators	Operate Force (g)	Release Force (g)	1-24	25-49
07F028	TMCGD6SP0040C	Pin Plunger	75 max.	28 min.	6.18	5.53
07F029	TMCGD6SA1040C	Lever Roller	90 max.	28 min.	6.39	5.41
07F030	TMCGD6ST1540C	Lever	45 max.	9 min.	6.00	5.08
07F031	TMCGD6SA1540C	Lever Roller	45 max.	10 min.	6.43	5.44
07F032	TMCGD6ST1440C	Simulated Roller	50 max.	10 min.	6.00	5.08

(31871) (ne31871)

HB AND HL SERIES PRECISION SNAP-ACTING SWITCHES

HBS2KCB4SP011C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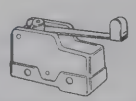
HL2KJC3T055C

HBS2KCB4SL011C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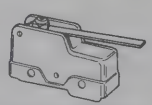
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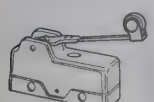

HL2KJC3A011C

HBS2KGB4ST011C

HBS2KCB4SR055C

Double throw switches are rated 20 amps, 125/250/480VAC; ½ amp, 125VDC; ¼ amp, 250VDC. Mounting holes will accept pins or screws of 0.139″ diameter maximum on centers 1.000″ ±.002″. Type numbers with **1C suffix** are recessed solder lug terminals of tinned copper; with **5C suffix** are screw terminals. Contact separation is 0.020″ except (*), which are 0.025″. To determine actuator type, see actuator code column: PO = pin, LO = leaf spring, TO = rigid lever, TX = adjustable rigid lever, AO = roller lever, RO = large plunger. UL recognized, CSA certified.

Stock No.	Type	Actuator Code	Operate Force (oz.)	Release Force (oz.)	1-24	25-49	50-99
07F041	HBS2KCB4SP011C	PO	9 to 13	4 min.	9.22	7.81	7.06
07F042	HBS2KCB4SP055C	PO	9 to 13	4 min.	9.32	7.89	7.14
07F045	HBS2KCB4SJ055C	RO	9 to 13	4 min.	11.99	10.15	9.18
07F046	HBS2KGB4ST011C	TO	1 to 2.5	0.50	10.41	8.82	7.97
07F047	HBS2KGB4ST055C	TO	1 to 2.5	0.50	10.52	8.91	8.05
07F048	HBS2KCB4STX11C	TS	2 max.	0.50	11.41	9.66	8.74
07F050	HBS2KGB4SA011C	AO	1 to 3.5	0.75	10.69	9.05	8.19

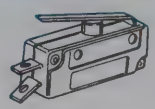
CONTINUED

HB AND HL SERIES PRECISION SNAP-ACTING SWITCHES (CONT.)

Stock No.	Type	Actuator Code	Operate Force (oz.)	Release Force (oz.)	1-24	25-49	50-99
07F051	HBS2KGB4SA055C	AO	1 to 3.5	0.75	10.79	9.14	8.26
07F053	HL2KJC3T055C	TO	2.5 max.	0.5 min.	15.96	13.52	12.22
07F054	HL2KJC3A011C	TO	2.5 max.	0.5 min.	16.24	13.75	12.43
07F055	HL2KJC3A055C	AO	2.5 max.	0.5 min.	16.24	13.75	12.43
90F2308	HBS2KCB4SRO55C	RO	9 to 13	4 min.	19.40	16.43	14.85

(4965) (de53022)

A SERIES GENERAL PURPOSE SNAP-ACTING SWITCHES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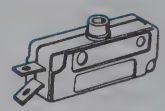
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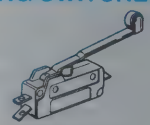
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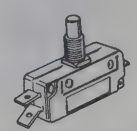
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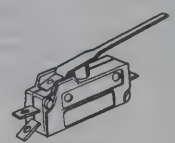
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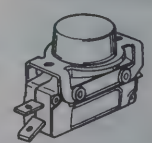

ASKHC2BB4AC

Rated 15 amps at 125/250VAC; ¾HP, 125VAC; 1½HP, 250VAC. **Prefix AS** in type number = SPDT; **prefix AD** in type number = DPDT. Contacts are fine silver, with 0.250″ (6.35) quick-connect terminals. Mounting holes will accept pins or screws of 0.139″ (3.53) dia. max. on centers 1.000″ (25.40). Contact separation is .020″ (0.508). **Type 0633B** is 3/8″ nut. To determine actuator type, see code below and use legend: PO = pin plunger, LO = integral leaf, TO = hinged lever, AO = hinged roller lever, JO = plunger, BB = large red button, B1 = large black button. UL recognized, CSA certified.

Stock No.	Type	Actuator Code	Operate Force (Oz.)	Release Force (Oz.)	1-49	50-99	100-249
07F034	ASKHC2P04AC	PO	20 max.	3 min.	5.14	4.60	3.81
07F035	ASKHC2L04AC	LO	12 max.	1 min.	5.55	4.97	4.12
07F036	ASKHC2T04AC	TO	4 max.	0.5 min.	5.55	4.97	4.12
07F037	ASKHC2A04AC	AO	4 max.	5 min.	5.89	4.98	4.51
07F038	ASKHC2J04AC*	JO	20 max.	3 min.	6.07	5.44	4.51
07F039	ASKHC2BB4AC	BB	20 max.	3 min.	6.71	5.69	5.14
07F040	ASKHC2B14AC	B1	20 max.	3 min.	6.71	5.69	5.14
92F3119	0633B	NUT	20 max.	3 min.	0.20	0.18	0.15

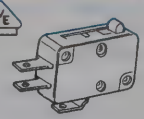
*Hardware not included.

ADP SERIES SWITCHES

Stock No.	Type	Actuator Code	Operate Force (Oz.)	Release Force (Oz.)	1-24	25-49	50-99
07F003	ADPDC2L04AC	LO	18 max.	2 max.	11.23	9.51	8.60
07F002	ADPDC2J04AC	JO	30 max.	6 min.	11.70	9.91	8.96
07F004	ADPDC2T04AC	TO	6 max.	1 min.	11.23	9.51	8.60

(4966) (de53023)

TF SERIES MINIATURE SNAP-ACTING SWITCHES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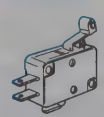
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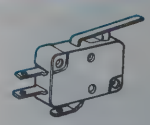
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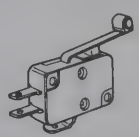
TFCGV3VA155BC

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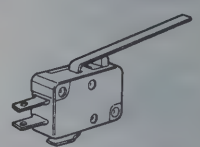

TFCGV3VT185BC

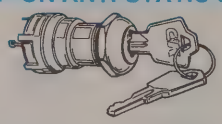
Miniature SPDT switches are rated 10 amps at 250VAC, T85. Contacts are fine silver with 0.187″ (4.75) quick-connect terminals. Mounting holes will accept pins or screws of 0.118″ (3.00) dia. max. on centers 0.875″ (22.23). *Use legend to determine actuator type:* 1 = basic pin, 2 = short roller, 3 = standard lever, 4 = standard roller, 5 = simulated roller, 6 = extra long lever. UL recognized, CSA certified, VDE approved.

Stock No.	Type	Actuator Code	Operate Force (Grams)	Pre-travel (mm)	1-24	25-49	50-99
93F4559	TFCGV3VP005BC	P00	75	1.19	6.65	5.64	5.10
93F4560	TFCGV3VA105BC	A10	90	1.52	7.52	6.37	5.76
93F4561	TFCGV3VT155BC	T15	40	2.79	7.13	6.04	5.46
93F4562	TFCGV3VA155BC	A15	45	2.54	7.55	6.40	5.78
93F4563	TFCGV3VT145BC	T14	50	2.54	7.13	6.04	5.46
93F4564	TFCGV3VT185BC	T10	20	7.62	7.16	6.06	5.48

(4967) (de53024)

SWITCHLOCKS

A SERIES SNAP-ON ANTI-STATIC SWITCHLOCKS



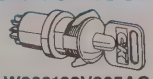
Rated switch: 2.5 amps at 125VAC, 350mA at 125VDC. Rated carry: 5 amps continuous. Static resistance: >20kV at sea level. Lock: zinc alloy with stainless steel facing. 4-tumbler, single-bitted mechanism with 2 nickel-plated keys. Switch housing: gf nylon. Switch snaps onto lock. Movable contact: coin silver, silver-plated. Stationary contacts and terminals: brass, silver-plated. Key Pull Position: 1. Mounting hole: 0.760″ (19.30) dia. Mounting nut supplied. UL recognized, CSA certified.

Stock No.	Type	Circuit	Ref. No.*	1-4	5-9	10-24
48F1536	A114132Y2NZNQ	SP	2	11.24	9.52	8.61
48F1537	A314132Y2NZNQ	3P	2	14.82	12.55	11.35
48F1538	A421122Y2NZNQ	4P	2	17.93	15.19	13.73

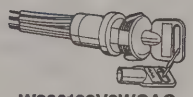
* See lock configuration chart *on this page.*
(4946) (de52821)

W SERIES INTERNATIONAL SWITCHLOCKS

W200132C205AQ


W200132V205AQ

W200132C2WCAQ


W200132V2WCAQ

Lock: zinc alloy with stainless steel facing. **C** in type number indicates 4-tumbler single-bitted mechanism with two nickel-plated keys. **V** in type number indicates 6-tumbler tubular mechanism with two chrome-plated keys. Switch housing: gf nylon (UL 94V-0). Switch snaps onto lock. Contacts and terminals: copper, silver-plated. Key Pull Position: 1. Mounting hole: 0.760″ (19.30) dia. Mounting nut supplied. Rated: 125VAC or 28VDC, 2 amps at 250VAC, UL recognized, CSA certified. Rated: 2 amps at 125VAC, 1 amp at 250VAC, VDE approved.

Stock No.	Type	Circuit	Ref. No.*	1-24	25-49	50-99
96F1664	W200132C205AQ	DP	1	13.62	11.53	10.43
96F1665	W200132C2WCAQ	DP	1	15.09	12.78	11.55
96F1675	BP30YT-1 PKG	DP	1	15.43	13.07	11.82
96F1666	W200132V2WCAQ	DP	1	16.76	14.20	12.84

* See lock configuration chart *on this page.*
(4955) (de52973)

H SERIES POWER SWITCHLOCKS

Rated: 12 amps at 125VAC; 6 amps at 250VAC; 1 amp at 125VDC, UL recognized, CSA certified. Lock: zinc alloy with stainless steel facing. 4-tumbler single-bitted mechanism with two nickel-plated keys. Switch housing: Nylon. Switch snaps onto lock. Contacts and terminals: copper, silver-plated. Key Pull Position: 1, 2. Mounting hole: 0.760″ (19.30) dia. Mounting nut supplied.

Stock No.	Type	Circuit	Ref. No.*	1-24	25-49	50-99
48F1534	H1011U2F205NQ	SP	2	11.27	9.55	8.63
48F1535	H2011U2F205NQ	DP	2	13.16	11.14	10.08

* See lock configuration chart *on this page.*
(4956) (de52974)

LOCK CONFIGURATION CHART

Ref. No.	Lock Config. (Viewed from key end.)	Indexing	Ref. No.	Lock Config. (Viewed from key end.)	Indexing
1	POS.1, 2, 3	45° INDEXING	2	POS.1, 2	90° INDEXING

Ref. 1 = W, YF Series
Ref. 2 = A, H, Y, P, YM Series
(4959) (de52977)

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Y SERIES SWITCHLOCKS

4-Tumbler

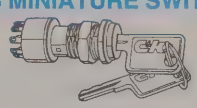
6-Tumbler

Rated: 4 amps at 125VAC or 28VDC, 2 amps at 250VAC. Lock is zinc alloy with stainless steel facing. **C** in type number indicates 4-tumbler single-bitted mechanism with 2 nickel-plated keys. **V** & **W** in type number indicates 6-tumbler tubular mechanism with 2 chrome-plated keys. Switch housing: gf polyester (UL 94V-0). Contacts and terminals: copper, silver-plated. Mounting hole: 0.760″ (19.30) dia. Mounting nut supplied. Ref. number: 2. See lock configuration chart *on this page.* UL recognized, CSA certified.

Stock No.	Type	Circuit	Key Pull Position	1-24	25-49	50-99
4-TUMBLER POSITIVE DETENT WITH SOLDER LUG						
81F1312	Y101 13 2C203NQ	SP	1	9.52	8.06	7.29
81F1313	Y101 1U 2C203NQ	SP	1,2	9.52	8.06	7.29
81F1314	Y201 13 2C203NQ	DP	1	11.15	9.44	8.54
81F1315	Y201 1U 2C203NQ	DP	1,2	11.15	9.44	8.54
6-TUMBLER TUBULAR WITH SOLDER LUG TERMINALS						
90F3224	Y101132V203NQ	SP	1	11.89	10.07	9.11
90F3226	Y201132V203NQ	DP	1	13.43	11.38	10.29
ANTI-STATIC 6-TUMBLER TUBULAR WITH SOLDER LUG TERMINALS						
90F3228	Y101132W203NQ	SP	1	12.56	10.64	9.62
90F3230	Y201132W203NQ	DP	1	14.10	11.94	10.80

(4957) (de52975)

YF SERIES MINIATURE SWITCHLOCKS

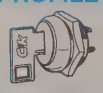


Rated: 4 amps at 125VAC or 28VDC, 2 amps at 250VAC. Lock: zinc alloy, stainless steel facing. 4-tumbler single-bitted mechanism, 2 nickel-plated keys. Switch housing: Nylon (UL 94V-2). Switch snaps onto lock. Contacts and terminals: copper, silver-plated. Mounting hole 0.472″ (12.00) dia. Mounting nut supplied. Ref. number: 1. See lock configuration chart *on this page.* UL recognized, CSA certified.

Stock No.	Type	Circuit	Key Pull Position	1-24	25-49	50-99
96F1660	YF00132C203NQ	SP	1	10.37	8.78	7.94
96F1662	YF20132C203NQ	DP	1	11.31	9.58	8.66
96F1661	YF001U2C203NQ	SP	1,3	10.37	8.78	7.94
96F1663	YF201U2C203NQ	DP	1,3	11.31	9.58	8.66

(4958) (de52976)

P SERIES LOW-PROFILE KEY SWITCHES

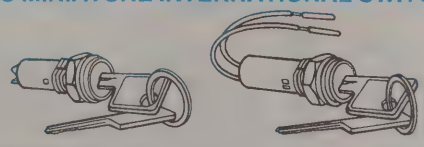


Rated: 4 amps at 125VAC, 2 amps at 250VAC. Lock and switch housing: nylon, black (UL 94V-2). Dual-barrier mechanism, 1 nickel-plated key. Short low-profile design with small behind-panel clearance. Contacts and terminals: copper, silver-plated. Mounting hole: 0.760″ (19.30) dia. Mounting nut supplied. Ref. number: 2. See lock configuration chart *on this page.* UL recognized, CSA certified.

Stock No.	Type	Circuit	Key Pull Position	1-49	50-99	100-249
96F1671	P101133WM03NQ2	SP	1	4.51	4.04	3.35
96F1672	P201133WM03NQ2	DP	1	4.79	4.29	3.56
96F1673	P1011U3WM03NQ2	SP	1,2	4.51	4.04	3.35
96F1674	P2011U3WM03NQ2	DP	1,2	4.79	4.29	3.56

(4960) (de52978)

YM SERIES MINIATURE INTERNATIONAL SWITCHLOCKS

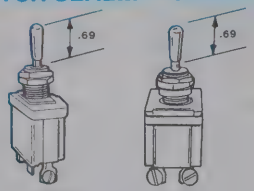


Rated: 4 amps at 125VAC or 28VDC, 2 amps at 250VAC. Lock: zinc alloy with stainless steel facing. 4-tumbler, single-bitted mechanism with two nickel-plated keys. Switch housing: nylon (UL 94V-2). Contacts and terminals: copper, silver-plated. Mounting hole: 0.472 (12.00) dia. Mounting nut supplied. Ref. number: 2. *See lock configuration chart on this page.*

Stock No.	Type	Circuit	Key Pull Position	1-24	25-49	50-99
96F7232	YM06132C205NQ	SP	1	9.67	8.19	7.40
96F7233	YM061U2C205NQ	SP	1,2	9.67	8.19	7.40
96F7234	YM06132C2WCNQ	SP	1	10.50	8.90	8.04
96F7235	YM061U2C2WCNQ	SP	1,2	10.50	8.90	8.04

(4898) (de03778)

ECONOSWITCH SEALED TOGGLE SWITCHES



8530 8531

Environmentally-sealed; positive detent action provides good tactile feedback. Choice of screw or 0.25" spade terminals. 15/32"-32 threaded bushing, 0.076" keyway slot. Current ratings (maintained): 20A res., 15A ind., 5A lamp load @ 28VDC; 18A, 1/2hp @ 125VAC; 9A, 1hp @ 250VAC. circuits only. Temperature range: –50°F to +150°F.

Stock No.	Type	Switch Action	1-9	10- 24	25-49
SCREW TERMINALS (SPDT)					
50F1564	8530K1	On-Off-On	15.68	14.26	11.09
50F1565	8530K2	(On)-Off-(On)	15.68	14.26	11.09
50F1566	8530K4	On-None-On	15.68	14.26	11.09
SCREW TERMINALS (SPST)					
50F1567	8530K9	On-None-Off	15.68	14.26	11.09
95F4253	8530K11	Off-None-(On)	15.68	14.26	11.09
SCREW TERMINALS (DPDT)					
50F1568	8531K1	On-Off-On	22.05	20.04	15.59
50F1569	8531K2	(On)-Off-(On)	22.05	20.04	15.59
50F1570	8531K4	On-None-On	22.05	20.04	15.59
SCREW TERMINALS (DPST)					
50F1571	8531K9	On-None-Off	22.05	20.04	15.59
95F4258	8531K11	Off-None-(On)	22.05	20.04	15.59
SPADE TERMINALS					
95F4254	8530K31	On-Off-On	15.68	14.26	11.09
95F4255	8530K32	(On)-Off-(On)	15.68	14.26	11.09
95F4256	8530K34	On-None-On	15.68	14.26	11.09
SPADE TERMINALS (SPST)					
95F4257	8530K39	On-None-Off	15.68	14.26	11.09
95F9233	8530K311	Off-None-(On)	15.68	14.26	11.09
SPADE TERMINALS (DPDT)					
95F4259	8531K31	On-Off-On	22.05	20.04	15.59
95F4260	8531K32	(On)-Off-(On)	22.05	20.04	15.59
95F4261	8531K34	On-None-On	22.05	20.04	15.59
SPADE TERMINALS (DPST)					
95F4262	8531K39	On-None-Off	22.05	20.04	15.59
95F4263	8531K311	Off-None-(On)	22.05	20.04	15.59

(4878) (de01507)

8500 SERIES MIL-S-3950 SEALED SWITCHES

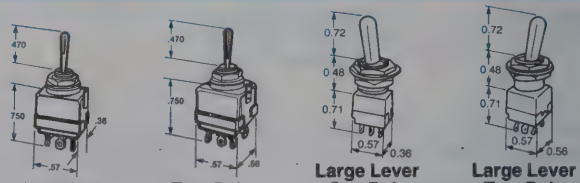
One Pole Two Pole Four Pole

Offers highest degree of environmental seal. Fine silver stationary contacts provide lower level current performance. Silver plated cad oxide moveable contacts for improved higher current performance. Screw terminals only. 15/32"-32 threaded bushing, with 0.076" keyway slot. Self-extinguishing base material. Current ratings (maintained): 20A res., 15A ind., 5A lamp load @ 28VDC; 18A, ¼hp @ 125VAC; 9A, ½hp @ 250VAC. Temperature range: -85°F to 160°F.

Stock No.	Type	MIL-SPEC	Action	1-9	10-24	25-49
ONE POLE						
23F1077	8500K1	24523-21	On-Off-On	20.43	18.57	14.44
23F1078	8500K9	24523-22	On-None-Off	20.43	18.57	14.44
23F1079	8500K4	24523-23	On-None-On	20.43	18.57	14.44
23F1081	8500K2	24523-27	(On)-Off-(On)	20.43	18.57	14.44
23F1082	8500K11	24523-30	Off-None-(On)	20.43	18.57	14.44
TWO POLE						
23F1083	8501K1	24524-21	On-Off-On	27.40	24.91	19.38
23F1084	8501K9	24524-22	On-None-Off	27.40	24.91	19.38
23F1085	8501K4	24524-23	On-None-On	27.40	24.91	19.38
23F1087	8501K5	24524-26	On-None-(On)	27.40	24.91	19.38
23F1088	8501K2	24524-27	(On)-Off-(On)	27.40	24.91	19.38
23F1089	8501K3	24524-31	On-Off-(On)	27.40	24.91	19.38
FOUR POLE						
23F1091	8502K1	24525-21	On-Off-On	42.94	40.22	31.14
23F1093	8502K4	24525-23	On-None-On	42.94	40.22	31.14

(4904) (de50027)

MIL-S-8834 MINIATURE POSITIVE ACTION SWITCHES



One Pole Two Pole Large Lever One Pole Large Lever Two Pole

Feature nonteasable mechanisms enclosed in nylon-filled molding and stainless steel housing. Useful for true dry circuit applications. Small lever types offer ¼" -40 thread. Large lever types offer 15/32" thread. Ratings: 25mA @ 5mV or less; 5A @ 28VDC; 2A @ 115VAC/60Hz; 3A @ 115VAC/400Hz. Temerature range: -67°F to +160°F.

Stock No.	Type	MIL-SPEC	Action	1-9	10-24	25-49
ONE POLE						
23F327	8866K1	24655-211	On-Off-On	38.41	35.98	31.66
23F330	8866K7	24655-221	On-None-Off	38.41	35.98	31.66
23F329	8866K4	24655-231	On-None-On	38.41	35.98	31.66
TWO POLE						
23F333	8867K4	24656-231	On-None-On	46.95	43.98	38.71
LARGE LEVER ONE POLE						
52F9181	8868K1	MS90310-211	On-Off-On	51.00	...	...
23F782	8868K2	MS90310-271	(On)-Off-(On)	44.46	39.53	35.93
23F784	8868K4	MS90310-231	On-None-On	40.93	36.40	33.09
23F274	8868K7	MS90310-221	On-None-Off	40.93	36.40	33.09
LARGE LEVER TWO POLE						
23F788	8869K1	MS90311-211	On-Off-On	50.46	44.88	40.80
23F789	8869K2	MS90311-271	(On)-Off-(On)	55.42	49.28	44.81
23F791	8869K4	MS90311-231	On-None-On	50.46	44.88	40.80
23F794	8869K7	MS90311-221	On-None-Off	47.46	42.20	38.37

(4906) (de50030)

SWITCH GUARDS FOR TOGGLE SWITCHES

Fig. 1 Fig. 2 Fig. 3 Fig. 4

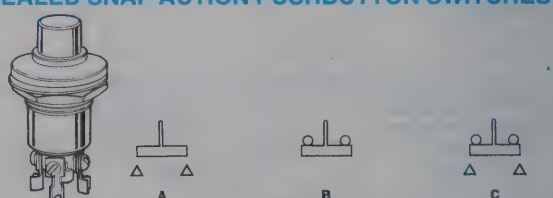
MIL-G-7703 approved. Fig. 1 flush mount; Fig. 2 flush or one-hole mount; Figs. 3 and 4 one-hole mount. Switch positions refer to type of switch accommodated. All guards red phenolic except Fig. 2 black metal. Fig. 1 returns switch to OFF position. Fig. 2 permits operation from first position to center on 3 position switches. Fig. 3 returns switch to center position. Fig. 4 permits locking toggle in extreme up position.

Stock No.	Type	Position	Fig.	MIL-SPEC	1-9	10-24	25-49
41F675	8497K2	2	2	MS25224-2	19.62	17.84	15.77
94F4652	8497K7	2	1	N/A	24.69	21.41	20.41
41F676	8495K1	2 or 3	4	MS25221-1	18.34	16.67	14.74
41F677	8496K2	3	3	MS25223-2	17.93	16.30	14.40
23F145	8497K1	2	1	MS25224-1	19.45	17.68	15.63
41F678	8497K3	2	1	MS25224-3	19.62	17.84	15.77
97F9067	8498K1*	3	1	MS25225-1	27.70	25.18	22.27
23F140	8492K1	2 or 3	4	MS24417-1	8.73	7.42	5.43

*Returns from "up" to "center" position. Will not change toggle position when "down". †Closing guard does not change position of toggle lever.

(4907) (de50032)

SEALED SNAP ACTION PUSHBUTTON SWITCHES



Series W100 pushbutton switches are rated 15A @ 120 VAC, 7.5A @ 240 VAC and 10A @ 25 VDC. Features: High contact pressure-tactile feel, moistureproof, corrosion resistant. Electrical life 25,000 operations minimum @ rated load. UL listed.

Stock No.	Type	Circuit	1-9	10-24
97F9019	W101P3	A	24.66	23.67
97F9020	W101W3	A	24.66	23.67
97F9021	W102P3	B	24.66	24.41
97F9022	W102W3	B	24.66	24.41
97F9023	W103P3	C	27.14	26.87
97F9024	W103W3	C	27.14	26.87

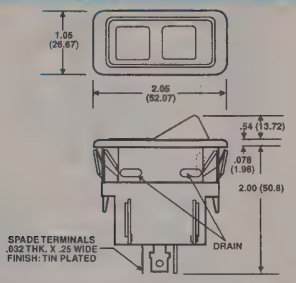
(4901) (de04179)

PERSONALIZED SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

ROCKER AND PUSHBUTTON SWITCHES

STANDARD SEALED ROCKER SWITCHES

NEW



Standard, non-illuminated, sealed rocker switches for harsh environmental applications. Feature totally sealed switch chamber; watertight to MIL-STD-108E. High capacity contacts eliminate interposing relays. Rocker button is easily replaced if damaged. Stainless steel retention tabs resist corrosive environments. Ratings: 18A @ 125VAC, 9A @ 250VAC, 1HP @ 250VAC, ½HP @ 125VAC, 20A @ 28VDC. Special rocker buttons available which allow for insertion of icons for marking purposes; *contact your local Newark sales office.*

SINGLE-POLE, NON-PANEL SEALED

Stock No.	Type	Circuit	1-9	10-24	25-49
48F4165	A01A6ZFAZZ0ZZ0Z	On-Off-On	16.19	14.72	14.04
48F4166	A02A6ZFAZZ0ZZ0Z	Mom. On-Off-Mom.-On	16.19	14.72	14.04
48F4167	A09A6ZFAZZ0ZZ0Z	On-None-Off	16.19	14.72	14.04

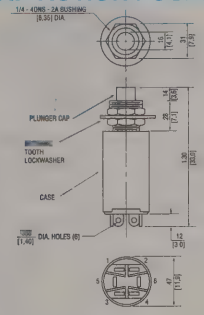
DOUBLE-POLE, NON-PANEL SEALED

48F4168	B01A6ZFAZZ0ZZ0Z	On-Off-On	20.03	18.21	17.37
48F4169	B02A6ZFAZZ0ZZ0Z	Mom. On-Off-Mom.-On	20.03	18.21	17.37
48F4170	B09A6ZFAZZ0ZZ0Z	On-None-Off	20.03	18.21	17.37

(33988) (ne33988)

SUBMINIATURE SNAP-ACTION PUSHBUTTON SWITCHES

NEW



- Momentary Action
- **Mil-S-8805** Approved Momentary Action
- EMI/RFI Shielded
- BR Series is EMI/RFI Shielded
- Space Saving Design

Stock No.	Type	Government MS Number	Case Color	Button Color	1-4	5-9	10-24
48F4171	B7070	M8805/95-001	Clear	Black	63.03	57.28	54.30
48F4172	B7070R	M8805/95-002	Clear	Red	63.03	57.28	54.30
48F4173	B7070B	M8805/95-003	Black	Black	64.26	58.40	55.36
48F4174	B7070BR	M8805/95-004	Black	Red	64.63	58.74	55.68

BR7070 SERIES-EMI/RFI SHIELDED

48F4175	BR7070	M8805/95-005	Clear	Black	87.42	79.45	75.31
48F4176	BR7070R	M8805/95-006	Clear	Red	87.64	79.66	75.50
48F4177	BR7070B	M8805/95-007	Black	Black	88.65	80.57	76.37
48F4178	BR7070BR	M8805/95-008	Black	Red	88.65	80.57	76.37

(33987) (ne33987)

EURO-LOOK ROCKER SNAP-IN LENSES

Accessories featured for standard and full-size Euro-look rocker switches. Other lens colors available; *contact your local Newark sales office.*

Stock No.	Type	Type	Description	1-24	25-49	50-99
16F8159	28-5415	28-5415	Green, Standard	0.30	0.22	0.22
16F8160	28-5415-2	28-5415-2	Amber, Standard	0.30	0.22	0.22
16F8161	28-5415-3	28-5415-3	Red, Standard	0.30	0.22	0.22
16F8149	28-3425	28-3425	Green, Full Size	0.35	0.26	0.26
16F8150	28-3425-2	28-3425-2	Amber, Full Size	0.35	0.26	0.26
16F8151	28-3425-3	28-3425-3	Red, Full Size	0.35	0.26	0.26

(4991) (ne08904)

NEW GENERATION ROCKER SWITCHES

Full-size rugged switches feature ergonomic design and are sealed to resist splashing and dust, IP42. Ratings: 15A at 125VAC, 10A at 250VAC, 15A at 28VDC. Slow-make/slow-break contact mechanism. Mechanical life: 250,000 operations min. Terminals: standard 0.250″ spade; silver-plated copper alloy. Dielectric: 1,000Vrms min. ( ) in table denotes momentary contact. Circuits available: SPST, SPDT, DPST, and DPDT, maintained and momentary action. Switches have thermoplastic base and rocker. Units featured are black frame, rocker and paddle style. Illuminated switches listed have 2 14VDC incandescent lamps, except **type NGR2501**, which has one lamp. Standard rocker actuator is two face, matte black, and snaps on and off the switch. Fits in panel cutouts 1.734 x 0.867″. *Rockers and lenses must be ordered separately.*

NEW GENERATION ROCKER SWITCHES, ILLUMINATED

Stock No.	Type	Action	1-9	10-24	25-49
16F8142	NGR25011BNA0N	Off-None-On	12.11	11.59	9.02
16F8143	NGR25481BNAAN	On-None-On	13.96	13.36	10.40
16F8141	NGR25681BNAAN	On-Off-On	13.96	13.36	10.40
16F8144	NGR25881BNAAN	(On)-Off-(On)	14.11	13.50	10.50

NEW GENERATION ROCKER SWITCHES, NON-ILLUMINATED

16F8146	NGR20011BN00N	Off-None-On	9.25	8.35	6.36
16F8148	NGR20051BN00N	(On)-Off-(On)	10.87	9.81	7.47

NGR ROCKER ACTUATORS, BLACK

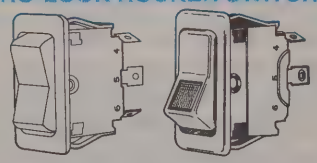
Stock No.	Type	Description	1-24	25-49	50-99
16F8137	1B00000000000	No Lens	1.03	0.77	0.76
16F8140	2B00000000500	Lens Hole, Bottom	1.01	0.76	0.75
16F8139	2B00050000000	Lens Hole, Top	1.01	0.76	0.75
16F8138	2B00050000500	Lens Hole, Top & Bottom	1.01	0.76	0.75

NGR SNAP-IN LENSES

Stock No.	Type	Color	1-24	25-49	50-99
16F8163	28-5863	Green	0.30	0.22	0.22
16F8162	28-5863-2	Amber	0.30	0.22	0.22
16F8164	28-5863-3	Red	0.30	0.22	0.22

(4989) (ne08902)

EURO-LOOK ROCKER SWITCHES



Standard and full-size rugged rocker switches are snap-mount with matte finish and easy actuation. Ratings: 15A at 125VAC. Slow-make/slow-break; butt-action designed for AC and low voltage DC applications. Featured units are sealed, with black mounting frame and standard brass 0.250″ spade terminals. Switches and actuators are black. Full and standard size switches featured have two lenses and a 14VDC bulb, except switch **type 8005K23** , which has one lens and 14VDC bulb; Thermoset base; thermoplastic rocker actuators. Dielectric: 1,000Vrms min. ( ) in table denotes momentary action. Other lens, contact, configuration and rocker versions available. Order lenses separately for illuminated switches. UL recognized, CSA certified.

FULL SIZE NON-ILLUMINATED (1.734″ x 0.867″ CUTOUT)

Stock No.	Type	Circuit	Action	1-24	25-49	50-99	100-249
16F8130	8004K43N1V2	2PST	On-None-Off	5.95	5.11	4.24	3.61
16F8133	8004K40N1V2	2PDT	On-Off-On	7.02	6.34	5.58	4.40
16F8131	8004K52N1V2	2PDT	(On)-Off-(On)	8.11	7.32	6.43	5.08

FULL SIZE ILLUMINATED

16F8134	8005K23N313V52	1PST	On-None-Off	9.68	8.73	7.67	6.05
16F8136	8005K32N324V52	1PDT	(On)-Off-(On)	9.38	8.47	7.43	5.87

STANDARD SIZE NON-ILLUMINATED (1.450″ x 0.830″ CUTOUT)

16F8153	8006K43N1V2	2PST	On-None-Off	8.48	7.66	5.83	5.51
52F7431	8006K40N1V2	2PDT	On-Off-On	6.46	5.20	4.60	3.87
52F7436	8006K52N1V2	2PDT	(On)-Off-(On)	7.39	5.94	5.26	4.42

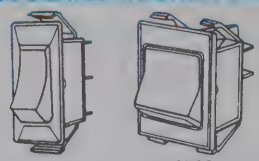
STANDARD SIZE ILLUMINATED

Stock No.	Mfr. Part No.	Circuit	Action	1-9	10-24	25-49	50-99
16F8155	8007K20N324V52	1PDT	On-Off-On	11.45	10.34	7.87	7.44
16F8158	8007K32N324V52	1PDT	(On)-Off-(On)	12.24	11.04	8.40	7.95

(4990) (ne08903)

NEWARK ELECTRONICS® IS AN ISO 9002 COMPANY.

1500/2500 SERIES ROCKER SWITCHES



1500 2500

Miniature snap-in AC rocker switches have slow-make, slow-break action. Quick-connect terminals. Mechanical life, 50,000 cycles. Illuminated switches have lamp life of 5,000 hours minimum. Feature rounded bezel in black matte finish with contoured black or lighted rocker lever. Lighted models feature 125V neon lamps. **11E suffix** designates black base and lever. 15 amps, 125VAC; 10 amps, 250VAC. **1500 series**: 1.079L x 0.486W x 0.118"D (27.40 x 12.34 x 2.99). **2500 series**: 1.079L x 0.880W x 0.118"D (27.40 x 22.35 x 2.99). UL recognized, CSA certified and VDE approved.

NON-ILLUMINATED SWITCHES

Stock No.	Type	Action	Circuit	1-24	25-49	50-99
87F2624	1500-11E	On-None-Off	SPST	1.14	0.98	0.82
87F2625	1501-11E	(On)-None-Off	SPST	1.97	1.69	1.43
87F2627	1504-11E	On-Off-On	SPDT	1.77	1.51	1.28
95F4248	1506-11E	(On)-Off-(On)	SPDT	2.75	2.35	1.98
87F2628	2500-11E	On-None-Off	DPST	1.85	1.59	1.35
87F2631	2504-11E	On-Off-On	DPDT	2.65	2.26	1.91

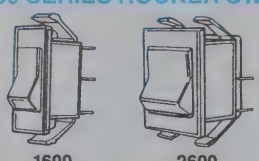
ILLUMINATED SWITCHES

All units feature On-None-On action.

Stock No.	Type	Lens	Circuit	1-24	25-49	50-99
87F2634	1500R11E	Red	SPST	2.73	2.35	1.98
87F2637	2500R11E	Red	DPST	3.31	2.83	2.39
87F2633	1500G11E	Green	SPST	2.73	2.35	1.98

(4869) (de01412)

1600/2600 SERIES ROCKER SWITCHES



1600 2600

Miniature snap-in AC rocker switches have slow-make, slow-break action. Mechanical life, 50,000 cycles. Illuminated switches have lamp life of 5,000 hours minimum. Feature rectangular bezel in black gloss finish with black, white or lighted 2 face rocker lever. Lighted models feature 125V neon lamps *except* **type 1600R21E** and **2600A21E** which are 250V neon. For non-illuminated switches, **11E suffix** designates black base and lever. **12E suffix** designates black base, white lever. **21E suffix** designates white base, black lever. 16 amps, 125VAC; 16 amps, 250VAC. **1600 series**: 1.079L x 0.486W x 0.118"D (27.40 x 12.34 x 2.99). **2600 series**: 1.079L x 0.880W x 0.118"D (27.40 x 22.35 x 2.99). **-E suffix** denotes 0.250 (6.3mm) tabs "quick-connect terminations ." (On) or (Off) position status indicates momentary action. UL recognized, CSA certified and VDE approved.

NON-ILLUMINATED SWITCHES

Stock No.	Type	Action	Circuit	1-24	25-49	50-99	100-249
23F001	1600-11E	On-None-Off	SPST	1.30	1.12	0.95	0.81
23F004	1604-11E	On-Off-On	SPDT	1.85	1.59	1.35	1.15
23F032	2600-11E	On-None-Off	DPST	2.00	1.71	1.44	1.23
23F033	2602-11E	On-None-On	DPDT	2.67	2.29	1.94	1.65
94F8150	2606-11E	On-None-On	DPDT	3.99	3.42	2.89	2.48
23F034	2604-11E	On-Off-On	DPDT	2.80	2.40	2.02	1.73
46F1839	2602-12E	(On)-Off-(On)	DPDT	2.67	2.29	1.94	1.65

ILLUMINATED SWITCHES

All units feature On-None-Off action.

Stock No.	Type	Lens	Circuit	1-24	25-49	50-99	100-249
44F1243	1600R11E	Red	SPST	2.91	2.49	2.11	1.80
46F1835	1600R21E	Red	SPST	2.91	2.49	2.11	1.80
44F1250	2600A11E	Amber	DPST	3.60	3.08	2.60	2.23
95F4250	2600A21E	Amber	DPST	3.60	3.08	2.60	2.23
44F1251	2600G11E	Green	DPST	3.60	3.08	2.60	2.23
44F1252	2600R11E	Red	DPST	3.60	3.08	2.60	2.23

(4870) (de01413)

THE ELITE SERIES — A LOWER-AMPERAGE MINI ROCKER — IS ALSO AVAILABLE; CONTACT YOUR LOCAL NEWARK SALES OFFICE

(4986) (ne08898)

1600H/2600H SERIES HIGH-INRUSH SWITCHES

1600H 2600H

Switches are designed to handle high-inrush currents up to 110A peak inrush for 10 milliseconds at 125VAC for 10,000 cycles minimum. Rated 22A, 125VAC; 16A, 250VAC; 10A, 14V(T). On-None-Off lever action. Mechanical life: 50,000 cycles minimum. Available in illuminated and non-illuminated snap-in models. Illuminated models feature 125V neon lamps. **1600H series** : 1.079L x 0.486W x 0.118"D (27.40 x 12.34 x 2.99). **2600H series** (rectangular cutout): 1.079L x 0.880W x 0.118"D (27.40 x 22.35 x 2.99). **"H"** in type number indicates black gloss base and lever. **"HM"** in type number indicates black matte base and lever.

NON-ILLUMINATED SWITCHES

Stock No.	Type	Circuit	1-24	25-49	50-99
46F1854	1600H11E	SPST	1.56	1.35	1.13
46F1855	1600HM11E	SPST	1.56	1.35	1.13
46F1439	2600H11E	DPST	2.27	1.95	1.65
46F1857	2600HM11E	DPST	2.27	1.95	1.65

ILLUMINATED SWITCH WITH RED LIGHT & BLACK BASE

46F1858	2600HR11E	DPST	3.86	3.30	2.80

(4871) (de01415)

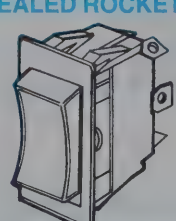
TYPE NC-169-1 MINIATURE SWITCH KIT

87-piece switch kit contains the 22 most requested miniature switches. Kit includes items listed in table below, as well as caps and extra hardware. ISO 9001 certified. All parts in table below are also available separately; *contact your local Newark sales office.*

Type	Quantity	Type	Quantity
T8201	6	PB-12631ZQ	3
T8206	6	A121S1YZQ	3
T8205	6	A123S1YZQ	3
T8207	6	A126S1YZQ	3
T8202	6	A221S1YZQ	3
T8203	6	A223S1YZQ	3
B8600 w/P281B	6	A226S1YZQ	3
SA1RV20	3	A227S1YZQ	3
SA1BW20	3	A232S1YZQ	3
SW53AA2	3	PS1-100Q	3
PB-12331ZQ	3	PS2-100Q	3

87F1702 Type NC-169-1. **Each** **237.71**
(4969) (ne00185)

8055 SERIES SEALED ROCKETTE® SWITCHES



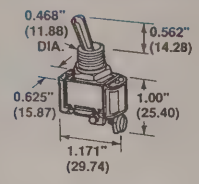
8055K43Z7V

Switches are rated 15A, 125VAC; and 10A, 250VAC; ¾ hp. at 250VAC, and have 0.250" spade terminals. Switches listed have black concave rocker, snap-in mounting frame. UL recognized, CSA certified. Feature On-None-On action. Panek cut-out: 1.45 x .830". Other actuator styles and illuminated versions available; *contact Newark for information.*

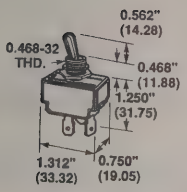
Stock No.	Type	Circuit	1-24	25-49	50-99
46F4171	8055K23Z7V	SPST	5.47	4.68	3.89
46F4172	8055K43Z7V	DPST	7.58	6.84	5.99

(4987) (ne08899)

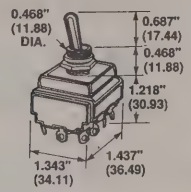
GENERAL-PURPOSE AC RATED TOGGLE SWITCHES



Single-Pole Screw Terminal



Double-Pole Spade Terminal



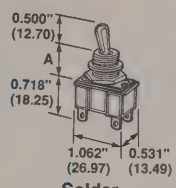
Three- and Four-Pole Solder Terminal

AC toggle switches are ideal for power applications. Employ slow-make/slow-break butt-action contact mechanism. Phenolic-metallic housing. All are one hole mount. Contact ratings: (for **types 7580** and **7590**): 6A @ 125VAC or 28VDC, 3A @ 250VAC; (for **types 7500, 7700, 7560** and **7690**): 15A @ 125VAC and 28VDC, 10A @ 250VAC. Bushing length is 0.469″(11.91), except (*) which is 0.344″ (8.74). One hexagon locknut and one knurled facenut included. UL recognized, CSA certified. NOTE: "( )" denotes momentary action.

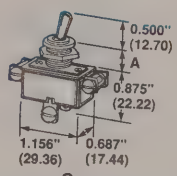
Stock No.	Type	Action	Term.	1-24	25-49	50-99
23F247	7500K14	SPST/On-None-Off	Screw	3.00	2.55	2.12
23F230	7501K13	SPST/On-None-Off	Solder	2.63	2.25	1.85
41F535	7501K15	SPST/On-None-Off	Spade	2.63	2.25	1.85
21F904	7700K1	3PST/On-None-Off	Solder	8.84	7.98	6.88
21F905	7700K2	3PST/On-None-Off	Screw	10.31	9.31	8.02
21F906	7700K3	3PST/On-None-Off	Spade	8.84	7.98	6.88
21F907	7701K1	3PDT/On-Off-On	Solder	10.92	9.86	8.49
21F908	7701K2	3PDT/On-Off-On	Screw	13.11	11.84	10.16
21F909	7701K3	3PDT/On-Off-On	Spade	10.92	9.86	8.49
21F910	7702K1	3PDT/On-None-On	Solder	10.92	9.86	8.49
21F911	7702K2	3PDT/On-None-On	Screw	13.14	11.86	10.22
21F912	7702K3	3PDT/On-None-On	Spade	10.91	9.85	8.48
41F562	7690K8	4PST/On-None-Off	Screw	12.21	11.02	9.49
23F242	7691K14	4PST/On-None-Off	Solder	11.03	9.95	8.58
41F563	7692K13	4PDT/On-Off-On	Screw	13.16	12.59	11.10
41F494	7693K2	4PDT/On-Off-On	Solder	13.41	12.10	10.42
41F564	7694K4	4PDT/On-None-On	Screw	13.16	12.59	11.10
41F565	7695K5	4PDT/On-None-On	Solder	11.60	11.10	9.77
23F341	7580K4	SPST/On-None-Off	Screw	2.77	2.39	1.97
41F532	7580K7	SPST/On-None-Off	Solder	2.54	2.16	1.82
23F342	7580K6	SPST/On-None-Off	Solder	2.54	2.16	1.82
23F345	7582K4	SPDT/On-None-On	Screw	3.37	2.88	2.39
23F346	7582K6	SPDT/On-None-On	Solder	2.92	2.52	2.08
23F343	7581K4	SPDT/On-Off-On	Screw	3.37	2.88	2.39
23F344	7581K6	SPDT/On-Off-On	Solder	2.92	2.52	2.08
23F380	7504K4	SPDT/On-None-On	Screw	3.82	3.28	2.72
23F232	7505K4	SPDT/On-None-On	Solder	3.30	2.82	2.35
23F265	7502K13	SPDT/On-Off-On	Screw	3.82	3.28	2.72
23F231	7503K13	SPDT/On-Off-On	Solder	3.30	2.82	2.35
41F537	7509K5	SPDT/(On)-Off-(On)	Screw	5.30	4.53	3.76
23F267	7560K5	DPST/On-None-Off	Screw	5.03	4.31	3.57
23F235	7561K4	DPST/On-None-Off	Solder	4.23	3.63	3.00
23F381	7561K6	DPST/On-None-Off	Spade	4.23	3.63	3.00
23F266	7564K6	DPDT/On-None-On	Screw	6.15	5.27	4.37
23F236	7565K5	DPDT/On-None-On	Solder	5.03	4.31	3.57
23F382	7565K7	DPDT/On-None-On	Spade	5.03	4.31	3.57
23F246	7562K4	DPDT/On-Off-On	Screw	6.15	5.27	4.37
23F237	7563K4	DPDT/On-Off-On	Solder	5.03	4.31	3.57
41F553	7563K6	DPDT/On-Off-On	Spade	5.03	4.31	3.57
23F347	7590K4	DPST/On-None-Off	Screw	4.48	3.85	3.19
23F348	7590K6	DPST/On-None-Off	Solder	3.88	3.33	2.76
23F357	7592K4	DPDT/On-None-On	Screw	5.30	4.55	3.78
23F358	7592K6	DPDT/On-None-On	Solder	4.36	3.73	3.10
23F349	7591K4	DPDT/On-Off-On	Screw	5.30	4.55	3.78
23F356	7591K6	DPDT/On-Off-On	Solder	4.24	3.64	3.02

(4852) (de00697)

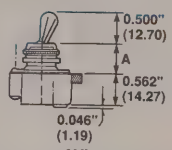
GENERAL-PURPOSE AC/DC TOGGLE SWITCHES



Solder



Screw



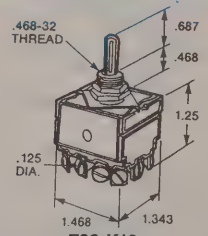
Wire

Quick-make, quick-break contact mechanism. One-hole mounting. Non-teasable, self-cleaning, wiping contact action. Threaded bushing: 0.468″-32. Solder lug terminal. Wire leads: 18-gauge, 6″ (152.4), stripped 0.750″ (19.05). Hardware included. UL recognized, CSA certified.

Stock No.	Type	Amps 125VAC-DC/ 250VDC	Dim. "A" Bushing Length	Term.	1-24	25-49	50-99
SPST ON-NONE-OFF							
23F385	8280K115	.../3A	0.344″	Solder	3.35	2.88	2.39
23F220	8280K116	.../3A	0.469″	Solder	3.35	2.88	2.39
23F391	8290K115	.../3A	0.344″	Wire	4.03	3.44	2.86
23F335	8290K116	.../3A	0.469″	Wire	4.03	3.44	2.86
23F336	8295K107	.../3A	0.344″	Screw	4.43	3.79	3.12
23F337	8295K108	.../3A	0.469″	Screw	4.43	3.79	3.12
41F520	8381K107	6A/3A	0.344″	Solder	3.47	2.96	2.46
23F221	8381K108	6A/3A	0.469″	Solder	3.47	2.96	2.46
41F521	8391K107	6A/3A	0.344″	Wire	4.07	3.45	2.89
23F338	8391K108	6A/3A	0.469″	Wire	4.07	3.45	2.89
41F522	8396K107	6A/3A	0.344″	Screw	4.07	3.45	2.89
23F228	8396K108	6A/3A	0.469″	Screw	4.07	3.45	2.89
SPDT ON-NONE-ON							
23F395	8282K113	3A/1A	0.344″	Solder	4.24	3.63	3.05
23F222	8282K114	3A/1A	0.469″	Solder	4.24	3.63	3.05
DPST ON-NONE-OFF							
23F227	8370K107	6A/3A	0.469″	Solder	6.06	5.17	4.29
23F339	8372K107	6A/3A	0.469″	Screw	7.90	7.13	6.24
DPDT ON-NONE-ON							
23F226	8373K107	6A/3A	0.469″	Solder	7.42	6.70	5.92
23F340	8375K107	6A/3A	0.469″	Screw	9.54	8.61	7.56

(4853) (de00698)

HESITATION SWITCHES



799-K10

Units feature interlock mechanism that prevents operation of lever through center position until pressure momentarily relieved. Slow-make, slow-break butt-action contact mechanism for AC and low-volt DC applications. Contact ratings: 125VAC or 28VDC at 15A or 250VAC at 10A. Hardware included. UL recognized. CSA certified.

Stock No.	Type	Action	1-9	10-24	25-49
23F1152	7992K10	DPDT	16.99	16.26	14.59
23F1154	7991K10	3PDT	20.42	19.54	17.55
23F1156	7990K10	4PDT	26.22	25.09	22.51

(4854) (de00699)

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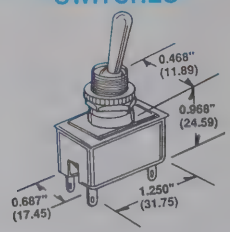
8928 SERIES GENERAL PURPOSE AC/DC TOGGLE POWER SWITCHES

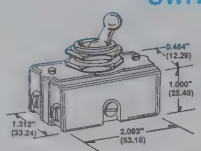


Quick-make/quick-break switches are 6A @ 125VAC/VDC; 3A @ 250VDC. Bronze silver-plated contacts, solder lug terminals. Toggle is a bat lever. Bushing length: 0.468″. Diameter: 15/32″ (0.468). UL recognized, CSA certified.

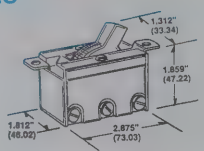
Stock No.	Type	Action	1-9	10-24	25-49
23F007	8928K479	SPDT On-On	4.38	3.76	3.06
23F074	8928K481	DPST Off-(On)	9.54	8.61	7.56

(4855) (de01190)

HEAVY-DUTY SCREW TERMINAL AC/DC TOGGLE POWER SWITCHES



7815K3, 7816K2



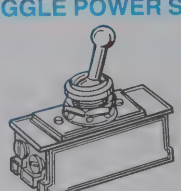
7811K2

Type 7815K3, 7816K2 are: 10A @ 125VAC/VDC; 5A @ 250VAC/VDC. **7811K2** is: 30A @ 125VAC/VDC; 20A @ 250VAC/VDC. Action is On-Off-On. UL recognized, CSA certified.

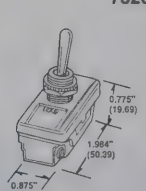
Stock No.	Type	Circuitry	Lever	1-4	5-9
23F019	7815K3	3PDT	Ball	127.93	114.79
23F000	7816K2	4PDT	Ball	151.51	135.95
23F067	7811K2	DPDT	Square	74.76	67.08

(4856) (de01191)

AC/DC TOGGLE POWER SWITCHES



7320K13, 7360K13, 7402K5



7320K50

8980K5

8980K1

8980K14

Switches are all UL recognized, CSA certified except **type 8980K14** (UL recognized only). DPST circuit, Off-On action. All screw terminals except **type 8980K1** which is bus. **Type 8980K5** is 30A @ 250VAC/VDC; 20A @ 600VAC/VDC. **Type 8980K1** is 60A @ 250VAC/VDC; 2HP @ 125-250VAC/VDC. **Type 8980K14** is 30A @ 250VAC/VDC; 2HP @ 120-240VAC; 1HP @ 480VAC.

15/32″ BUSHING DIAMETER, BALL LEVER

Stock No.	Type	Amps 125V	Amps 250V	Bushing	1-9	10-24	25-49
23F039	7320K13	16A	8A	0.312″	5.65	4.84	4.03
23F016	7360-K13	20A	10A	0.468″	8.85	7.99	7.02
23F020	7402K5	...	20A	0.343″	14.51	13.88	12.46

15/32″ BUSHING DIAMETER, BAT LEVER

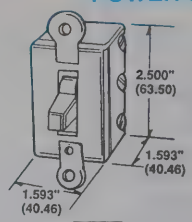
46F1870	7320K50	16A	8A	0.468″	4.78	4.09	3.38

SQUARE LEVER TYPES

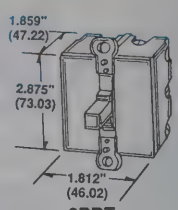
Stock No.	Type	Mounting	1-4	5-9
23F017	8980K5	Panel Type Strap	52.50	50.23
46F1871	8980K1	Panel Type	40.72	36.31
46F1867	8980K14	Binding (screws assbld.)	55.20	52.81

(4857) (de01192)

EXTRA HEAVY-DUTY SCREW TERMINAL AC/DC TOGGLE POWER SWITCHES



DPDT
7810K1



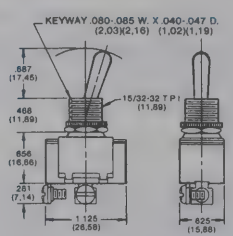
3PDT
7812K2

Type 7810K1 is DPDT, rated 20A @ 125VAC/VDC; 10A @ 250VAC/VDC. **Type 7812K2** is 3PDT, rated 30A @ 125VAC/VDC; 20A @ 250VAC/VDC. Quick-make/quick-break. UL recognized.

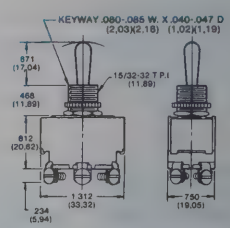
Stock No.	Type	Action	1-4	5-9	10-24
46F1865	7810K1	On-On	111.61	99.51	92.91
46F8145	7812K2	On-Off-On	204.79	183.76	...

(4858) (de01193)

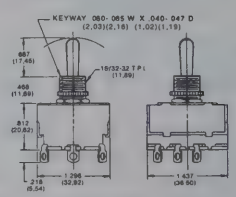
GENERAL PURPOSE AC-ONLY BAT LEVER TOGGLE SWITCHES



SPST Screw Terminals



DPDT Screw Terminals



3PDT and 4PDT Solder Lug Terminals

Type 7800/7801: rated 6A, 125VAC; 3A, 250VAC, ⅛ horsepower, 120-240VAC. **Type 7802/7803**: rated 20A, 125VAC; 10A, 250VAC; 1HP, 120-240VAC. **Type 7804**: rated 20A, 125VAC; 10A, 250VAC; 1HP, 120VAC. **Type 7805**: rated 10A, 250VAC; ½HP, 120-240VAC. If last digits of type number are **11, 12** or **13**, the switch has solder lug terminals. All others have screw terminals. UL recognized, CSA certified. Types ending with **suffix K32** are not CSA certified.

7800/7801 SERIES

Stock No.	Type	Circuit	Action	1-24	25-49	50-99
46F1861	7800K11	SPST	On-None-Off	3.02	2.60	2.14
46F1864	7801K11	DPST	On-None-Off	3.92	3.35	2.77

7802/7803 SERIES

23F106	7802K31	SPST	On-None-Off	3.40	2.90	2.41
60F2300	7802K11	SPST	On-None-On	3.06	2.62	2.17
60F2308	7802K13	SPDT	On-None-On	3.55	3.04	2.51
23F107	7802K32	SPDT	On-Off-On	4.24	3.63	3.02
60F2304	7802K12	SPDT	On-Off-On	3.61	3.11	2.56
60F3450	7803K31	DPST	On-None-Off	5.42	4.65	3.84
60F2302	7803K11	DPST	On-None-Off	4.58	3.93	3.25
60F3451	7803K33	DPDT	On-None-On	6.68	5.71	4.73
60F2310	7803K13	DPDT	On-None-On	5.42	4.65	3.84
23F108	7803K32	DPDT	On-Off-On	6.68	5.71	4.73
60F2306	7803K12	DPDT	On-Off-On	5.42	4.65	3.84

7804 SERIES

60F3452	7804K31	3PST	On-None-Off	11.93	10.77	9.45
60F3453	7804K32	3PDT	On-Off-On	13.04	12.48	11.21
60F3454	7804K12†	3PDT	On-Off-On	12.56	11.33	9.95
60F3455	7804K33	3PDT	On-None-On	14.94	14.29	12.83
60F3456	7804K13†	3PDT	On-None-On	12.47	11.93	10.70

7805 SERIES

60F3457	7805K12	4PDT	On-Off-On	14.40	13.77	12.36
60F3458	7805K13	4PDT	On-None-On	14.40	13.77	12.36

† Also rated 1HP, 240-480VAC 1 or 2 phase; and 1HP, 240-600VAC 3 phase

(4859) (de01194)

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PUSHBUTTON AND KEYLOCK SWITCHES

8400 SERIES GENERAL PURPOSE AC RATED PUSHBUTTON SWITCHES

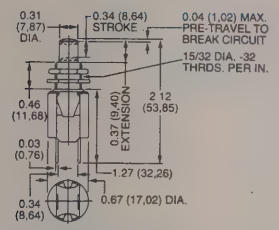


Fig. 1
¾A @ 125V
¼A @ 250V

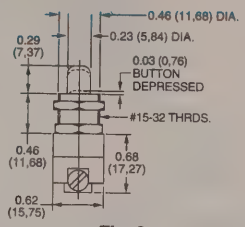


Fig. 2
3A @ 125V

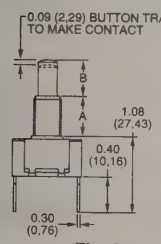


Fig. 3
15A @ 125V
10A @ 250V

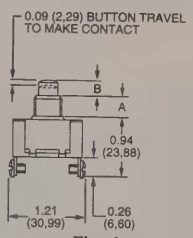


Fig. 4

Light-duty momentary contact switches feature slow-make, slow-break contact mechanism. Mounting hardware consists of one hexagon nut and one nickel-plated facenut. UL recognized, CSA certified except **types 8440K2** and **8440K3**. 15⁄32″ bushings except **type 8411K13** (¼″). **Type 8411K11 and 8411K13** also features combination spade/solder lug terminals. **Type 8442K4** is rated 6A @ 125V, and 3A @ 250V. **Type 844K4** is rated 15A @ 125V, and 10A @ 250V.

SPST MOMENTARY NORMALLY CLOSED

Stock No.	Type	Fig.	Terminals	1-24	25-49	50-99
23F440	8411K7	1	Screw	2.75	2.35	1.95
23F261	8411K8	1	S. Lug	2.31	2.00	1.65

SPDT MOMENTARY NORMALLY OPEN, NORMALLY CLOSED

84F1063	8434K2	3	Screw	6.26	5.34	4.44

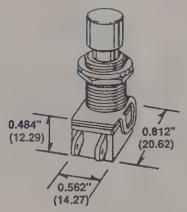
SPST MOMENTARY NORMALLY OPEN

Stock No.	Type	Fig.	Terminals	1-24	25-49	50-99
23F360	8442K4	4	Screw	4.24	3.62	3.00
67F1625	8444K2	3	Spade	4.42	3.80	3.15
23F361	8444K4	4	Screw	4.57	3.94	3.23
23F260	8411K11	1	Comb.	2.09	1.78	1.48
23F439	8411K12	1	Screw	2.48	2.13	1.79
23F359	8411K13	1	Comb.	2.21	1.89	1.57

Stock No.	Type	Fig.	Terminals	1-9	10-24	25-49
23F262	8440K2	2	S. Lug	6.76	6.10	5.37
23F441	8440K3	2	Screw	7.45	6.72	5.88

(5013) (de01505)

SLOW MAKE/BREAK MOMENTARY PUSHBUTTON SWITCHES



Suit instrumentation applications. AC switch (SPST); 1 circuit model with solder lugs. 1⁄10 HP. Bushing length: 0.562″. Switches listed are rated 3A @ 125V and 1A @ 250V. UL recognized, CSA certified. Hardware included. *Order* **type 53-3338** (black) *or* **53-3338-2** red) *snap-on switch caps separately; contact your local Newark sales office.*

Stock No.	Type	Action	Button	1-9	10-24	25-49
23F115	7835K11A	On-(Off)	Metal	8.22	7.42	6.53
23F118	7836K11A	Off-(On)	Metal	8.22	7.42	6.53
23F116	7835K11C	On-(Off)	Black nylon	9.08	8.19	7.19
23F119	7836K11C	Off-(On)	Black nylon	8.99	8.11	7.11
23F117	7835K11D	On-(Off)	Red nylon	9.08	8.19	7.19
23F120	7836K11D	Off-(On)	Red nylon	8.99	8.11	7.11

002) (de01337)

PB SERIES MINIATURE PUSHBUTTON SWITCHES

Panel-mount units have solder lug terminals and coin silver contacts rated 6A @ 125VAC and 28VDC resistive, 3A @ 250VAC. For **types PB123**, action is On-None-On. For **types PB126**, action is On-None-(On). Base diallyl phthalate, bushing nickel-plate brass. Include 2 hex nuts, 1 lockwasher, black cap. UL recognized. Cap included.

Stock No.	Type	Cap Diameter	1-24	25-49	50-99
65F894	PB-12331ZQ	0.375″	5.29	4.05	4.02
65F895	PB-12311ZQ	0.200″	5.29	4.05	4.02
65F896	PB-12631ZQ	0.375″	5.59	4.27	4.24
65F897	PB-12611ZQ	0.200″	5.59	4.27	4.24

(4993) (de00187)

QUICK MAKE/BREAK MOMENTARY PUSHBUTTON AC/DC SWITCHES

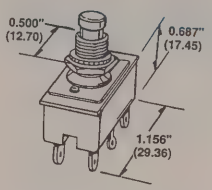


Fig. 1

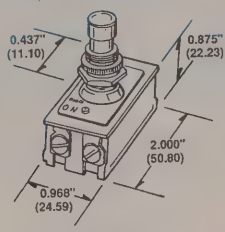


Fig. 2

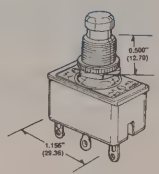


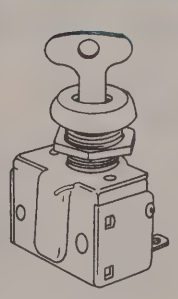
Fig. 3

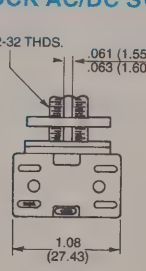
DPST except **type 8943K28** which is SPDT. Hardware supplied. All Off-(On) action except **type 8943K28** which is On-(On). 15⁄32″ diameter. **Types 894** listed have solder lug terminals; **types 722** have screw terminals. UL recognized. **Type 722** CSA certified.

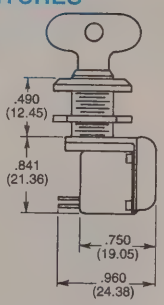
Stock No.	Type	Fig.	Amps 125V	Amps 250V	Bushing	1-9	10-24	25-49
23F123	8943K29	1	6	3	0.500″	11.80	10.65	9.36
23F036	7226K2	2	16	8	0.437″	11.63	10.49	9.22
46F1875	7228K2	2	20	10	0.437″	13.36	12.79	11.46
23F122	8943K28	3	6	3	0.500″	12.13	10.95	9.63

(5003) (de01338)

ROTARY KEYLOCK AC/DC SWITCHES







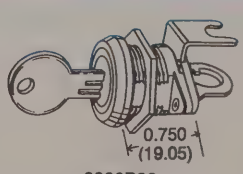
Silver-plated bronze movable contacts, silver-plated brass stationary contacts. Includes one key. Features 0.468″ bushing. 6A @ 125V. Solder lug terminals. 3 amps @ 250V. Key removal in off position.

NON-SECURITY VERSION

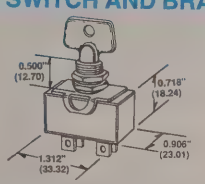
Stock No.	Type	Circuit	Action	1-9	10-24	25-49
60F2316	8928K492	SPST	Off-On	11.63	10.49	9.21

95F4264 (5004) Type 13-5496. Extra Key. **Each** **0.53** (de01340)

HEAVY-DUTY ROTARY KEYLOCK SWITCH AND BRACKET



8980P28



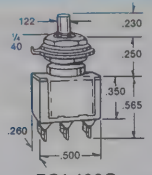
7846K1

Type 7846K1 multiposition switch with quick-connect terminals. 20A @ 125V. Action is Off-On, DPST. Key can be removed when switch is in off postion. **Type 8980P28** rotary keylock bracket converts 1- and 2-pole toggle switches with 15⁄32″ dia. bushing to security lock switches. 3 nuts. 2 keys.

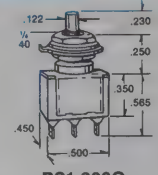
Stock No.	Type	1-9	10-24	25-49
46F1440	7846K1	38.80	37.12	28.64
46F1881	8980P28	25.54	24.44	21.94

(5005) (de01342)

PS SERIES SENSITIVE PUSHBUTTON SWITCHES



PS1-100Q



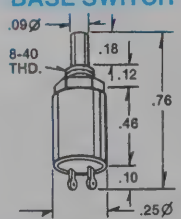
PS1-200Q

Snap-action, momentary action panel mount switches. Coin silver contacts rated: (1 pole) 5A resistive @ 125VAC or 28VDC; (2 pole) 1A resistive @ 125VAC or 28VDC. Diallyl phthalate case. Nickel-plate brass bushing. Mounting hardware included. *Order* **type W-KN-17** *caps separately; contact your local Newark sales office for details.*

Stock No.	Type	Poles	Terminals	1-9	10-24	25-49
65F1737	PS1-100Q	1	Solder Lug	7.87	7.11	5.44
65F1739	PS1-200Q	2	Solder Lug	10.99	9.92	7.57
65F1738	PS2-100Q	1	PCB	8.10	7.31	6.88
65F1740	PS2-200Q	2	PCB	11.44	10.33	7.95

(4847) (de00182)

SA1 ULTRA-MINIATURE PUSHBUTTON AC AND DC ROUND BASE SWITCH

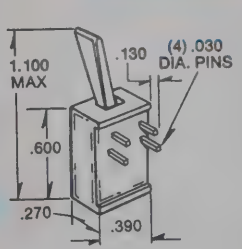


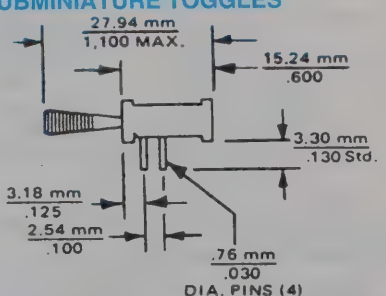
Rated 0.75A resistive at 125VAC with normally open contacts; 0.50A resistive at 125VAC with normally closed contacts. Gold-plate copper contacts and terminals, nickel-plate brass case. Thermosetting plastic base. Button color is indicated in type number: **R** in type number indicates red button; **B** indicates black. Include one #8-40 nut. *Order* **type SW53AA2** *optional black slip-on cap separately; contact Newark for details.*

Stock No.	Type	Normal Circuit	1-24	25-49	50-99
41F574	SA1RV20	N.O.	4.74	3.26	2.94
41F577	SA1BW20	N.C.	4.74	3.26	2.94

(4848) (de00183)

T8200 SERIES SUBMINIATURE TOGGLES



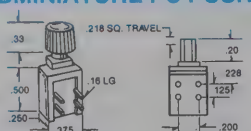


Gold over nickel over copper contacts rated 1A @ 6/12VDC and 0.5A @ 125VAC, resistive. Dielectric strength: 1,000VACrms. 2 circuit, with 0.130"L (3.30) PC terminals. Red nylon lever. **Type T8201** has On-None-On switch action; **type 8202** has On-None-(On) switch action. ( ) denote momentary contact. Additional switching actions available; *contact your local Newark sales office.*

Stock No.	Type	1-24	25-49	50-99
29F2501	T8201	2.70	2.25	2.23
29F2505	T8202	2.70	2.25	2.23

(4849) (de00184)

B8000 SERIES SUBMINIATURE PC PUSHBUTTON SWITCH



Switch has 0.160" (4.06) right angle PC terminals. Momentary (On) switch action. Rated 1A @ 60VDC, 12VDC; 0.5A @ 28VDC, 125VAC. *Order optional snap-on button caps separately; contact your local Newark sales office for details.*

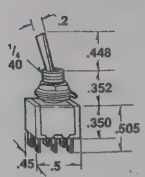
Stock No.	Type	1-24	25-49	50-99
29F2507	B8600	3.12	2.61	2.59

(4850) (de00186)

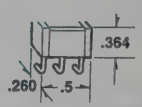
MINIATURE TOGGLE SWITCHES

Toggle for Types AXXXS

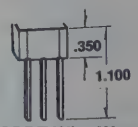
Toggle for Types AXXXM



Toggle for Types AXXXP

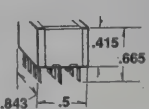


Right Angle PC Terminal

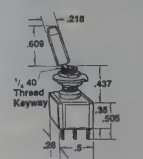


SPDT Wire Wrap

DPDT Solder Lug



4PDT PC Terminal



Toggle for Types AXXXK

Contact ratings: 6A @ 125VAC, 3A @ 250VAC (UL recognized, CSA certified) or 6A @ 28VDC resistive; types ending with "**B**" are 0.5 VA @ 28VAC/VDC. Contacts are coin silver; * indicates gold/nickel/brass. Base (body): 1- and 2-pole are diallyl phthalate; 3- and 4-pole are high-strength phenolic. Lever is brass, chrome-plated. ( ) denotes momentary action. UL recognized, CSA certified. Miniature toggle lever caps are also available; *contact your local Newark sales office for details.*

SPDT, SOLDER LUG

Stock No.	Type	Action	1-24	25-49	50-99
65F1650	A121S1YZQ	On-Off-On	5.29	4.12	4.09
65F1651	A123S1YZQ	On-None-On	4.59	3.57	3.54
65F1652	A126S1YZQ	On-None-(On)	5.29	4.12	4.09
65F1653	A127S1YZQ	(On)-Off-(On)	5.29	4.12	4.09
65F1654	A131S1YZQ	On-Off-(On)	5.29	4.12	4.09
65F1729	A121K12KZQ	On-Off-On	8.07	7.28	6.15
65F1730	A123K12KZQ	On-None-On	7.33	6.61	5.61
65F1703	A121P32YZQ	On-Off-On	6.29	5.04	5.01
65F1704	A123P32YZQ	On-None-On	5.59	4.50	4.46

SPDT, PCB TERMINAL

65F1681	A121S1YCQ	On-Off-On	5.38	4.20	4.17
65F1682	A123S1YCQ	On-None-On	4.68	3.65	3.63

SPDT, 0.750 WIRE WRAP

65F898	A121S1YWB	On-Off-On	5.54	4.35	4.32
65F899	A123S1YWB	On-None-On	4.84	3.80	3.78

DPDT, SOLDER LUG

Stock No.	Type	Action	1-9	10-24	25-49
65F1656	A221S1YZQ	On-Off-On	7.79	7.03	5.69
65F1657	A223S1YZQ	On-None-On	6.39	5.07	5.03
65F1658	A226S1YZQ	On-None-(On)	8.03	7.25	5.85
65F1659	A227S1YZQ	(On)-Off-(On)	7.79	7.03	5.69
65F1661	A232S1YZQ	On-On-On	8.59	7.75	6.21
65F1708	A221P32YZQ	On-Off-On	8.85	7.99	6.60
65F1709	A223P32YZQ	On-None-On	7.86	7.09	5.90
65F1731	A221K12KZQ	On-Off-On	10.23	9.24	7.79
65F1732	A223K12KZQ	On-None-On	9.24	8.34	7.08

DPDT, PCB TERMINAL

65F1687	A221S1YCQ	On-Off-On	7.98	7.20	5.85
65F1688	A223S1YCQ	On-None-On	6.56	5.23	5.19

3PDT, SOLDER LUG

65F1662	A321S1YZQ	On-Off-On	14.01	12.65	9.34
65F1663	A323S1YZQ	On-None-On	13.13	11.85	8.80
65F1664	A327S1YZQ	(On)-Off-(On)	15.24	14.58	10.94

3PDT, PCB TERMINAL

65F1694	A323S1YCQ	On-None-On	13.41	12.10	9.04

4PDT, SOLDER LUG

65F1667	A421S1YZQ	On-Off-On	15.12	14.47	11.83

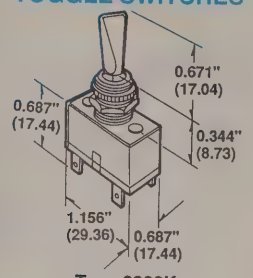
4PDT, PCB TERMINAL

65F1699	A423S1YCQ	On-None-On	14.43	13.81	11.41

(4851) (de00554)

INDUSTRIAL AND MILITARY TOGGLE SWITCHES

DESIGNER LINE GENERAL-PURPOSE AC/DC RATED TOGGLE SWITCHES



Type 8280K

Designer line AC/DC switches feature quick-make, quick-break contact mechanism with nonteasable, self-cleaning, wiping contact action. All switches listed are rated 6A @ 125VAC/DC, 3A @ 250VAC/DC, except **type 8282K**, which is rated 3A @ 125VAC/DC, and 1A @ 250VAC/DC. **Type 8280K** has no rating @ 125VAC/DC. Come with "C" style lever. Units are one-hole mounting and are UL recognized, CSA certified. Threaded black bushing: 0.468″ -32. Solder lug terminals. Thermoplastic lever and black mounting hardware included. On/off plates and hardware available for designer line switches; *contact your Newark representative for pricing.*

SPST ON-NONE-OFF

Stock No.	Type	Lever Color	1-24	25-49	50-99
41F463	8280K127C	Black	3.72	3.21	2.66
23F450	8381K121C	White	7.31	6.60	4.90
23F451	8381K122C	Red	7.31	6.60	4.90
23F454	8381K127C	Black	3.86	3.30	2.74

SPDT ON-NONE-ON

23F469	8282K127C	Black	4.66	3.98	3.29

DPST ON-NONE-OFF

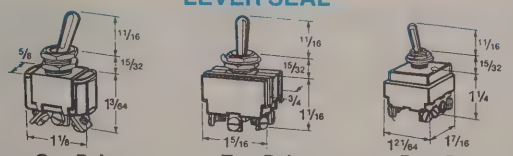
23F481	8370K122C	Red	12.24	11.04	8.17
23F484	8370K127C	Black	6.46	5.55	4.58

DPDT ON-NONE-ON

23F501	8373K121C	White	13.92	9.93	9.50
23F502	8373K122C	Red	14.06	12.68	9.40
23F505	8373K127C	Black	7.90	7.13	6.12

(4875) (de01462)

7600, 8800 SERIES MIL-S-83731 STANDARD SWITCHES WITH LEVER SEAL



One Pole Two Pole Four Pole

Silicone rubber lever seal stops contaminants. Hot tin-dipped #6-32 screw terminals facilitate soldering when used as lug. Phenolic and metal housing. Rated 20A at 28VDC, and 10A at 115VAC. Bushing: 15/32-32 thread. Keyway: 0.035″ (0.889) D by 0.068″ (1.73) W. Meet Mil. spec. MIL-S-83731. ( ) Denotes momentary action.

ONE POLE

Stock No.	Type	MIL-SPEC	Action	1-9	10-24	25-49
23F307	8800K16	MS35058-21	On-Off-On	17.04	16.30	15.85
23F300	8801K22	MS35058-22	On-None-Off	15.32	14.65	14.25
23F306	8810K15	MS35058-23	On-None-On	17.26	16.51	16.06
23F301	8801K23	MS35058-24	On-Off-None	15.32	14.65	14.25
23F309	8812K14	MS35058-27	(On)-Off-(On)	18.15	17.37	16.89
23F305	8811K17	MS35058-30	Off-None-(On)	16.54	15.83	15.40
70B6270	8860K4	MS25201-4	On-On-On	43.50	38.69	38.69

TWO POLE

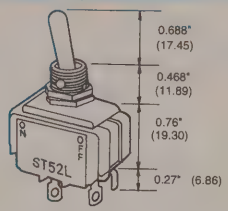
23F316	8820K16	MS35059-21	On-Off-On	23.90	22.87	22.24
23F311	8822K20	MS35059-22	On-None-Off	20.76	19.86	19.32
23F315	8824K14	MS35059-23	On-None-On	23.20	22.20	21.59
23F312	8822K21	MS35059-24	On-Off-None	21.84	19.86	19.32
41F646	8830K13	MS35059-26	On-None-(On)	28.86	27.61	26.86
23F317	8834K5	MS35059-27	(On)-Off-(On)	29.94	28.64	27.86
23F318	8832K6	MS35059-31	On-Off-(On)	28.39	27.16	26.42

FOUR POLE

41F650	7662K7	MS25068-21	On-Off-On	52.40	50.13	47.82
23F319	7664K5	MS25068-23	On-None-On	52.40	50.13	47.82

(4905) (de50028)

AC RATED, HEAVY-DUTY, MILITARY TOGGLE SWITCHES

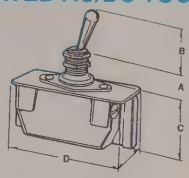


Heavy-duty general purpose switches conform to military (Jan-S-23 equivalents) information. Bushing length : 0.468″ (11.89); lever length : 0.688″ (17.45). Units featured have solder lug terminals. (On) or (Off) indicates momentary contact. Screw terminals available; *contact Newark for information.*

Stock No.	Type	Circuit	Action	1-9	10-24
94F4677	7300K38	1PST	On-None-Off	12.85	11.59
94F4681	7310K36	2PST	On-None-Off	17.19	16.44
94F4664	7311K38	2PDT	On-Off-On	17.58	16.82
94F4665	7312K38	2PDT	On-None-On	17.58	16.82

(4988) (ne08900)

INDUSTRIAL-RATED AC/DC TOGGLE SWITCHES



Quick-make, quick-break action switches feature nonteasable, self-cleaning, wiping action contacts. All feature On-None-Off switching action *except* **type 8690K2** which is On-None-On. Units are one-hole mounting and have screw terminals. Mounting hardware, consisting of one hexagon locknut and one nickel-plated facenut, and terminal hardware are furnished unassembled. 0.071″ wide x 0.038″ deep keyway provides anti-rotation feature. UL recognized, CSA certified.

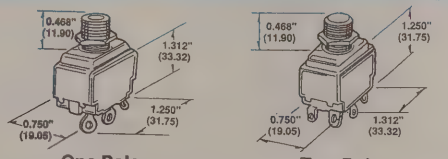
DIMENSIONS AND RATINGS

Code	A	B	C	D	AC & DC Rating @ 125	AC & DC Rating @250
A	0.469″	0.656″	0.781″	1.875″	16A	8A
B	0.469″	0.656″	0.890″	2.250″	20A	10A
C	0.469″	0.813″	1.265″	2.500″	15A	10A
D	0.344″	0.656″	0.890″	2.250″	20A	10A
E	0.469″	0.813″	1.265″	2.640″	...	20A

Stock No.	Type	Circuit	Code	1-24	25-49	50-99
23F252	7321K3	SPST	A	6.02	5.16	4.28
41F524	7361K5	SPST	B	8.57	7.74	6.79
23F229	8690K2	DPDT	C	16.66	15.94	14.31
23F251	7320K3	DPST	A	5.67	4.83	4.03
23F270	7360K7	DPST	D	8.04	7.26	6.36
23F255	7402K4	DPST	E	13.94	12.58	11.03

(4874) (de01461)

DESIGNER LINE AC RATED TOGGLE SWITCHES



One Pole Two Pole

Feature slow-make, slow-break butt-action contact mechanism designed for use on AC and low voltage DC applications. General purpose switches have one-hole mounting. Rated 15 amps at 125VAC or 28VDC, 10 amps at 250VAC. Threaded bushing: 0.468″ -32. Screw or solder lug terminals. ( ) denote momentary action. UL recognized, CSA certified. *Levers and cap nuts must be ordered separately; contact your local Newark sales office.*

WITH SCREW TERMINALS

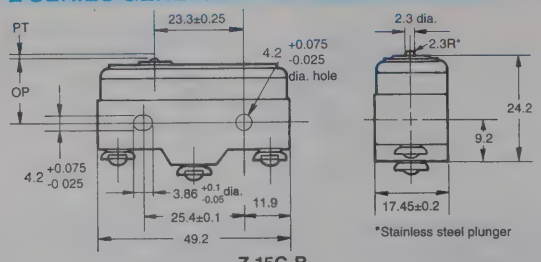
Stock No.	Type	Circuit	Action	1-24	25-49	50-99
21F885	7569K63	DPDT	(On)-Off-(On)	13.93	13.32	10.28
21F886	7560K63	DPST	On-None-Off	4.81	4.10	3.40
21F887	7562K63	DPDT	On-Off-On	6.08	5.23	4.33
21F888	7564K63	DPDT	On-None-On	6.02	5.17	4.26

WITH SOLDER LUG TERMINALS

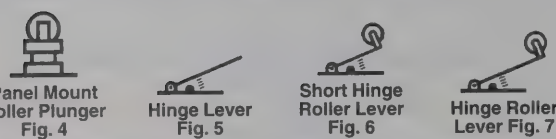
21F891	7561K64	DPST	On-None-Off	4.31	3.70	3.07
21F892	7563K64	DPDT	On-Off-On	5.17	4.44	3.67
21F893	7565K64	DPDT	On-None-On	5.30	4.53	3.76

(4877) (de01464)

Z SERIES GENERAL PURPOSE SWITCHES



Z-15G-B

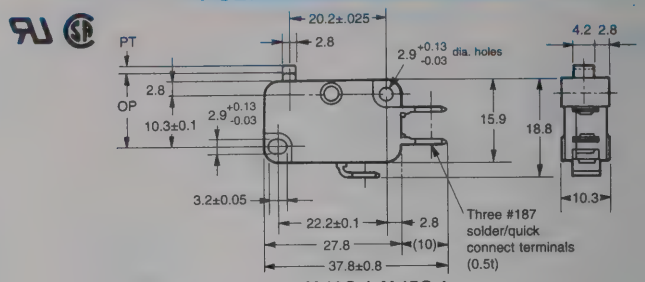


Z series are high precision basic switches. **Type Z-15G** have resistive load of 0.5A, 125 VDC. Mechanical service life: 20×10^6 min. Electrical service life: 500×10^3 min. Wide margins of operating conditions and broad operating speed range. UL recognized, CSA certified.

Stock No.	Type	Operating Force (g)	Actuator	1-24	25-49	50-99
52F3660	Z-15G-B	350	Fig. 1	5.46	5.24	5.04
52F3661	Z-15GD-B	350	Fig. 2	6.70	6.43	6.19
52F3665	Z-15GQ-B	350	Fig. 3	9.15	8.77	8.44
52F3666	Z-15GQ21-B	350	Fig. 4	10.80	10.35	9.97
52F3667	Z-15GQ22-B	350	Fig. 4	10.80	10.35	9.97
52F3668	Z-15GW-B	70	Fig. 5	7.31	7.02	6.75
52F3669	Z-15GW2-B	100	Fig. 7	7.31	7.02	6.75
52F3670	Z-15GW22-B	160	Fig. 6	6.85	6.57	6.32

(4976) (ne07072)

V SERIES BASIC SWITCHES



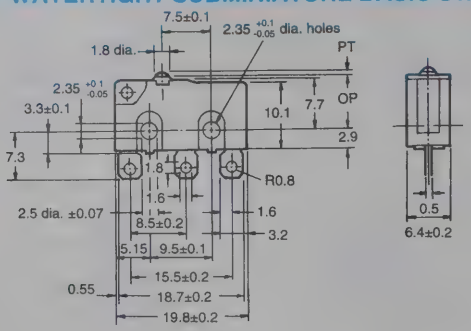
V-10G-1, V-15G-1

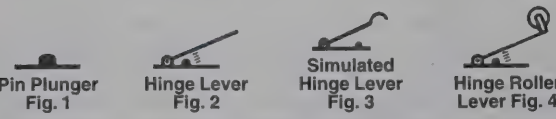
Applications include both industrial equipment and commercial products (OEM). Break from 0.1 A to 21 A. **Type V-10** has resistive load of 10A, 250 VAC. **Type V-15** has resistive load of 15A, 250 VAC. Low force, high contact reliability design available. UL recognized, CSA certified.

Stock No.	Type	Operating Force (g)	Actuator	1-24	25-49	50-99
52F3640	V-10G-1C24-K	100	Fig. 1	2.67	2.43	2.33
52F3641	V-10G-1C25-K	200	Fig. 1	2.67	2.43	2.33
52F3642	V-10G2-1C24-K	60	Fig. 2	2.72	2.47	2.38
52F3643	V-10G3-1C24-K	35	Fig. 3	2.85	2.59	2.49
52F3646	V-10G5-1C24-K	120	Fig. 6	3.26	2.96	2.85
52F3649	V-15G-1C25-K	200	Fig. 1	2.67	2.43	2.33
52F3650	V-15G-1C26-K	400	Fig. 1	2.67	2.43	2.33
52F3651	V-15G2-1C25-K	125	Fig. 2	2.72	2.47	2.37
52F3652	V-15G2-1C26-K	High	Fig. 2	2.72	2.47	2.37
52F3653	V-15G3-1C25-K	70	Fig. 4	2.96	2.69	2.59
52F3655	V-15G4-1C25-K	125	Fig. 5	2.87	2.61	2.51
52F3657	V-15G5-1C25-K	240	Fig. 6	3.26	2.96	2.85
52F3658	V-15G5-1C26-K	High	Fig. 6	3.26	2.96	2.85
52F3659	V-15G6-1C25-K	125	Fig. 7	3.26	2.96	2.85

(4975) (ne07071)

D2SW WATERTIGHT SUBMINIATURE BASIC SWITCH





Monoblock construction allows high sealing capacity. Switch has a wide operating temperature range (–40°C to 85°C). Used for automobiles, agricultural machinery, refrigerator, hot-water supply, air conditioner, factory machine industries and other applications requiring highly environment-resistive capabilities. Meets IP67 requirements (IEC 529). All models listed: 3A @ 125 VAC. O.1A models also available; *contact your local Newark sales office.*

Stock No.	Type	Terminals	Actuator	1-24	25-49	50-99
52F3613	D2SW-3HS	Solder	Fig. 1	3.66	3.32	3.20
52F3614	D2SW-3L1MS	Lead Wires	Fig. 2	6.33	5.75	5.54
52F3615	D2SW-3L2MS	Lead Wires	Fig. 4	6.68	6.07	5.85
52F3616	D2SW-3L3MS	Lead Wires	Fig. 3	6.33	5.75	5.54
52F3611	D2SW-3MS	Lead Wires	Fig. 1	6.07	5.52	5.31
52F3612	D2SW-3TS	Tab (#110)	Fig. 1	3.66	3.32	3.20

(4985) (ne08307)

D2VW SERIES WATERTIGHT MINIATURE BASIC SWITCHES

Used for the same applications as the **D2SW series**, the **D2VW series** offers a wider operating temperature: –40°C to +90°C. Rating: 5A @ 250VAC. Meets IP67 requirements (IEC529). UL recognized, CSA certified. 0.1A types are also available; *contact your local Newark sales office.*

Stock No.	Type	Terminals	Actuator	1-24	25-49
83F5341	D2VW-5-1HS	Solder/Tab (#187)	Pin Plunger	4.94	4.49
83F5342	D2VW-5-1MS	Lead Wires	Pin Plunger	7.64	6.94
83F5343	D2VW-5L1-1HS	Solder/Tab (#187)	Hinge Lever	5.16	4.69
83F5344	D2VW-5L1-1MS	Lead Wires	Hinge Lever	7.95	7.22
83F5345	D2VW-5L1A-1HS	Solder/Tab (#187)	Short Hinge Lever	5.12	4.65
83F5346	D2VW-5L1A-1MS	Lead Wires	Short Hinge Lever	7.95	7.22
83F5347	D2VW-5L1B-1HS	Solder/Tab (#187)	Long Hinge Lever	5.16	4.69
83F5348	D2VW-5L1B-1MS	Lead Wires	Long Hinge Lever	8.51	7.73
83F5349	D2VW-5L2A-1HS	Solder/Tab (#187)	Hinge Roller Lever	5.43	4.94
83F5350	D2VW-5L2A-1MS	Lead Wires	Hinge Roller Lever	8.45	7.68
83F5351	D2VW-5L3-1HS	Solder/Tab (#187)	Sim. Roller Lever	5.12	4.65
83F5352	D2VW-5L3-1MS	Lead Wires	Sim. Roller Lever	7.97	7.24

(33975) (ne33975)

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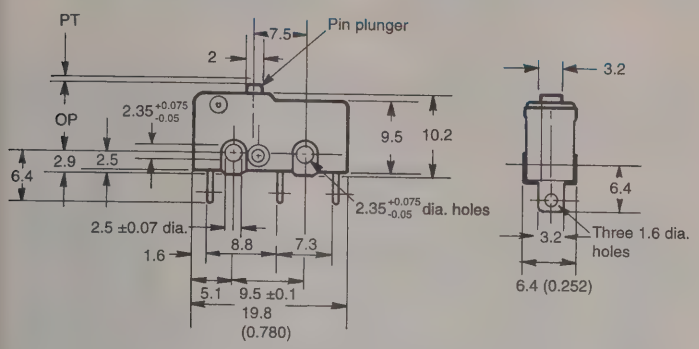
SS SERIES SUBMINIATURE SNAP-ACTION SWITCHES



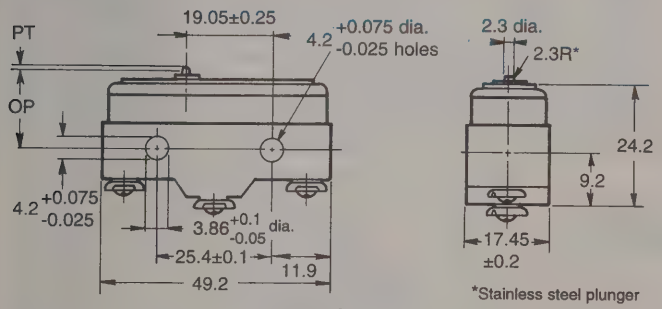
SS-01-FT

SS series are subminiature, basic switches. Set easily; no overtravel restrictions. Switching capacity ranges from 1mA at 5VDC to 10.1A at 250VAC. Service life: 30 million operations min. SPDT models are shown. SPST-NO and SPST-NC contact forms available. UL recognized, CSA certified; SEV and SEMKO approved.

Stock No.	Type	Description	1-24	25-49
52F3625	SS-01-FT	0.1 Amp Pin Plunger, Low Force	3.10	2.82
52F3627	SS-01GL13	0.1 Amp Simulated Roller Lever	3.10	2.82
52F3628	SS-10	10 Amp Pin Plunger	2.13	1.93
52F3629	SS-10D	10 Amp Pin Plunger, PCB Term.	2.80	2.55
52F3633	SS-5	5 Amp Pin Plunger	1.58	1.44
52F3631	SS-5D	5 Amp Pin Plunger, PCB Term.	1.85	1.68
52F3635	SS-5GL	5 Amp Hinge Lever	1.73	1.57
52F3636	SS-5GLT	5 Amp Hinge Lever #110 Tab Term.	1.85	1.68
52F3637	SS-5GL13	5 Amp Simulated Roller Lever	1.81	1.64
52F3638	SS-5GL13T	5 Amp Simulated Roller Lever #110 Tab Term.	1.78	1.61

(4979) (ne07301)

A SERIES SNAP-ACTION SWITCHES



A-20G-B

A series are high capacity switches, capable of handling 20A loads with large inrush currents. (Resistive load: 20A, 250VAC.) Typical applications include halogen lamps, motors, and solenoids. Operating force: 400-625g. Mechanical service life: 10×10^6 min. UL recognized, CSA certified, SEV approved

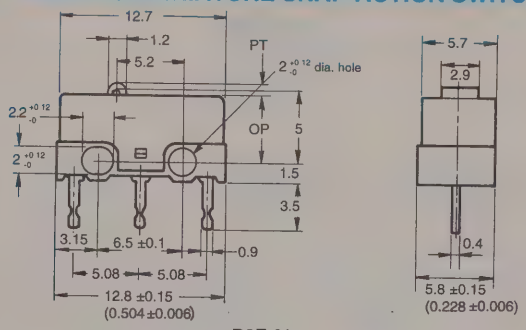
Stock No.	Type	Description	1-24	25-49
52F3595	A-20G-B7-K	Pin Plunger	7.38	7.08
52F3597	A-20GQ-B7-K	Panel Mount Plunger	11.22	10.76
52F3599	A-20GV-B7-K	Hinge Lever	7.42	7.11
52F3600	A-20GV2-B7-K	Hinge Roller Lever	7.42	7.11
52F3601	A-20GV22-B7-K	Short Hinge Roller Lever	7.97	7.64

(4977) (ne07074)

COMPLETE SPECS AT YOUR FINGERTIPS!
OMRON FAX-ON-DEMAND, 847-843-1963.
SS SERIES - CODE 16107
A SERIES - CODE 16101
D2F SERIES - CODE 16111
B3S SERIES - CODE 16201
B3F SERIES - CODE 16200

(33976) (ne33976)

D2F SERIES SUBMINIATURE SNAP-ACTION SWITCHES



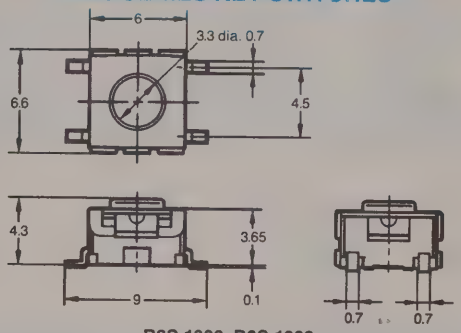
D2F-01

D2F series are subminiature, snap-action switches. Suitable for a wide range of applications such as household appliances, office equipment, and audio equipment. Capable of switching 3A, 1A, and 0.1A loads. High-precision, dual-spring, reverse-action mechanism supports long life.

Stock No.	Type	Description	1-24	25-49	50-99
52F3602	D2F	3 amp Pin Plunger	1.50	1.36	1.31
52F3603	D2F-L	3 amp Hinge Lever	1.66	1.51	1.46
52F3604	D2F-01	0.1 amp Pin Plunger	1.50	1.36	1.31
52F3605	D2F-01F	0.1 amp Pin Plunger - Low Force	1.50	1.36	1.31
52F3607	D2F-01L	0.1 amp Hinge Lever	1.66	1.51	1.46

(4974) (ne07070)

B3S SERIES KEY SWITCHES



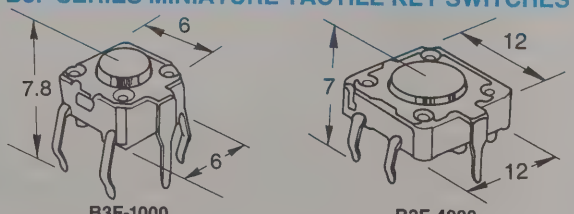
B3S-1000, B3S-1002

B3S series are surface mount switches ideal for high-density packaging. Sealed construction allows key switches to be mounted and soldered to a PC board. Ideal for applications such as audio, office, and communications equipment, measuring instruments, industrial robots, VCRs, TVs, and vending machines.

Stock No.	Type	Operating Force (gms)	1-24	25-49	50-99
52F3560	B3S-1000	160	0.68	0.67	0.64
52F3561	B3S-1002	230	0.68	0.67	0.64

(11927) (ne10210)

B3F SERIES MINIATURE TACTILE KEY SWITCHES



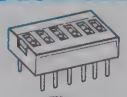
B3F-1000 B3F-4000

B3F series are miniature and low profile. Extended mechanical and electrical service life. Suited for audio, office and communications equipment, measurement instruments, TVs, and VCRs. Flux tight base structure allows automatic soldering of the key switches onto a PC board. **Type B3F-3** has right-angle terminal. Snap action mechanism.

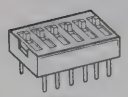
Stock No.	Type	Description	1-24	25-49	50-99
52F3545	B3F-1000	100qF 4.3 Dim.H.mm	0.30	0.29	0.28
52F3546	B3F-1002	150qF 4.3 Dim.H.mm	0.35	0.34	0.33
52F3549	B3F-1050	100qF 7.3 Dim.H.mm	0.35	0.34	0.33
52F3551	B3F-1070	100qF 9.5 Dim.H.mm	0.38	0.37	0.36
52F3552	B3F-3120	100qF 3.85 Dim.H.mm	0.48	0.47	0.45
52F3556	B3F-4000	130qF 4.3 Dim.H.mm	0.48	0.47	0.45
52F3557	B3F-4005	260qF 4.3 Dim.H.mm	0.48	0.47	0.45
52F3558	B3F-4050	130qF 7.3 Dim.H.mm	0.48	0.47	0.45
52F3559	B3F-4055	260qF 7.3 Dim.H.mm	0.48	0.47	0.45

(4973) (ne07069)

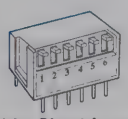
A6E/A6ER SERIES LOW-COST DIP SWITCHES



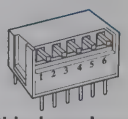
Flat



Raised



Side, Short-Lever



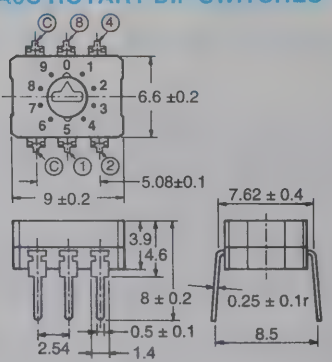
Side, Long-Lever

A6E/A6ER series sealed bottom design prevents flux penetration. Switching capacity: 25mA @ 24VDC. Mechanical/electrical life expectancy: 1,000 operations minimum. Operating force: 30gf. ambient operating temperature: –20°C to +70°C (with no icing). Other polarities are available; *contact your local Newark sales office.*

Stock No.	Type	Description	Poles	1-24	25-49	50-99
91F1844	A6E-2101	Flat Actuated	2	0.82	0.74	0.71
91F1846	A6E-4101	Flat Actuated	4	1.01	0.92	0.89
91F1848	A6E-6101	Flat Actuated	6	1.29	1.17	1.13
91F1850	A6E-8101	Flat Actuated	8	1.62	1.47	1.41
91F1852	A6E-0101	Flat Actuated	10	2.09	1.90	1.83
91F1853	A6E-2104	Raised Actuator	2	0.82	0.74	0.71
91F1855	A6E-4104	Raised Actuator	4	1.01	0.92	0.89
91F1857	A6E-6104	Raised Actuator	6	1.29	1.17	1.13
91F1859	A6E-8104	Raised Actuator	8	1.62	1.47	1.41
91F1861	A6E-0104	Raised Actuator	10	2.09	1.90	1.83
91F1862	A6ER-2101	Side Actuated, Short Lever	2	0.93	0.84	0.81
91F1864	A6ER-4101	Side Actuated, Short Lever	4	1.16	1.05	1.01
91F1866	A6ER-6101	Side Actuated, Short Lever	6	1.41	1.28	1.23
91F1868	A6ER-8101	Side Actuated, Short Lever	8	1.73	1.57	1.51
91F1870	A6ER-0101	Side Actuated, Short Lever	10	2.21	2.01	1.93
91F1871	A6ER-2104	Side Actuated, Long Lever	2	0.93	0.84	0.81
91F1873	A6ER-4104	Side Actuated, Long Lever	4	1.16	1.05	1.01
91F1875	A6ER-6104	Side Actuated, Long Lever	6	1.41	1.28	1.23
91F1877	A6ER-8104	Side Actuated, Long Lever	8	1.73	1.57	1.51
91F1879	A6ER-0104	Side Actuated, Long Lever	10	2.21	2.01	1.93

(13426) (ne10212)

A6C ROTARY DIP SWITCHES

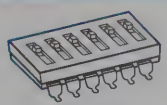


Subminiature switches feature precision rotary cam and contactor. Molded base and rotor sealed by O-ring make tape sealing unnecessary. 10-position switches feature BCD output code; 16-position switches use BCD hexadecimal output code. Switching capacity: 100mA, 30VDC. Operating force: 15-100g - cm. Ambient operating temperature: –20°C to +70°C. Service life: mechanical 10,000 ops. min; electrical 2,000 ops. min. Side actuated types available; *contact your local Newark sales office.*

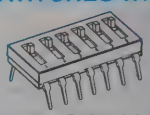
Stock No.	Type	Description	No. of Positions	1-24	25-49	50-99
52F3583	A6C-10R(N)	Top Actuated	10	3.21	3.11	3.00
52F3584	A6C-16R(N)	Top Actuated	16	3.39	3.29	3.16

(4984) (ne08306)

A6T/A6S SERIES LOW-COST DIP SWITCHES WITH SLIDE PIN



SMT Terminal



DIP Terminal, Raised Actuator

A6T/A6S series allow automatic mounting with DIP IC insertion machines. Switching capacity: 25mA @ 24VDC. Mechanical/electrical life expectancy: 1000 operations minimum. Operating force: 30gf. ambient operating temperature: –20°C to +70°C (with no icing). Other polarities are available; *contact your local Newark sales office.*

WITH DIP TERMINALS

Stock No.	Type	Description	Poles	1-24	25-49	50-99
91F1881	A6T-2101	Flat Actuated, Standard	2	0.77	0.70	0.67
91F1887	A6T-2102	Flat Actuated, Seal Tape	2	0.84	0.76	0.73
91F1893	A6T-2104	Raised Actuator	2	0.84	0.76	0.73
91F1882	A6T-4101	Flat Actuated, Standard	4	0.87	0.79	0.76
91F1888	A6T-4102	Flat Actuated, Seal Tape	4	0.94	0.85	0.82
91F1894	A6T-4104	Raised Actuator	4	0.94	0.85	0.82
91F1883	A6T-6101	Flat Actuated, Standard	6	1.07	0.97	0.93
91F1889	A6T-6102	Flat Actuated, Seal Tape	6	1.13	1.03	0.99
91F1895	A6T-6104	Raised Actuator	6	0.97	0.88	0.85
91F1884	A6T-8101	Flat Actuated, Standard	8	1.38	1.25	1.20
91F1890	A6T-8102	Flat Actuated, Seal Tape	8	1.44	1.31	1.26
91F1896	A6T-8104	Raised Actuator	8	1.38	1.25	1.20

WITH SMT TERMINAL

Stock No.	Type	Description	Poles	1-24	25-49	50-99
91F1898	A6S-2101	Flat Actuated, Standard	2	1.00	0.91	0.88
91F1907	A6S-2102	Flat Actuated, Seal Tape	2	1.06	0.96	0.92
91F1916	A6S-2104	Raised Actuator	2	1.00	0.91	0.88
91F1899	A6S-3101	Flat Actuated, Standard	3	1.02	0.93	0.90
91F1908	A6S-3102	Flat Actuated, Seal Tape	3	1.09	0.99	0.95
91F1917	A6S-3104	Raised Actuator	3	1.02	0.93	0.90
91F1900	A6S-4101	Flat Actuated, Standard	4	1.06	0.96	0.92
91F1909	A6S-4102	Flat Actuated, Seal Tape	4	1.11	1.01	0.97
91F1918	A6S-4104	Raised Actuator	4	1.06	0.96	0.92
91F1901	A6S-5101	Flat Actuated, Standard	5	1.14	1.04	1.00
91F1910	A6S-5102	Flat Actuated, Seal Tape	5	1.21	1.10	1.06
91F1919	A6S-5104	Raised Actuator	5	1.14	1.04	1.00
91F1902	A6S-6101	Flat Actuated, Standard	6	1.24	1.13	1.09
91F1911	A6S-6102	Flat Actuated, Seal Tape	6	1.30	1.18	1.14
91F1920	A6S-6104	Raised Actuator	6	1.24	1.13	1.09
91F1903	A6S-7101	Flat Actuated, Standard	7	1.40	1.27	1.22
91F1912	A6S-7102	Flat Actuated, Seal Tape	7	1.46	1.33	1.28
91F1921	A6S-7104	Raised Actuator	7	1.40	1.27	1.22
91F1904	A6S-8101	Flat Actuated, Standard	8	1.55	1.41	1.36
91F1913	A6S-8102	Flat Actuated, Seal Tape	8	1.62	1.47	1.41
91F1922	A6S-8104	Raised Actuator	8	1.55	1.41	1.36
91F1905	A6S-9101	Flat Actuated, Standard	9	1.90	1.73	1.66
91F1914	A6S-9102	Flat Actuated, Seal Tape	9	1.97	1.79	1.72
91F1923	A6S-9104	Raised Actuator	9	1.90	1.73	1.66

(13428) (ne10211)

D3K SERIES DETECTION SWITCH

NEW

- **Detects Passing Paper in Printers**
- **Detects Loaded Paper in Printer**
- **Detects Open Cover on Fax Machines**
- **Detects Sold-Out Products in Vending Machines**
- **Detects Cards in Pay Phones and Card Readers**
- **Detects Trays in Photocopiers**

Easy wiring enabled through quick-connect terminals. Long life with 2 million switching operations. Rating: 10mA @ 12VDC (resistive). Class 3 protection against electric shock. Ambient operating temperature: –10°C to +70°C (with no icing).

Stock No.	Type	Operating Frequency	1-24	25-49	50-99	100-249
83F5353	D3K-B	30 Ops./Minute	0.83	0.79	0.76	0.72

(33978) (ne33978)

SAME-DAY SHIPMENT ON ORDERS
PLACED BY 5:00 PM C.S.T.

PUSHBUTTON SWITCHES

LOW PROFILE KEY SWITCHES

Fig. 1 Fig. 2

MTG series for use as single key switch or for placement under a flexible membrane overlay. **MCS series** sealed membrane switches use **MTG series** as its base. Feature flexible polyester membrane foil and bezel in black. Available in other colors. Both series are momentary action switches for PC board mounting. Chrome-nickel snap dome gold-plated on contact side. Lighted models available; *contact your local Newark sales office*. Rated 125mA @ 48 volts maximum. Comply with degree of protection IP65.

Stock No.	Type	Fig.	Foil Color	1-24	25-49
04F1075	1241.1117	1	Black	2.52	2.32
04F1061	1241.1130.7.97	2	Black	4.47	4.12

(5109) (de52631)

SNAP DOME, BASE SWITCHES WITH BUTTONS AND KEYTOP

Fig. 1 Fig. 2 Fig. 3

Square base switches for SMD and through-hole mounting. Momentary action 0.50″ (12.70). Rated 125mA/48 volts. Reflow solder process compatible. **Type MTG 1241.1082.8** includes white actuator button (also in other colors/heights). Chrome-plated steel snap dome, gold plated on contact side.

Stock No.	Type	Fig.	Leads	Height	1-24	25-49
95F8125	1241.1607.11	1	J-bend	0.185″	2.53	2.32
95F8126	1241.1606.11	1	G-wing	0.185″	2.53	2.32
04F1088	1241.1052	1	T-hole	0.173″	2.04	1.88
04F1089	1241.1072	2	T-hole	0.305″	2.04	1.88
04F1090	1241.1082.8	3	T-hole	0.541″	2.58	2.38

(5106) (de52628)

LOW PROFILE KEY SWITCHES

Fig. 1 Fig. 2 Fig. 3 Fig. 4

Momentary action 0.750″ (19.05) membrane switches for mounting on front panels or PC boards. Flexible polyester foil in various colors. Bezel in black (also available in other color combinations). Ultra low profile 0.157″ (4.00) above board. Rated 125mA @ 48 volts maximum. Foil color: .97 = Black; .93 = Red; .95 = Green. Chrome-plated steel snap dome, gold plated on contact side.

Stock No.	Type	Fig.	Mounting	1-24	25-49
04F1087	1241.1113.7.97*	1	Panel	5.66	5.21
04F1085	1241.1112.7.97*	2	Panel	5.66	5.21
04F1073	1241.1110.7.97	3	PCB	4.78	4.40
04F1071	1241.1108.7.97	4	PCB	4.78	4.40
83F8442	1241.1104.7.93	1	Panel	5.01	4.61
83F8443	1241.1104.7.95	1	Panel	5.01	4.61
83F8444	1241.110.7.93	1	Panel	5.01	4.61
83F8445	1241.110.7.95	1	Panel	5.01	4.61

*With Soldering Aid
(5108) (de52630)

ROTARY 2-AND-3-POSITION VOLTAGE SELECTOR SWITCHES

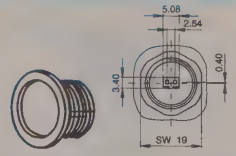
Fig. 1 Fig. 2

Ideal for chassis mounting, with solder terminals, or for PC board mounting. Figures 1 & 2 have two voltage positions, 110V and 220V. SWM type (not shown) has three selections, 110/150/220V; easily set by screwdriver or coin. For series-parallel or step transformer connections. Figures 1 & 2 rated 6.3A/250V. UL recognized, CSA certified, SEMKO, SEV and VDE approved. SWM rated IDA/250y ul/CSA; 6.3A/250V, VDE, SEMKO and SEV.

Stock No.	Type	Fig.	Mounting	Dimensions	1-24	25-49
04F1047	033.4501	1	Solder	0.598 x 1.015″	4.28	3.94
04F1048	033.4601	2	PC	0.598 x 0.858″	4.28	3.94
83F8446	SWM0033.4008	...	Solder	0.799 x 0.905″	8.54	7.86

(5112) (de52634)

PIEZO EFFECT ELECTRONIC SWITCHES



Piezo electric materials have the capacity to transform mechanical energy into electrical voltage. It is possible to use this voltage to open and close a transistor through micro-electronics. A piezo switch consists of a small element of piezo electric ceramic. Compressing this element distorts its crystal structure in such a way as to create a voltage between its surfaces, which can be amplified and interpreted as a switching signal. The presence of this switching signal is depending on the actuating force and the applied time of the force. Schurter's new PSE piezo switch family includes a complete range of housing colors, sizes and functions. Long-life vandal-proof plastic or metal. Point or ring illumination also available. Piezo switches available in anodized aluminum, brass chromium plated and high-grade steel material terminal pin models. All have a maximum switching voltage of 100V DC/70V AC and 100mA maximum switching current. Storage temperature: -40° to +85° C. Hermetically sealed to IP 67 protection. "EX" version meeting ignition protection requirements of EN 50020 for intrinsic safety and "eT" version rated for extreme temperatures, also available, *contact your local Newark sales office.*

Stock No.	Type	Style	1-49
16F1872	1241.2511	Terminal Pins, Brass Chromium Plated	48.45
16F1873	1241.2611	Terminal Pins, High-Grade Steel	59.74
16F1874	1241.2411.1*	Terminal Pins, Anodized Aluminum	42.80

*1 = Yellow; 3 = Red; 4 = Blue; 5 = Green; 7 = Black; 8 = Natural finish
(5166) (ne08518)

KEYTOP SWITCHES

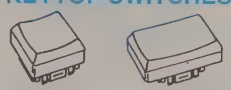


Fig. 1 Fig. 2

Momentary action, medium-stroke pushbutton switches for PC board or panel mounting. Feature normally open silver contacts. Rated 250mA @ 42 volts. Through-shaped enclosed base prevents entry of water or cleaning agents. Choice of 0.724″ (18.40) square which is available with lighted LED or 0.724x1.098″ (18.40x27.90) rectangular shape keytop. Chrome-plated steel snap dome, gold plated on contact side. Available in other colors; *contact your local Newark sales office.*

Stock No.	Type	Fig.	LED Color	1-24	25-49
04F1066	1241.1201.7*	1	None	3.12	2.88
04F1055	1241.1203.7*	2	None	3.20	2.95

*Keytop/Insert Plate Color: Black/None
(5110) (de52632)

Electronic Terms and Measurements

Resistance
Opposition to current flow. Basic unit is the ohm (Ω).

1 kilohm – kΩ	1,000 or $1x10^3$ ohms
1 Megohm – MΩ	1,000,000 or $1x10^6$ ohms

Voltage
Electromotive force. Basic unit is the volt (V).

1 millivolt – mV	1/1,000 or $1x10^{-3}$ volt
1 microvolt – µV	1/1,000,000 or $1x10^{-6}$ volts

Current
Movement of electricity. Basic unit is the ampere (A).

1 milliampere – mA	1/1,000 or $1x10^{-3}$ ampere
1 microampere – µA	1/1,000,000 or $1x10^{-6}$ ampere

Frequency
Number of cycles per second. Basic unit is the hertz (Hz).

1 kilohertz – kHz	1,000 or $1x10^3$ hertz
1 Megahertz – MHz	1,000,000 or $1x10^6$ hertz
1 Gigahertz – GHz	1,000,000,000 or $1x10^9$ hertz

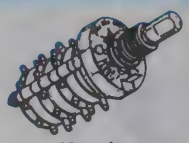
Time
Basic unit is the second (s).

1 millisecond – ms	1/1,000 or $1x10^{-3}$ second
1 microsecond – µs	1/1,000,000 or $1x10^{-6}$ second
1 nanosecond – ns	1/1,000,000,000 or $1x10^{-9}$ second

(38570) (Filler01)

ADJUSTABLE OR FIXED STOP ROTARY SWITCHES

42D/44D SERIES ROTARY SWITCHES



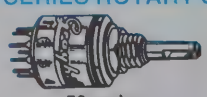
42 series

Fully enclosed, adjustable stop switches interchange with fixed stop models. Rated make/break 1A, carry 10A at 115VAC resistive. Insulation resistance: 50,000 megohms initial, 10,000 megohms minimum. Non-shorting contacts. ⅜-32NEF bushing. Behind-panel depth: 1-deck, 1.025″ (26.04); 2-deck, 1.371″ (34.82). **42D series**; 10-position. 36° indexing. 1″ (25.4) diameter. **44D series**; 12-position. 30° indexing. 1.162″ (29.51) diameter. UL recognized.

Stock No.	Type	Poles	Decks	Positions	1-4	5-9
57F1541	42D36-01-1-AJN	1	1	10	39.15	35.23
57F1544	42D36-01-2-AJN	2	1	10	40.82	36.74
57F1542	42D36-02-1-AJN	1	2	5	51.00	45.90
43F812	42D36-02-2-AJN	2	2	5	54.37	48.93
57F1545	44D30-01-1-AJN	1	1	12	40.17	36.15
57F1548	44D30-01-2-AJN	2	1	12	41.86	37.68
57F1546	44D30-02-1-AJN	1	2	6	53.38	48.04
43F815	44D30-02-2-AJN	2	2	6	56.72	51.05

(5056) (de50893)

50 AND 51 SERIES ROTARY SWITCHES



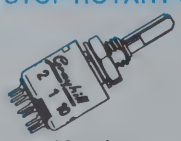
50 series

50/51 series single-deck adjustable stop switches with non-shorting contacts. Make/break 150mA, 115VAC resistive, 200mA, 28VDC resistive for 25,000 cycles. Insulation resistance 1,000 megohms minimum. Type number with "**P**" PC mount, others solder lug. Type number with "**C**" military style. **50 Series** is 36° indexing, **51 series** is 30°. 0.5″ (12.70) diameter.

Stock No.	Type	Poles	Pos.	1-4	5-9
57F1537	50CD36-01-1-AJN	1	10	23.98	21.58
57F1538	50CD36-01-2-AJN	2	5	29.72	26.75
95F9484	50D36-01-1-AJN	1	10	17.78	16.00
95F9485	50D36-01-2-AJN	2	5	21.96	19.77
43F820	51CD30-01-1-AJN	1	12	25.24	22.71
43F821	51CD30-01-2-AJN	2	6	30.71	27.64
57F3736	50CDP36-01-1-AJN	1	10	24.06	21.65
57F3737	50CDP36-01-2-AJN	2	5	29.64	26.67
95F9488	50DP36-01-1-AJN	1	10	18.58	16.73
57F3740	51CDP30-01-1-AJN	1	12	25.28	22.75
95F9490	51DP30-01-1-AJN	1	12	19.95	17.95

(5014) (de01966)

56 SERIES STOP ROTARY SWITCHES



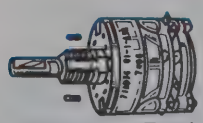
56 series

Single-deck adjustable stop commercial grade switches with non-shorting contacts make and break 10,000 cycles at 200mA 30VDC or 115VAC resistive. 0.5″ (12.70) diameter. Bushing: ¼-28 UNF - 2A thread, 0.25″ (6.35) long. Shaft: 0.125″ (3.18) dia., 0.375″ (9.53) long. Panel to PC board: 0.377″ (9.58). Circle of terminal centers is 0.340″ (8.64) for 10-position switches and 0.366″ (9.30) for 12-position switches. Type number with **P** is PC mount; others solder terminal. Type number with **S** has shaft-and-panel seal.

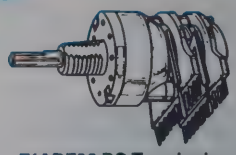
Stock No.	Type	Poles	Positions	1-9	10-24
81F2085	56D30-01-1-AJN	1	12	12.20	10.98
46F2806	56D30-01-2-AJN	2	6	13.52	12.17
81F2086	56D36-01-1-AJN	1	10	11.81	10.63
46F2813	56D36-01-2-AJN	2	5	13.14	11.82
46F2817	56SD30-01-1-AJN	1	12	13.22	11.90
46F2819	56SD36-01-1-AJN	1	10	12.82	11.54
46F2800	56SD36-01-2AJN	2	5	14.16	12.75
81F2087	56DP30-01-1-AJN	1	12	12.58	11.32
46F2807	56DP30-01-2-AJN	2	6	13.92	12.53
81F2088	56DP36-01-1-AJN	1	10	12.19	10.97
46F2808	56DP36-01-2-AJN	2	5	13.53	12.18
46F2820	56SDP30-01-1AJN	1	12	12.97	11.68
46F2821	56SDP30-01-2AJN	2	6	14.24	12.82
46F2822	56SDP36-01-1AJN	1	10	12.59	11.33
46F2823	56SDP36-01-2-AJN	2	5	13.86	12.47

(5057) (de50894)

71 SERIES ¼-AMP, 0.5″ (12.7) DIAMETER STOP ROTARY SWITCHES



71AD36 Solder Lug Terminals



71ADF36 PC Terminals

71 series multi-deck, single shaft switches are adjustable stop. Make/break: 250mA, 115VAC or 30VDC resisting 20,000 cycles. Insulation resistance: 10,000 megohms minimum. Voltage breakdown: 500VAC minimum. Meet moisture, shock, salt spray, explosion and stop strength requirements of MIL-S-3786. **71AD** are standard style with solder lug terminals and 0.125″ (3.18) diameter shaft; **71BD** same but have 0.250″ (6.35) diameter shaft. **71ADF** are PC mount with 0.125″ (3.18) diameter shaft; **71BDF** same but have 0.250″ (6.35) diameter shaft. **Suffix 30** or **36** indicates angle of throw by degrees. Behind-panel depth: 1-deck, 0.75″ (19.05); 2-deck, 1″ (25.4).

Stock No.	Type	Poles	Decks	Pos.	1-4	5-9
SOLDER LUG TERMINALS						
57F3744	71AD36-01-1-AJN	1	1	10	17.19	15.47
57F3745	71AD36-01-2-AJN	2	3	5	17.85	16.07
57F3746	71AD36-02-1-AJN	1	2	10	22.26	20.03
57F3747	71AD36-02-2-AJN	2	2	5	23.64	21.28
57F3748	71AD30-01-1-AJN	1	1	12	17.19	15.47
57F3749	71AD30-01-2-AJN	2	1	6	17.85	16.07
57F3750	71AD30-02-1-AJN	1	2	12	22.26	20.03
57F3751	71AD30-02-2-AJN	2	2	6	23.64	21.28
57F3752	71BD36-01-1-AJN	1	1	10	17.19	15.47
57F3753	71BD36-01-2-AJN	2	1	5	17.85	16.07
57F3754	71BD36-02-1-AJN	1	2	10	22.26	20.03
57F3755	71BD36-02-2-AJN	2	2	5	23.64	21.28
57F3756	71BD30-01-1-AJN	1	1	12	17.19	15.47
57F3757	71BD30-01-2-AJN	2	1	6	17.85	16.07
57F3758	71BD30-02-1-AJN	1	2	12	22.26	20.03
57F3759	71BD30-02-2-AJN	2	2	6	23.64	21.28
PRINTED CIRCUIT TERMINALS						
57F3760	71ADF36-01-1-AJN	1	1	10	18.23	16.41
57F3761	71ADF36-01-2-AJN	2	1	5	18.91	17.02
57F3764	71ADF30-01-1-AJN	1	1	12	18.23	16.41
57F3765	71ADF30-01-2-AJN	2	1	6	18.91	17.02
57F3766	71ADF30-02-1-AJN	1	2	12	25.02	22.52
57F3767	71ADF30-02-2-AJN	2	2	6	26.34	23.70
57F3768	71BDF36-01-1-AJN	1	1	10	18.23	16.41
57F3770	71BDF36-02-1-AJN	1	2	10	25.02	22.52
57F3771	71BDF36-02-2-AJN	2	2	5	26.34	23.70
57F3772	71BDF30-01-1-AJN	1	1	12	18.23	16.41
57F3773	71BDF30-01-2-AJN	2	1	6	18.91	17.02

(5058) (de50895)

19 SERIES POWER TAP ROTARY SWITCHES

• Solder Terminals • Faston® Terminals

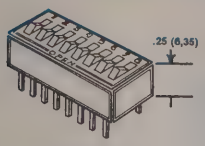
Single-pole, single-deck units have 2 to 11 positions plus common, with 30° indexing. Available in solder lug terminal with 0.125″ (3.18) wire hole or Faston® terminal with 0.080″ (2.03) wire hole. 15 amps, 120VAC, noninductive load. Contact resistance 10 milliohms at 2VDC and 100mA; contacts are non-shorting. Insulation resistance: 100,000 megohms. Voltage breakdown: 2500VAC.

Stock No.	Type	Taps	1-4	5-9
SOLDER TERMINALS				
43F801	19001-03UL	3	25.53	22.97
43F802	19001-04UL	4	26.83	24.15
43F803	19001-05UL	5	28.14	25.32
43F804	19001-06UL	6	29.44	26.50
43F805	19001-07UL	7	30.74	27.66
43F806	19001-08UL	8	32.07	28.86
43F808	19001-10UL	10	34.65	31.19
43F809	19001-11UL	11	35.92	32.33
FASTON® TERMINAL				
57F1501	19101-03UL	3	25.53	22.97
57F1502	19101-04UL	4	26.83	24.15
57F1503	19101-05UL	5	28.14	25.32
57F1504	19101-06UL	6	29.44	26.50
57F1505	19101-07UL	7	30.74	27.66
57F1506	19101-08UL	8	32.07	28.86
57F1508	19101-10UL	10	34.65	31.19
57F1509	19101-11UL	11	35.92	32.33

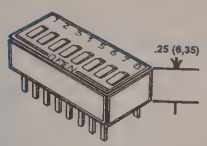
(5055) (de50892)

DIP SWITCHES

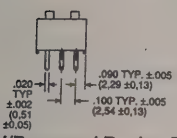
76 AND 78 SERIES DIP SWITCHES



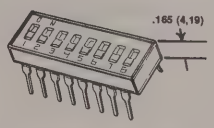
Raised Rocker



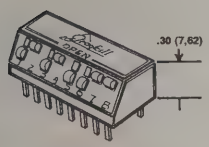
Recessed Rocker



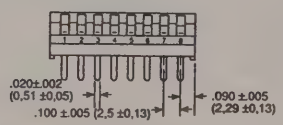
Raised/Recessed Rocker Pinout



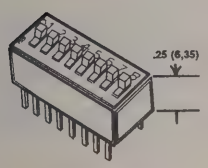
Machine Insertable



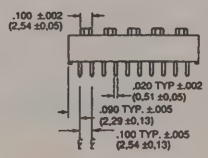
Piano-DIP®



Piano Dip® Pinout



Raised Slides



Slides Pinout

76 and 78 Series single pole, single throw (SPST) and single pole, double throw (SPDT) switches feature high pressure spring-loaded ball contact system and standard epoxy-sealed bases. **90 Series** machine insertable MIDIP switches (**type 90B**) are compatible with TO-116 equipment. Last two numbers of type indicate number of switch positions. **"S" suffix** on type number indicates top tape seal to protect contacts during board cleaning. Each switch position makes and breaks 10,000 operations at 1mA, 5VDC or 50mA, 30VDC; 150mA, 30VDC. Contact resistance: 30 milliohms. Dielectric strength: 750VAC rms minimum. Terminals are copper alloy, 95/5 solder-plated over nickel barrier.

SPST RAISED ROCKERS, SEALED AND UNSEALED

Stock No.	Type	Switch Length	1-24	25-99	100-249	250-999
28F1450	76SB02	0.28″ (7.11)	1.76	1.41	1.14	0.97
55F5000	76SB02S	0.28″ (7.11)	1.87	1.50	1.22	1.03
28F1451	76SB03	0.38″ (9.65)	1.81	1.45	1.18	1.00
55F5001	76SB03S	0.38″ (9.65)	1.95	1.56	1.27	1.07
28F1452	76SB04	0.48″ (12.19)	1.87	1.50	1.22	1.03
55F5002	76SB04S	0.48″ (12.19)	1.99	1.59	1.29	1.09
28F1453	76SB05	0.58″ (14.73)	1.95	1.56	1.27	1.07
55F5003	76SB05S	0.58″ (14.73)	2.07	1.66	1.35	1.14
28F1454	76SB06	0.68″ (17.27)	1.99	1.59	1.29	1.09
55F5004	76SB06S	0.68″ (17.27)	2.11	1.69	1.37	1.16
28F1455	76SB07	0.78″ (19.81)	2.03	1.62	1.32	1.12
55F5005	76SB07S	0.78″ (19.81)	2.14	1.71	1.39	1.18
28F1456	76SB08	0.88″ (22.35)	2.11	1.69	1.37	1.16
55F5006	76SB08S	0.88″ (22.35)	2.19	1.75	1.42	1.20
28F1457	76SB09	0.98″ (24.89)	2.14	1.71	1.39	1.18
55F5007	76SB09S	0.98″ (24.89)	2.26	1.81	1.47	1.24
28F1458	76SB10	1.08″ (27.43)	2.16	1.73	1.40	1.19
55F5008	76SB10S	1.08″ (27.43)	2.30	1.84	1.50	1.27
46F2824	76SB12	1.28″ (32.51)	2.30	1.84	1.50	1.27
46F2825	76SB12S	1.28″ (32.51)	2.41	1.93	1.57	1.33

SPST RAISED SLIDES, SEALED AND UNSEALED

81F9139	78B02	0.28″ (7.11)	1.80	1.44	1.17	0.99
81F9143	78B04	0.48″ (12.19)	1.99	1.59	1.29	1.09
81F9144	78B04S	0.48″ (12.19)	2.12	1.70	1.38	1.17
81F9145	78B05	0.58″ (14.73)	1.99	1.59	1.29	1.09
81F9146	78B05S	0.58″ (14.73)	2.12	1.70	1.38	1.17
81F9149	78B07	0.78″ (19.81)	2.09	1.67	1.36	1.15
81F9151	78B08	0.88″ (22.35)	2.15	1.72	1.40	1.18
81F9152	78B08S	0.88″ (22.35)	2.28	1.82	1.48	1.25
81F9153	78B09	0.98″ (24.89)	2.21	1.77	1.44	1.22
81F9154	78B09S	0.98″ (24.89)	2.34	1.87	1.52	1.29
81F9155	78B10	1.08″ (27.43)	2.24	1.79	1.46	1.23
81F9156	78B10S	1.08″ (27.43)	2.37	1.90	1.54	1.30

CONTINUED

76 AND 78 SERIES DIP SWITCHES (CONT.)

SPST RECESSED ROCKERS, SEALED

Stock No.	Type	Switch Length	1-24	25-99	100-249	250-999
55F5017	76RSB03S	0.38″ (9.65)	1.95	1.56	1.27	1.07
55F5018	76RSB04S	0.48″ (12.19)	1.99	1.59	1.29	1.09
55F5019	76RSB05S	0.58″ (14.73)	2.07	1.66	1.35	1.14
55F5021	76RSB07S	0.78″ (19.81)	2.14	1.71	1.39	1.18
55F5022	76RSB08S	0.88″ (22.35)	2.19	1.75	1.42	1.20
55F5024	76RSB10S	1.08″ (27.43)	2.30	1.84	1.50	1.27

SPDT RAISED ROCKERS, SEALED

57F3774	76SC02S	0.38″ (9.65)	4.02	3.62	3.26	3.00
57F3775	76SC03S	0.58″ (14.73)	4.29	3.86	3.48	3.20
46F2828	76SC04S	0.78″ (19.81)	4.91	3.93	3.19	2.70

SPST PIANO-DIP®, SEALED & UNSEALED

50F7512	76PSB02	0.28″ (7.11)	2.72	2.18	1.77	1.50
50F7515	76PSB03S	0.38″ (9.65)	2.97	2.38	1.93	1.63
47F036	76PSB04	0.48″ (12.19)	2.89	2.31	1.88	1.59
55F5009	76PSB04S	0.48″ (12.19)	3.05	2.44	1.98	1.68
47F037	76PSB05	0.58″ (14.73)	2.93	2.34	1.90	1.61
55F5010	76PSB05S	0.58″ (14.73)	3.09	2.47	2.01	1.70
47F039	76PSB07	0.78″ (19.81)	3.09	2.47	2.01	1.70
47F040	76PSB08	0.88″ (22.35)	3.13	2.50	2.03	1.72
55F5013	76PSB08S	0.88″ (22.35)	3.29	2.63	2.14	1.81
55F5014	76PSB09S	0.98″ (24.89)	3.41	2.73	2.22	1.88
47F042	76PSB10	1.08″ (27.43)	3.37	2.70	2.19	1.85
55F5015	76PSB10S	1.08″ (27.43)	3.53	2.82	2.29	1.94
50F7516	76PSB12	1.28″ (32.5)	3.53	2.82	2.29	1.94
50F7517	76PSB12S	1.28″ (32.5)	3.68	2.94	2.39	2.02

MACHINE INSERTABLE, SPST RECESSED SLIDES, SEALED

50F7518	90B02S	0.27″ (6.84)	2.03	1.62	1.32	1.12
90F7342	90B04S	0.47″ (11.94)	1.79	1.43	1.16	0.98
90F7343	90B05S	0.57″ (14.48)	2.03	1.62	1.32	1.12
90F7349	90B08S	0.87″ (22.10)	1.79	1.43	1.16	0.98

(5066) (de50949)

90 SERIES SURFACE MOUNT DIP SWITCH

Surface Mount

Type 90H withstand vapor phase and infra-red solder reflow processes to 250°C. Available with gull wing (**type 90HBW**) and J-bend (**type 90HBJ**) terminals. Switches are SPST circuitry with recessed sides. All types make and break 2,000 operations per switch position at 10mA, 50mVDC. Contact resistance: 20 milliohms. Dielectric strength: 500VAC rms minimum. Terminals are brass, 95/5 solder-plated over nickel barrier. Contact area is gold-plated. Last two numerals in type number indicate the number of switch positions. **"S" suffix** in type number indicates required top seal to protect contact surface from contaminants during cleaning processes; molded base prevents leakage.

SURFACE MOUNT, SPST RECESSED SLIDES, SEALED

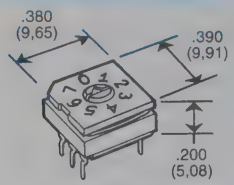
Stock No.	Type	Switch Length	1-24	25-99	100-249	250-999
50F9086	90HBW03S	0.37″ (9.40)	2.87	2.30	1.87	1.58
50F7520	90HBW04S	0.47″ (11.94)	2.58	2.06	1.68	1.42
50F7521	90HBW05S	0.57″ (14.48)	2.81	2.25	1.83	1.55
50F7523	90HBW07S	0.77″ (19.56)	2.92	2.34	1.90	1.61
50F7524	90HBW08S	0.87″ (22.10)	2.54	2.03	1.65	1.40
50F7525	90HBW09S	0.97″ (24.64)	3.25	2.60	2.11	1.79
50F7526	90HBW10S	1.07″ (27.18)	3.63	2.90	2.36	2.00
95F9496	90HBJ03S	0.37″ (9.40)	3.19	2.55	2.07	1.75
95F9498	90HBJ05S	0.57″ (14.48)	3.10	2.48	2.02	1.71
95F9500	90HBJ07S	0.67″ (17.02)	3.27	2.62	2.13	1.80
95F9501	90HBJ08S	0.87″ (22.10)	2.79	2.23	1.81	1.53
95F9502	90HBJ09S	0.97″ (24.64)	3.50	2.80	2.28	1.93
95F9503	90HBJ10S	1.07″ (27.18)	3.88	3.10	2.52	2.13

(5067) (de50950)

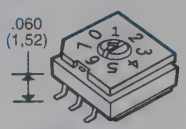
ONE-STOP SHOPPING . . . WITH ONE CALL AND ONE PURCHASE ORDER.

SWITCHES AND ENCODERS

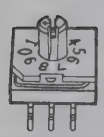
94 SERIES CODED ROTARY DIP SWITCHES

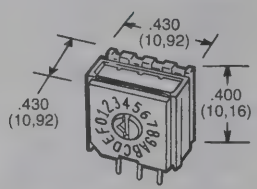


Flush Actuator

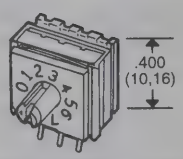


Surface Mount


Extended Actuator



Flush Actuator - Right Angle



Extended Actuator - Right Angle

94 series actuator sealed rotary DIP switches have binary (octal, BCD, hexadecimal) output with 8, 10 or 16 positions. Complement codes are also available. Perpendicular or right-angle mounting with flush or choice of two shaft lengths. Switches carrying current at 100mA @ 50VDC with a make and break rating at 30mA @ 30VDC for 10,000 cycles of operation (320,000 switch operations for a 16 position switch). Perpendicular and surface mount types have terminals on 0.1″ (2.54) by 0.3″ (7.62) grid. Right-angle mount on a 0.1″ (2.54) by 0.1″ (2.54) grid. Terminals are copper alloy, 90/10 tin-lead solder plated. Maximum process temperature: 250°C for 10 seconds. **Suffix RA** right-angle mount; **suffix W** = surface mount.

FLUSH ACTUATOR TYPE

Stock No.	Type	Code and Positions	1-24	25-99
52F1848	94HAB08	Octal/8	3.75	3.37
52F1849	94HAB08RA	Octal/8	4.19	3.77
52F1850	94HAB08W	Octal/8	3.75	3.37
50F7500	94HAB10	BCD/10	3.38	2.70
50F7501	94HAB10RA	BCD/10	3.78	3.02
95F9505	94HAB10W	BCD/10	3.38	2.70
50F7502	94HAB16	Hex/16	3.38	2.70
50F7503	94HAB16RA	Hex/16	3.78	3.02
95F9506	94HAB16W	Hex/16	3.38	2.70
EXTENDED ACTUATOR 0.270″ TYPE				
50F7504	94HBB08	BCD/8	3.38	2.70
50F7505	94HBB08RA	BCD/8	3.78	3.02
50F7506	94HBB10	BCD/10	3.38	2.70
50F7507	94HBB10RA	BCD/10	3.78	3.02
50F7508	94HBB16	Hex/16	3.38	2.70
52F1851	94HBB16RA	Hex/16	4.19	3.77
EXTENDED ACTUATOR 0.170″ TYPE				
52F1852	94HCB08	BCD/8	3.38	2.70
52F1853	94HCB08RA	BCD/8	3.78	3.02
52F1854	94HCB10	BCD/10	3.38	2.70
52F1855	94HCB10RA	BCD/10	3.78	3.02
52F1856	94HCB16	Hex/16	3.38	2.70
52F1857	94HCB16RA	Hex/16	3.78	3.02

94 SERIES HIGH TEMPERATURE KNOBS—FOR SHAFT EXTENSIONS

Stock No.	Type	Knob Type	Knob Arrow Cover	1-9	10-24	25-49
91F3839	947706-001	1A	Gray/N/A	1.34	1.21	1.09
91F3840	947706-003	5A	Gray/Black	1.34	1.21	1.09
91F3841	947705-001	1B	Black/N/A	0.85	0.76	0.69
91F3842	947705-012	1B	Gray/N/A	0.85	0.76	0.69
91F3843	947705-004	2B	Gray/White	0.85	0.76	0.69
91F3844	947705-017	3B	Gray/Black	0.85	0.76	0.69
91F3845	947705-018	4B	Gray/Black	0.85	0.76	0.69
91F3846	947705-009	1B	Natural/N/A	0.85	0.76	0.69
91F3847	947705-010	4B	Black/White	0.85	0.76	0.69
91F3848	947705-019	5B	Gray/Black	0.85	0.76	0.69

(5150) (ne06159)

ALL PRODUCTS LISTED ARE STOCKED.

61 SERIES OPTICAL ENCODERS

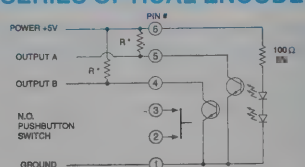
Light passage is allowed or interrupted as switch is operated. Provides million-cycle life. Encoders produce a 2-bit, 4-state code. The code repeats every 4 positions. Number of changes and direction of rotation can be sensed. Panel mount, operator input versions are available in economical (thermoplastic shaft and bushing), **type 61C** and ruggedized (zinc, die-cast bushing), **type 61B** and **type 61R** are high-resolution encoders. All units require a 5VDC external source. Panel mount versions require user-supplied pull-up resistors dependent on the type of logic that is used. Switching current: 30mA max. Temperature range: –40°C to + 65°C.

TYPE 61B, RUGGEDIZED PANEL MOUNT

Stock No.	Type	Pos.	Termination	1-9	10-24
90F7311	61B22-01-02	16	Switch Pins	53.21	47.89
52F1875	61B22-01-02-050	16	5″ Cbl/cnnctr	55.89	52.39
97F9134	61B11-01-02	32	Switch Pins	53.21	47.89
52F1877	61B11-01-02-050	32	5″ Cbl/cnnctr	55.89	52.39
TYPE 61C, ECONOMICAL PANEL MOUNT					
50F7510	61C22-01-04-02	16	Switch Pins	25.31	22.78
50F7511	61C11-01-08-02	32	Switch Pins	25.31	22.78
TYPE 61R, HIGH-RESOLUTION					
83F7611	61R64	64	Switch Pins	53.10	47.79
83F7612	61R64-050	64	5″ Cbl/cnnctr	59.75	53.78
83F7613	61R100	100	Switch Pins	53.10	47.79
83F7614	61R100-050	100	5″ Cbl/cnnctr	59.75	53.78
83F7615	61R128	128	Switch Pins	53.10	47.79
83F7616	61R128-050	128	5″ Cbl/cnnctr	59.75	53.78

(5149) (ne06141)

62 SERIES OPTICAL ENCODERS



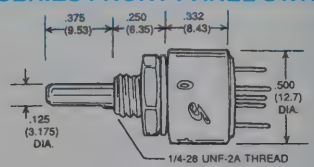
62 series is a compact, ½″package with proven reliability. Available with or without integrated pushbutton in 16, 24 and 32 detent positions. 24″ cable with connector available in ½″ increments. 6″ cable with connector.

62 SERIES ECONOMICAL ½″ WITH INTEGRATED PUSHBUTTON

Stock No.	Type	Pos.	1-9	10-24
91F3828	62A11-02-060C	32	45.86	41.27
91F3830	62A15-02-060C	24	45.86	41.27
91F3832	62A22-02-060C	16	45.86	41.27

(11726) (ne10007)

26 SERIES FRONT PANEL SWITCH



- **½″ Diameter**
- **Shaft and Panel Seal**
- **1-Pole with Adjustable Stops**
- **2-8 Positions or 2-16 Positions**
- **Panel Mount**

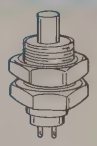
Series 26 binary-coded, ½″-diameter switch is rated to make and break logic-compatible loads for 25,000 operations; a cycle is 360° and a return thru all positions. The 4 output terminals are on 0.3 x 0.2″ (7.62 x 5.08) centers with the common terminal in the center. The switch may have continuous rotation, or may be adjusted to limit the rotation. All switches have shaft and panel seal. The panel seal ring can be removed to expose the stop pin holes on the front of the switch. 2 stop pins are supplied with the switch. One or both may be used to limit the rotation as desired.

Stock No.	Type	Pos.	1-9	10-24
90F7354	26ASD22-01-1AJS	16	15.50	13.95
50F9601	26ASD45-01-1-AJS	8	15.50	13.95

(5078) (de51030)

ENCODERS AND PUSHBUTTON SWITCHES

MINIATURE LIMIT PUSHBUTTON SWITCHES



39 series have an adjustable location setting and are available in a plunger-sealed version. Circuitry is SPST, normally open (normally closed for sealed, no overtravel). Contact resistance: 25 milliohms maximum on a new switch. Voltage breakdown: 1000VAC between mutually insulated parts. Insulation resistance: 1000 megaohms minimum. Operating temperature: –40°C to +85°C. Rated to ½amp at 115VAC resistive, with up to 500,000 operations. Dimensions: switch diameter is 0.287″ (7.29) max., height is 0.450″±.015″ (11.43±0.38) for **type 39-101**; 0.600″±.015″ (15.24±0.38) for **types 39-102, 39-103** and **39-701**; 0.410″±.015″ (10.41±0.38) for **type 39-702.**

Stock No.	Type	Description	1-24	25-49
94F2571	39-101	N.O. Overtravel	8.07	7.27
91F3834	39-102	N.O. Extended Overtravel	14.68	13.22
91F3835	39-103	N.O. Extd. Overtravel Sealed	15.23	13.70
94F6810	39-701	N.O. Overtravel Sealed	9.61	8.65
91F3836	39-702	N.C. Sealed	10.07	9.06

(11826) (ne10207)

MINIATURE PC BOARD PUSHBUTTON SWITCHES

SMD

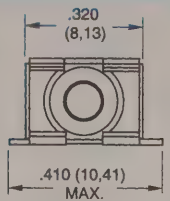


Fig. 1

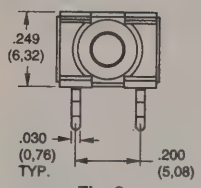


Fig. 2

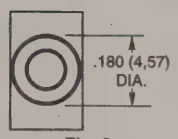


Fig. 3

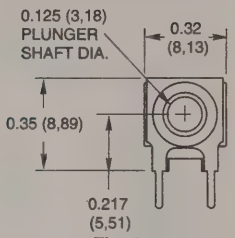


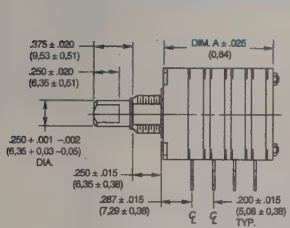
Fig. 4

38 series pushbutton switches designed for PC board edge mounting. **Fig. 1**, **2**, and **3** are SPST-NO; **Fig. 4** is SPST (alternate action, push on/push off). **Fig. 1** is surface mount compatible and mounts horizontal to board. **Fig. 2** is thru-hole horizontal mount. **Fig. 3** is thru-hole, vertical mount. **Fig. 4** is thru-hole, horizontal mount. Approximate switch body measurements for **Fig. 1**, **2**, and **3**: 0.320W x 0.365L x 2.50″H (8.13 x 9.27 x 6.35). Nonthreaded bushing extends 0.162″ (4.11) from switch body; plunger extends 0.215″ (5.48) from bushing. Flush plunger version also available. Approximate body measurements **Fig. 4**: 0.320W x 0.800L x 0.360″H (8.13 x 20.32 x 8.89). Plunger extends 0.425″ (10.80) from switch body. Also available with 0.575″ (14.61) plunger protection. Logic level switching, 200mA @ 20/28VDC; high current switching, 1A @ 120VAC; alternate action, 1A @ 25VDC. Surface mount version available only in low current switching with sealed plunger; all other versions available with plunger seal.

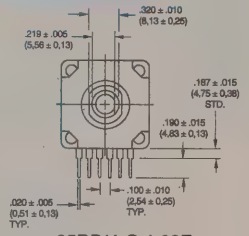
Stock No.	Type	Current	Fig.	1-24	25-49
16F7307	38BM-4-H-1-S	LO	1	4.66	4.19
16F7308	38BT-4-H-1-N	LO	2	4.03	3.63
16F7309	38BT-4-H-2-N	HI	2	3.91	3.52
16F7310	38BT-4-V-1-N	LO	3	3.40	3.06
16F7311	38BT-4-V-2-N	HI	3	3.28	2.95

(5161) (ne08063)

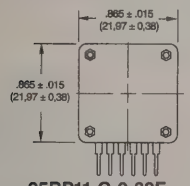
MULTI-DECK MECHANICAL ENCODERS



25BP11-G-1-32F



25BP11-Q-1-32F



25BP11-G-2-32F

Number of Decks	Dimension A
1	.499 (12.67)
2	.699 (17.75)
3	.899 (22.83)
4	1.099 (27.91)

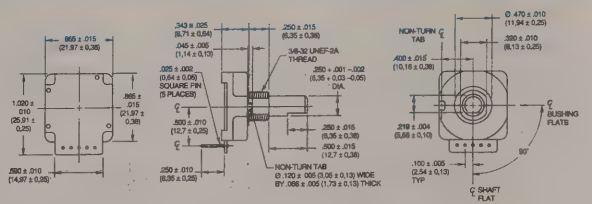
25 series make and break 150mA @ 120VAC or 28VDC for 50,000 cycles of operation. Binary, binary complement, quadrature, or gray code outputs. Available in 1, 2, 3, or 4 decks. Measure 0.865″ (21.97) square plus PCB termination 0.190″ (4.83) off board. Terminals all on same side of switch. Shaft diameter is 0.250″ (6.35), projects 0.375″ (9.53) from bushing, 0.375″ (9.53) diameter projects 0.250″ (6.35) from switch body. One deck extends 0.499″ (12.67) behind panel; each additional deck adds 0.200″ (5.08) behind panel. Shaft is stainless steel, bushing is plated zinc. Terminals are gold-plated, beryllium copper. Thermoplastic switch body. Offered in 12, 16, 24, and 32 positions with stop between first and last position. Also available in 4, 6, 8, 10, or 20 positions (complete rotation), with continuous rotation or stops at any desired location. Optional shaft and panel seal. Also available are 3- and 4-deck encoders and custom designs; *contact your local Newark sales office.*

32-POSITION SWITCHES

Stock No.	Type	Decks	Code	1-9	10-24
16F7323	25BP11-Q-1-32F	1	Quad	29.88	27.41
16F7325	25BP11-Q-2-32F	2	Quad	38.70	36.28
24-POSITION SWITCHES					
16F7327	25BP15-Q-1-24F	1	Quad	29.88	27.41
16F7329	25BP15-Q-2-24F	2	Quad	38.70	36.28
16-POSITION SWITCHES					
16F7314	25BP22-G-1-16F	1	Gray	29.88	27.41
16F7315	25BP22-Q-1-16F	1	Quad	29.88	27.41
91F3838	25BP22-B-2-16F	2	Binary	37.45	33.70
16F7316	25BP22-G-2-16F	2	Gray	38.70	36.28
16F7317	25BP22-Q-2-16F	2	Quad	38.70	36.28
12-POSITION SWITCHES					
16F7319	25BP30-Q-1-12F	1	Quad	29.88	27.41
16F7321	25BP30-Q-2-12F	2	Quad	38.70	36.28

(5160) (ne08062)

ECONOMICAL SINGLE DECK MECHANICAL ENCODERS



25L series encoders are an economical, single-deck version of the **25 series** mechanical encoder. Rated to make and break 1.5mA @ 115VAC or 150mA @ 14VDC for 100,000 cycles of operation. Hexadecimal, gray, or quadrature code outputs. Measure 0.865″ (21.97) square plus terminal board. Shaft diameter is 0.250″ (6.35) and projects 0.500″ (12.7) from bushing 0.375″ (9.53) diameter, projects 0.250″ (6.35) from switch body. **25L series** encoders extend 0.343″ (8.71) behind panel plus terminal extension 0.250″ (6.53). Shaft, bushing, and housing are reinforced thermoplastic. Housing color: black. Available in 8, 10, 12, 16, 20, 24, 32, and 36 positions (continuous rotation only).

HEXADECIMAL CODE OUTPUT

Stock No.	Type	Positions	1-9	10-24
16F7295	25LB22-H	16	4.09	3.75
GRAY CODE OUTPUT				
16F7303	25LB22-G	16	4.09	3.75
QUADRATURE CODE OUTPUT				
16F7283	25LB10-Q	36	4.09	3.75
16F7284	25LB11-Q	32	4.09	3.75
16F7285	25LB15-Q	24	4.09	3.75
16F7286	25LB18-Q	20	4.09	3.75
16F7287	25LB22-Q	16	4.09	3.75
16F7288	25LB30-Q	12	4.09	3.75
16F7290	25LB45-Q	8	4.09	3.75

(5162) (ne08064)

PUSHBUTTON SWITCHES

23, 4000/10 SERIES WIPING CONTACT, AND 2200 SERIES SNAP ACTION SWITCHES

Type 23-1

Types 10-09, 40001, 4002

Types 2201, 2202

For low voltage and high current applications. Rated to make and break at 115 VAC. **Type 23-1** clean wiping contact N.O. switches have consistent contact resistance of low voltage applications. Rating: 250mA; 100,000 operations. Behind panel: 0.663″ (16.84) x 0.468 (11.89) dia. Fit 0.328″ (8.33) hole. **Types 10-09, 4001** and **4002** clean wiping contact N.O. and N.C. switches rated 1A, 100,000 operations; or 3A, 6,000 (UL) operations. Behind panel: 0.965″ (24.51) x 0.800″ (20.32) dia. Fit 0.48″ (12.30) hole. **Types 2201** and **2202** have audible click and rapid spring action for switching high currents. Rating: 15A, 25,000 operations. Behind panel: 1.239″ (31.47) x 0.880″ (22.35) dia. Fit 0.484″ (12.30) hole. Units have SPST-N.O. circuitry, except types with "†", which are SPST-N.C.

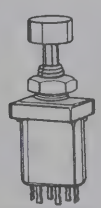
Stock No.	Type	Button	1-24	25-49
57F2615	10-9*	Black	4.86	4.37
24F202	4001*	Red	4.86	4.37
24F203	4002*†	Black	4.86	4.37
24F204	23-1†	Red	6.00	5.40
24F200	2201†	Red	14.97	13.47
24F201	2202†	Black	15.97	14.37

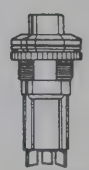
*Available in UL recognized style; *contact your local Newark sales office.*
(5071) (de50972)

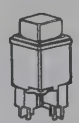
46 SERIES SPDT AND DPDT 1/4 AMP WIPING CONTACT SWITCHES

Type 46-101

Type 46-102


Type 46-200


Type 46-05-08


Type 46-01-08

Type 46-05-05, 46-05-07

Clean wiping contact switches have consistent contact resistance for low voltage applications. **46 Series** rated to make and break 250mA, 115VAC for 250,000 operations. All switches have break before make contacts. **Type 46-101 RED** and **46-101 BLK** behind panel: 0.890″ (22.61) x 0.437″ (11.10) dia. Use 0.266″ (6.75) hole. **Types 46-102 RED** and **46-102 BLK** same but have wide 0.375″ (9.53) dia. button. **Types 46-200RED** and **46-200BLK** have DPDT circuitry. Behind panel 0.921″ (23.39) x 0.625″ (15.88)W. Use 0.266″ (6.75) mounting hole. **Type 46 1-08-500-0303** has DPDT circuitry and square bezel. Behind panel: 1.194″ (30.33) x 0.605″ (15.37) square. Use 0.610″ (15.49) square hole. **Types 46-05-05** have round bezel mounting. Behind panel: 1.179″ (29.95) x 0.640″ (16.26) nut dia. Use 0.516″ (13.10) hole. **Types 46-05-07** same except Alt. action circuitry. **Types 46-05-08** DPDT circuitry. Behind panel: 1.151″ (29.24) x 0.76″ (19.43) nut dia. Use 0.641″ (16.27) hole.

Stock No.	Type	Button	1-24	25-49
	SPDT			
23F895	46-101RED	Red	5.11	4.60
23F894	46-101BLK	Black	5.11	4.60
23F897	46-102RED	Red	5.12	4.61
23F896	46-102BLK	Black	5.12	4.61
	DPDT			
23F899	46-200RED	Red	9.83	8.85
23F898	46-200BLK	Black	9.83	8.85
57F2641	46-01-08-500-0303	Red	21.25	19.12
	SPDT			
57F2644	46-05-05-502-0707	Black	13.98	12.58
57F2645	46-05-05-502-0303	Red	13.98	12.58
	DPDT			
57F2648	46-05-08-502-0707	Black	18.60	16.74
57F2649	46-05-08-502-0303	Red	18.60	16.74

(5072) (de50973)

39 SERIES 1/4 AMP AND 30 SERIES 1 AMP MINIATURE SPST BUTT CONTACT SWITCHES

Types 39-1, 39-2, 39-3
Types 30-1, 30-2, 30-3 30-15

Type 30-17

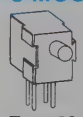
Types 30-05-01-502
30-05-04-502

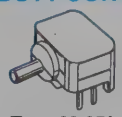
Gold contact N.O. and N.C. switches provide low level switching. **Types 39-1** and **39-3** are rated ½A res. at 115VAC and ¼A res. at 220VAC, 1,000,000 operations. Behind panel: 0.135″ (8.0); diameter 0.25″ (6.35). **Type 39-2** is rated ¼A at 115VAC and ⅛A at 220VAC. Behind panel: 0.315″ (8.0); diameter 0.25″ (6.35). **Type 39-2** is rated ⅛A at 115VAC and ¼A at 220VAC. Behind panel: 0.49″ (10.1); diameter 0.25″ (6.35). **Type 30-1** and **30-3**. Behind panel: 0.572″ (14.53); diameter 0.375″ (9.53). Mounting hole 0.266″ (6.76). Rated 0.5A, 115VAC, 1,000,000 operations. **Type 30-2** behind panel: 0.605″ (15.37). Rated 1A, 115VAC, 500,000 operations. **Type 30-15** has .02″ (0.51) overtravel. Behind panel 0.605″ (15.37). Rated 1A, 115VAC, 200,000 operations. **Type 30-17 RED** has overtravel and positive feel. Behind panel: 0.958″ (24.33), diameter 0.562″ (14.27), mounting hole 0.484″ (12.30), cap diameter 0.375″ (9.53). Round bezel. Decorative mounting, rated same as **30-1**. **Type 30-05-01** behind panel: 0.710″ (18.03), diameter 0.625″ (15.88), mounting hole 0.516″ (13.10). Decorative mounting rated same **30-15**. **Type 30-05-04** has overtravel and positive feel. Behind panel 0.910″ (23.11). Units have SPST-N.O. circuitry, except types with "†", which are SPST-N.C.

Stock No.	Type	Button	1-24	25-49
24F209	39-1	Red	3.93	3.54
24F236	39-2†	Black	6.08	5.47
57F2635	39-3	Black	3.94	3.54
24F205	30-1*	Red	2.62	2.36
24F206	30-2*†	Black	2.94	2.64
57F2616	30-3*	Black	2.62	2.36
57F2617	30-15	Red	3.26	2.93
57F2618	30-17RED	Red	6.43	5.79
57F2627	30-05-01-502-0707	Black	17.19	15.47
57F2628	30-05-01-502-0303	Red	17.19	15.47
57F2634	30-05-04-502-0303	Red	21.85	19.67

*Available in UL recognized style on request; *contact your local Newark sales office.*
(5073) (de50974)

PC MOUNT BUTT CONTACT SWITCHES


Type 32


Type 39-251

Type 39-501

Type 32 pushbutton switches and LEDs that interlock and mount on PC board edge. Ideal for reset and status indication applications. 0.200″ (5.08) between centers when interlocked. 0.272″ (6.91) high and 0.230″ (5.84) deep. Assemblies are process compatible. Switches have a N.O. and a N.C section. Logic loads to 150mA switching for 100,000 operations. **Type 39-501** gold contact, momentary switches provide test or cursor key function. Rated 150mA, 28VDC, 1,000,000 operations. Overall length is 0.6″ (15.24) includes button, diameter 0.25″ (6.35). Terminals on 0.1″ (2.54) centers, front support plate on 0.2″ (5.08) centers. Height above board 0.3″ (7.62) approximate. Rated to make and break 250 mA at 115 VAC, 500,000 operations. **Type 39-251** has SPDT-2 circuit momentary circuitry for push-to-test PC board functions. Switch is 0.500″ (12.70) x 600″ (15.25) x 0.260″ (6.60) above board. Terminals are on 0.300″ (7.62) x 0.100″ (2.54) centers. End of button to the closest, N.C. terminal pair is 0.360″ (9.14). **Type 32-01** has a black button. Other units have either black, **"BLK"** in type, or red, **"RED"** in type, buttons.

Stock No.	Type	Circuitry	1-24	25-49
97F9135	32-01	SPDT-2 circuit	2.45	2.20
57F3792	39-251 RED	SPDT-2 circuit	2.34	2.10
57F3793	39-251 BLK	SPDT-2 circuit	2.34	2.10
95F9509	39-501-RED	SPST-N.O.	5.21	4.69
94F139	39-501BLK	SPST-N.O.	5.21	4.69

(5044) (de03549)

PUSHBUTTON SWITCH ACCESSORIES

Type 30C1023

7C1040

10C1015

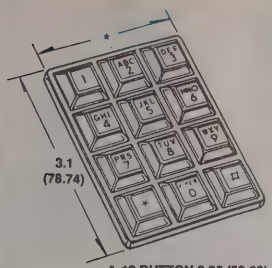
Type 7C1040-1 nut fits **10, 4000,** and **2200 series** switches. **Types 30C1023-1** and **10C1015-1** fit **30** and **46 series** switches.

Stock No.	Type	Description	1-24	25-49
57F1514	07C1040-1	.077″ OD Nut	0.93	0.84
94F1869	30C1023-1	.46″ OD Nut	1.15	1.03
23F496	10C1015-1	.89″ OD Button Guard	1.16	1.05

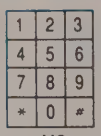
(5074) (de50976)

KEYPADS

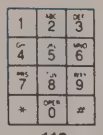
84S SERIES ENVIRONMENTALLY SEALED KEYPADS



* 12 BUTTON 2.35 (59.69)
16 BUTTON 3.1 (78.74)

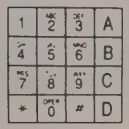


-112



-113

-014



-016

84S series 12- or 16-button keypads have a 1-piece black silicone rubber boot which completely seals the switch contacts and the panel cutout. Available snapdome contact is gold-plated. Resistance is MOS, TTL, and DTL compatible. Life is 3 million operations per button. RFI/EMI shielding is optional. White buttons on 0.75″ (19.05) centers are removable and interchangeable. Keyboards are 0.5″ (12.7) above panel. They are mounted by 4 studs #6-32; mounting nuts are included. **C** in type number indicates single-pole/common bus circuitry; others have matrix (XY) circuitry. Type number suffix indicates legend.

EMI/RFI-SHIELDED

Stock No.	Type	Buttons	1-4	5-9	10-24
95F9468	84S-AB2-112-N	12	52.73	47.46	42.72
95F9470	84S-AC2-112-N	12	59.50	53.55	48.20
95F9472	84S-BB2-014-N	16	56.47	50.83	45.75
95F9474	84S-BC2-014N	16	66.98	60.28	54.26
95F9478	84SN-AC2-112-N	12	59.20	53.28	47.95
95F9480	84SN-BB2-014-N	16	56.19	50.57	45.52

(5062) (de50930)

81 SERIES FULL–TRAVEL KEYPADS

NEW

81 series rated for 3 million operations. Feature long keystroke, silicone rubber actuators, conductive ink contacts, and membrane matrix circuitry. Suffix in type numbers indicates choice of flex tail termination: **suffix C** = (2) 0.100″ spacing single-row connectors, **suffix Z** = exposed traces for (2) 0.100″ spacing zero insertion termination force connectors. All keypads have black legends on white keycaps, legends are molded into plastic keys for long life. Keypad can be mounted directly to PC board or front panel. Available in four different formats: **"-112"** in type number indicates alphanumeric legends; **"-113"** in type number indicates alphanumeric telephone legends; **"-114"** in type number indicates keypad with 0 thru 9 and A thru E legends; **"-116"** in type number indicates alphanumeric telephone plus A thru D legends. Operating temperature: –40°C to +80°C. Contact resistance: less than 100 ohms.

Stock No.	Type	Array	Termination	1-24	25-99
83F7603	81AB2-112-C	3 x 4	Connector	64.57	58.12
83F7604	81AB2-112-Z	3 x 4	Exposed Traces	58.66	52.79
83F7605	81AB2-113-C	3 x 4	Connector	64.57	58.12
83F7606	81AB2-113-Z	3 x 4	Exposed Traces	58.66	52.79
83F7607	81BB2-014-C	4 x 4	Connector	80.59	72.53
83F7608	81BB2-014-Z	4 x 4	Exposed Traces	74.66	67.20
83F7609	81BB2-016-C	4 x 4	Connector	80.59	72.53
83F7610	81BB2-016-Z	4 x 4	Exposed Traces	74.66	67.20

(32800) (ne32800)

82 SERIES PC-MOUNTABLE KEYBOARD MODULES AND LEGEND SHEET

82 series insertable legend keyboard modules plug into PC boards from 0.063″ (1.57) to 0.125″ (3.18) thick and mount in any configuration while maintaining 0.687″ (17.45) button centers. Button height above board is 0.75″ (19.05). Long-stroke, wiping contact is ideal for applications with low voltage or which require constant data entry. Housing gray, base black. Rating at 5VDC: 10mA for 1 million operations. Legend insertable assortment includes symbols, terms.

Stock No.	Type	Buttons/Size	Circuitry	1-9	10-24
57F3781	82-101-71	1/0.683″ Square	SPST	3.95	3.55
57F3782	82-101-74	1/0.683″ Square	4PST	5.09	4.58
57F3783	82-201-41	2/0.683 x 1.37″	SPST	6.37	5.73
57F3785	82-301-61	3/0.683 x 2.057″	SPST	8.77	7.89
57F3787	82-601-81	6/1.390 x 2.057″	SPST	15.98	14.38
57F3789	82AC2017-1	...	Legends	5.64	5.08

(5060) (de50919)

96 SERIES CONDUCTIVE RUBBER KEYPADS

96 series are economical 3x4 and 4x4 conductive rubber keypads. 3 million operations per button. Compatible with high resistance logic circuitry and excellent operator feedback. Matrix circuitry. Rated for 5mA @ 12VDC for 0.5 sec. –30°C to +80°C operating temperature. Front (top) panel or rear (flush) panel mounting. Type numbers with **-102** and **-006** feature black-on-white legends. Type numbers with **-152** and **-056** feature white-on-black legends. 4x4 legends are alphanumeric telephone plus A thru D; 3x4 are numeric telephone. **(Suffix-F)** in type number indicates front mount, **(suffix-S)** indicates shielded, and **(suffix-EL)** indicates EL backlight.

3 x 4 (2.7″ x 2.0″)

Stock No.	Type	Mounting	1-9	10-24
97F9125	96AB2-102-F	Front	13.55	12.20
91F2743	96AB2-102-FS	Front	17.54	15.79
91F2099	96AB2-102-F-EL	Front	59.38	53.44
91F2100	96AB2-102-FS-EL	Front	63.36	57.02
97F9127	96AB2-152-F	Front	13.55	12.20
91F2744	96AB2-152-FS	Front	17.54	15.79
91F2101	96AB2-152-F-EL	Front	59.38	53.44
91F2102	96AB2-152-FS-EL	Front	63.36	57.02

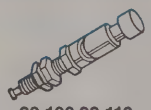
4 x 4 (3.0″ x 2.2″)

97F9129	96BB2-006-F	Front	15.09	13.58
91F2745	96BB2-006-FS	Front	18.65	16.79
91F2746	96BB2-006-F-EL	Front	60.49	54.44
91F2103	96BB2-006-FS-EL	Front	64.48	58.03
91F2747	96BB2-056-FS	Front	18.65	16.79
91F2104	96BB2-056-FS-EL	Front	64.48	58.03
97F9130	96BB2-006-R	Rear	15.09	13.58

(5043) (de03547)

29 SERIES BINDING AND PUSH POSTS

29-1



29-100 29-110

29-104

Type 29-1 straight skirt binding posts fit 0.375″ (9.53) dia. hole for close spacing. Rated 120VDC, 15 amps continuously. Insulation resistance between stud and mounting panel: 120,000 megohms. Voltage breakdown: 1500VAC. Panel thicknesses to 0.187″ (4.75). Insulated per MIL-M-14, type CFG. **Types 29-100** and **29-110** are standard push posts: **type 29-104** is insulated push post with black phenolic washers. All are rated 120VDC, 20 amps continuously. With push posts, you press button top, put lead in slot, and release button. Spring pressure assures positive contact. Extends 0.875″ (22.23) above mounting board.

Stock No.	Type	Cap	Mount Hole Dia.	1-24	25-49
28F567	29-1BLK	Black	0.375″	5.51	4.96
28F566	29-1RED	Red	0.375″	5.51	4.96
28F418	29-100BLK	Black	0.171″	3.68	3.32
28F417	29-100RED	Red	0.171″	3.68	3.32
57F2650	29-110	No Cap	0.171″	3.51	3.15
28F422	29-104BLK	Black	0.390″	5.05	4.55
28F421	29-104RED	Red	0.390″	5.05	4.55

(5059) (de50918)

2 SERIES TEST CLIPS

Type 2-0 is standard size, #8-32 UNC-2A threaded stud clip. Fits panel up to 0.25″ (6.35) thick; 0.550″ (13.97) wide, 1.25″ (31.75) above board. **Type 2-60** is standard size, studless clip with extruded hole tapped to receive #8-32 UNC-2A threaded screw (not supplied) to adjust tension; 0.576″ (14.63) wide, 1.144″ (29.06) above board. **Type 2-20** is miniature size, #6-32 UNC-2A threaded stud clip. Fits panel to 0.25″ (6.35) thick; 0.406″ (10.31) wide, 0.719″ (18.26) above board. **Type 2-41** is ultraminiature size single-unit clip, 0.406″ (10.31) above board; requires 0.312″ (7.92) x 0.125″ (3.18) panel area. **Type 2-42** is ultraminiature size, double-unit clip which requires 0.25″ (6.35) x 0.125″ (3.18) panel area.

Stock No.	Type	Mounting	1-24	25-49
28F550	02-0	Standard Thread Stud	2.17	1.96
57F2651	02-60	Studless	2.22	2.00
28F414	02-20	Miniature Thread Stud	2.46	2.21
28F624	02-41	Ultraminiature Single	2.46	2.21
28F625	02-42	Ultraminiature Double	2.63	2.36

(5061) (de50920)

NEW TOGGLE AND PUSHBUTTON SWITCHES

SUBMINIATURE TOGGLE SWITCHES

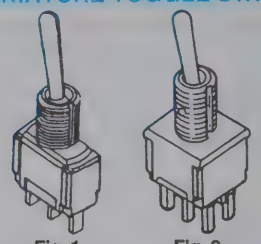


Fig. 1 Fig. 2

Toggle switches fit 0.100″ PC board grid. Type numbers with (*) have gold contacts rated 0.4VA max. @ 20VDC (or peak AC). Type numbers with (+) have silver contacts rated 3A 125VAC or 28VDC resistive. Feature chrome-plated brass actuator, nickel-plated brass bushing, and stainless steel housing. Case rated UL94V-0. End contacts: silver-plated coin silver. Epoxy sealed silver-plated brass center contact and terminals. Operating temperature: -30°C to +85°C. UL listed.

SPST — FIG. 1

Stock No.	Type	Action	Terminals†	Actuator Height	Bushing‡	1-24	25-99
50N354	SPC5027+	On-None-Off	WL	0.290″	1	2.19	1.87
50N355	SPC5028*	On-None-Off	PC	0.290″	2	3.99	3.40
			DPST — FIG. 2				
50N356	SPC5029+	On-None-Off	WL	0.290″	1	2.79	2.38
50N357	SPC5030*	On-None-Off	PC	0.290″	2	4.39	3.74
			SPDT — FIG. 1				
50N358	SPC5031+	On-None-On	WL	0.370″	1	2.99	2.55
50N359	SPC5032+	On-None-On	PC	0.370″	1	2.99	2.55
50N360	SPC5033*	On-None-On	WL	0.210″	2	3.69	3.14
50N361	SPC5034*	On-None-On	PC	0.210″	2	3.69	3.14
50N363	SPC5036*•	On-None-On	PC	0.210″	2	4.69	3.99
50N364	SPC5037+	On-None-On	WL	0.290″	1	3.99	3.40
50N365	SPC5038*	On-None-On	WW	0.290″	1	4.79	4.08
50N366	SPC5039+	On-None-On	WL	0.410″	3	4.49	3.82
50N367	SPC5040+	On-Off-On	WL	0.370″	1	3.59	3.06
50N368	SPC5041+	On-Off-On	PC	0.370″	1	3.59	3.06
50N369	SPC5042*	On-Off-On	WL	0.210″	2	3.99	3.40
50N370	SPC5043*	On-Off-On	PC	0.210″	2	4.29	3.65
50N371	SPC5044*•	On-Off-On	PC	0.210″	2	5.19	4.42
50N372	SPC5045+	On-Off-On	WL	0.290″	1	4.69	3.99
50N373	SPC5046*	On-Off-On	WW	0.290″	1	5.29	4.50
50N374	SPC5047+	On-Off-On	WL	0.410″	3	4.99	4.25
			DPDT — FIG. 2				
50N375	SPC5048+	On-None-On	WL	0.370″	1	3.99	3.40
50N376	SPC5049+	On-None-On	PC	0.370″	1	3.59	3.06
50N377	SPC5050*	On-None-On	PC	0.210″	2	4.79	4.08
50N378	SPC5051+	On-None-On	WL	0.290″	1	4.99	4.25
50N379	SPC5052+	On-Off-On	WL	0.370″	1	4.19	3.57
50N380	SPC5053+	On-Off-On	PC	0.370″	1	4.19	3.57
50N381	SPC5054*	On-Off-On	PC	0.210″	2	5.39	4.59
50N382	SPC5055+	On-Off-On	WL	0.290″	1	5.59	4.76
50N383	SPC5056+	On-None-(On)	WL	0.370″	1	4.19	3.57
50N384	SPC5057+	On-None-(On)	PC	0.370″	1	4.19	3.57
50N385	SPC5058*	On-None-(On)	PC	0.210″	2	5.39	4.59
50N386	SPC5059+	On-None-(On)	WL	0.290″	1	5.59	4.76

† WL = Wire Lug, PC = PC Board, WW = Wire Wrap; ‡Bushing: 1 = #10-48 x 0.22″L, 2 = Nonthreaded x 0.22″L, 3 = ¼″-40 x 0.31″L; •Vertical Mount Bracket

(34987) (ne34987)

SNAP-ACTING MOMENTARY PUSHBUTTON SWITCHES

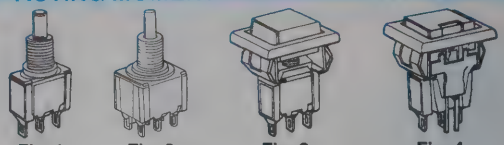


Fig. 1 Fig. 2 Fig. 3 Fig. 4

All switches have On-(On) action. Rated 0.4VA max. @ 20VAC or DC max. or 1A @ 120VAC or 28VDC. Brass contacts with gold-over-nickel plating. Brass common contacts and terminals with gold-over-nickel plating, epoxy sealed. Feature glass-filled nylon or polyester actuator, nickel-plated brass bushing, stainless steel housing, and diallyl phthalate case. Panel mounting: 0.250″ (6.35) diameter. Includes hole hardware: 2 hex nuts, locking ring, and lock washer. Operating temperature: -30°C to +85°C. UL listed.

PANEL MOUNT

Stock No.	Type	Fig.	Circuit	Terminals	1-24	25-99	100-249
50N387	SPC5060	1	SPDT	Wire Lug	6.79	5.78	5.20
50N388	SPC5061	1	SPDT	PC Board	6.79	5.78	5.20
50N389	SPC5062	2	DPDT	Wire Lug	7.79	6.63	5.96
50N390	SPC5063	2	DPDT	PC Board	7.79	6.63	5.96
			RAISED CAP WITH SQUARE BEZEL — 0.500 x 0.600″				
50N391	SPC5064	3	SPDT	Wire Lug	7.99	6.80	6.12
50N392	SPC5065	3	DPDT	Wire Lug	8.99	7.65	6.88
			HIGH-PROFILE RAISED CAP WITH SQUARE BEZEL — 0.500 x 0.600″				
50N393	SPC5066	4	SPDT	Wire Lug	7.99	6.80	6.12
50N394	SPC5067	...	DPDT	Wire Lug	8.99	7.65	6.88
50N395	SPC5068	...	DPDT	Wire Lug	8.99	7.65	6.88

(34988) (ne34988)

SUBMINIATURE PUSHBUTTON SWITCHES

Fig. 1 Fig. 2 Fig. 3 Fig. 4

All switches have SPDT circuit and silver contacts rated 1A @ 120VAC or 28VDC, except type numbers with (*) which have gold contacts rated 0.4VA max. @ 20VDC (or peak AC) and have a 0.2″ diameter x 1″H black cap. All feature a black, thermoplastic polyester 0.1 diameter x 0.155″ actuator, nickel-plated brass 0.22″-long bushing, stainless steel housing, diallyl phthalate case, and epoxy sealed silver-plated brass center contact and terminals. Operating temperature: -30°C to +85°C. UL listed.

#10-48 THREADED BUSHING

Stock No.	Type	Fig.	Action	Terminals	1-24	25-99	100-249
50N396	SPC5069	1	Off-(On)	Wire Lug	3.59	3.06	2.75
50N397	SPC5070‡	2	Off-(On)	Wire Lug	4.49	3.82	3.44
50N398	SPC5071+	3	Off-(On)	Wire Lug	3.99	3.40	3.06
50N399	SPC5072	1	On-(On)	Wire Lug	4.19	3.57	3.21
50N400	SPC5073‡	2	On-(On)	Wire Lug	4.99	4.25	3.82
50N401	SPC5074	1	Off-(On)	PC Board	3.59	3.06	2.75
50N402	SPC5075+	3	Off-(On)	PC Board	3.99	3.40	3.06
50N403	SPC5076‡	2	On-(On)	PC Board	4.99	4.25	3.82
			NONTHREADED BUSHING				
50N404	SPC5077+	3	Off-(On)	Wire Lug	3.99	3.40	3.06
50N405	SPC5078	1	On-(On)	Wire Lug	4.19	3.57	3.21
50N406	SPC5079‡	2	On-(On)	Wire Lug	4.99	4.25	3.82
50N407	SPC5080*	1	Off-(On)	PC Board	5.39	4.59	4.13
50N408	SPC5081*+	1	Off-(On)	PC Board	5.69	4.84	4.36
50N409	SPC5082+	1	Off-(On)	PC Board	3.99	3.40	3.06
50N410	SPC5083*	4	Off-(On)	PC Board	5.99	5.10	4.59
50N411	SPC5084*	1	On-(On)	PC Board	6.19	5.27	4.74
50N412	SPC5085‡	2	On-(On)	PC Board	4.99	4.25	3.82

+Right-angle; ‡Vertical mount bracket

(34989) (ne34989)

NEW PRODUCTS ARE CONTINUALLY ADDED.
CALL NEWARK FOR CURRENT SELECTION.

NEW

TOGGLE SWITCHES

TOGGLE SWITCHES

Fig. 1

Fig. 2

Fig. 3

Fig. 4

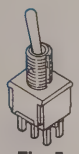


Fig. 5

Fig. 6

Rating: 5 amps @ 120VAC or 28VDC; 2 amps @ 250VAC. Actuator: chrome-plated brass. Bushing: nickel-plated brass. Stainless steel housing. Case rated UL 94V-0. End contacts: silver-plated coin silver. Center contact and terminals: Silver-plated brass, epoxy seal; type numbers with (*) have gold contacts. Hardware: 2 hex nuts, locking ring, lock washer. Panel mounting: Figs. 1 and 2: 0.250″ (6.35) diameter hole; Fig. 3: 0.469″ (11.91) diameter hole. Operating temperature: -30°C to +85°C. UL listed.

SPDT — STANDARD ROUND TOGGLE, ¼″-40 THREADED 0.350″L BUSHING WITH KEYWAY, WIRE LUG TERMINALS — FIG. 1

Stock No.	Type	Action	1-24	25-99	100-249	250-499
50N265	SPC4938	On-None-On	2.99	2.55	2.29	2.11
50N266	SPC4939	On-None-(On)	3.29	2.80	2.52	2.32
50N267	SPC4940	On-Off-On	4.49	3.82	3.44	3.16
50N268	SPC4941	(On)-Off-(On)	3.79	3.23	2.90	2.67
50N269	SPC4942	On-Off-(On)	3.99	3.40	3.06	2.81

SPDT — STANDARD ROUND TOGGLE, ¼″-40 THREADED 0.350″L BUSHING WITH KEYWAY, PC BOARD TERMINALS — FIG. 1

50N270	SPC4943	On-None-On	2.99	2.55	2.29	2.11
50N271	SPC4944*	On-None-On	3.59	3.06	2.75	2.53
50N272	SPC4945	On-None-(On)	3.29	2.80	2.52	2.32
50N273	SPC4946*	On-None-(On)	3.79	3.23	2.90	2.67
50N274	SPC4947	On-Off-On	3.39	2.89	2.60	2.39
50N275	SPC4948*	On-Off-On	3.99	3.40	3.06	2.81
50N276	SPC4949	(On)-Off-(On)	3.79	3.23	2.90	2.67
50N277	SPC4950*	(On)-Off-(On)	4.39	3.74	3.36	3.09
50N278	SPC4951	On-Off-(On)	3.99	3.40	3.06	2.81
50N279	SPC4952*	On-Off-(On)	4.49	3.82	3.44	3.16

SPDT — FLAT TOGGLE, ¼″-40 THREADED 0.350″L BUSHING WITH KEYWAY, WIRE LUG TERMINALS — FIG. 2

50N280	SPC4953	On-None-On	3.99	3.40	3.06	2.81
50N281	SPC4954	On-None-(On)	4.29	3.65	3.29	3.02
50N282	SPC4955	On-Off-On	4.39	3.74	3.36	3.09
50N283	SPC4956	(On)-Off-(On)	4.99	4.25	3.82	3.52
50N284	SPC4957	On-Off-(On)	5.99	5.10	4.59	4.22

SPDT — LARGE ROUND TOGGLE, 15/32″-32 THREADED 0.448″L BUSHING WITH KEYWAY, WIRE LUG TERMINALS — FIG . 3

50N285	SPC4958	On-None-On	4.49	3.82	3.44	3.16
50N286	SPC4959	On-None-On	4.69	3.99	3.59	3.31
50N287	SPC4960	On-Off-On	4.99	4.25	3.82	3.52
50N288	SPC4961	(On)-Off-(On)	5.29	4.50	4.05	3.73
50N289	SPC4962	On-Off-(On)	5.39	4.59	4.13	3.80

SPDT — TINY ROUND TOGGLE, ¼″ DIA. NONTHREADED 0.280″L WITH KEYWAY, PC BOARD TERMINALS, VERTICAL SUPPORT BRACKETS — FIG. 4

50N290	SPC4963*	On-None-On	4.59	3.91	3.52	3.24
50N291	SPC4964*	On-None-(On)	4.79	4.08	3.67	3.38
50N292	SPC4965*	On-Off-On	4.99	4.25	3.82	3.52
50N293	SPC4966*	(On)-Off-(On)	5.39	4.59	4.13	3.80
50N294	SPC4967*	On-Off-(On)	5.49	4.67	4.20	3.87

DPDT — STANDARD ROUND TOGGLE, ¼″-40 THREADED 0.350″L BUSHING WITH KEYWAY, WIRE LUG TERMINALS — FIG. 5

50N295	SPC4968	On-None-On	4.19	3.57	3.21	2.95
50N296	SPC4969	On-None-(On)	4.69	3.99	3.59	3.31
50N297	SPC4970	On-Off-On	4.79	4.08	3.67	3.38
50N298	SPC4971	(On)-Off-(On)	4.99	4.25	3.82	3.52
50N299	SPC4972	On-Off-(On)	4.99	4.25	3.82	3.52

DPDT — STANDARD ROUND TOGGLE, ¼″-40 THREADED 0.350″L BUSHING WITH KEYWAY, PC BOARD TERMINALS — FIG. 5

50N300	SPC4973	On-None-On	4.39	3.74	3.36	3.09
50N301	SPC4974*	On-None-On	5.49	4.67	4.20	3.87
50N302	SPC4975	On-None-(On)	4.79	4.08	3.67	3.38
50N303	SPC4976*	On-None-(On)	5.99	5.10	4.59	4.22
50N304	SPC4977	On-Off-On	4.79	4.08	3.67	3.38
50N305	SPC4978*	On-Off-On	5.99	5.10	4.59	4.22
50N306	SPC4979	(On)-Off-On	4.99	4.25	3.82	3.52
50N307	SPC4980*	(On)-Off-(On)	5.99	5.10	4.59	4.22
50N308	SPC4981	On-Off-(On)	4.99	4.25	3.82	3.52
50N309	SPC4982*	On-Off-(On)	5.99	5.10	4.59	4.22

DPDT — FLAT TOGGLE, ¼″-40 THREADED 0.350″L BUSHING WITH KEYWAY, WIRE LUG TERMINALS — FIG. 6

50N310	SPC4983	On-None-On	5.49	4.67	4.20	3.87
50N311	SPC4984	On-None-(On)	5.79	4.93	4.43	4.08

CONTINUED

TOGGLE SWITCHES (CONT.)

DPDT — FLAT TOGGLE, ¼″-40 THREADED 0.350″L BUSHING WITH KEYWAY, WIRE LUG TERMINALS — FIG. 6 (CONT.)

Stock No.	Type	Action	1-24	25-99	100-249	250-499
50N312	SPC4985	On-Off-On	5.99	5.10	4.59	4.22
50N313	SPC4986	(On)-Off-(On)	5.99	5.10	4.59	4.22
50N314	SPC4987	On-Off-(On)	5.99	5.10	4.59	4.22

DPDT — LARGE ROUND TOGGLE, 15/32″-32 THREADED, 0.448″L BUSHING WITH KEYWAY, WIRE LUG TERMINALS — FIG. 5

50N315	SPC4988	On-None-On	5.49	4.67	4.20	3.87
50N316	SPC4989	On-None-(On)	5.49	4.67	4.20	3.87
50N317	SPC4990	On-Off-On	5.59	4.76	4.28	3.94
50N318	SPC4991	(On)-Off-(On)	5.79	4.93	4.43	4.08
50N319	SPC4992	On-Off-(On)	5.99	5.10	4.59	4.22

DPDT — TINY ROUND TOGGLE, ¼″ DIA. NONTHREADED 0.280″L BUSHING WITH KEYWAY SUPPORT TERMINALS, VERTICAL BRACKETS — FIG. 4

50N320	SPC4993*	On-None-On	6.99	5.95	5.35	4.92
50N321	SPC4994*	On-None-(On)	7.29	6.20	5.58	5.14
50N322	SPC4995*	On-Off-On	7.49	6.37	5.73	5.28
50N323	SPC4996*	(On)-Off-(On)	7.59	6.46	5.81	5.35
50N324	SPC4997*	On-Off-(On)	7.79	6.63	5.96	5.49

1P3WAY — STANDARD ROUND TOGGLE, ¼″-40 THREADED 0.350″L BUSHING WITH KEYWAY, WIRE LUG TERMINALS — FIG. 5

50N325	SPC4998	On-On-On	5.19	4.42	3.97	3.66
50N326	SPC4999	(On)-None-(On)	5.19	4.42	3.97	3.66
50N327	SPC5000	On-On-(On)	5.19	4.42	3.97	3.66

3PDT — STANDARD ROUND TOGGLE, ¼″-40 THREADED 0.350″L BUSHING WITH KEYWAY, WIRE LUG TERMINALS

50N328	SPC5001	On-None-On	8.49	7.22	6.50	5.98
50N329	SPC5002	On-None-(On)	9.19	7.82	7.03	6.47
50N530	SPC5165	On-Off-On	4.79	4.08	3.67	3.30
50N531	SPC5166	(On)-Off-(On)	4.79	4.08	3.67	3.30
50N532	SPC5167	On-Off-(On)	4.79	4.08	3.67	3.30

4PDT — STANDARD ROUND TOGGLE, ¼″-40 THREADED 0.350″L BUSHING WITH KEYWAY, WIRE LUG TERMINALS

50N333	SPC5006	On-None-On	10.99	9.35	8.41	7.74
50N334	SPC5007	On-None-(On)	11.99	10.20	9.18	8.44
50N335	SPC5008	On-Off-On	11.99	10.20	9.18	8.44
50N336	SPC5009	(On)-Off-(On)	13.99	11.90	10.71	9.85
50N337	SPC5010	On-Off-(On)	13.99	11.90	10.71	9.85

2P3WAY — STANDARD ROUND TOGGLE, ¼″-40 THREADED 0.350″L BUSHING WITH KEYWAY, WIRE LUG TERMINALS

50N338	SPC5011	On-On-On	14.69	12.49	11.24	10.35
50N339	SPC5012	(On)-None-(On)	14.69	12.49	11.24	10.35
50N340	SPC5013	On-On-(On)	14.69	12.49	11.24	10.35

(34985) (ne34985)

PC BOARD MOUNT TOGGLE SWITCHES

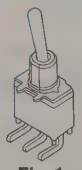


Fig. 1

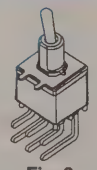


Fig. 2

Rating: 5 amps @ 120VAC or 28VDC; 2 amps @ 250VAC. Actuator: chrome-plated brass. Bushing: nickel-plated brass. Stainless steel housing. Case rated UL 94V-0. End contacts: silver-plated coin silver. Center contact and terminals: silver-plated brass, epoxy seal. Hardware: 2 hex nuts, locking ring, lock washer. Panel mounting: 0.245″ (6.22) diameter hole. Operating temperature: -30°C to +85°C. UL listed.

SPDT — ROUND TOGGLE, NONTHREADED 0.288″L BUSHING WITH KEYWAY, PC BOARD TERMINALS — FIG. 1

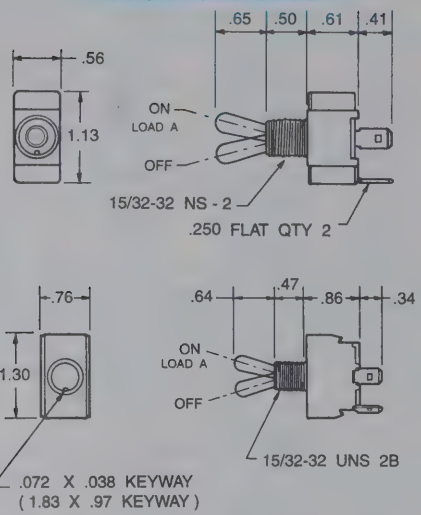
Stock No.	Type	Action	1-24	25-99	100-249	250-499
50N341	SPC5014	On-None-On	4.59	3.91	3.52	3.24
50N342	SPC5015	On-None-(On)	4.99	4.25	3.82	3.52
50N343	SPC5016	On-Off-On	4.99	4.25	3.82	3.52
50N344	SPC5017	(On)-Off-(On)	5.29	4.50	4.05	3.73
50N345	SPC5018	On-Off-(On)	5.29	4.50	4.05	3.73

DPDT — ROUND TOGGLE, NONTHREADED 0.350″L BUSHING WITH KEYWAY, PC BOARD TERMINALS — FIG. 2

50N346	SPC5019	On-None-On	6.59	5.61	5.05	4.64
50N347	SPC5020	On-None-(On)	6.99	5.95	5.35	4.92
50N348	SPC5021	On-Off-On	6.99	5.95	5.35	4.92
50N349	SPC5022	(On)-Off-(On)	7.59	6.46	5.81	5.35
50N350	SPC5023	On-Off-(On)	7.59	6.46	5.81	5.35
50N351	SPC5024	On-On-On	7.99	6.80	6.12	5.63
50N352	SPC5025	(On)-None-(On)	7.99	6.80	6.12	5.63
50N353	SPC5026	On-On-(On)	7.99	6.80	6.12	5.63

(34986) (ne34986)

TOGGLE SWITCHES



Contact rating: 20A @ 125VAC (10A @ 277VAC) terminals. Brass terminals. Internal O-ring for moisture and dust resistance. Mounts in a standard ½" dia. hole. *Order* **type 8433-0326** *toggle boot cover separately below.* UL recognized, CSA certified.

METAL CASE

Stock No.	Type	Circuits	Action	Terminal	Each
16N929	8433-0302	SPST	On-Off	Flat	3.06
16N930	8433-0303	SPDT	On-Off-On	Flat	3.83
16N931	8433-0304	SPST	On-Off	Screw	3.26
16N932	8433-0305	SPST	(On)-(Off)+	Screw	3.89
16N933	8433-0306	SPST	On-(Off)+	Screw	3.89
16N934	8433-0307	SPDT	On-On	Screw	4.35
16N935	8433-0308	SPDT	On-Off-On	Screw	4.14
16N936	8433-0309	SPDT	(On)-Off-On+	Screw	4.56
16N937	8433-0310	SPDT	(On)-Off-On+	Screw	4.56
16N938	8433-0311	SPST	On-Off	Reg. Solder	3.06
16N939	8433-0312	SPDT	On-Off-On	Reg. Solder	3.83
16N940	8433-0313	DPST	On-Off	Flat	4.51
16N892	8433-0314	DPDT	On-On	Flat	5.13
16N893	8433-0315	DPDT	On-Off-On	Flat	5.13
16N894	8433-0316	DPST	On-Off	Screw	4.92
16N895	8433-0317	DPST	(On)-Off+	Screw	5.70
16N896	8433-0318	DPST	On-(Off)+	Screw	5.70
16N897	8433-0319	DPDT	On-On	Screw	5.80
16N898	8433-0320	DPDT	On-(On)+	Screw	7.35
16N899	8433-0321	DPDT	On-Off-On	Screw	5.80
16N900	8433-0322	DPDT	(On)-Off-On+	Screw	7.35
16N919	8433-0323	DPDT	(On)-Off-On+	Screw	7.35
16N920	8433-0324	DPST	On-Off	Reg. Solder	4.51
16N921	8433-0325	DPDT	On-Off-On	Reg. Solder	5.13

BLACK PLASTIC CASE

Stock No.	Type	Circuits	Action	Terminal	Each
92N4691	2498	SPST	On-Off	Flat	2.89
92N4692	2499	S[ST	On-Off	Screw	2.89
92N4693	2500	SPST	On-Off	Reg. Solder	2.89
92N4694	2501	SPST	(On)-Off+	Screw	3.72
92N4695	2502	SPST	On-(Off)+	Screw	3.72
92N4696	2503	SPDT	On-On	Screw	4.13
92N4697	2504	SPDT	On-Off-On	Flat	3.72
92N4698	2505	SPDT	On-Off-On	Screw	3.93
92N4699	2506	SPDT	On-Off-On	Reg. Solder	3.72
92N4700	2507	SPDT	On-Off-(On)+	Screw	4.13
92N4701	2508	SPDT	(On)-Off-(On)+	Screw	4.13
92N4702	2509	DPST	On-Off	Flat	4.34
92N4703	2510	DPST	On-Off	Screw	4.55
92N4704	2511	DPST	On-Off	Reg. Solder	4.34
92N4705	2512	DPST	(On)-Off+	Screw	5.17
92N4706	2513	DPST	On-(Off)+	Screw	5.17
92N4707	2514	DPDT	On-On	Flat	5.17
92N4708	2515	DPDT	On-On	Screw	5.17
92N4709	2516	DPDT	On-(On)+	Screw	7.03
92N4710	2517	DPDT	On-Off-On	Flat	5.17
92N4711	2518	DPDT	On-Off-On	Screw	5.38
92N4712	2519	DPDT	On-Off-On	Reg. Solder	5.17
92N4713	2520	DPDT	On-Off-(On)+	Screw	7.03
92N4714	2521	DPDT	(On)-Off-(On)+	Screw	7.03

+Parentheses denote momentary action

16N922 Type 8433-0326. Toggle Boot Cover. **Each**..... **2.90**
(5158) (ne08039)

ROCKER SWITCHES

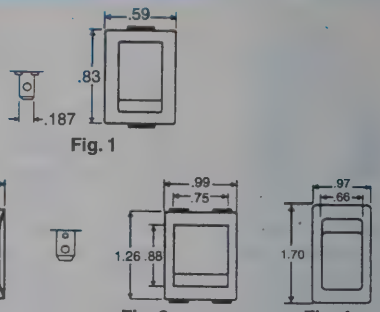


Fig. 1 Fig. 2 Fig. 3 Fig. 4

Typical uses: appliances, industrial controls, hand tools, lighting panels, automotive and marine equipment. Contact rating: 15A @ 125VAC (**Figs. 1-3**), 20A @ 125VAC (**Fig. 4**). Mounting hole: 0.520 x 0.776" (**Fig. 1**), 0.550 x 1.125" (**Fig. 2**), 0.866 x 1.100" (**Fig. 3**), and 0.830 x 1.450" (**Fig.4**). UL recognized, CSA certified.

Stock No.	Type	Fig.	Circuits	Action	Rocker Color	Each
16N909	8433-0286	1	SPST	On-Off	Black	1.97
16N910	8433-0287	1	SPDT	On-Off-On	Black	2.23
16N911	8433-0288	1	SPST	On-Off	Red*	2.95
16N912	8433-0289	1	DPST	On-Off	Black	4.30
16N913	8433-0290	1	DPDT	On-Off	Black	4.92
16N914	8433-0291	2	SPST	On-Off	Black	4.92
16N915	8433-0292	2	SPDT	On-Off-On	Black	2.23
16N916	8433-0293	2	SPST	On-Off	Red*	2.95
16N917	8433-0294	2	SPST	On-Off	Amber*	2.95
16N918	8433-0295	2	SPST	On-Off	Green*	2.95
16N923	8433-0296	3	DPST	On-Off	Black	4.14
16N924	8433-0297	3	DPDT	On-Off-On	Black	4.66
16N925	8433-0298	4	SPST	On-Off	Black	4.51
16N926	8433-0299	4	SPDT	On-Off-On	Black	4.77
16N927	8433-0300	4	DPST	On-Off	Black	5.44
16N928	8433-0301	4	DPDT	On-Off-On	Black	5.80

*Indicates lighted switches.
(5159) (ne08040)

SLIDE SWITCHES

All types have a contact rating of 3.0A @ 125VAC; except **types 2526** and **2528** (11.0A @ 125VAC) and **types 2524** and **2527** (6.0A @ 125VAC). UL recognized, CSA certified.

Stock No.	Type	Description	Circuits	Action	Each
92N4717	2524	Standard	SPDT	On-On	1.96
92N4718	2525	Standard	DP3P	On-On-On	2.06
92N4719	2526	Standard	DP3P	On-On-On	4.13
92N4720	2527	Standard	DPDT	On-On	2.68
92N4721	2528	Standard	DPDT	On-On	3.93
92N4722	2529	Miniature	DPDT	On-On	2.89
92N4723	2530	Miniature	DP3P	On-On-On	3.10
92N4724	2531	Miniature	DPDT	On-On	3.31
92N4725	2532	Miniature	DP3P	On-On-On	3.51
92N4726	2533	Micromini	SPDT	On-On	3.51

(13230) (ne10378)

ALL-ANGLE PULL CHAIN AND TOGGLE SWITCHES

Recommended mounting hole: ½" diameter. **Type 2522** is an all-angle push-in, pull chain switch. **Type 2523** is a wire lead toggle switch. UL recognized, CSA certified.

Stock No.	Type	Circuits	Action	Description	Each
92N4715	2522	SPST	On-Off	3A @ 125VAC (6A @ 250VAC)	10.34
92N4716	2523	SPST	On-Off	4A @ 125VAC (8A @ 250VAC)	4.13

(13148) (ne10377)

LAMP CORD SWITCHES

Insulation piercing contacts eliminate wire stripping. UL recognized, CSA certified.

Stock No.	Type	Circuits	Action	Description	Each
92N4747	2554	SPST	On-Off	6A @ 125VAC (3A @ 250VAC), Brown	3.62
92N4748	2555	SPST	On-Off	6A @ 125VAC (3A @ 250VAC), Ivory	3.62
92N4749	2556	SPST	On-Off	10A @ 125VAC (5A @ 250VAC), Brown	8.27

(13152) (ne10379)

PULL CHAIN SWITCHES

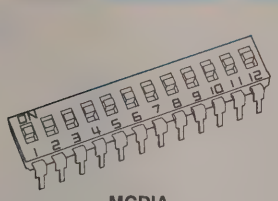
Contact rating: 6A @ 125VAC, SPST. 18-gauge, 6" stripped wire leads. **Type 8443-0279** uses a brass bushing, **type 8443-0280** uses nickel-plating. Mounting hole: 13/32" dia. UL recognized, CSA certified.

Stock No.	Type	Circuits	Action	Each
16N902	8433-0279	SPST	Off-On	1.97
16N903	8433-0280	SPST	Off-On	2.02

(5156) (ne08037)

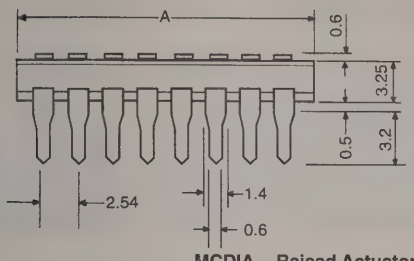
DIP SWITCHES

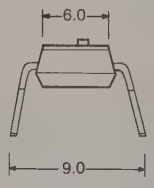
SUBMINIATURE IC DIP SWITCHES



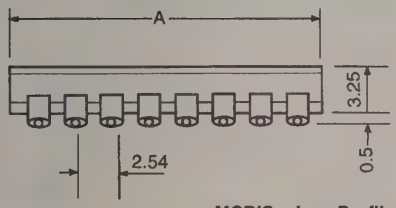
MCDIA

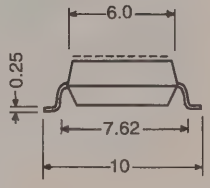
MCDIS





MCDIA -- Raised Actuator





MCDIS -- Low Profile Actuator

Modeled 0.3″ integrated circuit package outline allowing auto-insertion. Twin contact design provides stable connection. Highly resistant to physical shock and vibration. Molded parts of selected material, rated UL94V-0. Terminal contacts plated with 3μ″ gold. Top tape sealed to withstand wave soldering. Switching capacity: 100mA @ 6VDC (25mA @ 24VDC). Carry current: 100mA @ 60VDC. Contact resistance: 30mΩ maximum. Dielectric strength: 500VDC/1 minute. Electrical operating life: 2000 operations. Operating temperature: –30°C to +80°C.

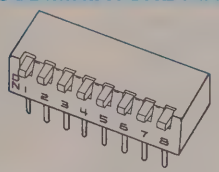
MCDIA SERIES - AUTO-INSERTION PIN TYPE, RAISED ACTUATOR

Stock No.	Type	No. of Poles	Dim. A	1-24	25-49	50-99
16N8543	MCDIA02G03	2	0.20″	1.89	1.70	1.52
16N8544	MCDIA04G03	4	0.43″	1.99	1.79	1.60
92N5206	MCDIA05G03	5	0.53″	2.09	1.88	1.68
16N8545	MCDIA06G03	6	0.63″	2.19	1.97	1.76
16N8546	MCDIA08G03	8	0.83″	2.29	2.06	1.84
16N8547	MCDIA10G03	10	1.03″	2.39	2.15	1.92
MCDIA SERIES - AUTO-INSERTION PIN TYPE, LOW PROFILE ACTUATOR						
92N5200	MCDIA02L03	2	0.20″	1.89	1.70	1.52
92N5201	MCDIA04L03	4	0.43″	1.99	1.79	1.60
92N5202	MCDIA05L03	5	0.53″	2.09	1.88	1.68
92N5203	MCDIA06L03	6	0.63″	2.19	1.97	1.76
92N5204	MCDIA08L03	8	0.83″	2.29	2.06	1.84
92N5205	MCDIA10L03	10	1.03″	2.39	2.15	1.92
MCDIS SERIES - SURFACE MOUNT PIN TYPE, LOW PROFILE ACTUATOR						
16N8548	MCDIS02T03	2	0.20″	1.89	1.70	1.52
16N8549	MCDIS04T03	4	0.43″	1.99	1.79	1.60
16N8550	MCDIS06T03	6	0.63″	2.19	1.97	1.76
16N8551	MCDIS08T03	8	0.83″	2.29	2.06	1.84
16N8552	MCDIS10T03	10	0.83″	2.39	2.15	1.92
MCDIS SERIES - SURFACE MOUNT PIN TYPE, RAISED ACTUATOR						
92N5207	MCDIS02G03	2	0.20″	1.89	1.70	1.52
92N5208	MCDIS04G03	4	0.43″	1.99	1.79	1.60
92N5209	MCDIS05G03	5	0.53″	2.09	1.88	1.68
92N5210	MCDIS06G03	6	0.63″	2.19	1.97	1.76
92N5211	MCDIS08G03	8	0.83″	2.29	2.06	1.84
92N5212	MCDIS10G03	10	1.03″	2.39	2.15	1.92

(13266) (ne10228)

ONE-STOP SHOPPING . . . WITH ONE CALL AND ONE PURCHASE ORDER.

SUBMINIATURE PIANO AND TRI-STATE DIP SWITCHES



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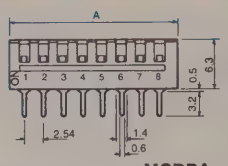
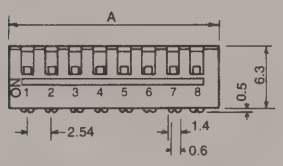
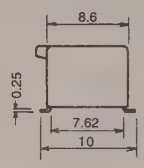
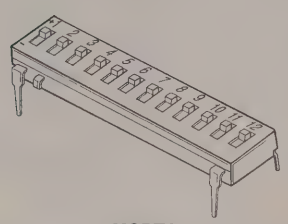


MCDPA

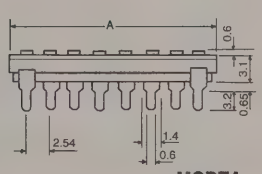




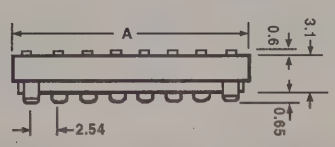
MCDPS

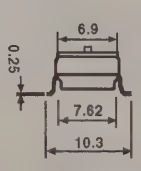


MCDTA



MCDTA





MCDTS

MCDPA and **MCDTA series** switches feature modeled 0.3″ integrated circuit package outline allowing auto-insertion. All switches have twin-contact design to provide stable connection. Highly resistant to physical shock and vibration. Molded parts of selected material, rated UL94V-0. Terminal contacts plated with 3μ″ gold. Top tape sealed to withstand wave soldering. Switching capacity: 100mA @ 6VDC (25mA @ 24VDC). Carry current: 100mA @ 60VDC. Contact resistance: 30mΩ maximum. Dielectric strength: 500VDC/1 minute. Electrical operating life: 2000 operations. Operating temperature: –30°C to +80°C. Tri-state type switches (+,0,–) setting function; 8 poles = (3^8) = 6,561 codes and 10 poles = (3^{10}) = 59,049 codes.

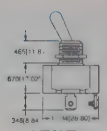
MCDPA SERIES - AUTO-INSERTION PIANO TYPE, RAISED ACTUATOR

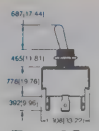
Stock No.	Type	No. of Poles	Dim. A	1-24	25-49	50-99
92N5213	MCDPA02G03	2	0.24″	2.29	2.06	1.84
92N5214	MCDPA04G03	4	0.47″	2.39	2.15	1.92
92N5215	MCDPA05G03	5	0.57″	2.49	2.24	2.00
92N5216	MCDPA06G03	6	0.67″	2.59	2.33	2.08
92N5217	MCDPA08G03	8	0.87″	2.69	2.42	2.16
92N5218	MCDPA10G03	10	1.07″	2.79	2.51	2.24
MCDPS SERIES - SURFACE MOUNT PIANO TYPE, RAISED ACTUATOR						
92N5219	MCDPS02G03	2	0.24″	2.29	2.06	1.84
92N5220	MCDPS04G03	4	0.47″	2.39	2.15	1.92
92N5221	MCDPS05G03	5	0.57″	2.49	2.24	2.00
92N5222	MCDPS06G03	6	0.67″	2.59	2.33	2.08
92N5223	MCDPS08G03	8	0.87″	2.69	2.42	2.16
92N5224	MCDPS10G03	10	1.07″	2.79	2.51	2.24
MCDTA SERIES - AUTO-INSERTION TRI-STATE TYPE, RAISED ACTUATOR						
16N8553	MCDTA08G0	8	0.83″	2.89	2.60	2.32
16N8554	MCDTA10G0	10	1.03″	2.99	2.70	2.40
MCDTS SERIES - SURFACE MOUNT TRI-STATE TYPE, RAISED ACTUATOR						
92N5225	MCDTS08G03	8	0.83″	2.89	2.60	2.32
92N5226	MCDTS10G03	10	1.03″	2.99	2.70	2.40

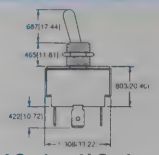
(13328) (ne10229)

TOGGLE AND PUSHBUTTON SWITCHES

GENERAL-PURPOSE TOGGLE SWITCHES


2F/6F


Type 2G


I Series, H Series

Switches feature single pole in double pole base (**6GA**). All feature bat style toggle with 0.688″ (17.48) toggle length and 0.465″ (11.81) bushing length. Mounting hole: 0.500″ (12.70). Types **6F** and **6G** are momentary action. UL recognized, CSA certified. *0.25″ (6.35) Tabs Q.C.

SPST

Stock No.	Type	Switch Action	Terminals	1-9	10-24	25-49
89F5487	2FA53-73	On-None-Off	Solder	4.09	3.72	2.82
89F5488	2FA53-73-TABS*	On-None-Off	Spade	4.09	3.72	2.82
89F5489	2FA54-73	On-None-Off	Screw	4.68	4.26	3.23
89F5490	2FB53-73	On-None-On	Solder	5.80	4.80	4.03
89F5491	2FB53-73-TABS*	On-None-On	Spade	5.80	4.80	4.03
89F5492	2FB54-73	On-None-On	Screw	6.61	5.64	4.73
89F5493	2FC53-73	On-Off-On	Solder	5.80	4.80	4.03
89F5494	2FC53-73-TABS*	On-Off-On	Spade	5.80	4.80	4.03
89F5495	2FC54-73	On-Off-On	Screw	5.91	5.38	4.08
89F5496	6FC54-73	(On)-Off-(On)	Screw	8.22	7.48	5.67
96F2153	6GA5B-73	(On)-None-Off	Spade	8.44	7.21	6.04

DPST

89F5497	2GK50-73	On-None-Off	Solder	6.47	5.88	4.46
89F5498	2GK51-73	On-None-Off	Spade	6.47	5.88	4.46
89F5499	2GK54-73	On-None-Off	Screw	7.67	6.97	5.28

DPDT

89F5500	2GL50-73	On-None-On	Solder	7.73	7.03	5.33
89F5501	2GL51-73	On-None-On	Spade	7.73	7.03	5.33
89F5502	2GL54-73	On-None-On	Screw	9.50	8.64	6.55
89F5503	2GM50-73	On-Off-On	Solder	7.73	7.03	5.33
89F5504	2GM51-73	On-Off-On	Spade	7.73	7.03	5.33
89F5505	2GM54-73	On-Off-On	Screw	9.50	8.64	6.55

3PST

89F5506	HK250-73	On-None-Off	Solder	13.28	11.34	9.51
89F5515	HK254-73	On-None-Off	Screw	15.71	13.41	11.25

3PDT

89F5516	HL250-73	On-None-On	Solder	16.32	13.94	11.70
89F5517	HL251-73	On-None-On	Spade	16.32	13.94	11.70
89F5518	HL254-73	On-None-On	Screw	19.53	16.67	13.99
89F5520	HM251-73	On-Off-On	Spade	16.32	13.94	11.70
89F5521	HM254-73	On-Off-On	Screw	19.53	16.67	13.99

4PST

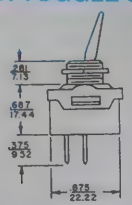
89F5509	IK251-73	On-None-Off	Spade	18.21	15.54	13.04
89F5510	IK254-73	On-None-Off	Screw	20.21	17.25	14.48

4PDT

89F5511	IL250-73	On-None-On	Solder	22.23	18.98	15.92
89F5512	IL251-73	On-None-On	Spade	22.23	18.98	15.92
89F5513	IL254-73	On-None-On	Screw	26.72	22.81	19.14
89F5522	IM251-73	On-Off-On	Spade	22.23	18.98	15.92
89F5523	IM254-73	On-Off-On	Screw	26.72	22.81	19.14

(5119) (de52825)

ALL-NYLON TOGGLE SWITCHES



D Series switches suitable for both power and low-level switching. Nylon flat or bat lever actuators. Rated @ 10 amps, 125VAC; 5 amps, 250VAC; ½ H.P., 125-250VAC.

SPST PADDLE TOGGLE ACTUATOR SWITCHES

Stock No.	Type	Switch Action	Terminals	1-9	10-24	25-49
89F5524	DA100-PB-B	On-None-Off	Solder	3.21	2.12	1.82
89F5525	DA105-PB-B	On-None-Off	Wire	4.70	3.11	2.65

SPDT PADDLE TOGGLE ACTUATOR SWITCHES

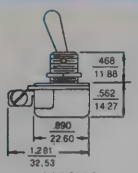
89F5526	DB100-PB-B	On-None-On	Solder	3.59	2.37	2.02
89F5527	DC100-PB-B	On-Off-On	Solder	3.59	2.37	2.02

SPST BAT TOGGLE ACTUATOR SWITCH

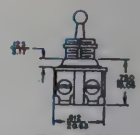
89F5528	DA100-BB-B	On-None-Off	Solder	3.21	2.12	1.82
89F5529	DA105-BB-B	On-None-Off	Wire	4.70	3.11	2.65

(5120) (de52826)

GENERAL-PURPOSE AC/DC TOGGLE SWITCHES


110/111

2B Series

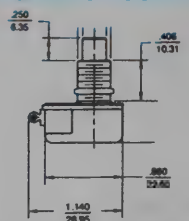

Type DK

Bat style toggle is 0.688″L (17.48); bushing is 0.468″L (11.89). All are 6A/125V, 3A/250V except **type DK284** is 16A/125V, 8A/250V, 1 HP 125-250V, and **type EK204** is 20A/125V, 10A/250V, 1½ HP 125-250V. Mounting hole: 0.500″ (12.70). UL recognized, CSA certified.

Stock No.	Type	Switch Action	Terminals	1-9	10-24	25-49
89F5556	110-73	SPST On-None-Off	Lugs (End)	5.41	4.47	3.75
89F5557	110-S-73	SPST On-None-Off	Screw	7.02	5.99	5.03
89F5558	111-16-73	SPST On-None-Off	Wire Leads	6.28	5.71	4.33
89F5559	2BB62-73	SPDT On-None-Off	Lugs (End)	6.60	5.63	4.72
89F5560	2BK62-73	DPST On-None-Off	Lugs (End)	9.50	8.11	6.81
89F5562	2BL62-73	DPDT On-None-On	Lugs (End)	10.90	9.31	7.81
89F5549	DK284-73	DPST On-None-Off	Screw	8.94	6.11	5.20
89F5550	EK204-73	DPST On-None-Off	Screw	15.19	12.97	10.87

(5121) (de52827)

P26 SERIES PUSHBUTTON SWITCHES



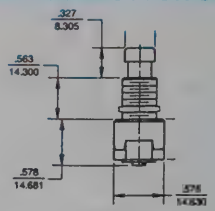
P26 Series

Equipped with silver slow-make, slow-break contacts. Rated 3A/250VAC, 6A/125VAC, 3/4A/125V. Mounting hole: 0.500″ (12.70). Bushing: 0.468″ (11.89) length and diameter. Solder terminals. UL recognized, CSA certified. ( ) = momentary.

Stock No.	Type	Switch Action	1-9	10-24	25-49
89F5543	P26A-1D-RND	Off-(On)	6.51	5.38	4.52
89F5544	P26L-1D-RND	On-(Off)	6.51	5.38	4.52

(5122) (de52828)

170 SERIES PUSHBUTTON SWITCHES

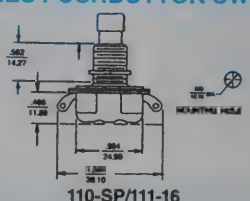

170/172

High-amp, AC pushbutton switches are suitable for shallow back panel applications. Mounting hole: 0.500″ (12.70). Silver slow-make, slow-break contacts and rated 15A/125VAC. UL recognized, CSA certified.

Stock No.	Type	Switch Action	1-9	10-24	25-49
89F5539	170	SPNC On-(Off)	10.60	9.05	7.59
89F5540	172	SPNO Off-(On)	9.48	8.62	6.54

(5123) (de52829)

110 SERIES PUSHBUTTON SWITCHES


110-SP/111-16

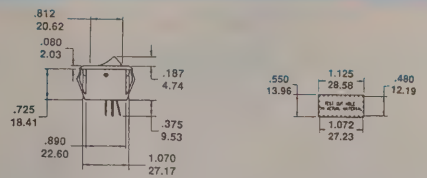
AC/DC switches are equipped with a quick-make, quick-break contact mechanism. Mounting hole: 0.500″ (12.70). Rated 6A/125VAC, 3A/250VAC. SPST On-Off switch action. UL recognized, CSA certified.

Stock No.	Type	Terminals	1-9	10-24	25-49
89F5541	110-SP	Screw	9.65	8.24	6.91
89F5542	111-16P	Wire	9.65	8.24	6.91

(5124) (de52830)

ROCKER SWITCHES

CURVETTE SNAP-IN ROCKER SWITCHES



Miniature rocker switches are 1-pole, slow-make and break action. 0.250″ (6.35) quick connect terminals. Ratings: 10A/125VAC, 10A/250VAC; **type RD221** is 8A/250VAC, 12A/125VAC. Rated life 50M cycles @ rated load. Base is black; available with Visi-Rocker two-color molded with "on" indication. For neon illuminated switches: **RS** in type number indicates rocker is solid red; **CR** indicates clear red; **CA** indicates clear amber. UL recognized, CSA certified, VDE, SEV, SEMKO and BEAB approved; **type RD221** is UL recognized, CSA certified. *Features on/off legend.

BLACK ROCKER

Stock No.	Type	Switch Action	1-9	10-24	25-49
89F5551	RA911-RB-B-0-N	SPST On-None-Off	1.52	1.25	1.05
89F5554	RB911-RB-B-0-N	SPDT On-None-On	1.76	1.46	1.22
89F5555	RC911-RB-B-0-N	SPDT On-Off-On	1.76	1.46	1.22
50F3950	RD221-MB-B-O-N	SPST Off-(On)	2.17	1.80	1.51

VISI-ROCKERS, BLACK/RED ROCKER

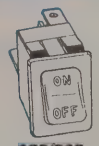
89F5552	RA911-VB-B-0-V	SPST On-None-Off	1.65	1.36	1.14
89F5553	RA911-VB-B-1-V	SPST On-None-Off	1.43	1.30	0.99

125V NEON ILLUMINATED SWITCHES

89F5532	LRA211-RS-B/125N	SPST On-None-Off	2.00	1.66	1.39
50F3952	LRA211-CR-B/125N	SPST On-None-Off	2.00	1.66	1.39
50F3951	LRA211-CA-B/125N	SPST On-None-Off	2.00	1.66	1.39

(5113) (de52751)

622/632 SERIES MINIATURE ROCKER SWITCHES



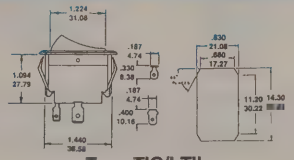
622/632

Miniature rocker switches available in illuminated (**632 series**) 12A, 125VAC ½ HP and non-illuminated (**622 series**) 8A, 250VAC ½ HP models and single and double pole configurations. 0.187″ quick connect terminals. Last digit **A** in type number indicates rocker legend says "ON" "OFF"; **E** indicates "IO". All types listed have vertical rocker legends. Action is On-None-Off. Operating temperature: –20°C to +85°C. Switch dimensions: 0.825L x 0.590W x 0.710″H. UL recognized, CSA certified.

Stock No.	Type	Switch Action	Rocker Color	1-9	10-24	25-49
96F2127	622132-BB-NA	SPST	Black	2.45	2.03	1.70
96F2128	622232-BB-NA	DPST	Black	3.07	2.54	2.12
96F2129	622132-BB-NE	SPST	Black	2.45	2.03	1.70
96F2130	622232-BB-NE	DPST	Black	3.07	2.54	2.12
96F2131	632142-1B-JA	SPST	Amber	2.86	2.36	1.99
96F2133	632142-2B-JA	SPST	Red	2.86	2.36	1.99
96F2134	632142-2B-JE	SPST	Red	2.86	2.36	1.98
96F2135	632242-1B-JA	DPST	Amber	4.31	3.57	2.99
96F2137	632242-2B-JA	DPST	Red	4.31	3.57	2.99
96F2138	632242-2B-JE	DPST	Red	4.31	3.57	2.99

(5114) (de52752)

HEAVY DUTY SNAP-IN ROCKER SWITCHES



Type TIG/LTIL

Constructed with a snap-in bracket system that provides front panel dust/moisture protection. Action is On-None-Off. Ratings: 15A/125VAC, 28VDC; 10A/250VAC, ¾ H.P. Dielectric strength: 1000V. Available in lighted and non-lighted versions. 125V neon models: "**RC**" in type number designates red; "**AM**" designates amber. UL recognized, CSA certified.

NON-LIGHTED ROCKER SWITCHES

Stock No.	Type	Switch Action	Terminals	1-9	10-24	25-49
89F5565	TIGA50-6S-BL-NBL	SPST	Solder	6.04	4.99	4.19
50F3954	TIGA51-6S-BL-NBL	SPST	0.250″QC	6.04	4.99	4.19
89F5566	TIGK50-6S-BL-NBL	DPST	Solder	7.91	6.75	5.67
50F3955	TIGK51-6S-BL-NBL	DPST	0.250″C	7.91	6.75	5.67

125V NEON ILLUMINATED SWITCHES

89F5567	LTILA506SBLRC-NBL	SPST	Solder	7.37	6.30	5.28

CONTINUED

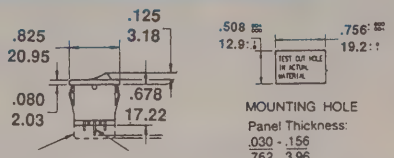
HEAVY DUTY SNAP-IN ROCKER SWITCHES (CONT.)

125V NEON ILLUMINATED SWITCHES (CONT.)

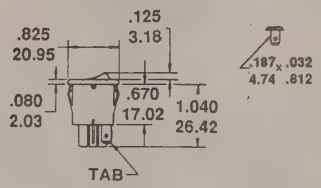
Stock No.	Type	Switch Action	Terminals	1-9	10-24	25-49
50F3956	LTILA506SBLAMNBL	SPST	Solder	7.37	6.30	5.28
50F3957	LTILA516SBLRCNBL	SPST	0.250″QC	7.37	6.30	5.28
50F3958	LTILA516SBLAMNBL	SPST	0.250″QC	7.37	6.30	5.28

(5117) (de52755)

MINIATURE SNAP-IN ROCKER SWITCHES



Type 621 Solder Lug



Double insulated switches are rated 8A/125VAC, 4A/250VAC. Dielectric strength: 1000V. 0.187″ terminals. UL recognized, CSA certified, VDE, BEAB, SEV, and SEMKO approved.

BLACK ROCKER

Stock No.	Type	Switch Action	Terminals	1-9	10-24	25-49
89F5536	62111421-0-0-N	SPDT On-None-On	Solder	1.92	1.59	1.34
89F5537	62112421-0-0-N	DPDT On-None-On	Solder	2.42	2.00	1.68
50F6916	62111926-00N	SPDT On-None-On	Solder	1.92	1.59	1.34
50F6917	62112926-00N	DPDT On-None-On	Solder	2.72	2.25	1.89
50F6918	62116919-00N	SPST On-None-Off	QC	2.28	1.88	1.58

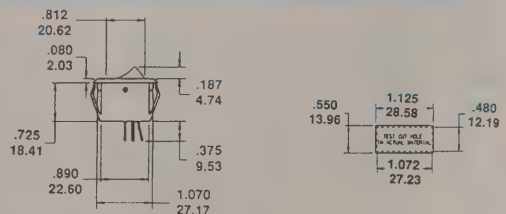
VISI-ROCKER SWITCHES BLACK/RED ROCKER

89F5563	62115929-0-0-V	DPDT On-None-On	QC	2.86	2.36	1.99
89F5564	62116919-0-9-V	SPST On-None-Off	QC	1.75	1.45	1.21

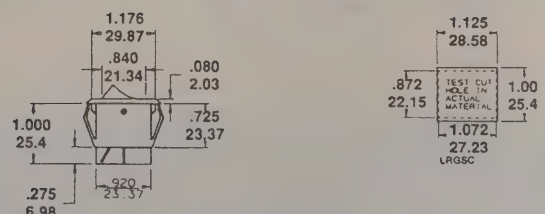
*I-O Imprint (vertical).

(5116) (de52754)

HIGH INRUSH CURVETTE ROCKER SWITCHES



Type RSC



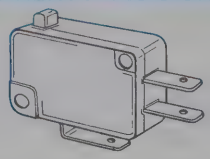
Type RGSC/LRGSC

Designed to handle current surges over 100 amps. Ratings: 20A/125VAC, 15A/250VAC. 0.250″(6.35) quick connect terminals. Type with (*) is a Visi-Rocker with an Off/On imprint; **type LRGSC** is an illuminated switch with 125V neon lamp. Action: On-None-Off. UL recognized, CSA certified, VDE approved.

Stock No.	Type	Switch Action	Rocker Color	1-9	10-24	25-49
89F5533	RSCA711-RB-B-0-N	SPST	Black	2.17	1.80	1.51
50F3953	RSCA711-VB-B1-V	SPST	Black/Red	2.30	1.91	1.60
89F5534	RGSCC711RB-B-0-N	DPST	Black	3.17	2.62	2.20
89F5535	LRGSCK221RSB0125N	DPST	Red (Solid)	3.66	3.12	2.62

(5115) (de52753)

HIGH CURRENT PRECISION SWITCH

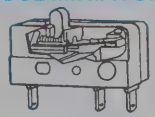


SPDT miniature switch features thermoset construction, low operating force and three contact arrangement. Long life coil spring mechanism. Operating force 220 grams maximum. High overtravel of 0.035 minimum. Pretravel 0.070 maximum. Operating position 0.537 to 0.577″. Electrical rating: 25A 125/250VAC, 1HP 125VAC, 2HP 250VAC. UL recognized, CSA certified. Switch body dimensions: 1.093L x 0.406W x 0.625″H.

Stock No.	Type	1-24	25-49
95F9727	E36-40AX	5.17	4.77

(5015) (de02237)

E61, E62, E63 SUBMINIATURE SWITCHES



Series	Rating
E61	5A @ 125/250VAC
E62	10.1A @ 125/250VAC, ¼HP.
E63	0.1A @ 125VAC, Gold Crosspoint Contacts

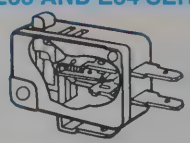
SPDT subminiature snap-action switches available with short solder (SS) or quick-connect terminals (0.093″ and 0.110″). Switch body: 0.781L x 0.0250W x 0.375″H. UL recognized, CSA certified.

Stock No.	Type	Terminal	Actuator Style	Actuator Length†	1-24	25-49
29F2908	E61-00A	.093 QC	Button	...	3.94	3.63
29F2909	E61-00H	.093 QC	Lever std. ratio	0.271″	5.65	5.21
29F2910	E61-00K	.093 QC	Roller std. ratio	0.201″	6.02	5.55
29F2911	E61-10A	SS	Button	...	3.94	3.63
29F2912	E61-10H	SS	Lever std. ratio	0.271″	5.65	5.21
29F2913	E61-10K	SS	Roller std. ratio	0.201″	6.02	5.55
44F660	E61-30A	.110 QC	Button	...	3.94	3.63
98F1181	E61-30K	.110 QC	Roller std. ratio	0.201″	6.02	5.55
94F3233	E61-50H	.093 QC	Lever high ratio	0.396″	5.65	5.21
84F513	E61-60H	SS	Lever high ratio	0.396″	5.18	4.78
29F2914	E62-00A	.093 QC	Button	...	4.44	4.10
29F2915	E62-00H	.093 QC	Lever std. ratio	0.271″	5.65	5.21
29F2916	E62-00K	.093 QC	Std. ratio	0.201″	6.49	5.99
29F2917	E62-10A	SS	Button	...	4.44	4.10
94F3235	E62-10H	SS	Lever std. ratio	0.271″	5.65	5.21
29F2918	E62-10K	SS	Roller std. ratio	0.201″	6.49	5.99
94F6213	E62-30A0	.110 QC	Button	...	4.44	4.10
94F3206	E62-30H	.110 QC	Lever std. ratio	0.271″	5.18	4.78
50F7457	E62-30K	.110 QC	Roller std. ratio	0.201″	5.89	5.44
84F516	E62-50H	.093 QC	Lever high ratio	0.396″	5.65	5.21
94F6214	E62-60H0	SS	Lever high ratio	0.396″	5.65	5.21
94F3237	E63-00A	.093 QC	Button	...	7.43	7.03
29F2919	E63-00H	.093 QC	Lever std. ratio	0.271″	8.15	7.71
84F517	E63-00K	.093 QC	Roller std. ratio	0.201″	9.34	8.83
94F3238	E63-10A	SS	Button	...	7.43	7.03
94F3207	E63-10H	SS	Lever std. ratio	0.271″	8.74	8.26
94F3208	E63-10K	SS	Roller std. ratio	0.201″	8.85	8.36
50F7460	E63-30A	.110 QC	Button	...	7.43	7.03
94F6170	E63-50H	.093 QC	Lever high ratio	0.396″	8.74	8.26

†Actuator length is distance from centerline of the round switch mounting hole to tip of actuator.
(5105) (de52320)

FRIENDLY, QUALITY SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

E21, E22, E23, E33 AND E34 SERIES SWITCHES



SPDT miniature snap-action switches with 0.187″ (4.75) quick-connect terminals. **Suffix X** in type number indicates light force; others are standard force. Switch body: 1.093L x 0.406W x 0.625″H (27.76 x 10.31 x 15.88). Contact length: 0.106″ (2.69). **Type E21** switches feature contacts for low energy circuits. UL recognized, CSA certified.

Series	Rating
E21	0.1A @ 125VAC, Gold Crosspoint Contacts
E22	3A @ 125/250VAC
E23	5A @ 125/250VAC, ¼HP
E33	10A @ 125/250VAC, ½HP
E34	15A @ 125/250VAC, ½HP

Stock No.	Type	Actuator Style	Actuator Length†	1-24	25-49
29F2885	E21-00A	Button	...	6.10	5.63
94F6162	E21-00K	Roller std.ratio	0.810″	7.19	6.63
94F407	E21-50H	Lever std.ratio	1.400″	6.30	5.81
29F2886	E21-50K	Roller std.ratio	1.340″	7.67	7.25
94F3226	E21-85HX	Lever high ratio	2.932″	7.42	6.85
94F3196	E22-00A	Button	...	3.69	3.41
29F2887	E22-00AX	Button	...	4.03	3.72
94F6206	E22-00K0	Roller std.ratio	0.810″	4.96	4.58
29F2888	E22-50HX	Lever std.ratio	1.400″	4.51	4.16
29F2889	E22-55HX	Lever std.ratio	2.757″	4.51	4.16
29F2890	E22-85HX	Lever high ratio	2.932″	4.72	4.35
94F3199	E23-00AX	Button	...	3.80	3.51
50F7428	E23-00H	Lever std.ratio	0.865″	3.73	3.45
29F2892	E23-00K	Roller std.ratio	0.810″	4.33	4.00
29F2893	E23-50K	Roller std.ratio	1.340″	5.06	4.67
98F1071	E23-85HX	Lever high ratio	2.932″	4.65	4.29
29F2894	E33-00A	Button	...	3.24	2.99
94F3229	E33-00AX	Button	...	3.94	3.63
29F2895	E33-00K	Roller std.ratio	0.810″	4.24	3.91
29F2896	E33-50H	Lever std.ratio	1.400″	3.73	3.45
29F2897	E33-50K	Roller std.ratio	1.340″	4.38	4.04
94F3201	E33-55HX	Lever std.ratio	2.757″	4.03	3.72
29F2898	E33-85HX	Lever high ratio	2.932″	4.31	3.97
29F2899	E34-00A	Button	...	3.24	2.99
94F3230	E34-00K	Roller std.ratio	0.810″	4.85	4.48
84F518	E-34-50K	Roller std.ratio	1.340″	4.79	4.42
84F514	E34-55HX	Lever std.ratio	2.757″	4.24	3.91
94F3231	E34-75HX	Lever high ratio	1.580″	4.31	3.97

†Actuator length is distance from centerline of the round switch mounting hole to tip of actuator.
(5017) (de02307)

E13, E19 SERIES GENERAL PURPOSE SWITCHES

E13 Series

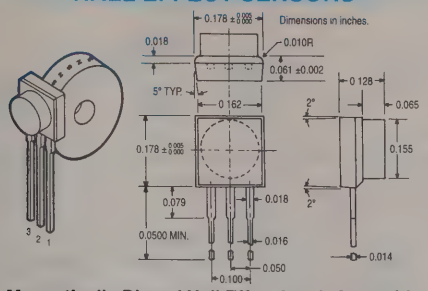
E19 Series

E13 series and **E19 series** general purpose switches rated 15 amps, 125/250VAC; ¾HP, 125VAC; 1½HP, 250VAC. 1¼″ quick-connect terminals. **E13 series** switches are SPDT. Switch body: 1.823Lx0.644Wx0.640″H (46.30x16.36x16.26). **E19 series** switches are DPDT. Switch body: 1.813Lx0.640Wx1.125″H (46.05x16.26x28.58). UL listed, CSA certified.

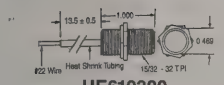
Stock No.	Type	Description	1-24	25-49
29F2875	E13-00E	Button	3.42	3.16
29F2876	E13-00H	1.500 Actuator std. ratio	4.69	4.33
29F2877	E13-00J	Plastic button ferrule mount	3.83	3.53
29F2878	E13-00K	1.391 Roller std. ratio	5.28	4.87
29F2879	E13-00M	Metal button ferrule mount	4.83	4.45
94F6205	E13-50H0	1.750 Actuator high ratio	4.69	4.33
29F2881	E19-00A	Button	6.59	6.08
29F2882	E19-00H	1.500 Actuator std. ratio	8.34	7.88
50F7473	E19-00J	Plastic button ferrule mount	7.51	7.10
84F509	E-19-00K	1.391 Roller std. ratio	9.58	9.06
29F2883	E19-00M	Metal button ferrule mount	7.71	7.29
29F2884	E19-50H	1.750 Actuator high ratio	7.67	7.25
94F3224	E19-50K	1.645 Roller high ratio	9.68	9.14

(5082) (de51130)

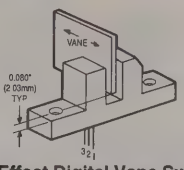
HALL EFFECT SENSORS



Magnetically Biased Hall Effect Latch Assembly



HE610300



Hall Effect Digital Vane Switch

Type HE-6450 is a magnetically activated Hall-effect vane switch. Withstands hostile electrical, chemical, and mechanical environments. Packaged in a 0.970L x 0.242W x 0.425″H (24 x 6 x 11) three-pin plastic housing with 0.050″ (1.27) lead spacing. Protects magnet and electronic circuitry. Circuit board mountable. Digital output. **Type HE-3135** Hall-effect latch assembly provides interface between electromechanical equipment and bipolar magnetic switching characteristic or MOS logic circuits at switching frequencies of up to 25kHz. Bipolar output. ON threshold 25G typical, 50G max. OFF threshold: –25G typical, –50G min. Catch device requires magnetic field reversal to change sensors output. **Type HE-6103** hall effect switch senses proximity of magnetic field. Activated by exposure of face end of assembly to a south magnetic field. Typically 300 gauss of field required at the face of the sensor for turn-on. **Type HE-6104** actuator magnet is intended for use with **type HE-6103** hall effect switch. Can activate at an airgap of 0.4″. Easy installation. Adjustable operating distance to the **type HE-6103** sensor.

Stock No.	Type	Description	1-99	100-249
52F6739	HE31-3500	Latch assembly	3.56	3.03
52F6740	HE61-0300	Hall effect switch-threaded barrel	20.82	17.69
52F6742	HE61-0400	Actuator magnet	11.93	10.14
52F6741	HE61-5000	Threaded Barrell Geartooth	30.88	26.25
52F6743	HE64-5000	Hall effect digital vane switch	4.32	3.67

(5152) (ne07122)

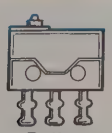
DG SERIES SUB-SUBMINIATURE SWITCHES

DG series sub-subminiature switches are compact sized for space savings. Units feature insertion molded terminals which are printed circuit mountable and wave solderable. 0.504W x 0. 198H x 0.228″D (12.80 x 5.03 x 5.79). Actuators on lever models are 0.169″ long. **DG1-** 3 amps, 125VAC and 2 amps, 30VDC silver-plated contacts; **DG2-** 50 mA, 30VDC with gold plated contacts SPDT. UL recognized, CSA certified.

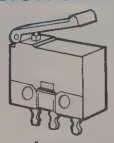
Stock No.	Type	Actuator	1-24	25-49
89F2377	DG1C-B1AA	Button	4.31	3.97
89F2378	DG1C-B1LA	Lever	4.51	4.16
89F2386	DG2C-B1AA	Button	4.54	4.19
89F2387	DG2C-B1LA	Lever	4.70	4.34

(7494) (de51128)

DH SERIES PRECISION SWITCHES



Button



Lever

Ultra-subminiature switches designed for low energy applications. Insertion-molded terminals are PC mountable and wave solderable. Button or lever actuator. 0.322W x 0.244H x 0.106″D (8.18 x 6.20 x 26.92). **Type DH1C** rated 50-500mA resistive @ 30VDC with silver-plated contacts. **Type DH2C** rated 5-50 mA resistive @ 30VDC with gold-plated contacts.

Stock No.	Type	Actuator	1-24	25-49
46F5535	DH1C-B1AA	Button	5.95	5.49
46F5539	DH1C-B1PA	Lever	5.97	5.51
46F5536	DH2C-B1AA	Button	6.29	5.80
46F5537	DH2C-B1PA	Lever	6.49	5.99

(7495) (de51131)

E72, E73 SERIES WEATHERPROOF SWITCHES

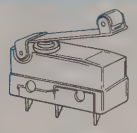
Weatherproof switches. **E72 series** ratings: 10.1A, ¼ HP, 125/250VAC. **E73 series** ratings: 0.1A, 125VAC gold crosspoint contacts. Switch body dimensions: 0.915L x 0.385W x 0.880″H. UL recognized, CSA certified.

Stock No.	Type	Actuator		1-9	10-24
		Style	Length*		
29F2922	E72-40A	Button	...	12.85	12.14
50F7467	E72-40H	Lever	.858″	13.47	12.38
50F7466	E72-40K	Roller	.650″	14.06	12.93

*Actuator length is distance from centerline of switch mounting hole to tip of actuator.

(5099) (de51853)

INTERNATIONAL WATERPROOF SWITCHES



DC series subminiature switches have long life coil spring construction. Encased in thermoplastic. Dust and waterproof in accordance with IP67. Automatic assembly supports consistent quality. Available in three current ratings: **DC1** 5A, **DC2** 10.1A and **DC3** 0.1A. All wire terminals. *Contact your local Newark sales office for information on bulk purchase price breaks.* UL listed, CSA certified.

Stock No.	Type	O.F. (Max. Grams)	Description
46F5540	DC1C-A1AA	203	Short solder no lever
46F5543	DC1C-A1LB	203	Short solder flat lever
95F9728	DC1C-A1RB	203	Short solder roller lever
46F5544	DC2C-A1LB	340	Short solder flat lever
95F9730	DC2C-A1RB	340	Short solder roller lever
46F5542	DC3C-A1AA	203	Short solder no lever
89F2364	DC1C-D5RB	203	18 gauge bottom roller lever
89F2372	DC3C-M4LB	203	20 gauge right flat lever
89F2376	DC3C-M5RB	203	20 gauge bottom roller lever

Stock No.	Type	1-24	25-49
46F5540	DC1C-A1AA	4.44	4.10
46F5543	DC1C-A1LB	4.89	4.52
95F9728	DC1C-A1RB	6.38	5.89
46F5544	DC2C-A1LB	5.74	5.30
95F9730	DC2C-A1RB	6.38	5.89

Stock No.	Type	1-9	10-24
46F5542	DC3C-A1AA	6.51	6.16
89F2364	DC1C-D5RB	19.14	17.60
89F2372	DC3C-M4LB	20.03	18.42
89F2376	DC3C-M5RB	20.66	19.00

(5016) (de02238)

E51 AND E53 SERIES LOW-TORQUE SWITCHES

Low torque switches feature combination quick-connect/solder terminals. Operating torque max.: 4.000 inch-grams. **E51 series** is rated 6A, 250VAC. **E53 series** is 0.1 amps, 125VAC with gold crosspoint contacts. Both series 1.218Lx0.687Wx0.875″H (30.94x17.45x22.23). UL listed, CSA certified, VDE approved. *Order wireform actuator separately below.*

Stock No.	Type	Solder/Q.C. Terminals	1-9	10-24
29F2900	E51-00B	Std. parallel	11.01	10.40
29F2901	E51-00E	Std. parallel	11.01	10.40
29F2902	E51-00R	Std. parallel	11.01	10.40
29F2903	E51-00T	Std. parallel	9.76	9.22
29F2904	E51-50B	Vertical twist	11.01	10.40
94F3204	E51-50E	Vertical twist	11.01	10.40
29F2905	E51-50R	Vertical twist	9.76	9.22
94F3232	E51-50T	Vertical twist	11.01	10.40
29F2906	E51-60B	Vertical straight	9.01	8.51
29F2907	E51-60E	Vertical straight	10.68	10.09
50F7474	E53-00B	Std. parallel	13.14	12.42
50F7476	E53-00R	Std. parallel	12.81	12.11

46F5561 Type 0014-0645 Wireform Actuator. **Each**..... 0.12

(5080) (de51127)

KW SERIES MINIATURE SWITCHES

NEW

SPDT switches feature ampere ratings from 50mA to 25A. Electrical life: 100,000 operations. Temperature rating: 85°C or 150°C. **Suffix QACA** in type number denotes 0.187″ x 0.020″ straight terminals. **Suffix VACA** in type number denotes 0.250″ x 0.032″ straight terminals. UL recognized, CSA certified. Snap-over hinged lever and roller actuators have standard ratio pivot position providing higher operating force and smaller movement differential than high-ratio version actuator. Actuators with high-ratio pivot position configuration available separately ; *contact your local Newark sales office.*

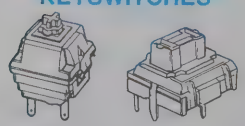
Stock No.	Type	Amps	Maximum Operating Force (g)	Maximum Operating Temp. (°C)	1-24	25-49	50-99
48F1994	KWAA-QACA	50mA	25	85	4.56	4.21	2.81
48F1995	KWAB-QACA	50mA	25	150	5.55	5.12	3.41
48F1996	KWBA-QACA	50mA	75	85	4.56	4.21	2.81
48F1997	KWBB-QACA	50mA	75	150	5.46	5.03	3.35
48F1998	KWEA-QACA	3A	25	85	3.44	3.17	2.64
48F1999	KWEB-QACA	3A	25	150	4.06	3.74	2.50
48F2000	KWFA-QACA	3A	75	85	3.42	3.16	2.11
48F2001	KWFB-QACA	3A	75	150	3.42	3.16	2.11
48F2002	KWGA-QACA	5A	50	85	3.20	2.95	1.97
48F2003	KWGB-QACA	5A	50	150	3.73	3.44	2.30
48F2004	KWHA-QACA	5A	150	85	2.88	2.66	1.77
48F2005	KWHB-QACA	5A	150	150	3.74	3.45	2.30
48F2006	KWJA-QACA	10A	75	85	3.15	2.90	1.93
48F2007	KWJB-QACA	10A	75	150	3.67	3.39	2.26
48F2008	KWKA-QACA	10A	150	85	3.11	2.87	1.91
48F2009	KWKB-QACA	10A	150	150	3.74	3.45	2.30
48F2010	KWMA-QACA	15A	150	85	3.11	2.87	1.91
48F2011	KWMB-QACA	15A	150	150	3.81	3.51	2.34
48F2012	KWMA-VACA	15A	150	85	3.26	3.01	2.01
48F2013	KWMB-VACA	15A	150	150	3.79	3.50	2.34
48F2014	KWSA-VACA	25A	225	85	4.03	3.72	2.48
48F2015	KWSB-VACA	25A	225	150	4.10	3.78	2.52

SNAP-OVER ACTUATORS

Stock No.	Type	Description	Actuator Length	1-99	100-249	250-499
48F2016	0014-6976	Straight Lever	0.865″	0.18	0.16	0.14
48F2017	0014-6978	Straight Lever	1.40″	0.21	0.19	0.16
48F2018	0014-6980	Straight Lever	2.722″	0.31	0.27	0.24
48F2019	0014-6982	Sim. Roller	1.254″	0.21	0.19	0.16
48F2020	0114-1009	Roller	1.34″	2.05	1.82	1.59

(33383) (ne33383)

KEYSWITCHES



MX ML

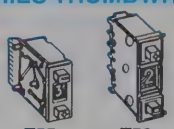
Low profile DIN-compatible keyswitches for numerous high speed wordand data processing applications. Gold wire crossbar contact configuration provides contact area that eliminates closure interference by contaminants.Low contact resistance and power consumption. Clean IC logic signals. Contact rating: 28V maximum **(type MB),** 12V maximum AC/DC for **types MX** and **ML.** Switching current: 0.125A maximum. Carrying current: 0.5A maximum. DC resistive: 3 watts maximum. AC resistive: 3VA maximum. **M81A-0100**—0.46″H (top of 6mm keycap to pins) x 0.49″W x 0.53″D. 0.13″ pins. **MX**—0.60″H (top of keystem to pins) x 0.60″W x 0.61″D. 0.13″ pins. **ML** keymodule-0.27″H (top of keystem to pins) x 0.47″W x 0.44″D. *Order keycaps separately; contact your local Newark sales office.*

Stock No.	Type	Description	1-24	25-49
44F2632	M81A-0100	Uncovered	1.23	1.14
44F2634	MX1A-11NN	Linear feel. Faceplate mount	1.03	0.95
89F2080	MX1A-E1NN	Click tactile feel	1.03	0.95
89F2081	MX1A-C1NN	Soft tactile feel	0.99	0.91
93F5292	ML1A-11JW	Keymodule with soft tactile feel	1.55	1.43

*Replacement for M61-0120

(7507) (de52286)

T-SERIES THUMBWHEELS



T55 T56

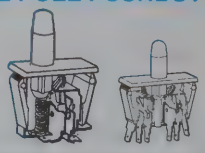
T series thumbwheel switches are rated 28V @ 0.125 amp, 3 amps carrying current. Contact resistance: 0.1 ohm max. Insulation resistance: 1000 Mohms. Dielectric strength: **55, 56, 59, series** 500VAC. Mounting hardware is required to hold the switch modules together. Switches are frontmount.

Stock No.	Type	Output Code	Pos.	Readout	1-9	10-24
		T-59 - 0.238″W X 0.709″H				
90F2080	T59-02M*	BCD w/PC Pins	10	0-9	9.95	9.18
		T-56 - 0.300″W X 0.945″H				
89F2436	T56-01M	Decimal	10	0-9	13.26	12.53
89F2696	T56-02M	BCD	10	0-9	22.48	17.00
89F2437	T56-03M	Hexadecimal	16	0-15	17.66	16.24
89F2697	T56-52M	BCD†	10	0-9	28.03	25.78
		T-55 - 0.300″W X 0.591″H				
12F1269	T55-02M	BCD	10	0-9	19.96	18.86
12F1272	T55-52M	BCD†	10	0-9	23.95	17.61

* Not illustrated. † Extended Board for Diodes.

(5034) (de03051)

E68/E69 SINGLE POLE PUSHBUTTON SWITCHES



Panel mount, SPDT pushbutton switches feature 0.187″ (4.75) quick-connect terminals. Applications include: door and drawer light/interlock switch; test function switch; EDP and business machine start switch; photocopy machines. **E68 series** is 0.1A, 125 VAC with gold crosspoint contacts. **E69 series** is 10 amps, 125/250VAC, ⅓HP. Both series 0.91L x 0.540W x 1.05″H (23.11 x 13.72 x 26.67). UL listed, CSA certified.

Stock No.	Type	Description	1-24	25-49	50-99
94F3239	E68-00A	Basic momentary action	6.18	5.84	5.66
84F507	E68-30A	Momentary "cheat" interlock"	6.51	6.16	5.96
29F2920	E69-00A	Basic momentary action	4.44	4.10	2.79
29F2921	E69-30A	Momentary "cheat interlock"	5.30	4.89	3.32
84F1105	E69-40A	Short button momentary	4.44	4.10	2.79

(5079) (de51126)

E79 DOUBLE POLE PUSHBUTTON

Panel mount, DPDT pushbutton switches feature 0.187″ (4.75) quick-connect terminals. **E79 series** is 10 amps, 125/250VAC, ⅓HP. Both series 1.24L x 0.540W x 1.05″H (31.50 x 13.72 x 26.67). UL listed, CSA certified.

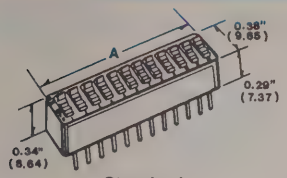
Stock No.	Type	Description	1-9	10-24
94F6219	E79-00A0	Basic momentary action	7.51	7.10
29F2923	E79-30A	Momentary "cheat interlock"	10.01	9.46
84F508	E79-40A	Short button momentary	7.51	7.10

(5081) (de51129)

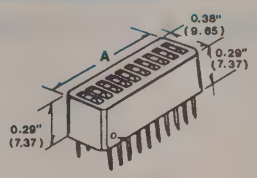
NEED MORE PRODUCT INFORMATION? YOU CAN LINK DIRECTLY TO THE CHERRY WEB SITE AT: www.newark.com

(33382) (ne33382)

7100 SERIES SPST DIP SWITCHES



Standard



Low Profile

Standard and low profile DIP switches are designed for life of 2000 cycles per pole. Spring contacts and leads are copper alloy with gold over nickel plating in contact area. Rated 60mA at 5VDC. Dielectric strength: 500VDC. Operating temperature: -55°C to +105°C. Low-profile version has recessed cams to prevent accidental change of rocker position. Blue polyester housing and white thermoplastic rockers are rated 94V-0. Available sealed or unsealed.

STANDARD PROFILE

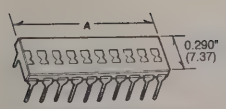
Stock No.	Type	Positions	Sealed	Dimension A	1-24	25-49
46F8096	2-435640-9	2	No	0.28″ (7.11)	2.41	2.17
46F8097	3-435640-0	3	No	0.38″ (9.65)	2.54	2.29
44F7895	435640-2	4	No	0.48″ (12.19)	1.12*	1.09*
44F7896	435640-3	5	No	0.58″ (14.73)	2.64	2.38
44F7897	435640-4	6	No	0.68″ (17.27)	2.71	2.44
44F7898	435640-1	7	No	0.78″ (19.81)	2.74	2.47
44F7899	435640-5	8	No	0.88″ (22.35)	2.21	1.99
44F7900	435640-6	9	No	0.98″ (24.89)	2.87	2.58
44F7901	435640-7	10	No	1.08″ (27.43)	2.89	2.60
46F8099	3-435640-2	12	No	1.28″ (33.51)	3.71	3.34
46F8100	3-435640-3	2	Yes	0.28″ (7.11)	2.56	2.31
46F8102	3-435640-4	3	Yes	0.38″ (9.65)	2.61	2.35
44F7902	3-435640-5	4	Yes	0.48″ (12.19)	2.24	2.02
44F7903	3-435640-6	5	Yes	0.58″ (14.73)	2.70	2.43
44F7904	3-435640-7	6	Yes	0.68″ (17.27)	2.38	2.14
44F7905	3-435640-8	7	Yes	0.78″ (19.81)	2.79	2.51
44F7906	3-435640-9	8	Yes	0.88″ (22.35)	1.79*	1.74*
44F7907	4-435640-0	9	Yes	0.98″ (24.89)	2.93	2.63
44F7908	4-435640-1	10	Yes	1.08″ (27.43)	2.57	2.32
46F8104	4-435640-3	12	Yes	1.28″ (33.51)	3.76	3.39

LOW PROFILE

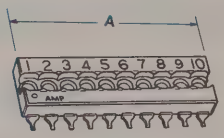
46F1073	435668-3	4	No	0.48″ (12.19)	2.43	2.19
46F1077	435668-7	8	No	0.88″ (22.35)	2.21	1.99
46F1066	3-435668-4	4	Yes	0.48″ (12.19)	2.89	2.60
46F1070	2-435668-8	8	Yes	0.88″ (22.35)	3.12	2.81
46F8125	3-435668-0	10	Yes	1.08″ (27.43)	1.70	1.57
46F8124	3-435668-1	11	Yes	1.18″ (29.97)	3.66	3.30
46F8125	3-435668-2	12	Yes	1.28″ (32.51)	4.11	3.70

*Price column quantities vary from above; *contact your local Newark sales office for details.*
(7985) (de00796)

7600 SERIES DIP SHUNTS



Standard Pressure



Surface Mount

SMD

Shunts comprise conductive straps in 0.100 x 0.300″ (2.54 x 7.62) DIP spacing. Straps remain intact for closed circuit, or broken for open circuit. UL recognized, 94V-0 rated, glass-filled thermoplastic housing. *Order* **type 435862-1** *hand tool below for use with standard pressure shunts.*

STANDARD PRESSURE—2A FOR +20°C RISE ABOVE AMBIENT

Stock No.	Type	Positions	Dimension A	Each
90F1796	435704-4	4	0.400″ (10.16)	0.50
90F1799	435704-7	7	0.700″ (17.78)	0.58
90F1800	435704-8	8	0.800″ (20.32)	0.62
90F1803	1-435704-2	12	1.200″ (30.48)	0.74

90F1804 Type 435862-1. Program Tool. **Each** **35.11**

SURFACE MOUNT, MACHINE INSERTABLE — 1A FOR +20°C

Stock No.	Type	Positions	Dimension A	Each
97F8714	382341-4	4	0.400″ (10.16)	1.08
97F8715	382341-5	5	0.500″ (12.70)	1.12
97F8717	382341-7	7	0.700″ (17.78)	1.21
97F8719	382341-9	9	0.900″ (22.86)	1.30
97F8720	1-382341-0	10	1.000″ (25.40)	1.65
97F8721	1-382341-2	12	1.200″ (30.48)	1.78

(7983) (de00793)

6000 SERIES PC MOUNT ROTARY SWITCHES

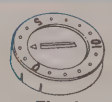


Fig. 1

Fig. 2

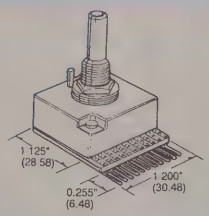
Fig. 3

For programming electrical/mechanical circuits in machine tools, test equipment, computers, input data terminals. Output capabilities include: binary coded octal (BCO), binary coded decimal (BCD), hexadecimal (Hex) and single pole (SP). Gold over nickel-plate phosphor bronze contacts rated 250mA. Dielectric breakdown: 500VDC.

Stock No.	Type	Description	Pos.	Dia. x H	Fig.	1-24	25-49
87F6266	1-435174-1	Bar-Type Knob BCO	8	0.750x0.370″	2	13.39	11.38
87F6254	435005-1	Screwdriver BCD	10	0.750x0.220″	1	13.39	11.38
87F6255	435123-1	Bar-Type Knob BCD	10	0.750x0.370″	2	13.39	11.38
87F6257	1-435097-1	Screwdriver SP	10	0.750x0.220″	1	15.48	13.16
87F6258	2-435097-1	Bar-Type Knob SP	10	0.750x0.370″	2	15.48	13.16
87F6259	435097-1	Thumbwheel SP*	10	0.950x0.360″	3	18.50	16.65
97F8710	435097-2	Thumbwheel SP**	10	0.950x0.360″	3	18.34	15.59
87F6260	1-435304-1	Bar-Type Knob SP	16	0.920x0.370″	2	19.01	17.11
87F6284	1-435167-1	Bar-Type Knob Hex.	16	0.920x0.360″	2	14.21	12.79
87F6285	2-435167-1	Thumbwheel Hex.*	16	1.100x0.360″	3	16.90	15.21
97F8711	3-435167-1	Thumbwheel Hex.+	16	1.100x0.360″	3	26.69	22.68

*Numbers **Letters +Numbers and Letters
(7981) (de00791)

3100 SERIES MULTI-LAYER ROTARY SWITCHES

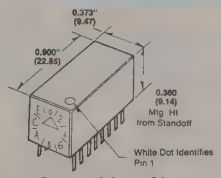


For logic level circuitry. Can control electrical circuits that operate at 2A, 115VAC (nonswitching) and to 125mA, 115VAC (switching). Positive detent action for error-free operation. Black polyester housing with thermoplastic operating shaft and detent rated 94V-0. Enclosed gold-over-nickel plate phosphor bronze contacts.

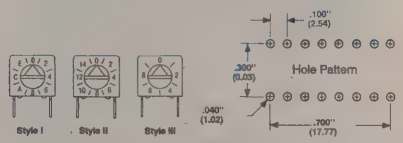
Stock No.	Type	Description	Position	Throw	1-24	25-49
50F2424	435984-1	BCD	10	36°	56.55	42.41
50F2427	436022-1	BCD Complement	10	36°	25.84	25.84
50F2425	436037-1	BCD	12	30°	44.01	41.81
50F2428	436024-1	BCD Complement	12	30°	46.50	34.87
50F2426	435986-1	BCD Hexadecimal	16	22½°	72.12	64.91
50F2429	435987-1	HEX Complement	16	22½°	58.41	43.81
50F2429	435987-1	BCD	24	15°	58.41	43.81
50F2431	436287-1	BCD	32	11¼°	66.91	50.18

(7982) (de00792)

PREPROGRAMMED PC BOARD SWITCHES



Screwdriver Slot



Four form C switches operated by encoded cams in DIP package. Two actuating methods available: screwdriver slot and extended D shaft. Regardless of actuation method, cams are bidirectional and have positive detent setting. Choice of 10- and 16-position configurations. Rated 120Vm max.; 1A max.; 2.8 volt/amp max. Contact resistance: 100 milliohms. Dielectric strength: 300VAC, 60Hz. DC insulation resistance: 1000 megohms. Copper alloy contacts with gold-over-nickel plating. Glass-filled polyester housing. For extended D shaft, *contact your local Newark sales office.*

16-POSITION HEXADECIMAL WITH COMPLEMENT

Stock No.	Type	Actuator	Stamping Legend Style	Bottom Sealed	Removable Tape Seal On Actuator	1-24
87F6277	53137-5	Screwdriver Slot	I	Yes	No	7.75
87F6278	53137-6	Screwdriver Slot	II	Yes	No	7.75
87F6279	54792-1	Screwdriver Slot	I	Yes	Yes	8.90
87F6280	54792-2	Screwdriver Slot	II	Yes	Yes	8.90

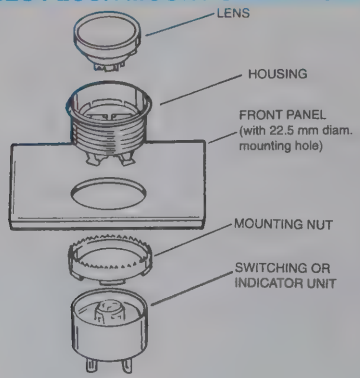
10-POSITION BINARY-CODED DECIMAL (BCD) WITH COMPLEMENT

87F6269	53919-2	Screwdriver Slot	III	Yes	No	7.75
87F6270	54778-1	Screwdriver Slot	III	Yes	Yes	8.90

(7986) (de00797)

FLUSH PANEL MOUNTED SWITCHES

84 SERIES FLUSH MOUNT SEALED SWITCHES



- New Appearance
- "Full Lens" LED Illumination
- Flat Panel Security
- Easy Mounting and Connecting

84 series switches offer front-panel mounting and QC termination. Contacts are gold-plated, low-level, and have ≤ 100mΩ resistance in a new state. 42VAC/DC, 100mA. Power rating: 2W max. Continuous current: 100mA. Mechanical life ≥ 1 million operations. Switch configuration: snap action, 1 N.O. contact. Operating temperature: –13°F to +158°F/–25°C to +70°C. Choice of coordinating units listed for custom selection. Meets NEMA standards 4 and 13.

HOUSINGS

Stock No.	Type	Description
52F472	84-1101.0	Pushbutton Housing and Nut
52F470	84-0100.0	Indicator Housing and Nut

Stock No.	Type	1-24	25-249
52F472	84-1101.0	3.33	2.99
52F470	84-0100.0	3.14	2.83

SWITCH UNITS AND INDICATORS

Stock No.	Type	Description
52F481	84-8510.0020	Nonilluminated Switch
52F484	84-8512.2640	Red Multichip LED and Switch*
52F488	84-8512.4640	Yellow Multichip LED and Switch*
52F489	84-8512.5620	Green Multichip LED and Switch*
52F491	84-8002.2620	Red Multichip LED Indicator*
52F497	84-8002.5620	Green Multichip LED Indicator*

*24VDC LED supply voltage

Stock No.	Type	1-24	25-249
52F481	84-8510.0020	6.38	5.74
52F484	84-8512.2640	12.38	11.14
52F488	84-8512.4640	12.38	11.14
52F489	84-8512.5620	9.61	8.65
52F491	84-8002.2620	9.06	8.15
52F497	84-8002.5620	9.06	8.15

LENSES

Stock No.	Type	Description
52F474	847111.200	Red Plastic Lens
52F476	84-7111.400	Yellow Plastic Lens
52F477	84-7111.500	Green Plastic Lens

Stock No.	Type	1-24	25-249
52F474	847111.200	1.48	1.34
52F476	84-7111.400	1.48	1.34
52F477	84-7111.500	1.48	1.34

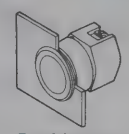
TOOLS

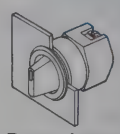
Stock No.	Type	Description
97F7715	61-973-000	Lens Remover
52F3544	84-998	Dismantling Tool (Housing/Element)

Stock No.	Type	1-24	25-249
97F7715	61-973-000	2.65	2.06
52F3544	84-998	1.02	0.79

(5142) (ne06033)

04 SERIES FLUSH PANEL MOUNT SWITCHES


Pushbutton


Rotary Lever

04 series mount in a standard 30.5mm hole. These updated flush mount switches meet NEMA enclosure types 4, 13, and meets IEC enclosure IP65 classification. Compatible with T-3¼ bayonet lamps, neon lamps, or LEDs. NOTE: The last numeral in the type number indicates lens color: **2** = red, **4** = yellow, **5** = green. UL recognized, CSA certified, VDE approved, SEV approved, and ISO9001 certified. *Order* **04 series** *contact blocks separately on page 1480.*

04 SERIES PUSHBUTTONS

Stock No.	Desription	1-24	25-249
92F7661	Momentary Lighted	24.32	21.01
92F7663	Momentary Lighted	24.32	21.01

04 SERIES INDICATORS

Stock No.	Type	Description	1-24	25-249
92F7677	704-002.2NX	Red Lens	25.10	21.67
92F7681	704-002.5NX	Green Lens	25.10	21.67

TWO-POSITION ROTARY LEVERS

Stock No.	Type	Description	1-24	25-249
92F7687	704-41000NX	Round SEL Maintained	29.20	25.21

(5053) (de04382)

61 SERIES FLUSH MOUNT SWITCHES, LENSES, AND ADAPTERS

61 series has the over-hanging lens feature with the convertible actuator. Used with flush mount adapters for flush panel appearance.

61 SERIES SWITCHES

Stock No.	Type	Description	1-24	25-249
84F545	61 138 0022X	Rect. DPST, N.O.	19.03	16.43
84F546	61 138 0027X	Rect. DPST, N.O./N.C.	19.03	16.43
84F547	61 137 0021X	Sq. SPST, N.O.	16.92	14.62
84F548	61 137 0022X	Sq. DPST, N.O.	19.03	16.43

61 SERIES LENSES

Stock No.	Type	Description	1-24	25-249
84F552	61 9281 4	Rect. Yellow Lens	1.63	1.41
84F564	61 9271 2	Sq. Red Lens	1.63	1.41
84F566	61 9271 5	Sq. Green Lens	1.63	1.41

FLUSH MOUNT ADAPTERS

Stock No.	Type	Description	1-24	25-249
95F7137	61-993.00	Square, Black Plastic	2.53	2.19
95F7138	61-993.10	Rectangular, Black Plastic	2.53	2.19

(5022) (de02474)

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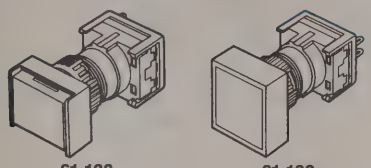
ONE CALL IS ALL IT TAKES TO GET FAST, EFFICIENT DELIVERY.

KEYPADS, SWITCHES AND INDICATORS

61 SERIES 16mm LIGHTED PUSHBUTTON SWITCHES



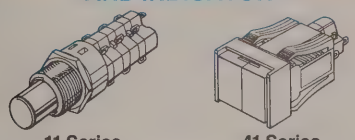
61-133 61-132

Modular switches feature constant back-of-panel depth to allow convenient PCB installation. Convertible actuator function enables user to change momentary switch action to maintained by using a screwdriver. Sealed to NEMA enclosure types 4 and 13 and meets IEC enclosure IP65 classification. Mounts in 16mm round hole. Switch module has gold-plated silver contacts which operate certified from 1V to 250 VAC and 10mA to 5A. UL recognized, VDE, SEV, and CE approved. Rated 250VAC/6A; CSA: 300VAC/5A. ISO9001 certified. **61 series** use a T-1¾ midget-groove lamp in either neon, incandescent, or LED version; *order lamps and lenses separately; contact your local Newark sales office.*

Stock No.	Type	Description	1-24	25-249
84F1504	61-133-0021X	Rect. SPST NO 18 x 24mm	**16.92**	**14.62**
84F1505	61-133-0022X	Rect. DPST NO 18 x 24mm	**19.03**	**16.43**
84F1506	61-132-0021X	Sq. SPST 18 x 18mm N.O.	**16.92**	**14.62**
84F1511	61-9231-2	Rect. Red 18 x 24mm	**1.46**	**1.26**
84F1512	61-9231-5	Rect. Green 18 x 24mm	**1.46**	**1.26**
84F1514	61-9221-5	Sq. Green 18 x 18mm	**1.46**	**1.26**
97F7715	61-973-000	Lens Remover	**2.65**	**2.06**

(5021) (de02471)

11 AND 41 SERIES PUSHBUTTON SWITCHES AND INDICATOR



11 Series 41 Series

11 Series models feature 8mm round hole rear mounting and extended lens has 180° viewing angle. Uses T-1 incandescent lamp or LED. Includes front and rear mounting nut. **41 Series** models feature dual lamp, single or split lens, and snap-in soft mount. Uses T-1¾ midget groove based 1 Watt max. incandescent lamp or LED. **11** and **41 Series** models have solder terminals and snap-action gold over silver contacts for low-level to 5A/250VAC momentary or continuous operation.

11 SERIES SWITCHES, INDICATOR AND LENSES

Stock No.	Type	Description	1-24	25-249
95F7145	11-131.825N	Momentary SPDT Switch	**10.48**	**9.05**
95F7149	11-931.2	Red Lens	**0.97**	**0.84**

41 SERIES SWITCHES, INDICATOR AND LENSES

Stock No.	Type	Description	1-24	25-249
95F7151	41-121.025	Momentary SPDT Switch	**14.28**	**12.33**
95F7156	41-903.5	Green Lens	**1.28**	**1.11**

(5134) (ne02164)

SEALED TACT AND KEY SWITCHES

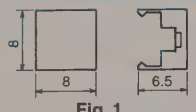


Fig. 1

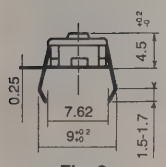


Fig. 2

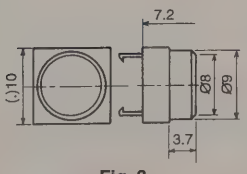


Fig. 3

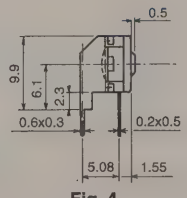


Fig. 4

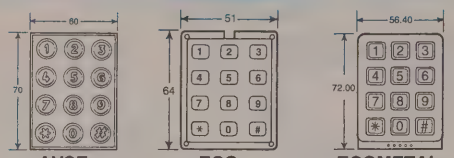
MICRO COSMOS series provide positive tactile feel. Sealed for soldering and immersion cleaning. SPST, silver-plated contacts rated 24V/20mA. Also designed for use under a membrane overlay. Mechanical life: 1 million operations. EAO's TACT Switch Selection Guide available; *contact your local Newark sales office.*

MICRO COSMOS BUTTONS

Stock No.	Type	Description	Figure	1-24	25-249
52F539	8055000-09	Light Gray (Square)	3	**0.19**	**0.18**
52F540	805700009	Light Gray (Round)	4	**0.31**	**0.30**
52F522	MC-103311	Manual Insertion	1	**0.77**	**0.74**
52F523	MC1035500	Right-Angle	2	**1.00**	**0.96**

(5148) (ne06084)

KEYPADS



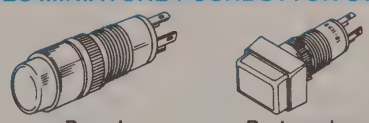
AVSE ECO ECOMETAL

Type AVSE keypads feature vandalproof aluminum keys with engraved legends. Shoulders prevent keys from being removed by force when the keypad is mounted behind a metal panel. For application in public places such as telephone and ATM facilities where abuse and vandalism are common. Available in 12- and 16-key formats. **Type ECO** is available in 12-key telephone format and are engineered for more than 1 million operations. Suited for data entry, encoding, remote control, telephone and other high-volume applications. Key and case are rugged polycarbonate. **ECOMETAL** keypads are available in 12-key telephone layout with a matrix circuit. Designed for more than 1 million operations. Suited for public telephone, vending machines, entry security, ATMs and other high-volume applications. Easy weatherproof mounting. **AVLE series** illuminated keypads are also available; *contact your local Newark sales office for details.*

Stock No.	Type	Description	1-24	25-249
52F544	AVSE-12150-20	12-Key Telephone	**73.12**	**70.07**
52F545	AVSE-16250-20	16-Key Hexadecimal II	**88.41**	**84.73**
52F534	ECO-12150-06	12-Key Matrix, Telephone	**6.51**	**6.24**
52F535	ECOM-12150-30	12-Key Telephone	**28.51**	**27.32**

(5145) (ne06076)

18 SERIES MINIATURE PUSHBUTTON SWITCHES



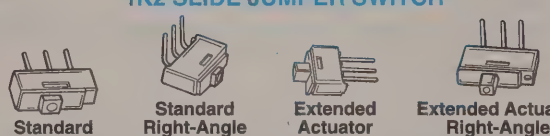
Round Rectangular

18 series miniature switches mount in an 8mm round hole. Short 23mm back-of-panel depth. 100µv/10µA to 42V AC/DC at 100mA. 3PST low level gold contacts. LED integrated into lens of lighted version. Meet IP40 specifications.

Stock No.	Type	Bezel	Description	1-24	25-249
97F7712	18-137.035	Round	Momentary N.O.	**6.36**	**5.49**
97F7710	18-147.035	Rectangular	Momentary N.O.	**6.36**	**5.49**
97F7670	18-932.2	Round	Red Lens	**0.86**	**0.74**
97F7702	18-941.4	Rectangualr	Yellow Lens with LED	**2.02**	**1.74**
97F7689	18-931.2	Round	Red Lens with LED	**2.02**	**1.74**

(5175) (ne08897)

1K2 SLIDE JUMPER SWITCH



Standard Standard Right-Angle Extended Actuator Extended Actuator Right-Angle

Miniature 0.1 x 0.4" slide switch with low profile or extruded slide actuator with positive switch positioning. SPDT gold over nickel contacts for reliability for applications requiring dependable operation under extreme environmental conditions. Suited for applications requiring a miniature slide switch or easy function change on a PCB (jumper).

Stock No.	Type	Actuator	1-24	25-249
52F516	09-03201-02	Standard	**0.96**	**0.96**
52F517	09-10201-02	Standard, Right-Angle	**1.02**	**1.02**
52F518	09-03290-01	Extended	**0.96**	**0.96**
52F519	09-10290-01	Extended, Right-Angle	**1.02**	**1.02**

(5144) (ne06075)

17 SERIES LED INDICATORS

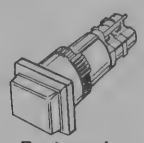
FOr use in industrial and commercial applications. Operating temperature: –55°C to 70°C. Storage temperature: –55°C to 100°C. Material: bright or black chrome-plated brass and polycarbonate. All types are standard reflectors except **types 17-510130** and **17-510131** which are external reflectors. 8 and 14mm types are sealed at IP40. 16 and 22mm types are sealed at IP67. 16mm mounting are Q.C. terminals: 2.0 x 0.5mm. 8, 14, 16, 22 mounting are Q.C. terminals: 2.8 x 0.8mm. **Types 17-2A0350** and **172A0355** are both sunlight indicators and offer increased intensity. 130VAC models have insulating sleeve. 12VDC up to 230VDC available; *contact your local Newark sales office.* UL listed, CSA certified, and CE compliant.

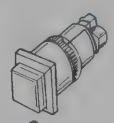
Stock No.	Type	Bezel	Size	LED Color	Voltage (V op)	Current (I op)	1-24
83F5536	17-401130	Black	16mm	Red	24VDC	14-16mA	**10.98**
83F5537	17-401131	Black	16mm	Green	130VAC	6mA	**10.98**
83F5539	17-570131	Chrome	8mm	Green	130VAC	5mA	**17.67**
83F5541	17-350131	Chrome	14mm	Green	130VAC	6mA	**10.98**
83F5529	17-510130	Chrome	8mm	Red	130VAC	5mA	**7.12**
83F5530	17-510131	Chrome	8mm	Green	130VAC	5mA	**6.98**
83F5531	17-2A0350	Chrome	14mm	Red	24VDC	17mA	**6.87**
83F5533	17-371351	Black	16mm	Green	24VDC	14-16mA	**9.72**
83F5540	17-350130	Chrome	14mm	Red	130VAC	6mA	**9.64**
83F5542	17-371350	Chrome	16mm	Red	24VDC	14-16mA	**9.72**

(28874) (ne28874)

SWITCHES AND INDICATORS

01 SERIES LIGHTED PUSHBUTTON SWITCHES AND INDICATORS


Rectangular


Square

16mm-mounting units feature wide, tapered style bezel in either square or rectangular shape, and solder terminals. Snap-action switches available in momentary and maintained versions. **01 series** models use T-5.5 lamp, *which is ordered separately*, in either incandescent lamp, 120V or 220V neon, or 6-chip LED style. *Order lens and accessories separately.*

01 SERIES SWITCHES AND INDICATORS

Stock No.	Type	Description
50F8247	01 121 025	Rectangular, Momentary, SPDT Switch
50F8248	01 122 025	Rectangular, Momentary, DPDT Switch
99F3198	01-131-025	Round, Momentary SPDT Switch
50F8249	01 151 025	Square, Momentary, SPDT Switch
50F8250	01 261 025	Rectangular, Maintained, SPDT Switch
50F8251	01 262 025	Rectangular, Maintained, DPDT Switch
50F8252	01 040 005	Rectangular Indicator

Stock No.	Type	1-24	25-249
50F8247	01 121 025	12.22	10.55
50F8248	01 122 025	18.06	15.60
99F3198	01-131-025	12.22	10.55
50F8249	01 151 025	12.22	10.55
50F8250	01 261 025	14.35	12.39
50F8251	01 262 025	19.85	17.14
50F8252	01 040 005	4.23	3.65

01 SERIES LENSES

Stock No.	Type	Description
50F8253	01 901 2	Rectangular, Red Lens
50F8254	01 901 4	Rectangular, Yellow Lens
50F8255	01 901 5	Rectangular, Green Lens
50F8256	01 951 2	Square, Red Lens

Stock No.	Type	1-24	25-249
50F8253	01 901 2	1.28	1.11
50F8254	01 901 4	1.28	1.11
50F8255	01 901 5	1.28	1.11
50F8256	01 951 2	1.28	1.11

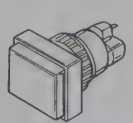
T-5.5 LAMPS FOR 01 AND 14 SERIES

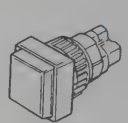
Stock No.	Type	Description
84F1033	01-903-1	12V Incandescent with Slide Base
84F1034	01-903-3	24/30V Incandescent with Slide Base
84F1036	01-960-8	110VAC Neon with Integral Resistor
84F1037	01-960-9	220VAC Neon with Integral Resistor

Stock No.	Type	1-24	25-249
84F1033	01-903-1	1.79	1.55
84F1034	01-903-3	1.93	1.67
84F1036	01-960-8	4.23	3.65
84F1037	01-960-9	4.23	3.65

(5093) (de51584)

31 SERIES LIGHTED PUSHBUTTON SWITCHES AND INDICATOR


Rectangular


Square

Feature slim, Euro-style bezel in either round, square, or rectangular shape. All units have solder terminals and mount in 16mm round hole. Snap-action switches available in momentary and maintained versions. **31 series** models use a T-1¾ midget "groove" lamp in either neon, incandescent, or LED style; *lamps ordered separately. Order lens and accessories separately; contact your local Newark sales office.*

31 SERIES SWITCHES AND INDICATOR

Stock No.	Type	Description	1-24	25-249
66F9688	31-152-025	Sq., Mom. DPDT	16.62	14.95
92F5783	31-121.022	Rect., Mom., SPDT, Q.C. Term.	13.05	11.27
50F8257	31 121 025	Rect., Mom., SPDT	13.05	11.27
50F8258	31 122 025	Rect., Mom., DPDT	18.82	16.26

CONTINUED

31 SERIES LIGHTED PUSHBUTTON SWITCHES AND INDICATOR (CONT.)

Stock No.	Type	Description	1-24	25-249
92F5782	31-261.022	Rect., Maint., SPDT, Q.C. Term.	15.36	13.27
50F8259	31 261 025	Rect., Main., SPDT	15.36	13.27
50F8260	31 262 025	Rect., Main., DPDT	20.94	18.09
98F8313	31-421.036	Rect., DPST, 2 N.O.	13.05	11.27
50F8261	31 282 025	Sq., Main., DPDT	20.94	18.09
50F8263	31 040 005	Rect. Indicator	4.30	3.71

31 SERIES LOW LEVEL SWITCH

Stock No.	Type	Description	1-24	25-249
66F9680	31-433.036	Round, DPST NO/NC	11.87	10.68

31 SERIES LENSES

Stock No.	Type	Description	1-24	25-249
50F8264	31 901 2	Rect., Red	1.28	1.11
50F8265	31 901 4	Rect., Yellow	1.28	1.11
50F8266	31 901 5	Rect., Green	1.28	1.11

ACCESSORIES FOR 01 & 31 SERIES SWITCHES

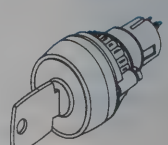
Stock No.	Type	Description	1-24	25-249
50F8269	02 905	Lens Remover	3.54	3.06
50F8270	02 906	Lamp Remover	1.59	1.37
50F8271	01 907	Mounting Wrench	3.15	2.72
50F8272	31 924 2	Rect. Spray Cover	3.65	3.15
50F8273	01 927	Rect. Protection Guard	3.09	2.67
50F8274	31 925	Switch Guard	2.76	2.38
66F9730	31-940	PCB Connector	2.32	2.09
66F9724	31-968.24	6-Chip, 24V, Yellow	6.81	6.13
66F9679	31963.2	28V Lamp	1.46	1.32
98F8653	31-963.4	60V Lamp	2.63	2.27
66F9723	31-968.22	6-Chip, 24V Red LED	6.81	6.13
66F9725	31-968.25	6-Chip, 24V Green LED	6.81	6.13
97F7725	51-996	LED Remover	11.30	9.76

(5094) (de51585)

14 SERIES NEMA 4 & 13 PUSHBUTTON, MUSHROOM, KEYLOCK, AND ROTARY SWITCHES

Pushbutton

Mushroom



14 Series Oil and Watertight switches mount in a 22.5mm hole and operate from low level to 250VAC/5A. Meet IP65 ingress-protection specifications. Feature front-panel replaceable lens and lamp. **14 series** use a T-5.5 lamp, *ordered separately on this page*, in either neon, incandescent, or LED version. *Various lens colors available.* Mushroom switches have red cap; rotary switches have a black knob. *Used for pushbutton switches only.

14 SERIES ROUND PUSHBUTTON SWITCHES

Stock No.	Type	Description
84F567	14 131 025 1196X	Blue Lens, SPDT, Momentary
84F568	14 132 025 1192X	Red Lens, DPDT, Momentary

Stock No.	Type	1-24	25-249
84F567	14 131 025 1196X	22.05	19.04
84F568	14 132 025 1192X	27.50	23.75

14 SERIES MUSHROOM SWITCHES

Stock No.	Type	Description	1-24	25-249
84F571	14 131 025 4612X	SPDT, Momentary	21.70	18.74
84F553	14 132 025 4612X	DPDT, Momentary	27.16	23.45

14 SERIES TWO-POSITION ROTARY SWITCHES

Stock No.	Type	Description	1-24
84F560	14 506 025X	SPDT, Maintained	18.45

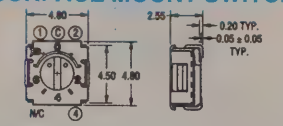
14 SERIES TWO-POSITION KEYLOCK SWITCHES

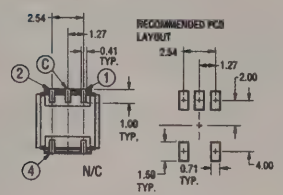
Stock No.	Type	Description	1-24	25-249
84F558	14 235 025KX	SPDT, Maintained	39.01	33.69
84F559	14-236-025K	DPDT, Maintained	46.68	40.32

(5095) (de51586)

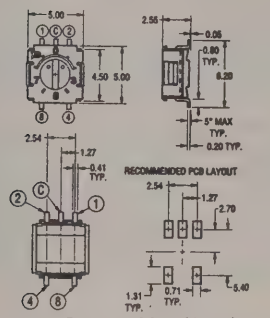
SERIES 7744 SQUARE SEALED CODED SURFACE MOUNT SWITCH

SMD





7744J-8 position (4mm)



7744G-10 position (4mm)

Available in binary-coded 8- or 10-position design. **008** in type number = 8 position; **010** in type number = 10 position. Rugged lead frame construction. J-Hook or Gullwing terminals. Compatible with all SMD soldering processes. Contact rating: 100mA max. @ 24V. Operating temperature: –55°C to +125°C.

Stock No.	Type	Positions	Terminals	1-24	25-49	50-99
52F206	7744J-001-008	8	J-Hook	2.16	2.03	1.82
52F208	7744J-001-010	10	J-Hook	2.16	2.03	1.82
52F209	7744G-001-010	10	Gullwing	2.16	2.03	1.82

(5151) (ne06357)

7813 SERIES SURFACE MOUNT 3mm SQUARE SPDT SEALED ROTARY SWITCHES

Max. contact rating: 100 mA @ 24V. Min. insulation resistance: 100 MΩ @ 500 VDC. Dielectric strength: 250 VAC. Operating temperature: –55°C to +125°C.

Stock No.	Type	Rotational Life	Each
95F7182	7813J-1-051E	50 cycles	1.59

(5029) (de02967)

7643 SERIES 10-POSITION 6mm SQUARE SURFACE MOUNT SELECTOR SWITCHES

Max. contact rating 100mA @ 24V. Gullwing (**G**) or J-lead (**J**) styles. Break before make timing. Packaging in 50-pc. tubes or 500-pc. reels. Vertical adjust. Types with **E suffix** also available in reels of 500 pieces. Other types without suffix are also available in tubes of 50 pieces. *Contact your local Newark sales office.*

Stock No.	Type	Configuration	Each
66F2842	7643G-001-010	Gullwing	2.16
66F2849	7643J-001-010E	J-Lead	1.71
66F2850	7643G-001-010E	Gullwing	1.71

(5054) (de04456)

7644 SERIES 5-POSITION 4mm SQUARE SURFACE MOUNT SELECTOR SWITCHES

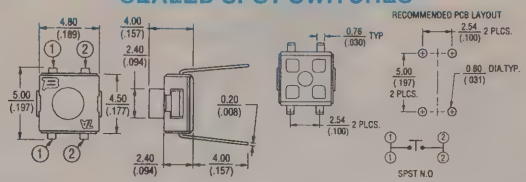
Max. contact rating 100mA @ 24V. Gullwing (**G**) style. Break before make timing. Packaging in 50-pc. tubes or 500-pc. reels. Operating temperature: –55°C to +125°C. Types with **E suffix** are also available in reels of 500 pieces. Types without suffix are also available in tubes of 50 pieces. J-Lead (**J**) style also available. *Contact your local Newark sales office.*

Stock No.	Type	Configuration	Each
66F2852	7644G-001-005E	Gullwing	1.71

(5140) (ne04457)

SERIES 7914 MOMENTARY CONTACT 4mm SQUARE SEALED SPST SWITCHES

SMD



Contact rating 100mA @ 24V. Operating temperature: –55°C to +125°C. Embossed reel packaging available; *contact your local Newark sales office.*

Stock No.	Type	Configuration	Each
66F2847	7914H-001-000	Through-Hole Top Actuated	0.99

(5141) (ne04458)

H SERIES SWITCH DESIGN KITS

Type 7643 Type 7744 Type 7829 Type 7914

H-833 SELECTOR SWITCH DESIGN KIT

Type H-833 contains **type 7643** and **type 7644** 4mm and 6mm selector switches in various termination styles. Total pieces: 30.

52F202 Type H-833. **Each** **47.82**

H-834 CODED SWITCH DESIGN KIT

Type H-834 contains **type 7743** and **type 7744** 4mm and 6mm coded switches. Total pieces: 30.

52F203 Type H-834. **Each** **47.82**

H-835 ROTARY SWITCH DESIGN KIT

Type H-835 contains **type 7813**, **type 7814** and **type 7829** 3mm, 4mm and 6mm rotary switches. Total pieces: 30.

52F204 Type H-835. **Each** **43.52**

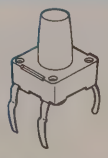
H-836 KEY SWITCH DESIGN KIT

Type H-836 contains **type 7906**, **type 7914** and **type 7916** 4mm and 6mm key switches. Total pieces: 60.

52F205 Type H-836. **Each** **47.82**

(5171) (ne08789)

SDT SERIES TACTILE SWITCHES



Non-washable. Contact rating: 50mA @ 12V. Insulation resistance (min.): 100MΩ @ 500V. Dielectric strength: 250VAC. Actutating force: 100g. Operating temperature: –20°C to +70°C. Mechanical lifetime: 100K cycles min.

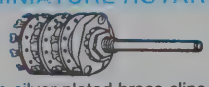
Stock No.	Type	Configuration	Body Size (mm)	Height (mm)	1-9	10-24
52F9700	SDTX-244-R	Standard	12	7.3	0.12	0.11
52F9701	SDTA-610-K	Right-Angle	6	3.15*	0.10	0.09
52F9702	SDTA-620-K	Right-Angle	6	3.85*	0.10	0.09
52F9703	SDTA-630-K	Right-Angle	6	5.85*	0.11	0.10
52F9704	SDTA-650-K	Right-Angle	6	8.35*	0.13	0.12
52F9705	SDTG-610-K	Ground Terminal	6	4.3	0.10	0.09
52F9706	SDTG-620-K	Ground Terminal	6	5.0	0.10	0.09
52F9707	SDTG-630-K	Ground Terminal	6	7.0	0.11	0.10
52F9708	SDTG-650-K	Ground Terminal	6	9.5	0.13	0.12
52F9695	SDTX-610-K	Standard	6	4.3	0.10	0.09
52F9696	SDTX-620-K	Standard	6	5.0	0.10	0.09
52F9697	SDTX-630-K	Standard	6	7.0	0.10	0.09
52F9698	SDTX-650-K	Standard	6	9.5	0.10	0.09
52F9699	SDTX-660-K	Standard	6	13	0.11	0.10

* Distance from first pin to top of head.

(5172) (ne08790)

ROTARY SWITCHES, ASSEMBLIES AND KNOBS

D4 SERIES MINIATURE ROTARY SWITCHES



9-amp capacity switches have silver-plated brass clips and rotor contacts. Make and break resistive load 1.5 amp, @ 28VDC; 0.5 amp, @ 115VAC.

D4G SERIES GLASS EPOXY INSULATED SWITCHES

1.437″ diameter switch is standard NEMA XXXP, MIL-P-3115P, type GIO insulation material. Single hole, bushing mount. Positive, 30° and 60° indexing. 25,00 cycles minimum. Shaft dia. = ¼″. *Order knob separately on this page.*

Shorting		Non-Shorting						
Stock No.	Type	Stock No.	Type	Poles	Sections	Positions	1-9	10-24
22F800	D4G0111S	22F801	D4G0111N	1	1	2-11	20.65	17.22
22F802	D4G0205S	22F803	D4G0205N	2	1	2-5	20.65	17.22
22F804	D4G0211S	22F805	D4G0211N	2	2	2-11	28.22	23.80
...	...	22F807	D4G0303N	3	1	2-3	20.65	17.22
...	...	22F809	D4G0311N	3	3	2-11	34.18	31.76
22F812	D4G0405S	22F813	D4G0405N	4	2	2-5	28.22	23.80
22F814	D4G0411S	22F815	D4G0411N	4	4	2-11	41.41	38.47
...	...	22F817	D4G0511N	5	5	2-11	48.64	45.19
...	...	22F819	D4G0603N	6	2	2-3	28.22	23.80
...	...	22F821	D4G0605N	6	3	2-5	34.18	31.76
...	...	22F823	D4G0611N	6	6	2-11	55.87	51.91
...	...	22F825	D4G0802N	8	2	2	28.10	25.36
22F826	D4G0805S	22F827	D4G0805N	8	4	2-5	20.88	...
...	...	22F835	D4G0106N60	1	1	2-6**	20.41	18.42
...	...	22F837	D4G0206N60	2	2	2-6**	71.53	64.56

D4C SERIES CERAMIC INSULATED SWITCHES

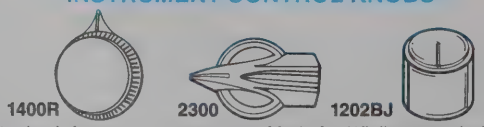
1.469″ diameter switch is MIL-I-10A, grade L-422 insulation material. Single hole, bushing mount. Positive, 30° and 60° indexing. *Order knob separately on this page.*

22F600	D4C0112S	22F601	D4C0112N	1	1	2-12	31.66	26.30
22F602	D4C0206S	22F603	D4C0206N	2	1	2-6	31.66	26.30
22F604	D4C0212S	22F605	D4C0212N	2	2	2-12	47.98	44.58
22F606	D4C0305S	22F607	D4C0305N	3	1	2-5	31.66	26.30
22F608	D4C0312S	22F609	D4C0312N	3	3	2-12	65.40	60.76
22F610	D4C0406S	22F611	D4C0406N	4	2	2-6	47.98	44.58
22F612	D4C0412S	22F613	D4C0412N	4	4	2-12	78.56	73.98
...	...	22F615	D4C0503N	5	1	2-3	31.66	26.30
22F616	D4C0512S	22F617	D4C0512N	5	5	2-12	95.33	89.77
...	...	22F619	D4C0602NF	6	1	2	146.83	132.53
...	D4C0605N	22F621	D4C0605N	6	2	2-5	47.98	44.58
...	D4C0606N	22F623	D4C0606N	6	3	2-6	65.40	60.76
...	D4C0612N	22F625	D4C0612N	6	6	2-12	111.78	105.26
...	D4C1006N	22F633	D4C1006N	10	5	2-6	165.70	149.56
...	D4C0106N	22F643	D4C0106N	1	1	2-6**	38.15	34.43

** 60° indexing

(5063) (de50936a)

INSTRUMENT CONTROL KNOBS

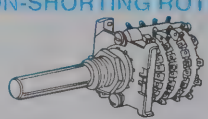


1400R pointer knob features one set screw. Made for ⅛″ diameter shafts. **Type 2300** pointer has one set screw and is 1¼″ long for ¼″ diameter shafts. Color: black. **P-168** pointer knob features brass insert and two set screws. 2″ (50.8) length. Knob **type 1202BJ** is round with a silver colored cap. It fits ¼″ shafts. **Type 1910DG** inner knob with skirt has a silver colored cap. It fits ⅛″ shafts.

Stock No.	Type	Use With Switch Series	1-9	10-24
91F2092	1202BJ	Most	4.04	3.69
22F648	1400R	C1, C3	1.63	1.49
22F646	2300	Most	1.63	1.49
22F649	2350AP	E4, D9	4.04	3.69
92F1612	1910DG	C1, C2, C3	3.19	2.91

(5046) (de03654)

D2D SERIES NON-SHORTING ROTARY SWITCHES



1″ (25.4) diameter switch with diallyl phthalate, IAW, MIL-M-14F, type SDG insulation material. Dual-ball, side thrust index with positive 30° angle. Rated 7 amps. Dielectric strength: 750VAC. Resistive load: 0.55 amps at 28VDC; 0.25 amps @ 115VAC. ¼″ Shaft dia. *Order pointer knob separately, on this page.*

Stock No.	Type	Poles	Positions	1-9	10-24
22F713	D2D0206N	2	2-6	28.22	23.80
22F714	D2D0212N	2	2-12	36.81	34.20
22F715	D2D0305N	3	2-5	28.22	23.80
22F716	D2D0312N	3	2-12	46.34	43.05
22F717	D2D0406N	4	2-6	36.81	34.20
22F719	D2D0605N	6	2-5	36.81	34.20
22F720	D2D0606N	6	2-6	46.34	43.05

(5070) (de50958)

GLASS EPOXY INSULATED ROTARY SWITCHES

D8G series rotary switches rated 9A, with silver-plated brass clips and rotor contacts. 2.312″ (51.6) diameter, standard NEMA XXXP, MIL-P-3115R, type GIO insulation material. ¼″ Shaft dia. Types listed are non-shorting. Shorting switches are also available; *contact your local Newark sales office. Order knob separately on this page.*

D8G SERIES HEAVY-DUTY SWITCHES

Current and voltage rating: make and break resistive load 2.25 amp @ 28VDC; 1.0 amp @ 115VAC. Positive, 20° indexing.

Stock No.	Type	Pole	Sections	Positions	1-9	10-24
57F923	D8G0117N	1	1	2-17	33.38	27.87
57F925	D8G0217N	2	2	2-17	47.98	44.58
57F927	D8G0317N	3	3	2-17	64.08	59.54

Stock No.	Type	Pole	Sections	Positions	1-4	5-9
57F929	D8G0417N	4	4	2-17	75.46	71.05

D9G SERIES MINIATURE SWITCHES

Current and voltage ratings: make and break resistive load 1.5 amp @ 28VDC; 0.23 amp @ 115VAC. Positive, 15° indexing. Types listed are non-shorting. Shorting switches are also available; *contact your local Newark sales office. Order knob separately on this page.*

Stock No.	Type	Pole	Sections	Positions	1-9	10-24
57F931	D9G0123N	1	1	2-23	33.38	27.87
57F933	D9G0223N	2	2	2-23	47.98	44.58
57F935	D9G0323N	3	3	2-23	64.08	59.54

Stock No.	Type	Pole	Sections	Positions	1-4	5-9
57F937	D9G0423N	4	4	2-23	75.46	71.05

(5068) (de50953)

MINIATURE INDEX ASSEMBLIES

Use with **D4G, D4C series** ceramic or glass epoxy sections. ¼″ shaft dia. Hardware for section and index assembly included. *Order point knob separately on this page.*

Stock No.	Type	For Switches	Rear Shaft Length	1-9	10-24
22F650	D4-300	1 to 3 sections	2″	18.34	15.30

Stock No.	Type	For Switches	Rear Shaft Length	1-4	5-9
22F651	D4-301	4 to 6 sections	4″	38.45	35.73
22F652	D4-302	7 to 9 sections	6″	57.51	53.44

(5065) (de50938)

SELF-ASSEMBLY MINIATURE ROTARY SWITCHES

Separate index assemblies and sections are available for self-assembly of special miniature units or for field repair. Same specifications as pre-assembled units. 1.50 amp @ 28VDC switching capacity. 30° indexing. Sections are available in ceramic, diallyl phthalate and glass epoxy insulation materials. Types listed are non-shorting. Shorting sections are also available; *contact your local Newark sales office.*

GLASS EPOXY SECTIONS FOR D4G SERIES

Stock No.	Type	Poles	Positions	1-9	10-24
22F841	D4G-31	1	2-11	10.28	8.41
22F843	D4G-33	2	2-5	10.99	9.38
22F845	D4G-35	3	2-3	12.06	10.03

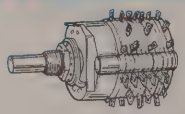
CERAMIC SECTIONS FOR D4C SERIES

22F661	D4C-1	1	2-12	25.13	20.98
22F663	D4C-3	2	2-6	26.85	22.23
22F665	D4C-5	3	2-5	28.22	23.80
22F667	D4C-7	5	2-3	30.98	25.68
22F669	D4C-9	6	2	29.94	25.05

(5064) (de50937)

ROTARY SWITCHES

SERIES C4 & C7 ROTARY SWITCHES



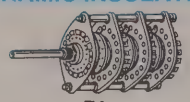
Series C4 offer a fully enclosed environment-proof package for commercial applications. Specifications: Silver-plated brass contacts rated 0.3A α 125VAC, 0.5A 28VDC with an initial contact resistance of .003 max (ohms). Current carrying capacity 15 Amps. Minimum mechanical life 25,000 cycles. Available index angles 30°, 60°, 90°. Shaft length: 0.375″; Shaft dia. = ¼″. **Series C7 Specifications:** Silver-plated brass contacts rated 0.5A @ 125VAC, 1A @ 28VDC, with contact resistance .003 or less-silver alloy contacts rated 1A @ 125VAC, 2A@28VDC, with contact resistance .002 or less. Current carrying capacity 25A. Minimum mechanical life 25,000 cycles. Available index angles 15°, 30°, 60°, 90°. Dimensions: Dia. = 2.03″, shaft length = 0.375″, shaft dia. = ¼. Available in standard lug terminals. *Order knob separately on page 1054. Shorting type switches are also available; contact your local Newark sales office.*

Non-Shorting Switches

Stock No.	Type	Poles	Pos.	1-9	10-24
92F2738	C4D0112N-A	01	02-12	14.54	12.29
92F2740	C4D0206N-A	02	02-06	14.54	12.29
92F2742	C4D0304N-A	03	02-04	15.25	12.94
92F2744	C4D0212N-A	02	02-12	18.24	15.34
92F2746	C4D0406N-A	04	02-06	18.24	15.34
92F2748	C4D0604N-A	06	02-04	18.24	15.34
92F2750	C4D0312N-A	03	02-12	21.68	18.16
92F2752	C4D0606N-A	06	02-06	21.68	18.16
92F2754	C4D0904N-A	09	02-04	21.68	18.16
92F2756	C4D0412N-A	04	02-12	25.13	20.98
92F2758	C4D0806N-A	08	02-06	25.13	20.98
92F2760	C4D1204N-A	12	02-04	25.13	20.98
92F2772	C7D0123N	01	03-23	20.65	17.22
92F2776	C7D0323N	03	03-23	37.47	34.81

(5050) (de04113)

E4 SERIES CERAMIC INSULATED SWITCHES



E4

E4 series 2.812″ (71.4) diameter power rotary switch is MIL-I-10A, grade L-422 insulation material. Rated 11A at 28VDC; 9 amps at 115VAC. 17 amp capacity. ¼″ Shaft diameter. *Order knob separately on page 1054.*

Shorting		Non-Shorting					
Stock No.	Type	Stock No.	Type	Poles	Sections	Positions	1-4
22F731	E4C0117S	22F746	E4C0117N	1	1	2-17	105.88
22F732	E4C0208S	22F747	E4C0208N	2	1	2-8	105.88
...	...	22F748	E4C0217N	2	2	2-17	188.36
...	...	22F749	E4C0305N	3	1	2-5	101.47
...	...	22F750	E4C0317N	3	3	2-17	275.55
...	...	22F751	E4C0408N	4	2	2-8	196.55
...	...	22F752	E4C0417N	4	4	2-17	362.73
...	...	22F754	E4C0605N	6	2	2-5	188.36
...	...	22F755	E4C0608N	6	3	2-8	275.55

(5069) (de50954)

D5 SERIES CIRCUIT BOARD MOUNTABLE SWITCHES

D5 series offers a PC mountable design in an open frame construction. This series offers a 30° indexing, 25,000 life cycles minimum and a ¼″ shaft. Each has 1 section. *Order knobs separately on page 1054.* Shorting switches also available; *contact your local Newark sales office.*

Stock No.	Type	Poles	Positions	1-9	10-24
81F245	D5G0106N-R	1	6	15.83	13.15
81F247	D5G0108N-R	1	8	29.27	26.42
81F253	D5G0204N-R	2	4	17.55	14.41
81F255	D5G0205N-R	2	5	17.55	14.41

(13139) (ne10205)

D7 SERIES CERAMIC INSULATED SWITCHES

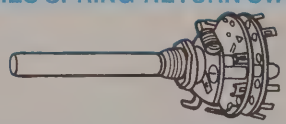
D7

D7 series 1.875″ (47.6) diameter, 30° indexing, heavy-duty switch is MIL-1-10A grade L-422 insulation material. 2.25A @ 28VDC; 1A @ 115VAC. 9A capacity. 0.25″ shaft diameter. *Order knobs separately, contact your local Newark sales office.*

Shorting		Non-Shorting					
Stock No.	Type	Stock No.	Type	Poles	Sections	Positions	1-4
...	...	22F411	D7C0106N	1	1	2-6	35.91
...	...	22F413	D7C0205N	2	1	2-5	33.38
...	...	22F415	D7C0206N	2	2	2-6	66.44
...	...	22F416	D7C0211N	2	2	2-11	51.27
...	...	22F417	D7C0405N	4	2	2-5	51.27

(30573) (ne30573)

E3 SERIES SPRING-RETURN SWITCHES

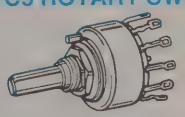


E3 series offer spring-return action with an open frame construction. Standard parts are available in ½″ diameter, 2 or 3 positions, 30° indexing, solder lug terminals, and 25,000 life cycles minimum. *Order knobs separately on page 1054.* Shorting switches are also available; *contact your local Newark sales office.*

Stock No.	Type	Poles	Sections	Description	1-9	10-24
22F571	E3G0402N-1	4	1	From Clockwise	26.85	22.23
57F991	E3G0603N-2	6	2	Both Side to Center	36.83	30.69

(13142) (ne10206)

SERIES C5 ROTARY SWITCHES



Series C5 Specifications: Silver-plated brass contacts rated 1.0A 125VAC with initial contact resistance of less than 0.020 (ohms). Current carrying capacity: 5A. Minimum mechanical life 25,000 cycles. Available index angle 30° only. Dimensions: Dia. = 0.920″, Shaft length = .312″; Shaft dia. = ¼″. Available in standard solder lug terminals and optional rear PC or flag terminals. *Order knob separately on page 1054.*

Non-Shorting Switches

Stock No.	Type	Poles	Pos.	1-9	10-24
92F2761	C5P0206N-A	02	02-06	9.22	7.77
92F2762	C5P0304N-A	03	02-04	9.93	8.09
92F2763	C5P0403N-A	04	02-03	10.64	8.74
92F2764	C5P0112N-A	01	02-12	8.51	7.12

(5051) (de04114)

AT NEWARK, THERE'S ALWAYS MORE THAN MEETS THE EYE!
CONTACT US FOR PRODUCTS NOT LISTED IN THIS CATALOG.

LIMIT AND PUSHBUTTON SWITCHES

16 SERIES SUBMINIATURE SWITCHES

Double-break, momentary. Rating: 10.1A at 125/250VAC. Operating force: 5 oz. + 3 oz. – 2 oz. Release force: 2 oz. min. Overtravel: 0.012″ min. All are SPDT (Form 2) circuits. UL recognized, CSA certified. *Order actuators separately on this page.*

Stock No.	Type	Terminals	1-9
23F179	16-104	End solder	13.83
23F182	16-304	Side solder	13.83
23F183	16-404	Bottom solder	12.81
95F7256	16-4044	Bottom solder	10.67
23F187	16-504	Bottom Q.C. taper tab	13.69

(5131) (de53227)

26 SERIES SUBMINIATURE SNAP-ACTING SWITCHES

26 series allows control up to 4 isolated circuits. DPDT (Form ZZ), double-break. Functions simultaneously within 0.004″ (0.102) of plunger travel. Ratings: 8A at 125/250VAC 75-80% PF. Overtravel: 0.012 min. Operating force: 12 ± 4 oz. Release force: 5 oz. min. Contacts: silver. UL recognized. *Order actuators separately on this page.*

Stock No.	Type	Terminals	1-4
60F1961	26-804	End solder	36.86

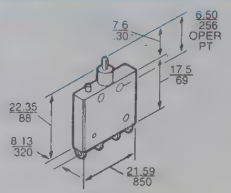
(5128) (de53224)

ACTUATORS FOR 16 AND 26 SERIES SWITCHES

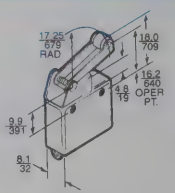
Stock No.	Type	Switch Type	Style	Operating Force (oz.)	Release Force (oz.)	Overtravel	1-9
23F188	76-1200	16 26	Roller Lever	4 Max. 8 Max.	1 Min. 1½ Min.	0.025″ Min. 0.026″ Min.	5.81
23F189	76-1210	16 26	Lever	2.5 Max. 7.0 Max.	1 Min. 2 Min.	0.02″ Min. 0.025″ Min.	7.68

(5129) (de53225)

65 SERIES SUBMINIATURE SEALED SWITCHES



65-2010



65-3010

Meets MIL-S-8805 watertight requirements. Circuit: SPDT-DB (Form Z). Ratings: 5A res. at 125/250VAC; 5A ind. at 28VDC. Solder lug terminals.

Stock No.	Type	Actuator	Operating Force (oz.)	Release Force (oz.)	Overtravel	1-4
25F2137	65-3010	Roller lever	16 Max.	5 Min.	0.025″ Min.	58.95
90F8376	65-2010	Pin plunger	24 ± 8	8 Min.	0.012″ Min.	52.47
25F2138	65-4010	Overtravel	36 Max.	8 Min.	0.187″ Min.	69.27

(5127) (de53223)

18 SERIES SUBMINIATURE SNAP-ACTING SWITCHES

SPDT, double-break. Gold-plated contacts. Terminals: Solder lug. Ratings: 7A at 125/250VAC 75-80% PF. Operating force: 5 ± 3 oz. Release force: 1½ oz. min. UL recognized. 0.510L × 0.124W × 0.350″H. *Order actuators separately below.*

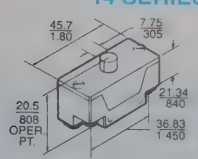
60F1952 Type 18-40421. **Each** **23.71**

ACTUATORS FOR 18 SERIES SWITCH

Stock No.	Type	Style	Overtravel	1-9
61F1856	78-3000	Spring lever	0.030″ min.	8.32
61F2027	78-3100	Pivot roller	0.030″ min.	9.95

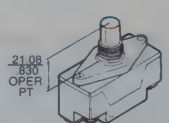
(5125) (de53221)

14 SERIES SNAP-ACTING SWITCHES



14-124

14-724



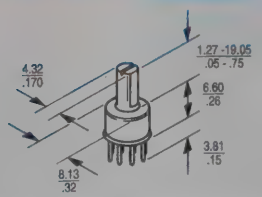
14-324

Features Butterfly® double-break mechanism. Standard mounting. Terminal: #6 screw with cup washer. Circuitry: SPDT-DB (Form Z). Ratings: 20 amps @ 125/250/480 VAC 75-80% PF; UL recognized, CSA certified. **Type 14-324** is overtravel panel mount.

Stock No.	Type	Actuator Style	Operating Force (oz.)	Release Force (oz.)	Over-travel Min.	1-9
61F1953	14-124	Standard button	12 ± 3	4 Min.	0.030″	23.71
61F2041	14-324	Panel mount	12 ± 3	4 Min.	0.219″	37.82
61F1900	14-724	Roller level	5 ± 2	2 Min.	0.060″	31.88

(5132) (de53228)

SERIES 030-TO-5 SPASAVER™ ROTARY & 034 PUSHBUTTON



030 Series features sub-miniature package size (0.36″ diameter), multiple positions in a TO-5 can and low energy switch contacts. Glass-to-metal sealed header. 0.025″ (0.635) PC terminals on 0.200″ (5.080) bolt circle. Shaft diameter 0.170″ (4.318) with flat and slot. Contact rating: 500ma @ 125 VAC. Life expectancy: excess of 10,000 operations. **Series 034-550** features gold contacts, PCB mount, wide range of actuator lengths. Circuit: SPST - no momentary. Contact rating: 100 mA 125 VAC. Black.

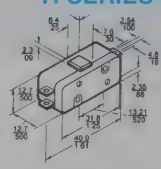
Stock No.	Type	Positions	Shaft Length	1-9
95F7244	030-303-018	3	0.180″ (4.572)	6.91
95F7247	030-808-005	8	0.050″ (1.270)	6.91
83F6835	030-222-018	8	0.180″ (4.572)	19.68

SERIES 034-550 MINIATURE PCB MOUNT SWITCH

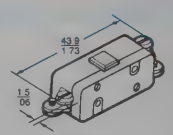
Stock No.	Type	Button Height	1-9
95F7249	034-550-001	0.060″ (1.524)	7.29
95F7252	034-550-006	0.250″ (6.350)	7.29

(5018) (de02384)

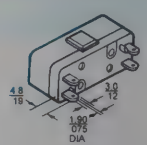
11 SERIES MINIATURE SWITCHES



11-104



11-204



11-304

10A switches SPDT-DB N.O. (Form X). Contacts: silver. Electrical characteristics: 10A (75-80% PF), ½HP 125VAC, ¾HP 250VAC. Pretravel 0.050″ (1.27) max. Overtravel 0.015″ (0.38) min. Operating force: 8 ± 3 oz. Release force: 4 oz. min. UL recognized, CSA certified. **Type 11-504** same as **type 11-104**, except overall length is 2.01″ (51.1). *Order actuators separately below.*

Stock No.	Type	Terminal	1-9
23F161	11-104	End solder	11.55
23F162	11-204	#4 screw	12.01
23F163	11-304	Side solder	11.55
61F1830	11-504	Quick disconnect 0.250″ (6.35)	11.55

ACTUATORS FOR 11 SERIES SWITCHES

Stock No.	Type	Style	Operating Force (oz.)	Release Force (oz.)	Over-travel	1-9
23F168	71-1040	Roller lever	3.5 max.	2	0.062″	5.80
23F169	71-2010	Overtravel	8 oz. ± 3	4	0.215″	14.53

(5133) (de53229)

22 SERIES MINIATURE SNAP-ACTING SWITCHES

2 switching elements function simultaneously (within 0.004″ (0.102) of plunger travel). Circuit: DPDT (Form ZZ), double-break. Ratings: 10A at 125/250VAC, 75-80% PF ½ HP at 125VAC, ¾ HP at 250VAC. Operating force: 17 ± 5 oz. Release force: 4 oz min. Overtravel: 0.015 min. UL recognized. 1.61L × 0.50W × 0.890″H. *Order actuator separately below.*

Stock No.	Type	Terminals	1-4
61F1979	22-104	End solder	36.79
90F8377	22-204	#4 screw	39.72
23F185	22-304	Side solder	36.79
61F1802	22-504	¼″ Quick disconnect	36.79

ACTUATOR FOR 22 SERIES SWITCHES

Stock No.	Type	Style	Operating Force (oz.)	Release Force (oz.)	Over-travel	1-9
61F1875	72-1160	Roller	10 Max.	1.5 Min.	0.035″ Min.	8.87

(5130) (de53226)

DOOR INTERLOCK SWITCH

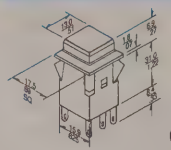
Designed for service door or cabinet drawer applications. Butterfly® double-break switching mechanism. Circuit is single-pole. Manual set allows continuation of power for testing. Terminal: 0.110″. Ratings: Forms A, B, X and Y are 10A at 125/250VAC, 28VDC ind.; Form Z is 5A at 125/250VAC, 3A at 28VDC ind. 0.88L × 0.34W × 1.19″H. UL recognized.

28F2535 Type 76-6005. **Each** **21.19**

(5126) (de53222)

PANEL AND PCB MOUNT PUSHBUTTONS

05 SERIES PUSHBUTTON SWITCHES



05 Series

Bezel-mount lighted pushbutton switches. Contacts are silver-plated. 0.110" (2.79) quick connect. **05 series** ratings: 10mA @ 5 VDC and 1 amp res, 125 VAC, UL recognized, CSA certified. Panel thickness range: 0.31"-0.093". *Order T-1¾ wedge base lamp separately; contact your local Newark sales office.*

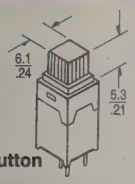
Stock No.	Type	Rated 125 VAC	Terminals	Circuit/Action	1-9
61F1818	05-115	1A	0.110" QC	SPST-NO/mom	3.94

BUTTONS FOR 05 SERIES SWITCHES

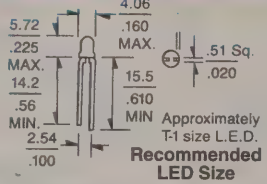
Stock No.	Type	For Series	Color	1-9
61F1819	80-050007	05	White	0.91
61F1835	80-050008	05	Red	0.91
61F1960	80-050009	05	Green	0.91

(5103) (ds52030)

39 SERIES MINIATURE PUSHBUTTON SWITCHES



39 Series Button



Recommended LED Size

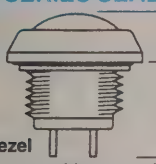
SPST-NO-DB switches feature a bifurcated, silver-plated contact system. Use size T-1 LED. *Order keycap style buttons and light pipes separately; contact your local Newark sales office.*

Stock No.	Type	Lighted	Button Color	Button Style	Switch Action	1-9
51F1028	39-12101	Yes*	Clear	Button	Momentary	3.16
29F1457	39-12509	No	Black	Button	Momentary	2.70
50F1496	39-12601	Yes	Clear	Button	Momentary	4.78
50F1497	39-12611	Yes	Red	Button	Momentary	4.78
50F1499	39-12813	Yes	Yellow	Button	Momentary	5.92
50F1502	39-13611	Yes	Red	Button	Maintained	5.73
50F1500	39-13101	Yes*	Clear	Button	Maintained	4.15

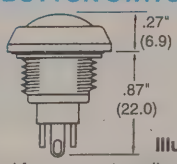
* *Order LED separately.*

(5102) (de52028)

49 SERIES SEALED PUSHBUTTON SWITCHES



Round Bezel



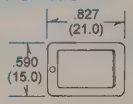
Illuminated Bezel

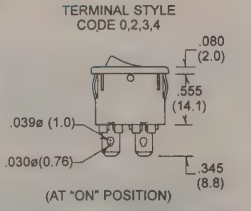
High-environment pushbutton switches designed for compact applications and protection from electrostatic discharge.

Stock No.	Type	Description	1-9
01F986	49111	Round Bezel, Black Button	8.47
01F987	49112	Round Bezel, Red Button	8.47
01F988	49113	Round Bezel, Green Button	8.47
01F989	49411G	Round Bezel, Black, Red LED	13.98
01F990	49411R	Round Bezel, Black, Green LED	13.98

(13057) (ne10003)

HIGH INRUSH MINI ROCKER SWITCHES



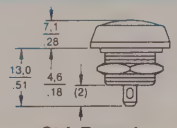


Designed for applications with high inrush currents. Include snap-in panel mount feature and 0.187" slip-on/solder terminals. DPST circuits require no additional mounting hardware. Inrush current capacity: 200 amps. Contact capacity: 12A @ 125/250VAC. "O" indicates OFF position. Contacts: silver alloy. Silver-plated terminals. Matte finish rocker and housing. PCB and right-angle PCB terminals available; *contact your local Newark sales office.* UL recognized, CSA certified, VDE approved.

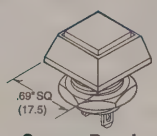
Stock No.	Type	Actuator Color	1-9	10-24	25-49
96F7775	M372-229-200	Red	3.39	3.22	2.98
96F7776	M372-299-200	Black	3.39	3.22	2.98

(31680) (ne31680)

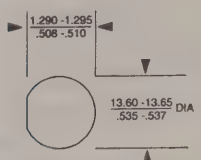
59 SERIES SEALED PUSHBUTTON SWITCHES



Std. Round Bezel



Square Bezel



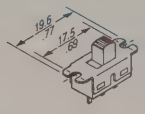
Recommended Panel Cut-Out

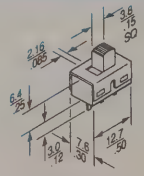
59 series is sealed to IP67. Circuit: NO, Form X. Mounts into panels of minimum .0625" (1.5mm) and maximum 0.118" (3.00). Dielectric strength: 1000VAC @ 125°C. Current rating: 400mA @ 32VAC resistive; 100mA @ 50VDC resistive; 125mA @ 125VAC resistive.

Stock No.	Type	Bezel	Color	1-9
50F1487	59-111	Standard Round	Black	11.51
50F1488	59-112	Standard Round	Red	11.51
50F1489	59-113	Standard Round	Green	11.51
84F1008	59-211	Standard Square	Black	13.98
50F1490	59-212	Standard Square	Red	13.98
50F1491	59-213	Standard Square	Green	13.98
50F1492	59-311	High Round	Black	11.51
50F1494	59-312	High Round	Red	11.51
50F1493	59-313	High Round	Green	11.51

(5100) (de51911)

023 SERIES SNAP-ACTION SLIDE SWITCHES





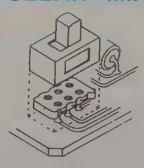
Panel

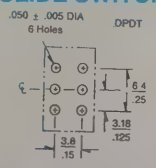
023 series available in SPST, SPDT, DPDT and Form Z circuits. Terminal types are straight, "T", right-angle, PC, standoff PC. Button heights are .20" except for SPDT (Form Z) which are .14". Color: Black. *UL recognized, 1A 125 VAC. †Form Z

Stock No.	Type	Circuit	Mount	Rating	1-9
95F7235	*023-021-040	SPST	PC	1 amp @ 125 VAC	6.91
95F7239	023-021-114	DPDT	PC	100 mA @ 125 VAC	11.09
95F7240	023-021-304	SPDT†	PC	500 mA @ 125 VAC	6.91

(5101) (de51914)

MR. CLEAN® MINIATURE SLIDE SWITCHES





Type 124

Type 124 two-piece assembly switches have an anti-contamination design. Mounts into PC board by hand or automatically. Contact rating: dry circuit to 250 mA @ 125VAC. Gold contacts. Button height: 0.200" (5.08). Color is black.

Stock No.	Type	Circuit	1-9
87F1354	124-240-020	SPDT	2.82
87F1355	124-440-020	DPDT	3.20

(5041) (de03543)

LIGHTED PUSHBUTTON SWITCHES

554 SERIES COMPUTER GRADE SINGLE AND DUAL LAMP SWITCH AND INDICATOR BASES

Fig. 1 Snap-in Bezel Mount

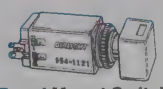
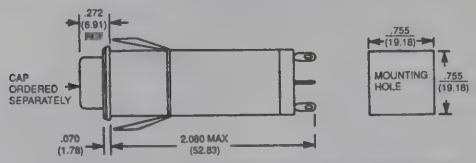


Fig. 2 Panel Mount Switch Base



Mount on panels .062" (1.57mm) to .188" (4.76mm) thick

Choice of snap-in bezel mount or rear panel mount with hardware. Contact rating is indicated by 4th digit of **type number** in tables below: "1", "5" = snap-action silver contacts rated at 30VDC or 125VAC max.; "2", "6" = snap-action gold contacts rated 30VDC or 125VAC max.; and "3" = wiping-action gold contacts rated 30VDC max. All have 50mΩ contact resistance. Life expectancy: momentary-750,000/alternate-250,000 operations. Solder/quick connect terminals. UL listed, CSA certified. *Units accept scratch-resistant plastic pushbutton caps; contact your local Newark sales office.* Order T-1¾ midget flanged base lamps separately; *contact your local Newark sales office.*

MOMENTARY ACTION 0.5 TO 7 AMP POWER SWITCH, SPDT

Stock No.	Type	Accepts Cap Size	Fig.	1-9	10-24
57F3000	554-1121	All*	2	19.21	17.85
57F3035	554-1121-211	⅝"sq.	1	13.11	12.19
57F3036	554-1121-311	⅝" x ¾"	1	13.11	12.19
25F1006	554-1121-411	¾"sq.	1	12.28	11.41
20F917	554-1121-511	¾" x 1"	1	12.28	11.41

MOMENTARY ACTION 0.5 TO 7 AMP POWER SWITCH, DPDT

57F3002	554-1221	All*	2	22.41	20.83
57F3039	554-1221-211	⅝" sq.	1	18.56	17.25
57F3040	554-1221-311	⅝" x ¾"	1	18.56	17.25
25F1007	554-1221-411	¾" sq.	1	17.38	16.15
20F918	554-1221-511	¾" x 1"	1	18.56	17.25

MOMENTARY ACTION, .015 TO 1 AMP SWITCH, SPDT

25F1008	554-2121-211	⅝" sq.	1	17.45	16.22
25F1010	554-2121-411	¾" sq.	1	17.45	16.22

MOMENTARY ACTION, .015 TO 1 AMP SWITCH, DPDT

25F1011	554-2221-211	⅝" sq.	1	23.37	21.72
25F1012	554-2221-311	⅝" x ¾"	1	21.89	20.34
25F1013	554-2221-411	¾" sq.	1	23.37	21.72
20F920	554-2221-511	¾" x 1"	1	23.37	21.72

MOMENTARY ACTION, 1 TO 50 MILLIAMP SWITCH, SPDT

20F913	554-3121	All*	2	16.80	15.61
20F927	554-3121-411	¾" sq.	1	15.70	14.59

MOMENTARY ACTION 1 TO 50 MILLIAMP SWITCH, DPDT

20F914	554-3221	All*	2	23.21	21.57
20F929	554-3221-211	⅝" sq.	1	19.70	18.30

ALTERNATE ACTION 0.5 TO 7 AMP POWER SWITCH, SPDT

57F3037	554-1131-211	⅝" sq.	1	15.36	14.27
20F921	554-1131-511	¾" x 1"	1	15.36	14.27
57F3003	554-1231	All*	2	22.10	20.53
57F3041	554-1231-211	⅝" sq.	1	18.56	17.25
57F3042	554-1231-311	⅝" x ¾"	1	18.56	17.25
25F1015	554-1231-411	¾" sq.	1	18.56	17.25
20F922	554-1231-511	¾" x 1"	1	18.56	17.25

ALTERNATE ACTION, .015 TO 1 AMP SWITCH, DPDT

25F1019	554-2231-211	⅝" sq.	1	26.26	24.40
94F2576	554-6231-411	Dual Lamp	1	34.25	31.82

MATCHING INDICATORS

57F3043	554-0001-211	⅝" sq.	1	10.78	10.23
25F1022	554-0001-411	¾" sq.	1	10.78	10.23
20F933	554-0001-511	¾" x 1"	1	10.78	10.23

* All single lamp cap **types 324, 325, 326, 327, 328.**
(5096) (de51598)

CAN'T LOCATE
A PARTICULAR PRODUCT?
NEWARK STOCKS THOUSANDS OF ITEMS NOT
LISTED IN THIS CATALOG. CALL US TODAY!

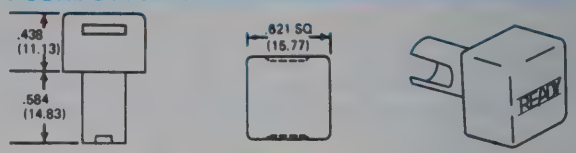
554 SERIES SOLID-STATE, HALL-EFFECT SWITCH BASES

Open collector allows direct connection to all forms of ICs. SPST, normally open. Momentary switching action. Solder/quick connect terminals. Operating life: 1,000,000 operations. Open collector transistor capable of sinking up to 15mA. *Order cap separately on this page.*

Stock No.	Type	Cap Size	1-9	10-24
29F1659	554-7321-211	⅝" Square	25.92	24.09
29F1662	554-7321-511	¾" x 1"	25.92	24.09

* All single lamp cap **types 324, 325, 326, 327, 328.**
(5097) (de51599)

PUSHBUTTON CAPS FOR SERIES 554 SWITCHES



325

⅝" SQUARE CAPS

Stock No.	Type	Color	1-24	25-49
57F3008	325-0071	Red	1.92	1.76
57F3009	325-0072	Green	1.92	1.76
57F3012	325-0075	White	1.92	1.76

¾" SQUARE CAPS

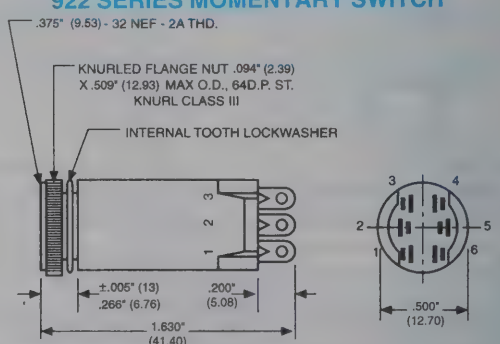
Stock No.	Type	Color	1-24	25-49
25F1023	327-0071	Red	1.92	1.76
25F1024	327-0072	Green	1.92	1.76
25F1025	327-0075	White	1.92	1.76

¾"x1" CAPS

Stock No.	Type	Color	1-24	25-49
20F935	328-0071	Red	1.92	1.76
20F936	328-0072	Green	2.05	1.88
20F938	328-0075	White	1.92	1.76
81F857	329-0701-037	...	4.72	4.32

+ Black frame, clear lens and blank film legend; snaps together.
(5098) (de51600)

922 SERIES MOMENTARY SWITCH


.375" (9.53) - 32 NEF - 2A THD.
KNURLED FLANGE NUT .094" (2.39) X .509" (12.93) MAX O.D., 64D.P. ST. KNURL CLASS III
INTERNAL TOOTH LOCKWASHER
±.005" (13) .266" (6.76)
.200" (5.08)
1.630" (41.40)
.500" (12.70)

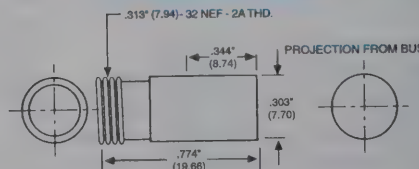
Recommend Mounting Hole 9.58 ± .05 DIA. (.377 ± .002)

T-1 ¾ midget flange base. Incandescent lamp or LED lamp.

Stock No.	Type	Switch Forms	1-9	10-24
45F733	922-1524-525	Normally Open	17.84	16.58

(13030) (ne09995)

908 SERIES CAPS



Cylindrical lens with fresnel rings.

Stock No.	Type	Color	1-24	25-49
45F736	908-1631	Red	4.39	4.02
45F737	908-1632	Green	4.68	4.29
45F738	908-1633	Yellow	4.39	4.02

(13033) (ne09996)

ILLUMINATED PUSHBUTTON SWITCHES

513 SERIES PUSHBUTTON SWITCH BASES

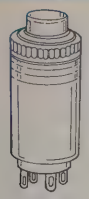


Fig. 1 Panel-Mount

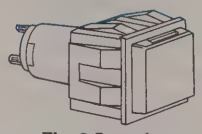


Fig. 2 Snap-In

Choice of rear-panel mount or snap-in mount. Hardware included. UL listed, file no. E51665. *Complete lighted pushbutton switch requires that you order pushbutton cap sold separately on this page. T-1¾ midget flange base incandescent lamp; contact your local Newark sales office.*

MOMENTARY, SNAP-ACTION POWER SWITCH 5 AMP-RESISTIVE; 2 AMP-INDUCTIVE; 125VAC/30VDC

Stock No.	Type	Accepts Cap Size	Fig	Contact Circuit
45F494	513-1601-604	All	1	SPDT
57F3700	513-1701-604	All	1	Two Circuit

Stock No.	Type	1-9	10-24
45F494	513-1601-604	24.66	22.91
57F3700	513-1701-604	21.73	20.20

MOMENTARY ACTION SWITCH 3 AMP; 125VAC/30VDC; GOLD-PLATED CONTACT

Stock No.	Type	Accepts Cap Size	Fig.	Contact Circuit
60F1000	513-0101-604	All	1	SPST NO
60F1002	513-0301-604	All	1	Two Circuit
45F639	513-0310-001*	¾″x1″	2	Two Circuit
45F724	513-0311-001	¾″ sq.	2	Two Circuit

*With built-in barrier

Stock No.	Type	1-9	10-24
60F1000	513-0101-604	17.71	16.46
60F1002	513-0301-604	24.59	22.85
45F639	513-0310-001	28.96	26.91
45F724	513-0311-001	28.96	26.91

MOMENTARY ACTION SWITCH 5 TO 100 MILLIAMP; 3 TO 12VDC; HEAVY GOLD PLATING

Stock No.	Type	Accepts Cap Size	Fig.	Contact Circuit
60F1003	513-0401-604	All	1	SPST
60F1005	513-0601-604	All	1	Two Circuit

Stock No.	Type	1-9	10-24
60F1003	513-0401-604	25.11	23.34
60F1005	513-0601-604	28.17	26.17

ALTERNATE ACTION POWER SWITCH 5 AMP-RESISTIVE; 2 AMP-INDUCTIVE; 125VAC/30VDC

Stock No.	Type	Accepts Cap Size	Fig.	Contact Circuit
57F3702	513-1401-604	All	1	SPDT
57F3701	513-1501-604	All	1	Two Circuit
45F644	513-1506-001	⅝″ sq.	2	Two Circuit

Stock No.	Type	1-9	10-24
57F3702	513-1401-604	35.52	33.01
57F3701	513-1501-604	25.02	23.25
45F644	513-1506-001	40.97	38.07

(5083) (de51372)

913 SERIES LED LIGHTED PUSHBUTTON SWITCHES

Momentary action switches feature solid state, high brightness, nonreplaceable LED operating on 5VDC at 20mA. Lenses match LED color. Gold-plated contacts rated 0.1A, 125VAC or 30VDC. Black anodize finish aluminum. Solider terminals. ⅛″ panel thickness. UL listed. Hardware included.

Stock No.	Type	Lens Color	Switch Function	1-9	10-24
29F1650	913-1551-1631-525	Red	SPST-NO	16.17	15.02
29F1652	913-1553-1631-525	Red	2-Circuit	16.17	15.02
29F1653	913-1601-1632-525	Green	SPST-NO	22.41	20.83
29F1655	913-1603-1632-525	Green	2-Circuit	22.41	20.83
29F1656	913-1604-1633-525	Yellow	SPST-NO	23.09	21.46

(5084) (de51373)

183 AND 533 SERIES MATCHING INDICATOR LIGHT BASES

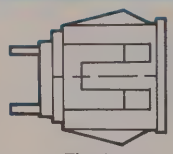


Fig. 1

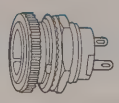


Fig. 2

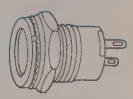


Fig. 3

533 Series commercial grade, snap-in bezel mount indicator bases designed for mounting in panels to 3⁄16″ thick. **Type 183-9730-14-602**: fixed flange front-panel mount in 15⁄32″ clearance hole. **Type 183-9830-14-604**: threaded knurled flange and hex nut at the rear which facilitates panel mounting from either front or rear in ½″ clearance hole. Hardware included. *Complete unit requires pushbutton cap sold separately on this page, and T-1¾ midget flange base incandescent lamp; contact your local Newark sales office.*

Stock No.	Type	Cap Size	Fig.	1-9	10-24
45F648	533-0601	⅝″ sq.	1	9.16	8.69
45F650	533-0901	¾″x1″	1	10.72	10.17
45F651	533-1001	¾″x1″	1	10.72	10.17
84F349	533-11-01	¾″ sq.	1	11.45	10.86
60F1006	183-9730-14-602	All	2	10.39	9.86

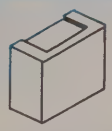
*With built-in barrier

Stock No.	Type	Cap Size	Fig.	1-24	25-49
60F1007	183-9830-14-604	All	3	11.16	10.58

(5085) (de51374)

PUSHBUTTON CAPS FOR 513, 183 AND 533 SERIES SWITCHES AND INDICATORS

186



302

Pushbutton lens caps fit **513 series** switch bases and **533/183 series** matching indicator light bases *listed separately*. High temperature, scratch-resistant plastic with nickel-plated brass shank. No legend. Translucent face and sides. Friction-fit. Caps accept T-1¾ midget flange base incandescent lamp.

Stock No.	Type	Color	1-24	25-49
		⅝″ SQUARE+		
45F652	304-1871+	Red	3.50	3.21
45F653	304-1872+	Green	6.16	4.05
45F654	304-1873+	Yellow	3.50	3.21
45F656	304-1875+	White	3.50	3.21
		¾″ SQUARE+		
25F1005	307-1875+	White	4.68	4.29
		½″ ROUND		
60F1054	186-1471	Red	4.39	4.02
60F1055	186-1472	Green	4.39	4.02
60F1056	186-1473	Yellow	4.39	4.02
60F1058	186-1475	White	4.39	4.02
		¾″x1″+		
45F664	302-3471+	Red	4.21	3.86
45F665	302-3472+	Green	4.50	4.12
45F666	302-3473+	Yellow	4.21	3.86
45F668	302-3475+	White	4.21	3.86

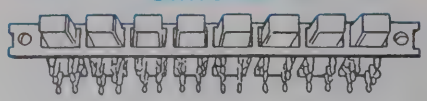
+Feature fingertip grip for use with snap-in mount switches and indicators (**Type 513** and **533**) and panel mount types (**Type 513** and **183**).

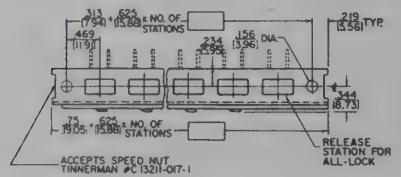
(5086) (de51375)

NEW PRODUCTS ARE BEING ADDED TO OUR INVENTORY EVERY DAY.

CALL NEWARK FOR INFORMATION ON WHAT'S CURRENTLY IN STOCK.

65000 & 67000 SERIES DOUBLE WIPE MULTI-STATION SWITCHES





Factory assembled and tested, these switches are DPDT modules with solder lug terminals. U-shaped bifurcated contacts, rated 3 amps AC or 0.5 amps DC, 125 volts. All interlock with lockout. Panel cutout: 0.313″(7.94) + 0.625″(15.88) x number of stations = hole-to-hole distance. **67000 series** switches accept T-1¾ flange base lamps in 6V, 6.3V and 28V sizes. One lamp per station. *Order lamps separately; contact your local Newark sales office.*

65000 SERIES NON-ILLUMINATED SWITCHES

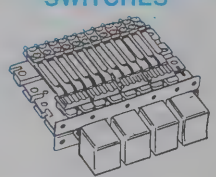
Stock No.	Type	Stations	1-9
22F138	65041K-206	4	15.18
22F139	65061K-206	6	20.86
22F140	65081K-206	8	26.48
22F141	65101K-206	10	31.94
39F581	65121K-206	12	38.30

67000 SERIES ILLUMINATED SWITCHES

39F2303	67041K-506	4	22.35
39F2306	67061K-506	6	32.71
39F2309	67081K-506	8	40.21
39F2312	67101K-506	10	49.55
39F598	67121K-506	12	58.81

(4994) (de01160)

35000 SERIES NON-ILLUMINATED MULTI-STATION SWITCHES

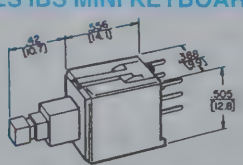


Mount on panels up to 0.125″(3.18) thick and provide up to 6PDT switching. Narrow rectangular silhouette permits stacking in parallel rows on 1″(25.40) centers; 2.313″ (58.75) depth behind panel. Square black pushbutton furnished with station. Contact rating: 2 amps, 200 watts maximum AC non-inductive load. Panel cutout: 0.313″(7.94) + 0.625″(15.88) x number of stations = hole-to-hole distance.

Stock No.	Type	Stations	1-9
39F613	35061K-206	6, 2-C Each	105.24

(4995) (de01161)

98000R SERIES IBS MINI KEYBOARD SWITCHES



0.157″(4) long solder-plated copper alloy PC terminals for mounting on single or double-sided PC boards up to 0.094″(2.39) thick on 0.394″(10) centers in rows or arrays. Molded-in standoff legs. Molded thermoplastic polyester housing, rated UL 94V-0. Gold plated beryllium copper contacts, rated 0.125A resistive @ 125V AC or 28V DC. Plunger travel 0.144″(3.66); accepts **type P-2937** black pushbutton, *ordered separately.*

Stock No.	Type	Description	Switching	1-9
94F7885	982A03R	Momentary	1-C	2.22
44F8001	982A06R	Momentary	2-C	2.39

(4996) (de01162)

46000 SERIES SLIDE SWITCHES

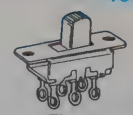


Fig. 1

Fig. 2

Fig. 3

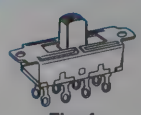


Fig. 4

Slide switches feature cadmium-plated steel housing, 0.344″(8.74) high black thermoplastic knob and silver-plated brass terminals and slider contacts. Contact rating: 0.5 amp DC and 3 amps AC, 125V non-inductive. Dielectric strength: 1kVrms. Phenolic terminal board with fiber-surfaced phenolic insulation. **Type 46256LFR** has flush actuator, screwdriver-slotted. UL recognized.

Stock No.	Type	Fig.	Description	1-9
26F902	46202LR	1	SPST Locking	0.77
26F905	46206LR	2	DPDT Locking	1.07
26F909	46256LFR	3	DPDT Locking	1.88
26F911	46313LDR	4	DP3T Locking	1.97

* = 2 position † = 3 position
(4997) (de01163)

MINIATURE MOMENTARY PUSHBUTTON SWITCHES

923, 933

903, 913

Molded red or black plastic pushbutton enclosed in metal housing. Solder lug terminals. Integral nickel silver contacts rated 250mA, 30 watts maximum AC non-inductive. SPDT, break before make. **Types 903, 913** are front mount in 0.469″(11.91) mounting hole for panel up to 0.297″(7.54) thick. **Types 923, 933** are rear mount in 0.250″(6.35) mounting hole for panel up to 0.156″(3.96) thick. All are bushing mount.

Stock No.	Type	Mount	1-9
22F233	913*	Front	3.20
22F235	933*	Rear	3.67
22F229	903†	Front	3.20
22F231	923†	Rear	3.50

Button color: * = Black † = Red
(4998) (de01164)

TYPE LUS ILLUMINATED PUSHBUTTON SWITCHES

Square 0.688″(17.48) momentary pushbutton switch with snap-lock mounting. Silver-plated bronze contacts rated 250mA, 30 watts maximum AC non-inductive. SPST NO switching function. 1A circuit figure. Solder terminals. Mount 0.617″(15.67) square hole in panel 0.047-0.266″(1.19-6.76) thick.

Stock No.	Type	Description	1-99
99F5159	LUS001	Switch	3.98
94F1645	P23495	Cover	0.95

(4999) (de01165)

TYPE PL ILLUMINATED PUSHBUTTON SWITCHES

Push-lock/push-release single or twin lamp versions. Palladium contacts rated 2A, 125VAC. Solder lug terminals 1.88x0.875″(47.75x22.23) with barriers 0.125″(3.18) maximum panel thickness 1.75″(4.45) behind panel depth. Mount with clamp-type bracket in vertical or horizontal rows and matrixes. *Order standard 6V to 28V T-1¾ flange base lamps separately.*

Stock No.	Type	Lamps	1-9
39F2209	PL-1067-05	Single	28.28
39F2210	PL-1127-05-BU	Single	30.54
39F2212	PL206705	Twin	30.92
39F2213	PL-2127-05	Twin	33.18

Switching: * = DPDT † = 4PDT
(5000) (de01166)

PUSHBUTTON PENDANT/CORD SWITCH

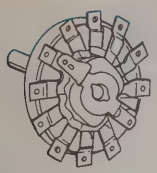
Cordette® pendant switch features 1-piece grey molded plastic housing that protects integral brass, hard gold-plated contacts, rated 500mA, 50 watts maximum AC non-inductive. SPST momentary action. 6-ft.(72.0) of 2-conductor unshielded cable molded to body with other end leads stripped and tinned. Small, lightweight 1.188″ (30.18) wide x 2.938″ (74.63) long.

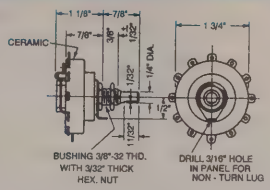
Stock No.	Type	1-9
94F1652	921K	20.86

(5001) (de01167)

ROTARY TAP SWITCHES

111 SERIES 15-AMP 125VAC ROTARY TAP SWITCHES



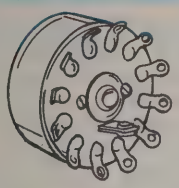


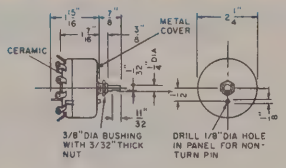
Slow-break, quick-make action for switching AC current, and all-soldered, all-riveted metal and ceramic construction to provide reliable operation. Self-cleaning silver alloy contacts, rounded common contact. Arc-proof ceramic body. Use ⅜-32 bushing and hex nut for ¼″ thick maximum panel mounting. A 3/16″ hole is required for the non-turn washer. Ratings: 15 amps, 125VAC, 20VDC noninductive. Shaft torque: 1.5-3.8 in. lbs. Soldering type terminals. UL listed, file no. E14245. *Order mounting hardware kit and knobs separately on this page.*

Stock No.	Type	No. of Taps	Total Rotation	1-9	10-24
28F1970	111-3	3	60°	**25.85**	**21.83**
28F1971	111-4	4	90°	**26.09**	**22.04**
28F1972	111-5	5	120°	**27.29**	**23.05**
28F1973	111-6	6	150°	**28.48**	**24.05**
28F1974	111-7	7	180°	**29.84**	**25.21**
28F1975	111-8	8	210°	**30.90**	**26.10**
28F1977	111-10	10	270°	**33.43**	**28.24**
28F1978	111-11	11	300°	**34.82**	**29.41**

(5009) (de01445)

212 SERIES 20-AMP 150VAC ROTARY TAP SWITCHES



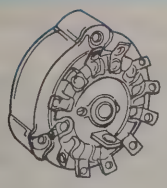


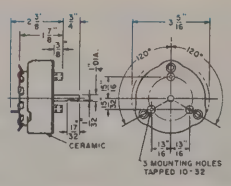
Slow-break, quick-make action for switching AC current, and all-soldered, all-riveted metal and ceramic construction to provide reliable operation. Self-cleaning silver alloy contacts, rounded common contact. Arc-proof ceramic body. Use ⅜-32 threaded bushing and hex nut for mounting. A 5/32″ hole is required for the nonturning pin. Ratings: 20 amps, 150VAC, 20VDC noninductive load. Shaft torque: 3-7 in. lbs. Soldering type terminals. UL listed, file no. E14245. *Order mounting hardware kit and knobs separately on this page.*

Stock No.	Type	No. of Taps	Total Rotation	1-9	10-24
28F1982	212-6	6	150°	**53.52**	**41.96**
28F1988	212-12	12	330°	**60.84**	**47.70**

(5007) (de01443)

312 SERIES 30-AMP 300VAC ROTARY TAP SWITCHES



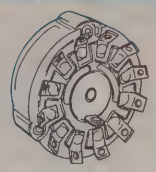


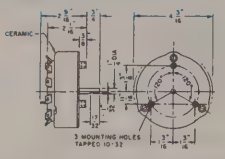
Slow-break, quick-make action for switching AC current, and all-soldered, all-riveted metal and ceramic construction for reliable operation. Self-cleaning silver alloy contacts, rounded common contact. Arc-proof ceramic body. Mount in ¼″ panels (maximum) with three no. 10-32 flat-head, ⅜″ long machine screws, included. Ratings: 30 amps, 300VAC (150VAC between taps), 20VDC noninductive. Shaft torque: 3-7 in. lbs. Soldering type terminals. UL listed file no. E14245. *Order knobs separately on this page.*

Stock No.	Type	No. of Taps	Total Rotation	1-9	10-24
28F1992	312-6	6	150°	**68.59**	**50.80**
28F1994	312-8	8	210°	**72.88**	**53.97**
28F1995	312-9	9	240°	**74.60**	**55.24**
28F1996	312-10	10	270°	**76.52**	**56.67**
28F1998	312-12	12	330°	**78.67**	**65.87**

(5010) (de01446)

412 SERIES 50-AMP 300VAC ROTARY TAP SWITCHES



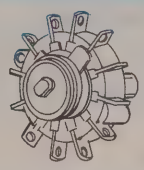


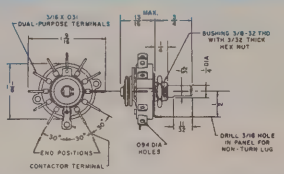
Slow-break, quick-make action for switching AC current, and all-soldered, all-riveted metal and ceramic construction to provide reliable operation. Self-cleaning silver alloy contacts, rounded common contact. Arc-proof ceramic body. Mount in ¼″ panels (maximum) with three no. 10-32 flat-head, ⅜″ long machine screws, which are included. Must drill 5/16″ hole in panel for shaft. Ratings: 50 amps, 300VAC (150VAC between taps), 20VDC noninductive load. Shaft torque: 3-8 in. lbs. Soldering lugs/#10 screw terminal. UL listed, file no. E14245. *Order knobs separately on this page.*

Stock No.	Type	No. Taps	Total Rotation	1-4	5-9	10-24
81F4785	412-6	6	150°	**76.74**	**56.84**	**51.15**
81F4786	412-7	7	180°	**77.83**	**65.17**	**53.08**
81F4787	412-8	8	210°	**82.57**	**69.12**	**56.31**
81F4791	412-12	12	330°	**97.38**	**81.53**	**66.41**

(5008) (de01444)

711 SERIES 7-AMP 125VAC ROTARY TAP SWITCHES




DUAL-PURPOSE TERMINALS
BUSHING 3/8-32 THD WITH 3/32 THICK HEX NUT
END POSITIONS
CONTACTOR TERMINAL
.094 DIA HOLES
DRILL 3/16 HOLE IN PANEL FOR NON-TURN LUG

Slow-break, quick-make action for switching AC current, and all-soldered, all-riveted metal and ceramic construction to provide reliable operation. Self-cleaning silver alloy contacts, rounded common contact. Use ⅜-32 bushing for ⅛″ thick maximum panel mounting. Four non-turning lug positions are possible on the single, unenclosed switch. Recesses in the body of the switch permit positioning of the non-turning washer at "12, 3, 6 and 9 o'clock" locations. Ratings: 7 amps, 125VAC, 20VDC noninductive load. Shaft torque: 7-12 oz. in. Soldering or 3/16″ quick connector terminals. Melamine phenolic body. *Order mounting hardware kit and knobs separately on this page.*

Stock No.	Type	No. Taps	Total Rotation	1-9	10-24
28F1999	711-3	3	60°	**31.98**	**27.01**
28F2000	711-4	4	90°	**34.59**	**29.23**

(5006) (de01442)

608 SERIES 100-AMP 300VAC ROTARY TAP SWITCHES

Slow-break, quick-make action for switching AC current, and all-soldered, all-riveted metal and ceramic construction to provide reliable operation. Self-cleaning silver alloy contacts, rounded common contact. Arc-proof ceramic body. Mount in 1″ panels (maximum) with three flat-head, ¼-20, 1 ¼″ long machine screws, which are included. Must drill 7/16″ hole in panel for shaft. Ratings: 100 amps, 300VAC, 20VDC noninductive. Shaft torque: 25-35 in. lbs. Soldering lug or ¼″ bolt terminals. *Order knobs separately on this page.*

Stock No.	Type	No. Taps	Total Rotation	1-4	5-9
81F4797	608-8	8	280°	**192.63**	**163.73**

(5011) (de01447)

MOUNTING HARDWARE AND KNOBS FOR ROTARY TAP SWITCHES

MOUNTING HARDWARE KIT

Stock No.	Type	Description	1-9	10-24	25-49	50-99
94F3520	7091	Contains 25 each, nuts and lock washers for **111**, **112**, and **711** series	**22.39**	**14.71**	**14.39**	**12.78**

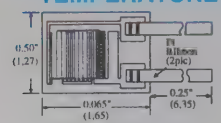
KNOBS

Stock No.	Type	Description	1-9	10-24	25-49
94F3514	5103A	For **711 Series** Switches	**5.39**	**3.56**	**3.38**
94F2685	5116A	For **111, 212 Series** Switches	**12.99**	**8.60**	**8.23**
94F3515	5109A	For **312 Series** Switches	**25.07**	**16.47**	**16.11**
90F7358	5111A	For **412 Series** Switches	**26.70**	**17.55**	**17.16**
90F7359	5104A	For **608 Series** Switches	**24.63**	**16.19**	**15.83**

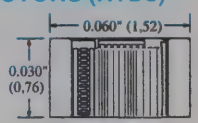
(5012) (de01448)

TEMPERATURE AND HUMIDITY SENSORS

THIN FILM PLATINUM RESISTANCE TEMPERATURE DETECTORS (RTDs)



Ribbon Leaded



Surface Mount

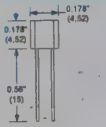
Provide a resistance change with temperature, high-quality linearity, interchangeability, sensitivity, and long-term stability. Applications include HVAC romm, duct and refrigerant equipment, temperature compensation in instrument and probe assemblies, and temperature regulation in process control. RTD type: 1000Ω/375 Alpha or 100Ω/385 Alpha. Interchangeability: ±0.1% (±0.3°C) or ±0.2% (±0.5°C) @ 0°C. Temperature Range: –55°C to +150°C, SMT. –200°C to +540°C ribbon lead. Type numbers with **suffix A** are ribbon leaded; type numbers with **suffix C** are surface mount.

Stock No.	Type	Resistance @ 0°C	Resistance Interchangeability	Temperature Coefficient of Resistance* 0-100°C	Each
91F7118	HEL-700-U-0A	1000Ω	±0.2%	3.75Ω/°C	19.95
91F7119	HEL-700-U-1-A	1000Ω	±0.1%	3.75Ω/°C	21.57
91F7120	HEL-700-T-0-A	100Ω	±0.2%	0.385Ω/°C	23.35
91F7121	HEL-700-U-0-C	1000Ω	±0.2%	3.75Ω/°C	16.70
91F7122	HEL-700-U-1-C	1000Ω	±0.1%	3.75Ω/°C	18.32

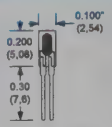
*Average TCR
(15548)

(ne10590)

THRU-HOLE PLATINUM RESISTANCE TEMPERATURE DETECTORS (RTDs)



EL-777



EL-775

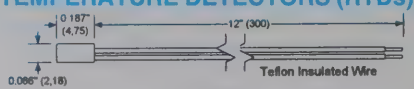
Ideal for air temperature sensing on circuit boards and assemblies. Applications include HVAC room, duct and refrigerant equipment, temperature compensation in instrument and probe assemblies, and temperature regulation in process control. RTD type: 1000Ω/375 Alpha or 100Ω/385 Alpha. Interchangeability: ±0.1% (±0.3°C) or ±0.2% (±0.5°C) @ 0°C. Temperature Range: –55°C to +150°C.

Stock No.	Type	Resistance @ 0°C	Resistance Interchangeability	Temperature Coefficient of Resistance* 0-100°C	Each
91F7123	HEL-777-A-U-0	1000Ω	±0.2%	3.75Ω/°C	19.05
91F7124	HEL-777-A-U-1	1000Ω	±0.1%	3.75Ω/°C	20.68
91F7125	HEL-777-A-T-0	100Ω	±0.2%	0.385Ω/°C	22.30
91F7126	HEL-775-B-U-0	1000Ω	±0.2%	3.75Ω/°C	20.68
91F7127	HEL-775-B-U-1	1000Ω	±0.1%	3.75Ω/°C	22.30
91F7128	HEL-775-B-T-0	100Ω	±0.2%	0.385Ω/°C	23.92

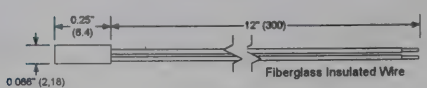
*Average TCR
(15549)

(ne10591)

CYLINDRICAL WIRE LEADED PLATINUM RESISTANCE TEMPERATURE DETECTORS (RTDs)



EL-705



EL-707

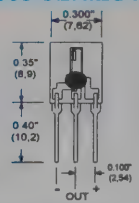
Small cylindrical ceramic bodies are designed for drill holes and probe assemblies. Applications include HVAC room, duct and refrigerant equipment, temperature compensation in instrument and probe assemblies, and temperature regulation in process control. RTD type: 1000Ω/375 Alpha or 100Ω/385 Alpha. Interchangeability: ±0.1% (±0.3°C) or ±0.2% (±0.5°C) @ 0°C. Temperature Range: –200°C to +260°C, Teflon®; –75°C to +540°C fiberglass. **Types EL-705** have Teflon® insulated wire; **types EL-707** have fiberglass insulated wire.

Stock No.	Type	Resistance @ 0°C	Resistance Inter-changeability	Temperature Coefficient of Resistance* 0-100°C	Each
91F7129	HEL-705-U-0-12-00	1000Ω	±0.2%	3.75Ω/°C	30.00
91F7130	HEL-705-U-1-12-00	1000Ω	±0.1%	3.75Ω/°C	31.62
91F7131	HEL-705-T-0-12-00	100Ω	±0.2%	0.385Ω/°C	40.54
91F7132	HEL-707-U-0-12-00	1000Ω	±0.2%	3.75Ω/°C	30.00
91F7133	HEL-707-U-1-12-00	1000Ω	±0.1%	3.75Ω/°C	31.62
91F7134	HEL-707-T-0-12-00	100Ω	±0.2%	0.385Ω/°C	40.54

*Average TCR
(15545)

(ne10700)

HIH-3605 SERIES HUMIDITY SENSORS



IH-3605-A

IH-3605-B

Features:
- **Linearity: ± 2.0% RH**
- **RH Range: 0–100% RH**
- **Temperature Range: –40°C to +85°C**
- **Accuracy*: ±2.0% RH**
- **Voltage Output: Vout = Vsupply (0.0062 (% RH) + 0.16) @ 25°C**
- **Temperature Compensated: True RH = (% RH)/(1.0546-0.00216 T); T=°C**

Applications:
- **Refrigeration.**
- **Drying**
- **Battery-powered systems**
- **OEM assemblies**

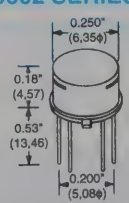
Laser-trimmed RHIC chip provides linear voltage output Vs % RH, fast response, and resistance to wetting and chemicals with good stability. Supply voltage: 4–9VDC.

Stock No.	Type	Lead Space	Data Included	% RH Interchange-ability	Each
91F7135	HIH-3605-A	0.100″	No	±5%	33.65
91F7136	HIH-3605-A-CP	0.100″	Yes	±5%	38.51
91F7136	HIH-3605-A-CP	0.050″	No	±5%	38.51
91F7138	HIH-3605-B-CP	0.050″	Yes	±5%	38.51

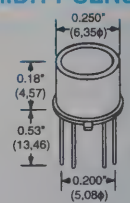
* Accuracy figured when calibrating individual sensor performance using data printout
(15546)

(ne10701)

HIH-3602 SERIES HUMIDITY SENSORS



TO-39 Package



TO-5 Package

Features:
- **RH Range: 0–100% RH**
- **Temperature Range: –40°C to +85°C**
- **Accuracy*: ±2.0% RH**
- **Voltage Output: Vout = Vsupply (0.0062 (% RH) + 0.16) @ 25°C**
- **Temperature Compensated: True RH = (% RH)/(1.0546-0.00216 T); T=°C**

Applications:
- **Refrigeration**
- **Drying**
- **Meterology**
- **Battery-powered systems**
- **OEM assemblies**

RHIC chip provides linear voltage output Vs % RH. TO-5 package provides hydrophobic sintered SST filtered for maximum protection in harsh or splash prone environments. TO-39 slotted package provides gross mechanical protection and faster response time. **Types IH-3602-A** and **IH-3602-C** also include an on-board thermistor or platinum RTD temperature sensor. Linearity: ±2.0% RH. Supply voltage: 4–9VDC.

Stock No.	Type	Temp. Sensor	Interchange-ability	Data Included	Package	Each
91F7139	HIH-3602-L	None	±5%	No	TO-39	72.97
91F7140	HIH-3602-L-CP	None	±5%	Yes	TO-39	77.84
91F7141	HIH-3602-A	100K Ω	±5% Typ.	Yes	TO-5	137.84
91F7142	HIH-3602-C	1K PRTD	±5% Typ.	Yes	TO-5	105.41

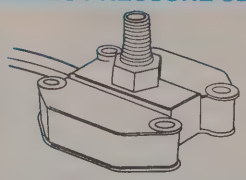
* Accuracy figured when calibrating individual sensor performance using data printout
(15547)

(ne10702)

PERSONALIZED SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

PRESSURE SENSORS

240PC SERIES PRESSURE SENSORS

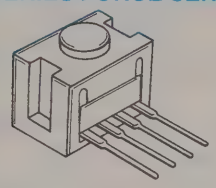


240PC series pressure sensors feature rugged die-cast aluminum housing and internal O-ring seals for contamination resistance. Output proportional to pressure input. Screw-in or flat pack mounting. 1/8″-27 NPT. Operating temperature -40°C to + 85°C. Recommended excitation: **242PC:** 8VDC; **249PC:** 24VDC with 25 ohm lead. 2.20L x 2.26″W.

Stock No.	Type	Pressure Range	Over-Pressure	Span	Sensitivity psi	Each
23F2282	242PC100G	0-100	200 psi	5V	50mV	**153.94**
16F3938	249PC100G	0-100	200 psi	4-20mA	0.160mA	**183.44**
16F3939	249PC250G	0-250	500 psi	4-20mA	0.064mA	**183.44**

(5037) (de03222)

FS SERIES FORCE SENSOR



Provides precise, reliable force sensing performance in a compact, commercial-grade package. The sensor operates on the principle that resistance of piezoresistors will increase when flexed under an applied force. The sensor concentrates force from the application through the stainless steel plunger directly to the silicon sense element. The circuit resistance changes as force is applied, resulting in a corresponding mV output level. Resolution to 1.0 gram force (grf). Force range: 0-1500 gram. Span, mV: 360 (typ.) Recommended excitation: 10VDC. Operating temperature: –40°C to +85°C. Over force: 5.5 kg max. Dimensions: 0.44L x 0.3W x0.5″D.

16F5452 Type FSG-15N1A. **Each** **59.89**
(5167) (ne08566)

26PC SERIES TEMPERATURE COMPENSATED FLOW-THROUGH PRESSURE SENSORS

Large Port Sensor

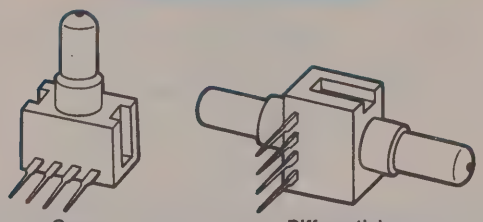
- **Can Be Used to Measure with Vacuum or Positive Pressure**
- **Silicon Piezoresistive Sensor Chip**
- **Temperature Compensated from 0°C to 50°C**
- **24″ Wire Harness with Splash-Proof Connector**

Flow-through port design fits in-line with application. Small port design: 0.144″ O.D. (⅛″ I.D. tubing). Large port design: 0.315″ O.D. (¼″ I.D. tubing or STD connectors). Operating temperature: –40°C to +85°C. Recommended excitation voltage: 10VDC ratiometric (16VDC max).

Stock No.	Type	Pressure Range	Port Style	Full Scale Output	Sensitivity (mV/psi)	Each
16F3211	26PCAFG5G	0-1 psi	Small Port	16.7mV	16.7	**57.67**
16F3212	26PCAFP5G	0-1 psi	Large Port	16.7mV	16.7	**70.38**
16F3213	26PCBFG5G	0-5 psi	Small Port	50mV	10	**57.67**
16F3214	26PCBFP5G	0-5 psi	Large Port	50mV	10	**70.38**
16F3934	26PCCFG5G	0-15 psi	Small Port	100mV	6.67	**57.67**
16F3935	26PCCF5G	0-15 psi	Large Port	100mV	6.67	**70.38**
16F3936	26PCDFG5G	0-30 psi	Small Port	100mV	3.33	**57.67**
16F3937	26PCDFP5G	0-30 psi	Large Port	100mV	3.33	**70.38**

(5170) (ne08569)

26PC SERIES TEMPERATURE COMPENSATED PRESSURE SENSORS



Gage **Differential**

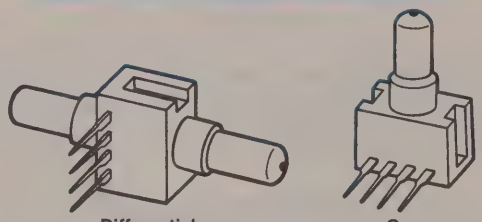
- **Differential and Gage Pressure Measurement**
- **Miniature Package**
- **Silicon Piezoresistive Sensor Chip**
- **Can be Used to Measure with Vacuum or Positive Pressure**
- **Temperature Compensated for Interchangeability from 0°C to 50C°**

Contain straight port, compensated circuitry and fluorosilicone seals. Temperature compensated from 0°C to +58°C. Null and full-scale output are calibrated. .400″ long 4-pin SIP termination. Operating temperature: –40°C to +85°C. Recommended excitation voltage: 10VDC ratiometric (16VDC max.).

Stock No.	Type	Pressure Range	Measurement	Full Scale Output	Sensitivity (mV/psi)	Each
52F7257	26PCAFA6G	0-1 psi	Gage/Vac	16.7mV	16.7	**25.79**
52F7256	26PCAFA6D	0-1 psi	Differential	16.7mV	16.7	**25.79**
16F3205	26PCBFA6D	0-5 psi	Differential	50mV	10	**23.44**
16F3206	26PCCFA6G	0-15 psi	Gage/Vac	100mV	6.67	**23.44**
16F3207	26PCCFA6D	0-15 psi	Differential	100mV	6.67	**23.44**
16F3208	26PCDFA6G	0-30 psi	Gage/Vac	100mV	3.33	**23.44**
16F3209	26PCDFA6D	0-30 psi	Differential	100mV	3.33	**23.44**
16F3210	26PCFFA6G	0-100 psi	Gage/Vac	100mV	1.0	**23.44**

(5169) (ne08568)

24PC SERIES NON-TEMPERATURE COMPENSATED MINIATURE PRESSURE SENSORS



Differential **Gage**

- **Differential and Gage Pressure Measurement**
- **Miniature Package**
- **Silicon Piezoresistive Sensor Chip**
- **Can be Used to Measure with Vacuum or Positive Pressure**

Contain straight port, non-compensated circuitry and fluorosilicone seals. Operating temperature: –40°C to +85°C. 2mA constant excitiation current significantly reduces sensitivity shift over temperature range. Recommended excitation voltage: 10VDC ratiometric (16VDC max). Dimensions: Differential: 1.35L x 0.50″W; Gage: 0.86L x 0.50″W. 4-pin SIP termination*.

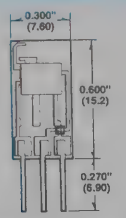
Stock No.	Type	Pressure Range	Measure-ment	Full Scale Output	Sensitivity (mV/psi)	Each
16F3193	24PCAFA6G	0-1 psi	Gage/Vac	45m	45	**15.91**
16F3194	24PCAFA6D	0-1 psi	Differential	45m	45	**15.91**
16F3195	24PCBFA6G	0-5 psi	Gage/Vac	115m	23	**15.91**
16F3196	24PCBFA6D	0-5 psi	Differential	115m	23	**15.91**
16F3198	26PCCFA6D	0-15 psi	Differential	225m	15	**29.90**
16F3199	24PCDFA6G	0-30 psi	Gage/Vac	330m	11	**15.91**
16F3200	24PCDFA1D	0-30 psi	Differential	330m	11	**15.91**
16F3201	24PCFFA6G	0-100 psi	Gage/Vac	225m	2.25	**15.91**
16F3202	24PCFFA1D	0-100 psi	Differential	225m	2.25	**15.91**
16F3203	24PCGFA1G	0-250 psi	Gage/Vac	212m	0.85	**16.36**
16F3204	24PCGFA1D	0-250 psi	Differential	212m	0.85	**16.36**

*"1" in suffix = .600″ long terminals, "6" in suffix = .600″ terminals.
(5168) (ne08567)

PERSONALIZED SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

SOLID-STATE SENSORS

SS94 SERIES LINEAR HALL-EFFECT TRANSDUCERS



Operated by a magnetic field, the output voltage varies proportionally to the field strength. All sensors feature temperature compensation circuitry. **SS94A2** features silver back for improved noise immunity. Gauss range of –500 to +500 except **SS94A1F** at -100 to +100. **SS94A1F**–High sensitivity.

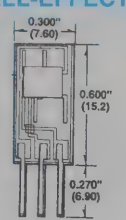
Stock No.	Type	Supply VDC	Supply mA	MV/Gauss Output @ 25°C*	Linearity % of Span
50F5179	SS94A1	6.6-12.6	30.0	5.000	1.5% max
50F5180	SS94A1B	4.5-8.0	17.5	1.875	1.5% max
50F5181	SS94A1F†	6.6-12.6	30.0	25.000	1.5% max
50F5182	SS94A2	6.6-12.6	30.0	5.000	1.5% max

*Nominal at 8VDC Supply *except* **SS94A1B** at 5VDC.
†High sensitivity.

Stock No.	Type	1-5	6-10	11-15	16-20
50F5179	SS94A1	14.70	13.71	12.86	12.10
50F5180	SS94A1B	14.70	13.71	12.86	12.10
50F5181	SS94A1F	17.14	15.99	14.99	14.11
50F5182	SS94A2	17.58	16.41	15.38	14.48

(5087) (de51476)

9SS SERIES HALL-EFFECT TRANSDUCER



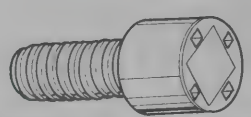
Linear output transducer operates by magnetic field. Thin ceramic package. Supply voltage: 8-16VDC. Supply current: 19mA. Sensitivity at 12VDC: 7.5MV/gauss at 25°C.

Stock No.	Type	1-5	6-10	11-15	16-20
23F2223	91SS12-2	11.54	10.77	10.09	9.50

(5088) (de51477)

MG SERIES BAR MAGNETS

102 MG11 (8-32 Aluminum Thread)



106 MG10 (¼-20 Plastic Thread)

101 MG7

Bar magnets are ideal for sensors with unipolar magnetic characteristics. Gauss level @ 25°C: 470. Gap distance: 0.100″ (2.54). Other threaded bushing, bar, ring magnets, and ring magnets with alternate North and South poles for use with bipolar magnetic sensors are available; *contact your local Newark sales office.*

Stock No.	Type	Dimensions		Gauss Level @	
		Length	Outside Dia.	0.050″	0.100″
23F2226	101MG7	0.25″ (6.35)	0.25″ (6.35)	755	470
23F2229	102MG11	0.67″ (17.02)	0.31″ (7.87)	755	205
23F2237	106MG10	0.93″ (23.62)	0.40″ (10.16)	1600	940

Stock No.	Type	1-5	6-10	11-15	16-20
23F2226	101MG7	3.94	3.68	3.45	3.24
23F2229	102MG11	7.10	6.63	6.21	5.85
23F2237	106MG10	10.48	9.78	9.17	8.63

(5177) (ne51475)

AT NEWARK, YOUR ORDER IS OUR FIRST PRIORITY.

TYPES SS4/SS1 HALL-EFFECT SENSORS

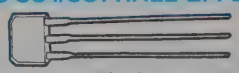


Fig. 1

Fig. 2

Position sensors have digital current sink output. **Types SS4** are for through-hole TO92 PC board mounting. **Types SS5** have SOT89 package for surface mount. **SS4** and **SS5 series** feature temperature compensation. Operating speed: 0 to over 100kHz. Supply voltage: 3.8-24VDC. Output voltage: 0.4V max. Dimensions: PC board packages are 0.160 × 0.118″ (4.06 × 3.00); surface mount packages are 0.177 × 0.136 × 0.059″ (4.50 × 3.45 × 1.50). **Type SS19** is SOT89 package for surface mount. All sensors can be supplied on tape and reel. **Type SS5 series** surface mount versions supplied standard in tape and reel.

PC BOARD

Stock No.	Type	Fig.	Magnetics	Supply Current	Gauss Level @ 25°C		
					Max. OP	Min. RL	Min. DIF.
94F5370	SS41	1	Bipolar	8.7mA	40	–40	80
93F6656	SS411A	1	Bipolar	10.0mA	60	–60	15
93F6655	SS443A	1	Unipolar	10.0mA	180	75	25
93F6654	SS441A	1	Unipolar	10.0mA	115	20	20
93F9228	SS461A	1	Latch	10.0mA	85	–85	50
50F5176	SS466A	1	Latch	10.0mA	180	–180	200
SURFACE MOUNT							
50F5172	SS51T	2	Bipolar	8.7mA	40	–40	80
92F3006	SS511AT	2	Bipolar	10.0mA	60	–60	15
92F3002	SS566AT	2	Latch	10.0mA	180	–180	200

MINIATURE LINEAR PC BOARD SENSORS

Stock No.	Type	Supply VDC	Supply mA	Sensitivity* MV/Gauss
95F5206	SS19	4-10	4.0	0.9
95F5207	SS49	4-10	4.0	0.9
52F1662	SS495A	4.5-10.5	7.0	3.125 ± 0.125
52F1663	SS495A1	4.5-10.5	7.0	3.125 ± 0.094
48F2830	SS495A2	4.5-10.5	7.0	3.125 ± 0.156
48F2831	SS496A	4.5-10.5	7.0	2.50 ± 0.175
48F2832	SS496A1	4.5-10.5	7.0	2.50 ± 0.075

* Nominal @ 5.0VDC supply

Stock No.	Type	1-5	6-10	11-15	16-20
94F5370	SS41	1.83	1.71	1.60	1.51
93F6656	SS411A	2.66	2.49	2.33	2.20
93F6655	SS443A	2.11	1.97	1.85	1.74
93F6654	SS441A	2.66	2.49	2.33	2.20
93F9228	SS461A	3.16	2.95	2.77	2.61
50F5176	SS466A	2.11	1.97	1.85	1.74
50F5172	SS51T	2.05	1.92	1.80	1.69
48F2830	SS495A2	2.79	2.60	2.44	2.30
48F2831	SS496A	3.69	3.45	3.23	3.04
48F2832	SS496A1	4.72	4.40	4.13	3.89
92F3006	SS511AT	3.38	3.16	2.96	2.79
92F3002	SS566AT	2.72	2.54	2.38	2.24
95F5206	SS19	2.11	1.97	1.85	1.74
95F5207	SS49	1.89	1.76	1.65	1.56
52F1662	SS495A	3.83	3.57	3.35	3.15
52F1663	SS495A1	4.88	4.56	4.27	4.02

(5179) (ne51481)

2SSP/SS2 SERIES ULTRA-SENSITIVE MAGNETICALLY OPERATED SENSORS

2SSP/2SS52M

SS2

Feature magneto-resistive sensor with digital current sink output. Can be operated with either north or south magnetic pole. 3-pin, in-line PC board terminals on 0.100″ (2.54) mounting centers except **type 2SS52M**, which is 0.050″(1.27). For **SS21** and **SS22** output voltage: 0.4V max. Typical OP @ 25°C: 15 gauss. Typical RL @ 25°C: 11 gauss. Typical DF @ 25°C:4. 0.3″ × 0.3″ (7.62 × 7.62), with epoxy chip protection. **Type 2SSP** and **type 2SS52M** 0.18″ × 0.18″ (4.57 × 4.57) plastic package.

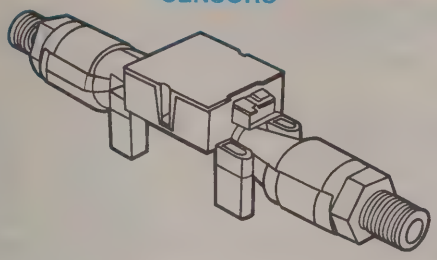
Stock No.	Type	Operate Gauss	Supply Voltage	Supply Current
50F5177	SS21PE	15	4.5-5.5VDC	10mA
50F5178	SS22PE	15	6-24VDC	13.5mA
95F5204	2SSP	15	6-24VDC	13.5mA
48F2833	2SS52M	25	3.8-30VDC	6mA

Stock No.	Type	1-5	6-10	11-15	16-20
50F5177	SS21PE	7.13	6.66	6.24	5.88
50F5178	SS22PE	7.13	6.66	6.24	5.88
95F5204	2SSP	4.27	3.99	3.74	3.52
48F2833	2SS52M	3.60	3.36	3.15	2.97

(5178) (ne51478)

PRESSURE SENSORS

AWM 5000 SERIES MICROBRIDGE HIGHFLOW AIRFLOW SENSORS

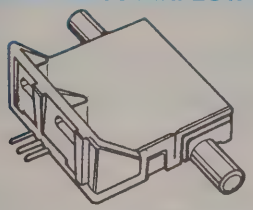


Sensors feature a venturi-type flow housing. They measure flow as high as 20 standard liters per minute (SLPM) while inducing a maximum pressure drop of 2.25″ H_2O. The microbridge chip is in direct contact with the flow stream, greatly reducing error possibilities due to orifice or bypass channel clogging. Maximum output voltage: 5.0VDC. Supply voltage (recommended excitation): 10VDC. Common mode pressure 50PSI max. Gas calibration: CO_2, N_2, and Argon. Weight: 30 grams. Operating temperature range: –20°C to +70°C. Response time 60 msec max. Dimensions: 1.4H x 1.3W x 6.4″ L.

Stock No.	Type	Measurement	Flow Range	Each
92F2998	AWM5101VN	Massflow	0-5SPLM	155.24
92F3001	AWM5104VN	Massflow	0-20SPLM	155.24

(5138) (ne03910)

MICROBRIDGE MASS AIRFLOW SENSORS



Operates on theory of heat transfer due to mass airflow directed across surface of a micromachined silicon sensing element. Output voltage mV or V varies in proportion to mass air or other gas flow through inlet and outlet ports of package. Accurate sensing of low differential pressure from 0.001″ to 4.000″ H_2O. Supply voltage (recommended excitation): 10VDC. Common mode pressure: 25PSI max. Weight: 10.8 grams. Operating temperature range: –25°C to +85°C. Response time: 1.0 msec typ. Dimensions: 1.2H x 0.6W x 1.2″D.

AMPLIFIED OUTPUTS

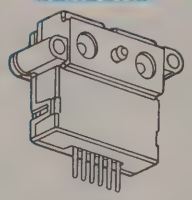
Stock No.	Type	Measurement	Flow Range	Output	Each
50F5292	AWM3100V	Massflow	0-200 SCCM	5.0VDC	88.14
50F5278	AWM3300V	Massflow	0-1000 SCCM	5.0VDC	88.14

NON-AMPLIFIED OUTPUTS

93F6640	AWM2100V	Massflow	0-200 SCCM	44.5mV	71.46
92F2996	AWM2200V	Diff Pressure	0-4 in H_2O	31.75mV	73.58
92F2997	AWM2300V	Massflow	0-1000 SCCM	55.5mV	71.46

(5139) (ne03911)

AWM 40000 SERIES MICROBRIDGE MASS GAS-FLOW SENSORS



Provides mass gas-flow sensing in a unique manifold mount package. Provides highly accurate, stable, and repeatable performance. Features: precision ceramic flow tube resulting in a non-outgassing flow channel, high common mode pressure capability (250 PSI max.), high operating temperature (to +125°C), and hydrogen compatibility. Provides either mV or V output for flow ranges up to 6 standard liters per minute. Recommended excitation: 10VDC. Dimensions: 1.2H x 0.5W x 1.3″D. Response time: 1 msec. typ.

NON-AMPLIFIED

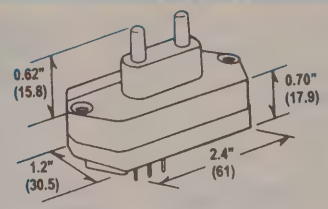
Stock No.	Type	Flow Range	Output	Each
16F3167	AWM42150VH	0-25 SCCM*	8.5mV	100.65
16F3168	AWM42300V	0-1000 SCCM*	55mV	85.74

AMPLIFIED

16F3169	AWM43300V	0-1000 SCCM*	5.0VDC	110.27
16F3170	AWM43600V	0-6 SLPM**	5.0VDC	115.19

*Standard cubic centimeters per minute.
**Standard liters per minute.
(5163) (ne08155)

140PC AND 160PC SERIES PRESSURE SENSORS



140PC series sensors are for use in applications where high accuracy is desired. Supply current is 20mA max. Full-scale output: 5V. Shock specs meet MIL-STD-202, Method 213. Temperature range: –40°C to 85°C. **160PC series** pressure sensors are for use in low-pressure measurement applications. Recommended supply voltage: 8VDC. Input current: 8mA. Differential styles have two ports that allow connection to two pressure sources, and differential style functions same as gage when Port 1 is left open to ambient temperatures.

Stock No.	Type	Pressure Range	Measurement	Each
51F2590	142PC01D	0-1 PSI	Differential	85.90
23F2249	142PC05D	0-5 PSI	Differential	78.66
51F2591	142PC15D	0-15 PSI	Differential	78.66
23F2251	142PC15A	0-15 PSI	Absolute	85.90
51F2592	142PC30D	0-30 PSI	Differential	78.66
51F2594	142PC30A	0-30 PSI	Absolute	85.90
51F2595	143PC03D	±3 PSI	Differential	78.66
23F2410	162PC01D	0-27.68″ H_2O	Differential	109.34
50F5288	163PC01D36	–5-+5″ H_2O	Differential	109.34
50F5290	163PC01D75	–2.5-2.5″ H_2O	Differential	109.34
50F5291	164PC01D76	0-5″ H_2O	Differential	109.34

(5136) (ne03223)

180PC SERIES MINIATURE PRESSURE SENSORS

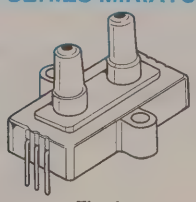


Fig. 1

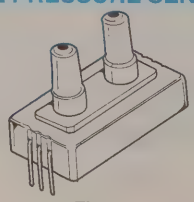


Fig. 2

Solid-state sensors are temperature compensated and amplified. Analog output voltage signal is linearly proportional to input pressure. Gage styles have one port with vent hole at the Port 1 location. Differential styles have two ports that allow connection to two pressure sources, and differential style functions same as gage when Port 1 is left open to ambient temperatures. Full-scale output: 5V. Recommended supply voltage: 8VDC. Dimensions: 1.2W x 0.6″W. Housing mount versions available; *contact your local Newark sales office.*

TERMINAL MOUNT

Stock No.	Type	Fig.	Pressure Range	Measurement	Each
50F5231	185PC05DT	1	0-5	Differential	73.89
50F5232	185PC05DH	1	0-5	Differential	73.89
50F5237	185PC15AT	2	0-15	Absolute	79.17

(5137) (ne03224)

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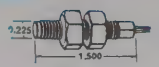
MAGNETIC SENSORS

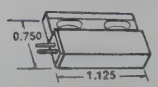
59025

59050

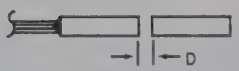


59065

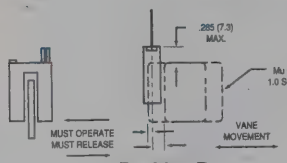
59135



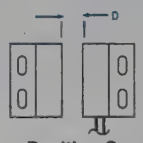
59125



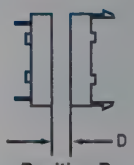
Position A



Position B



Position C



Position D

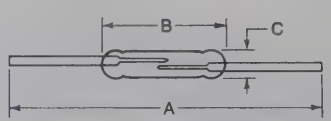
Recommended Activating Positions

Sensor contacts are activated by an approaching magnetic actuator or selected magnet and released as it is withdrawn. Sensors are connected in series with the load. No additional power is required for operation. They are unaffected by any non-ferrous material placed between sensor and actuator. Contacts are hermetically sealed for protection from hostile environments. Operating Characteristics: Typical operate time: 1ms. Operation and storage temperature: –40°C to +105°C. Shock without false operation: 50G's 11ms, ½ sine wave. Typical life @ 5Vdc, 10 ma. 50×10^6. **Type 59150** is identical to **59145** except leads exit from opposite ends of package. Notes: 1) 59085 contains both sensor and magnet. Actuation is obtained by inserting a ferrous vane between them. Operate and release positions depend on thickness of vane. (See position B.) 2) 59050 PINS 0.0185D x 0.130L, 0.8 spacing. 3) 59125 terminals 0.025 ., 0.240L, 0.100 spacing. 4) 59135-12″ Flying leads, 20 AWG, 19 x 32 teflon-insulat. 200°C, 300V, UL 1180. 5) All others-12″ Flying leads, 24 AWG, 7/32 PVC, 105°C, UL 1430 or UL 1569, 59135 Series CSA approved

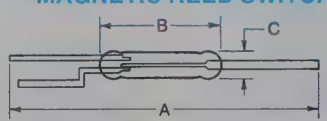
Sensors					Matching Actuators					
Stock No.	Type	Must Operate Distance	Must Release Distance	1-24	Stock No.	Type	Actuator Position	1-24	25-99	100-249
89F1393	59025-010	0.150″	0.800″	4.20	89F1386	57025-000	A	3.32	2.86	2.40
94F6952	59025-020	0.150″	0.800″	4.80	89F1386	57025-000	A	3.32	2.86	2.40
50F7990	59025-030	0.150″	0.800″	6.90	89F1386	57025-000	A	3.32	2.86	2.40
89F1394	59050-010	0.150″	0.750″	2.24	89F1387	57050-000	D	4.40	3.78	3.18
50F7991	59050-030	0.150″	0.750″	5.36	89F1387	57050-000	D	4.40	3.78	3.18
89F1395	59065-010	0.150″	0.800″	5.34	89F1388	57065-000	A	4.18	3.59	3.02
50F7992	59065-030	0.150″	0.800″	8.04	89F1389	57070-000	A	4.18	3.59	3.02
89F1396	59070-010	0.150″	0.800″	5.34	98F1389	57070-000	A	0.61	0.47	0.42
50F7975	59070-030	0.150″	0.800″	8.07	89F1389	57070-000	A	4.18	3.59	3.02
94F6953	59085-030	0.100″	0.800″	12.48	...	...	B	...	...	...
89F1397	59085-040	0.100″	.250″	9.48	...	...	B	...	...	...
89F1402	59135-010	0.350″	1.150″	9.00	89F1392	57135-000	C	4.67	4.01	3.37
50F1080	59135-020	0.350″	1.150″	9.60	89F1392	57135-000	C	4.67	4.01	3.37
94F6935	59135-030	0.350″	1.150″	11.69	89F1392	57135-000	C	4.67	4.01	3.37
89F1403	59140-010	0.175″	0.800″	4.80	89F1400	57140-000	C	4.12	3.54	2.98
50F7977	59140-030	0.175″	0.800″	7.50	89F1400	57140-000	C	4.12	3.54	2.98
89F1404	59145-010	0.225″	0.800″	4.80	89F1401	57145-000	C	3.17	2.73	2.29
50F7978	59145-030	0.225″	0.800″	7.50	89F1401	57145-000	C	3.17	2.73	2.29
94F6936	59150-010	0.225″	0.800″	4.73	50F7988	57150-000	C	3.51	3.02	2.54
50F7979	59150-030	0.225″	0.800″	7.92	50F7988	57150-000	C	3.51	3.02	2.54

(5217) (de04095)

MAGNETIC REED SWITCHES



Form A



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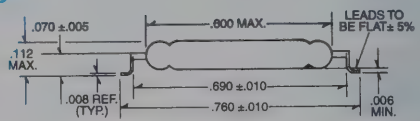


SMD

Reed switches are activated by a magnetic field from either a magnet or coil. Contacts are hermetically sealed in inert gas to provide long life with stable electrical and operating characteristics. *See Hamlin Reed Relays and Position Sensors for packaged switches.* *Combination of switching voltage and current should not exceed wattage rating.

			Maximum DC Contact Ratings*				Size						
Stock No.	Type	Contact Form	Watts	Volts	Amps	Holdoff	A	B	C	Pull-In Amp-Turns	1-24	25-99	100-249
95F5874	MITI-3	A	3	100	.25	150	1.23″	.270″	.072″	7-21	3.37	2.89	2.63
50F7984	MDSR-7	A	10	200	.5	250	1.59″	.500″	.072″	10-25	1.62	1.39	1.17
44F8358	MDRR-6-185	A	10	300	.5	400	1.59″	.600″	.090″	17-28	2.46	2.12	1.78
44F8356	MDSR-4-185	A	10	200	.5	250	1.59″	.600″	.090″	12-23	1.28	1.10	0.92
50F7985	MDCG-4	A	10	200	.5	250	1.59″	.600″	.090″	12-23	1.23	1.05	0.96
87F2919	MLRR-4	A	20	200	1.0	250	1.59″	.600″	.105″	17-28	1.59	1.37	1.15
44F8354	MARR-5-196	A	10	1000	.5	1500	2.23″	.800″	.105″	22-33	3.53	3.03	2.55
95F5875	MRPR-8	A	50	250	1.5	750	2.23″	.800″	.112″	22-38	2.15	1.85	1.55
33F1202	MDRR-DT-175	C	5	175	.25	200	2.06″	.580″	.105″	15-25	4.58	3.94	3.31
33F1080	DRR-DTH-75-80	C	30	500	.5	1200	3.38″	1.56″	.218″	50-65	12.66	10.89	9.15
33F1081	DRT-DTH	C	50	500	1.5	1000	3.38″	1.56″	.218″	50-65	15.12	13.00	10.92
33F1079	DRR-129-425	A	100	400	3.0	600	3.25″	2.00″	.207″	47-68	6.34	5.45	4.58

(5218) (de04096)

MAGNETS

These magnets are for use with the Reed Switches shown above. Magnet should be positioned parallel to the switch for proper activation.

Stock No.	Type	Dimensions	Gauss at Pole Reference	Use with A.T. Range	1-24	25-99	100-249
33F1090	H31	.062 sq.″ x .500″	700	10-38	1.41	1.21	1.02
33F1091	H32	.19 sq.″ x 1.00″	1400	10-38	3.53	3.03	2.55
33F1092	H33	.12 sq.″ x .750″	1200	10-38	1.93	1.66	1.39
33F1093	H34	.24 sq.″ 1.00″	1300	10-68	4.00	3.44	2.89
89F1405	315	.12 Dia./.59″	1000	10-38	2.18	1.88	1.58
89F1406	420	.15 Dia./.78″	1150	10-38	1.66	1.43	1.20
89F1407	625	.23 Dia./.98″	1500	10-68	5.29	4.55	3.82
92F2576	H36	.182 Dia./1.00″	1600	10-68	2.34	2.02	1.69

(5219) (de04097)

EE SERIES PHOTOMICROSENSORS

Photomicrosensors offer solutions to design problems for commercial and light industrial applications. Typical applications include office automation, computer peripherals, and vending machines. Non-contact. **Types EE-SX** and **EE-SPX** are slot type, **EE-SPY**, **EE-SY**, and **EE-SPZ** are reflective type. In description, LO = Light On, DO = Dark On.

AMPLIFIED

Stock No.	Type	Description	1-24
52F3827	EE-SX670	Standard Amp. w/LO/DO	16.78
52F3831	EE-SX670A	Same as EE670 except Indicator Logic	16.78
52F3828	EE-SX671	L-Shaped Amp. w/LO/DO	17.13
52F3832	EE-SX671A	Same as EE671 except Indicator Logic	17.13
52F3829	EE-SX672	T-Shaped Amp. w/LO/DO	17.33
52F3833	EE-SX672A	Same as EE672 except Indicator Logic	17.33
52F3830	EE-SX673	Close Mount w/LO/DO	17.94
52F3834	EE-SX673A	Same as EE673 except Indicator Logic	17.94
48F3659	EE-SX770	5mm Slot, w/2M Cable, DO	21.68
48F3660	EE-SX771	5mm Slot, w/2M Cable, DO, L-shaped	22.95
48F3661	EE-SX772	5mm Slot, w/2M Cable, DO, T-shaped	23.92
48F3662	EE-SX870	5mm Slot, w/2M Cable, LO	21.68
48F3663	EE-SX871	5mm Slot, w/2M Cable, LO, L-shaped	22.95
48F3664	EE-SX872	5mm Slot, w/2M Cable, LO, T-shaped	23.92
52F3843	EE-SY671	Horizontal Sens. w/LO/DO	19.69
52F3844	EE-SY672	Vertical Sens. w/LO/DO	19.69

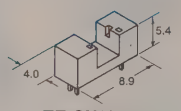
NON-AMPLIFIED

52F3866	EE-SX1025	2.8mm Slot Width	1.93
52F3861	EE-SX1088-W1	Phototrans. Output & 24″ Wire Harness	9.33

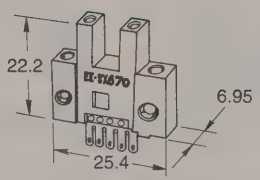
CONNECTORS FOR EE SERIES

Stock No.	Type	1-24
52F3857	EE-1001	2.24
52F3858	EE-1006	10.73

(5258) (ne07073)



EE-SX1025



EE-SX670

PHOTOMICROSENSORS

AMPLIFIED, LIGHT MODULATION

Stock No.	Type	Description	1-24
52F3853	EE-SPW311	1M Sens. Dist.; Separate w/Pulse Module; DO	78.50
16F7244	EE-SPW321	Compact, Transmissive, DO	133.96
16F7249	EE-SPX301	Transmissive, DO	33.84
52F3838	EE-SPX303	13mm Slot Width; DO	35.20
52F3837	EE-SPX403	13mm Slot Width; LO	35.20
52F3835	EE-SPX405-W2A	Pulse Module w/1M Cable; LO	56.17
52F3842	EE-SPY302	Vertical Sensing; DO	33.84
52F3839	EE-SPY401	Horizoning Sensing; LO	33.84
52F3841	EE-SPY402	Vertical Sensing; LO	33.84
52F3851	EE-SPY411	Horz. Sens. w/Conv. Lens; LO	33.84
16F7255	EE-SPY412	Specialized Detection, Convergent Reflective, LO	33.84
52F3852	EE-SPZ401-A	Long-Distance, Retro-Reflective; LO	45.54

NON-AMPLIFIED, MINIATURE TRANSMISSIVE

83F5354	EE-SX1103	2mm Slot Width, 2.8mm Depth, Photo-Transistor	1.21
83F5355	EE-SX1105	2mm Slot Width, 2.6mm Depth, Photo-Transistor	1.21
83F5356	EE-SX1106	3mm Slot Width, 3.9mm Depth, Photo-Transistor	1.21

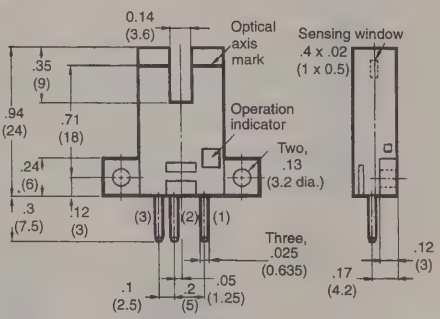
NON-AMPLIFIED SENSORS WITH PHOTO IC OUTPUT, TRANSMISSIVE

16F7247	EE-SX4009-P1	With AMP, Connector, LO	3.59

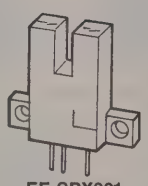
NON-AMPLIFIED, REFLECTIVE, PCB, EXTERNAL LIGHT INTERFERENCE REDUCTION

16F7251	EE-SF5-B	Compact, Photo-Transistor	4.65

(5264) (ne08328)



EE-SPX301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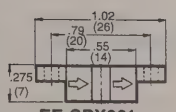

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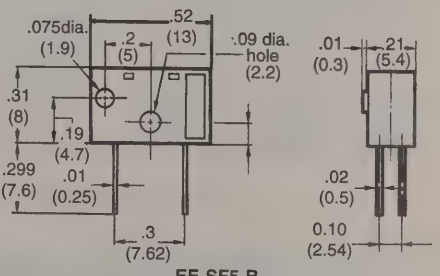
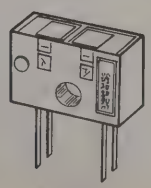
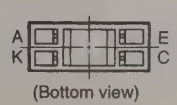


EE-SF5-B


EE-SF5-B



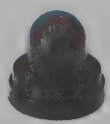
(Bottom view)
EE-SF5-B

CAN'T LOCATE A PARTICULAR PRODUCT?
NEWARK STOCKS THOUSANDS OF ITEMS NOT LISTED IN THIS CATALOG. CALL US TODAY!

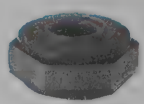
SWITCH AND CIRCUIT BREAKER SEALS

TOTAL-ENCLOSURE PUSHBUTTON BOOTS

N-3030
N-3030RFI
NH-3030
NC-3030
N-5040G/R



1221/12



Shaft Seals

Gray silicone rubber boot completely covers plunger. Resists sunlight, weather, salt spray, ozone, most acids. **N-3030-RFI** is an EMI shielded boot. Meet MIL-B-5423. UL recognized, CSA certified.

Stock No.	Type	Thread Size	Flats	Plunger Height
30F006	N3030	15/32-32	0.625" (15.88)	0.281" (7.14)
30F007	NC3030	15/32-32	0.625" (15.88)	0.438" (11.13)
30F008	NH3030	1/2-32	0.625" (15.88)	0.281" (7.14)
30F012	N5040	1/4-40	0.375" (9.53)	0.141" (3.58)
30F065	N-5040-G	1/4-32	0.375" (9.53)	0.203" (5.16)
30F066	N5040R	1/4-40	0.375" (9.53)	0.203" (5.16)
50F3831	1221/12-29	3/8-27NS-2B	0.641" (16.28)	0.609" (15.47)
97F9122	N3030RFI	15/32-32	0.625" (15.88)	0.281" (7.14)

NON-LOCKING ROTARY SHAFT SEALS

For standard rotary switch shafts passing through panels or housings. Meet MIL-B-5423. UL recognized, CSA certified.

Stock No.	Type	Thread	Hex Flats
30F013	N9030 X 1/4	3/8-32	0.500" (12.70)
30F014	N9040 X 1/8	1/4-32	0.375" (9.53)

Stock No.	Type	1-49	50-99
30F006	N3030	3.05	2.73
30F007	NC3030	3.05	2.73
30F008	NH3030	3.13	2.80
30F012	N5040	3.63	3.25
30F065	N-5040-G	3.63	3.25
30F066	N5040R	3.63	3.25
50F3831	1221/12-29	2.08	1.86
97F9122	N3030RFI	8.46	7.57
30F013	N9030 X 1/4	2.65	2.38
30F014	N9040 X 1/8	2.65	2.38

(5076) (de51012)

SNAPSEELS™ STANDARD SWITCH SEALS

1211/5

1111/4

Black neoprene boot. Operating temperature: –65°F to +300°F. Available in push-button, toggle, and rotary models. *Order mounting shoulder nuts separately from table below.*

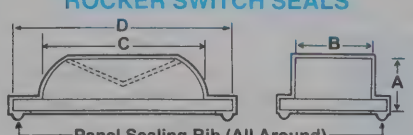
Stock No.	Type	Style Switch	1-49	50-99
30F097	1211/5	Push-Button	1.11	0.99
30F098	1111/4	Toggle	1.11	0.99

MOUNTING SHOULDER NUTS FOR SNAPSEELS

Stock No.	Type	Thread Size	For Use With Snapseel Type	1-49	50-99	100-249	250-499
50F3832	2200/113/1	15/32-32	1111/4	0.34	0.31	0.27	0.25
50F3833	2200/113/2	3/8-27	1211/5	0.34	0.31	0.27	0.25

(5075) (de51010)

ROCKER SWITCH SEALS

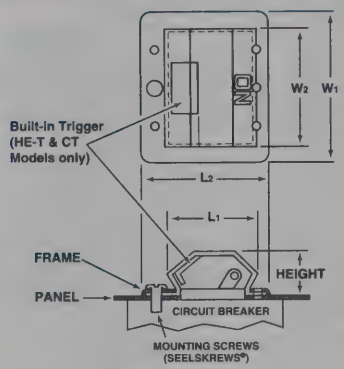


Type 1113/63 are single pole. **Type 1113/62** are double pole. UL recognized, CSA certified.

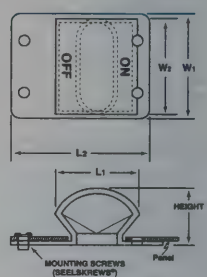
Stock No.	Type	A	B	C	D	1-49	50-99	100-249
51F3908	1113-63	0.297"	0.406"	0.687"	1.093"	1.98	1.77	1.58
51F3907	1113-62	0.297"	0.797"	0.687"	1.093"	2.18	1.95	1.74

Contoured rocker switch seals (indicated by dotted line in illustration).
(5045) (de03550)

CIRCUIT BREAKER BOOTS



HE10 Series



C1113 Series

E-SEEL® sealing boots for lever-actuated style circuit breakers provide a dust- and watertight seal. Boot markings: **HE10 series**, ON; **C1113 series**, ON-OFF. Height: **HE10 series**, 1⅞"; **C1113 series**, 13/16". Operational temperature range: –80°F to +400°F. Boot material: APM-RUBRGLAS™ (transparent silicone rubber). Front-panel mounted boots supplied with cadmium-plated steel frame. **Each boot requires 2 screws per pole. Type HE1020** meets M5423/14-06. UL recognized, CSA certified.

HE10 SERIES FRONT-PANEL MOUNTED BOOTS

Stock No.	Type	No. of Poles	L1	L2	W1	W2	1-24	25-49
81F067	HE-1020	2	1⅞"	2 21/32"	2 7/32"	1 19/32"	16.98	15.62

C1113 SERIES BACK-OF-PANEL MOUNTED BOOTS

Stock No.	Type	No. of Poles	L1	L2	W1	W2	1-49	50-99
16F4919	C1113/40	1	13/16"	2"	¾"	2 1/32"	9.63	8.62

(5164) (ne08312)

STANDARD TOGGLE SWITCH SEALS

Half-Taggle
N-1030B
N-5032B

Full-Toggle
N-1030
N-5030L

Armored
N-1030A

For hostile environments. Withstand pressures of 15psi internal and 1500 psi external, except **N5032B** 10 psi. Silicone rubber boots contain their own hex nuts serving both as a mechanical seal and mounting nut. Boots resistant to salt water, most acids and ozone. Flexible from –94°F to +400°F. Meet MIL-B-5423. UL recognized, CSA certified.

Type	Throat or I.D.	Height	Description	Flats
N-1030	0.219"	0.844"	Enclosed	0.625"
N-1030A	0.219"	0.875"	Metal Cap	0.625"
N-1030B	0.078"	0.437"	Open Top	0.625"
N-5030	0.104"	0.422"	Enclosed	0.375"
N-5030L	0.062"	0.500"	Enclosed	0.375"
N-5032B	0.047"	0.250"	Open Top	0.375"

Stock No.	Type	Thread Size	1-49	50-99
30F000	N1030	15/32-32	3.05	2.73
30F001	N1030A	15/32-32	5.58	4.99
30F002	N1030B	15/32-32	3.05	2.73
30F011	N5030	1/4-40	3.63	3.25
30F005	N5030L	1/4-40	3.63	3.25
30F003	N5032B	1/4-40	3.63	3.25

(5077) (de51015)

STAINLESS STEEL ARMORED PUSHBUTTON BOOTS

1238/1

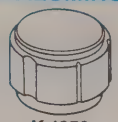
All boots listed have a height of 0.984" (25.00). UL recognized, CSA certified.

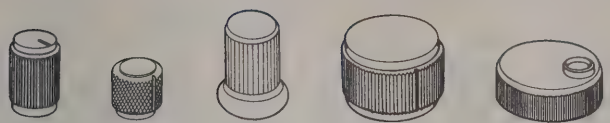
Stock No.	Type*	O.D.	Throat (I.D.)	1-49	50-99
51F3906	1238-1	0.750" (19.05)	0.422" (10.72)	7.51	6.72
16F4922	1238/5	0.750" (19.05)	0.422" (10.72)	8.96	8.01

*Features a 1¼" diameter actuator button.
(5165) (ne08313)

KNOBS

ANODIZED ALUMINUM KNOBS


K-1250


KB-500 KD-500 KFS-400 KN-900 KN-1751

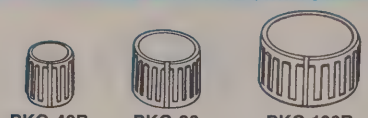
KFS-1751s KS-500 KLN KPN

Type number suffix = shaft diameter in inches, except(°) = concentric 0.250″ shaft bottom with 0.125″ shaft top.

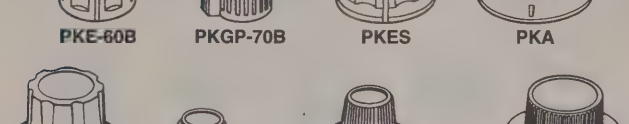
Stock No.	Type	Dia.	Hgt.	1-24
77B7780	KLN-500A 1/8	0.500″	0.625″	2.70
77B7781	KLN-500B 1/8	0.500″	0.625″	2.70
20F949	KLN-700A-1/4	0.740″	0.625″	3.11
20F950	KLN-700B-1/4	0.740″	0.625″	3.11
20F952	KLN-900B-1/4	0.940″	0.625″	3.68
20F953	KLN-1250A-1/4	1.250″	0.625″	4.92
20F954	KLN-1250B-1/4	1.250″	0.625″	4.92
61F1176	KN500A-1/4	0.500″	0.625″	2.58
57F2288	KN-500B-1/4	0.500″	0.625″	2.58
61F1177	KN500A-1/8	0.500″	0.625″	2.58
57F2287	KN-500B-1/8	0.500″	0.625″	2.58
61F1178	KN-700A-1/4	0.750″	0.625″	2.98
57F2289	KN-700B-1/4	0.750″	0.625″	4.22
61F1179	KN-900A-1/4	0.940″	0.625″	3.56
57F2290	KN-900B-1/4	0.940″	0.625″	3.56
61F1180	KN-1250A-1/4	1.250″	0.625″	4.79
57F2292	KN-1250B-1/4	1.250″	0.625″	4.79
57F2411	KN-1251B-1/4	1.250″	0.625″	4.75
57F2295	KN-1751AS-1/4	1.750″	0.625″	8.86
57F2296	KN-1751BS-1/4	1.750″	0.625″	8.86
57F2307	KN-501BA-1/8	0.500″	0.625″	3.01
57F2418	KN-501BA-1/4	0.500″	0.625″	3.01
57F2413	KN-700BA-1/4	0.750″	0.625″	3.44
61F1183	KN-900AB-1/4	0.940″	0.625″	4.04
57F2300	KN-900BA-1/4	0.940″	0.625″	4.04
57F2302	KN-1250BA-1/4	1.250″	0.625″	5.39
57F2313	KPN-500A-1/4	0.500″	0.630″	6.13
57F2314	KPN-500B-1/4	0.500″	0.630″	6.13
77B7812	KPN-500B 1/8	0.500″	0.370″	6.13
57F2315	KPN-700A-1/4	0.750″	0.630″	7.09
57F2316	KPN-700B-1/4	0.750″	0.630″	6.48
77B7815	KPN-900A 1/4	0.940″	0.630″	7.60
57F2319	KPN-900B-1/4	0.940″	0.630″	7.60
57F2306	KN-5700B-1/4	0.750″	0.620″	4.97
57F2311	KNS-501BA-1/4	0.750″	0.620″	3.83
57F2310	KNS-501BA-1/8	0.750″	0.620″	3.83
57F2312	KNS-701BA-1/4	0.750″	0.625″	4.27
44F1941	KFS-400B 1/8	0.500″	0.590″	3.00
44F1942	KFS-500B 1/4	0.630″	0.630″	3.71
44F1943	KFS-600B 1/4	1.000″	0.810″	4.95
57F2322	KB-500A-1/4	0.470″	0.790″	2.72
57F2419	KB-500B-1/4	0.470″	0.490″	2.72
57F2321	KB-500A-1/8	0.500″	0.790″	2.72
57F2323	KB-500B-1/8	0.500″	0.790″	2.72
61F920	KS-500A-1/4	0.750″	0.620″	3.11
61F921	KS-500B-1/4	0.750″	0.620″	3.11
57F2272	KS-500A-1/8	0.750″	0.620″	3.11
57F2273	KS-500B-1/8	0.750″	0.620″	3.11
61F942	KS-700B-1/4	1.120″	0.620″	3.62
61F937	K-700A-1/4	0.750″	0.625″	2.63
61F1171	KD-500A-1/4	0.500″	0.625″	2.61
57F2284	KD-500B-1/4	0.500″	0.625″	2.51
61F1172	KD-500A-1/8	0.500″	0.625″	2.51
57F2423	KD-500B-1/8	0.500″	0.625″	2.51
61F1173	KD-700A-1/4	0.750″	0.625″	2.83
57F2285	KD-700B-1/4	0.750″	0.625″	2.83
61F1174	KD-900A-1/4	0.940″	0.625″	3.44
57F2286	KD-1250B-1/4	1.250″	0.750″	4.91

(5211) (de02456)

PLASTIC KNOBS WITH ALUMINUM INLAYS


PKG-40B PKG-90 PKG-100B

PKE-60B PKGP-70B PKES PKA


PKB PKD-60B PKS-1106B PKS-1104B PKS-90B

PKF PK-50B PKA PKB

Stock No.	Type	Dia.	Hgt.	1-24
57F2333	PK-50B-1/8	0.750″	0.550″	0.86
57F2334	PK-50B-1/4	0.750″	0.590″	0.86
57F2335	PK-70B-1/4	1.000″	0.590″	0.94
57F2354	PK-1100B-1/4	0.700″	0.530″	1.04
57F2368	PKG-40B-1/8	0.437″	0.472″	1.02
57F2370	PKG-50B-1/4	0.551″	0.512″	1.09
57F2369	PKG-50B-1/8	0.551″	0.512″	1.09
57F2371	PKG-70B-1/4	0.740″	0.559″	1.76
44F1944	PKG-90B-1/4	0.860″	0.555″	1.58
57F2372	PKG-100B-1/4	1.050″	0.555″	2.02
57F2374	PKGP-70B-1/4	0.740″	0.559″	1.81
57F2343	PKE-60B-1/4	0.625″	0.472″	1.04
57F2344	PKE-90B-1/4	0.890″	0.512″	1.19
57F2346	PKES-60B-1/4	0.740″	0.437″	1.02
57F2345	PKES-60B-1/8	0.740″	0.437″	1.02
57F2347	PKES-70B-1/4	0.848″	0.744″	1.09
57F2348	PKES-90B-1/4	1.012″	0.567″	1.17
57F2349	PKES-120B-1/4	1.291″	0.634″	1.24
57F2357	PKA-50B-1/4	0.787″	0.681″	1.02
57F2356	PKA-50B-1/8	0.787″	0.681″	1.02
57F2358	PKA-70B-1/4	0.984″	0.744″	1.17
57F2359	PKA-90B-1/4	1.360″	0.850″	1.79
57F2360	PKAP-70B-1/4	0.980″	0.750″	1.77
57F2341	PKB-70B-1/4	1.120″	0.600″	1.48
57F2342	PKB-90B-1/4	1.500″	0.820″	1.48
57F2337	PKD-60B-1/4	0.800″	0.520″	1.27
57F2338	PKD-70B-1/4	1.020″	0.610″	1.39
57F2339	PKD-60B-10-1/8	0.800″	0.520″	1.28
57F2340	PKD-70B-10-1/4	1.020″	0.610″	1.35
57F2364	PKS-1104B-1/4	1.160″	0.675″	1.37
57F2365	PKS-1103B-10-1/4	1.160″	0.675″	1.37
57F2366	PKS-1106B-1/4	1.160″	0.675″	1.44
57F2367	PKS-1105B-10-1/4	1.160″	0.675″	1.50
57F2362	PKS-90B-1/4	1.420″	0.590″	1.50
57F2363	PKS-90B-10-1/4	1.420″	0.590″	1.62
57F2424	PKF-50B-1/8	0.668″	0.668″	1.26

(5250) (de52106)

ALL PRODUCTS LISTED ARE STOCKED.

EH SERIES ABS KNOBS

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

Fig. 7

Fig. 8

Fig. 9

Fig. 10

Fig. 11

Fig. 12

EH71-0 SERIES 0.500″ (12.70) DIAMETER FOR 0.125″ (3.18) SHAFTS

Stock No.	Type	Description	Fig.	1-9
95F6979	EH71-0N1S	Round	1	2.14
95F6980	EH71-0C1S	Round with Line	2	2.57
95F6981	EH71-0D1S	Ring-Skirted	3	2.32
95F6982	EH71-0E1S	Ring-Skirted with Line	4	2.61
95F6983	EH71-0F1S	Dial with Arrow	5	3.30
95F6984	EH71-0P1S	Pointer	6	2.38
95F6985	EH71-0K1S	Ring-Skirted Pointer	7	2.61
95F6986	EH71-0NP1S	Round with Pointer	12	2.70

EH71-1 SERIES 0.700″ (17.78) DIAMETER FOR 0.250″ (6.35) SHAFTS

Stock No.	Type	Description	Fig.	1-9
95F6987	EH71-1N2S	Round	1	2.18
95F6988	EH71-1C2S	Round with Line	2	2.74
95F6989	EH71-1D2S	Ring-Skirted	3	2.41
95F6990	EH71-1E2S	Ring-Skirted with Line	4	2.76
95F6991	EH71-1F2S	Dial with Arrow	5	3.42
95F6992	EH71-1P2S	Pointer	6	2.49
95F6993	EH71-1K2S	Ring-Skirted Pointer	7	2.74
95F6994	EH71-1SB2S	Single Bar	8	2.82
95F6995	EH71-1DSB2S	Ring-Skirted Single Bar	9	2.90
95F6996	EH71-1GG2S	Double Bar	10	2.98
95F6997	EH71-1HH2S	Ring-Skirted Double Bar	11	3.05
95F6998	EH71-1NP2S	Round with Pointer	12	2.76

EH71-2 SERIES 0.900″ (22.86) DIAMETER FOR 0.250″ (6.35) SHAFTS

Stock No.	Type	Description	Fig.	1-9
95F6999	EH71-2N2S	Round	1	2.28
95F7000	EH71-2C2S	Round with Line	2	2.82
95F7003	EH71-2F2S	Dial with Arrow	5	3.94
95F7004	EH71-2P2S	Pointer	6	2.57
95F7008	EH71-2GG2S	Double Bar	10	3.03

EH71-3 SERIES 1.250″ (31.75) DIAMETER FOR 0.250″ (6.35) SHAFTS

Stock No.	Type	Description	Fig.	1-9
95F7011	EH71-3N2S	Round	1	2.65
95F7012	EH71-3C2S	Round with Line	2	2.84
95F7015	EH71-3F2S	Dial with Arrow	5	3.98

EH71-4 SERIES 1.750″ (44.45) DIAMETER FOR 0.250″ (6.35) SHAFTS

Stock No.	Type	Description	Fig.	1-9
95F7016	EH71-4N2S	Round	1	2.84
95F7017	EH71-4C2S	Round with Line	2	3.01
95F7019	EH71-4E2S	Ring-Skirted with Line	4	3.03

(5213) (de02646)

ES/EI SERIES CLAMP-TYPE KNOBS

Fig. 1

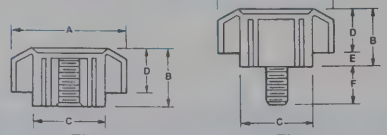


Fig. 2

Dimensions: A: 1.375″ (34.93) B: 0.750″ (19.05) C: 0.800″ (20.32) D: 0.390″ (9.91)

E1-20 SERIES FEMALE INSERT-TYPE KNOBS

Stock No.	Type	Fig.	Dimension F	Thread	1-9
95F7040	EI20-1032	1	...	10-32	4.14
95F7041	EI20-2520	1	...	¼-20	4.14

ES-20 SERIES THREADED STUD-TYPE KNOBS

Dimensions: A: 1.375″ (34.93) B: 0.750″ (19.05) C: 0.800″ (20.32) D: 0.390″ (9.91)

95F7043	ES20-252050	2	0.500	¼-20	7.06

(5214) (de02647)

3000 SERIES FINE KNURL INSTRUMENT KNOBS

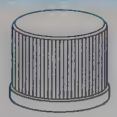


Fig. 1

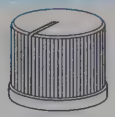
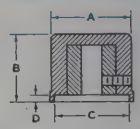


Fig. 2



3000 series ABS very fine knurl plastic knob was designed for high quality instrument requirements. Nickle-plated insert, two set screws and a black matte finish.

Stock No.	Type	Fig.	Dimensions (in.) A dia.	B dia.	C dia.	D dia.	Shaft	1-9
91F2233	3008-1B	1	0.500	0.625	0.430	0.070	0.125	2.49
91F2234	3008-2B	11	0.500	0.625	0.430	0.070	0.250	2.49
91F2235	3440-1B	2	0.500	0.625	0.430	0.070	0.125	2.80
91F2236	3440-2B	2	0.500	0.625	0.430	0.070	0.250	2.80
91F2237	3488-1B	1	0.720	0.620	0.625	0.030	0.125	2.49
91F2238	3488-2B	1	0.720	0.620	0.625	0.030	0.250	2.49
91F2239	3489-1B	2	0.720	0.620	0.625	0.030	0.125	2.80
91F2240	3489-2B	2	0.720	0.620	0.625	0.030	0.250	2.80
91F2241	3009-1B	1	0.850	0.600	0.680	0.125	0.125	3.63
91F2242	3009-2B	1	0.850	0.600	0.680	0.125	0.250	3.63
91F2243	3441-1B	2	0.850	0.600	0.680	0.125	0.125	3.94
91F2244	3441-2B	2	0.850	0.600	0.680	0.125	0.250	3.94
91F2245	3010-1B	1	0.975	0.750	0.810	0.225	0.125	4.04
91F2246	3010-2B	1	0.975	0.750	0.810	0.225	0.250	4.04
91F2247	3442-1B	2	0.975	0.750	0.810	0.225	0.125	4.35
91F2248	3442-2B	2	0.975	0.750	0.810	0.225	0.250	4.35

(13145) (ne10208)

DESIGNER SERIES KNOBS

Fig. 1

Fig. 2

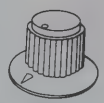


Fig. 3

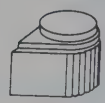


Fig. 4

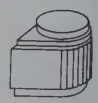


Fig. 5

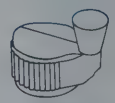


Fig. 6

50 SERIES 0.45″ DIA.

Stock No.	Type	Description	Fig.	1-9	10-24	25-49
83F7372	DS50-1-1G	Round, Plain Alum. Cap	1	2.66	2.53	2.13
83F7373	DS50-1BD-1G	Round, Alum. Cap*	1	2.92	2.78	2.34
83F7374	DS50-2-1G	Ring Skirt, Plain Alum. Cap	2	2.68	2.55	2.15
83F7375	DS50-2BD-1G	Ring Skirt, Alum. Cap*	2	2.94	2.80	2.36
83F7376	DS50-3-1G	Dial w/Arrow, Alum. Cap	3	3.78	3.60	3.03
83F7377	DS50-4-1G	Pntr., Alum. Cap	4	2.80	2.66	2.24
83F7378	DS50-5-1G	Ring Skirt Pntr., Alum. Cap	5	2.86	2.72	2.29
		70 SERIES 0.72″ DIA.				
83F7379	DS70-1-1G	Round, Plain Alum. Cap	1	2.70	2.57	2.16
83F7380	DS70-2-2G	Ring Skirt, Plain Alum. Cap	2	2.78	2.65	2.23
83F7381	DS70-2BD-2G	Ring Skirt, Alum. Cap*	2	3.02	2.87	2.42
83F7382	DS70-3-2G	Dial w/Arrow, Alum. Cap	3	4.18	3.98	3.35
83F7383	DS70-4-2G	Pntr., Alum. Cap	4	2.94	2.80	2.36
		90 SERIES 1.00″ DIA.				
83F7384	DS90-1-2G	Round, Plain Alum. Cap	1	3.00	2.85	2.40
83F7385	DS90-1BD-2G	Round, Alum. Cap*	1	3.28	3.12	2.63
83F7386	DS90-2BD-2G	Ring Skirt, Alum. Cap*	2	3.30	3.14	2.64
83F7387	DS90-3-2G	Dial w/Arrow, Alum. Cap	3	4.42	4.20	3.54
		125 SERIES 1.25″ DIA.				
83F7388	DS125-1-2G	Round, Plain Alum. Cap	1	3.22	3.06	2.58
83F7389	DS125-1BD-2G	Round, Alum. Cap*	1	3.40	3.23	2.72
83F7390	DS125-2BD-2G	Ring Skirt, Alum. Cap*	2	3.44	3.27	2.76
83F7391	DS125-3-2G	Dial w/Arrow, Alum. Cap	3	4.70	4.47	3.76
83F7392	DS125-6-2G	Crank w/Metal Handle	6	16.64	15.71	13.08
		175 SERIES 1.75″ DIA.				
83F7393	DS175-6-2G	Crank w/Metal Handle	6	17.21	16.25	13.53

*With black dot
(32203) (ne32203)

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KNOBS AND KNOB LOCKS

MS91528 STYLE BLACK KNOBS

Fig. 1 Fig. 2 Fig. 3 Fig. 4 Fig. 5 Fig. 6

Fig. 7 Fig. 8 Fig. 9 Fig. 10 Fig. 11

High-impact polycarbonate with corrosion-resistant aluminum inserts and 2 steel set screws. Available in matte or mirror finish. A suffix of **G** in the type number indicates a matte finish; others have a mirror finish. *Order optional knob lock for* **70, 90** *and* **125 series** *separately on this page.*

50 SERIES 0.45″ DIAMETER FOR 1/8″ SHAFT

Stock No.	Type	Description	Fig.	1-9
26F194	50-1-1	Unskirted	1	2.98
26F195	51A2MA	Unskirted	1	2.98
26F196	51B2GA	Ring-skirted	2	8.01
26F197	51B2MA	Ring-skirted	2	3.01
26F199	50-3-1G	Dial-skirted w/arrow	3	4.02

70 SERIES 0.72″ DIAMETER FOR ⅛″ SHAFT

26F342	70-2-1G	Ring-skirted w/o dot	5	3.09
26F343	71C2MA	Dial-skirted w/arrow	6	10.85
26F345	72A2MA	Pointer	7	8.68
26F344	70-5-1	Ring-skirted pointer	8	3.28
26F346	70-5-1G	Skirted pointer	8	3.28

70 SERIES 0.72″ DIAMETER FOR ¼″ SHAFT

26F150	71A4GA	Round w/o dot	4	3.05
26F151	70-1-2G	Round w/o dot	4	3.19
26F152	70-2-2	Ring-skirted w/o dot	5	3.09
26F153	70-2-2G	Ring-skirted w/o dot	5	3.19
26F154	71C4GA	Dial-skirted w/arrow	6	4.07
26F155	70-3-2G	Dial-skirted w/arrow	6	4.07
26F156	70-4-2	Pointer	7	3.26
26F157	72A4MA	Pointer	7	3.26
26F158	72B4GA	Ring-skirted pointer	8	3.28
26F159	72B4MA	Ring-skirted pointer	8	8.84
26F673	75C4GA/WL	Dial-skirted bar pointer	10	8.00
26F674	70-8WL-2G KNOB	Dial-skirted bar pointer	10	12.34

90 SERIES 1″ DIAMETER FOR ¼″ SHAFT

26F161	91A4MA	Round w/o dot	4	8.49
26F163	90-2-2G	Ring-skirted w/o dot	5	8.51
26F165	91C4MA	Dial-skirted w/arrow	6	11.18
26F167	90-4-2G	Pointer	7	3.40
26F169	90-5-2G	Ring-skirted pointer	8	3.41

125 SERIES 1.25″ DIAMETER FOR ¼″ SHAFT

26F175	125-3-2G	Dial-skirted w/arrow	5	7.59

125 SERIES 2.5″ LENGTH FOR ¼″ SHAFT—NO SKIRT

26F338	125-7-2G	Bar Pointer	11	11.79

175 SERIES 1.75″ DIAMETER FOR ¼″ SHAFT

26F183	175-3-2G	Dial-skirted w/arrow	6	9.55
26F185	175-6-2G	Crank	9	20.13

(5252) (de52798)

KNOB LOCKS

Hold precise, critical control settings under shock or vibration. Mount directly on threaded bushing, replacing nuts and washers. ⅛ turn of skirt locks shaft. A suffix of **G** in the type number indicates a matte finish; others have a mirror finish. Can be used with **70, 90** or **125 series** unskirted round knobs; *order separately on this page.*

Stock No.	Type	Fits Series	Dia.	1-9
26F308	KL701	70	1.000″	5.93
26F309	KL701G	70	1.000″	6.13
26F310	KL901	90	1.313″	8.95
26F311	KL901G	90	1.313″	9.13
26F312	KL1251	125	1.625″	10.17
26F313	KL1251G	125	1.625″	10.35

(5253) (de52799)

400 SERIES CONTROL KNOBS

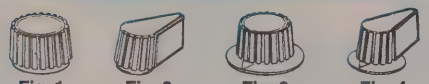


Fig. 1 Fig. 2 Fig. 3 Fig. 4

High-impact acrylonitrile-styrene (ABS), with lusterless black finish. Supplied with metal bushings and two set screws.

407 SERIES 0.72″ DIAMETER ⅛″ SHAFTS

Stock No.	Type	Fig.	1-9
26F672	407D1K1	3	3.23

407 SERIES 0.72″ DIAMETER ¼″ SHAFTS

26F675	407R2K1	1	8.00
26F676	407D2K1	3	3.36
26F678	407PD2K1	4	4.10

409 SERIES 0.875″ DIAMETER ¼″ SHAFTS

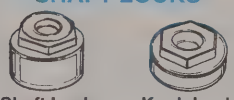
26F682	409R2K1	1	2.49
26F683	409D2K1	3	3.17
26F685	409P2K1	2	2.74
26F687	409PD2K1	4	3.15

412 SERIES 1.25″ DIAMETER ¼″ SHAFTS

26F692	412D2K1	3	3.48
26F695	412P2K1	2	3.61

(5254) (de52800)

SHAFT LOCKS

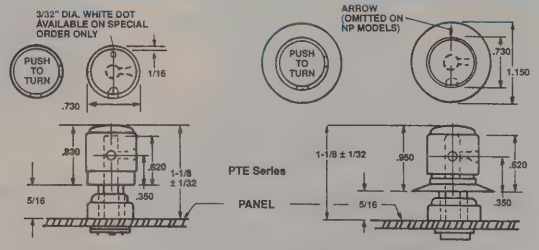

Shaft Lock Knob Lock

Prevent control shaft from rotating under shock, vibration, or accidental contact. Tapered nylon collar grips control shaft tightly and exerts even, frictional drag. All are shaft-type locks except **SL-110B**. **Type SL-110B** is a knob-type lock, and should be used with **90 series** or larger knobs. **Type SL-105B** has a shaft diameter of ⅛″; all others ¼″. Mount in place of nut and washer on most potentiometers.

Stock No.	Type	Thread NEF2	1-9	10-24
26F314	SL-100B	⅜-32	2.41	2.29
26F937	SL101R	⅜-32	5.01	4.76
26F315	SL-105B	¼-32	2.59	2.46
26F938	SL110B	⅜-32	2.59	2.46

(5255) (de52801)

SELF-LOCKING PUSH-TO-ENGAGE KNOBS



Designed for applications in which control setting must be maintained under conditions of shock and vibration. Setting can not be changed accidently, since knobs must be depressed before movement. Knobs are available in matte or mirror finish.

PTE 70 SERIES FOR ¼″ (6.35) SHAFT

Stock No.	Type	Description
95F6976	PTE70-2-2G	Ring-skirted, Matte
95F6978	PTE70-3-2G	Dial-skirted with arrow Matte

Stock No.	Type	1-9	10-24
95F6976	PTE70-2-2G	9.68	9.14
95F6978	PTE70-3-2G	13.41	12.66

(5212) (de02645)

SAME-DAY SHIPMENT ON ORDERS PLACED BY 5:00 PM C.S.T.

CONTROL KNOBS

SOLID ALUMINUM KNOBS

Fig. 1

Fig. 2

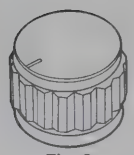


Fig. 3

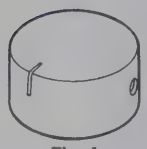


Fig. 4

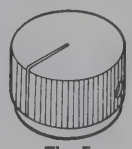


Fig. 5

Fig. 6

All knobs listed have a 0.250″ (6.4) diameter shaft with setscrew.

Stock No.	Type	Fig.	Diameter	Height	Description	1-49
92N4102	MC2001009B	1	0.38″	0.60″	Black/Knurled	3.98
92N4103	MC2001015B	1	0.50″	0.62″	Black/Knurled	4.20
92N4104	MC2001016B	1	0.50″	0.68″	Black/Knurled	4.40
92N4088	MC17913PD	2	0.50″	1.0″	Black/Satin	4.14
92N4089	MC17919PD	2	0.75″	1.0″	Black/Satin	5.16
92N4090	MC17916PD	2	0.65″	1.05″	Silver/Satin	4.61
92N4091	MC17922PD	2	0.86″	1.05″	Silver/Satin	5.37
92N4092	MC17932PD	2	1.25″	1.05″	Silver/Satin	8.93
92N4084	MC15T2D	3	0.60″	0.60″	Silver/Knurled	2.79
92N4085	MC20T2D	3	0.78″	0.60″	Silver/Knurled	2.97
92N4086	MC25T2D	3	1.00″	0.60″	SilverKnurled	3.37
92N4087	MC30T2D	3	1.20″	0.60″	SilverKnurled	3.93
92N4081	MC16H2DB	4	0.62″	0.55″	Black/Satin	2.63
92N4082	MC22H2DB	4	0.87″	0.55″	Black/Satin	3.03
92N4083	MC28H2DB	4	1.10″	0.55″	Black/Satin	4.23
92N4078	MC16H2DA	4	0.62″	0.55″	Silver/Satin	2.63
92N4079	MC22H2DA	4	0.87″	0.55″	Silver/Satin	3.03
92N4080	MC28H2DA	4	1.10″	0.55″	SilverSatin	4.23
92N4099	MC0617005	5	0.75″	0.62″	Black/Knurled	2.86
92N4100	MC0617006	5	0.94″	0.62″	Black/Knurled	3.11
92N4101	MC0617008	5	1.25″	0.62″	Black/Knurled	3.98
92N4095	MC0616003	5	0.50″	0.62″	Silver/Knurled	1.96
92N4096	MC0616005	5	0.75″	0.62″	Silver/Knurled	2.86
92N4097	MC0616006	5	0.94″	0.62″	Silver/Knurled	3.11
92N4098	MC0616008	5	1.25″	0.62″	Silver/Knurled	3.98
92N4094	MC256KN500B1/8*	6	0.50″	0.62″	Black/Knurled	2.89
92N4093	MC256KN500B1/4†	6	0.50″	0.62″	Black/Knurled	2.89

* ⅛″ diameter shaft; † ¼″ diameter shaft.

(13454) (ne10382)

PLASTIC KNOBS

Knobs feature durable ABS plastic cover with light decorative top, metal insert, and 2 setscrews. All knobs listed have a 0.250″ (6.4) diameter shaft. Color: black.

Stock No.	Type	Diameter	Height	1-49
92N4114	MCCFX4S	0.78″	0.48″	0.78
92N4113	MCCFX3S	1.05″	0.63″	0.94
92N4112	MCCFX2S	1.30″	0.65″	1.10
92N4111	MCCFX1S	1.80″	0.80″	1.41

(13458) (ne10384)

PLASTIC KNOBS FOR 18-TOOTH SHAFTS

MCCFX

MCCPER

Color: black.

Stock No.	Type	Diameter	Height	1-49
92N4116	MCCFX4T	0.78″	0.48″	0.76
92N4115	MCCFX3T	1.05″	0.63″	0.93
92N4139	MCCPER120T	0.80″	0.80″	0.41
92N4140	MCCPER130T	1.20″	0.85″	0.51

(13459) (ne10385)

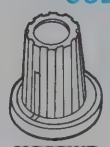
SPUN ALUMINUM KNOBS

Knobs feature light spun aluminum cover over plastic body, brass insert, and setscrew. All knobs listed have a 0.250″ (6.4) diameter shaft. Color: silver.

Stock No.	Type	Diameter	Height	1-49
92N4105	MC14S-2D	0.55″	0.625″	1.85
92N4106	MC18S-2D	0.71″	0.48″	2.11
92N4107	MC22S-2D	0.87″	0.52″	2.26
92N4108	MC29S2D	1.14″	0.55″	2.44
92N4109	MC32S2D	1.25″	0.55″	2.88
92N4110	MC38S2D	1.50″	0.63″	5.16

(13456) (ne10383)

COLOR-CODED PLASTIC KNOBS


MCCPWB

MCCPMB

MCCPR4

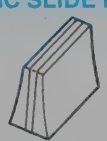
MCCPMS

All knobs listed have a 0.250" (6.40) diameter shaft.

Stock No.	Type	Diameter	Height	Color	1-49
92N4132	MCCPWBD1	0.67″	0.76″	Black/Red	0.60
92N4133	MCCPWBD2	0.67″	0.76″	Black/Yellow	0.60
92N4134	MCCPWBD3	0.67″	0.76″	Black/Blue	0.60
92N4135	MCCPWBD4	0.67″	0.76″	Black/Green	0.60
92N4122	MCCPMB1	0.52″	0.65″	Black/Red	0.60
92N4123	MCCPMB2	0.52″	0.65″	Black/Yellow	0.60
92N4124	MCCPMB3	0.52″	0.65″	Black/Blue	0.60
92N4125	MCCPMB4	0.52″	0.65″	Black/Green	0.60
92N4126	MCCPMB5	0.52″	0.65″	Black/Gray	0.60
92N4127	MCCPR41	0.52″	0.638″	Gray/Red	0.80
92N4128	MCCPR43	0.52″	0.638″	Gray/Blue	3.91
92N4129	MCCPR44	0.52″	0.638″	Gray/Green	0.80
92N4130	MCCPR45	0.52″	0.638″	Gray/Gray	0.80
92N4131	MCCPR46	0.52″	0.638″	Gray/Black	0.80
92N4117	MCCPMS1	0.51″	0.709″	Gray/Red	0.80
92N4118	MCCPMS2	0.51″	0.709″	Gray/Yellow	0.80
92N4119	MCCPMS3	0.51″	0.709″	Gray/Blue	0.80
92N4120	MCCPMS4	0.51″	0.709″	Gray/Green	0.80
92N4121	MCCPMS5	0.51″	0.709″	Gray/Gray	0.80

(13461) (ne10387)

PLASTIC SLIDE KNOBS



Color: black.

Stock No.	Type	Width	Height	1-49
92N4136	MCCPL3	0.40″	0.48″	0.73
92N4137	MCCPL4	1.55″	0.48″	0.73
92N4138	MCCPL175	0.75″	0.63″	0.73

(13460) (ne10386)

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Pages 1074—1130

21

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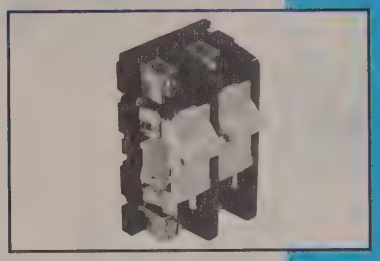

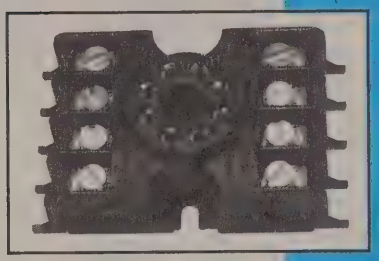

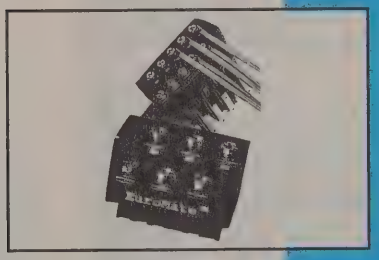

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RDI® TERMINAL BLOCKS

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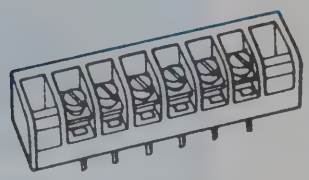


3PCV SERIES VERTICAL MOUNT, 0.250" (6.35) CENTER SPACING

5 amps @ 150 volts UL and CSA. 18-22AWG wire range UL and CSA. 3-48 wire clamp screws. 0.5H x 0.55"W (12.70 x 13.97). Additional terminal styles available, *contact your local Newark sales office.*

Stock No.	Type	Length	Positions	1-24
94F5098	3PCV-02	0.25" (6.35)	2	0.99
94F5099	3PCV-03	0.50" (12.70)	3	1.48
29F316	3PCV-04	0.75" (19.05)	4	1.97
29F317	3PCV-05	1.00" (25.40)	5	2.46
29F318	3PCV-06	1.25" (31.75)	6	2.95
29F319	3PCV-07	1.50" (38.10)	7	3.45
29F320	3PCV-08	1.75" (44.45)	8	3.94
29F321	3PCV-09	2.00" (50.80)	9	4.43
29F322	3PCV-10	2.25" (57.15)	10	4.92

4PCV SERIES VERTICAL MOUNT, 0.325" (8.26) CENTER SPACING

20 amps @ 150 volts UL and CSA. 14-22AWG UL and CSA wire range. 4-40 wire clamp screws. 0.5H x 0.6"W (12.70 x 15.24).

Stock No.	Type	Length	Positions	1-24
94F5101	4PCV-02	0.25" (6.35)	2	0.94
94F5086	4PCV-03	0.50" (12.70)	3	1.42
29F2600	4PCV-04	0.97" (24.64)	4	1.88
29F2601	4PCV-05	1.30" (33.02)	5	2.36
29F2602	4PCV-06	1.62" (41.15)	6	2.84
57F3900	4PCV-07	1.95" (49.53)	7	3.30
29F2603	4PCV-08	2.27" (57.66)	8	3.77
29F2604	4PCV-09	2.60" (66.04)	9	4.25
29F2605	4PCV-10	2.92" (74.17)	10	4.71
94F5102	4PCV-12	3.57" (90.08)	12	5.65
94F5104	4PCV-16	4.87" (123.08)	12	5.24

6PCV SERIES VERTICAL MOUNT, 0.375" (9.53) CENTER SPACING

20 amps @ 300 volts UL and CSA. 12-22AWG wire range UL and CSA. 6-32 wire clamp screws. 0.6H x 0.7"W (15.24 x 17.78).

Stock No.	Type	Length	Positions	1-24
29F2607	6PCV-02	0.375" (9.53)	2	0.88
29F2608	6PCV-03	0.75" (19.05)	3	1.32
29F2609	6PCV-04	1.125" (28.58)	4	1.75
29F2610	6PCV-05	1.50" (38.10)	5	2.19
29F2611	6PCV-06	1.875" (47.63)	6	2.63
57F3901	6PCV-07	2.25" (57.15)	7	3.06
29F2612	6PCV-08	2.625" (66.68)	8	3.51
29F2613	6PCV-09	3.00" (76.20)	9	3.94
29F2614	6PCV-10	3.375" (85.73)	10	4.37
57F3902	6PCV-11	3.75" (95.25)	11	4.82
29F2615	6PCV-12	4.125" (104.78)	12	5.25
57F3903	6PCV-13	4.50" (114.30)	13	5.68
29F2616	6PCV-14	4.875" (123.83)	14	6.13
57F3904	6PCV-15	5.25" (133.35)	15	6.56
29F2617	6PCV-16	5.625" (142.88)	16	6.99
29F2618	6PCV-18	6.375" (161.93)	18	5.47

8PCV SERIES VERTICAL MOUNT, 0.438" (11.13) CENTER SPACING

25 amps @ 300 volts UL and 20 amps @ 300 volts CSA, 10-18AWG wire range UL and 10-16AWG CSA . 8-32 wire clamp screws. 0.7H x 0.8"W (17.78 x 20.32).

Stock No.	Type	Length	Positions	1-24
57F3959	8PCV-02	0.438" (11.13)	2	1.05
29F2633	8PCV-03	0.875" (22.23)	3	1.57
29F2634	8PCV-04	1.31" (33.27)	4	2.09
29F2635	8PCV-05	1.75" (44.45)	5	2.61
29F2636	8PCV-06	2.19" (55.63)	6	3.13
57F3961	8PCV-08	3.06" (77.72)	8	4.18

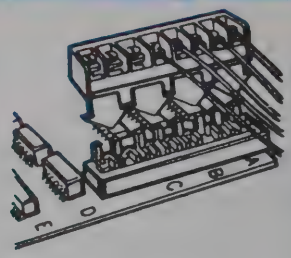
6PCR SERIES RIGHT ANGLE, 0.375" (9.53) CENTER SPACING

25 amps @ 300 volts UL and CSA. 12-22AWG UL and CSA wire range. 6-32 wire clamp screws. 0.6H x 0.7"W (15.24 x 17.78).

Stock No.	Type	Length	Positions	1-24
57F3914	6PCR-02	0.375" (9.53)	2	0.97
29F2621	6PCR-03	0.75" (19.05)	3	1.46
29F2623	6PCR-05	1.50" (38.10)	5	2.43
29F2624	6PCR-06	1.875" (47.63)	6	2.92
57F3915	6PCR-07	2.25" (57.15)	7	3.42
29F2625	6PCR-08	2.625" (66.68)	8	3.89
57F3916	6PCR-09	3.00" (76.20)	9	4.39

(5196) (de00262)

4 & 6 SERIES DEPLUGGABLE TERMINAL BLOCKS



- **130°C Temperature Rating**
- **Wire Clamp Plate Screws**

Polyester header and polypropylene block construction. **4 series** 20A @ 300V and 0.325" (8.26) centers; **6 series** 25A @ 300V and 0.375" (9.53) centers. UL recognized, CSA certified.

4 SERIES DEPLUGGABLE TERMINAL BLOCKS

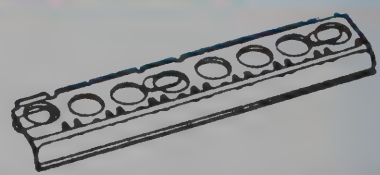
Stock No.	Type	Length	Positions	1-24
87F4462	4DTB-04	0.97" (24.64)	4	3.21
87F4464	4DTB-06	1.625" (41.28)	6	4.82
87F4466	4DTB-08	2.275" (57.79)	8	6.35

6 SERIES DEPLUGGABLE TERMINAL BLOCKS

Stock No.	Type	Length	Positions	1-24
87F4471	6DTB-04	1.125" (28.58)	4	3.07
87F4473	6DTB-06	1.875" (47.63)	6	4.53
87F4475	6DTB-08	2.625" (66.68)	8	6.07

(5198) (de00264)

PRESS FIT TERMINAL BLOCK COVERS



Provide shock-resistant dead front for terminal blocks, while allowing screwdriver access to termination screws. Covers are end-to-end stackable. Centerline spacing: 0.325" on Type **TC4 series**; 0.375" on **TC6 series**; and 0.4375" on Type **TC8 series**. All are made of black, UL recognized thermoplastic.

Stock No.	Type	Length	Positions	1-24
97F8469	TC4-04-PFH	1.287"(32.69)	4	0.81
94F5073	TC6-03-PFH	1.112"(28.45)	3	0.82
50F2981	TC6-04-PFH	1.49"(37.85)	4	0.84
50F2980	TC6-12-PFH	4.49"(114.05)	12	3.09
97F8464	TC8-03-PFH	1.305"(33.15)	3	0.99

(5199) (de00265)

AT NEWARK, THERE'S ALWAYS MORE THAN MEETS THE EYE!
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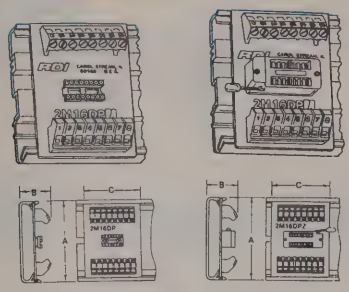
RDI® INTERFACE MODULES

ZERO INSERTION FORCE (ZIF) AND DIP SOCKETS TO SCREW TERMINAL BLOCK INTERFACES



ZIF DIP

Rated 5A, 150V. Inner-machined contacts have gold over nickel plating; outer-machined brass contacts have tin over copper plating. 3-48 UNC zinc-plate screws. Wire range 12-22AWG. Fit **2TK, 2TDK series** SNAPTRACK®.

ZIF SOCKET/TERMINAL BLOCK INTERFACES

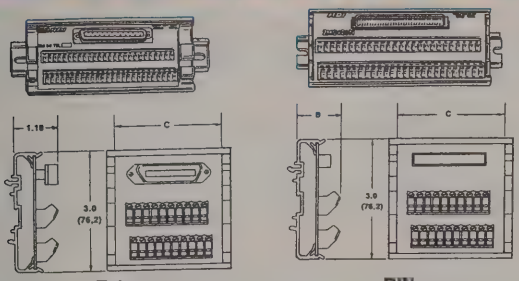
Stock No.	Type	Pins	A	B	C	1-4
87F3750	2M16DPZ	16	3.02″ (76.71)	1.40″ (35.56)	2.00″ (50.80)	**46.78**

DIP SOCKET/TERMINAL BLOCK INTERFACES

87F3746	2M08DP	8	3.02″ (76.71)	1.05″ (26.67)	1.20″ (30.48)	**12.11**
87F3747	2M16DP	16			2.00″ (50.80)	**16.08**
87F3748	2M24DP	24			2.80″ (71.12)	**20.23**

(5191) (de00256)

TELCO & DIN CONNECTOR INTERFACE MODULES



Telco DIN

Convert DIN 41612 standard connector or Telco connector to field wiring. Fit **2TK2** and **2TKD series** SNAPTRACK® *(order track separately)*. UL94V-0 thermoplastic housing. Ready-to-wire terminals fit 12-22AWG wire.

TELCO SOCKET CONNECTOR INTERFACE MODULES

Stock No.	Type	Positions	B	C	1-4
90F8166	2M50TELS	50	1.18″ (29.97)	5.70″ (144.78)	**71.36**

DIN CONNECTOR INTERFACE MODULES

90F8162	2M64DIN	64	1.05″ (26.67)	6.70″ (170.18)	**82.54**

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NEW PRODUCTS ARE CONTINUALLY ADDED.
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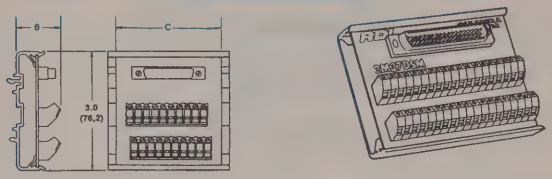
D-SUBMINIATURE CONNECTOR TO TERMINAL BLOCK INTERFACES



Metal shielded male connector mates with EMI-RFI cable and screw position with grounding path to connector shell. Connectors gold over nickel-plated brass, with 94V-0 thermoplastic polyester housing and tin-plated shells. Wire range 12-22AWG. Mount **2TK, 2TDK series** SNAPTRACK®.

Stock No.	Type	Pins	B	C	1-4
87F3753	2M09DSM	9	1.06″ (26.92)	1.50″ (38.10)	**21.13**
87F3754	2M15DSM	15	1.06″ (26.92)	2.10″ (53.34)	**25.34**
87F3755	2M25DSM	25	1.06″ (26.92)	3.10″ (78.74)	**31.26**
87F3756	2M37DSM	37	1.06″ (26.92)	4.31″ (109.47)	**38.76**
87F3757	2M50DSM	50	1.20″ (30.48)	5.93″ (150.62)	**72.88**

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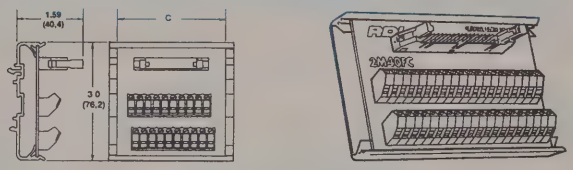
FLAT CABLE CONNECTOR TO TERMINAL BLOCK INTERFACES



Feature four-sided notched sockets to assure correct polarity connections. Rated 1 amp, system consists of gold over nickel-plated, 94V-0 thermoplastic header; gold over nickel-plated beryllium copper strain relief connector for 26-30AWG solid, 28AWG stranded wire range; 12-22AWG wire range terminal block with 3-48 screws. Fit **2TK** and **2TDK series** SNAPTRACK®.

Stock No.	Type	Description	C	1-4
87F3758	2M10FC	10-Pin Header	1.50″ (38.10)	**25.34**
87F3759	2M14FC	14-Pin Header	2.10″ (53.34)	**28.52**
87F3760	2M16FC	16-Pin Header	2.30″ (58.42)	**29.48**
87F3761	2M20FC	20-Pin Header	2.70″ (68.58)	**33.50**
87F3762	2M26FC	26-Pin Header	3.20″ (81.28)	**40.06**
87F3763	2M34FC	34-Pin Header	4.10″ (104.14)	**49.21**
87F3764	2M40FC	40-Pin Header	4.70″ (119.38)	**55.93**
87F3737	2M50FC	50-Pin Header	5.50″ (139.70)	**67.87**
87F3738	2M60FC	60-Pin Header	6.50″ (165.10)	**80.06**
87F3739	2M64FC	64-Pin Header	6.70″ (170.18)	**82.87**

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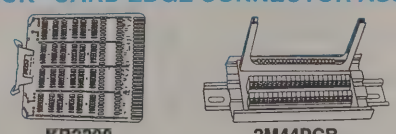
SNAPTRACK® CARD EDGE CONNECTOR ASSEMBLIES



KB2200 2M44PCB

Panel mount 22-pin single-side straight and notched PC cards and 44-pin double side notched PC cards on 0.156″ (3.96) centers. Convert edge connectors to screw terminal wiring. Assemblies hold Kluge cards and mount SNAPTRACK®. Fit **2KT** SNAPTRACK; **2M22PCB** AND **2M44PCB** also fit **2TK** and **2TKD**. *Order assemblies, Kluge cards separately.*

Stock No.	Type	Description	1-4
29F291	22PCB	22-Pin Notched Card	**49.82**
29F293	44PC	44-Pin Notched Card	**52.95**
87F3740	2M22PCB	22-Pin Notched Card	**49.09**
87F3741	2M44PC	44-Pin Notched Card	**52.95**
29F294	KB2200	16-Pin DIP Kluge Card	**47.57**

*Connector: Elco 6022
(5195) (de00260)

RDI® SNAPTRACK® SYSTEM

SOCKET MOUNTING TRACK SYSTEM

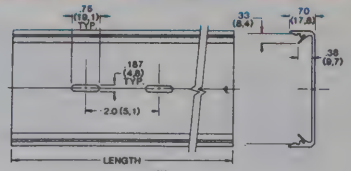


Fig. 1

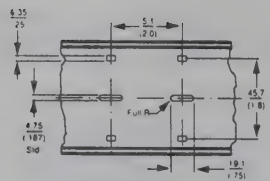


Fig. 2

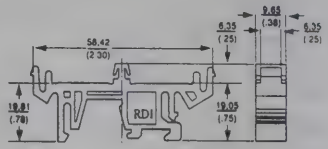


Fig. 3

- **Saves 30% Installation Time**
- **Saves 50% Wiring Time**

SNAPTRACK® is a nonconductive, rigid extruded PVC chassis for mounting socket assemblies and custom circuit boards. Mounts panels with rivets, screws or double-faced tape. PC boards snap-in from front, and are held securely by integral ribs that absorb shock when PC board is flexed. SNAPTRACK® allows convenient PC board removal for field servicing. Available in 4 lengths and 4 widths. Slots on 2″ (50.8) centers for fast, easy installation.

SNAPTRACK® MOUNTING TRACK—FIG. 1

Stock No.	Type	Length	1-9
3″ (76.20) Wide Sockets			
29F1213	TK2-6-AG-AG	6″ (152.40)	1.38
29F1214	TK2-12-AG-AG	12″ (304.80)	2.46
29F1215	TK2-24-AG-AG	24″ (609.60)	4.44
29F1216	TK2-48-AG-AG	48″ (1.219M)	8.36
2.75″ (69.85) Wide Sockets			
29F287	2TK2-6	6″ (152.40)	1.38
29F288	2TK2-12	12″ (304.80)	2.46
29F289	2TK2-24	24″ (609.60)	4.46
29F290	2TK2-48	48″ (1.219M)	8.36
3.25″ (82.60) Wide Sockets			
70B8900	3TK2-48	48″	11.02
SPLIT APART			
48F2168	4TK2-6	6″	1.51
94F5105	4TK-2-12	12″	4.18
48F2169	4TK2-24	24″	4.56
94F5106	4TK2-48	48″	9.29
4.00″ (101.60) WIDE SOCKET			
48F2170	6TK2-6	6″	1.90
48F2171	6TK2-12	12″	3.35
98F7181	6TK2-48	48″	13.08
2.19″ (55.63) Wide Sockets			
81F3750	8TK2-6	6″ (152.40)	1.38
81F3751	8TK2-12	12″ (304.80)	2.46
81F3752	8TK2-24	24″ (609.60)	4.46
81F3753	8TK2-48	48″ (1.219M)	8.36

SNAPTRACK® MOUNTING TRACK-FIG. 2

Panel mount or use with **type TKAD** SNAPTRACK® rail adapter, *ordered separately*, to mount on DIN rails and A Series track.

Stock No.	Type	Length	1-9
3″ (76.20) Wide Sockets			
04F600	TK2D-6	6″ (152.40)	1.38
04F601	TK2D-12	12″ (304.80)	2.46
04F606	TK2D-24	24″ (609.60)	4.46
04F602	TK2D-48	48″ (1.219M)	8.36
2.75″ (69.85) Wide Sockets			
04F603	2TK2D-6	6″ (152.40)	1.38
04F604	2TK2D-12	12″ (304.80)	2.46
04F605	2TK2D-24	24″ (609.60)	4.46
04F607	2TK2D-48	48″ (1.219M)	8.36
2.19″ (55.63) Wide Sockets			
04F608	3TK2D-6	6″ (152.40)	1.81
04F609	3TK2D-12	12″ (304.80)	3.17
04F610	3TK2D-24	24″ (609.60)	5.52
04F611	3TK2D-48	48″ (1.219M)	10.14

RAIL ADAPTER FOR SNAPTRACK®—FIG. 3

Universal mounting foot that adapts SNAPTRACK® to the symmetrical DIN rail, asymmetrical DIN rail and A Series rail.

50F2979 Type TKAD. **Each**. 1.14
(5237) (de50411)

RELAY AND TIMER MOUNTING SOCKETS FOR SNAPTRACK®

Fig. 1

Fig. 2

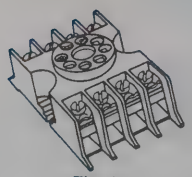


Fig. 3

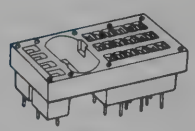


Fig. 4

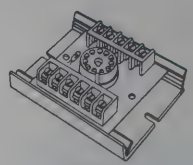


Fig. 5

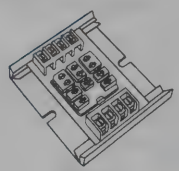


Fig. 6

Fig. 7

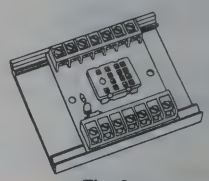


Fig. 8

MOLDED RELAY SOCKETS

Stock No.	Type	Fig.	Description	1-9
87F3711	8R-SOCKET	2	10A, 300V 8-Pin Relay/Timer Socket	1.12
87F3713	8S-SOCKET	1	Square Base (KUP) 2PDT Relay Socket	2.07
87F3712	11R-SOCKET	2	10A, 300V 11-Pin Relay/Timer Socket	1.67
87F3714	11S-SOCKET	1	Square Base (KUP) 3PDT Relay Socket	2.16
87F3715	21S-SOCKET	4	2-Pole Miniature Relay Socket	2.56
29F295	SM8	3	8-Pin Octal Fits 2TK, 2TKD SNAPTRACK®	10.34
29F296	SM11	3	11-Pin Octal Fits 2TK, 2TKD SNAPTRACK®	13.69
STANDARD SOCKETS FOR TK2 SIZE (3″/76.20mm) SNAPTRACK®				
29F1273	208BR	5	8-Pin Octal, 10A, 150V, 4-40 Screws	9.43
29F1274	211BR	5	11-Pin Octal, 10A, 150V, 4-40 Screws	10.95
29F1276	211BS	6	DPDT/3PDT Square (KUP),10A, 250V, 4-40 Screws	12.90
29F1272	218BR	5	Slim Version of **208BR**, no mounting holes	9.43
MINIATURE SOCKETS FOR TK2 SIZE (3″/76.20mm) SNAPTRACK®				
29F274	204BS	7	4PDT, 5A, 150V, 4-40 Screws	16.00
29F1207	214BS	8	4PDT, 5A, 150V, 4-40 Screws	13.69
SOCKETS FOR 2TK2 SIZE (2.75″/69.85mm) SNAPTRACK®				
29F282	311BR	5	Same as **211BR** but Fits TK2, 2TKD SNAPTRACK®	9.73
29F281	318BR	...	8-Pin Octal, 10A, 250V, 6-32 Screws	8.33
29F284	314BS	8	4PDT, 5A, 150V, 4-40 Screws	12.53
STANDARD SIZE SOCKETS FOR SNAPTRACK®				
29F1200	608BR	5	8-Pin Octal	9.13
29F1202	611BR	5	11-Pin Round	12.47
29F1204	608BS	6	8-Pin KUP style	12.47
29F1205	611BS	6	11-Pin KUP style	12.90

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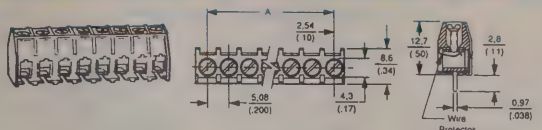
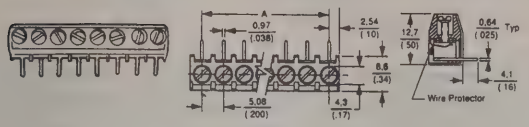
RDI® TERMINAL BLOCKS

2M SERIES SUBMINIATURE TERMINAL BLOCKS



2MV



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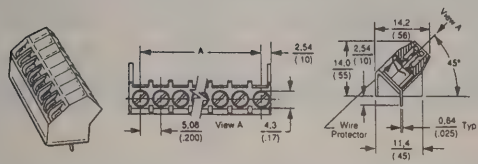

2MA

0.5″ (12.70) high blocks have large entry for stranded and multiple wires for up to 12AWG. Maintain 0.2″ (5.08) center-to-center spacing when installed end to end. Spring-loaded wire protector. Black thermoplastic polyester, UL94V-0. Maximum temperature: 120°C. Terminals: bright, acid-tin plated brass. Screws: cadmium-plated steel, 3-48 UNC. Wire range: 12-22AWG. 20A, 300V. UL recognized, CSA certified.

2MV SERIES VERTICAL MOUNT, 0.200″ (5.08) CENTER SPACING

Stock No.	Type	Positions	Dimension A	1-24
46F860	2MV-02	2	0.2″ (5.08)	0.74
46F861	2MV-03	3	0.4″ (10.16)	1.11
46F862	2MV-04	4	0.6″ (15.24)	1.49
46F863	2MV-05	5	0.8″ (20.32)	1.85
46F864	2MV-06	6	1.0″ (25.40)	2.23
46F865	2MV-07	7	1.2″ (30.48)	2.97
46F866	2MV-08	8	1.4″ (35.56)	3.40
46F867	2MV-09	9	1.6″ (40.64)	3.33
46F868	2MV-10	10	1.8″ (45.72)	3.71
46F869	2MV-11	11	2.0″ (50.80)	4.38
46F870	2MV-12	12	2.2″ (55.88)	4.45

2MR SERIES 90° ANGLE 0.200″ (5.08) CENTER SPACING

46F3798	2MR-02	2	0.2″ (5.08)	0.84
46F3799	2MR-03	3	0.4″ (10.16)	1.26
46F3800	2MR-04	4	0.6″ (15.24)	1.68
46F3801	2MR-05	5	0.8″ (20.32)	2.11
46F3802	2MR-06	6	1.0″ (25.40)	2.53
46F3804	2MR-08	8	1.4″ (36.56)	3.37
46F3805	2MR-10	10	1.8″ (45.72)	3.22
46F3806	2MR-12	12	2.2″ (55.88)	5.05

2MA SERIES 45° ANGLE MOUNT, 0.200″ (5.08) CENTER SPACING

46F871	2MA-02	2	0.2″ (5.08)	0.91
46F872	2MA-03	3	0.4″ (10.16)	1.36
46F873	2MA-04	4	0.6″ (15.24)	1.82
46F874	2MA-05	5	0.8″ (20.32)	2.27
46F875	2MA-06	6	1.0″ (25.40)	2.71
46F876	2MA-07	7	1.2″ (30.48)	3.40
46F877	2MA-08	8	1.4″ (35.56)	3.62
46F878	2MA-09	9	1.6″ (40.64)	4.07
46F879	2MA-10	10	1.8″ (45.72)	4.53
46F881	2MA-12	12	2.2″ (55.88)	5.44

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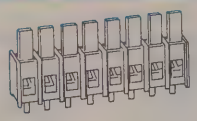
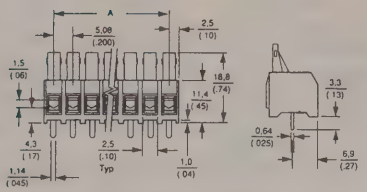
2SV SERIES SUBMINIATURE SCREWLESS TERMINAL BLOCKS



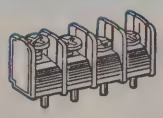


2SV series screwless vertical mount terminal blocks are 0.45″H x 0.2″D (11.43 x 13.21). Wire range: 18-24AWG. 20A, 300V UL recognized; 20A, 150V CSA certified (except 24AWG). Solder terminal connections on 0.2″ (5.08) centers. Handle multiple wires per terminal. Thermoplastic polyester body, flammability classification UL94V-0. Acid-tin plated copper alloy terminals. Standoffs for flux removal.

Stock No.	Type	Positions	Dimension A	1-24
46F897	2SV-02	2	0.2″ (5.08)	0.66
46F898	2SV-03	3	0.4″ (10.16)	0.98
46F899	2SV-04	4	0.6″ (15.24)	1.32
46F900	2SV-05	5	0.8″ (20.32)	1.64
46F901	2SV-06	6	1.0″ (25.40)	1.96
46F903	2SV-08	8	1.4″ (35.56)	2.62
46F904	2SV-09	9	1.6″ (40.64)	2.95
46F905	2SV-10	10	1.8″ (45.72)	3.27
46F907	2SV-12	12	2.2″ (55.88)	3.93
46F911	2SV-16	16	3.0″ (76.20)	5.23

(5233) (de50341)

4DB SERIES TERMINAL BLOCKS



Standoffs for flux removal; acid-tin plated brass terminals and #6-32 zinc-plated phil/wire clamp screws. Maximum operating temperature: 105°C. UL94V-0. Center spacing: 0.325″ (8.26). Serrated terminals for secure wiring and thermoplastic polyamide barriers. PC pin terminal style. Wire range: 14-22 AWG. Rated 20A, 150V UL recognized; 20A, 300V CSA certified.

Stock No.	Type	Positions	Length	1-24
16F4408	4DB-P108-02	2	0.325″ (8.26)	0.76
16F4409	4DB-P108-03	3	0.650″ (16.51)	1.05
16F4410	4DB-P108-04	4	0.975″ (24.77)	1.33
16F4412	4DB-P108-06	6	1.625″ (41.28)	1.91
16F4413	4DB-P108-07	7	1.950″ (49.53)	2.19
16F4414	4DB-P108-08	8	2.275″ (57.79)	2.48

(5240) (de50759)

NC6 SERIES TERMINAL BLOCKS

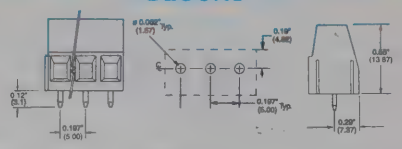
NC6 series designed with thick thermoplastic polyamide barriers for more demanding applications. Meet UL94V-0 flammability classification and have a maximum operating temperature of 130°C. Brass, printed circuit style terminals with acid-tin over copper plating. Wire-ready, raised, #6-32 zinc-plated wire clamp screws. Feature 0.040″ (1.02) high standoffs for flux removal. 0.375″ (9.53) center-to-center spacing. Wire range: 12-22 AWG. Rated: 20A, 300V; UL recognized, CSA certified.

Stock No.	Type	Positions	Length	1-24
50F2964	NC6-P108-02	2	0.375″ (9.53)	0.66
50F2965	NC6-P108-03	3	0.750″ (19.05)	0.97
50F2966	NC6-P108-04	4	1.125″ (28.58)	1.30
50F2967	NC6-P108-05	5	1.500″ (38.10)	1.63
50F2968	NC6-P108-06	6	1.875″ (47.63)	1.96
50F2969	NC6-P108-07	7	2.250″ (57.15)	2.27
50F2970	NC6-P108-08	8	2.625″ (66.68)	2.60

(5245) (de50785)

RDI® TERMINAL BLOCKS

5KEV SERIES VERTICAL ELEVATOR CLAMP TERMINAL BLOCKS

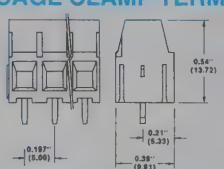


Wave solder directly to PC board. Elevator-action wire cage clamping mechanism provides secure connections for 12-22AWG wire range. High density 0.197″ (5.00) centers. Modular glass reinforced polyester housing, rated UL94V-0 @120°C. Bright acid-tin over copper-plate alloy terminal. Box and captive screw zinc-plated steel with yellow chromate coating. Available to 24 positions and other color (black); *contact your local Newark sales office.* UL recognized, CSA certified, in accordance with VDE0110. 10A @ 300V/15A @ 150V. Color: green.

Stock No.	Type	Positions	1-24
97F9991	5KEV-02	2	0.73
97F9992	5KEV-03	3	1.09
97F9993	5KEV-04	4	1.45

(5202) (de00932)

5LEA SERIES CAGE CLAMP TERMINAL BLOCKS



5LEA

Terminal blocks with 0.197″ (5.00) centers accept 14-22AWG wire range. Available 45° angle wire entry. Available to 24 positions and other color (black); *contact your local Newark sales office.* UL recognized, CSA certified, in accordance with VDE0110.

Stock No.	Type	Positions	Color	1-24
04F621	5LEA-02	2	Green	0.79
04F622	5LEA-03	3	Green	1.20
04F623	5LEA-04	4	Green	1.58

(5204) (de00934)

2EHDV/2EHDR SERIES EURO VERTICAL/RIGHT ANGLE HEADERS

Right Angle Vertical

Green **2EHDV/2EHDR series** headers mate with **2ESDV series** terminal blocks, *ordered separately.* Closed-end headers available with straight or right angle pins on 2.000″ (5.08) centers. Also available on 0.197″ (5.00) centers; *contact your local Newark sales office.* Zinc-plated steel captive screws with clear chromate coating. Glass reinforced polyester housing rated UL94-V0 @105°C. Bright acid-tin over copper-plated copper alloy terminals. (*)Available to 24 positions; *contact your local Newark sales office.* UL recognized, CSA certified at 10A, 300V/15A, 150V (limited ratings). Designed in accordance with VDE 0110. Meet MIL-STD-202, method 208 solderability.

VERTICAL HEADERS

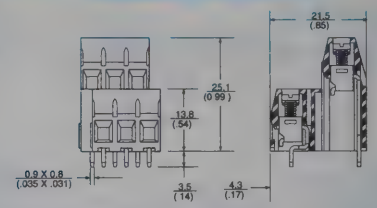
Positions*	Stock No.	Type	1-24
2	04F657	2EHDV-02	0.50
3	04F658	2EHDV-03	0.75
4	04F659	2EHDV-04	0.99
5	04F660	2EHDV-05	1.24
6	04F661	2EHDV-06	1.48
7	04F662	2EHDV-07	1.73
8	04F663	2EHDV-08	1.99
9	04F664	2EHDV-09	2.22
10	04F665	2EHDV-10	2.48
11	04F666	2EHDV-11	2.92
12	04F667	2EHDV-12	3.18

RIGHT ANGLE HEADERS

2	04F646	2EHDR-02	0.50
3	04F647	2EHDR-03	0.75
4	04F648	2EHDR-04	0.99
5	04F649	2EHDR-05	1.24
6	04F650	2EHDR-06	1.48
7	04F651	2EHDR-07	1.73
8	04F652	2EHDR-08	1.99
9	04F653	2EHDR-09	2.22
10	04F654	2EHDR-10	2.48
11	04F655	2EHDR-11	2.92
12	04F656	2EHDR-12	3.18

(5201) (de00827)

2LEEV/5LEEV SERIES DOUBLE-DECKER CLAMP TERMINAL BLOCKS



Built-in wire guard reduces possiblity of miswiring when clamp is in raised position. Ideal for hard-to-reach applications. End-to-end stackability with locking dovetails. Captive M2.5 screws. UL recognized thermoplastic housing and tin-plated copper alloy terminals. Rated at 100 Amps, 300 Volts/15 Amps, 150 Volts. Color: green. Other models available; *contact your local Newark sales office.*

Stock No.	Type	Centers	Positions	1-24
97F7992	2LEEV-04	0.200″	4	2.27
97F7994	2LEEV-06	0.200″	6	2.67
97F7996	5LEEV-04	0.197″	4	2.27
97F7998	5LEEV-06	0.197″	6	2.67

(5215) (de03622)

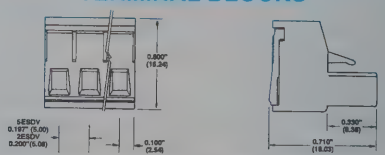
25EV SERIES VERTICAL CAGE CLAMP TERMINAL BLOCKS

Superior elevator wire cage clamp with wire guard provides end-to-end stackability with locking dovetails. Same as **5KEV series** except 0.250″ (6.35) centers and accept 10-22AWG wire range. Available to 24 positions and other color (black); *contact your local Newark sales office.* UL recognized, CSA certified, in accordance with VDE0110.

Stock No.	Type	Color	Positions	1-24
97F9994	25EV-02	Green	2	0.94
97F9995	25EV-03	Green	3	1.42
97F9996	25EV-04	Green	4	1.88

(5203) (de00933)

2ESDV SERIES DEPLUGGABLE CAGE CLAMP EURO TERMINAL BLOCKS



Mate with **2EHDR, 2EHDV series** headers, *ordered separately.* Elevator wire cage clamping mechanism provides secure connection for 14-22AWG wire range. **2ESDV series** 0.200″ (5.08) high density centers. Zinc-plated steel box and captive screws with yellow chromate coating. Wave solderable, glass reinforced polyester housing, rated UL94V-0 @105°C. Bright acid-tin over copper-plated copper alloy contacts. (*)Available to 24 positions; *contact your local Newark sales office.* UL recognized, CSA certified at 10A, 300V/15A,150V; designed in accordance with VDE 0110. **5ESDV series** 0.197″ (5.00) for **5EHDV, 5EHDR** also available; *contact your local Newark sales office.*

GREEN TERMINAL BLOCKS

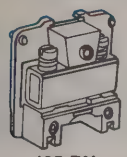
Stock No.	Positions*	Type	1-24
04F679	2	2ESDV-02	1.23
04F680	3	2ESDV-03	1.84
04F681	4	2ESDV-04	2.45
04F682	5	2ESDV-05	3.06
04F683	6	2ESDV-06	3.67
04F685	8	2ESDV-08	4.89
04F686	9	2ESDV-09	5.50
04F687	10	2ESDV-10	6.11
04F689	12	2ESDV-12	5.47

(5200) (de00826)

CONTACT NEWARK FOR LARGE-QUANTITY PRICING.

BUCHANAN® TERMINAL BLOCKS AND CONNECTORS

TERMINAL BLOCKS AND CONNECTORS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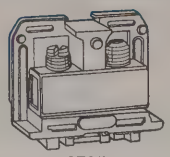
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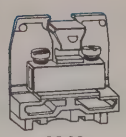
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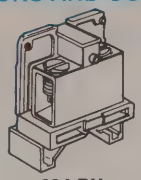
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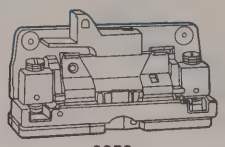
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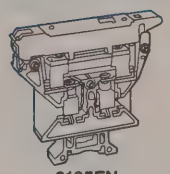
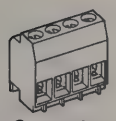
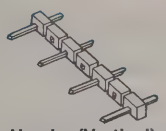

0135FN

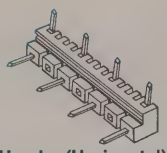
Stock No.	Type	Description	Wire Range (AWG)	Amps	Voltage	1-9
16F4960	125-BU	Feed Through Block	30-12 CU	28	300	1.49
16F4962	0725	Feed Through Block	22-10 CU	30	600	1.62
16F4963	0243	Feed Through Block	18-6 CU	65	600	4.06
16F4964	824-BU	Feed Through Block	12-1/0 CU	150	600	9.80
16F4965	0352	Fuse Block, 13⁄32 x 1½" Fuse	8-18 CU	15	600	10.12
16F4966	0135FN	Fuse Block, ¼ x 1¼" Fuse	30-12 CU	15	300	16.23

(5279) (ne09305)

FLUSH MOUNT PLUG-IN CONNECTORS/HEADERS


Connector


Header (Vertical)


Header (Horizontal)

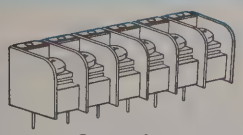
Allows for vertical or horizontal PCB mounting with 0.330" (1.30) diameter round pin or 0.254" (1.00) square pin headers. Up to 24 terminals in 1.27" (5.00) design. Features cage clamp and captive screws. Contact system: Brass, tin plated. Terminal spacing: 1.27" (5.00). Insulating material: polymide, type 6/6. Flammability: UL94V-0 rated. Color: black (5.00mm) and blue (5.08mm). Current: 15A max. Operating voltage: 300V. Wire range: 12-30 AWG. Temperature range: –60°C to +105°C (tin). Tightening torque: 0.5Nm (4.4 in.-lbs.). UL recognized, CSA certified.

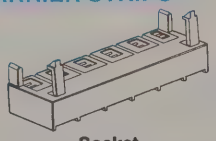
CONNECTORS

Stock No.	Type	Pitch	Term. No.	1-9
16F4968	B51C4U02T	1.27" (5.00)	2	1.91
16F4969	B51C4U03T	1.27" (5.00)	3	2.48
16F4970	B51C4U04T	1.27" (5.00)	4	2.88
16F4974	B51C8U02T	1.29" (5.08)	2	4.70
16F4975	B51C8U03T	1.29" (5.08)	3	5.13
16F4976	B51C8U04T	1.29" (5.08)	4	5.95
HEADERS (VERTICAL)				
16F4971	B71N4V02T	1.27" (5.00)	2	0.37
16F4972	B71N4V03T	1.27" (5.00)	3	0.60
16F4973	B71N4V04T	1.27" (5.00)	4	0.80
HEADERS (HORIZONTAL)				
16F4977	B71N4H02T	1.27" (5.00)	2	1.20
16F4978	B71N4H03T	1.27" (5.00)	3	1.46
16F4979	B71N4H04T	1.27" (5.00)	4	1.97

(5275) (ne08825)

FIXED OR PLUG-IN TRI-BARRIER STRIPS


Connector


Socket

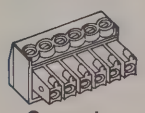
Connector can be direct or socket mounted. Secure mating with built-in locking arms. Features wire-ready clamping plate screws. Sockets available in up to 12 terminals and can be end-to-end stackable to create longer sizes. Maximum circuit isolation. Contact system: brass, tin plated. Terminal spacing: 0.325" (8.26). Insulating material: connector, polypropylene; socket, nylon. Flammability: UL94V-0 rated. Color: black. Current: 15A. Operating voltage: 300V. Wire range: 14-22 AWG. Temperature range: –60°C to +105°C. Tightening torque: 9.0 in-lbs. UL recognized, CSA certified.

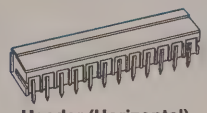
CONNECTORS

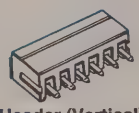
Stock No.	Type	Term. No.	1-9
16F4989	RSB3VP021202	2	1.06
16F4990	RSB3VP031202	3	1.14
16F4991	RSB3VP041202	4	1.68
0.325" PITCH USB SERIES SOCKETS			
16F4992	USB3B02S	2	1.53
16F4993	USB3B03S	3	1.96
16F4994	USB3B04S	4	2.07

(5276) (ne08826)

PLUG-IN CONNECTORS/SHROUDED HEADERS


Connector


Header (Horizontal)


Header (Vertical)

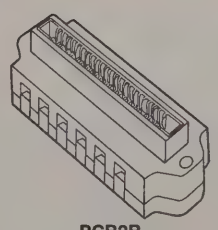
PCB connectors mount with closed-end shrouded headers in vertical or horizontal options. Up to 24 terminals in 0.138" (3.5) design. Features cage clamp and captive screws. Contact system: brass, tin plated. Terminal spacing: 0.138" (3.5). Insulating material: polybutylene terephthalate. Flammability: UL94V-0 rated. Color: blue. Current: 8A. Operating voltage: 300V. Wire range: 14-22 AWG. Temperature range: –30°C to +105°C. Tightening torque: 0.8Nm (7.0 in.-lbs). UL recognized, CSA certified.

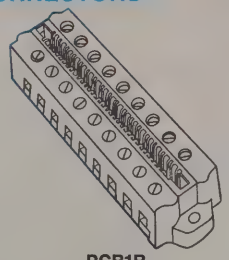
CONNECTORS

Stock No.	Type	Term. No.	1-9
16F4980	B52C3U02T	2	1.20
16F4981	B52C3U03T	3	1.80
16F4982	B52C3U04T	4	2.37
HEADERS (VERTICAL)			
16F4983	B73N3V02T	2	0.43
16F4984	B73N3V03T	3	0.66
16F4985	B73N3V04T	4	0.86
HEADERS (HORIZONTAL)			
16F4986	B73N3H02T	2	0.46
16F4987	B73N3H03T	3	0.69
16F4988	B73N3H04T	4	0.91

(5277) (ne08827)

CARD EDGE CONNECTORS


PCB2B


PCB1B

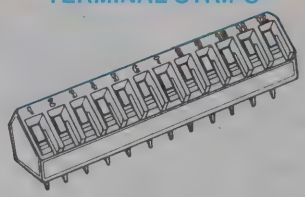
Provide quick connect/disconnect while keeping wiring organized. Available in up to 43 terminals. Feature wire-ready captive screws. High-pressure tuning fork contact. Dead front construction. Contact system: tin over nickel. Terminal spacing: 0.156" (3.96). Insulating material: polyester. Flammability: UL94V-0 rated. Color: black. Current: 10A. Operating voltage: 250V. Wire range: 12-26 AWG (#12 AWG stranded only). Temperature range: –65°C to +140°C. Tightening torque: 5-8.0 in.-lbs. UL recognized, CSA certified.

SINGLE-SIDED

Stock No.	Type	Term. No.	1-9
16F4995	PCB2B06S	6	16.71
16F4996	PCB2B08S	8	17.17
16F4997	PCB2B09S	9	17.39
DOUBLE-SIDED			
16F4998	PCB1B06S	6	14.15
16F4999	PCB1B08S	8	15.94
16F5000	PCB1B10S	10	17.94

(5278) (ne08828)

8145 SERIES 5.00MM SPACING 45° WIRE ENTRY PC BOARD TERMINAL STRIPS



8145 series marked terminal strips have 0.8 x 0.9mm solder pins. UL recognized, CSA certified, VDE 0110 Gr. C., 300V, 14AWG maximum 15 amps. Not for new designs; order type 8135 separately.

Stock No.	Type	Poles	Length (mm)	1-24	25-99
28F1820	25.135.0253	2	10	1.72	1.55
28F1821	25.135.0353	3	15	2.23	2.00
28F1822	25.135.0453	4	20	2.76	2.48
28F1823	25.135.0553	5	25	3.37	3.02
28F1824	25.135.0653	6	30	3.98	3.57
44F4425	25.135.0753	7	35	4.51	4.00
28F1825	25.135.0853	8	40	5.11	4.53
28F1827	25.135.1053	10	50	6.30	5.59
28F1828	25.135.1253	12	60	7.51	6.67
28F1830	25.135.1453	14	70	8.70	7.72
28F1832	25.135.1653	16	80	9.92	8.81
28F1834	25.135.2053	20	100	12.36	10.97
44F4428	25.135.2453	24	120	14.67	13.02

(31881) (ne31881)

8191 AND 8291 SERIES MODULAR PC BOARD TERMINAL STRIPS

- ISO 9001 Certified

8191 and **8191Z series** have 5mm pin spacing and **8291** and **8291Z series** have 5.08mm pin spacing. All can be interlocked to form different configurations. Fully enclosed parts, nickel-plated brass cage clamp, and test point provisions. Ratings: Field wiring 300V, 20A; factory wiring 300V, 30A, #12 AWG max. **8191Z** and **8291Z** also feature a closed bottom design. Polyamide 6.6. Rated 94V-0. UL recognized, CSA certified, VDE approved.

Stock No.	Type	Poles	L (mm)	1-49
8191 SERIES 5.00mm PIN SPACING				
51F4106	25.161.0253	2	10.85	0.75
51F4107	25.161.0353	3	15.85	1.12
8291 SERIES 5.08mm PIN SPACING				
51F4108	25.163.0253	2	11.01	0.75
51F4109	25.163.0353	3	16.09	1.12
8191Z SERIES 5.00mm PIN SPACING				
51F4110	25.161.3253	2	10.85	1.12
51F4111	25.161.3353	3	15.85	1.68
8291Z SERIES 5.08mm PIN SPACING				
51F4112	25.163.3253	2	11.01	1.12
51F4113	25.163.3353	3	16.09	1.68

8192 AND 8292 SERIES LOW-PROFILE MODULAR PC BOARD TERMINAL STRIPS

8192 (5.00mm) and **8292** (5.08mm) series modular interlocking terminal strips with low-profile 10mm height. Ratings: field wiring 300V, 15A; factory wiring 300V, 20A, #14-30 AWG. Rated UL94V-0, UL recognized, CSA certified, VDE approved.

Stock No.	Type	Poles	L (mm)	1-49
91F4903	25.191.0253	2	10.56	0.70
91F4904	25.191.0353	3	15.55	1.04

(5236) (de50400)

8291D SERIES TRIPLE TIER MODULAR PC BOARD TERMINAL BLOCKS

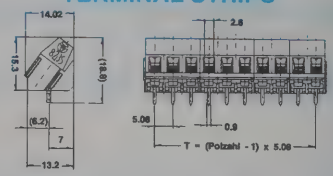
8291 SERIES 5.08mm SPACING

Similar features as **8191E series** terminal blocks, except in a triple tier modular design with 0.2″ (5.08) DIN spacing.

Stock No.	Type	Poles	L	1-24
04F1655	25.181.5253.0	6	0.43″	5.32
04F1656	25.181.5353.0	9	0.63″	7.98

(5210) (de01737)

8135 SERIES 35° ANGLE MODULAR PC BOARD TERMINAL STRIPS

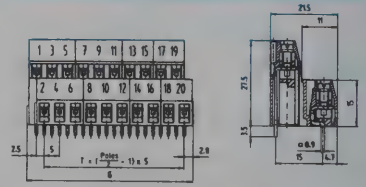


35° angle wire entry ideal for limited-space applications. Modular units assemble to form any pole configuration. Field wiring rated 300VAC, 20A, 12-22AWG; factory wiring 300VAC, 30A, 12-30AWG. Body: Polyamide 6.6 rated 94V-0. Clamping screw: dichromated steel; clamping body is nickel plated copper alloy. Light grey. UL recognized, CSA certified, VDE approved.

Stock No.	Type	Poles	L (mm)	1-49
5mm PIN SPACING				
50F3545	25.521.0253	2	10.85	0.90
50F3546	25.521.0353	3	15.85	1.34
5.08mm PIN SPACING				
50F3547	25.523.0253	2	10.85	0.90
50F3548	25.523.0353	3	15.85	1.34

(5230) (de50217)

8191E AND 8291E SERIES DOUBLE TIER MODULAR PC BOARD TERMINAL BLOCKS



Interlockable, with fully-enclosed parts, nickel-plated brass cage clamp and test point provisions. Pin spacing: 0.2″ (5.08). Polyamide 6.6 insulating body, rated UL94V-0. 300V, 30A (factory) and 20A (field) wiring. 12 AWG max. UL recognized, CSA certified, VDE approved.

Stock No.	Type	Poles	Length	1-49	50-99
8291E SERIES 5.08mm PIN SPACING					
04F1647	25.179.5253.0	4	0.52″	3.09	2.77
04F1648	25.179.5353.0	6	0.72″	4.53	4.02
8191E SERIES 5.00mm PIN SPACING					
04F1643	25.178.5253.0	4	0.51″	3.09	2.77
04F1644	25.178.5353.0	6	0.71″	4.53	4.02

(5209) (de01735)

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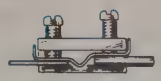
CONTACT YOUR LOCAL NEWARK SALES OFFICE.

DIVISIBLE EUROPA STRIPS



Feature phosphor bronze wire guard between screw and conductor to prevent damage to conductors. Polyamide 6 insulating body easily cut with knife or saw. Nickel-plated connectors and zinc-plated clamping screw. UL recognized, CSA certified, VDE approved 0110 Gr. C. To double voltage performance to 600V from 300V, *order spacers separately below.* **Type 6EH DS** offers 600 volt rating without requiring a spacer. Other sizes available; *contact your local Newark sales office for details.*

4 EDS 300V NO. 16 AWG MAXIMUM 10 AMP

Stock No.	Type	Poles	L (mm)	1-49
89F3059	21.305.0253	2	14	0.64
89F3060	21.305.0353	3	22	0.96
89F3061	21.305.0453	4	30	1.28
89F3062	21.305.0553	5	38	1.61
89F3063	21.305.0653	6	46	1.93
89F3064	21.305.0853	8	62	2.57
89F3065	21.305.0953	9	70	2.88
89F3066	21.305.1053	10	78	3.22
89F3067	21.305.1253	12	94	3.74

6 EDS 300V NO. 14 AWG MAXIMUM 15 AMP

Stock No.	Type	Poles	L (mm)	1-49
31F2408	21.311.0353	3	27	0.96
31F2409	21.311.0453	4	37	1.28
31F2411	21.311.0653	6	57	1.93
31F2413	21.311.0853	8	77	2.57
31F2415	21.311.1053	10	97	3.22
31F2416	21.311.1253.0	12	117	3.74

10 EDS 300V NO. 12 AWG MAXIMUM 20 AMP

Stock No.	Type	Poles	L (mm)	1-49
31F2418	21.331.5353	3	32	1.50
31F2419	21.331.5453	4	44	1.97
31F2421	21.331.5653	6	68	2.90
31F2423	21.331.5853	8	92	3.84
31F2425	21.331.6053	10	116	4.67
31F2426	21.331.6253	12	140	5.49

16 EDS 300V NO. 10 AWG MAXIMUM 40 AMP

Stock No.	Type	Poles	L (mm)	1-24
31F2429	21.341.5453	4	50	4.06
31F2431	21.341.5653	6	77	6.00
31F2435	21.341.6053	10	131	9.85
31F2436	21.341.6253	12	158	11.57

20 EDS 300V NO.6 AWG MAXIMUM 65 AMP

12F1047	21.341.3453	4	55	4.83
12F1051	21.341.3853	8	113	9.18
12F1053	21.341.4053	10	142	11.41
12F1054	21.341.4253	12	171	13.17

6EH DS 600V NO. 12 AWG MAXIMUM 20 AMP

Stock No.	Type	Poles	L (mm)	1-49
83F7647	21.313.0353.0	3	27	0.93
83F7648	21.313.0453.0	4	37	1.24
83F7649	21.313.0653.0	6	57	1.86
83F7650	21.313.0853.0	8	77	2.48
83F7651	21.313.1053.0	10	97	3.11
83F7652	21.313.1253.0	12	117	3.62

SPACERS FOR TERMINAL STRIPS

Increase 300V strips to 600V. Comes with 12 poles; cut to length.

Stock No.	Type.	For	1-49
31F2300	07.470.1280	6 EDS	1.39
31F2301	07.471.1280	10 EDS	1.49
44F8421	07.472.1280	16 EDS	1.51
44F8422	07.473.1280	20 EDS	1.57

(5229) (de50216)

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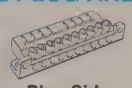
10-POLE PLUG AND SOCKET CONNECTORS



Plug Side

Socket Side

- **ISO 9001 Certified**

Compact connectors with dead front design and coding facility. Metal parts recessed. For rail mount, panel-to-panel and cable-to-panel applications. Phosphor bronze wire guards. Numbered poles. Polyamide 6.6 insulating body rated 100°C. 20A, 300V. 12AWG maximum. Steel, zinc plated, di-chromated pressure screws. Mated size: 92mm L, 43mm W, 17mmH. UL recognized, CSA certified, VDE approved 0110 Gr. C.

Stock No.	Type	Description	1-24	25-49
44F4477	93.001.1053	Socket	13.15	11.67
44F4478	93.002.1053	Plug	12.45	11.05
44F4479	05.594.5153	Coding Pin	6.20	5.50

(5228) (de50203)

COMPACT TERMINAL STRIPS

Extremely compact terminal strips for panel and surface mount. Polyamide 6 insulating body with nickel-plated connectors, supplied with self-locking screws to prevent loosening of contacts. Phosphor bronze wire guards. Zinc-plated steel clamping screws. Metal parts enclosed or recessed. 250V, 20A, 12 AWG maximum. UL recognized, CSA certified, VDE approved 0110 Gr. C.

Stock No.	Type	Poles	L (mm)	1-49
31F2437	29.401.0453	4	33.4	3.09
31F2438	29.401.0653	6	44.2	3.97
31F2439	29.401.0853	8	55.0	4.97
31F2440	29.401.1253	12	76.6	6.98
31F2441	29.401.1653	16	98.2	8.67
31F2442	29.401.2053.0	20	119.8	10.58

(5231) (de50219)

8181 AND 8281 SERIES PC BOARD TERMINAL STRIPS

- **ISO 9001 Certified**

8181 and **8281 series** terminal strips feature fully enclosed parts, nickel-plated phosphor wire guards, captive wire protection, and break-resistant polyamide 6.6 body. Screws prevent self-loosening. Tin plating allows soldering. UL recognized, CSA certified, VDE approved 0110 Gr. C. **8181 series** 5mm spacing; **8281 series** 5.08mm spacing. Rated 250V, 10A, 14AWG max. **8181** strips unmarked. Available marked; *contact your local Newark sales office.* **8281** strips have numbering standard. Strips available without numbering. Additional pole configurations available for **8181** and **8281 series;** *contact your local Newark sales office.*

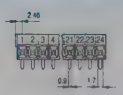
8181 SERIES 5mm SPACING

Stock No.	Type	Poles	L (mm)	1-49	50-99
44F4429	25.112.0253	2	9	1.12	1.01
44F4430	25.112.0353	3	14	1.48	1.33
44F4431	25.112.0453	4	19	1.88	1.69
44F4432	25.112.0553	5	24	2.28	2.05
44F4433	25.112.0653	6	29	2.68	2.41
44F4435	25.112.0853	8	39	3.13	2.81
44F4436	25.112.1053	10	49	3.99	3.54
44F4437	25.112.1253	12	59	4.46	3.95
44F4438	25.112.1453	14	69	5.54	4.91
44F4439	25.112.1653	16	79	6.14	5.45
44F4441	25.112.2053	20	99	7.47	6.63
44F4444	25.112.2453	24	119	8.80	7.81

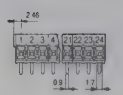
8281 SERIES 5.08mm SPACING

44F4416	25.104.0253	2	10	1.51	1.35
44F4424	25.104.0353	3	15	1.87	1.68
31F2400	25.104.0453	4	20	2.34	2.10
44F4417	25.104.0553	5	25	2.82	2.53
31F2401	25.104.0653	6	30	3.24	2.91
44F4418	25.104.0753	7	35	3.71	3.33
31F2402	25.104.0853.0	8	40	4.04	3.59
31F2403	25.104.1053	10	50	4.97	4.41
31F2404	25.104.1253	12	60	5.88	5.22
44F4419	25.104.1453	14	70	6.81	6.04
31F2405	25.104.1653	16	81	7.72	6.85
44F4420	25.104.1853	18	91	8.61	7.64
44F4421	25.104.2053	20	101	9.50	8.43
31F2406	25.104.2453	24	121	10.04	8.91

(5235) (de50399)



Closed Bottom



Open Bottom

CLOSED BOTTOM TERMINAL STRIPS WITH INSULATING PLATES (NO PINS)

Low profile, ultra-compact modular terminal strips for high-density PC boards. Terminal strips are configurable to any length. 3.50mm pin spacing, available in 2- and 3-pole units, and easily interlock to form any number up to 24 poles. Molded of flame-retardant polyamide, rated UL94V-0. Copper alloy rising cage clamp and built-in test points. Height: 9.5mm. CSA certified, VDE approved. Marked versions also available; *contact your local Newark sales office.*

Stock No.	Type	Pin Spacing	Poles	Pole to Length	Pole Length	1-49	50-99	100-499	500-999
92F3832	25.195.3253.0	3.50mm	2	7.00mm	3.50mm	1.81	1.62	1.40	1.27
92F3833	25.195.3353.0	3.50mm	3	10.50mm	7.00mm	2.71	2.43	2.10	1.91

(5220) (de04218)

OPEN BOTTOM TERMINAL STRIPS WITHOUT INSULATING PLATES

Terminal strips with 3.50mm pin spacing. Flammability rating: UL 94V-0. Height: 8.5mm. CSA certified, VDE approved. Marked versions also available; *contact your local Newark sales office.*

Stock No.	Type	Pin Spacing	Poles	Pole to Length	Pole Length	1-49	50-99	100-499	500-999
92F3843	25.195.0253.0	3.50mm	2	7.00mm	3.50mm	0.78	0.70	0.60	0.55
92F3844	25.195.0353.0	3.50mm	3	10.50mm	7.00mm	1.17	1.05	0.90	0.82

(5221) (de04225)

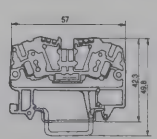


Fig. 1

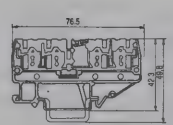


Fig. 2

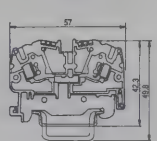


Fig. 3

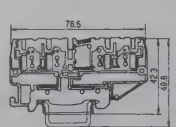


Fig. 4

WKF SERIES STANDARD SCREWLESS SPRING CLAMP TERMINAL BLOCKS

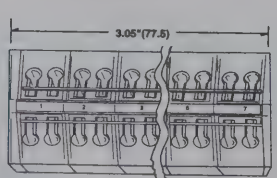
WKF series 5mm modular blocks for DIN rail mount use screwless spring clamp termination. Ideal for symmetrical TS35 rails. Rated 600 volts, 25 amps, 22-12 AWG. Insulating body of polyamide 6.6. ISO 9001 certified, UL recognized, CSA certified.

Stock No.	Type	Fig.	Description	1-24
52F9817	56.703.0053.0	1	Feed Through	0.99
52F9819	56.703.5053.0	1	Dual Wire Entry 1/2	2.49
52F9820	56.703.5153.0	2	Dual Wire Entry 2/2	1.62
52F9818	56.703.9053.0	3	Ground	3.45
52F9821	56.703.9153.0	4	Dual Wire Entry 2/2 w/Ground	5.21

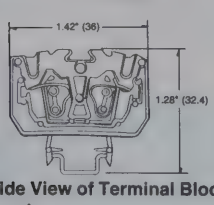
ACCESSORIES

Stock No.	Type	Description	1-24
52F9822	98.300.0000.0	Mounting Rail	9.66
52F9823	98.300.1000.0	Mounting Rail	11.60
52F9824	Z5.522.7453.0	End Bracket	0.50
52F9825	07.312.2153.0	End Plate	0.41
52F9826	07.312.2253.0	Partition Plate	0.41
52F9839	04.343.6053.8	Snap-On Cover	0.37
52F9827	Z7.280.6227.0	Jumper Bar, Insulated — 2 Poles	0.97
52F9828	Z7.280.6327.0	Jumper Bar, Insulated — 3 Poles	1.20
52F9829	Z7.280.6427.0	Jumper Bar, Insulated — 4 Poles	1.37
52F9830	Z7.280.6527.0	Jumper Bar, Insulated — 5 Poles	1.63
52F9831	Z7.280.6627.0	Jumper Bar, Insulated — 6 Poles	1.78
52F9832	Z7.280.6727.0	Jumper Bar, Insulated — 7 Poles	2.04
52F9833	Z7.280.6827.0	Jumper Bar, Insulated — 8 Poles	2.19
52F9834	Z7.280.6927.0	Jumper Bar, Insulated — 9 Poles	2.95
52F9835	Z7.280.7027.0	Jumper Bar, Insulated — 10 Poles	2.59

(5274) (ne08628)



WKF 2.5MD



Side View of Terminal Block

WKF 2.5MD SERIES COMPACT SCREWLESS SPRING CLAMP TERMINAL BLOCKS

Compact **WKF 2.5MD series** screwless spring connection terminal blocks are ideally suited for tight space requirements, or within junction boxes. Offers direct panel mounting, flange mounting, or traditional rail mount on either TS15 or TS35 rail. Rated 600 volts, 24 amps. UL recognized, VDE approved.

MINI SPRING CLAMP TERMINAL BLOCKS FOR 35mm RAIL MOUNTING

Stock No.	Type	Description	1-49	50-99	100-499	500-999
91F7173	56.703.0553.0	Feed Through	1.37	1.23	1.04	0.95
91F7174	56.703.1053.0	Duo Feed Through	1.90	1.70	1.44	1.31
99F5421	Z5.522.8553.0	End Clamp	3.92	2.81	2.22	2.00

MINI SPRING CLAMP TERMINAL BLOCKS FOR 15mm RAIL MOUNTING

91F7175	55.703.0553.0	Feed Through	1.37	1.23	1.04	0.95
91F7176	55.703.1053.0	Duo Feed Through	1.90	1.70	1.44	1.31
91F7177	Z5.522.7553.0	End Clamp	0.65	0.58	0.49	0.45

MINI SPRING CLAMP TERMINAL BLOCKS WITH PANEL MOUNT FOOT

91F7178	38.703.0553.0	Feed Through	1.35	1.21	1.03	0.93
91F7179	38.703.1053.0	Duo Feed Through	1.86	1.67	1.42	1.29

MINI SPRING CLAMP TERMINAL BLOCKS WITH SCREW MOUNT FLANGE

91F7180	37.703.0553.0	Feed Through	1.35	1.21	1.03	0.93
91F7181	37.703.1053.0	Feed Through with Flange	1.86	1.67	1.42	1.29
91F7183	07.312.3153.0	End Plate with Flange Right	0.66	0.59	0.50	0.46

ACCESSORIES

91F7182	07.312.2953.0	End Plate	0.55	0.49	0.42	0.38
52F9836	05.561.6553.0	Wire Entry Guide 0.13-0.2mm^2	0.43	...	...	...
52F9837	05.561.6653.0	Wire Entry Guide 0.25-0.5mm^2	0.43	...	...	...
52F9838	05.561.6753.0	Wire Entry Guide 0.75-1.0mm^2	0.43	...	...	...
91F7184	Z7.280.8227.0	Jumper Bar, Insulated	1.53	1.37	1.16	1.06
91F7185	04.244.0053.0	Unmarked Tags	9.12	8.09	7.44	6.42

(17539) (ne09933)

WK/U SERIES MODULAR TERMINAL BLOCKS WITH UNIVERSAL BASE

Designed for asymmetrical or symmetrical rail mounting. Available in 27-amp, 36-amp, 47-amp, or 65-amp models. Features insulating body constructed of Polyamide 6.6, tracking resistant. Connectors are hardened steel, tin plated, and dichromated. Nickel-plated copper alloy current carrying bars. Current rating: 600 volts. Width shown in mm. ISO-9001 certified, UL recognized, CSA certified, VDE approved. *Order accessories separately on this page.*

Stock No.	Type	Part No.	Description	W	1-49	50-99	100-499	500-999
90F7382	57.503.0053	WK2.5/U	30-Amp, 12 AWG	5	1.44	1.29	1.11	1.01
94F3191	57.504.0053	WK4/U	35-Amp, 10 AWG	6	1.64	1.47	1.27	1.15
90F7365	57.506.0053	WK6/U	50-Amp, 8 AWG	8	2.35	2.11	1.82	1.65
83F7645	57.504.4453.0	WK4TKSD/U	300V/25A 20-10 AWG	16	2.29	2.06	1.75	1.58

GROUND TERMINAL BLOCKS

Stock No.	Type	Part No.	Description	W	1-24	25-49	50-99	100-249
83F7640	57.504.9053.0	WK4 SL/U	20-10 AWG	6	4.71	4.18	3.85	3.32
83F7641	57.506.9053.0	WK6 SL/U	20-8 AWG	8	6.86	6.08	5.60	4.83
83F7642	57.510.9053.0	WKN10 SL/U	16-6 AWG	10	7.18	6.37	5.86	5.06

FUSE TERMINAL BLOCKS

83F7643	57.904.5553.0	WK4/THS15 LED 24V	600V/6.3 A 22-12 AWG	8	14.11	13.24	12.48	11.50
83F7644	57.504.4053.0	WK4 TKG/U	300V/10A 22-10 AWG	6	2.46	2.21	1.87	1.70

DISCONNECT TERMINAL BLOCKS

83F7645	57.504.2053.0	WK4 TKM/U	600V/20A 22-12 AWG	6	4.56	4.05	3.72	3.21

FUSE HOLDER PLUGS

Stock No.	Type	Description	1-49	50-99	100-499	500-999
83F7655	Z1.299.4153.0	5 x 20 mm w/24V Indicator	14.80	13.88	13.09	12.06
83F7656	Z1.299.4053.0	5 x 20 mm w/o Indicator	4.26	3.78	3.48	3.00

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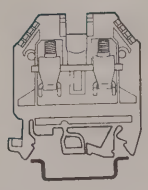

ACCESSORIES FOR MODULAR TERMINAL BLOCKS - ISO 9001 CERTIFIED

ENDPLATES; Material: Polymide 6.6, Thickness: 1.5mm — FIG. 1

Prevents exposure of live parts. these push-fit endplates required to close off last terminal block in an assembly bank.

Stock No.	Type	Fits Block	1-49	50-99	100-499	500-999
90F7367	07.311.0153	WK2.5/U, WK4/U	0.51	0.46	0.40	0.36
90F7368	07.311.0253	WK6/U	0.58	0.52	0.45	0.41
51F2874	07.311.0353	WK10/U	0.68	0.61	0.52	0.48

PARTITION PLATES—FIG. 2

Used to increase the electrical clearance between terminals of different polarity, or provide greater visual indication of the functions of terminal blocks in an assembly bank. Constructed of Polyamide 6.6. Thickness: 1.5mm.

51F4150	07.311.1153	WK2.5/U, WK4/U	0.69	0.62	0.53	0.48
90F7369	07-311-1253	WK6/U	0.71	0.64	0.55	0.50
90F7393	07.311.1353	WK6/U	0.77	0.69	0.60	0.54

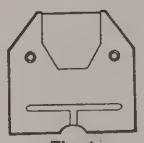

Fig. 1

Fig. 2

JUMPER BARS (CROSS CONNECTORS)—FIG. 3

Preassembled jumper bars achieve good electrical conductivity and provide fast interconnection Material: electrolytic copper, supplied with necessary screws. Standard 24″ length or 2-, 3-, and 4-pole precut lengths. Can be cut diagonally by user. The jumper bar can be fixed directly onto the terminals; no bushing or sleeve required. Standard 24″ jumper bar and jumpr bars for 2, 3 and 4 pole precut lengths available for Block WK6/U, *contact your local Newark sales office.*

Stock No.	Type	Description	Fits Block	1-9	10-24	25-49
90F7370	Z7-280-0027	Standard 24″ Jumper Bar	WK2.5/U	45.77	42.23	...
90F7373	Z7-280-0227	Jumper Bar for 2 Terminals		0.97	0.87	0.79
51F2828	Z7-280-0327	Jumper Bar for 3 Terminals		1.40	1.25	1.14
51F2829	Z7-280-0427	Jumper Bar for 4 Terminals		1.82	1.63	1.49
90F7371	Z7-281-0027	Standard 24″ Jumper Bar	WK4/U	28.73	26.51	...
51F2831	Z7-281-0227	Jumper Bar for 2 Terminals		0.97	0.87	0.79
51F2832	Z7-281-0327	Jumper Bar for 3 Terminals		1.40	1.25	1.14
51F2833	Z7-281-0427	Jumper Bar for 4 Terminals		1.82	1.63	1.49

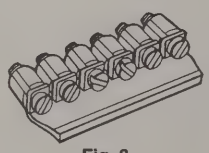

Fig. 3

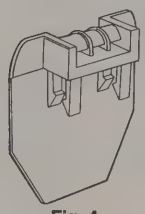

Fig. 4

SNAP-IN PARTITIONS—FIG. 4

When 2 jumper bars (cross connectors) are next to each other, a partition must be fitted between the adjacent jumper bars. Constructed of yellow Polyamide 6.6. Fitted from the top. Partition for WK6/U available.

Stock No.	Type	Fits Block	1-49	50-99	100-499	500-999
90F7388	07.311.2053.8	WK2.5/U	0.39	0.35	0.30	0.28
90F7389	07.311.2153.8	WK4/U	0.39	0.35	0.30	0.28

RAPID UNMARKED MARKING STRIPS—FIG. 5

Tear-apart strip of 10 unmarked marking tags. Help reduce marking time. Constructed of Polyamide 6.6 material. Fit easily into the molded slots of the insulating terminal block body. **Type 9705A/5/10** for terminals 10mm wide and 5mm wide; **type 9705A/6/10** for terminals 6mm wide; and **type 9705A/8/10** for terminals 8mm wide. Rapid mounting tool (Fig. 6), also available, *contact your local Newark sales office.*

90F7435	04.242.5053	WK2.5/U, WK10/U	0.32	0.29	0.25	0.23
94F2721	04.242.6053	WK4/U	0.32	0.29	0.25	0.23
51F2871	04.242.8053	WK6/U	0.33	0.30	0.26	0.24

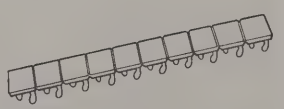

Fig. 5

Fig. 6

MOUNTING RAIL—FIG. 7

Standard 6′6″ (2m) long symmetrical mounting rail (top hat) according to DIN 46277, EN50022. Steel, zinc plated and chromated. For **type WK2.5/U, WK4/U, WK6/U,** and **WK10/U** terminal blocks. *Order end clamps separately.*

Stock No.	Type	Description	1-24	25-49	50-99	100-249
94F2750	98.300.0000	Mounting Rail	13.71	12.16	11.41	9.85

END CLAMP—FIG. 8

Mounts to end of an assembly bank to prevent the terminal blocks from being pushed along the mounting rail. The fastening screw will not damage surface finish of rail. Constructed of Polyamide 6.6 material. Width: 8mm.

Stock No.	Type	Description	1-9	10-24	25-49
51F2827	Z5-522-7453	End Clamp	0.67	0.60	0.55

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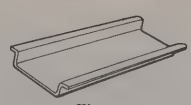


Fig. 7

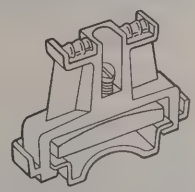
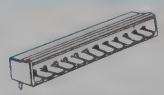
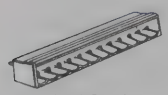


Fig. 8

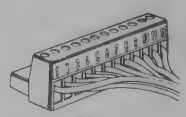
8113 AND 8213 SERIES PLUGGABLE PC TERMINAL STRIPS



Horizontal Socket



Vertical Socket



Plug

8113 and **8213 series** 2-piece, plug-in terminal strips provide quick connect and disconnect of PC board wiring. They are available with 2 to 24 poles and in either horizontal or vertical socket configurations. All metal parts are recessed or enclosed in the insulating body to provide circuit protection and dead-front safety. Insulating housings made of polyamide 6.6. Materials rated 100°C, UL94V-0. Terminal block connectors also have captive wire protection, and nickel-plated brass screws are secured against loosening. Contact springs and solder pins are tin-plated bronze. Rated 300V, 15A, 12 AWG. **8113 series** are black and have 0.039″ (1.00) square pins for 0.197″ (5.00) spacing. UL recognized, CSA certified, VDE approved 0110 Gr. B.

8113 SERIES SINGLE TIER MARKED PLUGS

Stock No.	Type	Part No.	Poles	L (mm)	1-49	50-99	100-499
87F6736	25.320.0253.1	8113B/2	2	10	1.75	1.57	1.36
87F6737	25.320.0353.1	8113B/3	3	15	2.60	2.33	2.02
87F6738	25.320.0453.1	8113B/4	4	20	3.47	3.11	2.69
87F6739	25.320.0553.1	8113B/5	5	25	4.24	3.76	3.53
87F6740	25.320.0653.1	8113B/6	6	30	5.09	4.52	4.24
87F6741	25.320.0753.1	8113B/7	7	35	5.94	5.27	4.94
87F6742	25.320.0853.1	8113B/8	8	40	6.79	6.02	5.65
87F6743	25.320.0953.1	8113B/9	9	45	7.63	6.77	6.36
87F6744	25.320.1053.1	8113B/10	10	50	8.48	7.53	7.06
87F6746	25.320.1253.1	8113B/12	12	60	10.18	9.03	8.47
89F6131	25.320.1353.1	8113B/13	13	65	11.02	9.78	9.18
89F6132	25.320.1453.1	8113B/14	14	70	11.87	10.53	9.89
89F6133	25.320.1553.1	8113B/15	15	75	12.61	11.19	10.50
87F6747	25-320-1653-1	8113B/16	16	80	13.57	12.04	11.30
89F6134	25.320.2053.1	8113B/20	20	100	15.53	14.57	14.01
87F6748	25.320.2453.1	8113B/24	24	120	18.64	17.49	16.81

8113 SERIES HORIZONTAL UNMARKED SOCKETS

46F3347	25.332.3253.1	8113S/2WOB	2	11.2	0.56	0.50	0.43
46F3348	25.332.3353.1	8113S/3WOB	3	16.2	0.83	0.75	0.65
46F3349	25.332.3453.1	8113S/4WOB	4	21.2	1.11	1.00	0.86
46F3350	25.332.3553.1	8113S/5WOB	5	26.2	1.39	1.25	1.08
46F3351	25.332.3653.1	8113S/6WOB	6	31.2	1.67	1.49	1.29
46F3352	25.332.3753.1	8113S/7WOB	7	36.2	1.94	1.74	1.51
46F3353	25.332.3853.1	8113S/8WOB	8	41.2	2.22	1.99	1.72
46F3362	25.332.3953.1	8113S/9WOB	9	46.2	2.50	2.24	1.94
46F3363	25.332.4053.1	8113S/10WOB	10	51.2	2.77	2.49	2.15
89F6097	25.332.4453.1	8113S/14WOB	14	71.2	3.88	3.48	3.01
89F6098	25.332.4553.1	8113S/15WOB	15	76.2	4.07	3.61	3.39
89F166	25.332.4653.1	8113S/16WOB	16	81.2	4.34	3.85	3.62
89F6099	25.332.5053.1	8113S/20WOB	20	101.2	5.43	4.82	4.52
89F167	25.332.5453.1	8113S/24WOB	24	121.2	6.52	5.78	5.42

8113 SERIES VERTICAL UNMARKED SOCKETS

87F6879	25.330.3253.1	8113S/2GOB	2	11.2	0.56	0.50	0.43
87F6880	25.330.3353.1	8113S/3GOB	3	16.2	0.83	0.75	0.65
87F6881	25.330.3453.1	8113S/4GOB	4	21.2	1.11	1.00	0.86
87F6882	25.330.3553.1	8113S/5GOB	5	26.2	1.39	1.25	1.08
87F6883	25.330.3653.1	8113S/6GOB	6	31.2	1.67	1.49	1.29
87F6885	25.330.3853.1	8113S/8GOB	8	41.2	2.22	1.99	1.72
87F6886	25.330.3953.1	8113S/9GOB	9	46.2	2.50	2.24	1.94
87F6887	25.330.4053.1	8113S/10GOB	10	51.2	2.77	2.49	2.15
87F6889	25.330.4253.1	8113S/12GOB	12	61.2	3.33	2.98	2.58
89F6105	25.330.4453.1	8113S/14GOB	14	71.2	3.88	3.48	3.01
87F6890	25.330.4653.1	8113S/16GOB	16	81.2	4.34	3.85	3.62
89F6107	25.330.5053.1	8113S/20GOB	20	101.2	5.43	4.82	4.52
87F6891	25.330.5453.1	8113S/24GOB	24	121.2	6.52	5.78	5.42

8213 series 2-piece, plug-in terminal strips are gray and have 0.039″ (1.00) square pins for 0.200″ (5.08) spacing.

8213 SERIES MARKED PLUGS

Stock No.	Type	Part No.	Poles	L (mm)	1-49	50-99	100-249
87F6770	25.340.0253	25.340.0253	2	10.16	1.75	1.57	1.36
87F6771	25.340.0353	25.340.0353	3	15.24	2.60	2.33	2.02
87F6772	25.340.0453	25.340.0453	4	20.32	3.47	3.11	2.69
87F6773	25.340.0553	25.340.0553	5	25.40	4.24	3.76	3.53
87F6774	25.340.0653	25.340.0653	6	30.48	5.09	4.52	4.24
87F6775	25.340.0753	25.340.0753	7	35.56	5.94	5.27	4.94
87F6776	25.340.0853	25.340.0853	8	40.64	6.79	6.02	5.65
87F6777	25.340.0953	25.340.0953	9	45.72	7.63	6.77	6.36
87F6778	25.340.1053	25.340.1053	10	50.80	8.48	7.53	7.06
87F6779	25.340.1153	25.340.1153	11	55.88	9.33	8.28	7.77
87F6781	25.340.1253	25.340.1253	12	60.96	10.18	9.03	8.47
89F6135	25.340.1353	25.340.1353	13	66.04	11.02	9.78	9.18
89F6136	25.340.1453	25.340.1453	14	71.12	11.87	10.53	9.89
89F6137	25.340.1553	25.340.1553	15	76.20	12.61	11.19	10.50

CONTINUED

8113 AND 8213 SERIES PLUGGABLE PC TERMINAL STRIPS (CONT.)

8213 SERIES MARKED PLUGS (CONT.)

Stock No.	Type	Part No.	Poles	L (mm)	1-49	50-99	100-249
87F6780	25.340.1653	25.340.1653	16	81.28	13.57	12.04	11.30
89F6095	25.340.2053	25.340.2053	20	101.60	15.53	14.57	14.01
87F6782	25.340.2453	25.340.2453	24	121.92	18.64	17.49	16.81

8213 SERIES HORIZONTAL UNMARKED SOCKETS

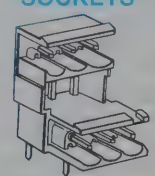
87F6750	25.352.3253	25.352.3253	2	11.36	0.56	0.50	0.43
87F6751	25.352.3353	25.352.3353	3	16.44	0.83	0.75	0.65
87F6752	25.352.3453	25.352.3453	4	21.52	1.11	1.00	0.86
87F6753	25.352.3553	25.352.3553	5	26.60	1.39	1.25	1.08
87F6754	25.352.3653	25.352.3653	6	31.68	1.67	1.49	1.29
87F6755	25.352.3753	25.352.3753	7	36.76	1.94	1.74	1.51
87F6756	25.352.3853	25.352.3853	8	41.84	2.22	1.99	1.72
87F6758	25.352.4053	25.352.4053	10	52.00	2.77	2.49	2.15
87F6759	25.352.4153	25.352.4153	11	57.08	3.05	2.73	2.36
87F6760	25.352.4253	25.352.4253	12	62.16	3.33	2.98	2.58
89F6100	25.352.4353	25.352.4353	13	67.24	3.60	3.23	2.80
89F6101	25.352.4453	25.352.4453	14	72.32	3.88	3.48	3.01
89F6102	25.352.4553	25.352.4553	15	77.40	4.07	3.61	3.39
87F6761	25.352.4653	25.352.4653	16	82.48	4.34	3.85	3.62
89F6103	25.352.5053	25.352.5053	20	102.80	5.43	4.82	4.52
87F6762	25.352.5453	25.352.5453	24	123.12	6.52	5.78	5.42

8213 SERIES VERTICAL UNMARKED SOCKETS

Stock No.	Type	Part No.	Poles	L (mm)	1-49	50-99	100-499
87F6763	25.350.3253	25.350.3253	2	11.36	0.56	0.50	0.43
87F6764	25.350.3353	25.350.3353	3	16.44	0.83	0.75	0.65
87F6765	25.350.3453	25.350.3453	4	21.52	1.11	1.00	0.86
87F6766	25.350.3553	25.350.3553	5	26.60	1.39	1.25	1.08
87F6767	25.350.3653	25.350.3653	6	31.68	1.67	1.49	1.29
87F6769	25.350.3853	25.350.3853	8	41.84	2.22	1.99	1.72
87F6784	25.350.4053	25.350.4053	10	52.00	2.77	2.49	2.15
87F6786	25.350.4253	25.350.4253	12	62.16	3.33	2.98	2.58
89F6109	25.350.4453	25.350.4453	14	72.32	3.88	3.48	3.01
87F6787	25.350.4653	25.350.4653	16	82.48	4.34	3.85	3.62
87F6788	25.350.5453	25.350.5453	24	123.12	6.52	5.78	5.42

(5239) (de50758)

8213 SERIES TWO-TIER PLUGGABLE PC TERMINAL SOCKETS



3 Pole Horizontal

8213 series modular, slide-together, two-tier sockets allow for increased end-to-end pin density. Flush mount PC boards. All metal parts recessed or enclosed for circuit protection. Gray polybutylene terephthalate material rated 105°C, UL94V-0. 0.039″ (1.00) square solder pins are tin-plated bronze; for 0.200″ (5.08) spacing. 300VAC, 12A, 12AWG max., 250VAC, 15A, 12AWG max. UL recognized, CSA certified, VDE approved 0110 Gr B. **8113 series** *with 1.97″ (5.00) spacing available; contact your local Newark sales office.*

HORIZONTAL UNCODED SOCKETS

Stock No.	Type	Part No.	Poles	L (mm)	1-49	50-99	100-499
87F6795	25.356.3253	25.356.3253	2	11.85	2.06	1.85	1.60
87F6796	25.356.3353	25.356.3353	3	17.78	3.02	2.71	2.34

VERTICAL UNCODED SOCKETS

87F6790	25.354.3253	25.354.3253	2	11.85	2.06	1.85	1.60
87F6789	25.354.3353	25.354.3353	3	17.78	3.02	2.71	2.34

(5241) (de50760)

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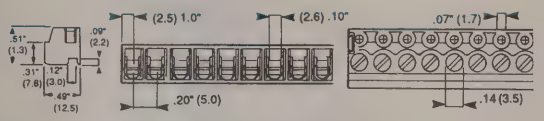
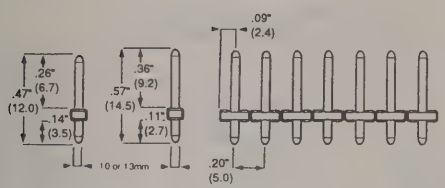
(33392) (ne33392)

8142 SERIES TWO-PIECE PC DISCONNECT STRIPS



Connector Strip



Pin Strip

Solderable socket connector strip for 0.197″(5.00) spacing allows connection and disconnection of up to 24 poles to and from printed circuit in one simple plugging operation. Wires connected to flush-mounted strip by screws having wire protection spring. Two connector pins available: 1.3mm diameter above board and 1.0mm diameter below board or 1.3mm diameter above board and 1.3mm diameter below board. Tin-plated socket contacts. 20 amps, 300 volts, 12-22 AWG. UL recognized, CSA certified, VDE approved.

8142 SERIES 0.197″ (5.00) CONNECTOR STRIPS

Stock No.	Type	Poles	1-49	50-99	100-499	500-999
95F5996	25.602.2253.0	2	1.23	1.11	0.96	0.87
95F5997	25.602.2353.0	3	1.63	1.46	1.26	1.15
95F5998	25.602.2453.0	4	2.02	1.82	1.57	1.43
95F5999	25.602.2553.0	5	2.43	2.18	1.88	1.71
95F6000	25.602.2653.0	6	2.82	2.53	2.19	1.98
95F6001	25.602.2753.0	7	3.22	2.89	2.50	2.27
95F6002	25.602.2853.0	8	3.62	3.24	2.81	2.55
95F6003	25.602.2953.0	9	3.95	3.51	3.29	2.84
95F6004	25.602.3053.0	10	4.32	3.83	3.60	3.10
95F6005	25.602.3153.0	11	1.47	1.47	...	...
95F6006	25.602.3253.0	12	4.83	4.29	4.02	3.47
95F6007	25.602.3453.0	14	6.05	5.37	5.04	4.35
95F6008	25.602.3653.0	16	6.84	6.07	5.70	4.92
95F6009	25.602.3853.0	18	7.64	6.78	6.36	5.49
95F6010	25.602.4053.0	20	8.43	7.48	7.02	6.06

8142 SERIES 0.197″ (5.00) PIN STRIPS - PIN DIAMETER 1.3/1.0MM

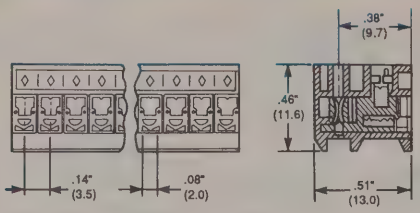
Stock No.	Type	Poles	1-9	10-24	25-49
50F3565	Z5-530-0425-0	4	0.63	0.56	0.51
50F3566	Z5-530-0525-0	5	0.77	0.69	0.63
50F3567	Z5-530-0625-0	6	0.98	0.88	0.80
50F3568	Z5-530-0725-0	7	1.21	1.08	0.98
50F3569	Z5-530-0825-0	8	1.34	1.20	1.09
50F3570	Z5-530-0925-0	9	1.49	1.33	1.21
50F3571	Z5-530-1025-0	10	1.63	1.46	1.33
95F6013	Z5.530.1125.0	11	1.99	1.78	1.62
50F3572	Z5-530-1225-0	12	2.13	1.91	1.73
50F3573	Z5-530-1425-0	14	2.27	2.04	1.85
50F3574	Z5-530-1625-0	16	2.56	2.30	2.09
95F6015	Z5.530.1825.0	18	2.85	2.55	2.32
50F3575	Z5-530-2025-0	20	3.13	2.81	2.55
50F3576	Z5-530-2425-0	24	3.77	3.38	3.07

8142 SERIES 0.197″ (5.00) PIN STRIPS - PIN DIAMETER 1.3/1.3MM

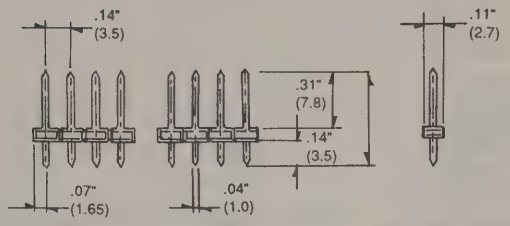
50F3577	Z5-530-3225-0	2	0.34	0.30	0.28
50F3578	Z5-530-3325-0	3	0.48	0.43	0.39
50F3579	Z5-530-3425-0	4	0.63	0.56	0.51
50F3580	Z5-530-3525-0	5	0.77	0.69	0.63
50F3581	Z5-530-3625-0	6	0.98	0.88	0.80
50F3582	Z5-530-3725-0	7	1.21	1.08	0.98
50F3583	Z5-530-3825-0	8	1.34	1.20	1.09
50F3584	Z5-530-3925-0	9	1.49	1.33	1.21
50F3585	Z5-530-4025-0	10	1.63	1.46	1.33
95F6014	Z5.530.4125.0	11	1.99	1.78	1.62
50F3586	Z5-530-4225-0	12	2.13	1.91	1.73
50F3587	Z5-530-4425-0	14	2.27	2.04	1.85
50F3588	Z5-530-4625-0	16	2.56	2.30	2.09
95F6016	Z5.530.4825.0	18	2.85	2.55	2.32
50F3589	Z5-530-5025-0	20	3.13	2.81	2.55
95F6018	Z5.530.5225.0	22	3.44	3.08	2.80
50F3590	Z5-530-5425-0	24	3.77	3.38	3.07

(5205) (de01571)

8543 SERIES HIGH-DENSITY DISCONNECT STRIPS



Connector Strip



Pin Strip

Terminal strip has 0.138″ (3.5) pin spacing, mounts flush to PC board with height of only 0.456″ (11.6). Connecting pins insulated within terminal housing, have opening for easy circuit testing. 2 to 12 pole configurations. Rated 250 volt, 10 amps. 22-16 AWG solid or stranded. Pin strip is polyamide 6.6, has nickel-plated copper alloy 0.0394″ (1.0) diameter pins. UL listed, VDE approved and meets international standards.

8543 SERIES 0.138″ (3.5) CONNECTOR STRIPS, MARKED

Stock No.	Type	Poles	1-49	50-99	100-499	500-999
95F5954	25.600.5253.0	2	1.35	1.21	1.05	0.95
95F5955	25.600.5353.0	3	1.79	1.60	1.39	1.26
95F5956	25.600.5453.0	4	2.22	1.99	1.72	1.56
95F5957	25.600.5653.0	6	3.09	2.77	2.40	2.18
Stock No.	**Type**	**Poles**	**1-24**	**25-49**	**50-99**	**100-249**
95F5961	25.600.6053.0	10	4.73	4.20	3.94	3.40
95F5962	25.600.6153.0	11	5.18	4.60	4.31	3.72
95F5963	25.600.6253.0	12	5.30	4.70	4.41	3.81

8543 SERIES 0.138″ (3.5) CONNECTOR STRIPS, UNMARKED

Stock No.	Type	Poles	1-49	50-99	100-499	500-999
95F5964	25.602.5253.0	2	1.28	1.15	1.00	0.90
95F5965	25.602.5353.0	3	1.70	1.52	1.32	1.19
95F5966	25.602.5453.0	4	2.11	1.89	1.64	1.48
95F5967	25.602.5553.0	5	2.53	2.27	1.96	1.78
95F5968	25.602.5653.0	6	2.94	2.64	2.28	2.07
95F5969	25.602.5753.0	7	3.36	3.01	2.61	2.36
95F5970	25.602.5853.0	8	3.77	3.38	2.92	2.65
Stock No.	**Type**	**Poles**	**1-24**	**25-49**	**50-99**	**100-249**
95F5971	25.602.5953.0	9	4.12	3.66	3.43	2.96
95F5972	25.602.6053.0	10	4.50	3.99	3.75	3.23
95F5973	25.602.6153.0	11	4.92	4.37	4.10	3.54

8543 SERIES 0.138″ (3.5) PIN STRIPS, STRAIGHT

Stock No.	Type	Poles	1-9	10-24	25-49
95F5975	Z5.531.3225.0	2	0.35	0.32	0.29
95F5976	Z5.531.3325.0	3	0.50	0.45	0.41
95F5977	Z5.531.3425.0	4	0.65	0.58	0.53
95F5978	Z5.531.3525.0	5	0.80	0.72	0.65
95F5979	Z5.531.3625.0	6	1.03	0.92	0.84
95F5980	Z5.531.3725.0	7	1.25	1.12	1.02
95F5981	Z5.531.3825.0	8	1.40	1.25	1.14
95F5982	Z5.531.3925.0	9	1.55	1.39	1.26
95F5983	Z5.531.4025.0	10	1.70	1.52	1.38
95F5984	Z5.531.4125.0	11	2.07	1.85	1.68

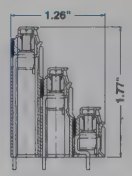
(5206) (de01572)

FRIENDLY, QUALITY SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

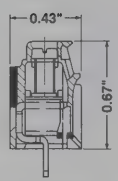
TERMINAL BLOCKS FOR PRINTED CIRCUIT BOARDS

LP 5.08mm/90° TERMINAL BLOCKS

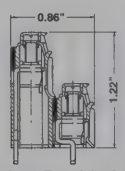
LP5.08/90° Single-Level 90° Orientation Without Test Points



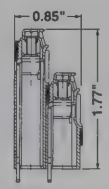
5.08/90° Triple-Level



5.08/90° Single-Level



5.08/90° Double-Level Low Profile



5.08/90° Double-Level High Profile

Terminal blocks with orange polyamide moldings, screw clamp connection. All LP 5.08 PCB terminal blocks are available to 24 poles (48 for double level, 72 for triple-level), and are available with black moldings; *contact your local Newark sales office.* UL/CSA ratings: 300V/10A, 26-12 AWG. Strip length: 0.24" (7). UL recognized, CSA certified.

SINGLE LEVEL 5.08/90° WITHOUT TEST POINTS

Stock No.	Type	No. of Poles	1-24	25-99
16F4124	159454	2	0.85	0.71
16F4125	159455	3	1.27	1.06
16F4126	995132	4	1.67	1.40
16F4127	995134	6	2.52	2.10
16F4128	995136	8	3.35	2.80
16F4129	995138	10	4.19	3.50
16F4130	995140	12	5.03	4.20
16F4131	995144	16	6.70	5.60
TRIPLE LEVEL LP 3R/5.08/90° WITHOUT TEST POINTS				
16F4132	165394	6	4.08	3.41
16F4115	159633	9	6.12	5.11
16F4116	159635	12	8.16	6.82
16F4117	159639	18	12.23	10.22
16F4118	159641	24	16.31	13.63
16F4119	159643	30	20.39	17.03
16F4120	163304	36	24.47	20.44
16F4121	163308	48	32.62	27.25
DOUBLE LEVEL LP 2N 5.08/90° LOW PROFILE				
16F4122	163515	4	2.18	1.82
16F4123	162555	6	3.27	2.73
16F4106	159647	8	4.35	3.64
16F4107	163256	12	6.53	5.45
16F4108	159652	16	8.70	7.27
16F4109	159656	20	10.88	9.09
16F4110	159660	24	13.05	10.90
16F4111	163262	32	17.40	14.54
DOUBLE LEVEL LP 2H/5.08/90° HIGH PROFILE				
16F4112	166863	4	2.99	2.50
16F4113	162559	6	4.49	3.75
16F4114	159669	8	5.98	5.00
16F4097	163286	12	8.97	7.50
16F4098	159673	16	11.96	9.99
16F4099	159675	20	14.95	12.49
16F4100	159677	24	17.94	14.99
16F4101	163292	32	23.92	19.99

(5266) (ne08525)

WEIDMÜLLER MASTER CATALOG LIT91396 AND PRODUCT SELECTION GUIDE FOR PCB TERMINAL BLOCK PRODUCTS LIT9512 AVAILABLE,

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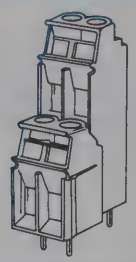
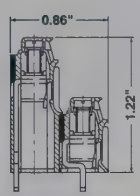
(5271) (ne08550)

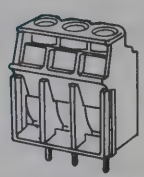
TERMINAL BLOCKS



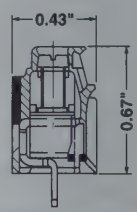
LP2N 5.00 Double-Level Low Profile/Offset Left



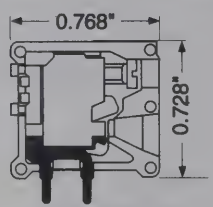
5.00/90°



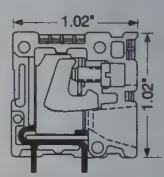
LP 5.00/90° Single Level



5.00/90° Single Level



TOP 1.5GS/5.08/90°



TOP 4GS/7.62/90° Single Level

Terminal blocks with orange polyamide moldings, screw clamp connection. All LP 5.00 PCB terminal blocks are available to 24 poles (48 for double level versions), and are available with other color moldings; *contact your local Newark sales office.* UL recognized, CSA certified.

SINGLE LEVEL LP 5.00/90° WITHOUT TEST POINTS

UL, CSA rating: 300V/10A, 26-12 AWG.

Stock No.	Type	No. of Poles	1-24	25-99
16F4102	159450	2	0.85	0.71
16F4103	159451	3	1.27	1.06
16F4104	995002	4	1.67	1.40
16F4105	995004	6	2.52	2.10
16F4088	995006	8	3.35	2.80
16F4089	995008	10	4.19	3.50
16F4090	995010	12	5.03	4.20
16F4091	995014	16	6.70	5.60
DOUBLE LEVEL LP 2N/5.00/90° WITHOUT TEST POINTS				
UL,CSA rating: 300V/10A, 26-12 AWG.				
16F4092	163517	4	2.18	1.82
16F4093	162557	6	3.27	2.73
16F4094	159644	8	4.35	3.64
16F4095	163271	12	6.53	5.45
16F4096	159654	16	8.70	7.27
16F4076	159658	20	10.88	9.09
16F4077	159662	24	13.05	10.90
16F4078	163275	26	14.14	11.81
16F4079	163277	32	17.40	14.54
TOP 1.5GS/5.08/90° WITHOUT TEST POINTS				
UL,CSA rating: 300V/10A, 22-14 AWG.				
90F9170	64196	2	2.68	2.24
90F9198	64206	3	4.03	3.36
90F9199	64216	4	5.36	4.48
16F4080	59386	6	8.05	6.73
16F4081	59406	8	9.79	8.18
16F4082	64226	10	13.40	11.20
16F4083	59436	12	16.08	13.44
16F4084	995429	16	20.66	17.26
TOP 4GS/7.62/90° WITHOUT TEST POINTS				
UL rating: 300V/25A, 22–10AWG. CSA rating: 600V/25A, 26-10 AWG.				
90F9200	28966	2	6.12	5.11
90F9201	28976	3	9.53	7.96
90F9202	2901-6	4	12.23	10.22
16F4085	995435	6	18.35	15.33
16F4086	995437	8	24.47	20.44
16F4087	995439	10	30.58	25.55
16F4133	995441	12	36.70	30.66

(5270) (ne08546)

PC BOARD CONNECTORS

BLZ/SL 5.08mm SERIES PLUGS AND HEADERS

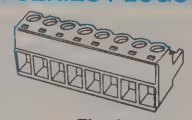


Fig. 1

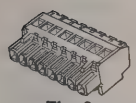


Fig. 2

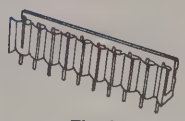


Fig. 3

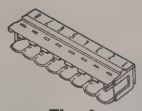


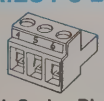
Fig. 4

Feature black and orange moldings and screw-clamp connectors. All BLZ/SL 5.08mm are available up to 24 poles and are available with alternate color moldings; *contact your local Newark sales office.* UL Rating: 300V/10A, 22-12 AWG. CSA Rating: 300V/10A, 28-12 AWG. Strip length: 0.24″ (7). UL Recognized, CSA certified.

Stock No.	Type	No. of Poles	1-24	25-99
5.08mm/180° PLUGS - FIG. 1				
84F448	152646	2	1.53	1.27
84F449	152656	3	2.29	1.91
84F450	152666	4	3.02	2.52
84F452	152686	6	4.53	3.78
84F463	152706	8	6.04	5.04
84F465	152726	10	7.52	6.28
84F467	152746	12	9.00	7.52
95F8775	152786	16	11.76	9.83
5.08mm/90° PLUGS - FIG. 2				
84F470	155296	4	3.48	2.91
84F472	155316	6	5.19	4.34
84F474	155336	8	6.93	5.79
84F476	155356	10	8.65	7.22
84F478	155376	12	10.36	8.66
5.08mm/180° HEADERS - FIG. 3				
84F417	152186	2	0.55	0.46
84F418	152196	3	0.79	0.66
84F419	152206	4	1.08	0.90
84F421	152226	6	1.59	1.33
84F423	152246	8	2.10	1.75
84F425	152266	10	2.63	2.20
84F436	152286	12	3.14	2.63
95F8781	152326	16	4.19	3.50
5.08mm/90° HEADERS - FIG. 4				
84F428	151286	4	1.08	0.90
84F430	151306	6	1.59	1.33
84F432	151326	8	2.10	1.75
84F434	151346	10	2.63	2.20
84F454	151366	12	3.14	2.63

(5247) (de51254a)

BL/SL SERIES PC BOARD CONNECTOR SYSTEM



BL Series Plug

SL 90 Series Header

BL/SL series screw-clamp connectors use scallop-shaped design. BL plugs and SL headers are available in 2, 3, 4, 6, 8, 10 and 12-pole versions with 0.200″ (5.08) centers. Molding material: polyamide 6.6. BL series strip length: 0.24″ (6.10). Ratings: UL recognized 300V/10A, 22-12AWG; CSA certified 300V/10A 26-14AWG; VDE approved 250V/8A, 26-16AWG. BL TOP series strip length: 0.39″(9.91). Ratings: UL recognized 300V/10A, 22-14AWG; CSA certified 300V10A, 26-14AWG, VDE approved 250V/10A, 28-14AWG.

Stock No.	Type	Poles	1-24	25-99
BL SERIES PLUGS-MATE WITH SL SERIES HEADERS				
90F8034	125916	2	1.66	1.39
90F8035	125926	3	2.30	1.92
90F8036	125936	4	2.98	2.49
90F8038	125956	6	4.45	3.72
90F8040	125976	8	6.16	5.15
90F8042	125996	10	7.40	6.18
90F8044	126016	12	8.69	7.26
SL 90 SERIES 90° HEADERS WITH OPEN ENDS				
90F8119	11266	2	0.55	0.46
90F8120	11256	3	0.75	0.63
90F8121	11246	4	0.97	0.81
90F8123	11226	6	1.40	1.17
90F8125	11206	8	2.02	1.68
90F8109	11186	10	2.44	2.04
90F8111	11166	12	2.88	2.41

(31977) (ne31977)

BLZ/SL 5.00mm SERIES PCB PLUGS AND HEADERS

Feature black PBT (polyester) moldings and screw clamp connectors. All BLZ/SL 5.00mm series headers and 180° plugs are available to 24 poles, and are available with alternate color moldings, *contact your local Newark sales office.* Rated: 300V/10A. Wire range: 22-12 AWG. Strip length: 0.24″ (7). UL recognized, CSA certified.

Stock No.	Type	No. of Poles	1-24	25-99
5.00mm/180° PLUGS				
16F4368	162561	2	1.50	1.25
16F4369	162562	3	2.23	1.87
16F4370	159608	4	2.95	2.47
16F4371	159609	6	4.43	3.71
16F4372	159611	8	6.04	5.04
16F4373	159612	10	7.52	6.28
16F4374	160299	12	8.81	7.36
16F4375	160330	16	11.76	9.83
5.00mm/90° PLUGS				
16F4376	163689	2	1.72	1.43
16F4377	163690	3	2.61	2.18
16F4378	163691	4	3.48	2.91
16F4379	163693	6	5.09	4.25
16F4380	163695	8	6.78	5.67
16F4381	163697	10	8.46	7.07
16F4382	163699	12	10.14	8.47
16F4383	163703	16	13.51	11.29
5.00mm/278° PLUGS				
16F4384	163781	2	1.72	1.43
16F4385	163782	3	2.56	2.14
16F4386	163783	4	3.40	2.84
16F4387	163785	6	5.09	4.25
16F4388	163787	8	6.78	5.67
16F4389	163789	10	8.46	7.07
16F4390	163791	12	10.14	8.47
16F4391	163795	16	13.51	11.29
5.00mm/180° HEADERS				
16F4392	162639	2	0.55	0.46
16F4393	162640	3	0.79	0.66
16F4394	162641	4	1.08	0.90
16F4395	162643	6	1.59	1.33
16F4396	162645	8	2.06	1.72
16F4397	162647	10	2.57	2.15
16F4398	162649	12	3.14	2.63
16F4399	162653	16	4.19	3.50
5.00mm/90° HEADERS				
16F4400	162599	2	0.55	0.46
16F4401	162600	3	0.79	0.66
16F4402	162601	4	1.08	0.90
16F4403	159618	6	1.55	1.30
16F4404	162604	8	2.06	1.72
16F4405	162606	10	2.63	2.20
16F4406	162608	12	3.14	2.63
16F4407	162612	16	4.19	3.50

(5265) (ne08520)

WEIDMÜLLER MASTER CATALOG LIT91393 AND PRODUCT SELECTION GUIDE LIT9505 AVAILABLE,

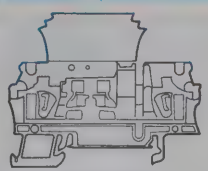
CONTACT YOUR LOCAL NEWARK SALES OFFICE.

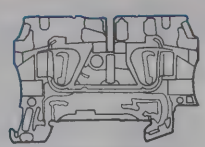
(15127) (ne10300)

AT NEWARK, YOUR ORDER IS OUR FIRST PRIORITY.

TERMINAL STRIPS, BLOCKS AND ACCESSORIES

TENSION CLAMP (Z SERIES) FOR TS35 DIN-RAIL


Type 160877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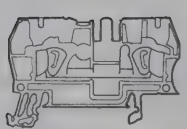
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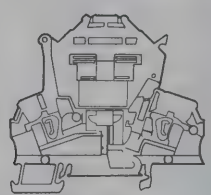

Type 161640

Vibrationproof clamping system made from corrosion-resistant stainless steel. Current-carrying components, including jumpers, are completely insulated for touch-safe use. High density (0.2″ per block for 12 AWG). Expanded marking options, ideal for use with PLC circuitry. Wemid thermoplastic moldings combine UL94V-0 with an operating temperature range up to 250°F and the resilience of nylon. UL listed, CSA certified, VDE approved.

FEED-THROUGH TERMINAL BLOCKS

Stock No.	Type	Description	1-24	25-99
16F4278	160851	ZDU2.5, 26-12 AWG, 600V/25A	1.29	1.08
16F4279	163205	ZDU4, 26-10 AWG, 600V/33A	1.70	1.42
16F4281	160854	ZDU2.5/3AN, 26-12 AWG, 600V/25A	1.57	1.31
16F4283	167430	ZDK2.5/1.5, 22-12 AWG, 300V/20A	3.78	3.16
		DISCONNECT TERMINAL BLOCKS		
16F4290	166830	ZTR2.5/3AN, 26-12 AWG, 300V/10A	4.91	4.10
16F4291	160871	ZTR2.5D (+ Diode), 26-12 AWG, 300V/10A	11.75	9.81
16F4292	160872	ZTR2.5D (– Diode), 26-12 AWG, 300V/10A	11.75	9.81
		END COVERS		
16F4298	160874	Use with ZDU2.5, ZPE2.5	0.76	0.64
16F4299	163209	Use with ZDU4, ZPE4	0.82	0.69
16F4300	160883	Use with ZDU6, ZPE6	0.87	0.73
16F4301	160877	Use with ZDU2.5/3AN, ZPE2.5/3AN, ZTR2.5D	0.76	0.64
16F4302	160880	Use with ZDU2.5/4AN, ZSI2.5, ZSI2.5 LED, ZTR2.5/3AN, ZPE2.5/4AN	0.76	0.64
16F4303	167473	Use with ZDK2.5/1.5	1.16	0.97
		FUSE TERMINAL BLOCKS		
16F4284	161640	ZSI2.5, 26-12 AWG, 300V/10A	6.68	5.58
16F4286	161642	ZSI2.5 LED, 26-12 AWG, 300V/10A	16.49	13.78
16F4287	161646	ZSI2.5/2, 26-12 AWG, 600V/16A	7.87	6.58
16F4289	161649	ZSI2.5/2 LED, 26-12 AWG, 600V/16A	16.49	13.78
		GROUND TERMINAL BLOCKS		
16F4293	160864	ZPE2.5, 26-12 AWG	4.50	3.76
16F4294	163208	ZPE4, 26-10 AWG	5.21	4.35
16F4295	160867	ZPE6, 22-8 AWG	6.69	5.59
16F4296	160865	ZPE2.5/3AN, 26-12 AWG	5.11	4.27
16F4297	160866	ZPE2.5/4AN, 26-12 AWG	6.64	5.54
		ACCESSORIES		
99F7722	38340	TS35×7.5 Steel DIN-Rail	19.78	17.83
16F4304	38356	EW 35 End Bracket	1.13	0.95

(5272) (ne08552)

DEKAFIX MARKING TAGS

Use to mark terminal blocks and assemblies. White Dekafix tags are printed with large, black numbers, symbols, or characters. Tension clamp feed-through terminal blocks can hold 1 Dekafix tag on each side of the block, in addition to a center marking area. **W series** terminal blocks can hold 2 Dekafix tags on each side. To select the proper tag, make sure the width of the tag is no greater than the width of the terminal block. Both horizontal and vertical printing are available. Print on all tags is rub- and oilproof. Width: * 5mm, † 6mm. Other styles and custom printing available; *contact your local Newark sales office.*

CONSECUTIVE HORIZONTAL INCREMENTS OF 50

Stock No.	Type	Pre-Printed Numbers	1-24	25-99
90F9162	473460001*	1 to 50	2.90	2.42
16F4305	473460051*	51 to 100	2.90	2.42
16F4306	468660051†	51 to 100	2.90	2.42

CONSECUTIVE HORIZONTAL INCREMENTS OF 10

Stock No.	Type	Pre-Printed Numbers	1-24	25-99
16F4307	523060001*	1 to 10	2.90	2.42
16F4309	518960001†	1 to 10	2.90	2.42
16F4308	523060011*	11 to 20	2.90	2.42
16F4310	518960011†	11 to 20	2.90	2.42

HORIZONTAL

Stock No.	Type	Pre-Printed Characters	1-24	25-99
16F4311	354361187*	L1, L2, L3, N, PE	2.90	2.42
16F4313	631961187†	L1, L2, L3, N, PE	2.90	2.42
16F4312	354361203*	L1, L2, L3, N, Gnd	2.90	2.42
16F4314	631961203†	L1, L2, L3, N, Gnd	2.90	2.42

HORIZONTAL SINGLE SYMBOL

Stock No.	Type	Pre-Printed Symbols	1-24	25-99
16F4315	576261198*	+	2.90	2.42
16F4317	576261202*	Ground Symbol	2.90	2.42

CONSECUTIVE VERTICAL INCREMENTS OF 50

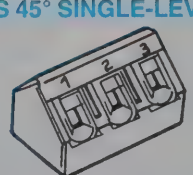
Stock No.	Type	Pre-Printed Numbers	1-24	25-99
16F4320	473560001*	1 to 50	2.90	2.42
16F4329	468760001†	1 to 50	2.90	2.42
16F4321	473560051*	51 to 100	2.90	2.42
16F4330	468760051†	51 to 100	2.90	2.42

CONSECUTIVE VERTICAL INCREMENTS OF 10

Stock No.	Type	Pre-Printed Numbers	1-24	25-99
16F4322	460660001*	1 to 10	2.90	2.42
16F4331	133360001†	1 to 10	2.90	2.42
16F4323	460660011*	11 to 20	2.90	2.42
16F4332	133360011†	11 to 20	2.90	2.42

Width: * 5mm, † 6mm
(5273) (ne08553)

MK 8 SERIES 45° SINGLE-LEVEL BLOCKS



Molded multi-position blocks with center spacing 0.200″ (5.08). Pin diameter: 0.051″ (1.30). Pin length: 0.197″ (5.00). Molding material: polyamide 6.6. Strip length: 0.24″ (0.610). UL recognized 50V/15A, 22-12AWG. CSA certified 150V/10A, 26-14AWG. VDE approved 60V/16A, 26-16AWG.

Stock No.	Type	Poles	1-24	25-99
90F9173	33206	2	0.82	0.69
90F9174	30786	3	1.02	0.85
90F9175	30776	4	1.36	1.14
90F9176	30266	10	3.40	2.84

(5249) (de51884)

MK SERIES DIRECT MOUNT TERMINAL STRIPS

Direct mount terminal strips provide space-saving termination for basic feed-through applications. Use modified box clamp system, where a moving shield plate compresses wire against current bar. Material: polyamide. **Type 2435-6** ratings: UL recognized 300V/20A, 22-12AWG; CSA certified 300V/25A, 22-12AWG. **Type 6201-2** ratings: UL recognized 300V/30A, 22-12AWG; CSA certified 300V/40A. 22-10AWG; VDE approved 660V/40A, 20-12AWG.

Stock No.	Type	Poles	Length	1-24	25-99
90F7917	24356	12	4.33″ (109.9)	8.55	7.15
90F7918	62012	6	2.95″ (74.90)	10.41	8.70

(5246) (de51223)

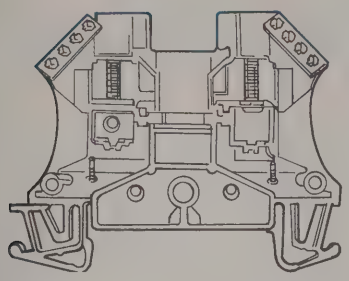
WEIDMÜLLER MASTER CATALOG LIT91396 AND PRODUCT SELECTION GUIDE FOR PCB TERMINAL BLOCK PRODUCTS LIT9507 AVAILABLE,

CONTACT YOUR LOCAL NEWARK SALES OFFICE.

(15128) (ne10301)

IEC TERMINAL BLOCKS

W SERIES SCREW CLAMP TERMINAL BLOCKS FOR TS 35 DIN-RAIL



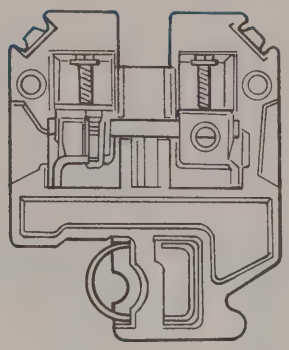
High-density: 0.2" per block for AWG 12. Jumpers and other current-carrying components are completely insulated for touch-safe operation. Expanded marking options; ideal for use with PLC circuitry. Vibrationproof clamping system made from corrosion-resistant zinc-plated steel. Wemid thermoplastic moldings combine temperature range of up to 250°F with the resilience of nylon. UL recognized, CSA certified, VDE approved.

FEED-THROUGH TERMINAL BLOCKS

Stock No.	Type	Description	1-24	25-99
98F4712	102370	WDU 2.5N, 22-12 AWG, 300V/25A	1.44	1.21
90F7910	102000	WDU2.5, 22-12 AWG, 600V/25A	1.44	1.21
90F7911	102010	WDU4, 22-10 AWG, 600V/35A	1.77	1.48
90F7912	102020	WDU6, 20-8 AWG, 600V/45A	2.18	1.82
90F7913	102030	WDU10, 16-6 AWG, 600V/65A	2.91	2.43
98F5430	102150	WDK2.5, 22-12 AWG, 600V/20A	3.77	3.15
16F4355	103640	WDK2.5DU-PE, 22-12 AWG, 600V/20A	5.58	4.66
FUSE TERMINAL BLOCKS				
96F9277	101100	WSI6, 22-8 AWG, 600V/10A	8.28	6.92
66F6082	101220	WSI6 LED, 22-8 AWG, 600V/10A	14.42	12.05
66F6083	101230	WSI6 LED, 22-8 AWG, 600V/10A	14.42	12.05
66F6084	101400	WSI6/2, 20-8 AWG, 600V/20A	8.86	7.41
16F4342	101420	WSI6/2 LED, 20-8 AWG, 600V/16A	16.56	13.83
99F6550	950335	KDKS1, 22-12 AWG, 300V/10A/20A	10.17	8.50
DISCONNECT TERMINAL BLOCKS				
66F6080	101110	WTR2.5, 22-12 AWG, 300V/10A	5.66	4.73
16F4344	101120	WTR2.5, 22-12 AWG, 300V/10A	6.27	5.24
16F4345	101320	WTR2.5D, 22-12 AWG, 300V/10A	13.78	11.52
GROUND TERMINAL BLOCKS				
16F4346	101620	WPE2.5N, 22-12 AWG	5.85	4.89
98F4576	101000	WPE2.5, 22-12 AWG	6.46	5.40
66F6078	101010	WPE4, 22-10 AWG	6.64	5.54
66F6079	101020	WPE6, 20-8 AWG	6.81	5.69
ACCESSORIES				
90F7914	51450	TS35 x 7.5 Slotted Steel Rail	19.36	16.17
93F1800	105000	WAP2.5-10 End Plate	0.81	0.67
90F7916	105010	WAP 16-35 End Plate	0.94	0.79
90F7915	106120	WEW35/2 Combination End Plate/End Bracket	2.35	1.97

(5267) (ne08543)

SAK SERIES SCREW CLAMP TERMINAL BLOCKS FOR TS 32 DIN-RAIL



Expanded marking options; ideal for use with PLC circuitry. Vibrationproof clamping system made from corrosion-resistant, zinc-plated steel. Polyamide thermoplastic molding combines UL94V-2 rating with an operating temperature range to 232°F. UL recognized, CSA certified, VDE approved. For information on other terminal blocks, including tension strips, panel-mounted terminal strips, specialty blocks, thermo-couple blocks, and blocks with melamine moldings, *contact your local Newark sales office.*

FEED-THROUGH TERMINAL BLOCKS

Stock No.	Type	Description	1-24	25-99
16F4334	21556	SAKD2.5N, 28-12 AWG, 300V/20A	1.74	1.46
94F9310	27966	SAK2.5, 22-12 AWG, 600V/20A	1.55	1.30
94F9307	12836	SAK4, 22-10 AWG, 600V/30A	2.00	1.67
16F4333	19326	SAK6N, 22-8 AWG, 600V/40A	2.52	2.10
FUSE TERMINAL BLOCKS				
94F9147	47456	ASK1, 22-12 AWG, 300V/10A	8.40	7.02
99F6550	950335	KDKS1, 22-12 AWG, 300V/10/20A	10.17	8.50
16F4341	990850	KDKS1, 22-12 AWG, 300V/10/20A	20.65	17.25
16F4347	990851	KDKS1, 22-12 AWG, 300V/10/20A	20.65	17.25
16F4348	990852	KDKS1, 22-12 AWG, 300V/10/20A	20.65	17.25
DISCONNECT TERMINAL BLOCKS				
16F4336	41296	SAKRD, 22-12 AWG, 300V/10A	5.32	4.44
GROUND TERMINAL BLOCKS				
98F9893	35456	EK4, 22-10 AWG	6.97	5.83
16F4335	35466	EK10, 14-6 AWG	7.90	6.60
ACCESSORIES				
90F7865	1228-0	TS32 x 7.5, Solid Steel Rail	15.45	12.91
16F4337	49516	EWK, End Bracket	0.86	0.72

(5269) (ne08545)

TERMINAL BLOCK TOOLS

Ergonomically designed, for use with Weidmüller terminal blocks. A complete line of tools is available; *contact your local Newark sales office.*

STRIPPING TOOLS

Stock No.	Type	Description	1-24
16F4349	900500	Stripax, for 20-12 AWG	111.91
16F4350	900128	Mini-Stripax, for 28-18 AWG	122.51
SCREWDRIVERS			
16F4351	903700	For Jumpers. 0.5 x 3.0 mm. Blade Tip	10.45
99F7299	903701	For WDU2.5, WDU4. Blade Tip to 0.6 x 3.0mm	10.45
16F4352	903702	For WDU6. Blade Tip to 0.8 x 4.0mm.	14.16
16F4353	903703	For WDU10, 16, 35. Blade Tip to 1.0 x 5.5mm.	28.56

(5268) (ne08544)

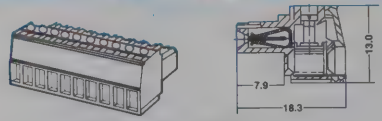
WEIDMÜLLER MASTER CATALOG LIT91396 AND PRODUCT SELECTION GUIDE FOR PCB TERMINAL BLOCK PRODUCTS LIT9512 AVAILABLE,

CONTACT YOUR LOCAL NEWARK SALES OFFICE.

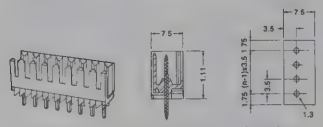
(40470) (ne40470)

PCB CONNECTORS, TERMINALS & TRANSITION MODULES

BL/SL SERIES 3.5mm PCB CONNECTORS



Non-Locking Plug



Open End Non-Locking Header

BL/SL series 0.254″ (3.50) plugs and headers are PBT polyester with screw clamp connectors and feature 1.143″ (4.5) standard pin lengths. Wire range: 22-14 AWG. Torque: 2.25 lb-in(0.25Nm). Rated: 300V,10A. Strip length: 0.24″ (7mm). Units feature black moldings. UL listed, CSA certified. Other sizes, colors, pole configurations, and pin lengths are available; *contact your local Newark sales office.* Manufacturer's standard product catalog and PCB selection guide are also available; *contact your local Newark sales office .*

3.50mm 180° PLUGS, NON-LOCKING

Stock No.	Type	No. of Poles	1-24	25-99
92F3972	161567	2	1.69	1.41
92F3973	161568	3	2.53	2.12
92F3974	161569	4	3.36	2.81
16F4357	161018	6	5.06	4.23
16F4358	161570	8	6.74	5.64
16F4359	161020	10	8.43	7.04
92F3975	161573	12	10.10	8.44
92F3977	161577	16	13.48	11.27

3.50mm 180° HEADERS, OPEN END NON-LOCKING

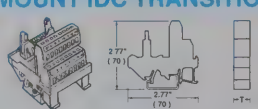
92F3996	161421	2	0.59	0.49
92F3997	161593	3	0.87	0.73
92F3998	161594	4	1.19	0.99
16F4360	161015	6	1.76	1.47
16F4361	161422	8	2.34	1.96
16F4362	161017	10	2.92	2.44
16F4363	161598	12	3.52	2.94
16F4364	161423	16	4.68	3.91

3.50mm 90° HEADERS, OPEN END NON-LOCKING

92F3981	161413	2	0.59	0.49
92F3982	161530	3	0.87	0.73
92F3983	161531	4	1.19	0.99
16F4365	161533	6	1.76	1.47
16F4366	161414	8	2.30	1.92
16F4367	161536	10	2.92	2.44
92F3984	161538	12	3.46	2.89
92F3986	161415	16	4.68	3.91

(5263) (ne08219)

RI-IDC RAIL MOUNT IDC TRANSITION MODULES



RI-series modules feature four accessory pads per line for installation of potentiometers, resistors, diodes or DIP switches. *Mount on* **TS 32** *or* **T 35** *rail, ordered separately on this page.*

Stock No.	Type	Pins	Dim. T	1-24	25-99	100-249
90F7867	914891	14	1.97″ (50)	40.77	34.07	30.18
90F7868	914892	16	2.17″ (55)	46.21	38.61	34.21
90F7869	914893	20	2.56″ (65)	50.29	42.01	37.23
90F7870	914894	26	3.35″ (85)	57.08	47.69	42.26
90F7872	914896	34	4.13″ (105)	67.95	56.77	50.31
90F7873	914897	40	4.72″ (120)	80.18	66.99	59.36
90F7874	914898	50	5.91″ (150)	92.41	77.21	68.41
90F7875	914899	60	6.89″ (175)	126.39	105.60	93.56
90F7876	914900	64	7.17″ (182)	131.82	110.14	97.59

(5243) (de50769)

MOUNTING RAILS AND END BRACKETS

Stock No.	Type	Description	1-24	25-99
90F7914	51450	TS 35 x 7.5mm Steel Slotted Rail	19.36	16.17
90F7865	1228-0	TS 32 x 15mm Steel Rail	15.45	12.91
94F9314	38356	EW 35 End Bracket for TS 35	1.13	0.95
90F7886	91063-9	EWK 1 End Bracket for TS 32	141.73	135.01

(5244) (de50773)

LM SERIES 5.00/5.08mm TERMINAL BLOCKS

NEW

LM series 5.00/5.08mm pitch low-profile printed circuit board terminal blocks provide an excellent alternative in a broad range of applications where space saving is critical. Provide vibration-proof and gastight connection due to a superior mechanical clamping design. Color: black. Also available in orange; *contact your local Newark sales office.* UL listed, CSA certified VDE approved. UL rated at 300V and 10 amps.

LM 5.08mm/90 SINGLE-LEVEL 90° ORIENTATION

Stock No.	Type	No. of Poles	1-24	25-99
10B8704	171602	2	0.99	0.78
10B8705	171603	3	1.48	1.16
11B2246	999392	4	1.98	1.55
11B2248	999394	6	2.97	2.33
11B2250	999396	8	3.96	3.10
11B2252	999398	10	4.95	3.88
11B2254	999400	12	5.94	4.65
11B2258	999404	16	7.92	6.20

5.08mm/180 SINGLE-LEVEL 180° ORIENTATION

10B8706	171604	2	1.08	0.85
10B8707	171605	3	1.61	1.26
11B2330	999476	4	2.16	1.69
11B2332	999478	6	3.24	2.53
11B2334	999480	8	4.32	3.38
11B2336	999482	10	5.39	4.22
11B2338	999484	12	6.47	5.07
11B2342	999488	16	8.63	6.75

5.00mm/90 SINGLE-LEVEL 90° ORIENTATION

10B8698	171525	2	0.99	0.78
10B8699	171526	3	1.48	1.16
11B2184	999330	4	1.98	1.55
11B2186	999332	6	2.97	2.33
11B2188	999334	8	3.96	3.10
11B2190	999336	10	4.95	3.88
11B2192	999338	12	5.94	4.65
11B2196	999342	16	7.92	6.20

5.00mm/180 SINGLE-LEVEL 180° ORIENTATION

10B8700	171527	2	1.08	0.85
10B8701	171528	3	1.61	1.26
11B2226	999372	4	2.16	1.69
11B2228	999374	6	3.24	2.53
11B2230	999376	8	4.32	3.38
11B2232	999378	10	5.39	4.22
11B2234	999380	12	6.47	5.07
11B2238	999384	16	8.63	6.75

(31979) (ne31979)

LM SERIES 3.5mm TERMINAL BLOCKS

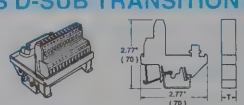
NEW

3.5/90 SINGLE-LEVEL 90° ORIENTATION

Stock No.	Type	No. of Poles	1-24	25-99
10B8363	169967	2	1.26	0.98
10B8364	169968	3	1.87	1.47
11B2016	996770	4	2.62	2.05
11B2018	996772	6	3.94	3.08
11B2020	996774	8	5.24	4.10
11B2022	996776	10	6.56	5.13
11B2024	996778	12	7.88	6.17
11B2028	996782	16	8.21	6.56

(31978) (ne31978)

RD SERIES D-SUB TRANSITION MODULES



Designed to make point-to-point connection between discrete wire transition modules and D-sub, card edge, IDC, or DIP connectors.

PLUG W/JACK SCREWS

Stock No.	Type	Pins	Dim. T	1-24	25-99	100-249
90F7882	910638	9	1.57″(40)	44.85	37.47	33.20
90F7883	910644	15	2.17″ (55)	50.29	42.01	37.23
90F7884	910648	25	3.35″ (85)	57.08	47.69	42.26
90F7885	910642	37	4.53″ (115)	93.77	78.35	69.42
51F1813	911884	50	5.91″ (150)	107.36	89.70	79.48

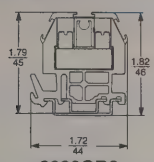
SOCKET W/JACK SCREWS

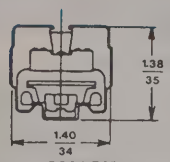
90F7877	910641	9	1.57″ (40)	44.85	37.47	33.20
90F7878	912393	15	2.17″ (55)	50.29	42.01	37.23
90F7879	910645	25	3.35″ (85)	57.08	47.69	42.26
90F7880	910640	37	4.53″ (115)	93.77	78.35	69.42
51F1814	911886	50	5.91″ (150)	107.36	89.70	79.48

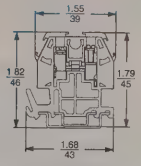
(5242) (de50767)

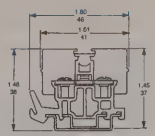
TERMINAL BLOCKS AND VOLTAGE TESTER

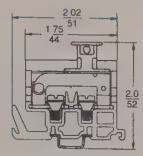
G SERIES NEMA TYPE TERMINAL BLOCKS AND END BARRIERS

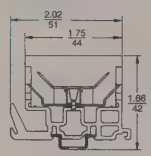

9080GR6

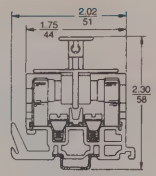

9080GK6


9080GM6


9080GA6/GP6


9080GG6


9080GS6


9080GF6

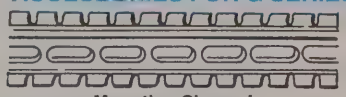
Each section of **G series** terminal blocks requires one end barrier, *ordered separately below*. Terminals and end barriers have molded nylon construction with 125°C maximum service temperature. All blocks mount on **type 9080GH** and 35mm DIN 3 channel except **type 9080GK6** which mounts on **type 9080GH** channel or mounts directly. Maximum voltage: 600V. **Type 9080GF6** features fuse block with beryllium-copper clips and wrap-around fuse puller. **Type 9080GG6** includes circuit-isolating switch. **GR, GK** and **GM** available in assorted colors. UL recognized, CSA certified. *Order mounting channel, jumpers and marking accessories on this page.*

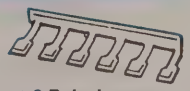
Stock No.	Type	Max. Current	Description	Each	2-5	6-10
50F4239	9080GR6	60A	Solderless box lug, 22 to 8AWG, natural	**1.94**	**1.85**	**1.77**
50F4240	9080GK6	40A	Solderless box lug, 22 to 10AWG, natural for direct or channel mounting	**1.94**	**1.85**	**1.77**
93F8533	9080GM6	30A	Mini solderless box lug, 22 to 10AWG (600V), natural	**1.56**	**1.48**	**1.41**
97F8491	9080GMB6	30A	Mini solderless box lug, 22 to 10AWG (600V), black	**1.56**	**1.48**	**1.41**
97F8493	9080GMG6	30A	Mini solderless box lug, 22 to 10AWG (600V), green	**1.56**	**1.48**	**1.41**
50F4245	9080GA6	40A	Flat terminal, 22 to 12AWG, 6-32 x 5/16″ screws	**1.56**	**1.48**	**1.41**
50F4246	9080GP6	40A	Flat terminal, self lifting pressure wire, 18 to 12AWG	**2.07**	**1.97**	**1.89**
50F4247	9080GG6*	30A	Flat terminal, circuit isolating switch, 18 to 10AWG	**10.10**	**9.61**	**9.18**
50F4248	9080GS6	20A	Slip-on connector, 22 to 12AWG, tab accepts 0.250″ x 0.032″ (6.35 x 0.813) fast-on connectors	**2.07**	**1.97**	**1.89**
50F4250	9080GF6†	30A	Fuse block for 13/32″ dia. x 1 1/2″ ferrule fuse, 18 to 10AWG (fuse not included)	**9.71**	**9.24**	**8.83**
			G SERIES END BARRIERS			
50F4243	9080GK6B	...	Fits type 9080GK series	**0.78**	**0.74**	**0.71**
96F6541	9080GM6B	...	Fits type 9080GM and GR series	**0.65**	**0.62**	**0.59**
50F4249	9080GP6B	...	Fits type 9080GA6, GP6	**0.86**	**0.82**	**0.78**
50F4251	9080GF6B	...	Fits type 9080GF6, GG6, GS6	**1.27**	**1.21**	**1.16**

*Important note: Power must be disconnected from circuit before operating this switch
†Fuse puller included
(5257)

(ne04406)

ACCESSORIES FOR G SERIES TERMINAL BLOCKS


Mounting Channel

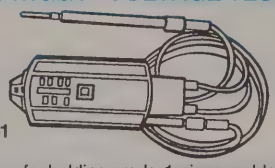

6-Pole Jumper

Stock No.	Type	Description	Each	2-5	6-10
50F4257	9080GH236	Snap-off mounting channel, 36″ (914.4) in length	**9.71**	**9.24**	**8.83**
97F8480	9080GH710	6-pole jumper for GM6	**1.01**	**0.96**	**0.92**
50F4252	9080GH73	6-pole jumper for 9080GK6, 9080GR6	**1.56**	**1.48**	**1.41**
50F4255	9080GH20	25ft. vinyl marker strip for 9080GA/GP/GR/GK/GM	**9.84**	**9.37**	**8.94**
50F4256	9080GH60	Marking strip end plug for 9080GK6, GR6, GM6, GA6, GP6	**0.34**	**0.32**	**0.31**
93F2971	9080GH10	Screw-on end clamp	**1.94**	**1.85**	**1.77**
93F2970	9080GH11	Slip-in end clamp	**0.55**	**0.52**	**0.50**

(5290)

(ne51464)

THE WIGGY® VOLTAGE TESTER

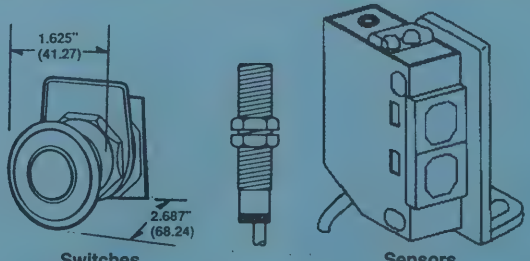

6610VT-1

Solenoid type voltage tester with polarity indication and slotted receptacles for holding prods. 1-piece molded housing is made of ABS plastic designed to withstand hard knocks and falls. Voltage range: 120-240-480-600VAC, 50/60 Hz; 120-240-600VDC. Includes 2 wire leads and instruction sheet. *Order* **type 6610L-2** *separately; Contact your local Newark sales office.*

50F4667 Type 6610VT1 Voltage Tester. **Each** **57.54**
50F4668 Type 6610L2 Carrying Case. **Each** **33.63**
(5248)

(de51466)

AT NEWARK, THERE'S ALWAYS MORE THAN MEETS THE EYE!



Switches Sensors

CONTACT NEWARK FOR MORE SQUARE D PRODUCTS.

(13333)

(ne07014)

IEC TYPE TERMINAL BLOCKS

M SERIES IEC TERMINAL BLOCKS AND END BARRIERS

All modular blocks require one end barrier, *ordered separately below.* Terminal blocks can be mounted on DIN 3 rail, which can also be *ordered separately on this page.* Sections and barriers are molded of thermal plastic Ultranid A3K. Color: gray. Working temperature range: –55°C to +110°C, with a maximum peak temperature of +190°C for less than one hour. Blocks are designed to IEC standards and VDE approved; also UL recognized, CSA certified. *Order marking and jumper bar accessories on this page.*

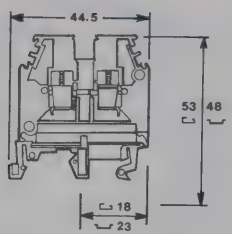
M SERIES TERMINAL BLOCK SECTIONS

Stock No.	Type	Description	UL Rating	CSA Rating	Solid/Stranded DIN-VDE Rating	Each	2-5	6-10
50F4236	9080M4/6G	Solderless Box Lug, 0.238″ (6.05)W, 50 sections per ft.	22-10 AWG @ 600V/30A	22-10AWG @ 600V/25A	0-4/0-4mm² @ 750VAC/900VDC 35A	1.94	1.85	1.77
50F4238	9080M6/8G	Solderless Box Lug, 0.315″ (8.00)W, 38 sections per ft.	22-8AWG @ 600V/50A	18-8AWG @ 600V/50A	0-10/0-6mm² @ 750VAC/900VDC 46A	2.59	2.47	2.36
50F4234	9080M6/9EE	Flat terminal connector, 0.375″ (9.53)W, 32 sections per ft.	22-8AWG @ 600V/40A	8AWG max. @ 600V/40A	0.5-6/0.5-6mm² @ 750VAC/900VDC 46A	1.69	1.61	1.53

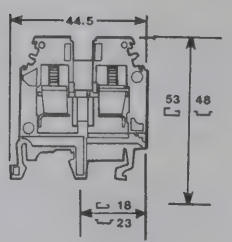
M SERIES END BARRIERS

Stock No.	Type	Description	Each	2-5	6-10
50F4237	9080MFEM6	For types 9080M4/6G and 9080M6/8G	0.50	0.47	0.45
50F4235	9080MFEM9	For type 9080M6/9EE	0.42	0.40	0.38

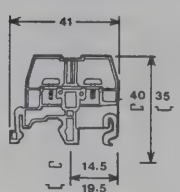
(5286) (ne51236)



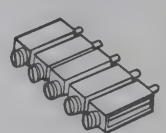
9080M4/6G



9080M6/8G



9080M6/9EE


9080MH70

M SERIES TERMINAL BLOCK ACCESSORIES

DIN 3 SYMMETRICAL RAIL, 35 = 7.5MM (1.38 = 0.295″)

Stock No.	Type	Description	Each	2-5	6-10
50F4206	9080MH220	0.5m (19.69″) Galvanized steel, plain	9.58	9.12	8.71
50F4207	9080MH239	1.0m (39.37″) Galvanized steel, plain	16.43	15.65	14.94
50F4209	9080MH320	0.5m (19.69″) Galvanized steel, prepunched	10.87	10.35	9.88
50F4210	9080MH339	1.0m (39.37″) Galvanized steel, prepunched	19.15	18.24	17.41
50F4211	9080MH379	2.0m (78.74″) Galvanized steel, prepunched	24.82	24.27	22.75
50F4213	9080MH10	Screw-on end clamp	2.07	1.97	1.89
		MARKING			
50F4212	9080MH20	0.5m (19.69″) Blank vinyl marking strip for top marking of terminal blocks	2.46	2.34	2.24
		ASSEMBLED JUMPER BARS			
50F4214	9080MH70	For blocks 9080M4/6, 10 poles	6.86	6.53	6.24
50F4215	9080MH72	For blocks 9080M6/8, 10 poles	9.45	9.00	8.59

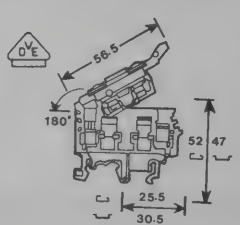
(5287) (ne51237)

M SERIES FUSED TERMINAL BLOCKS AND END BARRIER

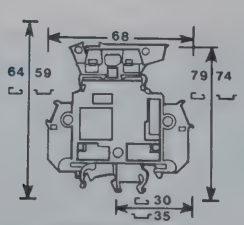
Fused terminal blocks have solderless box lug connections. **Type 9080M4** blocks require one end barrier for each assembly. **Type 9080M10/16SFL** requires no end barrier. UL recognized, CSA and VDE approved. *Order fuses separately; contact your local Newark sales office.*

Stock No.	Type	Description	UL Rating	CSA Rating	Solid/Stranded DIN-VDE Rating	Each	2-5
50F4216	9080M4/8SFL	Fused block for 5x20mm & 5x25 fuses, blown fuse indicator, 0.315″ (8)W, 38 sections per ft.	22-12AWG 600V/6.3A	24-12AWG 250V/6.3A	0-4/0-4mm² 400V 6.3A	18.38	17.50
50F4217	9080M4/8SF	Same as above, fuse indicator not included	22-12AWG 600V/6.3A	20-12AWG 600V/6.3A	0-4/0-4mm² 630V 6.3A	8.41	8.01
50F4219	9080M10/16SFL	Fuse block for ¼x1¼″ fuses, 0.630″ (16)W, 19 sections per ft.	18-8AWG 600V/16A	20-8AWG 600V/16A	0-16/0-10mm² 750VAC/900VDC 16A	18.25	17.38
50F4218	9080MFEM8S	End barrier for **type 9080M4** fused blocks	...	...	...	0.68	0.64

(5288) (ne51238)



9080M4/8



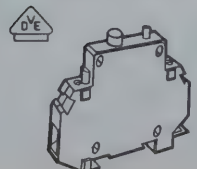
9080M10/16SFL

G SERIES TERMINAL BLOCKS WITH CIRCUIT BREAKERS

Channel-mount circuit breakers feature solderless box lug connections. UL/CSA rated: 16-10AWG @ 250VAC/65VDC; except **types 9080GCB100/GCB150**: 16-10AWG @ 125VAC/65VDC. 13mm width DIN-VDE rated: 0.5-10mm² solid wire /0.5-6mm² stranded wire @ 250VAC 65VDC, 13mm width (0.512″). 24 sections per foot. Comes with track adapter. Circuit breakers are also compatible with DIN 3 rails, *ordered separately on this page.* UL recognized, CSA certified, VDE approved.

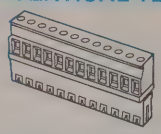
Stock No.	Type	Amps	Each	2-5	6-10
50F4221	9080GCB05	0.5	49.64	48.53	45.49
50F4223	9080GCB10	1.0	49.64	48.53	45.49
50F4227	9080GCB20	2.0	54.58	53.36	50.02
50F4225	9080GCB30	3.0	54.58	53.36	50.02
50F4230	9080GCB50	5.0	54.58	53.36	50.02
50F4232	9080GCB100	10.0	54.58	53.36	50.02
50F4233	9080GCB150	15.0	54.58	53.36	50.02

(5289) (ne51239)


9080GCB

TERMINAL BLOCKS

SIDE WIRE ENTRY VERTICAL TERMINAL BLOCKS



Vertical right angle- and left-side wire entry plugs available with 5.00mm or 5.08mm spacing. Mate with horizontal or vertical headers, *ordered separately on page 1094.* Cage clamp style allows connection to be easily disconnected and then securely restored numerous times. Wire size: 22-10 AWG. Nickel-plated finish on brass alloy cage clamp and tin-plated finish on solder tag provides low contact resistance, maximum corrosion resistance, and easy soldering. Unbreakable insulating polyimide housing, flammability rated UL94V-0. Size: 26.5H x 12.5mmW. UL recognized, CSA certified, VDE approved. Other pole positions available; *contact your local Newark sales office for details.*

RIGHT ANGLE WIRE ENTRY VERTICAL PLUGS

Stock No.	Type	Poles	Spacing	1-49
92N3932	1938	2	5.00mm	1.92
92N3933	1939	3	5.00mm	2.90
92N3934	1940	4	5.00mm	3.89
92N3939	1945	10	5.00mm	9.73
92N3940	1946	12	5.00mm	11.65
92N3941	1947	16	5.00mm	15.53
92N3942	1948	2	5.08mm	1.92
92N3943	1949	3	5.08mm	2.90
92N3944	1950	4	5.08mm	3.89
92N3949	1955	10	5.08mm	9.73
92N3950	1956	12	5.08mm	11.65
92N3951	1957	16	5.08mm	15.53

LEFT-SIDE WIRE ENTRY VERTICAL PLUGS

Stock No.	Type	Poles	Spacing	1-49
92N3952	1958	2	5.00mm	1.92
92N3953	1959	3	5.00mm	2.90
92N3954	1960	4	5.00mm	3.89
92N3959	1965	10	5.00mm	9.73
92N3960	1966	12	5.00mm	11.65
92N3961	1967	16	5.00mm	15.53
92N3962	1968	2	5.08mm	1.92
92N3963	1969	3	5.08mm	2.90
92N3964	1970	4	5.08mm	3.89
92N3969	1975	10	5.08mm	9.73
92N3970	1976	12	5.08mm	11.65
92N3971	1977	16	5.08mm	15.53

(17932) (ne10881)

FRONT CABLE INLET TERMINAL BLOCKS

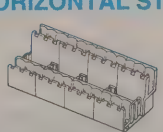
1803

Choose single or double front cable inlet 1-piece terminal blocks. Cage clamp style allows connection to be easily disconnected and then securely restored numerous times. Wire size: 22-12 AWG, single; 22-14 AWG, double. Feature nickel-plated finish on brass alloy cage clamp and tin-plated finish on solder tag to provide low contact resistance, maximum corrosion resistance, and easy soldering. Unbreakable insulating polyimide housing, flammability rated UL94V-0. Size: 19H x 10.5mmW, single; 34H x 21.5mmW, double. UL recognized, CSA certified, VDE approved.

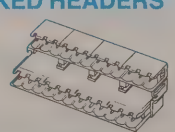
Stock No.	Type	Poles	Spacing	Cable Inlet	1-49
92N3796	1802	2	5.00mm	Single	1.19
92N3797	1803	3	5.00mm	Single	1.71
92N3798	1804	3	5.08mm	Single	1.71
92N3799	1805	2	5.00mm	Double	2.85
92N3800	1806	3	5.00mm	Double	4.14
92N3801	1807	3	5.08mm	Double	4.14

(17928) (ne09917)

VERTICAL AND HORIZONTAL STACKED HEADERS



Vertical



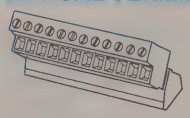
Horizontal

Open end headers. Space: 5.08mm. PC board hole diameter: 1.4mm. Contact pin: copper. Insulating polyimide housing, flammability rated UL94V-0. Color: green. Operating temperature: -30°C to +105°C. UL recognized, CSA certified, VDE approved.

Stock No.	Type	Description	Poles	Each
92N3930	1936	Vertical	2	2.18
92N3931	1937	Vertical	3	3.21
92N3928	1934	Horizontal	2	2.18
92N3929	1935	Horizontal	3	3.21

(31972) (ne31972)

TOP WIRE ENTRY VERTICAL TERMINAL BLOCK PLUGS



Vertical plugs feature top wire entry and 5.08mm spacing. Mate with horizontal or vertical headers, *ordered separately on this page.* Cage clamp style allows connection to be easily disconnected and then securely restored numerous times. Wire size: 28-14 AWG. Nickel-plated finish on brass alloy cage clamp and tin-plated finish on solder tag provides low contact resistance, maximum corrosion resistance, and easy soldering. Unbreakable insulating polyimide housing, flammability rated UL94V-0. Size: 15H x 27.5mmW. UL recognized, CSA certified, VDE approved.

Stock No.	Type	Poles	Spacing	1-49
92N3972	1978	2	5.08mm	2.75
92N3973	1979	3	5.08mm	4.14
92N3974	1980	4	5.08mm	5.54
92N3976	1982	6	5.08mm	8.28
92N3977	1983	7	5.08mm	9.68
92N3978	1984	8	5.08mm	11.03
92N3980	1986	10	5.08mm	13.82
92N3981	1987	12	5.08mm	16.56
92N3983	1989	14	5.08mm	19.31
92N3984	1990	15	5.08mm	20.70
92N3985	1991	16	5.08mm	22.10

(17933) (ne10882)

1-PC. HORIZONTAL AND VERTICAL TERMINAL BLOCKS

Horizontal

Vertical

Spacing: 3.5mm. PC board hole dia.: 1.2mm. Stripped length: 5.5mm. Copper zinc terminal block. Copper tin wire guard. Insulating polyimide housing, rated UL94V-0. Color: gray. Operating temperature: -30°C to +105°C. UL recognized, CSA certified.

HORIZONTAL

Stock No.	Type	Poles	Each
92N3892	1898	2	0.57
92N3893	1899	3	0.83
92N3894	1900	4	1.19
92N3896	1902	6	1.71
92N3897	1903	7	1.97

VERTICAL

Stock No.	Type	Poles	Each
92N3898	1904	2	0.57
92N3899	1905	3	0.83
92N3900	1906	4	1.19
92N3902	1908	6	1.71
92N3903	1909	7	1.97
92N3904	1910	8	2.28
92N3906	1912	10	2.85
92N3907	1913	12	3.37
92N3908	1914	14	3.99
92N3909	1915	16	4.51

(31970) (ne31970)

1-PC. BOARD MOUNT TERMINAL BLOCKS

Terminal-screw style 1-piece blocks with wire guard, except **type 1894** which is a cage clamp style that allows connection to be disconnected and then restored numerous times. Nickel- or tin-plated finish provides low contact resistance, corrosion resistance, and easy soldering. Wire guards protect conductors against strain. Insulating polyimide housing, rated UL94V-0. UL recognized, CSA certified, VDE approved.

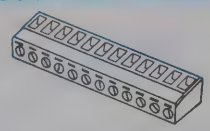
Stock No.	Type	Wire Entry	Poles	Spacing	H x W	1-49
92N3880	1886*	Front	2	5.00mm	12.5 x 9mm	0.57
92N3881	1887*	Front	3	5.00mm	12.5 x 9mm	0.86
92N3884	1890*	Front	2	5.08mm	12.5 x 9mm	0.57
92N3885	3348*	Front	3	5.08mm	12.5 x 9mm	0.86
92N3882	1888*	Top	2	5.00mm	12.5 x 9mm	0.80
92N3883	1889*	Top	3	5.00mm	12.5 x 9mm	1.21
92N3886	1892+	45°	2	5.00mm	12.5 x 9mm	0.88
92N3887	3349+	45°	3	5.00mm	12.5 x 9mm	1.30
92N3796	1802†	Front	2	5.00mm	12.5 x 9mm	1.19
92N3797	1803†	Front	3	5.00mm	12.5 x 9mm	1.71
92N3798	1804†	Front	3	5.08mm	13.5 x 9mm	1.71
92N3888	1894+	Front	2	5.08mm	13.5 x 9mm	0.91
92N3889	3350+	Front	3	5.08mm	13.5 x 9mm	1.35
92N3890	1896*	Front	2	5.00mm	10 x 7.5mm	0.57
92N3891	1897*	Front	3	5.00mm	10 x 7.5mm	0.78
92N3799	1805*	Front	2	5.00mm	10 x 7.5mm	2.85
92N3800	1806*	Front	3	5.00mm	10 x 7.5mm	4.14
92N3801	1807*	Front	3	5.08mm	13.5 x 9mm	4.14

Wire size: *22-14 AWG; +22-12 AWG; †28-16 AWG

(17930) (ne09918)

PLUGGABLE TERMINAL BLOCKS

2-PIECE PLUGGABLE TERMINAL BLOCKS

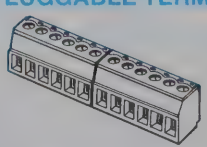


Right-angle plugs available with 5.00mm or 5.08mm spacing. Mate with horizontal or vertical headers, *ordered separately on this page.* Cage-clamp style allows connection to be easily disconnected and then securely restored numerous times. Wire size: 22-12 AWG. Nickel-plated finish on brass alloy cage clamp and tin-plated finish on solder tag provides low contact resistance, maximum corrosion resistance, and easy soldering. Unbreakable insulating polyimide housing, flammability rated UL94V-0. Size: 15H x 17.3mmW. UL recognized, CSA certified, VDE approved.

Stock No.	Type	Poles	Spacing	1-49
92N3805	1811	2	5.00mm	1.56
92N3806	1812	3	5.00mm	2.38
92N3807	3332	4	5.00mm	3.11
92N3808	1814	5	5.00mm	3.89
92N3809	3333	6	5.00mm	4.66
92N3810	3334	8	5.00mm	6.21
92N3811	1817	10	5.00mm	7.77
92N3812	3335	12	5.00mm	9.32
92N3813	3336	16	5.00mm	12.42
92N3814	3337	20	5.00mm	14.29
92N3815	3338	2	5.08mm	1.56
92N3816	3339	3	5.08mm	2.38
92N3817	1823	4	5.08mm	3.11
92N3818	1824	5	5.08mm	3.89
92N3819	1825	6	5.08mm	4.66
92N3820	1826	7	5.08mm	5.44
92N3821	1827	8	5.08mm	6.21
92N3822	3340	9	5.08mm	6.99
92N3823	3341	10	5.08mm	7.77
92N3824	1830	12	5.08mm	9.32
92N3825	1831	14	5.08mm	10.87
92N3826	1832	16	5.08mm	12.42
92N3827	1833	18	5.08mm	14.13
92N3828	1834	20	5.08mm	14.29
92N3829	3342	24	5.08mm	17.08

(17929) (ne10880)

MINI 2-PIECE PLUGGABLE TERMINAL BLOCKS

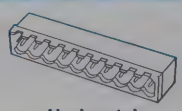


Multiconnector system meets miniaturization requirements. 180° angle plugs with 3.5mm or 3.81mm spacing. Mating horizontal headers are available; *contact your local Newark sales office for details.* Cage-clamp style allows connection to be easily disconnected and then securely restored numerous times. Wire size: 28-16 AWG. Nickel-plated finish on brass alloy cage clamp and tin-plated finish on solder tag provides low contact resistance, maximum corrosion resistance, and easy soldering. Unbreakable insulating polyimide housing, flammability rated UL94V-0. Size: 11.1H x 15.5mmW. UL recognized, CSA certified, VDE approved.

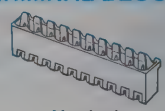
Stock No.	Type	Poles	Spacing	1-49
92N3986	1992	2	3.5mm	1.56
92N3987	1993	3	3.5mm	2.33
92N3988	1994	4	3.5mm	3.11
92N3989	1995	5	3.5mm	3.89
92N3990	1996	6	3.5mm	4.66
92N3991	1997	8	3.5mm	6.21
92N3992	1998	10	3.5mm	7.77
92N3993	1999	12	3.5mm	9.32
92N3994	2000	16	3.5mm	12.42
92N3996	2002	2	3.81mm	1.56
92N3997	2003	3	3.81mm	2.33
92N3998	2004	4	3.81mm	3.11
92N3999	2005	5	3.81mm	3.89
92N4000	2006	6	3.81mm	4.66
92N4001	2007	7	3.81mm	5.44
92N4002	2008	8	3.81mm	6.21
92N4003	2009	9	3.81mm	6.89
92N4004	2010	10	3.81mm	7.77
92N4005	2011	12	3.81mm	9.32
92N4006	2012	14	3.81mm	10.87
92N4007	2013	16	3.81mm	12.42

(17937) (ne09922)

HEADERS FOR 2-PIECE TERMINAL BLOCKS



Horizontal



Vertical

Horizontal and vertical headers with 5.00mm and 5.08mm spacing. Mate with top and side wire entry vertical plugs and right-angle plugs, *ordered separately on this page.* Cage-clamp style allows connection to be easily disconnected and then securely restored numerous times. Nickel-plated finish on brass alloy cage clamp and tin-plated finish on solder tag provides low contact resistance, maximum corrosion resistance, and easy soldering. Unbreakable insulating polyimide housing, flammability rated UL94V-0. UL recognized, CSA certified, VDE approved.

HORIZONTAL HEADERS – 8.4H x 12mmW

Stock No.	Type	Poles	Spacing	1-49
92N3830	1836	2	5.00mm	0.57
92N3831	1837	3	5.00mm	0.83
92N3832	1838	4	5.00mm	1.19
92N3833	1839	5	5.00mm	1.40
92N3834	1840	6	5.00mm	1.71
92N3835	1841	8	5.00mm	2.23
92N3836	1842	10	5.00mm	2.85
92N3837	1843	12	5.00mm	3.37
92N3838	1844	16	5.00mm	4.51
92N3839	1845	20	5.00mm	5.64
92N3840	1846	2	5.08mm	0.57
92N3841	3343	3	5.08mm	0.83
92N3842	1848	4	5.08mm	1.19
92N3843	1849	5	5.08mm	1.40
92N3844	3344	6	5.08mm	1.71
92N3845	1851	7	5.08mm	1.97
92N3846	1852	8	5.08mm	2.23
92N3847	1853	9	5.08mm	2.54
92N3848	1854	10	5.08mm	2.85
92N3850	1856	14	5.08mm	3.99
92N3851	1857	16	5.08mm	4.51
92N3852	1858	18	5.08mm	5.08
92N3853	1859	20	5.08mm	5.64
92N3854	1860	24	5.08mm	6.78

VERTICAL HEADERS – 12H x 8.4mmW

Stock No.	Type	Poles	Spacing	1-49
92N3855	1861	2	5.00mm	0.57
92N3856	1862	3	5.00mm	0.83
92N3857	1863	4	5.00mm	1.19
92N3858	3345	5	5.00mm	1.40
92N3859	1865	6	5.00mm	1.71
92N3860	3346	8	5.00mm	2.23
92N3861	1867	10	5.00mm	2.85
92N3862	1868	12	5.00mm	3.37
92N3863	3347	16	5.00mm	4.51
92N3864	1870	20	5.00mm	5.64
92N3865	1871	2	5.08mm	0.57
92N3866	1872	3	5.08mm	0.83
92N3867	1873	4	5.08mm	1.19
92N3868	1874	5	5.08mm	1.40
92N3869	1875	6	5.08mm	1.71
92N3870	1876	7	5.08mm	1.97
92N3871	1877	8	5.08mm	2.23
92N3872	1878	9	5.08mm	2.54
92N3873	1879	10	5.08mm	2.85
92N3874	1880	12	5.08mm	3.37
92N3875	1881	14	5.08mm	3.99
92N3876	1882	16	5.08mm	4.51
92N3877	1883	18	5.08mm	5.08
92N3878	1884	20	5.08mm	5.64
92N3879	1885	24	5.08mm	6.78

(17931) (ne10884)

PLUGGABLE TERMINAL BLOCKS

Header

Plug

Multiconnector system features 2- and 3-pole plugs that mate with straight unshrouded pin header, *ordered separately below.* Suitable for mass assembly. Cage-clamp style plugs allow connection to be disconnected and then restored numerous times. Wire size: 22-14 AWG. Nickel-plated finish on brass alloy cage clamp and tin-plated finish on solder tag provides low contact resistance, corrosion resistance, and easy soldering. Unbreakable insulating polyimide housing, flammability rated UL94V-0. 24-pole pin header can be cut down to size. UL recognized, CSA certified, VDE approved.

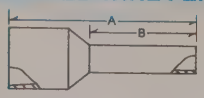
Stock No.	Type	Description	Poles	Spacing	H x W	1-49
92N3802	1808	Plug	2	5.00mm	10.8 x 13.5mm	1.04
92N3803	1809	Plug	3	5.00mm	10.8 x 13.5mm	1.50
92N3804	1810	Header	24	5.00mm	12.5 x 2.8mm	3.37

(17938) (ne09923)

NEW

WIRE FERRULES AND KITS

DIN INSULATED WIRE FERRULES



Copper/plastic material. Surface: tin-plated. CE compliant. **Types SPC4473-4493** and **SPC 4504-4524** are **sold in pkgs.of 500. Types SPC4494-4500** and **SPC4525-4531** are **sold in pkgs. of 100. Types SPC4501-4503** and **SPC4532-4534** are **sold in pkgs. of 50.**

Stock No.	Type	Color	AWG	Size (mm^2)	Dimensions (mm) A	Dimensions (mm) B	Per Pkg.
84N2007	SPC4473	Orange	20	0.50	11.5	6	42.00
84N2008	SPC4474	Orange	20	0.50	13.5	8	30.00
84N2009	SPC4475	Orange	20	0.50	15.5	10	42.00
84N2010	SPC4476	White	20	0.75	12.0	6	44.00
84N2011	SPC4477	White	20	0.75	14.0	8	30.00
84N2012	SPC4478	White	20	0.75	16.0	10	44.00
84N2013	SPC4479	White	20	0.75	18.0	12	44.00
84N2014	SPC4480	Yellow	18	1.00	12.5	6	50.00
84N2015	SPC4481	Yellow	18	1.00	14.5	8	32.00
84N2016	SPC4482	Yellow	18	1.00	16.5	10	50.00
84N2017	SPC4483	Yellow	18	1.00	18.5	12	50.00
84N2018	SPC4484	Red	16	1.50	12.5	6	70.00
84N2019	SPC4485*	Red	16	1.50	14.5	8	44.00
84N2020	SPC4486	Red	16	1.50	16.5	10	62.00
84N2021	SPC4487	Red	16	1.50	18.5	12	70.00
84N2022	SPC4488	Red	16	1.50	24.5	18	62.00
84N2023	SPC4489	Blue	14	2.50	15.0	8	44.00
84N2024	SPC4490	Blue	14	2.50	19.0	12	60.00
84N2025	SPC4491	Blue	14	2.50	25.0	18	77.00
84N2026	SPC4492	Gray	12	4.00	17.5	10	70.50
84N2027	SPC4493	Gray	12	4.00	20.0	12	70.50
84N2028	SPC4494	Gray	12	4.00	26.0	18	14.00
84N2029	SPC4495	Black	10	6.00	20.0	12	19.00
84N2030	SPC4496	Black	10	6.00	25.0	18	22.00
84N2031	SPC4497	Ivory	8	10.00	21.0	12	19.00
84N2032	SPC4498	Ivory	8	10.00	27.0	18	28.00
84N2033	SPC4499	Green	6	16.00	23.0	12	26.00
84N2034	SPC4500	Green	6	16.00	29.0	18	40.00
84N2035	SPC4501	Brown	4	25.00	29.0	16	33.00
84N2036	SPC4502	Brown	4	25.00	31.0	18	33.00
84N2037	SPC4503	Brown	4	25.00	35.0	22	45.00
84N2038	SPC4504	White	20	0.50	11.5	6	42.00
84N2039	SPC4505	White	20	0.50	13.5	8	30.00
84N2040	SPC4506	White	20	0.50	15.5	10	42.00
84N2041	SPC4507	Gray	20	0.75	12.0	6	44.00
84N2042	SPC4508	Gray	20	0.75	14.0	8	30.00
84N2043	SPC4509	Gray	20	0.75	16.0	10	44.00
84N2044	SPC4510	Gray	20	0.75	18.0	12	44.00
84N2045	SPC4511	Red	18	1.00	12.5	6	50.00
84N2046	SPC4512	Red	18	1.00	14.5	8	32.00
84N2047	SPC4513	Red	18	1.00	16.5	10	50.00
84N2048	SPC4514	Red	18	1.00	18.5	12	50.00
84N2049	SPC4515*	Black	16	1.50	12.5	6	70.00
84N2050	SPC4516	Black	16	1.50	14.5	8	44.00
84N2051	SPC4517	Black	16	1.50	16.5	10	62.00
84N2052	SPC4518	Black	16	1.50	18.5	12	70.00
84N2053	SPC4519	Black	16	1.50	24.5	18	62.00
84N2054	SPC4520	Blue	14	2.50	15.0	8	44.00
84N2055	SPC4521	Blue	14	2.50	19.0	12	60.00
84N2056	SPC4522	Blue	14	2.50	25.0	18	77.00
84N2057	SPC4523	Gray	12	4.00	17.5	10	70.50
84N2058	SPC4524	Gray	12	4.00	20.0	12	70.50
84N2059	SPC4525	Gray	12	4.00	26.0	18	14.00
84N2060	SPC4526	Yellow	10	6.00	20.0	12	19.00
84N2061	SPC4527	Yellow	10	6.00	25.0	18	22.00
84N2062	SPC4528	Red	8	10.00	21.0	12	19.00
84N2063	SPC4529	Red	8	10.00	27.0	18	28.00
84N2064	SPC4530	Blue	6	16.00	23.0	12	26.00
84N2065	SPC4531	Blue	6	16.00	29.0	18	40.00
84N2066	SPC4532	Yellow	4	25.00	29.0	16	33.00
84N2067	SPC4533	Yellow	4	25.00	31.0	18	33.00
84N2068	SPC4534	Yellow	4	25.00	35.0	22	45.00

*Does not conform to DIN 46228 Part 4.
(31976) (ne31976)

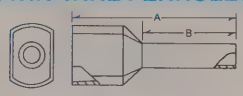
DIN WIRE FERRULE KITS

Contains assortments of DIN wire ferrules. CE compliant.

Stock No.	Type	No. of Pieces	Description	Each
84N2085	SPC4551	150	30 ea. of **types 1738, 1739, SPC4505, SPC4508, SPC4512**	40.00
84N2087	SPC4553	400	50 ea. of **types SPC4505, SPC4520**; 100 ea. of **types SPC4508, SPC4512, SPC4516**	60.00
84N2089	SPC4555	100	50 ea. of **type SPC4523**; 20 ea. of **types SPC4526, SPC4528**; 10 ea. of **type SPC4530**	50.00

(41371) (ne41371)

TWIN-WIRE FERRULES

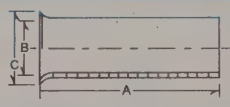


Copper/plastic material. Surface: tin-plated. CE compliant. **Types SPC4562-4569** and **SPC4575-4583** are **sold in pkgs. of 500. Types SPC4570-4573** and **SPC4584-4586** are **sold in pkgs. of 100. Types SPC4574** and **SPC4587** are **sold in pkgs. of 50.**

Stock No.	Type	Color	AWG	Size (mm^2)	Dimensions (mm) A	Dimensions (mm) B	Per Pkg.
84N2096	SPC4562	White	2 x 20	2 x 0.50	15.0	8.0	40.00
84N2097	SPC4563	Gray	2 x 20	2 x 0.75	15.0	8.0	40.00
84N2098	SPC4564	Gray	2 x 20	2 x 0.75	17.0	10.0	51.00
84N2099	SPC4565	Red	2 x 18	2 x 1.00	15.0	8.0	47.00
84N2100	SPC4566	Red	2 x 18	2 x 1.00	17.0	10.0	65.00
84N2101	SPC4567	Black	2 x 16	2 x 1.50	16.0	8.0	56.00
84N2102	SPC4568	Black	2 x 16	2 x 1.50	20.0	12.0	80.00
84N2103	SPC4569	Blue	2 x 14	2 x 2.50	18.5	10.0	37.00
84N2104	SPC4570	Blue	2 x 14	2 x 2.50	21.5	13.0	80.00
84N2105	SPC4571	Gray	2 x 12	2 x 4.00	23.0	12.0	17.00
84N2106	SPC4572	Yellow	2 x 10	2 x 6.00	25.0	14.0	31.00
84N2107	SPC4573	Red	2 x 8	2 x 10.0	26.0	14.0	38.00
84N2108	SPC4574	Blue	2 x 6	2 x 16.0	31.0	16.0	50.00
84N2109	SPC4575	Orange	2 x 20	2 x 0.50	15.0	8.0	40.00
84N2110	SPC4576	White	2 x 20	2 x 0.75	15.0	8.0	40.00
84N2112	SPC4578	Yellow	2 x 18	2 x 1.00	15.0	8.0	47.00
84N2113	SPC4579	Yellow	2 x 18	2 x 1.00	17.0	10.0	65.00
84N2114	SPC4580	Red	2 x 16	2 x 1.50	16.0	8.0	56.00
84N2115	SPC4581	Red	2 x 16	2 x 1.50	20.0	12.0	80.00
84N2116	SPC4582	Blue	2 x 14	2 x 2.50	18.5	10.0	37.00
84N2117	SPC4583	Blue	2 x 14	2 x 2.50	21.5	13.0	80.00
84N2118	SPC4584	Gray	2 x 12	2 x 4.00	23.0	12.0	17.00
84N2119	SPC4585	Black	2 x 10	2 x 6.00	25.0	14.0	31.00
84N2120	SPC4586	Ivory	2 x 8	2 x 10.0	26.0	14.0	38.00
84N2121	SPC4587	Green	2 x 6	2 x 16.0	31.0	16.0	50.00

(31975) (ne31975)

UNINSULATED WIRE FERRULES



Copper/plastic material. Surface: tin-plated. CE compliant. **Sold in pkgs. of 1000.**

Stock No.	Type	AWG	Size (mm^2)	Dimensions (mm) A	Dimensions (mm) B	Dimensions (mm) C	Per Pkg.
84N2069	SPC4535	20	0.50	6	1.0	2.1	34.00
84N2070	SPC4536*	20	0.50	8	1.0	2.1	36.00
84N2071	SPC4537	20	0.75	6	1.2	2.3	42.00
84N2072	SPC4538*	20	0.75	8	1.2	2.3	42.00
84N2073	SPC4539	20	0.75	10	1.2	2.3	44.00
84N2074	SPC4540*	18	1.00	8	1.4	2.5	44.00
84N2075	SPC4541	18	1.00	10	1.4	2.5	44.00
84N2076	SPC4542	16	1.50	10	1.7	2.8	48.00
84N2077	SPC4543	16	1.50	12	1.7	2.8	54.00
84N2078	SPC4544	14	2.50	7	2.2	3.4	58.00
84N2079	SPC4545	14	2.50	10	2.2	3.4	58.00
84N2080	SPC4546	14	2.50	12	2.2	3.4	58.00
84N2081	SPC4547	12	4.00	12	2.8	4.0	50.00
84N2082	SPC4548	12	4.00	15	2.8	4.0	64.00
84N2083	SPC4549	10	6.00	12	3.5	4.7	112.00

*Does not conform to DIN 46228 Part 1.
(31974) (ne31974)

WIRE FERRULE KITS

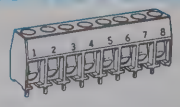
Contain assortments of twin, W,or uninsulated wire ferrules. CE compliant.

Stock No.	Type	Kit Style	No. of Pieces	Description	Each
84N2091	SPC4557	Twin	200	50 ea. of **types SPC4562, SPC4563, SPC4565, SPC4567**	40.00
84N2092	SPC4558	Twin	200	50 ea. of **types SPC4562, SPC4565, SPC4567, SPC4569**	44.00
84N2086	SPC4552	W	150	30 ea. of **types 1740, 1741, SPC4474, SPC4477, SPC4481**	40.00
84N2088	SPC4554	W	400	50 ea. of **types SPC4474, SPC4489**; 100 ea. of **types SPC4477, SPC4481, SPC4485**	60.00
84N2094	SPC4560	Unins.	1800	500 ea. of **type SPC4535**; 400 ea. of **types SPC4537, 1743**; 300 ea. of **type 3607**; 200 ea. of **type SPC4544**	70.00
84N2095	SPC4561	Unins.	370	150 ea. of **type 1742**; 100 ea. of **type 1743**; 80 ea. of **type SPC4497**; 40 ea. of **type SPC4499**	60.00

(31973) (ne31973)

TERMINAL BLOCKS

85 SERIES EUROSTYLE® PC TERMINAL BLOCKS



Straight PC wire entry to 14AWG; 12AWG minimum stranded or multiple. 0.197″(5.00) contact spacing provides up to 5 terminations per inch. Dead front construction; recessed, captive screws. Closed side prevents wires from passing through. Black thermoplastic insulator rated UL94V-0. 15A, 6500Vrms. 0.475H x 0.350″W (12.07 x 8.89). UL recognized, CSA certified. (*)Available in 10mm contact spacing; *add* **suffix 10mm** *to type number.*

Stock No.	Type	Pole	Length	1-24
89F1495	85502*	2	0.394″ (10)	0.51
89F1496	85503*	3	0.591″ (15)	0.77
89F1497	85504*	4	0.787″ (20)	1.03
89F1498	85505*	5	0.984″ (25)	1.28
89F1499	85506*	6	1.181″ (30)	1.53
89F1500	85507*	7	1.378″ (35)	1.79
89F1501	85508*	8	1.575″ (40)	2.05
89F1502	85509*	9	1.772″ (43)	2.30
89F1503	85510*	10	1.969″ (50)	2.56
89F1505	85512*	12	2.362″ (60)	3.07

(5188) (de00170)

86 SERIES EUROSTYLE® PLUGGABLE PC BOARD TERMINAL BLOCKS

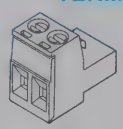


Fig. 1

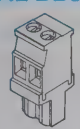


Fig. 2

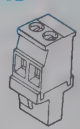


Fig. 3

Eurostyle® terminal blocks for PC boards are 2-piece plug and header system that are polarized with the industry standard scalloped design. Available in **86 series** 0.200″ (5.08) units. Rising cage pressure clamp compresses wires for higher-pressure, gas tight interface. Phosphor bronze contacts. Accepts 12-30 AWG wire. Black polyamide body, rated UL 94V-0. UL Class B commercial 15A @ 250V. Class C industrial 10A @ 300V. CSA 15A @ 300V. VDE 0110 Gr. C 12A @ 250V.

86 SERIES 0.200″ (5.08mm) STANDARD PLUGS, FIG. 1

Stock No.	Type	Poles	1-24
93F7123	860502	2	1.21
93F7124	860503	3	1.81
93F7125	860504	4	2.41
93F7126	860505	5	3.01
93F7127	860506	6	3.61
93F7129	860508	8	4.81
93F7130	860510	10	6.02
93F7132	860512	12	7.22

86 SERIES VERTICAL RIGHT-HAND PLUGS, FIG. 2

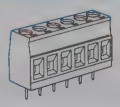
92F1795	870803	3	2.08
92F1798	870806	6	4.15
92F1799	870808	8	5.54
92F1800	870810	10	6.92

86 SERIES VERTICAL LEFT-HAND PLUGS, FIG. 3

92F1803	870903	3	2.08
92F1807	870908	8	5.54

(5207) (de01616a)

88 SERIES SINGLE-PIECE FIXED TERMINAL BLOCKS



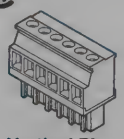
Permanent-mount Eurostyle® blocks in 0.200″ (5.08) or 0.197″ (5.00) spacing. Tin-plate brass pressure clamps compress wire uniformly. Straight thru terminals. Polyamide insulator rated UL94V-0. Closed bottom prevents solder wicking. Hot tin dip phosphor bronze contacts. Zinc chromate-plated steel screws. Wire range: 12 to 30 AWG. 0.33″ (8.38) wide footprint. Withstanding: 6500VDC. Contact resistance: <10 milliohms initial. Operating temperature: –55° to +100°C. UL recognized 15A @ 250V/10A @ 300V; CSA certified 15A @ 300V. VDE approved 16A @ 250V.

88 SERIES 0.200″ (5.08) SPACING

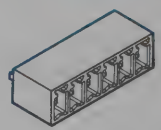
Stock No.	Type	Poles	Length	Center Space	1-24
93F7181	880502	2	0.395″ (10)	0.200″ (5)	0.79
93F7182	880503	3	0.595″ (15)	0.400″ (10)	1.17
93F7183	880504	4	0.795″ (20)	0.600″ (15)	1.56
93F7184	880505	5	0.995″ (25)	0.800″ (20)	1.95
93F7185	880506	6	1.195″ (30)	1.000″ (25)	2.35
93F7187	880508	8	1.595″ (40)	1.400″ (35)	3.12
93F7188	880510	10	1.995″ (50)	1.800″ (45)	3.90
93F7190	880512	12	2.395″ (60)	2.200″ (55)	4.68

(5189) (de00171)

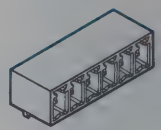
90 SERIES EUROSTYLE® 3.81MM PLUGGABLE TERMINAL BLOCKS



Vertical Plug



180° Header



90° Header

High-density terminal blocks for PC boards are two-piece plug and header design polarized with the industry standard interface. Available from 2 to 21 poles in .150″ (3.81) centers. Optional locking screws available. Beryllium copper terminal contact provides optimum contact forces. Rising cage pressure clamp compresses wire for high-pressure, gas tight termination. 16 through 30 AWG wires. Black polyamide UL 94V-0 plug body. High-temperature black UL 94V-0 PBTB header body. Rated 10A at 300V. UL recognized, CSA certified.

PLUGS

Stock No.	Type	Stock No.	Type	Poles	1-24
16F1641	900803	16F1651	900903	3	2.87
16F1642	900804	16F1652	900904	4	3.69
16F1646	900808	16F1656	900908	8	6.96
16F1648	900812	16F1658	900912	12	10.24

HEADERS

16F1661	901603	16F1671	901903	3	0.84
16F1662	901604	16F1672	901904	4	1.09
16F1666	901608	16F1676	901908	8	2.07
16F1668	901612	16F1678	901912	12	3.05

(5262) (ne08200)

93 SERIES EUROMATE® 3.81mm PLUGGABLE TERMINAL BLOCKS

93 series terminal blocks offer unique design and user-friendly open screw terminals. Terminates using standard blade or phillips screwdriver. Euromate® plug mates with any Euro header polarized with the industry – standard interface. Available from 3-21 poles in 0.150″ (3.81) centers. Optional locking screws available. Beryllium copper terminal contact allows for optimum contact forces. Accepts 14 through 30 AWG wires. Black polyamide UL 94V-0 body. Rated 10 amps at 300V. **930800 series** type numbers designate vertical right-hand plug. Vertical left-hand plugs, series 930900 also available. *Call your local Newark sales office.* UL recognized, CSA certified.

Stock No.	Type	Poles	1-24
16F1722	930803	3	2.87
16F1723	930804	4	3.69
16F1724	930805	5	4.51
16F1725	930806	6	5.32
16F1726	930807	7	6.14
16F1727	930808	8	6.96
16F1728	930810	10	8.60
16F1729	930812	12	10.24
16F1730	930816	16	13.51

(5260) (ne08187)

PLUGGABLE PC BOARD TERMINAL BLOCKS

Fig.1

Fig.2

86 SERIES 0.200″ (5.08mm) 90° HEADERS CLOSED END, FIG. 1

Stock No.	Type	Poles	1-24
95F5346	861902	2	0.46
95F5347	861903	3	0.69
95F5350	861906	6	1.38
95F5352	861908	8	1.84
95F5353	861910	10	2.30

86 SERIES 0.200″ (5.08mm) 90° HEADERS OPEN END, FIG. 2

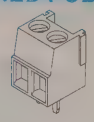
92F1826	862804	4	1.72
92F1827	862806	6	2.58

(5208) (de01616b)

NEWARK ACCEPTS MAJOR CREDIT CARDS.
CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR DETAILS.

TERMINAL BLOCKS, STRIPS AND CONNECTORS

83 SERIES 3.5mm FIXED PCB TERMINAL BLOCKS

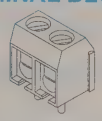


Eurostyle® **83 series** rising cage pressure clamp terminal blocks feature high pitch density 3.5mm pitch screw terminal. Allow for simple and reliable field termination in tight spaces. Low-profile design is 0.335″ high and 0.275″ in depth. Dovetail construction allows several blocks to be assembled into a larger size. Phosphor bronze contacts ensure repeatable wire clamping. Serrations provide a high-pressure, gas-tight interface. Wire range: 16 to 26 AWG. Contact resistance: <10 milliohms initial. Operating temperature: –55°C to +85°C. VDE approved, rated at 8A @ 250V.

Stock No.	Type	Poles	Length	Center Space	1-24
52F7334	830502	2	0.276″ (7)	0.138″ (3.5)	0.69
52F7335	830503	3	0.413″ (10.5)	0.138″ (3.5)	1.03

(5223) (de07418)

84 SERIES 5.0mm ECONOMICAL SCREW TERMINAL BLOCKS



Eurostyle® **84 series** screw terminal blocks feature a modular, snap-together design. Allow for simple and reliable field termination in tight spaces. Low-profile design is 0.395″ high and 0.295″ in depth. Modular dovetail construction allows two or three blocks to be assembled into any length. Phosphor-bronze contacts provide repeatable wire clamping. Wire range: 14 to 24 AWG. Contact resistance: <10 milliohms initial. Insulator: polyamide, UL94V-0, gray. Terminal: brass, tin plate. Zinc-chromate plated steel screws. Operating temperature: –55°C to +85°C. UL recognized, CSA certified 14A @ 300V, VDE approved, rated 16A @ 250V.

Stock No.	Type	Poles	Length	Center Space	1-24
52F7336	840502	2	0.395″ (10)	0.197″ (5)	0.45
52F7337	840503	3	0.595″ (15)	0.197″ (5)	0.68

(5224) (de07419)

3300 SERIES PLUG/SOCKET CONNECTORS

Fig. 1 Fig. 2 Fig. 3 Fig. 4 Fig. 5

Thermoplastic backshell panel and cable-mount plugs and sockets rated 10A, 750Vrms. Available with latch or keeper for connecting cable-mount units. UL recognized 250 VAC/DC, CSA certified. Contacts polarized.

PLUGS WITH CABLE CLAMP TOP—FIG. 1

Stock No.	Type	Contacts	1-24
14F2385	P-3302-CCT	2	2.54
14F2386	P-3303-CCT	3	1.82
14F2387	P-3304-CCT	4	2.87
14F2390	P-3308-CCT	8	3.48
14F2392	P-3312-CCT	12	4.12

PLUGS WITH CABLE CLAMP TOP WITH LATCH—FIG. 2

14F2460	P-3302-CCT-L	2	3.83
14F2461	P-3303-CCT-L	3	4.33
14F2462	P-3304-CCT-L	4	4.21
14F2463	P-3306-CCT-L	6	4.46

SOCKETS WITH ANGLE BRACKETS—FIG. 3

14F2400	S-3302-AB	2	1.65
14F2401	S-3303-AB	3	1.72
14F2407	S-3312-AB	12	3.62

SOCKETS WITH CABLE CLAMP TOP—FIG. 4

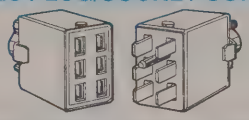
14F2444	S-3302-CCT	2	2.74
14F2446	S-3304-CCT	4	3.04
14F2449	S-3308-CCT	8	3.86
14F2451	S-3312-CCT	12	4.99

SOCKETS WITH CABLE CLAMP TOP WITH KEEPER—FIG. 5

14F2527	S-3302-CCT-K	2	4.06
14F2528	S-3303-CCT-K	3	4.84
14F2529	S-3304-CCT-K	4	4.69
14F2530	S-3306-CCT-K	6	5.14

(5226) (de50063)

5400 SERIES PLUG/SOCKET CONNECTORS



5400 series plugs and sockets rated 15A, 1750Vrms. Interchangeable with **2400** or **400 series** type connectors. Applications include traffic control equipment, industrial machinery, heating and cooling equipment, and signal systems. UL recognized, CSA certified. Cable clamp top. *To order side entry cable clamp substitute* **CCE suffix**; *deep bracket substitute* **DB suffix**; *shallow bracket substitute* **SB suffix**.

Stock No.	Type	Contacts	1-24
14F2511	P-5404-CCT	4	5.75
14F2512	P-5406-CCT	6	6.51
14F2513	P-5408-CCT	8	7.12
14F2514	P-5410-CCT	10	7.89
14F2515	P-5412-CCT	12	8.24
89F030	S-5404-CCT	4	6.22
14F2579	S-5406-CCT	6	6.92
50F6266	S-5408-CCT	8	7.66
94F3867	S-5410-CCT	10	8.39
50F6267	S-5412-CCT	12	9.14

(5227) (de50064)

HIGH BARRIER SINGLE-ROW TERMINAL STRIPS

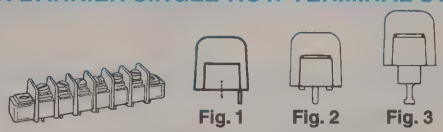


Fig. 1 Fig. 2 Fig. 3

- **70 Series: 20 Amp @ 300V, 0.325″ (8.23) Centers**
- **72 Series: 25 Amp @ 300V, 0.375″ (9.53) Centers**
- **63 Series: 25 Amp @ 600V, 0.438″ (11.1) Centers**

Barrier strips are UL94V-0 glass-filled flexible thermoplastic. Choose from 4 terminal styles: closed back, screws only top-side termination; printed circuit bottom-side; insulated solder turret bottom-side; wire wrap bottom-side. Terminals are welded, resulting in no solder joint fatigue caused by twisting the tails. Terminals are tin-lead plated brass with 6-32 x ¼ binding head screws. 0.66″H x 0.6″W (16.76 x 16.00). UL recognized, CSA certified.

70500 SERIES PRINTED CIRCUIT BOTTOM TERMINALS—FIG. 1

Stock No.	Type	Terminals	1-24
16F3090	70502	2	0.65
16F3091	70503	3	0.81
81F1888	70506	6	1.29
81F1889	70507	7	1.42
81F1890	70508	8	1.58
81F1892	70510	10	1.91
16F3092	70512	12	2.23

72500 SERIES PRINTED CIRCUIT BOTTOM TERMINALS—FIG. 2

14F2034	72502	2	0.83
14F2035	72503	3	1.08
14F2036	72504	4	1.29
14F2037	72505	5	1.57
14F2038	72506	6	1.79
14F2039	72507	7	2.02
14F2040	72508	8	2.29
14F2042	72510	10	2.79
14F2044	72512	12	3.25
14F2048	72516	16	4.24

72200 SERIES INSULATED SOLDER TURRET TERMINALS—FIG. 3

14F2017	72202	2	0.93
14F2018	72203	3	1.23
14F2019	72204	4	1.52
14F2020	72205	5	1.79
14F2021	72206	6	2.04
14F2022	72207	7	2.31
14F2023	72208	8	2.61
14F2025	72210	10	3.20
14F2027	72212	12	3.73

63500 SERIES PRINTED CIRCUIT BOTTOM TERMINALS—FIG. 2

16F3069	63502	2	0.90
16F3070	63503	3	1.20
16F3071	63504	4	1.50
16F3072	63505	5	1.79
16F3073	63506	6	2.09
16F3076	63510	10	3.28
16F3077	63512	12	3.87
16F3078	63516	16	5.06

(5225) (da50062)

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TERMINAL STRIPS

76 SERIES 20 AMP BARRIER TERMINAL STRIPS

Double row, closed-back high barrier strips with 0.375″ (9.53) terminal centers. Glass-filled thermoplastic insulator, rated UL 94V-0 with 110°C temperature index. Zinc-chromate-plated steel no. 6-32 x 0.250″ (6.35) binding head screws. Wire size: 14 AWG maximum. 0.88″ (22) wide x 0.63″ (16) high. Voltage rating: UL recognized 250Vrms Class B, 150Vrms class C; CSA certified 300 volts @ 20A. Withstanding voltage: 10500Vrms.

Stock No.	Type	Terminals	Length	1-24
14F2600	76002	2	1.41″ (35)	0.72
14F2601	76004	4	2.16″ (54)	0.98
14F2602	76005	5	2.53″ (64)	1.27
14F2603	76006	6	2.91″ (73)	1.48
14F2604	76008	8	3.66″ (93)	1.86
14F2605	76010	10	4.41″ (112)	2.24
14F2606	76012	12	5.16″ (131)	2.53
14F2608	76014	14	5.91″ (150)	3.00
14F2609	76016	16	6.66″ (169)	3.37
14F2610	76018	18	7.41″ (188)	3.71
14F2611	76020	20	8.16″ (207)	4.17
14F2612	76022	22	8.91″ (226)	4.43
14F2613	76024	24	9.66″ (245)	4.93
14F2614	76030	30	11.91″ (302)	6.09

(5183) (de00153)

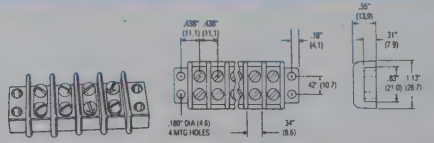
77 SERIES 20 AMP BARRIER TERMINAL STRIPS

Same as **76 series** strips except low barrier design. CSA certified 150Vrms @ 20A; and withstanding voltage: 7500Vrms. 0.88″ (22) wide x 0.44″ (11) high. 0.375″ (9.53) terminal centers.

Stock No.	Type	Terminals	Length	1-24
14F2615	77002	2	1.41″ (35)	0.72
14F2616	77004	4	2.16″ (54)	0.98
14F2617	77005	5	2.53″ (64)	1.27
14F2618	77006	6	2.91″ (73)	1.48
14F2619	77008	8	3.66″ (92)	1.86
14F2620	77010	10	4.41″ (112)	2.24
14F2621	77012	12	5.16″ (131)	2.53
14F2623	77014	14	5.91″ (150)	3.00
14F2624	77016	16	6.66″ (169)	3.37
14F2625	77018	18	7.41″ (188)	3.71
14F2626	77020	20	8.16″ (207)	4.17
14F2627	77022	22	8.91″ (226)	4.43
14F2628	77024	24	9.66″ (245)	4.93
14F2629	77030	30	11.91″ (302)	6.09

(5184) (de00154)

78 SERIES 20 AMP BARRIER TERMINAL STRIPS

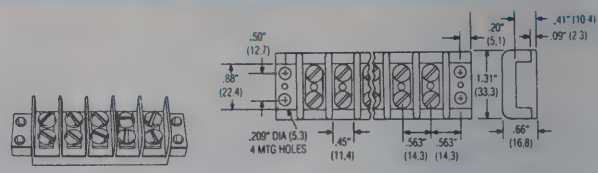


Double row, closed back strips with 0.438″ (11.1) terminal centers. Glass-filled thermoplastic insulator, rated UL 94V-0 with 110°C temperature index. Zinc-chromate-plated steel no. 6-32 x 0.250″ (6.35) binding head screws. Wire size: 14 AWG maximum. Size: 1.13″ (28.7) wide x 0.55″ (13.9) high. Voltage rating: UL recognized 250Vrms Class B, 300V Class C; CSA certified 300Vrms @ 20A. Withstanding voltage: 7500Vrms.

Stock No.	Type	Terminals	Length	1-24
14F2630	78002	2	1.63″ (41)	0.74
14F2631	78004	4	2.50″ (63)	1.31
14F2632	78005	5	2.94″ (74)	1.47
14F2633	78006	6	3.38″ (85)	1.72
14F2634	78008	8	4.25″ (108)	2.21
14F2635	78010	10	5.13″ (130)	2.65
14F2636	78012	12	6.00″ (152)	3.19
14F2637	78014	14	6.88″ (175)	3.71
14F2639	78016	16	7.75″ (197)	4.12
14F2640	78018	18	8.63″ (219)	4.53
14F2641	78020	20	9.50″ (241)	4.94
14F2643	78024	24	11.25″ (286)	5.94

(5185) (de00155)

21 SERIES 30 AMP BARRIER TERMINAL STRIPS

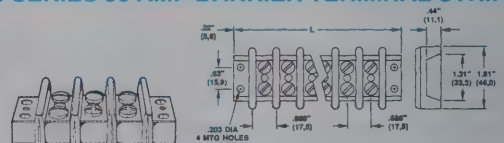


Closed-back strips with 0.543″ (14.3) centers. General purpose phenolic insulator with UL temperature index 150°C. Zinc-chromate-plated steel no. 8-32 x 0.313″ (7.94) binding head screws. Wire size: 12 AWG maximum. 1.31″ (33.3) wide x 0.63″ (16) high. UL recognized 600Vrms class B and C; CSA certified 300Vrms @ 30A. Withstanding voltage: 10500Vrms. Available in open-back design; *drop* **CB** *suffix from type number.*

Stock No.	Type	Terminals	Length	1-24
14F2310	21002-CB	2	2.09″ (53)	1.16
14F2311	21003-CB	3	2.66″ (67)	1.73
14F2312	21004-CB	4	3.22″ (81)	2.08
14F2313	21005-CB	5	3.78″ (96)	2.60
14F2314	21006-CB	6	4.34″ (110)	3.01
14F2316	21008-CB	8	5.47″ (139)	3.58
14F2318	21010-CB	10	6.59″ (167)	4.61
14F2320	21012-CB	12	7.72″ (196)	5.59

(5186) (de00156)

28 SERIES 50 AMP BARRIER TERMINAL STRIPS

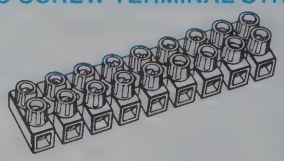


Open back and feed thru strips with 0.688″ (17.5) centers. General purpose phenolic insulator with UL temperature index 150°C. Nickel-plated brass no. 10-32 x 0.375″ (9.53) binding head screws. Wire size: no. 6 lugged. 1.81″ (46) wide x 0.75″ (19) high. UL recognized 250Vrms Class B and C; CSA certified 600Vrms @ 50A. Withstanding voltage: 10500Vrms.

Stock No.	Type	Terminals	Length	1-24
50F6250	28002	2	2.50″ (63)	2.47
50F6251	28003	3	3.19″ (81)	3.47
50F6252	28004	4	3.88″ (98)	4.55
50F6254	28006	6	5.25″ (133)	6.97
50F6256	28008	8	6.63″ (168)	8.72
50F6247	28010	10	8.00″ (203)	10.74

(5187) (de00157)

TWO SCREW TERMINAL STRIPS



Closed back strips can be cut to size. Center-to-center spacing when installed end-to-end. Mounting holes between every circuit. Dead front construction. Recessed screws, terminals. Captive wire protectors. **C-15 series** and VDE approved **C-40 series** 0.646H x 0.630″W (16.00 x 16.41) are UL rated 250Vrms commercial equipment/300Vrms general individual. VDE approved **C-60 series** 0.906 H x 0.866″W (23.00 x 22.00), UL rated: 600Vrms commercial equipment and general individual.

Stock No.	Type	Pole	Length	1-24
C-15 SERIES 10 AMPS, 0.315″ (8.00) CENTERS; 12AWG				
89F5988	C1502-151	2	0.543″ (13)	0.74
89F5989	C1503-151	3	0.858″ (21)	1.06
89F5990	C1504-151	4	1.173″ (29)	1.40
89F5991	C1505-151	5	1.483″ (37)	2.05
89F5992	C1506-151	6	1.803″ (45)	2.05
89F5994	C1508-151	8	2.433″ (61)	2.70
89F5996	C1510-151	10	3.063″ (77)	3.92
89F5998	C1512-151	12	3.693″ (93)	3.76
C-40 SERIES 10 AMPS, 0.394″ (10.00) CENTERS; 12AWG				
89F6005	C4008-401	8	3.012″ (76)	2.81
89F6007	C4010-401	10	3.799″ (96)	4.08
89F6021	C4012-401	12	4.587″ (116)	3.92
C-60 SERIES 25 AMPS, 0.472″ (12.00) CENTERS; 8AWG				
89F6012	C6010-601	10	4.567″ (116)	5.88
89F6013	C6012-601	12	5.512″ (140)	5.64

(5190) (de00172)

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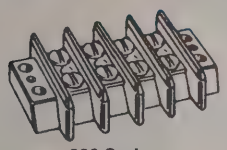
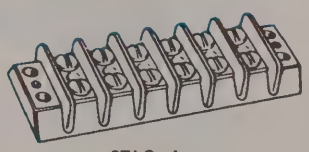
KULKA TERMINAL BLOCKS

DOUBLE ROW FLAT MOUNT THERMOSET TERMINAL BLOCKS


600 Series


671 Series

603 Series

Molded general purpose phenolic material. UL recognized, CSA certified. NOTE: Last digit in type number denotes number of terminals.

410 SERIES MINIATURE ¼″ CENTERS, 1000VRMS, 5 AMP, 18-20 AWG

Stock No.	Type	Length	1-24
65F1120	410-GP-6	2.000″	5.05
65F1121	410-GP-8	2.500″	6.09
65F1122	410-GP-10	3.000″	7.31
65F1123	410-GP-12	3.500″	8.60
65F1124	410-GP-14	4.000″	9.96
65F1125	410-GP-16	4.500″	11.51
65F1126	410-GP-18	5.000″	12.69
65F1127	410-GP-20	5.500″	13.54
65F1128	410-GP-22	6.000″	18.48

600 SERIES 5-40 SCREWS ⅜″ CENTERS, 1100VRMS, 15 AMP, 16-22 AWG

65F1160	600-GP-2	1.406″	1.74
65F1162	600-GP-4	2.156″	3.00
65F1164	600-GP-6	2.906″	4.47
65F1166	600-GP-8	3.656″	5.61
65F1167	600-GP-10	4.406″	5.88
65F1168	600-GP-12	5.156″	6.39
65F1169	600-GP-14	5.906″	7.58
65F1170	600-GP-16	6.656″	8.63
65F1171	600-GP-18	7.406″	9.42
65F1172	600-GP-20	8.156″	10.67
65F1173	600-GP-22	8.906″	11.64

600A SERIES 6-32 SCREWS ⅜″ CENTERS, 1100VRMS, 15 AMP, 16-22 AWG

87F5185	600A-GP-2	1.406″	1.44
87F5239	600A-GP-4	2.156″	2.36
87F5240	600A-GP-6	2.906″	3.21
87F5241	600A-GP-8	3.656″	4.25
87F5242	600A-GP-10	4.406″	4.84
87F5243	600A-GP-12	5.156″	5.69
87F5244	600A-GP-14	5.906″	6.67
87F5249	600A-GP-16	6.656″	7.46
87F5250	600A-GP-20	8.156″	9.31

601 SERIES 7⁄16″ CENTERS, 1100VRMS, 20 AMP, 14-16 AWG

65F1184	601-GP-2	1.625″	1.58
65F1185	601-GP-3	2.063″	1.96
65F1186	601-GP-4	2.500″	2.39
65F1187	601-GP-5	2.938″	2.97
65F1188	601-GP-6	3.375″	3.37
65F1189	601-GP-7	3.813″	4.06
65F1190	601-GP-8	4.250″	4.57
65F1191	601-GP-10	5.125″	5.30
65F1192	601-GP-12	6.000″	6.04
65F1193	601-GP-16	7.750″	7.99
65F1194	601-GP-18	8.625″	8.93
65F1195	601-GP-20	9.500″	9.83

602 SERIES 9⁄16″ CENTERS, 1600VRMS, 30 AMP, 12-14 AWG

65F1207	602-GP-2	2.094″	1.88
65F1208	602-GP-4	3.219″	3.31
65F1209	602-GP-6	4.344″	4.69
65F1210	602-GP-8	5.469″	5.83
65F1211	602-GP-10	6.594″	6.94
65F1212	602-GP-12	7.719″	8.12
65F1213	602-GP-14	8.844″	9.60
65F1214	602-GP-16	9.969″	10.93
65F1215	602-GP-18	11.094″	12.22
65F1216	602-GP-20	12.219″	13.53

603 SERIES HEAVY-DUTY 1 1⁄16″ CENTERS, 1700VRMS, 50 AMP, 6 AWG

Stock No.	Type	Length	1-24
65F1227	603-GP-2	2.500″	4.39

CONTINUED

DOUBLE ROW FLAT MOUNT THERMOSET TERMINAL BLOCKS (CONT.)

603 SERIES HEAVY-DUTY 1 1⁄16″ CENTERS, 1700VRMS, 50 AMP, 6 AWG (CONT.)

Stock No.	Type	Length	1-24
65F1228	603-GP-4	3.875″	7.86
65F1229	603-GP-6	5.250″	11.52
65F1230	603-GP-8	6.625″	15.16
65F1231	603-GP-10	8.000″	18.73

604 SERIES HEAVY-DUTY ⅞″ CENTERS, 1800VRMS, 70 AMP, 4 AWG

44F7839	604-GP-2	3.156″	11.02
44F7841	604-GP-4	4.906″	16.60
44F7842	604-GP-5	5.781″	22.29
44F7843	604-GP-6	6.656″	24.17
44F7845	604-GP-8	8.406″	31.18

605 SERIES HEAVY-DUTY 1 ⅛″ CENTERS, 2100VRMS, 90 AMP, 2 AWG

44F7835	605-GP-3	5.125″	27.02
44F7836	605-GP-4	6.250″	32.83
44F7838	605-GP-6	8.500″	39.36

670A SERIES CLOSED BACK ⅜″ CENTERS, 2500VRMS, 15 AMP, 16-22 AWG

87F5251	670A-GP-2	1.406″	1.85
87F5252	670A-GP-4	2.156″	2.97
87F5253	670A-GP-6	2.906″	4.37
87F5254	670A-GP-8	3.656″	5.22
87F5255	670A-GP-10	4.406″	6.25
87F5245	670A-GP-12	5.156″	7.01
87F5246	670A-GP-14	5.906″	7.97
87F5247	670A-GP-16	6.656″	9.27
87F5248	670A-GP-20	8.156″	11.56

671 SERIES CLOSED BACK 7⁄16″ CENTERS, 3000VRMS, 20 AMP, 14-16 AWG

65F1251	671-GP-2	1.625″	1.92
65F1252	671-GP-4	2.500″	3.29
65F1253	671-GP-6	3.375″	4.69
65F1254	671-GP-8	4.250″	5.64
65F1255	671-GP-10	5.125″	6.78
65F1256	671-GP-12	6.000″	7.96
65F1257	671-GP-14	6.875″	8.80
65F1258	671-GP-16	7.750″	9.96
65F1259	671-GP-18	8.625″	11.22
65F1260	671-GP-20	9.500″	12.56

672 SERIES CLOSED BACK 9⁄16″ CENTERS, 3300VRMS, 30 AMP, 12-14 AWG

65F1269	672-GP-2	2.094″	2.04
65F1270	672-GP-4	3.129″	3.57
65F1271	672-GP-6	4.344″	5.32
65F1272	672-GP-8	5.469″	6.29
65F1273	672-GP-10	6.594″	7.74
65F1274	672-GP-12	7.719″	9.34
65F1275	672-GP-14	8.844″	10.70
65F1276	672-GP-16	9.969″	12.32
65F1277	672-GP-18	11.094″	13.55
65F1278	672-GP-20	12.219″	15.25

670A RZ SERIES THERMOPLASTIC CLOSED BACK ⅜″ CENTERS, 250 VOLTS, 20 AMPS, 14-22 AWG

Tough, flame retardant thermoplastic.

95F5887	670A-RZ-20	8.16″	6.95
95F5889	670A-RZ-24	9.66″	8.16
95F5892	670A-RZ-30	11.91″	10.33

671 RZ SERIES THERMOPLASTIC CLOSED BACK 7⁄16″ CENTERS, 250 VOLTS, 20 AMPS, 14-16 AWG WITH WIRE BINDING SCREW OR 12-22 AWG WITH SEMS PRESSURE SCREW

83F8260	671 RZ 02	1.31″	1.78
83F8261	671 RZ 04	2.19″	2.82
83F8262	671 RZ 08	3.94″	4.99
83F8263	671 RZ 12	5.69″	7.00
83F8264	671 RZ 16	7.44″	10.28
83F8265	671 RZ 20	9.19″	12.45

672 RZ SERIES THERMOPLASTIC CLOSED BACK 9⁄16″ CENTERS, 600 VOLTS, 30 AMPS, 10-14 AWG WITH WIRE BINDING SCREW OR 10-22 AWG WITH SEMS PRESSURE SCREW

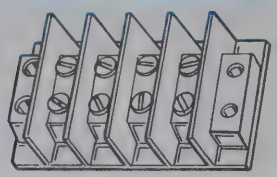
83F8248	672 RZ 02	1.69″	1.83
83F8249	672 RZ 04	2.81″	3.19
83F8250	672 RZ 08	5.06″	5.61
83F8251	672 RZ 12	7.32″	8.35
83F8252	672 RZ 16	9.56″	10.97
83F8253	672 RZ 20	11.81″	13.63

(5283) (ne50837)

ALL PRODUCTS LISTED ARE STOCKED.

KULKA TERMINAL BLOCKS

601RZ SERIES HIGH BARRIER NYLON TERMINAL BLOCKS



2000Vrms, 20 amps. Wire: 14 AWG max. Molded material is thermoplastic. Screws and solder terminals: brass, nickel-plated. UL recognized file no. E47811. CSA certified file no. LR19766. ISO9002 certified. NOTE: Type number suffix denotes number of terminals.

Stock No.	Type	Length	1-9
50F1323	601RZ-4	2.500″	7.04
50F1325	601RZ-6	3.375″	8.41
50F1327	601RZ-8	4.250″	10.95
50F1330	601RZ-20	9.500″	22.62

(5473) (de50874)

621 RZ SERIES THERMOPLASTIC TERMINAL BLOCKS

NEW

Molded material is thermoplastic, 110C. 600V, closed-end design. 7⁄16″ centers. Wire range with wire binding screw 12-22 — 20 amps, with sems pressure screw 12-22 stranded copper wire only — 20 amps.

Stock No.	Type	Length	1-24
83F8254	621 RZ 02	1.31″	2.00
83F8255	621 RZ 04	2.19″	3.59
83F8256	621 RZ 08	3.94″	5.96
83F8257	621 RZ 12	5.69″	8.39
83F8258	621 RZ 16	7.44″	11.29
83F8259	621 RZ 20	9.19″	13.94

(32986) (ne32986)

985 SERIES HEAVY-DUTY, PRESSURE CONTACT TERMINAL BLOCKS

Rated 600V, 85 amps. Wire range: 18-4 AWG copper. Tubular terminals. Screws: steel, nickel-plated. Molded material is commercial grade phenolic (black). UL recognized file no. E47811. CSA certified file no. LR19766. ISO9002 certified. NOTE: Type number suffix denotes number of terminals.

Stock No.	Type	Length	1-9
87F5195	985-GP-3	1.781″	8.29
87F5196	985-GP-4	2.406″	11.17
87F5197	985-GP-6	3.656″	16.57
87F5198	985-GP-8	4.906″	22.04
87F5199	985-GP-10	6.156″	27.33
87F5205	985-GP-12	7.406″	32.82

(5475) (de50876)

NEWARK STOCKS MORE PRODUCTS THAN ANY OTHER ELECTRONICS DISTRIBUTOR!

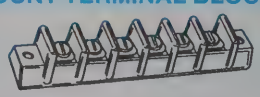
0987 SERIES PRESSURE CONTACT TERMINAL BLOCKS

Rated 600V, 50 amps. Wire range: 24-8 AWG. Screws: steel, nickel-plated. Terminal contacts: copper alloy, nickel-plated. Feed-thru contacts are copper alloy, electro tin plated. UL recognized file no. E47811. CSA certified file no. LR19766. ISO9002 certified. NOTE: Type number suffix denotes number of terminals.

Stock No.	Type	Length	1-24
81F3733	0987A-00-02	0.943″	4.16
81F3735	0987-RZ-TC-04	1.886″	8.96
81F3737	0987-RZ-TC-06	2.829″	12.99
81F3739	0987-RZ-TC-08	3.772″	17.31
81F3741	0987-RZ-TC-10	4.715″	21.65
81F3743	0987-RZ-TC-12	5.658″	25.86

(5476) (de50877)

SINGLE ROW FLAT AND FEED-THRU MOUNT TERMINAL BLOCKS

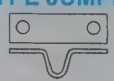


NOTE: Type number suffix denotes number of terminals. UL recognized, CSA certified.

Stock No.	Type	Length	1-24
FLAT MOUNT 411-GP SERIES 0.250″ (6.35) CENTERS, 1000VRMS, 5 AMP, 20-18 AWG			
87F5256	411-GP-4	1.500″	3.05
87F5257	411-GP-6	2.000″	3.94
87F5258	411-GP-8	2.500″	4.94
599-GP SERIES 0.375″ (9.53) CENTERS, 1100VRMS, 15 AMP, 22-16 AWG			
65F1140	599-GP-2	1.406″	1.55
65F1142	599-GP-4	2.156″	2.15
65F1144	599-GP-6	2.906″	3.03
65F1146	599-GP-8	3.656″	3.46
65F1147	599-GP-10	4.406″	4.19
65F1148	599-GP-12	5.156″	4.77
65F1149	599-GP-14	5.906″	5.54
65F1151	599-GP-20	8.156″	7.70
699-GP SERIES 0.438″ (11.13) CENTERS, 1100VRMS, 20 AMP, 16-14 AWG			
65F1287	699-GP-2	1.625″	1.70
65F1288	699-GP-4	2.500″	2.65
65F1289	699-GP-6	3.375″	3.78
65F1290	699-GP-8	4.250″	4.43
65F1292	699-GP-12	6.000″	6.02

(5256) (ne03197)

J TYPE JUMPERS

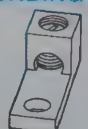


For single and double row flat mount thermoset terminal blocks.

Stock No.	Type	1-99
65F1313	602J	0.30
65F1314	601J	0.29
65F1315	600J	0.27
65F1316	410J	0.05

(5285) (ne50838)

GROUNDING LUGS



Tin-plated, high-conductive aluminum. UL recognized, CSA certified.

Stock No.	Type	AWG	1-24
52F9783	GL02	2-14	1.09
52F9784	GL20	2/0-14	1.71
52F9785	GL35	350MCM-6	4.92

(5259) (ne08005)

POWER BLOCKS AND TERMINAL BLOCKS

POWER DISTRIBUTION AND SPLICER BLOCKS

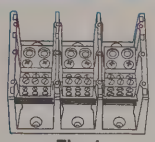


Fig. 1

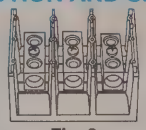


Fig. 2
2-14 AWG

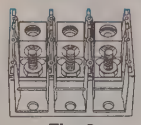


Fig. 3

Fig. 4
2-14 AWG

Fig. 5
10-18 AWG

Fig. 6
2/0-14 AWG

Fig. 7
4-14 AWG

Fig. 8
4-14 AWG

Fig. 9
2/0-14 AWG

Fig. 10
400MCM-6 AWG

Fig. 11
2-14 AWG

Fig. 12
2-14 AWG

Fig. 13
¼-20 x 9⁄16″ Stud

Fig. 14
3⁄8-16 x 1 3⁄16″ Stud

141 series power distribution and splicer blocks feature small size, high-impact thermoplastic rated at 125° C. May be ganged together to form various line lengths. All other types are general-purpose phenolic rated at 150° C. All are 600 volt, have 1 line, 1 load opening per pole, except all power distribution blocks. High conduction tin-plated connectors. UL recognized, CSA certified, ISO9002 certified.

POWER DISTRIBUTION BLOCKS, 600 VOLT — FIG. 1

Stock No.	Type	Connector		Poles	Amps/ Pole	1-89	90-179
		Line	Load				
96F4463	1411400*	Fig. 4	Fig. 5	1	115	13.03	10.62
96F4469	1412400*	Fig. 4	Fig. 5	2	115	20.47	16.69
96F4475	1413400*	Fig. 4	Fig. 5	3	115	29.39	23.96
96F4481	1414400*	Fig. 4	Fig. 5	4	115	42.33	34.50
96F4485	1421570*	Fig. 6	Fig. 7	1	175	14.74	12.02
96F4490	1422570*	Fig. 6	Fig. 7	2	175	22.68	18.49
96F4495	1423570*	Fig. 6	Fig. 7	3	175	32.68	26.64
01F2289	1402401	Fig. 6	Fig. 8	2	175	31.75	...
01F2290	1403401	Fig. 6	Fig. 8	3	175	36.95	...
01F2293	1433555	Fig. 9	Fig. 8	3	350	53.07	...
01F2291	1433552	Fig. 10	Fig. 11	3	335	54.98	...
01F2292	1433553	Fig. 10	Fig. 12	3	335	52.91	...

POWER BLOCKS (SPLICER), 600 VOLT — FIG. 2

96F4462	1411300*	Fig. 4	Fig. 4	1	115	5.52	4.50
96F4468	1412300*	Fig. 4	Fig. 4	2	115	7.93	6.47
96F4474	1413300*	Fig. 4	Fig. 4	3	115	11.78	9.61
96F4480	1414300*	Fig. 4	Fig. 4	4	115	16.20	13.21
96F4493	1423552*	Fig. 6	Fig. 6	3	115	12.93	10.54
96F4491	1422572*	Fig. 6	Fig. 6	2	175	12.49	10.19
96F4496	1423572*	Fig. 6	Fig. 6	3	175	15.37	12.52

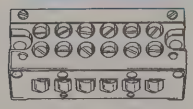
POWER STUD BLOCKS, 600 VOLT — FIG. 3

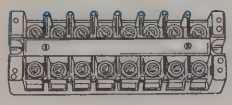
01F2294	1422122	Fig. 13	Fig. 13	2	120	11.08	...
01F2295	1432563	Fig. 14	Fig. 14	2	230	37.51	...

* CE compliant EN 45014.

(5510) (de53092)

HEAVY-DUTY TERMINAL BLOCKS


1100, 1103P, 1200


1500

1100, 1103P and **1200 series** are deadfront style. **1500 series** are barrier style, available in six types denoted by type number suffix: **STD** = standard connector; **DJ** = removable connector with brass insert; **ST** = 10-32 stud; and **SC** = short circuiting bar with brass insert, 4 shorting pins per block. All have general purpose phenolic molded base, rated 150°C. UL recognized file no. E62806, CSA certified file no. LR19766. ISO9002 certified.

1103P (4-14 AWG), 1200 (4-18 AWG) SERIES 600 VOLTS, 70 AMPS

Stock No.	Type	Terminals	Length	1-24	25-49
95F5504	1103P	3	2.50″	14.18	12.90
95F5506	1204	4	2.81″	17.99	16.35
95F5507	1206	6	3.81″	25.19	22.90

1100 SERIES 600 VOLTS, 65 AMPS, 6-18 AWG

95F5508	1102	2	1.69″	6.54	5.51
95F5509	1104	4	2.50″	11.14	10.13
95F5912	1106	6	3.38″	19.11	17.40
95F5913	1108	8	4.25″	25.91	23.61
95F5914	1112	12	6.00″	40.03	36.48

1500 SERIES 600 VOLTS, 10-16 AWG, 0.625″ (15.88) LINE-TO-LINE SPACING, APPROVED FOR 75 AMPS WITH PROPER TERMINATION

Stock No.	Type	Terminals	Length	1-99	100-249
95F5903	1504STD	4	3.25″	11.28	8.08
95F5904	1506STD	6	4.50″	14.92	10.68
95F5905	1508STD	8	5.75″	18.50	13.25
95F5906	1512STD	12	8.25″	24.93	17.86
95F5510	1506DJ	4	3.25″	15.89	14.44
95F5527	1508ST	8	5.75″	25.33	19.76
95F5856	1512ST	12	8.25″	44.78	32.07
95F5861	1504SC	4	3.25″	23.10	16.55
95F5862	1506SC	6	4.50″	29.80	21.34

(5453) (de01956)

SPECIFICATION GUIDE FOR 140, 141, 142, 150 SERIES SCREW TERMINAL, BARRIER BLOCKS

Open bottom screw terminal barrier blocks.

ELECTRICAL

Series	VAC rms Without Marker Strip	VAC rms With Marker Strip	Maximum Current Amps	Maximum Watts per Terminal	Maximum Wire Size
140	1100	2000	15	3750	# 16
141	1100	2400	20	5000	# 14
142	1600	2600	30	7500	# 10
150	1700	2600	40	10000	# 10

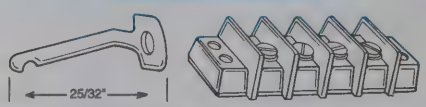
DIMENSIONS

Series	140	141	142	150
W x H	0.875x0.406″ (22.23x10.31)	1.125x0.50″ (28.57x12.70)	1.313x0.625″ (33.35x15.88)	1.813x0.750″ (46.05x19.05)
Terminal Centers	0.375″(9.53)	0.438″(11.11)	0.563″(14.29)	0.688″(17.46)
Mounting Centers	0.313″(7.94)	0.422″(10.72)	0.50″(12.70)	0.625″(15.88)
Screw Size	#5-40	#6-32	#8-32	#10-32

Other size terminal blocks available, contact your Newark sales office.

(5430) (de00059)

140, 140-Y SERIES SCREW TERMINAL BARRIER BLOCKS



140 and **140-Y series** 0.375″ (9.53) density terminal blocks feature interposing barriers between terminals to boost electrical ratings and provide added protection against frayed wire shorting. **140** have binder screws; **140-Y** have Y terminals installed. See specifications guide *on this page.* Temperature range: –55° to +300°F. Rated at 250V. UL recognized. *Order jumpers separately on page 1103. Order fanning strips separately; other sizes available, contact your local Newark sales office.*

140 SERIES BINDER SCREW TERMINALS - FIT #16 WIRE

Stock No.	Type	Terminals	1-24	25-49
28F700	2-140	2	0.96	0.77
28F701	3-140	3	1.24	0.99
28F702	4-140	4	1.34	1.07
28F703	5-140	5	1.54	1.23
28F704	6-140	6	1.96	1.57
28F705	7-140	7	2.08	1.66
28F706	8-140	8	2.37	1.90
28F707	9-140	9	2.72	2.18
28F708	10-140	10	3.02	2.41
28F709	11-140	11	3.42	2.74
28F710	12-140	12	3.47	2.77
28F870	14-140	14	4.18	3.35
28F871	15-140	15	4.25	3.40
28F872	16-140	16	4.55	3.64
28F874	18-140	18	5.14	4.11
28F876	20-140	20	5.59	4.47
29F1000	22-140	22	6.18	4.95
29F1002	24-140	24	5.65	4.52

140-Y SERIES Y TERMINALS - FIT #16 WIRE

29F749	2-140-Y	2	1.29	1.03
29F751	4-140-Y	4	2.00	1.60
29F752	5-140-Y	5	2.36	1.89
29F753	6-140-Y	6	2.75	2.20
29F754	7-140-Y	7	3.09	2.48
29F755	8-140-Y	8	3.47	2.77
29F757	10-140-Y	10	4.14	3.32

(5431) (de00060)

141 SERIES BINDER SCREW TERMINAL BARRIER BLOCKS

Same features as **140 series** except 0.438″ (11.12) screw terminal density and fit #14 wire. See specifications guide *on this page. Order jumpers and fanning strips separately; additional sizes available, contact your local Newark sales office.*

Stock No.	Type	Terminals	1-24	25-49
28F711	2-141	2	0.91	0.73
28F712	3-141	3	1.55	1.24
28F713	4-141	4	1.55	1.24
28F714	5-141	5	1.75	1.40
28F715	6-141	6	2.00	1.60
28F716	7-141	7	2.47	1.97
28F717	8-141	8	2.59	2.07
28F718	9-141	9	2.92	2.34
28F719	10-141	10	3.07	2.46
28F721	12-141	12	3.65	2.92
28F879	14-141	14	4.37	3.50
28F880	15-141	15	4.68	3.74
28F881	16-141	16	4.91	3.93
28F883	18-141	18	5.18	4.15
28F885	20-141	20	6.13	4.90

(5432) (de00061)

142 SERIES BINDER SCREW TERMINAL BARRIER BLOCKS

Same as **140 series** except 0.563″ (14.30) screw terminal density and fit #10 wire. See specification guide *on this page. Order jumpers separately on page 1103.*

Stock No.	Type	Terminals	1-24	25-49
28F722	2-142	2	1.42	1.13
28F723	3-142	3	1.70	1.36
28F724	4-142	4	1.99	1.59
28F725	5-142	5	2.86	2.29
28F726	6-142	6	4.12	3.30
28F728	8-142	8	4.68	3.74
28F730	10-142	10	7.55	6.04
28F732	12-142	12	7.93	6.35
28F889	16-142	16	10.00	8.00

(5433) (de00062)

SOLDER TERMINALS

Stock No.	Type	For Barrier Block Series	1-24	25-49
28F795	Y-141	141	0.55	0.44
28F796	Y-142	142	0.65	0.52

(5470) (de50802)

MARKER STRIPS

140, 141, and 142 Series

Used to identify terminal positions and insulate exposed portions of terminals from conductive mounting surfaces. 0.031″ (0.78) thick bottom mount. 0.125″ (3.18) white numerals. Flame retardant material. UL recognized. Suffix in type number indicates series.

Stock No.	Type	Terminals	1-24	25-49
29F804	MS-2-140	2	0.56	0.45
29F805	MS-3-140	3	0.59	0.47
29F806	MS-4-140	4	0.64	0.52
29F807	MS-5-140	5	0.64	0.52
29F808	MS-6-140	6	0.64	0.52
29F809	MS-7-140	7	0.70	0.56
29F810	MS-8-140	8	0.72	0.58
29F811	MS-9-140	9	0.78	0.62
29F812	MS-10-140	10	0.84	0.67
29F813	MS-11-140	11	0.84	0.67
29F816	MS-14-140	14	0.97	0.77
29F817	MS-15-140	15	0.97	0.77
29F818	MS-16-140	16	1.09	0.88
29F822	MS-20-140	20	1.34	1.07
29F824	MS-2-141	2	0.56	0.45
29F825	MS-3-141	3	0.59	0.47
29F826	MS-4-141	4	0.64	0.52
29F827	MS-5-141	5	0.65	0.52
29F828	MS-6-141	6	0.65	0.52
29F829	MS-7-141	7	0.70	0.56
29F830	MS-8-141	8	0.76	0.61
29F832	MS-10-141	10	0.84	0.67
29F834	MS-12-141	12	0.97	0.77
29F836	MS-14-141	14	1.09	0.88
29F837	MS-15-141	15	1.23	0.98
29F838	MS-16-141	16	1.23	0.98
29F840	MS-18-141	18	1.44	1.15
29F842	MS-20-141	20	1.68	1.35
29F843	MS-2-142	2	0.60	0.45
29F845	MS-4-142	4	0.65	0.52
29F846	MS-5-142	5	0.65	0.52
29F847	MS-6-142	6	0.71	0.54
29F849	MS-8-142	8	0.76	0.61
29F851	MS-10-142	10	1.23	0.92
29F853	MS-12-142	12	1.04	0.84

(5438) (de00073)

150 SERIES BINDER SCREW TERMINAL BARRIER BLOCKS

Same as **140 series** except 0.688″ (17.47) screw terminal density and fit #10 wire. *See specifications guide on this page. Marker strips available; contact your local Newark sales office*

Stock No.	Type	Terminals	1-24	25-49
29F731	2-150	2	3.23	2.59
29F732	3-150	3	4.37	3.50
29F733	4-150	4	5.79	4.63
29F735	6-150	6	8.79	6.60
29F737	8-150	8	11.03	8.83
29F739	10-150	10	13.64	10.91

(5434) (de00063)

BARRIER TERMINAL BLOCKS AND ACCESSORIES

SPECIFICATION GUIDE FOR, 176, 540, 541, 542 SERIES SCREW TERMINAL BARRIER BLOCKS

Operating voltage is 600 Volts. Other sizes of terminal blocks & marker strips available; *contact your local Newark sales office.*

Series	VAC rms No Marker Strip	VAC rms Marker Strip	Maximum Current Amps	Maximum Watts per Terminal	Maximum Wire Size
176	1100	N/A	15	3750	# 16
540	2300	2300	15	3750	# 16
541	2800	2800	20	5000	# 14
542	4000	4000	30	7500	# 10

DIMENSIONS

Series	176	540	541	542
Terminal Centers	0.375″(9.53)	0.375″(9.53)	0.438″(11.13)	0.563″(14.30)
Mounting Centers	0.188″(4.78)	0.313″(7.95)	0.422″(10.72)	0.500″(12.70)
Screw Size	#5-40	#5-40	#6-32	#8-32

(5435) (de00070)

176 SERIES PC MOUNT TERMINAL BARRIER BLOCKS

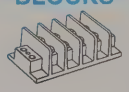
Interposing barriers protect against frayed wire shorting. DIP solder terminals, binder head screws, P.C. terminal diameter is 0.093″ (2.36). UL recognized E61245.

176 SERIES FOR 0.125″ (3.18) THICK PC BOARDS

Stock No.	Type	Terminals	1-24	25-49
29F1389	2-176-3	2	4.20	3.36
29F1391	4-176-3	4	4.87	3.90
176 SERIES FOR 0.063″ (1.60) THICK PC BOARDS				
29F1380	2-176-2	2	2.99	2.40
29F1381	3-176-2	3	4.37	3.50
29F1384	6-176-2	6	5.49	4.39
29F1388	10-176-2	10	9.16	6.87

(30870) (ne30870)

540, 541, 542 SERIES HIGH-VOLTAGE TERMINAL BARRIER BLOCKS



540, 541 and **542 series** designed with high barriers for 600-volt applications to prevent creepage. UL recognized. *For marker strips, see specification guide on this page.* Other sizes available; *contact your local Newark sales office.*

540 SERIES BINDER SCREW TERMINALS - FIT #16 WIRE

Stock No.	Type	Terminals	1-24	25-49
28F1001	3-540	3	4.52	3.62
28F1002	4-540	4	5.58	4.46
28F1004	6-540	6	7.86	6.29
28F1006	8-540	8	9.03	7.23
28F1010	12-540	12	11.35	9.08
541 SERIES BINDER SCREW TERMINALS - FIT #14 WIRE				
28F1020	2-541	2	2.77	2.21
28F1021	3-541	3	2.62	2.10
28F1022	4-541	4	3.18	2.55
28F1024	6-541	6	9.67	7.74
28F1026	8-541	8	10.10	8.08
28F1030	12-541	12	22.77	18.22
542 SERIES BINDER SCREW TERMINALS - FIT #10 WIRE				
28F1039	2-542	2	6.11	4.89
28F1041	4-542	4	8.59	6.87
28F1043	6-542	6	11.49	9.19
28F1047	10-542	10	17.44	13.95
28F1049	12-542	12	22.48	17.99

(5437) (de00072)

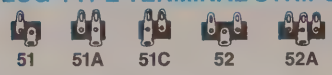
PLUG BUTTONS

Nickel-plated steel. Spring-tension prongs. **Type 41V** provides ventilation whenever required.

Stock No.	Type	Hole Diameter	Overall Diameter	1-24	25-49
29F635	41C	0.500″(12.70)	0.656″(16.67)	0.63	0.50
29F638	41F	0.875″(22.23)	1.062″(26.99)	1.01	0.81
16F5238	41H	1.250″(31.75)	1.438″(36.51)	1.89	1.52
29F641	41V	1.000″(25.40)	1.156″(29.37)	3.36	2.69

(8843) (ne08403)

LUG-TYPE TERMINAL STRIPS



51 51A 51C 52 52A

52C 53 53E 53F 54 54A

54B 54C 56 56C 56A

Cadmium-plated steel lugs with 0.140″ diameter mounting holes. XPC insulation material, rated UL 94 HB. Color: chocolate brown. 0.375″ density. **Sold in multiples of 5.**

Stock No.	Type	Description	Mounting Centers	1-24	25-49
28F650	51	1 Lug	...	0.59	0.44
29F567	51A	2 Lugs; 1 Ground	...	0.56	0.45
29F569	51C	2 Lugs; 1 Ground	...	0.59	0.44
28F651	52	2 Lugs	...	0.53	0.42
29F574	52A	3 Lugs; 1 Ground	...	0.54	0.43
28F652	53	3 Lugs	1.500″	0.75	0.60
29F582	53E	3 Lugs	...	0.69	0.55
29F583	53F	4 Lugs; 1 Ground	...	0.75	0.60
28F653	54	4 Lugs	1.875″	0.80	0.64
29F585	54A	6 Lugs; 2 Ground	1.875″	0.93	0.75
29F586	54B	4 Lugs	...	0.75	0.60
29F587	54C	5 Lugs; 1 Ground	...	0.80	0.64
28F655	56	6 Lugs	2.625″	1.11	0.89
29F591	56A	8 Lugs; 2 Ground	2.625″	1.11	0.89
29F593	56C	8 Lugs; 2 Ground	1.875″	1.11	0.89

(5469) (de50801)

JUMPERS

140J-1

141J, 95B 540J, 541J, 542J 141J-1 142J-1 142J-2

Rugged nickel-plated brass. **Sold in multiples of 5.**

Stock No.	Type	For Barrier Block Series	1-24	25-49
28F833	140J-1	140	0.22	0.17
28F790	141J	141	0.25	0.20
45F779	141J-1	141	0.34	0.27
28F789	95B	142	0.76	0.61
28F742	142J-1*	142, 542	0.34	0.27
28F743	142J-2	142, 542	0.22	0.17
28F744	540J	540	1.46	1.17
28F745	541J	541	1.50	1.20
28F746	542J	542	1.50	1.20

*Connects two alternate terminals.

(5472) (de50804)

QUICK-CLAMP TERMINALS

Brass screws, binder head type with nickel plating. Tin-plated brass terminals. **QC-1** accepts 6-32x5⁄16″ screw; 12-22 AWG. **QC-2** accepts 8-32x3⁄8″ screw; 10-16 AWG. Include two mating clamps and one screw. **Sold in multiples of 5.**

Stock No.	Type	For Barrier Block Series	1-24	25-49
28F740	QC-1	141, 541	0.49	0.37
28F741	QC-2	142, 542	0.58	0.43

(5471) (de50803)

AUDIO CABLE CONNECTORS

P-202-CCT S-202-B

Nickel-plated brass connectors ideal for microphone cable. Molded phenolic insulation. Phosphor bronze "knife switch" type socket contacts engage both sides of flat brass plug contacts.

Stock No.	Type	Description	1-24	25-49
29F507	P-202-CCT	Plug with Cable Clamps and Knurled Nut	4.37	3.28
29F508	S-202-CCT	Socket with Cable Clamps	4.46	3.35
29F512	S-202-B	Socket with Threaded Mounting Base	9.82	7.37

(8677) (de00050)

SOLDERLESS TERMINALS

CRS SERIES RING TONGUE TERMINALS

OSHA

1. Funnel design guides wire into position

2. No wire strand hang-up as wire is inserted. Fast positive installation

3. Wire in place, ready for crimping

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Wire guide barrel provides excellent electrical and mechanical connection. 1-piece, burr-free construction for maximum electrical conductivity. Electro-tin plating for maximum corrosion resistance. Constructed of pure electrolytic (ETP) copper, annealed to relieve stress points and to provide maximum installed strength. Barrel-to-pad transition designed to minimize flexing and bending. Multiple "V" grooves in barrel give maximum holding power and current flow. Insulation is molded of tough, resistant electrical-grade vinyl or nylon. Color coding. Molded flange for accurate location of crimp tool. Open-end design permits visual inspection of wire location before and after crimping. UL recognized, CSA certified, OSHA compliant. Made in the U.S.A. **Sold in packages of quantities indicated below.**

STYLE "TO" NONINSULATED BUTTED SEAM BARREL—FIG. 1

AWG	Stud Size	Color	Dimensions W	C	L	Stock No.	Type	Pkg. of	Per Package 1-4	5-9	Stock No.	Type	Pkg. of	Per Package 1-4	5-9
26-24	#0	Yellow	0.14″	0.23″	0.32″	31N2800	CRS-TO-2200	100	7.66	5.67	84N742	SPC3717	1000	37.95	32.26
	#2	Yellow	0.14″	0.23″	0.32″	31N2801	CRS-TO-2202	100	7.66	5.67	84N743	SPC3718	1000	37.95	32.26
	#4	Yellow	0.20″	0.33″	0.46″	31N2802	CRS-TO-2204	100	7.66	5.67	84N744	SPC3719	1000	37.95	32.26
	#6	Yellow	0.20″	0.33″	0.46″	31N2803	CRS-TO-2206	100	7.66	5.67	84N745	SPC3720	1000	37.95	32.26
22-18	#4	Red	0.25″	0.23″	0.60″	31N547	CRS-TO-1804*	100	7.21	5.33	84N747	SPC3722*	1000	35.49	30.16
	#6	Red	0.25″	0.33″	0.60″	31N548	CRS-TO-1806*	100	7.21	5.33	84N748	SPC3723*	1000	35.49	30.16
	#8	Red	0.31″	0.33″	0.74″	31N549	CRS-TO-1808*	100	7.53	5.58	84N749	SPC3724*	1000	37.29	31.69
	#10	Red	0.31″	0.40″	0.74″	31N550	CRS-TO-1810*	100	7.53	5.58	84N750	SPC3725*	1000	37.29	31.69
	¼″	Red	0.47″	0.29″	0.89″	31N551	CRS-TO-1825*	100	9.66	7.15	84N751	SPC3726*	1000	48.95	41.61
16-14	#6	Blue	0.25″	0.29″	0.60″	31N555	CRS-TO-1406*	100	7.21	5.33	84N752	SPC3727*	1000	35.49	30.16
	#8	Blue	0.31″	0.29″	0.74″	31N556	CRS-TO-1408*	100	7.53	5.58	84N753	SPC3728*	1000	37.29	31.69
	#10	Blue	0.31″	0.44″	0.74″	31N557	CRS-TO-1410*	100	7.53	5.58	84N754	SPC3729*	1000	37.29	31.69
	¼″	Blue	0.47″	0.44″	0.89″	31N558	CRS-TO-1425*	100	9.66	7.15	84N755	SPC3730*	1000	48.95	41.61
12-10	#6	Yellow	0.28″	0.44″	0.69″	31N2805	CRS-TO-1006*	50	5.43	4.02	84N756	SPC3731*	500	25.66	21.81
	#8	Yellow	0.28″	0.44″	0.69″	31N2806	CRS-TO-1008*	50	5.43	4.02	84N757	SPC3732*	500	25.66	21.81
	#10	Yellow	0.38″	0.29″	0.73″	31N562	CRS-TO-1010*	50	5.43	4.02	84N758	SPC3733*	500	25.66	21.81
	¼″	Yellow	0.54″	0.44″	0.96″	31N563	CRS-TO-1025*	50	6.33	4.69	84N759	SPC3734*	500	30.66	26.06
	5⁄16″	Yellow	0.54″	0.44″	0.96″	31N564	CRS-TO-1031*	50	6.60	4.89	84N760	SPC3735*	500	32.14	27.32
	⅜″	Yellow	0.54″	0.44″	0.96″	31N565	CRS-TO-1037*	50	6.60	4.89	84N761	SPC3736*	500	32.14	27.32

STYLE "ZO" NONINSULATED BRAZED SEAM BARREL—FIG. 2

22-18	#6	Red	0.25″	0.23″	0.60″	31N200	CRS-ZO-1806*	100	12.18	9.01	84N762	SPC3737*	1000	62.94	53.50
	#8	Red	0.31″	0.33″	0.74″	31N201	CRS-ZO-1808*	100	12.75	9.44	84N763	SPC3738*	1000	66.09	56.17
16-14	#6	Blue	0.25″	0.23″	0.60″	31N204	CRS-ZO-1406*	100	12.18	9.01	84N764	SPC3739*	1000	62.94	53.50
	#8	Blue	0.31″	0.33″	0.74″	31N205	CRS-ZO-1408*	100	12.75	9.44	84N765	SPC3740*	1000	66.09	56.17
	#10	Blue	0.31″	0.33″	0.74″	31N206	CRS-ZO-1410*	100	12.75	9.44	84N766	SPC3741*	1000	66.09	56.17
12-10	#8	Yellow	0.28″	0.29″	0.69″	31N209	CRS-ZO-1008*	50	9.97	7.38	84N768	SPC3743*	500	50.71	43.11
	#10	Yellow	0.38″	0.29″	0.73″	31N210	CRS-ZO-1010*	50	10.41	7.70	84N769	SPC3744*	500	53.14	45.17
	¼″	Yellow	0.54″	0.44″	0.96″	31N211	CRS-ZO-1025*	50	10.86	8.04	84N770	SPC3745*	500	55.66	47.31
8	#10	Red	0.47″	0.38″	0.95″	31N2810	CRS-ZO-0810†	25	9.79	7.24	84N771	SPC3746†	250	49.77	42.31
	¼″	Red	0.47″	0.38″	0.95″	31N2811	CRS-ZO-0825†	25	9.79	7.24	84N772	SPC3747†	250	49.77	42.31
	5⁄16″	Red	0.59″	0.44″	1.06″	31N2812	CRS-ZO-0831†	25	13.36	9.88	84N773	SPC3748†	250	69.43	59.01
	⅜″	Red	0.59″	0.44″	1.06″	31N2813	CRS-ZO-0837†	25	13.36	9.88	84N774	SPC3749†	250	69.43	59.01
6	#10	Blue	0.47″	0.52″	1.14″	31N2815	CRS-ZO-0610†	20	12.03	8.90	84N775	SPC3750†	200	62.09	52.77
	¼″	Blue	0.47″	0.52″	1.14″	31N2816	CRS-ZO-0625†	20	12.03	8.90	84N776	SPC3751†	200	62.09	52.77
	5⁄16″	Blue	0.63″	0.54″	1.22″	31N2817	CRS-ZO-0631†	20	12.17	9.01	84N777	SPC3752†	200	62.91	53.48
4	¼″	...	0.68″	0.44″	1.33″	31N2820	CRS-ZO-0425	10	9.07	6.71	84N778	SPC3753	100	45.77	38.91

STYLE "TV" VINYL-INSULATED BUTTED SEAM BARREL—FIG. 3

22-18	#4	Red	0.25″	0.23″	0.80″	31N570	CRS-TV-1804+	100	12.43	9.20	84N780	SPC3755+	1000	64.34	54.69
	#6	Red	0.25″	0.23″	0.80″	31N571	CRS-TV-1806+	100	12.43	9.20	84N781	SPC3756+	1000	64.34	54.69
	#8	Red	0.31″	0.33″	0.94″	31N572	CRS-TV-1808+	100	13.02	9.63	84N782	SPC3757+	1000	67.57	57.44
	#10	Red	0.31″	0.33″	0.94″	31N573	CRS-TV-1810+	100	13.02	9.63	84N783	SPC3758+	1000	67.57	57.44
	¼″	Red	0.47″	0.40″	1.09″	31N574	CRS-TV-1825+	100	14.66	10.85	84N784	SPC3759+	1000	76.66	65.16
16-14	#6	Blue	0.25″	0.23″	0.80″	31N578	CRS-TV-1406+	100	12.43	9.20	84N785	SPC3760+	1000	64.34	54.69
	#8	Blue	0.31″	0.33″	0.94″	31N579	CRS-TV-1408+	100	13.02	9.63	84N786	SPC3761+	1000	67.57	57.44
	#10	Blue	0.31″	0.33″	0.93″	31N580	CRS-TV-1410+	100	13.02	9.63	84N924	SPC3899+	1000	67.57	57.44
	¼″	Blue	0.47″	0.40″	1.09″	31N581	CRS-TV-1425+	100	14.66	10.85	84N787	SPC3762+	1000	76.66	65.16
12-10	#6	Yellow	0.28″	0.29″	0.99″	31N2808	CRS-TV-1006+	50	8.01	5.93	84N788	SPC3763+	500	39.94	33.95
	#8	Yellow	0.28″	0.29″	0.99″	31N2809	CRS-TV-1008+	50	8.01	5.93	84N789	SPC3764+	500	39.94	33.95
	#10	Yellow	0.38″	0.29″	1.03″	31N585	CRS-TV-1010+	50	8.01	5.93	84N790	SPC3765+	500	39.94	33.95
	¼″	Yellow	0.54″	0.44″	1.26″	31N586	CRS-TV-1025+	50	9.33	6.90	84N791	SPC3766+	500	47.20	40.12
	5⁄16″	Yellow	0.54″	0.44″	1.26″	31N587	CRS-TV-1031+	50	9.75	7.22	84N792	SPC3767+	500	49.54	42.11
	⅜″	Yellow	0.54″	0.44″	1.26″	31N588	CRS-TV-1037+	50	9.75	7.22	84N793	SPC3768+	500	49.54	42.11

STYLE "ZV" VINYL-INSULATED BRAZED SEAM BARREL—FIG. 4

22-18	#6	Red	0.25″	0.23″	0.80″	31N108	CRS-ZV-1806	100	19.84	14.68	84N794	SPC3769	1000	105.23	89.44
	#8	Red	0.31″	0.33″	0.94″	31N109	CRS-ZV-1808	100	19.84	14.68	84N795	SPC3770	1000	105.23	89.44
16-14	#6	Blue	0.25″	0.23″	0.80″	31N113	CRS-ZV-1406	100	19.84	14.68	84N796	SPC3771	1000	105.23	89.44
	#8	Blue	0.31″	0.33″	0.94″	31N114	CRS-ZV-1408	100	19.84	14.68	84N797	SPC3772	1000	105.23	89.44
	#10	Blue	0.31″	0.33″	0.94″	31N115	CRS-ZV-1410	100	19.84	14.68	84N798	SPC3773	1000	105.23	89.44
	¼″	Blue	0.47″	0.40″	1.09″	31N116	CRS-ZV-1425	100	22.23	16.45	84N799	SPC3774	1000	118.43	100.66
12-10	#6	Yellow	0.28″	0.29″	0.99″	31N117	CRS-ZV-1006	50	13.99	10.36	84N800	SPC3775	1000	72.94	62.00
	#10	Yellow	0.38″	0.29″	1.03″	31N119	CRS-ZV-1010	50	13.95	10.32	84N801	SPC3776	1000	72.71	61.81
	¼″	Yellow	0.54″	0.44″	1.26″	31N120	CRS-ZV-1025	50	15.63	11.56	84N802	SPC3777	1000	81.97	69.68

Crimp tool reference: *CTT-8425-01; †CTT-8620-01; +CTT-8440-01

(5557)

(ne51871b)

SOLDERLESS TERMINALS

RING TONGUE TERMINALS

VOLTREX™ brand

Meet UL 486H, UL listed (file E58918), CSA certified (file LR22190M6) except type numbers with **suffix (+)**. **Sold in packages of quantities indicated below.**

NYLON-INSULATED BARREL

AWG	Stud Size	Color	Dimensions W	C	L	Stock No.	Type	Pkg. of	Per Pkg. 1-4	5-9	Stock No.	Type	Pkg. of	Per Pkg. 1-4	5-9
8	#10	Red	0.47″	0.38″	1.26″	31N670	CRS-ZY-0810	25	13.32	9.86	84N803	SPC3778	250	69.23	58.84
	¼″	Red	0.47″	0.38″	1.26″	31N671	CRS-ZY-0825	25	13.32	9.86	84N804	SPC3779	250	69.23	58.84
	5⁄16″	Red	0.59″	0.44″	1.57″	31N672	CRS-ZY-0831	25	16.72	12.38	84N805	SPC3780	250	88.06	74.85
	⅜″	Red	0.59″	0.44″	1.57″	31N673	CRS-ZY-0837	25	16.72	12.38	84N806	SPC3781	250	88.06	74.85
	½″	Red	0.81″	0.68″	1.72″	31N674	CRS-ZY-0850	20	15.85	11.73	84N807	SPC3782	200	84.51	71.84
6	#10	Blue	0.47″	0.52″	1.50″	31N675	CRS-ZY-0610	20	15.03	11.12	84N808	SPC3783	200	78.69	66.88
	¼″	Blue	0.47″	0.52″	1.50″	31N676	CRS-ZY-0625	20	15.03	11.12	84N809	SPC3784	200	78.69	66.88
	5⁄16″	Blue	0.63″	0.54″	1.58″	31N677	CRS-ZY-0631	20	15.21	11.26	84N810	SPC3785	200	79.43	67.51
	⅜″	Blue	0.63″	0.54″	1.58″	31N678	CRS-ZY-0637	20	15.21	11.26	84N811	SPC3786	200	79.43	67.51
	½″	Blue	0.81″	0.68″	1.77″	31N679	CRS-ZY-0650	10	8.98	6.64	84N812	SPC3787	100	45.26	38.47

NYLON-INSULATED "SURE GRIP" BARREL

26-24	#2	Yellow	0.14″	0.11″	0.46″	31N100	CRS-DY-2202+	100	46.18	34.17	84N813	SPC3788+	1000	250.63	213.03
	#6	Yellow	0.20″	0.21″	0.60″	31N2823	CRS-DY-2206+	100	46.18	34.17	84N814	SPC3789+	1000	250.63	213.03
22-18	#4	Red	0.25″	0.23″	0.80″	31N105	CRS-DY-1804*	100	20.13	14.90	84N815	SPC3790*	1000	106.83	90.80
	#6	Red	0.25″	0.23″	0.80″	31N219	CRS-DY-1806*	100	20.13	14.90	84N816	SPC3791*	1000	106.83	90.80
	#8	Red	0.31″	0.33″	0.94″	31N220	CRS-DY-1808*	100	21.10	15.62	84N817	SPC3792*	1000	112.20	95.37
	#10	Red	0.31″	0.33″	0.94″	31N221	CRS-DY-1810*	100	21.10	15.62	84N818	SPC3793*	1000	112.20	95.37
	¼″	Red	0.47″	0.40″	1.09″	31N222	CRS-DY-1825*	100	25.08	18.56	84N819	SPC3794*	1000	134.14	114.02
16-14	#6	Blue	0.33″	0.29″	0.90″	31N223	CRS-DY-1406*	100	20.13	14.90	84N820	SPC3795*	1000	106.83	90.80
	#8	Blue	0.31″	0.33″	0.94″	31N224	CRS-DY-1408*	100	21.10	15.62	84N821	SPC3796*	1000	112.20	95.37
	#10	Blue	0.31″	0.33″	0.94″	31N225	CRS-DY-1410*	100	21.10	15.62	84N822	SPC3797*	1000	112.20	95.37
12-10	#8	Yellow	0.38″	0.29″	1.03″	31N228	CRS-DY-1008*	50	12.94	9.58	84N823	SPC3798*	500	67.09	57.02
	#10	Yellow	0.38″	0.29″	1.03″	31N229	CRS-DY-1010*	50	12.94	9.58	84N824	SPC3799*	500	68.11	57.90
	¼″	Yellow	0.54″	0.44″	1.26″	31N230	CRS-DY-1025*	50	14.13	10.45	84N825	SPC3800*	500	73.69	62.63

Crimp tool reference: *CTT8440-01
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(ne04288)

HIGH-TEMPERATURE TERMINALS

VOLTREX™ brand

Fig. 1

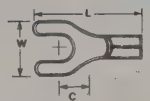
Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

Fig. 7

Temperature rating: 900°F. **Sold in packages of quantities indicated below.**

HIGH-TEMPERATURE RING TONGUE TERMINALS — Fig. 1

AWG	Stud Size	Color	Dimensions W	C	L	Stock No.	Type	Pkg. of	Per Pkg. 1-4	5-9	Stock No.	Type	Pkg. of	Per Pkg. 1-4	5-9
22-18	#4-6	Red	0.25″	0.20″	0.60″	81N1498	CRS-TO-1806-HT	100	7.21	5.33	84N826	SPC3801	1000	35.49	30.16
22-18	#8-10	Red	0.33″	0.29″	0.70″	81N1499	CRS-TO-1810-HT	100	7.21	5.33	84N827	SPC3802	1000	35.49	30.16
16-14	#4-6	Blue	0.25″	0.22″	0.60″	81N1501	CRS-TO-1406-HT	100	7.21	5.33	84N828	SPC3803	1000	35.49	30.16
16-14	#8-10	Blue	0.33″	0.29″	0.70″	81N1502	CRS-TO-1410-HT	100	7.21	5.33	84N829	SPC3804	1000	35.49	30.16
16-14	#12-¼″	Blue	0.56″	0.40″	0.60″	81N1503	CRS-TO-1425-HT	100	10.37	7.67	84N830	SPC3805	1000	52.94	45.00
12-10	#4-6	Yellow	0.38″	0.29″	0.73″	81N1504	CRS-TO-1006-HT	50	5.43	4.02	84N831	SPC3806	500	25.66	21.81
12-10	#8-10	Yellow	0.38″	0.29″	0.73″	81N1505	CRS-TO-1010-HT	50	5.43	4.02	84N832	SPC3807	500	25.66	21.81
12-10	#12-¼″	Yellow	0.61″	0.44″	0.99″	81N1506	CRS-TO-1025-HT	50	6.33	4.69	84N833	SPC3808	500	30.66	26.06

HIGH-TEMPERATURE SPADE TONGUE TERMINALS — Fig. 2

22-18	#8-10	Red	0.34″	0.29″	0.70″	81N1508	CSS-TO-1810-HT	100	7.21	5.33	84N739	SPC3714	1000	35.49	30.16
16-14	#8-10	Blue	0.38″	0.29″	0.70″	81N1509	CSS-TO-1410-HT	100	7.21	5.33	84N740	SPC3715	1000	35.49	30.16
12-10	#8-10	Yellow	0.38″	0.28″	0.73″	81N1510	CSS-TO-1010-HT	50	5.43	4.02	84N741	SPC3716	500	25.66	21.81

HIGH-TEMPERATURE BLOCK SPADE TONGUE TERMINALS — Fig. 3

22-18	#4-6	Red	0.30″	0.25″	0.65″	81N1511	CBS-TO-1806-HT	100	7.21	5.33	84N737	SPC3712	1000	35.49	30.16
16-14	#4-6	Blue	0.30″	0.25″	0.65″	81N1512	CBS-TO-1406-HT	100	7.21	5.33	84N738	SPC3713	1000	35.49	30.16

HIGH-TEMPERATURE FEMALE QUICK-DISCONNECT TERMINALS — Fig. 4

Stock No.	Type	AWG	Color	Male Tab W	Male Tab Thickness	Dim. L	Pkg. of	Per Pkg. 1-4	5-9
81N1490	CFS-TO-1418-HT	16-14	Blue	0.187″	0.020″	0.58″	100	8.14	6.03
81N1491	CFS-TO-1425-HT	16-14	Blue	0.250″	0.032″	0.64″	100	8.14	6.03

HIGH-TEMPERATURE FEMALE FLAG QUICK-DISCONNECT TERMINALS — Fig. 5

81N1494	CFL-TO-1425-HT	16-14	Blue	0.250″	0.032″	0.51″	100	9.76	7.23

HIGH-TEMPERATURE MALE QUICK-DISCONNECT TERMINALS — FIG. 6

81N1493	CMS-TO-1425-HT	16-14	Blue	0.250″	0.032″	0.73″	100	7.51	5.56

HIGH-TEMPERATURE BUTT SPLICE TERMINALS — Fig. 7

Stock No.	Type	AWG	Color	Dim. L	Barrel Length	Barrel I.D.	Pkg. of	Per Pkg. 1-4	5-9
81N1496	CCS-TO-1414-HT	16-14	Blue	0.56″	0.25″	0.090″	100	7.51	5.56
81N1497	CCS-TO-1010-HT	12-10	Yellow	0.56″	0.25″	0.135″	50	6.33	4.69

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SOLDERLESS TERMINALS

VOLTREX™ BRAND SPADE (FORK) TONGUE TERMINALS

OSHA

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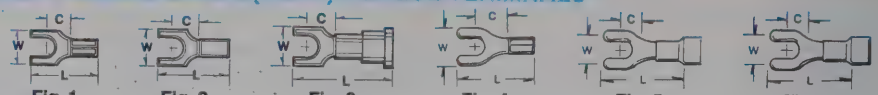

Fig. 1 Fig. 2 Fig. 3 Fig. 4 Fig. 5 Fig. 6

Types CBS-TO and **CSS-TO** are noninsulated butted seam terminals used where special characteristics are not required. **Type CBS-ZO** noninsulated brazed seam terminals allow crimp at any location on barrel. Seam is silver brazed and cannot open under crimping or operating pressure. **Types CBS-TV** and **CSS-TV** vinyl insulated terminals with "wire guide" barrel consists of butted seam with flared, rigid PVC sleeve. Flexure occurs over wide area on the wire insulation rather than at juncture. Funnel shaped sleeve guides wire strands into barrel. **CBS-ZV** vinyl insulated brazed seam terminals with "wire guide" barrel have same features as **CBS-TV** plus the advantage of the brazed seam over the butted seam. **Types CBS-DY** and **CSS-DY** nylon insulated terminals with "sure-grip wire guide" barrel consist of a butted seam with flared seamless brass sleeve covered with a flared injection molded nylon sleeve. UL recognized, CSA certified, OSHA compliant. Made in the U.S.A. **Sold in packages of quantities listed below.**

Fig.	AWG	Stud Size	Color	Dimensions W	Dimensions C	Dimensions L	Stock No.	Type	Pkg. of	Per Package 1-4	Per Package 5-9	Stock No.	Type	Pkg. of	Per Package 1-4	Per Package 5-9
1	22-18	#4	Red	0.25″	0.25″	0.65″	**31N518**	CBS-TO-1804†	100	7.21	5.33	**84N678**	SPC3653†	1000	**35.49**	**30.16**
1	22-18	#6	Red	0.30″	0.25″	0.65″	**31N519**	CBS-TO-1806†	100	7.21	5.33	**84N679**	SPC3654†	1000	**35.49**	**30.16**
1	22-18	#8	Red	0.30″	0.25″	0.65″	**31N520**	CBS-TO-1808†	100	7.21	5.33	**84N680**	SPC3655†	1000	**35.49**	**30.16**
1	16-14	#6	Blue	0.30″	0.25″	0.65″	**31N522**	CBS-TO-1406†	100	7.21	5.33	**84N681**	SPC3656†	1000	**35.49**	**30.16**
1	16-14	#8	Blue	0.30″	0.25″	0.65″	**31N523**	CBS-TO-1408†	100	7.21	5.33	**84N682**	SPC3657†	1000	**35.49**	**30.16**
1	16-14	#10	Blue	0.30″	0.25″	0.65″	**84N918**	SPC3893*	100	6.95	5.15	**84N921**	SPC3896*	1000	**33.11**	**28.15**
1	12-10	#6	Yellow	0.32″	0.29″	0.73″	**84N859**	SPC3834*	100	10.50	7.77	**84N683**	SPC3658*	1000	**47.91**	**40.73**
1	12-10	#8	Yellow	0.32″	0.29″	0.73″	**84N919**	SPC3894*	100	10.50	7.77	**84N922**	SPC3897*	1000	**47.91**	**40.73**
1	12-10	#10	Yellow	0.32″	0.29″	0.73″	**84N920**	SPC3895*	100	10.50	7.77	**84N923**	SPC3898*	1000	**47.91**	**40.73**
2	22-18	#6	Red	0.25″	0.25″	0.65″	**31N214**	CBS-ZO-1806†	100	12.18	9.01	**84N688**	SPC3663†	1000	**62.94**	**53.50**
2	16-14	#6	Blue	0.30″	0.25″	0.65″	**31N216**	CBS-ZO-1406†	100	12.18	9.01	**84N690**	SPC3665†	1000	**62.94**	**53.50**
2	16-14	#8	Blue	0.30″	0.25″	0.65″	**31N140**	CBS-ZO-1408†	100	12.18	9.01	**84N691**	SPC3666†	1000	**62.94**	**53.50**
3	22-18	#4	Red	0.25″	0.25″	0.85″	**31N532**	CBS-TV-1804*	100	12.43	9.20	**84N700**	SPC3675*	1000	**64.34**	**54.69**
3	22-18	#6	Red	0.30″	0.25″	0.85″	**31N533**	CBS-TV-1806*	100	12.43	9.20	**84N701**	SPC3676*	1000	**64.34**	**54.69**
3	22-18	#8	Red	0.30″	0.25″	0.85″	**31N534**	CBS-TV-1808*	100	12.43	9.20	**84N702**	SPC3677*	1000	**64.34**	**54.69**
3	22-18	#10	Red	0.30″	0.25″	0.85″	**31N535**	CBS-TV-1810*	100	12.43	9.20	**84N703**	SPC3678*	1000	**64.34**	**54.69**
3	16-14	#6	Blue	0.30″	0.25″	0.85″	**31N536**	CBS-TV-1406*	100	12.43	9.20	**84N704**	SPC3679*	1000	**64.34**	**54.69**
3	16-14	#8	Blue	0.30″	0.25″	0.85″	**31N537**	CBS-TV-1408*	100	12.43	9.20	**84N705**	SPC3680*	1000	**64.34**	**54.69**
3	16-14	#10	Blue	0.30″	0.25″	0.85″	**31N2847**	CBS-TV-1410*	100	12.43	9.20	**84N706**	SPC3681*	1000	**64.34**	**54.69**
3	22-18	#6	Red	0.25″	0.25″	0.85″	**31N129**	CBS-ZV-1806*	100	19.84	14.68	**84N718**	SPC3693*	1000	**105.23**	**89.44**
3	22-18	#8	Red	0.30″	0.25″	0.85″	**31N130**	CBS-ZV-1808*	100	19.84	14.68	**84N719**	SPC3694*	1000	**103.94**	**88.35**
3	22-18	#10	Red	0.30″	0.25″	0.85″	**31N131**	CBS-ZV-1810*	100	19.84	14.68	**84N720**	SPC3695*	1000	**105.23**	**89.44**
3	16-14	#6	Blue	0.30″	0.25″	0.85″	**31N132**	CBS-ZV-1406*	100	19.84	14.68	**84N721**	SPC3696*	1000	**105.23**	**89.44**
3	16-14	#8	Blue	0.30″	0.25″	0.85″	**31N133**	CBS-ZV-1408*	100	19.84	14.68	**84N722**	SPC3697*	1000	**105.23**	**89.44**
3	16-14	#10	Blue	0.30″	0.25″	0.85″	**31N134**	CBS-ZV-1410*	100	19.84	14.68	**84N723**	SPC3698*	1000	**105.23**	**89.44**
3	22-18	#4	Red	0.25″	0.25″	0.85″	**31N2848**	CBS-DY-1804*	100	20.13	14.90	**84N728**	SPC3703*	1000	**106.83**	**90.80**
3	22-18	#6	Red	0.25″	0.25″	0.85″	**31N236**	CBS-DY-1806*	100	20.13	14.90	**84N729**	SPC3704*	1000	**106.83**	**90.80**
3	22-18	#8	Red	0.30″	0.25″	0.85″	**31N237**	CBS-DY-1808*	100	20.13	14.90	**84N730**	SPC3705*	1000	**106.83**	**90.80**
3	22-18	#10	Red	0.30″	0.25″	0.85″	**31N238**	CBS-DY-1810*	100	20.13	14.90	**84N731**	SPC3706*	1000	**106.83**	**90.80**
3	16-14	#6	Blue	0.30″	0.25″	0.85″	**31N231**	CBS-DY-1406*	100	20.13	14.90	**84N732**	SPC3707*	1000	**106.83**	**90.80**
3	16-14	#8	Blue	0.30″	0.25″	0.85″	**31N232**	CBS-DY-1408*	100	20.13	14.90	**84N733**	SPC3708*	1000	**106.83**	**90.80**
3	16-14	#10	Blue	0.30″	0.25″	0.85″	**31N233**	CBS-DY-1410*	100	20.13	14.90	**84N734**	SPC3709*	1000	**106.83**	**90.80**
3	12-10	#6	Yellow	0.32″	0.29″	1.03″	**31N127**	CBS-DY-1006*	50	12.93	9.57	**84N735**	SPC3710*	500	**67.09**	**57.02**
3	12-10	#10	Yellow	0.32″	0.29″	1.03″	**31N234**	CBS-DY-1010*	50	12.93	9.57	**84N736**	SPC3711*	500	**67.09**	**57.02**
4	26-24	#0	Yellow	0.13″	0.11″	0.32″	**32N056**	CSS-T0-2200+	100	7.66	5.67	**84N674**	SPC3649+	1000	**37.95**	**32.26**
4	26-24	#4	Yellow	0.20″	0.21″	0.46″	**31N2825**	CSS-TO-2204+	100	7.66	5.67	**84N675**	SPC3650+	1000	**37.95**	**32.26**
4	26-24	#6	Yellow	0.25″	0.27″	0.54″	**32N058**	CSS-TO-2206+	100	7.66	5.67	**84N676**	SPC3651+	1000	**37.95**	**32.26**
5	22-18	#6	Red	0.34″	0.29″	0.90″	**31N2831**	CSS-TV-1806*	100	12.43	9.20	**84N692**	SPC3667*	1000	**64.34**	**54.69**
5	22-18	#8	Red	0.34″	0.29″	0.90″	**31N2832**	CSS-TV-1808*	100	12.43	9.20	**84N693**	SPC3668*	1000	**64.34**	**54.69**
5	22-18	#10	Red	0.34″	0.29″	0.90″	**31N2833**	CSS-TV-1810*	100	12.43	9.20	**84N694**	SPC3669*	1000	**64.34**	**54.69**
5	16-14	#6	Blue	0.34″	0.29″	0.90″	**31N2834**	CSS-TV-1406*	100	12.43	9.20	**84N695**	SPC3670*	1000	**64.34**	**54.69**
5	16-14	#8	Blue	0.34″	0.29″	0.90″	**31N2835**	CSS-TV-1408*	100	12.43	9.20	**84N696**	SPC3671*	1000	**64.34**	**54.69**
5	12-10	#8	Yellow	0.38″	0.29″	1.03″	**31N2837**	CSS-TV-1008*	50	8.01	5.93	**84N698**	SPC3673*	500	**39.94**	**33.95**
5	12-10	#10	Yellow	0.38″	0.29″	1.03″	**31N539**	CSS-TV-1010*	50	8.01	5.93	**84N699**	SPC3674*	500	**39.94**	**33.95**
6	26-24	#4	Yellow	0.20″	0.21″	0.60″	**31N2838**	CSS-DY-2204+	100	46.18	34.17	**84N724**	SPC3699+	1000	**250.63**	**213.03**
6	26-24	#6	Yellow	0.25″	0.27″	0.68″	**31N2839**	CSS-DY-2206+	100	46.18	34.17	**84N725**	SPC3700+	1000	**250.63**	**213.03**
6	22-18	#6	Red	0.34″	0.29″	0.90″	**31N2840**	CSS-DY-1806*	100	20.15	14.91	**84N726**	SPC3701*	1000	**106.91**	**90.88**
6	16-14	#6	Blue	0.34″	0.29″	0.90″	**31N2843**	CSS-DY-1406*	100	20.13	14.90	**84N727**	SPC3702*	1000	**106.83**	**90.80**

Crimp tool reference: *Type CTT-8440-01; †Type CTT-8425-01. +Not UL recognized
(5439)

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SOLDERLESS TERMINALS

VOLTREX™ BRAND QUICK-DISCONNECT TERMINALS

UL listed, CSA certified, except **types CFS-TO-1412, CFS-TV-1412, CFS-DY-1412,** and **CMS-TO-1818.** Made in the U.S.A. **Sold in package quantities indicated below.**

STYLE "TO" FEMALE NONINSULATED BUTTED SEAM BARREL

Stock No.	Type	Fig.	AWG	Tab Dimensions L	W	Thick	Pkg. of	Per Package 1-4	5-9	10-24	25-49
31N2875	CFS-TO-1818*	1	22-18	0.58″	0.187″	0.020″	100	8.14	6.03	4.74	4.16
31N2513	CFS-TO-1825*	2	22-18	0.66″	0.250″	0.032″	100	8.14	6.03	4.74	4.16
30N070	CFS-TO-1418*	1	16-14	0.58″	0.187″	0.020″	100	8.14	6.03	4.74	4.16
31N593	CFS-TO-1425*	2	16-14	0.66″	0.250″	0.032″	100	8.14	6.03	4.74	4.16

STYLE "TV" FEMALE VINYL-INSULATED BUTTED SEAM BARREL

31N2877	CFS-TV-1818††	3	22-18	0.78″	0.187″	0.020″	100	13.10	9.69	7.62	6.68
31N2510	CFS-TV-1825††	4	22-18	0.87″	0.250″	0.032″	100	13.10	9.69	7.62	6.68
30N072	CFS-TV-1418††	3	16-14	0.78″	0.187″	0.020″	100	13.11	9.70	7.62	6.69
31N595	CFS-TV-1425††	4	16-14	0.87″	0.250″	0.032″	100	13.10	9.69	7.62	6.68
31N2512	CFS-TV-1025††	3	12-10	0.96″	0.250″	0.032″	50	7.65	5.66	4.45	3.90

STYLE "DY" FEMALE NYLON-INSULATED "SURE GRIP" BARREL

31N2617	CFS-DY-1818††	3	22-18	0.77″	0.187″	0.020″	100	20.13	14.90	11.70	10.27
31N110	CFS-DY-1825††	4	22-18	0.86″	0.250″	0.032″	100	20.13	14.90	11.70	10.27
31N2622	CFS-DY-1418††	3	16-14	0.77″	0.187″	0.020″	100	20.13	14.90	11.70	10.27
31N175	CFS-DY-1425††	4	16-14	0.86″	0.250″	0.032″	100	20.13	14.90	11.70	10.27
31N2878	CFS-DY-1025	3	12-10	0.96″	0.250″	0.032″	50	11.34	8.39	6.59	5.78

STYLE "TO" FEMALE NONINSULATED SLIDE-FLAG BUTTED SEAM BARREL

50N8033	CFL-T0-1416	5	16-14	0.51″	0.250″	0.032″	100	9.59	7.10	5.58	4.89

STYLE "TO" MALE NONINSULATED SLIDE-FLAG BUTTED SEAM BARREL

31N592	CMS-TO-1425	6	16-14	0.73″	0.250″	0.032″	100	7.51	5.56	4.37	3.83
31N2880	CMS-TO-1825	6	22-18	0.73″	0.250″	0.032″	100	7.51	5.56	4.37	3.83
31N2879	CMS-TO-1818*	7	22-18	0.64″	0.187″	0.020″	100	7.51	5.56	4.37	3.83

STYLE "TV" MALE VINYL-INSULATED BUTTED SEAM BARREL

31N2883	CMS-TV-1818††	8	22-18	0.85″	0.187″	0.020″	100	12.87	9.52	7.48	6.56
31N2884	CMS-TV-1825††	8	22-18	0.93″	0.250″	0.032″	100	12.87	9.52	7.48	6.56
31N2885	CMS-TV-1418††	8	16-14	0.85″	0.187″	0.020″	100	12.87	9.52	7.48	6.56
31N594	CMS-TV-1425††	8	16-14	0.93″	0.250″	0.032″	100	12.87	9.52	7.48	6.56
31N2637	CMS-TV-1025	8	12-10	1.05″	0.250″	0.032″	50	7.89	5.84	4.59	4.02

STYLE "DY" MALE NYLON-INSULATED "SURE GRIP" BARREL

31N2890	CMS-DY-1025	8	12-10	1.05″	0.250″	0.032″	50	11.87	8.78	6.90	6.06
31N2889	CMS-DY-1425††	8	16-14	0.94″	0.250″	0.032″	100	20.13	14.90	11.70	10.27

STYLE "TF" FEMALE FULLY NYLON-INSULATED BUTTED SEAM BARREL

31N2891	CFS-TF-2012	9	26-20	0.66″	0.110″	0.020″	100	26.51	19.62	15.41	13.52
31N2892	CFS-TF-1818††	9	22-18	0.81″	0.187″	0.020″	100	22.28	16.49	12.95	11.36
31N2638	CFS-TF-1825††	9	22-18	0.91″	0.250″	0.032″	100	21.49	15.90	12.49	10.96
31N2893	CFS-TF-1418††	9	16-14	0.81″	0.187″	0.020″	100	22.28	16.49	12.95	11.36
16N1119	CFS-TF-1425††	9	16-14	0.91″	0.250″	0.032″	50	11.14	8.24	6.47	5.68
31N2639	CFS-TF-1025	9	12-10	0.99″	0.250″	0.032″	50	14.99	11.09	8.71	7.64

STYLE "DF" FEMALE FULLY NYLON-INSULATED "SURE GRIP" BARREL

31N2894	CFS-DF-1818††	10	22-18	0.81″	0.187″	0.020″	100	29.71	21.99	17.27	15.15
31N2640	CFS-DF-1825††	10	22-18	0.87″	0.250″	0.032″	100	28.64	21.20	16.65	14.61
16N1122	CFS-DF-1418††	10	16-14	0.81″	0.187″	0.020″	100	29.71	21.99	17.27	15.15
16N1123	CFS-DF-1425††	10	16-14	0.87″	0.250″	0.032″	50	14.71	10.89	8.55	7.50
31N2641	CFS-DF-1025††	10	12-10	0.99″	0.250″	0.032″	50	18.51	13.70	10.76	9.44

STYLE "TF" MALE FULLY NYLON-INSULATED BUTTED SEAM BARREL

31N2895	CMS-TF-1818††	11	22-18	0.87″	0.187″	0.020″	50	12.07	8.93	7.02	6.16
31N2642	CMS-TF-1825††	11	22-18	0.98″	0.250″	0.032″	50	11.66	8.63	6.78	5.95
31N2896	CMS-TF-1418††	11	16-14	0.87″	0.187″	0.020″	50	12.07	8.93	7.02	6.16
16N1125	CMS-TF-1425††	11	16-14	0.98″	0.250″	0.032″	50	11.65	8.62	6.78	5.94
31N2643	CMS-TF-1025	11	12-10	1.05″	0.250″	0.032″	25	8.31	6.15	4.83	4.24

STYLE "DF" MALE FULLY NYLON-INSULATED "SURE GRIP" BARREL

31N2897	CMS-DF-1818††	11	22-18	0.87″	0.187″	0.020″	50	15.97	11.82	9.29	8.15
31N2644	CMS-DF-1825††	11	22-18	0.98″	0.250″	0.032″	50	15.42	11.41	8.96	7.86
31N2898	CMS-DF-1418††	11	16-14	0.87″	0.187″	0.020″	50	15.97	11.82	9.29	8.15
16N1126	CMS-DF-1425††	11	16-14	0.98″	0.250″	0.032″	50	15.42	11.41	8.96	7.86
31N2645	CMS-DF-1025††	11	12-10	1.05″	0.250″	0.032″	25	10.07	7.46	5.86	5.14

MALE SNAP PLUG NYLON-INSULATED WITH INSULATION GRIP

Stock No.	Type	Fig.	AWG	W	L	Barrel Length	I.D.	Insul. Dia.	Pkg. of	Per Package 1-4	5-9	10-24	25-49
81N1513	CBP-DY-1815†	12	22-18	0.156″	0.85″	0.19″	0.070	0.145″	100	21.10	15.62	12.27	10.76
81N1514	CBP-DY-1415†	12	16-14	0.156″	0.87″	0.19″	0.090	0.170″	100	21.10	15.62	12.27	10.76

MALE SNAP PLUG VINYL-INSULATED BUTTED-SEAM

50N8041	CBP-TV-1815†	12	22-18	0.156″	0.85″	0.19″	0.070	0.145″	100	13.02	9.63	7.57	6.64
50N8043	CBP-TV-1415†	12	16-14	0.156″	0.85″	0.19″	0.090	0.170″	50	13.80	10.21	8.03	7.04

FEMALE SNAP RECEPTACLE NYLON-INSULATED BUTTED-SEAM

50N8040	CBR-TY-1815†	13	22-18	0.156″	0.102″	0.25″	0.095	0.145″	100	25.00	18.50	14.54	12.75
50N8042	CBR-TY-1415†	13	16-14	0.156″	0.102″	0.25″	0.115	0.170″	100	25.00	18.50	14.54	12.75

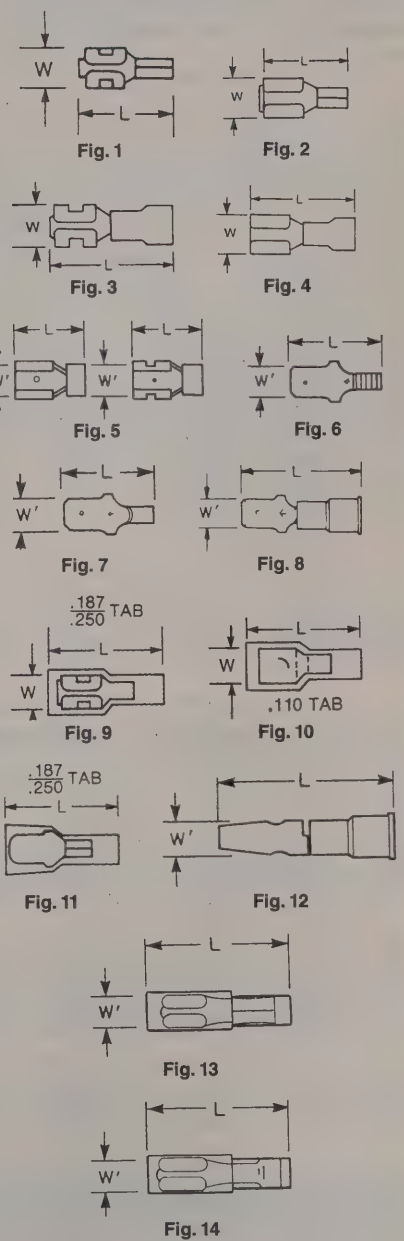
FEMALE SNAP RECEPTACLE NYLON-INSULATED WITH INSULATION GRIP

81N1515	CBR-DY-1815†	14	22-18	0.156″	0.102″	0.25″	0.095	0.145″	50	17.19	12.72	9.99	8.77
81N1516	CBR-DY-1415†	14	16-14	0.156″	0.102″	0.25″	0.115	0.170″	50	17.19	12.72	9.99	8.77

Crimp tool reference: *CTT-8425-01; †CTT-8440-01; ††CTT-8441-01

(5503) (de51400)

VOLTREX™ brand — MADE IN USA



SOLDERLESS TERMINALS

SNAP-ON SPADE TERMINALS

OSHA

VOLTREX™ brand

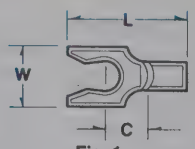


Fig. 1

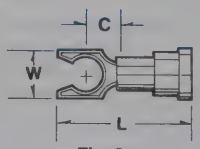


Fig. 2

MADE IN USA

- **Multiple "V" Grooves for Maximum Holding Power and Minimum Resistance**
- **Wire Guide Barrel Eliminates Strand Hangups**
- **Nonslip Insulation for Ease of Positioning Crimp Tool**
- **Funneled Insulation Beveled Terminal Mouth for Easy Wire Insertion**
- **Maximum Corrosion Protection, Installation Strength, Flexing Resistance**

Types CLS-TO are noninsulated and **types CLS-TV** are vinyl-insulated terminals. Both types feature a butted seam barrel. UL recognized, CSA certified, OSHA compliant. Made in the U.S.A. **Sold in packages of quantities indicated below.**

Fig.	AWG	Stud Size	Color	Dimensions W	Dimensions C	Dimensions L	Stock No.	Type	Pkg. of	Per Package 1-4	Per Package 5-9	Stock No.	Type	Pkg. of	Per Package 1-4	Per Package 5-9
1	22-18	#6	Red	0.26″	0.25″	0.68″	31N2850	CLS-TO-1806*	100	7.85	4.57	84N684	SPC3659*	1000	39.06	33.20
1	16-14	#8	Blue	0.30″	0.25″	0.68″	31N2855	CLS-TO-1408*	100	6.39	3.72	84N685	SPC3660*	1000	35.74	30.38
1	12-10	#6	Yellow	0.28″	0.28″	0.73″	31N2857	CLS-TO-1006*	100	5.90	3.43	84N686	SPC3661*	500	28.26	24.02
1	12-10	#8	Yelow	0.32″	0.29″	0.73″	31N2858	CLS-TO-1008*	100	4.85	2.82	84N687	SPC3662*	500	25.86	21.98
2	22-18	#4	Red	0.25″	0.25″	0.88″	31N2860	CLS-TV-1804†	100	13.38	7.78	84N707	SPC3682†	1000	69.54	59.11
2	22-18	#6	Red	0.25″	0.25″	0.88″	31N2550	CLS-TV-1806†	100	13.38	7.78	84N708	SPC3683†	1000	69.54	59.11
2	22-18	#8	Red	0.30″	0.25″	0.88″	31N2552	CLS-TV-1808†	100	13.38	7.78	84N709	SPC3684†	1000	69.54	59.11
2	22-18	#10	Red	0.32″	0.25″	0.88″	31N2553	CLS-TV-1810†	100	13.38	7.78	84N710	SPC3685†	1000	69.54	59.11
2	16-14	#6	Blue	0.25″	0.25″	0.88″	31N2554	CLS-TV-1406†	100	13.38	7.78	84N711	SPC3686†	1000	69.54	59.11
2	16-14	#8	Blue	0.30″	0.25″	0.88″	31N2556	CLS-TV-1408†	100	13.38	7.78	84N712	SPC3687†	1000	69.54	59.11
2	16-14	#10	Blue	0.32″	0.25″	0.88″	31N2557	CLS-TV-1410†	100	13.38	7.78	84N713	SPC3688†	1000	69.54	59.11
2	12-10	#6	Yellow	0.28″	0.28″	1.03″	31N2863	CLS-TV-1006†	50	10.01	5.82	84N714	SPC3689†	500	50.94	43.30
2	12-10	#8	Yellow	0.32″	0.28″	1.03″	31N666	CLS-TV-1008†	50	10.01	5.82	84N715	SPC3690†	500	50.94	43.30
2	12-10	#10	Yellow	0.32″	0.28″	1.03″	31N667	CLS-TV-1010†	50	10.01	5.82	84N716	SPC3691†	500	50.94	43.30
2	12-10	¼″	Yellow	0.43″	0.44″	1.24″	31N668	CLS-TV-1025†	50	11.44	6.65	84N717	SPC3692†	500	58.83	50.00

Crimp tool reference: *CTT-8425-01; †CTT-8440-01
(5440)

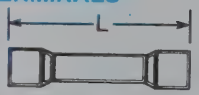
(de00147)

BUTT SPLICE TERMINALS

OSHA

VOLTREX™ brand

MADE IN USA



UL recognized (file E58918), CSA certified (file 221906M) except **type CCS-DY-2222**, OSHA compliant. Made in the U.S.A. **Sold in packages of quantities indicated below.**

NONINSULATED BUTTED SEAM BARREL

AWG	Dim. L	Barrel I.D.	Stock No.	Type	Pkg. of	Per Package 1-4	Per Package 5-9	Stock No.	Type	Pkg. of	Per Package 1-4	Per Package 5-9
22-18	0.56″	0.070″	31N566	CCS-TO-1818*	100	7.51	5.56	84N834	SPC3809*	1000	37.14	31.57
16-14	0.56″	0.090″	31N567	CCS-TO-1414*	100	7.51	5.56	84N835	SPC3810*	1000	37.14	31.57
12-10	0.56″	0.135″	31N568	CCS-TO-1010*	50	6.33	4.69	84N836	SPC3811*	500	30.66	26.06

NONINSULATED BUTTED SEAM PARALLEL BARREL

20-18	0.32″	0.070″	31N163	CCP-TO-1818*	100	7.27	5.38	84N837	SPC3812*	1000	35.86	30.48

NONINSULATED SEAMLESS PARELLEL BARREL

16-14	0.32″	0.085″	31N164	CCP-ZO-1414*	100	9.88	7.31	84N838	SPC3813*	1000	50.23	42.69
12-10	0.34″	0.152″	31N165	CCP-ZO-1010*	100	10.76	7.97	84N839	SPC3814*	1000	55.11	46.85

VINYL-INSULATED BUTTED SEAM BARREL

22-18	1.15″	0.070″	31N589	CCS-TV-1818†	100	13.17	9.75	84N840	SPC3815†	1000	68.40	58.14
16-14	1.00″	0.090″	31N590	CCS-TV-1414†	50	6.97	5.16	84N841	SPC3816†	500	34.20	29.07
12-10	1.00″	0.135″	31N591	CCS-TV-1010†	50	8.59	6.36	84N842	SPC3817†	500	43.06	36.60

VINYL-INSULATED BRAZED SEAM OR SEAMLESS BARREL

22-18	1.04″	0.062″	31N250	CCS-ZV-1818†	100	18.98	14.05	84N843	SPC3818†	1000	100.49	85.41
16-14	1.05″	0.095″	31N251	CCS-ZV-1414†	50	9.89	7.32	84N844	SPC3819†	500	50.26	42.72
12-10	1.05″	0.142″	31N252	CCS-ZV-1010†	50	12.58	9.31	84N845	SPC3820†	500	65.14	55.37
8	1.20″	0.175″	31N2906	CCS-ZV-0808**	20	15.03	11.12	84N846	SPC3821**	200	78.66	66.86

NYLON-INSULATED "SURE-GRIP" BARREL

26-24	0.88″	0.030″	31N2909	CCS-DY-2222	100	34.74	25.71	84N850	SPC3825	1000	187.49	159.36
22-18	1.00″	0.070″	31N2910	CCS-DY-1818†	100	40.76	30.16	84N851	SPC3826†	1000	220.71	187.61
16-14	1.00″	0.090″	31N2911	CCS-DY-1414†	50	20.77	15.37	84N852	SPC3827†	500	110.37	93.82
12-10	1.15″	0.135″	31N2912	CCS-DY-1010†	50	24.29	17.98	84N853	SPC3828†	500	129.80	110.33

NYLON-INSULATED SEAMLESS BARREL

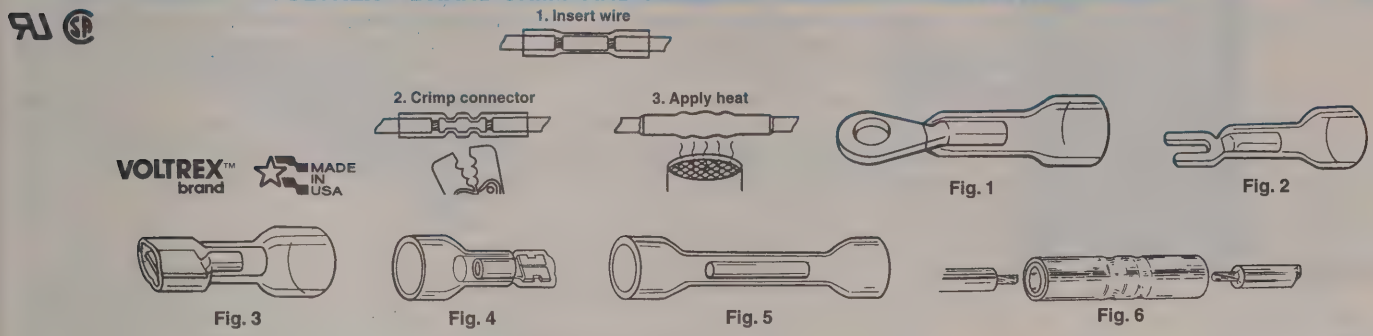
22-18	1.02″	0.062″	50N8027	CCS-ZY-2218†	100	19.94	14.76	84N847	SPC3822†	1000	105.80	89.93
16-14	1.02″	0.095″	50N8028	CCS-ZY-1614†	100	19.94	14.76	84N848	SPC3823†	1000	105.80	89.93
12-10	1.20″	0.142″	50N8029	CCS-ZY-1210†	50	13.20	9.77	84N849	SPC3824†	500	68.57	58.29

Crimp tool reference: *CTT-8425-01; †CTT-8440-01; **CTT-8620-01
(5561)

(de50099)

HEAT-SHRINK TERMINALS AND TUBING

VOLTREX™ BRAND CRIMP AND SEAL HEAT-SHRINK TERMINALS AND TUBING



Waterproof terminals and splices are environmentally sealed by a heat-shrinkable insulation that is part of the component. These terminals combine irradiated, cross-linked, heat shrinkable insulators with highly conductive connectors. As the tough polyolefin jacket shrinks, a hot adhesive lining seals out contaminants and glues the wires into place. Reliable and easy to install. Can be visually inspected through the translucent insulation. Corrosion and abrasion resistant. Ideal when corrosive fumes or liquid contaminants are present. Offers increased pull-out strength. Designed to withstand shock and vibration. Seamless butt splices and brazed seam ring and fork tongue terminals. UL recognized (file E58918), CSA certified (file LR22190M6). Made in the U.S.A. **Sold in packages of quantities indicated below.**

RING TONGUE TERMINALS

Fig.	AWG	Description	Stock No.	Type	Pkg. of	Per Package 1-9	10-24	25-49	Stock No.	Type	Pkg. of	Per Package 1-9	10-24	25-49
1	18-20	#6 Stud Size	84N967	3949	100	29.95	26.36	23.96	92N3586	1665	25	9.27	7.88	7.09
1	18-20	#8 Stud Size	84N968	3950	100	29.95	26.36	23.96	92N3587	1666	25	9.27	7.88	7.09
1	18-20	#10 Stud Size	84N969	3951	100	29.95	26.36	23.96	92N3588	1667	25	9.27	7.88	7.09
1	14-16	#6 Stud Size	84N970	3952	100	29.95	26.36	23.96	92N3589	1668	25	9.58	8.14	7.33
1	14-16	#8 Stud Size	84N971	3953	100	29.95	26.36	23.96	92N3590	1669	25	9.58	8.14	7.33
1	14-16	#10 Stud Size	84N982	3964	100	29.95	26.36	23.96	92N3591	1670	25	11.34	9.64	8.67
1	14-16	¼″ Stud Size	84N983	3965	100	32.95	29.00	26.36	84N995	3977	25	8.95	7.88	7.16
1	14-16	⅜″ Stud Size	84N984	3966	100	34.95	30.76	27.96	84N997	3979	25	9.75	8.58	7.80
1	10-12	#10 Stud Size	84N985	3967	100	37.95	33.40	30.36	84N998	3980	25	10.45	9.20	8.36
1	10-12	¼″ Stud Size	84N986	3968	100	39.95	35.16	31.96	84N999	3981	25	9.75	8.58	7.80
1	10-12	⅜″ Stud Size	84N972	3954	100	37.95	33.40	30.36	84N1000	3982	25	10.45	9.20	8.36

FORK TONGUE TERMINALS

2	22-24	#6 Stud Size	84N988	3970	100	30.95	27.24	24.76	84N1001	3983	25	8.95	7.88	7.16
2	18-20	#10 Stud Size	84N964	3946	100	29.95	26.36	23.96	92N3592	1671	25	9.27	7.88	7.09
2	14-16	#8 Stud Size	84N965	3947	100	29.95	26.36	23.96	92N3593	1672	25	9.27	7.88	7.09
2	14-16	#10 Stud Size	84N966	3948	100	29.95	26.36	23.96	92N3594	1673	25	9.27	7.88	7.09
2	10-12	¼″ Stud Size	84N990	3972	100	37.95	33.40	30.36	84N1003	3985	25	10.45	9.20	8.36

QUICK DISCONNECTS

3	18-20	0.25″ Tab – Male	84N973	3955*	100	47.95	42.20	38.36	92N3595	1674*	25	13.41	11.40	10.26
3	14-16	0.25″ Tab – Male	84N974	3956*	100	47.95	42.20	38.36	92N3596	1675*	25	13.41	11.40	10.26
3	10-12	0.25″ Tab – Male	84N975	3957*	100	56.95	50.12	45.56	92N3597	1676*	25	16.51	14.04	12.63
4	18-20	0.25″ Tab – Female	84N976	3958*	100	47.95	42.20	38.36	92N3598	1677*	25	13.41	11.40	10.26
4	14-16	0.25″ Tab – Female	84N977	3959*	100	47.95	42.20	38.36	92N3599	1678*	25	13.41	11.40	10.26
4	10-12	0.25″ Tab – Female	84N978	3960*	100	56.95	50.12	45.56	92N3600	1679*	25	16.51	14.04	12.63

BUTT SPLICES

5	18-20	1.04″ Length – Red	84N979	3961	100	41.95	36.92	33.56	92N3601	1680	25	12.37	10.52	9.46
5	14-16	1.04″ Length – Blue	84N980	3962	100	42.95	37.80	34.36	92N3602	1681	25	12.37	10.52	9.46
5	10-12	1.23″ Length – Yellow	84N981	3963	100	48.95	43.08	39.16	92N3603	1682	25	15.48	13.16	11.84

HEAT-SHRINK TUBING WITH SOLDER SLEEVE SHIELD

6	22-24	1.00″ Length – Clear	92N3604	3974	100	56.88	48.35	43.51	84N992	3974	25	13.95	12.28	11.16
6	18-20	1.50″ Length – Red	92N3605	3975	100	67.23	57.14	51.43	84N993	3975	25	16.95	14.92	13.56
6	14-16	1.50″ Length – Blue	92N3606	3976	100	67.23	57.14	51.43	84N994	3976	25	17.95	15.80	14.36
6	10-12	1.50″ Length – Yellow	84N991	3973	100	66.95	58.92	53.56	84N996	3978	25	18.95	16.68	15.16

*Not UL listed or CSA certified
(5516)

(ne00242)

SEE SPC TECHNOLOGY'S FULL LINE OF INSULATION PRODUCTS IN THIS CATALOG:

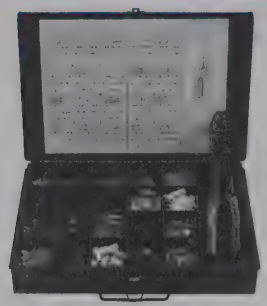
- HEAT-TREATED FIBERGLASS SLEEVING *on page 1243*
- EXPANDABLE SLEEVING *on page 1243*
- HOOK AND LOOP WRAP SLEEVING *on page 1244*
- FLEXIBLE, SPLIT LOOM TUBING *on page 1244*
- POLYOLEFIN, PVC, TEFLON®, KYNAR®, NEOPRENE HEAT-SHRINK AND INSULATING TUBING STARTING *on page 1235*

(17647)

(SPCINBLU)

TERMINAL KITS AND CONNECTORS

NEW



VOLTREX™ brand

3647, 3648

VOLTREX™ BRAND 500-PC. INSULATED SOLDERLESS TERMINAL KITS

Type 3648 kit contains 25 each of 20 different kinds of solderless terminals including snap spade tongue, pin, ring tongue, block spade tongue, and wire butt splices. Feature vinyl-insulated and fully insulated styles. For wire gauge sizes 22-18, 16-14, and 12-10. Plus a crimp tool and a convenient identification chart in the lid of a durable metal storage case.

84N671 Type 3648. **Each** **99.99**

Type 3647 kit contains 25 each of 20 different kinds of quick-disconnect terminals including both male and female noninsulated, vinyl-insulated, and fully nylon-insulated styles. For wire gauge sizes 22-18, 16-14, and 12-10. Plus a crimp tool and a convenient identification chart in the lid of a durable metal storage case.

84N670 (34089) Type 3647. **Each** **99.99** (ne34089)

OSHA

VOLTREX™ brand

8403-QD

VOLTREX™ BRAND SOLDERLESS TERMINAL KITS

- **UL Recognized, CSA Certified, OSHA Compliant**

300-PC. QUICK-DISCONNECT KIT

Type 8403-QD kit contains 25 each of the 12 most popular quick-disconnect terminals including both male and female vinyl- and fully-insulated styles. For wire gauge sizes 22-18 and 16-14. Plus a crimp tool and a convenient identification chart in the lid of a durable plastic storage case.

23N3622 Type 8403-QD. **Each** **69.99**

300-PC. VINYL-INSULATED TERMINAL KIT

Type 8403-TV kit contains 25 each of the 12 most popular vinyl-insulated terminals including ring tongue, block spade, wire splice, spade tongue, and quick-disconnect styles. For wire gauge sizes 22-16, 16-14, and 12-10. Plus a crimp tool and a convenient identification chart in the lid of a durable plastic storage case.

31N005 Type 8403-TV. **Each** **59.99**

300-PC. "SURE GRIP" TERMINAL KIT

Type 8403-DY kit contains 25 each of the 12 most popular "Sure-Grip" terminals including ring tongue, quick-disconnect, and block spade tongue styles. For wire gauge sizes 22-18, 16-14, and 12-10. Plus a crimp tool and a convenient identification chart in the lid of a durable plastic storage case.

31N006 Type 8403-DY. **Each** **79.99**

300-PC. NONINSULATED TERMINAL KIT

Type 8403-TO kit contains 25 each of the 12 most popular noninsulated terminals including ring tongue, quick-disconnect, block spade tongue, and wire butt splice styles. For wire gauge sizes 22-18, 16-14, and 12-10. Plus a crimp tool and a convenient identification chart in the lid of a durable plastic storage case.

31N004 Type 8403-TO. **Each** **49.99**

115-PC. SOLDERLESS TERMINAL KIT

Type 1686 funnel entry solderless wire terminal kit contains 50 ring tongue terminals, 15 spade tongue terminals, 30 butt splices, 10 male couplers, and 10 female couplers. For wire gauge sizes 22-16, 16-14, and 12-10. Terminals insulated with heat-shrink tubing. Packaged in a durable plastic storage case.

92N3607 Type 1686. **Each** **54.81**

48-PC. HEAT-SEALABLE TERMINAL KIT

Type 1691 all-weather, heat-sealable terminal kit contains 15 ring tongue terminals, 15 spade tongue terminals, 10 butt splices, and 8 1″ strips of tubing. Terminals solder and seal 22-24 AWG connections in a one-step operation.

92N3612 (5515) Type 1691. **Each** **31.00** (ne00241)

SCREW-ON WIRE CONNECTORS

Color-coded for easy size selection.Thermoplastic shell shields against environmental extremes. UL listed, CSA certified.

STANDARD

Makes quick secure connections for positive continuity. Deep skirt design prevents exposure of bare wire.

Stock No.	Type	Color	AWG Min.	AWG Max.	Pkg. of	Per Pkg. 1-9
92N4727	2534	Blue	3 #22	3 #16	100	5.75
92N4728	2535	Orange	3 #20	4 #16 w/1 #20	100	6.75
92N4729	2536	Yellow	1 #14w/1 #18	4 #14	100	7.65
92N4730	2537	Red	2 #14	1 #10 w/2 #12	100	11.65

WINGED

Easy on-and-off without tools. Removable for reuse. Expandable spring instantly adjusts to shape and size of splice. Superior flash over protection. Deep skirt design prevents exposure of bare wire.

92N4731	2538	Yellow	2 #18	3 #12	100	9.75
92N4732	2539	Red	2 #14	5 #12	100	12.75
92N4733	2540	Blue	1 #10 w/1 #12	1 #6 w/2 #8	100	18.62
92N4734	2541	Green	2 #14	4 #12	100	17.59

GROUNDING

Offset wings enable firm ground connections with a twist of a hand. Features hold in tip for ground wire. Flame retardant shell resists punctures, cuts, abrasion and corrosion.

92N4734	2541	Green	2 #14	4 #12	100	17.59

UNI-LOCK UNIVERSAL

Designed to accept many wire combinations. "Mini-wings" provide additional torque. Long skirt covers stripped wires.

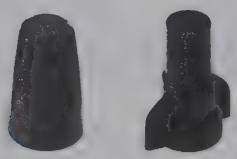
92N4735	2542	Yellow	4 #22	3 #12	100	12.41
92N4736	2543	Red	3 #20	5 #12	100	14.48

HEX-LOCK UNIVERSAL

Hex head allows automatic or manual installation. Multi-range Cu/Cu connector covers 95% of everyday applications.

92N4737	2544	Tan	3 #22	1 #8 w/1 #10 w/1 #12	100	13.45
92N4738	2545	Gray	3 #14	1 #6 w/1 #8	50	25.87

(17537) (ne10289)

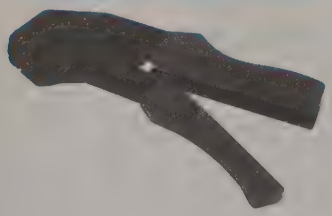


Standard Winged

Grounding Uni-Lock Hex-Lock

TERMINAL CRIMP TOOLS

INSULATED AND NONINSULATED TERMINAL CRIMP TOOLS



Ergonomic progressive pivoting design. High carbon steel construction. Accept interchangeable dies; *order separately below.* Reamed bearing holes. Pivots are centerless ground. Positive ratcheting assembly with emergency release. Meet or exceed UL tensile requirements. Molded finger and palm grips.

Type CTT-8420-01 crimp tool includes **type CTD-8420-02** die, which crimps conductor portion of insulated terminals. 3 crimp cavities: red 16-22 AWG, blue 14-16 AWG, yellow 10-12 AWG.

84N1440 Type CTT-8420-01. **Each** **107.64**
95N4327 Type CTD-8420-02. **Each** **37.68**

Type CTT-8440-01 crimp tool includes **type CTD-8440-02** die, which crimps conductor and strain relief portion of insulated terminals in 1 tool closure. 3 crimp cavities: red 16-22 AWG, blue 14-16 AWG, yellow 10-12 AWG.

84N1442 Type CTT-8440-01. **Each** **107.64**
95N4328 Type CTD-8440-02. **Each** **37.68**

Type CTT-8425-01 crimp tool includes **type CTD-8425-02** die, which crimps noninsulated terminals. 3 crimp cavities: red 16-22 AWG, blue 14-16 AWG, yellow 10-12 AWG.

84N1441 Type CTT-8425-01. **Each** **107.64**
95N4329 Type CTD-8425-02. **Each** **37.68**

Type CTT-8441-01 crimp tool includes **type CTD-8441-02** die, which crimps conductor and strain relief portion of insulated slide-on terminals in 1 tool closure. 2 crimp cavities: red 16-22 AWG, blue 14-16 AWG.

84N1443 Type CTT-8441-01. **Each** **107.64**
95N4330 Type CTD-8441-02. **Each** **37.68**

Type CTT-8318-01 crimp tool includes die which crimps conductor portion of insulated terminals. 3 crimp cavities: red 16-22 AWG, blue 14-16 AWG, yellow 10-12 AWG.

84N1439 Type CTT-8318-01. **Each** **107.64** (ne50816)
(5546)

CRIMP TOOLS FOR OPEN BARREL CONTACTS

Full-cycle ratcheting action for precise termination of open barrel contacts. Positioner holds contacts during crimp cycle for ease of operation. Cushion grips for comfort. Overall length: 9″.

Stock No.	Type	Pin Size	AWG	Each
92N3740	1745	0.062″	18-24	**124.19**
92N3741	1746	0.062″	24-30	**124.19**
92N3742	1747	0.093″	24-30	**124.19**

(17637) (ne10883)

MULTIPURPOSE CRIMP TOOL

NEW

VOLTREX brand

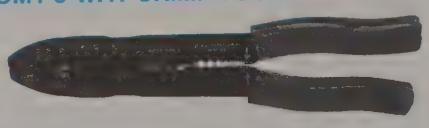
High-quality, compact crimping tool with cushioned vinyl handles. Features wire cutter, insulated and uninsulated terminal crimping stations, 5 position bolt cutter, funnel-shaped wire stripper and automotive 7 and 8mm ignition crimping station.

84N672 Type 3645. **Each** **22.99** (ne32388)
(32388)

ECONOMY 5-WAY CRIMP TOOL

NEW

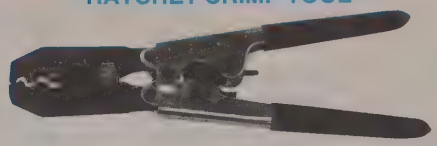
VOLTREX brand



Crimps both uninsulated and insulated terminals. Includes a wire and bolt cutter. Strips 22-10 AWG wire.

84N673 Type 3646. **Each** **7.99** (ne32204)
(32204)

RATCHET CRIMP TOOL



For crimping 22-10 AWG insulated and noninsulated terminals and connectors. Tool capability: crimps barrel and insulation grip independently on nylon or vinyl insulation, butted or brazed seam; standard or short barrel. Includes crimping dies: insulated 22-14 AWG (0.35-2.5mm^2) red and blue color-coded; insulated 12-10 AWG (4.0-6.0mm^2) yellow color-coded; noninsulated 22-14 AWG (0.35-2.5mm^2); and noninsulated 12-10 AWG (4.0-6.0mm^2). Positive closure: ratchet requires full closure of handles to complete proper crimp. Hardened steel jaws and handles with corrosion-resistant finish and black plastic grips.

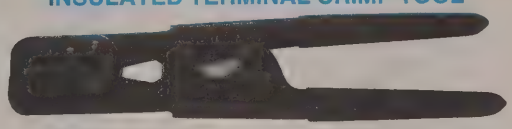
93N1848 Type 8403-004. **Each** **188.80** (ne50821)
(5551)

INSULATED TERMINAL CRIMP TOOL

Type CTR-100-IFD, 2-cavity, 4-jaw, full-cycle tool crimps red and blue insulated terminals and splices wire sizes 22-14 AWG in front cavity. Crimps yellow insulated terminals and splices wire sizes 12-10 AWG in rear cavity. Locator and wire stops orient terminals properly for consistent terminations. Conductor and insulation crimping jaws are 4150 thru-hardened steel, machined and gauged to industry specifications, with black oxide finish. Nests are identified by wire sizes and are color coded for fast identification. Ratchet makes a complete crimp cycle prior to release and is adjustable to compensate for wear after extended operation. Handles are 1051 thru-hardened steel, nickel plated, with black grips. Overall length: 9″.

81N5432 Type CTR-100-IFD. **Each** **134.55** (ne50817)
(5547)

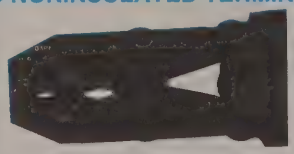
INSULATED TERMINAL CRIMP TOOL



Type CTR-100-IT, 3-cavity, 2-jaw, full-cycle tool crimps red insulated terminals and splices wire sizes 22-16 AWG in front cavity. Crimps blue insulated terminals and splices wire sizes 16-14 AWG in middle cavity. Crimps yellow insulated terminals and splices wire sizes 12-10 AWG in rear cavity. Jaws are 4150 thru-hardened steel, machined and gauged to industry specifications, with black oxide finish. Nests are identified by wire sizes and are color coded for fast, easy identification. Ratchet makes a complete crimp cycle prior to release and is adjustable to compensate for wear after extended operation. Handles are 1051 hardened steel, nickel plated, with black grips. Overall length: 9″.

81N5433 Type CTR-100-IT. **Each** **87.46** (ne50818)
(5548)

INSULATED AND NONINSULATED TERMINAL CRIMP TOOL



Crimps conductor portion of insulated and noninsulated terminals. 4 crimp cavities in sizes 8 AWG through 2 AWG. Cavities are identified by wire size and product type. High-carbon steel, heat treated for extended life.

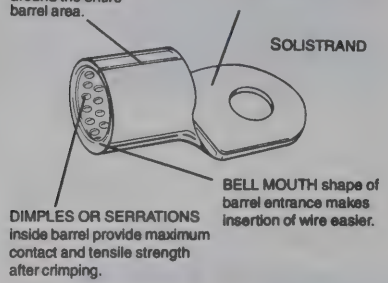
84N1444 Type CTT-8620-01. **Each** **174.92** (ne50820)
(5550)

NEWARK ELECTRONICS® IS AN ISO 9002 COMPANY.

SOLISTRAND® TERMINALS AND SPLICES

Terminals meet requirements of MIL-T-7928, Type 1, Class 1 and 2. Temperature rating: 170°C max. UL listed; CSA certified LR7189. *Order* **type 49935** *crimp tool seperately on page 1117.*

BASIC TERMINAL MATERIAL is tin-plated, high-conductivity copper. AMP's special plating process creates durable corrosion resistance to salt spray and most chemical fumes.


BRAZED SEAM for uniform metal strength around the entire barrel area.
SOLISTRAND
BELL MOUTH shape of barrel entrance makes insertion of wire easier.
DIMPLES OR SERRATIONS inside barrel provide maximum contact and tensile strength after crimping.

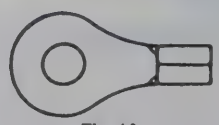


Fig. 1A

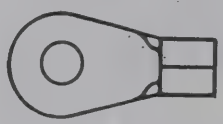


Fig. 1B

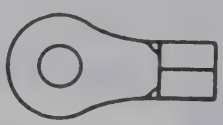


Fig. 1C

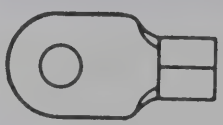


Fig. 1D

Fig. 2

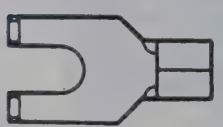


Fig. 3

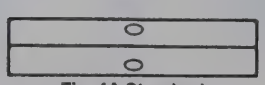


Fig. 4A Standard

Fig. 4B Strap

SOLISTRAND® RING TONGUE TERMINALS—FIG. 1

Type	AWG	Stud Size	Stock No.	Pkg.	1-2	3-4	5-9	Stock No.	Pkg.	1-2	3-4	5-9
34104*	22-16	4	96F7167	100	11.76	10.58	9.53	92F1348	1000	67.20	60.48	54.43
34105*		6	96F7554	100	11.45	10.30	9.27	92F1349	1000	42.70•	37.37•	33.02•
34108*		8	96F7460	100	11.45	10.30	9.27	92F1350	1000	65.10	58.59	52.73
34109*		10	96F7348	100	11.45	10.30	9.27	92F1351	1000	65.10	58.59	52.73
34113*		¼"	96F7205	100	13.13	11.81	10.63	92F1352	1000	75.60	68.04	61.24
34114*		5/16"	96F7350	100	13.55	12.19	10.97	92F1353	1000	78.75	70.88	63.79
34115*		3/8"	96F7168	100	13.97	12.57	11.31	92F1354	1000	80.85	72.77	65.49
329966*		½"	96F7208	100	27.77	22.17	19.03	92F1355	1000	205.70	195.42	185.64
34120*	16-14	6	96F7352	100	11.45	10.30	9.27	92F1356	1000	65.10	58.59	52.73
34122*		8	96F7354	100	11.45	10.30	9.27	92F1359	1000	65.10	58.59	52.73
34123*		10	96F7356	100	11.45	10.30	9.27	92F1360	1000	65.10	58.59	52.73
34124*		¼"	96F7780	100	13.13	11.81	10.63	92F1361	1000	75.60	68.04	61.24
34125*		5/16"	96F7160	100	13.55	12.19	10.97	92F1362	1000	78.75	70.88	63.79
34126*		3/8"	96F7204	100	16.08	12.98	11.06	92F1363	1000	96.60	86.94	78.25
35476*	12-10	6	92F1567	50	9.35	8.41	7.57	92F1364	500	58.28	52.45	47.20
32994*		8	87F5948	50	9.08	8.17	7.36	92F1365	500	56.70	51.03	45.93
33457*		10	96F7342	100	15.12	13.61	12.25	92F1366	500	33.18•	31.60•	27.65•
33458*		¼"	87F5952	50	10.34	9.31	8.38	92F1367	500	65.10	58.59	52.73
33459*		5/16"	87F5953	50	10.66	9.59	8.63	92F1368	500	67.20	60.48	54.43
33220*		3/8"	96F7147	50	10.66	9.59	8.63	92F1369	500	67.20	60.48	54.43
35247+	8	¼"	96F7786	50	23.28	18.80	16.01	92F1370	100	40.22	36.19	32.57
33462+		5/16"	96F7347	100	41.37	37.23	33.51	...	...	...	...	...
33463+		3/8"	87F5964	100	43.83	35.06	30.10	...	...	...	...	...
33465+	6	¼"	92F1371	100	18.47•	17.94•	15.47•	...	...	...	...	...
33466+		5/16"	96F7201	25	13.20	11.88	10.70	92F1532	100	25.41•	24.68•	21.20•
33467+		3/8"	96F7166	25	14.83	13.35	12.01	92F1372	100	45.15	40.64	36.57
33468+	4	10	92F5908	25	20.42	18.38	16.54	92F1373	100	62.58	56.32	50.69
33469+		¼"	96F7881	50	36.33	32.70	29.43	92F1374	100	35.18•	34.17•	29.30•
33470+		5/16"	96F7882	50	36.33	32.70	29.43	92F1375	100	35.17•	34.17•	29.30•
33471+		3/8"	96F7778	50	36.33	32.70	29.43	92F1376	100	62.58	56.32	50.69
330301†	2	10	50F3202	50	65.89	59.30	53.37	...	...	...	...	...
320383†		¼"	96F7803	25	31.74	28.56	25.71	...	...	...	...	...
322870†		5/16"	96F7304	25	31.74	28.56	25.71	50F3204	50	25.69•	24.95•	21.83•
321600†		3/8"	92F1377	50	55.07	49.57	44.61	...	...	...	...	...
320741†		7/16"	50F3205	50	55.07	49.57	44.61	...	...	...	...	...
320754†		5/8"	50F3206	50	180.79	171.75	163.16	...	...	...	...	...
36915‡	1/0	¼"	50F3207	50	83.53	75.17	67.66	...	...	...	...	...
321867‡		5/16"	96F7305	25	49.53	44.58	40.12	50F3208	50	86.21	77.58	69.83
36917‡		3/8"	96F7306	25	48.01	43.21	38.89	50F3209	50	41.86•	36.62•	32.36•
36919‡		½"	50F3210	50	86.21	77.58	69.83	...	...	...	...	...
36921‡	2/0	¼"	50F3221	50	110.55	105.02	99.77	...	...	...	...	...
36922‡		5/16"	50F3222	50	110.55	105.02	99.77	...	...	...	...	...
36923‡		3/8"	96F7308	25	60.59	54.53	49.07	50F3223	50	110.55	105.02	99.77
36925‡		½"	96F7309	25	60.59	54.53	49.07	92F1378	50	110.55	105.02	99.77
322391‡		½"	92F1379	50	130.24	123.73	117.54	...	...	...	...	...

*Fig. 1A; +Fig. 1B; †Fig. 1C; ‡Fig. 1D

SOLISTRAND® SPADE TONGUE TERMINALS—FIG. 2

53555-1	22-16	2	96F7985	100	17.43	15.69	14.12	92F1380	1000	102.90	92.61	83.35
321463		4	...	...	...	...	...	83F8374	1000	239.40	215.46	194.03
36195		6	96F7987	100	11.45	10.30	9.27	92F1381	1000	65.10	58.59	52.73
323127		6	96F7193	100	11.45	10.30	9.27	92F1382	1000	65.10	58.59	52.73
34117		8	96F7988	200	22.89	20.60	18.54	92F1383	1000	65.10	58.59	52.73
32296	16-14	6	99F4398	100	0.13	0.11	0.09	83F8375	1000	127.05	114.35	102.98
34128		8	...	...	...	...	...	83F8376	1000	168.00	151.20	136.16
322451	12-10	6	96F7989	50	12.39	11.15	10.04	92F1385	500	78.75	70.88	63.79
32995		8	96F7897	100	14.60	13.14	11.82	92F1386	500	56.70	51.03	45.93
35495		10	96F7471	50	13.39	12.05	10.84	92F1387	500	85.58	77.02	69.32

SOLISTRAND® FLANGED SPADE TONGUE TERMINALS—FIG. 3

324605	22-16	2	96F7659	100	22.45	18.13	15.44	92F1388	1000	72.45	65.21	58.68
320749		6	96F7660	100	12.50	11.25	10.12	92F1389	1000	71.40	64.26	57.83
323136		6	96F7661	100	22.45	18.13	15.44	92F1390	1000	71.40	64.26	57.83
323124		8	96F7662	100	22.00	17.85	15.28	...	...	...	...	...
320855	16-14	6	96F7526	100	12.50	11.25	10.12	92F1391	1000	71.40	64.26	57.83
320856		8	96F7664	100	12.50	11.25	10.12	92F1392	1000	71.40	64.26	57.83
320857		10	96F7527	100	13.02	10.03	8.62	...	...	...	...	...

SOLISTRAND® BUTT SPLICES—FIG. 4

Type	AWG	Style	Stock No.	Pkg.	1-2	3-4	5-9	Stock No.	Pkg.	1-2	3-4	5-9
321198	26-22	B	96F7161	100	16.07	14.46	13.01	92F1401	1000	94.50	85.05	76.55
324001	24-20	B	96F7194	100	16.70	15.03	13.52	92F1402	1000	97.65	87.89	79.10
31818	22-16	A	96F7333	100	16.07	14.46	13.01	92F1403	1000	94.50	85.05	76.55
31819	16-14	A	96F7517	100	16.07	14.46	13.01	92F1404	500	63.00	56.70	51.03
327025		B	50F3229	Each	0.26	0.21	0.17	92F1406	1000	162.80	154.66	146.93
32151	12-10	A	96F7529	50	12.97	11.67	10.50	92F1409	500	44.65•	39.07•	34.52•
34322	6	A	96F7522	50	36.80	33.12	29.81	92F1410	100	56.28	50.65	45.59
34323	4	A	96F7916	25	26.62	23.96	21.56	92F1412	100	81.90	73.71	66.34

•Price column quantities vary from above; *contact your local Newark sales office for details.*

(5563)

(de50777)

PIDG® TERMINALS AND SPLICES

Each terminal consists of a tin-plated copper or tin-plated phosphor bronze body for spring spades with copper and insulation sleeves fitted over the terminal barrel. PIDG® terminals meet MIL-T-7928, Type II, Class 1 and 2 requirements. UL listed, CSA certified for 105°C, 300V. *Order* **types 47100-1** *and* **58433-3** *crimp tools separately on page 1117.*

PIDG® RING TONGUE TERMINALS—FIG. 1

Type	AWG	Stud Size	Stock No.	Pkg. of	1-2	3-4	5-9	Stock No.	Pkg. of	1-2	3-4	5-9
323912		2	92F1569	100	21.63	19.47	17.52	97F9872	1000	135.30	128.54	122.11
323914		4	96F7157	100	22.26	20.03	18.03	97F9873	1000	139.70	132.72	126.08
323915	26-22	6	96F7511	100	21.63	19.47	17.52	97F9874	1000	135.30	128.54	122.11
323916		8	96F7164	100	25.83	23.25	20.92	97F9875	1000	163.90	155.71	147.92
324075		10	96F7513	100	25.62	23.06	20.75	97F9876	1000	162.80	154.66	146.93
328657		2	96F7198	100	21.63	19.47	17.52	97F9877	1000	135.30	128.54	122.11
31880		4	96F7177	100	19.08	15.48	13.26	97F9878	1000	139.70	132.72	126.08
36152		6	96F7787	100	21.63	19.47	17.52	97F9879	1000	135.30	128.54	122.11
31890		8	96F7286	100	22.26	20.03	18.03	97F9880	1000	73.53†	70.03†	61.58†
36154	22-16	10	96F7335	100	22.26	20.03	18.03	97F9881	1000	73.53†	70.03†	61.58†
31894		¼″	96F7149	100	21.73	17.63	15.10	97F9882	1000	163.90	155.71	147.92
31895		5⁄16″	96F7178	100	25.83	23.25	20.92	97F9883	1000	163.90	155.71	147.92
31897		⅜″	96F7179	100	26.57	23.91	21.52	97F9884	1000	168.30	159.89	151.89
328975		½″	92F1570	100	45.85	36.58	31.49	97F9885	1000	268.15	254.74	242.01
328996		4	96F7539	100	21.63	19.47	17.52	97F9886	1000	135.30	128.54	122.11
320619		6	96F7540	100	21.63	19.47	17.52	97F9887	1000	135.30	128.54	122.11
320565		8	96F7905	100	21.63	19.47	17.52	97F9815	1000	71.40†	68.00†	60.00†
36160	16-14	10	96F7326	100	21.63	19.47	17.52	97F9889	1000	71.40†	68.00†	60.00†
321045		¼″	96F7545	100	24.99	22.49	20.24	97F9890	1000	158.40	150.48	142.96
328998		5⁄16″	96F7165	100	24.99	22.49	20.24	97F9891	1000	158.40	150.48	142.96
328999		⅜″	96F7325	100	25.73	23.15	20.84	97F9892	1000	162.80	154.66	146.93
35149		6	96F7300	100	18.11	16.30	14.67	97F9893	500	102.90	92.61	83.35
35108		8	96F7301	100	26.46	23.81	21.43	97F9894	500	111.10	105.55	100.27
35109		10	96F7153	100	26.46	23.81	21.43	97F9895	500	44.50†	39.00†	34.50†
35110	12-10	¼"	96F7170	100	30.56	27.50	24.75	97F9896	500	129.25	122.79	116.65
35111		5⁄16"	96F7918	100	30.56	27.50	24.75	97F9897	500	129.25	122.79	116.65
35112		⅜"	96F7302	100	30.56	27.50	24.75	97F9898	500	129.25	122.79	116.65
35151		½"	96F7303	50	19.90	17.91	16.12	97F9899	500	134.75	128.01	121.61

†Price column quantities vary from above; *contact your local Newark sales office for details*

PIDG® SPADE TONGUE TERMINALS—FIG. 2

328394		2	96F7889	100	21.63	19.47	17.52	97F9902	1000	135.30	128.54	122.11
327717		4	96F7197	100	23.32	18.92	16.20	97F9903	1000	165.00	156.75	148.91
34541	22-16	6	96F7287	100	21.63	19.47	17.52	97F9904	1000	135.30	128.54	122.11
32053		8	96F7289	100	21.63	19.47	17.52	97F9914	1000	135.30	128.54	122.11
32054		10	96F7290	100	21.63	19.47	17.52	97F9906	1000	135.30	128.54	122.11
35559		6	96F7293	100	21.63	19.47	17.52	97F9907	1000	135.30	128.54	122.11
32059	16-14	8	96F7295	100	21.63	19.47	17.52	97F9908	1000	120.49	114.46	108.74
32060		10	96F7296	100	21.63	19.47	17.52	97F9909	1000	135.30	128.54	122.11
32589	12-10	10	96F7195	50	16.01	14.41	12.97	97F9911	500	102.90	92.61	83.35

PIDG® FLANGED SPADE TONGUE TERMINALS—FIG. 3

324608		2	96F7475	100	27.93	25.14	22.62	97F9912	1000	116.60	110.77	105.23
32562	22-16	6	96F7288	100	23.42	21.07	18.97	97F9913	1000	147.40	140.03	133.03
32498		8	96F7180	100	23.63	21.26	19.14	97F9905	1000	149.60	142.12	135.01
320861		6	96F7294	100	23.63	21.26	19.14	97F9915	1000	149.60	142.12	135.01
320862	16-14	8	96F7528	100	23.63	21.26	19.14	97F9916	1000	149.60	142.12	135.01
320863		10	96F7297	100	23.63	21.26	19.14	97F9917	1000	149.60	142.12	135.01
325150		6	96F7148	50	34.55	31.09	27.98	97F9918	500	141.05	134.00	127.30
32510	12-10	8	96F7181	50	17.54	15.78	14.20	97F9910	500	118.25	112.34	106.72
324015		10	96F7478	50	17.54	15.78	14.20	97F9919	500	118.25	112.34	106.72

PIDG® SHORT SPRING SPADE TONGUE TERMINALS—FIG. 4

52927		4	96F7567	100	24.89	22.40	20.16	97F9920	1000	157.30	149.44	141.96
52929	22-16	6	96F7319	100	24.57	22.11	19.90	97F9921	1000	155.10	147.35	139.98
52930		8	96F7731	100	24.57	22.11	19.90	97F9922	1000	155.10	147.35	139.98
52931		10	96F7569	100	35.07	31.56	28.41	97F9923	1000	161.20	153.14	145.48
52935		6	96F7571	100	24.57	22.11	19.90	97F9924	1000	166.97	158.62	150.69
52936	16-14	8	96F7158	100	24.57	22.11	19.90	97F9925	1000	155.10	147.35	139.98
52937		10	96F7572	100	24.57	22.11	19.90	97F9926	1000	155.10	147.35	139.98
52941		6	96F7150	50	14.49	13.04	11.74	97F9927	500	122.10	116.00	110.20
52942	12-10	8	96F7558	100	28.98	26.08	23.47	97F9928	500	122.10	116.00	110.20
52943		10	96F7559	100	26.57	21.32	18.35	97F9929	500	122.10	116.00	110.20

PIDG® KNIFE DISCONNECT SPLICES—FIG. 5

32446	22-16	...	96F7292	100	42.00	37.80	34.02	92F1304	1000	195.30	185.54	176.26
32448	16-14	...	96F7299	100	42.00	37.80	34.02	97F9943	1000	195.30	185.54	176.26
35762	12-10	...	...	...	...	...	...	83F8369	500	401.63	361.47	325.51

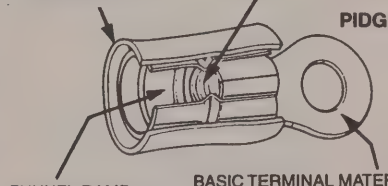
PIDG® BUTT SPLICES—FIG. 6

Stock No.	Type	AWG	Wire Diameter	Length	Pkg. of	1-2	3-4	5-9
96F7413	323994	26-22	0.082″	0.890″	50	21.73	17.63	15.10
96F7291	320559	22-16	0.125″	1.265″	50	30.52	24.49	21.08
96F7298	320562	16-14	0.150″	1.265″	50	32.18	28.96	26.07
96F7176	320570	12-10	0.220″	1.656″	50	72.92	65.63	59.07

CONTINUED

COLOR-CODED NYLON INSULATION SLEEVE provides dielectric strength. Color-coded by wire range to prevent installation errors.

SERRATIONS inside barrel provide maximum contact and tensile strength after crimping.



FUNNEL RAMP ENTRY assures rapid wire insertion during high speed production and prevents turned back strands.

BASIC TERMINAL MATERIAL is tin-plated, high-conductivity copper, except Spring Spade versions which are tin-plated phosphor bronze. AMP's special plating process creates durable corrosion resistance to salt spray and most chemical fumes.

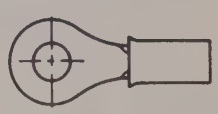


Fig. 1

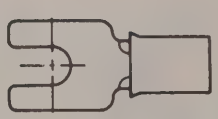


Fig. 2

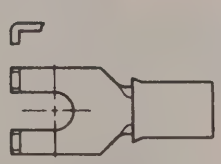


Fig. 3

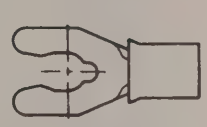


Fig. 4

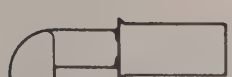


Fig. 5

Fig. 6

PIDG® TERMINALS AND SPLICES (CONT.)

PIDG® FASTON® RECEPTACLES–FIG. 7

All have dimple with wire stop, except (*): no dimple with wire stop.

Type	Fit Tab Width	AWG	Stock No.	Pkg. of	1-2	3-4	5-9	Stock No.	Pkg. of	1-2	3-4	5-9
640903-1	0.250″	22-18	96F7797	100	26.36	23.72	21.35	97F9933	1000	167.20	158.84	150.90
640905-1		16-14	96F7734	100	26.46	23.81	21.43	97F9934	1000	167.20	158.84	150.90
42844-1		14-12	96F7462	100	34.44	31.00	27.90	97F9935	1000	145.75	138.46	131.54
640909-1	0.205″	22-18	96F7464	100	26.36	23.72	21.35	92F1303	1000	167.20	158.84	150.90
640911-1		22-18	96F7465	100	26.36	23.72	21.35	97F9936	1000	167.20	158.84	150.90
640913-1		16-14	96F7466	100	23.59	19.14	16.39	97F9937	1000	167.20	158.84	150.90
640915-1		16-14	96F7467	100	26.36	23.72	21.35	97F9938	1000	167.20	158.84	150.90
640917-1	0.187″	22-18	96F7206	100	26.36	23.72	21.35	97F9939	1000	167.20	158.84	150.90
640919-1		16-14	96F7735	100	26.36	23.72	21.35	97F9940	1000	167.20	158.84	150.90
61048-1	0.110″	22-18	96F7469	100	28.46	25.61	23.05	97F9941	1000	175.56	147.00	...
61060-1*		22-18	96F7470	100	28.46	25.61	23.05	97F9942	1000	180.40	171.38	162.81
60894-1		22-18	96F7408	100	28.46	25.61	23.05	97F9944	1000	180.40	171.38	162.81
640923-1*		22-18	96F7409	100	26.46	23.81	21.43	97F9945	1000	167.20	158.84	150.90
640925-1*		22-18	96F7410	100	26.36	23.72	21.35	97F9946	1000	167.20	158.84	150.90
640929-1		16-14	96F7411	100	26.46	23.81	21.43	97F9947	1000	167.20	158.84	150.90

(5544) (ne50782)

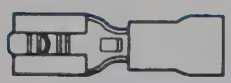


Fig. 7 (.187, .205, .250)

Fig. 7 (.110)

500-PC. PIDG® TERMINAL KIT

Kit contains insulated PIDG® ring and spade terminals, butt splices, and FASTON® receptacles in wire sizes 22-10 AWG. Available with or without SUPER CHAMP® IV crimp tool. Packaged in heavy-duty, metal storage case.

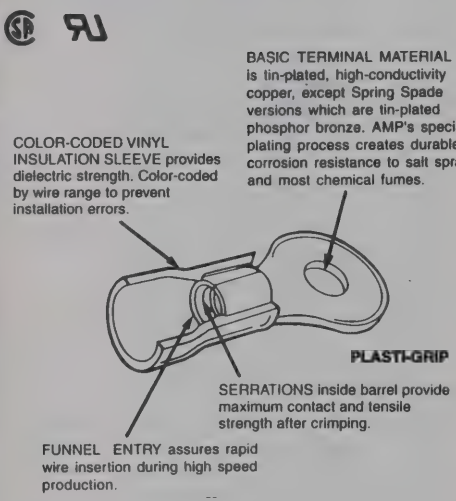
Stock No.	Type	Description	1-2	3-4
87F4077	608028-1	Kit with Crimp Tool	126.51	105.64
87F4078	608028-2	Kit without Crimp Tool	91.62	86.47

(5545) (ne50783)

608028-1

PLASTI-GRIP® TERMINALS AND SPLICES

Designed for economical insulated electrical terminations in most commercial and many industrial applications. Feature broad range of wire sizes, built-in pre-insulation, ease and speed of application, uniform reliability. When crimped, the wire and terminal barrel form a homogeneous mass of metal, providing a connection of maximum conductivity, tensile strength, and high resistance to corrosion. UL recognized to 600V; CSA certified, LR7 189 to 600V, 90°C maximum. NOTE: 22-16 terminals and splices are stamped 22-18 in accordance with MIL-T-7928. *Order crimp tools separately on page 1117.*


BASIC TERMINAL MATERIAL is tin-plated, high-conductivity copper, except Spring Spade versions which are tin-plated phosphor bronze. AMP's special plating process creates durable corrosion resistance to salt spray and most chemical fumes.
COLOR-CODED VINYL INSULATION SLEEVE provides dielectric strength. Color-coded by wire range to prevent installation errors.
PLASTI-GRIP
SERRATIONS inside barrel provide maximum contact and tensile strength after crimping.
FUNNEL ENTRY assures rapid wire insertion during high speed production.

PLASTI-GRIP® RING TONGUE TERMINALS — FIG. 1

Type	AWG	Stud Size	Stock No.	Pkg. of	1-2	3-4	Stock No.	Pkg. of	1-2	3-4
34140	22-16	2	96F7448	100	16.91	15.21	97F9860	1000	99.75	89.78
34141		4	96F7450	100	16.91	15.21	97F9861	1000	99.75	89.78
34142		6	96F7182	100	16.91	15.21	97F9862	1000	99.75	89.78
34144		6	96F7159	100	16.91	15.21	97F9863	1000	99.75	89.78
34145		8	96F7183	100	16.91	15.21	97F9864	1000	51.44*	48.99*
34148		8	96F7454	100	16.91	15.21	97F9865	1000	99.75	89.78
34146		10	96F7184	100	16.91	15.21	97F9866	1000	99.75	89.78
32952		10	96F7456	100	16.91	15.21	97F9867	1000	99.75	89.78
34149		10	96F7782	100	16.91	15.21	97F9868	1000	99.75	89.78
34150		¼	96F7277	100	19.53	17.58	97F9797	1000	122.10	116.00
34151		5/16	96F7459	100	19.53	17.58	97F9798	1000	122.10	116.00
34152		⅜	96F7783	100	18.29	14.84	97F9799	1000	125.40	119.13
34157	16-14	4	96F7784	100	21.95	19.75	97F9800	1000	137.50	130.63
34158		6	96F7785	100	16.91	15.21	97F9801	1000	99.75	89.78
34159		6	96F7910	100	16.91	15.21	97F9802	1000	125.76	100.32
34160		8	96F7152	100	16.91	15.21	97F9803	1000	51.44*	48.99*
34161		10	96F7911	100	16.91	15.21	97F9804	1000	99.75	89.78
32960		10	96F7669	100	16.91	15.21	97F9805	1000	99.75	89.78
34162		¼	96F7281	100	19.53	17.58	97F9806	1000	122.10	116.00
34163		5/16	96F7671	100	17.76	14.41	97F9807	1000	122.10	116.00
34164		⅜	46F8494	Each	0.18	0.15	...	...	...	...
34853	12-10	8	96F7798	100	20.48	18.43	97F9808	500	80.85	72.77
34854		10	96F7917	100	20.48	18.43	97F9809	500	80.85	72.77
34170		10	96F7912	50	12.71	11.43	97F9810	500	80.85	72.77
34855		¼	96F7927	50	14.49	13.04	97F9811	500	92.93	83.63
34856		5/16	96F7202	50	12.31	9.49	97F9812	500	93.98	84.58
34173		⅜	96F7913	50	14.49	13.04	97F9813	500	92.93	83.63
34837		½	96F7552	50	21.42	19.28	97F9814	500	78.40	74.48

*Price column quantities vary from above; *contact your local Newark sales office for details*

Fig. 1

PLASTI-GRIP® SPADE TONGUE TERMINALS — FIG. 2

320665	22-16	6	96F7525	100	16.91	15.21	52F3042	1000	99.75	89.78
34155		8	96F7203	100	16.91	15.21	97F9816	1000	99.75	89.78
34156		10	96F7278	100	16.91	15.21	97F9817	1000	99.75	89.78
322994	16-14	6	96F7282	100	16.91	15.21	97F9818	1000	99.75	89.78
34166		8	96F7283	100	16.91	15.21	97F9819	1000	99.75	89.78
34167		10	96F7777	100	15.64	12.69	97F9820	1000	99.75	89.78
35152	12-10	8	96F7983	50	16.01	14.41	97F9821	500	102.90	92.61
34176		10	96F7799	100	20.48	18.43	97F9822	500	80.85	72.77

Fig. 2

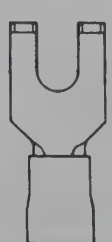


Fig. 3

PLASTI-GRIP® FLANGED SPADE TONGUE TERMINALS — FIG. 3

322249	22-16	6	96F7279	100	18.48	16.63	97F9823	1000	114.40	108.68
324169		8	96F7479	100	18.48	16.63	97F9824	1000	114.40	108.68
328516		10	96F7656	100	29.86	23.96	97F9825	1000	165.85	157.56
324165	16-14	6	96F7284	100	18.48	16.63	97F9826	1000	114.40	108.68
324581	12-10	6	96F7657	50	17.49	14.19	97F9827	500	157.30	149.44
324172		8	96F7658	50	11.87	10.68	97F9828	500	75.60	68.04

CONTINUED

PLASTI-GRIP® TERMINALS AND SPLICES (CONT.)

PLASTI-GRIP® SHORT SPRING SPADE TONGUE TERMINALS — FIG. 4

Type	AWG	Stud Size	Stock No.	Pkg. of	1-2	3-4	Stock No.	Pkg. of	1-2	3-4
52949	22-16	6	96F7900	100	19.85	17.86	97F9830	1000	124.30	118.09
52950		8	96F7563	100	23.73	21.36	97F9831	1000	149.60	142.12
52951		10	96F7564	100	28.46	25.61	97F9832	1000	181.50	172.43
52955	16-14	6	96F7901	100	18.02	14.62	97F9833	1000	124.30	118.09
52956		8	96F7732	100	20.67	16.77	97F9834	1000	144.10	136.90
52957		10	96F7172	100	19.85	17.86	97F9835	1000	124.30	118.09
52961	12-10	6	96F7676	50	31.19	28.07	97F9836	500	131.45	124.88
52962		8	96F7316	100	32.76	29.48	97F9837	500	123.30	103.24

Fig. 4

Fig. 5

PLASTIC-GRIP® BUTT SPLICES — FIG. 5

Type	AWG	Stock No.	Pkg. of	1-2	3-4	5-9	Stock No.	Pkg. of	1-2	3-4	5-9
321026	26-22+	96F7530	100	18.90	17.01	15.31	97F9844	1000	117.70	111.82	106.22
34067	26-16‡	96F7482	100	20.06	18.05	16.24	97F9845	1000	125.40	119.13	113.17
34070	26-16‡	96F7280	100	20.06	18.05	16.24	97F9846	1000	125.40	119.13	113.17
34071	16-14	96F7285	100	20.06	18.05	16.24	97F9847	1000	61.95*	59.00*	52.00*
34204**	16-14	96F7486	100	20.06	18.05	16.24	97F9848	1000	125.40	119.13	113.17
34072	12-10	96F7779	100	29.82	26.84	24.15	97F9849	500	49.00*	43.00*	38.00*

**Oval expansion; +26-24/‡ 22-18 range in accordance with MIL-T-7928

*Price column quantities vary from above; *contact your local Newark sales office for details*

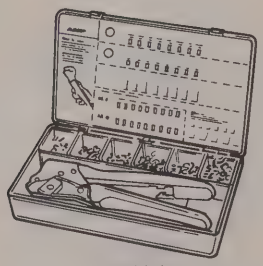
(5540) (ne50774)

TERMINAL KITS

Type 608029-1 500-piece PLASTI-GRIP® terminal kit contains **type 47100-1** SUPER CHAMP® crimp tool, 225 rings, 200 spades, and 75 butt splices in wire sizes 22-10 AWG. Packaged in heavy-duty metal box. **Type 55823-1** 225-piece PLASTI-GRIP® and PIDG® terminal kit contains PRO-CRIMPER™ II hand tool and 225 ring and spade terminals in wire sizes 12-10, 16-14, and 22-16 AWG. Packaged in sturdy storage box.

Stock No.	Type	Description	1-4	5-9
87F4079	608029-1	PLASTI-GRIP® Kit with SUPER CHAMP® Crimp Tool	111.87	93.42
92F1358	55823-1	PLASTI-GRIP® and PIDG® Kit with PRO-CRIMPER™ II Hand Tool	89.25	80.33

(5542) (ne50776)



55823-1

PRE-INSULATED SEALED TERMINALS AND SPLICES

Moistureproof seal prevents corrosion. Color-coded polyolefin heat-shrinkable sleeves provide heavy-duty insulation and wire support. Tin-plated copper body. UL listed. *Order* **type 55893-1** *crimp tool separately on page 1117.*

RING TONGUE TERMINALS–FIG. 1

Stock No.	Type	AWG	Stud Size	Max. Wire Insul.	Pkg. of	1-2	3-4	5-9	10-24
92F1047	8-55846-2	22-18	6	0.170″	50	27.83	25.04	22.54	20.28
92F1046	8-55847-2		8		50	25.73	23.15	20.84	18.75
92F1048	8-55848-2		10		50	27.83	25.04	22.54	20.28
92F1049	8-55849-2		¼″		50	27.83	25.04	22.54	20.28
92F1050	8-55850-2	16-14	6	0.190″	50	27.83	25.04	22.54	20.28
92F1051	8-55851-2		8		50	46.89	37.51	32.20	28.97
92F1052	8-55852-2		10		50	27.83	25.04	22.54	20.28
92F1027	8-55853-2		¼″		50	27.83	25.04	22.54	20.28
92F1028	8-55854-2		5/16″		50	46.89	37.51	32.20	28.97
92F1029	8-55855-2		⅜″		50	27.83	25.04	22.54	20.28
92F1030	8-55856-3	12-10	8	0.240″	25	16.80	15.12	13.61	12.25
92F1031	8-55857-3		10		25	16.28	14.65	13.18	11.86
92F1032	8-55858-3		¼″		25	28.14	22.51	19.32	17.38
92F1033	8-55859-3		5/16″		25	16.28	14.65	13.18	11.86
92F1034	8-55860-3		⅜″		25	25.20	22.68	20.41	18.37
92F1035	8-55861-3		½″		25	19.43	17.48	15.73	14.16

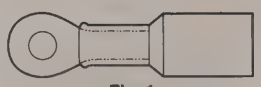


Fig. 1

SPADE TONGUE TERMINALS–FIG. 2

Stock No.	Type	AWG	Stud Size	Max. Wire Insul.	Pkg. of	1-2	3-4	5-9	10-24
92F1036	8-55866-2	22-18	6	0.170″	50	50.46	40.36	34.65	31.18
92F1037	8-55867-2	22-18	8	0.170″	50	50.46	40.36	34.65	31.18
92F1038	8-55868-2	22-18	10	0.170″	50	50.46	40.36	34.65	31.18
92F1039	8-55869-2	16-14	6	0.190″	50	46.89	37.51	32.20	28.97
92F1040	8-55870-2	16-14	8	0.190″	50	50.46	40.36	34.65	31.18
92F1041	8-55871-2	16-14	10	0.190″	50	50.46	40.36	34.65	31.18
92F1042	8-55872-3	12-10	8	0.240″	25	30.28	24.22	20.79	18.70
92F1043	8-55873-3	12-10	10	0.240″	25	16.28	14.65	13.18	11.86

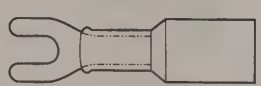


Fig. 2

BUTT SPLICES–FIG. 3

Stock No.	Type	AWG	Max. Wire Insul.	Pkg. of	1-2	3-4	5-9	10-24
92F1053	8-55824-2	22-18	0.170″	50	27.83	25.04	22.54	20.28
92F1054	8-55825-2	16-14	0.190″	50	38.00	33.25	28.50	26.60
92F1055	8-55826-3	12-10	0.240″	25	17.33	15.59	14.03	12.63

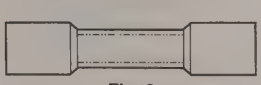
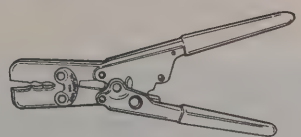


Fig. 3

HAND TOOLS FOR TERMINALS AND SPLICES

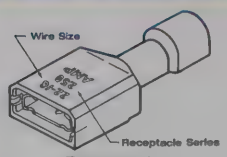
Stock No.	Type	Description	1-2	3-4
92F1045	55892-1	Seal 'N Splice Kit	131.49	110.10
92F1056	55893-1	Crimp Tool (22-8 AWG)	98.03	78.42

(5467) (de03625)

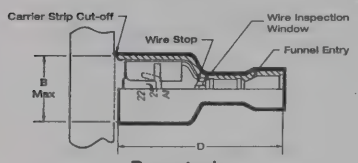


Crimp Tool

NEW



Receptacle



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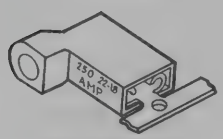
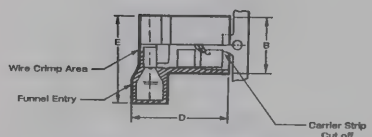


Flag Receptacle



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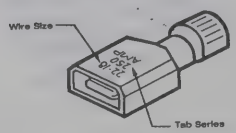
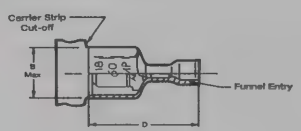


Tab



Tab

ULTRA-FAST FASTON® RECEPTACLES AND TABS

Completely protected terminal and wire crimp with comparable electromechanical performance to open barrel "F" crimp Faston® terminals. Receptacles, flag receptacles and tabs are preinsulated assemblies featuring housing molded from type 6/6 nylon material with a +125°C UL temperature rating. The Faston® receptacles and tabs are recessed sufficiently within the housing to allow its use in 600V applications. Assemblies are color-coded by wire size: Violet–26-22 AWG, Red–22-18 AWG, Blue–16-14 AWG, and Yellow–12-10 AWG. Terminal base material is brass, except for type nos. with (†) which denotes a phosphor bronze terminal base.

ULTRA-FAST FASTON® RECEPTACLES

Stock No.	Type	AWG	Mating Tab	Ins. Dia. Max.	Dimensions B	Dimensions D	Each
90F3874	7-520366-2	26-22	0.020 x 0.110 or 0.125″	0.100″	0.275″	0.735″	0.20
90F3875	2-520081-2	22-18	0.016 x 0.110 or 0.125″	0.120″	0.275″	0.735″	0.20
90F3876	2-520084-2	22-18	0.020 x 0.110 or 0.125″	0.120″	0.275″	0.735″	0.08*
90F3877	2-520273-2	22-18	0.032 x 0.110 or 0.125″	0.120″	0.275″	0.735″	0.20
90F3878	2-520182-2	22-18	0.020 x 0.187″	0.135″	0.336″	0.855″	0.07*
90F3879	2-520194-2	22-18	0.032 x 0.187″	0.135″	0.336″	0.855″	0.19
90F3729	2-520275-2	22-18	0.032 x 0.187″	0.230″	0.336″	0.935″	0.21
93F5817	3-350816-2	16-14	0.020 x 0.187″	0.160″	0.336″	0.855″	0.15
90F3731	3-520125-2	16-14	0.032 x 0.187″	0.160″	0.336″	0.855″	0.19
90F3732	3-520151-2	16-14	0.020 x 0.187″	0.260″	0.336″	0.935″	0.21
90F3733	2-520184-2	22-18	0.320 x 0.250″	0.135″	0.409″	0.855″	0.08*
90F3734	2-520184-4†	22-18	0.320 x 0.250″	0.135″	0.409″	0.855″	0.24
90F3735	2-520264-2	22-18	0.320 x 0.250″	0.230″	0.409″	0.935″	0.23
90F3736	3-350820-2	16-14	0.320 x 0.250″	0.160″	0.409″	0.855″	0.21
90F3737	3-520117-2†	16-14	0.320 x 0.250″	0.160″	0.409″	0.855″	0.24
90F3720	3-520141-2	16-14	0.320 x 0.250″	0.260″	0.409″	0.935″	0.09*
90F3721	4-520448-2	12-10	0.320 x 0.250″	0.320″	0.409″	0.935″	0.26

ULTRA-FAST FASTON® FLAG RECEPTACLES

Stock No.	Type	AWG	Mating Tab	Ins. Dia. Max.	Dimensions B	Dimensions D	Dimensions E	Each
90F3727	2-520335-2	22-18	0.020 x 0.187″	0.165″	0.320″	0.636″	0.515″	0.33
90F3711	2-520337-2	22-18	0.032 x 0.187″	0.165″	0.320″	0.636″	0.515″	0.33
90F3713	3-520339-2	16-14	0.020 x 0.187″	0.185″	0.320″	0.632″	0.515″	0.33
90F3716	2-520129-2	22-18	0.032 x 0.250″	0.165″	0.385″	0.363″	0.580″	0.14*
90F3718	3-520133-2	16-14	0.032 x 0.250″	0.185″	0.385″	0.632″	0.580″	0.14*

ULTRA-FAST FASTON® TABS

Stock No.	Type	AWG	Mating Tab	Ins. Dia. Max.	Dimensions B	Dimensions D	Each
90F3723	2-520103-2	22-18	0.032 x 0.250″	0.135″	0.522″	0.855″	0.14*
90F3725	3-520107-2	16-14	0.032 x 0.250″	0.160″	0.522″	0.855″	0.14*

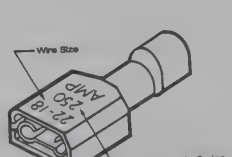
HAND TOOLS FOR FASTON® RECEPTACLES AND TABS

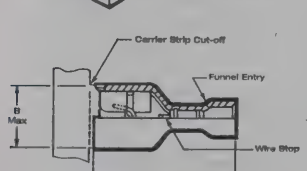
Stock No.	Type	Description	Each
98F6223	58078-3	TETRA-CRIMP® Hand Tool Frame	377.71
93F5818	58052-3	Die Set for 0.110″ 26-22 AWG	371.85
98F5763	90390-3	Die Set for 0.110″ 22-18 AWG	330.26
50F539	90391-3	Die Set for 0.110″ 16-14 AWG	218.90

*Price column quantities vary from above; *contact your local Newark sales office for details*

(33076) (ne33076)

NEW





ULTRA-FAST PLUS FASTON® RECEPTACLES

Offer all the advantages and conveniences of the standard ultra-fast product plus an insulation crimp. Assemblies are color-coded by wire size: Red–22-19 AWG and Blue–16-14 AWG. Tin-plated, copper alloy terminal with brass terminal base. **Sold in packages of 100.**

Stock No.	Type	AWG	Mating Tab	Dimensions B	Dimensions D	Per Pkg.
90F3719	2-520409-2	22-18	0.020 x 0.187″	0.336″	0.855″	0.21
90F3749	2-520411-2	22-18	0.032 x 0.187″	0.336″	0.855″	142.19
90F7568	3-520410-2	16-14	0.020 x 0.187″	0.336″	0.855″	0.21
52F2917	3-520412-2	16-14	0.032 x 0.187″	0.336″	0.855″	103.95
90F3752	2-520407-2	22-18	0.032 x 0.250″	0.409″	0.855″	0.24
90F3754	3-520408-2	16-14	0.032 x 0.250″	0.409″	0.855″	0.24

HAND TOOLS FOR ULTRA-FAST PLUS FASTON® RECEPTACLES

Stock No.	Type	Description	Each
98F6223	58078-3	TETRA-CRIMP® Hand Tool Frame	377.71
66F1496	58079-3	Die Set for 22-18 AWG	388.28
66F1490	58080-3	Die Set for 16-14 AWG	454.93

(33075) (ne33075)

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ONE CALL IS ALL IT TAKES TO GET
FAST, EFFICIENT DELIVERY.

SPLICES AND HAND TOOLS

CLOSED END SPLICES

For single and multiple wire applications. Available vinyl or nylon insulated. Crescent crimp configuration. Vinyl BOMB-TAIL® closed end splices marked with VS are rated 300V, 90°C. Vinyl BOMB-TAIL® closed end splices marked with ECV rated 600V maximum building wiring, 1000V maximum fixture and signs, 105°C UL/90°C CSA. Plastic-molded closed end splices marked ENC rated 300V, 105°C. Plastic-molded closed end splices marked with EC rated 600V maximum building wiring, 1000V maximum fixtures and signs, 105°C. UL listed, CSA certified.

VINYL BOMB-TAIL® SPLICES–VS, ECV

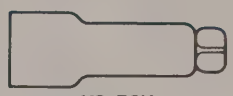
Type	AWG	Insul. Color	Splice Mark.	Stock No.	Pkg. of	1-2	3-4	5-9	Stock No.	Pkg. of	1-2	3-4	5-9
34304	22-16	Red	VS	96F7492	100	22.58	20.32	18.29	97F9850	1000	93.45	84.11	75.69
36964	22-16	Purple	VS	96F7493	100	11.76	10.58	9.53	97F9851	1000	64.05	57.65	51.88
34306	22-16	Blue	VS	96F7914	100	22.17	19.95	17.95	97F9853	1000	133.10	126.45	120.12
330021	22-16	Clear	ECV	50F3318	1	0.10	0.08	0.07	97F9854	1000	57.75	51.98	46.78
36965	22-10	Purple	VS	96F7508	100	12.92	11.62	10.46	97F9857	500	47.78	43.00	38.70
321519	22-10	Purple	ECV	96F7509	100	12.92	11.62	10.46	97F9858	1000	70.35	63.32	56.98
34308	22-10	Yellow	VS	96F7495	50	14.07	12.66	11.40	97F9869	500	86.10	77.49	69.74
34865	22-10	Yellow	VS	96F7496	50	14.07	12.66	11.40	97F9870	500	86.10	77.49	69.74
320788	18-8	Green	ECV	96F7494	50	21.74	19.56	17.61	97F9871	250	84.00	75.60	68.04

NYLON-MOLDED SPLICES–ECN, EC

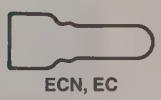
35115	22-16	Clear	ECN	96F7145	100	13.86	11.19	9.53	97F9852	1000	79.80	71.82	64.64
35653	22-10	Clear	ECN	96F7507	100	15.44	13.89	12.50	97F9856	500	27.69*	26.88*	23.52*
53915-1	22-10	Clear	EC	50F3319	1	0.14	0.11	0.09	97F9859	1000	115.02	92.01	64.62

*Price column quantities vary from above; *contact your local Newark sales office for details*

(5541) (ne50775)



VS, ECV



ECN, EC

HAND TOOLS FOR TERMINALS AND SPLICES

Type 47100-1 SUPER CHAMP® hand tool crimps PIDG® and PLASTI-GRIP® insulated terminals and splices 22-16, 16-14, 12-10 AWG, cuts and strips wire, and cuts bolts and machine screws 4-40, 6-32, 8-32, 10-32, and 10-24. Features stud size and strip length gauges for easy measuring. Constructed of tough high-carbon steel with cushioned handles for comfort.

Type 604252-1 SUPER CHAMP® IV hand tool crimps PIDG® and PLASTI-GRIP® insulated and uninsulated terminals and splices 22-16, 16-14, 12-10 AWG and 7mm ignition terminals. Offers all the same features as **type 47100-1** SUPER CHAMP® hand tool, *order separately above*, plus a unique, confined trapezoidal crimp.

Type 314966-1 wire stripper tool is designed to strip, cut, and bend solid or stranded wire sizes 22-10 AWG. Features wire size adjustment screw and safety lock.

Type 90287-1 AMP® Service Tool I crimps open- and closed-end barrel uninsulated terminals 22-10 AWG, FASTON® terminals (F crimp) 22-18 AWG, and PIDG® and PLASTI-GRIP® insulated terminals and splices 26-22, 22-16, 16-14, and 12-10 AWG. Features separate open and closed crimp notches, bolt cutter, and cushioned handles for comfort.

Type 90330-1 AMP® Service Tool II crimps open- and closed-end barrel uninsulated terminals 22-10 AWG, FASTON® terminals (F crimp) 22-18 AWG, and PIDG® and PLASTI-GRIP® insulated terminals and splices 26-22, 22-16, 16-14, and 12-10 AWG. Offers the same features as **type 90287-1** AMP® Service Tool I, *order separately above*, plus special crimping notch for Tab-Lok FASTON® terminals.

Type 58433-3 PRO-CRIMPER™ II hand tool frame, complete with **type 58423-1** interchangeable die set assembly, crimps PIDG® and PLASTI-GRIP® insulated terminals and splices 22-16, 16-14, and 12-10 AWG. Features angled head for comfortable hand and wrist position. Ratchet control provides complete crimping cycle plus emergency ratchet release and extra strong pivot pins for greater durability. Constructed of rugged high-carbon steel with cushioned handles for comfort. Various interchangeable die sets fit into tool frame, including replacement die set **type 58423-1**, *ordered separately below; contact your local Newark sales office for details.*

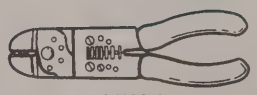
Type 55893-1 hand tool crimps pre-insulated sealed terminals and splices 22-18, 16-14, 12-10 AWG.

Type 49935 CERTI-CRIMP® hand tool with ratchet control provides a complete crimping cycle. Crimps SOLISTRAND® terminals and splices 22-16, 16-14, and 12-10 AWG. Features insulation crimp adjustment, a locator for proper terminal positioning and support, a wire stop, and color coding and/or wire information on the tool head or handles. Designed to exacting dimensions, requires minimum skill to operate, and is repairable. Suited for military, UL and CSA applications.

Type 59824-1 TETRA-CRIMP® hand tool crimps PIDG® and PLASTI-GRIP® insulated terminals and splices 26-22, 22-16, 16-14, and 12-10 AWG. Dies travel in arc-like path. Features multiple color-coded crimping cavities, terminal locator and wire stop, and ratchet control release.

Stock No.	Type	Description	AWG	1-2	3-4
92F5373	47100-1	SUPER CHAMP® Hand Tool	22-10	16.59	14.93
44F7960	604252-1	SUPER CHAMP® IV Hand Tool	22-10	19.90	17.91
92F1568	314966-1	Wire Stripper Tool	22-10	15.37	13.83
92F9096	90287-1	AMP® Service Tool I	22-10	27.83	25.04
98F7365	90330-1	AMP® Service Tool II	22-10	57.49	37.94
97F9552	58433-3	PRO-CRIMPER™ II Hand Tool Frame with Die Set	22-10	79.26	74.40
66F3273	58423-1	PRO-CRIMPER™ Die Set for Insulated Terminals and Splices	22-10	46.68	39.32
92F1056	55893-1	Crimp Tool	22-8	98.03	78.42
50F548	49935	CERTI-CRIMP® Hand Tool	22-10	155.98	148.18
83F8370	58524-1	PRO-CRIMPER™ II Hand Tool with Die Set for FASTON® 250 Series	18-14	136.35	126.25
83F8371	58524-2	Die Set for PRO-CRIMPER™ II for FASTON® 250 Series	18-14	93.15	86.25
83F8372	58525-1	PRO-CRIMPER™ II Hand Tool with Die Set for FASTON® 250 Series	14-10	136.35	126.25
83F8373	58525-2	Die Set for PRO-CRIMPER™ II for FASTON® 250 Series	14-10	93.15	86.25
82F9908	59824-1	TETRA-CRIMP® Hand Tool	26-10	416.95	396.10

(5543) (ne50778)



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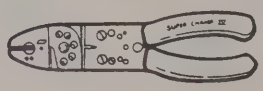

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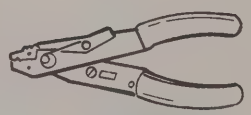

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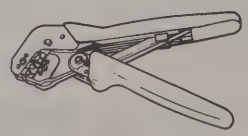

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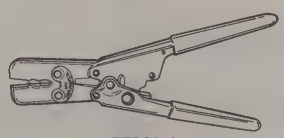

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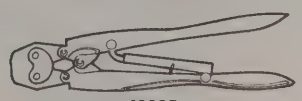

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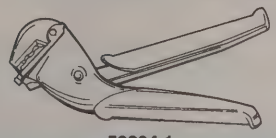
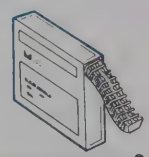


59824-1

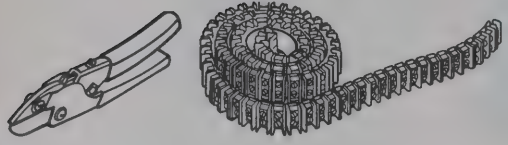
CAN'T LOCATE A PARTICULAR AMP® PART?
MORE AMP® TERMINALS, SPLICES AND APPLICATION TOOLS ARE AVAILABLE—
CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR DETAILS.

(10726) (ne85138)

FLEXI-BLOCK® CUT-AWAY TERMINAL BLOCK SYSTEM



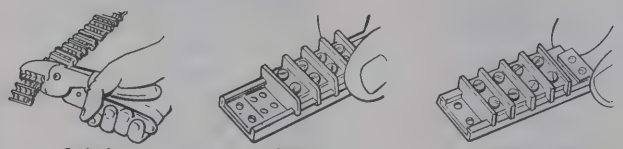
FLEXI-BLOCK®
Block Assembly on Tape



FLEXI-BLOCK®
End Stop

FLEXI-BLOCK®
Standard Track

FLEXI-BLOCK®
Flanged Track



Snip it | Slide it | Snap it

Custom-made terminal blocks are interchangeable with all standard terminal blocks. Just pull terminal blocks, assembled on tape, from convenient, stackable dispenser carton and cut to desired number of blocks with **type 604008-1** track and tape cutting tool, *ordered separately below.* Then cut standard track to length of terminal blocks plus two extra spaces to accommodate two nylon end stops. Slide terminals into track and secure with end stops to complete assembly. Predrilled holes in track allow quick mounting on flat or curved surfaces. In addition to direct application of wire ends under screw heads, terminal blocks accept up to four levels of single and double FASTON® jumper tab plates, *ordered separately below.* Available in two sizes: size #6 blue is rated 15 amps/300 volts maximum with 22-14 AWG wire; size #8 yellow is rated 30 amps/600 volts maximum with 22-10 AWG wire. UL recognized, CSA certified.

SIZE #6 BLUE FLEXI-BLOCK® COMPONENTS AND KITS

Stock No.	Type	Description	Pkg. of	Per Pkg. 1-24	25-49	50-99
82F9833	1-604102-1	Block Assemblies on Tape Nickel-Plated Brass Screws (100 Block Dispenser)	100	35.30	33.35	32.02
82F9834	1-601805-1	3′ Std. Track (80 Position)	1	5.01	4.69	4.17
82F9835	603817-4	3′ Track Flanged for Marker ID (80 Position)	1	14.68	13.74	12.21
82F9836	604111-1	End Stop (2 Required*)	100	7.15	6.13	5.37
87F2458	601985-2	FASTON® Tab Plate†	100	16.45	15.27	13.08
82F9837	604007-1	#6 Kit includes: 1 100-Block Assembly, 50 End Stops, 7 7.25″ Flanged Tracks	1	58.58	55.34	53.14
87F2466	601804-8	#6 Kit includes: 1 100-Block Assembly, 25 End Stops, 2 Standard Tracks	1	54.45	51.44	49.40

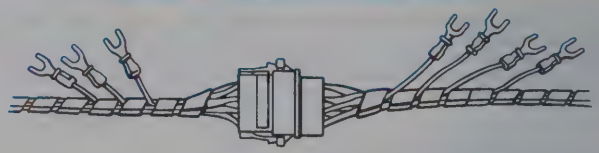
SIZE #8 YELLOW FLEXI-BLOCK® COMPONENTS AND KITS

Stock No.	Type	Description	Pkg. of	Per Pkg. 1-24	25-49	50-99
98F4821	1-604152-1	Block Assemblies on Tape Nickel-Plated Brass Screws (100 Block Dispenser)	100	41.07	36.96	33.27
87F2468	1-601806-1	3′ Std. Track (60 Position)	1	4.64	4.34	3.86
87F2469	604199-4	3′ Track Flanged for Marker ID (60 Position)	1	9.16	8.57	7.62
87F2470	604161-1	End Stop (2 Required*)	100	8.86	8.29	7.37
87F2471	604336-1	#8 Kit includes: 1 100-Block Assembly, 50 End Stops, 8 9.5″ Standard Tracks	1	72.39	68.39	65.67
87F2455	3-601989-2	45° FASTON® Tab Plate‡	100	52.00	46.80	42.15
95F1128	3-601989-3	90° FASTON® Tab Plate‡	100	32.80	29.52	26.57

* Per Assembly; † Size #6 Jumper; ‡ For Sizes #6 and #8

(5461) (de03167)

SPIRAP® PLASTIC CABLE WRAP



Practical way to bundle and harness cable, wire, tubing and hoses. Plastic coil self-contracts to contain bundled items, provides abrasion protection and allows breakout at any point along the bundle. Moisture resistant, will not hold cable-rotting moisture.

Stock No.	Type	Size	Bundle Range	Material*	Length	1-4	5-9	10-24
95F1140	500000-2	0.125″	0.063-0.50″	P	100′	26.00	23.40	21.22
95F1141	500001-1	0.250″	0.188-2″	P	50′	20.00	18.00	16.21
95F1142	500002-1	0.500″	0.375-4″	P	50′	32.90	29.75	26.78
95F1143	500004-1	0.250″	0.188-2″	FP	50′	27.26	24.65	22.19
95F1144	500005-1	0.500″	0.375-4″	FP	50′	49.82	45.05	40.55
95F1145	500013-1	0.125″	0.063-0.50″	N	50′	24.00	21.60	19.46
95F1146	500015-1	0.250″	0.188-2″	N	50′	46.06	41.65	37.49
95F1137	500031-1	0.500″	0.375-4″	OP	50′	36.66	33.15	29.84
95F1138	500036-1	0.250″	0.188-2″	ON	50′	43.24	39.10	35.88

* Material: P = Polyethylene, FP = Flame Retardant Polyethylene, N = Nylon, OP = Outdoor Polyethylene, ON = Outdoor Nylon

(5460) (de03166)

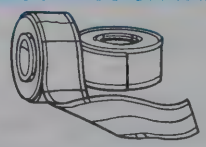
COLD SHRINK PLASTIC WRAP

Forms water-tight skin for long-term protection, even during prolonged immersion in water, with no heat or open flame. Tape amalgamates– "welds" itself into homogeneous mass– but does not transfer adhesive. Excellent electrical properties, water, ozone, and corrosion resistance. 0.020″ (0.508) thick. Black.

Stock No.	Type	Width	Roll Length	1-9	10-24	25-49
95F1130	605262-1	1.00″	10′	5.50	4.94	4.55
95F1131	605980-1	0.75″	30′	10.08	9.07	8.34
95F1132	605980-2	1.00″	30′	13.48	12.12	11.16
95F1133	605980-3	1.50″	30′	14.40	12.96	11.68
95F1134	605262-2	2.00″	30′	22.50	20.25	18.24

(5459) (de03165)

SILICON FUSION TAPE



Applied tape forms solid rubber insulator at room temperature in 24 hours or less for excellent dielectric insulator, moisture-proof barrier. Color guide stripe throughout for proper overlap when applying.

Stock No.	Type	Width	Color	Roll Length	1-9	10-24	25-49
95F1112	608036-1	1.00″	Red	36′	18.94	17.05	15.35
95F1113	608036-2	1.00″	Gray	36′	18.94	17.05	15.35
95F1115	608036-4	1.00″	Gray	36′	22.95	20.63	18.57
95F1117	608036-6	1.25″	Red	36′	33.37	30.18	27.16
95F1123	1-608036-2	1.00″	Clear	15′	20.84	18.76	16.89
95F1124	1-608036-3	1.00″	Red	15′	11.50	10.34	9.51
95F1125	1-608036-4	1.00″	Black	15′	10.48	9.41	8.44

(5458) (de03164)

NEWARK ELECTRONICS® IS AN ISO 9002 COMPANY.

STA-KON® FEMALE NONINSULATED DISCONNECTS

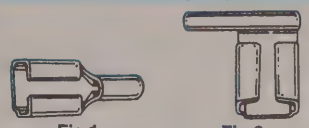


Fig.1 Fig.2

STRAIGHT—FIG. 1

Stock No.	Type	Tab Size	AWG	Stand. Pkg.	1-4	5-9
33F1305	A18-250	0.250 × 0.032″	22-18	100	34.31	24.98
33F1309	B14-250	0.250 × 0.032″	16-14	100	33.98	24.74
33F1310	BD14-183	0.187 × 0.032″	16-14	100	37.94	27.62
33F1311	BD14-182	0.187 × 0.020″	16-14	100	37.94	27.62
33F1313	C10-250F	0.250 × 0.032″	12-10	50	33.77	24.59
31F2514	B250	0.250 × 0.032″	16-14	1000	75.35	66.66
		90° FLAG CONFIGURATION—FIG. 2				
33F1308	A18-250A	0.250 × 0.032″	22-18	50	19.42	15.54
33F1312	B14-250A	0.250 × 0.032″	16-14	50	20.74	16.60
33F1314	C10-250A	0.250 × 0.032″	12-10	50	35.74	26.02

(5442) (de00688)

STA-KON® FEMALE NYLON-INSULATED DISCONNECTS

Fig. 1 Fig. 2

FIGURE 1

Stock No.	Type	Tab Size	AWG	Stand. Pkg.	1-4	5-9
33F1362	RA18-250F	0.250 × 0.032″	22-18	100	59.96	43.65
33F1363	RAD18-183	0.187 × 0.032″	22-18	100	62.31	45.36
33F1368	RB14-250F	0.250 × 0.032″	16-14	100	62.47	45.48
33F1369	RBD14-183	0.187 × 0.032″	16-14	100	51.20	45.29
33F1370	RBD14-182	0.187 × 0.020″	16-14	100	51.69	45.73
33F1375	RC10-250F	0.250 × 0.032″	12-10	50	40.89	29.77
		FIGURE 2				
33F1365	18RA-2577	0.250 × 0.032″	22-18	100	61.09	44.48
33F1366	18RAD-18377	0.187 × 0.032″	22-18	100	59.78	43.52
33F1367	18RAD-18277	0.187 × 0.020″	22-18	100	59.78	43.52
33F1371	14RB-2577	0.250 × 0.032″	16-14	100	60.55	44.08
33F1372	14RBD-18377	0.187 × 0.032″	16-14	100	59.23	43.12
33F1373	14RBD-18277	0.187 × 0.020″	16-14	100	59.23	43.12
33F1376	10RC-2577	0.250 × 0.032″	12-10	50	37.19	27.07

(5443) (de00689)

STA-KON® MALE INSULATED TABS

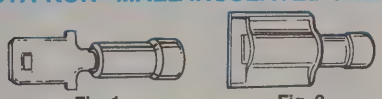


Fig. 1 Fig. 2

VINYL INSULATED—FIG. 1

Stock No.	Type	Tab Size	AWG	Stand. Pkg.	1-4	5-9
33F1321	18RA-250T	0.250 × 0.032″	22-18	100	56.64	41.24
33F1323	14RB-250T	0.250 × 0.032″	16-14	100	58.48	42.58
33F1325	10RC-250T	0.250 × 0.032″	12-10	50	32.84	23.91
		NYLON INSULATED—FIG. 2				
33F1322	18RA-251T	0.250 × 0.032″	22-18	50	29.32	21.35
33F1324	14RB-251T	0.250 × 0.032″	16-14	50	30.28	22.04
33F1326	10RC-251T	0.250 × 0.032″	12-10	25	18.67	14.93

(5444) (de00690)

STA-KON® VINYL INSULATED LOCKING FORK TERMINALS

Stock No.	Type	Bolt Size	AWG	Stand. Pkg.	1-4	5-9
33F1331	18RA-6FL	6	22-18	100	45.10	32.84
33F1332	18RA-8FL	8	22-18	100	45.10	32.84
33F1333	18RA-10FL	10	22-18	100	45.54	33.16
33F1334	14RB-6FL	6	16-14	100	46.99	34.21
33F1335	14RB-8FL	8	16-14	100	46.99	34.21
33F1336	14RB-10FL	10	16-14	100	46.99	34.21
33F1337	10RC-6FL	6	12-10	50	30.42	22.15
33F1338	10RC-8FL	8	12-10	50	30.12	21.93
33F1339	10RC-10FL	10	12-10	50	31.44	22.89
33F1340	10RC-14FL	¼″	12-10	50	37.39	27.22
31F2550	RA2217	6	22-18	1000	107.94	95.49

(5445) (de00691)

STA-KON® NYLON-INSULATED RING TERMINALS

Stock No.	Type	AWG	Bolt Size	Pkg.	1-4	5-9
65F719	RA18-4	22-16	4	100	60.19	43.82
65F720	RA18-6	22-16	6	100	59.62	43.40
65F721	RA18-8	22-16	8	100	59.62	43.40
65F722	RB14-6	18-14	6	100	62.13	45.23
65F723	RB14-8	18-14	8	100	62.13	45.23
65F724	RB14-10	18-14	10	100	62.13	45.23
65F725	RC10-8	12-10	8	50	37.37	27.20
65F726	RC10-10	12-10	10	50	37.37	27.20
65F727	RC10-14	12-10	¼″	50	40.67	29.61

(5446) (de00692)

STA-KON® BUTT SPLICES

Fig. 1 Fig. 2 Fig. 3

NYLON INSULATED—FIG. 1

Stock No.	Type	Fig.	AWG	Pkg.	1-4	5-9
46F3621	2RA18	1	22-18	100	56.15	40.88
46F3622	2RB14	1	16-14	100	56.15	40.88
46F3623	2RC10	1	12-10	50	41.12	29.94
46F3624	2RD8	1	8	25	43.26	31.49
46F3626	2RE6	1	6	20	40.46	29.45
		VINYL INSULATED—FIG. 2				
46F3631	2RA18X	2	22-18	100	43.66	31.78
46F3632	2RB14X	2	16-14	100	43.19	31.44
46F3633	2RC10X	2	12-10	50	32.04	23.32
		NONINSULATED—FIG. 3				
46F3635	2B-14	3	16-14	100	31.29	22.78
46F3636	2C-10	3	12-10	50	21.80	17.44
46F3627	2D-8	3	9-8-7	25	26.71	19.45
46F3628	2E-6	3	6-5	20	30.18	21.97

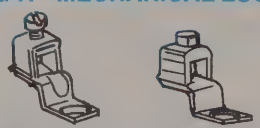
(5447) (de00693)

COLOR-KEYED® COMPRESSION LUGS

Stock No.	Type	Cable Size	Color	Bolt Size	Pkg.	1-4	5-9
81F1859	54104	#8 Stranded or #8 Weld	Red	10	50	62.40	55.20
81F1860	54105	#6 Stranded or #6 Weld	Blue	¼″	50	68.62	60.70
81F1861	54106	#4 Stranded or #4 Weld	Gray	¼″	50	89.50	79.17
81F1862	54107	#2 Stranded or #4 Weld	Brown	¼″	25	87.37	77.29
81F1863	54108	#1 Stranded or #2 Weld	Green	¼″	20	72.98	64.56
81F1864	54109	1/0 AWG or #1 Weld	Pink	⅜″	10	53.63	39.04
81F1865	54110	2/0 AWG or 1/0 Weld	Black	⅜″	10	61.83	45.02
81F1866	54111	3/0 AWG or 2/0 Weld	Orange	⅜″	10	53.37	47.21
81F1867	54112	4/0 AWG or 3/0 Weld	Purple	⅜″	10	60.87	53.84

(5448) (de00694)

LUG-IT® MECHANICAL LUGS



35301, 35401 35501

Stock No.	Type	Cable Size	Bolt Size	Pkg.	1-4	5-9
81F1856	35301	#14 to #6	10	100	168.31	148.89
81F1857	35401	#8 to #2	¼″	50	110.80	98.02
81F1858	35501	#4 to 2/0	¼″	20	93.43	82.65

(5449) (de00695)

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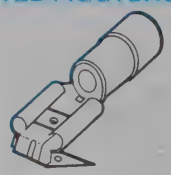
NEW TERMINALS, INSULATED FERRULES AND TOOLS

VINYL-INSULATED PIGGYBACK TERMINALS



Tab thickness: 0.032".

Stock No.	Type	AWG	Insulation Color	Pkg. of	1-4	5-9
48F3135	TV18-250PD	22-18	Red	50	8.75	7.00
48F3136	TV14-250PD	16-14	Blue	50	8.75	7.00
48F3137	TV10-250PD	12-10	Yellow	25	5.63	4.50

(40171) (ne40171)

BULLET CONNECTORS

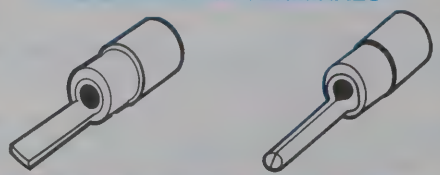
Fig. 1 Fig. 2 Fig. 3 Fig. 4

VINYL-INSULATED MALE BULLET CONNECTORS — 1.56" (4.00) (FIG. 1)

Stock No.	Type	AWG	Insulation Color	Pkg. of	1-4	5-9
48F3138	TV18-4MB	22-18	Red	50	7.50	6.00
48F3139	TV14-4MB	16-14	Blue	50	7.50	6.00
FULLY INSULATED VINYL FEMALE BULLET CONNECTORS — 1.56" (4.00) (FIG. 2)						
48F3140	TVF18-4FB	22-18	Red	50	8.75	7.00
48F3141	TVF14-4FB	16-14	Blue	50	8.75	7.00
FULLY INSULATED NYLON MALE BULLET CONNECTORS (FIG. 3)						
48F3142	TNF18-4MB	22-18	Red	50	12.50	10.00
48F3143	TNF14-4MB	16-14	Blue	50	12.50	10.00
FULLY INSULATED NYLON FEMALE BULLET CONNECTORS (FIG. 4)						
48F3144	TNF18-4FB	22-18	Red	50	12.50	10.00
48F3145	TNF14-4FB	16-14	Blue	50	12.50	10.00

(40172) (ne40172)

BLADE AND PIN TERMINALS



Blade Terminal Pin Terminal

VINYL-INSULATED STRAIGHT BLADE TERMINALS

Stock No.	Type	AWG	Color	Blade Width	Blade Length	Pkg. of	1-4	5-9
48F3146	TV18-10BL	22-18	Red	0.087"	0.394"	50	7.50	6.00
48F3147	TV18-18BL	22-18	Red	0.087"	0.709"	50	6.00	4.80
48F3148	TV14-10BL	16-14	Blue	0.087"	0.394"	50	7.50	6.00
48F3149	TV14-18BL	16-14	Blue	0.087"	0.709"	50	8.75	7.00
48F3150	TV10-10BL	12-10	Yellow	0.11"	0.394"	25	4.38	3.50

VINYL-INSULATED STRAIGHT PIN TERMINALS (UL LISTED)

Stock No.	Type	AWG	Color	Pin Length	Pkg. of	1-4	5-9
48F3151	TV18-12PT	22-18	Red	0.472"	50	7.50	6.00
48F3152	TV14-12PT	16-14	Blue	0.472"	50	7.50	6.00
48F3153	TV10-14PT	12-10	Yellow	0.551"	25	4.38	3.50

(40173) (ne40173)

SAME-DAY SHIPMENT ON ORDERS PLACED BY 5:00 PM C.S.T.

NYLON WIRE JOINTS

Stock No.	Type	AWG Min.	AWG Max.	Pkg. of	1-4	5-9
48F3154	TN18-WJ	4#22	3#18	50	3.75	3.00
48F3155	TN14-WJ	2#16	2#14	50	5.00	4.00
48F3156	TN10-WJ	2#12	1#10	25	3.75	3.00

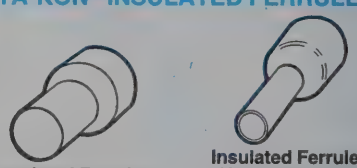
(40174) (ne40174)

MULTIPLE QUICK SPLICES

Stock No.	Type	AWG	Insulation Color	Pkg. of	1-4	5-9
48F3157	TV18-00QS	22-18	Red	25	5.00	4.00
48F3158	TV14-00QS	16-14	Blue	25	5.63	4.50
48F3159	TV10-00QS	12-10	Yellow	10	2.75	2.20

(40175) (ne40175)

STA-KON® INSULATED FERRULES



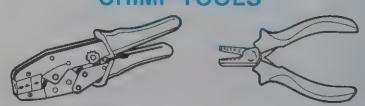
Insulated Ferrules Insulated Ferrules (Old DIN/French)

Use with any feed-through terminal block modules, barrier strip terminals, and Euro-style terminal blocks. *Order terminal blocks separately; contact your local Newark sales office.*

Stock No.	Type	AWG	Pkg. of	Color	1-4	5-9
48F2513	F2021	20	500	White	39.00	35.10
48F2514	F2024	18	500	Gray	39.00	35.10
48F2515	F2028	18-17	500	Red	39.00	35.10
48F2516	F2031	16	500	Black	50.00	45.00
48F2517	F2035	14	500	Blue	55.00	49.50
OLD DIN AND FRENCH STANDARDS						
48F2518	F4000	20	500	Orange	39.00	35.10
48F2519	F4001	18	500	White	39.00	35.10
48F2520	F4002	18-17	500	Yellow	39.00	35.10
48F2521	F4003	16	500	Red	39.00	35.10
48F2522	F4020	14	500	Blue	39.00	35.10

(40176) (ne40176)

CRIMP TOOLS



CT503 T1

T3 ERG-2

Stock No.	Type	Description	Each
48F3160	CT503	9" Rachet Crimping Tool with Interchangeable Dies (Sets H and W Included)	37.49
48F3161	CT503H	Die Set H for Insulated Terminals	10.71
48F3192	T1	Sta-Kon® Crimp Tool for Wire Ferrules #20-14 AWG - Insulated Handle	45.41
48F3193	T3	Sta-Kon® Crimp Tool for Wire Ferrules #26-10 AWG - Insulated Handle	160.65
48F3194	ERG-2	Comfort Crimp Sta-Kon® Crimp Tool With Shure Stake Mechanism for Installing Wire Ferrules #26-1 AWG. 4 Interchangeable Die Sets Included. Packaged in Sturdy Plastic Carrying Case.	183.60

(40177) (ne40177)

STA-KON® TERMINALS AND TOOLS

RING AND FORK SOLDERLESS TERMINALS

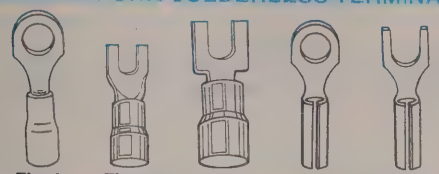


Fig. 1 Fig. 2 Fig. 3 Fig. 4 Fig. 5

VINYL-INSULATED RING TERMINALS — FIG. 1

Stock No.	Type	AWG	Bolt Hole #	Pkg. of	1-4	5-9
65F701	18RA-4	22-16	4	100	40.06	29.16
31F107	RA77	22-16	4	1000	99.92	88.39
65F702	18RA-6	22-16	6	100	40.71	29.63
31F108	RA857	22-16	6	1000	103.42	91.49
65F703	18RA-8	22-16	8	100	40.71	29.63
31F109	RA867	22-16	8	1000	103.42	91.49
65F704	14RB-6	18-14	6	100	42.44	30.90
65F705	14RB-8	18-14	8	100	42.44	30.90
31F114	RB867	18-14	8	1000	103.42	91.49
65F706	14RB-10	18-14	10	100	42.44	30.90
31F115	RB877	18-14	10	1000	103.42	91.49
65F707	10RC-8	12-10	8	50	27.39	19.94
65F708	10RC-10	12-10	10	50	27.44	19.98
65F709	10RC-14	12-10	¼″	50	33.28	24.23

VINYL-INSULATED FORK TERMINALS — FIG. 2

65F710	18RA-6F	22-16	6	100	42.44	30.90
31F129	RA1167	22-16	6	1000	103.42	91.49
65F711	18RA-8F	22-16	8	100	42.44	30.90
31F130	RA1147	22-16	8	1000	117.55	103.98
65F712	18RA-10F	22-16	10	100	42.44	30.90
31F131	RA1157	22-16	10	1000	103.42	91.49
65F713	14RB-6F	18-14	6	100	42.44	30.90
31F132	RB647	18-14	6	1000	103.42	91.49
65F714	14RB-8F	18-14	8	100	42.44	30.90
31F133	RB657	18-14	8	1000	103.42	91.49
65F715	14RB-10F	18-14	10	100	42.44	30.90
65F716	10RC-10F	12-10	10	50	27.44	19.98

NYLON-INSULATED FORK TERMINALS — FIG. 3

65F728	RA18-6F	22-16	6	100	62.13	45.23
31F236	RA1103	22-16	6	1000	158.42	140.14
65F729	RA18-8F	22-16	8	100	62.13	45.23
31F237	RA1123	22-16	8	1000	158.42	140.14
65F730	RA18-10F	22-16	10	100	62.13	45.23
65F731	RB14-6F	18-14	6	100	62.13	45.23
65F732	RB14-8F	18-14	8	100	62.13	45.23
31F232	RB1123	18-14	8	1000	158.42	140.14
65F733	RB14-10F	18-14	10	100	62.13	45.23
65F734	RC10-8F	12-10	8	50	37.37	27.20
65F735	RC10-10F	12-10	10	50	37.37	27.20
31F235	RC10-14F	12-10	¼″	50	38.96	28.36

NONINSULATED RING TERMINALS — FIG. 4

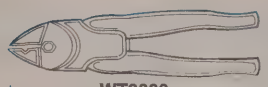
65F736	A18-6	22-16	6	100	24.90	19.92
65F737	A18-8	22-16	8	100	24.90	19.92
65F738	A18-10	22-16	10	100	24.90	19.92
65F739	B14-6	18-14	6	100	24.90	19.92
65F740	B14-8	18-14	8	100	25.96	18.90
65F741	B14-10	18-14	10	100	25.96	18.90
65F742	C10-8-SK	12-10	8	Each	0.34	0.27
65F743	C10-10	12-10	10	50	18.15	14.53
65F744	C10-14	12-10	¼″	50	21.58	17.27
31F211	C71	12-10	¼″	50	55.95	49.49

NONINSULATED FORK TERMINALS — FIG. 5

65F745	A18-6F	22-16	6	100	24.90	19.92
31F214	A116	22-16	6	1000	67.82	59.99
65F746	A18-8F	22-16	8	100	25.13	20.10
31F138	A114	22-16	8	1000	67.82	59.99
65F747	A18-10F	22-16	10	100	25.13	20.10
65F748	B14-6F	18-14	6	100	24.90	19.92
65F749	B14-8F	18-14	8	100	25.96	18.90
65F750	B14-10F	18-14	10	100	25.96	18.90
65F751	C10-8F	12-10	8	50	17.43	13.95
65F752	C10-10F	12-10	10	50	18.15	14.53
65F753	C10-14F	12-10	¼″	50	20.22	16.18

(5455) (de02271)

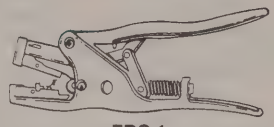
APPLICATION TOOLS AND WIRE STRIPPERS



WT2000

WT111M, WT112M

WT145A, WT145C



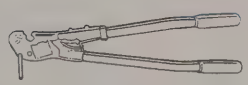
ERG-1

Plier-style hand tool **type WT2000** accommodates insulated and noninsulated terminals and splices. Used for cutting and stripping wire. Plier-style hand tools **type WT111M** for noninsulated terminals and **type WT112M** for insulated terminals can be used as wire cutter. Ratchet hand tools **type WT145A** for insulated terminals. **Type ERG-1** self-adjusting wire stripper, strips stranded or solid, and aluminum or copper.

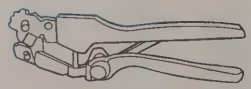
Stock No.	Type	AWG	For Sta-Kon® Terminals	Each
34F1259	WT-2000	22-10	A,B,C,AB,PT,RA,RB,RC	36.17
31F265	WT111M	22-10	A,B,C,PT	32.23
50F839	WT112M	22-10	RA,RB,RC	31.04
94F1102	WT145A	22-10	RA,RAX,RBC,RC,RAA,RBB,RBC,RCC	301.20
31F266	WT145C	22-10	RA,RB,RC,RAA,RBB,RCC,RBC	354.81
31F2606	ERG-1	30-12	...	96.16

(5454) (de02269)

COMPRESSION TOOLS



TBM5



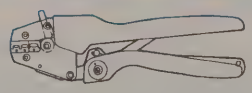
TBM25S

Type TBM5 installs connectors, joints, lugs, splices, and taps. Includes dies. **Type TBM25S** is equipped with SHURE STAKE® mechanism and has a 5 nested die wheel (color coded). Installs lugs and splices.

Stock No.	Type	AWG	Each
81F2297	TBM5	8-250 MCM (Copper) 10-4/0 (Aluminum)	388.90
92F5931	TBM25S	8-2 (Copper) 10-6 (Aluminum)	217.91

(5456) (de02272)

COMFORT CRIMP™ HAND TOOLS



Ratchet hand tools for installing Sta-Kon® terminals, disconnects and splices. SHURE STAKE® mechanism prevents dies from releasing terminal until proper compression has been fully completed. **Type ERG-2001** has color-coded nests to match with color of nylon or vinyl connectors.

Stock No.	Type	Range	Each
95F9609	ERG-2001	Insulated (10-22 AWG)	184.79
95F9610	ERG-2002	Noninsulated (22-10 AWG)	158.36

(5457) (de02273)

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PAN-TERM® TERMINALS, DISCONNECTS AND SPLICES

Fig. 1

Fig. 2

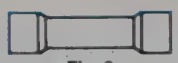


Fig. 3

Fig. 4

Fig. 5 Female

Fig. 6 Male/Female

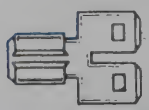


Fig. 7 Adapter

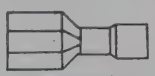


Fig. 8 Male

Fig. 9 Female

Fig. 10

Fig. 11

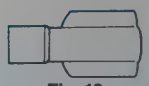


Fig. 12

VINYL INSULATED RING TONGUE TERMINALS—UL LISTED, CSA CERTIFIED

Sold in packages as indicated by type number suffix: L = package of 50; C = package of 100; D = package of 500; M = package of 1000. The complete line of Pan-term products is available. For types not listed here; *contact your local Newark sales office.*

Fig.	Wire Size	Stud Size	Color	Width	Length	Stock No.	Type	Each	2-4	Stock No.	Type	Each	2-4
1	22-18	#6	Red	0.25″	0.80″	**76F854**	PV18-6R-C	**34.50**	**33.12**	**89F1238**	PV18-6R-M	**122.68**	**114.20**
1	22-18	#8	Red	0.31″	0.91″	**76F855**	PV18-8R-C	**34.50**	**33.12**	**89F1239**	PV18-8R-M	**122.68**	**114.20**
10	22-18	#6, 8, 10	Red	0.31″	1.00″	**95F3577**	PV18-610R-C	**39.89**	**38.30**	**95F3578**	PV18-610R-M	**122.57**	**118.99**
1	16-14	#6	Blue	0.31″	0.92″	**76F856**	PV14-6R-C	**35.79**	**34.37**	**89F1240**	PV14-6R-M	**122.68**	**114.20**
1	16-14	#8	Blue	0.31″	0.92″	**76F857**	PV14-8R-C	**35.79**	**34.37**	**89F1241**	PV14-8R-M	**122.68**	**114.20**
1	16-14	#10	Blue	0.31″	0.92″	**76F858**	PV14-10R-C	**35.79**	**34.37**	**89F1242**	PV14-10R-M	**122.68**	**114.20**
10	16-14	#6, 8, 10	Blue	0.31″	1.00″	**95F3575**	PV14-610R-C	**38.16**	**36.64**	...	...	...	...
1	12-10	#8	Yellow	0.31″	1.06″	**46F1521**	PV10-8R-L	**22.43**	**21.53**	**89F1243**	PV10-8R-D	**86.26**	**79.97**
1	12-10	#10	Yellow	0.31″	1.06″	**46F1517**	PV10-10R-L	**22.43**	**21.53**	**89F1244**	PV10-10R-D	**86.26**	**79.97**
1	12-10	¼″	Yellow	0.52″	1.24″	**46F1518**	PV10-14R-L	**28.03**	**26.91**	**89F1217**	PV10-14R-D	**96.41**	**89.38**
10	12-10	#6, 8, 10	Yellow	0.37″	1.17″	...	...	...	...	**83F7253**	PV10-610R-D	**91.69**	**85.00**

NYLON INSULATED RING TONGUE TERMINALS—UL LISTED, CSA CERTIFIED

1	22-18	#6	Red	0.25″	0.75″	**89F1218**	PN18-6R-C	**49.81**	**47.82**	**89F1226**	PN18-6R-M	**154.41**	**149.89**
	22-18	#8	Red	0.31″	0.84″	**89F1219**	PN18-8R-C	**49.81**	**47.82**	**89F1227**	PN18-8R-M	**154.41**	**149.89**
	16-14	#6	Blue	0.31″	0.84″	**89F1220**	PN14-6R-C	**51.96**	**49.89**	...	...	...	...
	16-14	#8	Blue	0.31″	0.84″	**89F1221**	PN14-8R-C	**51.96**	**49.89**	**89F1229**	PN14-8R-M	**154.41**	**149.89**
	16-14	#10	Blue	0.31″	0.84″	**89F1222**	PN14-10R-C	**51.96**	**49.89**	**89F1230**	PN14-10R-M	**154.41**	**149.89**
	12-10	#8	Yellow	0.37″	1.03″	**89F1223**	PN10-8R-L	**30.19**	**28.98**	**89F1231**	PN10-8R-D	**117.89**	**109.74**
	12-10	#10	Yellow	0.37″	1.03″	**89F1224**	PN10-10R-L	**31.48**	**30.23**	**89F1232**	PN10-10R-D	**117.89**	**109.74**
	12-10	¼"	Yellow	0.52″	1.18″	**89F1225**	PN10-14R-L	**33.42**	**32.09**	**89F1233**	PN10-14R-D	**125.56**	**116.88**

VINYL INSULATED FORK TONGUE TERMINALS—UL LISTED, CSA CERTIFIED

2	22-18	#6	Red	0.30″	0.83″	**76F861**	PV18-6F-C	**35.79**	**34.37**	**89F1300**	PV18-6F-M	**122.68**	**114.20**
	22-18	#8	Red	0.31″	0.89″	**76F862**	PV18-8F-C	**35.79**	**34.37**	**89F1280**	PV18-8F-M	**122.68**	**114.20**
	22-18	#10	Red	0.34″	0.45″	**94F3143**	PV18-10F-C	**35.79**	**34.37**	...	...	...	...
	16-14	#8	Blue	0.31″	0.95″	**76F864**	PV14-8F-C	**35.79**	**34.37**	**89F1282**	PV14-8F-M	**122.68**	**114.20**
	16-14	#10	Blue	0.34″	0.95″	**76F865**	PV14-10F-C	**35.79**	**34.37**	**89F1283**	PV14-10F-M	**122.68**	**114.20**
	12-10	#8	Yellow	0.37″	1.06″	**46F1520**	PV10-8F-L	**22.43**	**21.53**	**89F1284**	PV10-8F-D	**86.26**	**79.97**
	12-10	#10	Yellow	0.37″	1.06″	**89F1299**	PV10-10F-L	**22.43**	**21.53**	...	...	...	...
	12-10	¼"	Yellow	0.50"	1.17"	**46F1522**	PV10-14F-L	**26.74**	**25.67**	...	...	...	...

NYLON INSULATED FORK TONGUE TERMINALS—UL LISTED, CSA CERTIFIED

2	26-22	#2	Yellow	0.23″	0.66″	**95F3579**	PN22-2F-C	**52.18**	**50.10**	...	...	...	...
	26-22	#4	Yellow	0.20″	0.68″	**98F2923**	PN22-4FC	**52.18**	**50.10**	**95F3581**	PN22-4F-M	**206.94**	**197.93**
	22-18	#6	Red	0.30″	0.78″	**89F1418**	PN18-6F-C	**51.96**	**49.89**	**89F1287**	PN18-6F-M	**154.41**	**149.89**
	22-18	#8	Red	0.32″	0.84″	**89F1419**	PN18-8F-C	**51.96**	**49.89**	**89F1288**	PN18-8F-M	**154.41**	**149.89**
	16-14	#6	Blue	0.28″	0.78″	**89F1420**	PN14-6F-C	**51.96**	**49.89**	**89F1289**	PN14-6F-M	**154.41**	**149.89**
	16-14	#8	Blue	0.31″	0.84″	**89F1421**	PN14-8F-C	**51.96**	**49.89**	**89F1290**	PN14-8F-M	**154.41**	**149.89**
	16-14	#10	Blue	0.34″	0.86″	**89F1422**	PN14-10F-C	**51.96**	**49.89**	**89F1291**	PN14-10F-M	**154.41**	**149.89**
	12-10	#8	Yellow	0.38″	1.05″	**89F1423**	PN10-8F-L	**31.48**	**30.23**	**89F1292**	PN10-8F-D	**117.89**	**109.74**
	12-10	#10	Yellow	0.38″	1.05″	**89F1424**	PN10-10F-L	**31.48**	**30.23**	**89F1293**	PN10-10F-D	**117.89**	**109.74**

VINYL INSULATED BUTT SPLICES—UL LISTED, CSA CERTIFIED

3	22-18	...	Red	...	1.07″	**76F859**	BSV18X-C	**36.65**	**35.19**	**89F1234**	BSV18X-M	**143.27**	**139.08**
	16-14	...	Blue	...	1.07″	**76F860**	BSV14X-C	**36.44**	**34.99**	**89F1235**	BSV14X-M	**143.27**	**139.08**
	12-10	...	Yellow	...	1.28″	**46F1519**	BSV10X-L	**26.95**	**25.88**	**89F1236**	BSV10X-D	**131.31**	**122.23**

NYLON INSULATED BUTT SPLICES

4	26-22	...	Yellow	...	0.79″	**94F5620**	BSN22-C	**51.15**	**47.42**	**94F5621**	BSN22-M	**178.29**	**170.52**
	22-18	...	Red	...	1.16″	**89F1237**	BSN18-C	**47.22**	**45.34**	**89F1296**	BSN18-M	**157.60**	**152.98**
	16-14	...	Blue	...	1.16″	**89F1294**	BSN14-C	**47.22**	**45.34**	**89F1297**	BSN14-M	**157.60**	**152.98**
	12-10	...	Yellow	...	1.23″	**89F1295**	BSN10-L	**34.61**	**33.23**	**89F1298**	BSN10-D	**123.64**	**115.09**

FEMALE DISCONNECTS, SPECIALTY DISCONNECTS AND ADAPTERS (0.250″ x 0.032″ TAB)—UL LISTED, CSA CERTIFIED

5	22-18	...	Red	0.29″	0.83″	**95F3574**	DNF18-250-C	**50.67**	**48.65**	**94F3086**	DNF18-250-M	**156.93**	**152.33**
5	16-14	...	Blue	0.29″	0.83″	**94F5658**	DNF14-250-C	**50.67**	**48.65**	**94F2764**	DNF14-250-M	**159.19**	**152.25**
6	22-18	...	Red	0.30″	0.87″	**81F4591**	DV18-250P-C	**88.29**	**81.85**	**89F1431**	DV18-250P-M	**265.84**	**254.26**
6	16-14	...	Blue	0.30″	0.87″	**81F4592**	DV14-250P-C	**88.29**	**81.85**	**89F1412**	DV14-250P-M	**265.84**	**254.26**
7	...	...	...	0.30″	0.82″	**81F4593**	D-250A-C	**41.61**	**39.96**	**89F1413**	D-250A-M	**168.74**	**161.39**

FULLY INSULATED MALE AND FEMALE DISCONNECTS (0.250″ x 0.032″ TAB)—UL LISTED, CSA CERTIFIED

8	22-18	...	Red	0.40″	0.97″	**81F4594**	DNF18-250FIM-C	**51.10**	**49.06**	**89F1414**	DNF18-250FIM-M	**221.27**	**211.63**
8	16-14	...	Blue	0.40″	0.97″	**81F4595**	DNF14-250FIM-C	**51.10**	**49.06**	**89F1415**	DNF14-250FIM-M	**221.27**	**211.63**
9	22-18	...	Red	0.35″	0.84″	**81F4596**	DNF18-250FIB-C	**51.53**	**49.48**	**89F1416**	DNF18-250FIB-M	**146.45**	**142.17**
9	16-14	...	Blue	0.35″	0.84″	**81F4597**	DNF14-250FIB-C	**50.24**	**48.24**	**89F1417**	DNF14-250FIB-M	**146.45**	**142.17**

VINYL INSULATED PIN TERMINALS—UL LISTED, CSA CERTIFIED

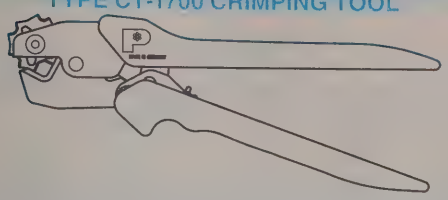
11	22-18	...	Red	...	0.84″	**94F3141**	PV18-P47-C	**56.43**	**52.31**	**94F2864**	PV18-P47-M	**194.21**	**185.75**
	16-14	...	Blue	...	0.84″	**94F3139**	PV14-P47-C	**56.43**	**52.31**	**94F3140**	PV14-P47-M	**194.21**	**185.75**
	12-10	...	Yellow	...	1.12″	**95F3582**	PV10-P55-L	**41.50**	**39.85**	**94F5608**	PV10-P55-D	**134.51**	**130.58**

INTEGRATED METAL GRIP DISCONNECTS—CSA CERTIFIED

12	22-18	...	Red	0.35″	0.94″	**16F4504**	DNG18-250FB-C	**65.56**	**60.78**	**16F4505**	DNG18-250FB-M	**157.60**	**152.98**

(5490) (de51309)

TYPE CT-1700 CRIMPING TOOL



Type CT-1700 crimps Panduit **S series** #8-#2 AWG non-insulated terminals, #8-#1 copper lugs and splices, and #6-#4 aluminum lugs and splices. Includes 5-position rotating die.

83F7268 Type CT-1700. **Each** **332.67**
(36378) (ne36378)

PAN-TERM® TERMINAL CRIMPING TOOLS

CT-100

CT-260

CT-1550

CT-1570

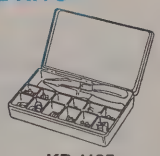
Type CT-100 crimps 10-26 insulated and noninsulated terminals. Cuts #4, 6, 8 and 10 screw sizes. Cuts/strips wire. **Type CT-260** heavy-duty crimping tool installs insulated and noninsulated terminal splices, disconnects and wire joints on 10-26 AWG wire. Also cuts wire. Forged steel, cushioned plastic grip. **Type CT-1550** controlled-cycle, ergonomic tool crimps most insulated Pan-Term® terminals, disconnects wire joints and splices from #22 to #10 AWG. For best ergonomic crimping of 10-12 AWG range, *order* **type CT-1551** *separately* (also crimps 14-22AWG); *contact your local Newark sales office for details.* **Type CT-1570** crimps most non-insulated Pan-Term terminals, disconnects, and splices from #22 to #10AWG.

Stock No.	Type	Each	2-4	5-9
76F870	CT-100	**46.14**	**44.52**	**43.02**
46F1524	CT260	**42.81**	**41.30**	**39.91**
99F7058	CT-1550	**274.81**	**266.29**	**250.62**
99F7426	CT-1570	**274.81**	**266.29**	**250.62**

(5491) (de51310)

TERMINAL KITS

KP-1075



KP-1165

Type KP-1075 155-pc. PAN-TERM® insulated terminal kit contains insulated rings, forks, butt splices, female disconnects, and wire joints. Sturdy plastic case. **Type KP-1165** 158-pc. PAN-TERM® insulated terminal kit contains **type CT-160** crimping tool, insulated rings, forks, butt splices, female disconnects and wire joints. Sturdy storage case.

Stock No.	Type	Each	2-4	5-9
50F1286	KP1075	**53.40**	**49.51**	**46.16**
84F1861	KP1165	**104.22**	**97.02**	**90.77**

(5492) (de51311)

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WIRE JOINTS

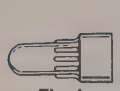


Fig. 1

Fig. 2

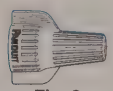


Fig. 3

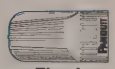


Fig. 4

SIZE CODES FOR CLEAR NYLON-INSULATED WIRE JOINTS

Code	Fig.	AWG Max.	AWG Min.	Length
A	1	(2) #16	(2) #22	0.78″
B	1	(2) #12	(4) #18	0.93″

Sold in packages of the quantities indicated.

Stock No.	Type	Code	Pkg. of	Each	2-4	5-9	10-24
89F1425	JN218-216-C	A	100	**25.01**	**24.02**	**21.83**	**20.35**
89F1426	JN418-212-C	B	100	**38.81**	**37.26**	**33.87**	**31.58**
89F1427	JN218-216-M	A	1,000	**105.43**	**98.14**	**91.82**	**84.99**

SIZE CODES FOR P-CONN™ SCREW-ON WIRE CONNECTORS

Code	Fig.	AWG Min.	AWG Max.	Color
C	2	(3) #22	(3) #16	Blue
D	2	(3) #20	(4) #16	Orange
E	2	(2) #18	(3) #12	Yellow
F	2	(4) #18	(4) #12	Red
G	3	(3) #22	(3) #12	Yellow
H	3	(3) #22	(3) #12, (1) #8	Red
I	3	(1) #12 + (1) #14	(2) #6 + (1) #10	Blue
J	4	(3) #22	(3) #12	Yellow
K	4	(3) #22	(5) #12	Red
L	4	(1) #14 + (1) #12	(1) #6 + (2) #8	Blue

Sold in packages of the quantities indicated.

Stock No.	Type	Code	Pkg. of	Each	2-4	5-9	10-24
84F1303	P72-C	C	100	**7.83**	**7.47**	**7.13**	**6.69**
84F1305	P73-C	D	100	**9.34**	**8.91**	**8.51**	**7.98**
84F1307	P74-C	E	100	**10.35**	**9.87**	**9.42**	**8.84**
84F1309	P76-C	F	100	**15.91**	**15.17**	**14.48**	**13.59**
90F1697	P1-C	G	100	**13.13**	**12.52**	**11.95**	**11.21**
90F1698	P2-C	H	100	**17.67**	**16.86**	**16.09**	**15.10**
90F1699	P4-L	I	50	**22.60**	**21.55**	**20.57**	**19.30**
84F1304	P72-D	C	500	**32.34**	**31.05**	**28.23**	**26.32**
84F1306	P73-D	D	500	**35.58**	**34.16**	**31.05**	**28.95**
83F7247	PF1-C	J	100	**12.64**	**12.05**	**11.50**	**10.79**
83F7248	PF2-C	K	100	**16.96**	**16.17**	**15.43**	**14.48**
83F7249	PF4-L	L	50	**19.58**	**18.67**	**17.82**	**16.72**

(5506) (de51409)

COMPRESSION AND MECHANICAL CONNECTORS

Fig. 1

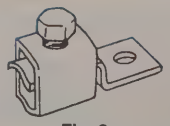


Fig. 2

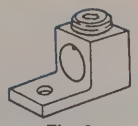


Fig. 3

COPPER LUGS FOR COPPER CABLE — Fig.1

Standard barrel one-hole lug. **Sold in packages of the quantities indicated in the table.**

Stock No.	Type	AWG Size	Bolt Size	Pkg. Qty.	Each	2-4	5-9	10-24
50F1270	LCA6-14-L	6	¼″	50	**81.19**	**75.27**	**70.18**	**66.78**
94F2782	LCA4-14-L	4	¼″	50	**100.35**	**93.41**	**87.40**	**80.90**
50F1275	LCA2-14-Q	2	¼″	25	**95.94**	**89.31**	**83.56**	**77.34**
84F1862	LCA1-14-E	1	¼″	20	**86.87**	**80.54**	**75.09**	**71.46**
84F1864	LCA1/0-38-X	1/0	⅜″	10	**48.53**	**46.60**	**42.36**	**39.49**
84F1865	LCA2/0-38-X	2/0	⅜″	10	**53.63**	**49.72**	**46.35**	**44.11**

COPPER LUGS FOR COPPER CABLE — Fig. 2

Single-barrel, hex-head bolt and one-hole offset tongue. **Sold in packages of the quantities indicated in the table.**

50F2896	CB35-36-C	6-14	3⁄16″	100	**103.70**	**96.54**	**90.32**	**83.60**
84F1874	CBA70-14-C	4-14	¼″	100	**132.84**	**123.66**	**115.70**	**107.09**
84F1876	CB175-38-Q	3/0-4	⅜″	25	**120.94**	**117.40**	**113.94**	**110.72**

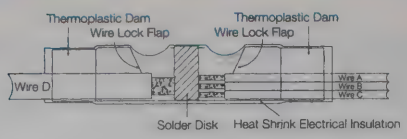
ALUMINUM LUGS FOR ALUMINUM OR COPPER CABLES — Fig. 3

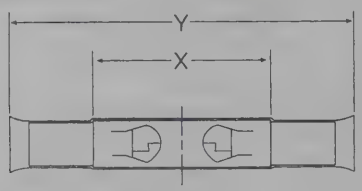
Single-barrel, socket hex-head set screw and one-hole fixed tongue. **Sold in packages of the quantities indicated in the table.**

84F1877	LAMA6-14-Q	6-14	¼″	25	**22.10**	**21.22**	**19.29**	**17.99**
84F1878	LAMA2-14-Q	2-14			**31.70**	**30.43**	**27.66**	**25.79**
84F1879	LAMA1/0-14-Q	1/0-14			**45.01**	**43.22**	**39.28**	**36.63**
84F1880	LAMA2/0-14-Q	2/0-14			**50.51**	**48.49**	**44.08**	**41.10**

(5504) (de51407)

SOLDER SPLICE CONNECTORS





Solder, insulate, and seal multiple wires in one easy step without a crimp tool—just a standard heat gun. One-piece design, insulated with a flame-retardant, heat-shrinkable sleeve of flexible fluoropolymer, which provides outstanding clarity for easy inspection of the connection. After wires are inserted and held in place by barrel wire locks, the solder disk melts and connects the wires. Then, the thermoplastic dams melt to form a moisture seal. Finally, the sleeve shrinks, forming the electrical insulation. Works well with any wire connection that can be inserted, including solid or stranded bare copper or tinned wire. Resistance drop: <0.5 milliohms. Tensile strength: 200 lbs. (or wire failure). Service temperature: –55°C to +150°C. Insulation resistance: 10kV. Voltage drop: 0 to –1mV. UL listed. **Sold in packages of 10.**

SSC 050X SERIES

Stock No.	Type	Color	Wire Size (AWG)	X	Y	ID	1-4	5-9
16F3535	SSC-0501	Red	22-14	0.83″	1.37″	0.18″	6.61	6.28
16F3536	SSC-0502	Blue	22-10	1.00″	1.68″	0.26″	7.65	7.27
16F3537	SSC-0503	Yellow	20-8	1.25″	2.00″	0.33″	10.12	9.61

SSC 100X SERIES

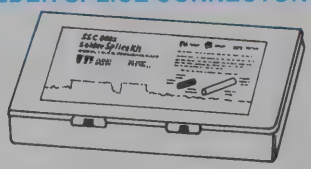
16F3538	SSC-1000	Clear	28-20	0.57″	1.00″	0.12″	4.84	4.60
16F3539	SSC-1001	Red	24-14	0.83″	1.37″	0.18″	4.99	4.74
16F3540	SSC-1002	Blue	22-10	1.00″	1.68″	0.26″	5.78	5.49
16F3541	SSC-1003	Yellow	20-8	1.25″	2.00″	0.33″	7.64	7.26

SSC 200X SERIES

66F9668	SSC-2001	Red	24-14	0.83″	1.54″	0.14″	23.41	22.24
66F9669	SSC-2002	Blue	22-10	1.00″	1.93″	0.21″	24.53	23.31
66F9670	SSC-2003	Yellow	20-8	1.25″	2.40″	0.26″	27.99	26.58

(5525) (ne06197)

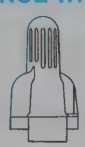
SOLDER SPLICE CONNECTOR KIT



Solder splice connector kit is for use in field applications where it is necessary to make a strong, reliable solder connection when no electricity is available to power a heat gun. Offers engineers and designers a selection of solder splice connector sizes for installation and repair projects and product development programs. Kit includes Master Appliance **type MT-10** pocket-size Ultratorch® cordless heat tool with refillable butane fuel cell and **types SSC-0501, SSC-0502, SSC-0503** solder splice connectors, *order separately on this page.*

91F2080 Type SSC050X. **1-9** **107.19**
(12935) (ne09861)

HIGH PERFORMANCE WIRE CONNECTORS



Provide maximum protection and wider wire range, while fitting in the most crowded electrical boxes. Long, flexible skirt with a rigid top to enable the connector to conform in a box as it protects the connector and covering overstrips. Square wire spring grips quickly, turns on fast and expands to accept various wire sizes—"biting" into conductors for a solid, secure connection.

Stock No.	Type	Color	Wire Size (AWG)	Pkg. of	1-4	5-9
66F9671	O/B	Orange/Blue	2#22-2#12	100	10.06	9.56
66F9672	R/Y	Red/Yellow	2#18-2#8	100	13.62	12.94
66F9673	B/G	Blue/Gray	4#14-5#10	50	17.94	17.04

(5526) (ne06199)

SCOTCHLOK™ SELF-STRIPPING T-TAP CONNECTORS

Mates with 0.250″ male tab connectors, *order separately; contact your local Newark sales office.* UL listed, CSA certified. **Sold in packages of 50.**

Stock No.	Type	Color	AWG	1-4	5-9
44F3227	951X	Red	22-18	10.51	9.98
44F3228	952X	Blue	18-14	10.51	9.98
44F3229	953X	Yellow	12	11.34	10.77
01F678	901*	Black	18-14	9.83	...

* Not UL listed, CSA certified
(5494) (de51361)

SCOTCHLOK™ SELF-STRIPPING ELECTRICAL CONNECTORS

804 557 560B, 905

Stock No.	Type	Color	AWG	Pkg. of	1-4	5-9
46F4357	560B	Blue	18-14	100	13.88	13.19
46F4358	905†	Red	22-18	50	7.95	7.55
44F3257	557	Red	22-16*	100	22.05	20.95
44F3258	558	Red	22-16	100	22.91	21.77
90F2058	314+	White	22-14*	50	29.29	27.82
95F6316	804+	Blue	18-14*	25	7.46	7.08
01F679	3161R†	Black	22-16	30	14.82	...
01F680	804U	Beige	18-14	25	19.23	...

* Pigtail + Gel-filled to resist moisture † Not UL listed, CSA certified
(5495) (de51362)

SCOTCHLOK™ SELF-STRIPPING FUSE HOLDER

For fuses rated to 20A. Crimp with pliers. 18-14 AWG. Blue. **Sold in packages of 25.**

Stock No.	Type	1-4	5-9
44F3230	972X	27.29	25.92

(5493) (de51360)

SCOTCHLOK™ IDC ELECTRICAL CONNECTORS

562 564 567

For copper conductors only. Connection made by squeezing connector. Ideal for tap, in-line and pigtail connections. UL listed, CSA certified. **Types 562, 567 sold in packages of 100; type 564 sold individually.**

Stock No.	Type	Color	AWG	1-9	10-24
90F6223	562	Yellow	12-10	25.13	23.87
90F6224	564*	White	18-14	0.09	0.08
90F6225	567	Brown	18-14	34.49	32.76

* Not UL listed, CSA certified
(5497) (de51364)

SCOTCHLOK™ ELECTRICAL SPRING CONNECTORS

212 Y, R, G

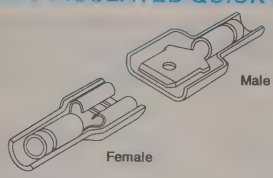
Sold in packages of 100.

Stock No.	Type	Color	AWG	1-4	5-9
44F3222	Y†	Yellow	22-10	13.12	12.47
44F3223	R†	Red	18-10	17.20	16.33
44F3224	G†	Gray	14-8	35.72	33.93
95F6321	212*	Tan	22-12	12.10	11.49
95F6319	312†	Yellow	22-12	13.12	12.47
95F6320	512†	Red	18-8	17.20	16.33

*UL listed; † UL listed, CSA certified
(5496) (de51363)

PERSONALIZED SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

AVIKRIMP® FULLY INSULATED QUICK DISCONNECTS



Avikrimp® quick disconnects feature a metal grip sleeve, superior strain relief, and "smooth" edges. Wire range: 22-10 AWG. UL listed, CSA certified, TUV approved. **Sold in packages of 100.**

FEMALE

Stock No.	Type	Color	Wire Range	Accepts Tab Size	1-9
52F7524	AA-5261-C	Red	22-18 AWG	0.250 × 0.032″	12.53
52F7525	AA-5267-C			0.187 × 0.020″	23.68
52F7526	AA-5275-C			0.110 × 0.020″	21.86
52F7527	BB-5263-C	Blue	16-14 AWG	0.250 × 0.032″	23.91
52F7528	BB-5269-C			0.187 × 0.020″	18.68
52F7529	BB-5277-C			0.110 × 0.020″	22.77
52F7530	C-5265-C	Yellow	12-10 AWG	0.250 × 0.032″	30.63

MALE

Stock No.	Type	Color	Wire Range	Tab Size	1-9
52F7531	AA-5260-C	Red	22-18 AWG	0.250 × 0.032″	28.01
52F7532	AA-5266-C			0.187 × 0.020″	28.57
52F7533	BB-5262-C	Blue	16-14 AWG	0.250 × 0.032″	28.01
52F7534	BB-5268-C			0.187 × 0.020″	27.78
52F7535	C-5264-C	Yellow	12-10 AWG	0.250 × 0.032″	28.01

(5527) (ne07426)

AVIKRIMP® FULLY PRE-INSULATED QUICK-DISCONNECT FLAGS

Right-angle, nylon, fully pre-insulated flags provide space savings. Available in 22-10 AWG wire sizes. UL listed, CSA certified, TUV approved. **Sold in packages of 100.**

Stock No.	Type	Color	Wire Range	Tab Size	1-9
52F7541	AA-5220-C	Red	22-18 AWG	0.250 × 0.032″	27.56
52F7542	BB-5221-C	Blue	16-14 AWG	0.250 × 0.032″	31.88
52F7543	AA-5222-C	Red	22-18 AWG	0.187 × 0.020″	27.56
52F7544	BB-5224-C	Blue	16-14 AWG	0.187 × 0.020″	31.88
52F7545	C-5211-C	Yellow	12-10 AWG	0.250 × 0.032″	116.55

(5528) (ne07427)

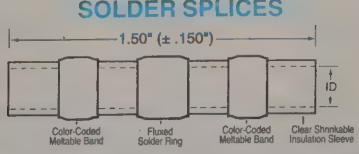
FULLY INSULATED QUICK-DISCONNECT FLAGS

Right-angle, fully insulated flags are UL listed, CSA certified. **Sold in packages of 100.**

Stock No.	Type	Color	Wire Range	Tab Size	1-9
52F7536	AA-2220-C	Red	22-18 AWG	0.250 × 0.032″	11.73
52F7537	BB-2221-C	Blue	16-14 AWG	0.250 × 0.032″	13.89
52F7538	AA-2222-C	Red	22-18 AWG	0.187 × 0.020″	12.53
52F7539	BB-2224-C	Blue	16-14 AWG	0.187 × 0.020″	12.76
52F7540	C-2211-C	Yellow	12-10 AWG	0.250 × 0.032″	47.82

(5529) (ne07428)

SOLDER SPLICES

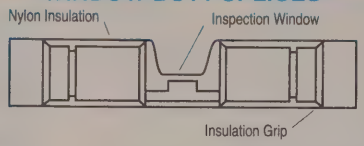


Feature clear, shrinkable insulation sleeves, color-coded meltable bands, and fluxed solder rings. Length: 1.50″ (± 0.150″). **Sold in packages of 100.**

Stock No.	Type	Wire Range	Color Code	Max. Insul. Dia.	1-9
52F7556	SSC-2624-C	26-24 AWG	Clear	0.060″	61.26
52F7557	SSC-2218-C	22-18 AWG	Red	0.110″	64.44
52F7558	SSC-1614-C	16-14 AWG	Blue	0.175″	66.26
52F7559	SSC-1210-C	12-10 AWG	Yellow	0.230″	77.42

(5533) (ne07432)

WINDOW BUTT SPLICES

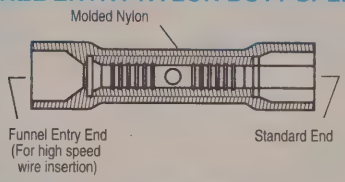


Feature inspection window, nylon insulation, and insulation grips. Meet military specifications listed in table below. **Types WA-840-B and WB-841-B are sold individually; type WC-842-C is sold in packages of 100.**

Stock No.	Type	Military Spec.	Wire Range	Max. Length	Max. Insul. Dia.	Insul. Color	1-9
52F7549	WA-840-B	M7928/5-3	22-18 AWG	1.26″	0.140″	Red	0.21
52F7550	WB-841-B	M7928/5-4	16-14 AWG	1.26″	0.170″	Blue	0.22
52F7551	WC-842-C	M7928/5-5	12-10 AWG	1.62″	0.228″	Yellow	29.83

(5531) (ne07430)

FUNNEL ENTRY NYLON BUTT SPLICES

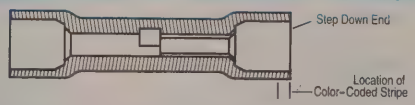


Molded nylon, butted seam type. **Sold in packages of 100.**

Stock No.	Type	Wire Range	Max. Length	Max. Wire Insulation Dia.		1-9
				Funnel End	Standard End	
52F7546	A-945-DK-C	22-18 AWG	1.07″	0.147″	0.161″	6.15
52F7547	B-931-DK-C	16-14 AWG	1.07″	0.185″	0.199″	6.61
52F7548	C-946-DK-C	12-10 AWG	1.15″	0.262″	0.276″	10.02

(5530) (ne07429)

INSULATED STEP-DOWN BUTT SPLICES



Step-down butt splices are the ideal for situations when two wires need to be inserted into one end of a splice and a single wire into the other end. UL listed, CSA certified. **Sold in packages of 100.**

Stock No.	Type	Wire Ranges	Insulation Color	1-9
52F7552	BA-631X-C	16-14 to 22-18 AWG	Blue w/Red Stripe	44.41
52F7553	CB-646X-C	12-10 to 16-14 AWG	Yellow w/Blue Stripe	53.29
52F7554	DC-654X-C	8 to 12-10 AWG	Red w/Yellow Stripe	74.92
52F7555	ED-662X-C	6 to 8 AWG	Blue w/Red Stripe	94.04

(5532) (ne07431)

DELUXE SOLDERLESS TERMINAL KITS

Type K-220 has 361 pieces: 90 noninsulated female flag quick disconnects, 60 noninsulated female quick disconnects, 60 noninsulated male quick disconnects, 90 insulated female quick disconnects, and 60 insulated male quick disconnects. **Type K-130** has 461 pieces: 160 ring tongue terminals, 80 block spade terminals, 40 flanged block spade terminals, 40 male quick disconnects, 40 female quick disconnects, 80 butt connectors, and 20 nylon closed-end connectors. **Type K-140** has 481 pieces, same as **type K-130**, except it has 40 nylon closed-end connectors. **Type K-120** has 441 pieces, same as **type K-130**, except it has 60 block spade terminals. **Type K-180** has 121 pieces: 50 ring tongue terminals, 20 block spade terminals, 10 flanged block spade terminals, 10 male quick disconnects, 10 female quick disconnects, 10 butt connectors, and 10 nylon closed-end connectors. All are supplied with **type CT-4070** crimp tool. UL recognized, CSA certified.

Stock No.	Type	Wire Ranges AWG	Description	1-2
49F1263	K-220	18-14 to 16-12	Insulated and Noninsulated Quick Disconnects	39.79
49F1262	K-130	22-16 to 12-10	Insulated and Noninsulated Solderless Terminals	47.99
49F1265	K-140	22-16 to 12-10	Noninsulated Solderless Terminals	57.84
49F1260	K-120	22-16 to 12-10	Noninsulated Solderless Terminals	34.10
49F1264	K-180	22-16 to 12-10	Insulated Solderless Terminals	29.51

(5534) (ne07433)

SOLDERLESS TERMINALS

BARREL-STYLE TERMINALS

Ring terminals are available with vinyl or nylon insulation. Type numbers with **prefix FVL** are vinyl insulated terminals. FVL-type funnel entry design for easy wire entry is flared to permit use of oversized wire. Temperature rating: 75°C (167°F). Type numbers with **prefix FND** are nylon-insulated terminals. Feature FND-type nylon over extra copper support sleeve. Temperature rating: 105°C (221°F). All terminals are available tape-mounted for automated crimping; *to order, contact your local Newark sales office.*

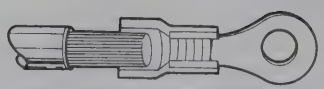


Fig. 1 Vinyl FVL-Type Insulated

Fig. 2 Nylon FND-Type Insulated Vibration-Resistant

RING TERMINALS

Stock No.	Type	Wire Range	Stud Size	Fig.	Std. Pkg.	1-4
84F315	FVL2216-S3AR2	22-16	4	1	100	5.45
84F316	FVL2216-M3R2	22-16	6	1	100	5.09
44F037	FVL2216-4R2	22-16	8	1	100	5.45
84F318	FVL2216-5R2	22-16	10	1	100	5.33
84F279	FVL2216-6R2	22-16	¼	1	100	7.63
84F280	FVL1614-M3R2	16-14	6	1	100	5.57
84F281	FVL1614-4R2	16-14	8	1	100	6.30
84F282	FVL1614-M5R2	16-14	10	1	100	6.18
84F283	FVL1614-6R2	16-14	¼	1	100	8.36
84F284	FVL1614-9R2	16-14	⅜	1	100	9.69
84F286	FVL1210-4R2	12-10	8	1	50	5.39
84F287	FVL1210-5R2	12-10	10	1	50	5.27
84F319	FVL1210-S6R2	12-10	¼	1	50	6.36
84F320	FVL1210-9R2	12-10	⅜	1	50	7.27
44F053	FND2216-S3	22-16	4	2	100	7.75
44F054	FND2216-M3	22-16	6	2	100	8.36
44F055	FND2216-4	22-16	8	2	100	8.84
44F056	FND2216-5	22-16	10	2	100	8.72
44F057	FND2216-6	22-16	¼	2	100	11.02
44F058	FND1614-M3	16-14	6	2	100	9.33
44F059	FND1614-4	16-14	8	2	100	10.05
44F060	FND1614-M5	16-14	10	2	100	9.93
44F061	FND1614-6	16-14	¼	2	100	12.11
44F064	FND1210-5	12-10	10	2	50	8.06
44F065	FND1210-S6	12-10	¼	2	50	9.21
44F067	FND1210-9	12-10	⅜	2	50	20.23

(5489) (de51210)

BARREL-STYLE LARGE AND HIGH-TEMPERATURE RING TERMINALS

Large ring terminals are available with or without insulation. High-temperature noninsulated ring terminals feature strong brazed seam barrel and nickel-plated steel. All terminals are available tape-mounted for automated crimping; *to order, contact your local Newark sales office.*

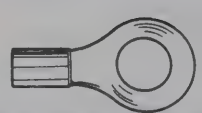


Fig. 3 Large Noninsulated Brazed Seam

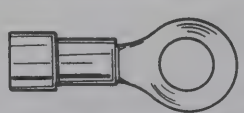


Fig. 4 Large Nylon Insulated

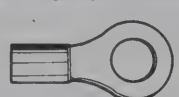


Fig. 5 High-Temperature (900°F) Nickel-Plated Steel

LARGE RING TERMINALS—NONINSULATED BRAZED SEAM

Stock No.	Type	Wire Range	Stud Size	Fig.	Std. Pkg.	1-4
16F9772	8-S5R1	8	10	3	50	5.94
16F9773	8-S6R1	8	¼	3	50	5.94
16F9774	8-8R1	8	5/16	3	50	6.97
16F9775	8-9R1	8	⅜	3	50	7.26
16F9776	6-5R1	6	10	3	50	10.11
16F9777	6-6R1	6	¼	3	50	10.42
16F9778	6-8R1	6	5/16	3	50	12.42
16F9779	6-9R1	6	⅜	3	50	12.42
16F9780	4-S5R1	4	10	3	50	16.59
16F9763	4-S6R1	4	¼	3	50	16.59
16F9764	4-8R1	4	5/16	3	50	17.44
16F9765	4-S9R1	4	⅜	3	50	16.59
16F9766	2-S5R1	2	10	3	25	11.78
16F9767	2-S6R1	2	¼	3	25	11.78
16F9768	2-S8R1	2	5/16	3	25	12.11
16F9769	2-S9R1	2	⅜	3	25	12.11
16F9771	1/0-9R1	1/0	⅜	3	10	7.31

LARGE RING TERMINALS — FLARED NYLON INSULATED

Stock No.	Type	Wire Range	Stud Size	Fig.	Std. Pkg.	1-4
16F9782	FN8-S5	8	10	4	50	11.07
16F9783	FN8-S6	8	¼	4	50	11.07
16F9784	FN8-8	8	5/16	4	50	12.08
16F9785	FN8-9	8	⅜	4	50	12.29
16F9786	FN6-5	6	10	4	50	16.67
16F9787	FN6-6	6	¼	4	50	17.26
16F9788	FN6-8	6	5/16	4	50	18.93
16F9789	FN6-9	6	⅜	4	50	18.93

NONINSULATED HIGH-TEMPERATURE RING TERMINALS, 900°F

Stock No.	Type	Wire Range	Stud Size	Fig.	Std. Pkg.	1-4
87F4455	WS1614-5HT	16–14	10	5	100	4.48
87F4456	WS1210-5HT	12–10	10	5	100	7.03
87F4457	WS1210-6HT	12–10	¼	5	100	8.48

(5488) (de51209)

MORE HOFFMAN PRODUCTS CRIMPING TOOLS ARE LISTED *on page 1129.*

(13550) (ne10173)

SOLDERLESS TERMINALS

SPADE TERMINALS

Available tape-mounted; *to order, contact your local Newark sales office.*

Stock No.	Type	Fig.	AWG	Stud Size	Pkg.	1-4
84F261	FVL2216-S3AR2	1	22-16	6	100	5.45
84F262	FVL2216-S4AR2	1	22-16	8	100	5.33
84F264	FVL1614-S3AR2	1	16-14	6	100	6.18
84F265	FVL1614-S4AR2	1	16-14	8	100	6.06
84F266	FVL1614-M5AR2	1	16-14	10	100	6.42
84F267	FVL1210-S3AR2	1	12-10	6	50	5.27
84F268	FVL1210-S4AR2	1	12-10	8	50	5.39
44F095	FND2216-S3A	2	22-16	6	100	8.84
44F096	FND2216-S4A	2	22-16	8	100	8.72
44F097	FND2216-M5A	2	22-16	10	100	9.21
44F098	FND1614-S3A	2	16-14	6	100	9.93
44F099	FND1614-S4A	2	16-14	8	100	9.81
44F100	FND1614-M5A	2	16-14	10	100	10.18
44F101	FND1210-S3A	2	12-10	6	50	8.12
44F102	FND1210-S4A	2	12-10	8	50	16.35
84F270	FVL2216-S3BR2	3	22-16	6	100	5.70
84F272	FVL1614-S3BR2	3	16-14	6	100	6.79
84F271	FVL1614-S4BR2	3	16-14	8	100	6.79
44F120	FND2216-S3B	4	22-16	6	100	9.09
44F121	FND2216-S4B	4	22-16	8	100	8.97
44F123	FND1614-S4B	4	16-14	8	100	10.54
44F406	FND-1614-S5B	4	16-14	10	100	10.42

(5486) (de51205)

Fig. 1 Vinyl FVL Type Insulated Spade

Fig. 2 Nylon FND Type Insulated Spade With Flared Metal Sleeve

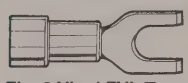


Fig. 3 Vinyl FVL Type Insulated Flanged Spade

Fig. 4 Nylon FND Type Insulated Flanged Spade With Flared Metal Sleeve

NONINSULATED FLAG TERMINALS

Stock No.	Type	Fig.	AWG	Stud Size	Pkg.	1-4
42F2483	FG1614-5	5	16-14	10	100	8.48
42F2486	FG1210-5	5	12-10	10	100	51.35

(5487) (de51207)

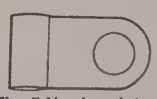


Fig. 5 Noninsulated Brazed Seam Flag

COLOR-CODED COMPRESSION LUGS WITH SIGHT HOLE

Stock No.	Type	Fig.	Cable Size	Bolt Size	Color	Pkg.	1-4
90F7172	TLS8-5	6	#8 Stranded or #8 Welding	10	Red	50	30.46
84F288	TLS6-5	6	#6 Stranded or #6 Welding	10	Blue	50	37.79
84F274	TLS8-6	6	#8 Stranded or #8 Welding	¼″	Red	50	30.46
90F7173	TLS6-6	6	#6 Stranded or #6 Welding	¼″	Blue	50	37.79
84F289	TLS6-9	6	#6 Stranded or #6 Welding	⅜″	Blue	50	41.78
90F7174	TLS4-6	6	#4 Stranded or #4 Welding	¼″	Gray	50	43.48
84F290	TLS4-9	6	#4 Stranded or #4 Welding	⅜″	Gray	50	48.50
84F291	TLS2-9	6	#2 Stranded	⅜″	Brown	25	26.64
90F7176	TLS1-6	6	#1 Stranded or #2 Welding	¼″	Green	20	21.97
84F292	TLS1-9	6	#1 Stranded or #2 Welding	⅜″	Green	20	21.97
90F7177	TLS1/0-9	6	1/0 Stranded or #1 Welding	⅜″	Pink	10	12.77
90F7178	TLS2/0-9	6	2/0 Stranded or 1/0 Welding	⅜″	Black	10	14.43
90F7179	TLS3/0-9	6	3/0 Stranded or 2/0 Welding	⅜″	Orange	10	17.43

(5555) (ne51208)

Fig. 6 Color-Coded Compression Lug with Sight Hole

BUTT CONNECTORS

Stock No.	Type	Fig.	AWG	Package	1-4
44F230	C2216*	7	22-16	100	6.42
44F217	C1614*	7	16-14	100	7.39
44F218	C1210*	7	12-10	100	10.90
44F219	FVC2216WS*	8	22-16	100	6.79
44F220	FVC1614-WS*	8	16-14	100	8.00
44F221	FVC1210(WS)*	8	12-10	100	13.57
44F222	FVC2216(1.07)*	9	22-16	100	9.33
44F223	FVC1614*	9	16-14	100	10.78
44F210	FVC1210*	9	12-10	100	15.14
84F296	FVC8R1	9	8	50	14.78
42F3699	NCL2216	10	22-18	100	8.00
42F3701	NCL1614R1	10	16-14	100	8.00

* Available tape-mounted; *to order, contact your local Newark sales office.*

(5463) (de03274)

Fig. 7 Noninsulated Butt Connector

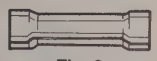


Fig. 8 Flared Vinyl Insulated Butt Connector

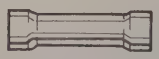


Fig. 9 Flared Vinyl Seamless Insulated Butt Connector

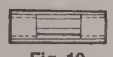


Fig. 10 Nylon Seamless Insulated Butt Connector

NEWARK MAKES IT EASY.

MORE PAYMENT OPTIONS! USE YOUR MAJOR CREDIT CARD, CORPORATE PURCHASING CARD, PUT IT ON YOUR ACCOUNT, OR PLACE A C.O.D. ORDER.

DISCONNECTS

Fig. 1 Nylon Insulated with Metal Sleeve

Fig. 2 Vinyl Insulated Funnel Entry with Metal Sleeve

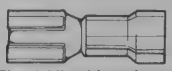


Fig. 3 Vinyl Insulated

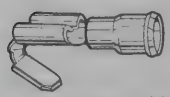


Fig. 4 Vinyl Insulated with Metal Sleeve

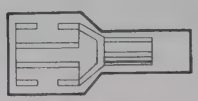


Fig. 5 Vinyl Insulated Funnel Entry with Metal Sleeve

Fig. 6 Nylon Insulated with Metal Sleeve

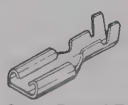


Fig. 7 Open Barrel Female Disconnect

Fig. 8 Fully Insulated Vinyl Bullet Receptacle with Metal Sleeve

Fig. 9 Vinyl Insulated Male Bullet with Metal Sleeve

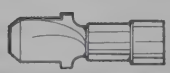


Fig. 10 Nylon Insulated Male Tabs With Metal Sleeve

Fig. 11 Vinyl Insulated Male Tab With Metal Sleeve

Fig. 12 Noninsulated Flag-Type Disconnect

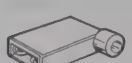


Fig. 13 Fully Insulated Nylon Flag-Type Female Disconnect

Fig. 14 Nylon Insulated Double Male Tab Disconnect

Fig. 15 Double Male Single Female Noninsulated Disconnect

FEMALE DISCONNECTS

Stock No.	Type	AWG	Tab Size	Male Tab Size	Fig.	Pkg.	1-4
44F125	FNDDF2216T-110A5*	22-16	0.110″	0.020″	1	100	7.51
44F126	FNDDF2216T-110A8*	22-16	0.110″	0.032″	1	100	6.66
44F127	FNDDF2216T-187A5*	22-16	0.187″	0.020″	1	100	7.51
44F128	FNDDF2216T-187A8*	22-16	0.187″	0.032″	1	100	7.51
44F130	FNDDF1614T-187A8*	16-14	0.187″	0.032″	1	100	7.88
44F131	FNDDF2216T-250A*	22-16	0.250″	0.032″	1	100	8.60
44F132	FNDDF1614T-250A*	16-14	0.250″	0.032″	1	100	8.60
44F133	FNDDF1210T-250A*	12-10	0.250″	0.032″	1	50	6.24
84F324	FVHDF2216T187A(5)*	22-16	0.187″	0.020″	2	100	8.36
84F325	FVHDF1614T187A(5)*	16-14	0.187″	0.020″	2	100	8.97
84F321	FVHDF2216T-250A*	22-16	0.250″	0.032″	2	100	9.57
84F322	FVHDF1614T-250A*	16-14	0.250″	0.032″	2	100	10.18
44F155	FVDF2216T-250A*	22-16	0.250″	0.032″	3	100	6.06
44F171	FVDDFM2216T-250A	22-16	0.250″	0.032″	4	100	11.63
98F7036	FVDDFM1614T-250A	16-14	0.250″	0.032″	4	50	6.12

* Available tape-mounted; *to order, contact your local Newark sales office.*
(5466) (de03277)

FULLY INSULATED FEMALE DISCONNECTS

Stock No.	Type	AWG	Tab Size	Male Tab Size	Fig.	Pkg.	1-4
84F298	LVHDF2216T187A(5)*	22-16	0.187″	0.020″	5	100	10.42
84F300	LVHDF1614T187A(5)*	16-14	0.187″	0.020″	5	100	11.27
84F301	LVHDF1614T187A(8)*	16-14	0.187″	0.032″	5	50	5.63
44F162	LVHDF2216T-250A*	22-16	0.250″	0.032″	5	50	5.82
84F303	LVHDF1614T-250A*	16-14	0.250″	0.032″	5	50	6.30
44F164	LVDDF1210T-250A*	12-10	0.250″	0.032″	5	50	6.60
51F3912	LNDDF2216T110T5*	22-16	0.110″	0.020″	6	100	12.36
51F3913	LNDDF2216T110T8*	22-16	0.110″	0.032″	6	100	12.36

* Available tape-mounted; *to order, contact your local Newark sales office.*
(5517) (ne03278)

OPEN BARREL FEMALE DISCONNECTS

Stock No.	Type	AWG	Tab Size	Fig.	Pkg.	1-4
44F165	LTO-01T-110N	24-20	0.020 x 0.110″	7	100	2.67
44F166	LTO-41T-110N	20-16	0.020 x 0.110″	7	100	4.12
44F167	LTO-41T-187N	20-16	0.020 x 0.187″	7	100	3.39
44F170	LTO-21T-250N	22-18	0.032 x 0.250″	7	100	7.51
44F409	LTO-61T-250N	18-24	0.032 x 0.250″	7	100	7.88
44F410	LTO-81T-250N	14-10	0.032 x 0.250″	7	100	7.88

(5518) (ne03279)

INSULATED BULLET AND RECEPTACLE DISCONNECTS

Stock No.	Type	AWG	Size	Fig.	Pkg.	1-4
44F482	CVDGF2216T-5*	22-16	0.156″	8	50	5.27
44F483	CVDGF1614T-5*	16-14	0.156″	8	50	5.39
44F484	FVDGM2216T-5*	22-16	0.156″	9	100	8.97
44F485	FVDGM1614T-5*	16-14	0.156″	9	100	8.97

* Available tape-mounted; *to order, contact your local Newark sales office.*
(5482) (de51162)

MALE TABS

Stock No.	Type	AWG	Size	Fig.	Pkg.	1-4
44F173	FNDDM2216T-250*	22-16	0.032 x 0.250″	10	100	8.48
44F174	FNDDM1614T-250*	16-14	0.032 x 0.250″	10	100	8.36
44F179	FVDDM2216T-250*	22-16	0.032 x 0.250″	11	100	7.03
44F180	FVDDM1614T-250*	16-14	0.032 x 0.250″	11	100	7.39

* Available tape-mounted; *to order, contact your local Newark sales office.*
(5485) (de51166)

FLAG DISCONNECTS

Stock No.	Type	AWG	Fits Tab	Fig.	Pkg.	1-4
42F3755	DF2218-1ST	22-18	0.187 x 0.032″	12	100	6.66
42F3756	DF1814-1T	18-14	0.250 x 0.032″	12	100	3.27
42F3757	DF1814-1ST	18-14	0.187 x 0.032″	12	100	6.18
44F476	FNDF1814-1T	18-14	0.250 x 0.032″	13	100	9.69
95F5408	FNDF2218-1T	22-16	0.250 x 0.032″	13	100	9.69

(5483) (de51164)

ADAPTERS FOR 0.250″ (6.35) DISCONNECTS

Stock No.	Type	Fits Tab	Fig.	Pkg.	1-4
44F477	VCDF1814-11RT	0.250 x 0.032″	14	100	10.42
44F478	2DM-1DF(250)	0.250 x 0.032″	15	100	10.18

(5484) (de51165)

CLIPS AND TOOLS

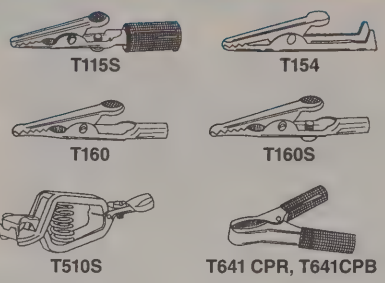
ALLIGATOR CLIPS

All are steel with nickel plating. **Suffix S** in type number indicates clip with screw.

Stock No.	Type	Amp	Clip Length	Handle Insulat.	Max. Jaw Opening	Package Size	1-49
90F7186	T115SR	10	2.3″	Red	0.32″	Each	**0.20**
90F7187	T115SB	10	2.3″	Black	0.32″	Each	**0.20**
90F7188	T154	5	1.2″	None	0.24″	Each	**0.12**
90F7189	T641CPR	50	3.0″	Red	0.87″	Each	**0.39**
90F7190	T641CPB	50	3.0″	Black	0.87″	Each	**0.40**

Stock No.	Type	Amp	Clip Length	Handle Insulat.	Max. Jaw Opening	Package Size	1-4
42F2393	T160	10	2.0″	None	0.32″	500	**59.95**
42F2394	T160S	10	2.0″	None	0.32″	500	**68.44**
42F2398	T510S	10	2.0″	None	0.43″	500	**107.13**

(5478) (de51156)

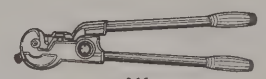


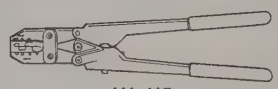
HEAVY-DUTY LEVER-TYPE CRIMPING TOOLS

AK series have cast aluminum head, hardened steel dies. Crimp uninsulated terminals without changing dies. Nests rotate in head. Wire sizes on each nest in decimal and metric. Nickel-chrome plated steel handles. Molded plastic grip. Length: 24¾″. **Type 111** crimps insulated, non-insulated terminals and splices. **Type 115** crimps TLS tubular compression lugs in wire sizes 6 AWG through 4/0.

Stock No.	Type	AWG	1-2
44F511	AK-38	8,6,4,2	**220.88**
44F512	AK-60	6,4,2,1/0	**220.88**
90F7191	111	8,6,4,2	**107.72**
84F310	115	6 through 4/0	**132.71**

(5477) (de51155)


AK


111, 115

RATCHET-TYPE CRIMPING TOOLS

Release only when crimp cycle is completed. Color-coded handles. **Types YHT2210** and **YHM-61** have heavy-duty crimping heads for non-insulated terminals and connectors to 26 AWG. **Type YNG2214** is for **FNDF series** flag disconnects only, *order separately on page 1128.*

FOR INSULATED TERMINALS

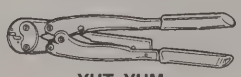
Stock No.	Type	AWG	Length	Weight	1-4
44F377	YNT2622	26-22	10¾″	1¼ lbs.	**148.50**
44F381	YNM112	22-16, 16-14	11″	1 lbs.	**61.24**
42F2343	YNM-123	16-14, 12-10	11″	1 lbs.	**60.90**
16F3103	YNG2214	22-14	9½″	1 lbs.	**72.74**

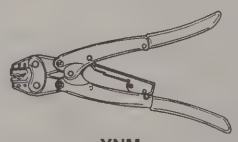
FOR NON-INSULATED TERMINALS

44F376	YHT-2210	22-16, 16-14, 12-10	12″	1 lbs.	**92.56**
44F510	YHM-61	22-16, 16-14, 12-10, 8	10½″	1 lbs.	**36.75**

(5479) (de51157)

YNT2622


YHT, YHM

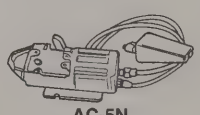

YNM

PNEUMATIC (AIR) CRIMPING TOOL

AC-5N portable/bench type, foot operated. With hose and foot pedal. Crimp non-insulated, insulated, closed end terminals. *Order jaws separately; contact your local Newark sales office.*

Stock No.	Type	Description	AWG	Each
42F2316	AC-5N	Portable/Bench	22-10	**971.65**

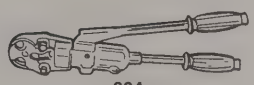
(5481) (de51159)


AC-5N

HYDRAULIC HAND CRIMPING TOOL

Rotary nest, swivel head. Crimps non-insulated terminals 6 AWG-300 MCM. Includes nests, indentors, case.

90F7194 Type 604. **1-4** **1476.04**
(10125) (ne09839)


604

TYPE Y-510B WIRE STRIPPER

Ground blades avoid damage to conductor. With locking action. Vinyl handle. For 20-12 AWG.

44F513 Type Y-510B. **Each**..... **8.34**
(10126) (ne09840)

Y-510B

TYPE Y801 PLIER TYPE HAND TOOL

Milled steel. Has wire cutter stripper, bolt cutter, thread chaser. For insulated and non-insulated terminals. Strips wire 22, 18, 14, 12, 10 AWG. Crimps terminals sizes 22-16, 16-14, 12-10 AWG.

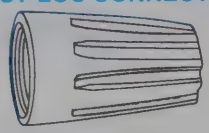
87F4304 Type Y801. **Each**..... **3.15**
(10127) (ne09841)

Y801

NEWARK ACCEPTS MAJOR CREDIT CARDS.
CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR DETAILS.

CONNECTORS AND KITS

TWIST-LOC CONNECTORS

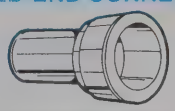


Pressure-type wire connectors twist on easily. Feature color-coded plastic shell with wire insert. Inner spring bites the wires to make a quick, secure electrical connection. Temperature rating: 105°C (221°F). UL listed, CSA certified. **Sold in packages of 100.**

Stock No.	Type	Color	Voltage	Wire Combination Min.	Wire Combination Max.	1-4
16F3100	HE1	Gray	300	3#22	3#18	2.92
16F3101	HE2	Blue	300	3#20	3#16	3.35
16F3102	HE3	Orange	600	1#14 & 1#22	2#14	3.70
16F3093	HE4	Yellow	600	1#14 & 1#18	2#12 & 1#16	9.31
16F3094	HE5	Red	600	2#14 & 1#18	1#10 & 3#12	13.07

(5537) (ne08234)

CLOSED-END CONNECTORS



Nylon Insulated Closed-End "Pig-Tail" Connector

Stock No.	Type	AWG	Package	1-4
44F382	2218-SDB-1000	22-18	1000	46.20
44F227	2218-SDB-100	22-18	100	5.33
44F383	1614-SDB-1000	16-14	1000	49.14
44F228	1614-SDB-100	16-14	100	5.57
44F384	1210-SDB-500	12-10	500	43.26

*Available tape-mounted; *to order, contact your local Newark sales office.*

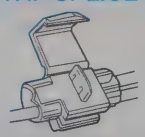
(5462) (de03273)

SEAMLESS NONINSULATED PARALLEL CONNECTORS

Stock No.	Type	AWG	Pkg.	1-4
44F214	P2216	22-16	100	3.52
44F215	P1614	16-14	100	4.24

(5464) (de03275)

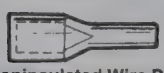
VINYL QUICK-TAP SPLICE CONNECTORS



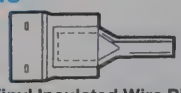
Stock No.	Type	AWG	Color Code	Pkg.	1-4
87F4448	TP18	22-18	Red	100	7.39
87F4449	TP14	16-14	Blue	100	6.79
87F4450	TP10	12-10	Yellow	100	10.42

(5465) (de03276)

WIRE PINS



Noninsulated Wire Pin

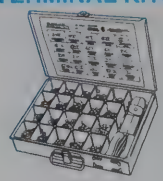


Vinyl Insulated Wire Pin

Stock No.	Type	AWG	Insulated	Pin Lgth.	Pin Dia.	Pkg.	1-4
44F466	PC2216	22-16	No	0.47″	0.075″	100	3.64
44F467	PC1614	16-14	No	0.47″	0.075″	100	5.21
44F468	PC1210	12-10	No	0.55″	0.114″	100	10.54
95F5407	FVLPC2216R2	22-16	Yes	0.47″	0.075″	100	5.45
44F470	FVLPC1614	16-14	Yes	0.47″	0.075″	100	8.12
44F471	FVLPC1210	12-10	Yes	0.55″	0.114″	50	9.39

(5554) (ne51163)

TERMINAL KITS



A21K4

Type A18K4 kit contains 175 insulated terminals and connectors in 18 styles. Heavy-duty plastic see-through hinged box with 18 compartments. Size: 8 × 4 × 1¼″. Complete with crimping tool . **Type A18K** does not include crimping tool.

Stock No.	Type	1-4
44F369	A18K4	11.49
44F368	A18K	9.73

Type A21K4 kit contains 500 insulated terminals and connectors. Heavy-duty metal box with handle and clasp. 21 compartments. Size: 13 × 9½ × 2″. Complete with **type Y801** crimping tool. **Type A21K** does not include crimping tool.

Stock No.	Type	1-4
44F371	A21K4	65.92
44F370	A21K	54.68

Type A24K4 kit contains 3000 insulated terminals and connectors with heavy-duty **type Y801** crimping tool. 24 compartments containing 24 styles of rings in 8 sizes, spades in 4 sizes, fully insulated and vinyl insulated quick disconnects in 6 sizes. 2 sizes closed end connectors. 3 sizes butt connectors, and 16-14 tap splices. Heavy-duty metal box with handle and clasp. Size: 18 × 3 × 12″.

Stock No.	Type	1-4
87F6853	A24K4	248.12

(5553) (ne51160)

CABLE TIE KITS

Handy kits provide everything you need to wrap cable into neat bundles. *Order cable tying tool and kit refills separately below.*

Type CTK-100 kit contains 780 pieces of 11 different cable ties and mounts.
66F6699 Type CTK-100. **Each** **30.31**

Type CTK-200 kit contains 1000 pieces of 15 different cable ties, mounts, twist ties, and clamps in a metal case.
66F6700 Type CTK-200. **Each** **46.35**

Type CTG-100 lightweight, hand-operated cable tying tool with 4-position setting. Obtains uniform, preset tension and flush cut-off every time. Rejects the cut-off portion without leaving sharp edges.
42F2286 Type CTG-100. **Each** **16.72**

CABLE TIE KIT REFILLS

Stock No.	Type	Description	Package	1-4
16F3096	8800	4″/18 lbs. Tensile Strength Tie	100	2.14
16F3095	8801	5½″/30 lbs. Tensile Strength Tie	100	3.40
16F3099	8802B	7½″/50 lbs. Tensile Strength Tie	100	6.14

(5522) (ne06116)

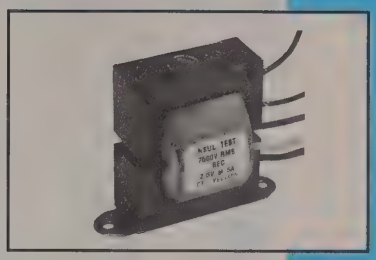
IF YOU DON'T SEE THE PRODUCT YOU NEED LISTED HERE - CALL!
1-800-4-NEWARK
(1-800-463-9275)

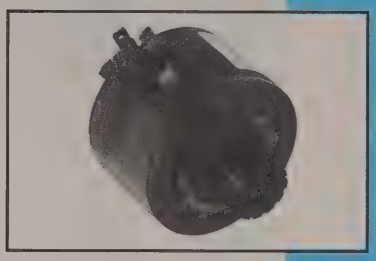
Transformers

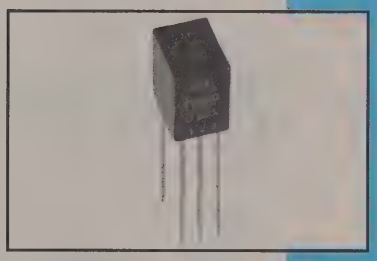
Pages 1132—1153

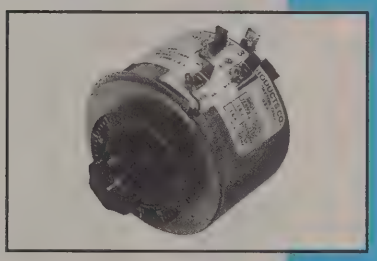
22

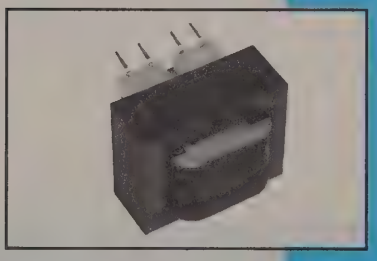
- Hammond Manufacturing
- MagneTek/Triad
- Payne Engineering
- Sola/Hevi-Duty
- SPC Technology
- Staco Energy Products Co.
- Stancor
- Superior Electric









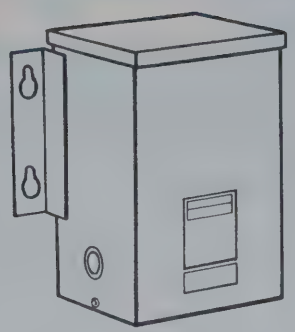


Products include...

- Audio Transformers
- General-Purpose Transformers
- Industrial Control Transformers
- Isolation Transformers
- PC Board Mount Transformers
- Plug-in Transformers
- Power Transformers
- Solid-State Power Controls
- Universal Rectifier Transformers
- Variable Transformers

TRANSFORMERS

GENERAL PURPOSE DISTRIBUTION TRANSFORMERS



Style 2

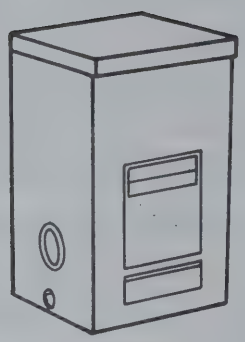
Typical applications include: Hospitals, industrial plants, schools, shopping centers, office, commercial, apartment, high rise and institutional buildings. Sola/Hevi-Duty general purpose distribution transformers are available in single phase sizes. 0.050 to 250 kVA and 3 phase from 3 to 500 kVA in a wide range of primary and secondary voltage combinations. Benefits include free shielding on 1kVA and above, UL-3R enclosures standard, fast delivery, easy installation and the industry's only "10 + 2" factory warranty. UL listed, CSA certified.

240 x 480 VOLT PRIMARY, 120/240 VOLT SECONDARY

Stock No.	Type	kVA	H	W	D	Wt.	Design Style	Each
16F1413	HS1B50	0.050	6.94″	6.38″	4.06″	6.2 lbs	3	35.69
16F1416	HS1B75	0.075	6.94″	6.38″	4.06″	6.9 lbs	3	41.04
16F1417	HS1B100	0.100	6.94″	6.38″	4.06″	7.5 lbs	3	44.74
16F1420	HS1B150	0.150	6.94″	6.38″	4.06″	8.9 lbs	3	56.58
16F1423	HS1B250	0.250	6.94″	6.38″	4.06″	11.1 lbs	3	66.23
16F1403	HS1F500B	0.500	9.88″	8.75″	5.38″	22.0 lbs	2	89.04
16F1406	HS1F750B	0.750	9.88″	8.75″	5.38″	25.0 lbs	2	112.28
16F1409	HS1F1BS	1	9.88″	8.75″	5.38″	28.6 lbs	2	129.39
92F5240	HS1F1.5AS	1.5	12.18″	9.88″	6.56″	38.0 lbs	2	160.52
92F5241	HS1F2AS	2	12.18″	9.88″	6.56″	45.0 lbs	2	196.49
92F5242	HS5F3AS	3	12.18″	9.88″	6.56″	55.0 lbs	4	229.82
92F5243	HS5F5AS	5	17″	13.5″	8.6″	100.0 lbs	4	339.28
92F5244	HS5F7.5AS	7.5	17″	13.5″	8.6″	135.0 lbs	4	432.58

(5753) (ne04042)

BUCK-BOOST TRANSFORMERS



Style 3

Sola/Hevi-Duty buck-boost transformers are an ideal solution for economically changing line voltage by small amounts. These small, single phase, dry-type distribution transformers have a dual voltage primary and secondary, making them unique in their ability to be connected in a wide range of voltage combinations. The most common use is to buck (lower) or boost (raise) the supply voltage a small amount, usually ±5 to 27%. Buck-boost are UL-3R listed for outdoor service, compact in size, and are execellent for use in low voltage lighting and control applications, or any systems requiring 12, 16, 24, 32, or 8 volts. UL listed, CSA certified.

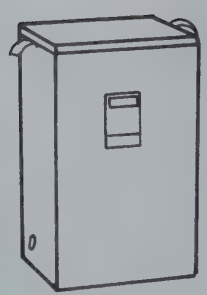
SINGLE PHASE, 120 x 240 PRIMARY, 12/24 SECONDARY 60 HZ

Stock No.	Type	kVA	H	W	D	Wt.	Design Style	Each
16F1414	HS19B50	0.050	4.5″	6.75″	8.0″	6.2 lbs	3	48.69
16F1418	HS19B100	0.100	6.94″	6.38″	4.06″	7.5 lbs	3	58.33
16F1421	HS19B150	0.150	6.94″	6.38″	4.06″	8.9 lbs	3	66.67
16F1424	HS19B250	0.250	6.94″	6.38″	4.06″	11.1 lbs	3	75.00
16F1404	HS19F500B	0.500	9.88″	8.75″	5.38″	22.0 lbs	2	98.68
16F1407	HS19F750B	0.750	9.88″	8.75″	5.38″	25.0 lbs	2	132.02
16F1411	HS19F1B	1	9.88″	8.75″	5.38″	28.6 lbs	2	163.59
92F5253	HS19F1.5A	1.5	12.8″	9.88″	6.56″	38.0 lbs	2	200.00

SINGLE PHASE, 120 x 240 PRIMARY, 10/20 SECONDARY 60 HZ

Stock No.	Type	kVA	H	W	D	Wt.	Design Style	Each
16F1415	HS20B50	0.050	6.94″	6.38″	4.06″	7.5 lbs	3	51.76
16F1419	HS20B100	0.100	6.94″	6.38″	4.06″	8.9 lbs	3	68.42
16F1422	HS20B150	0.150	6.94″	6.38″	4.0″	11.1 lbs	3	71.93
16F1425	HS20B250	0.250	9.88″	8.75″	5.38″	22.0 lbs	3	78.51
16F1405	HS20F500B	0.500	9.88″	8.75″	5.38″	25.0 lbs	2	103.51
16F1408	HS20F750B	0.750	9.88″	8.75″	5.38″	28.6 lbs	2	132.02
16F1412	HS20F1B	1	12.8″	9.88″	6.56″	38.0 lbs	2	166.66

(5648) (de04043)



Style 4

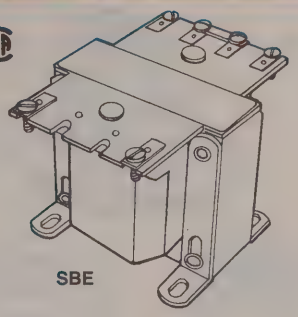
LET NEWARK CONNECT™ AUTOMATICALLY REPLENISH YOUR INVENTORY.
CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR DETAILS.

INDUSTRIAL CONTROL TRANSFORMERS

SBE SERIES INDUSTRIAL CONTROL TRANSFORMERS

- **10-20% More Output VA Capacity**
- **Exceeds NEMA Standards**
- **Cooler Operation**
- **Excellent Voltage Regulation**

SBE series epoxy encapsulated design series meets high inrush loads with smaller transformers and less cost per VA. **SBE series** transformers are encapsulated to permit more efficient heat dissipation for cooler operation and higher VA capacity. The higher rated capacity provides you the opportunity of meeting high inrush electromagnetic load requirements for either 50 or 60Hz applications, with smaller transformers and less cost per VA. **SBE series** establishes a new VA rating criterion that makes traditional VA standards obsolete. UL listed, CSA certified.

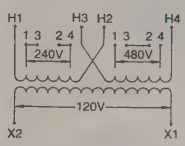


SBE

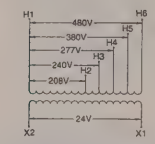
120 x 240 VOLT PRIMARY, 24 VOLT SECONDARY

Stock No.	Type	VA	H	W	D	Wt.	Each
92F5267	E060E	60	2.81″	3.0″	3.56″	2.5 lbs.	31.05
92F5268	E095E	95	3.13″	3.38″	3.56″	3.7 lbs.	39.15
92F5269	E105E	105	3.13″	3.38″	3.56″	4.1 lbs.	41.85
92F5270	E180E	180	4.13″	4.50″	4.44″	7.0 lbs.	53.07
92F5272	E320E	320	4.94″	5.25″	4.94″	11.8 lbs.	84.91
240 x 480 VOLT PRIMARY, 120 VOLT SECONDARY							
92F5284	E060	60	2.81″	3.0″	3.56″	2.5 lbs.	27.00
92F5285	E095	95	3.13″	3.38″	3.56″	3.7 lbs.	32.07
92F5286	E105	105	3.13″	3.38″	3.56″	4.1 lbs.	35.10
92F5287	E180	180	4.13″	4.50″	4.44″	7.0 lbs.	41.85
92F5288	E225	225	4.13″	4.50″	4.69″	8.0 lbs.	50.42
92F5289	E275	275	4.13″	4.50″	5.06″	9.8 lbs.	56.63
92F5291	E380	380	4.94″	5.25″	5.44″	14.2 lbs.	70.33
92F5292	E550	550	4.94″	5.25″	5.94″	17.6 lbs.	84.91
92F5293	E850	850	5.88″	6.38″	6.88″	26.5 lbs.	119.42
92F5294	E1100	1100	5.88″	6.38″	7.13″	33.5 lbs.	145.95
208/240/277/380/480 VOLT PRIMARY, 24 VOLT SECONDARY							
92F5273	E060CK	60	3.13″	3.38″	3.56″	3.7 lbs.	43.18
92F5274	E095CK	95	3.13″	3.38″	3.56″	4.1 lbs.	46.44
92F5275	E180CK	180	4.13″	4.50″	4.69″	8.0 lbs.	59.72
92F5277	E380CK	380	4.94″	5.25″	5.44″	14.2 lbs.	95.53
92F5278	E550CK	550	5.88″	6.38″	6.88″	26.5 lbs.	99.51
UNIVERSAL VOLTAGE 240/416/480/600 VOLT PRIMARY, 130/120/99 VOLT SECONDARY (NOT ENCAPSULATED)							
92F5282	E550N	550	5.88″	6.38″	6.88″	26.5 lbs.	167.17

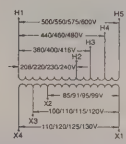
(5649) (da04044)



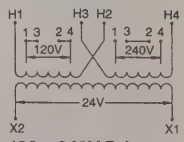
240 x 480V Primary, 120V Secondary



208/240/277/380/480V Primary, 24V Secondary



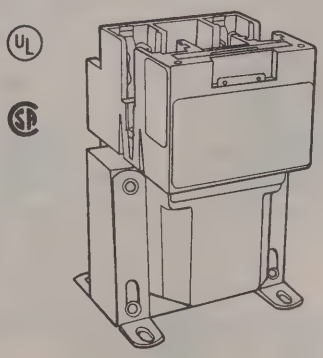
240/416/480/600V Primary, 130/120/94V Secondary (Not Encapsulated)



120 x 240V Primary, 120V Secondary

SBE-3PB SERIES INDUSTRIAL CONTROL TRANSFORMERS

SPE-3PB series industrial control transformers simplify compliance with NEC and UL-5 fusing requirements. They feature an integrally mounted fuse block, available in five different fuse combinations, prewired to the transformer. This saves you the time and associated labor cost of buying and installing separate fuse blocks. UL listed, CSA certified.



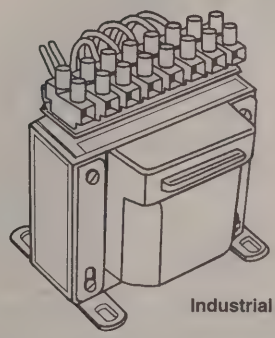
240 x 480 VOLT PRIMARY, 120 VOLT SECONDARY

Stock No.	Type	VA	H	W	D	Wt.	Each
92F5295	E060-3PB	60	4.38″	3.00″	3.56″	2.5 lbs.	44.54
92F5297	E105-3PB	105	4.63″	3.38″	3.56″	4.1 lbs.	51.76
92F5298	E180-3PB	180	5.56″	4.50″	4.44″	7.0 lbs.	58.39
92F5299	E225-3PB	225	5.56″	4.50″	4.69″	8.0 lbs.	67.67
92F5301	E320-3PB	320	6.44″	5.25″	4.94″	11.8 lbs.	79.62
92F5305	E1100-3PB	1100	7.25″	6.38″	7.13″	33.5 lbs.	163.19

(5650) (da04045)

INDUSTRIAL CONTROL TRANSFORMER

- **Copper Wound with Interleaved Windings**
- **High-Grade Silicone Steel Core Laminations**
- **Solid Epoxy Encapsulation**
- **Lead Terminations Comply with IEC-742**
- **Ten-Year Warranty**
- **UL Listed, CSA Certified, CE Approved**
- **Other VA ratings available**



Industrial Control

VOLTAGE CONFIGURATIONS 230/380/415/460/575-115/24, 50/60Hz

Stock No.	Type	VA	Height	Width	Depth	Mtg. Width	80 Rise Mtg. Depth	Slot Size	Approx. Weight	11 Pt. Core Width	Each
52F7309	CE250RP	250	5.82″	5.25″	3.78″	4.38″	3.25″	.31 x .69″	11.9 lbs.	5.25″	138.47

(20528) (ne11185)

SOLA/HEAVY-DUTY INDUSTRIAL CONTROL TRANSFORMERS ARE AVAILABLE IN ADDITIONAL VA RATINGS.

CONTACT YOUR LOCAL NEWARK SALES OFFICE.

(31694) (ne31694)

TRANSFORMERS

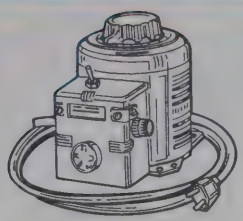


Fig. 1

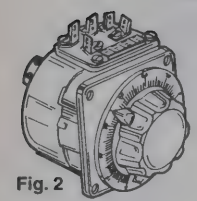


Fig. 2

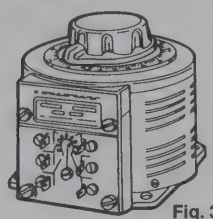


Fig. 3

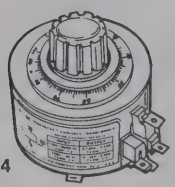


Fig. 4

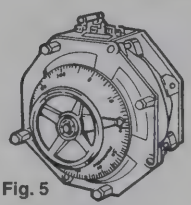


Fig. 5

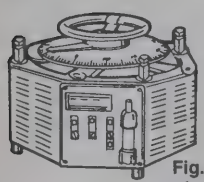


Fig. 6

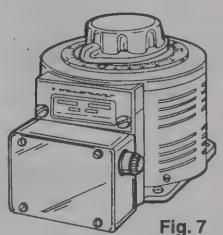


Fig. 7

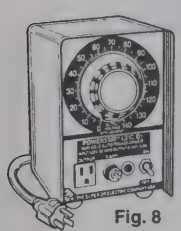


Fig. 8

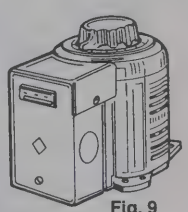


Fig. 9

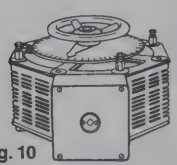
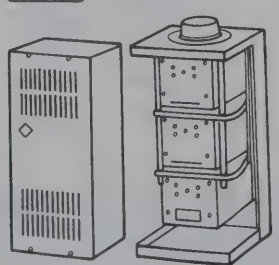


Fig. 10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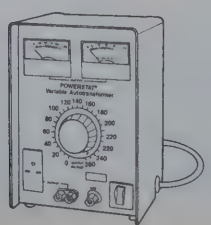
L2M

POWERSTAT® SERIES VARIABLE TRANSFORMERS

- **Rugged Construction**
- **No Waveform Distortion**
- **Smooth, Linear Control of Output Voltage**
- **High Overload Capacity**
- **Low Resistance, High-Efficiency Coils**
- **UL Recognized, CSA Certified**

Variable transformers provide continuously adjustable output voltage from utility line voltage. Movable brush-taps ride on commutators. Rotation of brush by manual or motor-driven means delivers any voltage in the range between zero and line voltage. Feature epoxy-coated POWERKOTE® coils for long life, greater ratings/overload capacities and better resistance to fungus, salt spray and other contaminants. All models available with motor drives except **types 10C, L10C, 12. Types 1156DU, 1256DU** available with ratings to 365 kVA. Units with **prefix L** are totally enclosed with grounded NEMA cord/plug assembly, on/off switch, pilot light, fuse and grounded output receptacle. **Prefix 3PN** denotes models with 3-wire cord/receptacle. *Order Powerstat® transformer enclosures separately on this page.* Additional styles, assemblies and voltage ratings are available; *contact your local Newark sales office.*

120V SINGLE-PHASE INPUT

Stock No.	Type	Fig.	Hertz	Output Volts	Constant Current Load Max. Amps	Constant Current Load Max. kVA	Constant Impedance Load Max. Amps	Constant Impedance Load Max. kVA	Each
05F800	10C	4	50/60	0-120	2.25	0.27	3.00	0.36	**65.53**
79W050	L10C	8	60	0-132	2.25	0.23	...	...	**189.11**
05F809	21*	2	50/60	0-140	5.00	0.70	7.00	0.84	**115.97**
79W051	L21C	8	50/60	0-140	4.50	0.63	...	...	**248.07**
05F807	116CU*	2	50/60	0-140	10.00	1.40	...	...	**141.27**
79W052	116CT	9	50/60	0-120	10.00	1.20	13.00	1.60	**212.49**
05F1271	L116C	8	50/60	0-140	10.00	1.40	...	...	**290.77**
05F857	3PN116C	1	50/60	0-140	10.00	1.40	...	...	**212.49**
05F743	117CU*	2	60	0-120	12.00	1.40	15.00	1.80	**156.27**
05F839	117CT	9	60	0-120	12.00	1.40	15.00	1.80	**212.49**
05F740	3PN117C	1	60	0-120	12.00	1.40	15.00	1.80	**248.07**
92F2222	126T	9	50/60	0-120	15.00	1.80	20.00	2.40	**336.52**
05F767	126U*	2	50/60	0-140	15.00	2.10	...	...	**263.32**
05F766	126	3	50/60	0-140	15.00	2.10	...	...	**296.87**
94F316	136BT	9	50/60	0-120	22.00	2.60	28.00	3.40	**455.37**
06F158	136BU*	2	50/60	0-140	22.00	3.10	...	...	**369.01**
05F812	136B	3	50/60	0-140	22.00	3.10	...	...	**399.43**
92F2223	146T	9	50/60	0-120	30.00	3.60	35.00	4.20	**706.60**
79W059	146U*	2	50/60	0-140	30.00	4.20	...	...	**582.95**
05F1232	146	3	50/60	0-140	30.00	4.20	...	...	**654.59**
05F808	1156D	6	50/60	0-140	50.00	7.00	...	...	**881.29**
79W060	1156DU*	5	50/60	0-140	50.00	7.00	...	...	**838.11**

240V SINGLE-PHASE INPUT

05F1229	12	4	50/60	0-240	0.70	0.27	3.00	0.36	**95.60**
05F672	216CU*	2	50/60	0-280	3.50	0.98	...	...	**185.04**
79W061	3PN216C	1	50/60	0-280	3.50	0.98	...	...	**253.16**
05F685	217CU*	2	60	0-240	5.00	1.20	7.00	1.70	**189.11**
06F159	3PN217C	1	60	0-240	5.00	1.20	7.00	1.70	**291.79**
05F769	226U*	2	50/60	0-280	7.50	2.10	...	...	**263.32**
05F768	226	3	50/60	0-280	7.50	2.10	...	...	**296.87**
79W062	3PN226	1	50/60	0-280	7.50	2.10	...	...	**376.86**
92F2225	236BT	9	50/60	0-240	10.00	2.40	3.00	3.10	**455.37**
05F813	236B	3	50/60	0-280	10.00	2.80	...	...	**399.43**
05F623	F236B	7	50/60	0-280	10.00	2.80	...	...	**499.53**
06F160	3PN236B	1	50/60	0-280	10.00	2.80	...	...	**547.62**
06F161	236BU*	2	50/60	0-280	10.00	2.80	...	...	**369.01**
79W063	246U*	2	50/60	0-280	15.00	4.20	...	...	**582.95**
05F1234	246	3	50/60	0-280	15.00	4.20	...	...	**654.59**
79W064	F246	7	50/60	0-280	15.00	4.20	...	...	**763.52**
05F806	1256D	6	50/60	0-280	28.00	7.80	...	...	**881.29**
94F312	1256DT	10	50/60	0-240	28.00	6.70	28.00	6.70	**963.73**
79W065	1256DU*	5	50/60	0-280	28.00	7.80	...	...	**815.66**
92F2226	1296DT	10	50/60	0-240	35.00	8.40	39.00	9.40	**1171.91**
50F3796	1296D	6	50/60	0-280	35.00	9.60	...	...	**1104.06**
50F3797	1296DU*	5	50/60	0-280	35.00	9.60	...	...	**1021.00**

*Motor version available. Newark also stocks many replacement parts for Superior Electric products

(5608) (de01950)

PBA SERIES POWERSTAT® VARIABLE TRANSFORMER ENCLOSURE

Designed to house open construction **(U suffix)** Powerstat® transformers. Meets NEMA enclosure Type 1 per ICS 1-110 standard. Heavy-gauge steel construction. Units are assembled with a full range of knockouts and hardware. Designed to protect users against contact with enclosed transformer. NOTE: For use in indoor areas. Additional sizes are available; *contact your local Newark sales office.*

Stock No.	Type	Gangs in Assembly	Fits Transformer Type	Weight (lbs/kg)	Each
70B1911	PBA-10N01-1	1	21, 22, 21-40, 116CU, 117CU, 116CU-40, 216CU, 217CU	7/3.2	**117.64**

(5609) (de01951)

L2M SERIES POWERSTAT® VARIABLE TRANSFORMERS

Laboratory-type devices. Equipped with output voltage and current meters, binding post connections, on/off switch, and rocker style "on indicating" thermal magnetic circuit breaker. Input voltage: 120VAC single-phase. Output voltage: either 0-140VAC or 0-280VAC. Hertz: 50/60.

Stock No.	Type	Output Volts	Constant Current Load Max. Amps	Constant Current Load Max. kVa	Each
91F5311	L2M116C	0-140	10	1.4	**503.31**
91F5312	L2M216C	0-280	1.5	0.49	**549.84**
91F5313	L2M126C	0-140	15	1.8	**676.72**
91F5314	L2M226C	0-280	3.1	1.05	**676.72**

(14135) (ne10570)

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TRANSFORMERS

18T SERIES VARIABLE VOLTAGE CONTROLS

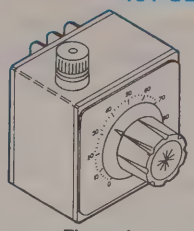


Figure 1

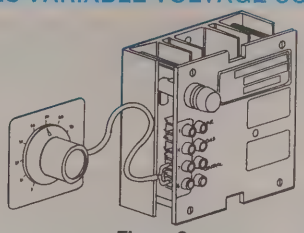


Figure 2

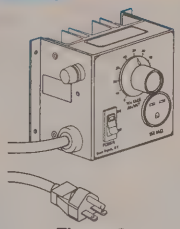


Figure 3

Applications:

- **Replace Variable Transformers**
- **Electric Oven Control**
- **Light Dimming**
- **Hot Wire Cutting**
- **Plastic Molding and Extruding**
- **Food Preparation**

Features:

- **Integral Heatsink**
- **Includes Fuses for Short-Circuit Protection**
- **All Solid-State**
- **No Thermal Derating**
- **Onboard "2ms Fuses"**

Solid-state power controls provide infinitely variable control of single-phase AC voltage to constant resistance heating elements. Replace variable transformers, saturable core reactors, and electromechanical contactors. When operated within stated ratings, **18T series** have no known MTBF or lifetime rating. Manual operation via potentiometer (included). **Types 18TBP** mount through enclosure door via the potentiometer shaft. **Types 18TB** are base mounted. **Types 18TP** are suitable for permanent mounting or use as a portable unit, and include three-prong receptacle, lighted On/Off rocker switch, and 3′ power cord with three-prong plug. Frequency: 50/60Hz. Output rating: 0-98% of input voltage. Power loss: 1.5 watts/amp of load current. Control input: manual potentiometer (included). Short-circuit protection: 2-millisecond fuses, factory-tested and selected. **Use only factory-recommended fuses.** Ambient temperature range: –10°C to +50°C.

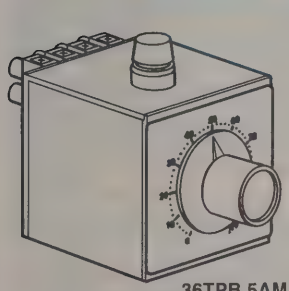
120VAC INPUT, 0-118 VAC OUTPUT

Stock No.	Type	Max. Amps	Figure	H x W x D	1-3	4-10
95F7108	18TBP-1-5	5	1	2.5 x 2.5 x 2.0″	**61.92**	**56.27**
95F7109	18TBP-1-10	10	1	2.5 x 2.5 x 2.0″	**82.56**	**75.03**
92F2707	18TBP-1-15	15	1	2.5 x 2.5 x 2.0″	**99.56**	**90.48**
95F7101	18TB-1-15	15	2	4.0 x 4.0 x 2.0″	**99.56**	**90.48**
95F7102	18TB-1-25	25	2	6.3 x 4.0 x 3.5″	**118.98**	**108.13**
16F1147	18TP-1-5	5	3	2.5 x 4.7 x 2.5″	**143.26**	**130.19**
16F1148	18TP-1-10	10	3	2.5 x 4.7 x 2.5″	**151.76**	**137.92**
16F1149	18TP-1-15	15	3	4.0 x 5.12 x 2.74″	**167.54**	**152.26**
	208/220/240VAC INPUT, 0-203/215/235VAC OUTPUT					
95F7097	18TBP-2-5	5	1	2.5 x 2.5 x 2.0″	**71.63**	**65.10**
95F7098	18TBP-2-10	10	1	2.5 x 2.5 x 2.0″	**91.06**	**82.75**
92F2706	18TBP-2-15	15	1	2.5 x 2.5 x 2.0″	**108.05**	**98.20**
95F7099	18TB-2-15	15	2	4.0 x 4.0 x 2.0″	**108.05**	**98.20**
95F7100	18TB-2-25	25	2	6.3 x 4.0 x 3.5″	**120.20**	**109.23**
16F1150	18TP-2-5	5	3	2.5 x 4.7 x 2.5″	**166.33**	**151.16**
16F1151	18TP-2-10	10	3	2.5 x 4.7 x 2.5″	**178.47**	**162.19**
16F1152	18TP-2-15	15	3	4.0 x 5.12 x 2.74″	**182.90**	**...**

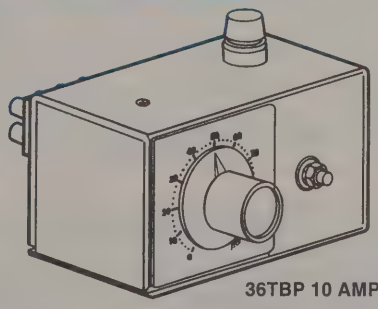
Above controls available with variable D.C. output at 120VAC and 240VAC inputs in 5 and 10 amp sizes (Fig. 1). *Contact your local Newark sales office.*

(5773) (ne08417)

SERIES 36TBP DC POWER CONTROLS



36TPB 5AMP



36TBP 10 AMP

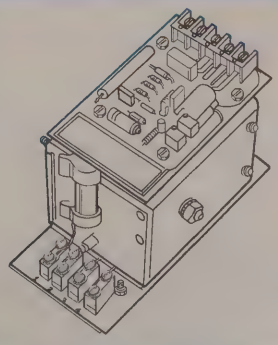
Provide full-wave rectified, infinitely variable DC output voltage from a single-phase AC input. Phase-angle control via power semiconductors varies the AC input voltage, which in turn is full-wave rectified for infinitely variable DC output. Fast-acting fuses protect against load fault damage. Case serves as heat sink to allow continuous operation at nameplate rating to 50°C. MOV overvoltage protection.

120VAC INPUT, 0-107VDC OUTPUT, 50/60HZ

Stock No.	Type	Max. Amps	Figure	H x W x D	1-3	4-10
83F7627	36TBP-1-5	5	5	3.25 x 2.65 x 3.4″	**107.92**	**98.08**
83F7628	36TBP-1-10	10	5	3.33 x 4.5 x 3.1″	**114.96**	**104.47**
	240VAC INPUT, 0-215VDC OUTPUT, 50/60 Hz (ALSO FOR 208/220/230VAC INPUT)					
83F7629	36TBP-2-5	5	6	3.25 x 2.65 x 3.4″	**126.69**	**115.13**
83F7630	36TBP-2-10	10	6	3.33 x 4.5 x 3.1″	**150.15**	**136.45**

(31882) (ne31882)

SERIES 18D SOLID-STATE POWER CONTROLS



All solid-state single-phase SCR control allows smooth, silent, infinitely variable AC power control. SCRs are protected against load-fault damage by 2-millisecond fuses, against transient voltages on power lines by V_{bo} protection. Perform at full-rated operation up to 50°C ambient temperature. Single-phase, 480VAC input, 0-478VAC output, 50/60Hz (also for 380/415/4430VAC input). Also available in models up to 1200A; *contact your local Newark sales office.*

Stock No.	Type	Max. Amps	Figure	H x W x D	1-3	4-10
83F7622	18D-4-10-11C-19	10	7	7 x 5.5 x 4.5″	**259.24**	**235.59**
83F7623	18D-4-20-11C-19	20	7	7 x 5.5 x 4.5″	**281.52**	**255.84**
83F7624	18D-4-30-11C-19	30	7	7 x 5.5 x 5.5″	**301.47**	**273.97**
83F7625	18D-4-50-11C-19	50	7	12 x 5.5 x 6″	**412.90**	**375.24**
83F7626	18D-4-80-11C-19	80	7	12 x 5.5 x 6″	**475.07**	**431.73**

(31883) (ne31883)

VARIABLE TRANSFORMERS

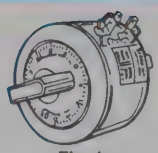


Fig. 1

Fig. 2

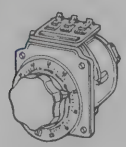


Fig. 3

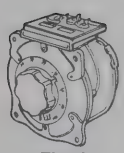


Fig. 4

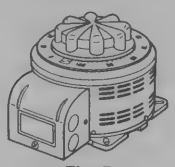


Fig. 5

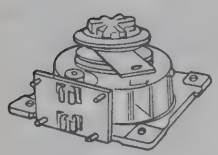


Fig. 6

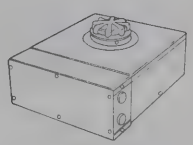


Fig. 7

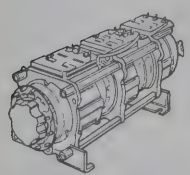


Fig. 8

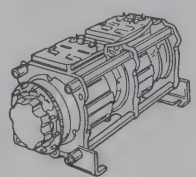


Fig. 9

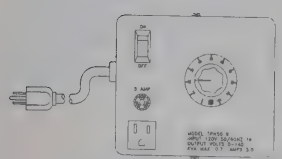


Fig. 10

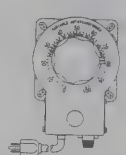


Fig. 11

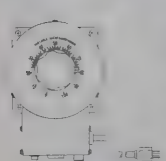


Fig. 12

Fig. 13

Fig. 14

Fig. 15

Fig. 16

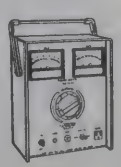


Fig. 17

50/60 Hz VARIABLE TRANSFORMERS

Models available to suit a wide variety of applications: automation equipment such as vibrating parts feeders and finishing controls, test equipment, and industrial equipment such as motor speed controls and voltage regulators. Units operate on either 120 or 240 volts input; *contact your local Newark sales office.* Type numbers without suffixes are open styles. **"CT"** suffix have coils and terminals enclosed, for panel or conduit mounting. All are 50/60Hz except (*) 60Hz only, and † 60Hz on overvoltage. All models can be ordered clockwise or counter-clockwise rotation.

120 VOLT, SINGLE PHASE MODELS

Stock No.	Type	Fig.	Output Volts	Output Amps	Output KVA	H x W x D	Each
05F301	171†	1	0-120/132	1.75	0.23	2.81 x 3.16 x 1.88" (71.37 x 80.26 x 47.75)	73.00
79W028	201†	1	0-120/132	2.0	0.26	2.81 x 3.16 x 1.88" (71.37 x 80.26 x 47.75)	74.21
05F345	221-B	1	0-120/132	2.5	0.33	2.81 x 3.16 x 2.13" (71.37 x 80.26 x 54.10)	75.43
79W029	291†	1	0-120/132	3.0	0.40	2.81 x 3.16 x 2.31" (71.37 x 80.26 x 54.10)	86.38
83F7131	511	2	0-120/140	5.0	0.70	3.94x4.16x2.38" (100.0 x 105.6 x 60.4)	105.23
83F7356	501-B*	3	0-120/140	5.0	.07	3.75x4.25x2.92" (95.3 x 108.0 x 74.3)	123.83
83F7359	1010BCT	5	0-120/140	10.0	1.40	5.50x4.62x6.31" (139.7x117.4x160.4)	209.40
83F7634	1210B*	3	0-120	12.0	1.44	4.62x5.57x4.16" (117.3x141.6x105.6)	168.36
05F308	1510	4	0-120/140	15.0	2.10	6.81 x 6.13 x 4.25" (172.97 x 155.70 x 107.95)	281.75
05F330	2510	4	0-120/140	25.0	3.50	8.25 x 7.63 x 4.13" (209.55 x 193.80 x 104.90)	409.62
05F1319	2510CT	5	0-120/140	25.0	3.50	10.06 x 7.63 x 4.38" (255.52 x 193.80 x 111.25)	503.90
05F334	5011	6	0-140	50.0	7.00	15.69 x 13.88 x 5.56" (398.53 x 352.55 x 141.22)	923.49
83F800	5011CT	7	0-140	50.0	7.00	17.94 x 14.13 x 7.25" (455.68 x 358.90 x 184.15)	988.14
79W035	6011	6	0-120/140	60.0	8.40	15.69 x 13.88 x 5.56" (398.53 x 352.55 x 141.22)	1078.07

240 VOLT, SINGLE PHASE MODELS

79W038	252	1	0-240/260	0.8	0.21	2.81 x 3.16 x 2.13" (71.37 x 80.26 x 54.10)	102.03
83F7360	1020B	3	0-240/280	3.5	0.98	4.62x5.57x4.16" (117.3x141.6x105.6)	201.59
83F7361	1020BCT	5	0-240/280	3.5	0.98	5.50x4.62x6.31" (139.7x117x4x160.40)	232.90
05F310	1520	4	0-240/280	9.5	2.66	6.81 x 6.13 x 4.63" (172.97 x 155.70 x 117.60)	281.75
05F1318	1520CT	5	0-240/280	9.5	2.66	6.81 x 8.97 x 4.88" (172.97 x 227.84 x 123.95)	359.56
05F1320	2520	4	0-240/280	10.0	2.80	8.25 x 7.63 x 4.13" (209.55 x 193.80 x 104.90)	408.54
05F336	5021	6	0-240/280	28.0	7.80	15.69 x 13.88 x 5.56" (398.53 x 352.55 x 141.22)	923.27
79W044	6020	6	0-240/280	35.0	9.80	15.69 x 13.88 x 5.56" (398.53 x 352.55 x 141.22)	1078.07

480 VOLT, SINGLE PHASE MODEL

83F7363	1220B-2	9	0-480	5.0	2.40	6.14x6.0x9.75" (155.9x152.4x247.7)	520.36

240 VOLT, THREE PHASE MODELS

83F7358	1010B-3	8	0-240/280	10.0	4.85	6.14 x 6.0 x 14.59" (155.9 x 152.4 x 370.7)	481.15
02F1092	1510-3	8	0-240/280	15.0	7.26	7.06 x 6.13 x 14.56" (179.32 x 155.70 x 369.82)	957.83
79W093	2510-3	8	0-240/280	25.0	12.10	8.63 x 7.63 x 14.63" (219.20 x 193.80 x 371.60)	1375.11

480 VOLT, THREE PHASE MODELS

02F1095	1520-3	8	0-480/560	9.5	9.21	6.13 x 7.25 x 15.68" (155.70 x 184.15 x 398.27)	955.81
50F6471	6020-3Y	8	0-480/560	35.0	33.90	17.63 x 13.88 x 25.38" (447.80 x 352.55 x 644.65)	3902.73

(5607) (de01779)

PORTABLE CORD AND PLUG VARIABLE TRANSFORMERS

Ventilated steel cased plug-in transformers have 3-conductor grounded line cord, matching receptacles, switch, pilot lamp, fuse and are clockwise rotation. **"V"** suffix: Voltmeter; **"A"** suffix: Ammeter.

Stock No.	Type	Fig.	Input V	Output V	Output A	KVA	H x W x D	Each
83F7132	3PN221B	10	120	0-132	2.50	0.23	5.31x5.05x4.10" (134.9x154.0x 104.2)	191.61
83F2019	3PN501B	10	120	0-140	5.00	1.20	5.31x6.06x4.10" (134.9x154.0x104.2)	213.48
83F2006	3PN1010B	11	120	0-140	10.00	1.40	5.50x4.62x6.96" (139.7x117.4x176.8)	227.57
83F2009	3PN1020B	11	240	0-280	3.50	0.98	5.50x4.62x6.96" (139.7x117.4x176.8)	270.92
83F2011	3PN1210B	11	120	0-120	12.00	14.40	6.00x6.24x9.35" (152.4x158.4x237.4)	263.33
83F2012	3PN1510B	12	120	0-140	15.00	2.10	6.00x6.24x9.35" (152.4x158.4x237.4)	420.46
83F2015	3PN1520B	12	240	0-280	9.50	2.66	6.31x7.95x10.85" (160.3x202.1x275.6)	420.46
83F2017	3PN2210B	13	120	0-140	22.00	3.10	6.31x7.95x10.85" (160.3x202.1x275.6)	602.51
83F2018	3PN2520B	13	240	0-280	10.00	2.80	5.50x4.62x6.96" (139.7x117.4x176.8)	602.51
83F2008	3PN1010BV	14	120	0-140	10.00	1.40	5.50x4.62x6.96" (139.7x117.4x176.8)	382.53
83F2007	3PN1010BA	14	120	0-140	10.00	1.40	5.50x4.62x6.96" (139.7x117.4x176.8)	402.04
83F2014	3PN1510BV	15	120	0-140	15.00	2.10	6.00x6.24x9.35" (152.4x158.4x237.4)	592.76

ACCESSORIES

Stock No.	Type	Description	Each
83F7133	3PN-MK	Mounting kit for types 3PN221B, 3PN501B	11.76
83F7134	3PN-SK	Stop kit for types 3PN1000, 3PN1200, 3PN1500	11.76

ISOLATED PORTABLE CORD AND PLUG VARIABLE TRANSFORMERS

Units help improve safety because separate primary and secondary windings on same core provide isolation. Limit amount of power transformed if shorted or overloaded. Suffix "V" with voltmeters; "A", ammeters.

Stock No.	Type	Fig	InputV	Output V	Output A	KVA	H x W x D	Each
83F2000	3PNJ201B	11	120	0-140	2.00	...	5.50x4.62x6.96" (139.7x117.4x176.8)	376.03
83F2001	3PNJ201BA	14	120	0-140	2.00	...	5.50x4.62x6.96" (139.7x117.4x176.8)	516.90
83F2003	3PNJ401B	11	120	0-140	4.00	...	6.00x6.24x9.35" (152.4x158.4x237.4)	594.93
83F2005	3PNJ401BV	14	120	0-140	4.00	...	6.00x6.24x9.35" (152.4x158.4x237.4)	734.72

FULLY ENCLOSED PORTABLE VARIABLE TRANSFORMERS

Housing protects controls from abuse and hazards. Has no holes, to prevent entry of foreign objects. Ideal for lab applications. Can also be custom mounted. "VA" suffix: Voltmeter/ammeter.

62F3014	L221	16	120	0-132	1.75	0.23	6.28x5.00x4.25" (159.51x127.00x107.95)	211.31
62F3015	L501	16	120	0-140	4.50	0.63	7.72x5.38x5.88" (196.09x136.65x149.35)	287.17
62F3016	L1010	16	120	0-140	10.00	1.40	9.41x6.50x6.25" (239.01x165.10x158.75)	312.09
44F1507	L1010VA	17	120	0-140	10.00	1.40	12.38x10.75x6.25" (314.45x273.05x158.75)	1001.28

(5680) (de52121)

TRANSFORMERS

CRITERION™ BRAND CONTROL POWER, RECTIFIER, AND FILAMENT TRANSFORMERS

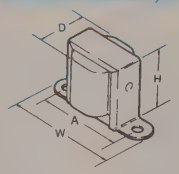


Figure 1

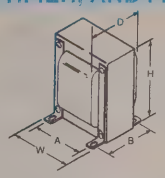


Figure 2

- **Primary (input) voltage is 117 VAC, 50/60Hz**

Each unit is rated in ACrms. High-quality commercial construction. Lead terminals. All units have single secondaries.

Stock No.	Type	Secondary Volts	Secondary Amps	RMS Test Volts	Figure	Dimensions H x W x D	Mounting Dimensions A	Mounting Dimensions B	Wt. (Lbs.)	1-9	10-24	25-49
92N4396	2352	2.5	3.0	1500	1	1⅝ x 2⅞ x 1¾″	2⅜″	...	0.7	11.69	9.94	8.95
92N4397	2353	2.5	6.0	1500	1	2 x 3¼ x 1⅞″	2 13/16″	...	1.0	14.99	12.75	11.47
81N5361	R-2090	6.3 C.T.*	0.3	1500	1	1¼ x 2⅛ x 1⅝″	1¾″	...	1.25	11.99	10.20	9.18
92N4401	2357	6.3	1.2	2500	1	1⅝ x 2⅞ x 1½″	2⅜″	...	0.6	11.49	9.77	8.79
81N5364	R-1560	6.3 C.T.*	3.0	2500	1	2 x 3¼ x 2⅛″	2 13/16″	...	1.25	12.99	11.05	9.88
92N4402	2358	6.3	6.0	2500	2	3⅛ x 3 9/16 x 2½″	2″	2″	2.5	19.99	17.00	15.30
81N5370	R-1890	12.0	0.7	1500	1	1⅝ x 2⅞ x 1½″	2⅜″	...	0.06	9.99	8.50	7.65
81N5372	R-1900	12.0	2.0	1500	1	2 x 3¼ x 2⅛″	2 13/16″	...	1.30	13.99	11.90	10.71
81N5373	R-1905	12.0	4.0	1500	1	2 9/16 x 4″ x 2¼	3 9/16″	...	2.30	19.99	17.00	15.30
81N5374	R-1525	12.6 C.T.*	2.0	1500	1	2 x 3¼ x 2⅛″	2 13/16″	...	1.10	14.99	12.75	11.47
81N5381	R-1505	24.0 C.T.*	1.0	1500	1	2 x 3¼ x 2″	2 13/16″	...	1.50	15.99	13.60	12.24
81N5382	R-6865	24.0 C.T.*	2.0	1500	1	2 9/16 x 4 x 2¼″	3 9/16″	...	2.40	19.99	17.00	15.30
81N5384	R-1925	24.0 C.T.*	4.0	1500	2	3¾ x 3⅛ x 2 13/16″	2½″	2¼″	4.30	29.99	25.50	22.95
81N5385	R-1930	24.0 C.T.*	8.0	1500	2	4⅛ x 3 7/16 x 3⅜″	2¾″	2¾″	7.30	43.99	37.40	33.66
81N5386	R-1935	24.0 C.T.*	12.0	1500	2	4 9/16 x 3¾ x 4⅝″	3″	3¼″	11.50	63.99	54.40	48.96
92N4399	2355	25.2	1.0	1500	1	2 x 3¼ x 2⅛″	2 13/16″	...	1.5	13.29	11.30	10.17
92N4400	2356	25.2	2.0	1500	1	2 9/16 x 4 x 2¼″	3 9/16″	...	2.2	16.39	13.94	12.54

*C.T. = Center Top

(6022) (de06405)

LINE ADJUSTING & ISOLATION TRANSFORMERS

AT SERIES LINE ADJUSTING TRANSFORMER

Step-down and step-up autoformers. Input 50/60 Hz with wire leads.

Stock No.	Type	VA	Input Voltage	Output Voltage	Fig.	RMS Test Volts	Dimensions H	Dimensions W	Dimensions D	Dimensions A	Dimensions B	Wt. (Lbs.)	1-9	10-24	25-49
81N5405	AT-4285	50	230	115	1	1500	2 5/16″	3 1/16″	1⅞″	3⅛″	...	1.5	11.99	10.20	9.18

AT SERIES ISOLATION TRANSFORMER

50/60 Hz wire-in type with lead wires for permanent installation (shielded).

81N5406	AT-4255	15	115	115	1	1500	2″	3¼″	1¾″	2 13/16″	...	1.0	15.99	13.60	12.24

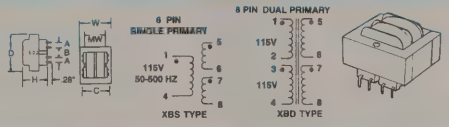
C SERIES FILTER CHOKES

High current chokes for 1500 volts rms. Lead terminals. Weight: 5–9.

Stock No.	Type	DC Amps	Fig.	Inductance Millihenries (Nominal)	DC Res. Ohms	RMS Test Volts	Dimensions H	Dimensions W	Dimensions D	Dimensions A	Dimensions B	1-9	10-24	25-49
81N5399	C-3650	8.0	2	10	0.15	1500	3¼″	3¾″	3 3/16″	3⅛″	2½″	35.99	30.60	27.54
81N5400	C-3505	12.5	2	10	0.11	1500	3½″	4⅛″	3 1/16″	3 7/16″	2⅜″	22.99	...	...

(6071) (ne06404)

P.C. BOARD TRANSFORMERS - HIGHLY ISOLATED



These single primary and dual primary split-bobbin transformers are designed for high performance, miniaturized printed circuits and switching power supplies. Rugged dependability, low-profile, rigid mounting. Primary to secondary isolation 2500V. Low capacitance coupling. No electrostatic shield needed. Dual secondaries for series or parallel connection.

SINGLE PRIMARY—115 VOLTS

Stock No.	Type	VA	Secondary rms Rating Series	Secondary rms Rating Parallel	H x W x D	MW	A	B	C	Wt. (Lbs.)	1-9	10-24	25-49
44N3621	XBS-412	6	12.6VCT @ 0.5A	6.3V @ 1.0A	1 5/16 x 1 5/16 x 1⅝″	1 1/16″	0.250″	0.350″	1.280″	0.45	8.99	7.65	6.88
44N3626	XBS-512	12	12.6VCT @ 1.0A	6.3V @ 2.0A	1 7/16 x 1 9/16 x 1⅞″	1¼″	0.300″	0.400″	1.410″	0.75	10.99	9.35	8.41

DUAL PRIMARY—115/230 VOLTS

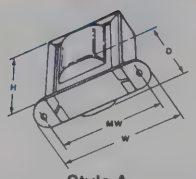
92N4405	2361	2.5	10VCT @ 0.25A	5V @ 0.5A	1 3/16 x 1⅛ x 1⅜″	15/16″	0.250″	0.250″	1.200″	0.25	9.99	8.50	7.65
92N4406	2362	6.0	10VCT @ 0.6A	5V @ 1.2A	1 5/16 x 1 5/16 x 1⅝″	1 1/16″	0.250″	0.350″	1.280″	0.45	10.59	9.01	8.11
92N4407	2363	2.52	12.6 @ 0.2A	6.3V @ 0.4A	1 3/16 x 1⅛ x 1⅜″	15/16″	0.250″	0.250″	1.200″	0.25	9.99	8.50	7.65
92N4409	2365	2.4	16VCT @ 0.15A	8V @ 0.3A	1 3/16 x 1⅛ x 1⅜″	15/16″	0.250″	0.250″	1.200″	0.25	9.99	8.50	7.65
92N4410	2366	12.8	16VCT @ 0.8A	8V @ 1.6A	1 7/16 x 1 9/16 x 1⅞″	1¼″	0.300″	0.400″	1.410″	0.75	12.29	10.45	9.41
92N4411	2367	2.4	20VCT @ 0.12A	10V @ 0.24A	1 3/16 x 1⅛ x 1⅜″	15/16″	0.250″	0.250″	1.200″	0.25	9.99	8.50	7.65
92N4412	2368	6.0	20VCT @ 0.3A	10V @ 0.6A	1 5/16 x 1 5/16 x 1⅝″	1 1/16″	0.250″	0.350″	1.280″	0.45	10.59	9.01	8.11
92N4413	2369	12	20VCT @ 0.6A	10V @ 1.2A	1 7/16 x 1 9/16 x 1⅞″	1¼″	0.300″	0.400″	1.410″	0.75	12.29	10.45	9.41
44N3630	XBD-324	2.4	24VCT @ 0.1A	12V @ 0.2A	1 3/16 x 1⅛ x 1⅜″	15/16″	0.250″	0.250″	1.200″	0.25	8.99	7.65	6.88
44N3631	XBD-424	6	24VCT @ 0.25A	12V @ 0.5A	1 5/16 x 1 5/16 x 1⅝″	1 1/16″	0.250″	0.350″	1.280″	0.45	9.99	8.50	7.65
44N3633	XBD-524	12	24VCT @ 0.5A	12V @ 1.0A	1 7/16 x 1 9/16 x 1⅞″	1¼″	0.300″	0.400″	1.410″	0.75	11.99	10.20	9.18
92N4414	2370	2.34	36VCT @ 0.065A	18V @ 0.13A	1 3/16 x 1⅛ x 1⅜″	15/16″	0.250″	0.250″	1.200″	0.25	9.99	8.50	7.65
92N4415	2371	6.12	36VCT @ 0.17A	18V @ 0.34A	1 5/16 x 1 5/16 x 1⅝″	1 1/16″	0.250″	0.350″	1.280″	0.45	10.59	9.01	8.11

(6072) (ne06406)

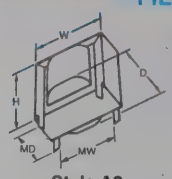
STANCOR®

TRANSFORMERS AND CHOKES

FILAMENT POWER TRANSFORMERS



Style A



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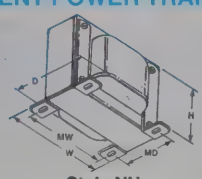

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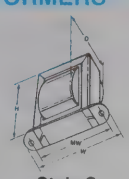

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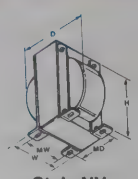

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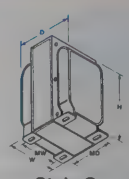

Style C

Primaries 50/60 Hz. May be operated from 400 Hz. source with no changes in output ratings. Termination leads.

Stock No.	Type	Style	Secondary▲ Volts	Secondary▲ Amps	Primary Volts	Insulation Test RMS Volts*	Case H	Case W	Case D	Mounting MW	Mounting MD	Wt. Lbs.	Each	2-5	6-10
44F3094	P-8578	A	24.0C.T	0.20	115/230	1500	1⅜″	2⅜″	1½″	2″	...	0.3	17.14	16.31	14.85
01F956	P-8396	A	24.0C.T	0.400	117	1500	⅝″	2⅞″	1⅝″	2⅜″	...	0.60	15.13	14.39	13.11
01F957	P-8397	A	24.0C.T	0.700	117	1500	2″	3¼″	1¾″	2 13/16″	...	0.85	15.89	15.12	13.77
05F516	P-8661	A	24.0C.T	1.0	117	1500	2″	3¼″	2 1/16″	2 13/16″	...	1.4	16.98	16.16	14.72
44F3095	P-8575	A	24.0C.T	1.0	115/230	1500	1 15/16″	3 5/16″	2″	2 13/16″	...	1.3	17.88	17.01	15.49
05F517	P-8662	A	24.0C.T	2.0	117	1500	2⅝″	4″	2⅜″	3 9/16″	...	2.3	24.78	23.58	21.48
05F518	P-8663	NV	24.0C.T	4.0	117	1500	3 3/16″	3⅛″	2 13/16″	2½″	2⅛″	4.0	37.39	35.68	30.78
05F519	P-8664	NV	24.0C.T	6.0	117	1500	3 13/16″	3 7/16″	3″	2¾″	2¼″	5.7	50.84	48.52	41.86
05F520	P-8665	NV	24.0C.T	8.0	117	1500	4 3/16″	3 7/16″	3⅜″	2¾″	2¾″	7.3	57.08	54.47	46.99
44F3096	P-8695	NV	24.0C.T	10.0	115	1500	4⅛″	3 7/16″	3¾″	2¾″	3″	8.0	91.54	85.94	75.20
05F521	P-8666	NV	24.0C.T	12.0	117	1500	4⅝″	3¾″	4⅝″	3″	3 3/16″	11.2	79.99	74.76	63.69
01F116	P-6469	A	25.2	1.0	117	1500	2″	¼″	2⅛″	2 13/16″	...	1.4	18.74	17.83	16.24
01F944	P-8180	A	25.2C.T	1.0	117	1500	2″	3¼″	2¼″	2 13/16″	...	1.4	17.75	16.89	15.38
01F883	P-8357	A	25.2C.T	2.0	117	1500	2⅝″	4″	2¼″	3 9/16″	...	2.2	23.83	22.75	19.63
44F3098	P-8574	A	25.2C.T	2.0	115/230	1500	2 19/32″	4″	2¼″	3 9/16″	...	2.2	24.88	23.67	21.56
01F945	P-8388	A	25.2C.T	2.8	117	1500	2⅝″	4″	2¼″	3 9/16″	...	2.2	27.10	25.95	23.45
05F522	P-8645	C	25.2C.T	5.0	117	1500	4¼″	3 7/16″	3⅞″	2¾″	2 11/16″	6.0	59.42	56.71	48.92
01F967	P-8609	A	26.8C.T	1.0	117	1500	2″	3¼″	2⅛″	2 13/16″	...	1.3	17.59	16.73	15.24
01F959	P-8601	A	28.0C.T	0.175	117	1500	1⅜″	2⅜″	1⅜″	2″	...	0.35	16.88	16.06	14.63
01F960	P-8602	A	28.0C.T	3.00	117	1500	1⅝″	2⅞″	1⅝″	2⅜″	...	0.69	16.72	15.91	14.49
01F961	P-8603	A	28.0C.T	0.800	117	1500	2″	3¼″	2⅛″	2 3/16″	...	1.0	17.75	16.89	15.38
05F525	P-8667	A	28.0C.T	1.0	117	1500	2″	3¼″	2⅛″	2 13/16″	...	1.4	21.30	20.26	18.46
05F526	P-8668	NV	28.0C.T	2.0	117	1500	3⅛″	2½″	2½″	2″	2 3/16″	2.9	30.76	29.27	26.66
01F963	P-8611	A	36.0C.T	0.135	117	1500	1⅜″	2⅜″	1⅜″	2″	...	0.35	15.93	15.15	13.80
01F964	P-8612	A	36.0C.T	0.300	117	1500	1⅝″	2⅞″	1⅝″	2⅜″	...	0.60	16.25	15.46	14.08
01F965	P-8613	A	36.0C.T	0.550	117	1500	2″	3¼″	1⅞″	2 13/16″	...	1.0	18.90	17.98	16.38
05F529	P-8671	A	36.0C.T	1.0	117	1500	2⅜″	3¾″	2¼″	3⅛″	...	2.0	24.97	23.76	21.64
05F530	P-8672	NV	36.0C.T	2.0	117	1500	3 7/16″	2 13/16″	2¾″	2¼″	2⅛″	3.5	31.33	29.90	25.80
05F531	P-8673	NV	36.0C.T	4.0	117	1500	4 3/16″	3 1/16″	2⅞″	2¾″	2⅜″	6.0	49.95	47.67	41.12
05F532	P-8674	NV	36.0C.T	6.0	117	1500	4 9/16″	3¾″	3½″	3″	2⅝″	8.3	66.79	62.70	54.87
44F3104	P-8566	NV	40C.T	4.0	115	1500	3¾″	3⅛″	3½″	2½″	2⅞″	6.4	43.80	41.80	36.06

‡Primary tapped to provide secondary voltages of 45C.T or 51C.T or 54C.T. *Twice allowable RMS working voltage plus 1000 volts. ▲ RMS values.
(6024)

(de50294)

CONTROL TRANSFORMERS

Primaries 115/230V, 50/60 Hz. Solder lug termination. With dual secondary windings. UL recognized.

Stock No.	Style	VA Cap	Output From Two Secondary Windings*‡ Individually	Parallel	Series	Case H	Case W	Case D	Mounting MW	Mounting MD	Wt. Lbs.	Each	2-5	6-10
01F197	S	12	6V @ 1A	6V @ 2A	12V @ 1A	2⅜	2⅞	1⅝	2⅜	—	1.0	21.85	21.31	18.21
01F818	S	24	6V @ 2A	6V @ 4A	12V @ 2A	2¾	3⅛	1⅞	2 13/16	—	1.5	25.45	24.22	22.06
01F819	S	48	12V @ 2A	12V @ 4A	24V @ 2A	3⅛	3⅝	2¼	3⅛	—	2.5	27.53	26.19	23.86
01F820	NV	96	12V @ 4A	12V @ 8A	24V @ 4A	3 7/16	2 13/16	2⅞	2¼	2¼	4.2	43.54	41.55	35.84
01F198	NV	192	12V @ 8A	12V @ 16A	24V @ 8A	4¼	3 7/16	3½	2¾	3⅛	8.0	81.55	76.56	66.99
05F1434	S	12	24V @ 0.25A	24V @ 5A	48V @ 0.25A	2⅜	2⅞	1⅝	2⅜	—	1.0	22.51	21.42	19.51
05F1435	S	24	24V @ 0.5A	24V @ 1A	48V @ 0.5A	2¾	3⅛	1⅞	2 13/16	—	1.5	22.48	21.39	19.48
05F1436	S	48	24V @ 1A	24V @ 2A	48V @ 1A	3⅛	3⅝	2¼	3⅛	—	2.5	25.07	23.85	21.73
05F1437	NV	96	24V @ 2A	24V @ 4A	48V @ 2A	3 7/16	2 13/16	2 15/16	2¼	2¼	4.2	40.51	38.66	33.35
05F1438	NV	192	24V @ 4A	24V @ 8A	48V @ 4A	4¼	3 7/16	3½	2¾	3⅛	8.0	60.91	58.13	50.14

*By connecting primaries in series (for 230 Volts) but using only 115V input, a series of half voltage output ratings becomes available at the full rated current from each secondary. ▲ RMS values.
(6023)

(de50293)

HIGH CURRENT FILTER CHOKES — INDUCTANCE MEASURED AT 1 VOLT 60 Hz.

High current filter chokes are normally used in low voltage, high current DC power supply filter applications, where low voltage drop across filter and good voltage regulation are required without any type of voltage regulator.

Stock No.	Type	Style	Inductance mH	DC Amps	Ohms	RMS V*	Case H	Case W	Case D	Mounting MW	Mounting MD	Wt. Lbs.	Each	2-5	6-10
05F1485	TC-1	A2	3.0	1.0	0.25	1000	1 3/16	1½	1⅛	1⅛	7/16	0.3	10.87	10.35	9.42
01F721	TC-2	A2	11.0	1.0	0.75	1000	1 3/16	1½	1⅛	1⅛	7/16	0.3	11.96	11.38	10.37
01F893	C-2685	NH	35.0	2.0	0.75	1500	2 9/16	2⅝	2⅛	2 3/16	2	1.9	29.21	27.97	25.28
01F894	C-2686	NH	25.0	4.0	0.43	1500	2⅞	⅜	2⅝	2 13/16	2⅛	3.4	43.65	41.81	37.78
01F049	C-2687	NH	10.0	8.0	0.15	1500	3 9/16	3¾	3	3⅛	2½	5.3	51.54	49.36	44.61
01F895	C-2688	NH	10.0	12.5	0.11	1500	3½	4⅛	3⅛	3 7/16	2⅜	5.9	59.56	55.92	48.93

*Insulated Test Voltage: Twice allowable RMS Working Volts plus 1000V.
(6025)

(de50295)

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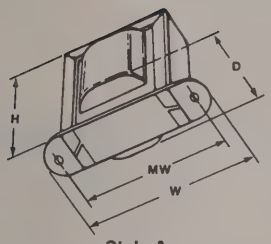
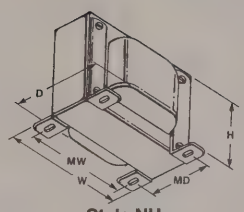
TRANSFORMERS

FILAMENT POWER TRANSFORMERS



Style A



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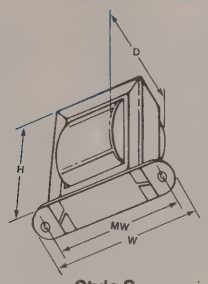

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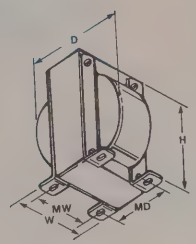

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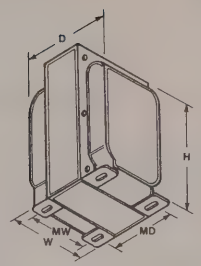

Style C

All primaries 50/60 Hz. Can be operated from a 400 Hz source with no change in output ratings.

Stock No.	Type	Style	Secondary▲ Volts	Secondary▲ Amps	Primary Volts 50/60 Hz	Insulation Test V_{RMS}*	Case Dimensions H	Case Dimensions W	Case Dimensions D	Mounting Dimensions MW	Mounting Dimensions MD	Wt. Lbs.	Each Boxed Each	Each Boxed 2-5	Each Boxed 6-10
01F095	P-6467	A	5.0C.T.	3.0	117	2500	2″	3¼″	2⅛″	2 13/16″	—	1.4	18.95	18.08	15.60
05F1409	P-8385	A	6.3C.T.	0.3	117	1500	1¼″	2⅛″	1⅜″	1¾″	—	0.3	14.81	14.14	12.20
01F375	P-6465	A	6.3C.T.	0.6	117	1500	1⅜″	2⅜″	1½″	2″	—	0.4	14.98	14.61	12.48
05F1410	P-8705	A	6.3C.T.	0.6	230	1500	1⅜″	2⅜″	1½″	2″	—	0.4	17.10	16.68	14.25
01F946	P-8389	A	6.3	1.0	117	1500	1⅝″	2⅞″	1⅝″	2⅜″	—	0.6	13.68	13.06	11.27
01F105	P-6134	A	6.3C.T.	1.2	117	3000	1⅝″	2⅞″	1⅞″	2⅜″	—	0.8	14.45	13.75	12.53
01F123	P-6466	A	6.3C.T.	3.0	117	2500	2″	3¼″	2⅛″	2 13/16″	—	1.4	18.83	17.92	16.32
05F503	P-8651	A	6.3C.T.	8.0	117	1500	2⅝″	4″	2¼″	3 9/16″	—	2.4	32.77	31.18	28.40
05F1411	P-6464	C	6.3C.T.	10.0	117	2000	3½″	2 13/16″	3¼″	2¼″	2	3.5	59.70	56.05	49.04
05F504	P-8652	A	10.0C.T.	1.0	117	1500	2″	3¼″	1⅝″	2 13/16″	—	0.9	20.11	19.14	17.43
01F048	P-8380	A	10.0C.T.	3.0	117	1500	2⅜″	3¾″	2¼″	3⅛″	—	1.6	26.50	25.38	22.93
05F507	P-8655	NV	10.0C.T.	6.0	117	1500	3⅛″	2½″	2¾″	2″	2 5/16″	3.1	30.65	29.25	25.23
05F508	P-8656	NV	10.0C.T.	8.0	117	1500	3 7/16″	2 13/16″	3″	2¼″	2½″	4.1	48.55	46.50	42.02
01F950	P-8390	A	12.0	.150	117	1500	1¼″	2⅛″	1¼″	1¾″	—	0.25	11.93	11.35	10.34
01F951	P-8391	A	12.0	.350	117	1500	1⅜″	2⅜″	1⅜″	2″	—	0.35	12.57	11.96	10.89
01F952	P-8392	A	12.0	.700	117	1500	1⅝″	2⅞″	1⅝″	2⅜″	—	0.60	12.76	12.14	11.06
01F953	P-8393	A	12.0	1.200	117	1500	2″	3¼″	1⅝″	2 13/16″	—	0.85	15.86	15.09	13.75
05F509	P-8657	A	12.0	2.0	117	1500	2″	3¼″	2⅛″	2 13/16″	—	1.3	19.12	18.19	16.57
05F510	P-8658	A	12.0	4.0	117	1500	2⅝″	4″	2¼″	3 9/16″	—	1.3	26.96	25.65	23.36
05F512	P-8660	NV	12.0	8.0	117	1500	3 13/16″	3⅛″	2¾″	2½″	2⅛″	4.3	34.92	33.33	28.75
05F1412	P-8384	A	12.6C.T.	1.0	117	1500	2″	3¼″	1¾″	2 13/16″	—	0.9	16.71	15.95	13.76
01F120	P-8130	A	12.6C.T.	2.0	117	1500	2″	3¼″	2⅛″	2 13/16″	—	1.4	18.42	17.52	15.96
01F882	P-8358	A	12.6C.T.	3.0	117	1500	2⅜″	3¾″	2¼″	3⅛″	—	1.6	24.97	23.83	20.56
05F1414	P-8641	A	12.6C.T.	4.0	117	1500	2⅝″	4″	2⅜″	3 9/16″	—	2.3	29.61	28.17	25.66
44F3072	P-8553	A	14.0C.T.	.250	115	1500	1⅜	2⅜″	1⅜″	2″	—	0.4	13.21	12.57	11.45
44F3073	P-8555	A	14.0C.T.	1.0	115	1500	1 15/16	3¼″	1¾″	2 13/16″	—	1.2	17.81	16.95	15.44
44F3075	P-8557	NV	14.0C.T.	4.0	115	1500	3	2½″	2 7/16″	2″	2¼″	3.0	30.73	29.24	26.63
44F3076	P-8558	NV	14.0C.T.	6.0	115	1500	3⅜	2 13/16″	2⅞″	2¼″	2⅜″	4.0	39.91	38.09	32.86
44F3078	P-8691	A	18.0C.T.	1.0	115	1500	1 15/16	3 5/16″	2⅛″	2 13/16″	—	1.5	23.25	22.68	19.37
44F3080	P-8693	A	18.0C.T.	2.0	115	1500	2 9/32	3¾″	2¼″	3⅛″	—	2.0	27.28	26.61	22.73
44F3085	P-8504	A	20.0C.T.	.250	115/230	2500	1⅜	2⅜″	1⅜″	2″	—	0.4	17.56	16.70	15.21
44F3089	P-8508	A	20.0C.T.	1.0	115/230	2500	2″	3¼″	2¼″	2 13/16″	—	1.4	22.51	21.42	19.51
05F1460	P-8604	A	20.0C.T.	1.0	117	1500	2″	3¼″	2⅛″	2 13/16″	—	1.4	19.41	18.47	16.82
44F3090	P-8559	A	20.0C.T.	2.0	115	1500	2 5/16″	4″	2¼″	3 9/16″	—	2.5	27.02	25.71	23.42
44F3091	P-8560	NV	20.0C.T.	4.0	115	1500	3⅜″	2 13/16″	2⅞″	2¼″	2⅜″	4.0	38.31	36.56	31.54
44F3092	P-8551	A	24.0	1.0	115#	1500	1 15/16″	3¼″	2⅛″	2 13/16″	—	1.4	18.58	18.13	15.48
44F3093	P-8694	A	24.0	2.0	115#	1500	2 5/16″	4″	2″	3 9/16″	—	2.3	22.64	21.54	19.62
01F954	P-8394	A	24.0C.T.	.085	117	1500	1¼″	2⅛″	1¼″	1¾″	—	0.25	13.59	12.93	11.78
01F955	P-8395	A	24.0C.T.	.200	117	1500	1⅜″	2⅜″	1⅜″	2″	—	0.35	13.40	12.75	11.61

*Twice allowable RMS working voltage plus 1000 volts.▲RMS values. #60 Hz. only.

(6026)

(de50296)

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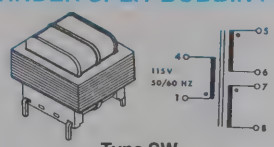
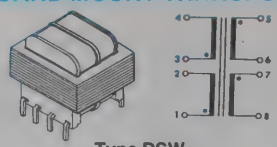
SIDE WINDER SPLIT BOBBIN PC BOARD MOUNT TRANSFORMERS



Type SW



Type DSW

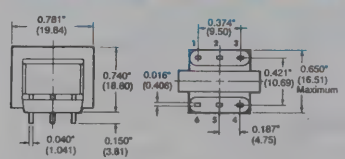
Primary and secondaries non-concentrically wound side-by-side to reduce size. Split bobbin winding and low capacitive coupling design eliminate need for electrostatic shielding. Available 115V or dual 115/230V primaries, plus split secondaries allow series or parallel connection. 0.041 x 0.018" (1.04 x 0.457) pins insert directly into PC boards. Pins 0.28" (7.11) long. High isolation: 2500Vrms. Applications: electronic game systems, computer peripherals, switching power supplies, medical electronics, instrumentation, communications equipment, computer "on-board" power, machine control logic systems, and robotics.

Secondary RMS Rating			Single Primary 115V, 6-Pin					Dual Primaries 115/230V, 8-Pin				
Individual	Series	Parallel	Stk. No.	Type	1	2-5	6-10	Stk. No.	Type	1	2-5	6-10
5.0V @ 0.11A	10.0VCT @ 0.11A	5.0V @ 0.22A	48F1352	SW-210	12.91	12.60	10.76	...	...	...	...	...
5.0V @ 0.6A	10.0VCT @ 0.6A	5.0 @ 1.2A	48F1353	SW-410	16.48	16.08	13.73	...	...	...	...	...
6.3V @ 0.09A	12.6VCT @ 0.09A	6.3V @ 0.18A	44F2115	SW-212	13.36	13.04	11.14	44F2143	DSW-212	14.34	13.99	11.95
6.3V @ 0.2A	12.6VCT @ 0.2A	6.3V @ 0.4A	44F2116	SW-312	14.34	13.99	11.95	44F2144	DSW-312	15.40	15.02	12.83
6.3V @ 0.5A	12.6VCT @ 0.5A	6.3V @ 1.0A	44F2117	SW-412	12.86	12.23	11.14	44F2145	DSW-412	13.59	12.93	11.78
8.0V @ 0.15A	16.0VCT @ 0.15A	8.0V @ 0.3A	44F2120	SW-316	14.34	13.99	11.95	44F2148	DSW-316	15.40	15.02	12.83
8.0V @ 0.4A	16.0VCT @ 0.4A	8.0V @ 0.8A	44F2121	SW-416	12.86	12.23	11.14	44F2149	DSW-416	13.59	12.93	11.78
8.0V @ 0.8A	16.0VCT @ 0.8A	8.0V @ 1.6A	...	...	...	...	...	44F2150	DSW-516	14.23	13.54	12.33
8.0V @ 1.25A	16.0VCT @ 1.2A	8.0V @ 1.6A	...	...	...	...	...	48F1348	DSW-616	17.27	16.43	14.97
10.0V @ 0.12A	20.0VCT @ 0.12A	10.0 @ 0.24A	48F1354	SW-320	13.86	13.52	11.55	48F1350	DSW-320	11.22	10.67	9.72
10.0V @ 0.6A	20.0VCT @ 0.6A	10V @ 1.2A	48F1355	SW-520	17.42	17.00	14.52	48F1349	DSW-520	13.75	13.08	11.92
10.0V @ 1.0A	20V @ 1.0A	10V @ 2.0A	...	...	...	...	...	50F787	DSW-620	17.88	17.01	15.49
12V @ 0.1A	24VCT @ 0.1A	12V @ 0.2A	44F2124	SW-324	14.34	13.99	11.95	44F2152	DSW-324	15.40	15.02	12.83
12V @ 0.25A	24VCT @ 0.25A	12V @ 0.5A	44F2125	SW-424	12.86	12.23	11.14	44F2153	DSW-424	13.59	12.93	11.78
12V @ 0.5A	24VCT @ 0.5A	12V @ 1.0A	44F2126	SW-524	13.59	12.93	11.78	44F2154	DSW-524	14.23	13.54	12.33
14V @ 0.42A	28VCT @ 0.42A	14V @ 0.84A	44F2130	SW-528	13.59	12.93	11.78	44F2158	DSW-528	14.23	13.54	12.33
14V @ 0.7A	28VCT @ 0.7A	14V @ 1.4A	50F788	SW-628	16.57	15.76	14.36	48F1351	DSW-628	17.27	16.43	14.97
18V @ 0.03A	36VCT @ 0.03A	18V @ 0.06A	...	...	...	...	...	44F2163	DSW-236	14.34	13.99	11.95
18V @ 0.06A	36.0VCT @ 0.065A	18V @ 0.13A	44F2142	SW-336	14.34	13.99	11.95	44F2164	DSW-336	15.40	15.02	12.83
18V @ 0.17A	36VCT @ 0.17A	18V @ 0.34A	44F2136	SW-436	12.86	12.23	11.14	44F2165	DSW-436	13.59	12.93	11.78
18V @ 0.35A	36VCT @ 0.35A	18V @ 0.7A	44F2137	SW-536	13.59	12.93	11.78	44F2166	DSW-536	14.23	13.54	12.33

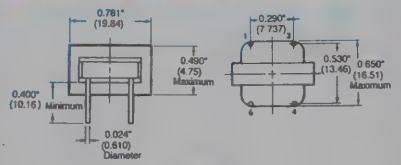
(6001)

(de00286)

PCT/TTPC SERIES TELEPHONE COUPLING TRANSFORMERS



Style A



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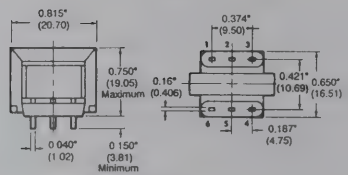
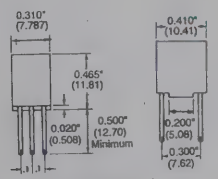
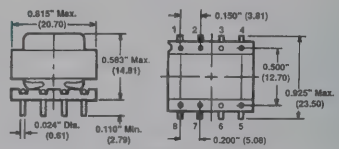


Style C



Style D



Style E

Designed to interconnect data/voice modem terminals to telephone lines and for use in impedance matching, circuit isolation, line balancing or bridging, and hybrid applications. Meet FCC part 68 requirements. 1500V dielectric strength. **PCT series** meets MIL-T-27 1000V test requirement.

Stock No.	Type	Impedance		DC Current MA	Insertion Losses/dB	Style	1	2-5	6-10
		Primary	Secondary						
44F2109	TTPC-2	600	600	0	1.2	B	9.25	9.02	7.71
44F2111	TTPC-5	4000	600	0	1.5	B	10.01	9.77	8.35
44F2112	TTPC-6	600	600 CT	90	1.8	C	6.49	6.33	5.41
44F2114	TTPC-8	600 CT	600 CT	0	1.2	A	6.49	6.33	5.41
98F3627	TTPC-13	600	600 CT Split	90	1.8	E	5.39	5.26	4.49
44F2106	PCT-27	600	600 CT/150 Split	3	2.0	D	27.21	26.51	25.22
05F1491	PCT-77	600 CT	600 CT	3	2.0	D	27.71	27.00	25.69
44F2107	PCT-78	600	600	3	2.0	D	27.71	27.00	25.69

(6002)

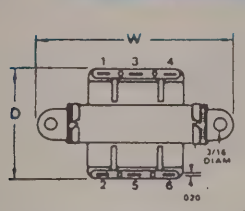
(de00287)

NEW PRODUCTS ARE BEING ADDED TO OUR INVENTORY EVERY DAY.
CALL NEWARK FOR INFORMATION ON WHAT'S CURRENTLY IN STOCK.

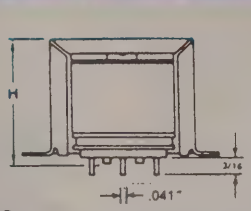
STANCOR®

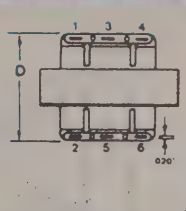
PC BOARD TRANSFORMERS

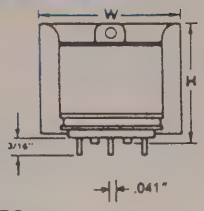
PLUG-IN PC BOARD POWER TRANSFORMERS FOR SMALL DC POWER SUPPLIES



STYLE APC







STYLE PC

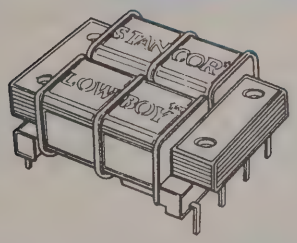
Applications: low voltage/low power uses, computer peripherals, electronic goods, ion air cleaners, instrumentation, and computer graphics. UL recognized.

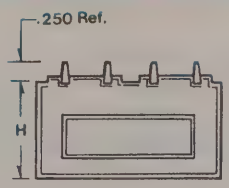
WITH SINGLE PRIMARY FOR 115 VOLTS, 50/60HZ

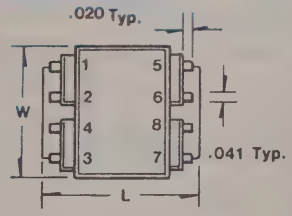
Stock No.	Type	Style	VA	Output From Two Secondary Windings (RMS Values)			H x W x D	1	2-5	6-10
				Individually	Parallel	Series				
01F062	PPC-1	PC	1.5	4.0V @ 188mA	4.0V@376mA	8.0 C.T. @ 188mA	1.125 x 1.625 x 1.156" (28.58 x 41.28 x 29.36)	13.66	13.33	11.38
01F063	PPC-2	PC	1.5	7.5V @ 0.100A	7.5V @ 0.200A	15.0V @ 0.100A	1.125 x 1.625 x 1.156" (28.58 x 41.28 x 29.36)	13.66	13.33	11.38
01F071	PPC-12	APC	4.5	7.5V @ 300mA	7.5V @ 600mA	15.0V @ 300mA	1.44 x 2.38 x 1.25" (36.58 x 60.45 x 31.75)	16.07	15.34	13.24
01F073	PPC-14	APC	4.5	27.0V @ 0.84A	27.0V @ 0.168A	4.0V @ 0.84A	1.406 x 2.375 x 1.250" (35.71 x 60.33 x 31.75)	16.08	15.30	13.94
01F080	PPC-23	APC	7.5	15.0V @ 250mA	15.0V @ 500mA	30.0V C.T. @ 250mA	1.63 x 2.81 x 1.47" (41.40 x 71.12 x 37.34)	21.55	21.02	17.96
WITH DUAL PRIMARY FOR 115-230 VOLTS, 50/60HZ										
44F2386	PPC-18	APC	4.5	6.3V @ 350mA	6.3V @ 700mA	12.6 C.T. @ 350mA	1.44 x 2.38 x 1.25" (36.58 x 60.45 x 31.75)	16.08	15.30	13.94
44F2383	PPC-46	PC	1.5	7.5V @ 100mA	7.5V @ 200mA	15.0 C.T. @ 100mA	1.125 x 1.375 x 1.125" (28.58 x 34.93 x 28.58)	14.34	13.99	11.95
44F2390	PPC-20	APC	4.5	12.0V @ 180mA	12.0V @ 360mA	24.0V C.T. @ 180mA	1.125 x 1.375 x 1.125" (28.58 x 34.93 x 28.58)	18.75	18.29	15.63
70B2320	PPC58	PC	24.0	12.0V @ 1A	12.0V @ 2A	24.0V C.T. @ 1A	1.44 x 1.63 x 2.31" (36.58 x 41.40 x 58.67)	16.00	15.27	13.18

(6007) (de00701)

LOW BOY™ LOW-PROFILE PC BOARD POWER TRANSFORMERS







For low clearance, stacked PC board, and solid designs. Allow 0.75" (19.05) card spacing for 2VA and 3VA models; 1.00" (25.40) for 4VA, 5VA, 6VA models; 1.25" (31.75) for 12VA models. Semi-toroidal construction reduces radiated magnetic fields. Other VA ratings available; *contact your local Newark sales office.* UL recognized.

ALL PRIMARIES 115/230 VOLTS, 50/60HZ DUAL PRIMARY

Stock No.	Type	VA or Watts	Secondary		H x W x D	1	2-5	6-10
			Series	Parallel				
81F2442	LB-210	2	10.0V C.T. @ 200mA	5.0V @ 400mA	0.625 x 1.562 x 1.875" (15.88 x 39.67 x 47.62)	15.48	14.73	13.41
81F2444	LB-215	2	15.0V C.T. @ 150mA	7.5V @ 300mA	0.625 x 1.562 x 1.875" (15.88 x 39.67 x 47.62)	15.48	14.73	13.41
81F2445	LB-315	3	15.0V C.T. @ 225mA	7.5V @ 450mA	0.625 x 1.562 x 1.875" (15.88 x 39.67 x 47.62)	15.61	14.85	13.52
81F2458	LB-612	6	12.6V C.T. @ 450mA	6.3V @ 900mA	0.875 x 1.562 x 1.875" (22.23 x 39.67 x 47.62)	16.72	15.91	14.49
81F2460	LB-616	6	16.0V C.T. @ 350mA	8.0V @ 700mA	0.875 x 1.562 x 1.875" (22.23 x 39.67 x 47.62)	16.72	15.91	14.49
81F2462	LB-620	6	20.0V C.T. @ 300mA	10.0V @ 600mA	0.875 x 1.562 x 1.875" (22.23 x 39.67 x 47.62)	16.72	15.91	14.49
81F2464	LB-624	6	24.0V C.T. @ 250mA	12.0V @ 500mA	0.875 x 1.562 x 1.875" (22.23 x 39.67 x 47.62)	16.72	15.91	14.49
81F2466	LB-634	6	34.0V C.T. @ 170mA	17.0V @ 340mA	0.875 x 1.562 x 1.875" (22.23 x 39.67 x 47.62)	16.72	15.91	14.49
44F2370	LB-6230	6	230.0V C.T. @ 25mA	115.0V @ 50mA	0.875 x 1.562 x 1.875" (22.23 x 39.67 x 47.62)	16.72	15.91	14.49
81F2459	LB-1212	12	12.6V C.T. @ 900mA	6.3V @ 1.8A	1.062 x 2.000 x 2.500" (26.98 x 50.80 x 63.50)	17.81	16.95	15.44
81F2461	LB-1216	12	16.0V C.T. @ 700mA	8.0V @ 1.4A	1.062 x 2.000 x 2.500" (26.98 x 50.80 x 63.50)	17.81	16.95	15.44
81F2463	LB-1220	12	20.0V C.T. @ 600mA	10.0V @ 1.2A	1.00 x 2.00 x 2.50" (26.98 x 50.80 x 63.50)	17.81	16.95	15.44
81F2465	LB-1224	12	24.0V C.T. @ 500mA	12.0V @ 1.0A	1.062 x 2.000 x 2.500" (26.98 x 50.80 x 63.50)	17.81	16.95	15.44
81F2467	LB-1234	12	34.0V C.T. @ 340mA	17.0V @ 680mA	1.062 x 2.000 x 2.500" (26.98 x 50.80 x 63.50)	17.81	16.95	15.44
44F2363	LB-1240	12	40.0V C.T. @ 300mA	20.0V @ 600mA	1.062 x 2.00 x 2.50" (26.98 x 50.80 x 63.50)	17.81	16.95	15.44

(6008) (de00702)

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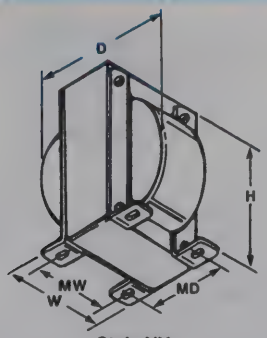
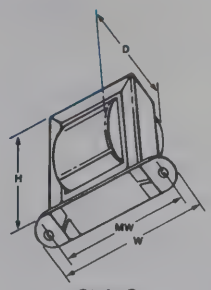
RT SERIES UNIVERSAL RECTIFIER TRANSFORMERS



Style NV



Style S

Primaries 117V, 50/60Hz. Solder lug termination. All are style NV. Rectifier not included.

Stock No.	Type	Rectifier Circuit	Range of Applied AC Volts Under Load	Output Resistive or Inductive Load Max. DC Volts	Output Resistive or Inductive Load Max. DC Amps	Case Dimensions H x W x D	Mounting Dimensions MW x MD	Each	2-5	6-10
01F378	RT-201	C.T. Bridge	11.7 to 29.4 11.1 to 28.5	11.2 23.0	2.0 1.25	3.125 x 2.500 x 2.375″ (79.38 x 63.50 x 60.33)	2.000 x 2.125″ (50.80 x 53.98)	49.22	47.14	42.60
01F379	RT-202	C.T. Bridge	12.0 to 29.8 12.0 to 29.8	11.1 24.3	4.0 2.0	3.438 x 2.813 x 2.750″ (87.33 x 71.45 x 69.85)	2.250 x 2.375″ (57.15 x 60.33)	62.33	58.52	51.21
01F380	RT-204	C.T. Bridge	11.7 to 29.2 11.6 to 29.2	12.0 24.0	8.0 4.0	3.813 x 3.125 x 3.875″ (96.85 x 79.38 x 98.43)	2.500 x 2.875″ (63.50 x 73.03)	76.19	71.53	62.59
01F382	RT-208	C.T. Bridge	12.1 to 29.2 12.1 to 29.2	11.4 23.7	15.0 8.0	4.563 x 3.750 x 5.000″ (115.90 x 95.25 x 127.00)	2.938 x 3.750″ (74.63 x 95.25)	118.81	116.28	104.84
01F384	RT-408	C.T. Bridge	25.0 to 54.1 25.0 to 54.1	23.4 46.3	12.0 8.0	5.313 x 4.375 x 6.750″ (134.95 x 111.13 x 171.45)	3.500 x 5.250 ″ (88.90 x 133.35)	218.26	213.60	200.45

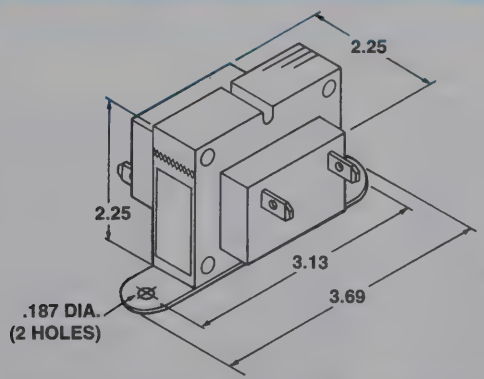
A SERIES AUDIO TRANSFORMERS

A series 70.7 volt line-to-voice coil. Termination lugs. 1000Vrms.

Stock No.	Type	Style	Impedence in Ohms Primary	Impedence in Ohms Secondary	Power Steps in Watts	Dimensions H	Dimensions W	Dimensions D	Dimensions MW	Each	2-5	6-10
01F373	A-8102	S	625/1250/2500/5000/10000	4/8/16	8/4/2/1/0.5	2″	2⅜″	1⅝″	2″	32.20	31.41	26.83
01F974	A-8078	S	167/259/500/1000	4/8/16	30/20/10/5	2⅜″	2⅞″	1¾″	2⅜″	28.34	27.64	23.61

(6005) (de00315)

592 SERIES ENERGY-LIMITING TRANSFORMERS



Energy-limiting transformers have winding impedance so when primary is energized at maximum rated voltage and frequency and secondary is short circuited, secondary current will not exceed 8A after one minute. Output voltage: 24V. Output current: 1.67A. 40VA. All primaries 50/60Hz. Mount horizontally. Dimensions: 2.25 H x 3.69 W x 2.25″D. UL recognized, CSA certified.

Stock No.	Type	Input Voltage	Each	2-5	6-10
48F1342	592-9012	120	21.76	21.23	18.14
48F1343	592-9013	240	21.76	21.23	18.14
48F1344	592-9016	120/240	22.83	22.27	19.03
48F1345	592-9017	208/240	22.83	22.27	19.03
48F1346	592-9018	120/208/240	23.98	23.39	19.98

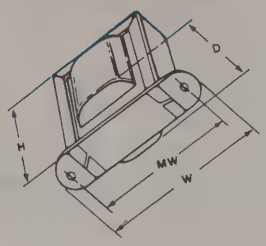
(33783) (ne33783)

NEWARK HAS WHAT YOU NEED.
WITH SO MUCH IN STOCK, YOU HAVE THE COMPONENTS YOU NEED AT YOUR FINGERTIPS.

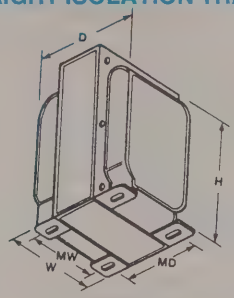
STANCOR®

POWER TRANSFORMERS

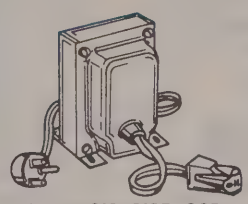
STEP-DOWN/STEP-UP AUTO-TRANSFORMERS
STEP-DOWN/STRAIGHT ISOLATION TRANSFORMERS



Style A
Step-Down Auto-Transformers



Style C



Types GIS, GISD, GSD

STEP-DOWN AUTO-TRANSFORMERS

Primaries 230V, 50/60Hz (can operate from 400Hz source with no change in output ratings). Secondaries 115V. Case and core internally connected to third conductor of NEMA standard cord and receptacle, except **type P-8620** which has leads.

Stock No.	Type	Style	VA Cap	Case Dimensions			Mounting Dimension		Wt. Lbs.	Each Boxed		
				H	W	D	MW	MD		Each	2-5	6-10
05F305	P-8620	A	50	2.313″ (58.74)	3.688″ (93.68)	1.875″ (47.63)	3.125″ (79.38)	...	1.5	**17.88**	**17.01**	**15.49**
05F1416	P-8631	C	125	3.125″ (79.38)	2.625″ (66.68)	3.00″ (76.20)	2.00″ (50.80)	2.00″ (50.80)	3.0	**53.42**	**50.98**	**43.98**
05F1417	P-8632	C	200	3.875″ (98.43)	3.125″ (79.38)	3.25″ (82.55)	2.50″ (63.50)	2.00″ (50.80)	4.2	**64.17**	**61.24**	**52.83**
05F1419	P-8634	C	400	3.875″ (98.43)	3.125″ (79.38)	4.25″ (107.95)	2.50″ (63.50)	3.00″ (76.20)	7.0	**74.39**	**70.99**	**61.24**

STEP-UP AUTO-TRANSFORMERS

Primaries 115V, 50/60Hz line cord/plug (can operate on 400Hz source with no change in output). Secondaries 230V, with standard female receptacles.

01F092	P-8638	C	125	3.13″ (79.50)	2.50″ (63.50)	3.00″ (76.20)	2.00″ (50.80)	2.00″ (50.80)	...	**55.65**	**53.11**	**45.82**
01F089	P-8639	C	300	3.875″ (98.43)	3.125″ (79.38)	3.875″ (98.43)	2.50″ (63.50)	2.375″ (60.33)	5.2	**67.11**	**64.05**	**55.25**
01F088	P-8640	C	500	4.563″ (115.90)	3.750″ (95.25)	4.75″ (120.65)	3.00″ (76.20)	3.313″ (84.14)	10.3	**91.53**	**85.55**	**72.88**
44F723	P-8689	C	1000	4.625″ (117.48)	3.750″ (95.25)	6.125″ (155.57)	3.00″ (76.20)	4.94″ (125.41)	17.0	**117.72**	**110.03**	**93.73**

3-CONDUCTOR LINE CORD AND RECEPTACLE STEP-DOWN AUTO-TRANSFORMERS

Primaries 230V, 50/60Hz (can operate from 400Hz source with no change in output ratings). Secondaries 115V. Case and core internally connected to third conductor of NEMA standard cord and receptacle.

05F1424	GSD-150	C	150	3.875″ (98.43)	3.188″ (80.96)	3.25″ (82.55)	2.50″ (63.50)	2.00″ (50.80)	4.4	**79.03**	**73.87**	**62.93**
05F1425	GSD-250	C	250	3.875″ (98.43)	3.188″ (80.96)	3.625″ (92.08)	2.50″ (63.50)	2.38″ (60.45)	5.8	**81.08**	**79.35**	**71.54**
98F3074	GSD-300	C	300	3.875″ (98.43)	3.188″ (80.96)	3.625″ (92.08)	2.50″ (63.50)	2.38″ (60.45)	5.8	**97.48**	**91.51**	**80.08**
05F1426	GSD-350	C	350	3.875″ (98.43)	3.188″ (80.96)	4.313″ (109.54)	2.50″ (63.50)	3.00″ (76.20)	7.0	**88.92**	**87.02**	**78.46**
05F1427	GSD-500	C	500	4.625″ (117.48)	3.813″ (96.84)	4.438″ (112.72)	3.00″ (76.20)	3.375″ (85.73)	10.6	**89.46**	**87.55**	**78.94**
05F1428	GSD-750	C	750	4.625″ (117.48)	3.813″ (96.84)	5.188″ (131.77)	3.00″ (76.20)	4.125″ (104.78)	14.4	**126.85**	**118.57**	**101.00**
05F1429	GSD-1000	C	1000	4.625″ (117.48)	3.81″ (96.84)	6.00″ (152.40)	3.00″ (76.20)	5.00″ (127.00)	17.0	**156.30**	**146.55**	**130.26**
05F1430	GSD-1500	C	1500	5.50″ (139.70)	4.625″ (117.48)	6.00″ (117.48)	3.50″ (88.90)	4.375″ (111.13)	20.1	**207.55**	**203.12**	**190.61**

STRAIGHT ISOLATION TRANSFORMERS WITH ELECTROSTATIC SHIELDS GROUNDED TO CORE

Primaries 115V, 50/60Hz line cord (can operate from 400Hz source with no change in output ratings). **Types P-6410, P-6160, P-6161** have secondary female receptacle; **types P-6411, P-6412, P-6413** have lead termination. Case, core and electrostatic shield internally connected to third conductor of NEMA standard cord and receptacle. *denotes 105/115/125–volt primaries.

05F1431	P-6413	A	0.6	1.25″ (31.75)	2.125″ (53.97)	1.25″ (31.75)	1.75″ (44.45)	...	0.25	**20.24**	**19.32**	**16.67**
01F043	P-6411	A	15	2.00″ (50.80)	3.25″ (82.55)	1.875″ (47.63)	2.813″ (71.44)	...	1.0	**20.04**	**19.13**	**16.50**
05F1432	P-6412	A	35	2.375″ (60.33)	3.75″ (95.25)	2.00″ (50.80)	3.125″ (79.38)	...	1.7	**23.62**	**22.62**	**20.44**
01F317	P-6410	C	50	3.50″ (88.90)	2.813″ (71.44)	3.500″ (88.9)	2.25″ (57.15)	1.88″ (47.63)	3.7	**71.85**	**67.45**	**59.03**

STRAIGHT ISOLATION TRANSFORMERS WITH THREE CONDUCTOR LINE CORD AND RECEPTACLE

115V primary and secondary, 50/60Hz (can operate from 400Hz source with no change in output ratings). Case, core and electrostatic shield internally connected to third conductor of NEMA standard cord and receptacle.

01F1000	GIS-100	C	100	3.50″ (88.90)	2.813″ (71.48)	3.563″ (90.49)	2.25″ (57.15)	2.438″ (61.91)	4.5	**76.51**	**71.83**	**62.85**
01F1001	GIS-150	C	150	3.875″ (98.43)	3.188″ (80.98)	4.188″ (106.36)	2.50″ (63.50)	2.938″ (74.61)	7.0	**86.47**	**81.18**	**71.04**
01F1002	GIS-250	C	250	4.688″ (119.06)	3.75″ (95.25)	4.375″ (111.13)	3.00″ (76.20)	3.188″ (80.96)	9.3	**103.33**	**97.01**	**84.89**
01F1003	GIS-500	C	500	4.688″ (119.06)	3.75″ (95.25)	6.00″ (152.40)	3.00″ (76.20)	4.188″ (106.38)	16.5	**131.65**	**128.84**	**116.16**
01F1004	GIS-1000	C	1000	5.50″ (139.70)	4.375″ (111.12)	8.125″ (206.38)	3.50″ (88.90)	6.50″ (165.10)	31.5	**258.12**	**252.61**	**247.21**

STEP-DOWN ISOLATION TRANSFORMERS WITH 3-LINE CORD AND RECEPTACLE

230V primary/115V secondary, 50/60Hz (can operate from 400Hz source with no change in output ratings). Case, core and electrostatic shield internally connected to third conductor of NEMA standard cord and receptacle.

01F1005	GISD-100	C	100	3.50″ (88.90)	2.813″ (71.44)	3.563″ (90.49)	2.25″ (57.15)	2.438″ (61.91)	4.5	**77.59**	**72.84**	**63.74**
01F1006	GISD-150	C	150	3.875″ (98.43)	3.125″ (79.38)	4.188″ (106.36)	2.50″ (63.50)	2.938″ (74.61)	7.0	**84.97**	**79.77**	**69.80**
01F1007	GISD-250	C	250	4.688″ (119.06)	3.75″ (95.25)	4.25″ (107.95)	3.00″ (76.20)	3.188″ (80.96)	9.0	**93.34**	**91.35**	**82.37**
01F1008	GISD-500	C	500	4.688″ (119.06)	3.75″ (95.25)	6.00″ (152.40)	3.00″ (76.20)	4.188″ (106.38)	16.0	**147.24**	**138.05**	**122.71**
01F1009	GISD-1000	C	1000	5.50″ (139.70)	4.563″ (115.88)	8.125″ (206.38)	3.50″ (88.90)	6.50″ (165.10)	31.0	**254.34**	**233.58**	**216.01**

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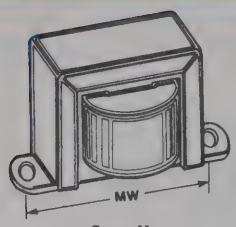
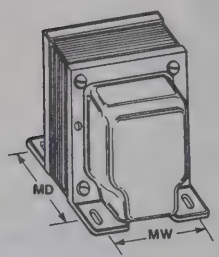
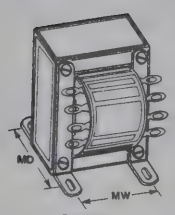
TRANSFORMERS AND CHOKE COILS



Case X



Case A



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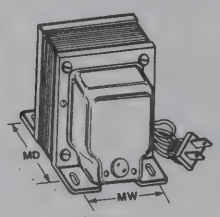


Case M

ISOLATION TRANSFORMERS, WITH STATIC SHIELD, 50/60Hz

Units with "**M**" suffix have 2-wire plug, cord and socket; "**MG**" suffix have 3-wire. **60Hz only.

Stock No.	Type	Power VA	Primary Volts	Secondary Volts	Secondary Amps	Case Type	Dimensions MW	Dimensions MD	Each	2-5	6-10
03F1017	N-48X	15	115	115	0.130	X	2.813″	...	16.46	16.07	15.34
03F750	N-51X**	35	115	115	0.300	X	3.125″	...	17.02	16.61	15.86
03F603	N68X	50	115/230	115	0.435	X	3.125″	...	22.04	21.52	20.54
03F751	N-53M	85	115	115	0.740	M	2.250″	2.125″	48.65	45.40	43.48
03F604	N-54M	150	115	115	1.300	M	2.500″	3.000″	60.97	56.90	54.49
03F605	N-67A	150	115/230	115	1.300	A	2.500″	3.000″	46.85	43.72	41.87
02F541	N-55M	250	115	115	2.170	M	3.000″	3.875″	63.40	60.64	53.64
05F1361	N-66A	250	115/230	115	2.170	A	3.000″	3.625″	65.80	62.94	55.67
02F542	N-57M	500	115	115	4.350	M	3.500″	5.125″	109.16	104.41	92.35
	STEP DOWN/STEP UP AUTOFORMERS 50/60 Hz										
05F1358	N-1X	50	230	115	0.435	X	3.125″	...	12.50	12.20	11.65
02F1055	N-2X	100	230	115	0.870	X	3.563″	...	18.38	17.94	17.13
02F1054	N-6U	200	230	115	1.700	U	2.813″	2.125″	34.77	32.45	31.08
05F1359	N-4M	150	230	115	1.300	M	2.250″	2.375″	44.76	41.77	40.00
04F433	N5M	250	230	115	2.170	M	2.500″	3.000″	52.40	48.90	46.83
02F1058	N-5MG	250	230	115	2.170	M	2.500″	3.500″	71.57	68.45	60.55
02F1059	N-7MG	600	230	115	5.220	M	3.000″	3.875″	80.48	76.98	68.09
03F1015	N-7M	600	230	115	5.220	M	3.000″	3.875″	59.34	56.75	50.20
02F1062	N-11M	2000	230	115	17.400	M	3.500″	6.875″	197.00	184.68	164.20
81F2438	N150MG	150	115	230	0.650	M	2.250″	2.125″	60.97	56.90	54.49
81F2439	N250MG	250	115	230	1.100	M	2.500″	2.438″	71.57	68.45	60.55
81F2440	N-500MG	500	115	230	2.200	M	3.000″	3.625″	80.48	76.98	68.09
81F2441	N1000MG	1000	115	230	4.400	M	3.500″	4.125″	130.35	122.20	108.65

HOSPITAL TYPE LOW-LEAKAGE ISOLATION PLUG-IN TRANSFORMERS

Leakage current primary-to-secondary is rated less than 50 micro-amps and is measured at less than 10 micro-amps. Connections include line cord, plug and receptacle, and socket circuit breaker. UL hospital grade verified to meet federal specifications W-C 596E.

Stock No.	Type	Power VA	Primary Volts	Secondary Volts	Secondary Amps	Test Voltage	Case Type	H × W × D	Each
46F2195	N-90-MD	250	115	115	2.17	1500 VMS	M	4.625 × 3.875 × 6.125″	165.26
46F2196	N-92-MD	500	115	115	4.35	1500 VMS	M	5.344 × 4.500 × 7.000″	207.74

(6063) (de00313)

115 VOLT, 50/60Hz PRIMARY PLUG-IN PC POWER TRANSFORMERS

Ideal for single or dual output DC supplies, isolated control circuits, reference supplies in transistorized control, and/or instrumentation. Voltage stepdowns and isolation from power lines can be obtained at 4 to 58V when connected in parallel and 8 to 116V in series.

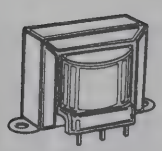


Fig. 1

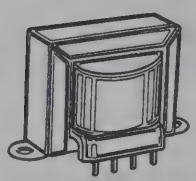


Fig. 2

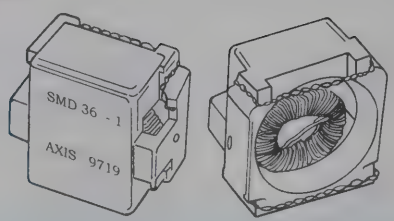
Stock No.	Type	Fig.	Output	Secondary Series	Secondary Parallel	H × W × D″	Each	2-5	6-10
02F459	F-131P	2	1½W	8VCT@0.188A	4V@0.376A	1.125 × 1.391 × 1.156	14.90	14.54	13.88
02F1039	F-138P	2	1½W	25.2VCT@0.060A	12.6V@0.120A	1.125 × 1.391 × 1.156	14.87	14.52	13.86
03F1024	F-333P*	2	1½W	30VCT@0.050A	15V@0.100A	1.125 × 1.375 × 1.125	9.80	9.57	9.13
02F466	F-143XP	1	4½W	30VCT@0.150A	15V@0.300A	1.391 × 2.375 × 1.250	12.42	12.13	11.58
03F1023	F-153XP	1	7½W	30VCT@0.250A	15V@0.500A	1.641 × 2.813 × 1.469	16.72	16.32	15.58
02F1042	F-157XP	1	7½W	40VCT@0.188A	20V@0.376A	1.641 × 2.813 × 1.469	19.01	18.56	17.72
03F1026	F-359XP*	1	10W	24VCT@0.450A	12V@0.900A	1.625 × 2.813 × 1.438	9.09	8.87	8.47

*115/230V
(6004) (de00314)

SMD SERIES SURFACE MOUNT INDUCTORS

SMD

Well-suited for energy storage in the 50kHz to 500kHz region. Their small size makes them ideal for use in power supplies as the switching inductor or PCF inductor. In ordinary filter applications, they may be used up to 10MHz. Mounting Centers: **Type SMD36** 0.449 x 0.413″ (LxW), **Type SMD50** 0.685 x .532″ (LxW).



Stock No.	Type	Induct. (uH)	Current (Amps)	DCR Ohms	Each	2-5	6-10
83F5157	SMD37-1	2.4	7.8	7	1.17	1.15	1.10
83F5158	SMD37-2	5.1	5.3	14.5	1.17	1.15	1.10
83F5159	SMD37-3	16.3	2.6	55	1.76	1.72	1.64
83F5160	SMD37-4	58	1.25	232	1.76	1.72	1.64
83F5161	SMD36-1	192.1	0.85	470	4.13	4.03	3.85
83F5162	SMD36-2	383	0.7	750	4.13	4.03	3.85
83F5163	SMD50-1	2.01	12.9	3.4	1.83	1.79	1.71
83F5164	SMD50-2	3.45	12.35	5.8	1.83	1.79	1.71
83F5165	SMD50-3	4.7	10.25	7.1	1.83	1.79	1.71
83F5166	SMD50-4	9.2	7.1	16.5	1.83	1.79	1.71
83F5167	SMD50-5	16	5	30	1.83	1.79	1.71
83F5168	SMD50-6	51	2.5	113	1.83	1.79	1.71

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POWER TRANSFORMERS

PC- AND CHASSIS-MOUNT POWER TRANSFORMERS

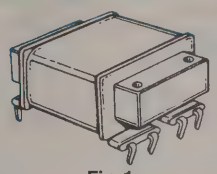


Fig. 1

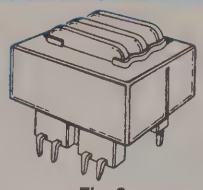


Fig. 2

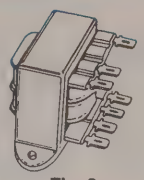


Fig. 3

PC-MOUNT FLAT PACK® 115/230 VOLT, 50/60 Hz POWER TRANSFORMERS—FIG. 1

Meet the needs of low-clearance PC boards and solid state power designs. Can also be used for control and instrumentation applications. Voltages and currents are chosen for widely-used power applications, and can be used in single or dual-output supplies. Designed to pass 2,000V HiPot test.

Stock No.	Type	Output VA	Secondary Rating		Case Dimensions	Wt. Oz.	Each	2-5	6-10
			Series (CT)	Parallel	HxWxD				
81F2414	FP12-475	6	12-6V CT @ .475A	6V @ .95A	.875x1.562x1.875″	7	13.63	13.31	12.71
81F2415	FP16-375	6	16V CT @ .375A	8V @ .75A	.875x1.562x1.875″	7	13.63	13.31	12.71
81F2416	FP20-300	6	20V CT @ .30A	10V @ .6A	.875x1.562x1.875″	7	13.63	13.31	12.71
81F2417	FP24-250	6	24V CT @ .25A	12V @ .5A	.875x1.562x1.875″	7	13.63	13.31	12.71
81F2418	FP30-200	6	30V CT @ .2A	15V @ .4A	.875x1.562x1.875″	7	13.63	13.31	12.71
44F3347	FP230-25	6	230V CT @ .025A	115V @ .05A	.875x1.562x1.875″	7	13.63	13.31	12.71
81F2420	FP12-950	12	12-6V CT @ .95A	6V @ 1.9A	1.062x2.0x2.5″	11	15.91	15.53	14.82
81F2424	FP30-400	12	30V CT @ .4A	15V @ .8A	1.062x2.0x2.5″	11	15.91	15.53	14.82
44F3339	FP230-50	12	230V CT @ .05A	115V @ .1A	1.062x2.0x2.5″	11	15.91	15.53	14.82

PC-MOUNT SPLIT PACK 115/230 VOLT, 50/60 Hz POWER TRANSFORMERS—FIG. 2

Dual primary, 8-pin split bobbin transformers are nonconcentrically wound—with primary and secondary wound side-by-side. Design permits 2,500V HiPot testing.

81F2425	FS10-250	2.5	10V CT @ .25A	5V @ .5A	1.187x1.125x1.375″	4	10.23	9.98	9.53
81F2426	FS16-150	2.5	16V CT @ .15A	8V @ .3A	1.187x1.125x1.375″	4	10.23	9.98	9.53
81F2428	FS36-65	2.5	36V CT @ .065A	18V @ .13A	1.187x1.125x1.375″	4	10.23	9.98	9.53
81F2431	FS24-250	6	24V CT @ .25A	12V @ .5A	1.312x1.312x1.625″	7	10.91	10.65	10.17
81F2432	FS36-170	6	36V CT @ .17A	18V @ .34A	1.312x1.312x1.625″	7	10.91	10.65	10.17
44F3332	FS12-1000	12	12.6V CT @ 1.0A	6.3V @ 2A	1.437x1.562x1.875″	11	12.50	12.20	11.65
81F2434	FS16-800	12	16V CT @ .8A	8V @ 1.6A	1.437x1.562x1.875″	11	12.50	12.20	11.65
81F2435	FS24-500	12	24V CT @ .5A	12V @ 1A	1.437x1.562x1.875″	11	12.50	12.20	11.65
81F2436	FS36-350	12	36V CT @ .35A	18V @ .7A	1.437x1.562x1.875″	11	12.50	12.20	11.65

CHASSIS-MOUNT QUICK PACK 115 VOLT, 50/60 Hz POWER TRANSFORMERS—FIG. 3

Can offer significant reduction in size and weight for a given VA rating. Plus, these transformers come with a special quick connect or solder terminal. Available in 4 sizes. Split bobbin design permits 2500V HiPot testing. Available with single 115V or Dual 115/230V, 50/60Hz primary.

Stock No.	Type	Output VA	Secondary Rating (CT)	Case Dimensions	Wt. Oz	Each	2-5	6-10
				HxWxD				
98F2031	FD5-12	12	12.6V CT @ 1A	2.8125x1.375x1.625″	11.2	12.90	12.60	12.03
94F7475	FD5-24	12	24V CT @ 0.5A	2.8125x1.375x1.625″	11.2	12.90	12.60	12.03
94F8646	FD6-24	30	24V CT @ 1.25A	3.25x1.6875x1.9375″	17.6	16.72	16.32	15.58
94F8647	FD7-24	56	24V CT @ 2.4A	3.6875x1.8125x2.25″	27.2	20.45	19.97	19.06
93F9903	FD7-36	56	36V CT @ 1.5A	3.6875x1.8125x2.25″	27.2	20.45	19.97	19.06

(6048) (de52354)

WORLD SERIES CHASSIS-MOUNT 115/230V, 50/60Hz TRANSFORMERS

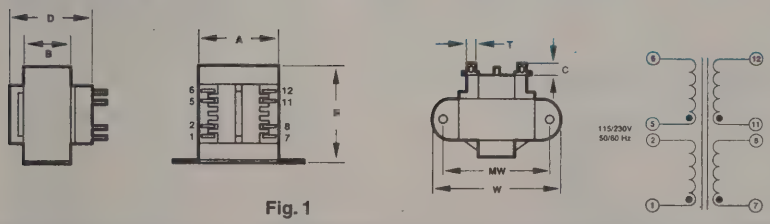


Fig. 1

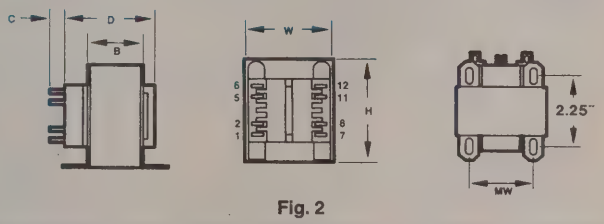


Fig. 2

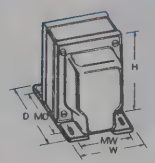
Features dual-bobbin construction with an insulating shroud, keeping capacitance between the coils at a minimum. Very high isolation between primary and secondary, and between each winding and the core. Hi Pot tested at 4000 VRMS. Primary and secondary coils may be connected as either series or parallel, but both must be used simultaneously. UL recognized, CSA certified, IEC and VDE approved. Thru-hole mounting pins are square. Dimension "T" is 3⁄16″ for all types listed.

Stock No.	Type	VA	Secondary		Dimensions						Fig.	MW	Each
			Series	Parallel	H	W	D	A	B	C			
93F8769	VPS12-2000	25	12.6V CT @ 2.00A	6.3V @ 4.00A	2.313″	2.813″	1.938″	2.000″	1.125″	0.313″	1	2.375″	17.50
93F8770	VPS12-3400	43	12.6V CT @ 3.40A	6.3V @ 6.80A	2.688″	3.125″	2.000″	2.313″	1.125″	0.313″	1	2.813″	22.32
93F8771	VPS12-6300	80	12.6V CT @ 6.30A	6.3V @ 12.60A	3.000″	2.500″	2.313″	...	1.375″	0.313″	2	2.000″	29.77
93F8772	VPS16-1600	25	16.0V CT @ 1.60A	8.0V @ 3.20A	2.313″	2.813″	1.938″	2.000″	1.125″	0.313″	1	2.375″	17.50
93F8774	VPS16-5000	80	16.0V CT @ 5.00A	8.0V @ 10.00A	3.000″	2.500″	2.313″	...	1.375″	0.313″	2	2.000″	29.77
93F8775	VPS24-1000	25	24.0V CT @ 1.00A	12.0V @ 2.00A	2.313″	2.813″	1.938″	2.000″	1.125″	0.313″	1	2.375″	17.50
93F8776	VPS24-1800	43	24.0V CT @ 1.80A	12.0V @ 3.6A	2.688″	3.125″	2.000″	2.313″	1.125″	0.313″	1	2.813″	22.32
93F8777	VPS24-3300	80	24.0V CT @ 3.30A	12.0V @ 6.60A	3.000″	2.500″	2.313″	...	1.375″	0.313″	2	2.000″	29.77
93F8779	VPS36-1200	43	36.0V CT @ 1.20A	18.0V @ 2.40A	2.688″	3.125″	2.000″	2.313″	1.125″	0.313″	1	2.813″	22.32
93F8780	VPS36-2200	80	36.0V CT @ 2.20A	18.0V @ 4.40A	3.000″	2.500″	2.313″	...	1.375″	0.313″	2	2.000″	29.77
93F8781	VPS230-110	25	230.0V CT @ 0.11A	115.0V @ 0.22A	2.313″	2.813″	1.938″	2.000″	1.125″	0.313″	1	2.375″	17.50
93F8782	VPS230-190	43	230.0V CT @ 0.19A	115.0V @ 0.38A	2.688″	3.125″	2.000″	2.313″	1.125″	0.313″	1	2.813″	22.32
93F8783	VPS230-350	80	230.0V CT @ 0.35A	115.0V @ 0.70A	3.000″	2.500″	2.313″	...	1.375″	0.313″	2	2.000″	29.77

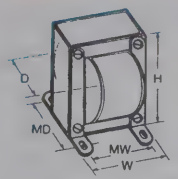
(6011) (de01410b)

POWER TRANSFORMERS

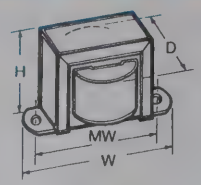
115V PRIMARY-SINGLE SECONDARY 50/60 Hz TRANSFORMERS



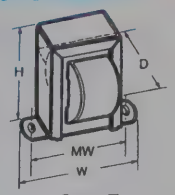
Case A



Case U



Case X



Case Z

† in type number = tapped primary. # in type number = 60Hz only

Stock No.	Type	Case	Secondary Volts	Secondary Amps	RMS Test Volts	H	W	D	MW	MD	Mount Hole	Wt. Lbs.	Each	2-5	6-10
03F720	F1X#	X	2.5CT	3.0	1500	1.625″	2.813″	1.625″	2.375″	...	0.188″	0.68	11.89	11.61	11.08
03F997	F-6X#	X	2.5CT	6.0	2500	1.938″	3.313″	1.750″	2.813″	...	0.188″	1.0	14.04	13.71	13.08
03F722	F3X#	X	2.5CT	10.0	3000	2.281″	3.750″	2.125″	3.125″	...	0.188″	1.7	19.57	19.10	18.24
03F958	F13X	X	6.3	0.6	1500	1.375″	2.375″	1.375″	2.000″	...	0.188″	0.37	8.99	8.78	8.38
03F959	F14X#	X	6.3CT	1.2	2500	1.625″	2.813″	1.625″	2.375″	...	1.188″	0.7	11.69	11.41	10.90
03F960	F16X	X	6.3CT	3.0	2500	1.938″	3.313″	2.000″	2.813″	...	0.188″	1.3	14.22	13.88	13.25
03F1000	F-21A	A	6.3CT	10.0	1500	3.594″	1.969″	3.125″	2.250″	2.000″	0.375x0.188″	3.8	39.21	36.59	35.04
03F777	F22A	A	6.3CT	20.0	2000	3.875″	3.281″	4.125″	2.500″	3.000″	0.375x0.188″	7.0	45.25	42.23	40.44
03F631	F28U†	U	7-5/6.3CT	25.0	3000	4.625″	3.813″	3.625″	3.000″	3.063″	0.313x0.188″	7.5	61.88	59.18	52.35
03F1001	F-31X	X	10CT	3.0	3000	2.281″	3.750″	2.125″	3.125″	...	0.188″	1.7	17.67	17.25	16.47
02F479	F-113X	X	12	0.15	1500	1.375″	2.375″	1.375″	2.000″	...	0.188″	0.4	9.49	9.27	8.85
03F1008	F-114X	X	12	0.7	1500	1.625″	2.813″	1.625″	2.375″	...	0.188″	0.8	10.30	10.06	9.60
03F632	F29U†	U	12/11/10CT	11.0	3000	4.375″	3.500″	3.375″	2.750″	2.563″	0.313x0.188″	6.5	47.66	44.48	42.60
03F1002	F-70X	X	12.6CT	1.0	1500	1.938″	3.313″	1.750″	2.188″	...	0.188″	1.3	12.75	12.45	11.88
03F778	F25X	X	12.6CT	1.5	1500	1.938″	3.313″	2.000″	2.813″	...	0.188″	1.3	12.93	12.62	12.05
05F1379	F-44X#	X	12.6CT	2.0	1500	1.938″	3.313″	2.000″	2.813″	...	0.188″	1.25	15.68	15.31	14.61
03F996	F26X#	X	12.6CT	2.5	1500	2.281″	3.688″	2.000″	3.125″	...	0.188″	1.55	17.57	17.15	16.38
02F478	F-112X	X	14CT	0.25	1500	1.375″	2.375″	1.375″	2.000″	...	0.188″	0.4	11.82	11.54	11.01
03F1009	F-115X	X	24CT	0.085	1500	1.188″	2.063″	1.250″	1.750″	...	0.188″	0.3	10.98	10.72	10.24
02F480	F-116X	X	24CT	0.2	1500	1.375″	2.375″	1.500″	2.000″	...	0.188″	0.45	11.59	11.31	10.80
03F1011	F-117X	X	24CT	0.4	1500	1.625″	2.813″	1.625″	2.375″	...	1.188″	8.0	12.75	12.45	11.88
02F532	F45X#	X	24CT	1.0	1500	1.938″	3.313″	2.000″	2.813″	...	0.188″	1.3	12.42	12.13	11.58
70B1214	F-193U	U	24CT	4.0	1500	3.813″	3.125″	2.813″	2.500″	2.125″	...	4.0	32.11	29.97	28.70
03F1003	F-46X#	X	24	1.0	1500	1.938″	3.688″	2.125″	2.813″	...	0.188″	1.4	12.37	12.08	11.53
03F1004	F-57X	X	25.2CT	1.0	1500	1.938″	3.313″	2.000″	2.813″	2.250″	0.188″	1.5	13.48	13.16	12.57
03F726	F41X	X	25.2CT	2.0	1500	2.594″	4.000″	2.250″	3.563″	...	0.188″	2.2	16.56	16.17	15.44
03F1005	F-56X	X	25.2CT	2.8	1500	2.656″	4.000″	2.250″	3.563″	...	0.188″	2.5	21.33	20.83	19.88
03F779	F40X#	X	26.8CT	1.0	1500	1.938″	3.313″	2.000″	2.813″	...	0.188″	1.3	13.63	13.31	12.71
02F456	F-55X	X	26.8CT	1.7	1500	2.594″	4.000″	2.250″	3.563″	...	0.188″	2.3	18.20	17.77	16.97
81F2407	F-187U	U	28CT	4.0	1500	3.500″	2.875″	3.063″	2.250″	2.750″	0.313x0.188″	5.3	33.27	31.05	29.74
05F1378	F54X	X	35CT	1.5	1500	2.594″	4.000″	2.250″	3.563″	...	0.188″	2.2	20.22	19.74	18.85
03F1007	F-59X	X	60CT	0.4	1500	1.938″	3.313″	2.000″	2.813″	...	0.188″	1.3	15.05	14.69	14.03

MULTIPLE SECONDARY/PRIMARY 115V, 50/60Hz TRANSFORMERS

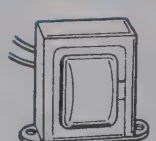
Stock No.	Type	Case	Secondary Volts	Secondary Amps	Qty.	RMW Test Volts	H	W	D	MW	MD	Wt. Lbs.	Each	2-5	6-10
02F1021	F-241U	U	18CT	1.0	2	1500	2.500″	3.000″	2.500″	2.500″	2.000″	3.0	27.90	26.04	24.94
02F1023	F-243U	U	18CT	4.0	2	1500	3.875″	4.125″	3.000″	3.438″	2.250″	7.0	51.31	47.89	45.86

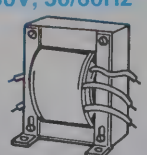
LOW VOLTAGE RECTIFIER 50/60Hz TRANSFORMERS

Stock No.	Type	Case	Primary Volts	Secondary AC Voltage	Secondary AC Amps	H	W	D	Wt. Lbs.	Each	2-5	6-10
03F621	F91X	X	115 Tapped	10-20CT-40CT	.3	2.281″	3.688″	2.000″	1.5	18.99	18.54	17.69
03F622	F92A	A	115 Tapped	10-20CT-40CT	.1	3.188″	2.656″	3.000″	3.3	33.84	31.58	30.24
05F1350	F-93X	X	115 Tapped	10-20CT-40CT	.75	2.594″	4.000″	2.250″	2.4	23.58	23.02	21.98

(6016) (de01576)

F SERIES POWER TRANSFORMERS FOR CONTROL CIRCUITS, PRIMARY 115/230V, 50/60Hz


Z Case


U Case

Stock No.	Type	Case	Power VA	Secondary Series (VT)	Secondary Parallel	H x W x D	Each	2-5	6-10
03F1031	F-105Z	Z	12	12V CT @ 1A	6V @ 2A	2.375 x 2.875 x 1.750″	15.50	15.13	14.45
03F1032	F-106Z	Z	24	12V CT @ 2A	6V @ 4A	2.750 x 3.125 x 2.000″	20.93	20.43	19.51
03F1033	F-107Z	Z	48	24V CT @ 2A	12V @ 4A	3.125 x 3.625 x 2.375″	19.59	19.13	18.26
81F2409	F-398U	U	72	24V CT @ 3A	12V @ 6A	3.406 x 2.813 x 2.813″	38.96	36.36	34.82
03F1034	F-108U	U	96	24V CT @ 4A	12V @ 8A	3.406 x 2.813 x 3.187″	34.97	32.64	31.26
81F2410	F-399U	U	144	24V CT @ 6A	12V @ 12A	3.750 x 3.125 x 3.500″	50.70	47.31	45.31
03F1035	F-109U	U	192	24V CT @ 8A	12V @ 16A	4.187 x 3.436 x 3.563″	62.13	59.43	52.57
02F1031	F-211Z	Z	12	48V CT @ 0.25A	24V @ 0.5A	2.375 x 2.875 x 1.750″	20.25	19.77	18.87
02F1032	F-212Z	Z	24	48V CT @ 0.5A	24V @ 1A	2.750 x 3.125 x 2.000″	22.52	21.99	20.99
02F1033	F-213Z	Z	48	48V CT @ 1A	24V @ 2A	3.125 x 3.625 x 2.375″	24.41	23.83	22.75
02F1034	F-214U	U	96	48V CT @ 2A	24V @ 4A	3.406 x 2.813 x 2.187″	34.60	32.29	30.93
81F2411	F-400U	U	144	48V CT @ 3A	24V @ 6A	3.750 x 3.125 x 3.500″	47.86	44.67	42.78
02F1035	F-215U	U	192	48V CT @ 4A	24V @ 8A	4.187 x 3.436 x 3.875″	56.34	52.58	50.35

(6012) (de01449)

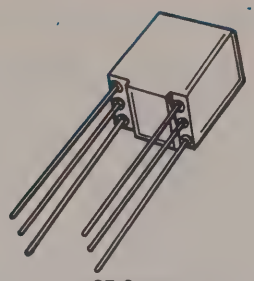
POWER AND AUDIO TRANSFORMERS

SP SERIES "RED SPEC" AUDIO TRANSFORMERS

Gold-plated nickel alloy leads spaced on 0.1" grid centers to fit PC boards. Base dimensions: 0.310" x 0.410". Lead length: 0.75". Height: 0.465". Meets MIL-T-27D designation TF 5S21ZZ.

Stock No.	Type	Power mW	Application	Impedance Primary	Impedance Secondary	Each	2-5	6-10
05F1367	SP-4	10	Input	200k CT	1k CT	24.19	23.61	22.54
03F018	SP21	50	Audio	10k CT	2k CT	24.11	23.54	22.47
02F450	SP-29	50	Driver	10k CT	500 CT	22.72	22.18	21.18
03F1048	SP-33	50	Output	1000	50	19.59	19.13	18.26
03F283	SP52	50	Output	1.5k CT	600	24.19	23.61	22.54
03F292	SP66	50	Output/Isolation	10k CT	10k CT	19.24	18.78	17.93
02F452	SP-67	50	Output/Isolation	600 CT	600 CT	21.18	20.68	19.74
02F453	SP-69	50	Output/Isolation	600	600 CT/150§	21.08	20.58	19.65
94F8690	SP70	50	Audio	600	600	19.87	19.40	18.52
03F1050	SP-310	Magnetic Shield				3.13	3.06	2.92

(6013) (de01451)



SP Case

TY SERIES TRANSFORMERS

TY SERIES TELEPHONE COUPLING TRANSFORMERS

Power: –45dBm to +7dBm. Frequency response: 300-3,500Hz.

Stock No.	Type	Fig.	Application	Impedance Primary	Impedance Secondary	Each	2-5	6-10
03F1066	TY-300P	3	Hybrid*	600	600/600	6.31	6.16	5.88
03F1068	TY-302P	2	Hybrid*	600	600/600	9.47	9.24	8.83
03F1069	TY-303P	2	Bridging	4,000	600	6.31	6.16	5.88
03F1070	TY-304P	3	Coupling	600 CT	600 CT	6.31	6.16	5.88

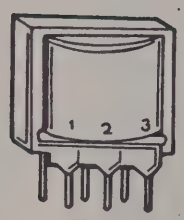


Fig. 1

TY-SERIES PLUG-IN PRINTED CIRCUIT AUDIO TRANSFORMERS

Audio application. Power: 100mW, except **type TY-146P**, which is 1W. Frequency response: 200Hz - 15kHz.

Stock No.	Type	Fig.	Impedance Primary	Impedance Secondary	Primary DC Unbalance	Each	2-5	6-10
02F473	TY-141P	1	10k CT	10k CT	4mA	4.42	4.32	4.12
02F1037	TY-142P	1	10k CT	2k CT	4mA	4.42	4.32	4.12
93F9904	TY-144P	1	15k CT	15k CT	4mA	4.42	4.32	4.12
02F477	TY-145P	1	600 CT	600 CT	15mA	4.42	4.32	4.12
02F1038	TY-146P	4	600CT/150	600 CT/150§	...	8.21	8.01	7.65

* 2 units required for hybrid operation. § Split Winding

(6014) (de01452)

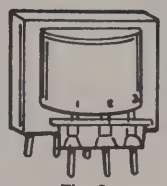


Fig. 2

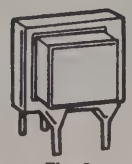


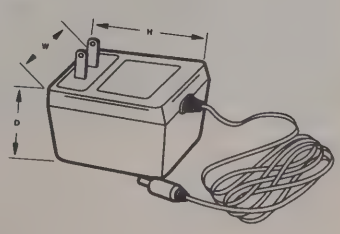
Fig. 3

WALL PLUG-IN TRANSFORMERS

Stock No.	Type	Input Watts	Output VDC	Output IDC	Dimensions In. H	W	D	Each	2-5	6-10
97F7908	WDU6-100	6.0	6.0	0.1	2.1875	1.6875	1.4375	7.32	7.15	6.83
97F7909	WDU6-300	6.0	6.0	0.3	2.1875	1.6875	1.4375	7.32	7.15	6.83
97F7910	WDU6-600	10.0	6.0	0.6	2.500	2	1.6250	9.34	9.12	8.71
97F7913	WDU6-1200	14.0	6.0	1.2	2.500	2	1.6250	12.27	11.98	11.44
97F7916	WDU75-1000	15.0	7.5	1.0	2.8125	2.1875	1.8750	12.27	11.98	11.44
97F7917	WDU9-100	6.0	9.0	0.1	2.1875	1.6875	1.4375	7.32	7.15	6.83
97F7918	WDU9-300	6.0	9.0	0.3	2.1875	1.6875	1.4375	7.32	7.15	6.83
97F7919	WDU9-500	12.0	9.0	0.5	2.500	2	1.6250	9.34	9.12	8.71
97F7920	WDU9-1000	15.0	9.0	1.0	2.8125	2.1875	1.8750	12.27	11.98	11.44
97F7921	WDU9-1200	20.0	9.0	1.2	3.3125	2.5625	2.1875	12.27	11.98	11.44
97F7922	WDU12-100	6.0	12.0	0.1	2.1875	1.6875	1.4375	7.32	7.15	6.83
97F7923	WDU12-300	10.0	12.0	0.3	2.500	2	1.6250	9.34	9.12	8.71
97F7924	WDU12-600	14.0	12.0	0.6	2.8125	2.1875	1.8750	12.27	11.98	11.44
98F8352	WDU121200	24.0	12.0	1.2	3.3125	2.5625	2.1875	12.60	12.30	11.74
97F7925	WDU15-200	10.0	15.0	0.2	2.500	2	1.6250	9.34	9.12	8.71
97F7926	WDU15-600	15.0	15.0	0.6	2.8125	2.1875	1.8750	12.60	12.30	11.74
97F7927	WDU15-1000	24.0	15.0	1.0	3.3125	2.5625	2.1875	13.46	13.14	12.54
97F7929	WDU18-250*	12.0	18.0	0.25	2.500	2	1.6250	9.34	9.12	8.71
97F7930	WDU18-600*	18.0	18.0	0.6	3.3125	2.5625	2.1875	12.27	11.98	11.44
97F7931	WDU18-1000*	30.0	18.0	1.0	3.3125	2.5625	2.1875	13.46	13.14	12.54

* Not CSA certified.

(6020) (de03537)

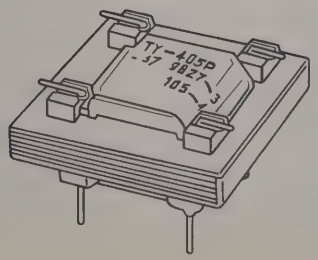


MODEM COUPLING TRANSFORMERS

Cost effective wet coupler for use in modem applications for speeds up to V.29. Small size and low profile permit use in compact applications such as notebook computers and portable external modems. Turns: 1:01. DC resistance: Pins 1-2: 108 ohms. Pins 3-4: 120 ohms. Mounting center dimensions: 0.45 x 0.55" (WxL).

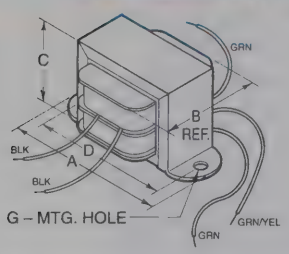
Stock No.	Type	Min. Induct. (mH)	Each	2-5	6-10
83F5169	TY-404P	175	4.27	4.17	3.98
83F5170	TY-405P	225	4.27	4.17	3.98

(28979) (ne28979)

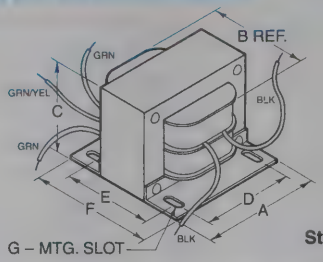


TRANSFORMERS

CHASSIS MOUNT-POWER TRANSFORMERS



Style C



Style H

Chassis mount, channel bracket, split bobbin power transformers do not require an electrostatic shield due to low primary-to-secondary coupling. Single primary: 115V, 60Hz. All secondaries are center tapped. 6″ leads minimum. Hi-pot tested at 2,000Vrms. UL listed, CSA certified.

Stock No.	Type	Style	Secondary F.L. Volts	Secondary N.L. Volts	Secondary Amps	Dimensions A	B	C	D	E	F	Mounting Hole/Slot	1-4	5-9	10-24
66F7500	166F2	C	2.5ct	3.37	0.25	2.06″	1.25″	1.19″	1.75″	...	...	0.187″	18.50	17.80	16.54
92F1305	166L2	C	2.5ct	2.90	2.50	2.81″	1.50″	1.69″	2.38″	...	...	0.187″	17.46	16.80	15.61
92F1306	166Q2	C	2.5ct	3.03	6.00	3.25″	1.63″	2.00″	2.81″	...	...	0.187″	19.46	18.72	17.40
66F7488	166J5	C	5.0ct	6.17	1.00	2.38″	1.50″	1.38″	2.00″	...	...	0.187″	17.36	16.70	15.53
66F7489	166L5	C	5.0ct	5.50	2.00	2.81″	1.63″	1.69″	2.38″	...	...	0.187″	17.57	16.91	15.72
66F7493	166V5	C	5.0ct	5.30	20.0	4.50″	2.50″	2.88″	4.00″	...	...	0.203″	36.64	33.96	30.62
66F7494	166E6	C	6.3ct	7.45	0.15	2.06″	1.25″	1.19″	1.75″	...	...	0.187″	17.99	17.31	16.09
66F7495	166F6	C	6.3ct	7.10	0.30	2.06″	1.38″	1.19″	1.75″	...	...	0.187″	17.93	17.25	16.04
92F1307	166G6	C	6.3ct	7.80	0.60	2.38″	1.38″	1.38″	2.00″	...	...	0.187″	16.16	15.55	14.46
92F1308	166J6	C	6.3ct	7.10	1.00	2.81″	1.50″	1.69″	2.38″	...	...	0.187″	17.44	16.78	15.60
66F7496	166K6	C	6.3ct	7.25	1.20	2.81″	1.50″	1.69″	2.38″	...	...	0.187″	17.18	16.53	15.37
92F1309	166L6	C	6.3ct	7.14	2.00	2.81″	1.63″	1.69″	2.38″	...	...	0.187″	17.54	16.87	15.68
92F1310	166N6	C	6.3ct	6.90	4.00	3.25″	1.75″	2.00″	2.81″	...	...	0.187″	18.57	17.87	16.61
66F7479	166Q6	C	6.3ct	6.70	6.00	3.69″	2.00″	2.31″	3.13″	...	...	0.187″	25.67	23.80	21.46
66F7480	166S6	C	6.3ct	6.70	10.0	4.03″	2.25″	2.63″	3.56″	...	...	0.187″	30.44	28.22	25.44
66F7481	166G7	C	7.0ct	8.30	0.70	2.38″	1.50″	1.38″	2.00″	...	...	0.187″	17.06	16.42	15.26
66F7483	166G8	C	8.0ct	9.52	0.50	2.38″	1.38″	1.38″	2.00″	...	...	0.187″	16.16	15.55	14.46
92F1311	166J8	C	8.5ct	9.60	1.00	2.81″	1.50″	1.69″	2.38″	...	...	0.187″	17.61	16.95	15.75
92F1312	166L8	C	8.5ct	9.60	2.00	3.25″	1.63″	2.00″	2.81″	...	...	0.187″	18.05	17.36	16.14
66F7484	166M8	C	8.5ct	9.50	3.00	3.25″	1.75″	2.00″	2.81″	...	...	0.187″	18.63	17.93	16.67
66F7485	166N8	C	8.5ct	9.04	4.00	3.25″	2.00″	2.00″	2.81″	...	...	0.187″	19.05	18.33	17.04
66F7486	166G9	C	9.0ct	10.9	0.50	2.38″	1.38″	1.38″	2.00″	...	...	0.187″	16.16	15.55	14.46
66F7487	166F10	C	10.0ct	12.4	0.30	2.06″	1.38″	1.19″	1.75″	...	...	0.187″	18.12	17.44	16.21
92F1313	166G10	C	10.0ct	11.0	0.50	2.38″	1.50″	1.38″	2.00″	...	...	0.187″	16.91	16.27	15.12
92F1314	166J10	C	10.0ct	11.0	1.00	2.81″	1.63″	1.69″	2.38″	...	...	0.187″	17.57	16.91	15.72
66F7329	166L10	C	10.0ct	10.8	2.0	3.25″	1.75″	2.00″	2.81″	...	...	0.187″	18.22	17.53	16.30
92F1315	166M10	C	10.0ct	10.5	3.0	3.25″	2.00″	2.00″	2.81″	...	...	0.187″	18.81	18.10	16.82
66F7330	166N10	C	10.0ct	10.7	4.0	3.69″	2.00″	2.31″	3.13″	...	...	0.187″	25.99	24.09	21.72
66F7331	166P10	C	10.0ct	10.7	5.0	3.69″	2.13″	2.31″	3.13″	...	...	0.187″	26.48	24.55	22.13
66F7451	167R10	C	10.0ct	10.6	8.0	4.03″	2.50″	2.63″	3.56″	...	...	0.187″	37.32	34.60	31.19
66F7434	167S10	C	10.0ct	10.7	10.0	4.50″	2.50″	2.88″	4.00″	...	...	0.203″	38.66	35.84	32.31
66F7454	166E12	C	12.0ct	15.5	0.15	2.06″	1.38″	1.19″	1.75″	...	...	0.187″	18.69	17.99	16.72
66F7455	166K12	C	12.0ct	14.7	1.2	3.25″	1.63″	2.00″	2.81″	...	...	0.187″	17.87	17.19	15.98
96F5556	166F12	C	12.6ct	15.7	0.3	2.38″	1.38″	1.38″	2.00″	...	...	0.187″	13.68	12.63	12.03
92F1316	166G12	C	12.6ct	14.5	0.5	2.81″	1.50″	1.69″	2.38″	...	...	0.187″	17.20	16.55	15.39
96F5558	166J12	C	12.6ct	14.3	1.0	2.81″	1.63″	1.69″	2.38″	...	...	0.187″	15.03	13.87	13.21
92F1317	166L12	C	12.6ct	13.8	2.5	3.25″	2.00″	2.00″	2.81″	...	...	0.187″	19.75	18.31	16.51
92F1318	166N12	C	12.6ct	13.4	4.0	3.69″	2.13″	2.31″	3.13″	...	...	0.187″	22.87	21.20	19.11
92F1319	166Q12	C	12.6ct	13.6	6.0	4.03″	2.25″	2.63″	3.56″	...	...	0.187″	28.58	26.49	23.88
66F7456	166R12	C	12.6ct	13.3	8.0	4.50″	2.50″	2.88″	4.00″	...	...	0.203″	31.69	29.38	26.49
92F1320	165S12	H	12.6ct	13.2	10.0	3.00″	3.25″	2.56″	2.50″	3.25″	4.00″	0.22 x 0.56″	41.06	37.90	36.10
92F1321	165V12	H	12.6ct	13	20	3.75″	3.63″	3.13″	3.13″	3.25″	4.00″	0.22 x 0.56″	59.31	52.40	49.13
92F1322	166E14	C	14.0ct	17.5	0.15	2.06″	1.38″	1.19″	1.75″	...	...	0.187″	18.71	18.01	16.74
66F7457	166G14	C	14.0ct	16.1	0.5	2.81″	1.50″	1.69″	2.38″	...	...	0.187″	17.24	16.59	15.42
92F1324	166J14	C	14.0ct	16.0	1.0	2.81″	1.63″	1.69″	2.38″	...	...	0.187″	17.81	17.14	15.93
66F7458	166L14	C	14.0ct	16.0	2.0	3.25″	2.00″	2.00″	2.81″	...	...	0.187″	18.65	17.95	16.68
66F7459	166Q14	C	14.0ct	15.1	6.0	4.03″	2.50″	2.63″	3.56″	...	...	0.187″	31.28	29.00	26.15
92F1325	166F16	C	16.0ct	18.6	0.25	2.38″	1.38″	1.38″	2.00″	...	...	0.187″	16.59	15.97	14.84
92F1326	166G16	C	16.0ct	18.0	0.5	2.81″	1.50″	1.69″	2.38″	...	...	0.187″	17.28	16.63	15.46
92F1327	166J16	C	16.0ct	17.6	1.0	3.25″	1.63″	2.00″	2.81″	...	...	0.187″	17.99	17.31	16.09
96F5528	166L16	C	16.0ct	17.0	2.2	3.25″	2.00″	2.00″	2.81″	...	...	0.187″	19.16	18.44	17.14
92F1328	166M16	C	16.0ct	17.4	3.0	3.69″	2.13″	2.31″	3.13″	...	...	0.187″	22.83	21.17	19.08
96F5526	166K18	C	18.0ct	19.6	1.5	3.25″	1.75″	2.00″	2.81″	...	...	0.187″	18.69	17.99	16.72
92F1329	166M18	C	18.0ct	19.4	3.0	3.69″	2.13″	2.31″	3.13″	...	...	0.187″	26.26	24.35	21.95
96F6078	166P18	C	18.0ct	18.7	5.0	4.03″	2.50″	2.63″	3.56″	...	...	0.187″	30.52	28.29	25.51
92F1330	165S18	H	18.0ct	18.8	10	3.75″	3.13″	3.13″	3.13″	2.75″	3.50″	0.22 x 0.56″	44.75	41.31	39.34
66F7469	165U18	H	18.0ct	18.8	15	4.50″	3.88″	3.75″	3.75″	2.75″	3.50″	0.28 x 0.56″	58.92	52.05	48.80
66F7326	165V18	H	18.0ct	18.5	20	4.50″	4.38″	3.75″	3.75″	3.25″	4.00″	0.28 x 0.56″	67.35	59.50	55.79
92F1331	166D20	C	20.0ct	24.6	0.1	2.06″	1.38″	1.19″	1.75″	...	...	0.187″	18.75	18.04	16.77
92F1332	166E20	C	20.0ct	23.5	0.15	2.06″	1.38″	1.19″	1.75″	...	...	0.187″	18.87	18.16	16.88
66F7443	166F20	C	20.0ct	22.8	0.3	2.38″	1.50″	1.38″	2.00″	...	...	0.187″	18.16	17.48	16.25
92F1333	166G20	C	20.0ct	22.0	0.5	2.81″	1.63″	1.69″	2.38″	...	...	0.187″	17.24	16.59	15.42
92F1334	166J20	C	20.0ct	22.0	1.0	3.25″	1.75″	2.00″	2.81″	...	...	0.187″	18.24	17.55	16.32
92F1335	166L20	C	20.0ct	21.4	2.0	3.69″	1.88″	2.31″	3.13″	...	...	0.187″	24.85	23.04	20.77
92F1336	165T22	H	22.0ct	22.3	12	4.50″	3.88″	3.75″	3.75″	2.75″	3.50″	0.28 x 0.56″	60.33	53.30	49.97
66F7327	165V22	H	22.0ct	22.5	20	4.50″	4.38″	3.75″	3.75″	3.75″	4.50″	0.28 x 0.56″	75.14	66.38	62.24
66F7445	166C24	C	24.0ct	25.3	0.085	2.06″	1.38″	1.19″	1.75″	...	...	0.187″	18.61	17.91	16.65
96F5529	166L24	C	24.0ct	26.7	2.0	3.69″	2.13″	2.31″	3.13″	...	...	0.187″	22.73	20.98	19.98
92F1337	166N24	C	24.0ct	25.6	4.0	4.50″	2.50″	2.88″	4.00″	...	...	0.203″	30.93	28.67	25.85

CONTINUED

CHASSIS MOUNT-POWER TRANSFORMERS (CONT.)

Stock No.	Type	Style	Secondary			Dimensions									
			F.L. Volts	N.L. Volts	Amps	A	B	C	D	E	F	Mounting Hole/Slot	1-4	5-9	10-24
66F7446	166D25	C	25.0ct	28.8	0.1	2.06″	1.38″	1.19″	1.75″	...	...	0.187″	18.83	18.12	16.84
96F5555	166E25	C	25.0ct	30.8	0.15	2.38″	1.38″	1.38″	2.00″	...	...	0.187″	16.26	15.65	14.54
92F1338	166F25	C	25.0ct	29.0	0.3	2.81″	1.50″	1.69″	2.38″	...	...	0.187″	17.22	16.57	15.40
96F5557	166G25	C	25.0ct	28.0	0.5	2.81″	1.63″	1.69″	2.38″	...	...	0.187″	14.79	13.65	13.00
96F5525	166J25	C	25.0ct	27.5	1.0	3.25″	1.75″	2.00″	2.81″	...	...	0.187″	15.70	14.49	13.80
96F5527	166K25	C	25.0ct	26.8	1.5	3.69″	1.88″	2.31″	3.13″	...	...	0.187″	21.75	20.17	18.18
92F1339	166L25	C	25.0ct	28.1	2.0	3.69″	2.13″	2.31″	3.13″	...	...	0.187″	22.40	20.77	18.72
66F7449	167N10	C	25.0ct	26.6	3.0	4.03″	2.25″	2.63″	3.56″	...	...	0.187″	27.87	25.84	23.29
66F7328	165P25	H	25.0ct	27.2	5.0	3.00″	3.25″	2.56″	2.50″	3.25″	4.00″	0.22 x 0.56″	50.48	44.60	41.81
92F1340	165S25	H	25.0ct	26.1	10	3.75″	3.63″	3.13″	3.13″	3.25″	4.00″	0.22 x 0.56″	49.89	46.05	43.86
66F7415	166F28	C	28.0ct	31.7	0.25	2.81″	1.50″	1.69″	2.38″	...	...	0.187″	17.20	16.55	15.39
92F1341	166G28	C	28.0ct	32.0	0.5	2.81″	1.63″	1.69″	2.38″	...	...	0.187″	17.77	17.10	15.90
92F1342	166J28	C	28.0ct	30.8	1.0	3.25″	2.00″	2.00″	2.81″	...	...	0.187″	18.63	17.93	16.67
66F7398	166L28	C	28.0ct	29.8	2.0	3.69″	2.13″	2.31″	3.13″	...	...	0.187″	25.52	23.66	21.33
66F7399	166E30	C	30.0ct	37.4	0.15	2.38″	1.38″	1.38″	2.00″	...	...	0.187″	16.40	15.78	14.67
66F7400	166F30	C	30.0ct	36.1	0.25	2.81″	1.50″	1.69″	2.38″	...	...	0.187″	17.28	16.63	15.46
66F7401	166G30	C	30.0ct	34.2	0.50	3.25″	1.63″	2.00″	2.81″	...	...	0.187″	17.63	16.97	15.77
92F1344	166J33	C	33.0ct	35.0	1.0	3.25″	2.00″	2.00″	2.81″	...	...	0.187″	19.16	18.44	17.14
66F7402	166K35	C	35.0ct	39.0	1.5	3.69″	2.13″	2.31″	3.13″	...	...	0.187″	22.65	21.00	18.93
92F1345	166E36	C	36.0ct	40.7	0.15	2.38″	1.50″	1.38″	2.00″	...	...	0.187″	17.28	16.63	15.46
66F7403	166F36	C	36.0ct	39.4	0.3	2.81″	1.63″	1.69″	2.38″	...	...	0.187″	17.46	16.80	15.61
92F1346	166G36	C	36.0ct	40.0	0.5	3.25″	1.63″	2.00″	2.81″	...	...	0.187″	17.87	17.19	15.98
92F1347	166J36	C	36.0ct	39.5	1.0	3.69″	1.88″	2.31″	3.13″	...	...	0.187″	21.77	20.18	18.20
66F7404	166L42	C	42.0ct	43.9	2.0	4.03″	2.50″	2.63″	3.56″	...	...	0.187″	31.60	29.29	26.41
66F7405	166E44	C	44.0ct	51.6	0.15	2.81″	1.50″	1.69″	2.38″	...	...	0.187″	17.22	16.57	15.40
66F7406	166F44	C	44.0ct	50.6	0.25	2.81″	1.63″	1.69″	2.38″	...	...	0.187″	17.46	16.80	15.61
66F7389	166G44	C	44.0ct	48.1	0.50	3.25″	1.75″	2.00″	2.81″	...	...	0.187″	18.08	17.40	16.18
66F7390	166J44	C	44.0ct	47.4	1.0	3.69″	2.00″	2.31″	3.13″	...	...	0.187″	22.69	21.04	18.97
66F7391	166C50	C	50.0ct	62.0	0.075	2.38″	1.38″	1.38″	2.00″	...	...	0.187″	17.03	16.38	15.23
66F7392	166F50	C	50.0ct	57.0	0.3	3.25″	1.63″	2.00″	2.81″	...	...	0.187″	17.69	17.02	15.83
66F7393	166G50	C	50.0ct	55.0	0.5	3.25″	1.75″	2.00″	2.81″	...	...	0.187″	18.36	17.67	16.42
66F7394	166J50	C	50.0ct	54.5	1	3.69″	2.13″	2.31″	3.13″	...	...	0.187″	22.46	20.82	18.77
66F7395	166L50	C	50.0ct	53.2	2	4.50″	2.50″	2.88″	4.00″	...	...	0.203″	30.71	28.47	25.67
66F7396	166G60	C	60.0ct	65.2	0.5	3.25″	2.00″	2.00″	2.81″	...	...	0.187″	19.34	18.61	17.30
66F7397	166G80	C	80.0ct	85.5	0.5	3.69″	1.88″	2.31″	3.13″	...	...	0.187″	22.20	20.58	18.56

(6084) (ne09118)

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POWER TRANSFORMERS

CHASSIS MOUNT - GLOBAL USE POWER TRANSFORMERS

Type 185 chassis mount AC power transformers feature dual primary 115/230VAC, 50/60Hz, operation with dual secondaries for series or parallel connection. Each unit carries a 4,000Vrm Hi-pot test. Dual bobbin construction using terminals (solder lug or quick connect). UL recognized to UL 506, CSA certified. C22.2 #66 and CE certified to IEC 950.

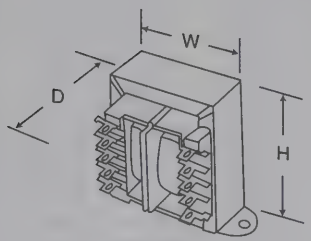


Figure A

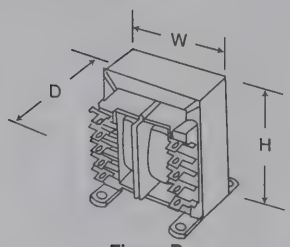


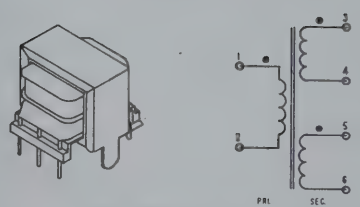
Figure B

Stock No.	Type	VA	VAC Secondary (RMS) Series	Parallel	Dimensions (Inches) W	D	H	Fig.	Hole to Hole Mtg. Dim. (In.) Width	Depth	Each 1-4	5-9
83F8573	185C10	25	10VCT @ 2.5A	5V @ 5.0A	2.81	1.87	2.31″	A	2.37	...	16.34	15.72
83F8580	185D10	43	10VCT @ 4.3A	5V @ 8.6A	3.12	2.06	2.68″	A	2.81	...	21.03	19.49
83F8587	185E10	80	10VCT @ 8.0A	5V @ 16.0A	2.50	2.37	3.00″	B	2.00	2.18	28.32	26.26
83F8594	185F10	130	10VCT @ 13.0A	5V @ 26.0A	2.81	2.87	3.37″	B	2.25	2.50	38.13	35.35
83F8601	185G10	175	10VCT @ 17.5A	5V @ 35.0A	3.12	2.87	3.75″	B	2.50	2.50	44.13	40.91
83F8574	185C12	25	12.6VCT @2.0A	6.3V @ 4.0A	2.81	1.87	2.31″	A	2.37	...	16.34	15.72
83F8581	185D12	43	12.6VCT @ 3.4A	6.3V @ 6.8A	3.12	2.06	2.68″	A	2.81	...	21.03	19.49
83F8588	185E12	80	12.6VCT @ 6.3A	6.3V @ 12.6A	2.50	2.37	3.00″	B	2.00	2.18	28.32	26.26
83F8595	185F12	130	12.6VCT @ 10.3A	6.3V @ 20.6A	2.81	2.87	3.37″	B	2.25	2.50	38.13	35.35
83F8602	185G12	175	12.6VCT @ 14.0A	6.3V @ 28.0A	3.12	2.87	3.75″	B	2.50	2.50	44.13	40.91
83F8575	185C16	25	16VCT @ 1.6A	8V @ 3.2A	2.81	1.87	2.31″	A	2.37	...	16.34	15.72
83F8582	185D16	43	16VCT @ 2.7A	8V @ 5.4A	3.12	2.06	2.68″	A	2.81	...	21.03	19.49
83F8589	185E16	80	16VCT @ 5.0A	8V @ 10.0A	2.50	2.37	3.00″	B	2.00	2.18	28.32	26.26
83F8596	185F16	130	16VCT @ 8.1A	8V @ 16.2A	2.81	2.87	3.37″	B	2.25	2..50	38.13	35.35
83F8603	185G16	175	16VCT @ 11.0A	8V @ 22.0A	3.12	2.87	3.75″	B	2.50	2.50	44.13	40.91
83F8576	185C20	25	20VCT @ 1.25A	10V @ 2.5A	2.81	1.87	2.31″	A	2.37	...	16.34	15.72
83F8583	185D20	43	20VCT @ 2.2A	10V @ 4.4A	3.12	2.06	2.68″	A	2.81	...	21.03	19.49
83F8590	185E20	80	20VCT @ 4.0A	10V @ 8.0A	2.50	2.37	3.00″	B	2.00	2.18	28.32	26.26
83F8597	185F20	130	20VCT @ 6.5A	10V @ 13.0A	2.81	2.87	3.37″	B	2.25	2.50	38.13	35.35
83F8604	185G20	175	20VCT @ 8.8A	10V @ 17.6A	3.12	2.87	3.75″	B	2.50	2.50	44.13	40.91
83F8577	185C24	25	24VCT @ 1.0A	12V @ 2.0A	2.81	1.87	2.31″	A	2.37	...	16.34	15.72
83F8584	185D24	43	24VCT @ 1.8A	12V @ 3.6A	3.12	2.06	2.68″	A	2.81	...	21.03	19.49
83F8591	185E24	80	24VCT @ 3.3A	12V @ 6.6A	2.50	2.37	3.00″	B	2.00	2.18	28.32	26.26
83F8598	185F24	130	24VCT @ 5.4A	12V @ 10.8A	2.81	2.87	3.37″	B	2.25	2.50	38.13	35.35
83F8605	185G24	175	24VCT @ 7.3A	12V @ 14.6A	3.12	2.87	3.75″	B	2.50	2.50	44.13	40.91
83F8578	185C28	25	28VCT @ 0.9A	14V @ 1.86A	2.81	1.87	2.31″	A	2.37	...	16.34	15.72
83F8585	185D28	43	28VCT @ 1.5A	14V @ 3.0A	3.12	2.06	2.68″	A	2.81	...	21.03	19.49
83F8592	185E28	80	28VCT @ 2.8A	14V @ 5.6A	2.50	2.37	3.00″	B	2.00	2.18	28.32	26.26
83F8599	185F28	130	28VCT @ 4.6A	14V @ 9.2A	2.81	2.87	3.37″	B	2.25	2.50	38.13	35.35
83F8606	185G28	175	28VCT @ 6.25A	14V @ 12.5A	3.12	2.87	3.75″	B	2.50	2.50	44.13	40.91
83F8579	185C36	25	36VCT @ 0.7A	18V @ 1.4A	2.81	1.87	2.31″	A	2.37	...	16.34	15.72
83F8586	185D36	43	36VCT @ 1.2A	18V @ 2.4A	3.12	2.06	2.68″	A	2.81	...	21.03	19.49
83F8593	185E36	80	36VCT @ 2.2A	18V @ 4.4A	2.50	2.37	3.00″	B	2.00	2.18	28.32	26.26
83F8600	185F36	130	36VCT @ 3.6A	18V @ 7.2A	2.81	2.87	3.37″	B	2.25	2.50	38.13	35.35
83F8607	185G36	175	36VCT @ 4.8A	18V @ 9.6A	3.12	2.87	3.75″	B	2.50	2.50	44.13	40.91

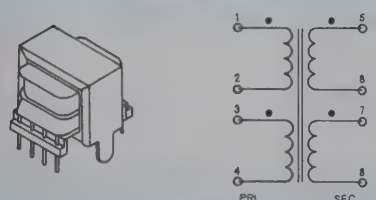
(37471) (ne37471)

VERTICAL, PC BOARD MOUNT POWER TRANSFORMERS

160 and **161 series** vertical, PC board mount, split bobbin power transformers require no electrostatic shield due to low primary-to-secondary coupling. **161 series** are single primary 115V (60Hz); **160 series** are dual primary 115/230V (50/60Hz). Hi-pot tested at 2500Vrms. UL recognized, CSA certified.



161 - Single Primary



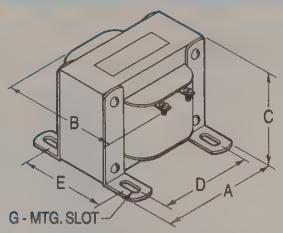
160 - Dual Primary

Secondary (Series)	RMS (Parallel)	Single Primary 115V Stock No.	Type	1-4	5-9	Dual Primary 115/230V Stock No.	Type	1-4	5-9
12.6V @ 40mA	6.3V @ 80mA	66F7601	161C12	10.30	9.91	...	...	...	...
12.6V C.T. @ 70mA	6.3V @ 140mA	66F7602	161D12	12.52	12.04	66F7542	160D12	14.71	14.16
12.6V C.T. @ 100mA	6.3V @ 200mA	96F5552	161FA12	10.30	9.91	66F7543	160F12	11.04	10.63
12.6V @ 350mA	6.3V @ 700mA	66F7603	161GA12	11.04	10.63	66F7544	160G12	11.77	11.33
12.6V C.T. @ 800mA	6.3V @ 1.6A	66F7604	161K12	11.04	10.63	66F7545	160K12	11.77	11.33
12.6V C.T. @ 2A	6.3V @ 4A	66F7587	161H12	21.34	19.78	66F7546	160H12	22.07	20.46
16V @ 31.3mA	8V @ 62.5mA	66F7588	161C16	10.30	9.91	...	...	...	...
16V C.T. @ 55mA	8V @ 110mA	66F7589	161D16	12.52	12.04	66F7547	160D16	14.71	14.16
16V @ 75mA	8V @ 150mA	96F5551	161EA16	9.57	9.21	66F7548	160E16	10.30	9.91
16V C.T. @ 260mA	8V @ 520mA	66F7590	161FA16	10.30	9.91	66F7549	160F16	9.31	8.60
16V C.T. @ 640mA	8V @ 1.28A	96F5553	161G16	11.04	10.63	66F7550	160G16	11.77	11.33
16V @ 1500mA	8V @ 3000mA	66F7591	161H16	21.34	19.78	66F7533	160H16	22.07	20.46
20V C.T. @ 45mA	10V @ 90mA	66F7592	161D20	12.52	12.04	66F7534	160D20	14.71	14.16
20V @ 60mA	10V @ 120mA	66F7593	161EA20	9.57	9.21	66F7535	160E20	10.30	9.91
20V @ 220mA	10V @ 440mA	66F7594	161FA20	9.31	8.60	66F7536	160F20	11.04	10.63
20V @ 500mA	10V @ 1000mA	66F7595	161G20	11.04	10.63	66F7537	160G20	11.77	11.33
20V @ 1200mA	10V @ 2400mA	66F7578	161H20	21.34	19.78	66F7538	160H20	22.07	20.46
24V C.T. @ 35mA	12V @ 70mA	66F7579	161D24	12.52	12.04	66F7539	160D24	14.71	14.16
24V @ 50mA	12V @ 100mA	66F7580	161E24	8.07	7.45	66F7540	160E24	10.30	9.91
24V C.T. @ 180mA	12V @ 360mA	66F7581	161F24	10.30	9.91	66F7541	160F24	11.04	10.63
24V C.T. @ 450mA	12V @ 900mA	66F7582	161G24	9.31	8.60	66F7524	160G24	11.77	11.33
24V @ 1000mA	12V @ 2000mA	66F7583	161H24	21.34	19.78	66F7525	160H24	18.61	17.18
28V C.T. @ 30mA	14V @ 60mA	66F7584	161D28	12.52	12.04	66F7526	160D28	14.71	14.16
28V C.T. @ 40mA	14V @ 80mA	66F7585	161E28	9.57	9.21	66F7527	160E28	10.30	9.91
28V C.T. @ 160mA	14V @ 320mA	66F7586	161F28	10.30	9.91	66F7528	160F28	11.04	10.63
28V @ 360mA	14V @ 720mA	66F7569	161G28	11.04	10.63	66F7529	160G28	11.77	11.33
28V C.T. @ 800mA	14V @ 1.6A	66F7570	161H28	21.34	19.78	66F7530	160H28	22.07	20.46

(6076) (ne08006)

FRIENDLY, QUALITY SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

HIGH-CURRENT REACTORS

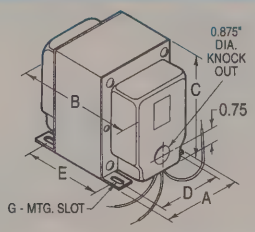


For use in high-current DC power supplies, battery chargers, etc. Feature economical open-core and coil, 4-slot mounting and connectors made to screw terminal or heavy copper tabs with holes.

Stock No.	Type	Inductance (mH)	Current	Resistance (Ohms)	Dimensions					Weight	1-4	5-9	10-24
					A	B	C	D	E				
52F9533	195C20	1	20A	0.013	3.00″	3.06″	2.50″	2.50″	2.25″	3 lbs.	40.18	37.25	33.59
52F9534	195C30	1	30A	0.009	3.75″	3.85″	3.13″	3.13″	2.50″	6 lbs.	52.18	46.10	43.22
52F9535	195C50	1	50A	0.005	4.50″	5.25″	3.75″	3.75″	3.50″	15 lbs.	105.61	96.84	89.35
52F9518	195C75	1	75A	0.004	5.25″	6.00″	4.47″	4.38″	4.63″	23 lbs.	171.82	166.26	158.53
52F9519	195C100	1	100A	0.0036	5.25″	6.50″	4.47″	4.38″	5.13″	26 lbs.	211.73	204.87	195.35
52F9520	195E20	2.5	20A	0.022	3.75″	4.20″	3.13″	3.13″	2.75″	7 lbs.	48.44	42.80	40.13
52F9521	195G10	5	10A	0.04	3.75″	3.60″	3.13″	3.13″	2.25″	6 lbs.	46.30	42.93	38.70
52F9522	195G20	5	20A	0.025	4.50″	4.75″	3.75″	3.75″	3.00″	11 lbs.	62.20	54.95	51.52
52F9523	195G30	5	30A	0.023	5.25″	5.00″	4.47″	4.38″	3.63″	16 lbs.	179.01	173.21	165.15
52F9524	195J10	10	10A	0.07	3.75″	4.35″	3.13″	3.13″	3.00″	8 lbs.	55.29	48.85	45.80
52F9525	195J20	10	20A	0.045	5.25″	5.00″	4.47″	4.38″	3.63″	18 lbs.	84.67	74.80	70.14
52F9526	195J30	10	30A	0.037	6.00″	7.50″	5.00″	5.00″	5.88″	36 lbs.	176.54	170.82	162.88
52F9509	195M10	20	10A	0.013	4.50″	4.75″	3.75″	3.75″	3.00″	10 lbs.	68.67	60.67	56.88
52F9510	195M20	20	20A	0.075	6.00″	7.50″	5.00″	5.00″	5.88″	34 lbs.	222.83	215.61	205.59
52F9511	195M30	20	30A	0.045	6.00″	7.63″	5.16″	5.00″	5.88″	41 lbs.	287.56	278.25	265.31

(6078) (ne08008)

LINE AUTOTRANSFORMERS

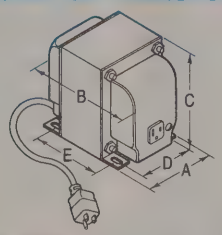


Line autotransformers are for use where equipment is already isolated and step-up (115V to 230V) or step-down (230V to 115V) service is required. Chassis mount-enclosed, hardwired units. 50 or 60Hz. Minimum 8″ leads. CSA certified.

Stock No.	Type	VA (Max.)	Dimensions					Weight	1-4	5-9	10-24
			A	B	C	D	E				
96F5531	170A	100	2.50″	3.00″	3.06″	2.00″	1.94″	3 lbs.	27.95	25.91	23.36
96F5532	170B	200	3.13″	3.50″	3.81″	2.50″	2.19″	4.5 lbs.	36.77	34.09	30.74
96F5543	170C	300	3.13″	4.00″	3.81″	2.50″	2.69″	6 lbs.	41.19	38.18	34.42
66F7253	170D	500	3.75″	4.50″	4.56″	3.00″	3.31″	10 lbs.	56.61	50.01	46.89

(6079) (ne08009)

LINE ISOLATION TRANSFORMERS



171 series is for use where equipment isolation is required (primary 115V, secondary 115V), 50/60Hz operation. Electrostatic shield between primary and secondary, with standard 3-wire plug and outlet receptacle. Chassis mount-enclosed, minimum 5′ cord with plug. CSA certified.

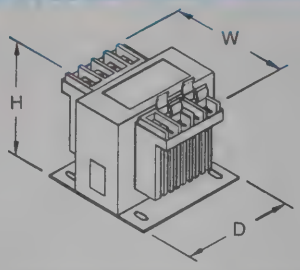
Stock No.	Type	VA (Max.)	Dimensions					Weight	1-4	5-9	10-24
			A	B	C	D	E				
66F7240	171A	100	3.75″	4.00″	5.00″	3.00″	1.88″	6.5 lbs.	70.86	62.60	58.69
96F5545	171B	200	3.75″	4.50″	5.00″	3.00″	2.38″	8 lbs.	85.69	75.70	70.98
96F5546	171C	300	3.75″	5.00″	5.00″	3.00″	2.88″	11 lbs.	89.77	79.30	74.36
96F5547	171E	500	3.75″	6.00″	5.00″	3.00″	3.88″	14 lbs.	122.10	111.96	103.30

(6080) (ne08010)

CONTACT NEWARK FOR LARGE-QUANTITY PRICING.

TRANSFORMERS AND FUSE KITS

PT SERIES MACHINE TOOL CONTROL TRANSFORMERS



PT series machine tool control transformers are designed to meet high inrush industrial applications where electromagnetic devices (relays, solenoids) are used. Feature molded construction. Transformer core and coils are vacuum impregnated with VT (vinyl-toluene) polyester resin to seal against airborne contaminants. Single secondary units supplied with factory-installed secondary fuse kits. Units operate from 50/60Hz AC power. Molded terminal blocks allow for easy primary and secondary fusing to meet UL 508 requirements. *Order covers for* **PT series** *separately on this page.* UL listed, CSA certified, CE compliant.

PRIMARY: 240/480, 230/460, 220/440 SECONDARY: 120, 115, 110

Stock No.	Type	VA Rating	H x W x D	Weight	Each
52F9512	PT25MQMJ	25	2.75 x 3.25 x 3.00″	2.35 lbs.	26.07
52F9513	PT50MQMJ	50	2.75 x 3.75 x 3.00″	3.60 lbs.	28.73
52F9514	PT75MQMJ	75	2.75 x 4.00 x 3.00″	4.35 lbs.	32.52
52F9515	PT100MQMJ	100	2.75 x 4.50 x 3.00″	5.15 lbs.	37.26
52F9516	PT150MQMJ	150	3.25 x 4.00 x 4.25″	6.15 lbs.	47.68
52F9517	PT200MQMJ	200	3.25 x 4.00 x 4.25″	7.75 lbs.	54.61
52F9644	PT250MQMJ	250	3.85 x 4.50 x 4.50″	9.50 lbs.	62.12
52F9645	PT300MQMJ	300	3.85 x 4.75 x 4.50″	10.75 lbs.	67.20
52F9646	PT350MQMJ	350	3.85 x 5.00 x 5.00″	11.75 lbs.	71.24
			PRIMARY: 120/240 SECONDARY: 24		
52F9626	PT25PG	25	2.75 x 3.25 x 3.00″	2.35 lbs.	28.48
52F9627	PT50PG	50	2.75 x 3.75 x 3.00″	3.60 lbs.	28.93
52F9628	PT75PG	75	2.75 x 4.00 x 3.00″	4.35 lbs.	33.34
52F9629	PT100PG	100	2.75 x 4.50 x 3.00″	5.15 lbs.	38.28
52F9630	PT150PG	150	3.25 x 4.00 x 4.25″	6.15 lbs.	51.31
52F9631	PT200PG	200	3.25 x 4.00 x 4.25″	7.75 lbs.	61.33
52F9632	PT250PG	250	3.85 x 4.50 x 4.50″	9.50 lbs.	65.12
52F9633	PT300PG	300	3.85 x 4.75 x 4.50″	10.75 lbs.	72.20
52F9634	PT350PG	350	3.85 x 5.00 x 5.00″	11.75 lbs.	72.75
			PRIMARY: 240/480 SECONDARY: 24		
52F9619	PT25QG	25	2.75 x 3.25 x 3.00″	2.35 lbs.	28.48
52F9620	PT50QG	50	2.75 x 3.75 x 3.00″	3.60 lbs.	29.79
52F9621	PT75QG	75	2.75 x 4.00 x 3.00″	4.35 lbs.	33.49
52F9622	PT100QG	100	2.75 x 4.50 x 3.00″	5.15 lbs.	38.28
52F9623	PT150QG	150	3.25 x 4.00 x 4.25″	6.15 lbs.	51.31
52F9624	PT200QG	200	3.25 x 4.00 x 4.25″	7.75 lbs.	61.33
52F9625	PT250QG	250	3.85 x 4.50 x 4.50″	9.50 lbs.	65.12
52F9608	PT300QG	300	3.85 x 4.75 x 4.50″	10.75 lbs.	72.20
52F9609	PT350QG	350	3.85 x 5.00 x 5.00″	11.75 lbs.	74.92
			PRIMARY: 208, 230, 460 SECONDARY: 115		
52F9612	PT25ML1	25	2.75 x 3.25 x 3.00″	2.35 lbs.	33.64
52F9613	PT50ML1	50	2.75 x 3.75 x 3.00″	3.60 lbs.	35.05
52F9614	PT75ML1	75	2.75 x 4.00 x 3.00″	4.35 lbs.	39.18
52F9615	PT100ML1	100	2.75 x 4.50 x 3.00″	5.15 lbs.	43.52
52F9616	PT150ML1	150	3.25 x 4.00 x 4.25″	6.15 lbs.	52.29
52F9599	PT200ML1	200	3.85 x 4.00 x 4.50″	7.75 lbs.	63.09
52F9600	PT250ML1	250	3.85 x 4.75 x 4.50″	9.50 lbs.	73.28
52F9601	PT300ML1	300	3.85 x 4.75 x 4.50″	10.75 lbs.	80.43
52F9602	PT350ML1	350	3.85 x 5.00 x 5.00″	11.75 lbs.	83.33
			PRIMARY: 380/277/208 SECONDARY: 120		
84F119	PT25MGJ	25	2.75 x 3.00 x 3.25″	2.35 lbs.	27.79
84F120	PT50MGJ	50	2.75 x 3.00 x 3.75″	3.60 lbs.	29.30
84F121	PT75MGJ	75	2.75 x 3.00 x 4.00″	4.35 lbs.	32.93
84F122	PT100MGJ	100	2.75 x 3.00 x 4.00″	5.15 lbs.	37.77
84F123	PT150MGJ	150	3.25 x 4.25 x 4.50″	6.15 lbs.	50.63
84F124	PT200MGJ	200	3.85 x 4.50 x 4.00″	7.75 lbs.	60.26
84F125	PT250MGJ	250	3.85 x 4.50 x 4.00″	9.50 lbs.	63.37
84F126	PT300MGJ	300	3.85 x 4.50 x 4.75″	10.75 lbs.	70.16
84F127	PT350MGJ	350	3.85 x 5.00 x 4.75″	11.75 lbs.	73.28
			PRIMARY: 415, 380 SECONDARY: 110/220		
83F8608	PT25MDMX	25	2.75 x 3.25 x 3.00	2.35 lbs.	43.03
83F8609	PT50MDMX	50	2.75 x 3.75 x 3.00″	3.60 lbs.	45.36
83F8610	PT75MDMX	75	2.75 x 4.00 x 3.00″	4.35 lbs.	46.17
83F8611	PT100MDMX	100	2.75 x 4.50 x 3.00″	5.15 lbs.	46.87
83F8612	PT150MDMX	150	3.25 x 4.00 x 4.25″	6.15 lbs.	64.45
83F8613	PT200MDMX	200	3.25 x 4.00 x 4.25″	7.75 lbs.	69.20
83F8614	PT250MDMX	250	3.85 x 4.50 x 4.50″	9.50 lbs.	81.82
83F8615	PT350MDMX	350	3.85 x 5.00 x 5.00″	11.75 lbs.	94.07
			PRIMARY: 575, 460, 230 SECONDARY: 115/95		
52F9650	PT25MBMH	25	2.75 x 3.50 x 3.00″	2.35 lbs.	44.03

CONTINUED

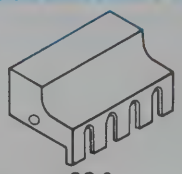
PT SERIES MACHINE TOOL CONTROL TRANSFORMERS (CONT.)

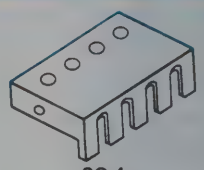
PRIMARY: 575, 460, 230 SECONDARY: 115/95 (CONT.)

Stock No.	Type	VA Rating	H x W x D	Weight	Each
52F9651	PT50MBMH	50	2.75 x 3.75 x 3.00″	3.60 lbs.	45.39
52F9652	PT75MBMH	75	2.75 x 4.00 x 3.00″	4.35 lbs.	48.38
52F9635	PT100MBMH	100	2.75 x 4.50 x 3.00″	5.15 lbs.	49.50
52F9636	PT150MBMH	150	3.25 x 4.00 x 4.25″	6.15 lbs.	67.05
52F9637	PT200MBMH	200	3.85 x 4.00 x 4.50″	7.75 lbs.	72.20
52F9638	PT250MBMH	250	3.85 x 4.75 x 4.50″	9.50 lbs.	84.84
52F9639	PT300MBMH	300	3.85 x 4.75 x 4.50″	10.75 lbs.	93.39
52F9640	PT350MBMH	350	3.85 x 5.50 x 5.00″	11.75 lbs.	94.19

(6074) (ne08001)

TERMINAL COVERS FOR PT SERIES TRANSFORMERS


SG-3


SG-4

Terminal covers provide protection from electric shock or accidental contact of any kind. CE appoved; meet IEC classifications for "finger touch" guidelines. *Order* **PT series transformers** *on this page.* **Sold in packages of 20.**

Stock No.	Type	Description	Per Pkg.
84F132	SG2	Safety Puller for Primary Fusing	5.79
84F133	SG3	Domed Terminal Cover for Fused Secondary	2.95
84F134	SG4	Terminal Cover for Unfused Primary	2.16

(39574) (ne39574)

PT SERIES FUSE KITS

Primary fuse kits include either a single or dual fuse block, lead wire harness, mounting plate and clips, and mounting hardware. Secondary fuse kits include fuse clips, voltage links, and mounting hardware. UL listed, CSA certified. Installation instructions included. Fuses sold separately; *contact your local Newark sales office.* **Sold in packages of 10.**

Stock No.	Type	Primary Block Mounted Fuse	Secondary Clip Mounted Fuse	Max. Applicable VA Secondary Voltage 12V	24V	120/240V	Per Pkg.
52F9596	FK-1-10*	None	¼ x 1¼″ Glass	250	500	1000	35.79
52F9597	FK-2-10*	None	13/32 x 1½″ Midget	250	500	1000	35.79
52F9598	FK-3	Dual Rejection	13/32 x 1½″ Midget	250	500	1000	17.36
52F9653	FK-6	Dual Rejection	¼ x 1¼″ Glass	250	500	1000	17.36
52F9654	FK-9	Single Rejection	¼ x 1¼″ Glass	250	500	1000	17.36
52F9655	FK-10	Single Rejection	13/32 x 1½″ Midget	250	500	1000	17.36
52F9656	FK-11	Dual Rejection	None	1000	1000	1000	12.55
52F9657	FK-12	Dual Midget	None	1000	1000	1000	12.55
84F131	FK-14	Dual Rejection	Single Midget	1000	1000	1000	14.48

*Other voltages and VA sizes are available; *contact your local Newark sales office for details.*

(6075) (ne08002)

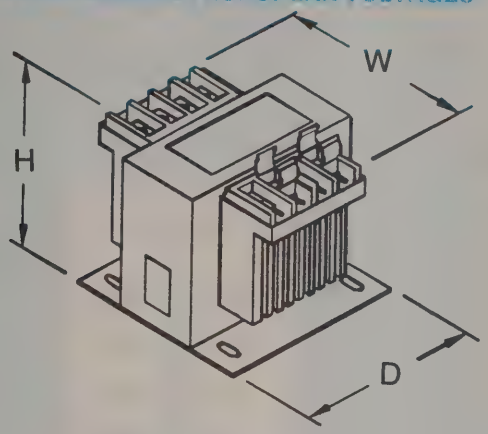
THIS NEWARK CATALOG IS AVAILABLE ON CD-ROM!

CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR DETAILS.

TRANSFORMERS AND LINE REACTORS

PT SERIES TRANSFORMERS - EUROPEAN VOLTAGES

NEW



Transformers have molded construction and vacuum impregnation. 50/60Hz. CE compliant. Optional finger-safe terminal covers also available; *contact your local Newark sales office for details.*

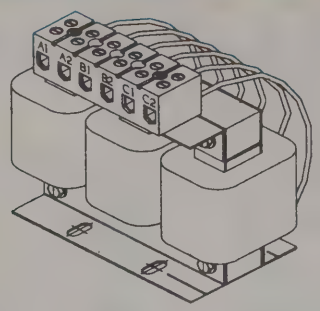
PRIMARY: 415, 400, 380 SECONDARY: 110/220

Stock No.	Type	VA Rating	H x W x D	Weight (lbs.)	Each
83F8616	PT25MEMX	25	2.75 x 3.25 x 3.00″	2.35	48.68
83F8617	PT50MEMX	50	2.75 x 3.25 x 3.00″	3.60	49.35
83F8618	PT75MEMX	75	2.75 x 4.00 x 3.00″	4.35	49.90
83F8619	PT100MEMX	100	2.75 x 4.50 x 3.00″	5.15	56.48
83F8620	PT150MEMX	150	3.25 x 4.13 x 4.25″	6.15	72.18
83F8621	PT200MEMX	200	3.25 x 4.13 x 4.25″	7.75	79.92
83F8622	PT250MEMX	250	3.85 x 4.88 x 4.50″	9.50	92.35
83F8623	PT350MEMX	350	3.85 x 5.38 x 4.88″	11.75	104.72
	PRIMARY: 380, 277, 208 SECONDARY: 24, 120				
83F8624	PT25MGMD	25	2.75 x 3.25 x 3.00″	3.60	37.11
83F8625	PT50MGMD	50	2.75 x 4.00 x 3.00″	4.35	39.05
83F8626	PT75MGMD	75	2.75 x 4.50 x 3.00″	5.15	44.05
83F8627	PT100MGMD	100	3.25 x 4.13 x 3.75″	5.61	54.56
83F8628	PT150MGMD	150	3.85 x 4.38 x 4.50″	6.15	65.39
83F8629	PT200MGMD	200	3.85 x 4.88 x 4.50″	7.75	76.35
83F8630	PT250MGMD	250	3.85 x 5.38 x 4.50″	9.40	87.90
83F8631	PT350MGMD	350	3.85 x 5.88 x 4.88″	11.75	102.67

(37670) (ne37670)

RM SERIES 3-PHASE LINE REACTORS

NEW



Line Reactor Part Number Guide

RM 0002 M 32 __ __

- Further suffix to follow. Add suffix "E" for Enclosure.
- Inductance Value. The inductance value is preceded with a letter to designate the position of the decimal point to determine the inductance. The letters are as follows:
  - 'M' XX. mH
  - 'N' X.X mH
  - 'P' 0.XX mH
  - 'U' .0XX mH or XX.0 uH

  Example: M32 is 32.0 mH
- 4 digits for current rating
- In-Line Reactor

Note: As all characters of the P/N represent performance values of the reactor, P/N's are not completely sequential. They are sorted by current rating.

BY USING A LINE REACTOR, THE INRUSH CURRENT IS LIMITED FROM THE RECTIFIER IN THE DRIVE. IT REDUCES PEAK CURRENT, ROUNDS FORM OF WAVE AND MINIMIZES HARMONIC DISTORTION TO 30%.

(38373) (ne38373)

Designed to reduce or eliminate most line problems. This includes nuisance tripping, harmonic distortion, line notching, etc. In addition, performance, life expectancy, and efficiency of both the motor and drive components will be extended and enhanced. These line reactors feature core and coils of the highest quality and performance, a superior insulation system, full "VPI" impregnation using VT polyester resin and custom-brazed connections. Both open local and enclosed-style line reactors are UL recognized and CSA certified. Line-reactors are available in both 3% and 5% impedances with HP ratings from 1 to 100; in Amperage from 2 amps to 1200 amps. *Contact your local Newark sales office for details.*

240 VOLT 3% IMPEDANCE

Stock No.	Type	HP	mH	Amps	H x W x D	Each
91F4008	RM0004N65	0.5	6.5	4	3.40 x 4.40 x 2.83″	92.47
91F3993	RM0004N30	1	3.0	4	3.40 x 4.40 x 2.83″	134.48
91F3994	RM0008N30	1.5	3.0	8	3.40 x 4.40 x 2.83″	98.18
91F3995	RM0008N15	2	1.5	8	3.40 x 4.40 x 2.83″	96.36
91F3998	RM0035P40	3	1.3	12	3.40 x 4.40 x 2.83″	148.27
91F4041	RM0018P80	5	0.80	18	4.80 x 6.00 x 3.30″	121.81
91F3997	RM0025P50	7.5	0.50	25	5.70 x 6.00 x 3.09″	139.65
91F3998	RM0035P40	10	0.40	35	5.70 x 6.00 x 3.34″	148.27
	480 VOLT 3% IMPEDANCE					
91F4020	RM0002M12	1	12.0	2	3.40 x 4.40 x 2.83″	84.92
91F4036	RM0004N91	1.5	9.1	4	3.40 x 4.40 x 2.83″	99.99
91F4008	RM0004N65	2	6.5	4	3.40 x 4.40 x 2.83″	92.47
91F4009	RM0008N50	3	5.0	8	3.40 x 4.40 x 2.83″	119.99
91F3994	RM0008N30	5	3.0	8	3.40 x 4.40 x 2.83″	98.18
91F4010	RM0012N25	7.5	2.5	12	4.80 x 6.00 x 3.30″	118.17
91F4011	RM0018N15	10	1.5	18	4.80 x 6.30 x 3.55″	134.54
	600 VOLT 3% IMPEDANCE					
91F4024	RM0002M20	1	20.0	2	3.40 x 4.40 x 2.83″	90.90
91F4020	RM0002M12	1.5	12.0	2	3.40 x 4.40 x 2.83″	84.92
91F4007	RM0004M12	2	12.0	4	3.40 x 4.40 x 2.83″	109.08
91F4036	RM0004N91	3	9.1	4	3.40 x 4.40 x 2.83″	99.99
91F4009	RM0008N50	5	5.0	8	3.40 x 4.40 x 3.39″	119.99
91F4037	RM0012N31	7.5	3.1	12	4.80 x 6.00 x 3.55″	125.45
91F4010	RM0012N25	10	2.5	12	4.80 x 6.00 x 3.30″	118.17

(17130) (ne10619)

AT NEWARK, THERE'S ALWAYS MORE THAN MEETS THE EYE!
CONTACT US FOR PRODUCTS NOT LISTED IN THIS CATALOG.

Electronic Terms and Measurements

Resistance
Opposition to current flow. Basic unit is the ohm (Ω).

1 kilohm — kΩ	1,000 or $1x10^3$ ohms
1 Megohm — MΩ	1,000,000 or $1x10^6$ ohms

Voltage
Electromotive force. Basic unit is the volt (V).

1 millivolt — mV	1/1,000 or $1x10^{-3}$ volt
1microvolt — µV	1/1,000,000 or $1x10^{-6}$ volt

Current
Movement of electricity. Basic unit is the ampere (A).

1 milliampere — mA	1/1,000 or $1x10^{-3}$ ampere
1 microampere — µA	1/1,000,000 or $1x10^{-6}$ ampere

Frequency
Number of cycles per second. Basic unit is the hertz (Hz).

1 kilohertz — kHz	1,000 or $1x10^3$ hertz
1 Megahertz — MHz	1,000,000 or $1x10^6$ hertz
1 Gigahertz — GHz	1,000,000,000 or $1x10^9$ hertz

Time
Basic unit is the second (s).

1 millisecond — ms	1/1,000 or $1x10^{-3}$ second
1 microsecond — µs	1/1,000,000 or $1x10^{-6}$ second
1 nanosecond — ns	1/1,000,000,000 or $1x10^{-9}$ second

Temperature Conversion

°C	°F
100	212
80	175
60	140
40	105
35	95
30	85
25	75
20	70
15	60
10	50
5	40
0	32

Conversion Table

Metric to U.S.	U. S. to metric
1 centimeter = 0.39 inch	1 inch = 2.54 centimeters
1 millimeter = 0.039 inch	1 inch = 25.4 millimeters
1 meter = 3.28 feet	1 foot = 0.305 meter
1 gram = 0.035 ounce	1 ounce = 28.35 grams
1 kilogram = 2.2 pounds	1 pound = 454 grams
1 milliliter = 0.034 fl. ounce	1 pound = 0.45 kilogram
1 liter = 0.264 gallon	1 fl. ounce = 29.57 milliliters
	1 gallon = 3.79 liters

Operating Life for Capacitors

Where operating life is given at a certain temperature, for every drop of 10°C life expectancy will double.

If life expectancy is 1,000 hours at 105°C
this would double to 2,000 hours at 95°C
and double again to 4,000 hours at 85°C

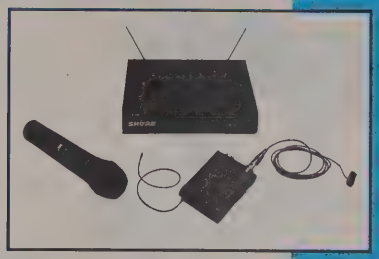
NEWARK ELECTRONICS

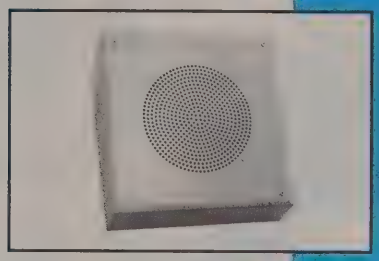
Video & Audio Systems

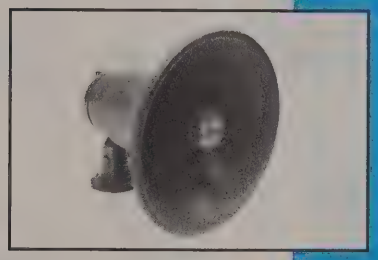
Pages 1156—1161

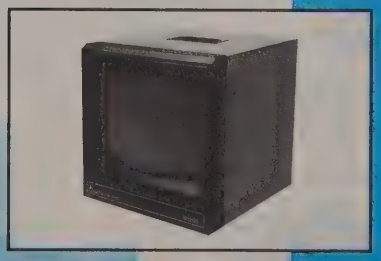
23

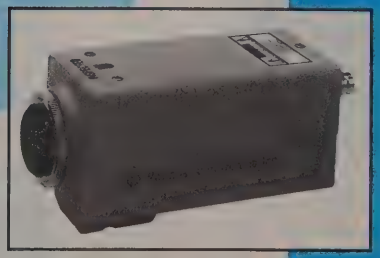
- Aiphone
- Altec Commercial
- Bogen Communications, Inc.
- Quam
- Richardson Electronics, Ltd.
- Shure











Products include...

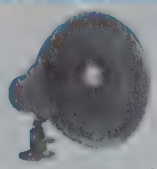
Amplifiers
CCTV Cameras
CCTV Lenses
CCTV Monitors
Intercom Systems
Microphones
Paging Systems
Speakers
Teleconferencing Systems

BOGEN COMMUNICATIONS, INC.

AMPLIFIERS, LOUDSPEAKERS & INTERCOM SYSTEMS

REENTRANT HORN LOUDSPEAKERS

IH8A



SPT-15A, SPT-30A

BDT-30A

For indoor/outdoor use in plants, warehouses, schools, construction, recreational areas. Textured mocha enamel-finish metal. **Types SPT-15A, SP15-8A:** 9.00 diameter x 9.25″D (228.60 x 234.95); **type IH-8A:** 6.50 diameter x 6.63″D (165.10 x 168.40); **types SPT-30A, SP30-8A:** 11.00 diameter x 10.50″D (279.40 x 266.70); **type BDT-30A:** 16.50 diameter x 9.75″D (419.10 x 247.65).

Stock No.	Type	Description	Each
87F4410	IH8A	15W, 8 Ohms	**58.48**
79W433	SPT-15A	25/70V, 15W Continuous	**95.22**
87F4412	SP15-8A	8 Ohms, 15W Continuous, 20W Equalized	**75.92**
87F4411	SPT-30A	25/70V, 30W Continuous, 40W Equalized	**116.96**
87F4413	SP30-8A	8 Ohms, 30W Continuous	**94.86**
87F4414	BDT-30A	25/70V, 30W Continuous	**165.60**

(4681) (de01019)

AMPLIFIED SPEAKERS AND HORNS

AS-1

AH-5A

1-watt speakers are for telephone-paging interface with standard 600-ohm telephone lines. Built-in volume control. Self-contained amplifier eliminates need for central amplifier. 20mA idle current. 50mA operating current. 24VDC. "WB" in type number indicates baffle finish in simulated walnut; "WG" indicates white semi-gloss enameled steel ceiling grille; "AG" indicates satin aluminum ceiling grille.

Stock No.	Type	Description	Each
87F2702	AS-1	Speaker Only, 8.00″ Cone, 3.00″D	**38.66**
87F2703	ASWB-1	Speaker, Simulated Walnut Baffle	**59.78**
87F2704	ASWG-1	Speaker, 12.63″ dia. Steel Ceiling Grille	**45.80**

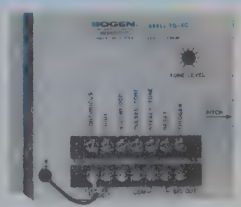
AMPLIFIED HORNS

9.00 diameter x 9.25″ D.

87F2710	AH-5A	5-Watt, 24VDC, 400mA	**120.06**
87F2711	AH-15A	15-Watt, 24VDC, 1A	**144.39**

(4683) (de01021)

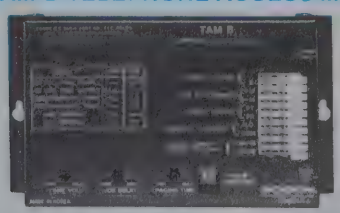
TYPE TG4C MULTIPLE TONE GENERATOR



Type TG4C produces a pulsed alarm tone, slow whoop, repeating chime or steady tone. Continuous or double-burst signal. Activated by external contact closure. Operates on 12-48VDC source. Output: 1 volt RMS into 600-ohm load, adjustable. 6.75 x 2.00 x 5.75″ (171.45 x 50.80 x 146.05).

87F2701 Type TG4C. **Each** **143.87**
(4671) (de00623)

TYPE TAM-B TELEPHONE ACCESS MODULE



Dual-mode voice paging adapter interfaces phone system to paging system. Easily installs in station or trunk port operation. Compatible with PABX, stand-alone 1A2-key, electronic key, hybrid electronic key or centrex. 24VDC @ 90mA or 48VDC @ 105mA trunk port mode. 1.875D x 8.125W x 4.50″H (47.63 x 28.58 x 114.30) wall mount.

87F2694 Type TAMB. **Each** **211.14**
(4685) (de01025)

MICROPHONES

MBS-1000

MGN-19

MBS-1000 desk top paging microphone. Omnidirectional. Dual impedance, low or high. Metal case. Push-to-talk with lock mechanism. 7-foot cable. **MGN-19** pushbutton omnidirectional. 19.00″ flexible gooseneck mounting flange and 7 feet of 4-conductor cable. 2000Hz.

90F7566 Type MBS1000. **Each** **178.02**
90F1964 Type MGN-19. **Each** **96.78**
(4674) (de00628)

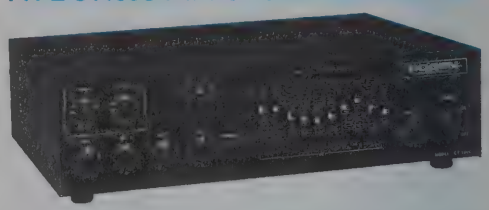
TPU SERIES TELEPHONE PAGING AMPLIFIERS

Provide input for 600-ohm balanced telephone line, low Z balanced microphone (no microphone **type TPU-15A**) and background music. Integral automatic level control. Voice-activated circuitry automatically mutes or fades music when paging. Built-in night ringer. Wall mount design.Thermal and electronic overload protection. Frequency response: **type TPU-15A,** 70Hz to 12Hz ±2dB. UL listed, CSA certified.

Stock No.	Type	Watts	Power Consumption @ 120VAC	Each
87F2695	TPU-15A	15	0.4A, 48W	**249.44**
87F2696	TPU-35B	35	0.75A, 90W	**404.69**
87F2697	TPU-60B	60	1.5A, 180W	**497.84**
87F2698	TPU100B	100	2A, 240W	**545.45**

(4684) (de01023)

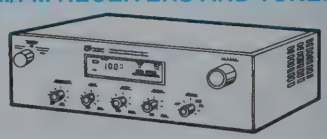
TYPE CT100C 7-INPUT SIGNAL AMPLIFIER



Type CT100C amplifier features six low-impedance, transformer-isolated microphone inputs plus auxiliary input with fader control. Built-in 2/3-octave equalizer boosts or attenuates any of ten selected frequencies. Built-in compressor assures uniform output. UL listed, CSA certified. *Order type* **RVC2B** *remote volume controller separately; contact your local Newark sales office .*

98F3895 Type CT100C. **Each** **816.62**
(4669) (de00620)

AM/FM RECEIVERS AND TUNERS



Type RM-350D AM/FM receiver (tuner amplifier) has digital display of station frequency. Microphone input for paging with automatic precedence over music. (Requires SPST switch in microphone). 25 & 70 Volt Output, 4, 8 and 16 ohms. 35 watts. All solid state circuitry. Radio frequency range: AM 535-1605 KHz, FM 88-108 MHz. **Type TP-30D** AM/FM digital tuner has 18 FM and 12 AM presets in 5 bands. PPL synthesized tuning. LCD display. Stereo output. 8 watts.

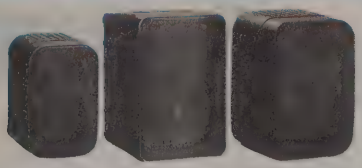
81F1335 Type RM350D AM/FM Receiver. **Each** **459.39**
48F3697 Type TP30D AM/FM Tuner. **Each** **227.70**
(4672) (de00625)

NEWARK: YOUR ONE-STOP SHOP.

BOGEN COMMUNICATIONS, INC.

AMPLIFIERS AND P.A. EQUIPMENT

BACKGROUND AND FOREGROUND SPEAKERS



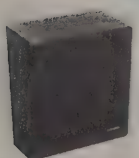
- **Smooth, Wide Frequency Response for Music or Voice**
- **Compact, Rugged Plastic Enclosures**
- **Individually Sweep-Tone Tested To Ensure Reliability**
- **Mounting Brackets Included**
- **1-Year Warranty**

FG-Series speakers have rugged molded plastic housings. Individually sweep-tone tested. **Type FG-15B**, which is black, and **FG-15W**, which is eggshell white, have drivers consisting of 3″ paper woofer and ¾″ mylar tweeter. Handle 15W @ 8 ohms or 1, 2, 4, 7.5, or 15W @ 70V. **Type FG-20S** is a black splash-proof speaker. Can be used outdoors and exposed to low-pressure water spray. Consists of a 5″ poly woofer and ¾″ mylar tweeter. Rated at 20W @ 8 ohms or 5, 10, 15, or 20W @ 70V. **Type FG-30** is a black speaker consisting of a 5″ paper woofer and a ¾″ mylar tweeter. Rated at 30W @ 8 ohms or 10, 15, 20, or 30W @ 70V. All **FG-series** speakers include a "U" mounting bracket. A black swivel mount (**type FG-SM**) and white swivel remount (**type FG-SMW**) are also available for **types FG-20S** and **FG-30**. *Contact your local Newark sales office.*

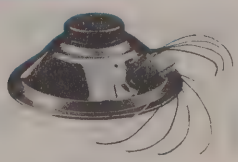
Stock No.	Type	Power	Frequency Range	H x W x L	Color	Each
16F068	FG15B	15W	100Hz-20kHz	7.25 x 4.6 x 4.9″	Black	79.18
16F069	FG15W	15W	100Hz-20kHz	7.25 x 4.6 x 4.9″	White	79.18
16F071	FG20S	20W	80Hz-20kHz	9.15 x 6.25 x 7.0″	Black	140.76
16F070	FG30	30W	80Hz-20kHz	9.0 x 5.9 x 5.5″	Black	131.97

(4822) (ne08871)

LOUDSPEAKERS



WBS8T725

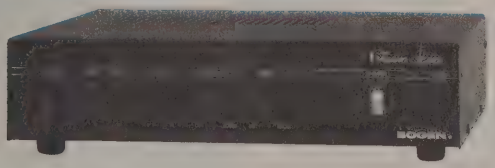


S86T725PG8W

WBS8T725 assembly has 8″ cone speaker, 25/70V transformer, wall mount baffle. **WBS8T725V** same but with volume control. **S86T725PG8W** 8″ cone speakers with 6 tap, 4W, 25/70V transformer, round white steel grille. **WBS8T725, S86T725PG8WKV** baffle assembly speakers with volume control.

46F3848 Type WBS8T725. **Each** **44.51**
50F2996 Type WBS8T725V. **Each** **54.86**
90F1968 Type S86T725PG8W. **Each** **23.81**
50F1905 Type S86T725PG8WVK. **Each** **36.23**
94F1452 Type TB8. Ceiling Tile Bridge **Each** **7.25**
(4673) (de00627)

C SERIES SOLID-STATE PUBLIC ADDRESS AMPLIFIERS WITH BUILT-IN TELEPHONE INPUT



- **Microphone Inputs Accept High or Low Impedance Microphones**
- **Built-in Microphone Precedence Circuit**
- **Built-in Telephone Page Input with Vox Muting**

Types C100 (100 watts), **C60** (60 watts) and **C3** (35 watts) mix 3 inputs; switch permits 2 mike/1 auxiliary or 1 mike/2 auxiliary operation. **C10** (10 watts) and **C20** (20 watts) mix 2 inputs, either 2 mike or 1 mike/1 auxiliary. All units feature thermal and electrical circuit breakers. UL listed. CSA certified. *Order* **type RPK-50** *rack and panel kit for* **C100, C60** *and* **C35** *amplifiers separately below.*

97F800 Type C100. **Each** **520.61**
97F801 Type C60. **Each** **441.95**
97F802 Type C35C. **Each** **353.97**
97F803 Type C20C. **Each** **257.72**
96F550 Type C10C. **Each** **204.31**
50F1904 Type RPK50. **Each** **32.45**
(4793) (ne00619)

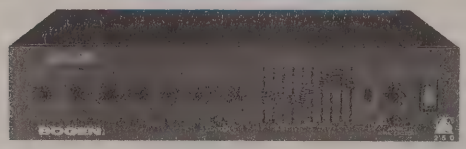
ALL PRODUCTS LISTED ARE STOCKED.

GA SERIES GENERAL PURPOSE AMPLIFIERS

Type GA-6A economy amplifier offers 1 microphone input (low impedance) and 1 auxiliary input (high impedance). Output: 8 ohms, 25V, 70V line. **GA-2** makes an ideal "music-on-hold" amplifier. 50 millivolts needed for full output. Output impedance: 8 ohms, 600 ohms balanced.

81F1342 Type GA6A. 6 Watts **Each** **167.16**
46F3846 Type GA-2. 1.5 Watts **Each** **107.33**
(4794) (ne00624)

GS SERIES AMPLIFIERS



GS Series feature dual equalizer for feedback control or graphic equalization, variable loudness control and Aphex Aural Exciter® circuitry for increased intelligibility. Frequency response: 20Hz to 20kHz, +0, –1dB (direct output) @ rated power. 3.50H x 16.50W x 12.00″D.

Stock No.	Type	Description	Each
48F4019	GS-250	250W Amplifier	938.85
95F3272	GS-150	150W Amplifier	738.99
95F3271	GS-100	100W Amplifier	642.74
95F3270	GS-60	60W Amplifier	563.04
95F3269	GS-35	35W Amplifier	441.95

(4689) (de01035)

TYPE HTA AMPLIFIERS AND TYPE TL TRANSFORMERS

Feature power MOSFET circuitry and have distortion of < 0.5% THD 20-20kHZ. 3-wire auxiliary receptacle, 300W maximum. Hum noise 90dB below rated output. Output loads 4 ohms, 8 ohms, 25VCT and 70.7V. Output regulation better than 2dB from no load to full load. Units have high input impedance of 50K ohms unbalanced. 60Hz. Black finish. **Type TL600** transformer provide balanced 600 ohm input for power amplifier. **Type TL100** provides balanced one-on-one input match and isolation for power amplifier.

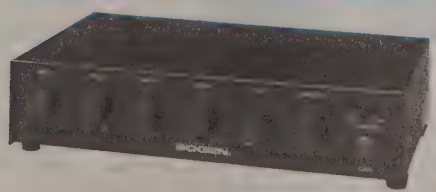
Stock No.	Type	Cont. Power Output	Each
87F2692	HTA-125A	125 Watts	690.35
87F2693	HTA250A	250 Watts	1108.49

LINE TRANSFORMERS

Stock No.	Type	Frequency Response	1-4	5-9
96F543	TL600	20Hz to 20kHz, ±1dB	66.87	64.19
46F3845	TL100	20Hz to 15kHz, ±2dB	51.03	48.99

(4687) (de01032)

TYPE CAM MIXER-PREAMPLIFIER



Features active mixing and 4 microphone channels. Interconnect units for more microphone inputs. Solid-state. Rated output 2.5V HI-Z output; 125mV HI-Z microphone output; 12.5mV LO-Z microphone output. Frequency response flat ±2dB 20Hz to 20kHz. 120VAC/0.02A, or 24-28VDC/0.01A. 60Hz. Minimum system mixing noise.

46F3842 Type CAM. **Each** **343.00**

ACCESSORIES

96F543 Type TL600. 600Ω line matching transformer. **Each** **66.87**
46F3845 Type TL100. 1:1 ratio transformer. **Each** **51.03**
(4688) (de01034)

SPEAKERS, MICROPHONES AND AMPLIFIERS

ALL-PURPOSE PAGING HORN

Type PA430 30W paging horn that provides high intelligibility. Field replaceable voice coil, weatherproof design, fully positional mount. Can mount to a standard electrical box, wall, pole, or other surface. The transformer version **(type PA430T)** includes connections for 25V, 70V, and 100V lines with taps at 2W, 3.7W, 7.5W, 15W, and 30W. Taps are screwdriver-adjustable.

52F8890 Type PA430. **Each** **101.43**
50F2933 Type PA430T. **Each** **115.92**
(4796) (ne01769)

ALL-WEATHER INDOOR/OUTDOOR FULL-RANGE SPEAKERS

Musicaster 100 **DTS-200W**

Type MUSICASTER 100 Musicaster® is a 60W weatherproof speaker designed for speech and music reproduction. 12″ driver, 8 ohms, 90-18,000Hz, light tan and all-angle "U" mounting bracket included. 17.5H x 17.5W x 8.5″D. UL listed. *Order* **Type TK60** *70V transformer separately below.* **Type DTS-200W** is a 200W full range weatherproof speaker with high-performance audio quality. 12″ driver, 8W, 90°x90° horn, 80-20kHz. *Order* **Type MB200** *mounting bracket separately below.*

93F9975 Type MUSICASTER 100. **Each** **559.42**
52F8891 Type TK-60. **Each** **139.73**
48F3865 Type DTS-200W. **Each** **774.00**
48F3866 Type MB200. **Each** **60.00**
(4831) (ne08947)

GENERAL PURPOSE PAGING HORNS

PA12F **PA60** **CDP**

Type PA12F, flush mount style, bell-type horn has die-cast zinc construction. 7.5″ dia. **Type PA60** (60W, 8 ohm) high-power paging horn has 80° coverage. **Type CDP-848AT** (30W transformer version) hi-fidelity, two-way paging horn has 150° dispersion. **Type CDP-850T** (60W transformer version) high-power, hi-fidelity, two-way paging horn has 150° dispersion.

Stock No.	Type	Response	Each
86F669	PA12F	700Hz-10kHz	91.08
46F7817	PA60	600Hz-6.5kHz	135.07
52F7292	CDP848AT	260Hz-10kHz	352.42
52F7293	CDP850T	260Hz-8kHz	439.88

(4708) (de01767)

SPECIAL APPLICATION SPEAKERS

MM-2 **S-40B**

Type MM-2 rugged speaker is immune to salt spray, gas, live steam, fungus, and harmful dust. 800Hz-5kHz, 25W, 16 ohms, 95° dispersion. 6.0″ diameter, 5″ deep. **Types MM-2F** and **MM-2TC** are the same as **type MM-2** except **type MM-2F** is available in flush mount and **type MM-2TC** comes with a transformer. UL listed. **Type S40B** 2-way, weatherproof full-range speaker features a 5.25″ woofer, 1 ″dome tweeter. **Type S40TB** has 70V transformer.

88F108 Type MM-2. **Each** **249.44**
93F9214 Type MM2TC. **Each** **365.36**
44F939 Type MM2F. **Each** **249.44**
48F3867 Type S-40B. **Pair** **380.00**
48F3868 Type S-40TB. **Pair** **486.00**
(4833) (ne08949)

LARGE PUBLIC ADDRESS HORNS

PH **COBRA3**

Large indoor/outdoor public address horns require drivers, *ordered separately on this page.* Match with any driver. All-angle mounting brackets.

Stock No.	Type	Low End Cutoff	Each
88F233	PH	200Hz	240.64
88F230	COBRA3	250Hz	189.93

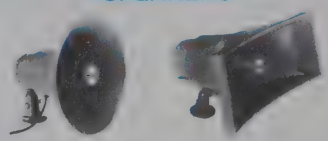
(4710) (de01770)

SPECIAL PURPOSE PROJECTORS

Type MLC 2-way, 15-watt, weatherproof loudspeaker system featuring a compact, folded horn design. For indoor and outdoor use. 175Hz-6kHz, 15W, 8 ohms, 120° dispersion. Size: 12.75H x 9.13W x 10.63D″. **Type MLCT** is the same as **type MLC** except with a transformer.

88F135 Type MLC. **Each** **306.36**
88F228 Type MLC-T. **Each** **329.13**
(4832) (ne08948)

WIDE-COVERAGE PAGING/TALKBACK SPEAKERS



IBC8 **CFID**

Indoor/outdoor units have built-in drivers. **Type IBC8** offers 105° dispersion, adjustable wall mounting bracket. 30W, 8 ohms. **CFID32-8** (32 watts, 8 ohms) is a rectangular reflex exponential speaker. Dispersion 120° horizontal, 80° vertical. Weatherproof. Uni-lok swivel mount. Wide frequency response and low distortion. **CFID32T** (32W) rectangular, reflex exponential speaker has built-in combination 25/70.7V line transformer and 6 screwdriver adjustable wattage taps. Weatherproof. Dispersion is 120° horizontal, 80° vertical. Uni-lok swivel mount. Wide throat design for wide frequency response and low distortion.

Stock No.	Type	Response	Each
88F110	IBC8	500Hz-7kHz	150.08
88F114	CFID32-8	300Hz-8kHz	139.21
88F115	CFID32-T	300Hz-8kHz	179.58

(4709) (de01768)

DRIVERS FOR P. A. HORNS

Weatherproof, high-efficiency 1.00″ throat drivers offer broad response, low distortion. 8 ohms except "T" versions: 70V line applications, include 70V transformer w/6 taps. Power rating: 30W except for **type ID-60**: 60W.

Stock No.	Type	Description	Each
88F231	7110XC	Explosion Proof, UL	361.22
88F142	1D30/1D30C8	Weatherproof	95.22
88F136	ID30CT	Includes Transformer	111.78
88F145	ID60C8/ID60	Weatherproof, Hi Power	173.37
88F146	ID60CT/ID60T	Includes Transformer	207.00

(4711) (de01771)

70-VOLT LINE-MATCHING TRANSFORMER

Type 5030 can be added to any 4-, 8-, or 16-ohm speaker to match to a 25 or 70V speaker line. Power taps at 1.25, 2.5, 5, 10, 15, and 30W.

88F128 Type 5030. **Each** **38.30**
(4706) (de01721)

BROADCAST-QUALITY MICROPHONE

NEW

Type RE20 microphone is a studio-quality Variable-D microphone for high-quality voice production and other close-proximity applications.

48F3869 Type RE20. **Each** **786.00**
(35270) (ne35270)

DESKTOP PUSH-TO-TALK MICROPHONE

Type US622L desktop push-to-talk microphone with noise cancelling. Flexible switch operates as "push-to-talk," "grip-to-talk," and "hands-free-talk." 7′ black PVC-jacketed cord attached, end tinned.

98F1010 Type US622L. **Each** **240.12**
(4707) (de01730)

EV BOUNDARY MICROPHONE

Type CT30 microphone is a tabletop, low-profile mike designed for audio conferencing, recording, or amplifying.

01F054 Type CT-30. **Each** **395.37**
(16128) (ne10741)

PUBLIC ADDRESS MICROPHONE

NEW

Type MC300 hand-held microphone has cardioid pattern pickup which helps reject feedback. On/Off switch.

48F3870 Type MC300. **Each** **84.00**
(35271) (ne35271)

GRIP-TO-TALK MICROPHONE

Type US602FL is a hand-held, noise-cancelling microphone for clear transmission in high-ambient noise areas. Special balanced port feature directs unwanted sound to rear of diaphragm. High-impact polycarbonate case, non-metallic Acoustal-loy® diaphragm. Includes "grip-to-talk" switch and 6′ heavy-duty coil cord. End tinned.

98F2054 Type US602FL. **Each** **138.69**
(4846) (de01727)

MIXER/AMPLIFIERS

Type MR-355C 35-watt mixer/amplifier has 5 separate inputs for control of 7 sources: microphone 1-4, aux 5-6 and page. Digital AM/FM tuner has 24 station presets. Built-in audio control circuit reduces music level for paging. Powers 4-, 8-, or 16-ohm loads; 25 or 70V distributed speaker lines. **MA series** same as **type MR-355C** without the tuner. 6 inputs (3 mics), telephone paging input.

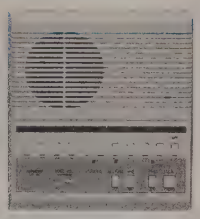
Stock No.	Type	Description	Each
93F9973	MR355B	35W Mixer/Amp w/Tuner	495.77
52F7294	MA355B	35W Mixer/Amplifier	474.03
52F7295	MA605B	60W Mixer/Amplifier	589.95
52F7296	MA1005B	100W Mixer/Amplifier	674.82

(4809) (ne07380)

COMMUNICATION AND INTERCOM SYSTEMS

LOUDSPEAKING INTERCOM SYSTEM

- 3-, 5-, 10-Station Surface-Mount Masters
- 5-Station Semi-Flush Masters (also available in 3- and 10-station units)
- Accepts Music Input
- All-Call from all Flush-Mount Master Stations with B6-10 or B6R-10A units
- Door Release Available on 5- and 10-Station Masters
- All-Call Available on Surface-Mount Type LEF-10S
- Substations Available With and Without Privacy
- Answer the Door from Any Master Station
- Requires Shielded Cable, 22AWG, up to 650 ft



LEF-10

Master Sentry Series' clear sound makes system ideal for loudspeaker intercom needs in homes, offices, stores, and factories. Ample volume for average office use. Privacy type subs and "Privacy" mode on master prevent eavesdropping. Same master used for master-to-master, master-to-substation, and intermixed systems. Calls can be answered "hands-free". **C suffix** in type number denotes semi-flush mount with music volume control and All-Call. Need only 2 or 3 wires from master to each substation. Instructions included. *Order* **type PS-12C** *power supply separately* (1 required for each system). All-Call requires **types BG-10C** (92F2603) and **PS-12F** (92F2605) or **BGR-10A** (92F2604) and **PS-2410A** (83F7631). *Contact your local Newark sales office for a complete line of LEF accessories and power supplies.*

TYPE LEF MASTER STATIONS

Stock No.	Type	Description	Each
95F2077	LEF-5C	5-Call Flush-Mount Sub Master	233.85
87F2399	LEF-3	3-Call Surface-Mount Master	156.28
87F2400	LEF-5	5-Call Surface-Mount Master	226.47
87F2401	LEF-10	10-Call Surface-Mount Master	256.37
87F2402	LEF-10S	10-Call Surface-Mount Master w/All-Call Btn.	290.04

TYPE LEF SUBSTATIONS

98F6120	LE-A	Surface-Mount Substation	38.24

TYPE LEF ACCESSORIES AND POWER SUPPLIES

87F2383	PS-12C	Standard Power Supply	116.93

(4675) (de00964)

SELECTIVE-CALL PHONE-TYPE SYSTEM

- 1-, 3-, 6-, 12-, and 24-Call Phone-Type Stations
- Paging System Interface Available
- Multiple Talk Paths
- Semi-Private Communication
- Conference Call Capability
- Wireless Roamer May Be Added
- 50W, 100W Paging Amps w/PD-1 Available

TD-6H/B, TD-12H/B

Multi-channel, semi-private system is ideal for internal phone needs for stores, offices, schools, factories. Selective ring and talk function permits simultaneous use of all phones, plus conference calls. *Full line of accessories available; contact your local Newark sales office.*

Stock No.	Type	Description	Each
87F2378	TD-1H/B	1-Call Master Handset	108.22
87F2379	TD-3H/B	3-Call Master Handset	116.36
95F2079	TD-6H/B	6-Call Master Handset	131.68
92F7638	T-D-12H/B	12-Call Master Handset	155.90
87F2383	PS-12C	Power Supply	116.93

(4680) (de00998)

HIGH-POWER PAGING SYSTEMS

AP-M series features powerful 10-watt output, press-to-talk master, one or two masters with any combination of substations/speakers, adjustable transmitting/receiving volume controls. **Types NP-B** call button or **NP-25V** capacitor required for each horn. Master plugs into AC outlet.

Stock No.	Type	Description	Each
50F5471	AP-1M	1-Call Master	575.19
87F2403	AP-5M	5-Call Master	659.90
87F2404	AP-10M	10-Call Master	744.11
94F7691	AH108	8-Ohm Horn Speaker	48.12
87F2406	NP-B	Call Button	18.91
87F2405	NP-25V	Capacitor	0.89

(4729) (de04193)

ACCESS SENTRY BUSINESS SYSTEM

Intercom system features door release button for optional electric strike and call tone volume control. Requires two conductor 22AWG wires for up to 650 feet; two extra conductors for door release. **Type LEM-1DLS** set contains **LEM-1DL, LE-D,** and **PT-1210N** plug-in, 12VAC transformer.

Stock No.	Type	Description	Each
92F2586	LEM-1DLS	Complete Set	167.88
92F2587	LEM-1DL	Master with Door Release	129.42
87F2367	LE-D	Surface-Mount Door Station	32.15
87F2368	LEDA	Flush-Mount Door Station	79.63
92F2607	PT-1210N	12V Plug-in AC Transformer	12.82

(4677) (de00966)

MARKET-COM PAGING SYSTEM

- Expandable up to 60 Stations
- 4 Talk Channels Plus Separate Paging Channel
- Automatic Background Music Mute During Paging
- Page Button is Recessed Within Handset
- Colored LED Indicator Lights for Talk Channels
- One Paging Adapter Required per System
- 20W, 50W and 100W Amps available with Built-in Page
- Compatible with MC-3 System
- Modular "Phone-Style" Coil Cords
- 3-Year Warranty

MC-604/A

Stock No.	Type	Description	Each
92F2591	MC-604/A	Wall-Style Market-Com	103.40
92F2584	MC-A/A	Paging Adapter	124.12
92F7640	SP-5N	Multi-Tap Paging Speakers	40.34
94F7643	PS-24E	Power Supply	161.96

(4728) (de04192)

MID-POWERED PAGING SYSTEMS

- 1 Master with up to 3 Substations
- 2.5 Watt Output
- Loudspeaker Stations
- Hands-Free Talkback from Substations
- May be Used with 8 Ohm Paging Horn
- Type NP-B Call Button or NP-25V Capacitor is Required for Each Horn

Type MP-S 2.5-watt output ideal for vehicle gates and fast food order windows. *Order* **type PS-12C** *power supply separately.* Only 2 wires needed from master to each sub.

Stock No.	Type	Description	Each
50F5472	MP-1S	1-Call Master	147.39
94F7693	MP-3S	3-Call Master	195.26
94F7691	AH108	8-Ohm Horn Speaker	48.12
87F2406	NP-B	Call Button	18.91
87F2383	PS-12C	Power Supply	116.93
87F2405	NP-25V	Capacitor	0.89

(4676) (de00965)

DOOR ANSWERING INTERCOM SYSTEM

- Room-To-Room Intercom Plus Door Answering
- Up To 2 Door Stations, 6 Room Stations
- All Call From Any Room Station
- Selective Call With Pre-Tone And Voice

IE-8 series handset-style, multi-location entry security and communication system is ideal for residential and business applications. Easy wiring, only 4 conductors between stations and 2 conductors to doors. Built-in selective door release. 4- and 2-stroke chime from door stations. Pan-Tilt video door answering (**MY series**) can be added.

Stock No.	Type	Description	Each
52F9341	IE-8MD	Main Room Handset	305.18
52F9342	IE-8HD	Sub Room Handset for type IE-8MD	156.85
95F2081	IE-JA	Flush Mount Stainless Steel Door Station	85.52
52F9344	IE-DC	Surface Mount Door Station, Plastic/Aluminum	79.00
87F2390	EL-9S	Electric Door Strike	86.15
92F2607	PT-1210N	Plug-in Transformer, 12VAC	12.82
87F2409	SKK-620	6V DC Power Supply for type TAR-3	34.67
94F7699	TAR-3	Call Extension Relay	57.15

(4810) (ne08133)

WIRELESS ROAMER SYSTEM

- Intercom Communication
- Paging From Cordless Phone
- Covers Large Area, Even Outdoors

Add a 900MHz cordless phone to the Market Com or TD-H selective call intercom system for fully integrated paging, intercom and telephone functions. The Wireless Roamer allows calling and communication between the in-store intercom system and the cordless phone, plus paging from the cordless phone. The cordless phone is an extension of the in-house phone system, therefore allowing full telephone capabilities as well. Compatible intercom systems (**types MC-3, MC-60/4, MC-60/4A, TD-H**) *also available; contact your local Newark sales office.*

Stock No.	Type	Description	Each
83F7632	WP100A	Systems Interface Unit	892.39
52F9347	ANA9500	900MHz Cordless Roamer Phone	709.87
52F9348	EXP9585	Extra Charging Cradle	237.64

(4811) (ne08134)

HIGH-QUALITY HORN SPEAKERS

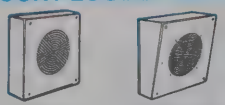
Beige enamel finish, weather-resistant speakers are ideal for indoor or outdoor use. **Types AH-16TN** and **AH-32TN** have multiple wattage taps and 25- or 70-volt transformer built in. Swivel mount base.

Stock No.	Type	Description	Each
87F2393	AH32TN	32-Watt Horn Speaker	101.69
87F2394	AH-16TN	16-Watt Horn Speaker w/8-Ohm tap	83.63
94F7691	AH108	10-Watt, 8-Ohm Horn Speaker	48.12

(4678) (de00968)

SPEAKER SYSTEMS AND ACCESSORIES

SURFACE MOUNT LOUDSPEAKER SYSTEMS



System I System II

4-piece assembly systems include: 8.00″ diameter pin-cushion shaped loudspeaker with ceramic magnet, 11.50″ white square steel baffle in 1-step contour design, 25/70V, 5W transformer and straight or slant-sided surface-mount backbox. VPII has vandal-proof enclosure and baffle, weather-proof speaker.

Stock No.	Type	Speaker	Baffle	Enclosure	Each
50F3385	SYSTEM 1	System I	BS8W	SE1WVP Straight	54.61
50F3386	SYSTEM 2	System II	BS8W	SE2WVP Slant	54.61
50F3388	SYSTEM VP2	System VPII	BS8VP	SE2WVP Slant	79.16

(4690) (de01389)

C5 SERIES LOUDSPEAKER ASSEMBLIES

3-piece assemblies include 8.00″ dia. pin-cushion shaped speaker, ceiling baffle, transformer. **Type C5-SYSTEM** also includes **type SSB-2** ceiling speaker mounting bridge. *Order backbox enclosures separately on this page.*

ASSEMBLIES WITH 70V TRANSFORMER

Stock No.	Type	Baffle Diameter/Material/Design	Each
81F2852	C5/B70/A	12.875″/Brushed Aluminum/Contour 1 Step	28.36
81F2853	C5/B70/W	12.875″/White Steel/1 Contour 1 Step	21.05
81F2854	C5/B70/WP	12.750″/White Plastic/Louver 2 Step	25.95
98F7163	C5B70WVK*	12.875″/White Steel/1 Contour 1 Step	50.64

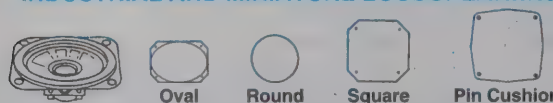
ASSEMBLIES WITH 25/70V UNIVERSAL TRANSFORMER

97F8321	C5/BU/W	12.875″/White Steel/1 Contour 1 Step	20.23
97F8322	C5/BU/WP	12.750″/White Plastic/Louver 2 Step	23.43
97F8323	C5/BU/W/VK*	12.875″/White Steel/1 Contour 1 Step	25.42
97F8319	C5-SYSTEM	Same as C5/BU/W w/**SSB-2** Ceiling Bridge	30.45

* Volume control

(4795) (ne01390)

INDUSTRIAL AND MINIATURE LOUDSPEAKERS



Oval Round Square Pin Cushion

Precision centered voice coils with 8-10Ω impedance, except **type 4A1** has 3-4Ω. **Types 4C5Z8, 4C3Z80T,** and **5C3Z8** have 0.750″ dia. voice coils; others have 0.563″ dia. **Type 4C3Z80T** resists wind, moisture and temperature extremes. Miniature speakers have 0.563″ dia. voice coil. **Types 2A05Z8** and **22A05Z8** have 8-10Ω voice coil impedance; **25A07Z8** has 8Ω; **25A07Z45, 2A05Z45** have 45Ω.

INDUSTRIAL LOUDSPEAKERS

Stock No.	Type	Size/ Shape	Frequency Response	Power Capacity	Depth	Each
81F2824	30A05Z8	3.00″/Square	150-12kHz	2W	1.281″	7.81
81F2825	35A05Z8	3.00 x 5.00″/Oval	130-14kHz	2W	1.50″	9.22
44F904	30C25Z8	3.00″/Square	150-14kHz	5W	1.188″	8.61
44F905	3A05Z8	3.50″/Square	130-12kHz	2W	1.313″	8.42
81F2827	4A1Z8	4.00″/Square	200-12kHz	3W	1.625″	8.82
81F2828	4C3Z80T	4.00″/Square	130-9kHz	4W	1.625″	11.02
81F2829	4C5Z8	4.00″/Square	120-15kHz	7W	1.625″	11.52
81F2830	5C3Z8	5.00″/Pin Cushion	130-14kHz	5W	1.875″	13.03

MINIATURE LOUDSPEAKERS

81F2832	2A05Z8	2.00″ Dia./Round	300-6kHz	1W	0.875″	8.52
81F2833	2A05Z45	2.00″ Dia./Round	300-6kHz	1W	0.875″	9.52
44F907	22A05Z8	2.25″ Dia./Round	300-10kHz	1W	1.00″	9.52
81F2834	25A07Z8	2.50″/Square	150-12kHz	1.50W	1.250″	8.02
81F2835	25A07Z45	2.50″/Square	150-12kHz	1.50W	1.250″	9.01
92F6662	25C25Z80T	2.50″/Square	200-8kHz	4W	1.063″	9.92

(4691) (de01391)

ALNICO V MAGNET INTERCOM SPEAKERS

0.563″ dia. voice coil with 45Ω impedance, except **type 8C10Z45** ceramic magnet and 1.00″ dia. 40Ω voice coil.

Stock No.	Type	Size/ Shape	Frequency Response	Power Capacity	Depth	Each
81F2836	30A05Z45	3.00″/Square	130-14kHz	2W	1.18″	8.82
44F908	3A07Z450T	3.50″/Square	150-10kHz	2.5W	1.438″	10.82
44F909	4A1Z45	4.00″/Square	180-12kHz	3W	1.813″	9.81
81F2837	8C10Z45	8.00″/Pin Cushion	70-12kHz	12W	3.00″	20.53

(4692) (de01393)

CEILING SPEAKER MOUNTING DEVICE

Use with speaker assemblies, 8.00″ dia. speakers, backboxes, baffles.

90F1660 Type SSB-2. **Each** 7.02

(4695) (de01396)

FOREGROUND MUSIC SPEAKER SYSTEMS

2-way system with 70.7V transformer, air suspension woofer and 2.00″ dome tweeter. Externally adjusted attenuator. Black aluminum enclosure.

Stock No.	Type	Power	Frequency Response	Dimensions	Each
90F1658	FM4X2/70	10W	70-20kHz	7.25 x 4.50 x 4.25″	127.98
93F7830	FM6X1/70	20W	60-20kHz	9.25 x 6.00 x 6.50″	97.26

(4698) (de01399)

BACKGROUND MUSIC AND PAGING SPEAKERS

Speakers feature ceramic magnets with 8-10 Ω voice coil impedance. Size: 8.00″ dia. 1.00″ voice coil dia. **Types 8C5PAX, 8C10FEPAX** have dual cone; **type 8C10FEX** dual cone with foam surround; **type 8C10CO** coaxial has Piezo tweeter.

Stock No.	Type	Shape	Depth	Frequency Response	Power Capacity	Each
81F2838	8C5PAX	Pin Cushion	2.750″	65-17kHz	8W	13.83
81F2840	8C10PAX	Pin Cushion	3.00″	60-16kHz	15W	15.83
81F2841	8C10FEPAX	Round	3.125″	30-20kHz	18W	18.53
81F2842	8C10C0	Round	3.250″	40-30kHz	20W	33.06

(4693) (de01394)

LOUDSPEAKER/TILE REPLACEMENT CEILING SPEAKER SYSTEM

Type C5/BU/TR ceiling speaker system includes white steel grille to blend with interior decor, black steel speaker bridge, hidden mounting hardware, and T-bar trim piece to fit between the speaker and trimmed tile. The speaker and transformer are ready to lay on the existing ceiling grid. A backbox enclosure (**type ERD8TR**) can be added. **Type C5/BU/TR** comprises **type 8C5PAX** loudspeaker, **type TBLU** universal transformer (25/70.7V), and tile replacement system.

52F9721 Type C5-BU-TR. **Each** 35.31

(4830) (ne08939)

16W PAGING HORN

Type QH16T is a double re-entrant horn-type loudspeaker. For applications that require a highly efficient compression-driven horn for "talk-back intercom" and paging applications. Delivers high degree of speech intelligibility in noisy environments. Integral dual line transformer allows usage with either 25 or 70.7V distribution lines. Tap selection switch permits 3dB wattage adjustment for both lines. Power capability is 16W rms per EIA RS-426A test standard. Constructed of durable aluminum materials.

52F9722 Type QH16T. **Each** 68.74

(4829) (ne08938)

CEILING BAFFLES

BR8W BR8WP BS8W

Order backbox enclosures separately on this page.

Stock No.	Type	Size/Shape	Finish/ Material	Ceiling Projection	Each
81F2849	BR8A	12.875″ Dia./RD	Brushed/Alum.	0.375″	10.21
81F2848	BR8W	12.875″ Dia./RD	White/Steel	0.375″	8.42
81F2851	BR8WP	12.75″ Dia./RD	White/Plastic	0.313″	8.12
81F2850	BS8W	11.50″ SQ	White/Steel	0.125″	5.05

(4694) (de01395)

BACKBOX ENCLOSURES

ERD-8 SSB-2

Fit 8.00″ loudspeakers and baffles. Hardware, knockouts included. UL listed.

Stock No.	Type	Description/Size	Each
81F2859	ERD-8	RD: 9.75″ Dia./12.313″ Flange Dia./4.063″ Deep	9.92
93F7831	ES-8	SQ: 10.00″/3.75″ Deep	12.64

(4837) (ne09216)

25/70 PRIMARY VOLT ATTENUATORS

Type QC-10: 10-positions plus off. **Type QC-45:** 14-positions plus off.

Stock No.	Type	Power Rate	Attenuations		Each
			Per Step	Total	
46F2332	QC10	20W	1-2: 6dB, 3-10: 3dB	36dB	16.72
90F1654	QC-45	45W	1-2: 6dB, 3-7: 1.5dB, 7-10: 3dB	33dB	27.73

(4697) (de01398)

TRANSFORMERS

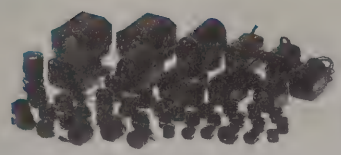
Types TBL25, TBL70 have 2.00″ mounting center; **type TCL70:** 2.375″.

Stock No.	Type	Primary	Power	Wattage Taps	Each
81F2844	TBL25	25V	4W	¼-½-1-2-4W	8.52
81F2846	TBL70	70.7V	4W	¼-½-1-2-4W	8.52
81F2847	TCL70	70.7V	10W	½-2½,⅝-1¼-5-10W	11.92

(4696) (de01397)

CCTV LENSES

Richardson Electronics, Ltd.



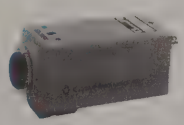
Complete line of high-quality Japanese lenses for use with any C/CS mount CCTV camera. Lenses are ⅓″ format, C/CS mount. Choice of iris operations include no iris, fixed iris, manual iris, auto iris. Fixed focal lengths from 2.8mm to 8.0mm with availabity of varifocal lengths on some models. All glass optics for highest quality performance.

Stock No.	Type	Description	Each
91F4695	NL284N	2.8mm No Iris Lens	60.00
91F4696	NL412N	4.0mm No Iris Lens	60.00
91F4697	NL812N	8.0mm No Iris Lens	60.00
91F4698	NL284	2.8mm Manual-Iris Lens	85.00
91F4699	NL412	4.0mm Manual-Iris Lens	60.00
91F4700	NL812	8.0mm Manual-Iris Lens	60.00
91F4701	NL358	3.5-8.0mm Varifocal Manual Iris Lens	114.00
91F4702	NL412WA	4mm Fixed Auto-Iris Lens (Video Type)	145.00
91F4703	NL412WOA-C	4mm Fixed Auto-Iris Lens (DC Type) with 4-Pin Connector	129.00
91F4704	NL358WA	3.5-8.0mm Varifocal Auto Iris Lens (Video Type)	205.00
91F4705	NL358WOA-C	3.5-8.0mm Varifocal Auto Iris Lens (DC Type) with 4-Pin Connector	180.00

(13450) (ne10507)

CCD COLOR CAMERA

Richardson Electronics, Ltd.



Type NL4124 ⅓″ format CCD color camera includes built-in electronic iris and auto-iris capability. Adjustable line lock and backlight compensation are standard features. 330 lines resolution, 1.5 lux @ f1.4 sensitivity. Accepts C/CS mount lenses. 24VAC.

91F4684 Type NL4124. **Each** **425.00**

(13442) (ne10501)

CCD B&W CAMERAS

Richardson Electronics, Ltd.

Type NL164-24 ⅓″ format CCD camera has built-in electronic iris and auto-iris capability. 380 lines resolution, 0.1 lux @ f1.4 sensitivity. Accepts C/CS mount lenses. 24VAC. **Type NL4024** ⅓″ format CCD camera with built-in electronic iris and auto iris capability. Internal sync, line lock and vertical phase ideal for multiple camera systems. 380 lines resolution. 0.03 lux @ f1.2 sensitivity. Accepts C/CS mount lenses. 24VAC.

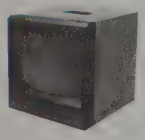
91F4682 Type NL164-24. **Each** **169.00**

91F4683 Type NL4024V. **Each** **189.00**

(13441) (ne10500)

CCTV COLOR MONITORS

Richardson Electronics, Ltd.



Medium- and high- resolution color monitors for observation applications. Rugged metal enclosures. Switchable input select allows for 75ohm termination or loop through to other CCTV devices. 250-400 lines resolution. Operate on 110VAC. Implosion-protected CRTs. UL listed, CSA certified, FCC approved.

Stock No.	Type	Description	Each
91F4693	NL114	14″ Med.-Resolution Monitor	345.00
91F4694	NL214	14″ High-Resolution Monitor	415.00

(13449) (ne10506)

BLACK & WHITE MONITORS

Richardson Electronics, Ltd.

High-resolution black & white monitors for observation applications in rugged metal enclosures. Switchable input select allows 75ohm termination or loop through to other CCTV devices. **Type M2000** does not have loop through feature. 1000+ lines resolution (at center), implosion-protected CRTs. 110VAC. FCC approved. **Types M900, M1200,** and **M1500** are UL listed, CSA certified; **M2000** is UL listed and CUL listed.

Stock No.	Type	Description	Each
91F4689	M900	9″ Monitor	135.00
91F4690	M1200	12″ Monitor	149.00
91F4691	M1500	15″ Monitor	299.00
91F4692	M2000	19″ Monitor	459.00

(13446) (ne10505)

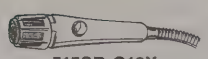
COMMUNICATIONS MICROPHONES

SHURE®

MX-412/C

450

562



515SB-G18X

596LB

SM11

MX-412, MX-418 series Microflex 12- or 18-in. gooseneck-mounted condenser microphones feature attached XLR pre-amp, shock mount, flange mount, snap-fit windscreen. Available in omnidirectional, cardoid, or supercardioid pickup pattern. *Specify suffix* **O, C** *or* **S** *when ordering.*

01F714 Type MX-412/C. **Each** **316.96**

01F718 Type 4500-BEIGE. **Each** **819.72**

Type 514B compact. Frequency response 100-6,000Hz. Leaf switch and neoprene cable. Impedance @ 1kHz: 200 ohms.

66F4189 Type 514B. Lo-Z **Each** **82.63**

Type 450 series II ideal for dispatch and paging use. Frequency response: 100-10,000Hz. Impedance @ 1kHz: Low 210 ohms; High 15 kiliohms, nominal.

61FX172 Type 450-SERIES 2. **Each** **138.04**

Type 562 unidirectional noise-cancelling dynamic microphone is suited for high-noise environments. Frequency response: 100-6,000Hz. Gooseneck mount. Impedance @ 1kHz: 180 ohms. #4 Allen wrench supplied.

50F2994 Type 562. **Each** **98.04**

Type 515SB-G18X unidirectional dynamic gooseneck microphone has momentary push-to-talk switch. Frequency response: 80-13,000Hz. Impedance @ 1kHz: 150 ohms. 18″ gooseneck and heavy-duty mounting flange.

61FX195 Type 515SB-G18. **Each** **104.93**

Type 596LB. Economical for budget-restricted installations. Silver plated push-to-talk switch for increased reliability. Durable vinyl-jacketed coil cord. Rugged ARMO-DUR® case. Increased output (matches most paging amplified inputs).

66F4227 Type 596LB. **Each** **40.66**

Type SM11 dynamic miniaturized lavalier is shorter than a paper clip. Flat natural frequency response ideal for broadcasting, motion pictures and sound reinforcement. 50-15,000Hz. Tie tack and tie bar mounting accessories included.

61FX777 Type SM11CN. **Each** **152.80**

MICROPHONE ACCESSORIES

Microphone accessories available, *contact your local Newark sales office.*

(4778) (de52021)

WIRELESS MICROPHONE SYSTEMS

SHURE®

LX1 Body-Pack Transmitter

LX4 MARCAD®

WL183 Lavalier Mic

LX2/58 Mic

Type LX13/83 body-pack system includes **L11** body-pack transmitter, **L3** receiver with removable, insulated ¼-wave whip antenna. **WL183** lavalier microphone with tie-bar mounting accessory and windscreen. **Type LX14/83** same except **LX4 MARCAD®** Diversity receiver has two independent RF sections and **MARCAD®** circuitry which combines the two signals when both are in use.

50F2639 Type LX13/83. **Each** **677.64**

66F4197 Type LX14/83. **Each** **839.40**

WIRELESS ACCESSORIES

Stock No.	Type	Description	Each
66F4196	LX1	Body-Pack Transmitter	251.38
66F4199	LX2/58	Handheld Mic	474.35
97F7866	WL183	Lavalier Mic	131.16
97F7867	WL93	Micro Lavalier Mic	111.49

(4779) (de52022)

SC WIRELESS MICROPHONE SYSTEMS

SHURE®

Type SC14/93 SC diversity lavalier system includes **type WL93** microlavalier omnidirectional microphone, **type SC1** body-pack transmitter, **type SC4** MARCAD® diversity receiver, rack mount kits, 9V batttery, frequency agile and tone key squelch.

01F716 Type SC14/93. **Each** **1036.13**

Type SC24/58 SC hand-held diversity wireless system includes popular **type SC2/58** hand-held transmitter with **type SM58** microphone, **type SC4** MARCAD® diversity receiver, frequency agile, rank mount kits, microphone swivel adapter, 9V battery, and tone key squelch.

01F717 Type SC24/58. **Each** **1167.29**

(4834) (ne09082)

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- Less-than-Reel Quantities
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- **Kitting** – Need parts grouped in kits? We build the kits you need.
- **Bagging and Tagging** – We can bag individual parts and label the bag to your specifications.
- **Assembly** – We perform basic assembly of compatible components.
- **Part Numbers and Special Information** – We can add your bonded inventory and special receiving information about the products in your order to your shipping and packing slip.
- **Bar-Coded Shipments** – Do you use bar coding to track items? We can add bar codes to your products.

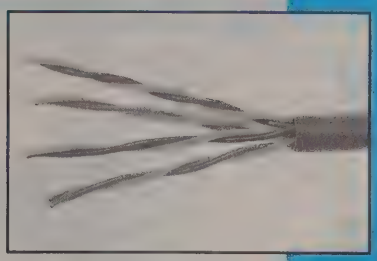
We have it today, so you'll have it tomorrow.™

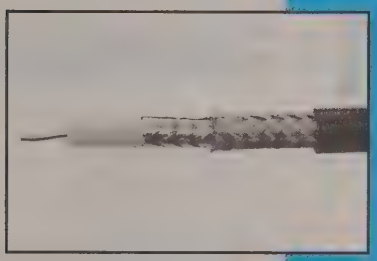
Wire & Cable

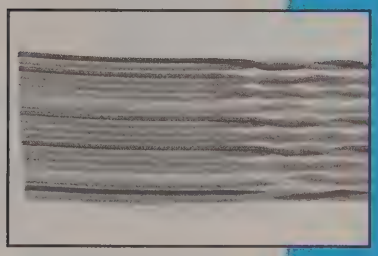
Pages 1165—1232

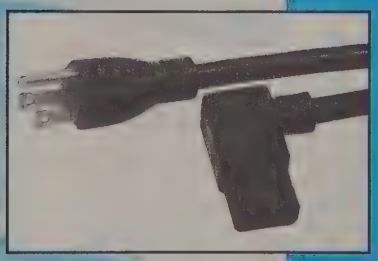
24

- Alpha Wire
- Belden
- Berk-Tek
- Dearborn/Cable Design Technologies
- General Cable
- General Cable/Carol Brand
- Mohawk/CDT
- Olflex Cable
- Rowe Industries
- SPC Technology







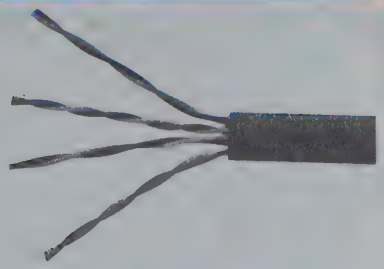


Products include...

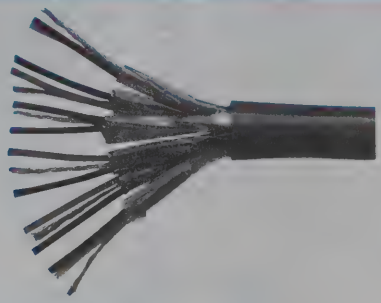
- Audio/Video Cable
- Coaxial Cable
- Extension Cords & Lights
- Flat Cable
- Hook-Up & Lead Wire
- Industrial Cable
- LAN Cable
- Multiconductor Cable
- Paired Cable
- Plenum Cable
- Portable Cordage
- Power Supply Cords

Product Selection Guide—Wire & Cable

SECTION 24



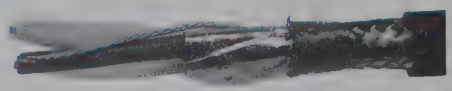
Network Cable, Pages 1165, 1166, 1190, 1214, 1216, 1218, 1219



Paired Computer, Instrumentation, and Control Cable, Pages 1167-1171

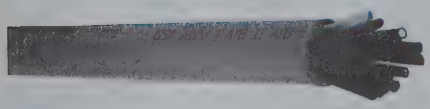
Multiconductor Computer, Instrumentation, and Control Cable, Pages 1172-1174, 1191-1205, 1217, 1220, 1227, 1228, 1231

Coaxial Cable, Pages 1175-1179, 1209, 1225



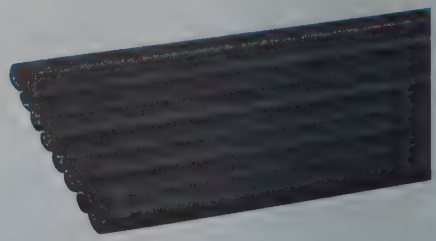
Audio, Video, and Broadcast Cable, Pages 1174, 1177, 1178

Tray Cable, Pages 1181, 1195



Industrial Automation Cable, Pages 1180, 1182, 1183

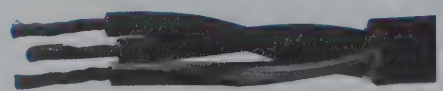
Flexible Cable for Automated Systems, Pages 1206, 1207



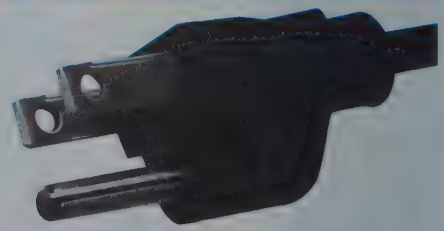
Flat Cable, Pages 1185, 1210

SECTION 5

Hook-Up Wire, Pages 1185, 1186, 1188, 1211-1213, 1217, 1221-1223, 1229, 1232



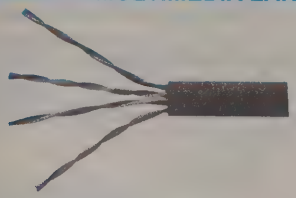
Portable Cordage, Pages 1189, 1217, 1229



Power Supply Cords, See Section 5

MEDIATWIST™ AND DATATWIST® LAN CABLE

MEDIATWIST™ MULTIMEDIA LAN CABLE



Mediatwist™ is video, data and voice cable in a single UTP (Unshielded Twisted Pair) cable. Provides stable performance to 350MHz with electrical characteristics exceeding TIA/EIA Category 5 standards. Unique crescent-shape design locks each pair in place. Pair-to-pair movement is greatly reduced during installation nullifying any electrical degradation resulting from various installation techniques. Jacket is marked at 2′ intervals. Nominal capacitance @ 1KHz: 15 pF/ft. Conductor guage: 24AWG. Resistance: 27.4ohms/1000′. **Sold in 1000′ spools**

NON-PLENUM

Stock No.	Type	Color	1-4	5-9	10-24
01F164	1872A-A1000-F6H	Dark Pearl Gray	149.99	133.75	126.43
01F165	1872A-A1000-X6G	Gold	149.99	133.75	126.43
01F166	1872A-A1000-6	Blue	149.99	133.75	126.43
PLENUM					
01F167	1874A-A1000-877	Natural	474.20	422.87	399.71
01F168	1874A-A1000-D15	Blue	474.20	422.87	399.71

(13153) (ne09908)

DATATWIST® 350 TWISTED PAIR DATA CABLE

Tested to 350MHz, DataTwist® 350 cable is the new standard in high-performance LAN cable. Max. operating voltage: 300Vrms. Nom. cap. @ 1 kHz: 14 pF/ft. Max. pulling tension 41 lbs. Min. bend radius is 2.25″. CSA certified. For easier installation, the DataTwist® 350 cable stripping tool **type 1797A** is now available; *contact your local Newark sales office.*

NON-PLENUM VERSION, UNSHIELDED

24AWG solid bare copper conductors. Polyolefin insulated. Four twisted pairs (singles adjoined). Ripcord. Low-loss PVC jacket. Temp. range: –20°C to 80°C. Nom. diameter: 0.200″. NEC Type CM. Flame test: UL 1581 vertical tray, CSA FT4. Gray or blue. Also available in other colors; *contact your local Newark sales office.*

Stock No.	Type	Nom. O.D.	1-4	5-9	10-24	25-49
05F1482	1700A	0.200″	113.63	101.33	95.78	90.90

PLENUM VERSION, UNSHIELDED

24AWG solid bare copper conductors. FEP insulated. Four twisted pairs (singles adjoined). Ripcord. Low-loss flexible Flamarrest jacket. Temp. range: 0°C to 75°C. Nom. diameter: 0.195″. NEC Type CMP. Flame test: UL 910 steiner tunnel, CSA FT4/FT6. Blue or natural. **Sold in spools of 1000′**. Also available on other colors; *contact your local Newark sales office.*

05F1495	1701A	0.188″	362.09	322.89	305.21	289.67

(9917) (ne03090)

CATEGORY 5 DATATWIST® UNSHIELDED TWISTED PAIR DATA CABLE

- **Tested to 100 MHz**
- **Up to 100 Mbps Transmission Speed**
- **Computer Hardware Independent**
- **Meets/Exceeds IEEE 802.3 10 Base T Ethernet**
- **Meets/Exceeds TIA/EIA 568 Commercial Building Wiring Standard**
- **Compatible with Standard RJ45, RJ12, and RJ11 Jacks**
- **NEC-CM and CMP Rated**
- **CSA PCCFT1, FT4 and FT6 Rated**

Belden DataTwist® Five is the one constant in your diverse and rapidly changing communications network. Whether you're using Ethernet, Token Ring, Arcnet or the Twisted Pair Distribution Data Interface (TPDDI), Belden's DataTwist® Five is a cable you can rely on for your critical networking requirements. **Sold in 1000′ spools**.

NON-PLENUM VERSION, UNSHIELDED

24AWG solid bare copper conductors. Polyolefin insulation, gray or blue PVC jacket. Nominal impedance 100 ohms. CSA certified PCC and FT1. NEC Type CM rated. Number of pairs: 4 except **type 1588A**, 2.

Stock No.	Type	Nom. O.D.	1-4	5-9	10-24	25-49
04F8272	1588A	0.178″	80.63	74.69	68.75	58.99
04F8269	1583A	0.178″	62.12	55.40	52.36	49.70
04F8659	1583B†	0.217″	69.69	62.15	58.75	55.76

PLENUM VERSION, UNSHIELDED

24AWG solid bare copper conductors, FEP Teflon® insulated, natural or blue Flamarrest® jacket. 100 ohms. NEC CMP rated. CSA certified PCC FT4/FT6. Number of pairs: 4 except **type 1590A**, 2.

04F8274	1590A	0.178″	220.25	204.02	187.79	161.13
04F8038	1585A*	0.200″	201.50	179.69	169.85	161.20
04F8271	1585A‡	0.200″	201.50	179.69	169.85	161.20
04F8660	1585B†	0.200″	209.07	186.44	176.23	167.26

† Databrite™ Neon Pink, CSA certified, PCC FT1/FT4.
*Blue ‡Natural
(6069) (ne03092)

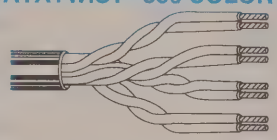
MEDIATWIST AND DATATWIST STRIPPING TOOL

Improved tool for striping and separating bonded pairs in MediaTwist and DataTwist cables. Blades are replaceable.

Stock No.	Type	Each	2-4	5-9
83F2225	1797A-0-10	8.64	7.96	6.96

(30571) (ne30571)

CATEGORY 5 DATATWIST® 350 COLOR PATCH CABLE

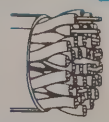


Cable is 24AWG (7 x 32) stranded tinned copper, polyolefin insulated, 100 ohm, unshielded, four twisted pairs, each with adjoined singles and a low-loss PVC jacket. UL/NEC and CSA C (UL) rated Type CM. Meets UL 1581 vertical tray test. Available in seven colors.*† Nominal O.D.: 0.220″ (5.59). **Sold in spools of 1000′**.

Stock No.	Type	Color	1	2-4	5-9	10-24
52F6006	1752A-1000-F2V	Gray	230.08	213.13	196.18	168.33
52F6007	1752A-1000-2	Red	230.08	213.13	196.18	168.33
52F6008	1752A-1000-3	Orange	230.08	213.13	196.18	168.33
52F6009	1752A-1000-4	Yellow	230.08	213.13	196.18	168.33
52F6010	1752A-1000-5	Green	230.08	213.13	196.18	168.33
52F6011	1752A-1000-6	Lt. Blue	230.08	213.13	196.18	168.33
52F6012	1752A-1000-7	Violet	230.08	213.13	196.18	168.33

*Meets ISO/IEC 11801 standards. †Meets TIA/EIA 568A standards.
(6525) (nec7487)

CATEGORY 3 DATATWIST® UNSHIELDED TWISTED PAIR DATA CABLE



1243A2, 1245A2, 1247A

1242A

NON-PLENUM VERSION, UNSHIELDED

24 AWG, 0.0192″ diameter solid bare copper conductors, except **type 1242A,** which is 22 AWG, 0.0253″ diameter solid copper. All feature S-R PVC insulation and PVC jacket except **type 1242A,** which has a polyethylene insulation. NEC Article 800. Nominal impedance: 600 ohms @ 1 kHz, 105 ohms @ 1 MHz. NEC Type: CM, CMR/MPR, CMX. **Sold in 1000′ spools.**

Stock No.	Type	No. of Pairs	Nom. O.D.	1	2-4	5-9	10-24
04F6069	1227A	2	0.120″	51.13	47.37	43.60	37.41
16F6112	1229A1	4	0.190″	76.70	71.05	65.40	56.11
16F6113	1232A1	25	0.380″	434.60	402.58	370.55	317.95
04F6075	1242A	4/c	0.140″	74.73	69.22	63.72	54.67

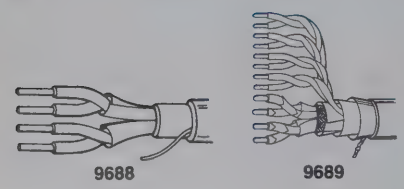
PLENUM VERSION, UNSHIELDED

24 AWG 0.0192″ diameter solid copper conductors. Nominal impedance 600 ohms @ 1 kHz. 105 ohms @ 1 MHz. NEC type CMP/MPP. **Types 1243A2** and **1245A2** have low-smoke PVC insulation and jacket. **Type 1247A** has S-R PVC insulation and either a Halar or PVC jacket. NEC Type: CMP, CMP/MPP.

04F6076	1243A2	2	0.110″	116.03	107.48	98.93	84.88
04F6078	1245A2	4	0.150″	153.39	142.09	130.79	112.22

(6090) (ne52616)

IBM NON-PLENUM CABLING SYSTEM TYPES 1A, 2A AND 3 IBM NON-PLENUM MEDIA CABLE/MEETS IEEE 802.5 SPECS./CSA CERTIFIED PCC FT4, NEC CM.

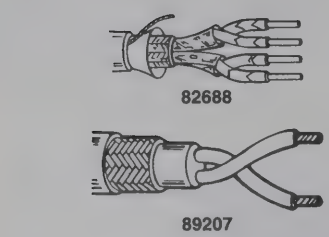


For Plenum versions see **types 89688** *and* **89689** *listed separately. Flamarest Plenum versions see* **types 82688** *and* **82689** *listed separately.* Cap. pF/ft. is 8.5, for **types 9688** *and* **9689. Type 1154A**: Cap pF/ft. is 15.0

AWG (Stranding)	Shields	Nom. O.D.	Nom. Impendance	Type	1000′ Spool Stock No.	Each	2-4	5-9	10-24
2 pair 22 Solid	2 Beldfoil® Shielded Pairs Tinned Copper Braid Overall	.296″ x .431″	150	9688 Type 1A 33G2772	03F6810	302.85	280.53	258.22	221.56
6 Pair; 2 Data 4 Voice 22 Solid	Beldfoil® Over Each Data Pair, Tinned Copper Braid Overall	.430″	Data 150 Voice 105	9689 Type 2A 33G2773	03F6812	466.06	431.72	397.38	340.96

*CSA PCC FT1 only †CSA Certified, PCC FT1, NEC, CL2

(6059) (de52674)



IBM PLENUM CABLING SYSTEM

For use in IBM cabling systems. Solid bare copper. Each twisted pair individually Beldfoil® shielded with overall tinned copper braid shield. Natural Flamarrest® jacket with nylon ripcord. NEC Type MPP/CMP and CSA PCC FT4/FT6 rated. Meets IEEE 802.5 specifications. ETL verified. IBM F. Equiv. numbers: type 1: **1635A** is 4716749; type 1A: **82688** is 33G8220, type 2: **Type 89207** is plenum twinaxial for IBM system 34/35/38 and as 400, NEC article 800, type CMP, UL listed. *Also available inother spool sizes.

IBM TYPE 1 AND 1A MEDIA CABLE

No. of Pairs	AWG	Nominal O.D.	Nom. Imped. (Ohms)	Type	1000′ Spool Stock No.	Each	2-4	5-9	10-24
3	22 (Solid)	0.288 x 0.350″	150	1635A	04F8298	951.79	881.66	811.53	696.31
2	22 (Solid)	0.250 x 0.350″	150	82688*	03F7837	1201.54	1113.00	1024.47	879.02

IBM SYSTEM 34/35/38 & A5400 TWINAXIAL CABLE

...	20 (7x28)	.259″	150	89207*	03F2954	1195.64	1107.54	1019.44	874.70

(6062) (de53649)

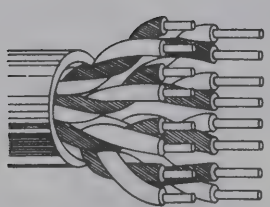
ETHERNET & PLENUM TRUNK CABLE MEETS IEEE 802.3 10 BASE 2, NEC CL2. 30V 60°C UL RECOGNIZED 1354/CSA CERTIFIED CXC FT1

Type 9907 Cap pF/ft. 25.4. Nominal ohms = 50. **Type 89907** nominal ohms = 50.

AWG (Stranding)		Type	500′ Spool Stock No.	Each	2-4	5-9	1000′ Spool Stock No.	Each	2-4	5-9
20 (19x32) Tinned Copper	0.185″	9907 Ethernet (Thinnet)	03F6819	107.18	99.28	91.38	03F6820	214.35	198.56	182.76
12 Bare Copper	0.405″	9880 Ethernet (Thick-10 Base 5)	...	...	...	...	04F3171	1367.43	1266.67	1165.91
PLENUM VERSION										
20 (19x32)	0.160″	89907 Ethernet (Thinnet)	03F6795	205.50	190.36	175.22	03F6796	411.00	380.72	350.43

(6057) (de52672)

TELEPHONE CABLE, UNSHIELDED TWISTED PAIR

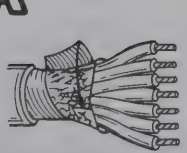


24 AWG solid tinned copper conductors. PVC insulated, chrome PVC jacket. **Type 9562** is NEC CM rated. **Type 9566** is NEC MP/CM rated. Both are CSA certified PCC FT4. **Type 9562** has two pairs; **type 9566,** 6 pairs.

No. of Pairs	Nom. O.D.	Type	500′ Spool Stock No.	Each	2-4	5-9	1000′ Spool Stock No.	Each	2-4	5-9
2	0.199″	9562	02F5412	73.75	68.31	62.88	02F5413	147.49	136.62	125.76
6	0.289″	9566	02F5414	181.91	168.50	155.10	02F5415	363.81	337.00	310.19
25	0.480″	9585	02F6147	666.65	617.53	568.41	02F6148	1333.29	1235.05	1136.81

(6056) (de52635)

7-CONDUCTOR KEYBOARD RETRACTILE CABLE



Type 9665: 300V, 80°C, UL recognized 2464; **type 9693**: 30V, 60°C, recognized 20197. Shields: Overall Beldfoil®, Tinned Copper. Retracted length: 14.5″. Extended length: 6′.

Stock No.	Type	AWG (Strand)	O.D.	Jacket Material	1-9	10-24	25-90	100-249
87F4404	9665	26 (10x36) Tinned Copper	0.250″	Black PVC	10.74	9.79	8.84	8.21
87F4302	9693	26 (7x34) Tinned Copper	0.200″	Black Polyurethane	15.22	13.88	12.54	11.64

(6027) (de50410)

DS3 TELECOMMUNICATION CABLE

NEC type CMR. **1809A** meets the requirements of 734A and 734B standards, solid bare copper center conductor. **735A1** meets the requirements of the 735A standard, solid silver plated copper center conductor. Impedance - 75ohms. AT&T specification. Used in DS3 telco applications.

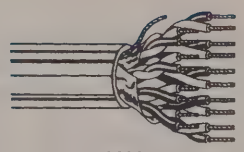
AWG(Stranding)	Shield	Nom. O.D.	Type	1000′ Spool Stock No.	Each	2-4	5-9
20(Solid)	100% Beldfoil +85% TC Braid	0.235″	1809A	83F6760	309.54	276.71	252.62
26(Solid)	100% Beldfoil +93% TC Braid	0.129″	735A1	83F6765	253.26	226.40	206.69

(32794) (ne32794)

SHIELDED COMPUTER CABLE

PAIRED BELDFOIL® SHIELDED COMPUTER CABLE FOR EIA RS-232 APPLICATIONS

Low capacitance cable for EIA RS-232 applications. Tinned copper conductors, polyethylene insulated, except **type 9414** which is S-R PVC insulated, twisted pairs. Overall Beldfoil® aluminum-polyester shield. Stranded tinned copper drain wire. Chrome PVC jacket, except **type 9414** which has fawn-beige colored PVC jacket. Nominal impedance 100 ohms. *12 pairs + 1 single. **Type 9414** has a capacitance of 8.7 pF/ft. UL recognized 2919, 30V, 80°C. NEC type CM; PCC FT, 1, 15.5 pF/ft. capacitance. UL recognized 2464, 300V, 80°C, NEC type CM.



9680

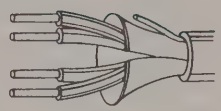
24 AWG (7x32) STRANDED CONDUCTORS

No. of Pairs	Nom. O.D		500′ Spool				1000′ Spool			
		Type	Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
3	.285″	9680	04F5157	164.57	149.15	134.04	04F5158	298.29	266.65	243.43
4	.310″	9681	04F5159	195.62	177.29	159.33	04F5160	354.57	316.96	289.36
6	.350″	9682	04F5161	233.57	208.79	190.61	04F5162	467.13	417.58	381.22
9	.395″	9683	04F5164	346.13	309.41	282.47	04F5165	632.84	564.94	517.34
12.5*	.460″	9684	04F5177	407.10	363.91	332.23	04F5178	744.31	664.46	608.47
22 AWG (7x30) STRANDED CONDUCTORS										
1	.180″	9414	04F5155	103.50	93.80	84.30	04F5156	187.60	167.70	153.10

(6017) (de01790)

PAIRED DUOFOIL® SHIELDED COMPUTER CABLE

Tinned copper solid conductors, Datalene® insulated, twisted pairs. Duofoil® aluminum-polyester shield with stranded tinned copper drain wire. 2 pair. Black PVC jacket. Nominal impedance 150 ohms. UL recognized 2668, 30V, 60°C. NEC Type CL2X, 8.7 pF/ft. capacitance.



9184

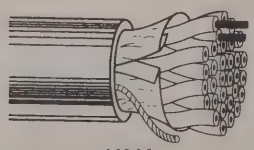
22 AWG SOLID CONDUCTORS

Nom. O.D	Type	500′ Spool				1000′ Spool			
		Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
.385″	9184	03F1690	205.97	186.67	167.76	03F1691	373.33	333.73	304.67

(6019) (de01792)

PAIRED BELDFOIL® SHIELDED COMPUTER CABLE FOR EIA RS-232 AND EIA RS-422 APPLICATIONS

Tinned copper conductors, Datalene® insulated, twisted pairs. Overall Beldfoil® aluminum-polyester shield. Stranded tinned copper drain wire. Chrome PVC jacket. Nominal impedance 100 ohms. * 12 pairs + 1 single. UL recognized 2919, 30V, 80°C; NEC type CM; CSA PCC FT 1, 18.95 pF/ft. capacitance. *For 500′ spools, contact your local Newark sales office.*



1424A

24 AWG (7x32) STRANDED CONDUCTORS

No. of Pairs	Nom. O.D.	Type	1000′ Spool				
			Stock No.	Each	2-4	5-9	10-24
2	.244″	1419A	04F9506	155.25	140.70	126.45	116.63
3	.257″	1420A	04F9510	206.36	184.47	168.41	155.10
4	.276″	1421A	04F9511	225.12	201.24	183.72	169.20
5	.290″	1422A	04F9512	272.02	243.17	222.00	204.45
6	.315″	1423A	04F9513	298.29	266.65	243.43	224.19
12.5*	.418″	1424A	04F9514	521.36	465.43	426.21	403.72

(6018) (de01791)

INDIVIDUALLY SHIELDED PAIRED COMPUTER CABLE

Capacitance for **types 9991-9992** is 25 pF/Ft. Capacitance for **types 8774, 9768, 9873-9875**, and **9773-9776** is 30 pF/Ft.

24AWG STRANDED CONDUCTORS (7 x 32) UL RECOGNIZED 2919, 80°C; NEC TYPE CM

Pairs	Nom. O.D.	Type	100′ Spool				500′ Spool				1000′ Spool			
			Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
6	0.328″	9991	04F5168	66.04	59.85	53.79	04F5169	299.23	267.49	244.20	04F5170	547.09	488.39	447.24
9	0.381″	9992	04F5171	96.88	87.80	78.91	04F5172	438.99	392.42	358.26	04F5173	802.62	716.51	656.14
22AWG STRANDED CONDUCTORS (7 x 30) UL RECOGNIZED 2919, 30°C; NEC TYPE CM														
9	0.430″	8774	02F5632	125.86	114.06	102.51	02F6155	521.36	465.43	426.21	02F6156	1042.72	930.85	852.42
12	0.475″	9768	02F5688	167.26	151.58	136.23	02F5690	692.86	618.53	566.41	02F5691	1385.72	1237.05	1132.82
20AWG STRANDED CONDUCTORS (7 x 28) UL RECOGNIZED 2919, 80°C; NEC TYPE CM														
3	0.331″	9873	02F5695	49.45	45.53	39.83	02F5696	214.81	192.02	175.30	02F6174	429.61	384.04	350.60
6	0.427″	9874	02F5698	92.74	84.05	75.54	02F6175	420.23	375.65	342.95	02F5700	768.32	685.89	628.10
9	0.536″	9875	02F5701	134.14	121.57	109.26	02F5702	555.66	496.05	454.25	02F5703	1111.32	992.09	908.50
18AWG STRANDED CONDUCTORS (16 x 30) UL RECOGNIZED 2919, 30°C; NEC TYPE CM														
3	0.334″	9773	02F5713	52.58	47.65	42.83	02F5714	238.26	212.98	194.44	02F5715	435.61	388.88	356.11
6	0.560″	9774	02F5716	123.79	112.19	100.83	02F6182	512.79	457.77	419.20	02F5718	1025.57	915.54	838.40
12	0.631″	...	02F6055	267.33	238.98	218.17	02F5719	1221.94	1090.84	998.93	02F5720	2181.68	1959.38	1798.35

(6086) (ne50359)

INDIVIDUALLY SHIELDED PAIRED COMPUTER CABLE

Type 8777 tinned copper conductors, twisted pairs. Each pair individually shielded with Beldfoil® aluminum-polyester shield and stranded tinned copper drain wire. Overall chrome PVC jacket. 30V, 80°C. UL recognized 2919; NEC Type CM. **Type 8723** tinned copper conductors. Black and red under Beldfoil® aluminum-polyester shield, green and white under Beldfoil® aluminum-polyester shield. Stranded tinned common drain wire. Chrome PVC jacket. Pairs cabled on common axis to reduce diameter. 60°C. NEC Type CM. Capacitance for **Type 8777** is 30 pF/Ft. Capacitance for **Type 8723** is 35 pF/Ft.

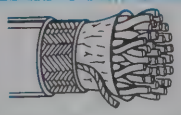
22AWG (7 x 30) STRANDED CONDUCTORS

Pairs	Nominal O.D.		100′ Spool				500′ Spool				1000′ Spool			
			Stock No.	1-4	5-9	10-49	Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
3	0.273″	8777	02F5624	36.49	33.60	29.39	02F5626	174.92	158.53	142.47	02F6152	317.05	283.42	258.74
2	0.165″	8723	02F5310	17.00	15.30	13.77	02F5311	70.98	65.45	60.78	02F5312	128.78	114.84	108.55

(5087) (ne50360)

PAIRED SHIELDED CABLE

PAIRED OVERALL FOIL/BRAID-SHIELDED COMPUTER CABLE— DATALENE® INSULATED



Tinned copper stranded conductors, Datalene® insulated, twisted pairs. Overall Beldfoil® aluminum-polyester shield. Stranded tinned copper drain wire. Overall tinned copper braid shield. Chrome PVC jacket. 30V, 80°C. UL recognized 2919.

28 AWG STRANDED CONDUCTORS (7 x 36) 2919 NEC TYPE CL2

Low capacitance cable for EIA RS-232 and EIA RS-485 applications. 11.0 pF/ft. CAPACITANCE

No. Pairs	Nom. O.D.	Type	100′ Spool				500′ Spool				1000′ Spool			
			Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
2	0.165″	8132	03F4003	36.49	33.60	29.39	03F4004	174.92	158.53	142.47	03F4005	317.05	283.42	258.74
3	0.202″	8133	03F4128	53.62	48.59	43.67	03F4129	242.95	217.18	198.27	03F4130	444.19	396.53	363.12
5	0.300″	8135	03F4134	72.04	65.29	58.68	03F4135	326.43	291.80	266.40	03F4136	596.82	532.79	487.90
8	0.330″	8138	03F4137	103.09	93.43	83.97	03F4138	467.13	417.58	381.22	03F4139	854.07	762.44	698.20
18	0.465″	8148	03F4009	185.68	168.28	151.24	03F4010	769.18	686.66	628.80	03F4011	1538.36	1373.31	1257.60
25	0.535″	8155	03F4012	205.61	183.80	167.80	03F4013	939.82	838.99	768.30	03F4014	1677.98	1507.00	1383.16
2	0.290″	8102	03F4110	38.65	35.59	31.13	03F4111	185.27	167.91	150.90	03F4112	335.81	300.19	274.05
3	0.305″	8103	03F4113	46.21	42.55	37.22	03F4114	250.92	224.30	204.78	03F4115	401.47	358.88	327.64
4	0.310″	8104	03F4116	53.62	48.59	43.67	03F4117	242.95	217.18	198.27	03F4118	444.19	396.53	363.12
5	0.340″	8105	03F4119	68.11	61.72	55.47	03F4120	308.61	275.87	251.85	03F4121	564.24	503.70	503.70
6	0.370″	8106	03F4122	86.53	78.42	70.48	03F4123	392.09	350.50	319.98	03F4124	716.87	639.96	586.04
7	0.370″	8107	03F4125	96.88	87.80	78.91	03F4126	438.99	392.42	358.26	03F4127	802.62	716.51	656.14
8	0.380″	8108	03F3985	102.06	92.49	83.12	03F3986	462.44	413.38	377.40	03F3987	845.50	754.79	691.19
12½*	0.465″	8112	03F3991	134.97	122.32	109.93	03F3992	559.09	499.11	457.06	03F3993	1118.18	998.22	914.11
18	0.570″	8118	03F3997	197.17	176.26	160.91	03F3998	901.24	804.54	736.76	03F3999	1609.09	1445.13	1326.37
25	0.650″	8125	03F4000	290.78	259.94	237.31	03F4001	1329.13	1186.53	1086.55	03F4002	2373.05	2131.25	1956.10

*12 pair plus 1 conductor

(6034) (de50521)

INDIVIDUALLY SHIELDED PAIRED COMPUTER CABLE

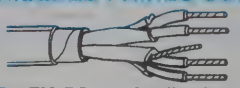
Stranded tinned copper conductors, twisted pairs. Each pair individually shielded with Beldfoil® aluminum-polyester shield and stranded tinned copper drain wire. Overall Beldfoil® aluminum-polyester shield plus 65% tinned-copper braid shield. Chrome PVC jacket 12.5 pF/Ft. 60°C. UL recognized 2493. All NEC Type CM. Capacitance is 12.5 pF/Ft.

24AWG (7 x 32) STRANDED CONDUCTORS

Pairs	Nominal O.D.	Type	100′ Spool				500′ Spool				1000′ Spool			
			Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
2	0.351″	8162	03F4015	57.76	52.34	47.04	03F4016	261.71	233.95	213.58	03F4017	478.49	427.15	391.16
3	0.367″	8163	03F4018	73.08	66.23	59.52	03F4019	331.12	295.99	270.23	03F4020	605.40	540.45	494.91
4	0.397″	8164	03F4021	89.84	81.42	73.18	03F4022	407.10	363.91	332.23	03F4023	744.31	664.46	608.47
5	0.430″	8165	03F4140	114.48	103.75	93.24	03F4141	474.20	423.33	387.66	03F4142	948.40	846.65	775.31
6	0.464″	8166	03F4143	135.18	122.51	110.10	03F4144	559.95	499.88	457.76	03F4145	1119.90	999.75	915.51
8	0.562″	8168	03F4149	176.37	159.84	143.65	03F4150	730.59	652.21	597.26	03F4154	1632.68	1457.52	1334.71

(6085) (ne50358)

INDIVIDUALLY SHIELDED PAIRED COMPUTER CABLE



For EIA RS-422 Applications

Tinned copper conductors, Beldfoil® aluminum-polyester shield and a stranded tinned copper drain wire. Overall chrome PVC jacket. 300V, 60°C. UL recognized 2493; NEC Type CM. Capacitance: 12.5 pF/ft.

24AWG (7 x 32) STRANDED CONDUCTORS

Pairs	Nominal O.D.	Type	100′ Spool				500′ Spool				1000′ Spool			
			Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
2	0.335″	9729	03F2943	39.95	36.78	32.18	03F2944	191.48	173.53	155.96	03F2945	347.06	310.25	283.24
3	0.345″	9730	03F1692	52.58	47.65	42.83	03F1693	238.26	212.98	194.44	03F1694	435.61	388.88	356.11
4	0.404″	9728	04F8748	69.14	62.66	56.32	04F8749	313.30	280.06	255.68	04F8750	802.62	716.51	656.14
6	0.476″	9731	03F1695	98.95	89.68	80.59	03F1696	448.37	400.81	365.91	03F1697	819.77	731.82	670.16

(6088) (ne50361)

INDIVIDUALLY SHIELDED PAIRED COMPUTER CABLE

Tinned copper conductors, PVC insulated, twisted pairs. Each pair individually shielded with Beldfoil® aluminum-polyester shield and stranded tinned copper drain wire. **Type 9406** has shielded pairs parallel under a pale-fawn-beige colored PVC jacket. **Type 9402** has overall chrome PVC jacket. Capacitance is 50 pF/ft.

22AWG (7 x 30) STRANDED CONDUCTORS—NEC TYPE CM CSA PCC FT4, NOMINAL OUTSIDE DIAMETER 0.175″ x 0.280″

Type	100′ Spool				500′ Spool			
	Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
9406*	03F2946	31.31	28.83	25.22	03F2947	150.08	136.01	122.24
20AWG STRANDED CONDUCTORS (7 x 28) 2464, 80°C; T2; NEC TYPE CM CSA PCC FT4, NOMINAL OUTSIDE DIAMETER 0.300″								
9402*	...	...	...	...	03F1715	219.50	196.21	179.13

*S-R PVC insulated.

(6089) (ne50362)

PAIRED HIGH-TEMPERATURE BELDFOIL® SHIELDED CONTROL & INSTRUMENTATION CABLE

Tinned copper stranded conductors, clear Tefzel® insulated, pairs cabled together. Overall Beldfoil® aluminum-Kapton shield and drain wire. Clear Tefzel® jacket. 150°C, 300Vrms. Passes VW-1 vertical wire flame test.

No. of Pairs	AWG (Stranding)	Nominal O.D.	Type	100′ Spool			
				Stock No.	Each	2-4	5-9
4	20 (7×28)	0.344″	85164	04F5035	415.91	371.79	339.43
1	16 (19×29)	0.212″	85231	04F5039	185.68	168.28	151.24

(6042) (de50693)

SINGLE PAIR AND PAIRED CABLE

PAIRED OVERALL FOIL/BRAID-SHIELDED COMPUTER CABLE

For EIA RS-232 and CAD/CAM applications. Stranded tinned copper conductors, S-R PVC insulated twisted pairs with overall Beldfoil® aluminum-polyester shield plus 65% tinned copper braid shield. Chrome PVC jacket. 300V, 80°C. UL recognized 2464, CSA certified Type T2. NEC Type CM. Also available in 1000′ spools.

24 AWG STRANDED CONDUCTORS (7 x 32) 2464 T2 NEC TYPE CM

No. Pairs	Nom. O.D.	Cap. pF/ft.	Type	100′ Spool Stock No.	Each	2-4	5-9	10-24
2	0.250″	30	8332	03F4103	28.93	26.64	23.31	21.10
3	0.265″	30	8333	03F4106	38.87	35.79	31.31	28.34
4	0.288″	30	8334	03F3966	42.97	39.57	34.61	31.33
5	0.295″	30	8335	03F3969	49.45	45.53	39.83	36.05
6	0.310″	30	8336	03F3972	53.76	49.51	43.31	39.20
10	0.385″	30	8340	03F3978	80.53	72.98	65.59	60.49
12½*	0.405″	30	8342	03F3981	95.02	86.11	77.39	71.38

22 AWG STRANDED CONDUCTORS (7 x 30) 2464 T2 NEC TYPE CM

No. Pairs	Nom. O.D.	Cap. pF/ft.	Type	100′ Spool Stock No.	Each	2-4	5-9	500′ Spool Stock No.	Each	2-4	5-9
2	0.260″	40	8302	03F3948	38.87	35.79	31.31	03F3949	186.30	168.84	151.74
3	0.300″	35	8303	03F3951	44.05	40.56	35.48	03F3952	191.36	171.06	156.17
4	0.320″	35	8304	04F6444	53.76	49.51	43.31	04F6445	233.57	208.79	190.61
5	0.320″	35	8305	03F3954	59.83	54.22	48.73	03F3955	271.09	242.33	221.23
6	0.350″	35	8306	03F3957	63.97	57.97	52.10	03F3958	289.85	259.10	236.54
7	0.350″	35	8307	03F3960	72.25	65.48	58.85	03F3961	327.37	292.64	267.16
8	0.385″	35	8308	03F3963	82.60	74.86	67.28	03F3964	374.27	334.57	305.44
10	0.440″	35	8310	03F4088	96.88	87.80	78.91	03F4089	438.99	392.42	358.26
12½*	0.455″	35	8312	03F4091	117.58	106.56	95.77	03F4092	487.06	434.81	398.17
18	0.535″	35	8318	03F4097	196.03	177.66	159.67	03F4098	812.06	724.93	663.85
25	0.620″	35	8325	03F4100	280.47	250.72	228.89	03F4101	1281.97	1144.43	1048.00

*12 pair plus 1 single
(6032)

(de50519)

SINGLE PAIR SPIRAL-SHIELDED SOUND, BROADCAST, AND AUDIO CABLE

Tinned copper conductors, PVC insulated, 1 PVC jacket. Tinned copper spiral-wrapped shield.

22AWG (7 x 30) STRANDED CONDUCTORS 2095; 300V, 80°C. NEC TYPE CM

Nom. O.D.	Type	100′ Spool Stock. No.	Each	2-4	500′ Spool Stock No.	Each	2-4	1000′ Spool Stock No.	Each	2-4
.180″	8737	02F4163	35.84	33.00	02F4165	141.80	128.51	02F4166	257.02	229.75
20 AWG (7 x 28) STRANDED CONDUCTORS 2095; 300V, 80°C. NEC TYPE CM										
.199″	8759	...	...	...	02F4168	170.78	154.77	02F4169	309.54	276.71
18 AWG (7 x 26) STRANDED CONDUCTORS 60°C; NEC TYPE CM										
.241″	8790	02F4182	51.39	47.32	02F4183	189.41	171.66	02F4184	343.31	306.90
16 AWG (19 x 29) STRANDED CONDUCTORS 60°C; NEC TYPE CM										
.280″	8780	02F4179	63.97	57.97	02F4180	232.63	207.95	02F4181	459.62	410.87

(6039)

(de50555)

8737, 8759, 8780, 8790

SINGLE PAIR OVERALL BRAID SHIELDED COMMUNICATION & INSTRUMENTATION CABLE

Tinned copper conductors, PVC insulated, except **type 8208** which is rubber insulated, twisted pair. Tinned copper braid shield. Black PVC jacket except **type 8208**, which is chrome. **Types 8437** and **8441** have tinned copper drain wire; **type 8437** is polyester taped. **Type 8208** has separator. All types have 1 pair.

22 AWG (16x34) STRANDED CONDUCTORS 2095; 300V, 80°C. NEC TYPE CM 49 pF/ft CAPACITANCE

Type	Nom. O.D.	100′ Spool Stock No.	Each	2-4	5-9	500′ Spool Stock No.	Each	2-4	1000′ Spool Stock No.	Each	2-4
8441	0.210″	02F4069	48.80	44.93	39.31	02F4070	194.58	176.35	02F4071	347.06	310.25
18 AWG (16x30) STRANDED CONDUCTORS 300V, 60°C. NEC TYPE CM 46 pF/ft. CAPACITANCE											
8208	0.257″	02F4291	53.62	48.59	43.67	02F4292	242.95	217.18	02F4293	444.19	396.53

(6009)

(de00758)

8441

8208

SINGLE PAIR BELDFOIL® SHIELDED SOUND AND INSTRUMENTATION CABLE

Have tinned copper drain wire (**type 8640** tinned copper over steel drain wire). PVC jackets. **Types 9451, 9461, 9464, 9460** feature jacket and shield bonded together. **Types 8450, 8451** have paper wraps.

AWG Strand	Nom. O.D.	Volt	Type	100′ Spool Stock No.	Each	500′ Spool Stock No.	Each	2-4	1000′ Spool Stock No.	Each	2-4
24 (7 x 32)	.131″	300	1508A	...	...	04F4529	77.63	70.35	...	...	...
24 (7 x 32)	.168″	300	8641•*	02F4240	11.88	02F4241	56.93	51.59	02F4242	113.85	103.18
22 Solid	.118″	200	8450	...	...	02F4051	81.77	74.11	02F4052	120.06	108.81
22 (7 x 30)	.138″	300	8451*	02F4053	19.40	02F4055	49.27	45.43	02F4057	87.87	78.36
22 (7 x 30)	.135″	300	9451*†	...	...	03F1663	60.03	54.41	03F1664	120.06	108.81
22 (7 x 30)	.175″	300	8761•*	...	...	02F4247	77.63	70.35	02F4248	155.25	140.70
22 (7 x 30)	.186″	300	9462x*	02F5368	17.28	02F5369	82.80	75.04	02F5370	165.60	150.08
22 (7 x 30)	.180″	300	9461•*†	...	...	03F1665	87.98	79.73	03F1666	175.95	159.46
20 (7 x 28)	.204″	300	8762•*	02F4250	19.44	02F4252	93.15	84.42	02F4253	186.30	168.84
20 (7 x 28)	.214″	300	9464•*†	...	...	03F1667	97.29	88.18	03F1668	194.58	176.35
20 (7 x 28)	.198″	300	9154x*	...	...	03F1669	87.98	79.73	03F1670	175.95	159.46
18 (16 x 30)	.222″	300	8760•*	...	...	02F4245	75.15	69.30	02F4246	136.35	121.59
18 (16 x 30)	.230″	300	9460•*†	...	...	03F1671	119.03	107.87	03F1672	215.74	192.86
16 (19 x 29)	.310″	600	8719❒*	...	...	02F5339	155.25	140.70	02F5340	281.40	251.55
14 (19 x 27)	.355″	600	8720❒**	...	...	02F5341	180.09	163.22	02F6140	326.43	291.80
12 (19 x 25)	.400″	600	8718❒**	...	...	02F5338	247.64	221.37	...	...	...

• UL recognized 2092; ❒ UL recognized 20253; x UL recognized 2464; *NEC Type CM; **NEC Type CL2. †Shield bonded to jacket for automatic stripping.
(6038)

(de50554)

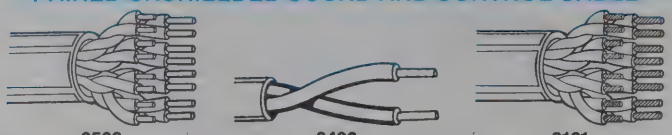
8450

8451, 8641, 8718-20,8760-62, 9154, 9414, 9462

9451, 9461, 9460, 9464

SOUND, CONTROL AND COMPUTER CABLE

PAIRED UNSHIELDED SOUND AND CONTROL CABLE



9568 8486 9161

Tinned solid copper conductors, except **type 8486**, which is bare solid copper, PVC insulated, twisted pairs. Chrome PVC jacket. UL recognized; NEC Type CM. Working Voltage: 300V unless otherwise noted.

24 AWG SOLID CONDUCTORS UL RECOGNIZED 2576, NEC TYPE MP/CM; *NEC CM

Type	Pairs	Nom. O.D.	100′ Spool Stock No.	Each	2-4	5-9	500′ Spool Stock No.	Each	2-4	5-9	1000′ Spool Stock No.	Each	2-4	5-9
9562*	2	.199″	...	...	...	...	02F5412	73.75	68.31	62.88	02F5413	147.49	136.62	125.76
9566	6	.289″	...	...	...	...	02F5414	181.91	168.50	155.10	02F5415	363.81	337.00	310.19
9585	25	.480″	...	...	...	...	02F6147	666.65	617.53	568.41	02F6148	1333.29	1235.05	1136.81

22 AWG SOLID CONDUCTORS UL RECOGNIZED 2576, NEC TYPE MP/CM; *NEC CM

8741	2	.230″	...	...	...	...	02F4124	77.63	70.35	63.23	02F4125	155.25	140.70	126.45
8742	3	.242″	...	...	...	...	02F4127	103.50	93.80	84.30	02F4128	187.60	167.70	153.10
8740*	1	.156″	...	...	...	...	02F4122	43.18	39.76	34.78	02F4123	82.80	75.04	67.44

19 AWG SOLID CONDUCTORS NEC TYPE CM-WORKING VOLTAGE: 350V

8486	1	.182″	...	...	...	...	04F5223	51.75	46.90	42.15	04F5224	103.50	93.80	84.30

22 AWG (7 x 30) STRANDED CONDUCTORS UL RECOGNIZED 2576, NEC TYPE CM

9744	2	.244″	...	...	...	...	02F5750	82.80	75.04	67.44	02F5751	165.60	150.08	134.88
9745	3	.257″	...	...	...	...	02F5752	113.85	103.18	92.73	02F5753	206.36	184.47	168.41
9746	4	.281″	...	...	...	...	02F5754	144.90	131.32	118.02	02F6186	262.64	234.78	214.34
8747	6	.320″	02F4147	42.97	39.57	34.61	02F4148	205.97	186.67	167.76	02F6088	373.33	333.73	304.67
8748	9	.389″	02F4150	71.21	64.54	58.00	02F6089	322.68	288.45	263.34	02F6090	589.96	526.67	482.29
9747	12	.425″	02F5756	158.98	144.08	129.49	02F6187	658.56	587.91	538.37	02F6188	1317.12	1175.81	1076.74
8749	15	.440″	02F4153	164.98	149.52	134.38	02F6091	683.43	610.11	558.70	02F6092	1366.86	1220.21	1117.40
9748	19	.505″	02F5759	233.75	208.96	190.77	02F6189	1068.45	953.82	873.45	02F5761	1907.63	1713.25	1572.46

20 AWG (7 x 28) STRANDED CONDUCTORS * UL RECOGNIZED 2464, NEC TYPE CM

8205	1	.190″	02F4294	11.88	10.94	9.57	02F4295	56.93	51.59	46.37	02F4296	113.85	103.18	92.73
9750*	3	.309″	03F1585	42.97	39.57	34.61	03F1586	205.97	186.67	167.76	03F1587	373.33	333.73	304.67
9751*	6	.376″	03F1588	61.90	56.10	50.42	03F1589	280.47	250.72	228.89	03F1590	512.79	457.77	419.20
9752*	9	.439″	03F1591	82.60	74.86	67.28	03F1592	374.27	334.57	305.44	03F1593	684.29	610.87	559.40
9755*	15	.545″	03F1594	205.61	183.80	167.80	03F1595	939.82	838.99	768.30	03F1596	1677.98	1507.00	1383.16

18 AWG (16 x 30) STRANDED CONDUCTORS UL RECOGNIZED 2464, NEC TYPE CM

9740	1	.210″	...	...	...	...	03F1597	72.45	65.66	59.01	03F1598	144.90	131.32	118.02
9156	2	.306″	...	...	...	...	03F1599	155.25	140.70	126.45	03F1600	281.40	251.55	229.65
8690	3	.347″	03F1601	42.97	39.57	34.61	03F1602	205.97	186.67	167.76	03F1603	373.33	333.73	304.67
9157	4	.356″	03F1604	55.61	50.40	45.29	03F1605	252.33	225.56	205.92	03F1606	461.34	411.84	377.14
8691	6	.380″	03F1609	103.09	93.43	83.97	03F1610	467.13	417.58	381.22	03F1611	854.07	762.44	698.20
9161	8	.428″	03F1612	123.79	112.19	100.83	03F1613	512.79	457.77	419.20	03F1614	1025.57	915.54	838.40
8692	9	.458″	03F1615	144.49	130.95	117.69	03F1616	598.54	534.32	489.30	03F1617	1197.07	1068.64	978.60
9742	15	.690″	03F1621	261.71	233.95	213.58	03F1622	1196.22	1067.88	977.90	03F1623	2135.75	1918.13	1760.49
9743	19	.726″	03F1624	355.32	317.63	289.98	03F1625	1624.11	1449.86	1327.70	03F1626	2899.72	2604.25	2390.23

18 AWG (7 x 26) STRANDED CONDUCTORS NEC TYPE CM

8461	1	.234″	02F5270	16.20	14.91	13.05	02F5271	77.63	70.35	63.23	02F5272	155.25	140.70	126.45

16 AWG (19 x 29) STRANDED CONDUCTORS UL RECOGNIZED 2598, NEC TYPE CM

8471	1	.272″	...	...	...	...	02F5273	138.69	125.70	112.97	02F5274	251.39	224.72	205.16

14 AWG (41 x 30) STRANDED CONDUCTORS-WORKING VOLTAGE: 600V

8473	1	.332″	...	...	...	...	02F5286	205.97	186.67	167.76	02F5287	373.33	333.73	304.67

12 AWG (65 x 30) STRANDED CONDUCTORS-WORKING VOLTAGE: 600V

8477	1	.384″	...	...	...	...	02F5664	210.12	187.83	171.48	02F6170	420.23	375.65	342.95

(6035) (de50551)

PAIRED SHIELDED PLENUM CABLE FOR COMPUTERS, CONTROL & INSTRUMENTATION

Type 88102 is teflon insulated, overall shielded, 150°C fluorocopolymer jacketed and rated to NEC Art. 800 type CMP and CSA PCC FT4/FT6. **Types 88777, 88778** and **88723** are teflon insulated, individually shielded, 200°C teflon jacketed and rated to NEC Art. 800 type CMP. **88777** and **88723** are also rated to CSA PCC FT4/FT6. **Types 88102** and **88105** AWG (Stranding): 24 (7 x 32). **Types 88723, 88777** and **8878** AWG (Stranding): 22 (7 x 30).

Pairs	Nom. O.D.	Type	100′ Spool Stock No.	Each	2-4	5-9	500′ Spool Stock No.	Each	2-4	5-9	1000′ Spool Stock No.	Each	2-4	5-9
2	0.227″	88102	...	...	...	...	04F5554	644.84	575.66	527.16	04F5555	1289.68	1151.32	1054.31
5	0.269″	88105	...	...	...	...	04F5560	833.49	744.07	681.38	04F5561	1666.98	1488.14	1362.75
2	0.137″	88723	02F6077	59.83	54.22	48.73	02F6078	271.09	242.33	221.23	02F6079	495.64	442.46	405.18
3	0.226″	88777	02F6080	103.09	93.43	83.97	02F6081	468.07	418.42	381.99	02F6082	854.07	762.44	698.20
6	0.300″	88778	04F5196	215.93	193.03	176.22	04F5189	986.99	881.09	806.86	04F5197	1762.19	1582.63	1452.57

(6055) (de52470)

PAIRED UNSHIELDED PLENUM SOUND, AUDIO, AND CONTROL CABLE

Tinned copper conductors. Teflon insulation, 0.007″ thickness. Overall tape wrap. Red transparent Teflon jacket, 0.010″ thickness. 300Vrms. 200°C Non-conduit. NEC Article 800, Type CMP. UL listed and CSA PCC FT4/FT6 rated. Number of pairs: 1. **Type 88442** AWG STRANDING: 22 (7 x 30), Nominal O. D. 0.104″. **Type 89740** AWG STRANDING: 18 (19 x 30), Nominal O. D. 0.142″.

Type	Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
88442	02F6068	26.78	24.66	21.57	02F6069	128.34	116.32	104.54	02F6070	232.63	207.95	189.85
89740	03F2955	54.65	49.53	44.51	03F2956	247.64	221.37	202.10	03F2957	452.76	404.19	370.13

(6053) (de52468)

PLENUM AND PAIRED CABLE

PAIRED UNSHIELDED PLENUM CABLE

Sound, audio & control cable. Tinned copper conductors, twisted pairs Teflon insulation, .006″ thickness except **type 82740** which is 0.007″ thick. Natural-colored Flamarrest® jacket, 0.015″ thickness. Listed for use in an air plenum non-conduit. NEC Article 800, Type CMP and CSA PCC FT4/FT6 rated, UL listed.

82442, 82740

Type	Pairs	AWG Stranding	O.D.	1000′ Spool Stock No.	1	2-4	5-9
82442	1	22 (7 x 30)	0.114″	04F6091	196.65	182.16	167.67
82740	1	18 (19 x 30)	0.152″	04F6092	312.68	289.64	266.60

(6175) (de52510)

PAIRED SHIELDED PLENUM CABLE FOR INSTRUMENTATION, COMPUTERS & P.O.S.

Tinned copper conductors, Teflon insulated and jacketed. Beldfoil® shield overall. 200°C, Non-conduit. All are NEC Article 800, Type CMP and rated 300Vrms except **type 89182**, which is Doufoil® individually shielded computer, control, instrumentation cable for low capacitance applications—NEC Article 725, Type CL2P and rated 150Vrms. **Types 88641, 89503, 89504,** and **89505** AWG (Stranding): 24 (7 x 32). **Type 88760** AWG (Stranding): 18 (19 x 30). **Type 88761** AWG (Stranding): 22 (7 x 30) and type 89182 = 22 (19 x 34). All are UL listed and CSA PCC FT4/FT6 rated. (*)Sound, Broadcast, and Instrumentation cable.

Pairs	Nom. O.D.	Type	100′ Spool Stock No.	Each	2-4	5-9	500′ Spool Stock No.	Each	2-4	5-9	1000′ Spool Stock No.	Each	2-4	5-9
1	0.108″	88641	03F2958	52.68	48.51	42.44	03F2959	228.88	204.60	186.79	03F2960	457.75	409.19	373.57
1	0.157″	88760	02F6071	47.29	43.54	38.09	02F6072	205.43	183.64	167.65	02F6073	410.85	367.27	335.29
1	0.118″	88761	03F2961	44.05	40.56	35.48	03F2962	191.36	171.06	156.17	03F2963	382.71	342.11	312.33
1	0.308″	89182	04F5204	202.45	183.48	164.89	04F5205	838.64	748.66	685.58	04F5206	1677.27	1497.32	1371.16
3	0.177″	89503	03F2970	112.41	101.87	91.55	03F2971	465.63	415.67	380.65	03F2972	931.25	831.34	761.29
4	0.194″	89504	04F5198	120.69	109.37	98.30	04F5199	499.93	446.29	408.69	04F5200	999.85	892.58	817.37
5	0.199″	89505	04F5201	162.91	147.65	132.69	04F5202	499.93	446.29	408.69	04F5203	1349.71	1204.90	1103.38

(6054) (de52469)

PAIRED SHIELDED PLENUM CABLE

For computers & instrumentation. Tinned copper, twisted pairs each individually shielded with Beldfoil® overall. Teflon insulated except for **82729** which is foam FEP Teflon insulated. Flamarrest® jacket. 24AWG stranded tinned copper drain wire. 300V RMS. **Types 82723, 82777** and **82778** AWG (Stranding): 22 (7 x 30). **Type 82729** AWG (Stranding): 24 (7 x 32). Non-conduit. NEC Article 800, Type CMP and CSA PCC FT4/FT6 rated, UL listed. Color: natural. **Sold in spools of 1000′.**

Pairs	Nom. O.D.	Type	Stock No.	Each	2-4	5-9
2	0.137″	82723†	04F6175	363.81	337.00	310.19
3	0.234″	82777	04F6113	646.98	599.31	551.64
6	0.308″	82778	04F6114	1325.70	1183.47	1083.75
2	0.274″	82729	04F6112	920.33	852.51	784.70

†Pairs cabled on common axis to reduce diameter.

(6177) (de52512)

PAIRED SHIELDED PLENUM CABLE

For instrumentation, computers & P.O.S. Tinned copper conductors. Overall Beldfoil® 100% shield coverage. Teflon insulated, twisted pairs. Flamarrest® jacket, color: natural. 0.015″ thickness. **Types 82502-82504** and **82641** AWG (Stranding): 24 (7 x 32). **Type 82760** AWG (Stranding): 18 (19 x 30). **Type 82761** AWG (Stranding): 22 (7 x 30). For use in an air plenum non-conduit. NEC Article 800, Type CMP and CSA PCC FT4/FT6 rated. UL listed. **Sold in spools of 1000′.**

Pairs	Nom. O.D.	Type	Stock No.	Each	2-4	5-9
2	0.164″	82502	04F6102	381.51	353.39	325.28
3	0.171″	82503	04F6103	578.16	535.55	492.95
4	0.195″	82504	04F6105	686.31	635.74	585.17
1	0.108″	82641	04F6305	342.18	316.96	291.75
1	0.157″	82760	04F6098	332.34	307.85	283.37
1	0.118″	82761	04F6100	243.85	225.88	207.91

(6176) (de52511)

SINGLE PAIR HIGH-TEMPERATURE CONTROL AND INSTRUMENTATION CABLE

Stranded tinned copper conductors, Tefzel® insulated, conductors cabled. Clear Tefzel® jacket. 150°C, 300Vrms. Passes VW-1 vertical wire flame test. Number of pairs: 1. Work voltage: 300. Nominal outside diameter: 0.185″ (**type 85220**) and 0.215″ (**type 85221**).

Type	AWG (Stranding)	100′ Spool Stock No.	Each	2-4	5-9	500′ Spool Stock No.	Each	2-4	5-9
85220	20 (7 x 28)	04F5074	145.53	131.89	118.53	04F5075	602.83	538.15	492.81
85221	16 (19 x 29)	04F5076	189.82	172.03	154.61	04F5077	786.33	701.97	642.82

(6036) (de50552)

MULTICONDUCTOR SHIELDED SOUND, BROADCAST, AUDIO, INSTRUMENTATION, AND COMPUTER CABLE

For EIA RS-232 applications. Tinned copper stranded conductors cabled, S-R PVC insulated. Beldfoil® aluminum-polyester shield with stranded tinned copper drain wire. Chrome PVC jacket. UL recognized 2464; 300V, 80°C. CSA certified PCC FT4; NEC Type CM.

24 AWG STRANDED CONDUCTORS (7 x 32) - CAPACITANCE 33 pF/ft.

Type	Cond.	O.D.	100′ Spool Stock No.	Each	2-4	5-9	500′ Spool Stock No.	Each	2-4	5-9	1000′ Spool Stock No.	Each	2-4	5-9
9533	3	0.168″	03F1627	15.12	13.92	12.18	03F1628	72.45	65.66	59.01	03F1629	144.90	131.32	118.02
9534	4	0.190″	03F1630	17.28	15.91	13.92	03F1631	82.80	75.04	67.44	03F1632	165.60	150.08	134.88
9535	5	0.195″	03F1633	21.59	19.88	17.39	03F1634	103.50	93.80	84.30	03F1635	187.60	167.70	153.10
9536	6	0.215″	03F1636	24.83	22.87	20.00	03F1637	119.03	107.87	96.95	03F1638	215.74	192.86	176.07
9537	7	0.215″	03F1639	28.93	26.64	23.31	03F1640	138.69	125.70	112.97	03F1641	251.39	224.72	205.16
9538	8	0.230″	03F1642	30.23	27.84	24.35	03F1643	144.90	131.32	118.02	03F1644	262.64	234.78	214.34
24 AWG STRANDED CONDUCTORS (7 x 32) - CAPACITANCE 30 pF/ft.														
9539	9	0.250″	03F1645	32.39	29.82	26.09	03F1646	155.25	140.70	126.45	03F1647	281.40	251.55	229.65
9540	10	0.250″	03F1648	34.33	31.61	27.65	03F1649	164.57	149.15	134.04	03F1650	298.29	266.65	243.43
9541	15	0.290″	03F1651	49.45	45.53	39.83	03F1652	214.81	192.02	175.30	03F1653	429.61	384.04	350.60
9542	20	0.320″	03F1654	82.60	74.86	67.28	03F1655	374.27	334.57	305.44	03F3348	684.29	610.87	559.40
9543	25	0.360″	03F1656	92.74	84.05	75.54	03F3349	420.23	375.65	342.95	03F3350	768.32	685.89	628.10
9544	30	0.380″	03F1657	134.14	121.57	109.26	03F3351	555.66	496.05	454.25	03F3352	1111.32	992.09	908.50
9545	40	0.430″	03F1658	175.33	158.90	142.81	03F3353	726.31	648.38	593.75	03F3354	1452.61	1296.76	1187.50
9546	50	0.490″	03F1659	233.75	208.96	190.77	03F3355	1068.45	953.82	873.45	03F3356	1907.63	1713.25	1572.46

(6066) (ne01695)

MULTICONDUCTOR CABLE

MULTICONDUCTOR UNSHIELDED CONTROL, AUDIO, & COMPUTER CABLE

Spooled, tinned copper stranded cable. PVC insulated, chrome PVC jacket **Type 9794** bare copper solid cable; polyethylene insulated, PVC jacket. NEC Type CM except **types 8620-24, 8627-39, 9620-23, 9721** which pass VW-1 vertical wire flame test. Working voltage: 600V, 80°C. **Type 8446** contains four 22 AWG (7x30) and two 18 AWG (16x30) conductors.

CONTROL, AUDIO, & COMPUTER CABLE FOR EIA RS-232 APPLICATIONS — AWG: 22 (7 X 30)

Type	Cond.	O.D.	100′ Spool				500′ Spool				1000′ Spool			
			Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
8443**	3	0.172″	02F4074	12.96	11.93	10.44	02F4075	62.10	56.28	50.58	02F4076	124.20	112.56	101.16
8444**	4	0.185″	02F4077	16.20	14.91	13.05	02F4079	77.63	70.35	63.23	02F4080	155.25	140.70	126.45
8445**	5	0.194″	02F4081	20.30	18.69	16.35	02F4083	97.29	88.18	79.25	02F4084	194.58	176.35	158.49
8446**	6	0.236″	02F4085	30.23	27.84	24.35	02F4086	144.90	131.32	118.02	02F4087	262.64	234.78	214.34
9430**	7	0.214″	...	...	...	...	02F6053	108.68	98.49	88.52	02F6054	196.98	176.09	160.76
9421**	8	0.229″	03F1542	26.78	24.66	21.57	03F1543	128.34	116.32	104.54	03F1544	232.63	207.95	189.85
9423**	9	0.244″	03F1545	28.93	26.64	23.31	03F1546	138.69	125.70	112.97	03F1547	251.39	224.72	205.16
8456**	10	0.264″	02F4303	32.39	29.82	26.09	02F4304	155.25	140.70	126.45	02F4305	281.40	251.55	229.65
8457**	12	0.272″	02F4306	35.41	32.61	28.52	02F4307	169.74	153.84	138.26	02F4308	307.67	275.03	251.09
8458**	15	0.315″	02F4297	53.62	48.59	43.67	02F4298	242.95	217.18	198.27	02F6109	444.19	396.53	363.12
9431**	20	0.345″	...	...	...	...	02F5319	327.37	292.64	267.16	...	...	...	...
8459**	25	0.387″	02F4300	92.74	84.05	75.54	02F6110	420.23	375.65	342.95	02F6111	768.32	685.89	628.10
9432**	30	0.400″	...	...	...	...	02F6137	452.76	404.19	370.13	...	...	...	...
9433**	40	0.455″	03F1548	164.98	149.52	134.38	...	...	...	...	...	...	...	...
9434**	50	0.500″	...	...	...	...	03F3342	812.06	724.93	663.85	03F3343	1624.11	1449.86	1327.70

CONTROL & AUDIO CABLE — AWG: 20 (7 X 20)

9794†	4	0.190″	...	...	...	...	...	...	...	...	02F5315	186.30	168.84	151.74
9444*	4	0.217″	02F5323	19.44	17.90	15.66	02F5324	93.15	84.42	75.87	02F5325	186.30	168.84	151.74
9445*	5	0.239″	02F5326	23.75	21.87	19.13	02F5327	113.85	103.18	92.73	02F5328	206.36	184.47	168.41
9439*	7	0.260″	03F1549	33.47	30.82	26.96	03F1550	160.43	145.39	130.67	03F1551	290.78	259.94	237.31
9455*	9	0.317″	02F5329	45.13	41.55	36.35	02F5330	196.05	175.25	159.99	02F5331	392.09	350.50	319.98
9457*	12	0.338″	02F5332	61.90	56.10	50.42	02F5333	280.47	250.72	228.89	02F5334	512.79	457.77	419.20
9458*	15	0.389″	02F5335	79.49	72.04	64.75	02F5336	360.20	321.99	293.96	02F5337	658.56	587.91	538.37

CONTROL & AUDIO CABLE — AWG: 18 (19 X 30)

8489	4	0.264″	02F3956	24.83	22.87	20.00	02F3958	119.03	107.87	96.95	02F3959	215.74	192.86	176.07
8465	5	0.290″	02F5275	28.93	26.64	23.31	02F5276	138.69	125.70	112.97	02F6134	251.39	224.72	205.16
8467	7	0.324″	02F5278	40.81	37.58	32.87	02F5280	195.62	177.29	159.33	02F6135	354.57	316.96	289.36
8469	9	0.379″	02F5282	50.52	46.52	40.70	02F6136	219.50	196.21	179.13	02F5285	438.99	392.42	358.26
8466	12	0.424″	02F4225	65.00	58.91	52.94	02F6100	294.54	263.29	240.37	02F6101	538.51	480.74	440.23
8468	15	0.505″	02F4229	84.46	76.54	68.79	02F4230	382.71	342.11	312.33	...	...	...	...
8619	19	0.505″	02F5658	134.14	121.57	109.26	02F6168	555.66	496.05	454.25	02F6169	1111.32	992.09	908.50
9626	25	0.620″	02F5356	206.18	186.85	167.93	02F6144	854.07	762.44	698.20	02F6145	1708.14	1524.88	1396.40

CONTROL & AUDIO CABLE — AWG: 16 (19 X 29)

8620	4	0.375″	02F4231	51.60	47.52	41.57	02F4232	224.19	200.41	182.96	02F6102	448.37	400.81	365.91
9620	5	0.405″	02F5345	61.90	56.10	50.42	02F6141	280.47	250.72	228.89	...	...	...	...
8621	7	0.450″	02F4234	82.60	74.86	67.28	02F4235	374.27	334.57	305.44	...	...	...	...
9721	8	0.495″	03F2654	96.88	87.80	78.91	...	..	...	...	...	...	...	...
9621	9	0.520″	02F5348	123.79	112.19	100.83	...	...	...	...	...	...	...	...
8622	12	0.610″	02F4237	185.68	168.28	151.24	...	...	...	...	...	...	...	...
8623	15	0.670″	03F1555	243.13	217.34	198.42	...	...	...	...	...	...	...	...
8624	19	0.700″	03F1558	299.23	267.49	244.20	...	...	...	...	...	...	...	...
9622	25	0.850″	02F5350	345.94	309.24	282.32	...	...	...	...	...	...	...	...

CONTROL & AUDIO CABLE — AWG: 14 (19 X 27)

8627	4	0.476″	02F5342	90.67	82.17	73.85	...	...	...	...	...	...	...	...
9623	5	0.557″	02F5353	140.35	127.20	114.31	...	...	...	...	...	...	...	...
8628	7	0.605″	03F1561	148.42	134.51	120.89	...	...	...	...	...	...	...	...
8629	12	0.800″	03F1564	289.85	259.10	236.54	...	...	...	...	...	...	...	...

** UL recognized 2576; 150V, 80°C. † UL recognized 2094; 300V, 60°C. UL recognized 2598; 300V, 60°C. * UL recognized 2464; 300V, 80°C.
(6045) (de51992)

MULTICONDUCTOR OVERALL FOIL/BRAID SHIELDED COMPUTER CABLE—DATALENE® INSULATED

Low capacitance cables for EIA RS-232, EIA RS-423 and CAD/CAM applications. Tinned copper, Datalene® insulated, multi-conductor cable with overall Beldfoil® aluminum-polyester plus 65% tinned copper braid shield. 24 AWG stranded tinned copper drain wire. Chrome PVC jacket. Rated 30V, 80°C. UL recognized. Datalene® insulation features low dielectric constant and a dissipation factor for high-speed, low-distortion data handling. 24AWG stranded conductors (& x 32) 1919, NEC Type CM. Capacitance pF/ft.: 12.

Type	No. of Cond.	Nom. O.D.	100′ Spool				500′ Spool				1000′ Spool			
			Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
9925	3	0.215″	03F4182	23.75	21.87	19.13	03F4183	113.85	103.18	92.73	03F4184	206.36	184.47	168.41
9927	4	0.230″	03F4185	28.93	26.64	23.31	03F4186	138.69	125.70	112.97	03F4187	251.39	224.72	205.16
9929	5	0.246″	03F4188	36.49	33.60	29.39	03F4189	174.92	158.53	142.47	03F4190	317.05	283.42	258.74
9931	6	0.265″	03F4191	38.87	35.79	31.31	03F4192	186.30	168.84	151.74	03F4193	337.68	301.86	275.58
9932	7	0.265″	03F4194	40.81	37.58	32.87	03F4195	195.62	177.29	159.33	...	...	...	...
9933	8	0.280″	03F4069	42.97	39.57	34.61	03F4070	205.97	186.67	167.76	03F4071	373.33	333.73	304.67
9934	9	0.300″	03F4072	50.52	46.52	40.70	03F4073	219.50	196.21	179.13	03F4074	438.99	392.42	358.26
9935	10	0.306″	03F4075	51.60	47.52	41.57	03F4076	224.19	200.41	182.96	...	...	...	...
9936	15	0.360″	03F4078	76.39	69.23	62.22	03F4079	346.13	309.41	282.47	03F4080	632.84	564.94	517.34
9937	25	0.445″	03F4081	121.72	110.31	99.14	03F4082	504.21	450.12	412.19	...	...	...	...
9938	37	0.500″	03F4084	203.28	184.23	165.57	...	...	...	...	...	...	...	...

(6031) (de50517)

8442

MULTICONDUCTOR UNSHIELDED SOUND AND CONTROL CABLE

Type 8795: 22 AWG, Bare copper. O.D.: 0.168″. **Type 8442:** 22 AWG, 7 x 30 stranding. O.D.: 0.170″.

Type	Conductors	500′ Spool				1000′ Spool			
		Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
8795*	2	02F5364	72.45	65.66	59.01	02F5314	144.90	131.32	118.02
8442†	2	02F4072	48.58	44.73	39.13	02F4073	93.15	84.42	75.87

*UL recognized †CSA certified
(6043) (de50836)

MULTICONDUCTOR CABLE

MULTICONDUCTOR OVERALL FOIL/BRAID SHIELDED COMPUTER CABLE

For EIA RS-232 and CAD/CAM applications. Tinned copper, SR-PVC insulated, multiconductor cable with overall Beldfoil® aluminum-polyester plus 65% tinned copper braid shield. Chrome PVC jacket. Rated 300V, 80°C. UL recognized 2464; CSA PCC FT4; NEC Type CM.

24 AWG STRANDED CONDUCTORS (7 x 32) TYPE 9608-9610, CAP. 35 pF/ft. Type 9611-9619, CAP.30 pF/ft.

Type	Cond.	O.D.	100′ Spool				500′ Spool				1000′ Spool			
			Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
9608	3	0.190″	03F4215	26.78	24.66	21.57	03F4216	128.34	116.32	104.54	03F4217	232.63	207.95	189.85
9609	4	0.200″	03F4045	32.39	29.82	26.09	03F4046	155.25	140.70	126.45	03F4047	281.40	251.55	229.65
9610	5	0.215″	03F4048	38.87	35.79	31.31	03F4049	186.30	168.84	151.74	03F4050	337.68	301.86	275.58
9611	6	0.225″	03F4051	47.29	43.54	38.09	03F4052	205.43	183.64	167.65	03F4053	410.85	367.27	335.29
9612	7	0.225″	03F4054	53.62	48.59	43.67	03F4055	242.95	217.18	198.27	03F4056	444.19	396.53	363.12
9613	8	0.240″	03F4057	59.83	54.22	48.73	03F4058	271.09	242.33	221.23	03F4059	495.64	442.46	405.18
9614	9	0.253″	03F4060	74.32	67.35	60.53	03F4061	336.75	301.03	274.82	03F4062	615.69	549.63	503.32
9615	10	0.270″	03F4063	92.74	84.05	75.54	03F4064	420.23	375.65	342.95	03F4065	768.32	685.89	628.10
9616	15	0.300″	03F4170	123.79	112.19	100.83	03F4171	512.79	457.77	419.20	03F4172	1025.57	915.54	838.40
9617	25	0.370″	03F4173	206.18	186.85	167.93	03F4174	854.07	762.44	698.20	03F4175	1708.14	1524.88	1396.40
9618	37	0.411″	03F4176	299.23	267.49	244.20	03F4177	1367.72	1220.98	1118.10	03F4178	2441.95	2193.13	2012.89
9619	50	0.485″	03F4179	373.89	334.23	305.13	03F4180	1708.14	1524.88	1396.40	03F4181	3051.29	2740.38	2515.17
22 AWG STRANDED CONDUCTORS (7 x 30) TYPE 9939-9941, CAP. 37 pF/ft. TYPE 9942-9950, CAP. 35 pF/ft.														
9939	3	0.202″	03F4027	22.67	20.88	18.26	03F4028	108.68	98.49	88.52	03F4029	196.98	176.09	160.76
9940	4	0.215″	03F4030	28.93	26.64	23.31	03F4031	138.69	125.70	112.97	03F4032	251.39	224.72	205.16
9941	5	0.230″	03F4033	34.33	31.61	27.65	03F4034	164.57	149.15	134.04	03F4035	298.29	266.65	243.43
9942	6	0.245″	03F4036	38.87	35.79	31.31	03F4037	186.30	168.84	151.74	03F4038	337.68	301.86	275.58
9943	7	0.245″	03F4039	44.05	40.56	35.48	03F4040	191.36	171.06	156.17	03F4041	382.71	342.11	312.33
9944	8	0.260″	03F4042	47.29	43.54	38.09	03F4043	205.43	183.64	167.65	03F4044	410.85	367.27	335.29
9945	9	0.280″	03F4197	53.76	49.51	43.31	03F4198	233.57	208.79	190.61	03F4199	467.13	417.58	381.22
9946	10	0.300″	03F4200	56.72	51.41	46.20	03F4201	257.02	229.75	209.75	03F4202	469.91	419.50	384.15
9947	15	0.340″	03F4203	78.46	71.10	63.90	03F4204	355.51	317.80	290.13	03F4205	649.99	580.25	531.36
9948	25	0.410″	03F4206	154.63	140.14	125.95	03F4207	640.56	571.83	523.65	03F4208	1281.11	1143.66	1047.30
9949	37	0.460″	03F4209	336.56	300.86	274.67	03F4210	1538.36	1373.31	1257.60	03F4211	2746.62	2466.75	2264.03
9950	50	0.555″	03F4212	388.90	347.65	317.38	03F4213	1586.89	1425.19	1308.07	03F4214	3173.77	2850.38	2616.13

(6067) (ne01696)

MULTICONDUCTOR SHIELDED BROADCAST, AUDIO, AND INSTRUMENTATION PVC JACKET CABLE

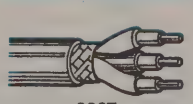
Tinned copper stranded conductors. Polyethylene insulated except: **type 9770** polypropylene and paper wrap, and **type 9418** S-R PVC insulated. Beldfoil® aluminum-polyester shield with stranded tinned copper drain wire except **type 8729** which has 3 solid tinned copper-coated steel wires and 1 stranded tinned copper-coated steel drain wire. NEC Type CM except **type 8729**, which is NEC Type CL3. UL recognized except **type 9770**. Other spool sizes available, *contact your local Newark sales office.*

Type	No. Cond.	AWG (Strand)	O.D.	Cap. pF/ft.	500′ Spool				1000′ Spool			
					Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
9770	3	22 (7 x 30)	.145″	32	02F5317	87.98	79.73	71.66	02F5318	175.95	159.46	143.31
8771*	3	22 (7 x 30)	.183″	23	02F4257	82.80	75.04	67.44	02F4258	165.60	150.08	134.88
8729**	4	22 (19 x 34)	.262″	22	03F1673	261.71	233.95	213.58	03F1674	478.49	427.15	391.16
8772*	3	20 (7 x 28)	.208″	27	02F4259	97.29	88.18	79.25	02F4260	194.58	176.35	158.49
8770*	3	18 (16 x 30)	.236″	24	02F4254	93.93	83.77	79.18	02F4255	177.08	163.19	155.00
9418†	4	18 (19 x 30)	.245″	70	03F1676	120.45	107.41	101.53	03F1677	227.06	209.25	198.75
8618††	3	16 (19 x 29)	.318″	26	02F5681	196.05	175.25	159.99	02F6172	392.09	350.50	319.98

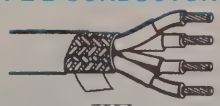
*UL recognized 2093; 300V, 60°C. **UL recognized 2094; 300V, 60°C. †UL recognized 2464; 300V, 80°C. ††UL recognized 2107; 600V, 60°C.
(6065) (ne01694)

MULTICONDUCTOR BRAID-SHIELDED COMMUNICATION AND INSTRUMENTATION CABLE — MIL-W-16878D TYPE B CONDUCTORS

VW-1



9967



9954

Stranded tinned copper conductors, PVC insulated. Clear nylon jacket, tinned copper braid shield. White PVC jacket. Nominal nylon thickness 0.003″, except **types 9951-54,** which are 0.004″ thick. Working voltage: 600V; 105°C. Passes VW-1 Vertical Wire Flame Test.

Type	No. Cond.	AWG (Strand)	Nom. O.D.	100′ Spool				500′ Spool				1000′ Spool			
				Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
9961	1	20 (19x32)	0.109″	02F5375	28.93	26.64	23.31	02F5376	138.69	125.70	112.97	02F5377	251.39	224.72	205.16
9951	1	16 (19x29)	0.143″	02F5378	51.60	47.52	41.57	02F5379	224.19	200.41	182.96	02F5380	448.37	400.81	365.91
9966	2	22 (19x34)	0.176″	02F5381	38.87	35.79	31.31	02F5382	186.30	168.84	151.74	02F5383	337.68	301.86	275.58
9962	2	20 (19x32)	0.192″	02F5384	46.21	42.55	37.22	02F5385	200.74	179.44	163.82	02F5386	401.47	358.88	327.64
9962	2	16 (19x29)	0.250″	02F5387	62.93	57.03	51.26	02F5388	285.16	254.91	232.72	02F5389	521.36	465.43	426.21
9967	3	22 (19x34)	0.184″	02F5390	48.37	44.54	38.96	...	...	...	...	02F5391	420.23	375.65	342.95
9963	3	20 (19x32)	0.210″	02F5409	53.62	48.59	43.67	02F5410	242.95	217.18	198.27	02F5411	444.19	396.53	363.12
9953	3	16 (19x29)	0.264″	02F5392	85.70	77.67	69.80	02F5393	388.34	347.14	316.92	02F5394	710.01	633.84	580.43
9968	4	22 (19x34)	0.200″	02F5395	48.37	44.54	38.96	02F5396	242.95	217.18	198.27	02F5397	444.19	396.53	363.12
9964	4	20 (19x32)	0.226″	02F5398	66.04	59.85	53.79	02F5399	299.23	267.49	244.20	02F5400	547.09	488.39	447.24
9954	4	16 (19x29)	0.291″	02F5401	107.23	97.18	87.34	02F5402	444.19	396.53	363.12	02F5403	888.37	793.06	726.24

(6029) (de50515)

MULTICONDUCTOR UNSHIELDED SOUND & CONTROL CABLE

Conductors: 2 **Type 8795** AWG stranding: 22 Solid, Nominal O. D. 0.160″. **Type 8442** AWG stranding: 22 (7 x 30), Nominal O. D. 0.170″.

Type	500′ Spool				1000′ Spool			
	Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
8795*	02F5364	72.45	65.66	59.01	02F5314	144.90	131.32	118.02
8442	02F4072	48.58	44.73	39.13	02F4073	93.15	84.42	75.87

*CSA certified
(6010) (de00762)

8795, 8442

PLENUM CONTROL AND BROADCAST COAXIAL CABLE

MULTI-CONDUCTOR UNSHIELDED PLENUM CONTROL CABLE

88444, 88489

Four tinned copper conductors. Teflon insulation: 0.007″ thickness. Overall tape wrap, red transparent Teflon jacket: 0.010″ thickness. 200°C, non-conduit. NEC Article 800, type CMP. CSA PCC FT4/FT6 rated, UL listed. **Type 88444** AWG stranding: 22 (7 x 30), Nominal O. D.: 0.121″. **Type 88489** AWG stranding: 18 (19 x 30), Nominal O. D.: 0.167″.

	100′ Spool			500′ Spool			1000′ Spool		
Type	Stock No.	Each	2-4	Stock No.	Each	2-4	Stock No.	Each	2-4
88444	02F6074	37.57	34.60	02F6075	180.09	163.22	02F6076	326.43	291.80
88489	03F2964	128.97	116.88	03F2965	534.23	476.91	03F2966	1068.45	953.82

(6171) (de52465)

MULTI-CONDUCTOR SHIELDED PLENUM CONTROL CABLE

4 tinned copper conductors. Teflon insulation, 0.007″ thickness. 100% Beldfoil shield overall. Red transparent Teflon jacket, 0.015″ thickness. 200°C, UL Subject 13 Non-conduit. NEC Article 800, Type CMP. AWG STRANDING: 18 (19 x 30). Nominal O. D.: 0.185″.

	100′ Spool				500′ Spool				1000′ Spool			
Type	Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
89418	03F2967	123.79	112.19	100.83	03F2968	512.79	457.77	419.20	03F2969	1025.57	915.54	838.40

(6172) (de52466)

MULTI-CONDUCTOR SHIELDED PLENUM CONTROL CABLE

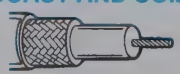
83504

Control and instrumentation cables. Tinned copper conductors, Teflon® insulation, 0.007″ thickness, conductors cabled. Beldfoil® aluminum-polyester shield with 85% tinned copper braid shield overall. Red Teflon® jacket. Use in air plenum non-conduit. 200°C, UL listed, NEC article 800, type CMP, CSA certified.

			500′ Spool				1000′ Spool			
Type	No. Cond.	Nom. O.D.	Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
AWG STRANDING: 22 (7 x 30)										
83552	2	0.143″	04F5078	415.54	371.46	339.12	04F5079	759.75	678.24	621.09
83553	3	0.150″	04F5043	271.09	242.33	221.23	04F5044	495.64	442.46	405.18
83554	4	0.161″	04F5045	461.34	411.84	377.14	04F5046	922.67	823.68	754.28
83556	6	0.185″	04F5048	577.10	515.19	471.78	04F5049	1154.20	1030.37	943.55
83559	9	0.211″	04F5051	782.04	698.14	639.32	04F5052	1564.08	1396.28	1278.63
AWG STRANDING: 20 (7 x 28)										
83606	6	0.209″	04F3213	760.61	679.00	621.79	04F3214	1521.21	1358.00	1243.58
AWG STRANDING: 18 (19 x 30)										
83653	3	0.191″	04F5072	640.56	571.83	523.65	04F5073	1281.11	1143.66	1047.30
83654	4	0.207″	04F5022	752.03	671.35	614.78	04F5023	1504.06	1342.69	1229.56
83656	6	0.243″	04F5025	846.36	755.55	691.89	04F5026	1692.71	1511.10	1383.78
83662	12	0.313″	04F5031	1456.90	1300.59	1191.00	04F5032	2601.17	2336.13	2144.14

(6052) (de52467)

BROADCAST AND COMPUTER COAXIAL CABLE



9259

9269

					500′ Spool				1000′ Spool			
RG/U	AWG (Strand)	O.D.	Ω	Type	Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
RG-174/U	26 (7 x 34)	0.110″	50	8216*	02F4120	96.26	87.24	78.40	02F4121	192.51	174.47	156.80
RG-59/U	22 (7 x 30)	0.242″	75	9259	03F1348	82.57	73.63	69.60	03F1349	155.66	143.45	136.25
RG-59/U	23 (Solid)	0.242″	75	8241*#‡‡	02F4186	74.32	68.53	63.64	02F4187	133.32	118.89	112.38
RG-62/U	23 (Solid)	0.238″	93	8254	02F5656	133.52	121.01	108.75	02F5657	242.01	216.34	197.50
RG-62A/U	22 (Solid)	0.260″	93	9268•‡	02F4657	138.69	125.70	112.97	02F4658	251.39	224.72	205.16
RG-62A/U	22 (Solid)	0.242″	93	9228++	04F3828	113.85	103.18	92.73	04F3829	206.36	184.47	168.41
RG-62A/U	22 (Solid)	0.240″	93	9269*#•‡	02F4647	82.80	75.04	67.44	02F4649	165.60	150.08	134.88

* UL recognized • NEC CM ‡ NEC CL2 ‡‡ NEC CL2X ++ Flooded burial cable # Plenum version and 100′ spools available; *contact your local Newark sales office for details.*

(6211) (ne50279)

BROADCAST COAXIAL CABLE

				500′ Spool				1000′ Spool			
RG/U	AWG (Strand)	Ω	Type	Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
RG-8/U	11 (7 x 19)	50	8214*‡	03F3317	347.06	310.25	283.24	03F3318	636.27	568.01	520.15
RG-213/U††	13 (7 x 21)	50	8267*‡‡	03F1336	378.96	338.76	309.27	03F1337	687.72	613.94	562.21
RG-214/U††	13 (7 x 0.0296)	50	8268*‡‡	03F1338	1644.30	1476.75	1355.39	03F1339	3319.21	2987.96	2747.85
RG-223/U††	19 (Solid)	50	9273*††	03F1351	698.01	623.12	570.62	03F1352	1396.01	1246.24	1141.23
RG-58A/U	20 (19 x 32)	50	8219*‡	03F1334	117.99	106.94	96.11	03F1335	213.87	191.18	174.54
RG-58C/U††	20 (19 x 33)	50	8262	02F4117	146.97	133.20	119.71	02F4118	264.52	236.46	215.88
RG-58A/U	20 (19 x 33)	50	8259	02F4203	100.40	90.99	81.78	02F4204	198.72	180.10	161.86
RG-58**	20 (19 x 33)	50	9203**	04F3141	184.23	166.97	150.06	04F3142	332.06	296.83	270.99
RG-8A/U	13 (7 x 21)	52	9251*‡‡	03F3320	362.07	323.67	295.49	03F3321	656.85	586.38	536.97
RG-8/U	13 (7 x 21)	52	8237‡‡	02F6096	276.71	247.36	225.83	02F6097	502.50	448.59	410.79
RG-58/U	20 (Solid)	53.5	8240*#‡‡	02F4194	100.40	90.99	81.78	02F4195	200.79	181.98	163.55
RG-58/U	20 (Solid)	53.5	9201	04F5186	84.87	76.92	69.13	04F5187	167.67	151.96	136.57
RG-11/U	18 (7 x 26)	75	8238 •	02F6098	330.18	295.16	269.46	02F4201	600.25	535.85	490.70
RG-59B/U	23 (Solid)	75	8263‡‡*	02F6045	169.74	153.84	138.26	02F6046	307.67	275.03	251.09
...	27 (7 x 35)	75	8218	02F6037	120.06	108.81	97.79	02F6038	217.62	194.54	177.60
...	30 (7 x 38)	75	9221*	03F2625	127.31	115.38	103.69	...	...	...	...

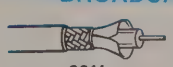
* UL recognized ** I.E.C.Q. certified MIL-C-17G M17/28-RG058 • NEC CM ‡ NEC CL2 ‡‡ NEC CL2X †† MIL-C-17G QPL # Plenum version available; *contact your local Newark sales office for details.*

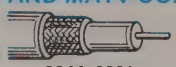
(6213) (ne50281)

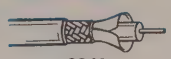
Belden

COAXIAL CABLE

BROADCAST AND MATV COAXIAL CABLE


9011


9244, 8221


9248

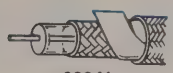
AWG (Strand)	O.D.	Ω	Shield	RG/U	Type	500′ Spool Stock No.	500′ Spool Each	500′ Spool 2-4	500′ Spool 5-9	1000′ Spool Stock No.	1000′ Spool Each	1000′ Spool 2-4	1000′ Spool 15-9
22 (Solid)	0.242″	73	85%	RG-59/U	9244*‡‡	03F2161	101.43	91.93	82.62	03F2162	200.79	181.98	163.55
14 (Solid)	0.405″	75	95%	RG-11/U	8213	02F6190	279.53	249.88	228.12	02F6191	509.36	454.71	416.40
14 (Solid)	0.405″	75	100%	RG-11/U	9292#	...	...	...	...	04F5188	414.60	370.62	338.36
14 (Solid)	0.405″	75	100%	RG-11/U	9011	...	...	...	...	04F4998	173.88	157.59	141.63
18 (Solid)	0.270″	75	100%	RG-6/U	9248*#•	04F3325	120.06	108.81	97.79	04F3326	217.62	194.54	177.60
18 (Solid)	0.270″	75	100%	RG-6/U	9114+	04F8973	51.75	46.90	42.15	04F8974	103.50	93.80	84.30
18 (Solid)	0.288″	75	98%	RG-6/U	9290•	04F5000	223.25	199.57	182.19	04F5001	446.49	399.13	364.38
20 (Solid)	0.242″	75	95%	RG-59/U	8212	02F6034	191.48	173.53	155.96	02F6035	345.19	308.57	281.71
20 (Solid)	0.241″	75	80%	RG-59/U	9240	04F8950	133.52	121.01	108.75	04F8949	242.01	216.34	197.50
20 (Solid)	0.238″	75	100%	RG-59/U	9067++	...	...	...	...	04F8947	97.29	88.18	79.25
20 (Solid)	0.240″	75	95%	RG-59/U	9274•	03F2159	120.06	108.81	97.79	03F2160	215.74	192.86	176.07
20 (Solid)	0.237″	75	100%	RG-59/U	9275+	04F5008	43.18	39.76	34.78	04F5009	82.80	75.04	67.44
20 (Solid)	0.237″	75	100%	RG-59/U	9100+‡	03F2157	43.18	39.76	34.78	03F2158	82.80	75.04	67.44
22 (7 x 30)	0.242″	75	95%	RG-59/U	9659*‡‡	04F8978	182.16	165.09	148.37	98F113	326.43	291.80	266.40
23 (Solid)	0.241″	75	95%	RG-59/U††	9204	03F2918	259.83	232.27	212.05	03F2919	475.06	424.09	388.36
22 (Solid)	0.242″	80	95%	RG-59/U	8221	02F5673	158.36	143.52	128.98	02F5674	287.03	256.59	234.25

* UL recognized • NEC CM ‡ NEC CL2 ‡‡ NEC CL2X + NEC-CATV ++ Flooded burial cable †† MIL-C-17G QPL # Plenum version available; *contact your local Newark sales office for details.*

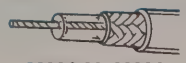
(6212) (ne50280)

HIGH-TEMPERATURE MIL-C-17 SHIELDED COAXIAL CABLE — 200° TFE

VW-1


83241

83242


83264-66, 83284

83267, 83269

AWG (strand): **Types 83241** and **83242**: 18 (solid), **types 83284** and **83269**: 26 (7 x .0067) and all other types are 30 (7 x 38). All types are 50 ohms except **types 83267** and **83264** which are 75 ohms and **type 83266** which is 95 ohms. **Types 83241, 83242, 83269,** and **83265** have a 96% shield; all other types are 95%.

Nom. O.D.	RG/U	Type	100′ Spool Stock No.	100′ Spool Each	100′ Spool 2-4	100′ Spool 15-9	500′ Spool Stock No.	500′ Spool Each	500′ Spool 2-4	500′ Spool 5-9	1000′ Spool Stock No.	1000′ Spool Each	1000′ Spool 2-4	1000′ Spool 15-9
0.187″	RG-141A/U††	83241	02F5774	202.86	183.85	165.23	02F5775	740.03	660.63	604.97	02F5776	1480.05	1321.26	1209.93
0.195″	RG-142B/U†	83242	02F5777	191.36	171.06	156.17	02F5778	782.90	698.91	640.02	02F5779	1565.80	1397.81	1280.03
0.096″	RG-316/U†	83284	02F5771	70.38	63.79	57.33	02F5772	284.22	254.07	231.95	02F5773	519.65	463.90	424.81
0.104″	RG-188A/U††	83269	04F3146	86.94	78.80	70.82	04F3147	355.51	317.80	290.13	04F3148	649.99	580.25	531.36
0.071″	RG-178B/U	83265	02F5780	48.58	44.73	39.13	02F5781	193.23	172.74	157.70	02F5782	386.46	345.47	315.39
0.105″	RG-187A/U†	83267	04F3143	99.36	90.05	80.93	04F3144	393.96	352.17	321.51	04F3145	720.30	643.02	588.84
0.099″	RG-179††	83264	02F5783	68.73	62.29	55.98	02F5784	260.77	233.11	212.81	02F5785	476.77	425.62	389.76
0.141″	RG-180††	83266	02F5786	143.04	129.64	116.51	02F5787	521.36	465.43	426.21	...	...	...	...

† MIL-C-17D; †† MIL-C-17GQPL; Passes VW-1 Vertical Wire Flame Test

(6220) (ne51628)

COMPUTER, INSTRUMENTATION, & BROADCAST PLENUM CABLES

UL

89269

89108, 89120, 89907, 89292

88240, 88241, 86262, 89259

All are single solid conductor except **type 89259,** which is single 7 x 30 stranded, **type 89907** (thinnet, 10 base 2), which is single 19 x 32 stranded conductor. NEC type CMP except **89907** which is NEC type CL2P; **types 89108** and **89120** are also NEC type CATVP NEC article 725, class 2 circuits, UL listed. 200°C. 100′ spools also available, *contact your local Newark sales office.*

RG/U	AWG	Nom. O.D.	Imped. (Ohms)	Type	500′ Spool Stock No.	500′ Spool Each	500′ Spool 2-4	500′ Spool 5-9	1000′ Spool Stock No.	1000′ Spool Each	1000′ Spool 2-4	1000′ Spool 5-9
11/U	14	0.348″	75	89292	05F1725	970.47	898.96	827.46	05F1726	1940.94	1797.92	1654.91
6/U	18	0.234″	75	89120	04F3224	631.25	584.74	538.22	04F3225	1262.50	1169.47	1076.45
...	20	0.160″	50	89907	03F6795	205.50	190.36	175.22	03F6796	411.00	380.72	350.43
58/U	20	0.159″	53.5	88240	02F6057	374.62	347.02	319.42	02F6058	749.24	694.03	638.83
59/U	20	0.212″	75	89108	04F3222	495.56	459.05	422.53	04F3223	991.12	918.09	845.06
...	20	0.271″	75	88281	04F3226	983.25	910.80	838.35	04F3227	1966.50	1821.60	1676.70
59/U	22	0.193″	75	89259	04F5208	628.30	582.01	535.71	04F5209	1256.60	1164.01	1071.42
62/U	22	0.204″	93	86262	03F4221	343.16	317.87	292.59	03F4222	686.31	635.74	585.17
62/U	22	0.200″	93	89269	02F6063	313.66	290.55	267.44	02F6064	627.32	581.09	534.87
59/U	23	0.193″	75	88241	02F6060	459.18	425.35	391.51	02F6061	918.36	850.69	783.02

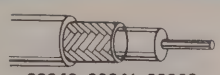
(6049) (de52457)

PLENUM COAXIAL CABLE

For computer, instrumentation & broadcast. All are solid conductor except **type 82259,** which is 7 x 30 stranded. All are NEC Article 800, Type CMP and CSA PCC FT4/FT6 Rated. **Types 82108, 82120** are also NEC type CATVP. Flamarrest® jacket. UL listed. Color: natural. ‡Stranding is 19 x 32.

Type	RG/U	AWG	O.D.	Ohms	1000′ Spool Stock No.	1000′ Spool Each	1000′ Spool 2-4	1000′ Spool 5-9
82120	6/U	18	0.234″	75	04F6124	1006.85	932.66	858.47
82248	6/U	18	0.226″	75	04F6119	743.34	688.57	633.80
82907	58/U	20‡	0.160″	50	04F8662	352.01	326.07	300.13
82240	59/U	20	0.161″	53	04F6116	576.19	533.73	491.28
82241	59/U	20	0.192″	75	04F6118	770.87	714.07	657.27
82108	59/U	20	0.212″	75	04F6123	776.77	719.54	662.30
82269	62/U	22	0.200″	93	04F6122	430.67	398.93	367.20
82262	62/U	22	0.204″	93	04F6121	429.61	384.04	350.60
82259	59/U	22	0.193″	75	04F6120	796.44	737.75	679.07

(6173) (de52507)


82240, 82241, 82262

82108, 82120, 82248

82259

82269

COAXIAL CABLE

LOW TRIBOELECTRIC NOISE SHIELDED COAXIAL CABLE

9239

AWG (Strand)	Nom. O.D.	Ω	Shield	RG/U	Type	100′ Spool Stock No.	100′ Spool Each	100′ Spool 2-4	100′ Spool 5-9	500′ Spool Stock No.	500′ Spool Each	500′ Spool 2-4	500′ Spool 5-9	1000′ Spool Stock No.	1000′ Spool Each	1000′ Spool 2-4	1000′ Spool 5-9
26 (7 x 34)	0.101″	50	90%	RG-174/U	9239	03F2133	44.05	40.56	35.48	03F2134	157.32	142.58	128.14	03F2135	283.28	253.23	231.19
22 (7 x 30)	0.195″	50	100%	RG-58/U	9223	03F2136	60.86	55.16	49.57	03F2137	210.75	189.77	173.77	03F2138	412.72	368.94	336.82

(6219) (ne51626)

TWINAXIAL SHIELDED COMPUTER CABLE

9272

9815

9271

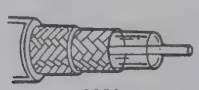
9463

AWG (strand): 20 (7 x 28) except **type 9271** which is 25 (7 x 33) and **type 9182** which is 22 (19 x 34). All types have a 100% shield except **type 9272** which is 93% and **type 9815** which is 96%.

Nom. O.D.	Ohms	Type	100′ Spool Stock No.	100′ Spool Each	100′ Spool 2-4	100′ Spool 5-9	500′ Spool Stock No.	500′ Spool Each	500′ Spool 2-4	500′ Spool 5-9	1000′ Spool Stock No.	1000′ Spool Each	1000′ Spool 2-4	1000′ Spool 5-9
0.244″	78	9272*	02F4659	34.33	31.61	27.65	02F4660	164.57	149.15	134.04	02F4661	298.29	266.65	243.43
0.243″	78	9463*•‡	...	...	...	...	...	...	...	...	03F5678	258.47	238.20	226.25
0.330″	100	9207•‡	03F2145	36.49	33.60	29.39	03F2146	174.92	158.53	142.47	03F2147	317.05	283.42	258.74
0.330″	100	9815	...	...	...	...	03F3946	196.05	175.25	159.99	03F3947	392.09	350.50	319.98
0.240″	124	9271*•	02F4665	17.28	15.91	13.92	02F4666	82.80	75.04	67.44	02F4667	165.60	150.08	134.88
0.345″	150	9182*†††	...	...	...	...	03F1688	373.33	333.73	304.67	03F1689	682.57	609.34	558.00

*UL recognized; •NEC CM; ‡NEC CL2; †††NEC CL2X
(6221) (ne51629)

BRILLIANCE® PRECISION VIDEO 75-OHM COAXIAL CABLE



8281

AWG (Strand)	O.D.	Type	500′ Spool Stock No.	500′ Spool Each	500′ Spool 2-4	500′ Spool 5-9	1000′ Spool Stock No.	1000′ Spool Each	1000′ Spool 2-4	1000′ Spool 5-9
20 (Solid)	0.305″	8281#	02F4219	253.26	226.40	206.69	02F6099	463.05	413.37	378.54
20 (Solid)	0.305″	8281B*•	...	...	...	...	03F7148	504.21	450.12	412.19
22 (7 x 29)	0.305″	8281F	...	...	...	...	04F6349	565.95	505.23	462.66
23 (7 x 32)	0.220″	8279	02F5651	190.44	172.60	155.12	02F5652	341.44	305.22	278.65
23 (Solid)	0.220″	9209	05F1942	190.44	172.60	155.12	04F8948	339.56	303.54	277.12

* UL recognized • NEC CM # Plenum version available; *contact your local Newark sales office for details.*
(6215) (ne50283)

BRILLIANCE® LOW LOSS VHF-UHF 50-OHM COAXIAL CABLE

AWG (Stranding): 10 (Solid). Both types are RG-8/U.

O.D.	Type	100′ Spool Stock No.	100′ Spool Each	100′ Spool 2-4	100′ Spool 5-9	500′ Spool Stock No.	500′ Spool Each	500′ Spool 2-4	500′ Spool 5-9	1000′ Spool Stock No.	1000′ Spool 1-4	1000′ Spool 5-9	1000′ Spool 10-49
0.405″	9913#	03F3937	85.70	77.67	69.80	03F3938	330.18	295.16	269.46	03F3939	601.97	537.39	492.11
0.403″	9914*‡	03F3940	81.56	73.92	66.43	03F3941	310.11	277.21	253.08	03F3942	564.24	503.70	461.26

* UL recognized ‡ NEC CL2 # Plenum version available; *contact your local Newark sales office for details.*
(6214) (ne50282)

BRILLIANCE® 75-OHM VIDEO CABLES FOR ANALOG AND DIGITAL APPLICATIONS

Brilliance®

1505A, 1506A

1694A, 1695A

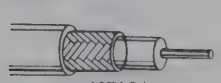
Solid bare copper conductor. Duofoil® foil shield plus 95% tinned copper braid shield. **Types 1505A** and **1506A** are RG-59/U size analog and digital video cables. 7731A is R6-11/U. **Types 1694A** and **1695A** are RG-6/U size cables designed to accommodate the high data speeds encountered with serial digital video distribution. **Types 1505A** and **1694A** are foam high-density polyethylene insulated with a PVC jacket available in red, yellow, green, light blue, white, brown, orange, gray, violet, and black. All types have 1 conductor. NEC Type CM rated. **Type 1694A** in 500′ spool comes in black only. **Types 1506A** and **1695A** are foam FEP Teflon™ insulated with natural white Flamarrest® jacket for plenum applications. NEC Type CMP rated. Normal impedance for all is 75 ohms.

AWG	O.D.	Cap. pF/ft.	Type	500′ Spool Stock No.	500′ Spool Each	500′ Spool 2-4	500′ Spool 5-9	1000′ Spool Stock No.	1000′ Spool Each	1000′ Spool 2-4	1000′ Spool 5-9
20 Solid	0.235″	16.2	1505A	04F4517	152.15	137.89	123.93	04F4522	272.02	243.17	222.00
20 Solid	0.193″	16.1	1506A	04F4527	397.72	355.53	324.58	04F4528	727.16	649.15	594.45
18 Solid	0.275″	16.2	1694A	04F6730	178.02	161.34	145.00	04F6727	322.68	288.45	263.34
18 Solid	0.234″	16.2	1695A	04F6723	447.43	399.97	365.15	04F6724	818.06	730.29	668.76
23 Solid	0.159″	16.5	1855A*	83F6769	130.41	118.19	106.22	83F6768	236.38	211.31	192.91
25 (19 x 37)	0.150″	16.5	1865A*	83F6773	120.06	108.81	97.79	83F6772	217.62	194.54	177.60
14 Solid	0.405″	16.0	7731A*	83F6771	304.85	272.52	248.79	83F6770	557.38	497.58	455.65

*CMR rated.
(9925) (ne02114)

COMFORMABLE® 50-OHM COAXIAL CABLE

NEW



1671J

Comformable® coax cable is an alternative to semi-rigid and flexible coax for "black box" applications involving internal, head-end wiring of electronic equipment, delay lines, and high-frequency microwave applications. All have TFE Teflon® core insulation and copper-tin composite shield. 100% shield coverage. **Sold in spools of 100′.**

AWG	Nom O.D.	Type	100′ Spools Stock No.	100′ Spools Each	100′ Spools 2-4	100′ Spools 5-9
24 (Solid)	0.87	1671J	83F6761	190.23	170.05	155.25
29 (Solid)	0.127	1672J	83F6762	189.48	169.38	154.64
19 (Solid)	0.178	1673J	83F6763	201.83	182.91	164.39
29 (Solid)	0.047	1674A	83F6764	182.99	165.84	149.05

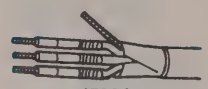
(32795) (ne32795)

AUDIO/VIDEO AND COAXIAL CABLE

75-OHM MINIATURE BUNDLED RGB AND SVHS VIDEO COAXIAL CABLES

Tinned copper conductors. Foam high-density polyethylene insulation. Black PVC jacket. **Types 1520A** and **1522A** are flexible mini-size component video cables that withstand tighter bend radiuses to make installation easier. 3(RBG), 4(RBG/Sync) or 5(RBG/Sync/Hold) stranded tinned copper conductors. Overall Beldfoil® shield and 22 AWG drain wire. NEC type CL2 rated. **Types 1807A** and **1808A** SVHS parallel cables contain two coaxial cables that separate video signal transmissions. Tinned copper serve shield. AWG (Strand): 30 (7 x 38). 7700A is plenum rated (CMP) construction with french brain 98% shield coverage.

NEW



1520A

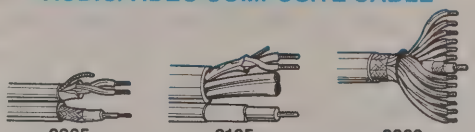
1807A

1808A

Cond.	Nom. O.D.	Cap. pF/Ft.	Type	500′ Spool Stock No.	Each	2-4	5-9	1000′ Spool Stock No.	Each	2-4	5-9
3	0.283″	17.3	1520A	04F4543	300.16	268.32	244.96	04F4544	548.80	489.92	448.64
4	0.310″	17.3	1521A	04F4545	378.02	337.92	308.50	04F4546	691.15	617.00	565.01
5	0.338″	17.3	1522A	04F4547	457.75	409.19	373.57	04F4548	836.92	747.13	684.18
2	0.230″	17.3	1807A	04F6731	186.30	168.84	151.74	04F6732	337.68	301.86	275.58
2	0.214″	17.3	7700A	83F6783	224.19	200.41	182.96	83F6782	448.37	400.81	365.91
2	0.255″	17.3	1808A	04F6733	277.65	248.20	226.59	04F6734	507.64	453.18	415.00
				RISER RATED BUNDLED REG COAXIAL CABLES							
3	0.770″	16.2	1710A	83F6775	813.77	726.46	665.25	83F6774	1627.54	1452.92	1330.50
4	0.843″	16.2	1711A	83F6777	1146.48	1023.48	937.24	83F6776	2046.95	1838.38	1687.30
5	0.942″	16.2	1712A	83F6779	1295.69	1156.67	1059.22	83F6778	2313.35	2077.63	1906.89
10	1.386″	16.2	1713A	83F6781	2166.37	1945.63	1785.73	83F6780	4083.69	3806.35	3568.63

(9924) (ne02115)

AUDIO/VIDEO COMPOSITE CABLE



9265 9165 9262

Ideal for audio and video combination applications, composite cable features Z-Fold™, Beldfoil® and tinned copper braid shielding to significantly reduce both internal and external interference. Durable PVC jacket for outdoor applications.

Nom. Imp. (Ohms)	AWG (Stranding)	Insulation	Shield Coverage	Type	100′ Spool Stock No.	Each	2-4	5-9	500′ Spool Stock No.	Each	2-4	5-9	1000′ Spool Stock No.	Each	2-4	5-9
				ELECTRONIC NEWS GATHERING (ENG) CAMERA CABLE—RG-59/U, NOMINAL OUTSIDE DIAMETER 0.242″ x 0.470″												
35	2 Cond/ 22 (7x30)	PVC	100%	9265 *†	...	...	...	...	03F2163	229.81	205.44	187.55	03F2164	457.75	409.19	373.57
75	1 Coax/ 22 (7x30)	Poly-ethylene	95%													
				ELECTRONIC NEWS GATHERING (ENG) & CLOSED CIRCUIT TV (CCTV) CABLE - RG-59/U, NOMINAL OUTSIDE DIAMETER 0.290″ X 0.561″												
35	3 Pairs/ 22 (7x30)	PVC	100%	9165 *††	...	...	...	...	03F2928	440.76	393.47	360.32	03F3435	879.80	785.41	719.23
75	1 Coax/ 22 (7x30)	Poly-ethylene	95%													
				13-CONDUCTOR REMOTE CONTROL & VIDEO CABLE, NOMINAL OUTSIDE DIAMETER 0.460″												
...	12 Cond/ 20 (7x28)	PVC	80%	9262 *††	04F8951	299.41	267.65	244.35	04F8952	1128.47	1007.40	922.52	04F8953	2008.68	1804.00	1655.75
75	1 Coax/ 22 (7x30)	Poly-ethylene														

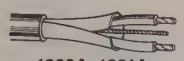
*UL Recognized †NEC Type CL2 ††NEC Type CL2X

(9922) (de51580)

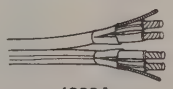
AES/EBU DIGITAL AUDIO CABLE

Stranded tinned copper conductors. Datalene® insulated except **type 1801A** which is foam Teflon™ insulated. Twisted pairs, Beldfoil® aluminum-polyester shields with drain wire. Slate gray PVC jacket except **type 1801A** which has a natural Flamarrest® jacket and **type 1696A** which has a black, high-flex matte PVC jacket. Nominal impedance (Ohms): 110. Data rate: 3Mb/s (single channel); 6Mb/s (dual channel). Impedance: 110 ohm±20%. NEC CM, CSA C FT1 except **type 1801A** which is NEC CMP, CSA PCC FT4 FT6 and **type 1696A** which is not NEC or CSA rated. All types 24 AWG (7 x 32) stranding except **type 1696A** 22 AWG (7 x 30) stranding. The jacket and shield are bonded so that both can be removed with an automatic stripping tool.

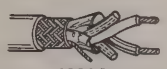
Brilliance®



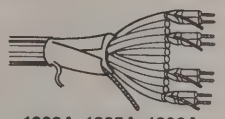
1800A, 1801A



1802A



1696A



1803A, 1805A, 1806A

No. of Pairs	Nom. O.D.	Type	500′ Spool Stock No.	Each	2-4	5-9	1000′ Spool Stock No.	Each	2-4	5-9
1	0.180″	1800A	04F6711	130.41	118.19	106.22	04F6712	234.50	209.63	191.38
1	0.165″	1801A	04F6713	226.06	202.08	184.49	04F6714	452.12	404.16	368.98
2	0.180″	1802A	04F6715	204.49	182.80	166.88	04F6716	408.97	365.59	333.76
1	0.234″	1696A	04F6709	189.48	169.38	154.64	04F6710	378.96	338.76	309.27
			MULTI-PAIR SNAKE CABLE							
4	0.465″	1803A	04F6717	514.50	459.30	420.60	04F6718	1027.29	917.07	839.80
8	0.621″	1805A	04F6719	866.94	773.92	708.72	04F6720	1546.31	1388.75	1274.62
12	0.771″	1806A	04F6721	1509.20	1347.28	1233.76	04F6722	2693.03	2418.63	2219.86

(6120) (de04065)

38-OHM MINIATURE AUDIO INTERCONNECT CABLE

Overall Beldfoil® provides 100% shield coverage. 24 AWG drain wire. Pliable PVC jacket in choice of black, red, green, yellow, or blue. **Type 1503A** also comes in brown, orange, violet, gray and white. NEC type CM rated. 53pF/ft. **Type 1503A:** PVC insulated. **Type 1266A:** polypropylene insulated. AWG (Stranding) = 22 (7 x 30). **Sold in 1000′ spools.**

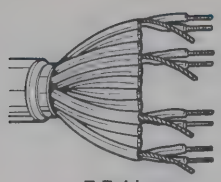
1503A, 1266A

Stock No.	Type	Pairs	Nominal O.D.	Each	2-4	5-9
04F4512	1503A	1	0.142″	97.29	88.18	79.25
05F1851	1266A	1	0.145″	109.71	99.43	89.36

(9921) (de51462)

AUDIO/VIDEO CABLE

BRILLIANCE® HIGH-FLEX, LOW CAPACITANCE MULTI-PAIR AUDIO SNAKE CABLE



Z-Fold
1217B-1222B, 1225B-1226B, 1427B-1428B

22AWG, 7x30 stranded tinned copper, Datalene® insulated twisted pairs. Individual Beldfoil® shielded. Shields and jackets strip simultaneously. Pair jackets are color-coded and alpha-numeric, bidirectionally numbered for easy identification. Nominal capacitance: 19pF/ft. between conductors. Nominal impedance: 70 ohms. Black matte PVC outer jacket. Rated 150V, 60°C.

Pairs	Type	100′ Spool Stock No.	Each	2-4	5-9	1000′ Spool Stock No.	Each	2-4	5-9
4	1217B	05F1778	106.61	96.62	86.83	05F1779	852.36	760.91	696.80
6	1218B	04F6339	150.49	136.39	122.58	04F6340	1190.21	1062.52	972.99
9	1219B	04F6341	190.23	170.05	155.25	04F6342	1680.70	1500.38	1373.96
12	1220B	04F6172	240.69	215.16	196.43	04F6173	1857.11	1667.88	1530.81
16	1222B	04F6343	316.49	282.91	258.28	04F6344	2463.38	2212.38	2030.56
20	1225B	04F6345	407.66	364.42	332.69	04F6346	3172.24	2849.00	2614.87

(6160) (de51458)

BRILLIANCE® 50-OHM CM RATED AUDIO MULTI-PAIR INDIVIDUALLY SHIELDED SNAKE CABLE

8769, 9768, 8774-8778

Tinned copper 22AWG, 7x30 stranded conductors. Twisted pairs, individually Beldfoil® shielded with a Z-Fold™ for greater interference elimination and overall chrome PVC jacket. Nominal capacitance between conductors: 30pF/ft. 30V, 80°C. UL recognized, CSA certified and NEC type CM rated.

No. of Pairs	Nom. O.D.	Type	100′ Spool Stock No.	Each	2-4	5-9	500′ Spool Stock No.	Each	2-4	5-9	1000′ Spool Stock No.	Each	2-4	5-9
3	0.273″	8777	02F5624	36.49	33.60	29.39	02F5626	174.92	158.53	142.47	02F6152	317.05	283.42	258.74
6	0.362″	8778	02F5628	65.00	58.91	52.94	02F6153	294.54	263.29	240.37	02F6154	538.51	480.74	440.23
9	0.417″	8774	02F5632	125.86	114.06	102.51	02F6155	521.36	465.43	426.21	02F6156	1042.72	930.85	852.42
12	0.464″	9768	02F5688	167.26	151.58	136.23	02F5690	692.86	618.53	566.41	02F5691	1385.72	1237.05	1132.82
19	0.603″	8769	02F6160	224.37	200.57	183.11	02F6162	1025.57	915.54	838.40	02F6163	1831.08	1644.50	1509.36

* UnReel® Cardboard Cable Dispenser
(6161) (de51461)

BRILLIANCE® PROFESSIONAL MUSIC/MICROPHONE CABLE

8413

8402, 8412, 8418, 8423-8427

8407

8420, 8422, 9397

8404

1804A

1192A

1172A

Designed for flexibility, service and reliable signal transmission at audio frequencies. Shielded single-conductor cable is used in high impedance systems and multi-conductor cable is used in low impedance applications. Rubber jacketed cable is recommended for abrasion and impact resistance offering extra limpness so cable lies flat. Neoprene and Hypalon® jacketed cable are recommended for outside use, cold weather applications. Sun, oil, and ozone resistant. PVC jacketed cable is recommended for lower capacitance, lower loss, and are lighter weight, smaller in diameter and ozone and oil resistant. **Types 8413, 8406** tinned cadmium bronze conductors, rubber insulated and tinned copper braid shield. **Types 8402, 8407, 8408, 8412, 8418, 8423-27** tinned copper conductors, rubber insulated, rayon and tinned copper braid shields. **Types 8428, 9778** tinned copper conductors, rubber insulated, tinned copper spiral and low noise conductive textile shields. **Type 9397** bare copper conductors, PVC insulated and bar copper double spiral shields. **Type 8420** tinned cadmium bronze conductor, polyethylene insulated, rayon and tinned copper braid shield. **Types 8422, 8403-05** tinned copper conductors, polyethylene insulated, textile and tinned copper braid shields. **Type 1172A** is polyethylene insulated with french braid 95% shield coverage.

		Jacket	Type	100′ Spool Stock No.	Each	2-4	5-9	500′ Spool Stock No.	Each	2-4	5-9	1000′ Spool Stock No.	Each	2-4	5-9
2	24 (45 x 40)		8413	02F4038	76.80	69.60	62.55	02F4044	303.92	271.68	248.03	...	...	...	...
3	24 (45 x 40)		8406	02F4309	137.04	124.20	111.62	02F4310	535.08	477.68	437.43	...	...	...	...
2	20 (26 x 34)		8412	02F3988	67.07	60.79	54.63	02F3992	266.40	238.14	217.41	02F3993	483.63	431.75	395.37
3	20 (26 x 34)		8423	02F3994	118.62	107.50	96.61	02F3996	448.37	400.81	365.91	02F6084	819.77	731.82	670.16
4	20 (26 x 34)	Rubber	8424	02F3998	111.37	100.93	90.71	02F4001	468.07	418.42	381.99	02F6085	855.79	763.97	699.60
5	20 (26 x 34)		8425	02F4003	182.58	165.47	148.71	...	...	...	...	...	...	...	...
6	20 (26 x 34)		8426	02F4005	206.38	187.04	168.10	...	...	...	...	...	...	...	...
7	20 (26 x 34)		8427	02F4007	216.68	193.70	176.83	...	...	...	...	...	...	...	...
8	20 (26 x 34)		8418	02F4012	263.02	235.12	214.65	...	...	...	...	...	...	...	...
2	18 (41 x 34)	Neoprene	8428	02F4009	124.20	112.56	101.16	02F4010	463.05	413.37	378.54	02F4011	926.10	826.74	757.08
4	16 (65 x 34)		8407	02F4212	201.86	180.45	164.74	...	...	...	...	...	...	...	...
2	20 (26 x 34)	DuPont	8402	02F5666	120.48	109.19	98.13	02F5668	465.63	415.67	380.65	...	...	...	...
2	16 (65 x 34)	Hypalon®	8408	02F5670	187.96	170.34	153.09	02F6171	736.60	657.57	602.16	...	...	...	...
4	28 (19 x 40)		1804A	04F6697	89.43	81.05	72.84	04F6698	317.99	284.26	259.51	...	...	...	...
4	26 (30 x 4)		1172A	83F6766	44.05	40.56	35.48	83F6767	191.36	171.06	156.17	...	...	...	...
2	22 (16 x 34)	PVC	8422	02F4026	61.90	56.10	50.42	02F4029	223.25	199.57	182.19	02F4030	442.74	395.78	361.32
3	20 (19 x 32)		8403	02F4031	109.51	99.24	89.19	02F4032	418.35	373.98	341.42	02F4033	764.89	682.83	625.30
4	20 (19 x 32)		8404**	02F4034	109.71	99.43	89.36	02F4036	427.73	382.36	349.07	02F4037	778.61	695.08	636.51

UL Recognized 2094
(6156) (de50642)

45-OHM STEREO DUAL-CHANNEL AUDIO CABLE

1504A

Zip-cord jacketed construction. Dual Beldfoil® shielded twisted pair. PVC insulated stranded tinned copper conductors. Individual chrome PVC jackets are extruded together in a single cable that can be separated. NEC type CL2 rated 57pF/ft. AWG (Stranding): 22 (19 x 34). **Sold in 1000′ spools.**

Stock No.	Type	Pairs	Nominal O.D.	Each	2-4	5-9
04F4526	1504A	2	0.145″ x 0.310″	296.41	264.97	241.90

(6044) (de51463)

AUDIO, MUSIC AND RETRACTABLE CABLE

1-PAIR BELDFOIL® SHIELDED PROFESSIONAL MUSIC CABLE

Tinned copper 24 AWG (19 x 36) stranded conductors, high-density polyethylene insulated twisted pair. Nom O.D.: 0.135″. Stranded tinned copper drain wire. Beldfoil® aluminum-polyester shield. Conductive textile tape to minimize triboelectric noise. Black PVC jacket. 200V, 75°. Capacitance: pF/ft. = 30.

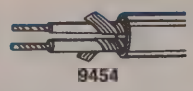
	100′ Spool				500′ Spool				1000′ Spool			
Type	Stock No.	Each	1-4	5-9	Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
9452	03F1660	35.20	32.41	28.35	03F1661	131.45	119.13	107.07	03F1662	238.26	212.98	194.44

AUDIO CONNECTING CABLE

Type 9454: 70°C, low cap. cable. Individually tinned copper spiral wrapped shield. 85% coverage. 2-conductor, 30 AWG (7 x 38) stranding with a Nom. O.D. of 0.160″ x 0.322″.**Type 9264** tear-drop, machine strippable 50 ohm coax; Uni-strand® conductor, polyethylene insulated, Beldfoil® shield, PVC jacket. 1-conductor, 24 AWG (7 x 32) stranding with a Nom. O.D. of 0.122″ x 0.146″. UL recognized. **Type 8416:** 80°C, dual channel with 90% coverage and gray PVC jacket. 2-conductor, 25 AWG (7 x 33) stranding with a Nom. O.D. of 0.106″ x 0.213″. *Passes VW-1 Vertical Wire Flame Test. †36 per channel. Cap.: pF/ft. = 12 (type 9454), 34 (type 9264) and 36† (type 8416).

Type	Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
9454	02F4110	89.64	81.23	73.01	...	...	...	...	...	...	...	...
9264*	...	...	...	...	02F5445	173.88	157.59	141.63	02F5446	315.17	281.74	257.21
8416	02F4205	74.94	67.92	61.04	...	...	...	...	...	...	...	...

(8162) (de51578)


9454

9264

8416

9452

AUDIO SPEAKER WIRE & ZIP CORD

Type 8782 has a voltage rating of 300V/75°C. **Types 9712, 8649, 9708, 9716** have a voltage rating of 300V/75°C. **Types 9151** and **9152** have a voltage rating of 90V/90°C. **Types 8460, 8470,** and **9497** have a voltage rating of 300V/80°C. **Types 9717** and **9718** are 60°C.

TWO-CONDUCTOR SPEAKER WIRE—PARALLEL

AWG (Stranding)	Nom. O.D.	Type	100′ Spool			500′ Spool			1000′ Spool		
			Stock No.	Each	2-4	Stock No.	Each	2-4	Stock No.	Each	2-4
24 (7 x 32)	0.058 x 0.115″	8782	...	...	...	...	...	...	02F4178	62.10	56.28
22 (7 x 30)	0.065 x 0.130″	9712	04F6179	12.96	11.93	...	...	...	...	...	...
20 (7 x 28)	0.073 x 0.146″	8649**	02F6050	15.76	14.52	02F6051	52.79	47.84	02F6052	107.64	97.56
18 (16 x 30)	0.110 x 0.207″	9708	02F4111	22.24	20.48	02F4112	82.80	75.04	02F4113	165.60	150.08
16 (26 x 30)	0.115 x 0.230″	9716	...	...	...	05F1724	119.03	107.87	...	...	...
14 (19 x 27)	0.146 x 0.282″	9717	04F8979	39.73	36.58	04F8980	179.06	162.28	...	...	...
12 (65 x 30)	0.185 x 0.370″	9718	04F8979	39.73	36.58	04F8982	282.34	252.39	...	...	...

TWO-CONDUCTOR SPEAKER WIRE—CABLED

22 (7 x 30)	0.108″	9151*	...	...	...	...	...	...	04F5194	109.71	99.43
20 (10 x 30)	0.126″	9152*	...	...	...	...	...	...	04F5195	130.41	118.19
16 (19 x 29)	0.204″	8470†**	...	...	...	02F5268	115.92	105.06	02F5269	208.24	186.15
16 (19 x 29)	0.206″	9497**	...	...	...	04F8954	110.75	100.37	04F8955	198.86	177.77

*UL listed †UL recognized **Passes VW-1 Vertical Wire Flame Test.
(6158) (de50834)

9151, 9152, 8460, 8470, 9497

9717, 9718

RETRACTILE CABLE

Bare copper conductors, rubber insulated and cabled with fillers. Paper tape wrap. Neoprene jacket.

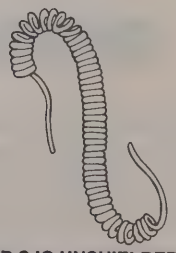
SVO 90°C, UL LISTED, CSA CERTIFIED

Stock No.	Type	AWG (Stranding)	No. of Cond.	Retracted Length	Extended Length	Nom. O.D.	1-9	10-24	25-99
36F1342	8601	18 (41x34)	2	12″	6′	0.270″	10.73	9.86	8.99
36F1241	9476	18 (41x34)	2	24″	12′	0.270″	18.77	17.25	15.73
36F1242	9477	18 (41x34)	2	48″	25′	0.270″	29.49	27.10	24.71
36F1243	9478	18 (41x34)	3	24″	12′	0.275″	24.32	22.35	20.38
36F1244	9479	18 (41x34)	3	48″	25′	0.275″	31.25	28.50	25.74

SJO 90°C, UL LISTED, CSA CERTIFIED

36F1248	9482	18 (41x34)	4	24″	12′	0.385″	31.79	29.21	26.63
36F1249	9483	18 (41x34)	4	48″	25′	0.385″	50.15	45.73	41.30
36F1344	8603	16 (65x34)	3	12″	6′	0.370″	16.09	14.78	13.48
36F1345	9484	16 (65x34)	3	24″	12′	0.370″	31.41	28.86	26.31
36F1247	9485	16 (65x34)	3	48″	25′	0.370″	50.15	45.73	41.30

(6166) (de51986)


SVO AND SJO UNSHIELDED MULTI-CONDUCTOR RETRACTILE CABLE

SHIELDED AND UNSHIELDED SINGLE RETRACTILE CABLE

Types 9468, 9469 solderable tinsel conductors, each are polypropylene insulated, and have a Beldfoil® shield (if shielded). **Types 9466, 8409, 9467, 9465** — tinned copper conductors, nylon insulated and have a spiral copper shield (if shielded). **Types 9499, 8499** – tinned cadmium bronze conductors, rubber insulated and spiral tinned copper shielded. **Type 9472** – bare copper conductor, PVC insulated and spiral shielded. **Types 8497, 9417, 8415, 9415, 8491, 9416, 8490** – five strands tinned copper-covered steel, 16 strands tinned copper conductors, rubber insulated, and Beldfoil® shielded.—

Stock No.	Type	AWG (Stranding)	No. of Conductors	Retracted Length	Extended Length	Nom. O.D.	Jacket Material	1-9	10-24	25-99
36F1107	9468	31 (Tinsel)	1 Shield./2 Unshield.	20″	8.5′	.150″	PVC	25.85	23.76	21.66
36F1108	9469	31 (Tinsel)	4 Unshielded	20″	8.5′	.150″	PVC	22.79	20.94	19.09
36F1109	9466	28 (7x36)	1 Shield./2 Unshield.	11″	6′	.160″	Neoprene	12.62	11.60	10.58
36F1329	8409	28 (7x36)	4 Unshielded	12″	6′	.165″	Neoprene	11.13	10.23	9.32
36F1110	9467	28 (7x36)	1 Shield./4 Unshield.	12″	6′	.175″	Neoprene	15.00	13.78	12.56
87F4303	9465	28 (7x36)	1 Shield./4 Unshield.	15″	7.5′	.175″	Neoprene	16.37	15.05	13.72
36F1111	9499	24 (45x40)	1 Shielded	24″	12′	.170″	Neoprene	20.30	18.65	17.01
36F208	8499	24 (45x40)	1 Shielded	7½″	4′	.170″	Neoprene	8.89	8.17	7.45
36F207	8497	23 (21x36)	1 Shield./2 Unshield.	11½″	6′	.250″	Neoprene	13.79	12.67	11.55
87F4394	9472	23 (21x36)	1 Shield./2 Unshield.	18″	7.5′	.247″	PVC	13.41	12.32	11.23
36F1239	9417	23 (21x36)	1 Shield./2 Unshield.	30″	15′	.250″	Neoprene	29.30	26.92	24.55
36F038	8415	23 (21x36)	4 Unshielded	11½″	6′	.250″	Neoprene	12.45	11.44	10.43
36F1238	9415	23 (21x36)	4 Unshielded	30″	15′	.250″	Neoprene	26.43	24.29	22.14
36F1330	8491	23 (21x36)	2 Shield./2 Unshield.	12″	6′	.275″	Neoprene	16.09	14.78	13.48
36F1240	9416	23 (21x36)	2 Shield./2 Unshield.	30″	15′	.275″	Neoprene	37.92	34.84	31.77
36F1331	8490	23 (21x36)	5 Unshielded	11½″	6′	.265″	Neoprene	13.79	12.67	11.55

(6040) (de50644)

FLEXIBLE CABLE FOR AUTOMATED SYSTEMS

INFINITY™ CABLE - CTC 9 MILLION + FLEX CYCLES

Ultra-flexible, oil, and abrasion-resistant cable ideal for use in automated applications involving extreme flexing. Maximum reliability and durability, even in harsh environments. Voltage rating: 600V. Temperature rating: –40°C to +90°C (static); –5°C to +90°C (flexing). Jacket type: oil-resistant PVC or PUR overall. Jacket color: orange. Color code: Red with numbers, green/yellow ground. UL recognized - 2587 PVC (90°), UL - 2023 PUR (80°), CSA certified - AWM 1 A/B, 1 A/B FTI. **Sold per foot. Cut to your specifications.**

16 AWG (190 x 38)

Cond.	O.D.	Type	Stock No.	Per Foot
2	0.293″	7121A	16F9483	1.73
3	0.311″	7122A	16F9484	2.27
4	0.346″	7123A	16F9485	2.81
5	0.385″	7124A	16F9486	3.35
7	0.480″	7125A	16F9487	4.72
9	0.553″	7126A	16F9488	5.97
12	0.570″	7127A	16F9489	7.50
18	0.669″	7128A	16F9490	10.45
25	0.819″	7129A	16F9491	15.73
18 AWG (114 x 38)				
2	0.265″	7109A	16F9474	1.44
3	0.280″	7110A	16F9475	1.67
4	0.295″	7111A	16F9476	2.00
5	0.332″	7112A	16F9477	2.22
7	0.428″	7113A	16F9478	3.29
9	0.490″	7114A	16F9479	3.91
12	0.513″	7115A	16F9480	5.12
18	0.598″	7116A	16F9481	6.35
25	0.744″	7117A	16F9482	8.84
20 AWG (74 x 38)				
2	0.25″	7100A	16F9465	1.34
3	0.265″	7101A	16F9466	1.51
4	0.303″	7102A	16F9467	1.66
5	0.311″	7103A	16F9468	1.84
7	0.377″	7104A	16F9469	2.65
9	0.442″	7105A	16F9470	3.49
12	0.464″	7106A	16F9471	4.18
18	0.540″	7107A	16F9472	5.08
25	0.673″	7108A	16F9473	7.09

(18031) (ne10296)

INFINITY™ CABLE- FCC 1 MILLION + FLEX CYCLES

Cost-effective alternative for C-track and moderate flexing applications. Oil and abrasion-resistant. Recommended for machine tools, assembly lines, control systems, and other automated applications. Voltage rating: 600V. Temperature rating: –5° to +90°C (static) to –40°C to +°90C (flexing). Jacket type: oil-resistant PVC or PUR overall. Jacket color: gray. Color code: black with numbers, green/yellow ground. UL recognized - 20234 PUR (80°C), CSA certified - AWM 1 A/B 11 A/B FTI. **Sold per foot. Cut to your specifications.**

16 AWG (26 x 30)

Cond.	O.D.	Type	Stock No.	Per Foot
2	0.272″	7421A	16F9517	0.46
3	0.289″	7422A	16F9518	0.60
4	0.317″	7423A	16F9519	0.77
5	0.343″	7424A	16F9520	0.97
7	0.408″	7425A	16F9521	1.25
9	0.540″	7426A	16F9522	1.97
12	0.565″	7427A	16F9523	2.26
18	0.613″	7428A	16F9524	3.25
25	0.722″	7429A	16F9525	4.35
18 AWG (16 x 30)				
2	0.248″	7409A	16F9508	0.30
3	0.267″	7410A	16F9509	0.37
4	0.291″	7411A	16F9510	0.48
5	0.318″	7412A	16F9511	0.60
7	0.375″	7413A	16F9512	0.82
9	0.452″	7414A	16F9513	1.27
12	0.469″	7415A	16F9514	1.49
18	0.560″	7416A	16F9515	2.05
25	0.696″	7417A	16F9516	2.86
20 AWG (10 x 30)				
2	0.224″	7400A	16F9499	0.22
3	0.237″	7401A	16F9500	0.30
4	0.257″	7402A	16F9501	0.37
5	0.280″	7403A	16F9502	0.44
7	0.329″	7404A	16F9503	0.61

CONTINUED

INFINITY™ CABLE- FCC 1 MILLION + FLEX CYCLES (CONT.)

20 AWG (10 x 30) (CONT.)

Cond.	O.D.	Type	Stock No.	Per Foot
9	0.401″	7405A	16F9504	1.24
12	0.417″	7406A	16F9505	1.28
18	0.490″	7407A	16F9506	1.80
25	0.596″	7408A	16F9507	2.64

(18029) (ne10549)

INFINITY™ CABLE - CTC 4 MILLION + FLEX CYCLES

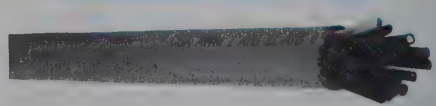
Oil and abrasion-resistant control cable for use in C-track, robotic and other automated systems where a high degree of continuous flexing is encountered. Voltage rating: 600V. Temperature rating: –5°C to +90°C (static); –40°C to +90°C (flexing). Jacket type: oil resistant PVC or PUR overall. Jacket color: yellow. Color code: black with numbers, green/yellow ground. UL recognized - 20234 PUR (80°C), CSA certified AWM 1 A/B 11 A/B FTI. **Sold per foot. Cut to your specifications.**

16 AWG (190 x 38)

Cond.	O.D.	Type	Stock No.	Per Foot
2	0.283″	7021A	16F9456	1.31
3	0.299″	7022A	16F9457	1.41
4	0.329″	7023A	16F9458	1.71
5	0.355″	7024A	16F9459	2.76
7	0.437″	7025A	16F9460	3.29
9	0.512″	7026A	16F9461	3.98
12	0.528″	7027A	16F9462	5.00
18	0.675″	7028A	16F9463	6.86
25	0.795″	7029A	16F9464	9.64
18 AWG (41 x 34)				
2	0.255″	7009A	16F9447	0.83
3	0.269″	7010A	16F9448	1.00
4	0.292″	7011A	16F9449	1.20
5	0.319″	7012A	16F9450	1.37
7	0.349″	7013A	16F9451	2.22
9	0.450″	7014A	16F9452	2.63
12	0.466″	7015A	16F9453	3.45
18	0.586″	7016A	16F9454	4.37
25	0.710″	7017A	16F9455	6.13
20 AWG (26 x 34)				
2	0.235″	7000A	16F9438	0.74
3	0.248″	7001A	16F9439	0.85
4	0.268″	7002A	16F9440	1.26
5	0.292″	7003A	16F9441	1.39
7	0.341″	7004A	16F9442	1.85
9	0.413″	7005A	16F9443	2.27
12	0.425″	7006A	16F9444	2.89
18	0.504″	7007A	16F9445	3.51
25	0.625″	7008A	16F9446	5.63

(18032) (ne10548)

INFINITY™ CABLE - FLEX DATA 1 MILLION + FLEX CYCLES



For industrial applications where precise data transmission is combined with near-constant motion. Ideal for effective operation of computer controlled equipment or other automated production process, even in harsh environments. Voltage rating: 30V. Temperature rating: –20°C to +80°C (static); –5°C to +80°C (flexing). Jacket type: oil-resistant PVC or PUR overall. Jacket color: bright green. Color code: multipar usage chart #5, 1 PR = white/blue. UL recognized - 2532, CSA certified - AWM 1 A/B 11 A/B. **Sold per foot. Cut to your specifications.**

RS-485 / FLEXIBLE LOW CAPACITANCE 24 AWG (41 X 40)

Pair	O.D.	Impedance	Cap/Ft.	Type	Stock No.	Per Foot
1	0.273″	120	< 15pF	7200A	16F9492	1.57
2	0.325″	120	< 15pF	7201A	16F9493	1.88
3	0.345″	120	< 15pF	7202A	16F9494	2.24
4	0.362″	120	< 15pF	7203A	16F9495	2.65
INDUSTRIAL FLEXIBLE TWINAX 24 AWG (41 x 40)						
1	0.211″	78	16.5pF	7204A	16F9496	1.26
1	0.249″	100	13pF	7205A	16F9497	1.42
1	0.291″	150	9pF	7206A	16F9498	1.67

(18030) (ne10550)

PLENUM AND TRAY CABLE

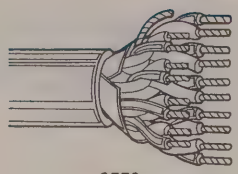
PAIRED SHIELDED TRAY CABLE — UL SUBJECT 13 AND 444

Tinned copper stranded conductors, PVC insulated pairs, except **types 9328-9332, 9368, 9369 and 9388** which are twisted pairs. All with Beldfoil® shield and tinned copper drain wire. Chrome sun-resistant PVC jacket. Multi-pairs are numbered at one-inch intervals; conductor pairs are color-coded black and red. Meets UL Subject 13 (NEC Article 725 Type CL3) for use as tray cable; 300V, 105°C. Meets UL Subject 444 (NEC Article 800 Type CM) for use as communication cable. Meets CSA, PCC and FAS90.

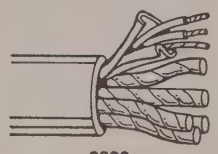
OVERALL SHIELDED-AWG (STRANDING) 22 (7 x 30)

Type	No. of Pairs	Nom. O.D.	500′ Spool Stock No.	500′ Spool Each	500′ Spool 2-4	500′ Spool 5-9	1000′ Spool Stock No.	1000′ Spool Each	1000′ Spool 2-4	1000′ Spool 5-9
9512	2	.310″	03F6100	149.04	135.08	121.40	03F6101	270.15	241.49	220.47
9513	3	.326″	03F6103	185.27	167.91	150.90	03F6104	335.81	300.19	274.05
9514	4	.353″	03F6106	223.25	199.57	182.19	03F6107	446.49	399.13	364.38
9526	19	.631″	03F6121	742.60	662.93	607.07	03F6122	1485.19	1325.85	1214.14
OVERALL SHIELDED-AWG (STRANDING) 18 (19 x 30)										
9552	2	.377″	02F4329	269.21	240.65	219.70	02F6112	492.21	439.40	402.38
9553	3	.420″	03F6130	397.72	355.53	324.58	03F6131	727.16	649.15	594.45
9554	4	.458″	03F6133	436.47	389.64	356.81	03F6134	872.94	779.28	713.62
9556	6	.509″	03F5975	740.88	661.40	605.67	03F5976	1325.70	1183.47	1083.75
9559	9	.591″	03F5978	971.55	867.32	794.24	03F5979	1734.63	1557.88	1429.85
INDIVIDUALLY SHIELDED-AWG (STRANDING) 22 (7 x 30)										
9328	2	.315″	03F5987	187.34	169.78	152.59	03F5988	339.56	303.54	277.12
9329	3	.331″	03F5990	215.74	192.86	176.07	03F5991	431.48	385.71	352.13
9330	4	.360″	03F5993	275.78	246.52	225.06	03F5994	504.21	450.12	412.19
9331	6	.437″	03F5996	427.73	382.36	349.07	03F5997	782.04	698.14	639.32
9332	9	.500″	03F5999	591.68	528.20	483.69	03F6000	1183.35	1056.39	967.38
INDIVIDUALLY SHIELDED-AWG (STRANDING) 18 (19 x 30)										
9368	2	.380″	03F5954	335.81	300.19	274.05	03F5955	613.97	548.10	501.92
9369	3	.423″	03F5957	423.98	379.01	346.01	03F5958	775.18	692.02	633.71
9388	4	.461″	03F5960	505.07	450.88	412.89	03F5961	1010.14	901.76	825.78

(6041) (de50691)



9559



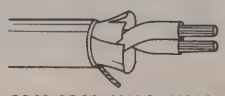
9328

TC 600-VOLT INSTRUMENTATION CABLE

Cable jackets are sunlight resistant, moisture and vapor proof, and nonpropagating. UL Subject 1277; UL 1581 Vertical Tray Flame Test; NEC Type TC listed. **Suffix A** in type # = PVC-nylon insulation, PVC jacket. **Types 9342, 9343** and **9344:** 1 pair, color code = K2 (Blk/Red). **Types 1121A** and **1119A:** 1 triad, color code: K2 (Blk/Blue/Red).

AWG	Nom. O.D.	Type	500′ Spool Stock No.	500′ Spool Each	500′ Spool 2-4	500′ Spool 5-9	1000′ Spool Stock No.	1000′ Spool Each	1000′ Spool 2-4	1000′ Spool 5-9
16	0.301″	9342	03F6029	302.98	270.84	247.26	03F6030	553.95	494.52	452.85
14	0.361″	9343	03F6032	399.59	357.21	326.11	03F6033	730.59	652.21	597.26
12	0.384″	9344	03F6011	488.78	436.34	399.57	03F6012	977.55	872.67	799.14
18	0.292″	1121A	66F7744	127.31	115.38	103.69	66F7743	230.75	206.28	188.32
16	0.317″	1119A	66F7746	170.78	154.77	139.10	66F7745	309.54	276.71	252.62

(6197) (ne06458)



9342-9344, 1119A, 1121A

UNSHIELDED TRAY CABLE—UL SUBJECT 13 AND 444

Spooled, tinned copper stranded cables, PVC insulated. Chrome PVC jacket. Tri-rated cable meets UL Subject 13, 300V, 105°C; Appliance Wiring Material style 2464, 300V 80°C; CSA Appliance Wiring Material, Article 725 NEC, Class 2 & 3 req. Passes UL 1581 Vertical Tray Flame Test. All NEC Type CL3 exc. **types 9491, 9493**: NEC CM. **Types 9316-9322, 9407-9412**: 2 cond. **Types 9491-9494, 9364-9366**: 3 cond.

Type	AWG	Nom. O.D.	500′ Spool Stock No.	500′ Spool Each	500′ Spool 2-4	500′ Spool 5-9	1000′ Spool Stock No.	1000′ Spool Each	1000′ Spool 2-4	1000′ Spool 5-9
1035A	16(7x24)	0.198″	...	...	...	...	04F6149	169.74	153.84	138.26
9316	16 (19x30)	0.257″	03F6061	163.53	148.21	133.20	03F6062	296.41	264.97	241.90
9318	20 (19x30)	0.233″	03F6058	145.94	132.26	118.87	03F6059	264.52	236.46	215.88
9320	20 (19x30)	0.217″	03F6055	119.03	107.87	96.95	03F6056	215.74	192.86	176.07
9322	22 (7x30)	0.201″	03F6052	86.94	78.80	70.82	03F6053	173.88	157.59	141.63
9364	20 (19x30)	0.228″	03F6088	166.64	151.02	135.73	03F6089	302.04	270.00	246.50
9365	18 (19x30)	0.245″	03F6091	195.11	174.41	159.23	03F6092	392.09	350.50	319.98
9366	16 (19x30)	0.270″	03F6094	239.19	213.82	195.21	03F6095	437.33	390.41	357.51
9407	22 (7x30)	0.198″	03F6034	71.42	64.73	58.17	03F6035	142.83	129.45	116.34
9408	20 (7x28)	0.214″	03F6037	104.54	94.74	85.15	03F6038	189.48	169.38	154.64
9409	18 (7x26)	0.226″	03F6040	113.85	103.18	92.73	03F6041	206.36	184.47	168.41
9410	16 (7x24)	0.254″	03F6043	146.97	133.20	119.71	03F6044	266.40	238.14	217.41
9411	14 (42x30)	0.324″	03F6046	204.49	182.80	166.88	03F6047	408.97	365.59	333.76
9412	12 (65x30)	0.424″	03F6049	253.26	226.40	206.69	03F6050	463.05	413.37	378.54
9491	22 (7x30)	0.208″	03F6070	89.01	80.67	72.50	03F6071	178.02	161.34	145.00
9492	20 (7x28)	0.225″	03F6073	121.10	109.75	98.64	03F6074	219.50	196.21	179.13
9493	18 (7x26)	0.242″	03F6076	155.25	140.70	126.45	03F6077	281.40	251.55	229.65
9494	16 (7x24)	0.268″	03F6079	204.49	182.80	166.88	03F6080	408.97	365.59	333.76

(6047) (de51995)

9407-9412

9364-9366, 9491-9494

SHIELDED FIRE ALARM & TRAY CABLE

Beldfoil® aluminum-polyester cable has solid bare copper conductors, stranded tinned copper drain wire and a red PVC jacket. NEC Type FPLR; power limited fire protective signaling circuit cable used in NEC Article 760 power limited circuits. Use as power limited circuit cable in NEC Article 725 Class 2 or 3 circuits, when marked suitable for appropriate tray cable installations. 300V, 105°C. Pass U.L. 70,000 BTU Flame Test. UL recognized 2464; 300V, 80°C.

Type	No. of Cond.	AWG	Nom. O.D.	500′ Spool Stock No.	500′ Spool Each	500′ Spool 2-4	500′ Spool 5-9	1000′ Spool Stock No.	1000′ Spool Each	1000′ Spool 2-4	1000′ Spool 5-9
9574	2	18	0.231″	03F1743	93.15	84.42	75.87	03F1744	186.30	168.84	151.74
9578	4	18	0.263″	03F1745	195.62	177.29	159.33	03F3369	354.57	316.96	289.36
9575	2	16	0.253″	03F1749	169.74	153.84	138.26	03F1750	307.67	275.03	251.09
9579	4	16	0.301″	03F1751	205.97	186.67	167.76	03F3370	373.33	333.73	304.67
9581	2	14	0.309″	03F1755	214.81	192.02	175.30	03F1756	429.61	384.04	350.60

(6064) (ne01693)

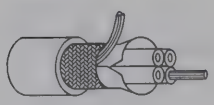
9574, 9575, 9581

9578

9579

VARIABLE FREQUENCY DRIVE CABLE

NEW



Belden VFD cable is 600 volt, UL 1277 Type TC listed, with excellent shielding characteristics. Extremely durable and flexible. NEC Article 340 open wiring, CSA AWM I/II A/B. 90°C. Conductor: flexible, stranded tinned copper. Insulation: XLPE (black numbered with green ground). Shield: overall Beldfoil and 85% tinned copper braid. Jacket: industrial-grade PVC. All cables are three conductors (black numbered) with full-size ground (green).

AWG	O.D.	Type	250′ Spool			500′ Spool			1000′ Spool		
			Stock No.	Each	2-4	Stock No.	Each	2-4	Stock No.	Each	2-4
16	0.490	29500	...	...	...	83F8563	618.26	551.93	83F8562	1236.52	1103.86
14	0.560	29501	...	...	...	83F8565	771.75	688.95	83F8564	1543.50	1377.90
12	0.600	29502	...	...	...	83F8567	965.55	861.96	83F8566	1723.91	1548.25
10	0.670	29503	...	...	...	83F8568	1203.08	1074.00	...	...	...
8	0.910	29504	...	...	...	83F8569	1550.91	1392.88	...	...	...
6	1.00	29505	83F8570	1225.37	1225.37	...	...	...	...	...	...
4	1.15	29506	83F8571	1564.08	1564.08	...	...	...	...	...	...
2	1.31	29507	83F8572	1912.22	1912.22	...	...	...	...	...	...

(33077) (ne33077)

IEEE 802.4 MAP & MINI-MAP/IEEE 802.7 BROADBAND COAXIAL CABLE

3092A, 3093A, 3094A

Nominal impedance: 75Ω. Nominal capacitance: 16.5 pF/ft., 54.1 pF/m.

AWG	Insulation & Nominal Core O.D.	Nominal O.D.	Type	500′ Spool				1000′ Spool			
				Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
18 (Solid) 0.040″ Dia.	Foamed Polyethylene 0.180″ (4.57)	0.298″ (7.57)	3092A	66F7797	198.72	180.10	161.86	66F7798	360.20	321.99	293.96
14 (Solid) 0.064″ Dia.	Foamed Polyethylene 0.280″ (7.11)	0.407″ (10.34)	3094A	66F7801	306.73	274.19	250.32	66F7802	817.31	743.63	670.36
18 (Solid) 0.040″ Dia.	Foamed FEP Teflon® 0.170″ (4.32)	0.273″ (6.93)	3093A (Plenum)	66F7799	655.99	585.61	536.27	66F7800	1311.98	1171.22	1072.53

(6194) (ne06455)

DATABUS™ PROFIBUS CABLE

Z-Fold

3079A

Type 3079A is 300V, 75°C cable. AWG (stranding): 22 solid, 0.0255″ Diameter. Nominal capacitance: 9.0pF/ft., 29.5pF/m. Insulation: cellular polyethylene ted, green.

Nominal O.D.	Nom. Imp.	Type	500′ Spool				1000′ Spool			
			Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
0.315″ (8.00)	150Ω	3079A	...	...	...	...	66F7737	548.80	489.92	448.64

(6192) (ne06453)

DATATRAY™ 600V INDUSTRIAL TWINAX CABLE

Z-Fold®

3072F, 3073F, 3074F

Designed for UL-1277 tray cable (TC) applications. Can occupy same tray or conduit as 600V power and control cables. Meets UL-1277 Type TC/PLTC/CM/CL2 and CSA FT1. All cables use 1 pair of 18 AWG (7 x 26) tinned copper conductors. Insulation is color coded white, blue. Nominal impedance: 78Ω for **type 3073F**,100Ω for **type 3073F** and 124Ω for **type 3074F.** Insulation: FR Polyolefin.

Nom. O.D.	Nom. Cap.	Type	500′ Spool				1000′ Spool			
			Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
.315	22.5pF/ft. 73.8pF/m	3072F	66F7732	336.75	301.03	274.82	66F7731	598.54	534.32	489.30
.370	17.5pF/ft. 57.5pF/m	3073F	66F7734	436.17	389.91	355.96	66F7733	782.04	698.14	639.32
.450	14.0pF/ft. 45.9pF/m	3074F	66F7736	517.93	462.37	423.41	66F7735	1020.43	910.95	834.19

(6189) (ne06450)

DEVICEBUS™ FOR ALLEN-BRADLEY DEVICENET™ CABLE

3082A

3084A

Type 3082A is 300V, 80°C, CSA AWM I/II A/B trunk cable. **Type 3084A** is 150V, 80°C, CSA AWM I/II B drop cable. Nominal impedance: 120Ω. Nominal capacitance: 12.

AWG (Stranding)	Insulation	Nominal O.D.	Type	500′ Spool				1000′ Spool			
				Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
2-15 (19 x 27) 0.067″ Dia. 2-18 (19 x 30) 0.046″ Dia.	Power Pair PVC/Nylon Black/Red Data Pair Cellular PE Blue/White	0.480″ (12.2)	3082A	66F7789	507.64	453.18	415.00	66F7790	1015.28	906.36	829.99
2-22 (19 x 34) 0.030″ Dia. 2-24 (19 x 36) 0.025″ Dia.	Power Pair PVC/Nylon Black/Red Data Pair Cellular PE Blue/White	0.275″ (7.0)	3084A	66F7791	287.97	257.42	235.01	66F7792	526.51	470.02	430.42

(6190) (ne06451)

INDUSTRIAL AUTOMATION CABLE

DEVICEBUS™ CABLE FOR HONEYWELL SDS™

Type 3086A is 30V, 80°C, UL AWM 2990, CSA AWM I/II A/B trunk cable. **Type 3087A** is 30V, 80°C, UL AWM 2990, CSA AWM I/II A/B drop cable. Nominal impedance: 120Ω. Nominal capacitance: 12.0 pF/ft., 39.4 pF/m.

AWG (Stranding)	Insulation	Nominal O.D.	Type	500′ Spool				1000′ Spool			
				Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
2-16 (19 x 27) 0.067″ Dia. 2-20 (19 x 32) 0.041″ Dia.	Power Pair PVC Black/White Data Pair Cellular PE Blue/Brown	0.410″ (10.4)	3086A	66F7793				66F7794			
2-22 (19 x 34) 0.030″ Dia. 2-22 (19 x 34) 0.030″ Dia.	Power Pair PVC Black/White Data Pair Cellular PE Blue/Brown	0.290″ (7.4)	3087A	66F7795				66F7796			

(6191) (ne06452)

3086A, 3087A

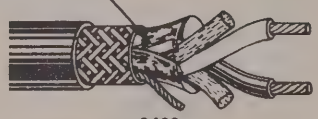
INDUSTRIAL TWINAXIAL CABLE FOR PLCs AND DCSs

Suitable for programmable logic control systems (PLCs) and distributed control systems (DCSs). Belden Blue Hose™ cables are suitable for Allen-Bradley PLC systems. **Types 9463, 129463, 139463, YQ28763** have a AWG (Stranding) of 20 (7 x 28) and **types 9182** and **89182** of 22 (19 x 34). All types have a nominal impedance of 78Ω, except **types 9182** and **89182** which are 150Ω.

INDUSTRIAL TWINAX CABLE FOR PLCs AND DCSs

Insulation & Nominal Core O.D.	Nominal Cap.	Type	500′ Spool				1000′ Spool			
			Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
Polyethylene Clear, Blue 0.150″ (3.81)	19.7pF/ft.	9463	70B5512	187.34	169.78	152.59	03F5678	258.47	238.20	226.25
Datalene® Black, Yellow 0.275″ (6.98)	8.8pF/ft.	9182	03F1688	373.33	333.73	304.67	03F1689	682.57	609.34	558.00
Teflon® Blue, White 0.278″ (7.06)	8.8pF/ft.	89182 Plenum	04F5205	838.64	748.66	685.58	04F5206	1677.27	1497.32	1371.16

Z-Fold®



9463

9182

89182

BELDEN BLUE HOSE™ CABLES FOR ALLEN-BRADLEY DH, DH+ AND REMOTE I/O SYSTEMS

Insulation	Jacket	Type	500′ Spool				1000′ Spool			
			Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
Polyethylene Blue, Clear	Blue PVC	129463	66F7726	583.10	520.54	476.68	66F7725	1166.20	1041.08	953.36
Polyethylene Blue, Clear	Blue PVC	139463	66F7728	595.97	532.03	487.20	66F7727	1191.93	1064.05	974.39
FEP Blue, Clear	Blue FEP	YQ28763 (Plenum)	66F7730	489.64	437.10	400.28	66F7729	979.27	874.21	800.55

(6188) (ne06449)

EIA INDUSTRIAL RS-485 CABLE

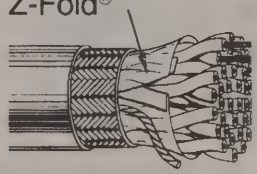
Tinned copper, Datalene® insulated, twisted pairs. 22 AWG (7 x 30) stranded tinned copper drain wire. Black UV-resistant PVC jacket. Nom. imped.: 120Ω. Nom. cap.: 11.0pF/ft* 36.1pF/m*; 20.0pF/ft.** 65.6pF/m**.

Nominal O.D.	Type	500′ Spool				1000′ Spool			
		Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
0.286″ (7.26)	3105A	66F7740	203.55	181.96	166.12	66F7739	407.10	363.91	332.23
0.299″ (7.59)	3106A	66F7742	221.37	197.89	180.66	66F7741	442.74	395.78	361.32

*Capacitance between conductors
**Capacitance between one conductor and other conductors connected to shield.

(6193) (ne06454)

Z-Fold®



3105A, 3106A

MASS-TER® MASS TERMINATION CABLE

Mass-ter®, multi-pair cable offers the construction advantages of both flat and round cable under one PVC jacket. 28AWG (7x36) stranded tinned copper conductors. 18″ of unlaminated twisted pairs separated by 2″ of laminated flat cable sections on 0.050″ centers for mass termination. PVC insulated and jacketed. Rated: 300V/105°C. NEC Type CL2; UL recognized.

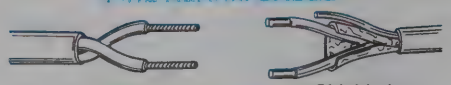
9M281XX SERIES 0.050″ UNSHIELDED

Stock No.	Type	No. Pairs	Overall Diameter Over Laminated Sections	100′ Spool		
				Each	2-4	5-9
04F5992	9M28126	13	0.350″	113.44	102.81	92.40
04F5993	9M28134	17	0.385″	147.39	133.58	120.05
04F5994	9M28140	20	0.415″	175.75	159.28	143.15
04F5995	9M28150	25	0.455″	196.80	175.92	160.61
04F5996	9M28160	30	0.495″	237.32	212.14	193.68
04F5997	9M28164	32	0.500″	252.33	225.56	205.92
9M283XX SERIES 0.050″ SHIELDED						
98F7789	9M28326	13	0.380″	134.97	122.32	109.93
05F1276	9M28334	17	0.410″	177.40	160.78	144.49
05F1277	9M28340	20	0.440″	187.79	167.87	153.26
03F7126	9M28350	25	0.480″	235.82	210.80	192.45
05F1278	9M28360	30	0.510″	280.84	251.05	229.19
05F1279	9M28364	32	0.520″	298.85	267.15	243.89

(6164) (de51855)

SOUND, SECURITY AND ALARM CABLE

FIRE ALARM CABLE



Unshielded Shielded

UNSHIELDED RISER CABLE

Belden New Generation cable protects against system failures. For high reliability applications like fire and security alarm systems Belden New Generation cable is the best choice. Applications include: fire protective, alarm, signal, and monitor/detection. Solid bare copper conductors, PVC insulation, red PVC jacket with ripcord, sequential footage marked. UL Type FPLR, NEC article 760, 75°C, California State Fire Marshall approved. **Sold in spools of 1000′.**

Stock No.	Type	AWG	No. of Cond.	Nom. O.D.	Each	2-4	5-9
83F7011	5120UL	14	2	0.213″	165.60	150.08	134.88
83F7012	5220UL	16	2	0.174″	105.57	95.68	85.99
83F7013	5320UL	18	2	0.151″	78.66	71.29	64.07
83F7014	5322UL	18	4	0.176″	132.48	120.07	107.91
OVERALL SHIELDED RISER CABLE—BELDFOIL SHIELD APPLIED OVERALL WITH DRAIN WIRE							
83F7042	5120FL	14	2	0.217″	194.58	176.35	158.49
83F7015	5220FL	16	2	0.178″	134.55	121.94	109.59
83F7016	5320FL	18	2	0.155″	105.57	95.68	85.99

UNSHIELDED PLENUM CABLE

Solid bare copper conductors. Flamarrest insulation, red Flammarrest jacket with ripcord, sequential footage marked. UL Type FPLP, NEC Article 760, 75°C, California State Fire Marshall approved. **Sold in spools of 1000′.**

83F7017	6320UL	18	2	0.151″	122.13	110.69	99.48
PLENUM OVERALL SHIELDED CABLE—BELDFOIL SHIELD APPLIED OVERALL WITH DRAIN WIRE							
83F7018	6320FL	18	2	0.158″	149.04	135.08	121.40

(39576) (ne39576)

SECURITY/ALARM CABLE

543945

UNSHIELDED MULTICONDUCTOR RISER CABLE

Belden New Generation cable provides dependability in your security and alarm systems. Applications include: security systems, intercom/PA systems, sound/audio, power limited controls. UL listed Type CMR (22-16 AWG) or CL3R (14-12 AWG), NEC Articles 800 and 725, 75°C. **Sold in spools of 1000′.**

Stock No.	Type	AWG (Stranding)	No. of Cond.	Nom. O.D.	Each	2-4	5-9
83F7019	5200UE	16 (19 x 29)	2	0.182″	122.13	110.69	99.48
83F7020	5300UE	18 (7 x 26)	2	0.161″	86.94	78.80	70.82
83F7046	5302UE	18 (7 x 26)	4	0.188″	151.11	136.95	123.08
83F7021	5500UE	22 (7 x 30)	2	0.128″	45.34	41.75	36.52
83F7022	5502UE	22 (7 x 30)	4	0.148″	70.38	63.79	57.33
83F7037	5504UE	22 (7 x 30)	6	0.177″	122.13	110.69	99.48
OVERALL SHIELDED RISER CABLE—BELDFOIL SHIELD APPLIED OVERALL WITH A DRAIN WIRE							
83F7024	5000FE	12 (19x 25)	2	0.270″	296.41	264.97	241.90
83F7032	5200FE	16 (19 x 29)	2	0.186″	159.39	144.46	129.83
83F7025	5300FE	18 (7 x 26)	2	0.165″	122.13	110.69	99.48
83F7033	5301FE	18 (7 x 26)	3	0.175″	146.97	133.20	119.71
83F7041	5302FE	18 (7 x 26)	4	0.192″	182.16	165.09	148.37
83F7045	5400FE	20 (7 x 28)	2	0.145″	95.22	86.30	77.56
83F7038	5502FE	22 (7 x 30)	4	0.151″	111.78	101.31	91.05

UNSHIELDED MULTICONDUCTOR PLENUM CABLE

Stranded bare copper conductors. PVC insulation, gray PVC jacket with ripcord. Sequential footage marked. UL listed Type CMP (22-16 AWG) or CL2P (14-12 AWG), NEC Articles 800 and 725, 75°C. **Sold in spools of 1000′.**

Stock No.	Type	AWG (Stranding)	No. of Cond.	Nom. O.D.	Each	2-4	5-9
83F7043	6200UE	16 (19 x 29)	2	0.178″	192.51	174.47	156.80
83F7023	6300UE	18 (7 x 26)	2	0.157″	134.55	121.94	109.59
83F7039	6301UE	18 (7 x 26)	3	0.168″	173.88	157.59	141.63
83F7030	6302UE	18 (7 x 26)	4	0.186″	195.11	174.41	159.23
83F7036	6502UE	22 (7 x 30)	4	0.143″	149.04	135.08	121.40
OVERALL SHIELDED PLENUM CABLE—BELDFOIL SHIELD APPLIED OVERALL WITH DRAIN WIRE							
83F7026	6300FE	18 (7 x 26)	2	0.164″	175.95	159.46	143.31
83F7044	6301FE	18 (7 x 26)	3	0.175″	200.74	179.44	163.82
83F7034	6302FE	18 (7 x 26)	4	0.191″	245.76	219.69	200.57
83F7031	6400FE	20 (7 x 28)	2	0.145″	157.32	142.58	128.14
83F7027	6500FE	22 (7 x 30)	2	0.131″	136.62	123.82	111.28
83F7040	6502FE	22 (7 x 30)	4	0.150″	180.09	163.22	146.69

NON-PLENUM CCTV/CATV COAXIAL CABLE

Bare copper conductors. Black PVC jacket. Insulation: polyolefin. UL listed Type CM, 75°C. **Type 643948** has foam FEP insulation and a natural Flamarrest jacket. **Sold in spools of 1000′.**

Stock No.	Type	AWG	Description	Nom. O.D.	Nom. Imped.	Each	2-4	5-9
83F7028	543945	20	RG 59/U	0.232″	75ω	163.53	148.21	133.20
83F7047	533945	18	RG 6/U	0.266″	75ω	193.23	172.74	157.70
PLENUM CCTV/CATV COAXIAL CABLE								
83F7029	643948	20	RG 59/U	0.1936″	75ω	588.25	525.14	480.89

(39577) (ne39577)

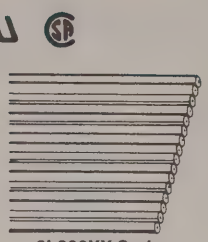
FLAT CABLE AND HOOK-UP WIRE KITS

GRAY RIBBON CABLE

9L280XX SERIES 0.050″ (1.27) PITCH UNSHIELDED

28 AWG stranded 7x36 tinned copper conductors. Gray PVC insulation with red polarity stripe. CSA certified T1. 300Vrms. 1 AMP. 105 ohm impedance. –40°C to +105°C. UL 2651. **Sold in 100′ spools.**

Stock No.	Type	No. of Conductors	Nominal Width	Each	2-4	5-9
04F5527	9L28009-H100-8	9	0.45″ (11.43)	13.39	12.33	10.79
02F5105	9L28010-H100-8	10	0.50″ (12.70)	15.12	13.92	12.18
02F5106	9L28014-H100-8	14	0.70″ (17.78)	20.95	19.29	16.87
04F5528	9L28015-H100-8	15	0.75″ (19.05)	22.46	20.68	18.09
02F5107	9L28016-H100-8	16	0.80″ (20.32)	23.97	22.07	19.31
02F5108	9L28020-H100-8	20	1.00″ (25.40)	29.80	27.44	24.00
02F5109	9L28024-H100-8	24	1.20″ (30.48)	35.84	33.00	28.87
02F5110	9L28025-H100-8	25	1.25″ (31.75)	40.59	37.38	32.70
02F5111	9L28026-H100-8	26	1.30″ (33.02)	38.87	35.79	31.31
02F5112	9L28034-H100-8	34	1.70″ (43.18)	50.96	46.92	41.04
03F5892	9L28036-H100-8	36	1.80″ (45.72)	52.17	47.28	42.49
02F5165	9L28037-H100-8	37	1.85″ (46.99)	53.00	48.03	43.17
02F5166	9L28040-H100-8	40	2.00″ (50.80)	57.96	52.53	47.21
02F5167	9L28050-H100-8	50	2.50″ (63.50)	72.04	65.29	58.68
02F5168	9L28060-H100-8	60	3.00″ (76.20)	86.32	78.23	70.31
03F7825	9L28064-H100-8	64	3.20″ (81.28)	91.91	83.30	74.86

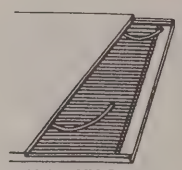


9L280XX Series

9L283XX SERIES 0.050″ (12.70) PITCH BELDFOIL® SHIELDED, PVC JACKETED

Tinned copper conductors with overall Beldfoil® aluminum-polyester shield. 28 AWG stranded 7x36 tinned copper conductors. 300Vrms. 1AMP 45 ohm impedance. –20°C to +105°C. Two 28 AWG drain wires. Black PVC jacket. UL 20081. **Sold in 100′ spools.**

Stock No.	Type	No. of Conductors	Nominal Width	1-4	5-9	10-24
03F5894	9L28309-100-10	9	0.55″ (13.97)	97.71	88.55	79.58
81F6126	9L28310-100-10	10	0.60″ (15.24)	108.47	98.31	88.35
81F6128	9L28315-100-10	15	0.85″ (21.59)	162.29	147.08	132.19
81F6129	9L28320-100-10	20	1.10″ (27.94)	196.80	175.92	160.61
81F6131	9L28325-100-10	25	1.35″ (34.29)	244.82	218.85	199.80
81F6132	9L28326-100-10	26	1.40″ (35.56)	255.33	228.24	208.37
81F6133	9L28334-100-10	34	1.80″ (45.72)	333.37	298.01	272.06
03F5893	9L28336-100-10	36	1.90″ (48.26)	352.88	315.45	287.99
81F6134	9L28337-100-10	37	1.95″ (49.53)	361.88	323.50	295.33
81F6135	9L28340-100-10	40	2.10″ (53.34)	391.90	350.33	319.83
81F6136	9L28350-100-10	50	2.60″ (66.04)	447.45	399.44	365.79
81F6137	9L28360-100-10	60	3.10″ (78.74)	536.80	479.21	438.83
04F4995	9L28364-100-10	64	3.30″ (83.82)	572.47	511.05	467.99



9L283XX Series

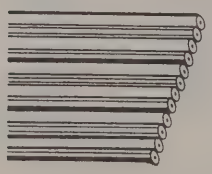
(6112) (de01420)

RAINBOW FLAT CABLE

9R280XX SERIES 0.050″ (12.70) PITCH PVC INSULATED

Tinned copper conductors. PVC pre-insulated color-coded 28 AWG stranded (7x36) conductors laminated to clear PVC film. 150 ohms.UL 2884. **Sold in 100′spools.**

Stock No.	Type	No. of Conductors	Nominal Width	Each	2-4	5-9
04F4979	9R28010-100-0	10	0.50″ (12.70)	36.71	33.80	29.57
04F4980	9R28014-100-0	14	0.70″ (17.78)	51.82	47.72	41.74
04F4981	9R28016-100-0	16	0.80″ (20.32)	57.14	51.78	46.54
04F4982	9R28020-100-0	20	1.00″ (25.40)	70.38	63.79	57.33
04F4983	9R28024-100-0	24	1.20″ (30.48)	84.46	76.54	68.79
04F4984	9R28025-100-0	25	1.25″ (31.75)	88.60	80.30	72.16
04F4985	9R28026-100-0	26	1.30″ (33.02)	91.91	83.30	74.86
04F4986	9R28034-100-0	34	1.70″ (43.18)	119.24	108.06	97.12
04F4987	9R28036-100-0	36	1.80″ (45.72)	126.90	115.00	103.36
04F4988	9R28037-100-0	37	1.85″ (46.99)	130.83	118.57	106.56
04F4989	9R28040-100-0	40	2.00″ (50.80)	140.97	127.76	114.82
04F4990	9R28050-100-0	50	2.50″ (63.50)	177.40	160.78	144.49
04F4999	9R28060-100-0	60	3.00″ (76.20)	192.11	171.73	156.78
04F5011	9R28064-100-0	64	3.20″ (81.28)	204.30	182.63	166.73



(6113) (de01421)

HOOK-UP WIRE DISPENSER KITS

Ideal for R&D labs, engineers and technicians. Choose kits containing five 100′ spools or eight 25′ spools of popular hook-up wire; each spool a different color. Spools come in portable dispenser rack, convenient for field work, for workbench or wall mount use. Passes VW-1 vertical wire flame test.

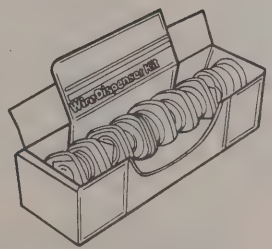
KITS OF FIVE 100-FOOT SPOOLS

Stock No.	Type	Wire	Colors	Each	2-4	5-9
36F2159	9531-0-0	22AWG, (7x30) Stranded, Tinned PVC (8524-100)	Red, Green, White, Light Blue, Black	69.35	62.85	56.49
36F182	8825-0-0	20AWG, (7x28) Stranded, Tinned PVC (8502-100)	Red, Green, White, Yellow, Black	87.98	79.73	71.66

KITS OF EIGHT 25-FOOT SPOOLS

36F181	8824-0-0	20AWG, (10x30) Stranded, Tinned PVC (8523-25)	Brown, White Black, Orange, Green, Red, Lt. Blue, Yellow	63.14	57.22	51.43
36F1350	8816-0-0	18AWG, (16x30) Stranded, Tinned PVC (8522-25)	Brown, White, Black, Orange, Green, Red, Lt. Blue, Yellow	66.24	60.04	53.96

VW-1



Custom create a hook-up wire kit. Select hook-up wire, 5-100′ spools, or 8-25′ spools, choice of colors and assemble on **type 8800** dispenser rack.

Stock No.	Type	Description	Each	2-4	5-9
94F3657	8800-0-0	Dispenser Rack	10.37	9.55	8.35

(6157) (de50833)

HOOK-UP WIRE

PVC INSULATED HOOK-UP WIRE

All hook-up wire on this page have either tinned copper conductor insulated with extruded PVC or stranded silver-coated conductor insulated with extruded TFE Teflon®. PVC is flame and ozone resistant, as well as inert to most chemicals, oils, and solvents. Teflon® is a fluorinated thermoplastic with thermal, physical, and electrical properties. *For colors, see color coding chart on this page.*

UL STYLE 1007 300V, 80°C; PASSES VW-1 VERTICAL WIRE FLAME TEST—INSULATION THICKNESS 0.016″

Rated –10°C to +80°C, 300V. Rated 600V peak for electronic circuits, and internal wiring of electronic and electrical equipment.

AWG (Stranding)	Nom. O.D.	Stock Colors	Type	1-4	5-9	10-24	1-4	5-9	10-24
30 (7 x 38)	0.044″	1-5, 7-10, 13	9930	11.66	10.74	9.39	74.52	67.54	60.70

DUAL RATED UL STYLE 1007 300V, 80°C AND 1569 300V, 105°C; CSA TYPE TR-64, 90°C AND CSA TYPE TRSR-64, 105°C—INSULATION THICKNESS 0.16″

Rated –10°C to + 105°C, 300V. Rated 600V peak for electronic circuits, and internal wiring of electronic and electrical equipment. (*) 5000′ spools available.

AWG (Stranding)	Nom. O.D.	Stock Colors	Type	1-4	5-9	10-24	1-4	5-9	10-24
28 (7 x 36)	0.047″	1-5, 7, 9, 10, 13	9928	11.01	10.14	8.87	68.31	61.91	55.64
26 (7 x 34)	0.051″	1-5, 9, 10, 13	9926	11.66	10.74	9.39	70.38	63.79	57.33
24 (7 x 32)	0.056″	1-5, 7-10, 13	9923	12.09	11.14	9.74	74.52	67.54	60.70
22 (7 x 30)	0.062″	1-5, 7-10, 13	9921	13.61	12.53	10.96	86.94	78.80	70.82
20 (7 x 28)	0.069″	1-5, 7-10, 13	9919	16.63	15.31	13.39	105.57	95.68	85.99
18 (16 x 30)	0.079″	1-5, 7-10, 13	9918*	17.71	16.31	14.26	117.99	106.94	96.11
16 (26 x 30)	0.092″	1-5, 7-10, 13	9916	25.05	23.06	20.18	175.95	159.46	143.31

UL STYLE 1015 600V, 105°C; CSA TYPE TEW; PASSES VW-1 VERTICAL WIRE FLAME TEST—INSULATION THICKNESS 0.031″

Rated –10°C to + 105°C, 600V. Rated 2500V peak for electronic circuits, and internal wiring of electronics and electrical equipment. (*) 5000′ spools available.

AWG (Stranding)	Nom. O.D.	Stock Colors	Type	1-4	5-9	10-24	1-4	5-9	10-24
24 (7 x 32)	0.088″	1-5, 9, 10, 13	9924	13.82	12.73	11.13	91.08	82.55	74.19
22 (7 x 30)	0.093″	1-5, 9, 10, 13	8920*	14.69	13.52	11.83	99.36	90.05	80.93
20 (10 x 30)	0.100″	1-5, 9, 10, 13	8919	18.36	16.90	14.79	124.20	112.56	101.16
18 (16 x 30)	0.110″	1-5, 9, 10, 13, 15	8918*	22.67	20.88	18.26	149.04	135.08	121.40
16 (26 x 30)	0.123″	1-5, 9, 10, 13	8917*	27.42	25.25	22.09	195.11	174.41	159.23
12 (65 x 30)	0.158″	1-5, 9, 10, 13	9912	61.07	55.35	49.74	...	...	...
10 (65 x 28)	0.180″	2, 4, 9, 10	9910	87.98	79.73	71.66	...	...	...

UL STYLE 1026 600V, 105°C; CSA TYPE TEW; PASSES VW-1 VERTICAL WIRE FLAME TEST—INSULATION THICKNESS 0.010″

AWG (Stranding)	Nom. O.D.	Stock Colors	Type	1-4	5-9	10-24	1-4	5-9	10-24
8 (84 x 27)	0.250″	2, 4, 9, 10	9908	151.11	136.95	123.08	...	...	...

UL STYLE 1061 300V, 80°C; CSA TYPE AWM—INSULATION THICKNESS 0.010″

Solid conductors suitable for wire wrap applications.

AWG (Stranding)	Nom. O.D.	Stock Colors	Type	1-4	5-9	10-24	1-4	5-9	10-24
30 Solid	0.030″	1-5, 7-10, 13	9978	10.37	9.55	8.35	66.24	60.04	53.96
30 (7 x 38)	0.032″	2, 7, 8-10	9987	11.66	10.74	9.39	74.52	67.54	60.70
28 Solid	0.033″	1-5, 7-10, 13	9977	8.64	7.96	6.96	55.89	50.66	45.53
28 (7 x 36)	0.035″	1-5, 7-10, 13	9986	11.01	10.14	8.87	68.31	61.91	55.64
26 Solid	0.036″	1-5, 7-10, 13	9976	7.56	6.96	6.09	47.50	43.74	38.26
26 (7 x 34)	0.039″	1-5, 7-10, 13	9985	11.66	10.74	9.39	70.38	63.79	57.33
24 Solid	0.040″	1-5, 7-10, 13	9975	7.99	7.36	6.44	51.82	47.72	41.74
24 (7 x 32)	0.044″	1-5, 7-10, 13	9984	12.09	11.14	9.74	74.52	67.54	60.70
22 (7 x 30)	0.050″	1-5, 7-10, 13	9983	13.39	12.33	10.79	78.66	71.29	64.07
20 (7 x 28)	0.058″	1-5, 7-10, 13	9982	16.63	15.31	13.39	93.15	84.42	75.87
18 (19 x 30)	0.066″	1-5, 7-10, 13	9981	17.49	16.11	14.09	117.99	106.94	96.11
16 (19 x 28)	0.078″	1-5, 7-10, 13	9980	22.24	20.48	17.92	157.32	142.58	128.14

TYPE B MIL-W-16878/1-PVC 600V, 105°C; PASSES VW-1 VERTICAL WIRE FLAME TEST—INSULATION THICKNESS 0.010″

AWG (Stranding)	Nom. O.D.	Stock Colors	Type	1-4	5-9	10-24	1-4	5-9	10-24
28 (7 x 36)	0.035″	1-10	8597	13.39	12.33	10.79	80.73	73.17	65.76
26 (7 x 34)	0.039″	1-10, 14-22	8505	13.39	12.33	10.79	86.94	78.80	70.82
24 (7 x 32)	0.044″	1-10, 14-22	8504	13.61	12.53	10.96	82.80	75.04	67.44
22 (7 x 30)	0.050″	1-10, 14-22	8503	14.69	13.52	11.83	86.94	78.80	70.82
20 (7 x 28)	0.058″	1-10, 14-16, 18-21	8502	18.36	16.90	14.79	105.57	95.68	85.99
18 (7 x 26)	0.068″	1-10, 14-22	8501	19.65	18.09	15.83	136.62	123.82	111.28
16 (19 x 29)	0.079″	1-10, 14-22	8500	25.05	23.06	20.18	180.09	163.22	146.69

TYPE MW MIL-W-76C-PVC 1000V, 80°C; PASSES VW-1 VERTICAL WIRE FLAME TEST

Insulation thickness 0.017″ except **type 8520**, 0.018″; **type 8521**, 0.019″; and **type 8527**, 0.020″.

AWG (Stranding)	Nom. O.D.	Stock Colors	Type	1-4	5-9	10-24	1-4	5-9	10-24
24 (7 x 32)	0.058″	1-22	8525	13.17	12.13	10.61	78.66	71.29	64.07
22 Solid	0.059″	1-13	8530	12.74	11.73	10.26	74.52	67.54	60.70
22 (7 x 30)	0.064″	1-22	8524	14.47	13.32	11.66	93.15	84.42	75.87
20 Solid	0.066″	1-13	8529	14.69	13.52	11.83	91.08	82.55	74.19
20 (10 x 30)	0.070″	1-22	8523	17.28	15.91	13.92	105.57	95.68	85.99
18 (16 x 30)	0.080″	1-22	8522	19.65	18.09	15.83	134.55	121.94	109.59
16 (26 x 30)	0.098″	1-22	8521	28.50	26.25	22.96	196.65	178.22	160.17
14 (41 x 30)	0.111″	1-20, 22	8520	39.30	36.19	31.65	279.53	249.88	228.12
12 (65 x 30)	0.128″	1-10	8527	57.96	52.53	47.21	401.47	358.88	327.64

(6218) (ne50673)

COLOR CODING-Specify color when ordering. First color in stripe combination is body color, second is tracer color.

1. Brown	4. Yellow	7. Violet	10. Black	13. Dark Blue	14. White/Black	17. White/Yellow	20. White/Orange
2. Red	5. Green	8. Gray	11. Tan		15. White/Red	18. White/Blue	21. White/Gray
3. Orange	6. Light Blue	9. White	12. Pink		16. White/Green	19. White/Brown	22. White/Violet

(6227) (ne53174)

SPECIAL APPLICATION & TEST PROD WIRE

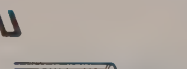
TEST PROD WIRE

Stranded tinned-copper conductors, separator wrapping, red or black rubber insulated. **Type 8898** and **type 8899** AWG 18 (65x36). **Type 9899** is PVC insulated, AWG 18 (65x36) and UL recognized. Working voltages listed in table below are AC rms values. **Type 8897** is manufactured per MIL-W-13169B specs AWG 18 (65x36); **type 8890** is miniature wire, AWG 24 (45x40).

Color	Nominal O.D.	Working Voltage	Type	100′ Spool				500′ Spool			
				Stock No.	1	2-4	5-9	Stock No.	1	2-4	5-9
Red	0.229″	10000	8898-100-2	02F3950	52.90	48.71	42.61	02F3952	189.48	169.38	154.64
Black	0.229″	10000	8898-100-10	02F3953	52.90	48.71	42.61	02F3955	189.48	169.38	154.64
Red	0.144″	5000	8899-100-2*	02F3961	38.43	35.39	30.96	02F3963	135.59	122.88	110.44
Black	0.144″	5000	8899-100-10*	02F3967	38.43	35.39	30.96	02F3972	135.59	122.88	110.44
Red	0.144″	5000	...	...	...	...	...	02F4210	199.76	181.04	162.70
Black	0.144″	5000	...	...	...	...	...	02F4211	199.76	181.04	162.70
Red	0.144″	5000	9899-100-2	04F3319	32.39	29.82	26.09	04F3321	127.31	115.38	103.69
Black	0.144″	5000	9899-100-10	04F3320	32.39	29.82	26.09	04F3322	127.31	115.38	103.69
Red	0.066″	1000	8890-100-2	02F3979	25.48	23.46	20.52	02F3981	104.54	94.74	85.15
Black	0.066″	1000	8890-100-10	02F3976	25.48	23.46	20.52	02F3978	104.54	94.74	85.15

***Type 8899** available in 10′, 25′ and 1000′ spools; **Type 8890** and **Type 8898** available in 25′ spools; *contact your local Newark sales office for details.*

(6163) (de51805)



8897, 8890

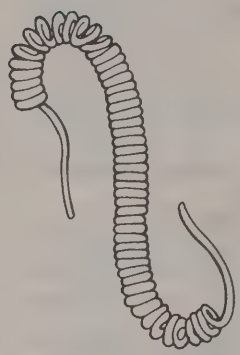
9899, 8898, 8899

INTERMITTENT-DUTY RETRACTILE TEST PROD WIRE

"Standard Package: 1 pair, Red and Black." Tinned copper conductors, rubber insulated. Working voltage: 5000VAC/RMS. AWG (stranding): 20 (42 x 36).

Stock No.	Type	Retracted Length	Extended Length	Nom. O.D.	1-9	10-24	25-99
36F131	8879-0-0	8″	5′	0.173″	12.07	11.09	10.11

(6167) (de51987)

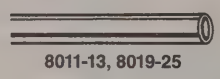


BUS BAR WIRE

Solid tinned copper. Made in accordance with specification QQ-W-343-F. **Sold in 100′ and 1000′ spools.**

AWG	Nominal O.D.	Type	100′ Spool				1000′ Spool			
			Stock No.	1-4	5-9	10-24	Stock No.	1	2-4	5-9
30	0.0101″	8025-100-0	02F5288	9.50	8.75	7.66	02F5289	38.87	35.79	31.31
28	0.0128″	8024-100-0	02F5290	9.50	8.75	7.66	02F5291	41.03	37.78	33.05
26	0.0162″	8023-100-0	02F5292	9.50	8.75	7.66	02F5293	47.50	43.74	38.26
24	0.0206″	8022-100-0	02F5294	9.72	8.95	7.83	02F5295	51.82	47.72	41.74
22	0.0255″	8021-100-0	02F5296	10.15	9.35	8.18	02F5297	64.17	58.16	52.27
20	0.0321″	8020-100-0	02F5298	12.53	11.53	10.09	02F5299	84.87	76.92	69.13
18	0.0402″	8019-100-0	02F5300	16.20	14.91	13.05	02F5301	120.06	108.81	97.79
16	0.0512″	8013-100-0	02F5302	22.89	21.08	18.44	02F5303	184.23	166.97	150.06
14	0.0652″	8012-100-0	02F5304	34.76	32.01	28.00	02F5305	245.76	219.69	200.57
12	0.0824″	8011-100-0	02F5306	50.96	46.92	41.04	...	...	...	...

(6168) (de51988)



8011-13, 8019-25

POLY-THERMALEZE® HIGH-TEMPERATURE MAGNET WIRE

Dual polyester film coated magnet wire, rated 180°C. Exceptional ability to resist chemical solvents and abuse in intricate windings. Meets J-W-1177/14 specifications. **Sold on one-pound spools.**

Stock No.	Type	AWG	Length	1	2-4	5-9
36F767	8073-0-0	14	80′	28.29	26.05	22.78
36F768	8074-0-0	16	126′	29.80	27.44	24.00
36F769	8075-0-0	18	199′	30.66	28.23	24.70
36F770	8076-0-0	20	315′	31.09	28.63	25.05
36F771	8077-0-0	22	501′	31.09	28.63	25.05
36F772	8078-0-0	24	793′	32.39	29.82	26.09
36F773	8079-0-0	26	1260′	33.90	31.22	27.31
36F774	8080-0-0	28	1990′	36.28	33.40	29.22
36F775	8081-0-0	30	3140′	41.89	38.57	33.74
36F777	8083-0-0	34	7860′	52.47	48.31	42.26
36F779	8085-0-0	38	19300′	73.49	66.60	59.86

(6169) (de51989)

8073-81, 8083, 8085

SINGLE BELDSOL SOLDERABLE MAGNET WIRE

Combines dielectric characteristics of polyurethane with solvent resistance of nylon overcoat. Rated by IEEE tests for 270°F usage. Meets J-W-1177/9 specifications. **Sold on half-pound spools.**

Stock No.	Type	AWG	Length	1	2-4	5-9
36F1312	8049	18	100′	18.36	16.90	14.79
36F1313	8050	20	160′	18.36	16.90	14.79
36F1314	8051	22	254′	18.36	16.90	14.79
36F1315	8052	24	404′	18.79	17.30	15.13
36F1316	8053	26	645′	19.22	17.70	15.48
36F1317	8054	28	1020′	19.87	18.29	16.00
36F1318	8055	30	1615′	21.59	19.88	17.39
36F1319	8056	32	2515′	23.97	22.07	19.31
36F1320	8057	34	4060′	25.26	23.26	20.35
36F1321	8058	36	6400′	28.50	26.25	22.96

(6170) (de51990)

8049 - 8058

SHIELDING/BONDING CABLE

Tinned copper braided wire provides approximately 90% shield coverage when applied over recommended diameter. Conforms to QQ-B-575B specifications. (*) Flat width.

Tubular I.D.	Strand-ing	Type	50′ Spool				250′ Spool			
			Stock No.	1	2-4	5-9	Stock No.	1	2-4	5-9
0.12500″	96x34	8660-250-0	02F4314	31.09	28.63	25.05	02F4315	140.76	127.57	114.65
0.17188″	120x34	8668-250-0	02F4320	39.51	36.38	31.83	02F4321	166.64	151.02	135.73
0.21875″	168x34	8663-250-0	02F4324	49.88	45.93	40.17	02F4325	191.36	171.06	156.17
0.20313″	192x34	8661-250-0	02F4316	46.21	42.55	37.22	02F4317	187.60	167.70	153.10
0.50000″	336x34	8669-250-0	02F4322	90.05	81.61	73.35	02F4323	375.20	335.40	306.20
0.78125″	576x34	8662-250-0	02F4318	125.24	113.50	102.01	02F4319	492.21	439.40	402.38
0.75000″*	480x30	8670-250-0	02F4311	206.36	184.47	168.41	02F4312	806.05	719.57	658.94

(6165) (de51985)

8660-63, 8668-70

HOOK-UP AND LEAD WIRE

HIGH-TEMPERATURE TEFLON® INSULATED HOOK-UP WIRE

UL STYLE 1371 600V, 200°C TYPE ET - MIL-W-16878/5 TEFLON® - 1000V, 200°C; PASSES VW-1 VERTICAL WIRE FLAME TEST–INSULATION THICKNESS: 0.015″

See Color Coding Chart on page 1186.

AWG (Stranding)	Nom. O.D.	Stock Colors	Type	100′ Spool Each	100′ Spool 2-4	100′ Spool 5-9	1000′ Spool Each	1000′ Spool 5-9	1000′ Spool 2-4
24 (19 x 36)	0.054″	1-10	83023	20.73	19.09	16.70	178.02	161.34	145.00
22 (7 x 30)	0.060″	1-10	83025	20.08	18.49	16.18	171.81	155.71	139.94
22 (19 x 34)	0.060″	1-10	83026	23.11	21.28	18.61	200.79	181.98	163.55
20 (19 x 32)	0.068″	1-10	83027	28.72	26.44	23.13	230.75	206.28	188.32
20 (7 x 28)	0.068″	1-10	83028	24.83	22.87	20.00	196.98	176.09	160.76
18 (19 x 30)	0.077″	1-10	83029	35.41	32.61	28.52	288.91	258.26	235.78
16 (19 x 29)	0.088″	1-10	83030	42.10	38.77	33.91	347.06	310.25	283.24

UL STYLE 1371 600V, 105°C TYPE E - MIL-W-16878/4 TEFLON® - 600V, 200°C; PASSES VW-1 VERTICAL WIRE FLAME TEST

Type 83009 insulation thickness: 0.011″. **Type 83010** insulation thickness: 0.012″.

18 (19 x 30)	0.011″	1-10	83009	30.88	28.43	24.87	249.51	223.05	203.63
16 (19 x 29)	0.012″	1-10	83010	37.14	34.20	29.91	303.92	271.68	248.03

UL STYLE 1213 105°C TYPE E - MIL-W-1687E/4 TEFLON® - 600V, 200°C; PASSES VW-1 VERTICAL WIRE FLAME TEST

Types 83000–83008 have an insulation thickness of 0.010″. **Types 83041–83050** have an insulation thickness of 0.006″. All types are UL recognized.

AWG (Stranding)	Nom. O.D.	Stock Colors	Type	100′ Spool Each	100′ Spool 2-4	100′ Spool 5-9	1000′ Spool Each	1000′ Spool 2-4	1000′ Spool 5-9
30 (7 x 38)	0.032″	1-10	83000	12.74	11.73	10.26	101.43	91.93	82.62
28 (7 x 36)	0.035″	1-10	83001	12.96	11.93	10.44	103.50	93.80	84.30
26 (7 x 34)	0.037″	1-10	83002	13.82	12.73	11.13	109.71	99.43	89.36
24 (19 x 36)	0.044″	1-10	83003	17.49	16.11	14.09	146.97	133.20	119.71
24 (7 x 32)	0.044″	1-10	83004	14.69	13.52	11.83	120.06	108.81	97.79
22 (7 x 30)	0.050″	1-10	83005	17.71	16.31	14.26	149.04	135.08	121.40
22 (19 x 34)	0.048″	1-10	83006	20.51	18.89	16.52	175.95	159.46	143.31
20 (19 x 32)	0.056″	1-10	83007	24.40	22.47	19.65	193.23	172.74	157.70
20 (7 x 28)	0.058″	1-10	83008	22.24	20.48	17.92	192.51	174.47	156.80
UL STYLE 1371 105°C TYPE ET - MIL-W-16877/6 TEFLON® - 200V, 150°C; PASSES VW-1 VERTICAL WIRE FLAME TEST									
32 (7 x 40)	0.021″	6, 7, 10	83041	12.31	11.34	9.92	99.36	90.05	80.93
30 (7 x 38)	0.024″	1, 2, 4-10	83043	...	...	...	120.06	108.81	97.79
28 (7 x 36)	0.027″	1, 2, 5, 6, 9, 10	83045	12.74	11.73	10.26	101.43	91.93	82.62
26 (7 x 34)	0.031″	1-4, 6-10	83046	13.61	12.53	10.96	109.71	99.43	89.36
24 (7 x 32)	0.036″	2, 6, 8-10	83047	...	...	...	117.99	106.94	96.11
24 (19 x 36)	0.036″	1-8, 10	83048	17.28	15.91	13.92	144.90	131.32	118.02
22 (7 x 30)	0.042″	1-10	83049	17.28	15.91	13.92	146.97	133.20	119.71
22 (19 x 34)	0.042″	1-3, 5-9	83050	19.87	18.29	16.00	169.74	153.84	138.26

(6114) (de01946)

INSULATED LEAD WIRE

HIGH-TEMPERATURE EPDM INSULATED LEAD WIRE

EPDM (ethylene-propylene diene elastomer) insulation offers excellent flexibility at high and low temperatures (150°C to –60°C), has good dielectric strength, abrasion/cut-through resistance, mechanical properties and ozone resistance. Compatible with most varnishes. EPDM wire is recommended for Class 130(B), 155(F) and in some 180(H) systems. Recommended maximum baking cycles: 350°F/177°C (24 hrs.), 375°F/190°C (4 hrs.). Also available in 5000′ lengths; *contact your local Newark sales office.*

EPDM INSULATION, 0.045″ THICK — UL STYLE 3374 600V, 150°C; CSA TYPE CL1254 600V, 125°C

AWG (Stranding)	Nom. O.D.	Stock Colors	Type	500′ Spool 1-4	500′ Spool 5-9	500′ Spool 10-24
18 (16 x 30)	0.142″	2, 4, 5, 9, 10	37118	60.03	54.41	48.90
17 (26 x 30)	0.155″	2, 4, 5, 9, 10	37116	72.45	65.66	59.01
14 (41 x 30)	0.170″	2, 10	37114	96.26	87.24	78.40
12 (65 x 30)	0.190″	2, 10	37112	135.59	122.88	110.44

XL-DUR™ INSULATED LEAD WIRE

XL-DUR™ insulation is a chemically cross-linked polyethylene that offers excellent thermal aging characteristics, moisture and solvent resistance. It has good abrasion and ozone resistance. Resists deformation when subjected to momentary high temperatures during assembly processes. Recommended for Class 130(B) as motor leads. Maximum baking cycles: 300°F/149°C(24 hrs.), 325°F/163°C(12 hrs.), 350°F/177°C(8 hrs.). Also available in 5000′ lengths; *contact your local Newark sales office.*

XL-DUR INSULATION, 0.030″ THICK — UL STYLE 3173 600V, 125°C; CSA TYPE CL1251 600V, 125°C

AWG (Stranding)	Nom. O.D.	Stock Colors	Type	500′ Spool 1-4	500′ Spool 5-9	500′ Spool 10-24
20 (10 x 30)	0.102″	9, 10	35620	33.47	30.82	26.96
18 (16 x 30)	0.100″	2, 4, 10	35618	39.95	36.78	32.18
16 (26 x 30)	0.123″	2, 4, 9, 10	35616	51.82	47.72	41.74
14 (41 x 30)	0.138″	6, 10	35614	72.45	65.66	59.01
12 (65 x 30)	0.153″	10	35612	104.54	94.74	85.15

DUPONT HYPALON™ INSULATED LEAD WIRE

DuPont Hypalon™ insulation has excellent heat resistance, color stability and electrical properties. It offers good oil, ozone and abrasion resistance. Recommended for Class 130(B) as motor leads. Maximum baking cycles: 300°F/149°C(24 hrs.), 325°F/163°C(12 hrs.). Passes VW-1 vertical wire flame test.

HYPALON INSULATION, 0.045″ THICK — UL STYLE 3191 600V, 105°C; CSA TYPE CL1053 600V, 105°C

AWG (Stranding)	Nom. O.D.	Stock Colors	Type	100′ Spool 1-4	100′ Spool 5-9	100′ Spool 10-24	500′ Spool 1-4	500′ Spool 5-9	500′ Spool 10-24
18 (16 x 30)	0.142″	2, 4, 5, 7-10	34418	14.69	13.52	11.83	53.82	48.78	43.84
16 (26 x 30)	0.155″	2, 4, 5, 8-10	34416	18.14	16.70	14.61	67.28	60.97	54.80
14 (41 x 30)	0.170″	2, 5, 8, 10	34414	23.11	21.28	18.61	87.98	79.73	71.66
12 (65 x 30)	0.190″	2, 8, 10	34412	31.31	28.83	25.22	129.38	117.25	105.38

(9923) (de51803)

Belden

PORTABLE CORDAGE

2- & 3-COND. PORTABLE CORDAGE

SVT-2-CONDUCTOR PVC JACKET 300V, Rated 60°C — Sold in 250′ Spools

Type	AWG (Stranding)	Nom. O.D. & Color	Stock No.	250′ Spool Each	2-4	5-9
19140-250-10	18 (41x34)	0.243″ Black	37F3068	65.73	59.57	53.53
SJO-2-CONDUCTOR NEOPRENE JACKET 300V, Rated 60°C						
19227-250-10	18 (16x30)	0.298″ Black	36F984	109.20	98.96	88.94
19228-250-10	16 (26x30)	0.323″ Black	36F985	139.73	126.63	113.81
SJT-3-CONDUCTOR PVC JACKET 300V, Rated 60°C						
19348-250-10	18 (41x34)	0.328″ Black	36F1167	106.09	96.15	86.41
19352-250-10	18 (41x34)	0.328″ Black	37F3077	106.09	96.15	86.41
19362-250-10**	18 (41x34)	0.340″ Black	37F3080	138.69	125.70	112.97
19349-250-10	16 (65x34)	0.353″ Black	36F1169	129.38	117.25	105.38
19353-250-10	16 (65x34)	0.353″ Black	37F3078	129.38	117.25	105.38
19354-250-10	14 (41x30)	0.380″ Black	37F3079	149.56	135.55	121.82
19364-250-10**	14 (41x30)	0.402″ Black	37F3082	188.37	170.72	153.43
SVT-3-CONDUCTOR PVC JACKET 300V, Rated 60°C						
19350-250-8	18 (41x34)	0.253″ Gray	36F1172	84.87	76.92	69.13
19401-250-10**	18 (41x34)	0.270″ Black	04F3168	117.48	106.47	95.68
19402-250-10	18 (41x34)	0.253″ Black	04F3169	84.87	76.92	69.13
SJ-3-CONDUCTOR RUBBER JACKET 300V, Rated 60°C						
19129-250-10	18 (16x30)	0.328″ Black	36F1372	115.92	105.06	94.42
19130-250-10	16 (26x30)	0.353″ Black	36F1373	147.49	133.67	120.13
19125-250-10	18 (41x34)	0.328″ Black	37F3071	125.76	113.97	102.43
19124-250-10	16 (65x34)	0.353″ Black	37F3072	161.46	146.33	131.51
8479-250-10	14 (41x30)	0.380″ Black	02F5661	177.51	160.87	144.58
SJO-3-CONDUCTOR NEOPRENE JACKET 300V, Rated 60°C						
19229-250-10	18 (16x30)	0.328″ Black	36F1374	134.55	121.94	109.59
19230-250-10	16 (26x30)	0.353″ Black	36F1375	173.88	157.59	141.63
SO-3-CONDUCTOR NEOPRENE JACKET 600V, Rated 60°C						
SO also available in 4-cond.; *contact your local Newark branch.*						
19209-250-10	18 (41x34)	0.390″ Black	36F1369	200.28	181.51	163.12
19208-250-10	16 (65x34)	0.420″ Black	36F1370	223.25	199.57	182.19
19207-250-10	14 (41x30)	0.558″ Black	36F1371	342.84	306.48	279.79
19206-250-10	12 (65x30)	0.634″ Black	37F3075	520.51	464.66	425.51
19205-250-10	10 (105x30)	0.705″ Black	37F3076	547.09	488.39	447.24
S-3-CONDUCTOR RUBBER JACKET 600V, Rated 60°C						
19107-250-10	14 (41x30)	0.558″ Black	36F1365	265.46	237.30	216.64
19106-250-10	12 (65x30)	0.634″ Black	37F3073	384.58	343.79	313.86
19105-250-10	10 (105x30)	0.705″ Black	37F3074	477.20	426.00	390.11

**Beldfoil® 100% Shield Coverage

(6122) (de04232)

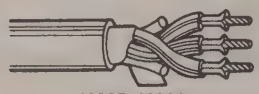
19140, 19227, 19228

19348-19350, 19129, 19130 19125, 19124, 8479, 19229 19230, 19207, 19107

19402, 19352-19354

19364, 193401

19108-19109, 19208-19209



19205, 19206

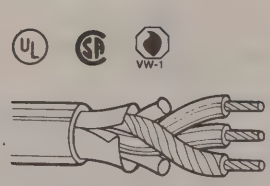
3-CONDUCTOR PORTABLE CORDAGE

International color coding. Passes VW-1 vertical wire flame test. UL listed, CSA certified. **Sold in spools of 250′.**

SJTOW-A3-CONDUCTOR PVC MATTE BLACK JACKET, RATED 105°C

Type	AWG (Stranding)	Nom O.D. & Color	Stock No.	250′ Spool Each	2-4	5-9
19509-250-B59	18 (42x34)	0.315″ Black	92F2194	107.64	97.56	87.68
19510-250-B59	16 (65x34)	0.340″ Black	92F2195	141.80	128.51	115.50
19511-250-B59	14 (41x30)	0.380″ Black	92F2196	155.25	140.70	126.45

(31472) (ne31472)



3- & 4-COND. PORTABLE CORDAGE

SV-3-CONDUCTOR RUBBER JACKET 300V, Rated 60°C – Sold in 100′ Spools

Type	AWG (Stranding)	Nom. O.D. & Color	Stock No.	100′ Spool Each	2-4	5-9
8453-100-10†	18 (41x34)	0.256″ Black	02F4063	81.15	73.54	66.10
4-CONDUCTOR RUBBER JACKET 300V, Rated 60°C; UL RECOGNIZED 4097 – Sold in 100′ spools						
8454-100-10	18 (41x34)	0.272″ Black	02F4065	93.36	84.61	76.04

†Also available in 500′ spools; *contact your local Newark sales office.*

(6123) (de04261)

8453

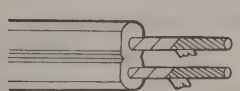
LAMP AND HEATER CORDS

SPT-1 2-CONDUCTOR PVC PARALLEL LAMP CORD, 300V, Rated 60°C

Type	AWG (Strand)	Nom. O.D. & Color	Stock No.	250′ Spool Each	2-4	5-9
19122-250-1	18 (41 x 34)	.110″ x .207″ Brown .110″ x .207″ Black	37F3061 37F3062	48.04 48.04	44.24 44.24	38.70 38.70
SPT-2 2-CONDUCTOR PVC PARALLEL LAMP CORD, 300V, Rated 60°C						
19126-250-1	18 (65 x 34)	.155″ x .299″ Brown .155″ x .299″ Black	37F3065 36F1820	68.31 68.31	61.91 61.91	55.64 55.64
HPN-2-CONDUCTOR HYPALON® HEATER CORD 300V, Rated 60°C						
19328-250-10	18 (41 x 34)	.154″ x .286″ Black	37F3066	72.97	66.13	59.44
19326-250-10	18 (41 x 34)	.164″ x .312″ Black	37F3067	88.50	80.20	72.08

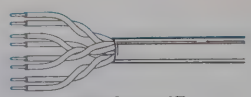
(6124) (de04262)

19122, 19126



19328, 19326

CATEGORY 5 TWISTED PAIR CABLE



9504C, 9504F

Solid bare copper conductors. 300V 60°C. EIA/TIA 568 applications. **Types 9504C, 9504CS** are non-plenum. Black PVC jacket. PCC FT4. NEMA low loss. Nominal capacitance is 17 pF/Ft @ 1kHz. **Types 9504F, 9504FS** are plenum. Gray plenum PVC jacket. PCC FT4 FT6. NEMA low loss. Nominal capacitance is 17 pF/FT @ 1kHz. **Sold in spools of 1000′.**

UNSHIELDED UTP SOLID CONDUCTOR, CATEGORY 5, UP TO 100 MBPS

Stock No.	Type	App.	No. of Pairs	AWG	Nom. O.D.	Each
04F8655	9504C	MP	4	24	0.200″	113.66
04F8656	9504F	MPP	4	24	0.200″	274.67
SHIELDED STP SOLID CONDUCTOR, CATEGORY 5, UP TO 100MBPS						
04F6761	9504CS	NEC/MP	4	24	0.230″	425.08
04F6762	9504FS	NEC/MPP	4	24	0.240″	743.25

(5116) (de02687)

PLENUM-RATED LAN TWINAXIAL CABLE

- **125°C, 150 Volt, Braid Shielded**
- **UL Standard 13, Type CL2P**
- **NEC 725-38(b), UL listed as Class 2 Power Limited Circuit Cable**

Passes UL 910 flame test. **Sold in spools of 1000′.**

Stock No.	Type	Description	AWG (Stranding)	Jacket O.D.	Ohms	Each
04F6044	9108	2 Tin Copper	20 (7/28)	0.220″	78	1073.05
04F6050	9109	1 Copper, 1 Tin Copper	20 (7/28)	0.252″	100	1044.41

(6125) (de04436)

TWINAXIAL CABLES

Type 9814C, 9817, 9818C

Type 9888C

Type 9819C

Sold in spools of 1000′.

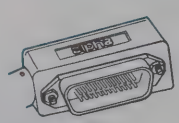
78 OHM, 2 CONDUCTOR

Stock No.	Type	UL	AWG/ Stranding	Jacket Nom. O.D.	Each
04F3337	9814C	CL2	20 (7x28)	0.242″	469.66
04F7234	9888C	CM	22 (7x30)	0.185″	377.17
100 OHM, 2 CONDUCTOR					
05F1749	9817	...	20 (7x28)	0.330″	493.14
04F4949	9818C*	CL2	20 (7x28)	0.330″	472.29
MULTIPAIR, OVERALL FOIL AND BRAID SHIELD					
04F3341	9819C	CL2	22 (Solid)	0.290″	508.80

*IBM SYSTEM (34/36/38/AS400)

(6179) (de52559)

IEEE 488 (GPIB) INTERFACE BUS CABLE



5900

- **Compliance with FCC Docket 20780**
- **Inherent Polarization**
- **Fully-Molded for Electrical Integrity**

SINGLE SHIELD

Stock No.	Type	Length Feet	Length Meters	Each
81F6518	5900/1	3.3	1	98.40
81F6519	5900/2	6.6	2	98.40

CONTINUED

IEEE 488 (GPIB) INTERFACE BUS CABLE (CONT.)

SINGLE SHIELD (CONT.)

Stock No.	Type	Length Feet	Length Meters	Each
81F6520	5900/3	9.9	3	102.41
81F6521	5900/4	13.1	4	107.43
81F6522	5900/8	26.2	8	119.10
81F6523	5900/12	39.4	12	136.13
81F6524	5900/16	52.5	16	153.14

(6182) (de52562)

LAN CABLES

9851C - 9881C

Sold in spools of 1000′ except **type 9851F** which is **sold in spools of 500′.**

IEEE 802.3 ETHERNET COAXIAL CABLE

Type 9851C is non-plenum and **type 9851F** is plenum and **sold in spools of 500′.**

Stock No.	Type	UL	AWG/ Stranding	Jacket Nom. O.D.	Each
04F5102	9851C	CL2	Solid 0.0855″	0.405″	1007.44
03F7383	9851F	CL2P	Solid 0.0855″	0.375″	1710.47

IEEE 802.3 SPEC GRADE "THIN" COAXIAL CABLE

Type 9871C is non-plenum and **type 9871F** is plenum.

04F7239	9871C	CM	20 (19 x 32)	0.200″	322.43
04F7240	9871F	CMP	20 (19 x 32)	0.182″	772.68

COMMERCIAL GRADE THIN-NET COAXIAL CABLE

Types 9861C and **9881C** are both non-plenum.

04F7241	9861C	CL2	20 (19 x 32)	0.180″	312.48
04F7243	9881C	CM	20 (19 x 32)	0.180″	294.57

(6178) (de52558)

PLENUM-RATED LAN TRUNK COAXIAL CABLE

9104-9851F

- **125°C, 150 Volt**
- **UL Standard 13, Type CL2P**
- **NEC 725-38 (b) 3, UL listed as Class 2 Power-Limited Circuit Cable**
- **IEEE 802.4 Broadband (Type 9104)**
- **IEEE 802.3 10-Base-2 (Type 9859, 9851F)**
- **Passes UL 910 Flame Test**

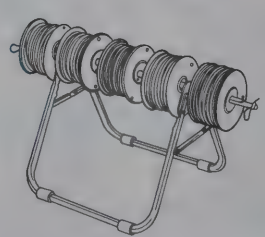
Sold in spools of 1000′; except type 9851F, sold in spools of 500′.

Stock No.	Type	RG/U	AWG (Stranding)	Jacket O.D.	Ohms	Each
04F5137	9104	6/U	18 (Solid)	0.249″	75	1168.26
04F5144	9859	58 C/U	21 (19/0.0071)	0.165″	50	675.51
03F7383	9851F	Ethernet	0.0855″ (Solid)	0.375″	50	1710.47

(6127) (de50257)

HANDI-REEL

SPC TECHNOLOGY



Sturdy design allows for outdoor installation. Makes one man wiring installations easier. Latch prevents spindle from detaching when inverted and used as carrying device. Spindle latch holds heavy reels. Handi-reel provides stability when used on a flat surface and can be left unattended while dispensing wire or cable.

Stock No.	Type	Max. Reel Dia.	Max. Reel Width	Spindle Dia.	Each
84N1170	SPC4086	19″	13″	5/8″	99.99
84N1171	SPC4087	25″	16″	5/8″	189.99

(34271) (ne34271)

COMMUNICATION AND CONTROL CABLE

300V MULTICONDUCTOR UNSHIELDED CABLE

- Color-Coded PVC Insulation, 0.010″ (0.254) Thick
- Gray PVC Jacket, 0.032″ (0.813) Thick
- Does Not Include Clear Mylar Tape
- Passes UL VW-1 Vertical Tray Flame Test
- 80°C, UL Listed, CSA Certified
- UL Type CM, CSA PCC FT4
- 500′ Spools Are Also Available; *Contact Your Local Newark Branch*

TYPE CM 22 AWG, 7/30 STRANDED CONDUCTORS UL 2576, UL STANDARD 444

No. of Cond.	Nom. O.D.	Type	100′ Spool				1000′ Spool			
			Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
2	.164″	1172C	02F8724	16.30	14.77	13.49	02F8726	81.93	74.22	67.81
3	.169″	1173C	02F8727	21.22	19.22	17.56	02F8729	103.52	95.97	89.47
4	.194″	1174C	02F8730	23.44	21.23	19.40	02F8732	125.84	116.67	108.77
5	.199″	1175C	02F8733	28.53	25.84	23.61	02F8735	184.25	170.82	159.26
6	.209″	1176C	02F8736	30.42	27.56	25.18	02F8738	207.99	189.71	177.27
7	.214″	1177C	02F8739	33.57	30.41	27.79	02F8741	221.88	202.38	189.11
8	.224″	1178C	02F8742	37.06	33.58	30.68	02F8744	250.26	228.27	213.30
9	.249″	1179C	02F8745	39.59	35.86	32.76	02F8747	270.92	247.11	230.91
10	.259″	1180C	02F8748	42.78	38.75	35.41	02F8750	324.42	295.91	276.51
12	.279″	1181C	02F8751	49.09	44.47	40.63	02F8753	351.83	320.91	299.87
15	.304″	1181/15C	02F8754	75.22	68.15	62.26	02F8756	485.46	460.36	430.72
20	.324″	1181/20C	02F8757	103.94	94.16	86.03	02F8759	610.01	578.93	542.04
25	.364″	1181/25C	02F8760	113.64	105.36	98.23	02F8761	847.69	804.50	753.24
30	.379″	1181/30C	02F8762	188.94	175.16	163.31	02F8763	982.43	934.90	878.10
40	.439″	1181/40C	02F8968	262.21	239.16	223.48	02F8970	1801.33	1714.18	1610.04
50	.500″	1181/50C	02F8971	289.95	264.47	247.13	02F8972	1661.35	1580.98	1484.92
60	.530″	1181/60C	03F3287	369.58	337.10	315.00	02F8973	2291.15	2180.31	2047.84

TYPE CM 20 AWG, 7/28 STRANDED CONDUCTORS UL 2509

2	.180″	1895C	02F9063	19.00	17.21	15.72	02F9065	131.93	122.31	114.04
3	.190″	1896C	02F9066	21.65	19.61	17.92	02F9068	170.49	158.06	147.37
4	.215″	1896/4C	02F9069	29.47	26.70	24.40	02F9071	192.09	178.08	166.03
5	.233″	1896/5C	04F3486	35.47	32.13	29.36	04F3488	248.79	226.93	212.05
6	.255″	1896/6C	04F3489	42.54	38.54	35.21	04F3491	290.91	265.34	247.94
7	.255″	1896/7C	04F3492	44.05	39.90	36.46	04F3494	326.83	298.11	278.56
8	.270″	1896/8C	04F3495	70.09	63.50	58.01	04F3497	453.18	429.74	402.07
9	.300″	1896/9C	04F3498	53.21	48.20	44.04	04F3500	420.49	398.75	373.08
10	.335″	1896/10C	04F3501	77.18	69.92	63.88	04F3503	498.92	473.12	442.66
12	.350″	1896/12C	04F3504	74.73	67.70	61.85	04F3506	515.57	488.91	457.43
15	.395″	1896/15C	04F3507	93.85	85.02	77.68	04F3509	681.15	645.94	604.35

TYPE CM 18 AWG, 16/30 STRANDED CONDUCTORS UL 2509

2	.200″	1897C	02F9072	22.17	20.08	18.35	02F9074	150.20	139.24	129.82
3	.210″	1898C	02F9075	30.06	27.23	24.88	02F9077	205.54	187.48	175.19
4	.240″	1898/4C	02F9078	34.84	31.56	28.84	02F9080	256.89	234.32	218.95
5	.262″	1898/5C	04F3510	46.89	42.48	38.81	04F3512	328.40	299.54	279.90
6	.290″	1898/6C	04F3513	58.67	53.15	48.56	04F3515	379.21	359.60	336.45
7	.286″	1898/7C	04F3516	54.38	49.26	45.00	04F3518	392.09	357.64	334.19
8	.315″	1898/8C	04F3519	81.71	74.02	67.63	04F3521	528.20	500.89	468.64
9	.346″	1898/9C	04F3522	80.76	73.17	66.85	04F3524	564.49	535.31	500.84
10	.370″	1898/10C	04F3525	107.98	100.11	93.33	04F3527	741.55	703.21	657.94
12	.385″	1898/12C	04F3528	104.87	95.00	86.79	04F3530	711.26	674.48	631.06
15	.445″	1898/15C	04F3531	131.75	122.14	113.88	04F3533	983.41	933.30	873.84
19	.470″	1898/19C	04F3534	163.33	151.42	141.18	04F3536	1218.17	1156.10	1082.44
25	.558″	1898/25C	04F3537	226.92	206.98	193.41	04F3539	1638.54	1559.27	1464.54

TYPE CM 16 AWG, 19/29 STRANDED CONDUCTORS UL 2509

2	.225″	1899C	02F9081	30.10	27.27	24.91	02F9083	244.81	223.30	208.66
3	.245″	1899/3C	04F3540	82.51	74.75	68.29	04F3542	533.39	505.81	473.24
4	.270″	1899/4C	04F3543	125.25	116.12	108.26	04F3545	845.01	801.96	750.86

(9896) (de50314)

1172C-1899/4C

600V MULTICONDUCTOR UNSHIELDED CABLE

- UL 2463
- 80°C, PVC Insulation and Jacket
- Does Not Include Clear Mylar Tape, Gray Jacket Color
- Passes UL VW-1 Vertical Wire Flame Test

500′ spools are also available; *contact your local Newark sales office.*

16 AWG, 19/29 STRANDED CONDUCTORS

No. Cond.	Nom. O.D.	Type	100′ Spool				1000′ Spool			
			Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
4	0.400″	1064	04F3444	65.26	59.12	54.02	04F3446	498.64	472.85	442.41
5	0.445″	1065	04F3447	86.97	78.79	71.98	04F3449	688.13	652.55	610.54
7	0.480″	1067	04F3450	110.60	102.53	95.60	04F3452	913.76	867.20	811.95
9	0.590″	1069	04F3453	165.26	153.21	142.84	04F3455	1233.18	1170.35	1095.78
12	0.650″	1072	04F3456	219.83	200.51	187.37	04F3458	1586.68	1509.93	1418.19
15	0.725″	1075	04F3459	344.96	314.65	294.02	04F3461	2487.83	2367.47	2223.64
19	0.765″	1079	04F3462	397.76	377.20	352.91	04F3464	2575.09	2493.39	2345.70
25	0.930″	1085	04F3465	513.05	486.52	455.20	04F3467	3313.00	3207.89	3017.89

14 AWG, 19/26 STRANDED CONDUCTORS

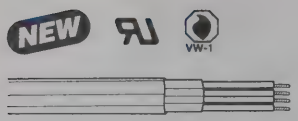
4	0.515″	1274	04F3468	109.69	101.69	94.81	04F3470	767.14	728.05	681.66
5	0.595″	1275	04F3471	169.23	156.89	146.28	04F3473	1147.93	1089.44	1020.02
7	0.650″	1277	04F3474	226.90	206.96	193.39	04F3476	1345.57	1280.48	1202.68
9	0.755″	1279	04F3477	346.25	315.82	295.11	04F3479	2147.70	2043.80	1919.63
12	0.885″	1282	04F3480	388.38	368.30	344.59	04F3482	2434.29	2357.06	2217.44
15	0.975″	1285	04F3483	452.25	428.87	401.26	04F3485	4008.51	3881.34	3651.44

(6141) (de50318)

1064-1285

COMMUNICATION AND CONTROL CABLE

MULTICONDUCTOR IRRADIATED PVC UNSHIELDED CABLE



Multiconductor cable features the following: conductor: stranded tinned copper; insulation: color-coded irradiated PVC; jacket: white PVC. Operating temperature: -55°C to 105°C. Voltage rating: 600V. UL AWM 2576. MIL-W-16878 Type B. Passes UL VW-1 flame test.

No. of Cond.	AWG (Stranding)	Nom. O.D.	Type	Stock No.	100′ Spool Each	100′ Spool 2-4
2	24 (7/32)	0.15″	6622	92F9430	89.15	80.76
2	22 (7/30)	0.16″	6632	92F9431	104.28	94.47
3	22 (7/30)	0.17″	6633	92F9432	127.95	118.62
2	18 (7/26)	0.20″	6652	92F9433	126.35	117.13
3	18 (7/26)	0.21″	6653	92F9434	167.87	155.63
4	18 (7/26)	0.22″	6654	92F9435	230.20	209.97

(34170) (ne34170)

MULTICONDUCTOR RUBBER UNSHIELDED CABLE

1244-1247/12

- 60°C, 600V
- 20 AWG, 26/34 Stranded Tinned Copper Conductor
- 0.020″ Thick Color-Coded Rubber Insulation
- Black Rubber Jacket

500′ spools are also available; *contact your local Newark sales office.*

No. of Cond.	Nom. O.D.	Type	100′ Spool Stock No.	100′ Spool Each	100′ Spool 2-4	100′ Spool 5-9	1000′ Spool Stock No.	1000′ Spool Each	1000′ Spool 2-4	1000′ Spool 5-9
2	0.230″	1244	02F8764	133.47	123.74	115.37	02F8766	715.15	678.18	634.51
3	0.240″	1245	02F8767	146.81	136.10	126.89	02F8769	772.83	733.45	686.72
4	0.260″	1246	02F8770	166.80	154.64	144.17	02F8772	877.58	832.87	779.80
6	0.310″	1247/6	02F8776	263.06	239.94	224.21	02F8778	1340.01	1275.18	1197.71
10	0.370″	1247/10	02F8784	496.77	471.09	440.76	02F8786	3158.53	2716.34	2302.57
12	0.390″	1247/12	02F8787	707.50	670.92	627.72	02F9311	3686.49	3569.53	3358.10

(6136) (de50312)

80°C MULTICONDUCTOR FOIL-SHIELDED CABLE

2464C, 2465C

Stranded tinned copper conductors. Insulation color-coded gray. Shield aluminum/polyester tape with foil facing outward. NEC type CL2. **Type 2464C** has polypropylene insulation and 22 AWG, 7/30 stranded conductors; **type 2465** has PVC insulation and 20 AWG, 7/28 stranded conductors. Voltage rating: 300V. Temperature range: –20°C to +80°C (75°C-CM). UL listed, CSA certified.

O.D.	Type	100′ Spool Stock No.	100′ Spool Each	100′ Spool 2-4	100′ Spool 5-9	1000′ Spool Stock No.	1000′ Spool Each	1000′ Spool 2-4	1000′ Spool 5-9
0.16″	2464C	04F3385	53.56	48.52	44.33	04F3387	208.99	190.62	178.12
0.23″	2465C	04F3388	54.55	49.42	45.15	04F3389	394.08	359.45	335.88

(6152) (de50422)

MULTICONDUCTOR SPIRAL SHIELDED CABLE

- Gray PVC Jacket
- Passes UL VW-1 Vertical Wire Flame Test
- 80°C 300V UL 2095 (1 Conductor UL 1108)
- Spiral Shielded Cable Offers Maximum Flexibility

500′ spools are available; *contact your local Newark sales office.*

No. of Cond.	Nom. O.D.	Type	100′ Spool Stock No.	100′ Spool Each	100′ Spool 2-4	100′ Spool 5-9	1000′ Spool Stock No.	1000′ Spool Each	1000′ Spool 2-4	1000′ Spool 5-9
22 AWG, 7/30 STRANDED CONDUCTORS										
1	.115″	2254/1	03F1296	49.18	44.55	40.70	03F1298	163.25	151.34	141.10
2	.175″	2254	02F7819	33.12	30.00	27.41	02F7821	264.71	241.45	225.62
3	.190″	2254/3	02F7822	88.80	80.45	73.50	02F7824	438.08	415.43	388.69
4	.200″	2254/4	03F1299	141.31	131.00	122.14	03F1301	741.42	703.09	657.82
6	.235″	2254/6	03F1302	196.03	181.73	169.44	03F1304	1010.07	958.60	897.52
20 AWG, 10/30 STRANDED CONDUCTORS										
1	.130″	2256/1	02F7825	55.15	49.96	45.65	02F7827	239.50	222.04	207.01
2	.195″	2256	02F7828	65.26	59.12	54.02	02F7830	226.90	206.96	193.39
3	.210″	2256/3	02F7831	102.04	92.44	84.46	02F7832	469.53	445.25	416.58
4	.225″	2256/4	04F3431	196.21	181.90	169.59	04F3433	1010.82	959.32	898.20
6	.265″	2256/6	04F3434	248.69	226.84	211.96	04F3436	1312.85	1245.96	1166.57
18 AWG, 16/30 STRANDED CONDUCTORS										
1	.135″	2258/1	04F3437	57.48	52.07	47.57	04F3439	235.50	214.80	200.72
2	.230″	2258	02F7833	63.19	57.25	52.30	02F7835	274.67	250.53	234.10
3	.235″	2258/3	02F7836	76.17	69.00	63.04	02F7838	444.07	421.11	394.00
4	.245″	2258/4	03F1305	100.56	91.09	83.23	03F1307	496.00	470.36	440.07
16 AWG, 26/30 STRANDED CONDUCTORS										
2	.240″	2260	03F1308	81.69	74.00	67.61	03F1310	376.97	343.84	321.29
3	.245″	2260/3	04F3440	221.05	201.62	188.40	04F3442	1161.33	1102.16	1031.93

(6140) (de50317)

ALPHA PLENUM-RATED MULTICONDUCTOR CABLE ALSO AVAILABLE.

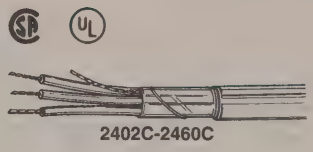
CONTACT YOUR LOCAL NEWARK SALES OFFICE TO ORDER!

(39370) (ne39370)

COMMUNICATION AND CONTROL CABLE

60°C MULTICONDUCTOR FOIL SHIELDED CABLE

Conductor is made of stranded tinned copper. Insulation is color coded polyethylene. Shield is aluminum/polyester tape, foil facing outward; 100% coverage. Stranded tinned copper drain wire. PVC jacket. UL Type CM, AWM 2092, 2093, 2094. Rated 300V. Temperature range: –20°C to +60°C. UL listed. **Types 2460** and **2461** are color coded polypropylene insulated. Stranded or solid tinned copper conductor. 22 AWG tinned copper drain wire. UL Type CM. Rated 300V. Temperature range: –20°C to +105°C (75°C-CM). CSA PCC FT4. 500′ spools are also available; *contact your local Newark sales office.*

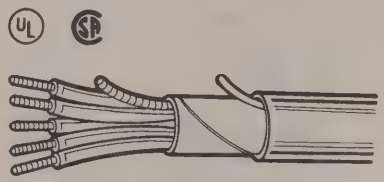


Conductors	O.D.	Type	100′ Spool Stock No.	100′ Spool Each	100′ Spool 2-4	100′ Spool 5-9	1000′ Spool Stock No.	1000′ Spool Each	1000′ Spool 2-4	1000′ Spool 5-9
22 AWG 7/30 STRANDED										
2	0.17″	2402C	02F8152	19.92	18.05	16.49	02F8154	172.52	159.94	149.12
2	0.13″	2461C	03F1320	22.51	20.39	18.63	03F1322	131.93	122.31	114.04
3	0.18″	2403C	02F8155	20.27	18.36	16.78	02F8157	150.20	139.24	129.82
4	0.20″	2404C	02F8158	25.08	22.72	20.76	02F8160	225.29	208.86	194.73
20 AWG 7/28 STRANDED										
2	0.18″	2411C	03F1311	21.61	19.57	17.88	03F1313	150.70	139.71	130.26
2	0.18″	2412C	02F8161	21.61	19.57	17.88	02F8163	172.52	159.94	149.12
3	0.20″	2413C	02F8164	23.44	21.23	19.40	02F8166	163.47	151.55	141.30
4	0.22″	2414C	02F8167	28.74	26.04	23.79	02F8169	267.92	248.38	231.57
18 AWG 16/30 STRANDED										
2	0.21″	2421C	03F1314	24.24	21.96	20.06	03F1316	112.59	104.39	97.34
2	0.21″	2422C	02F8170	24.24	21.96	20.06	02F8172	243.56	225.80	210.52
3	0.23″	2423C	02F8173	27.88	25.26	23.08	02F8175	226.90	206.96	193.39
4	0.25″	2424C	02F8176	37.56	34.03	31.09	02F8178	322.43	294.10	274.82
16 AWG 19/29 STRANDED										
2	0.24″	2432C	02F9013	36.09	32.70	29.87	02F9015	260.73	237.82	222.23
3	0.26″	2433C	02F9016	42.80	38.77	35.42	02F9018	388.11	354.01	330.80
22 AWG SOLID										
2	0.13″	2460C	03F1317	27.77	25.16	22.99	03F1319	125.05	113.28	103.50

(6151) (de50421)

80°C MULTICONDUCTOR FOIL SHIELDED CABLE

Stranded tinned copper conductors. Color-coded PVC insulation. Aluminum/polyester tape, foil shield facing outward (100% coverage). Stranded tinned copper drain wire. Gray PVC jacket. UL type CM, AWM 2576, CSA PCC FT4. 0.010″ insulation thickness. Temperature range: –20°C to +80°C. Passes UL Subject 13 vertical tray flame test. Jacket thickness is 0.032″.



No. of Cond.	O.D.	Type	100′ Spool Stock No.	100′ Spool Each	100′ Spool 2-4	100′ Spool 5-9	500′ Spool Stock No.	500′ Spool Each	500′ Spool 2-4	500′ Spool 5-9
22 AWG, 7/30 STRAND, 150 VOLT, 80°C, UL 2576 CL2										
2	0.17″	1292C	03F6182	42.43	38.44	35.12	03F6183	97.58	88.40	80.76
3	0.18″	1293C	03F6184	57.57	52.15	47.65	03F6185	125.03	115.91	108.07
4	0.19″	1294C	03F6186	65.41	59.26	54.14	03F6187	135.48	125.60	117.10
5	0.20″	1295C	03F6188	60.74	55.02	50.27	03F6189	170.88	158.42	147.70
6	0.22″	1296C	03F6190	69.55	63.01	57.57	03F6191	191.38	177.42	165.42
7	0.22″	1297C	03F6193	72.16	65.37	59.73	03F6194	205.16	187.13	174.87
8	0.23″	1298C	03F6195	80.18	72.64	66.36	03F6196	227.67	207.67	194.05
9	0.25″	1299C	03F6197	73.61	66.68	60.92	03F6198	247.58	225.82	211.01
10	0.26″	1299/10C	03F6199	84.28	76.35	69.75	03F6200	287.78	262.49	245.28
12	0.28″	1299/12C	03F6202	94.58	85.68	78.28	03F6203	322.69	294.33	275.04
15	0.31″	1299/15C	03F6204	137.80	127.75	119.10	03F6205	494.23	468.68	438.50
20	0.33″	1299/20C	03F6206	184.42	170.97	159.40	03F6207	631.40	598.76	560.21
25	0.35″	1299/25C	03F6208	218.64	199.42	186.35	03F6209	750.28	712.05	666.68
24 AWG, 7/32 STRAND, 150 VOLT, 80°C, UL 2576 CL2										
2	0.16″	1212C	03F6144	41.12	37.25	34.03	03F6145	94.86	85.94	78.51
3	0.17″	1213C	03F6146	54.20	49.10	44.86	03F6147	117.76	109.18	101.79
4	0.18″	1214C	03F6148	57.57	52.15	47.65	03F6149	125.03	115.91	108.07
5	0.18″	1215C	03F6150	63.56	57.58	52.61	03F6151	150.54	139.56	130.12
6	0.20″	1216C	03F6152	65.41	59.26	54.14	03F6153	165.85	153.75	143.35
7	0.20″	1217C	03F6154	67.29	60.96	55.69	03F6155	181.11	167.90	156.54
8	0.21″	1218C	03F6156	69.55	63.01	57.57	03F6157	201.61	186.91	174.26
9	0.22″	1219C	03F6158	74.96	67.91	62.05	03F6159	212.67	193.98	181.26
10	0.23″	1219/10C	03F6160	80.18	72.64	66.36	03F6161	227.67	207.67	194.05
12	0.27″	1219/12C	03F6162	82.23	74.49	68.06	03F6163	280.12	255.50	238.75
15	0.28″	1219/15C	03F6165	104.11	94.32	86.17	03F6166	354.28	323.14	301.96
20	0.30″	1219/20C	03F6167	136.74	126.77	118.19	03F6168	468.87	444.63	416.00
25	0.33″	1219/25C	03F6169	162.25	150.42	140.24	03F6170	555.72	526.99	493.06

(6104) (de00579)

CHECK NEWARK'S WEB SITE FOR PRODUCT NEWS AND INFORMATION.
http://www.newark.com

COMMUNICATION AND CONTROL CABLE

MULTICONDUCTOR BRAID SHIELDED CABLE

600V, 105°C, 600V rated stranded tinned copper conductor. Braided tinned copper shield. Jacket thickness: 0.010″. Color-coded PVC insulation with a clear nylon cover. Gray PVC jacket . Meets MIL-W-16878E Type B/N. 500′ spools are also available; *contact your local Newark sales office*

3210-3247

28 AWG, 7/36 STRANDED

No. of Cond.	Nom. O.D.	Type	100′ Spool Stock No.	100′ Spool Each	100′ Spool 2-4	100′ Spool 5-9	1000′ Spool Stock No.	1000′ Spool Each	1000′ Spool 2-4	1000′ Spool 5-9
2	0.120″	3202	02F8123	118.94	110.27	102.81	02F8124	787.47	747.35	699.73
3	0.130″	3303	02F8125	181.01	167.81	156.45	02F8126	1051.81	998.21	934.61
4	0.140″	3304	02F8127	216.55	197.52	184.57	02F8128	1282.87	1217.51	1139.93
6	0.170″	3306	02F8129	276.86	252.52	235.97	02F8130	1557.84	1482.48	1392.41
8	0.170″	3308	02F8131	315.13	287.43	268.59	02F8132	1773.63	1687.82	1585.28
24 AWG, 19/36 STRANDED										
1	.092″	3210	02F8090	65.39	59.24	54.12	02F8092	398.44	377.84	353.51
2	.152″	3211	02F8093	74.64	67.62	61.78	02F8095	392.21	371.93	347.98
3	.161″	3212	02F8096	92.62	83.91	76.66	02F8098	493.33	467.82	437.70
4	.172″	3213	02F8953	104.25	96.64	90.11	02F8955	570.81	541.30	506.45
22 AWG, 19/34 STRANDED										
1	.100″	3220	02F8099	42.56	38.56	35.23	02F8101	254.76	232.37	217.14
2	.168″	3221	02F8102	59.74	54.12	49.45	02F8104	328.40	299.54	279.90
3	.178″	3222	02F8105	71.07	64.38	58.82	02F8107	387.62	367.58	343.91
20 AWG, 19/32 STRANDED										
1	.106″	3230	02F8108	44.91	40.68	37.17	02F8110	244.81	223.30	208.66
2	.186″	3231	02F8956	68.17	61.76	56.42	02F8958	368.80	349.73	327.22
3	.196″	3232	02F8111	80.63	73.05	66.74	02F8113	447.83	424.68	397.33
18 AWG, 19/30 STRANDED										
1	.120″	3240	02F8114	85.14	77.13	70.47	02F8116	376.33	356.87	333.90
2	.210″	3241	02F8117	141.53	131.21	122.33	02F8119	429.02	406.83	380.64
3	.227″	3242	02F8120	168.73	156.42	145.84	02F8122	534.39	506.76	474.13
16 AWG, 19/29 STRANDED										
1	.137″	3245	02F8959	69.92	63.34	57.87	02F8961	412.08	390.77	365.61
2	.236″	3246	02F8962	85.14	77.13	70.47	02F8964	524.98	497.83	465.78
3	.240″	3247	02F8965	109.52	101.54	94.67	02F8967	700.59	664.89	622.53

(6137) (de50313)

MULTICONDUCTOR BRAID SHIELDED CABLE

Stranded tinned copper conductors. Color-coded PVC insulation. Passes UL VW-1 UL Standard 13 vertical tray flame test. Gray PVC jacket UL Type CM, CSA PCC FT4. 500′ spools are also available; *contact your local Newark sales office.*

1736C-1751

22 AWG, 7/30 STRANDED, TYPE CM 80°C 300V, 0.016″ (0.406) INSULATION THICKNESS UL 2095

No. of Cond.	Nom. O.D.	Type	100′ Spool Stock No.	100′ Spool Each	100′ Spool 2-4	1000′ Spool Stock No.	1000′ Spool Each	1000′ Spool 2-4
2	.185″	1736C	02F7794	56.83	51.49	02F7796	325.54	296.93
3	.200″	1737C	02F7797	66.84	60.55	02F7799	350.70	319.87
4	.210″	1738C	02F8179	88.14	79.84	02F8181	572.26	542.68
20 AWG, 7/28 STRANDED, TYPE CM 80°C, 300V, 0.16″ (0.406) INSULATION THICKNESS UL2095								
2	.200″	1741C	02F7800	95.94	86.91	02F7802	623.05	590.83
3	.220″	1742C	02F7803	107.78	99.92	02F7805	742.93	704.51
18 AWG, 16/30 STRANDED, TYPE CM 80°C 300V, 0.016″ (0.406) INSULATION THICKNESS UL 2095								
2	.235″	1746C	02F7806	112.95	104.72	02F7808	765.08	726.10
3	.245″	1747C	02F7809	158.88	147.30	02F7811	1076.93	1022.06
16 AWG, 26/30 STRANDED, TYPE CM 80°C 300V, 0.016″ (0.406) INSULATION THICKNESS UL 2095								
2	.250″	1748C	02F7812	163.23	151.32	02F7814	1106.50	1050.13
14 AWG, 41/30 STRANDED, 80°C 450V, 0.020″ (0.508) INSULATION THICKNESS								
2	.290″	1750	02F7815	202.42	187.66	02F7817	1372.84	1302.89
3	.295″	1751	02F8849	304.36	277.61	02F8851	1443.08	1373.26

(6139) (de50315)

MILITARY-GRADE MULTICONDUCTOR, BRAID SHIELD CABLE

1000V, –55°C to +105°C insulated conductors meet MIL-W-16878D type C. Stranded tinned copper conductors, PVC insulation, braided tinned copper shield, 90% coverage. Gray PVC jacket. Typical applications include electronic equipment interconnection, remote control of sensitive recording instruments and controls, and telemetry data. Also available in 16 AWG; *contact your local Newark sales office.*

3405-3430

18 AWG, 19/30 STRAND, INSULATION THICKNESS 0.016″

No. of Cond.	Nom. O.D.	Type	100′ Spool Stock No.	100′ Spool Each	100′ Spool 2-4	100′ Spool 5-9	1000′ Spool Stock No.	1000′ Spool Each	1000′ Spool 2-4	1000′ Spool 5-9
5	0.300″	3405	02F8141	356.91	325.54	304.20	02F8143	1428.02	1358.94	1276.38
8	0.350″	3408	02F9770	453.70	430.24	402.54	02F9771	1919.24	1826.39	1715.42
10	0.400″	3410	02F8144	603.22	572.03	535.20	02F8145	2552.55	2429.06	2281.48
12	0.430″	3412	02F9772	723.75	686.33	642.14	02F9773	2961.86	2867.89	2698.02
15	0.470″	3415	02F8146	809.08	767.85	718.93	02F8147	3370.68	3263.74	3070.43
20	0.530″	3420	02F8148	1093.95	1038.21	972.06	02F8149	4556.44	4411.88	4150.56
30	0.650″	3430	02F8150	1268.36	1203.73	1127.04	02F8151	8296.93	8033.69	7557.85

(6108) (de00653)

MULTICONDUCTOR, FOIL/BRAID-SHIELDED CABLE

Conductor: stranded tinned copper. Shield: aluminum/polyester foil/65% tinned copper braid. Insulation: color-coded SR-PVC. Jacket: PVC. Jacket color: gray. Voltage rating: 300V. Operating temperature: –20°C to +80°C. UL listed type CM, UL recognized AWM style 2464; CSA certified PCC FT4.

24 AWG, 7/32 STRANDED, 0.010″ INSULATION THICKNESS, 0.032″ JACKET THICKNESS

No. of Cond.	Nom. O.D.	Type	500′ Spool Stock No.	500′ Spool Each	500′ Spool 2-4	500′ Spool 5-9	1000′ Spool Stock No.	1000′ Spool Each	1000′ Spool 2-4	1000′ Spool 5-9
3	0.190″	6327	66F8614	234.86	214.22	200.18	66F8613	379.96	360.32	337.12
4	0.200″	6328	66F8616	248.79	226.93	212.05	66F8615	272.84	258.73	242.07
5	0.215″	6329	66F8618	268.70	245.08	229.01	66F8617	310.47	294.42	275.46
6	0.225″	6330	66F8620	199.27	181.76	169.84	66F8619	362.30	330.46	308.79
7	0.228″	6331	66F8605	217.07	197.99	185.01	66F8604	473.70	432.07	403.74
8	0.240″	6332	66F8607	387.34	353.30	330.13	66F8606	498.64	472.85	442.41
9	0.254″	6333	66F8609	256.55	234.01	218.67	66F8608	619.06	587.05	549.25
10	0.270″	6334	66F8611	407.08	386.03	361.17	66F8610	773.35	733.37	686.15
15	0.300″	6335	66F8595	382.09	362.33	339.00	66F8612	1031.14	977.82	914.87
25	0.372″	6336	66F8597	1050.03	996.53	933.03	66F8596	1601.70	1524.22	1431.61
37	0.412″	6337	66F8599	1486.13	1414.23	1328.31	66F8598	2563.07	2439.08	2290.89
50	0.486″	6338	66F8601	1875.04	1784.33	1675.92	66F8600	3097.57	2999.29	2821.64

22 AWG, 7/30 STRANDED, 0.010″ INSULATION THICKNESS, 0.032″JACKET THICKNESS

3	0.202″	6339	66F8603	243.82	222.39	207.81	66F8602	328.40	299.54	279.90
4	0.215″	6340	66F8587	274.27	250.16	233.76	66F8586	397.03	376.50	352.26
5	0.231″	6341	66F8589	212.35	193.69	180.99	66F8588	386.12	352.19	329.10
6	0.245″	6342	66F8591	229.53	209.35	195.63	66F8590	395.15	374.72	350.59
7	0.245″	6343	66F8593	280.10	255.48	238.73	66F8592	357.51	339.03	317.20
8	0.260″	6344	66F8577	236.85	216.04	201.87	66F8594	385.74	365.79	342.24
9	0.280″	6345	66F8579	334.38	304.99	284.99	66F8578	508.04	481.78	450.76
10	0.300″	6346	66F8581	312.48	285.02	266.33	66F8580	472.29	447.87	419.04
15	0.340″	6347	66F8583	474.17	449.66	420.71	66F8582	674.71	640.33	599.53
25	0.410″	6348	66F8585	855.86	812.26	760.50	66F8584	1201.72	1143.58	1074.10
37	0.460″	6349	66F8574	1269.93	1205.23	1128.43	66F8573	2806.92	2671.13	2508.84
50	0.555″	6350	66F8576	1387.68	1320.54	1240.31	66F8575	3331.47	3170.30	2977.68

6327-6361

LOW CAPACITANCE CABLE—24 AWG, 7/32 STRANDED, 0.035″ JACKET THICKNESS

Nominal capacitance (CDR to CDR); 12pF/ft. Insulation: color coded foam polyethylene. Operating voltage: 300V (CM), 30V (AWM). UL listed type CM, UL recognized AWM style 2919; CSA certified PCC FTI.

3	0.215″	6351	66F8348	119.75	111.02	103.51	66F8347	207.00	188.80	176.43
4	0.230″	6352	66F8350	133.96	124.19	115.79	66F8349	244.81	223.30	208.66
5	0.246″	6353	66F8352	158.32	146.77	136.84	66F8351	322.43	294.10	274.82
6	0.265″	6354	66F8354	176.58	163.71	152.63	66F8353	328.40	299.54	279.90
7	0.265″	6355	66F8356	205.01	186.99	174.73	66F8355	362.24	330.40	308.74
8	0.280″	6356	66F8358	226.90	206.96	193.39	66F8357	348.11	330.11	308.85
9	0.300″	6357	66F8360	242.82	221.48	206.96	66F8359	404.55	383.64	358.94
10	0.306″	6358	66F8362	266.70	243.27	227.32	66F8361	417.73	396.13	370.62
15	0.350″	6359	66F8364	328.40	299.54	279.90	66F8363	635.99	603.11	564.28
25	0.445″	6360	66F8366	481.70	456.80	427.38	66F8365	996.35	945.59	885.34
37	0.515″	6361	66F8368	796.71	756.12	707.94	66F8367	1577.14	1500.84	1409.66

(6199) (ne06460)

MULTIPAIR, FOIL-SHIELDED POWER-LIMITED TRAY CABLE

Conductor: stranded tinned copper. Shield: aluminum/polyester foil. Drain wire: stranded tinned copper. Insulation: PVC, black and red pairs, numbered. Jacket: PVC. Jacket color: gray. Voltage rating: 300V. Operating temperature: –20°C to +105°C. UL listed type CM/PLTC, CSA certified PCC FT4.

22 AWG, 7/30 STRANDED, 0.043″ JACKET THICKNESS

No. of Pairs	Nom. O.D.	Type	500′ Spool Stock No.	500′ Spool Each	500′ Spool 2-4	500′ Spool 5-9	1000′ Spool Stock No.	1000′ Spool Each	1000′ Spool 2-4	1000′ Spool 5-9
2	0.310″	6417	66F8314	278.06	257.79	240.35	66F8313	320.44	292.28	273.12
3	0.326″	6418	66F8316	182.67	169.35	157.89	66F8315	398.07	363.08	339.28
4	0.353″	6419	66F8318	234.86	214.22	200.18	66F8317	500.52	474.64	444.08

22 AWG, 7/30 STRANDED, 0.053″JACKET THICKNESS

6	0.425″	6420	66F8320	362.24	330.40	308.74	66F8319	726.31	688.76	644.41
9	0.488″	6421	66F8322	487.35	462.15	432.39	66F8321	1016.68	964.88	903.40
11	0.536″	6422	66F8324	556.97	528.17	494.16	66F8323	1160.87	1101.72	1031.52
15	0.594″	6423	66F8326	715.02	678.05	634.40	66F8325	1489.90	1413.99	1323.90

22 AWG, 7/30 STRANDED, 0.063″JACKET THICKNESS

19	0.631″	6424	66F8328	837.38	794.71	744.08	66F8327	1701.70	1619.38	1520.99
27	0.741″	6425	66F8330	1190.44	1129.79	1057.80	66F8329	2387.64	2272.13	2134.09
51	0.950″	6426	66F8332	2285.89	2175.30	2043.14	66F8331	4190.03	4057.09	3816.78

18 AWG, 19/30 STRANDED, 0.043″ JACKET THICKNESS

2	0.377″	6427	66F8334	380.09	360.44	337.23	66F8333	605.89	574.56	537.57

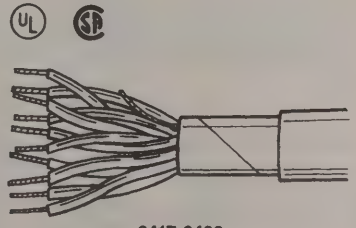
18 AWG, 19/30 STRANDED, 0.053″ JACKET THICKNESS

3	0.420″	6428	66F8336	402.67	381.85	357.27	66F8335	893.78	847.57	793.00
4	0.458″	6429	66F8338	513.69	487.13	455.77	66F8337	1452.93	1378.90	1291.04
6	0.509″	6430	66F8340	767.14	728.05	681.66	66F8339	1378.90	1312.20	1232.47
9	0.591″	6431	66F8342	1159.02	1099.97	1029.88	66F8341	2084.14	1983.32	1862.82

18 AWG,19/30 STRANDED, 0.063″JACKET THICKNESS

11	0.682″	6432	66F8344	1284.72	1219.26	1141.57	66F8343	2310.45	2198.68	2065.09
15	0.755″	6433	66F8346	1606.97	1529.22	1436.31	66F8345	2943.20	2849.82	2681.02

(6200) (ne06461)



6417-6433

COMMUNICATION AND CONTROL CABLE

MULTICONDUCTOR BRAID SHIELDED MICROPHONE CABLE

1702-1710

- 60°C
- Braid or Spiral Wrapped Tinned Copper Shield Gray PVC Jacket
- Polyethylene Insulation • UL 1150 (1706 Only)

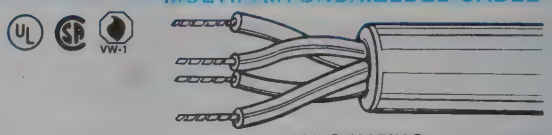
Conductor: Stranded tinned copper **type 1702** has 3 strands of tinned copper and 4 strands at tinned copperweld.

AWG (Standing)	Voltage Rating	Nom. O.D.	Type	100′ Spool		1000′ Spool	
				Stock No.	Each	Stock No.	Each
26 (7/34)	1000	0.110″	1702*	02F8790	41.78	02F8792	218.72
24 (10/34)	3500	0.145″	1703	02F8793	31.35	02F8795	386.50
24 (10/34)	1000	0.110″	1705*	02F8799	51.21	02F8801	268.04
20 (26/34)	4000	0.175″	1706	02F8802	85.61	02F8804	423.80
24 (10/34)	1000	0.190″	1709*	02F8805	83.70	02F8807	414.24
22 (19/34)	1000	0.230″	1710	02F8808	54.16	02F8810	283.52

*Spiral wrapped

(6132) (de50308)

MULTIPAIR UNSHIELDED CABLE



1317C-1327/19C

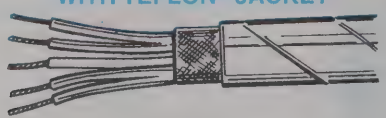
- UL Type CM, AWM 2576
- CSA PCC FT4
- 80°C, 300V
- Gray PVC Jackset
- Passes UL VW-1 Vertical Wire Flame Test
- Sold in Spools of 1000′

22 AWG, 7/30 STRANDED CONDUCTORS

Stock No.	Type	No. of Pairs	Nom. O.D.	Each
03F1274	1317C	2	0.239″	180.52
03F1277	1318C	3	0.252″	246.28
03F1280	1319C	4	0.274″	318.15
03F1283	1320C	5	0.304″	409.42
03F1285	1322C	6	0.320″	606.26
03F1287	1323C	9	0.370″	643.97
03F1289	1324C	11	0.400″	1364.83
03F2630	1325C	12	0.410″	1349.66
03F1291	1327C	15	0.450″	1407.15
03F1293	1327/19C	19	0.480″	2001.69

(6142) (de50319)

MULTICONDUCTOR BRAID SHIELDED CABLE WITH TEFLON® JACKET



2824-2837/3

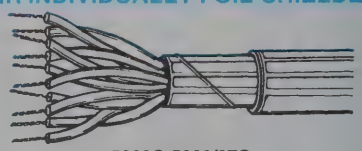
- 200°C, 600V
- Stranded Silver Plated Copper Conductors
- Color-Coded Extruded TFE Insulation
- Braided Silver Plated Copper Shield
- MIL-W-16878E Type E Inners
- Passes UL VW-1 Vertical Wire Flame Test

WHITE WRAPPED TEFLON TAPE JACKET—22 AWG, 19/34 STRANDED CONDUCTORS

No. of Cond.	Nom. O.D.	Type	100′ Spool		1000′ Spool	
			Stock No.	Each	Stock No.	Each
1	.101″	2824	02F7763	149.95	02F7764	556.97
2	.150″	2824/2	02F7766	184.84	02F7767	998.20
3	.158″	2824/3	03F1323	234.96	03F1324	1293.96
4	.172″	2824/4	03F1325	279.94	03F1326	1463.11
WRAPPED WHITE TEFLON TAPE JACKET—16 AWG. 19/29 STRANDED CONDUCTORS						
1	.129″	2826	02F7761	228.53	02F7762	850.32
WRAPPED WHITE TEFLON TAPE JACKET—20 AWG, 19/32 STRANDED CONDUCTORS						
1	.109″	2827	02F7768	174.27	02F7769	893.67
2	.168″	2827/2	02F7770	214.82	02F7771	1183.05
3	.177″	2827/3	03F1327	276.58	03F1328	1445.57
4	.194″	2827/4	03F1329	335.67	03F1330	1754.33
WRAPPED WHITE TEFLON TAPE JACKET—18 AWG, 19/30 STRANDED CONDUCTORS						
2	.188″	2829/2	02F7774	258.44	02F7775	1350.83
EXTRUDED WHITE FEP TEFLON JACKET, 0.10″ INSUL. THICK.—24 AWG, 19/36 STRANDED COND.						
1	.085″	2831	02F7776	136.96	02F7777	714.85
2	.130″	2831/2	02F7778	175.73	02F7779	949.03
3	.135″	2831/3	02F7780	200.92	02F7781	1085.00
EXTRUDED WHITE FEP TEFLON JACKET, 0.10″ INSUL. THICK.—22 AWG, 19/34 STRANDED COND.						
1	.091″	2834	02F7782	161.99	02F7783	830.65
2	.150″	2834/2	02F7784	176.99	02F7785	955.83
EXTRUDED WHITE FEP TEFLON JACKET, 0.10″ INSUL. THICK.—20 AWG, 19/32 STRANDED COND.						
3	.158″	2834/3	02F7786	237.86	02F7787	1466.85
2	.168″	2837/2	02F7790	235.10	02F7791	1294.70
3	.178″	2837/3	02F7792	274.69	02F7793	1435.57

(6131) (de50307)

MULTIPAIR INDIVIDUALLY FOIL-SHIELDED CABLE



5902C-5909/27C

22 AWG solid tinned copper conductors with color-coded PVC insulation. Shield is aluminum/polyester tape with foil facing inward. 22 AWG stranded tinned copper drain wire. Voltage rating: 300V. Temperature range: –20°C to +80°C-AWM (75°C-CM). Gray PVC jacket. UL listed, Type CM, CSA certified, PCC FT4. 500′ spools are also available; *contact your local Newark sales office.*

Pairs	Type	100′ Spool		1000′ Spool	
		Stock No.	Each	Stock No.	Each
2	5902C	04F3356	37.59	04F3358	214.96
4	5905C	04F3359	45.00	04F3361	314.75
6	5906C	04F3362	51.01	04F3364	509.23
9	5909C	04F3365	85.21	04F3367	583.31
15	5909/15C	04F3368	134.28	04F3370	1303.55
19	5909/19C	04F3371	179.57	04F3373	1312.45
27	5909/27C	04F3374	264.67	04F3376	1336.82

(9920) (de50424)

NEWARK MAKES ORDERING SIMPLE.
ONE CALL IS ALL IT TAKES TO GET FAST, EFFICIENT DELIVERY.

COMMUNICATION AND CONTROL CABLE

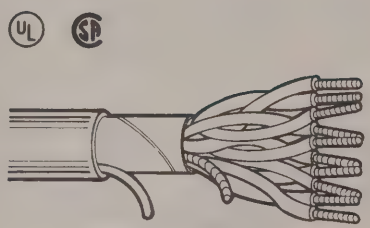
MULTIPAIR FOIL-SHIELDED CABLE

Stranded tinned copper conductors. Aluminum/polyester foil shield. Stranded tinned copper drain wire facilitates ground termination. UL type CM, AWM 2464, 2576, CSA PCC FT4. Gray PVC jacket. Insulation thickness: 0.016″ (18 AWG), 0.010″ (22 and 24 AWG). –20° to +80C° operating temperature. Passes UL Subject 13 vertical tray flame test.

300 VOLT, 80°C, 24 AWG, 7/32 STRAND, UL 2464, CL2

No. Pairs	O.D.	Type	100′ Spool				500′ Spool			
			Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
1	0.15″	5471C	03F6275	25.06	23.46	22.05	03F6276	73.78	70.94	64.70
2	0.22″	5472C	03F6277	30.42	28.48	26.77	03F6278	100.03	96.18	87.72
3	0.23″	5473C	03F6279	38.77	36.30	34.12	03F6280	126.92	122.03	111.30
4	0.25″	5474C	03F6281	49.03	45.90	43.14	03F6282	166.78	160.36	146.27
5	0.29″	5475C	03F6283	57.78	54.10	50.84	03F6284	178.92	165.87	154.65
6	0.29″	5476C	03F6285	61.86	59.47	54.25	03F6286	239.82	226.72	211.38
7	0.30″	5477C	03F6287	67.57	64.97	59.26	03F6288	266.41	242.99	227.06
8	0.33″	5478C	03F6289	75.25	72.35	65.99	03F6290	326.45	308.63	287.75
9	0.34″	5479C	03F6291	90.32	86.84	79.21	03F6292	360.45	340.77	317.71
10	0.38″	5480C	03F6293	...	...	...	03F6294	366.84	346.81	323.34
15	0.42″	5480/15C	03F6295	133.46	128.32	117.04	03F6296	537.87	518.93	493.19
19	0.45″	5480/19C	03F6297	199.23	188.35	175.61	03F6298	865.55	835.08	793.66
25	0.53″	5480/25C	03F6299	222.28	213.72	194.94	03F6300	928.79	896.10	851.65
50	0.71″	5480/50C	03F6301	710.77	685.75	651.74	03F6302	2461.72	2347.25	2278.58
150 VOLT, 80°C, 22 AWG, 7/30 STRAND, UL 2576, CL2										
1	0.16″	2211C	03F6220	25.10	22.74	20.77	03F6221	100.47	91.02	83.15
2	0.24″	2212C	03F6222	49.07	44.46	40.62	03F6223	146.92	139.32	130.36
3	0.25″	2213C	03F6224	58.86	53.32	48.72	03F6225	190.08	176.22	164.30
4	0.28″	2214C	03F6226	61.58	55.78	50.96	03F6227	234.18	213.60	199.60
5	0.31″	2215C	03F6228	72.29	65.49	59.83	03F6229	274.65	250.51	234.08
6	0.32″	2216C	03F6231	83.46	75.61	69.08	03F6232	317.38	289.49	270.51
9	0.37″	2219C	03F6233	105.44	97.75	91.14	03F6234	401.20	380.46	355.96
12	0.41″	2219/12C	03F6237	135.99	126.07	117.54	03F6238	519.28	492.43	460.72
15	0.45″	2219/15C	03F6239	184.01	170.59	159.05	03F6240	688.41	616.13	515.97
19	0.50″	2219/19C	03F6241	207.19	188.99	176.59	03F6242	792.40	752.03	704.11
23	0.55″	2219/23C	03F6243	264.32	241.09	225.28	03F6244	1010.82	959.32	898.20
27	0.59″	2219/27C	03F6245	309.06	281.90	263.41	03F6246	1182.79	1122.53	1051.00
300 VOLT, 80°C, 22 AWG, 16/30 STRAND, UL 2464, CL2										
1	0.22″	2241C	03F6251	46.18	41.84	38.22	03F6252	149.26	138.38	129.02
2	0.35″	2242C	03F6253	67.63	61.27	55.98	03F6254	256.71	234.15	218.80
3	0.36″	2243C	03F6255	85.89	77.81	71.09	03F6256	326.45	297.76	278.24
4	0.41″	2244C	03F6257	107.76	97.62	89.18	03F6258	387.32	367.29	343.64
5	0.45″	2245C	03F6259	124.36	115.29	107.49	03F6260	510.40	484.01	452.84
6	0.49″	2246C	03F6261	160.57	148.86	138.79	03F6262	612.89	581.20	543.78
8	0.55″	2248C	03F6263	186.71	173.09	161.38	03F6264	712.99	676.13	632.59
9	0.59″	2249C	03F6265	206.38	178.49	163.06	03F6266	855.86	812.26	760.50
12	0.65″	2249/12C	03F6267	288.21	267.20	249.12	03F6268	790.29	749.43	701.18
19	0.80″	2249/19C	03F6271	426.31	404.26	378.24	03F6272	1636.82	1557.64	1463.00

(6105) (de00580)



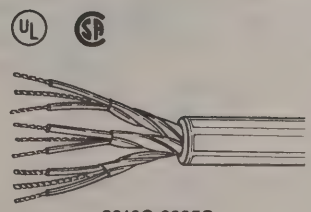
MULTIPAIR INDIVIDUALLY FOIL-SHIELDED CABLE

Stranded tinned copper conductor with color coded polypropylene insulation. Individual pairs are shielded with aluminum/polyester tape, foil facing inward. Stranded tinned copper drain wire. Gray PVC jacket. Temperature range: –40°C to +60°C. 300V. UL listed. Type CM. UL 2493. CSA PCC FT4. 500′ spools are also available; *contact your local Newark sales office.*

22 AWG 7/30 STRANDED—NEC TYPE CM-300V

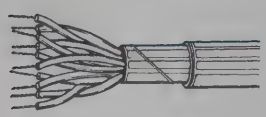
Pairs	O.D.	Type	100′ Spool				1000′ Spool			
			Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
3	0.31″	6010C	02F9033	46.12	41.78	38.17	02F9034	308.50	281.39	262.94
6	0.39″	6012C	02F9035	79.19	71.74	65.54	02F9036	545.68	517.46	484.15
9	0.46″	6014C	02F9037	149.04	138.17	128.82	02F9039	1029.62	977.16	914.90
11	0.48″	6016C	02F9040	166.23	154.11	143.68	02F9042	1099.87	1043.83	977.32
12	0.48″	6017C	03F2636	219.67	200.37	187.23	03F2637	1553.56	1478.41	1388.58
15	0.56″	6018C	02F9043	209.06	190.69	178.19	02F9045	1547.32	1472.46	1383.00
17	0.61″	6019C	03F3423	348.31	317.70	296.87	92F6854	2289.40	2178.64	2046.28
19	0.63″	6020C	02F9046	284.92	259.88	242.84	02F9048	1920.99	1828.06	1716.99
27	0.68″	6022C	02F9049	496.15	470.50	440.21	02F9051	2941.50	2848.18	2679.48
20 AWG 10/30 STRANDED—NEC TYPE CM-300V										
			100′ Spool				1000′ Spool			
2	0.31″	6032C	03F5679	60.05	54.40	49.70	03F5681	369.30	336.85	314.76
3	0.34″	6033C	03F2638	62.42	56.54	51.66	03F2639	431.74	409.42	383.06
6	0.43″	6036C	03F2640	116.28	107.80	100.51	03F2641	776.38	736.82	689.87
9	0.53″	6039C	03F2642	221.94	202.44	189.16	03F2643	1281.02	1215.75	1138.29
12	0.59″	6042C	03F2646	309.18	282.01	263.52	03F2647	2187.73	2081.90	1955.41
15	0.64″	6045C	03F3430	319.06	275.95	252.09	03F2648	3202.10	3100.50	2916.86
18 AWG 16/30 STRANDED—NEC TYPE CM-300V										
			100′ Spool				1000′ Spool			
3	0.38″	6023C	02F7954	85.53	77.48	70.79	02F7956	609.80	578.27	541.04
6	0.56″	6024C	02F7957	148.63	137.80	128.47	02F7959	1012.99	961.37	900.12
9	0.62″	6025C	02F7960	217.26	198.17	185.18	02F7962	1577.14	1500.84	1409.66

(6153) (de50423)



6010C-6025C

MULTIPAIR, FOIL-SHIELDED LOW-CAPACITANCE CABLE



Features lower dielectric constant, resulting in low loss, lower signal distortion, faster speeds and higher data rates. Capacitance of 12.5pF per foot allows for longer transmission lengths. Stranded tinned copper conductor. Color-coded cellular dielectric insulation. Polyester aluminum foil shield. Gray PVC jacket. 300V. rain wire. Applications: computer interconnects, EIA RS-232, RS-422, RS-449, CAD/CAM systems, and in areas where high levels of noise interference are anticipated. Temperature range: –20°C to +80°C. 100 Ohms. UL Type CM, AWM 2919, CSA PCC FT4. **Sold in spools of 1000′.**

24 AWG, 7/32 TINNED COPPER, INSULATION THICKNESS 0.012″

Stock No.	Type	No. Pairs	O.D.	Each	2-4	5-9
04F5633	6202C	2	0.25″	188.76	175.00	163.16
04F5634	6203C	3	0.26″	258.74	236.00	220.53
04F5636	6205C	5	0.31″	291.54	265.92	248.49
04F5637	6206C	6	0.34″	453.79	413.91	386.78
22 AWG, 7/30 TINNED COPPER, INSULATION THICKNESS 0.016″						
04F5642	6212C	2	0.29″	493.82	468.29	438.14
04F5643	6213C	3	0.31″	590.57	560.04	523.98
04F5646	6216C	6	0.39″	1018.90	966.99	905.37

(6180) (de52560)

MULTIPAIR FOIL-SHIELDED DATA CABLE

2471, 2472, 2473

2463C, 2466C, 2467C

Stranded tinned copper conductor with color-coded high density polyethylene insulation, except **types 2463C, 2466C,** and **2467C** which have polypropylene insulation. Aluminum/polyester tape shield. Stranded tinned copper drain wire. Gray PVC jacket. Applications include audio, pulse, or RF signal transmission; computer or electronic peripheral interconnectors in areas of high noise interference. **Types 2463C, 2466C,** and **2467C** have pairs cabled on common axis. **Types 2463C** and **2466C** have common drain wire. **Types 2463C, 2466C,** and **2467C** are CM rated, 75°C, 300V, CSA PCC FT4.

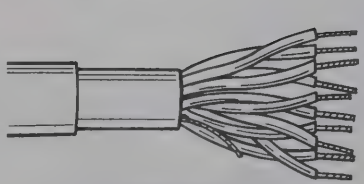
SINGLE PAIR, 600V, 60°C

AWG	O.D.	Type	100′ Spool				1000′ Spool			
			Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
16	0.30″	2471	04F3377	48.47	43.91	40.12	04F3378	343.15	313.00	292.47
14	0.34″	2472	04F3379	63.37	57.40	52.45	04F3381	439.06	416.36	389.55
12	0.40″	2473	04F3382	129.36	117.19	107.06	04F3384	572.02	542.44	507.52
TWO PAIRS INDIVIDUALLY SHIELDED, 400V, 105°C										
22	0.16″	2466C	04F3396	28.53	25.84	23.61	04F3397	158.32	146.77	136.84
FOUR PAIRS INDIVIDUALLY SHIELDED, 400V, 105°C										
22	0.23″	2463C	04F3394	104.20	94.39	86.24	04F3395	691.97	656.20	613.95
22	0.34″	2467C	04F3398	131.73	122.12	113.86	04F3399	1091.27	1035.67	969.68

(6155) (de50426)

FOIL-SHIELDED PLENUM-RATED PAIRED AND MULTICONDUCTOR CABLE

- **UL Standard 13, Type CL2P**
- **Plenum Applications without Conduit**
- **NEC 725-38(b) (3), UL Listed as Class 2 Power Limited Circuit Cable**
- **Passes UL 910 Flame Test**
- **CSA PLC FT6**



58401-58144

Plenum-rated cable has stranded bare copper conductors, with fluorocopolymer .006″ thick insulation. Shielding is constructed of aluminum/polyester foil. Drain wire is stranded tinned copper. Maximum operating temperature: +125°C. Rated 150 volts. UL listed. Applications include remote control & intercom systems, burglar arlarms, cash registers, and other low voltage systems. **Sold in spools of 1000′.**

MULTIPAIR PLENUM-RATED CABLE

Stock No.	Type	Pairs	AWG	Strand	Jacket O.D.	Each	2-4	5-9
04F5110	58401	1	24	7/32	0.114″	238.84	217.85	203.57
04F6047	58412	2	22	7/30	0.181″	483.58	458.58	429.05
92F7516	58413	3	22	7/30	0.193″	541.91	513.89	480.81
04F6048	58415	5	22	7/30	0.233″	780.08	740.33	693.16
92F7518	58416	6	22	7/30	0.255″	964.93	915.76	857.41
92F7519	58419	9	22	7/30	0.307″	1354.96	1285.92	1203.99
04F6049	58420/19	19	22	7/30	0.417″	2077.12	1976.64	1856.55
87F4252	58421	1	20	7/28	0.138″	352.29	321.33	300.26
04F5130	58431	1	20	7/26	0.162″	408.32	387.21	362.28

MULTICONDUCTOR PLENUM-RATED CABLE

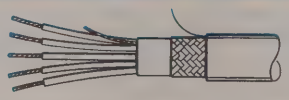
Stock No.	Type	Conduc-tors	AWG	Strand	Jacket O.D.	Each	2-4	5-9
04F5112	58110/25	25	24	7/32	0.262″	1170.11	1110.49	1039.73
04F5114	58411	2	22	7/30	0.124″	318.45	290.47	271.42
04F5608	58113	3	22	7/30	0.131″	288.60	263.24	245.98
04F5115	58114	4	22	7/30	0.142″	394.08	359.45	335.88
04F5117	58116	6	22	7/30	0.169″	508.04	481.78	450.76
04F5609	58117	7	22	7/30	0.169″	572.02	542.44	507.52
04F5119	58118	8	22	7/30	0.183″	654.81	620.95	580.97
04F5610	58119	9	22	7/30	0.197″	709.38	672.70	629.39
04F5121	58120	10	22	7/30	0.214″	759.74	721.03	675.09
04F5611	58120/12	12	22	7/30	0.221″	718.79	681.62	637.74
04F5122	58120/15	15	22	7/30	0.245″	902.08	856.11	801.57
04F5124	58120/25	25	22	7/30	0.310″	1245.90	1182.42	1107.08
04F5126	58124	4	20	7/28	0.160″	500.52	474.64	444.08
04F5128	58126	6	20	7/28	0.191″	688.68	653.07	611.02
04F5612	58133	3	18	7/26	0.172″	564.49	535.31	500.84
04F5132	58134	4	18	7/26	0.188″	647.28	613.82	574.30
04F5134	58136	6	18	7/26	0.226″	920.56	873.66	817.99
04F5613	58142	2	16	7/24	0.186″	558.85	529.95	495.83
04F5614	58144	4	16	7/24	0.216″	926.11	878.92	822.92

(6128) (de50259)

XTRA-GUARD® 1 CABLE

300-VOLT MULTICONDUCTOR SUPRASHIELDED™ COMMUNICATION AND CONTROL CABLE

UL CSA OSHA VW-1



- Rated 300 Volts, CM Rated
- Premium PVC Insulation Passes UL VW-1
- For FCC Docket 20780 Applications

Features aluminum/polyester/aluminum foil shielding with drain wire and overall braid tinned copper. Temperature range: –20°C to +80°C. UL Type CM, AWM style 2464, CSA PCC FT4. OSHA acceptable. Color: gray. Also available in 1000′ spools.

24 AWG 7/32, 0.010″ INSULATION THICKNESS

No. Cond.	O.D.	Type	100′ Spool				500′ Spool			
			Stock No.	Each	2	3-4	Stock No.	Each	2	3-4
2	0.180″	5112C	88F4631	191.27	173.88	159.97	...	...	...	...
4	0.210″	5114C	92F7630	180.64	167.47	156.14	92F7439	822.59	780.68	730.94
6	0.230″	5116C	...	...	...	...	98F4390	887.29	842.08	788.43
8	0.250″	5118C	92F7443	226.90	206.96	193.39	92F7442	1053.65	999.97	936.25
10	0.270″	5120C	92F7446	256.75	242.73	226.31	92F7445	1192.29	1131.54	1059.45
22 AWG 7/30, 0.010″ INSULATION THICKNESS										
2	0.200″	5102C	92F9386	159.39	153.26	139.79	92F7419	718.79	693.48	659.09
4	0.220″	5104C	70B8330	178.61	165.59	154.38	92F7423	854.26	824.19	783.31
8	0.270″	5108C	92F7428	256.75	242.73	226.31	92F7427	1150.90	1112.85	1059.45
10	0.300″	5110C	70B5355	300.54	284.13	264.91	98F6419	1349.42	1280.66	1199.06
15	0.330″	5110/15C	92F7431	387.62	367.58	343.91	92F7430	1772.97	1690.53	1641.06
25	0.390″	5110/25C	92F7437	607.77	586.37	557.29	92F7436	2654.82	2570.59	2418.33
20 AWG 7/28, 0.017″ INSULATION THICKNESS										
2	0.230″	5152C	03F6303	184.23	177.14	161.57	03F6304	835.45	806.04	766.06
3	0.260″	5153C	03F6305	211.14	203.02	185.17	03F6306	952.11	918.59	873.03
4	0.280″	5154C	03F6307	220.93	208.86	194.73	03F6308	984.96	952.39	906.69
6	0.320″	5156C	03F6309	288.60	272.84	254.38	03F6310	1288.30	1245.70	1185.92
8	0.350″	5158C	03F6374	306.51	279.57	261.24	03F6375	1416.77	1369.93	1304.18
10	0.370″	5160C	03F6376	394.08	372.57	347.36	03F6359	1766.50	1708.10	1626.12
15	0.430″	5160/15C	03F6378	526.86	508.31	483.10	03F6379	2332.23	2223.79	2158.73
20	0.480″	5160/20C	03F6366	658.57	635.39	603.87	03F6367	2918.21	2782.52	2701.11
25	0.520″	5160/25C	03F6368	810.99	782.44	743.63	03F6369	3545.41	3432.92	3229.59
30	0.560″	5160/30C	03F6370	894.68	849.10	795.00	03F6371	4165.29	3971.62	3855.42
40	0.670″	5160/40C	03F6372	1170.11	1110.49	1039.73	03F6373	5369.00	5198.66	4890.74
50	0.730″	5160/50C	03F6360	1464.95	1416.51	1348.53	03F6361	6437.71	6233.46	5864.25
18 AWG 16/30, 0.017″ INSULATION THICKNESS										
2	0.250″	5162C	03F6351	199.03	188.17	175.44	03F6352	995.16	940.82	877.17
4	0.310″	5164C	03F6356	260.73	246.50	229.82	03F6357	1173.81	1114.00	1043.02
6	0.350″	5166C	03F6358	344.33	325.53	303.50	03F6359	1766.50	1708.10	1626.12
8	0.380″	5168C	03F6381	419.96	397.03	370.17	03F6382	1756.27	1674.61	1625.61
10	0.410″	5170C	03F6383	499.57	472.29	440.34	03F6384	2131.51	2028.39	1905.15
15	0.480″	5170/15C	03F6385	679.27	655.36	622.85	03F6386	2968.64	2874.46	2704.20
20	0.530″	5170/20C	03F6388	859.91	829.64	788.49	03F6389	3813.04	3635.74	3529.37
16 AWG 19/0.0117, 0.017″ INSULATION THICKNESS										
4	0.340″	5174C	03F6336	324.42	306.71	285.96	03F6337	1385.92	1318.87	1238.74
6	0.390″	5176C	03F6323	435.88	412.08	384.20	03F6324	1824.72	1739.87	1688.97
8	0.430″	5178C	03F6325	547.56	528.28	502.08	03F6326	2427.39	2314.52	2246.80
10	0.470″	5180C	03F6327	667.98	644.47	612.50	03F6328	2917.75	2825.18	2657.84

(6103) (de00290)

600-VOLT MULTICONDUCTOR SUPRASHIELDED™ CABLE

For FCC Docket 20780 applications. Stranded tin-coated copper conductor, premium 105°C PVC insulation, aluminum/polyester/aluminum foil shield and tinned copper braid with drain wire. Standard stock color gray or slate. UL AWM 2501, CSA AWM PVC.

22 AWG, 7/30, 0.032″ INSULATION THICKNESS UL 1015

No. Cond.	O.D.	Type	100′ Spool				500′ Spool			
			Stock No.	Each	2	3-4	Stock No.	Each	2	3-4
7	0.48″	5507	02F9165	382.14	348.56	325.71	02F9166	1684.16	1602.68	1505.31
12	0.57″	5509/12	03F3295	543.80	515.68	482.48	...	...	...	...
20 AWG, 7/28, 0.032″ INSULATION THICKNESS UL 1015										
4	0.42″	5514	02F9176	320.44	302.95	282.45	02F9177	1412.24	1343.92	1262.26
7	0.50″	5517	02F9181	430.90	408.62	382.31	02F9182	1971.63	1879.96	1824.95
9	0.54″	5519	02F9183	540.03	521.02	495.18	02F9184	2438.52	2320.55	2179.56
18 AWG, 16/30, 0.032″ INSULATION THICKNESS UL 1015										
4	0.45″	5524	02F9192	378.16	344.93	322.31	02F9193	1748.66	1690.84	1609.70
5	0.48″	5525	02F9194	419.61	397.91	372.29	02F9195	1919.88	1830.61	1777.05
12	0.63″	5529/12	02F9200	803.46	775.18	736.73	02F9201	3564.29	3398.56	3299.12
16 AWG, 19/0.0117, 0.032″ INSULATION THICKNESS UL 1015										
4	0.49″	5534	02F9208	487.63	461.00	429.81	02F9209	2040.08	1945.22	1888.31
7	0.58″	5537	02F9212	667.98	644.47	612.50	02F9213	2961.62	2823.91	2741.29
9	0.63″	5539	02F9214	826.04	796.96	757.43	02F9215	3604.78	3490.41	3283.67
12	0.69″	5539/12	03F3298	986.74	954.12	908.33	02F9216	4546.26	4402.02	4141.29
14 AWG, 41/30, 0.032″ INSULATION THICKNESS UL 1015										
4	0.51″	5544	02F9225	588.95	568.22	540.04	02F9226	2607.69	2486.44	2413.69
7	0.61″	5547	02F9227	876.84	845.98	804.01	02F9228	3889.83	3708.97	3600.45
12	0.77″	5549/12	02F9232	1310.60	1243.82	1164.57	02F9233	6013.62	5822.83	5477.93
15	0.83″	5549/15	02F9234	1577.36	1525.21	1452.01	02F9235	7268.93	7038.31	6621.42

(6109) (de01317)

MULTICONDUCTOR BRAID SHIELDED CABLE WITH PVC JACKET

1120-1122

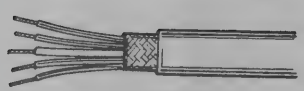
- 80°C, 200 Volts
- 28 AWG, 7/36 Stranded Tinned Copper Conductor
- Color-Coded PVC Insulation with Clear PVC Jacket
- Braided Tinned Copper Shield
- 0.010″ Insulation Thickness

Contact your local Newark sales office to order!

No. of Cond.	Nom. O.D.	Type	100′ Spool				1000′ Spool			
			Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
2	0.105″	1120	02F9782	114.19	105.86	98.70	02F9784	497.45	471.73	441.36
3	0.115″	1121	02F9785	134.87	125.04	116.58	02F9787	586.73	556.40	520.57
4	0.120″	1122	02F9788	170.25	157.83	147.16	02F9790	741.07	702.75	657.50

(6133) (de50309)

MULTICONDUCTOR BRAID SHIELDED CABLE WITH PVC JACKET



1712-1728

- 60°C, 600V
- Gray PVC Jacket
- 20 AWG, 26/34 Stranded Tinned Copper Conductors
- 0.015″ Thick Color-Coded Polyethylene Insulation

500′ spools are also available; *contact your local Newark sales office.*

No. of Cond.	Nom. O.D.	Type	100′ Spool				1000′ Spool			
			Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
2	0.245″	1712	02F8974	81.04	73.42	67.08	02F8976	361.62	350.14	329.41
3	0.250″	1713	02F8852	97.92	88.71	81.05	02F8854	635.47	602.61	563.81
4	0.260″	1715	02F8855	101.70	92.13	84.17	02F8857	660.46	626.31	585.98
5	0.275″	1716	02F6656	116.30	107.82	100.53	02F6657	787.47	747.35	699.73
6	0.300″	1717	02F6658	294.97	269.04	251.40	02F6660	1935.02	1841.41	1729.54
8	0.330″	1719	02F6661	181.58	168.33	156.95	02F6663	879.89	835.06	781.86
10	0.375″	1721	02F6664	202.62	184.81	172.69	02F6666	1083.23	1028.04	962.54
12	0.380″	1723	02F8977	346.24	315.81	295.10	02F8979	1624.51	1545.92	1452.00
15	0.410″	1726	02F8980	507.63	481.38	450.39	02F8982	2520.97	2399.01	2253.26
20	0.455″	1728	02F8983	661.30	627.11	586.73	02F8985	3185.78	3084.70	2901.99

(6134) (de50310)

MULTICONDUCTOR BRAID SHIELDED MICROPHONE CABLE

Use with low impedance microphones. Operating temperature: -20°C to 60°C. Conductor: stranded tinned copper; shield: braided tinned copper; insulation: neoprene rubber. Black.

No. of Cond.	Nom. O.D.	Type	1000′ Spool		
			Stock No.	Each	2-3
20 AWG, 26/34 STRANDED					
2	0.26″	1448/20	92F6780	707.50	670.92
18 AWG, 41/34 STRANDED					
2	0.29″	1448/18	92F9623	1016.08	963.55

(33794) (ne33794)

MULTICONDUCTOR BRAID SHIELDED CABLE WITH RUBBER JACKET

1250-1255/12

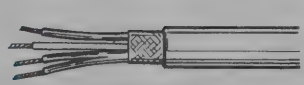
- 60°C, 600V
- Stranded Tinned Copper Conductor
- 0.020″ Thick, Color-Coded Rubber Insulation
- Black Rubber Jacket
- Braided Tinned Copper Shield
- 20 AWG, 26/34 Stranded Conductors

500′ spools are also available; *contact your local Newark sales office.*

No. of Cond.	Nom. O.D.	Type	100′ Spool				1000′ Spool			
			Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
2	.260″	1250	02F8986	92.02	83.36	76.16	02F8988	586.79	556.45	520.62
4	.295″	1252	02F8992	113.28	105.02	97.91	02F8993	824.99	782.96	733.07
6	.340″	1254	02F8997	199.45	181.92	170.00	02F8999	1070.38	1015.85	951.12
8	.365″	1255/8	02F9000	219.37	208.75	196.07	02F9002	1336.00	1267.92	1187.14
10	.400″	1255/10	02F9003	633.72	600.95	562.26	02F9005	3301.60	3196.86	3007.50
12	.480″	1255/12	02F9006	924.57	877.46	821.55	02F9008	4904.03	4748.44	4467.18

(6135) (de50311)

MULTICONDUCTOR BRAID SHIELDED CABLE WITH NEOPRENE JACKET



1450-1452/16

- 60°C, 600V
- Stranded Tinned Copper Conductor
- Color Coded Rubber Insulation
- Braid Tinned Copper Shield
- Black Neoprene Jacket

500′ spools are also available; *contact your local Newark sales office.*

No. of Cond.	Nom. O.D.	Type	100′ Spool				1000′ Spool			
			Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
18 AWG, 41/34 STRANDED										
2	.29″	1450	02F7750	292.96	267.21	249.69	02F7752	1527.39	1453.50	1365.19
3	.30″	1451	02F7753	484.26	459.22	429.65	02F7755	2582.82	2500.88	2352.75
4	.32″	1452	02F7756	605.36	574.06	537.10	02F7758	3228.61	3126.18	2941.01
16 AWG, 65/34 STRANDED										
2	.33″	1452/16	02F6648	147.66	136.89	127.63	02F6650	1078.35	1023.41	958.20
3	.35″	1452/16	02F6651	458.61	434.90	406.90	02F6653	3306.97	3202.05	3012.38
4	.38″	1452/16	02F6654	713.46	676.57	633.01	02F6655	3805.85	3685.10	3466.83

(6130) (de50306)

COMMUNICATION AND CONTROL CABLE

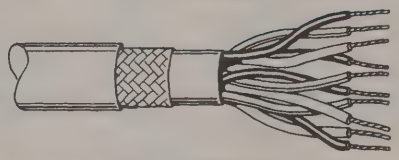
MULTIPAIR, FOIL/BRAID-SHIELDED CABLE

Conductor: stranded tinned copper. Shield: aluminum-polyester foil/65% tinned copper braid. Insulation: color-coded SR-PVC. Jacket: PVC. Jacket color: gray. Jacket thickness: 0.032″. Voltage rating: 300V. Operating temperature: –20°C to +80°C. UL listed type CM, UL recognized AWM style 2464. CSA certified PCC FT4.

24 AWG, 7/32 STRANDED, 0.010″ INSULATION THICKNESS

No. of Pairs	Nom. O.D.	Type	500′ Spool		1000′ Spool	
			Stock No.	Each	Stock No.	Each
2	0.230″	6362	66F8370	158.32	66F8369	278.65
3	0.250″	6363	66F8372	186.73	66F8371	328.40
4	0.280″	6364	66F8374	298.55	66F8373	366.92
5	0.300″	6365	66F8376	372.19	66F8375	639.57
6	0.310″	6366	66F8378	402.67	66F8377	540.03
7	0.340″	6367	66F8380	429.02	66F8379	573.04
10	0.380″	6368	66F8382	549.44	66F8381	1063.88
12½	0.390″	6369	66F8384	679.27	66F8383	1053.65
15	0.430″	6370	66F8386	835.53	66F8385	1521.00
18	0.460″	6371	66F8388	1092.47	66F8387	2082.39
25	0.480″	6372	66F8390	1264.38	66F8389	2563.07
22 AWG, 7/30 STRANDED, 0.010″ INSULATION THICKNESS						
2	0.260″	6373	66F8392	248.79	66F8391	310.47
3	0.296″	6374	66F8394	254.76	66F8393	372.57
4	0.320″	6375	66F8396	288.60	66F8395	442.19
5	0.322″	6376	66F8398	326.41	66F8397	498.64
6	0.348″	6377	66F8400	372.19	66F8399	545.68
7	0.350″	6378	66F8402	381.97	66F8401	658.57
8	0.385″	6379	66F8404	444.07	66F8403	776.38
10	0.440″	6380	66F8406	538.15	66F8405	905.77
12½	0.455″	6381	66F8408	789.32	66F8407	1587.32
15	0.502″	6382	66F8410	1033.32	66F8409	1280.66
18	0.535″	6383	66F8412	1273.63	66F8411	2196.31
25	0.620″	6384*	66F8414	1561.35	66F8413	2322.33

*Jacket Thickness: 0.053″



6362-6384, 6390-6415

LOW CAPACITANCE CABLE —28 AWG, 7/36 STRANDED

Nominal capacitance (CDR to CDR): 15.5 pF/ft. Insulation: color polyethylene. Jacket thickness: 0.035″. Voltage rating: 150V (CL2), 300V (CM). Operating temperature: –20°C to + 60°C. UL listed type CL2, CM, UL recognized AWM style 2960, 2919; CSA certified PCC FT1.

2	0.214″	6390	66F8491	203.02	66F8490	328.40
3	0.222″	6391	66F8493	330.39	66F8492	604.80
4	0.237″	6392	66F8495	304.52	...	...
5	0.240″	6393	66F8497	381.97	66F8496	810.83
7	0.256″	6394	66F8499	412.08	66F8498	1073.67
9	0.290″	6395	66F8501	716.91	66F8500	1315.53
12	0.319″	6396	66F8503	959.38	66F8502	1654.47
13	0.336″	6397	66F8505	1059.20	66F8504	1828.31
18	0.365″	6398	66F8507	1229.26	66F8506	1761.35
25	0.429″	6399	66F8509	1920.99	66F8508	1920.99
31	0.462″	6400	66F8511	2306.94	66F8510	3871.11
LOW CAPACITANCE CABLE — 24 AWG, 7/32 STRANDED						
2	0.291″	6401	66F8513	207.00	66F8512	481.66
3	0.305″	6402	66F8515	256.75	66F8514	524.98
4	0.330″	6403	66F8517	314.47	66F8516	602.13
5	0.338″	6404	66F8519	408.32	66F8518	686.80
6	0.364″	6405	66F8521	528.74	66F8520	759.74
7	0.364″	6406	66F8523	536.27	66F8522	844.77
9	0.419″	6407	66F8534	432.78	66F8533	1012.99
10	0.451″	6408	66F8536	624.71	66F8535	1181.20
12	0.464″	6409	66F8538	955.68	66F8537	1761.35
18	0.567″	6410	66F8540	1338.33	66F8539	2882.36
25	0.670″	6411	66F8542	1442.06	66F8541	3203.40

LOW CAPACITANCE CABLE — 24 AWG, 7/32 STRANDED

Nominal capacitance (CDR to CDR): 12.8 pF/ft. Insulation: color-coded polyethylene. Jacket thickness: 0.035″. Operating temperature: –20°C to +80°C. UL listed type CM, UL recognized AWM style 2919; CSA certified PCC FT1.

1	0.232″	6412	66F8483	190.79	66F8482	328.40
2	0.340″	6413	66F8485	338.36	66F8484	395.15
3	0.360″	6414	66F8487	372.57	66F8486	766.10
4	0.390″	6415	66F8489	543.80	66F8488	674.71

(6201) (ne06462)

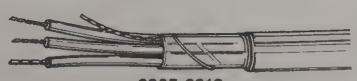
80°C MULTICONDUCTOR FOIL-SHIELDED CABLE

Conductor: stranded tinned copper. Shield: aluminum/polyester foil. Drain wire: stranded tinned copper. Insulation: color-coded Semi-ridgid R-PVC. Jacket: PVC. Jacket color: gray. Jacket thickness: 0.032″. Voltage rating: 300V. Operating temperature: –20°C to +80°C. UL listed type CM, UL recognized AWM style 2464; CSA certified PCC FT4. 100′ spools also available; *contact your local Newark sales office.*

24 AWG, 7/32 STRANDED

No. of Cond.	Nom. O.D.	Type	500′ Spool		1000′ Spool	
			Stock No.	Each	Stock No.	Each
5	0.189″	6305	66F8292	94.86	66F8291	186.73
6	0.209″	6306	66F8294	107.57	66F8293	213.12
15	0.284″	6307	66F8296	266.70	66F8295	413.96
20	0.314″	6308	66F8298	372.19	66F8297	686.80
25	0.339″	6309	66F8301	385.74	66F8300	773.35
30	0.380″	6310	66F8303	871.98	66F8302	1096.17
40	0.430″	6311	66F8305	1183.35	66F8304	1361.36
50	0.490″	6312	66F8307	1409.03	66F8306	2001.69

(6198) (ne06459)



6305-6312

XTRA-GUARD® HIGH PERFORMANCE CABLE

GENERAL-PURPOSE CABLE WITH PREMIUM GRADE PVC JACKET

XTRA•GUARD® 1

General-purpose cable for internal or external wiring of OEM equipment. Features: fully color-coded tinned copper conductors, premium grade PVC insulation and jacket, flame and moisture resistance, and fast, easy stripping of insulation and jacket. Applications: EIA RS 232C interface, high technology applications in controlled environments, medical electronics, point-of-sale equipment, computer peripherals, and industrial process controls. Available unshielded, aluminum foil shielded, or SUPRASHIELD™ for extra protection. *To order, see following pages.*

XTRA-GUARD® 1 CABLE

Multi-Pairs	Multi-Conductors	Jacket Material	Conductor Insulations	Voltage Rating
1-77	2-70	PVC 80°C UL Style 2464, 2343, 2344 UL Type CM PVC 105°C UL Style 2501	PVC 80°C CSA SR-PVC PVC 80°C CSA PVC PVC 105°C CSA TEW PVC 80°C UL Style 1007, 1061 PVC 105°C UL Style 1015	300V 600V

(6187) (de90008)

INDUSTRIAL-STRENGTH CABLE WITH RUGGED POLYURETHANE JACKET

XTRA•GUARD® 2

Heavy-duty cable with PVC-insulated conductors and rugged polyurethane jacketing resists most oils, chemicals, fuels, solvents, mechanical abuse, and abrasion. Applications: CNC machine centers, automotive assembly plant operations, military ground support systems, packaging machinery, petrochemical plant operations, and geophysical exploration equipment. Available unshielded, aluminum foil shielded, or SUPRASHIELD™ for extra protection. UL recognized, CSA certified. Made to order; *contact your local Newark sales office.*

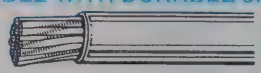
XTRA-GUARD® 2 CABLE

Multi-Pairs	Multi-Conductors	Jacket Material	Conductor Insulations	Voltage Rating
1-27	2-50	Heavy-duty Polyurethane 80°C UL Style 20233, 20235 20236 80°C UL Style 20234	PVC 80°C CSA SR-PVC PVC 80°C CSA TR-64 PVC 105°C CSA TEW PVC 80°C UL Style 1007, 1061 PVC 105°C UL Style 1015	300V 600V

(6209) (ne09294)

OUTDOOR DIRECT-BURIAL CABLE WITH DURABLE JACKET

XTRA•GUARD® 3



Cable features PVC-insulated conductors and UV-stabilized ethylene propylene copolymer jacketing, which withstands direct burial in any outdoor installation without using costly conduit. Applications: inter-building communications, satellite communications equipment, land irrigation systems, outdoor security systems, outdoor scoreboards and displays, and pipeline sensor controls. Available unshielded, aluminum foil shielded, or SUPRASHIELD™ for extra protection. Made to order; *contact your local Newark sales office.*

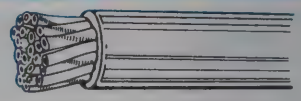
XTRA-GUARD® 3 CABLE

Multi-Pairs	Multi-Conductors	Jacket Material	Conductor Insulations	Voltage Rating
1-9	2-60	PolyethyleneC 80°C	PVC 80°C CSA SR-PVC PVC 80°C CSA PVC PVC 105°C CSA TEW PVC 80°C UL Style 1007, 1061 PVC 105°C UL Style 1015	300V 600V

(6210) (ne09295)

HIGH/LOW TEMPERATURE CABLE WITH TPE JACKET

XTRA•GUARD® 4



Cable features fully color-coded TPE (thermoplastic elastomer) insulated conductors and TPE jacketing for protection from –60°C to +125°C. Resists oils, fuels, solvents, and water. Rated UL Type TC (600V) and UL Type PLTC (300V) for cable tray applications; Pennsylvania Bureau Deep Mine Safety Approved (P-MWMS-1-85) for mine-wide monitoring systems. Applications: wood/paper/pulp plant operations, mining instruments and controls, mass transit systems, military electronic applications, food and beverage plants, petrochemical process controls, and arctic pipeline controls. Available unshielded, aluminum foil shielded, or SUPRASHIELD™ for extra protection. Made to order; *contact your local Newark sales office.*

XTRA-GUARD® 4 CABLE

Multi-Pairs	Multi-Conductors	Jacket Material	Conductor Insulations	Voltage Rating
1-27	2-40	TPE: –60° to +125°C UL 20237, 20238, 20239, 20240 UL Type PLTC Subject 13 UL Type TC, Subj. 1277	TPE: –60° to +125° UL Style 1722, 1888	300V 600V

(6115) (ne09296)

HIGH-TEMPERATURE CABLE WITH CHEMICAL-RESISTANT FEP TEFLON® JACKET

XTRA•GUARD® 5

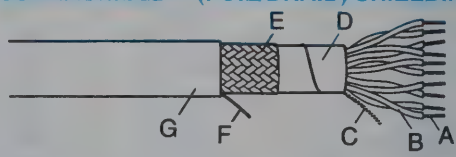
For unusually demanding applications. Resists any known chemical at room temperature and provides exceptionally high resistance at high temperatures. Also provides excellent abrasion and impact resistance. Low friction coefficient makes installation easy for an application. Temperature range: –80°C to +200°C. Applications: military electronic applications; steel, glass, and metal foundries; mining instruments and controls; food and beverage plants; clean room environments; and refinery cracker unit controls. Available unshielded, aluminum foil shielded, or SUPRASHIELD™ for extra protection. Made to order; *contact your local Newark sales office.*

XTRA-GUARD® 5 CABLE

Multi-Pairs	Multi-Conductors	Jacket Material	Conductor Insulations	Voltage Rating
1-12	2-12	FEP-Teflon –80° to +150°C UL Style 20229, 20232, 20230, 20231 NEC article 800 Type CMP	FEP-Teflon –80° to +150°C UL Style 1886,1887	300V

(6117) (ne09297)

SUPRASHIELD™ (FOIL/BRAID) SHIELDING



LEGEND:

A. Conductor
B. Insulation
C. Drain Wire
D. Triple-Laminate Foil Shield
E. Braided Shield
F. Rip Cord
G. Jacket

- **FCC Docket 20780 Applications**
- **Ease of Termination with Use of Stranded Tinned Copper Drain Wire**
- **High-Frequency Interference Applications**
- **High Physical Strength**

SUPRASHIELD™ (foil/braid) Shielding System consists of a unique triple-laminate tape. An aluminum/polyester/aluminum tape is bonded in one layer with a 25% overlap and in contact with a stranded tinned copper drain wire equal in size to the insulated cable conductors. A 70% coverage tinned copper braid shield is applied overall.

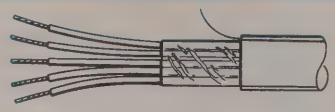
(6126) (de09298)

NEWARK ELECTRONICS® IS AN ISO 9002 COMPANY.

XTRA-GUARD® 1 MULTICONDUCTOR CABLE

MULTICONDUCTOR UNSHIELDED COMMUNICATION AND CONTROL CABLE

VW-1



- **Rated 300 Volts**
- **Premium PVC Jacket and Insulation Passes UL VW-1 Flametest**

XTRA-GUARD® 1 cable features a standed tinned copper conductor and nylon rip cord for easy jacket stripping. Standard spool sizes of 100′ and 500′. Color: gray. Temperature range: –20°C to +80°C. Jacket thickness: 0.032″. UL type CM, AWM style 2464, CSA PCC FT4. 1,000′ spools and black color are available through special order; *contact your local Newark sales office.*

24 AWG 7/32, 0.010″ INSULATION THICKNESS

Conductors	O.D.	Type	100′ Spool Stock No.	100′ Spool Each	100′ Spool 2-4	100′ Spool 5-9	500′ Spool Stock No.	500′ Spool Each	500′ Spool 2-4	500′ Spool 5-9
2	0.16″	5012C	02F9240	89.01	85.59	78.07	02F9241	385.74	365.79	342.24
3	0.17″	5013C	02F9242	99.36	95.54	87.14	02F9243	432.78	410.40	383.98
4	0.19″	5014C	02F9244	103.50	99.52	90.77	02F9245	493.60	466.65	435.08
6	0.21″	5016C	02F9246	136.62	131.36	119.82	02F9247	620.94	599.08	569.37
8	0.23″	5018C	02F9248	159.39	153.26	139.79	02F9249	718.79	693.48	659.09
10	0.24″	5020C	02F9250	182.16	175.15	159.76	02F9251	826.04	796.96	757.43
15	0.28″	5020/15C	02F8858	250.78	237.09	221.05	02F8859	1122.35	1085.25	1033.16
20	0.31″	5020/20C	02F8860	328.40	310.47	289.47	02F8861	1472.08	1423.41	1355.10
25	0.34″	5020/25C	02F8862	396.07	374.45	349.11	02F8863	1692.93	1611.03	1513.15

22 AWG 7/30, 0.010″ INSULATION THICKNESS

2	0.17″	5002C	02F8880	84.87	81.61	74.43	02F8881	402.05	380.09	354.38
3	0.19″	5003C	02F8882	101.43	97.53	88.96	02F8883	442.19	419.32	392.33
4	0.20″	5004C	02F8884	126.27	121.41	110.74	02F8885	555.08	526.38	492.49
6	0.23″	5006C	02F8887	142.83	137.34	125.27	02F8888	620.94	588.84	550.92
8	0.25″	5008C	02F8889	186.30	179.13	163.39	02F8890	844.86	815.11	774.68
10	0.27″	5010C	02F8891	204.93	197.04	179.73	02F8892	931.41	898.62	854.05
15	0.31″	5010/15C	02F8893	294.57	278.49	259.64	02F8894	1316.85	1273.31	1212.20
20	0.35″	5010/20C	02F8896	392.09	370.69	345.61	02F8898	1757.58	1699.47	1617.91
25	0.38″	5010/25C	02F8899	457.77	432.78	403.50	02F8900	1956.08	1861.45	1748.35
30	0.41″	5010/30C	02F8901	536.27	517.39	491.73	02F8902	2375.64	2265.18	2198.90
40	0.46″	5010/40C	02F8903	733.84	708.01	672.89	02F8904	3053.46	2956.59	2781.46
50	0.50″	5010/50C	02F8905	912.59	880.47	836.80	02F8906	4043.42	3855.42	3742.61

20 AWG 7/28, 0.017″ INSULATION THICKNESS

2	0.21″	5052C	02F8917	95.22	91.56	83.51	02F8918	451.80	427.13	398.24
3	0.23″	5053C	02F8919	120.06	115.44	105.30	02F8920	543.80	524.65	498.63
4	0.25″	5054C	02F8924	142.83	137.34	125.27	02F8925	641.64	619.05	588.35
6	0.29″	5056C	02F8926	190.44	183.11	167.02	03F3285	822.59	780.68	730.94
8	0.32″	5058C	02F8927	214.96	203.22	189.47	02F8928	961.23	912.25	854.13
10	0.35″	5060C	02F8929	248.79	235.21	219.29	02F8930	1113.43	1076.62	1024.95
15	0.40″	5060/15C	02F8931	384.13	363.16	338.59	02F8932	1720.11	1663.24	1583.42
20	0.45″	5060/20C	02F8933	493.60	466.65	435.08	02F8934	2066.79	1970.69	1913.03
25	0.49″	5060/25C	02F8935	556.97	537.36	510.71	02F8936	2517.46	2395.67	2250.12
30	0.53″	5060/30C	02F8937	688.68	664.44	631.48	02F8938	3011.05	2915.52	2742.83

18 AWG 16/30, 0.017″ INSULATION THICKNESS

2	0.23″		02F9101	113.85	109.47	99.85	02F9102	515.57	497.42	472.75
3	0.24″	5063C	02F9103	136.62	131.36	119.82	02F9104	617.39	596.97	568.32
4	0.26″	5064C	02F9105	171.81	165.20	150.68	02F9106	777.12	749.76	712.57
6	0.31″	5066C	02F9107	238.84	225.80	210.52	02F9108	1067.04	1031.76	982.25
8	0.33″	5068C	02F9109	286.61	270.96	252.63	02F9110	1279.38	1237.08	1177.71
10	0.39″	5070C	02F9111	336.37	318.00	296.48	02F9112	1500.63	1451.02	1381.38
15	0.45″	5070/15C	02F9113	511.51	483.58	450.87	02F9114	2184.14	2078.48	1952.20
20	0.51″	5070/20C	02F9115	607.77	586.37	557.29	02F9116	2694.50	2569.22	2494.05
25	0.56″	5070/25C	02F9117	795.93	767.91	729.82	02F9118	3477.55	3367.22	3167.78
30	0.64″	5070/30C	02F9119	920.72	890.28	847.56	02F9120	4303.86	4103.74	3983.67
40	0.72″	5070/40C	02F9121	1263.32	1221.55	1162.93	02F9122	5547.12	5371.13	5052.99

16 AWG 19/0.0117, 0.017″ INSULATION THICKNESS

2	0.26″		02F9135	144.90	139.33	127.08	02F9136	651.05	628.13	596.97
3	0.29″	5073C	02F9137	192.51	185.10	168.84	02F9138	873.08	842.34	800.56
4	0.32″	5074C	02F9139	230.88	218.27	203.51	02F9140	1031.35	997.25	949.40
6	0.37″	5076C	02F9141	306.51	289.78	270.17	03F3294	1372.16	1326.79	1263.12
8	0.41″	5078C	02F9142	412.00	389.50	363.15	02F9143	1754.33	1669.46	1568.03
10	0.44″	5080C	02F9144	536.27	517.39	491.73	02F9145	2420.97	2303.85	2163.88
15	0.52″	5080/15C	02F9146	666.10	642.65	610.78	02F9147	2909.27	2816.97	2650.12
20	0.63″	5080/20C	02F9148	944.58	911.33	866.13	02F9149	4183.66	3989.13	3872.41
25	0.68″	5080/25C	02F9150	1111.65	1074.89	1023.31	02F9151	5123.03	4960.49	4666.67
30	0.73″	5080/30C	02F9152	1318.63	1275.03	1213.84	02F9153	6072.99	5880.32	5532.02
40	0.88″	5080/40C	02F9154	1719.24	1636.07	1536.67	02F9155	8312.19	8048.47	7571.75
50	0.96″	5080/50C	02F9156	2192.00	2090.08	2028.92	02F9157	10296.94	9970.25	9379.70

(6102) (de00289)

XTRA-GUARD 1 FEATURES:

- PREMIUM-GRADE PVC JACKET FOR EXTENDED CABLE LIFE
- FLAME AND MOISTURE-RESISTANT
- FAST, EASY STRIPPING OF INSULATION AND JACKET
- FLEXIBLE CABLE ROUTING REQUIREMENTS
- UL RECOGNIZED AND UL LISTED

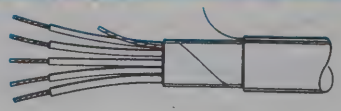
XTRA-GUARD 1 APPLICATIONS:

- HIGH TECHNOLOGY APPLICATIONS IN CONTROLLED ENVIRONMENTS
- MEDICAL ELECTRONICS
- POINT-OF-SALE EQUIPMENT
- COMPUTER PERIPHERALS
- INDUSTRIAL PROCESS CONTROLS

(6207) (ne08240a)

XTRA-GUARD® 1 MULTICONDUCTOR CABLE

300-VOLT MULTICONDUCTOR FOIL SHIELD CABLE



- **For Communication and Control Applications**

Features stranded tin-coated copper conductor. Operating temperature: -20°C to 80°C AWM (18 and 16 AWG operating temperature is -20°C to 75° CM) premium PVC insulation, and aluminum/polyester shield, with foil facing in plus stranded tin-copper drain wire equal in size to conductors. Cable styles UL type CM, AWM 2464 and CSA PCC FT4. Standard color: gray. 1000′ spools and black color are available through special order; *contact your local Newark sales office.*

24 AWG, 7/32, 0.010″ INSULATION THICKNESS

No. Cond.	O.D.	Type	100′ Spool Stock No.	100′ Spool Each	100′ Spool 2	100′ Spool 3-4	500′ Spool Stock No.	500′ Spool Each	500′ Spool 2	500′ Spool 3-4
2	0.16″	5092C 100	03F2661	105.57	101.51	92.59	03F2662	461.00	437.17	409.02
3	0.17″	5093C 100	03F2663	130.41	125.39	114.37	03F2664	592.72	571.85	543.49
4	0.18″	5094C 100	03F2665	130.41	125.39	114.37	03F2666	562.07	543.49	517.41
6	0.20″	5096C 100	03F2667	155.25	149.28	136.16	03F2668	663.78	641.83	611.03
8	0.22″	5098C 100	03F2669	182.16	175.15	159.76	03F2670	826.04	796.96	757.43
10	0.25″	5100C 100	03F2671	207.00	199.03	181.54	03F2672	940.82	907.70	862.68
15	0.27″	5100/15C 100	03F2673	286.61	270.96	252.63	03F2674	1279.38	1237.08	1177.71
20	0.30″	5100/20C 100	03F2675	344.33	314.07	293.48	03F2676	1517.50	1444.08	1356.35
25	0.33″	5100/25C 100	03F2677	423.94	400.79	373.68	03F2678	1661.39	1584.14	1537.79
40	0.41″	5100/40C 100	03F2682	664.22	640.84	609.05	03F2683	2765.08	2677.35	2518.77
50	0.44″	5100/50C 100	03F2684	812.87	784.25	745.35	03F2685	3384.25	3276.88	3082.79
			22 AWG, 7/30, 0.010″ INSULATION THICKNESS							
2	0.18″	5192C-100	03F2697	80.00	76.90	67.80	03F2698	485.46	468.37	445.14
3	0.19″	5193C 100	03F2699	126.27	121.41	110.74	03F2700	573.90	553.70	526.23
4	0.21″	5194C-100	03F2702	144.90	139.33	127.08	03F2703	651.05	628.13	596.97
6	0.23″	5196C-100	03F2704	180.09	173.16	157.94	03F2705	814.75	786.07	747.08
8	0.26″	5198C 100	03F2707	204.93	197.04	179.73	03F2708	931.41	898.62	854.05
10	0.28″	5199/10C 100	03F2709	238.84	225.80	210.52	03F2710	1067.04	1031.76	982.25
15	0.32″	5199/15C 100	03F2711	240.00	230.70	203.40	03F2712	1381.08	1335.42	1271.33
20	0.35″	5199/20C 100	03F2714	413.99	391.38	364.90	03F2715	1733.38	1650.73	1602.43
25	0.38″	5199/25C 100	03F2716	479.67	453.48	422.80	03F2717	2006.69	1913.38	1857.40
30	0.41″	5199/30C 100	03F2718	560.73	540.99	514.16	03F2719	2535.00	2412.37	2265.80
40	0.46″	5199/40C 100	03F2720	758.30	731.61	695.32	03F2721	3357.28	3201.17	3107.51
50	0.50″	5199/50C 100	03F2723	935.17	902.25	857.50	03F2724	3893.16	3769.64	3546.36
			20 AWG, 7/28, 0.017″ INSULATION THICKNESS							
2	0.21″	5462C 100	03F2736	124.20	119.42	108.93	03F2737	562.61	542.81	515.88
3	0.22″	5463C-100	03F2739	144.90	139.33	127.08	03F2740	651.05	628.13	596.97
4	0.24″	5464C-100	03F2741	165.60	159.23	145.24	03F2742	747.01	720.71	684.97
6	0.28″	5466C-100	03F2744	204.93	197.04	179.73	03F2745	931.41	898.62	854.05
8	0.31″	5468C-100	03F2746	230.88	218.27	203.51	03F2747	1031.35	997.25	949.40
10	0.35″	5470C-100	03F2748	278.65	254.16	237.50	03F2749	1288.30	1245.70	1185.92
15	0.41″	5470/15C-100	03F2750	388.11	366.92	342.10	03F2751	1288.30	1245.70	1185.92
20	0.46″	5470/20C-100	03F2753	497.58	470.41	438.59	03F2754	2083.48	1986.61	1928.48
25	0.50″	5470/25C 100	03F2755	604.01	582.74	553.84	03F2756	2637.85	2554.16	2402.88
40	0.65″	5470/40C 100	03F2759	1008.56	973.05	924.79	03F2760	4198.51	4065.30	3824.51
50	0.71″	5470/50C 100	03F2761	1177.67	1138.73	1084.08	03F2762	5173.92	5009.77	4713.03
			18 AWG, 16/30, 0.017″ INSULATION THICKNESS							
2	0.23″	5382C 100	03F2773	144.90	139.33	127.08	03F2774	630.35	608.16	577.99
3	0.24″	5383C 100	03F2775	175.95	169.18	154.31	03F2776	795.93	767.91	729.82
4	0.26″	5384C 100	03F2778	140.80	135.35	119.33	03F2779	854.26	824.19	783.31
6	0.31″	5386C 100	03F2780	240.83	227.68	212.28	03F2781	1077.75	1042.11	992.10
8	0.33″	5388C 100	03F2782	312.48	295.42	275.43	03F2783	1398.93	1352.67	1287.76
10	0.39″	5390C 100	03F2784	358.26	338.70	315.78	03F2785	1600.56	1547.64	1473.37
15	0.45″	5390/15C 100	03F2786	511.51	483.58	450.87	03F2787	2143.58	2043.91	1984.11
20	0.51″	5390/20C 100	03F2788	630.35	608.16	577.99	03F2789	2789.66	2659.95	2582.13
25	0.56″	5390/25C 100	03F2790	807.22	778.81	740.18	03F2791	3528.44	3416.50	3214.13
40	0.72″	5390/40C 100	03F2794	1288.30	1245.70	1185.92	03F2795	6020.06	5740.14	5572.19
50	0.79″	5390/50C 100	03F2796	1588.07	1535.56	1461.87	03F2797	7427.41	7082.06	6874.84
			16 AWG, 19/0.0117, 0.017″ INSULATION THICKNESS							
2	0.25″	5362C 100	03F2806	175.95	169.18	154.31	03F2807	795.93	767.91	729.82
3	0.27″	5363C 100	03F2808	214.96	203.22	189.47	03F2809	958.19	926.51	882.05
4	0.29″	5364C 100	03F2810	240.83	227.68	212.28	03F2811	1077.75	1042.11	992.10
6	0.35″	5366C 100	03F2812	330.39	312.35	291.22	03F2813	1481.01	1432.04	1363.32
8	0.38″	5368C 100	03F2814	435.88	412.08	384.20	03F2815	1824.72	1739.87	1688.97
10	0.44″	5370C 100	03F2816	555.08	535.54	508.98	03F2817	2462.45	2347.95	2279.26
15	0.49″	5370/15C 100	03F2818	720.67	695.30	660.81	03F2819	3146.76	3046.92	2866.45
20	0.59″	5370/20C 100	03F2820	922.51	892.01	849.20	03F2821	4312.21	4111.70	3991.40
25	0.66″	5370/25C 100	03F2822	1136.84	1078.91	1010.17	03F2823	5216.33	5050.83	4751.66
30	0.71″	5370/30C 100	03F2824	1340.04	1295.74	1233.56	03F2825	6174.77	5978.87	5624.73

(6110) (de01318)

XTRA-GUARD 1 FEATURES:

- PREMIUM-GRADE PVC JACKET FOR EXTENDED CABLE LIFE
- FLAME AND MOISTURE-RESISTANT
- FAST, EASY STRIPPING OF INSULATION AND JACKET
- FLEXIBLE CABLE ROUTING REQUIREMENTS
- UL RECOGNIZED AND UL LISTED

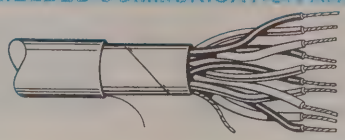
XTRA-GUARD 1 APPLICATIONS:

- HIGH TECHNOLOGY APPLICATIONS IN CONTROLLED ENVIRONMENTS
- MEDICAL ELECTRONICS
- POINT-OF-SALE EQUIPMENT
- COMPUTER PERIPHERALS
- INDUSTRIAL PROCESS CONTROLS

(39072) (ne39072)

XTRA-GUARD® 1 MULTIPAIR CABLE

MULTIPAIR FOIL SHIELDED COMMUNICATION AND CONTROL CABLE



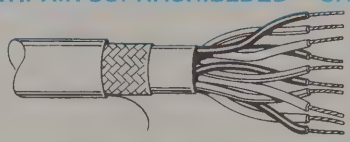
Stranded tin-coated copper conductors. 80°C premium PVC insulation and aluminum/polyester foil shield facing in. Stranded, tinned copper drain wire. Rated 300V. Jacket thickness: 0.032″. UL type CM, AWM 2464 and CSA PCC FT4. Also available in 1000′ spools.

24 AWG, 7/32 STRAND, 0.010″ INSULATION THICKNESS

No. Pairs	O.D.	Type	100′ Spool				500′ Spool			
			Stock No.	Each	2	3-4	Stock No.	Each	2	3-4
1	0.16″	5491C	03F2832	107.64	103.50	94.40	03F2833	470.41	446.09	417.37
2	0.21″	5492C	03F2834	142.83	137.34	125.27	03F2835	620.94	588.84	550.92
3	0.23″	5493C	03F2836	175.95	169.18	154.31	03F2837	757.89	719.28	673.45
4	0.25″	5494C	03F2838	196.65	189.08	172.47	03F2839	893.78	862.31	819.54
9	0.34″	5499C	03F2844	348.31	329.29	307.01	03F2845	1555.95	1504.50	1432.30
19	0.44″	5499/19C	03F2850	596.48	565.64	529.22	03F2851	2688.74	2603.44	2449.23
22 AWG, 7/30 STRAND, 0.010″ INSULATION THICKNESS										
1	0.18″	5481C	03F2860	113.85	109.47	99.85	03F2861	515.57	497.42	472.75
2	0.23″	5482C	03F2862	144.90	139.33	127.08	03F2863	651.05	628.13	596.97
3	0.25″	5483C	03F2865	182.16	175.15	159.76	03F2866	826.04	796.96	757.43
4	0.27″	5484C	03F2867	208.99	197.58	184.21	03F2868	929.65	898.91	855.77
5	0.29″	5485C	03F2869	238.84	225.80	210.52	03F2870	1067.04	1031.76	982.25
6	0.32″	5486C	03F2872	268.70	254.02	236.84	03F2873	1197.30	1157.71	1102.15
9	0.37″	5489C	03F2874	392.09	370.69	345.61	03F2875	1757.58	1699.47	1617.91
11	0.40″	5489/11C	03F2876	457.77	432.78	403.50	03F2877	1919.88	1830.61	1777.05
20 AWG, 7/30 STRAND, 0.017″ INSULATION THICKNESS										
3	0.33″	5453C	03F2890	222.92	210.75	196.49	03F2891	993.88	961.02	914.90
6	0.42″	5456C	03F2893	362.24	342.46	319.29	03F3434	1620.18	1566.62	1491.43
9	0.50″	5459C	03F2894	499.57	472.29	440.34	03F2895	2131.51	2028.39	1905.15
12	0.56″	5459/12C	03F2896	602.13	580.93	552.11	03F2897	2629.37	2545.95	2395.15

(6107) (da00650)

MULTIPAIR SUPRASHIELDED™ CABLE



For FCC Docket 20780 applications. Aluminum/polyester/aluminum foil with drain wire plus overall braid of tinned copper. 300V. Color-coded 80°C PVC insulation. Standard stock color gray or slate. UL style 1061, CSA AWM SR-PVC; UL type CM, AWM 2464 and CSA PCC FT4.

24 AWG, 7/32 STRAND, 0.010″ INSULATION THICKNESS

No. Pairs	Type	O.D.	100′ Spool				500′ Spool			
			Stock No.	Each	2	3-4	Stock No.	Each	2	3-4
1	5271C	0.18″	02F8054	149.04	143.31	130.71	02F8055	669.86	646.28	614.23
2	5272C	0.23″	02F8056	186.30	179.13	163.39	02F8057	844.86	815.11	774.68
4	5274C	0.28″	02F8060	264.71	250.26	233.33	02F8061	1186.59	1147.36	1092.30
6	5276C	0.31″	02F8064	324.42	306.71	285.96	02F8065	1385.92	1318.87	1238.74
15	5279/15C	0.43″	02F8070	619.06	597.27	567.64	02F8071	2705.71	2619.86	2464.69
22 AWG, 7/30 STRAND, 0.010″ INSULATION THICKNESS										
1	5121C	0.20″	02F8082	151.11	145.30	132.53	02F8083	679.27	655.36	622.85
2	5122C	0.25″	02F8084	204.93	197.04	179.73	02F8085	931.41	898.62	854.05
3	5123C	0.28″	02F8086	248.79	235.21	219.29	02F8087	1118.35	1061.37	993.74
4	5124C	0.31″	02F8088	286.61	270.96	252.63	02F8089	1279.38	1237.08	1177.71
6	5126C	0.35″	02F7848	378.16	357.51	333.33	02F7849	1613.98	1535.90	1442.59
9	5129C	0.40″	02F7850	505.54	477.94	445.60	03F3270	2118.54	2020.04	1960.93
15	5129/15C	0.48″	02F7853	747.01	720.71	684.97	02F7854	3265.51	3161.90	2974.62
27	5129/27C	0.64″	02F7857	1179.45	1140.46	1085.73	02F7858	5436.85	5264.36	4952.55

(6106) (da00649)

XTRA-GUARD 1 FEATURES:

- PREMIUM-GRADE PVC JACKET FOR EXTENDED CABLE LIFE
- FLAME AND MOISTURE-RESISTANT
- FAST, EASY STRIPPING OF INSULATION AND JACKET
- FLEXIBLE CABLE ROUTING REQUIREMENTS
- UL RECOGNIZED AND UL LISTED

XTRA-GUARD 1 APPLICATIONS:

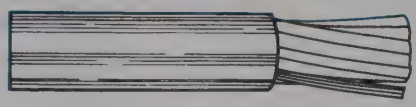
- HIGH TECHNOLOGY APPLICATIONS IN CONTROLLED ENVIRONMENTS
- MEDICAL ELECTRONICS
- POINT-OF-SALE EQUIPMENT
- COMPUTER PERIPHERALS
- INDUSTRIAL PROCESS CONTROLS

(39071) (ne39071)

FLEXIBLE CONTROL CABLE

XTRA-GUARD® MULTICONDUCTOR FLEXIBLE CONTROL CABLE

Shielded



Unshielded

Multipurpose oil-resistant flexible control cable offers 3 times the flexibility of ordinary PVC cable and provides outstanding oil and chemical resistance. Designed for applications requiring increased flexibility, including: machine tools, CNC machine centers, data processing equipment, automation equipment and material handling equipment. Finely stranded bare copper conductors. Shielded versions have tinned copper braid shielding (85% coverage). Bend radius: 5x cable diameter (unshielded) and 8x cable diameter (shielded). Color code: numerically numbered black conductors with one green/yellow conductor on outside layer. Jacket: oil-resistant PVC. Jacket color: gray. Insulation thickness: 0.022″. Jacket thickness: 0.030″. Voltage rating: 600V. Operating temperature: –5°C to +90°C. UL recognized AWM style 2587, CSA certified AWM I A/B II A/B FT1.

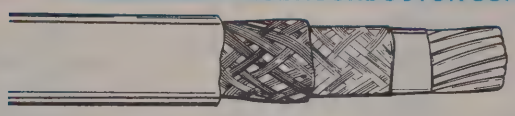
14 AWG, 41/30 STRANDED—SHIELDED

No. of Cond.	Nom. O.D.	Type	100′ Spool Stock No.	Each	2	3-4	5-6	500′ Spool Stock No.	Each	2	3-4	5-6	1000′ Spool Stock No.	Each	2	3-4	5-6
3	0.43″	65403CY	91F2454	494.87	477.45	453.77	425.46	91F2453	1627.32	1573.52	1498.01	1430.04	91F2452	2480.81	2365.46	2296.25	2228.58
4	0.47″	65404CY	91F2460	577.66	557.33	529.68	496.64	91F2459	1774.63	1692.12	1642.61	1594.20	91F2458	2893.17	2758.65	2677.93	2599.01
5	0.52″	65405CY	91F2465	604.01	582.74	553.84	519.29	91F2464	1858.11	1771.71	1719.87	1669.19	91F2466	3025.06	2884.40	2800.01	2717.49
7	0.57″	65407CY	91F2471	786.53	758.84	721.20	676.20	91F2470	2417.37	2304.97	2237.53	2171.59	91F2472	3941.59	3758.31	3648.35	3540.83
14 AWG, 41/30 STRANDED—UNSHIELDED																	
2	0.33″	65402	91F2448	144.90	139.33	127.08	120.78	91F2447	487.63	461.00	429.81	409.02	91F2446	748.89	722.53	686.69	643.85
3	0.35″	65403	91F2451	182.16	175.15	159.76	151.83	91F2450	577.66	557.33	529.68	496.64	91F2449	893.96	864.40	822.92	785.58
4	0.40″	65404	91F2457	208.99	197.58	184.21	175.30	91F2456	686.80	662.62	629.75	590.47	91F2455	1059.90	1024.86	975.68	931.41
5	0.43″	65405	91F2462	262.72	248.38	231.57	220.37	91F2461	859.91	829.64	788.49	739.30	91F2463	1329.34	1285.39	1223.70	1168.18
7	0.47″	65407	91F2468	376.17	355.63	331.57	315.53	91F2467	1529.18	1478.62	1407.67	1343.80	91F2469	1786.32	1703.26	1653.43	1604.70
9	0.62″	65409	91F2474	545.68	526.47	500.35	469.14	91F2473	1677.81	1599.79	1552.99	1507.22	91F2475	2731.23	2604.24	2528.04	2453.54
12	0.66″	65412	91F2477	594.60	573.67	545.21	511.20	91F2476	1828.06	1743.06	1692.06	1642.19	91F2478	2974.97	2836.65	2753.65	2672.50
18	0.77″	65418	91F2480	908.83	876.84	833.35	781.36	91F2479	2796.34	2666.32	2588.31	2512.03	91F2481	4550.94	4339.33	4212.37	4088.23
25	0.95″	65425	91F2483	1113.43	1076.62	1024.95	978.45	91F2482	3612.70	3444.72	3343.94	3245.39	91F2484	5813.05	5542.76	5380.58	5222.01
16 AWG, 26/30 STRANDED—SHIELDED																	
3	0.38″	65603CY	91F2492	429.91	406.44	378.94	360.61	91F2491	1334.69	1290.56	1228.63	1172.89	91F2493	2038.41	1943.63	1886.76	1831.16
4	0.40″	65604CY	91F2498	479.82	462.93	439.97	412.52	91F2497	1579.14	1526.93	1453.66	1387.71	91F2499	2409.03	2297.01	2229.81	2164.09
5	0.44″	65605CY	91F2504	519.33	501.05	476.20	446.49	91F2503	1705.83	1649.43	1570.28	1499.04	91F2505	2601.01	2480.08	2407.51	2336.56
7	0.47″	65607CY	91F2510	587.07	566.41	538.31	504.73	91F2509	1806.35	1722.36	1671.97	1622.70	91F2511	2944.92	2807.99	2725.83	2645.50
12	0.63″	65612CY	91F2519	931.41	898.62	854.05	800.77	91F2518	2863.12	2729.99	2650.12	2572.02	91F2520	4669.47	4452.35	4322.08	4194.71
18	0.75″	65618CY	91F2525	1184.81	1145.63	1090.65	1041.17	91F2524	3838.08	3659.62	3552.55	3447.85	91F2526	6257.12	5966.18	5791.62	5620.94
16 AWG, 26/30 STRANDED—UNSHIELDED																	
2	0.28″	65602	91F2486	89.01	85.59	78.07	74.19	91F2485	298.55	282.25	263.15	250.42	91F2487	503.01	483.65	441.14	419.26
3	0.29″	65603	91F2489	115.92	111.46	101.67	96.62	91F2488	388.11	366.92	342.10	325.55	91F2490	598.36	577.30	548.66	514.43
4	0.32″	65604	91F2495	151.11	145.30	132.53	125.95	91F2494	476.06	459.30	436.52	409.28	91F2496	773.35	746.13	709.12	664.88
5	0.35″	65605	91F2501	188.37	181.12	165.20	157.01	91F2500	596.48	575.48	546.94	512.82	91F2502	922.51	892.01	849.20	810.67
7	0.38″	65607	91F2507	234.86	222.04	207.01	197.00	91F2506	773.35	746.13	709.12	664.88	91F2508	1193.73	1154.26	1098.87	1049.01
9	0.51″	65609	91F2513	372.19	351.87	328.06	312.19	91F2512	1159.83	1121.48	1067.66	1019.22	91F2514	1764.62	1682.57	1633.34	1585.20
12	0.53″	65612	91F2516	425.93	402.67	375.43	357.27	91F2515	1327.55	1283.66	1222.06	1166.61	91F2517	2021.71	1927.71	1871.31	1816.16
18	0.62″	65618	91F2522	581.43	560.96	533.14	499.87	91F2521	1791.33	1708.04	1658.06	1609.20	91F2523	2916.54	2780.93	2699.56	2620.01
25	0.73″	65625	91F2528	738.72	714.30	680.02	649.17	91F2527	2397.34	2285.87	2218.99	2153.59	91F2529	3901.52	3720.11	3611.26	3504.84
41	0.94″	65641	91F2534	1202.65	1162.89	1107.08	1056.85	91F2533	3896.51	3715.34	3606.63	3500.34	91F2535	6347.27	6052.14	5875.06	5701.92
18 AWG, 16/30 STRANDED—SHIELDED																	
3	0.34″	65803CY	91F2543	376.17	355.63	331.57	315.53	91F2542	1174.10	1135.28	1080.80	1031.76	91F2544	1786.32	1703.26	1653.43	1604.70
4	0.36″	65804CY	91F2549	441.85	417.73	389.46	370.62	91F2548	1373.95	1328.52	1264.76	1207.38	91F2550	2093.50	1996.16	1937.75	1880.65
5	0.40″	65805CY	91F2555	479.67	453.48	422.80	402.34	91F2554	1489.93	1440.67	1371.53	1309.30	91F2556	2273.80	2168.08	2104.64	2042.62
7	0.42″	65807CY	91F2561	508.04	490.16	465.85	436.78	91F2560	1670.15	1614.93	1537.43	1467.68	91F2562	2549.26	2430.73	2359.61	2290.07
12	0.55″	65812CY	91F2571	775.24	747.94	710.85	666.50	91F2570	2380.65	2269.95	2203.54	2138.60	91F2569	3879.82	3699.42	3591.18	3485.34
18	0.64″	65818CY	91F2577	938.57	907.54	863.98	824.79	91F2576	3040.08	2898.73	2813.91	2730.99	91F2575	4956.62	4726.15	4587.87	4452.66
18 AWG, 16/30 STRANDED—UNSHIELDED																	
2	0.25″	65802	91F2537	57.96	55.73	50.83	48.31	91F2536	202.86	195.05	177.91	169.09	91F2538	320.44	302.95	282.45	268.79
3	0.26″	65803	91F2540	70.38	67.67	61.73	58.67	91F2539	236.85	223.92	208.77	198.67	91F2541	394.08	372.57	347.36	330.56
4	0.29″	65804	91F2546	93.15	89.57	81.70	77.64	91F2545	310.49	293.54	273.68	260.44	91F2547	494.87	477.45	453.77	425.46
5	0.31″	65805	91F2552	117.99	113.45	103.48	98.35	91F2551	392.09	370.69	345.61	328.89	91F2553	637.88	615.42	584.90	548.41
7	0.34″	65807	91F2558	159.39	153.26	139.79	132.86	91F2557	508.04	490.16	465.85	436.78	91F2559	874.96	844.16	802.29	752.24
9	0.45″	65809	91F2564	238.84	225.80	210.52	200.34	91F2563	782.76	755.64	717.75	672.97	91F2565	1209.79	1169.79	1113.65	1063.12
12	0.46″	65812	91F2567	280.64	265.31	247.36	235.40	91F2566	922.00	889.55	845.42	792.68	91F2568	1498.85	1449.29	1379.74	1317.15
18	0.55″	65818	91F2574	386.12	365.04	340.34	323.88	91F2573	1202.65	1162.89	1107.08	1056.85	91F2572	2148.54	1822.65	1769.32	1717.18
25	0.64″	65825	91F2580	511.81	493.79	469.30	440.02	91F2579	1682.64	1627.00	1548.92	1478.65	91F2578	2674.47	2550.12	2475.50	2402.55
34	0.75″	65834	91F2586	724.43	698.93	664.26	622.82	91F2585	2227.06	2123.51	2061.37	2000.62	91F2584	3781.32	3605.50	3500.01	3396.86
41	0.81″	65841	91F2589	859.91	829.64	788.49	739.30	91F2588	2647.76	2524.65	2450.78	2378.55	91F2587	4494.18	4285.21	4159.83	4037.24
20 AWG, 10/30 STRANDED—SHIELDED																	
3	0.32″	65003CY	91F2415	224.91	212.63	198.24	188.65	91F2414	639.76	617.24	586.62	550.02	91F2413	1159.83	1121.48	1067.66	1019.22
7	0.39″	65007CY	91F2427	324.42	306.71	285.96	283.93	91F2426	1199.08	1159.44	1103.79	1053.72	91F2425	1645.17	1590.77	1514.43	1445.72
12	0.50″	65012CY	91F2436	477.68	451.60	421.04	400.67	91F2435	1486.36	1437.22	1368.24	1306.17	91F2434	2265.45	2160.12	2096.92	2035.12
20 AWG, 10/30 STRANDED—UNSHIELDED																	
2	0.23″	65002	91F2409	65.88	61.67	57.96	52.69	91F2408	186.30	179.13	163.39	155.29	91F2407	326.41	308.59	287.71	273.79
3	0.24″	65003	91F2412	55.89	53.74	49.02	46.59	91F2411	198.72	191.07	174.28	165.64	91F2410	332.38	314.24	292.98	278.80
4	0.26″	65004	91F2418	70.38	67.67	61.73	58.67	91F2417	236.85	223.92	208.77	198.67	91F2416	386.12	365.04	340.34	323.88
5	0.29″	65005	91F2421	84.87	81.61	74.43	70.74	91F2420	286.61	270.96	252.63	240.41	91F2419	465.74	440.31	410.52	390.66
7	0.31″	65007	91F2424	120.06	115.44	105.30	100.07	91F2423	400.06	378.21	352.62	335.56	91F2422	615.30	593.64	564.19	528.99
9	0.41″	65009	91F2430	234.86	222.04	206.77	197.00	91F2429	771.47	744.31	707.40	663.26	91F2428	1188.37	1149.08	1093.94	1044.31
12	0.42″	65012	91F2433	240.83	227.68	212.28	202.01	91F2432	792.17	764.28	726.37	681.06	91F2431	1224.06	1183.59	1126.79	1075.67
18	0.51″	65018	91F2439	340.35	321.76	299.99	285.48	91F2438	1061.69	1026.58	977.32	932.98	91F2437	1686.15	1607.75	1560.71	1514.72
25	0.59″	65025	91F2442	474.17	457.48	434.79	407.67	91F2441	1555.95	1504.50	1432.30	1367.32	91F2440	2509.19	2392.52	2322.52	2254.08

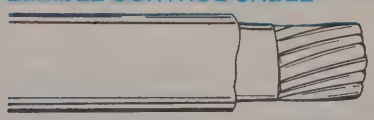
(17543) (ne10065)

SUPER-FLEXIBLE CONTROL CABLE

XTRA-GUARD® MULTICONDUCTOR SUPER-FLEXIBLE CONTROL CABLE



Shielded



Unshielded

Continuous-use, heavy-duty control cable offers 2 times the flexibility of ordinary PVC cable and provides extra flexibility and durability for continuous motion. Super finely stranded bare copper conductors. Shielded versions have tinned copper braid shielding (85% coverage). Bend radius: 8x cable diameter (unshielded) and 10x cable diameter (shielded). Color code: numbered red conductors with one green/yellow conductor on outside layer. Jacket: oil-resistant PVC. Jacket color: black. Insulation thickness: 0.022″. Voltage rating: 600V. Operating temperature: –5°C to +90°C. UL recognized, CSA certified.

14 AWG, 266/38 STRANDED—SHIELDED

No. of Cond.	Nom. O.D.	Type	100′ Spool Stock No.	100′ Spool Each	100′ Spool 2	100′ Spool 3-4	500′ Spool Stock No.	500′ Spool Each	500′ Spool 2	500′ Spool 3-4	1000′ Spool Stock No.	1000′ Spool Each	1000′ Spool 2	1000′ Spool 3-4
4	0.64″	85004CY*	91F2641	851.13	822.99	783.50	91F2643	2549.26	2430.73	2359.61	91F2642	4340.59	4138.76	4017.67
7	0.73″	85007CY*	91F2647	1406.06	1359.58	1294.33	91F2649	4205.36	4009.82	3892.50	91F2648	7160.30	6827.36	6627.60

14 AWG, 266/38 STRANDED—UNSHIELDED

4	0.46″	85404*	91F2638	568.26	548.25	521.06	91F2640	1725.46	1668.41	1588.35	91F2639	2747.93	2620.16	2543.49
7	0.55″	85407*	91F2644	931.43	900.63	857.41	91F2646	2787.99	2658.36	2580.58	91F2645	4747.93	4527.17	4394.71

16 AWG, 163/38 STRANDED—SHIELDED

3	0.56″	85603CY*	91F2653	551.32	531.91	505.53	91F2655	1671.93	1616.65	1539.07	91F2654	2998.35	2858.93	2775.28
4	0.59″	85604CY*	91F2659	731.96	706.19	671.16	91F2661	2075.14	1978.65	1920.76	91F2660	3534.24	3369.91	3271.31
5	0.65″	85605CY†	91F2665	809.10	780.62	741.90	91F2667	2459.11	2344.77	2276.16	91F2666	4016.71	3829.95	3717.89
7	0.69″	85607CY†	91F2671	1026.00	992.08	944.47	91F2673	3292.17	3139.09	3047.25	91F2672	5375.65	5125.70	4975.73
12	0.83″	85612CY†	91F2677	1534.54	1483.80	1412.59	91F2679	4919.89	4691.13	4553.87	91F2678	8036.76	7663.07	7438.86
18	0.97″	85618CY‡	91F2683	1903.18	1814.69	1761.59	91F2685	6524.23	6220.88	6038.86	91F2684	10160.65	9718.03	9301.82

16 AWG, 163/38 STRANDED—UNSHIELDED

3	0.38″	85603**	91F2650	433.89	410.20	382.45	91F2652	1334.69	1290.56	1228.63	91F2651	2043.42	1948.40	1891.40
4	0.43″	85604*	91F2656	483.58	466.56	443.42	91F2658	1655.87	1601.12	1524.29	91F2657	2404.02	2292.24	2225.17
5	0.47″	85605*	91F2662	607.77	586.37	557.29	91F2664	1846.42	1760.57	1709.06	91F2663	3023.39	2882.81	2798.46
7	0.51″	85607*	91F2668	856.15	826.01	785.04	91F2670	2601.01	2480.08	2407.51	91F2669	4253.78	4055.99	3937.31
12	0.67″	85612†	91F2674	1290.08	1247.43	1187.56	91F2676	4135.24	3942.97	3827.60	91F2675	6761.30	6446.92	6258.29
18	0.78″	85618†	91F2680	1682.81	1604.57	1557.62	91F2682	5764.63	5496.59	5335.77	91F2681	8990.66	8599.00	8230.72
25	0.96″	85625‡	91F2686	2333.90	2225.38	2160.27	91F2688	7988.35	7616.91	7394.05	91F2687	12460.85	11918.02	11407.59
34	1.08″	85634††	91F2692	3058.45	2916.24	2830.91	91F2694	9983.96	9549.03	9140.06	91F2693	16330.59	15619.18	14950.24

18 AWG, 105/38 STRANDED—SHIELDED

3	0.50″	85803CY*	91F2698	509.93	491.97	467.57	91F2700	1655.87	1601.12	1524.29	91F2699	2532.57	2414.81	2344.16
4	0.54″	85804CY*	91F2704	577.66	557.33	529.68	91F2706	1756.27	1674.61	1625.61	91F2705	2869.80	2736.36	2656.30
5	0.57″	85805CY*	91F2710	611.53	590.01	560.74	91F2712	1863.12	1776.49	1724.51	91F2711	3045.09	2903.50	2818.55
7	0.61″	85807CY*	91F2716	790.29	762.47	724.65	91F2718	2404.02	2292.24	2225.17	91F2717	3924.89	3742.40	3632.90
12	0.76″	85812CY†	91F2724	1093.80	1057.64	1006.88	91F2723	3507.53	3344.44	3246.58	91F2722	5978.32	5700.35	5533.56
18	0.88″	85818CY‡	91F2733	1365.02	1319.89	1256.55	91F2732	4380.65	4176.97	4054.75	91F2731	7490.85	7142.55	6933.56

18 AWG, 105/38 STRANDED—UNSHIELDED

3	0.34″	85803**	91F2695	318.45	301.06	280.70	91F2697	981.39	948.94	903.40	91F2696	1605.91	1552.81	1478.29
4	0.36″	85804**	91F2701	382.14	361.28	336.83	91F2703	1174.10	1135.28	1080.80	91F2702	1798.01	1714.40	1664.24
5	0.41″	85805*	91F2707	423.94	400.79	373.68	91F2709	1304.36	1261.23	1200.70	91F2708	1996.67	1903.83	1848.13
7	0.45″	85807*	91F2713	594.60	573.67	545.21	91F2715	1809.69	1725.55	1675.06	91F2714	2959.95	2822.32	2739.74
12	0.58″	85812*	91F2721	927.65	894.99	850.60	91F2720	2821.38	2690.20	2611.48	91F2719	4612.71	4398.23	4269.54
15	0.67″	85815†	91F2727	986.74	954.12	908.33	91F2726	3160.28	3013.34	2925.17	91F2725	5170.31	4929.90	4785.66
18	0.69″	85818†	91F2730	1092.02	1055.92	1005.24	91F2729	3500.85	3338.07	3240.40	91F2728	5724.57	5458.39	5298.68
25	0.87″	85825‡	91F2736	1522.05	1471.72	1401.09	91F2735	4878.15	4651.33	4515.24	91F2734	7976.66	7605.77	7383.23
34	0.93″	85834‡	91F2742	1782.56	1723.62	1640.91	91F2741	5711.21	5445.65	5286.32	91F2740	8907.88	8519.83	8154.94

20 AWG, 63/38 STRANDED—SHIELDED

3	0.48″	85003CY*	91F2595	504.28	486.53	462.40	91F2594	1639.81	1585.60	1509.50	91F2593	2505.86	2389.34	2319.43
4	0.51″	85004CY*	91F2601	534.39	515.57	490.00	91F2600	1729.03	1671.86	1591.63	91F2599	2659.45	2535.79	2461.60
5	0.55″	85005CY*	91F2607	558.85	539.17	512.43	91F2606	1702.85	1623.67	1576.16	91F2605	2946.59	2809.58	2727.38
7	0.58″	85007CY*	91F2613	805.34	776.99	738.45	91F2612	2454.10	2339.99	2271.53	91F2611	4008.37	3821.99	3710.16
10	0.71″	85010CY†	91F2616	892.17	862.68	821.28	91F2615	2944.92	2807.99	2725.83	91F2614	4677.82	4460.31	4329.81
12	0.72″	85012CY†	91F2622	1070.61	1035.21	985.53	91F2621	3435.74	3275.99	3180.14	91F2620	5611.04	5350.14	5193.61
18	0.80″	85018CY†	91F2626	1327.55	1283.66	1222.06	91F2628	4257.11	4059.17	3940.40	91F2627	7402.37	7058.18	6851.66

20 AWG, 63/38 STRANDED—UNSHIELDED

3	0.32″	85003**	91F2592	286.61	270.96	252.63	91F2591	931.41	898.62	854.05	91F2590	1445.32	1397.53	1330.47
4	0.34″	85004**	91F2598	316.46	299.18	278.94	91F2597	974.25	942.04	896.83	91F2596	1591.64	1539.01	1465.15
5	0.37″	85005**	91F2604	352.29	333.05	310.52	91F2603	1081.31	1045.56	995.39	91F2602	1766.50	1708.10	1626.12
7	0.42″	85007*	91F2610	479.82	462.93	439.97	91F2609	1561.30	1509.68	1437.23	91F2608	2390.66	2279.50	2212.81
12	0.54″	85012*	91F2619	760.18	733.42	697.04	91F2618	2307.19	2199.91	2135.55	91F2617	3772.97	3597.54	3492.28
18	0.64″	85018†	91F2623	922.00	889.55	845.42	91F2625	2801.35	2671.09	2592.94	91F2624	4751.27	4530.35	4397.80
25	0.77″	85025†	91F2629	1220.49	1180.14	1123.50	91F2631	3911.54	3729.66	3620.54	91F2630	6649.44	6340.26	6154.75
34	0.87″	85034‡	91F2635	1397.14	1350.95	1286.12	91F2637	4477.48	4269.29	4144.38	91F2636	7993.35	7621.69	7398.68

* Jacket thickness: 0.055″; † Jacket thickness: 0.065″; ‡ Jacket thickness: 0.075″; ** Jacket thickness: 0.045″; †† Jacket thickness: 0.085″

(17528) (ne10066)

ALPHA PLENUM-RATED MULTICONDUCTOR CABLE ALSO AVAILABLE.

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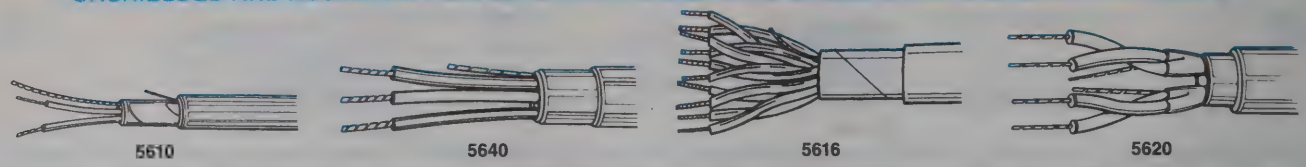
(34171) (ne34171)

PROCESS CONTROL CABLE

UNSHIELDED AND ALUMINUM POLYESTER WITH DRAIN WIRE SHIELDED INSTRUMENTATION CABLE



5610 5640 5616 5620

Stranded bare copper conductors. PVC jacket is flame retardant. **Types 5610, 5640, 5620** UL Standard 13; **types 5616, 5606** UL Standard 1277.

UNSHIELDED SINGLE PAIR 105°C 300V PVC JACKET

Conductor AWG (Stranding)	Insul. Thick.	Nom. O.D.	Type	100′ Spool Stock No.	100′ Spool Each	100′ Spool 2-4	100′ Spool 5-9	1000′ Spool Stock No.	1000′ Spool Each	1000′ Spool 2-4	1000′ Spool 5-9
18 (7/26)	0.016″	0.237″	5600B1801	04F9704	23.72	21.49	19.63	04F9705	192.82	178.76	166.66
16 (7/24)	0.016″	0.255″	5600B1601	04F9706	34.50	31.25	28.55	04F9707	266.70	243.27	227.32
UNSHIELDED SINGLE PAIR 90°C 600V PVC/NYLON INSULATION											
16 (7/24)	0.021″	0.29″	5606B1601	04F9708	40.97	37.11	33.91	04F9709	318.45	290.47	271.42
18 (7/26)	0.021″	0.27″	5606B1801	04F9710	30.19	27.35	24.98	04F9711	238.84	217.85	203.57
SINGLE PAIR SHIELDED 105°C 300V PVC JACKET (*) = NOT UL LISTED											
24 (7/32)*	0.010″	0.159″	5610B2401*	04F3552	15.10	13.68	12.49	04F3553	125.84	116.67	108.77
18 (7/26)	0.016″	0.239″	5610B1801	04F3558	21.56	19.53	17.85	04F3559	150.88	143.58	134.85
16 (7/24)	0.016″	0.257″	5610B1601	04F3560	30.19	27.35	24.98	04F3562	234.86	214.22	200.18
14 (19/26)	0.020″	0.309″	5610B1401	04F3563	58.21	52.74	48.18	04F3564	432.78	410.40	383.98
SINGLE PAIR SHIELDED 90°C 600V PVC/NYLON INSULATION (*) = NOT UL LISTED											
20 (7/28)*	0.016″	0.219″	5616B2001*	04F3567	28.03	25.39	23.20	04F3568	222.92	203.33	190.00
18 (7/26)	0.021″	0.279″	5616B1801	04F3569	30.19	27.35	24.98	04F3570	240.83	219.67	205.26
16 (7/24)	0.021″	0.297″	5616B1601	04F3571	32.34	29.30	26.77	04F3572	270.69	246.90	230.71
14 (19/27)	0.021″	0.327″	5616B1401	04F3573	68.99	62.50	57.10	04F3574	519.33	492.48	460.77
12 (19/25)	0.021″	0.365″	5616B1201	04F3575	86.24	78.13	71.38	04F3576	739.41	701.73	657.02
SINGLE OVERALL TRIAD SHIELDED 105°C 300V PVC JACKET											
22 (7/30)	0.013″	0.23″	5640B2201	04F3577	25.87	23.44	21.42	04F3578	241.26	208.66	190.62
20 (7/28)	0.013″	0.26″	5640B2001	04F3579	30.19	27.35	24.98	04F3580	238.84	217.85	203.57

MULTIPAIR OVERALL SHIELDED 105°C 300V PVC JACKET

No. Pairs	Conductor AWG (Stranding)	Insul. Thick.	Nom. O.D.	Type	100′ Spool Stock No.	100′ Spool Each	100′ Spool 2-4	100′ Spool 5-9	1000′ Spool Stock No.	1000′ Spool Each	1000′ Spool 2-4	1000′ Spool 5-9
2	20 (7/28)	0.013″	0.28″	5610B2002	04F3592	38.81	35.16	32.12	04F3593	298.55	272.31	254.46
8	20 (7/28)	0.013″	0.47″	5610B2008	04F3596	89.31	82.80	77.19	04F3597	705.62	669.13	626.05
10	20 (7/28)	0.013″	0.51″	5610B2010	04F3598	138.02	127.95	119.30	04F3599	1256.99	1192.95	1116.93
16	20 (7/28)	0.013″	0.63″	5610B2016	04F3602	176.58	163.71	152.63	04F3603	1367.90	1298.20	1215.49
36	20 (7/28)	0.013″	0.87″	5610B2036	04F3608	288.60	263.24	245.98	04F3609	2543.78	2420.71	2273.64
8	18 (7/26)	0.016″	0.56″	5610B1808	...	...	...	...	05F1935	924.26	877.17	821.28
2	16 (7/24)	0.016″	0.38″	5610B1602	04F3612	81.93	74.22	67.81	04F3613	602.13	570.99	534.23
12	16 (7/24)	0.016″	0.74″	5610B1612	04F3618	302.53	275.94	257.85	04F3619	2578.48	2496.67	2348.79
MULTIPAIR OVERALL SHIELDED 90°C 600V PVC/NYLON JACKET												
2	16 (7/24)	0.021″	0.40″	5616B1602	04F3624	79.77	72.27	66.02	04F3625	590.84	560.29	524.21
4	16 (7/24)	0.021″	0.54″	5616B1604	04F3626	105.55	97.85	91.23	04F3627	961.23	912.25	854.13
8	16 (7/24)	0.021″	0.70″	5616B1608	04F3628	197.04	179.73	167.94	04F3629	1736.79	1652.76	1552.35
12	16 (7/24)	0.021″	0.83″	5616B1612	04F3630	286.61	261.42	244.28	04F3631	2526.23	2404.02	2257.96
4	18 (7/26)	0.021″	0.47″	5616B1804	05F1730	62.53	56.64	51.75	05F1731	536.07	508.76	476.34
8	18 (7/26)	0.021″	0.64″	5616B1808	04F9715	103.49	93.75	85.65	04F9716	750.50	712.26	666.88
12	18 (7/26)	0.021″	0.74″	5616B1812	04F9717	230.88	210.59	196.78	04F9718	2035.02	1936.57	1818.91
MULTIPAIR INDIVIDUALLY AND OVERALL SHIELDED 105°C 300V PVC JACKET												
4	20 (7/28)	0.013″	0.40″	5620B2004	04F3636	84.08	76.17	69.59	04F3637	617.18	585.27	547.59
16	20 (7/28)	0.013″	0.68″	5620B2016	04F3642	228.89	208.77	195.09	04F3643	2017.48	1919.88	1803.23
2	18 (7/26)	0.016″	0.37″	5620B1802	04F9725	68.99	62.50	57.10	04F9727	602.13	570.99	534.23
12	16 (7/24)	0.016″	0.82″	5620B1612	04F3657	384.13	350.37	327.40	04F3658	3273.99	3170.12	2982.35
16	16 (7/24)	0.016″	0.92″	5620B1616	04F3659	547.56	519.25	485.82	04F3660	4936.43	4779.81	4496.70

(6159) (de50960)

NEWARK AND ALPHA WIRE PROVIDE THE PRODUCTS AND SERVICE YOU NEED!
AVAILABLE PRODUCTS INCLUDE:

- **SHRINK TUBING AND HEAT GUNS**
- **BRAIDED AND SPIRAL WRAP SLEEVING**
- **COAXIAL AND FLAT CABLE**

CONTACT YOUR LOCAL NEWARK SALES OFFICE TO ORDER.

COAXIAL CABLE

COAXIAL CABLE

500′ spools are also available; *contact your local Newark sales office.*

RG/U	Inner Conductor AWG	Mat.†	Strand	Jacket Mat.†	O.D.	Imped. Ω	Cap. pF/ft	Type	100′ Spool Stock No.	Each	2-4	5-9	1000′ Spool Stock No.	Each	2-4	5-9
8/U	13	C	7/21	V	0.405″	52	29.5	9008	02F9808	80.14	75.85	71.98	03F3302	587.07	538.31	512.48
8A/U	13	C	7/21	NCV	0.405″	52	29.8	9008A	02F9810	109.65	103.84	98.69	02F9812	720.67	660.81	629.10
11/U	18	TC	7/26	V	0.405″	75	20.6	9011	02F9816	102.47	88.62	80.96	03F3303	658.57	603.87	574.89
11A/U	18	TC	7/26	NCV	0.405″	75	20.6	9011A	02F9818	103.51	98.04	93.17	02F9820	989.74	907.54	863.98
55/U	20	C	Solid	PE	0.206″	53.5	28.8	9055	02F9821	101.49	94.09	87.72	03F3304	660.46	626.31	585.98
55B/U	20	SC	Solid	PE	0.206″	53.5	28.8	9055B	02F9822	111.63	103.49	96.49	92F6962	741.77	703.98	659.12
58/U	20	C	Solid	V	0.195″	53	28.8	9058	02F9824	25.79	23.36	21.34	03F3305	164.40	152.42	142.10
58A/U	20	TC	19/32	V	0.195″	50	30.5	9058A	02F9827	33.68	30.51	27.87	03F3306	207.03	191.93	178.95
58C/U	20	TC	19/32	NCV	0.195″	50	30.5	9058C	02F9829	65.95	59.75	54.59	03F3307	280.64	255.97	239.19
59/U	22	CW	Solid	V	0.242″	75	21.4	9059	02F9831	33.51	30.78	28.39	02F9833	142.41	127.00	120.04
59B/U	23	CW	Solid	NCV	0.242″	75	20.1	9059B	02F9834	60.69	55.97	51.97	92F6972	326.41	297.73	278.21
62/U	22	CW	Solid	V	0.242″	93	13.1	9062	02F9836	73.58	66.66	60.90	03F3309	236.85	216.04	201.87
62A/U	22	CW	Solid	V	0.242″	93	13.2	9062A	02F9838	28.81	26.10	23.84	03F3310	148.17	137.36	128.07
174/U	26	CW	7/34	V	0.100″	50	31.1	9174	02F9846	32.36	29.32	26.79	02F9848	127.69	118.39	110.40
213/U	13	C	7/0.0296	NCV	0.405″	50	30.8	9213	02F9849	127.20	117.93	109.95	03F3311	794.05	753.00	704.51
214/U	13	SC	7/0.0296	NCV	0.425″	50	30.8	9214	02F9851	588.71	558.27	522.33	92F6981	3643.80	3528.19	3319.21
217/U	10	C	Solid	NCV	0.545″	50	29.5	9217	02F9853	391.44	357.04	333.63	02F9855	2287.64	2176.97	2044.71
223/U	19	SC	Solid	NCV	0.212″	50	31.5	9223	02F9856	148.36	136.72	129.87	02F9858	1162.40	1071.23	1017.50
Twinaxial	22	TC	19/34	PVC	0.350″	150	...	9823C	04F3346	111.88	103.72	96.70	04F3347	684.92	649.50	607.69

† C = Bare Copper Wire; TC = Tinned Copper; SC = Silver Coated Copper; CW = Copper Coated Steel; PE = Solid Polyethylene; V = Polyvinyl Chloride type 1; NCV = Non-Contaminating Polyvinyl Chloride type 2; all types are MIL-C-17D except 9055.
(f0023)

(de02913)

CATV COAXIAL CABLE

Solid copper covered steel center conductor. Foam Polyethylene dielectric. Black polyvinyl chloride jacket. Aluminum braid shield. UL types CL2 and CATV. Temperature range: –20°C to +75°C. Nominal impedance: 75 ohms, except **type 9833**: 80 ohms. **Types 9831** and **9832** have an aluminum/mylar/aluminum fusible tape inner shield. **Types 9833** and **9834** have an aluminum/mylar/aluminum non-fusible tape inner shield. Nominal capacitance: **type 9831**, 16.2 pF/ft; **type 9832**, 18.0 pF/ft.; **type 9833**, 17.0 pF/ft.; **type 9834**, 17.3 pF/ft. **Sold in spools of 1000′.**

Stock No.	Type	RG/U	Conductor AWG	Strand	Material*	Dielectric Material*	O.D.	Shield Coverage	Jacket Material*	Diameter	Each	2-4	5-9
04F6763	9831	6/U	18	Solid	CW	FPE	0.180″	61%	PVC	0.275″	133.96	124.19	115.79
04F6764	9832	6/U	18	Solid	CW	FPE	0.180″	40%	PVC	0.274″	123.81	114.78	107.02
04F6765	9833	59/U	22	Solid	CW	FPE	0.140″	40%	PVC	0.242″	130.29	120.79	112.61
04F6766	9834	59/U	20	Solid	CW	FPE	0.146″	65%	PVC	0.242″	137.98	127.92	119.26

* CW = Copper-Coated Steel; FPE = Foam Polyethylene; PVC = Polyvinyl Chloride.
(6119)

(de02737)

BROADCAST COAXIAL CABLE

Sold in spools of 1000′.

Stock No.	Type	RG/U	AWG	Material	Strand	Dielec. Material	Shield	Jacket Material	O.D.	Impedance (Ω)	Each	2-4	5-9
02F9873	9847	11/U	14	C	Solid	Foam PE	BC	PE	0.405″	75	481.70	456.80	427.38
02F9874	9848	58/U	18	C	Solid	Foam PE	TC	PVC	0.195″	50	276.66	252.34	235.80
02F9744	9830	59/U	22	CW	Solid	Solid PE	BC	PVC	0.242″	75	196.88	182.52	170.17

Shield and Jacket materials: BC = Bare Copper; TC = Tinned Copper; PVC = Polyvinyl Chloride; PE = Polyethylene; C = Bare Copper Wire; CW = Copper-Coated Steel.
(6118)

(de02736)

TEFLON DIELECTRIC COAXIAL CABLE

Conductors are silver-plated copperweld. Operating temperature: –20°C to +200°C. Suitable for various commercial and industrial applications. All cable listed in table below have 30 AWG 7/38 stranded conductors, except **type 9188A** which has 25 AWG 7/0.006 stranded conductors. 500′ spools are also available; *contact your local Newark sales office.*

RG/U	Dielectric O.D.	Jacket O.D.	Imped. Ω	Cap. pF/ft	Type	100′ Spool Stock No.	Each	2-4	5-9	1000′ Spool Stock No.	Each	2-4	5-9
178B/U	0.034″	0.071″	50	28.4	9178B†	02F9859	119.57	110.85	103.35	02F9861	442.19	419.32	392.33
179B/U	0.063″	0.100″	75	19.6	9179B†	02F9862	124.60	115.52	107.70	02F9863	523.10	496.05	464.11
180B/U	0.102″	0.140″	95	15.7	9180B	02F9864	208.77	190.42	177.93	02F9866	1155.32	1096.46	1026.59
187A/U	0.060″	0.105″	75	19.5	9187A	02F8921	156.10	144.72	134.93	02F8923	831.83	789.45	739.15
188A/U	0.060″	0.106″	50	28.3	9188A	02F9867	157.44	145.96	136.09	02F9869	868.80	824.54	772.00
196A/U	0.034″	0.076″	53	27.8	9196A	02F9870	107.63	97.50	89.08	02F9872	526.86	499.62	467.45

† MIL-C-17D
(9895)

(de02735)

PLENUM-RATED COAXIAL CABLE

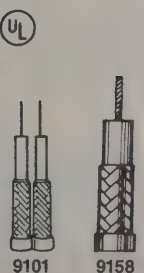
- **UL Standard 13, Type CL2P**
- **Plenum-Rated for Use without Conduit**
- **NEC 725-38(b) 3, UL Listed as Class 2 Power Limited Circuit Cable**
- **Passes UL 910 Flame Test**

Suitable for data, video and RF signal transmission. Use for precise transmission of quick pulse signals and short or long haul signal transmission. Construction for indoor and outdoor installations. Voltage rating 150V. Suggested operating temperature, –55°C to +125°C. **Sold in spools of 1000′.**

Stock No.	Type	RG/U	AWG	Conductor	Jacket Diameter	Imp. Ohms	Each	2-4	5-9
04F5140	9105	11/U	14	Solid	0.353″	75	2117.47	2015.04	1892.61
04F5149	9158	58 C/U	21	19/.0071	0.171″	53	844.77	801.73	750.65
04F5141	9158S	58/U	20	Solid	0.158″	50	679.27	644.15	602.68
04F5147	9102	59/U	20	Solid	0.212″	75	855.86	812.26	760.50
04F3351	9159	59 B/U	23	Solid	0.188″	75	972.32	922.78	863.98
04F5096	9101	Dual 59 B/U	23	Solid	0.200″/0.450″	75	1657.84	1577.64	1481.79
04F3422	9162	62 A/U	22	Solid	0.204″	93	743.25	704.82	659.44
04F5099	9162F	62 A/U	22	Solid	0.199″	93	551.32	522.82	489.15

(6129)

(de50260)



9101 9158

FLAT CABLE

GRAY FLAT CABLE 0.050″ (1.27) CENTERS

3580

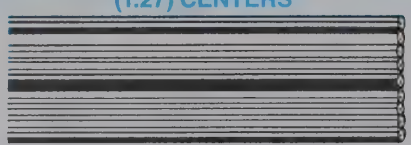
- **For Use with Insulation Displacement Connectors**

Combining economy with reliable performance, this cable is designed for PC board-to-PC board interconnections where space is a premium; flexible interconnects within computer and business machine cabinets and areas where flexibility is needed, such as drawer-enclosed electronic circuitry. 28 AWG, 7/36 stranded tinned copper conductors. Gray PVC insulation has red stripe on leading edge. Rated 105°C 300V. Capacitance: 14 pF/ft. nominal at 1MHz. Impedance: 105 ohm nominal. Resists acids, alkalis, oil, moisture, solvents, ozone, and fungus. Passes VW-1 vertical wire flame test (UL listed internal only). UL recognized style 2651. **Sold in spools of 100′.**

Stock No.	Type	Conductors	Nominal (W)	Span (S)	Each
37F3715	3580/9	9	0.45″(11.43)	0.40″(10.16)	21.78
03F2277	3580/10	10	0.50″(12.70)	0.45″(11.43)	24.15
02F7839	3580/14	14	0.70″(17.78)	0.65″(16.51)	33.85
37F3716	3580/15	15	0.75″(19.05)	0.70″(17.78)	36.22
02F7840	3580/16	16	0.80″(20.32)	0.75″(19.05)	38.81
02F7841	3580/20	20	1.00″(25.40)	0.95″(24.13)	48.30
37F3717	3580/24	24	1.20″(30.48)	1.15″(29.21)	58.00
37F3718	3580/25	25	1.25″(31.75)	1.20″(30.48)	60.37
02F7842	3580/26	26	1.30″(33.02)	1.25″(31.75)	62.96
02F7843	3580/34	34	1.70″(43.18)	1.65″(41.91)	82.36
37F3719	3580/37	37	1.85″(46.99)	1.80″(45.72)	89.47
02F7844	3580/40	40	2.00″(50.80)	1.95″(49.53)	96.80
02F7845	3580/50	50	2.50″(63.50)	2.45″(62.23)	113.87
03F2278	3580/60	60	3.00″(76.20)	2.95″(74.93)	136.60
37F3720	3580/64	64	3.20″(81.28)	3.15″(80.01)	145.73

(6231) (de00317)

THERMALLY BONDED COLOR-CODED FLAT CABLE 0.050″ (1.27) CENTERS



3583

- **For Use with Insulation Displacement Connectors**

Designed for termination flexibility. Applications: PC board-to-PC board interconnections where space is a premium; flexible interconnects within computer and business machine cabinets; flexible connections such as a drawer-enclosed electronic circuitry. 28 AWG, 7/36 stranded tinned copper conductors. 0.010″ (0.254) nominal wall PVC insulation. Color code: brown, red, orange, yellow, green, blue, violet, gray, white, and black (colors repeat). Rated 105°C 300V. Capacitance: 14 pF/ft. nominal at 1MHz. Impedance: 105 ohms nominal. Resists acids, alkalis, oil, moisture, solvents, ozone, and fungus. Maximum thickness: 0.035″ (0.889). Passes VW-1 vertical wire flame test. UL recognized style 20029. **Sold in spools of 100′.**

Stock No.	Type	Conductors	Nominal Width	Span	Each
37F3721	3583/9	9	0.45″(11.43)	0.40″(10.16)	53.04
03F2279	3583/10	10	0.50″(12.70)	0.45″(11.43)	37.91
03F2280	3583/14	14	0.70″(17.78)	0.65″(16.51)	78.69
37F3722	3583/15	15	0.75″(19.05)	0.70″(17.78)	84.30
03F2281	3583/16	16	0.80″(20.32)	0.75″(19.05)	89.91
03F2282	3583/20	20	1.00″(25.40)	0.95″(24.13)	105.75
37F3723	3583/24	24	1.20″(30.48)	1.15″(29.21)	128.07
37F3724	3583/25	25	1.25″(31.75)	1.20″(30.48)	132.13
03F2283	3583/26	26	1.30″(33.02)	1.25″(31.75)	137.41
03F2284	3583/34	34	1.70″(43.18)	1.65″(41.91)	179.83
37F3725	3583/37	37	1.85″(46.99)	1.80″(45.72)	195.66
03F2285	3583/40	40	2.00″(50.80)	1.95″(49.53)	209.38
03F2286	3583/50	50	2.50″(63.50)	2.45″(62.23)	259.14
03F2287	3583/60	60	3.00″(76.20)	2.95″(74.93)	311.09
37F3726	3583/64	64	3.20″(81.28)	3.15″(80.01)	331.79

(6233) (de00319)

CONTACT NEWARK FOR LARGE-QUANTITY PRICING.

GRAY FLAT CABLE 0.025″(0.635) CENTERS

3582

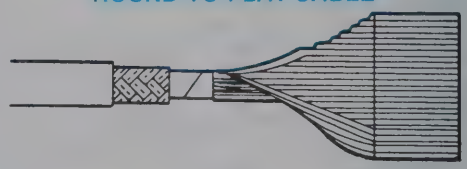
- **For Use with Insulation Displacement Connectors**

For easy termination to 0.025″(0.635) IDCs where space reduction is critical. Economical alternative to fluorocarbon transmission cables and for surface-mounted connectors with reduced contact spacing. 30 AWG solid bare copper conductors. Gray PVC insulation has red stripe on leading edge. Rated 105°C 150V. Capacitance: 20 pF/ft. nominal at 1MHz. Impedance: 75 ohms. Maximum thickness 0.025″(0.635). Passes VW-1 vertical wire flame test. UL recognized style 2678. **Sold in spools of 100′.**

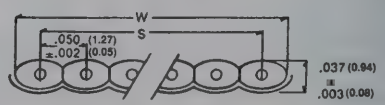
Stock No.	Type	Conductors	Nominal Width	Span	Each
04F6007	3582/26	26	0.65″(16.51)	0.625″(15.88)	74.60
04F6008	3582/40	40	1.00″(25.40)	0.975″(24.77)	107.98
04F6009	3582/50	50	1.25″(31.75)	1.225″(31.12)	134.77
04F6010	3582/60	60	1.50″(38.10)	1.475″(37.47)	161.77

(6232) (de00318)

ROUND-TO-FLAT CABLE



3585

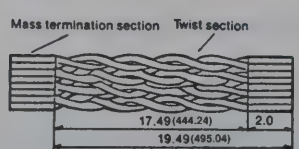


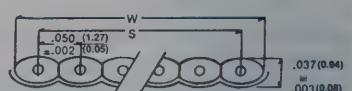
0.050″(1.27) center cable for routing in cramped spaces where flat cable is required and round shape is more workable. Jacketed cable features a dual shield of aluminum/polyester tape and a 90% coverage of tinned copper braid shield. Blends mass termination and ease of installation flexibility of round cable. Dual shield meets FCC regulations for EMI/RFI suppression. 28 AWG, 7/36 stranded conductor; 0.75″(19.05) termination area occurs every 1.5″(38.10). Rated 300V, –20°C to +105°C temperature rating. Capacitance: 24 pF/ft. nominal at 1MHz. Impedance: 70 ohms nominal. Inductance: 0.15H/ft. at 1MHz nominal. Passes CL2 flame test. UL recognized style: 2651 inner, 20381 cabled. **Sold in spools of 100′.**

Stock No.	Type	Cond.	Dim. W	Dim. S	Each
04F5999	3585/25	25	0.34″(8.64)	1.20″(30.48)	186.93
04F6000	3585/26	26	0.39″(9.91)	1.65″(41.91)	188.96
04F6001	3585/40	40	0.40″(10.20)	1.95″(49.53)	261.53
04F6002	3585/50	50	0.46″(11.70)	2.45″(62.23)	334.77

(6234) (de00481)

TWIST-TO-FLAT CABLE





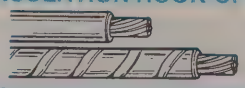
Twisted-pair flat cable with 0.007″(0.178) clear laminated film backing eliminates crosstalk in mass termination 0.050″(1.27) IDCs. 28 AWG, 7/36 stranded tinned copper conductor, PVC insulation. 10 standard color repeat. Rated 105°C, 300V. Capitance: 21pF/ft. nominal. Impedance: 100 ohms. 0.037″(0.940) overall thickness. Twisted lengths 18″(457.2); flat lengths 2″(50.8). Passes VW-1 vertical wire flame test. UL recognized style 20184. **Sold in spools of 100′.**

Stock No.	Type	Cond.	Dim. W	Dim. S	Each
04F6003	3586/26	26	1.300″(33.02)	1.250″(31.75)	192.82
04F6004	3586/40	40	2.000″(50.80)	1.950″(49.53)	288.60
04F6005	3586/50	50	2.500″(63.50)	2.450″(62.23)	408.02
04F6006	3586/60	60	3.000″(76.20)	2.950″(74.93)	416.60

(6235) (de00482)

HOOK-UP WIRE

PVC INSULATION HOOK-UP WIRE



MIL-W-76B TYPE MW STRANDED 0.016″ (0.406) INSULATION 80°C 1000V

AWG (Strand)	Nom. O.D.	Type	100′ Spool				1000′ Spool			
			Each	2-3	4-5	6-9	Each	2-3	4-5	6-9
24 (7/32)	0.059″	1550	12.04	10.93	10.35	9.67	62.70	59.34	56.32	52.73
22 (7/30)	0.064″	1551	12.89	11.70	11.08	10.35	62.70	59.34	56.32	52.73
20 (10/30)	0.068″	1553	15.42	14.00	13.26	12.39	94.73	89.66	85.09	79.67
18 (16/30)	0.078″	1555	16.69	15.15	14.34	13.41	120.70	114.24	108.42	101.51
16 (26/30)	0.095″	1557	23.40	21.27	20.17	18.87	173.09	163.93	155.80	146.08
14 (41/30)	0.101″	1559	31.05	28.23	26.77	25.05	227.49	212.10	201.84	189.58
12 (65/30)	0.125″	1560	51.37	48.62	46.14	43.20	346.60	323.15	307.52	288.83
22 Solid	0.060″	1561*	11.83	10.74	10.17	9.50	56.84	53.80	51.05	47.80
20 Solid	0.066″	1563*	13.73	12.46	11.80	11.03	72.66	68.77	65.26	61.11
18 Solid	0.074″	1565*	25.88	23.52	22.31	20.87	109.45	103.66	98.52	92.37

MIL-W-16878E TYPE B STRANDED 0.010″ (0.254) INSULATION 105°C 600V

- **Stranded Tinned Copper Conductor**
- **Stocked in Colors 1-10— *See Color Chart on this page***

32 (7/40)	0.028″	1850	26.09	23.71	22.49	21.04	92.77	87.81	83.33	78.02
30 (7/38)	0.032″	1851	21.33	19.38	18.38	17.20	71.49	67.66	64.21	60.12
28 (7/36)	0.034″	1852	13.10	11.89	11.26	10.52	55.47	52.50	49.83	46.65
26 (7/34)	0.038″	1853	12.47	11.31	10.71	10.01	58.60	55.46	52.63	49.28
24 (7/32)	0.043″	1854	12.68	11.50	10.90	10.18	51.95	49.17	46.67	43.70
24 (19/36)	0.043″	1854/19	20.70	18.82	17.85	16.70	68.36	64.70	61.41	57.49
22 (7/30)	0.050″	1855	13.73	12.46	11.80	11.03	59.18	56.01	53.16	49.77
22 (19/34)	0.050″	1855/19	27.33	24.84	23.56	22.04	67.58	63.96	60.70	56.84
20 (7/28)	0.058″	1856	17.11	15.53	14.71	13.74	71.68	67.84	64.39	60.28
20 (19/32)	0.058″	1856/19	26.91	24.47	23.20	21.71	87.50	82.82	78.60	73.59
18 (7/26)	0.068″	1857	18.17	16.49	15.62	14.59	96.99	91.86	87.31	81.86
18 (19/30)	0.068″	1857/19	36.02	32.74	31.05	29.05	107.15	101.48	96.45	90.43
16 (19/29)	0.077″	1858/19	23.40	21.27	20.17	18.87	115.20	109.11	103.70	97.23
14 (19/27)	0.091″	1859/19	48.24	43.85	41.58	38.90	143.95	136.51	129.78	121.78

STRANDED 0.016″ (0.406) INSULATION 80°C 300V

- **Stranded Tinned Copper Conductor**
- **Stocked in Colors 1-10— *See Color Chart on this page***
- **80°C UL AWM Style 1007, 90°C CSA TR-64 105°C UL AWM Style 1569**

24 (7/32)	0.057″	3050	11.20	10.16	9.63	8.99	50.20	47.51	45.09	42.22
22 (7/30)	0.065″	3051	12.68	11.50	10.90	10.18	52.34	49.54	47.02	44.02
20 (10/30)	0.071″	3053	15.42	14.00	13.26	12.39	66.41	62.85	59.65	55.85
18 (16/30)	0.080″	3055	16.48	14.95	14.16	13.24	70.90	67.10	63.69	59.63
16 (26/30)	0.095″	3057	22.77	20.70	19.63	18.37	103.90	98.40	93.52	87.68

STRANDED 0.032″ (0.812) INSULATION 105°C 600V

- **Stranded Tinned Copper Conductor**
- **105°C UL AWM Style 1015, CSA TEW-105**
- **Stocked in Colors 1-10— *See Color Chart on this page***

22 (7/30)	0.095″	3071	13.73	12.46	11.80	11.03	66.80	63.22	60.00	56.18
20 (10/30)	0.102″	3073	17.11	15.53	14.71	13.74	83.59	79.12	75.09	70.30
18 (16/30)	0.112″	3075	20.70	18.82	17.85	16.70	98.34	93.13	88.51	82.99
16 (26/30)	0.125″	3077	25.26	22.96	21.77	20.37	142.04	134.52	127.85	119.88
14 (14/30)	0.142″	3079	36.85	33.50	31.77	29.72	167.28	158.63	150.81	141.52

(6344) (ne50300)

IRRADIATED PVC INSULATION HOOK-UP WIRE

- **Stranded Tinned Copper Conductor**
- ***See Color Chart on this page for Color Codes—Contact Your Local Newark Sales Office for Available Colors***
- **150V, 80°C UL AWM Style 1429, 105°C CSA AWM I A/B FT1**

MIL-W-16878E TYPE B STRANDED 0.010″ (0.254) INSULATION 105°C 600V

AWG (Strand)	Nom. O.D.	Type	100′ Spool				1000′ Spool			
			Each	2-3	4-5	6-9	Each	2-3	4-5	6-9
26 (7/34)	0.040″	7053	16.27	14.76	13.98	13.07	72.27	68.40	64.91	60.78
24 (7/32)	0.045″	7054	18.59	16.87	15.98	14.93	85.94	81.34	77.19	72.28
24 (19/36)	0.045″	7054/19	21.12	19.20	18.20	17.03	91.80	86.88	82.46	77.20
22 (7/30)	0.051″	7055	20.71	18.79	17.79	16.63	89.84	85.04	80.70	75.56
22 (19/34)	0.052″	7055/19	22.57	20.51	19.45	18.20	95.70	90.58	85.97	80.49
20 (7/28)	0.059″	7056	25.67	23.34	22.13	20.71	111.63	103.49	96.49	93.30
20 (19/32)	0.060″	7056/19	29.61	26.91	25.52	23.88	120.76	114.37	108.70	101.92
18 (7/26)	0.070″	7057	33.12	30.11	28.55	26.72	141.13	133.83	127.23	119.39
18 (19/30)	0.070″	7057/19	39.33	35.75	33.91	31.72	146.77	139.18	132.32	124.17
16 (19/29)	0.078″	7058/19	42.23	38.39	36.40	34.06	182.52	173.08	164.55	154.41

(6348) (ne50304)

COLOR CHART*

SPECIFY COLOR WHEN ORDERING

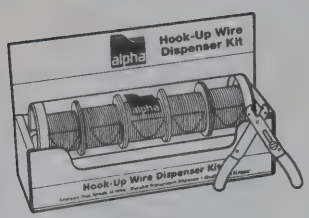
1 - White (WHT)	3 - Red (RED)	5 - Yellow (YEL)	7 - Brown (BRN)	9 - Gray (GRY)
2 - Black (BLK)	4 - Green (GRN)	6 - Light Blue (BLU)	8 - Orange (ORG)	10 - Violet (VLT)

* Other colors are available; *contact your local Newark sales office.*

(6349) (ne50305)

HOOK-UP WIRE

HOOK-UP WIRE KITS



HU-KIT

Alpha's hook-up wire kits feature a unique, convenient wire dispensing system. Kits include five spools of hook-up wire suitable for military or UL/CSA applications. Each kit contains five spools of hook-up wire in a unique, portable dispenser rack. The system keeps hook-up wire neat, clean and conveniently available. Can be mounted on a bench or wall or used as a tote for portability. Kits include cut and strip tool and use standard Alpha hook-up wire spools when refills are required.

KIT CONTENTS

Assorted colors (white, black, red, green, and blue) of stranded hook-up wire. Also contains 1 cut and strip tool.

Stock No.	Type	AWG	Description	Each	2-3	4-5
93F1906	HU-KIT-10	22	MIL-W-76B Type MW	58.43	55.58	51.30
93F1907	HU-KIT-20	22	UL 1007, CSA TR64	58.43	55.58	51.30
92F3113	HU-KIT30	24	MIL-W-76B Type MW	58.43	55.58	51.30
92F3114	HU-KIT-40	24	UL 1007, CSA TR64	58.43	55.58	51.30

(6461) (ds52391)

TEFZEL® WIRE WRAP HOOK-UP WIRE

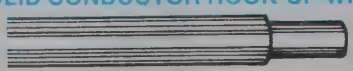
1805-1808

- 150°C (105°C UL)
- Solid Silver-Plated OFHC Copper Conductor
- High Resistance to Cut-Thru and Abrasion
- Stocked in Colors 1-10 – See Color Chart *on page 1211*
- UL 1516, UL 1523
- UL Recognized

AWG	Nom. O.D.	Type	100′ Spool				1000′ Spool			
			Each	2-3	4-5	6-9	Each	2-3	4-5	6-9
30	0.020″	1805	64.45	61.00	57.90	54.21	382.54	350.77	333.93	314.15
28	0.024″	1806	70.51	66.73	63.33	59.30	412.27	378.03	359.88	338.57
26	0.027″	1807	68.68	62.98	59.96	56.41	460.14	435.51	413.32	386.99
24	0.030″	1808	72.27	68.40	64.91	60.78	499.76	473.92	443.41	422.79

(6346) (ne50302)

SOLID CONDUCTOR HOOK-UP WIRE



- Color-Coded PVC Insulation
- Solid Tinned Copper Conductor
- UL Regognized, CSA Certified

Ideal for R&D and MRO applications. Voltage: 300V. Insulation thickness: 0.016″. Stocked in colors 1-10; *see color chart on page 1211.* Passes UL VW-1 Vertical Wire Flame Test. UL AWM styles 1007 (–40°C to +80°C) and 1569 (–40°C to +105°C), CSA TR-64 (–40°C to +90°C). UL recognized, CSA certified.

AWG (Strand)	Nom. O.D.	Type	100′ Spool				1000′ Spool			
			Each	2-3	4-5	6-9	Each	2-3	4-5	6-9
24 Solid	0.057″	3050/1	9.53	8.65	8.19	7.65	45.23	41.12	38.99	36.48
22 Solid	0.065″	3051/1	11.00	9.96	9.10	8.80	49.11	44.49	40.65	39.31
20 Solid	0.071″	3053/1	13.12	11.91	11.28	10.54	56.45	53.43	50.70	47.47
18 Solid	0.080″	3055/1	14.01	12.71	12.04	11.25	60.27	57.05	54.14	50.69
16 Solid	0.095″	3057/1	19.75	17.93	16.98	15.86	89.98	85.16	80.83	75.68

(18826) (ne10064)

COLOR CHART*

SPECIFY COLOR WHEN ORDERING

1 - White (WHT)	3 - Red (RED)	5 - Yellow (YEL)	7 - Brown (BRN)	9 - Gray (GRY)
2 - Back (BLK)	4 - Green (GRN)	6 - Light Blue (BLU)	8 - Orange (ORG)	10 - Violet (VLT)

*Other colors are available; *contact your local Newark sales office.*

(34277) (ne34277)

NEWARK AND ALPHA WIRE PROVIDE THE PRODUCTS AND SERVICE YOU NEED!

PRODUCTS INCLUDE:

- **SHRINK TUBING AND HEAT GUNS**
- **BRAIDED AND SPIRAL WRAP SLEEVING**
- **COAXIAL AND FLAT CABLE**

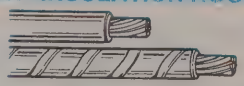
CONTACT YOUR LOCAL NEWARK SALES OFFICE TO ORDER!

(6324) (ne06438)

HOOK-UP WIRE

TFE TEFLON® INSULATION HOOK-UP WIRE

VW-1



- Solid or Stranded Silver-Plated Copper Conductor
- Extruded TFE Teflon® Insulation
- Stocked in Colors 1-10 – See Color Chart *on page 1211*
- Passes UL VW-1 Vertical Wire Flame Test and Meets UL AWM Style 1213

MIL-W-16878/4 TYPE E STRANDED 0.010" (0.254) INSULATION 200C 600V

AWG (Strand)	Nom. O.D.	Type	100′ Spool Each	100′ Spool 2-3	100′ Spool 4-5	100′ Spool 6-9	1000′ Spool Each	1000′ Spool 2-3	1000′ Spool 4-5	1000′ Spool 6-9
30 (7/38)	0.032″	5851	13.76	12.48	11.82	11.05	106.96	101.30	96.28	90.27
28 (7/36)	0.036″	5852	13.97	12.67	12.00	11.22	108.69	102.94	97.83	91.73
26 (7/34)	0.040″	5853	15.00	13.61	12.89	12.05	116.93	110.74	105.25	98.68
24 (19/36)	0.045″	5854	19.90	18.06	17.10	15.98	152.04	144.18	137.07	128.62
24 (7/32)	0.044″	5854/7	16.52	14.96	13.67	13.22	125.94	119.27	113.36	106.29
22 (19/34)	0.051″	5855	20.26	18.39	17.41	16.27	154.67	146.68	139.44	130.85
22 (7/30)	0.050″	5855/7	23.75	21.55	20.41	19.07	181.39	172.01	163.53	153.46
20 (19/32)	0.059″	5856	28.30	25.73	24.40	22.82	220.53	205.61	195.66	183.78
20 (7/28)	0.058″	5856/7	25.55	23.22	22.02	20.60	199.08	185.61	176.63	165.90
18 (19/30)	0.070″	5857	36.52	33.20	31.48	29.45	347.42	300.47	269.17	251.96
16 (19/29)	0.077″	5858	35.61	31.27	29.50	27.74	346.79	323.33	307.68	288.99
MIL-W-16878/4 TYPE EE STRANDED 0.014" (0.356) INSULATION 200C 1000V MIL 300V UL										
24 (19/36)	0.055″	5874	23.52	21.38	20.27	18.97	183.09	173.62	165.06	154.89
22 (19/34)	0.062″	5875	26.69	24.26	23.00	21.52	208.11	194.03	184.64	173.43
18 (19/30)	0.080″	5877	42.21	38.37	36.39	34.04	328.91	306.66	291.82	274.09
SOLID CONDUCTOR 0.010" (0.254) INSULATION THICKNESS 200C 600V										
26 Solid	0.036″	2853/1	17.97	16.34	15.49	14.49	142.61	135.07	128.37	120.36
24 Solid	0.030″	2854/1	22.32	20.29	19.24	18.00	173.87	164.88	156.75	147.09
22 Solid	0.045″	2855/1	25.13	22.85	21.67	20.27	195.88	182.63	173.79	163.23
20 Solid	0.052″	2856/1	34.30	31.18	29.57	27.67	267.38	249.29	237.23	222.82
18 Solid	0.060″	2857/1	82.50	78.08	74.11	69.38	681.34	646.11	604.51	576.40
MIL-W-16878/4 TYPE ET STRANDED 0.006" (0.152) INSULATION 200C 250V										
32 (7/40)	0.021″	2840/7	13.27	12.04	11.40	10.66	103.32	97.85	93.00	87.20
30 (7/38)	0.024″	2841/7	13.50	12.25	11.60	10.84	105.05	99.49	94.55	88.65
28 (7/36)	0.027″	2842/7	13.76	12.48	11.82	11.05	106.96	101.30	96.28	90.27
28 (19/40)	0.027″	2842/19	20.99	19.08	18.10	16.93	165.21	156.67	148.94	139.77
26 (7/34)	0.031″	2843/7	14.90	13.52	12.80	11.96	122.49	116.01	110.25	103.37
26 (19/38)	0.032″	2843/19	20.87	18.97	17.99	16.83	164.27	155.78	148.10	138.97
24 (7/32)	0.036″	2844/7	16.41	14.87	13.58	13.13	124.98	118.37	112.50	105.48
24 (19/36)	0.037″	2844/19	19.17	17.43	16.53	15.46	149.41	141.68	134.69	126.40
22 (7/30)	0.042″	2845/7	19.80	17.96	17.01	15.90	162.98	151.10	140.88	136.22
22 (19/34)	0.044″	2845/19	22.61	20.55	19.49	18.23	176.12	167.02	158.78	149.00
SOLID CONDUCTOR 0.006" (0.152) INSULATION THICKNESS 200C 250V										
30 Solid	0.022″	2841/1	16.71	15.19	14.40	13.48	132.65	125.63	119.40	111.95
28 Solid	0.025″	2842/1	18.22	16.56	15.71	14.69	142.07	134.72	128.08	120.19
26 Solid	0.028″	2843/1	19.32	17.56	16.65	15.58	150.53	142.75	135.71	127.35

(6347)

(ne50303)

KYNAR WIRE WRAP HOOK-UP WIRE

- 125°C (105°C UL)
- Solid Silver-Plated OFHC Copper Conductor
- High Resistance to Cut-Thru and Abrasion
- Stocked in White Only—Other Colors Available; *Contact Your Local Newark Sales Office For Details*
- UL AWM Styles 1422 and 1423
- Sold in spools of 1000′

AWG	Nom. O.D.	Type	1000′ Spool Each	1000′ Spool 2-3	1000′ Spool 4-5	1000′ Spool 6-9
30	0.020″ (0.508)	5951	150.35	142.57	135.54	127.19
28	0.024″ (0.610)	5952	173.87	164.88	156.75	147.09
26	0.027″ (0.686)	5953	177.63	168.45	160.14	150.27
24	0.030″ (0.762)	5954	240.48	224.21	213.36	200.40

(6345)

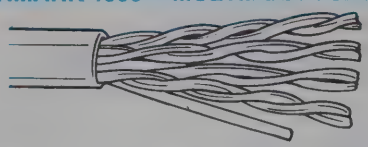
(ne50301)

OVERNIGHT SHIPMENT IS AVAILABLE WHEN YOU NEED IT.
CONTACT YOUR LOCAL NEWARK SALES OFFICE.

NETWORK CABLE

LANMARK-1000™ MULTIMEDIA CABLE

NEW



Designed to meet the stringent cable performance demands of future applications which utilize full duplex operation over four twisted pairs. Comprised of ANSI/TIA/EIA568-A Category 5 compliant cable specified and tested to 500MHz. Applications include full and half duplex operation, digital video, broadband and baseband analog video, 1000Base T, 622Mb/ps ATM, 155Mb/s ATM, 100Base Tx, IEEE 802.3, IEEE 802.5, and 100Mb/s TPPMD. Unshielded, 24 AWG solid bare copper wires. **Sold in spoolsof 1000′.**

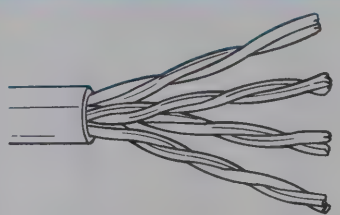
NON-PLENUM

Stock No.	Type	Nom. O.D.	Color	Each	2-4	5-9
83F7720	530606	0.200″	Blue	194.57	165.14	147.26
83F7721	530607	0.200″	White	194.57	165.14	147.26
83F7722	530608	0.200″	Yellow	194.57	165.14	147.26
PLENUM-100% FEP INSULATED						
83F7723	230716	0.200″	Blue	544.43	462.08	412.06
83F7724	230715	0.200″	White	544.43	462.08	412.06
83F7725	230714	0.200″	Yellow	544.43	462.08	412.06

(32670) (ne32670)

LANMARK-350™ ENHANCED CATEGORY 5 CABLE

NEW



Comprised of TIA/EIA568-A Category 5 cables specified and tested to 350MHz. Applications include 100Mbps TPPMD, 155Mbps ATM, 622Mbps ATM, IEEE 802.3, IEEE 802.5, 1000Base-T, ISDN, and voice. 4 pair, unshielded, 24 AWG solid bare copper wires. **Sold in spools of 1000′.**

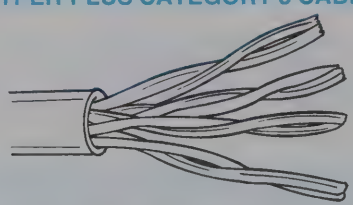
NON-PLENUM

Stock No.	Type	Nom. O.D.	Color	Each	2-4	5-9
83F7459	530529	0.187″	Blue	123.17	104.54	93.22
83F7460	530538	0.187″	White	123.17	104.54	93.22
83F7461	530463	0.187″	Yellow	123.17	104.54	93.22
83F7462	530577	0.187″	Gray	123.17	104.54	93.22
PLENUM, 100% FEP INSULATED						
83F7467	230645	0.165″	Blue	353.43	299.97	267.50
83F7468	230670	0.165″	White	353.43	299.97	267.50
83F7469	230600	0.165″	Yellow	353.43	299.97	267.50
83F7470	230674	0.165″	Gray	353.43	299.97	267.50

(32386) (ne32386)

HYPER-PLUS CATEGORY 5 CABLE

NEW



TIA/EIA568-A, UL or ETL verified to Category 5 specifications. Applications include 100 Mbps PDDI, 155Mbps ATM, IEEE 802.3, IEEE 802.5, ISDN, and voice. 4 pair, unshielded, 24 AWG solid bare copper wires. **Sold in spools of 1000′.**

NON-PLENUM

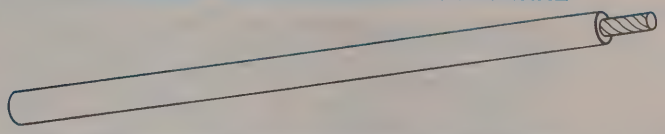
Stock No.	Type	Nom. O.D.	Color	Each	2-4	5-9
83F7455	530281	0.187″	Blue	85.68	72.72	64.85
83F7456	530284	0.187″	White	85.68	72.72	64.85
83F7457	530282	0.187″	Yellow	85.68	72.72	64.85
83F7458	530141	0.187″	Gray	85.68	72.72	64.85
PLENUM, 100% FEP INSULATED						
83F7463	231397	0.172″	Blue	248.12	210.59	187.79
83F7464	231378	0.172″	White	248.12	210.59	187.79
83F7465	231441	0.172″	Yellow	248.12	210.59	187.79
83F7466	231292	0.172″	Gray	248.12	210.59	187.79

(32387) (ne32387)

HIGH-VOLTAGE WIRE

U.L. 3239 HIGH-VOLTAGE SILICONE WIRE

VW-1

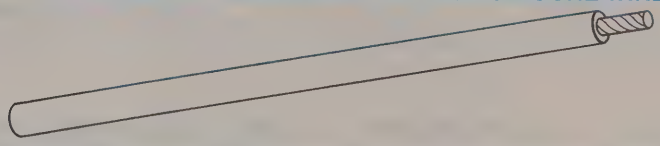


Rowe's **U.L. 3239** style high-voltage silicone lead wire uses Rowe compound R800. This compound was especially developed for high abrasion resistance requirements and also exhibits excellent dielectric capability in extreme environments.Can be used in power supplies, electronic equipment, and other applications requiring high abrasion, voltage, and flame resistance, while maintaining flexibility. Silicone insulation, corona-resistant, temperature rating: –40°C to +150°C, voltage rating: 50kVDC. Tin-plated copper conductor, flame retardant. Can be autoclaved. Passes UL VW-1 vertical wire flame test. UL recognized. Color: white. Other colors available; *contact your local Newark sales office.*

AWG	Voltage	Nom. O.D.	Type	100′ Spool				1000′ Spool			
				Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
22	10,000	0.112″ (2.845)	R800-1022	05F1324	99.49	81.57	76.32	05F1325	392.91	322.12	301.41
22	15,000	0.122″ (3.098)	R800-1522	05F1326	102.48	84.02	78.62	05F1327	403.26	330.60	303.36
22	20,000	0.145″ (3.683)	R800-2022	05F1328	109.14	89.48	83.73	05F1329	438.86	359.79	336.66
22	25,000	0.175″ (4.445)	R800-2522	05F1330	160.84	131.86	123.39	05F1331	627.28	514.25	481.20
22	30,000	0.215″ (5.461)	R800-3022	05F1332	247.01	202.50	189.48	05F1333	939.76	770.44	720.91
22	40,000	0.272″ (6.909)	R800-4022	05F1394	349.25	286.33	267.92	05F1395	1161.60	1057.06	969.94
20	10,000	0.118″ (2.997)	R800-1020	05F1334	110.98	90.99	85.14	05F1335	422.78	346.60	324.32
20	15,000	0.128″ (3.251)	R800-1520	05F1336	112.13	91.93	86.02	05F1337	475.63	389.93	364.86
20	20,000	0.150″ (3.810)	R800-2020	05F1338	115.12	94.38	88.31	05F1339	480.22	393.70	368.39
20	25,000	0.182″ (4.623)	R800-2520	05F1340	167.51	137.33	128.50	05F1341	677.83	555.70	519.97
20	30,000	0.220″ (5.588)	R800-3020	05F1342	181.98	149.19	139.60	05F1343	736.49	603.79	554.02
20	40,000	0.278″ (7.061)	R800-4020	05F1344	368.10	301.77	282.37	05F1345	1264.77	1150.94	1076.96
18	15,000	0.140″ (3.556)	R800-1518	05F1346	130.28	106.81	99.94	05F1347	491.71	403.12	377.20
18	25,000	0.195″ (4.953)	R800-2518	05F1348	192.09	157.48	147.36	05F1349	714.73	585.95	537.66
18	40,000	0.230″ (5.842)	R800-4018	05F1352	392.68	321.93	301.23	05F1353	1244.07	1132.11	1059.33
16	15,000	0.146″ (3.708)	R800-1516	05F1354	157.86	129.41	121.09	05F1356	597.41	489.77	458.28
16	25,000	0.200″ (5.080)	R800-2516	05F1360	181.75	149.00	139.43	05F1363	705.40	578.30	541.12
16	40,000	0.300″ (7.620)	R800-4016	05F1364	468.96	384.47	359.75	05F1368	1535.30	1397.12	1281.98
14	15,000	0.162″ (4.115)	R800-1514	05F1369	174.86	143.35	134.14	05F1371	666.34	546.28	511.16
14	25,000	0.216″ (5.486)	R800-2514	05F1372	224.49	184.04	172.21	05F1373	870.83	713.93	668.03
14	40,000	0.315″ (8.001)	R800-4014	05F1374	507.80	416.30	389.54	05F1377	1675.00	1524.25	1398.63
12	15,000	0.180″ (4.572)	R800-1512	05F1380	210.93	172.93	161.81	05F1383	799.60	655.53	613.39
12	40,000	0.335″ (8.509)	R800-4012	05F1384	588.67	482.61	451.58	05F1385	1980.99	1802.70	1686.82
10	15,000	0.205″ (5.207)	R800-1510	05F1386	233.24	191.21	178.92	05F1387	1036.27	849.55	794.94
10	40,000	0.360″ (9.144)	R800-4010	05F1388	667.03	546.84	511.69	05F1389	2262.51	2058.89	1926.53

(6256) (de02717)

TYPE R790 SUPER TOUGH HIGH-VOLTAGE SILICONE WIRE



Type R790 super tough high-voltage silicone lead wire uses Rowe silicone compound R790. This compound was specially developed for high abrasion resistant requirements and also exhibits excellent dielectric capabilities in extreme environments. Used in military, space, and industrial areas. Temperature rating: –40°C to +200°C, voltage rating: 2 thru 60 kVDC. Silver-plated copper conductors, silicone insulation, corona-resistant, and high flexibility. Can be autoclaved Meets or exceeds MIL-W-16878 specifications. Can be used in military, aerospace, and industrial applications requiring high abrasion and voltage resistance while maintaining flexibility. Color: white. Other colors available, *contact your local Newark sales office.*

AWG	Voltage	Nom. O.D.	Type	100′ Spool				1000′ Spool			
				Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
22	5,000	0.070″ (1.778)	R790-0522	05F1280	87.55	71.77	67.16	05F1281	838.66	687.55	643.35
22	15,000	0.110″ (2.794)	R790-1522	05F1282	108.46	88.91	83.20	05F1284	1038.56	851.44	796.70
22	20,000	0.130″ (3.302)	R790-2022	05F1285	126.38	103.61	96.95	05F1286	1208.59	990.83	927.13
20	15,000	0.120″ (3.048)	R790-1520	05F1289	131.89	108.13	101.18	05F1290	1318.88	1081.25	1011.74
20	20,000	0.150″ (3.810)	R790-2020	05F1291	146.60	120.18	112.46	05F1292	1320.66	1201.80	1124.55
20	25,000	0.166″ (4.216)	R790-2520	05F1293	144.76	118.68	111.05	05F1294	1250.28	1137.76	1064.62
18	25,000	0.160″ (4.064)	R790-2518	05F1295	167.74	137.51	128.67	05F1296	1391.28	1266.06	1161.72
16	20,000	0.161″ (4.089)	R790-2016	05F1297	265.39	217.57	203.58	05F1298	2390.85	2175.68	2035.81
16	35,000	0.265″ (6.731)	R790-3516	05F1299	411.52	337.37	315.69	05F1300	3238.08	...	...
16	45,000	0.300″ (7.620)	R790-4516	05F1302	465.06	381.26	356.76	05F1304	3658.15	...	...
16	60,000	0.380″ (9.652)	R790-6016	05F1306	669.78	549.10	513.80	05F1307	5272.48	...	...
14	60,000	0.385″ (9.779)	R790-6014	05F1308	742.62	608.82	569.68	05F1310	5843.24	...	...
12	20,000	0.205″ (5.207)	R790-2012	05F1313	464.60	380.89	356.40	05F1315	3808.85	...	...
12	50,000	0.414″ (10.516)	R790-5012	05F1316	841.65	690.00	645.65	05F1321	6019.56	...	...
12	60,000	0.425″ (10.795)	R790-6012	05F1322	955.39	783.25	732.89	05F1323	7534.80	...	...

(6255) (de02716)

HIGH-TEMPERATURE TAPE

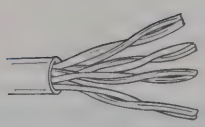
Self-adhering and self-fusing, it cures at room temperature. Extruded of high-performance silicone rubber, its high thermal conductivity permits rapid heat dissipation. Useful wherever a tough, high-temperature (to 260°C), permanently resilient insulation or seal is required. Provides a moisture-free seal around tubes and wire harness bundles. Dielectric strength, (min.): 400 v/mil.

Stock No.	Type	Width	Thickness	Description	Each
48F1901	GL20B67100	1″	0.02″	Blue	9.99
48F1902	GL30R67W00	1″	0.03″	White	12.44
48F1903	GL40R67G00	1″	0.04″	Green	16.88

(33394) (ne33394)

CONTACT NEWARK FOR LARGE-QUANTITY PRICING.

DATA COMMUNICATION CABLE



DREAMLAN™ 5 ENHANCED CATEGORY 5 CABLE

DreamLAN™ Category 5 cable can support 622Mbps high-speed requirements of ATMs and other evolving networks. 10dB margin on worst pair crosstalk. Sequential footage markings. Can be used with standard termination equipment. Conductor: 24 AWG solid copper. Pairing: 4 pairs with varying short pair lay. Color code: bandmarked. Rip cord: applied under jacket. UL listed Type MPP/CMP. **Sold in SPOOL-PAC™ packaging: 1000′ per package.**

Stock No.	Type	Description	Insulation	Jacket	Each
91F6580	2131500	Plenum	FEP	FLEXGUARD®	285.49
91F6579	2133420	Non-Plenum	Polyolefin	PVC	104.64

(12831) (ne10073)

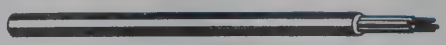
CATEGORY 5 EXTENDED FREQUENCY CABLE

Suitable for high-speed data transmission up to 155 Mbps. Jacket: Flexguard® flame retardant PVC, white. Applications include: voice, T1, 10 BASE-T, 100 BASE-T, and 55/155 Mbps ATM. Installs in ducts, plenums, and other spaces used as environmental air returns when installed in accordance with the NEC Article 800-51 (a) (g). UL Listed Type MPP/CMP. **Sold in spools of 1000′.**

Stock No.	Type	No. of Pairs	AWG	Nom. O.D.	Each	2-4	5-9
88F2087	2131365	4	24	0.16″	259.77	250.76	242.47

(34572) (ne34572)

DATA AND COMMUNICATION CABLE



C4412

2133019

TELEPHONE CABLES—BEIGE PVC JACKET

Solid bare copper conductors. Premium grade color-coded semi-rigid PVC insulation. For wiring single line telephone service and intercom systems. UL Type CMR/CMX-Indoor/Outdoor. NEC Article 800.

No. of Cond.	AWG (Stranding)	Nom. O.D.	Type	500′ Spool				1000′ Spool			
				Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
4	22	0.130″	C4412	04F8417	29.32	28.16	27.61	04F8418	70.18	67.47	66.21

CATEGORY 1 AND 3 CABLE

Solid bare copper unshielded twisted pairs. Flame retardant semi-rigid PVC insulation. Two twists per foot minumum. 24 AWG. UL Listed Type MPR/CMR for installation in vertical riser and general horizontal applications when installed in accordance with the NEC Article 800-51(b) (g). Category 1 for voice applications. Category 3 applications include: voice, T1, 10 BASE-T,55Mbps ATM. **Sold in spools of 1000′.**

No. of Pairs	Cat.	Speed Mbps	Nom. O.D.	Type	Stock No.	Each	2-4	5-9
12	2	4	0.230″	6959605**	05F1200	170.60	167.47	161.57
4	3	16	0.160″	2133019†	05F1205	63.26	60.83	59.69

** Beige PVC jacket. †Gray PVC jacket.
(9929) (de03172)

PLENUM DATA COMMUNICATION AND CONTROL CABLE CATEGORY 3-5

Category 3, 5

CATEGORY 3— MULTIPAIRED CABLE

Solid bare copper unshielded twisted pairs with Flexguard™ PVC insulation. Two twists per foot minimum with an overall Flexguard™ jacket. Data rates to 16Mbps. NEC/UL Type MPP/CMP. **Sold in spools of 1000′.**

Stock No.	Type	No. of Pairs	AWG	Nom. O.D.	Each	2-4	5-9	10-14
05F1093	2131248	3	24	0.130″	105.49	101.60	99.73	96.22
05F1095	2131249	4	24	0.155″	117.43	113.10	111.02	107.11
05F1097	2131250	6	24	0.190″	172.52	169.35	163.39	155.29

CATEGORY 5— MULTIPAIRED CABLE

wSolid bare copper unshielded twisted pairs. FEP insulation. Varying short pair lays. Blue Flexguard™ PVC jacket. Data rates to 155Mbps for 100 base-T (IEEE802.3) applications. NEC/UL Type MPP/CMP rated. **Sold in spools of 1000′.**

05F1111	2131282	4	24	0.160″	249.55	240.89	232.93	225.38

(6258) (de03007)

PREMISE CROSS-CONNECT WIRE

TYPE "F", SPEC. 5008

Suitable for voice and data transmission up to 16 Mbps. Category 3 compatible, may be used for cross-connecting between terminals of a distribution frame or other premise equipment. Conductors: 24 AWG solid bare annealed copper. Insulation: flame retardant semi-rigid PVC. Pairing: 3 twists per foot minimum. UL listed, BellCore specification TA-TSY-000130.

Stock No.	Type	No. of Pairs	AWG	Spool Size	Each	2-4	5-9
48F4341	7042500	1	24	1000′	21.21	20.36	19.97
48F4342	2113054	1	24	1000′	21.21	20.36	19.97
48F4343	7042518	2	24	1150′	44.54	42.76	41.93
48F4344	2114307	2	24	1000′	44.54	42.76	41.93
48F4345	7042526	3	24	600′	59.06	56.79	55.73

SPEC. 5006

Suitable for voice and data transmissions up to 4 Mbps. Category 2 compatible: Pairing: 2 twists per foot minimum. **Sold in spools of 1000′.**

Stock No.	Type	No. of Pairs	AWG	Spool Size	Each	2-4	5-9
48F4346	2114211	4	24	1000′	56.42	54.25	53.24

(34573) (ne34573)

ELECTRICAL CABLE, CORDS AND SPEAKER WIRE

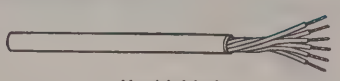
MULTICONDUCTOR COMMUNICATION AND CONTROL CABLE

UNSHIELDED – 80°C 300V UL 2464

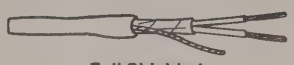
Stranded tinned copper conductors jacketed with chrome gray PVC. UL listed 2464, NEC Types CL2 and CM, CSA certified AWM IIA FT4.

No. of Cond.	AWG (Stranding)	Nom. O.D.	Type	500′ Spool		1000′ Spool	
				Stock No.	Each	Stock No.	Each
3	22 (7 × 30)	0.176″	C4062	04F8479	49.16	04F8480	83.84
5	22 (7 × 30)	0.203″	C4064	04F8491	63.35	04F8492	113.65
6	22 (7 × 30)	0.218″	C4066	04F8453	73.70	04F8454	132.36
8	22 (7 × 30)	0.234″	C4065	04F8501	92.74	04F8502	164.08
10	22 (7 × 30)	0.268″	C4071	04F8461	114.84	04F8462	205.19
2	20 (7 × 28)	0.228″	C6351	04F8499	43.98	04F8500	81.36
4	20 (7 × 28)	0.257″	C6353	04F8550	58.38	04F8551	135.74

UL SP NEC



Unshielded



Foil Shielded

OVERALL FOIL-SHIELDED–60° C

Stranded tinned copper conductors with overall foil shield and stranded tinned copper drain wire. Chrome gray PVC jacket. All shielded types are 300V except **type C2516**, which is 30V. **Types C2524** and **2534** are UL listed 2092. **C2526**, **C2535** and **C2528** are UL listed 2093. **C2523** is UL listed 2094. **C2516** is UL listed 2835. UL listed NEC types CL2 and CM, CSA certified PCC FT4 approved.

No. of Cond.	AWG (Stranding)	Nom. O.D.	Type	500′ Spool		1000′ Spool	
				Stock No.	Each	Stock No.	Each
2	20 (7 × 28)	0.201″	C2524	04F8449	57.96	04F8450	105.49
2	18 (16 × 30)	0.231″	C2534	04F8406	67.28	04F8407	128.38
3	22 (7 × 30)	0.194″	C2526	04F8473	60.24	04F8474	109.07
3	18 (16 × 30)	0.244″	C2535	04F8422	63.68	04F8423	154.69
3	20 (7 × 28)	0.208″	C2528	04F8611	75.15	04F8612	138.73
4	22 (7 × 30)	0.211″	C2523	04F8465	70.18	04F8466	126.99

(6312) (ne03198)

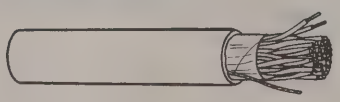
MULTICONDUCTOR COMPUTER CABLE – OVERALL FOIL SHIELD

Stranded tinned copper conductors with overall foil shield and tinned copper drain wire. Cable is jacketed with chrome gray PVC. 80°, 300V. UL listed 2464, NEC Types CL2 and CM, CSA certified AWM IIA FT4. Also available in 8, 9, 10, and 15 conductors; *contact your local Newark sales office for details.*

No. of Cond.	AWG (Stranding)	Nom. O.D.	Type	500′ Spool		1000′ Spool	
				Stock No.	Each	Stock No.	Each
4	22 (7 × 30)	0.190″	C0762	04F8530	68.73	04F8531	92.57
6	22 (7 × 30)	0.219″	C0763	04F8512	89.64	04F8513	153.16

(6315) (ne03201)

UL SP NEC



PORTABLE CORDS

LAMP CORD TYPE SPT-1

Temperature range: –20°C to +60°C. UL recognized. 300 volts. Brown. 18 AWG.

Stock No.	Type	No. of Cond.	Nom. O.D.	Each	2-4	5-9
05F1238	02301-R5-08	2	0.110 x 0.210″	27.70	26.59	26.07

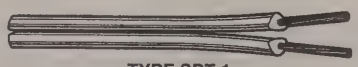
TYPE SOW - 600 VOLT BLACK CAROLPRENE® JACKETED

Temperature range: –40°C to +90°C. UL listed, CSA certified. **Sold in spools of 250′.** 1000′ spool available on special order; *contact your local Newark sales office.*

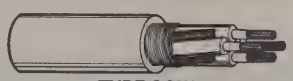
Stock No.	Type	AWG	No. of Cond.	Nom. O.D.	Each	2-4	5-9
04F3884	02765-15-01	16	3	0.390″	100.92	97.04	95.22
05F1242	02766-15-01	16	4	0.425″	134.34	129.38	127.00
04F3886	02762-35-01	14	3	0.530″	109.24	103.63	99.96
04F3892	02768-85-01	14	4	0.570″	187.73	181.22	175.22
04F3888	02725-35-01	12	3	0.600″	198.93	192.02	185.67
04F3894	02726-85-01	12	4	0.650″	229.88	221.90	214.56
04F3890	02728-35-01	10	3	0.660″	250.70	242.00	233.99
05F1247	02727-35-01	10	4	0.710″	291.48	281.36	272.06

(6294) (de52814)

UL SP



TYPE SPT-1



TYPE SOW

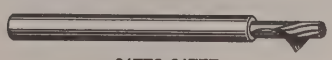
CAROLPRENE® 600V, CLASS K ARC WELDING CABLE

Features single 30 AWG fully annealed stranded bare copper conductor insulated in a Carolprene® jacket. Temperature range: –40°C to +90°C. Black. 500′ spools also available; *contact your local Newark sales office.*

Stock No.	Type	AWG	Nom. O.D.	250′ Spool		
				Each	2-4	5-9
05F1453	01773-35-01	2/0	0.620″	530.40	512.86	496.25
05F1450	01774-35-01	1/0	0.580″	452.33	437.38	423.21
05F1400	01776-35-01	2	0.470″	338.28	326.54	315.74
05F1397	01777-35-01	4	0.410″	224.60	216.80	209.63

(6296) (de52873)

OSHA



01773-01777

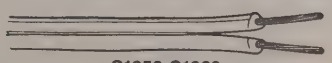
SPEAKER WIRE

Tinned copper stranded conductors (except C1363 which uses bare copper) with color-coded PVC insulation. Two conductors are parallel. Specify color when ordering: black (01) or clear (90).

UL WIRES MISCELLANEOUS 90 VOLTS

AWG (Strand.)	Type	500′ Spool				1000′ Spool			
		Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
22 (7x30)	C1362	04F8456	21.78	20.91	20.50	04F8458	41.18	39.54	38.77
20 (10x30)	C1360	04F8486	27.38	26.29	25.78	04F8488	50.31	48.37	47.46
18 (16x30)	C1357	04F8425	33.85	32.50	31.87	04F8428	62.73	60.31	59.18
UL RECOGNIZED 300 VOLTS SPT-1									
24 (7x32)	C1356	04F8432	15.98	15.31	14.70	04F8434	28.46	27.33	26.79
16 (26x30)	C1358	04F8435	46.79	44.92	44.05	04F8437	85.70	82.40	80.86
12 (65x30)	C1363	04F8622	125.23	120.61	118.40	04F8623	190.95	184.33	178.23

(6299) (de52968)



C1356-C1363

CATEGORY 5 CABLE

ADVANCE NET™ 500 CATEGORY 6 ENHANCED UTP CABLE

24 AWG, 4 pair, unshielded twisted pair (UTP) for use in horizontal cabling systems as described in TIA/EIA 568-A. This cable exceeds Category 5 electrical characteristics and *meets the proposed TIA/EIA 568-A Category 6 DRAFT and proposed IEC 11801 Category 6.* Supported applications: IEEE 802.5.4 and 16 Mbps TOKEN RING, 10BASE-T, 100BASE-T, 100 VG-ANYLAN, TPDDI, CDDI, TP-PMD, ATM AT 155Mbps, 550 MHz BROADBAND VIDEO AND STANDARDS UNDER DEVELOPMENT such as IEEE 802.3ab GIGABIT ETHERNET (100BASE-T) and ATM AT 622Mbps, 1.2 AND 2.4 Gbps. Non-Plenum cable has thermoplastic insulation and jacket rated for use as a vertical run in a shaft and for general purpose communications in accordance with NEC Article 800; UL (USA) & cUL (CSA) Listed for Riser application by passing UL 1666 Riser Cable Flammability Test. Plenum cable has FEP Teflon® insulation and Thermoplem™ jacket rated for use in air handling ducts and spaces in accordance with NEC Article 800; UL (USA) & cUL (CSA) Listed for Plenum application by passing UL 910 (Steiner Tunnel) Test. **Sold in spools of 1000′**. Other colors and spool sizes are available; *contact your local Newark sales office.*

NON-PLENUM

Stock No.	Type	Color	No. of Pairs	Nom. O.D.	Shield	Each	2-4	5-9	10-24
91F9320	M56889-1000-WHT	White	4	0.209″	No	225.05	204.53	182.39	172.40

PLENUM

91F9321	M56905-1000-WHT	White	4	0.193″	No	633.46	575.70	513.38	485.26

(18934) (ne10081)

MEGALAN™ 400 CATEGORY 5 ENHANCED UTP CABLE

User-friendly Category 5 cable has enhanced performance parameters. Tested for parameters not yet specified for 4 pair UTP in TIA/EIA 568-A such as skew, PS-NEXT, and ACR. Verified to 400MHz with stable transmission performance. Suitable for CIM, real-time imaging, holograms and virtual reality. 10dB minimum ACR @ 155MHz; proven support for 155Mbps ATM, 100 Mbps TP-PMD; 6dB minimum improvement in near end crosstalk versus standard category 5; 0.10 ns/meter maximum skew tightly controlled propagation delay. 100 ohms. 14pF/ft. Solid bare copper conductors. Non-plenum cable has thermoplastic dielectric with PVC jacket; plenum has Thermoplen™ dielectric and Thermoplen™ jacket. Exceeds TIA/EIA 568-A requirements. UL listed, CSA certified. Non-plenum cable is NEC type CMR and MPR; plenum is NEC type CMP and MPP. **Sold in spools of 1000′**. Other colors and spool sizes are available; *contact your local Newark sales office.*

NON-PLENUM

Stock No.	Type	Color	No. of Pairs	Nom O.D.	Shield	Each	2-4	5-9	10-24
91F9299	M55989-1000 WHT	White	4	0.201″	No	133.36	121.20	108.08	102.16
91F9300	M56167-1000-BLU	Blue	4	0.201″	No	133.36	121.20	108.08	102.16
91F9301	M56746-1000-GRY	Gray	4	0.201″	No	133.36	121.20	108.08	102.16

PLENUM

91F9296	M55988-1000 WHT	White	4	0.184″	No	365.08	331.79	295.87	279.67
91F9297	M56168-1000-BLU	Blue	4	0.184″	No	365.08	331.79	295.87	279.67
91F9298	M56882-1000-GRY	Gray	4	0.184″	No	365.08	331.79	295.87	279.67

(18933) (ne10080)

CATEGORY 5 CABLE

Category 5 cable features twisted pair flexibility. Compatible with Category 5 modular plugs. Verified to 100MHz. Excellent crosstalk and attenuation characteristics. 100 ohms nominal. 24 AWG solid bare copper conductors. Non-plenum cable has thermoplastic insulation with PVC jacket; plenum has Thermoplen™ insulation and jacket. Color: gray or white. Shielded versions have overall aluminum with drain. Exceeds TIA/EIA 568-A requirements. UL listed. Non-plenum cable is NEC type CMR and MPR; plenum is NEC type CMP and MPP. **Sold in spools of 1000′**. Other colors and spool sizes are available; *contact your local Newark sales office.*

NON-PLENUM

Stock No.	Type	Color	No. of Pairs	Nom. O.D.	Shield	Each	2-4	5-9	10-24
91F9285	M54568-1000 GRY	Gray	4	0.194″	No	91.69	83.33	74.31	70.24
91F9286	M55995-1000-WHT	White	4	0.194″	No	91.69	83.33	74.31	70.24
91F9313	M56753-1000 GRY	Gray	25	0.470″	No	1096.89	996.87	888.96	840.27
91F9290	M54783-1000 GRY	Gray	4	0.224″	Yes	195.04	177.26	158.07	149.41
91F9317	M56832-1000 GRY	Gray	25	0.522″	Yes	1875.38	1704.38	1519.88	1436.63

PLENUM

91F9292	M54998-1000 GRY	Gray	4	0.180″	No	271.73	246.95	220.22	208.16
91F9293	M55530-1000-WHT	White	4	0.180″	No	271.73	246.95	220.22	208.16
91F9315	M56773-1000 GRY	Gray	25	0.425″	No	3122.30	2837.60	2530.43	2391.83
91F9294	M55082-1000 GRY	Gray	4	0.226″	Yes	571.79	519.65	463.40	438.02
91F9308	M56700-1000 GRY	Gray	25	0.467″	Yes	3584.05	3257.25	2904.65	2745.55

(18931) (ne10078)

UTP CATEGORY 5 PATCH CABLE

Features 24 AWG, 7/32 stranded copper conductors for twisted pair flexibility. Compatible with Category 5 modular plugs. Excellent crosstalk and attenuation characteristics. OEM tested and approved. Thermoplastic insulation. PVC jacket. Tested to 100MHz. Exceeds TIA/EIA 568-A requirements. UL listed type CM, CSA certified PCC FT4. Other colors are available; *contact your local Newark sales office.* **Sold in spools of 1000′**.

Stock No.	Type	Color	No. of Pairs	Nom. O.D.	Shield	Conductor	Each	2-4	5-9	10-24
91F9287	M55942-1000-BLU	Blue	4	0.210″	No	Bare Copper	140.03	127.26	113.49	107.27
91F9288	M54627-1000 GRY	Gray	4	0.210″	No	Bare Copper	140.03	127.26	113.49	107.27
91F9289	M55941-1000-RED	Red	4	0.210″	No	Bare Copper	140.03	127.26	113.49	107.27

(18932) (ne10079)

CATEGORY 5 OUTDOOR CABLE

24 AWG, 4-pair cable is recommended for building interconnections, ducts between buildings, and applications requiring good ozone, moisture, or weather resistance. Includes water-block gel for moisture protection. Features a black polyethylene jacket for weather and UV protection. Tested to 100MHz. **Sold in spools of 1000′**.

Stock No.	Type	Color	No. of Pairs	Nom. O.D.	Shield	Application	Each	2-4	5-9	10-24
91F9319	M56871-1000-BLK	Black	4	0.210″	No	Outdoor Duct	185.04	168.17	149.97	141.75

(18935) (ne10191)

DATA AND COMMUNICATION CABLE

LOW CAPACITANCE MULTIPAIR DATA CABLE

RS-232 CABLE PAIRED WITH OVERALL FOIL SHIELD

Cable is designed for connection of remote peripheral devices. 24 AWG, 7/32 stranded copper conductors. Twisted pairs insulated with polyethylene. Overall alumylar foil shield with drain wire. Chrome gray PVC jacket. All are100 ohms, 15.5 pF/ft. UL style 2448 (+60°C, 30V), CSA certified PCC FT-1, NEC type CL2 (+75°C, 150V), OSHA acceptable. 1000′ spools are also available; *contact your local Newark sales office.*

No. of Pairs	Nom. O.D.	Type	100′ Spool					500′ Spool				
			Stock No.	Each	2-4	5-9	10-14	Stock No.	Each	2-4	5-9	10-14
2	0.264″	1042402	91F7339	29.90	29.26	28.03	25.88	91F7340	140.14	134.55	126.95	122.31
3	0.275″	1042403	91F7341	35.65	34.88	33.42	30.85	91F7342	167.09	160.43	151.36	145.83
6	0.350″	1042406	91F7343	55.66	54.46	52.18	48.17	91F7344	240.83	231.94	219.67	205.26
9	0.409″	1042409	91F7345	80.56	77.18	74.11	69.92	91F7346	356.27	343.11	324.96	303.65
12+1	0.455″	1042412	91F7347	94.73	90.77	87.15	82.23	91F7348	375.61	357.09	345.76	335.08

RS-422 CABLE PAIRED WITH OVERALL FOIL AND BRAID SHIELD

Lightweight cable designed for low distortion data transmissions. Provides outstanding crush resistance. Stranded tinned copper conductors. Twisted pairs insulated with FHPE. Shielded with overall alumylar foil and 65% tinned copper braid. 24 AWG cable has 24 AWG drain wire, 100 ohms, 12.5 pF/ft. 28 AWG cable has 28 AWG drain wire, 120 ohms, 11 pF/ft. Chrome PVC jacket. UL style 2919 (+80°C, 30V), CSA certified, NEC type CL2 (+75°C, 150V), OSHA acceptable. 1000′ spools also available; *contact your local Newark sales office.*

24 AWG, 7/32 STRANDED CONDUCTORS

No. of Pairs	Nom. O.D.	Type	100′ Spool					500′ Spool				
			Stock No.	Each	2-4	5-9	10-14	Stock No.	Each	2-4	5-9	10-14
2	0.290″	1342402	91F7349	40.02	39.15	37.52	34.64	91F7350	180.09	173.16	163.71	152.63
3	0.305″	1342403	91F7351	47.84	46.81	44.85	41.40	91F7352	207.00	199.35	188.80	176.43
4	0.330″	1342404	91F7353	56.59	54.22	52.06	49.12	91F7354	250.28	241.04	228.29	213.32
5	0.340″	1342405	91F7355	71.78	68.78	66.04	62.31	91F7356	317.46	305.74	289.56	270.57
6	0.370″	1342406	91F7357	91.36	87.53	84.05	79.30	91F7358	362.23	344.37	333.44	323.15
7	0.370″	1342407	91F7359	102.27	97.99	94.09	88.77	91F7360	405.50	385.50	373.27	361.75
8	0.410″	1342408	91F7361	107.78	103.27	99.16	93.55	91F7362	427.35	406.28	393.39	381.25
10	0.460″	1342410	91F7363	115.78	111.16	104.88	101.05	91F7364	479.10	455.48	441.03	427.41
12+1	0.480″	1342412	91F7365	136.58	131.14	123.73	119.20	91F7366	565.19	537.33	520.28	504.22
15	0.540″	1342415	91F7367	157.39	151.11	142.58	137.36	91F7368	651.29	619.18	599.53	581.02
18	0.570″	1342418	91F7369	203.11	195.61	185.26	173.12	91F7370	910.46	865.57	838.11	812.23
25	0.650″	1342425	91F7371	299.35	288.29	273.04	255.14	91F7372	1341.83	1275.67	1235.20	1197.06

28 AWG, 7/36 STRANDED CONDUCTORS

2	0.260″	1342802	91F7373	37.83	37.02	35.47	32.74	91F7374	170.26	163.71	154.77	144.30
3	0.270″	1342803	91F7375	56.59	54.22	52.06	49.12	91F7376	250.28	241.04	228.29	213.32
4	0.290″	1342804	91F7377	67.51	64.68	62.10	58.60	91F7378	298.55	287.53	272.31	254.46
5	0.300″	1342805	91F7379	76.17	72.98	70.07	66.11	91F7380	336.86	324.43	307.26	287.11
6	0.330″	1342806	91F7381	84.38	80.85	77.63	73.24	91F7382	373.19	359.41	340.39	318.07
7	0.330″	1342807	91F7383	100.81	96.59	92.74	87.50	91F7384	399.70	379.99	367.93	356.57
8	0.350″	1342808	91F7385	108.91	104.35	100.19	94.53	91F7386	431.81	410.52	397.50	385.23
10	0.405″	1342810	91F7387	127.85	122.76	115.82	111.58	91F7388	529.06	502.98	487.02	471.98
12+1	0.415″	1342812	91F7389	151.24	145.21	137.01	132.00	91F7390	625.86	595.00	576.13	558.34
15	0.465″	1342815	91F7391	162.71	156.44	147.90	137.89	91F7392	701.25	666.68	645.52	625.59
18	0.490″	1342818	91F7393	180.20	173.26	163.80	152.72	91F7394	776.64	738.35	714.92	692.85
25	0.565″	1342825	91F7395	211.77	203.95	193.16	180.50	91F7396	949.27	902.47	873.84	846.86

RS-422 CABLE PAIRED WITH OVERALL FOIL AND BRAID SHIELDS

Lightweight cable is designed for low distortion data transmissions. Provides outstanding crush resistance. 24 AWG 7/32 stranded tinned copper conductors. Twisted pairs insulated with FHPE. Each pair shielded with alumylar foil shield and 24 AWG drain. Overall alumylar shield plus 65% tinned copper braid shield. Chrome PVC jacket. All are 100 ohms, 12.5 pF/ft. UL style 2493 (+60°C, 150V), AWM style 2493 (+60°C), CSA certified PCC FT-4, PCC FT-4, NEC Type CMC (+80°C, 300V), OSHA acceptable. 1000′ spools are also available; *contact your local Newark sales office.*

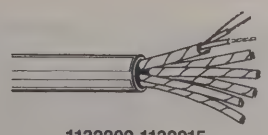
No. of Pairs	Nom. O.D.	Type	100′ Spool					500′ Spool				
			Stock No.	Each	2-4	5-9	10-14	Stock No.	Each	2-4	5-9	10-14
2	0.376″	1432402	91F7397	134.22	128.60	123.48	116.50	91F7398	456.78	439.91	416.64	389.32
3	0.376″	1432403	91F7399	165.95	159.00	152.67	144.04	91F7400	564.25	543.42	514.67	480.92
4	0.430″	1432404	91F7401	209.94	201.15	193.14	182.22	91F7402	641.03	609.42	590.09	571.87
5	0.460″	1432405	91F7403	242.97	233.29	220.11	212.06	91F7404	773.96	735.80	712.46	690.46
6	0.496″	1432406	91F7405	282.86	271.59	256.24	246.87	91F7406	900.20	855.82	828.67	803.08
7	0.496″	1432407	91F7407	321.66	308.85	291.40	280.74	91F7408	1023.77	973.29	942.41	913.32
8	0.575″	1432408	91F7409	338.45	325.42	307.65	286.84	91F7410	1122.35	1067.02	1033.16	1001.27
10	0.650″	1432410	91F7411	403.65	388.11	366.92	342.10	91F7412	1337.81	1271.85	1231.50	1193.48
15	0.720″	1432415	91F7413	528.43	508.92	481.99	450.39	91F7414	1821.82	1731.99	1677.04	1625.26
18	0.770″	1432418	91F7415	535.84	509.42	493.26	478.03	91F7416	2061.36	1959.73	1897.55	1838.97
25	0.935″	1432425	91F7417	703.93	669.22	647.99	627.98	91F7418	2707.29	2573.81	2492.15	2415.21

(17544) (ne10074)

MULTIPAIR INDIVIDUAL SHIELDED PAIRS POWER-LIMITED CIRCUIT CABLE

Stranded tinned copper conductors, insulated with color-coded PVC. Shield: Alumylar™ shield over each pair with 22 AWG stranded tinned copper drain wire. PVC jacket with temperature range from –20°C to 105°C. Voltage rating: 300V. Suitable as tray cable for Class II and III circuits and ideal for telecommunication applications. UL subject 13, Power-Limited Circuit Cable. UL 70,000 BTU Flame and Tray Test. Meets NEC Article 725, 105°C, 300V. UL Style 2464, 80°C-300V. Passes VW-1 vertical wire flame test. CSA TR-64 Approval. OSHA Acceptable.

OSHA VW-1



1132202-1132215

22 AWG, 7/30 STANDARD CONDUCTORS, 0.043″ JACKET THICKNESS

No. Pairs	Nom. O.D.	Type	100′ Spool				1000′ Spool			
			Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
2	0.316″	1132202	03F7199	84.61	81.07	77.84	03F7200	469.20	446.06	431.91
3	0.331″	1132203	03F7201	108.79	104.24	100.09	03F7202	603.20	573.46	555.27
4	0.360″	1132204	03F7203	139.06	133.52	125.97	03F7204	804.30	764.64	740.38

22 AWG, 7/30 STRANDED CONDUCTORS, 0.053″ JACKET THICKNESS

6	0.431″	1132206	03F7205	201.92	194.46	184.18	03F7206	1265.01	1202.64	1164.49
9	0.500″	1132209	03F7207	295.66	284.75	269.68	03F7208	1853.49	1762.10	1706.20
15	0.606″	1132215	03F7209	543.07	516.29	499.91	03F7210	3796.99	3609.78	3495.26

(6243) (de02603)

MULTICONDUCTOR CABLE

MULTICONDUCTOR UNSHIELDED CONTROL AND AUDIO CABLE

OSHA VW-1

Designed for control and processing systems; communications, instrumentation and audio systems. Stranded tinned copper. Overall gray polyvinylchloride jacket. Temperature: +80°C (except 18 AWG: +60°C). Voltage rating: 150V for 16 and 22 AWG; 300V for 12, 14, 18, and 20 AWG. Passes VW-1 vertical wire flame test. UL recognized. OSHA acceptable. NEC type CL2.

No. Cond.	AWG	Nom. O.D.	Type	100′ Spool Stock No.	100′ Spool Each	1000′ Spool Stock No.	1000′ Spool Each
2	22	0.160″	832202	03F1420	16.35	03F1421	108.57
3	22	0.164″	832203	03F1422	19.06	03F1423	121.49
4	22	0.182″	832204	03F1424	26.11	03F1425	163.64
5	22	0.194″	832205	03F1426	32.55	03F1427	204.52
6	22	0.205″	832206	03F1428	39.10	03F1430	237.05
7	22	0.214″	832207	03F1431	45.88	03F1432	277.55
8	22	0.229″	832208	03F1433	52.44	03F1434	316.76
9	22	0.244″	832209	03F1435	62.22	03F1436	383.83
10	22	0.264″	832210	03F1437	64.81	03F1438	358.75
12	22	0.264″	832212	03F2566	78.31	03F2567	433.33
15	22	0.330″	832215	03F2568	107.00	03F3414	592.76
20	22	0.345″	832220	03F3415	142.19	03F2571	822.94
24	22	0.365″	832224	03F2572	163.64	03F2573	985.41
25	22	0.370″	832225	03F2574	165.60	03F2575	998.07
30	22	0.400″	832230	03F3416	234.56	03F2577	1469.68
40	22	0.455″	832240	03F3417	331.29	03F3418	2076.89
50	22	0.500″	832250	03F2580	364.63	03F3419	2549.74
60	22	0.536″	832260	03F2582	513.27	03F2583	3590.90
2	20	0.176″	832002	03F2584	20.00	03F2585	127.20
3	20	0.212″	832003	03F2586	28.87	03F2587	181.65
4	20	0.217″	832004	04F5809	39.79	04F5810	240.53
5	20	0.239″	832005	04F5811	49.79	04F5812	300.64
6	20	0.242″	832006	04F5813	60.08	04F5814	371.20
7	20	0.260″	832007	04F5801	69.19	04F5802	383.55
8	20	0.285″	832008	04F5803	79.77	04F5804	441.54
10	20	0.318″	832010	04F5805	99.46	04F5806	550.65
12	20	0.338″	832012	04F5807	112.97	04F5808	652.98
15	20	0.389″	832015	04F5794	148.01	04F5795	856.13
20	20	0.430″	832020	04F5796	198.41	04F5798	1194.80
25	20	0.471″	832025	04F5799	244.81	04F5800	1533.55
2	18	0.198″	831802	03F2588	31.97	03F2589	200.90
3	18	0.242″	831803	03F2592	45.54	03F2593	275.76
4	18	0.254″	831804	03F2596	58.06	03F2597	358.46
5	18	0.286″	831805	03F2600	75.94	03F2601	420.84
6	18	0.289″	831806	03F2604	91.24	03F3420	505.86
7	18	0.324″	831807	03F2608	106.77	03F2609	590.80
8	18	0.341″	831808	03F2610	130.11	03F2611	752.46
12	18	0.412″	831812	03F2614	204.73	03F2616	1233.34
15	18	0.465″	831815	03F2617	238.44	03F2618	1494.48
20	18	0.511″	831820	04F5878	297.06	04F5879	1861.43
25	18	0.600″	831825	04F5786	401.12	04F5787	2804.45
2	16	0.308″	831602	...	...	03F2621	270.49
3	16	0.329″	831603	04F5884	80.33	04F5885	445.64
4	16	0.375″	831604	04F5788	112.11	04F5789	648.79
5	16	0.405″	831605	04F5790	149.41	04F5791	864.34
7	16	0.455″	831607	04F5792	203.61	04F5793	1276.79
10	16	0.534″	831610	04F5780	275.76	04F5781	1729.74
12	16	0.610″	831612	04F5782	323.03	04F5783	2025.05
15	16	0.670″	831615	04F5784	442.52	04F5785	3094.67
3	14	0.378″	831403	04F5692	145.42	04F5693	841.68
4	14	0.434″	831404	04F5694	202.24	04F5695	1218.80
2	12	0.396″	831202	04F5696	114.91	04F5697	665.38
3	12	0.423″	831203	04F5698	201.52	04F5699	1262.51

(6309) (ne02455)

MULTICONDUCTOR FOIL-SHIELDED CABLE

OSHA

Stranded tinned copper conductors, insulated with color-coded polyethylene. Provides 100% effective shielding. Suitable for audio and data work where crosstalk must be minimum. Alumylar™ shield and drain wire. Temperature range: –20°C to +60°C. Operating voltage: 400V. UL recognized, CSA certified. OSHA acceptable. NEC type CL2.

No. Cond.	AWG	Nom. O.D.	Type	100′ Spool Stock No.	100′ Spool Each	1000′ Spool Stock No.	1000′ Spool Each
2	22	0.192″	972202	03F1455	28.41	03F1456	177.40
3	22	0.201″	972203	03F1457	34.38	03F1458	206.70
4	22	0.217″	972204	03F1459	53.70	03F1460	324.12
2	20	0.204″	972002	03F1461	35.07	03F1462	211.67
3	20	0.208″	972003	03F1463	40.82	03F1464	246.80
4	20	0.223″	972004	03F1465	65.03	...	...
2	18	0.222″	971802	03F2551	51.29	03F2552	308.40

CONTINUED

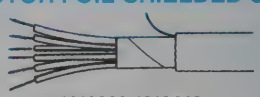
MULTICONDUCTOR FOIL-SHIELDED CABLE (CONT.)

No. Cond.	AWG	Nom. O.D.	Type	100′ Spool Stock No.	100′ Spool Each	1000′ Spool Stock No.	1000′ Spool Each
3	18	0.234″	971803	03F2553	59.07	03F2555	364.53
4	18	0.254″	971804	03F2556	78.64	03F2557	435.56
2	16	0.320″	971602	03F2558	63.12	03F2559	389.61
3	16	0.332″	971603	03F3411	99.12	03F3412	548.87
2	14	0.350″	971402	03F2562	76.39	03F3413	423.25
3	14	0.370″	971403	03F2564	117.18	03F2565	677.07

(6308) (ne02452)

MULTICONDUCTOR FOIL-SHIELDED CABLE

OSHA VW-1



1012203-1012440

For sound, broadcast, and instrumentation cable applications. Stranded tinned copper drain wire. Alumylar™ shield. Temperature range: –20°C to +80°C. Jacket: chrome polyvinylchloride. Voltage rating: 300V. Passes VW-1 vertical wire flame test. UL recognized style 2464. CSA certified S-R PVC approval. OSHA acceptable. NEC type CL2. 500′ spools available; *contact your local Newark sales office.*

No. Cond.	Nom. O.D.	Type	100′ Spool Stock No.	100′ Spool Each	1000′ Spool Stock No.	1000′ Spool Each
22 AWG						
2	.156″	1012402	04F9559	21.65	04F9560	138.20
3	.168″	1012403	03F4282	25.42	03F4283	159.91
4	.180″	1012404	03F4284	29.10	03F4285	182.27
5	.190″	1012405	03F4286	40.36	03F4287	243.12
6	.205″	1012406	03F4288	45.31	03F4289	274.07
7	.205″	1012407	03F4290	51.29	03F4291	309.89
8	.220″	1012408	03F4292	54.51	03F4293	328.90
9	.240″	1012409	03F4294	56.69	03F4295	343.33
10	.250″	1012410	03F4296	60.31	03F4297	371.79
15	.280″	1012415	03F4298	89.56	03F4299	495.60
20	.310″	1012420	03F4300	117.93	03F4301	681.53
25	.370″	1012425	03F4302	126.99	03F4303	734.97
30	.390″	1012430	03F4304	175.02	03F4305	1055.44
40	.440″	1012440	03F4306	228.39	03F4307	1431.31
24 AWG						
3	.184″	1012203	03F7262	46.23	03F7263	279.14
4	.197″	1012204	03F7264	52.21	03F7265	315.27
5	.212″	1012205	03F7266	55.08	03F7267	332.78
6	.222″	1012206	03F7268	56.12	03F7269	339.05
7	.222″	1012207	03F7270	57.72	03F7271	356.27
8	.243″	1012208	03F7272	61.21	03F7273	378.26
9	.258″	1012209	03F7274	63.79	03F7275	394.78
10	.278″	1012210	03F7276	69.19	03F7277	383.28

(6307) (ne02451)

MULTICONDUCTOR FOIL/BRAID-SHIELDED CABLE

OSHA VW-1

1312203-1312410

Stranded tinned copper conductors with color-coded semi-rigid PVC insulation. Conductors are cabled with two overall shields. Shields: primary shield, overall Alumylar™ shield (100% coverage). Secondary shield, braided tinned copper (65% coverage). Jacket: chrome PVC, thickness .032″. Temperature range: –20°C to +80°C. Operating voltage: 300V. Computer application for EIA RS-232 and CAD/CAM application. Passes VW-1 vertical wire flame test. UL recognized style 2464. CSA certified S-R PVC approval. OSHA acceptable. NEC type CL2.

No. Cond.	Nom. O.D.	Type	100′ Spool Stock No.	100′ Spool Each	1000′ Spool Stock No.	1000′ Spool Each
22 AWG						
3	.190″	1312403	04F9561	78.64	04F9562	435.65
4	.200″	1312404	04F9563	86.29	04F9564	478.30
5	.210″	1312405	04F9565	94.39	04F9566	522.82
6	.225″	1312406	04F9567	102.38	04F9568	567.33
7	.225″	1312407	04F9569	111.95	04F9570	620.06
8	.240″	1312408	04F9571	116.21	04F9572	672.79
9	.255″	1312409	04F9573	124.08	04F9574	717.31
10	.270″	1312410	04F9575	131.30	04F9576	759.95
24 AWG						
3	.202″	1312203	03F7260	82.58	03F7261	458.04
4	.215″	1312204	03F7236	98.33	03F7237	545.12
5	.230″	1312205	03F7238	104.29	03F7239	577.51
6	.245″	1312206	03F7240	108.79	03F7241	607.93
7	.245″	1312207	03F7242	114.59	03F7243	662.53
8	.260″	1312208	03F7254	124.08	03F7255	717.31
9	.280″	1312209	03F7256	133.45	03F7257	772.09
10	.300″	1312210	03F7258	142.62	03F7259	824.73

(9930) (ne02454)

HIGH-TEMPERATURE WIRE AND CABLE

TEFLON®, HIGH-TEMPERATURE, MULTICONDUCTOR, SHIELDED CABLE

62403-61604

Suitable for ground support and interconnect applications. Conductors are stranded silver-plated copper, "Type E" extruded, color-coded, TFE Teflon® (0.010" wall thickness). Braided silver-plated copper shield, 90% coverage. White TFE Teflon® jacket, wrapped and sintered. Voltage: 600V. Temperature: –65°C to +200°C.

No. Cond.	AWG (Strand)	Nom. O.D.	Type	100′ Spool		1000′ Spool	
				Stock No.	Each	Stock No.	Each
3	24(19/36)	0.147″	62403	98F211	145.63	...	...
4	24(19/36)	0.159″	62404	04F5723	160.08	04F5724	1192.75
1	22(19/34)	0.102″	62201	04F5700	90.12	04F5701	618.81
2	22(19/34)	0.154″	62202	04F5702	135.18	04F5704	1000.13
3	22(19/34)	0.162″	62203	04F8739	157.12	04F8741	1158.87
4	22(19/34)	0.176″	62204	04F5705	177.30	04F5706	1364.93
3	20(19/32)	0.175″	62003	04F5727	178.23	04F5728	1381.89
4	20(19/32)	0.213″	62004	04F5729	205.45	04F5730	1588.33
3	18(19/30)	0.219″	61803	04F5713	203.41	04F5714	1631.43
4	18(19/30)	0.237″	61804	04F5715	235.46	04F5716	1889.53
3	16(19/29)	0.240″	61603	04F5735	240.43	04F5736	1917.01
4	16(19/29)	0.270″	61604	04F5737	316.36	04F5738	2554.46

(6251) (de02611)

M27500 TEFZEL™ HIGH-TEMPERATURE CABLE

MIL SPEC cable code M27500-(size)TE—T14. Tinned copper conductors. Jacket and insulation: extruded TEFZEL™. Tinned copper braid shield. Temp. range: –55°C to +105°C. 600V.

No. Cond.	AWG (Strand)	Type	100′ Spool		1000′ Spool	
			Stock No.	Each	Stock No.	Each
1	22 (19/34)	M275002201	04F6507	63.12	04F6508	389.41
2	22 (19/34)	M275002202	04F6509	112.97	04F6510	652.27
3	22 (19/34)	M275002203	04F6505	148.22	04F6506	855.50
4	22 (19/34)	M275002204	04F6511	174.19	04F6512	1047.14
1	20 (19/32)	M275002001	04F6503	69.76	04F6504	385.33
2	20 (19/32)	M275002002	04F6491	126.23	04F6492	726.68
3	20 (19/32)	M275002003	04F6493	159.39	04F6494	961.76
4	20 (19/32)	M275002004	04F6489	202.32	04F6490	1264.03
1	18 (19/30)	M275001801	04F6495	78.53	04F6496	432.80
2	18 (19/30)	M275001802	04F6497	160.19	04F6498	924.02
3	18 (19/30)	M275001803	04F6499	200.43	04F6500	1253.77
4	18 (19/30)	M275001804	04F6501	246.80	04F6502	1542.30

(6268) (de03783)

M27500 TEFZEL™ HIGH-TEMPERATURE CABLE

MIL Spec cable code M27500-(size)RC-S06. Silver conductors per MIL-W-22759/11. Silver braid shield. Taped white PTFE jacket. Voltage: 600V. Temperature range: –55°C to +200°C. **Sold in spools of 100′.** 1000′ spools are available on special order; *contact your local Newark sales office.*

No. Cond.	AWG (Strand)	Type	Stock No.	Each
2	24 (19/36)	24RC2S06	91F7332	155.46
3	24 (19/36)	24RC3S06	91F7333	196.24
4	24 (19/36)	24RC4S06	91F7334	228.49
2	22 (19/34)	22RC2S06	91F7329	169.16
3	22 (19/34)	22RC3S06	91F7330	206.20
4	22 (19/34)	22RC4S06	91F7331	251.68
2	20 (19/32)	20RC2S06	91F7336	194.48
3	20 (19/32)	20RC3S06	91F7337	240.83
4	20 (19/32)	20RC4S06	91F7338	308.40
2	18 (19/30)	18RC2S06	91F7335	220.03

(16032) (ne10077)

STRIPED PRODUCTS MAY BE AVAILABLE IN SPOOLS OF 1000′ WITH A MINIMUM ORDER.

CONTACT YOUR LOCAL NEWARK SALES OFFICE TO ORDER!

(33778) (ne33778)

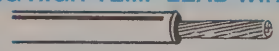
TGGT HIGH-TEMP LEAD WIRE 250°C

Nickel-plated copper conductors with TFE Teflon® tapes followed by double glass backed ceramic tapes. Treated glass braid overall. Voltage rating: 600 volts. Temperature range: 250°C continuous. Built to withstand repeated flexing and severe mechanical abuse. Moisture resistant and chemically inert. Color: tan. UL recognized, CSA certified.

AWG (Strand)	Nom. O.D.	Type	100′ Spool		500′ Spool	
			Stock No.	Each	Stock No.	Each
18 (16/30)	0.108″	3131816	03F7295	142.62	03F7296	393.90
16 (26/30)	0.123″	3131626	03F7297	158.35	03F7298	438.95
14 (41/30)	0.140″	3131441	03F7299	198.83	03F7300	571.88
12 (65/30)	0.161″	3131265	03F7301	263.82	03F7302	788.24
10 (105/30)	0.184″	3131000	03F7303	338.36	03F7304	1010.83
8 (133/29)	0.230″	3138133	03F7305	502.03	03F7306	1673.27

(6238) (de01755)

TYPE MG HIGH-TEMP LEAD WIRE 538°C



Nickel-coated copper conductors with glass-reinforced mica tapes. Treated glass braid overall. 600 volts. Temperature range: UL 450°C; 538°C continuous. Excellent thermal stability. Small overall diameter. Color: tan. UL recognized, CSA certified.

AWG (Strand)	Nom. O.D.	Type	100′ Spool		500′ Spool	
			Stock No.	Each	Stock No.	Each
18 (16/30)	0.117″	3111816	04F9546	164.36	04F9547	512.56
16 (26/30)	0.128″	3111626	04F9548	199.33	04F9549	665.12
14 (41/30)	0.144″	3111441	04F9550	267.40	04F9551	893.51
12 (65/30)	0.161″	3111265	04F9552	357.36	04F9553	1257.52
10 (105/30)	0.223″	3111000	04F9554	479.37	04F9555	1841.44
8 (133/29)	0.260″	3118133	04F9556	823.65	04F9557	2919.63
6 (133/27)	0.305″	3116133	04F9558	1045.81	...	...

(6240) (de01784)

TEFLON® HIGH-TEMPERATURE HOOK-UP WIRE

Suitable for high-frequency use at elevated temperatures in high-reliability programs where electrical and thermal stability are important. It provides excellent solder-iron resistance. Weighs less than other insulation types. Passes VW-1 Vertical Flame Test. OSHA.

TYPE E, TFE TEFLON® 200°C, 600V, MIL-W-16878E/4

Stranded silver-plated copper. Colors 0-9 available for 22-14 AWG; colors 0, 2, 5, 9 available for 12-10 AWG. *Contact your local Newark sales office to order.*

AWG (Strand)	Type	100′ Spool		1000′ Spool	
		Each	2-4	Each	2-4
22 (7/30)	12207	27.14	26.55	161.57	155.35
22 (19/34)	12219	31.63	30.94	189.72	182.41
20 (19/32)	12019	47.38	46.36	272.97	262.90
18 (7/26)	11807	40.36	39.49	474.99	451.58
18 (19/30)	11819	49.22	48.16	284.02	273.53
16 (19/29)	11619	57.27	54.87	336.86	324.43
14 (19/27)	11419	89.89	86.13	474.99	451.58
12 (19/25)	11219	113.51	108.99	625.86	595.00
10 (37/26)	11037	186.41	179.23	1070.70	1017.91

MIL-W-16878E/5 TYPE EE TEFLON® 200°C, 1000V

Stranded silver-plated copper. Colors 0-9 available for 20-14 AWG; colors 0, 2, 5, 9 available for 12-10 AWG. *Contact your local Newark sales office to order.*

AWG (Strand)	Type	100′ Spool		1000′ Spool	
		Each	2-4	Each	2-4
20 (19/32)	22019	45.88	44.89	264.22	254.46
18 (19/30)	21819	57.27	56.03	329.50	317.33
16 (19/29)	21619	85.06	81.50	449.12	426.98
14 (19/27)	21419	115.13	110.54	634.34	603.06
12 (19/25)	21219	141.43	135.80	779.22	740.81
10 (37/26)	21037	190.13	182.81	1092.11	1038.26

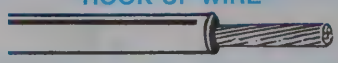
(6236) (de01753)

Color Coding:
0. Black 1. Brown 2. Red 3. Orange
4. Yellow 5. Green 6. Blue 7. Violet
8. Gray 9. White

(33977) (ne33977)

HOOK-UP WIRE

HOOK-UP WIRE



DUAL RATED UL STYLES 1569 (105°C) AND 1007 (80°C), CSA TR-64 VW-1, 1/64" WALL PVC 105°C 300V

Stranded tinned copper conductor. PVC insulation. Available in color codes 0-9. *Contact your local Newark sales office to order.*

AWG (Strand)	Nom. O.D.	Type	500′ Spool				1000′ Spool			
			Each	2-4	5-9	10-14	Each	2-4	5-9	10-14
28 (7/36)	0.047″	892807	34.50	33.76	32.34	29.86	54.39	53.22	50.99	47.07
24 (19/36)	0.056″	892419	34.50	33.76	32.34	29.86	54.28	53.11	50.88	46.97
24 (7/32)	0.056″	892407	30.48	29.82	28.57	26.37	47.26	46.24	44.31	40.90
22 (19/34)	0.063″	892219	36.80	36.01	34.50	31.85	55.77	54.57	52.28	48.27
22 (7/30)	0.062″	892207	31.63	30.94	29.65	27.37	48.64	47.59	45.60	42.10
20 (19/32)	0.072″	892019	44.85	43.88	42.04	38.81	69.31	66.41	63.76	60.16
20 (10/30)	0.069″	892010	39.67	38.82	37.19	34.34	60.42	57.89	55.58	52.44
18 (19/30)	0.082″	891819	58.51	56.06	53.82	50.78	91.69	87.86	84.36	79.59
18 (16/30)	0.077″	891816	52.32	51.19	49.05	45.28	79.77	76.43	73.39	69.24
16 (26/30)	0.090″	891626	77.63	74.38	71.42	67.38	115.67	111.06	104.78	100.95
14 (41/30)	0.103″	891441	111.38	106.72	102.47	96.68	160.84	154.65	146.21	136.31
12 (12/30)	0.121″	891265	186.30	179.13	169.35	157.89	281.73	271.33	256.97	240.12
10 (105/30)	0.141″	891000	225.90	217.56	206.05	192.54	354.38	341.29	323.23	302.04
Bonded tinned copper conductor. Available in color codes 0-9. *Contact your local Newark sales office.*										
24 (7/32)	0.056″	892407B	34.50	33.76	32.34	29.86	52.21	51.08	48.94	45.18
22 (7/30)	0.063″	892207B	35.07	34.32	32.88	30.36	55.43	54.23	51.96	47.97
20 (10/30)	0.071″	892010B	44.85	43.88	42.04	38.81	68.07	65.22	62.62	59.08
18 (16/30)	0.077″	891816B	59.07	56.60	54.34	51.27	91.24	87.43	83.94	79.20

MULTIPLE RATED UL STYLES: 1015, 1028, 1283, AND 1284; CSA, TEW, AND AWM I A/B, 105°C, 600V

Soft-annealed stranded, solid, or bonded tinned copper conductors. Flame retardant PVC insulation. Used for internal wiring of electronic equipment, panels, meters, etc. Available in color codes 0-9 for 24-10 AWG; color codes 0, 2, 5, 7, 9 for 8 AWG.

AWG (Strand)	Nom. O.D.	Type	500′ Spool				1000′ Spool			
			Each	2-4	5-9	10-14	Each	2-4	5-9	10-14
24 (7/32)	0.086″	782407	33.35	32.63	31.26	28.86	51.06	49.96	47.86	44.19
24 (7/32)	0.088″	782407F*	37.95	37.13	35.58	32.84	59.29	56.81	54.55	51.47
22 (1/22)	0.089″	782201	33.35	32.63	31.26	28.86	50.60	49.51	47.43	43.79
22 (7/30)	0.094″	782207	32.20	31.51	30.19	27.87	52.44	51.31	49.16	45.38
22 (7/30)	0.095″	782207F*	42.55	41.63	39.89	36.82	66.38	63.60	61.07	57.62
20 (1/20)	0.096″	782001	40.25	39.38	37.73	34.83	61.54	58.97	56.62	53.42
20 (10/30)	0.101″	782010	43.12	42.19	40.43	37.32	65.14	62.42	59.93	56.54
20 (10/30)	0.103″	782010F*	46.57	45.57	43.66	40.31	73.47	70.39	67.59	63.77
18 (1/18)	0.104″	781801	48.87	47.82	45.82	42.30	74.82	71.69	68.83	64.94
18 (16/30)	0.109″	781816	54.62	53.44	51.21	47.27	85.96	82.36	79.08	74.61
18 (16/30)	0.111″	781816F*	60.76	58.21	55.89	52.74	98.33	94.22	90.46	85.35
16 (1/16)	0.116″	781601	66.94	64.14	61.59	58.11	104.86	100.47	96.47	91.02
16 (26/30)	0.122″	781626	66.94	64.14	61.59	58.11	111.79	107.33	101.27	97.57

AWG (Strand)	Nom. O.D.	Type	100′ Spool				1000′ Spool			
			Each	2-4	5-9	10-14	Each	2-4	5-9	10-14
14 (1/14)	0.128″	781401	...	...	...	...	159.50	153.36	144.98	135.17
14 (41/30)	0.136″	781441	20.47	20.01	19.16	17.66	156.60	150.57	142.35	132.72
12 (65/30)	0.153″	781265	29.79	29.14	27.92	25.78	232.88	214.25	196.78	...
10 (105/30)	0.174″	781000	44.96	43.99	42.15	38.91	337.76	325.29	308.07	287.88
8 (133/29)	0.262″	788133	65.50	60.61	58.20	54.91	530.31	504.16	488.17	473.10
6 (133/27)	0.332″	786133	109.70	105.10	100.92	95.21	739.43	702.98	680.67	659.66
4 (133/25)	0.383″	784133	162.71	156.44	147.90	137.89	1192.12	1133.34	1097.39	1063.50
2 (133/23)	0.454″	782133	230.18	221.68	209.95	196.19	...	...	...	...
2 (665/30)	0.461″	782665	234.96	226.28	214.31	200.26	1790.50	1702.22	1648.22	1597.33
1 (836/30)	0.541″	781836	272.28	262.22	248.35	232.07	3215.38	3056.85	2959.87	2868.48
1/0 (1045/30)	0.589″	780001	376.07	362.19	343.02	320.53	4332.38	4118.78	3988.10	3864.96
2/0 (1330/30)	0.648″	780002	424.32	403.40	390.60	378.54	5225.62	4967.97	4810.35	4661.83
4/0 (2107/30)	0.754″	780004	627.38	596.45	577.52	559.69	5332.68	5069.76	4908.91	4757.35

UL STYLE 1061 CSA-SRPVC VW-1, 0.010″ WALL 80°C 300V

Stranded tinned copper. Available in color codes 0-9. *Contact your local Newark sales office.*

26 (7/34)	0.039″	422607	36.80	36.01	34.50	31.85	56.71	54.33	52.17	49.22
24 (7/32)	0.044″	422407	29.90	29.26	28.03	25.88	46.69	45.68	43.77	40.41
22 (7/30)	0.050″	422207	31.05	30.38	29.11	26.87	48.07	47.03	45.06	...
18 (16/30)	0.065″	421816	51.17	50.07	47.97	44.29	78.76	75.46	72.45	68.36

*Bonded tin copper conductor

(6359) (ne52122)

Color Coding:

0. Black 1. Brown 2. Red 3. Orange 4. Yellow
5. Green 6. Blue 7. Violet 8. Grey 9. White

(6326) (ne07372)

HOOK-UP WIRE

MTW HOOK-UP WIRE

UL STYLE 1355 MTW MACHINE TOOL WIRE, 1/32″ WALL PVC

Stranded bare copper conductor. UL listed. Voltage rating: 600V RMS. Use in industrial and metal working machine tools where wiring is exposed to oil and other liquids. Available in color codes 0-9 shown below. **Sold in spools of 100, 500, 1000′.**

AWG (Strand)	Nom. O.D.	Type	Each	2-4	5-9	10-14
18 (16/30)	0.110″	461816	43.70	42.76	40.97	37.82
16 (26/30)	0.125″	461626	54.51	53.33	51.10	47.17
14 (19/27)	0.138″	461419	61.32	58.75	56.41	53.22
12 (19/25)	0.157″	461219	86.07	82.47	79.18	74.71
10 (19/0.0234)	0.182″	461019	132.59	127.31	120.12	115.72

(9933) (de02617)

HOOK-UP WIRE

MIL-W-16878/1 TO MIL-W-16878E, 0.010″ WALL PVC 105°C 600V

Stranded tinned copper. Available in colors: 0-9; *see color chart below.*

AWG (Strand)	Nom. O.D.	Type	100′ Spool				1000′ Spool			
			Each	2-4	5-9	10-14	Each	2-4	5-9	10-14
30 (7/38)	0.032″	173007	8.12	7.94	7.60	7.01	54.39	53.22	50.99	47.07
28 (7/36)	0.035″	172807	7.77	7.59	7.27	6.70	53.24	52.09	49.91	46.08
26 (7/34)	0.039″	172607	8.47	8.28	7.93	7.31	57.38	56.14	53.79	49.66
24 (7/32)	0.044″	172407	6.83	6.67	6.39	5.89	46.23	45.23	43.34	40.01
24 (19/36)	0.045″	172419	7.77	7.59	7.27	6.70	53.13	51.98	49.81	45.98
22 (7/30)	0.050″	172207	7.06	6.90	6.61	6.09	47.61	46.58	44.63	41.20
22 (19/34)	0.050″	172219	8.12	7.94	7.60	7.01	54.74	53.56	51.31	47.37
20 (7/28)	0.058″	172007	8.83	8.63	8.26	7.61	59.07	56.60	54.34	51.27
20 (19/32)	0.058″	172019	10.12	9.89	9.47	8.73	67.96	65.11	62.52	58.99
18 (19/30)	0.068″	171819	13.53	13.23	12.67	11.67	89.78	86.02	82.60	77.93
16 (19/29)	0.078″	171619	17.77	17.37	16.63	15.33	113.30	108.78	102.64	98.88
14 (19/27)	0.093″	171419	23.18	22.66	21.70	20.00	148.87	142.94	134.86	129.93

(6247) (de02607)

MIL-W-22759 TEFZEL™ HOOK-UP WIRE

Wire is designed for aerospace applications where light weight, tight tolerance, and excellent mechanical toughness are required. This insulation offers exceptional radiation and chemical resistance. Stranded tinned copper conductors. Temperature range: –55°C to +150°C, 600V. Available in black, red, green, and blue; *see color chart below.*

AWG (Strand)	Nom. O.D.	Type	100′ Spool				1000′ Spool			
			Each	2-4	5-9	10-14	Each	2-4	5-9	10-14
MIL-W-22759/16										
18 (19/30)	0.069″	AZ181930	29.10	28.47	27.28	25.18	203.31	195.81	185.45	173.29
20 (19/32)	0.058″	AZ201932	23.29	22.77	21.81	20.10	166.12	159.73	151.00	140.79
22 (19/34)	0.050″	AZ221934	20.24	19.78	18.94	17.46	149.73	143.77	135.64	130.68
24 (19/36)	0.043″	AZ241936	17.29	16.91	16.19	14.92	127.42	122.34	115.43	111.21
MIL-W-22759/18										
20 (19/32)	0.049″	MZ201932	17.88	17.48	16.74	15.43	133.13	127.83	120.60	116.19
22 (19/34)	0.041″	MZ221934	15.53	15.18	14.54	13.40	115.99	111.37	105.08	101.24

(6270) (de03806)

AUTOMOTIVE TYPE GPT WIRE

Stranded bare copper conductors, 105°C PVC insulation. Meets SAE Standard J1128 Type GPT and SAE Marine Wire J378. Color: black

AWG (Strand)	Nom. O.D.	Type	100′ Spool					1000′ Spool				
			Stock No.	Each	2-4	5-9	10-24	Stock No.	Each	2-4	5-9	10-14
18 (16/30)	0.093″	PWM1816	04F9613	10.59	10.35	9.92	9.14	04F9614	91.24	87.43	83.94	79.20
16 (19/29)	0.102″	PWM1619	04F9611	11.53	11.27	10.80	9.95	04F9612	98.44	94.32	90.57	85.45
14 (19/27)	0.117″	PWM1419	04F9609	15.30	14.95	14.32	13.20	04F9610	126.12	121.10	114.26	110.08
12 (19/25)	0.142″	PWM1219	04F9606	22.00	21.51	20.60	18.98	04F9608	175.02	168.28	159.09	148.33
10 (19/23)	0.173″	PWM1019	04F9604	35.77	34.99	33.53	30.95	04F9605	280.14	269.80	255.52	238.77

(6310) (ne02478)

STRIPED PRODUCT MAY BE AVAILABLE WITH A MINIMUM ORDER AS LOW AS 1,000′.

CONTACT YOUR LOCAL NEWARK SALES OFFICE TO ORDER.

(33780) (ne33780)

COLOR CODE CHART:

0. Black 1. Brown 2. Red 3. Orange 4. Yellow 5. Green 6. Blue 7. Violet 8. Gray 9. White

(34671) (ne34671)

WIRE

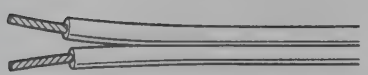
APPLIANCE AND FIXTURE WIRE

Stranded tinned copper conductors, insulated with extruded silicone rubber. Voltage rating: 600 volts. Temperature range: 150°C. Braidless silicone is easy to strip, and has excellent physical strength and mechanical properties. Ideal for internal wiring of applicances such as stoves, dryers, motors, and electronic devices where high temperatures are incurred. UL recognized. UL Style 3212. Color: black.

AWG (Stranding)	Nom. O.D.	Type	100′ Spool				1000′ Spool			
			Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
18 (16/30)	0.142″	391816	03F7347	59.97	57.46	55.17	03F7348	369.70	356.05	337.21
16 (26/30)	0.155″	391626	03F7349	69.87	66.94	64.28	03F7350	385.69	366.67	355.04
14 (41/30)	0.170″	391441	03F7351	87.53	83.87	80.53	03F7352	483.47	459.63	445.05
12 (65/30)	0.190″	391265	03F7353	107.80	103.50	97.66	03F7354	622.92	592.20	573.42
10 (105/30)	0.219″	391000	03F7355	140.25	134.66	127.05	03F7356	810.54	770.58	746.13

(6284) (de51108)

PLASTIC AUDIO AND SPEAKER WIRE

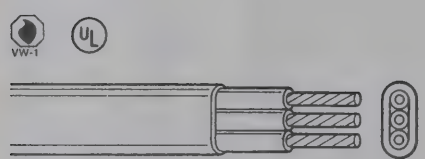


Parallel two conductor, plastic insulated. Constructed so conductors separate easily when pulled apart. Used for HI-FI speaker hook-up or call systems, public address systems, etc. Color: clear.

No. Cond.	AWG (Strand)	Type	100′ Spool				1000′ Spool			
			Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
2	20 (10/30)	1202T	04F9577	17.41	17.02	16.30	04F9578	64.69	61.99	59.52
2	22 (7/30)	1222T	04F9579	14.71	14.38	13.77	04F9580	56.35	55.13	52.82

(6249) (de02609)

PREMIER FLAT MARINE AND POWER CABLE



PFM1603-PFM1003

Contains annealed tinned copper corrosion-resistant conductors and type 3 marine stranding for longer life. Ideal for power cable applications. 3 conductors. White flame-retardant VW-1 rated polyvinylchloride jacket: 105°C, 600VAC. UL listed standard 1426 boat cable. ABYC approved. **Sold in spools of 100′.**

AWG (Stranding)	Nom. Ins. Thick	Type	Stock No.	Approx. O.D.	Each	2-4	5-9
16 (26/30)	0.031″	PFM1603	04F9581	0.448 × 0.192″	56.92	55.69	53.36
14 (41/30)	0.031″	PFM1403	04F9583	0.499 × 0.209″	69.87	66.94	64.28
12 (65/30)	0.031″	PFM1203	04F9585	0.556 × 0.228″	106.77	102.30	98.23
10 (105/30)	0.031″	PFM1003	04F9587	0.640 × 0.256″	160.94	154.53	145.80

(6248) (de02608)

UNINSULATED EXTRA FLEXIBLE STRANDED COPPER WIRE

Conductors consist of individual strands of soft drawn tinned copper. Rope lays are then bunched to form stranded members. Suitable for grounding ASTM B 172-64. **Sold in spools of 100′.**

AWG (Stranding)	Nom. O.D.	Stock No.	Type	Each	2-4	5-9	10-14
20 (42/36)	0.043″	04F5743	8020RT36	29.79	29.14	27.92	25.78
16 (105/36)	0.067″	04F5745	8016RT36	56.48	54.12	51.96	49.02
14 (168/36)	0.086″	04F5746	8014RT36	69.08	66.19	63.55	59.96
12 (259/36)	0.102″	89F2306	8012RT36	102.61	98.31	94.40	89.06
10 (413/36)	0.130″	04F5747	8010RT36	167.05	160.62	151.85	141.58
8 (665/36)	0.166″	04F5748	8008RT36	203.61	196.09	185.72	173.54
6 (1050/36)	0.204″	04F5826	8006RT36	325.22	313.21	296.64	277.19

(6281) (de51105)

UNINSULATED TINNED COPPER BUS BAR WIRE

Wire meets MIL-W-3861 type S and QQ-W-343 type S, as well as ASTM B-33. Applications include point to point wiring, component leads, ground wire.

AWG	Nom. O.D.	Type	100′ Spool					1000′ Spool				
			Stock No.	Each	2-4	5-9	10-14	Stock No.	Each	2-4	5-9	10-14
30	0.010″	930	03F5732	5.53	5.41	5.18	4.77	03F5733	43.93	42.98	41.18	38.02
28	0.013″	928	03F5734	5.77	5.64	5.40	4.98	03F5735	45.54	44.56	42.69	39.41
26	0.016″	926	03F5736	6.59	6.44	6.17	5.69	03F5737	52.90	51.76	49.59	45.78
24	0.020″	924	03F5738	7.30	7.13	6.83	6.30	03F5739	56.69	55.47	53.15	49.06
22	0.025″	922	03F5740	7.77	7.59	7.27	6.70	03F5741	61.77	59.18	56.83	53.61
20	0.033″	920	03F5742	10.36	10.12	9.69	8.93	03F5743	82.58	79.13	75.97	71.68
18	0.040″	918	03F5744	15.18	14.84	14.21	13.09	03F5745	114.91	110.34	104.10	100.29
16	0.051″	916	03F5746	23.41	22.89	21.92	20.20	03F5747	170.78	164.20	155.24	144.74
14	0.065″	914	03F5748	33.70	32.97	31.59	29.16	03F5749	241.83	232.90	220.57	206.11
12	0.081″	912	03F5750	59.86	57.35	55.07	51.95	03F5751	394.61	375.15	363.25	352.04
10	0.103″	910	03F5752	89.56	85.81	82.39	77.73	03F5753	590.80	561.67	543.85	527.06

(6280) (de51104)

THHN BUILDING WIRE

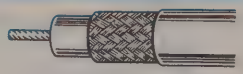
Stranded bare copper conductor. 18 AWG and 16 AWG are type TFFN. Specifically designed for use in wet locations and is resistant to oils, gasoline, water, acids, alkalies, ozone,sunlight and abrasion. For use in general purpose building wire, fixture, conduit and tubing raceways, internal wiring of fixtures, and applications requiring building wire, machine tool or applicance wiring. UL listed. Color listed is black. Color codes 0-9 available on 18 through 10 AWG. *Contact your local Newark sales office.* **Sold in spools of 500′.**

AWG (Strand)	Nom. O.D.	Type	Stock No.	Each	2-4	5-9	10-14
18 (16/30)	0.083″	541816	04F5815	37.37	36.57	35.04	32.35
16 (26/30)	0.096″	541626	04F5816	50.02	48.94	46.89	43.29
14 (19/27)	0.112″	541419	94F081	59.07	56.60	54.34	51.27
12 (19/25)	0.131″	541219	04F5817	82.69	79.23	76.08	71.78
10 (19/0.0234)	0.165″	541019	04F5818	145.53	139.73	131.83	127.01
8 (19/0.0295)	0.218″	540819	04F5819	262.72	253.02	239.64	223.92
6 (19/0.0372)	0.256″	540619	04F5774	313.97	302.38	286.38	267.61
4 (19/0.0469)	0.327″	540419	04F5775	495.60	471.17	456.22	442.13

(6254) (de02618)

COAXIAL AND HIGH-VOLTAGE CABLE

COAXIAL CABLE FOR INDUSTRIAL AND MILITARY APPLICATIONS



Ideal for LAN and MATV applications. Resists weathering and abrasion. Can be used for direct burial. PVC jacket. Temperature range: -40°C to +90°C.

RG/U	Jkt. O.D.	Nom. Impedance Ω	Type	100′ Spool Stock No.	100′ Spool Each	100′ Spool 2-4	100′ Spool 5-9	100′ Spool 10-14	1000′ Spool Stock No.	1000′ Spool Each	1000′ Spool 2-4	1000′ Spool 5-9	1000′ Spool 10-14
8A	0.405″	52.0	6008A	03F2458	108.12	103.60	99.47	93.85	03F2459	598.47	568.96	550.91	533.90
58C	0.195″	50.0	6058C	03F2471	49.68	48.61	46.57	42.99	03F2472	299.45	288.39	273.13	255.22
59B	0.242″	75.0	6059B	03F2475	56.92	55.69	53.36	49.26	03F3403	343.53	330.85	313.34	292.80
62A	0.242″	93.0	6062A	03F2479	42.32	41.41	39.67	36.63	03F3404	251.38	242.10	229.29	214.25
108A	0.235″	78.0	6108A	03F1393	77.97	74.71	71.73	67.68	03F1394	432.17	410.86	397.83	385.54
174A	0.100″	50.0	6174A	03F1399	33.47	32.74	31.37	28.96	03F1400	201.22	193.79	183.54	171.51
213	0.405″	50.0	6213	03F2485	138.09	132.59	125.10	120.52	03F2486	829.19	788.30	763.29	739.73
220	1.120″	50.0	6220	04F5741	2310.72	2196.80	2127.10	2061.42	04F5742	16237.50	15436.93	14947.16	14485.66
214	0.425″	50.0	6214	04F5739	614.89	584.57	566.02	548.55	04F5740	4300.35	4088.33	3958.62	3836.39

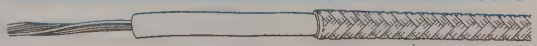
HIGH-TEMPERATURE TEFLON DIELECTRIC JACKET COAXIAL CABLE

Withstands exposure to liquids and gases. Temperature range: -55°C to +250°C.

142B	0.195″	50.0	6142B	03F1404	355.27	342.16	324.05	302.80	03F1405	2226.15	2116.39	2049.24	1985.97
187A	0.110″	75.0	6187A	03F1410	128.17	123.07	116.11	111.87	03F1411	741.58	705.01	682.65	661.57
188A	0.110″	50.0	6188A	03F1412	131.73	126.48	119.33	114.97	03F1413	760.22	722.74	699.81	678.20
196A	0.080″	50.0	6196A	03F1414	108.57	104.03	99.88	94.24	03F1415	601.33	571.68	553.54	536.45
316	0.102″	50.0	6316	03F1416	122.14	117.27	110.64	106.60	03F1417	704.02	669.30	648.07	628.06
400	0.195″	50.0	6400	03F4265	418.07	397.46	384.85	372.97	03F4267	2923.56	2779.41	2691.23	2608.14
393	0.390″	50.0	6393	03F4263	2407.93	2298.48	...	...	03F4264	16849.80	16083.90	...	...

(6252) (de02612)

SILICONE RUBBER MOTOR LEAD WIRE 150°C



Flexible stranded tin coated copper conductors with extruded silicone rubber insulation. Lacquered glass braid overall. Rated 600V, 150°C. Extremely flexible and moisture resistant. For use as a motor lead wire in hazardous locations. Color: black. UL styles 3070, 3101, 3125, 3127, 3231.

AWG (Stranding)	Nom. O.D.	Type	100′ Spool Stock No.	100′ Spool Each	100′ Spool 2-4	100′ Spool 5-9	100′ Spool 10-14	500′ Spool Stock No.	500′ Spool Each	500′ Spool 2-4	500′ Spool 5-9	500′ Spool 10-14
18 (16/30)	0.125″	3431816	03F7327	44.39	43.43	41.61	38.42	03F7328	160.62	154.22	145.51	140.19
16 (26/30)	0.135″	3431626	03F7329	65.14	62.42	59.93	56.54	03F7330	222.42	214.21	202.87	189.57
14 (41/30)	0.143″	3431441	03F7331	80.22	76.86	73.80	69.63	03F7332	273.67	263.57	249.62	233.25
12 (65/30)	0.161″	3431265	03F7333	104.29	99.93	95.95	90.53	03F7334	354.78	341.68	323.60	302.38
10 (105/30)	0.215″	3431000	03F7335	153.61	147.49	139.16	134.07	03F7336	488.47	464.38	449.65	435.77

(6283) (de51107)

HIGH-VOLTAGE CORONA-RESISTANT WIRE

High-temperature, high-voltage UL style 3239 silicone rubber insulation, rated 150°C. Stranded tinned-copper conductors. Color: natural.

AWG	Volt	Nom. O.D.	Type	100′ Spool Stock No.	100′ Spool Each	100′ Spool 2-4	100′ Spool 5-9	100′ Spool 10-14	1000′ Spool Stock No.	1000′ Spool Each	1000′ Spool 2-4	1000′ Spool 5-9	1000′ Spool 10-14
22	10kV	0.111″	392240	02F9999	159.76	153.39	144.72	139.43	03F1010	397.02	377.44	365.47	354.19
22	15kV	0.121″	392245	03F1037	159.19	153.06	144.70	134.91	03F1038	422.27	401.45	388.71	376.71
20	10kV	0.118″	392040	03F1062	166.54	160.12	151.38	141.14	03F1063	422.09	401.28	388.55	376.55
20	15kV	0.128″	392045	03F1064	170.88	164.30	155.33	144.82	03F1065	481.78	458.02	443.49	429.80
20	20kV	0.138″	392050	03F1084	181.65	174.65	165.12	153.95	03F1085	487.84	463.79	449.07	435.21
20	30kV	0.188″	392075	03F1088	234.26	225.61	213.67	199.67	03F1089	871.56	828.59	802.30	777.53
18	15kV	0.140″	391845	03F1092	205.04	197.14	186.38	173.77	03F1093	499.26	474.65	459.59	445.40
18	25kV	0.174″	391862	03F1094	215.26	207.31	196.34	183.46	03F1095	626.13	595.26	576.37	558.58
18	40kV	0.244″	391897	03F1096	266.51	256.67	243.08	227.15	03F1097	1142.07	1085.76	1051.31	1018.85
16	15kV	0.152″	391645	03F1098	221.42	213.25	201.97	188.72	03F1099	605.43	575.58	557.32	540.11
16	25kV	0.186″	391662	03F1100	246.10	237.02	224.48	209.76	03F1101	807.51	767.69	743.34	720.39
16	40kV	0.256″	391697	03F1102	297.06	286.09	270.95	253.19	03F1103	1272.15	1209.43	1171.06	1134.90
14	15kV	0.170″	391445	03F1104	247.30	238.17	225.57	210.78	03F1105	718.20	682.79	661.13	640.72
14	25kV	0.204″	391462	03F1106	293.97	283.12	268.14	250.56	03F1107	910.73	865.83	838.36	812.47
14	40kV	0.274″	391497	03F2526	394.88	375.41	363.50	352.28	03F2527	1352.98	1286.27	1245.46	1207.01
12	15kV	0.186″	391245	03F2528	290.69	279.95	265.14	247.76	03F2529	902.17	857.69	830.47	804.83
12	40kV	0.290″	391297	03F2530	422.00	401.19	388.47	376.47	03F2531	1523.21	1448.11	1402.16	1358.87
10	15kV	0.220″	391045	03F2532	327.11	315.03	298.36	278.80	03F2533	1183.82	1125.46	1089.75	1056.10

Note: 8 AWG and 6 AWG not UL listed.
(6282) (de51106)

DEARBORN & NEWARK HAVE ALL THE WIRE & CABLE YOU NEED!
WE PROVIDE HOOK-UP, APPLIANCE, & AUTOMOTIVE WIRE; PLUS AUDIO, COMPUTER, HIGH-TEMP, INSTRUMENTATION, & MULTICONDUCTOR CABLE.
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SOUND AND BRAIDED COPPER CABLE

BRAIDED TINNED COPPER SHIELD SOUND AND INTERCOM CABLE

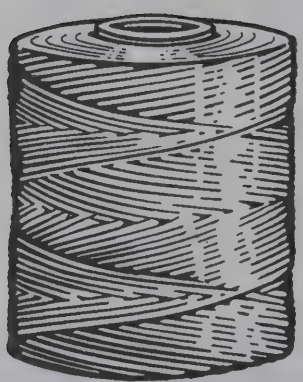
Stranded tinned copper conductors. Conductors are twisted and shielded with a tinned copper braid. Temp. range: –20°C to +60°C. Ideal for all types of public address or sound work, recording studios, and other types of audio circuits requiring shielding. 350V working voltage. Gray PVC jacket, nominal 0.020″ thickness.

No. of Cond.	AWG (Strand.)	Nom. O.D.	Type	500′ Spool				1000′ Spool			
				Stock No.	Each	2-4	5-9	Stock No.	Each	2-4	5-9
2	20 (10/30)	0.210″	742202	04F6583	193.55	186.10	175.94	04F6584	337.66	325.19	307.98
2	22 (7/30)	0.185″	742202	04F6569	163.53	157.24	148.65	04F6570	285.41	274.88	260.33
3	22 (7/30)	0.200″	742203	04F6571	243.82	234.81	222.39	04F6572	396.39	376.85	364.90
4	22 (7/30)	0.210″	742204	04F6581	300.04	288.96	273.67	04F6582	488.29	464.21	449.49
3	20 (10/30)	0.220″	742003	04F6585	288.10	277.46	262.78	04F6586	469.11	445.98	431.83

(6274) (de03826)

LACING TAPE AND TWINE

- **Nylon Lacing Tape MIL-T-43435 Type 1 (Supersedes MIL-T-713D)**
- **Operational Temperature Range: –67°F to +250°F.**



805032W-803215B

FLAT BRAIDED NYLON LACING TAPE MIL-T-43435 TYPE 1

High tenacity, impregnated with microcrystalline fungicidal wax to meet MIL specs. Types with a **B suffix** are black. Types with a **W suffix** are natural. **Type 805032** has a synthetic resin finish; **types 805036** and **802534** have a wax finish. **Sold in spools of 500 yards.**

Stock No.	Type	Tensile Strength	Width	Each	2-4	5-9
37F2207	805032W	50 lbs.	0.090″	25.20	24.66	23.62
37F2208	805032B	50 lbs.	0.090″	25.75	25.20	24.14
37F2209	805036W	50 lbs.	0.090″	22.96	21.77	20.85
37F2210	805036B	50 lbs.	0.090″	37.03	36.23	34.71
37F2213	802534W	25 lbs.	0.062″	22.59	21.34	20.44
37F2214	802534B	25 lbs.	0.062″	30.77	29.07	27.85

FLAT BRAIDED POLYESTER LACING TAPE MIL-T-43455 TYPE II

Impregnated with microcrystalline fungicidal wax to meet MIL specs. Types with a **B suffix** are black. Types with a **W suffix** are natural. **Types 805058W** and **805058B** have a synthetic resin finish. **Types 805062W** and **805062B** have a wax finish. **Sold in spools of 500 yards.**

37F2215	805058W	50 lbs.	0.090″	30.71	30.04	28.79
37F2216	805058B	50 lbs.	0.090″	37.83	37.02	35.47
37F2217	805062W	50 lbs.	0.090″	25.96	24.67	23.63
37F2218	805062B	50 lbs.	0.090″	37.83	37.02	35.47

ROUND TWISTED NYLON FIBER LACING TWINE MIL-T-713D TYPE P

Impregnated with microcrystalline fungicidal wax to meet MIL specs. Excellent knot retention, for lacing or spot ties. Types with **B suffix** are black. Types with **W suffix** are natural. *See table below for spool lengths available.*

Stock No.	Type	Tensile Strength	Nom. Dia.	Spool Yds.	Each	2-4	5-9
37F2219	807013W	70 lbs.	0.039″	550	34.03	33.30	31.90
37F2220	807013B	70 lbs.	0.039″	550	49.45	48.38	46.36
37F2221	804814W	48 lbs.	0.029″	750	38.34	36.21	34.69
37F2223	803215W	32 lbs.	0.032″	1100	34.03	33.30	31.90
37F2224	803215B	32 lbs.	0.032″	1100	49.45	48.38	46.36

(6285) (de51109)

BRAIDED COPPER CABLE

TUBULAR CABLE

Woven tinned copper braid meets MIL-Spec QQ-B-575. The braid is self supporting, maintaining its round shape, and offer excellent coverage. Typical applications include military as well as offering maximum shielding against electrostatic interference for wires and cables, and as a protective covering against mechanical abrasion and stress. Offers 95% coverage when placed over equivalent diameter. **Sold in spools of 100′.**

Stock No.	Type	I.D.	AWG (Stranding)	Cir. MIL	Ampacity	Each	2-4
03F5754	92160	0.03″	24 (16/36)	600	7.5	27.95	27.34
03F5755	92162	0.06″	19 (46/36)	1200	12	34.50	33.76
04F9545	92654	0.07″	18 (72/36)	1800	15.7	38.98	38.14
03F5756	92164	0.10″	16 (96/36)	2400	19	57.38	56.14
03F5757	92166	0.12″	15 (120/66)	3000	22	45.54	44.56
03F5758	92168	0.17″	14 (168/36)	4200	30	57.27	56.03
03F5759	92170	0.20″	11 (192/34)	7632	42	90.68	86.89
03F5760	92171	0.25″	10 (384/36)	9600	48	103.62	99.28
05F1741	92172	0.37″	10 (384/36)	9600	48.8	141.75	136.11
03F5761	92174	0.50″	9 (528/36)	13200	61	160.83	154.43
03F5763	92176	0.78″	7 (864/34)	21600	84	207.29	199.64
04F9544	92178	1.00″	4 (384/30)	38592	125	363.83	345.89

FLAT CABLE

Woven tinned copper braid meets MIL-Spec QQ-W-343 Type S, and ASTM-B-33. Used as a high-current conductor at low voltages due to the high current-carrying capacity and extreme flexibility. Typical applications include batter grounding or bonding strap in vehicles and aircraft to help eliminate ignition interference. **Sold in spools of 100′.**

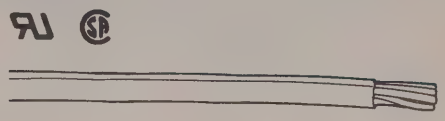
Stock No.	Type	Width	AWG (Stranding)	Cir. MIL	Ampacity	Each	2-4
03F5764	91221	0.025″	27 (8/36)	200	3.6	23.58	23.07
03F5765	91222	0.031″	24 (16/36)	400	5.7	18.12	17.71
03F5766	91223	0.047″	22 (24/36)	600	7.5	22.82	22.31
03F5767	91224	0.094″	19 (48/36)	1200	12.0	25.07	24.53
03F5768	91229	0.125″	18 (72/36)	1800	15.7	32.43	31.73
03F5770	91231	0.250″	14 (168/36)	4200	27.9	40.28	39.42
03F5771	91232	0.375″	12 (288/36)	7200	40.2	66.16	63.39

(33781) (ne33781)

DATA AND CONTROL CABLE

OLFLEX® 190 CONTROL CABLE

Olflex® 190 multiconductor, oil-resistant, flexible control cable has a compact design that permits easier installation in confined operating areas. PVC jacket provides optimum resistance to mineral oils, synthetic oils, and water-based coolants. Designed for use in all electrical equipment in dry, damp, and wet conditions. For use in machine tools, assembly lines, control systems, data processing equipment, connections between control panels and machines, CNC machining centers, grinding machines, and bottling equipment. Temperature range: –40°C to +90°C. Minimum bending radius: 15x cable diameter. Rated voltage: 600V. Test voltage: 3000V. Insulation resistance: 20MΩ × km. Color code: black with white numbers, plus green/yellow ground. UL recognized AWM 90°C for PVC jacket, 80°C for PUR jacket. CSA certified AWM 11 A/B FT1, 90°C for PVC jacket, 80°C for PUR jacket. **Sold per foot in made-to-order spool sizes.**



18 AWG (19/30) 1.0 mm^2

Stock No.	Type	No. of Conductors*	Nominal Outer Diameter	Per Foot
01F2570	601803	3	0.260″ (6.6)	0.51
01F2571	601804	4	0.283″ (7.2)	0.66
01F2572	601805	5	0.303″ (7.7)	0.84
01F2573	601807	7	0.335″ (8.5)	1.15
01F2574	601812	12	0.457″ (11.6)	2.07
01F2575	601818	18	0.547″ (13.9)	2.86
01F2576	601825	25	0.677″ (17.2)	4.00
01F2577	601834	34	0.752″ (19.1)	5.66
01F2578	601841	41	0.811″ (20.6)	6.72

16 AWG (30/30) 1.50mm^2

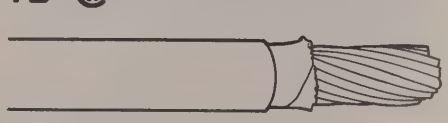
Stock No.	Type	No. of Conductors*	Nominal Outer Diameter	Per Foot
01F2563	601603	3	0.287″ (7.3)	0.83
01F2564	601604	4	0.311″ (7.9)	1.07
01F2565	601605	5	0.346″ (8.8)	1.35
01F2566	601607	7	0.378″ (9.6)	1.75
01F2567	601612	12	0.528″ (13.4)	3.15
01F2568	601618	18	0.618″ (15.6)	4.55
01F2569	601625	25	0.728″ (18.5)	6.09

* Includes ground
(6328)

(ne08095)

OLFLEX-FD® 890 CONTROL CABLE

Olflex-FD® 890 is designed for continuous flex applications. Unique cabling techniques and specially formulated jacketing compounds increase flex life and provide optimum resistance to mineral oils, synthetic oils, and water-based coolants. Temperature range: –40°C to +90°C. Minimum bending radius: 8x cable diameter. Rated voltage: 600V, Test voltage: 3000V. Insulation resistance: 20MΩ x km. Color code: red with black numbers plus green/yellow ground. UL recognized AWM 90°C for PVC jacket, 80°C for PUR jacket. CSA certified AWM 11 A/B FT1, 90°C for PVC jacket, 80°C for PUR jacket. **Sold per foot in made-to-order spool sizes.**



20 AWG (74/38) 0.50mm^2

Stock No.	Type	No. of Conductors*	Nominal Outer Diameter	Per Foot
01F2559	892003	3	0.255″ (6.5)	2.06
01F2560	892005	5	0.302″ (7.9)	2.52
01F2561	892007	7	0.362″ (9.2)	3.64
01F2562	892012	12	0.449″ (11.4)	5.74

18 AWG (114/38) 0.75mm^2

Stock No.	Type	No. of Conductors*	Nominal Outer Diameter	Per Foot
01F2556	891807	7	0.413″ (10.5)	4.50
01F2557	891812	12	0.492″ (12.5)	7.02
01F2558	891818	18	0.587″ (14.9)	8.71
01F2555	891825	25	0.732″ (18.6)	19.90

16 AWG (190/38) 1.75mm^2

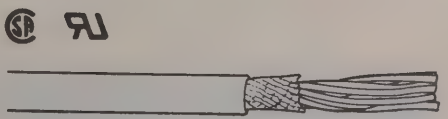
Stock No.	Type	No. of Conductors*	Nominal Outer Diameter	Per Foot
01F2553	891607	7	0.457″ (11.6)	6.48
01F2554	891612	12	0.567″ (14.4)	10.30
91F5947	891625	25	0.819″ (20.8)	39.55

*Includes ground
(6329)

(ne08096)

UNITRONIC-FD® 890 DATA TRANSMISSION CABLE

Unitronic-FD® 890 data transmission cable is designed for automated production processes requiring increased flex life aspects and durability. Special assembly techniques make this cable suitable for use in mechanically controlled production machine tools. PVC jacket is resistant to mineral oils, synthetic oils, and water-based coolants. Temperature range: –5°C to +90°C. Minimum bending radius: 10x cable diameter. Rated voltage: 300V. Test voltage: 1500V. Insulation resistance: 20MΩ x km. Color code: DIN 47100. UL recognized AWM 90°C for PVC jacket, 80°C for PUR jacket. CSA certified AWM 11 A/B FT1, 90°C for PVC jacket, 80°C for PUR jacket. **Sold per foot in made-to-order spool sizes.**



22 AWG (42/38) 0.34mm^2

Stock No.	Type	No. of Conductors*	Nominal Outer Diameter	Per Foot
01F2547	892203	3	0.240″ (6.1)	1.17
01F2548	892205	5	0.255″ (6.5)	1.57
01F2549	892210	10	0.375″ (9.5)	3.39
01F2550	892214	14	0.380″ (9.7)	3.97
01F2551	892218	18	0.453″ (11.5)	4.78
01F2552	892225	25	0.520″ (13.2)	6.79

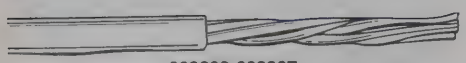
*Includes ground
(6330)

(ne08097)

CONTROL CABLE

UNITRONIC®-190 SIGNAL & CONTROL CABLE

Unshielded multiconductor flexible cable is designed for use with computers, data transmission, office equipment, process control, and instrumentation. Constructed of finely stranded tinned copper conductors, SR-PVC insulation, talc, nonwicking fillers, and gray PVC jacket. Color coded. Jacket wall: 0.035″. Minimum bending radius: 10x cable diameter. Rated voltage: 330V. Test voltage: 2000V. Rated temperature: –10°C to +105°C. UL recognized AWM, CSA certified AWM II A/B FT1. **Sold per foot in made-to-order spool sizes.**



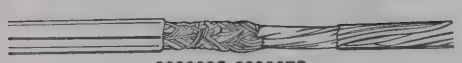
602803-602207

Stock No.	Type	No. of Conductors	Nominal Outer Diameter	Per Foot
		28 AWG (7/36) 0.08mm²		
01F1812	602803	3	0.149″ (3.8)	0.34
01F1813	602805	5	0.168″ (4.3)	0.42
01F1814	602807	7	0.178″ (4.5)	0.55
01F1815	602812	12	0.219″ (5.6)	0.85
01F1816	602818	18	0.248″ (6.3)	1.27
01F1817	602825	25	0.280″ (7.1)	1.58
		24 AWG (7/32) 0.25mm²		
01F1809	602403	3	0.168″ (4.3)	0.43
01F1810	602405	5	0.192″ (4.9)	0.54
01F1811	602407	7	0.205″ (5.3)	0.70
		22 AWG (7/30) 0.34mm²		
01F1806	602203	3	0.181″ (4.6)	0.46
01F1807	602205	5	0.208″ (5.3)	0.63
01F1808	602207	7	0.223″ (5.7)	0.76

(5334) (ne08431)

UNITRONIC®-190CY SHIELDED SIGNAL & CONTROL CABLE

Flexible multiconductor cable is designed for use with computers, data transmission, office equipment, process control and instrumentation. Overall foil/tinned copper braid shield is recommended when electrical interference distorts signal transmission or when EMI emissions need to be suppressed. Constructed of finely stranded copper conductors, SR-PVC insulation, talc, nonwicking fillers, overall foil tape wrap, drain wire, tinned copper braid (85% coverage), and gray PVC jacket. Color coded. Jacket wall: 0.040″. Rated voltage: 300V. Test voltage: 2000V. Rated temperature: –10°C to +105°C. UL recognized AWM, CSA certified AWM II A/B FT1. **Sold per foot in made-to-order spool sizes.**



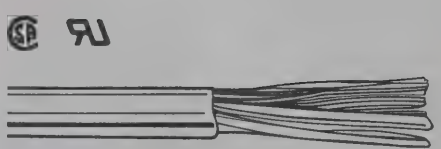
602803S-602207S

Stock No.	Type	No. of Conductors	Nominal Outer Diameter	Per Foot
		28 AWG (7/36) 0.08mm²		
01F1818	602803S	3	0.184″ (4.7)	0.80
01F1819	602805S	5	0.203″ (5.2)	1.11
01F1820	602807S	7	0.213″ (5.4)	1.23
		24 AWG (7/32) 0.25mm²		
01F1821	602403S	3	0.203″ (5.2)	1.02
01F1822	602405S	5	0.227″ (5.8)	1.27
01F1823	602407S	7	0.240″ (6.1)	1.39
		22 AWG (7/30) 0.34mm²		
01F1824	602203S	3	0.216″ (5.5)	1.15
01F1825	602205S	5	0.243″ (6.2)	1.36
01F1826	602207S	7	0.258″ (6.6)	1.49

(6335) (ne08432)

OLFLEX®-490P CONTROL CABLE

OLFLEX®-490P is a multiconductor, flexible control cable. Constructed of finely stranded tinned copper conductors, blended PVC insulation, nonwicking fillers, talc, overall textile wrap, and oil- and abrasion-resistant polyurethane jacket. Jacket wall: 0.053″. Rated voltage: 600V. Test voltage: 3000V. Rated temperature: –10°C to +80°C. UL recognized AWM, CSA certified AWM II A/B FT1. **Sold per foot in made-to-order spool sizes.**



401803-401404

Stock No.	No. of Conductors	Nominal Outer Diameter	Per Foot
	18 AWG (19/30) 1.0mm²		
01F1844	3	0.312″ (7.9)	1.55
01F1845	5	0.363″ (9.2)	2.32
01F1846	25	0.686″ (17.4)	7.52
	16 AWG (26/30) 1.5mm²		
01F1840	3	0.329″ (8.4)	1.86
01F1841	5	0.384″ (9.8)	2.63
01F1842	18	0.639″ (16.2)	6.97
01F1843	25	0.733″ (18.6)	9.49
	14 AWG (41/30) 2.5mm²		
01F1838	3	0.364″ (9.2)	2.38
01F1839	4	0.393″ (10.0)	2.83

(6336) (ne08433)

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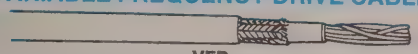
VARIABLE FREQUENCY DRIVE CABLE



VFD

Type VFD cable is for use on variable speed drives that are subject to nonlinear power distortions. Can withstand all of the voltage spikes, harmonics, and power distortions that a variable speed drive can generate. Working voltage: 1000VAC (3000VAC peak). Temperature range: –25°C to +90°C. Passes VW-1 vertical wire flame test. UL listed. **Sold in spool of 500′.**

Stock No.	Type	AWG (Stranding)	Conductor	Outer Diameter	Each
01F2580	1404VFD	14 (41/30)	0.142″	0.560″	**1411.40**
01F2581	1204VFD	12 (65/30)	0.152″	0.604″	**1766.44**
01F2582	1004VFD	10 (105/30)	0.194″	0.732″	**2467.76**
01F2583	0804VFD	8 (133/29)	0.251″	0.869″	**3826.56**

(14840) (ne09863)

BLUEFLEX™ TWINAXIAL CABLE

3649FD

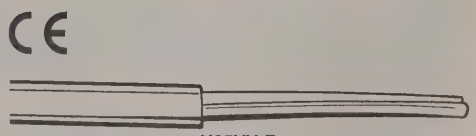
Blue jacketed twinaxial cable is designed for precise data transmission in high-speed continuous flex applications and is well suited for harsh environments. Minimum bending radius: 12x cable diameter. Voltage: 300V. Impedance: 78 ohms. Temperature range: –20°C to +80°C. UL recognized. **Sold in spools of 500′.**

Stock No.	Type	AWG	Outer Diameter	Each
01F2579	3649FD	20	0.248″ (6.3)	**208.87**

(14839) (ne09862)

HARMONIZED EUROPEAN CORDAGE

Type H05VV-F is a flexible harmonized cord for use in electronic and electrical equipment designed for export to European countries that adhere to CENELEC guidelines. Constructed of finely stranded bare copper conductors, PVC insulation, talc, and a black PVC jacket. Mininum bending radius: 5x cable diameter. Rated voltage: 300/500V. Temperature range: –30°C to +70°C. Number of conductors: 3. Conforms to the following standards: HD 21.1 S2, HD 21.2 S2, HD 21.3 S2, HD 308, 361, 383, 385, 402, 405.1; VDE 0100, 0281, 0293, 0295 class 5; IEC 227.1, 227.2, 227.5, 228, 304, 332.1, 540; BS 6500, BS 6360. CE compliant. **Sold per foot in made-to-order spool sizes.**



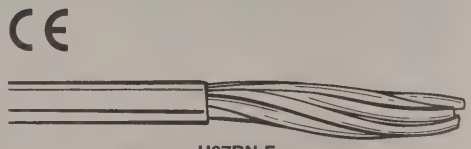
H05VV-F

Stock No.	Type	AWG (Stranding)	Outer Diameter	Per Foot
01F1830	1601102	18 (24/32)	0.264″ (6.7)	**0.44**
01F1831	1601111	16 (30/30)	0.350″ (8.9)	**0.41**
01F1832	1601125	14 (50/30)	0.425″ (10.8)	**0.64**

(6339) (ne08436)

HEAVY-DUTY HARMONIZED EUROPEAN CORDAGE

Type H07RN-F is a flexible harmonized cord for use in electronic and electrical equipment designed for export to European countries that adhere to CENELEC guidelines. Constructed of finely stranded copper conductors, synthetic rubber insulation, talc, and a black heavy-duty neoprene jacket. Minimum bending radius: 10x outer diameter. Rated voltage: 300/500V. Temperature range: –25°C to +60°C. Number of conductors: 3. Conforms to the following standards: HD 22.4 S2, HD 308, 361, 383, 385, 402, 405.1, IEC 245.4, 228, 0295 class 5, 245, IEC 66, 304, 332-1, 540, 0282, BS 6360. CE compliant. **Sold per foot in made-to-order spool sizes.**



H07RN-F

Stock No.	Type	AWG (Stranding)	Outer Diameter (Min.-Max.)	Per Foot
01F1827	1600103	16 (30/30)	0.378-0.492″ (9.6-12.5)	**1.72**
01F1828	1600118	14 (50/30)	0.452-0.571″ (11.5-14.5)	**2.42**
01F1829	1600119	12 (56/28)	0.512-0.630″ (13.0-16.0)	**3.99**

(6338) (ne08435)

HARMONIZED EUROPEAN HOOK-UP WIRE

Type H07V-K harmonized hook-up wire is for use with electronic and electrical equipment designed for export to European countries that adhere to CENELEC guidelines. Constructed of finely stranded bare copper conductors (to VDE 0295) with PVC insulation. Size: 16 AWG (30/30) 1.5mm^2. Nominal outer diameter: 0.118″ (3.0). Rated voltage: 450/750V. Test voltage: 2500W. Temperature range: –30°C to +70°C. CE compliant. **Sold per foot in made-to-order spool sizes.**

H07V-K

Stock No.	Type	Color	Per Foot
01F1833	4520001	Green/Yellow	**0.30**
01F1834	4520011	Black	**0.30**
01F1835	4520021	Blue	**0.30**
01F1836	4520031	Brown	**0.30**
01F1837	4520041	Red	**0.30**

(6337) (ne08434)

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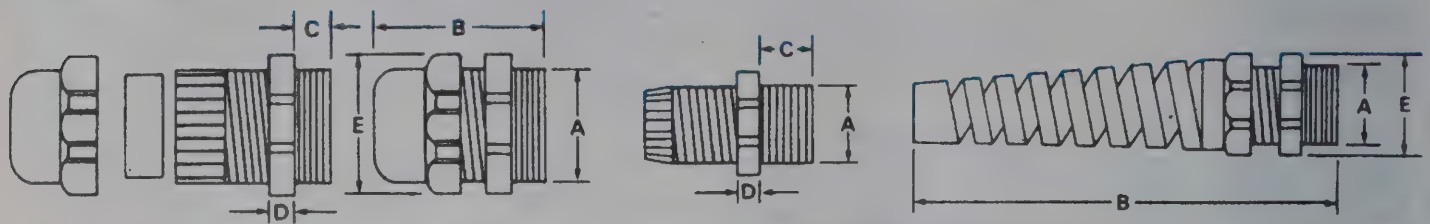
CABLE ACCESSORIES

SKINTOP® II LIQUIDTIGHT, NONMETALLIC, STRAIN RELIEF CORD CONNECTORS



Skintop® II is both a strain relief connector and a liquidtight seal. For use in panels, switches, control boxes, submersible pumps, appliances, and many machine tool applications. Vibration proof. Resistant to impact at low temperatures. Protection up to 70 psi. Rated temperature: –22°F to +212°F. Seal: IP 68 (comparable to NEMA 6). Material: nylon with neoprene bushing. UL listed, CSA certified, VDE approved, SEV approved. *Contact your local Newark sales office for diameter and thread pitch dimensions for PG type Skintop® II.*

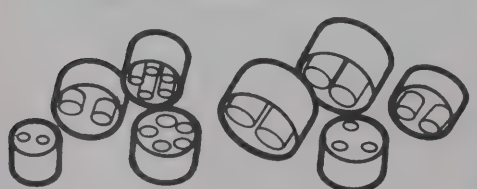
METRIC PG THREAD, STANDARD TYPE

Black Stock No.	Type	Gray Stock No.	Type	Thread Type	Diameter Range	Mounting Hole A	Maximum Overall Length B	Thread Length C	Wrenching Nut Thickness D	Wrenching Flats E	1-24	25-49	50-99
92F5058	S2107(SL7-W/NUT)	92F5076	S1107(SL7W/NUT	PG-7	0.118-0.225″	0.492″	1.259″	0.315″	0.203″	0.591″	1.59	1.43	1.33
92F5059	S2109(SL9-W/NUT)	92F5077	S1109(SL9W/NUT	PG-9	0.157-0.314″	0.599″	1.378″	0.315″	0.218″	0.750″	1.64	1.47	1.37
92F5060	S2111(SL11-W/NUT)	92F5078	S1111(SL11W/NUT	PG-11	0.200-0.394″	0.733″	1.500″	0.315″	0.218″	0.866″	1.84	1.66	1.54
92F5061	S2113(SL13-W/NUT)	92F5079	S1113(SL13W/NUT	PG-13	0.236-0.472″	0.804″	1.614″	0.354″	0.218″	0.945″	2.03	1.83	1.69
					METRIC PG THREAD, FLEX TYPE								
92F5088	S2307(SLFX7W/NUT	92F5068	S1307(SLFX7/W-NUT	PG-7	0.118-0.255″	0.492″	2.560″	0.315″	0.203″	0.591″	1.80	1.62	1.50
92F5062	S2309(SLFX9W/NUT	92F5069	S1309(SLFX9/W-NUT	PG-9	0.157-0.314″	0.599″	2.970″	0.315″	0.218″	0.750″	1.86	1.68	1.56
92F5063	S2311(SLFX11W/NUT	92F5070	S1311(SLFX11/WNUT	PG-11	0.200-0.394″	0.733″	3.510″	0.315″	0.218″	0.866″	2.16	1.95	1.81
92F5064	S2313(SLFX13W/NUT	92F5071	S1313/FX13W-NUT	PG-13	0.236-0.472″	0.804″	4.020″	0.354″	0.218″	0.945″	2.26	2.03	1.89
					NPT THREAD, STANDARD TYPE*								
92F5053	S2138(SLN9-3/8")	92F5074	S1138(SLN9-3/8	NPT-⅜″	0.157-0.314″	0.675″	1.692″	0.563″	0.218″	0.743″	1.41	1.27	1.18
92F5051	S2112(SLN13-1/2")	92F5072	S1112(SLN13-1/2)	NPT-½″	0.236-0.472″	0.825″	1.734″	0.563″	0.218″	0.938″	1.70	1.54	1.43
92F5052	S2134(SLN21-3/4")	92F5073	S1134(SLN21-3/4	NPT-¾″	0.545-0.708″	1.050″	1.969″	0.563″	0.250″	1.297″	2.58	2.32	2.15
...	...	92F5075	...	NPT-1″	0.709-1.024″	1.303″	2.283″	0.563″	0.276″	1.654″	6.87	6.19	5.75
					NPT THREAD, FLEX TYPE*								
92F5057	S2338SLNFLEX93/8	92F5067	S1338(SLFX9-3/8	NPT-⅜″	0.157-0.314″	0.675″	3.282″	0.563″	0.218″	0.743″	1.59	1.43	1.33
92F5055	S2312SLNFLEX131/2	92F5065	S1312(SLFX13-1/2	NPT-½″	0.236-0.472″	0.825″	4.135″	0.563″	0.218″	0.938″	2.03	1.83	1.69
92F5056	S2334SLNFLEX213/4	92F5066	S1334(SLFX21-3/4	NPT-¾″	0.545-0.708″	1.050″	5.333″	0.563″	0.218″	1.297″	4.46	4.02	3.73

*NPT types do not include locknuts.

(6321) (ne06394)

SKINTOP® DIX MULTIPLE CABLE SEAL BUSHINGS

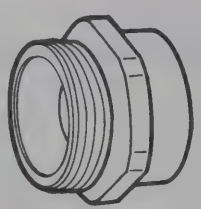


Skintop® DIX

Skintop® DIX bushings eliminate need for separate glands for each cable. Material: silicone. Seal: IP 54 when all holes are filled. Temperature range: –30°C to +100°C.

Stock No.	Type	PG Size	Description	No. of Cables/ Cable Diameter	1-24	25-49	50-99
01F1850	53609230	9	DIX 0923	2 @ 3mm	2.85	2.57	2.39
92F5481	53611240/DIX1124	11	DIX 1124	2 @ 4mm	2.48	2.24	2.08
01F1851	53611330	11	DIX 1133	3 @ 3mm	3.01	2.72	2.52
01F1854	53613250	13	DIX 1325	2 @ 5mm	3.11	2.80	2.60
01F1853	53613340	13	DIX 1334	3 @ 4mm	3.11	2.80	2.60
92F5482	53616340/DIX1634	16	DIX 1634	3 @ 4mm	2.48	2.24	2.08
92F5483	53616540/DIX1654	16	DIX 1654	5 @ 4mm	2.48	2.24	2.08
92F5484	53616260/DIX1626	16	DIX 1626	2 @ 6mm	2.48	2.24	2.08
92F5485	53616360/DIX1636	16	DIX 1636	3 @ 6mm	2.62	2.36	2.19
92F5486	53621280/DIX2128	21	DIX 2128	2 @ 8mm	2.69	2.43	2.25
92F5478	53621370/DIX2137	21	DIX 2137	3 @ 7mm	2.69	2.43	2.25

(6322) (ne06396)



PG//NPT Adapter

PG/NPT ADAPTERS

For installation of NPT connectors into PG-threaded holes. Material: brass.

Stock No.	Type	PG-to-NPT Male-to-Female	1-24	25-49	50-99
92F5488	01112/PG11NPT	PG 11 to ½″	7.54	6.79	6.30
92F5489	01312/PG13.5NPT	PG 13.5 to ½″	7.54	6.79	6.30
92F5490	01612/PG16NPT	PG 16 to ½″	7.54	6.79	6.30
92F5491	02112/PG21NPT	PG 21 to ½″	8.32	7.50	6.96
92F5492	02134/PG21NPT	PG 21 to ¾″	8.62	7.77	7.21
92F5493	02910/PG29NPT	PG 29 to 1″	10.80	9.73	9.03

(6323) (ne06397)

SKINTOP® LOCK NUTS

Lock nuts for NPT thread (metallic) are required when fastening connectors. Color: silver. NOTE: Tapped threads cannot be provided.

Stock No.	Type	NPT Size	Wrenching Flats	1-24	25-49	50-99
92F5080	811092(3/8)	⅜″	0.938″ (24)	1.38	1.25	1.16
92F5081	811093(1/2)	½″	1.109″ (28)	1.54	1.39	1.29
92F5082	811094(3/4)	¾″	1.375″ (35)	1.70	1.54	1.43
92F5083	811095(1)	1″	1.686″ (43)	3.08	2.78	2.58

(6340) (ne08437)

MULTICONDUCTOR CABLE

MULTICONDUCTOR UNSHIELDED COMMUNICATION AND CONTROL CABLE

Features stranded tinned copper conductors with premium grade color-coded S-R PVC insulation. Jacket: PVC, gray. Applications include public address systems, intercoms, internal telephones, and remote control circuits. Suitable for EIA RS-232 applications. Passes VW-1 vertical wire flame test. UL recognized Style 2464 (80°C, 300V), CSA certified. NEC Type CM, CSA PCC. Made in the U.S.A.

100′ SPOOLS

Cond.	AWG	Stranding	Insulation Thickness	Nominal O.D.	100′ Spool		
					Stock No.	1-4	5-9
25	22	7/30	0.010″	0.368″	92N5878	82.79	70.37
12	18	16/30	0.016″	0.401″	92N5881	61.06	51.90
15	18	16/30	0.016″	0.445″	92N5882	77.62	65.98
19	18	16/30	0.016″	0.469″	92N5883	120.05	102.05
25	18	16/30	0.016″	0.549″	92N5884	186.29	158.35

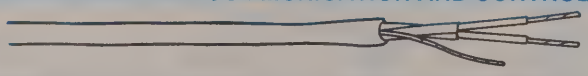
500′ AND 1000′ SPOOLS

Cond.	AWG	Stranding	Insulation Thickness	Nominal O.D.	500′ Spool			1000′ Spool		
					Stock No.	1-4	5-9	Stock No.	1-4	5-9
2	22	7/30	0.010″	0.150″	92N5893	43.07	36.61	92N5918	77.62	65.98
3	22	7/30	0.010″	0.176″	92N5875	55.21	46.93	92N5905	118.26	100.52
4	22	7/30	0.010″	0.189″	92N5876	69.87	59.39	92N5906	141.79	120.52
8	22	7/30	0.010″	0.234″	92N5877	123.44	104.92	92N5907	233.07	198.11
2	18*	16/30	0.016″	0.210″	92N5891	69.34	58.94	92N5916	119.02	101.17
4	18	16/30	0.016″	0.258″	92N5879	119.59	101.65	92N5908	238.34	202.59
7	18	16/30	0.016″	0.309″	92N5880	206.99	175.94	92N5909	407.78	346.62

* Not UL recognized, NEC Type CM, CSA PCC

(20227) (ne10870)

MULTICONDUCTOR FOIL SHIELDED COMMUNICATION AND CONTROL CABLE



Features stranded tinned copper conductors with premium grade color-coded polyethylene insulation. Shield: 100% Flexfoil® aluminum/polyester. Stranded tinned copper drain wire. Jacket: PVC, gray. Ideal for recording studios, sound stages, broadcast and sound systems, computers, and industrial equipment control. Passes VW-1 vertical wire flame test. UL recognized, CSA certified. Made in the U.S.A.

UL STYLE 2092 (60°C, 300V), NEC TYPE CM, CSA PCC

Cond.	AWG	Stranding	Insulation Thickness	Nom. O.D.	500′ Spool			1000′ Spool		
					Stock No.	1-4	5-9	Stock No.	1-4	5-9
2	22	7/30	0.016″	0.179″	92N5886	65.57	55.74	92N5911	124.19	105.56
2	20	7/28	0.016″	0.203″	92N5887	73.48	62.46	92N5912	139.72	118.76
2	18	16/30	0.018″	0.233″	92N5888	91.47	77.75	92N5913	155.24	131.96

UL STYLE 2093 (60°C, 300V), NEC TYPE CM, CSA PCC

3	22	7/30	0.016″	0.196″	92N5865	73.48	62.46	92N5895	149.03	126.68
3	20	7/28	0.016″	0.210″	92N5866	97.69	83.03	92N5896	194.57	165.39
3	18	16/30	0.018″	0.247″	92N5867	110.27	93.73	92N5897	223.55	190.02

UL STYLE 2106 (60°C, 600V), CSA PCC

2	16	19/.0117	0.032″	0.302″	92N5889	150.07	127.56	92N5914	263.92	224.33
2	14	19/.0147	0.032″	0.335″	92N5890	184.22	156.59	92N5915	315.67	268.32

NEC TYPE CM, CSA PCC, 300V

3	22	7/30	0.008″	0.144″	92N5864	84.37	71.71	92N5894	141.07	119.91

UL STYLE 2464 (80°C, 300V), NEC TYPE CM, CSA PCC

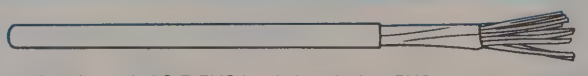
4	18	19/30	0.010″	0.238″	92N5868	153.34	130.34	92N5898	299.11	254.24

UL STYLE 2835, NEC TYPE CM, CSA PCC - MULTIPAIRED, INDIVIDUALLY SHIELDED

2	22	7/30	0.008″	0.165″	92N5885	90.73	77.12	92N5910	160.42	136.36

(20226) (ne10869)

MULTICONDUCTOR FOIL SHIELDED COMPUTER CABLE



Features stranded tinned copper conductors with premium grade color-coded S-R PVC insulation. Jacket: PVC, gray. Stranded tinned copper drain wire. Applications include computer interconnections, data transmissions, control circuits, and industrial equipment control. Suitable for EIA RS-232 applications. Passes VW-1 vertical wire flame test. UL recognized Style 2464 (80°C, 300V), CSA certified. Made in the U.S.A.

UL STYLE 2464, NEC TYPE CM, CSA PCC

Cond.	AWG	Stranding	Insulation Thickness	Nominal O.D.	500′ Spool			1000′ Spool		
					Stock No.	1-4	5-9	Stock No.	1-4	5-9
3	24	7/32	0.010″	0.164″	92N5869	62.09	52.78	92N5899	125.47	106.65
4	24	7/32	0.010″	0.175″	92N5870	71.05	60.39	92N5900	143.86	122.28
6	24	7/32	0.010″	0.201″	92N5871	88.51	75.23	92N5901	198.06	168.35
8	24*	7/32	0.010″	0.215″	92N5872	110.74	94.13	92N5902	224.82	191.09
9	24	7/32	0.010″	0.228″	92N5873	120.48	102.41	92N5903	244.25	207.62
10	24	7/32	0.010″	0.245″	92N5874	130.84	111.21	92N5904	265.34	225.54

UL STYLE 2919, NEC TYPE CM, CSA PCC - MULTI-PAIRED, INDIVIDUALLY SHIELDED

3	22	7/30	0.011″	0.292″	92N5892	177.75	151.09	92N5917	305.32	259.52

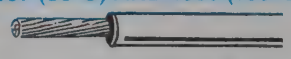
*Polypropylene insulation

(20225) (ne10871)

HOOK-UP WIRE AND ACCESSORIES

DUAL-RATED UL STYLES 1007 (80°C) AND 1569 (105°C) HOOK-UP WIRE

OSHA VW-1 MADE IN USA



Features stranded tinned copper conductor with PVC insulation. Insulation thickness: 0.016″. Voltage rating: 300V. For internal wiring of appliances or electronic/electrical equipment not subjected to movement or mechanical damage. Passes VW-1 vertical wire flame test. UL recognized, CSA certified, OSHA compliant. Made in the U.S.A.

AWG	Stranding	Nominal O.D.	100′ Spool Black Stock No.	100′ Spool White Stock No.	100′ Spool Red Stock No.	Each	1000′ Spool Black Stock No.	1000′ Spool White Stock No.	1000′ Spool Red Stock No.	Each
24	7/32	0.056″	92N5735	92N5785	92N5835	8.96	92N5760	92N5810	92N5860	42.50
22	7/30	0.062″	92N5714	92N5764	92N5814	10.08	92N5739	92N5789	92N5839	41.50
20	7/28	0.069″	92N5715	92N5765	92N5815	12.32	92N5740	92N5790	92N5840	80.80
18	16/30	0.077″	92N5716	92N5766	92N5816	13.12	92N5741	92N5791	92N5841	72.00
16	26/30	0.092″	92N5717	92N5767	92N5817	18.56	92N5742	92N5792	92N5842	105.00

(20027) (ne10863)

UL STYLE 1015 (105°C) HOOK-UP WIRE

Insulation thickness of 0.031″. Voltage rating: 600V. Passes VW-1 vertical wire flame test. UL listed, CSA certified.

AWG	Stranding	Nominal O.D.	100′ Spool Black Stock No.	100′ Spool White Stock No.	100′ Spool Red Stock No.	Each	1000′ Spool Black Stock No.	1000′ Spool White Stock No.	1000′ Spool Red Stock No.	Each
22	7/30	0.095″	92N5736	92N5786	92N5836	10.88	92N5761	92N5811	92N5861	49.95
20	10/30	0.100″	92N5718	92N5768	92N5818	13.60	92N5743	92N5793	92N5843	59.95
18	16/30	0.110″	92N5719	92N5769	92N5819	16.80	92N5744	92N5794	92N5844	78.50
16	26/30	0.124″	92N5720	92N5770	92N5820	20.32	92N5745	92N5795	92N5845	105.00
14	41/30	0.141″	92N5721	92N5771	92N5821	18.95	92N5746	92N5796	92N5846	150.00
12	65/30	0.160″	92N5722	92N5772	92N5822	27.95	92N5747	92N5797	92N5847	210.00
10	105/30	0.194″	92N5723	92N5773	92N5823	40.95	92N5748	92N5798	92N5848	320.00

(20028) (ne10864)

MIL-W-16878D SINGLE CONDUCTOR, STRANDED TINNED COPPER HOOK-UP WIRE

Features stranded tinned copper conductor with PVC insulation. Insulation thickness of 0.010″. Voltage rating: 600V (105°C) maximum. Meets MIL-W-16878D specifications.

AWG	Stranding	Nominal O.D.	100′ Spool Black Stock No.	100′ Spool White Stock No.	100′ Spool Red Stock No.	Each	1000′ Spool Black Stock No.	1000′ Spool White Stock No.	1000′ Spool Red Stock No.	Each
22	7/30	0.051″	92N5737	92N5787	92N5837	10.88	92N5762	92N5812	92N5862	68.00
18	7/26	0.068″	92N5724	92N5774	92N5824	14.56	92N5749	92N5799	92N5849	104.00

(20029) (ne10865)

MIL-W-76D SINGLE CONDUCTOR, STRANDED TINNED COPPER HOOK-UP WIRE

Features stranded tinned copper conductor with PVC insulation. Insulation thickness of 0.016″. Voltage rating: 1000V (80°C). Meets MIL-W-76D specifications.

AWG	Stranding	Nominal O.D.	100′ Spool Black Stock No.	100′ Spool White Stock No.	100′ Spool Red Stock No.	Each	1000′ Spool Black Stock No.	1000′ Spool White Stock No.	1000′ Spool Red Stock No.	Each
22	7/30	0.065″	92N5725	92N5775	92N5825	10.72	92N5750	92N5800	92N5850	72.00
20	10/30	0.072″	92N5726	92N5776	92N5826	12.80	92N5751	92N5801	92N5851	81.60
18	16/30	0.080″	92N5727	92N5777	92N5827	14.56	92N5752	92N5802	92N5852	104.00
16	26/30	0.092″	92N5728	92N5778	92N5828	21.12	92N5753	92N5803	92N5853	152.00
14	41/30	0.112″	92N5729	92N5779	92N5829	29.12	92N5754	92N5804	92N5854	216.71

(20030) (ne10866)

HIGH-TEMPERATURE TEFLON®-INSULATED HOOK-UP WIRE

Stranded silver-plated copper conductor with extruded TFE Teflon® insulation. Insulation thickness of 0.008″. Flame retardant. Passes VW-1 vertical wire flame test. UL listed Styles 1212 and 1213 (105°C).

AWG	Stranding	Nominal O.D.	100′ Spool Black Stock No.	100′ Spool White Stock No.	100′ Spool Red Stock No.	Each	1000′ Spool Black Stock No.	1000′ Spool White Stock No.	1000′ Spool Red Stock No.	Each
24	7/32	0.043″	92N5731	92N5781	92N5831	13.12	92N5756	92N5806	92N5856	111.20
24	19/36	0.043″	92N5730	92N5780	92N5830	15.68	92N5755	92N5805	92N5855	136.80
22	7/30	0.050″	92N5732	92N5782	92N5832	15.84	92N5757	92N5807	92N5857	139.20
22	19/34	0.050″	92N5733	92N5783	92N5833	18.24	92N5758	92N5808	92N5858	148.35
20	7/28	0.058″	92N5738	92N5788	92N5838	19.84	92N5763	92N5813	92N5863	162.90
20	19/32	0.058″	92N5734	92N5784	92N5834	21.76	92N5759	92N5809	92N5859	180.35

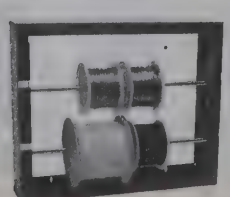
(20031) (ne10867)

SINGLE CONDUCTOR, STRANDED COPPER HOOK-UP WIRE

Single conductor, stranded silver-plated copper hook-up wire with extruded TFE Teflon® insulation. Insulation thickness of 0.006″. Voltage rating: 600V (105°C). Meets MIL-W-16878D specifications. UL listed Style 1371.

AWG	Stranding	Nominal O.D.	100′ Spool Black Stock No.	100′ Spool White Stock No.	100′ Spool Red Stock No.	Each	1000′ Spool Black Stock No.	1000′ Spool White Stock No.	1000′ Spool Red Stock No.	Each
32	7/40	0.021″	92N5919	92N5920	92N5921	15.99	92N5922	92N5923	92N5924	139.99

(20032) (ne10868)



MADE IN USA

WIRE SPOOL RACKS

Heavy-duty wire spool racks offer a convenient way of storing and dispensing wire. Prime cold-rolled steel ⅝″ diameter rods with interlocking construction accommodate wire spools up to 10″ in diameter. Finish: gray baked enamel. For use in stockrooms, maintenance, and other industrial applications. Made in the U.S.A.

Stock No.	Type	Description	H x W x D	1-9
16N2312	8537-0689	2-Row Rack Dispenser	17 x 26 x 6″	59.99
16N2313	8537-0690	4-Row Rack Dispenser	37 x 26 x 6″	99.99

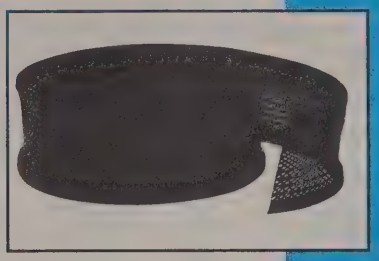
(20026) (ne10862)

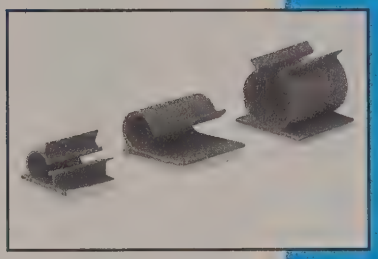
Wire & Cable Accessories

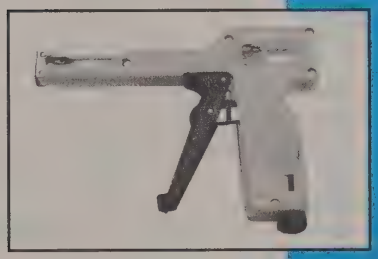
Pages 1234—1279

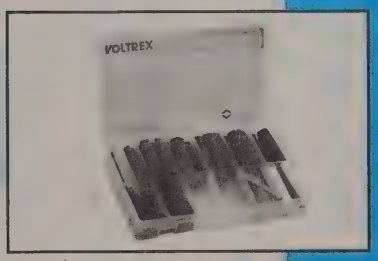
25

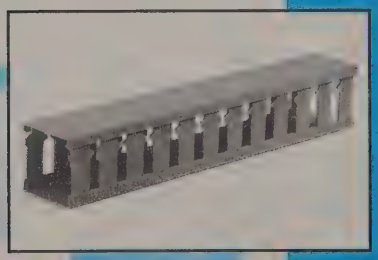
- Alpha Wire
- Hubbell/Kellems
- 3M
- Panduit
- SPC Technology
- Thomas & Betts
- Wieland

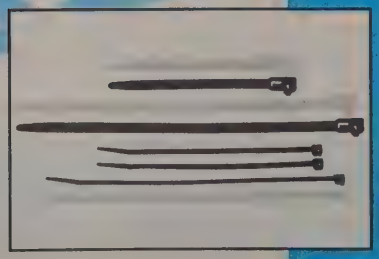












Products include...

- Clamps & Clips
- Conduit & Connectors
- Grommet Edging
- Harness Wrap
- Heat-Shrink Tubing
- Identification Products
- Installation Tools
- Kits
- Raceway Systems
- Sleeving
- Spiral Wrap
- Strain Relief Bushings
- Ties
- Wire Management Products
- Wiring Ducts

HEAT-SHRINK TUBING

VOLTREX™ BRAND HEAT-SHRINK TUBING QUICK-SCAN PROPERTY CHART

A complete line of heat-shrink tubing is available from SPC Technology. Many types are UL recognized for electronic/electrical use.

POLYOLEFIN AND NEOPRENE HEAT-SHRINK TUBING

PROPERTY	POLYOLEFIN							NEOPRENE
	FLEXIBLE		SEMI-RIGID	SEMI-RIGID ADHESIVE	FLEXIBLE ADHESIVE-LINED		VERY FLEXIBLE	VERY FLEXIBLE
VOLTREX™ TYPES	FPF, FPFA, FPS, FPA	LTP	SRS	SRM	PHD	PHS	FPHS	NPS
DIELECTRIC STR.	900V/MIL	800V/MIL	800V/MIL	900V/MIL	800V/MIL	700V/MIL	400V/MIL	800V/MIL
SHRINKAGE DIA.	2:1	2:1	2:1	2.5:1	2:1	3:1	3:1	2:1
SHRINKAGE LGTH.	+1, –10%	±5%	±5%	+1, –10%	+1, –5%	+1, –15%	±5%	+1, –10%
TENSILE STRENGTH	2400 psi (min.)	2100 psi	2600 psi (min.)	2200 psi	2100 psi	2100 psi	1100 psi	2100 psi
SPECIFIC GRAVITY	(FPS/FPA) 1.3g/cm² (max.) (CLEAR) 0.93g/cm² (max.) (FPF/FPFA) 1.5g/cm²(max.)	1.3g/cm² (max.)	1.25g/cm² (max.)	1.0g/cm² (max.)	1.3g/cm² (max.)	1.3g/cm² (max.)	1.29g/cm² (max.)	1.30g/cm² (max.)
OPERATING TEMPERATURE MIN.	–55°C	–55°C	–55°C	–55°C	–55°C	–55°C	–55°C	–70°C
OPERATING TEMPERATURE MAX.	+135°C	+135°C	+135°C	+110°C	+110°C	+110°C	+135°C	+121°C
SHRINK TEMP. MIN.	+100°C	+100°C	+135°C	+135°C	+121°C	+121°C	+100°C	+135°C
ABRASION RES.	Good	Good	Good	Good	Good	Good	Good	Excellent
FLEXIBILITY*	3	2	7	7	3	3	3	1
WATER ABSORPTION	<0.2%	<0.2%	<0.2%	<0.1%	<0.3%	<0.3%	<0.3%	±0.5%
FLAMMABILITY	Colors: Self-Extinguishing Clear: Nonflame-Retardant	Self-Ext.	Self-Ext.	Non-Flame Retardant	Self-Ext.	Self-Ext.	Self-Ext.	Self-Ext.
OIL RESISTANCE	Good	Good	Good	Good	Good	Good	Good	Good
ACID/ALKALI RES.	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
SOLVENT RES.	Excellent	Excellent	Excellent	Good	Good	Good	Good	Good
MILITARY SPECIFICATION	Colors: MIL-I-23053/5 Class 1 Clear: MIL-I-23053/5 Class 2 N/A for Types FPF and FPFA	MIL-R-46846 Type V	MIL-I-23053/6 Colors: Class 1 Clear: Class 2	MIL-I-23053/4 Class 1	MIL-I-23053/4 Class 2	MIL-I-23053/4 Class 3	MIL-I-23053/5 Class1	MIL-I-23053/1 Class1 & 2 MIL-R-46846 Type 1, Class1

TEFLON®, KYNAR™, POLYTETRAFLUOROETHELENE AND PVC HEAT-SHRINK TUBING

PROPERTY	TEFLON®			KYNAR™ POLY-VINYLIDE FLUORIDE	POLY-TETRA-FLUORO-ETHELENE	PVC (NON-IRRADIATED)	PVC (IRRADIATED)	PVC-105 (NON-IRRADIATED)	PVC-105 (IRRADIATED)
	PTFE	FEP	PTFE/FEP						
VOLTREX™ TYPES	TTS	SST	TFM	KYS	SPTFE	VPV1	VPV2	PVS	PVHR
DIELECTRIC STR.	1400V/MIL	1400V/MIL	1400V/MIL	900V/MIL	1400V/MIL	1000V/MIL	1000V/MIL	600V/MIL	1000V/MIL
DIELECTRIC CONSTANT	2.2 at 100Hz-60MHz	2.1 at 100Hz-60MHz	2.2 at 100Hz-60MHz	N/A	2.6 at 150Hz-10MHz	N/A	N/A	1.76 at 1MHz (max.)	4.8 at 1kHz (max.)
SHRINKAGE DIA.	2:1	1.67:1	2:1	2:1	4:1	2:1	2:1	2:1	2:1
SHRINKAGE LGTH.	20%	10%	10%	+1/–10%	+20%	+25%	+25%	20%	10%
TENSILE STRENGTH	2000 psi	2000 psi	2000 psi	5500 psi (min.)	2200 psi	3000 psi	3000 psi	2000 psi	3000 psi
SPECIFIC GRAVITY	2.13 - 2.20g/cm²	2.12 - 2.17g/cm²	2.12 - 2.17g/cm²	1.7g/cm² (max.)	2.12 - 2.77g/cm²	1.32g/cm² (max.)	1.32g/cm² (max.)	1.63g/cm²	1.32g/cm²
OPERATING TEMPERATURE MIN.	–75°C	–75°C	–75°C	–55°C	–75°C	–20°C	–20°C	–20°C	–20°C
OPERATING TEMPERATURE MAX.	+250°C	+200°C	+231°C	+175°C	+250°C	+105°C	+105°C	+105°C	+105°C
SHRINK TEMP. MIN.	+327°C	+177°C	+327°C	+175°C	+327°C	+100°C	+100°C	+100°C	+100°C
ABRASION RES.	Excellent	Excellent	Excellent	Excellent	Excellent	Good	Good	Good	Good
FLEXIBILITY*	2	2	6	10	5	4	5	4	5
WATER ABSORPTION	±0.01%	±0.01%	±0.01%	<0.2%	<0.3%	<0.1%	<0.1%	<0.1%	<0.1%
FLAMMABILITY	UL94V-0	UL94V-0	UL94V-0	Self-Ext.	Self-Ext.	Self-Ext.	Self-Ext.	VW-1	VW-1
OIL RESISTANCE	Excellent	Excellent	Excellent	Excellent	Excellent	Good	Excellent	Good	Excellent
ACID/ALKALI RES.	Excellent	Excellent	Excellent	Excellent	Excellent	Good	Excellent	Good	Excellent
SOLVENT RES.	Excellent	Excellent	Excellent	Excellent	Excellent	Good	Good	Good	Good
MILITARY SPECIFICATION	MIL-I-23053/12	MIL-I-23053/11	N/A	Mil-I-23053/8 AMS-3632	MIL-I23053/12 Class 5 ASTMD2902 Type 1	N/A	N/A	MIL-I-23053/2 Class 2	MIL-I-23053/2 Class 1

* The materials are rated for flexibility on a scale from 1-10 (1 most flexible and 10 most rigid).

(6507)

(ne08576)

AT NEWARK, THERE'S ALWAYS MORE THAN MEETS THE EYE!
CONTACT US FOR PRODUCTS NOT LISTED IN THIS CATALOG.

POLYOLEFIN HEAT-SHRINK TUBING

FPS SERIES (2:1) SHRINK RATIO GENERAL-PURPOSE FLEXIBLE POLYOLEFIN HEAT-SHRINK TUBING

Resistant to fungus/chemicals. Split-resistant, mechanically-tough. Easily marked and resists cold flow. Used as electrical insulation over cable splices and termination, lightweight harness covering, wire bundling, and fire-resistant covering. Operating temperature range: –55°C to +135°C. Minimum shrink temperature: 121°C (250°F). Color: black. Also available in green and clear. Blue, red and white available in some put-up sizes 3⁄32″ through ½″; *contact your local Newark sales office for details.* Meets MIL-I-23053/5, Class 1 and AMS 3636, AMS 3637 requirements. All colors except clear are UL recognized (file E52331), CSA certified (file LR382278M). **Sold in 100′ spools and boxes of 4′ and 6″ lengths.**

Size	Recom. Useable ID Range	Recovered Nom. Wall Thickness	Stock No.	Spool of	Per Spool	4′ Lengths Stock No.	4′ Lengths Lengths Per Box	4′ Lengths Total Ft.	4′ Lengths Per Box	6″ Lengths Stock No.	6″ Lengths Lengths Per Box	6″ Lengths Total FT.	6″ Lengths Per Box
3⁄64″	0.023 to 0.046″	0.016″	84N583	100′	24.95	03F3522	25	100′	33.25	03F3712	40	20′	11.95
1⁄16″	0.031 to 0.063″	0.017″	84N584	100′	24.95	03F3524	25	100′	33.75	03F3714	36	18′	11.95
3⁄32″	0.046 to 0.093″	0.020″	84N585	100′	36.95	03F3527	25	100′	34.95	03F3717	32	16′	11.95
1⁄8″	0.062 to 0.125″	0.020″	84N586	100′	36.95	03F3530	25	100′	36.95	03F3722	28	14′	11.95
3⁄16″	0.093 to 0.187″	0.020″	84N587	100′	42.95	03F3533	25	100′	47.95	03F3727	24	12′	11.95
1⁄4″	0.125 to 0.250″	0.025″	84N588	100′	61.95	03F3537	25	100′	52.95	03F3733	20	10′	11.95
3⁄8″	0.187 to 0.375″	0.025″	84N589	100′	63.95	03F3540	25	100′	61.95	03F3739	16	8′	11.95
1⁄2″	0.250 to 0.500″	0.025″	84N590	100′	65.95	03F3543	5	20′	14.25	03F3745	14	7′	11.95
3⁄4″	0.375 to 0.750″	0.030″	84N591	100′	43.95	03F3546	5	20′	14.95	03F3750	12	6′	11.95
1″	0.500 to 1.000″	0.035″	84N592	100′	49.95	03F3549	5	20′	28.95	03F3753	8	4′	11.95
1½″	0.750 to 1.500″	0.040″	84N593	100′	90.00	03F3520	5	20′	42.95	03F3446	5	2.5′	10.91
2″	1.000 to 2.000″	0.045″	84N594	100′	79.95	03F3518	5	20′	55.95	03F3446	3	1.5′	10.91
3″	1.500 to 3.000″	0.055″	...	...	...	95F7482	2	8′	37.43	95F7571	3	1.5′	6.93
4″	2.000 to 4.000″	0.055″	...	...	...	95F7484	2	8′	48.61	95F7572	2	1.0′	9.24

(6306) (ne01958)

FPA SERIES (2:1) SHRINK RATIO GENERAL-PURPOSE FLEXIBLE POLYOLEFIN HEAT-SHRINK TUBING ASSORTMENTS

FPA series is **FPS series** heat-shrink tubing packaged in assorted 6″ lengths. Color: black. **Sold in boxes containing various lengths indicated below**

Stock No.	Type	Tubing Size	Lengths Per Box	Per Box
37N1182	FPA-003-6030-AST	3⁄64-3⁄16″	30	19.53
37N1183	FPA-016-6016-AST	1⁄4-3⁄4″	16	37.76
37N1184	FPA-064-6010-AST	1-4″	10	35.14

(6278) (de50702)

FPF SERIES (2:1) SHRINK RATIO FLAME-RETARDANT FLEXIBLE POLYOLEFIN HEAT-SHRINK TUBING

Offering same electrical, physical, and chemical qualities as the **FPS series,** the **FPF series** features superior flame resistance properties. For fire-resistant component coverings and flammable wire assemblies, as well as lightweight wire harness covering, wire marking, and wire bundling. Meets MIL-I-23053/5, Class 3 requirement. UL recognized VW-1, and CSA certified at 600V @ 125°C. Color: black. UL recognized (file E52331), CSA certified (file LR382278M). **Sold in boxes of 4′ and 6″ lengths.**

Size	I.D. Range	Recovered Wall Thickness	4′ Lengths Stock No.	4′ Lengths Lengths Per Box	4′ Lengths Total Footage	Per Box	6″ Lengths Stock No.	6″ Lengths Lengths Per Box	6″ Lengths Total Footage	Per Box
3⁄64″	.023 to .046″	0.016″	90N7263	25	100′	24.95	90N7275	40	20′	13.25
1⁄16″	.031 to .063″	0.017″	90N7264	25	100′	35.95	90N7276	36	18′	13.25
3⁄32″	.046 to .093″	0.020″	90N7265	25	100′	36.95	90N7277	32	16′	13.25
1⁄8″	.062 to .125″	0.020″	90N7266	25	100′	37.95	90N7278	28	14′	13.25
3⁄16″	.093 to .187″	0.020″	90N7267	25	100′	49.95	90N7279	24	12′	13.25
1⁄4″	.125 to .250″	0.025″	90N7268	25	100′	52.95	90N7280	20	10′	13.25
3⁄8″	.187 to .375″	0.025″	90N7269	25	100′	62.95	90N7281	16	8′	13.25
1⁄2″	.250 to .500″	0.025″	90N7270	5	20′	14.95	90N7282	14	7′	13.25
3⁄4″	.375 to .750″	0.030″	90N7271	5	20′	15.95	90N7283	12	6′	13.25
1″	.500 to 1.00″	0.035″	90N7272	5	20′	28.95	90N7284	8	4′	13.25
1½″	.750 to 1.50″	0.040″	90N7273	5	20′	43.95	90N7285	5	2.5′	13.25
2″	1.00 to 2.00″	0.045″	90N7274	5	20′	57.95	90N7286	3	1.5′	13.25
3″	1.50 to 3.00″	0.050″	95F7585	2	8′	38.76	95F7599	3	1.5′	9.24

(6356) (ne50703)

FPFA SERIES (2:1) SHRINK RATIO FLAME-RETARDANT FLEXIBLE POLYOLEFIN HEAT-SHRINK TUBING ASSORTMENTS

FPFA series is **FPF series** heat-shrink tubing packaged in assorted 6″ lengths. **Sold in boxes containing various lengths indicated below.**

Stock No.	Type	Tubing Size	Lengths Per Box	Per Box
90N7287	FPFA-003-6030 AST	3⁄64-3⁄16″	30	12.63
90N7288	FPFA-016-6016 AST	1⁄4-3⁄4″	16	9.88
90N7289	FPFA-064-6010 AST	1-4″	10	26.35

(6279) (de50704)

LTP SERIES (2:1) SHRINK RATIO LOW-TEMPERATURE VERY FLEXIBLE POLYOLEFIN HEAT-SHRINK TUBING

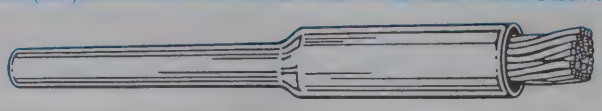
Features extra flexibility and a lower minimum shrink temperature (100°C vs. 121°C) to minimize heat exposure and possible damage to sensitive substrate materials or components. Same electrical, physical, and chemical qualities as the **FPS series.** Meets MIL-R-46846, Type V and AMS 3587, AMS 3588 requirements. Color: black. UL recognized (file E52331), CSA certified (file LR382278M). **Sold in boxes of 4′ and 6″ lengths.**

Size	I.D. Range	Recovered Wall Thickness	4′ Lengths Stock No.	4′ Lengths Type	4′ Lengths Lengths Per Box	4′ Lengths Total Footage	Per Box	6″ Lengths Stock No.	6″ Lengths Type	6″ Lengths Lengths Per Box	6″ Lengths Total Footage	Per Box
3⁄64″	.023 to .046″	0.016″	50N235	LTP-003-4025-BLK	25	100′	46.94	50N247	LTP-003-6040-BLK	40	20′	13.05
1⁄16″	.031 to .063″	0.017″	50N236	LTP-004-4025-BLK	25	100′	50.16	50N248	LTP-004-6036-BLK	36	18′	10.72
3⁄32″	.046 to .093″	0.020″	50N237	LTP-006-4025-BLK	25	100′	53.01	50N249	LTP-006-6032-BLK	32	16′	11.37
1⁄8″	.062 to .125″	0.020″	50N238	LTP-008-4025-BLK	25	100′	53.30	50N250	LTP-008-6028-BLK	28	14′	10.02
3⁄16″	.093 to .187″	0.023″	50N239	LTP-012-4025-BLK	25	100′	63.49	50N251	LTP-012-6024-BLK	24	12′	9.88
1⁄4″	.125 to .250″	0.028″	50N240	LTP-016-4025-BLK	25	100′	72.44	50N252	LTP-016-6020-BLK	20	10′	9.69
3⁄8″	.187 to .375″	0.028″	50N241	LTP-024-4025-BLK	25	100′	80.76	50N253	LTP-024-6016-BLK	16	8′	8.57
1⁄2″	.250 to .500″	0.028″	50N242	LTP-032-4005-BLK	5	20′	20.03	50N254	LTP-032-6014-BLK	14	7′	9.41
3⁄4″	.375 to .750″	0.033″	50N243	LTP-048-4005-BLK	5	20′	25.25	50N255	LTP-048-6012-BLK	12	6′	9.32
1″	.500 to 1.00″	0.035″	50N244	LTP-064-4005-BLK	5	20′	37.39	50N256	LTP-064-6008-BLK	8	4′	9.60
1½″	.750 to 1.50″	0.040″	50N245	LTP-096-4005-BLK	5	20′	65.18	...	...	...	...	...
2″	1.00 to 2.00″	0.045″	50N246	LTP-128-4005-BLK	5	20′	87.03	...	...	...	...	...

(6357) (ne50705)

POLYOLEFIN HEAT-SHRINK TUBING

PHD SERIES (2:1) SHRINK RATIO ADHESIVE-LINED POLYOLEFIN HEAT-SHRINK TUBING



Made of flame-retardant polyolefin, **PHD series** is thin-walled with 2:1 shrink ratio. Features one-step, environmental protection for electronic, electrical, automotive, and marine wire splices, harness breakouts and strain reliefs. As tubing shrinks to skin-tight fit, melted adhesive covers substrate and solidifies to form permanent waterproof barrier. Has –55°C to +110°C operating range, 121°C (250°F) minimum shrink temperature, and –1 to +5% longitudinal change. Meets MIL-I-23053/4, Class 2 requirement. Color: black. **Sold in boxes of 4′ and 6″ lengths.**

Size	Inside Diameter		Recovered Nom. Wall Thickness		4′ Lengths					6″ Lengths				
	Minimum Supplied	Maximum Recovered	Total Wall	Meltable Wall	Stock No.	Type	Lengths Per Box	Total Ft.	Per Box	Stock No.	Type	Lengths Per Box	Total Ft.	Per Box
1/8″	0.125″	0.063″	0.027″	0.004″	**95F7653**	EPS200 1/8BLK 4FT	25	100′	**73.59**	**50N663**	PHD-008-6028-BLK	28	14′	**8.99**
3/16″	0.187″	0.093″	0.040″	0.020″	**90N6884**	PHD-012-4025-BLK	25	100′	**133.19**	**90N6891**	PHD-012-6024-BLK	24	12′	**19.52**
1/4″	0.250″	0.125″	0.040″	0.020″	**90N6885**	PHD-016-4025-BLK	25	100′	**166.64**	**90N6892**	PHD-016-6020-BLK	20	10′	**19.84**
3/8″	0.375″	0.187″	0.055″	0.025″	**90N6886**	PHD-024-4025-BLK	25	100′	**178.85**	**90N6893**	PHD-024-6016-BLK	16	8′	**17.66**
1/2″	0.500″	0.250″	0.070″	0.030″	**90N6887**	PHD-032-4005-BLK	5	20′	**43.29**	**90N6894**	PHD-032-6014-BLK	14	7′	**17.24**
3/4″	0.750″	0.375″	0.085″	0.035″	**90N6888**	PHD-048-4005-BLK	5	20′	**54.91**	**90N6895**	PHD-048-6012-BLK	12	6′	**17.24**
1″	1.000″	0.500″	0.100″	0.040″	**90N6889**	PHD-064-4005-BLK	5	20′	**80.67**	**90N6896**	PHD-064-6008-BLK	8	4′	**18.96**
1 1/2″	1.500″	0.750″	0.100″	0.040″	**90N6890**	PHD-096-4005-BLK	5	20′	**137.74**	**90N6897**	PHD-096-6005-BLK	5	2.5′	**20.78**
2″	2.000″	1.000″	0.060″	0.015″	**50N664**	PHD-128-4002-BLK	2	8′	**45.99**	**50N665**	PHD-128-6002-BLK	2	1′	**7.50**

(6353) (ne50540)

SRS SERIES (2:1) SHRINK RATIO SEMI-RIGID POLYOLEFIN HEAT-SHRINK TUBING

Offering excellent electrical-insulation and resistance properties to fungus/chemicals, the **SRS series** features superior cut-through and abrasion resistance characteristics to enable optimum mechanical performance. Ideal for strain-relief application, wire marking, protective covering, packaging delicate components, and insulating mechanically weak or such susceptible points as solder joints, wire splices, and terminations. 2:1 uniform shrink ratio, ±5% longitudinal change, –55°C to +135°C operating range, and 135°C (275°F) min. shrink temperature. Cold-flow and split resistant, and marked easily. Meets MIL-I-23053/6, AMS 3638, and AMS 3639 requirements, and is UL recognized (file E52331) at 600V @ 125°C. Color: black. **Sold in boxes of 4′ and 6″ lengths.**

Size	Recom. Usable ID Range	Recovered Nom. Wall Thick.	4′ Lengths					6″ Lengths				
			Stock No.	Type	Lengths Per Box	Total Footage	Per Box	Stock No.	Type	Lengths Per Box	Total Footage	Per Box
3/64″	0.025 to 0.042″	0.016″	...	...	...	...	...	**37N260**	SRS-003-6040-BLK	40	20′	**17.89**
1/16″	0.034 to 0.056″	0.017″	**37N281**	SRS-004-4025-BLK	25	100′	**62.59**	**37N261**	SRS-004-6036-BLK	36	18′	**17.89**
3/32″	0.051 to 0.083″	0.020″	**37N282**	SRS-006-4025-BLK	25	100′	**71.38**	**37N262**	SRS-006-6032-BLK	32	16′	**17.89**
1/8″	0.068 to 0.112″	0.020″	**37N283**	SRS-008-4025-BLK	25	100′	**76.42**	**37N263**	SRS-008-6028-BLK	28	14′	**17.89**
3/16″	0.102 to 0.168″	0.020″	...	...	...	...	...	**37N264**	SRS-012-6024-BLK	24	12′	**17.89**
1/4″	0.138 to 0.225″	0.025″	**37N285**	SRS-016-4025-BLK	25	100′	**109.71**	**37N265**	SRS-016-6020-BLK	20	10′	**17.89**
3/8″	0.206 to 0.338″	0.025″	**37N286**	SRS-024-4025-BLK	25	100′	**121.94**	**37N266**	SRS-024-6016-BLK	16	8′	**17.89**

(6276) (de50538)

SRM SERIES (2.5:1) SHRINK RATIO SEMI-RIGID MULTIPLE WALL POLYOLEFIN HEAT-SHRINK TUBING

Co-extruded and selectively cross-linked to provide meltable inner wall enabling contact between underlying surfaces. For installations that may require rework, retrofit or repair in the field. **SRM series** offers the advantage of easy removability. Ideal for one-strip approach to jacketing, encapsulating, and environmental sealing of splices, terminations, and components. Capable of 2.5:1 shrink ratio, +1 to –10% longitudinal change, –55°C to +110°C operating temperature, and has +135°C (275°F) minimum shrink temperature. Meets MIL-I-23053/4, Class 1 and AMS 3634 requirements. **Sold in boxes of 4′ and 6″ lengths.**

Size	Minimum Expanded Inside Dia.	Maximum Recover Inside Dia.	Rec. Nom. Wall Thick	Meltable Nom. Wall	4′ Lengths					6″ Lengths				
					Stock No.	Type	Lengths Per Box	Total Footage	Per Box	Stock No.	Type	Lengths Per Box	Total Footage	Per Box
1/8″	0.125″	0.023″	0.038″	0.020″	**37N332**	SRM-008-4025-BLK	25	100	**142.63**	**37N1818**	SRM-008-6014-BLK	14	7	**17.20**
3/16″	0.187″	0.060″	0.043″	0.025″	**37N333**	SRM-012-4025-BLK	25	100	**174.09**	**37N1819**	SRM-012-6012-BLK	12	6	**17.20**
1/4″	0.250″	0.080″	0.047″	0.027″	**37N334**	SRM-016-4025-BLK	25	100	**216.73**	**37N1820**	SRM-016-6010-BLK	10	5	**17.20**
3/8″	0.375″	0.135″	0.050″	0.030″	**37N336**	SRM-024-4025-BLK	25	100	**241.37**	**37N1822**	SRM-024-6008-BLK	8	4	**17.20**
1/2″	0.500″	0.195″	0.055″	0.035″	**37N337**	SRM-032-4005-BLK	5	20	**60.61**	**37N1823**	SRM-032-6006-BLK	6	3	**17.20**
3/4″	0.750″	0.313″	0.065″	0.040″	**37N338**	SRM-048-4005-BLK	5	20	**93.33**	...	...	...	...	...
1″	1.00″	0.400″	0.075″	0.040″	**37N339**	SRM-064-4005-BLK	5	20	**116.26**	**37N1825**	SRM-064-6002-BLK	2	1	**13.09**

(6352) (ne50539)

SRMI SERIES (2.5:1) SHRINK RATIO COLOR-CODED SEMI-RIGID MULTIPLE WALL POLYOLEFIN HEAT-SHRINK TUBING

Co-extruded and selectively cross-linked to provide meltable inner wall enabling contact between underlying surfaces. For installations that may require rework, retrofit or repair in the field. **SRM series** offers the advantage of easy removability. Ideal for one-strip approach to jacketing, encapsulating, and environmental sealing of splices, terminations, and components. Capable of 2.5:1 shrink ratio, +1 to –10% longitudinal change, –55°C to +110°C operating temperature, and has +135°C (275°F) min. shrink temperature. Meets MIL-I-23053/4, Class 1 and AMS 3634 requirements. UL recognized file number E165738. **Sold in boxes of 4′ and 6″ lengths.**

Size	Minimum Expanded Inside Dia.	Maximum Recovered Inside Dia.	Rec. Nom. Wall Thick	Meltable Nom. Wall	Color	4′ Lengths					6″ Lengths				
						Stock No.	Type	Lengths Per Box	Total Ft.	Per Box	Stock No.	Type	Lengths Per Box	Total Ft.	Per Box
1/8″	0.125″	0.023″	0.038″	0.020″	Brown	**66N9270**	SRM-008-4025-BRN	25	100′	**53.69**	**84N595**	SRM-008-6014-BRN	14	7′	**17.20**
3/16″	0.187″	0.060″	0.043″	0.025″	Gray	**66N9271**	SRM-012-4025-GRY	25	100′	**57.02**	**84N596**	SRM-012-6012-GRY	12	6′	**17.20**
1/4″	0.250″	0.080″	0.047″	0.027″	White	**66N9272**	SRM-016-4025-WH	25	100′	**207.44**	**84N597**	SRM-016-6010-WHT	10	5′	**17.20**
3/8″	0.375″	0.135″	0.050″	0.030″	Red	**66N9273**	SRM-024-4025-RED	25	100′	**231.05**	**84N598**	SRM-024-6008-RED	8	4′	**17.20**
1/2″	0.500″	0.195″	0.055″	0.035″	Blue	**66N9274**	SRM-032-4005-BLU	5	20′	**50.78**	**84N599**	SRM-032-6006-BLU	6	3′	**17.20**
3/4″	0.750″	0.313″	0.065″	0.040″	Yellow	**66N9275**	SRM-048-4005-YEL	5	20′	**87.88**	**84N600**	SRM-048-6002-YLW	2	1′	**14.95**

(6327) (ne08035)

AT NEWARK, YOUR ORDER IS OUR FIRST PRIORITY.

HIGH RATIO, NEOPRENE AND KYNAR® TUBING

FPHS SERIES (3:1) SHRINK RATIO VERY FLEXIBLE POLYOLEFIN HEAT-SHRINK TUBING

FPHS series heat-shrink tubing is made of very flexible, thin wall polyolefin, which is mechanically tough and chemical resistant. It is also easily surface printed. Ideal for insulation of flexible wire bundles and for end-terminations where the tubing must slide over a connector. Offers a low shrink temperature of 100°C which can prevent damage to temperature-sensitive substrates. Meets MIL-I-23053/5 Class 1 requirements. UL recognized (file E52331). Color: black. **Sold in boxes of 4′ and 6″ lengths.**

Size	Minimum Expanded Inside Dia.	Maximum Recovered Inside Dia.	Recovered Nom. Wall Thickness	4′ Lengths					6″ Lengths				
				Stock No.	Type	Lengths Per Box	Total Footage	Per Box	Stock No.	Type	Lengths Per Box	Total Footage	Per Box
1/8″	0.118″	0.039″	0.022″	66N9263	FPHS-008-4025-BLK	25	100′	54.73	84N602	FPHS-008-6024	24	12′	14.45
1/4″	0.236″	0.079″	0.026″	66N9264	FPHS-016-4025-BLK	25	100′	81.06	84N603	FPHS-016-6020	20	10′	14.45
3/8″	0.354″	0.118″	0.030″	66N9265	FPHS-024-4025-BLK	25	100′	90.58	84N604	FPHS-024-6016	16	8′	14.45
1/2″	0.472″	0.157″	0.030″	66N9266	FPHS-032-4005-BLK	5	20′	21.48	84N605	FPHS-032-6014	14	7′	14.45
3/4″	0.709″	0.236″	0.030″	66N9267	FPHS-048-4005-BLK	5	20′	109.92	84N606	FPHS-048-6012	12	6′	14.45
1″	0.945″	0.315″	0.039″	66N9268	FPHS-064-4005-BLK	5	20′	41.78	84N607	FPHS-064-6008	8	4′	14.45
1 1/2″	1.535″	0.512″	0.045″	66N9269	FPHS-096-4005-BLK	5	20′	248.89	84N608	FPHS-096-6005	5	2.5′	14.45

(6319) (ne06179)

TYPE PHS POLYOLEFIN (3:1) HIGH SHRINK RATIO ADHESIVE-LINED HEAT-SHRINK TUBING

Type PHS is a thin wall tubing offering the advantages of integral, multiple-wall construction. Flame-retardant, flexible polyolefin, lined with an internal layer of thermoplastic adhesive. Heat-shrinkable outer wall is radiation cross-linked, while the adhesive maintains high flow and excellent adhesion. Protects electronic components, wire splices, wire bundles, and harness breakouts. Rapidly shrinks to a skin-tight fit, forcing the melted adhesive to flow and cover the substrate. Upon cooling the adhesive solidifies, forming a permanent, non-drying, flexible and waterproof barrier. Minimum shrink temperature is 121°C (250°F). Specifications: Physical: Tensile strength of 2100 PSI, ultimate elongation of 5%, longitudinal change of –5%, secant modulus of 14,000 PSI. Electrical: dielectric strength of 500 V/mil, volume resistivity of 10^{12} ohm-cm. Chemical: corrosion-resistant, non-nutrient fungus-resistant, 0.3% water absorption. Excellent fluid resistance properties. Operating temperature range: –55° to +110°C with max. temp. (short period) of 250°C. Meets requirements of MIL-I-23053/4, Class 3 specifications. Color: black. UL recognized (file E165738). **Sold in boxes of 4′ and 6″ lengths.**

Size	Inside Diameter		Recovered Nom. Wall Thickness		4′ Lengths				6″ Lengths			
	Minimum Supplied	Maximum Recovered	Total Wall	Meltable Wall	Stock No.	Lengths Per Box	Total Footage	Per Box	Stock No.	Lengths Per Box	Total Footage	Per Box
1/8″	0.125″	0.040″	0.040″	0.020″	66N9253	25	100′	183.78	66N9252	28	14′	23.58
3/16″	0.187″	0.062″	0.040″	0.020″	87N1370	25	100′	183.78	87N1377	24	12′	23.58
1/4″	0.250″	0.080″	0.040″	0.020″	87N1371	25	100′	266.97	87N1378	20	10′	24.55
3/8″	0.375″	0.120″	0.055″	0.025″	87N1372	25	100′	258.14	87N1379	16	8′	22.75
1/2″	0.500″	0.160″	0.070″	0.030″	87N1373	5	20′	75.98	87N1380	14	7′	22.48
3/4″	0.750″	0.250″	0.085″	0.035″	87N1374	5	20′	83.84	87N1381	12	6′	26.44
1″	1.000″	0.320″	0.100″	0.040″	87N1375	5	20′	145.94	87N1382	8	4′	26.31
1 1/2″	1.500″	0.510″	0.100″	0.040″	87N1376	5	20′	238.00	87N1383	5	2.5′	32.51

(6354) (ne50541)

TYPE SHS SEMI-RIGID (4:1) HIGH SHRINK RATIO ADHESIVE-LINED HEAT-SHRINK TUBING

Type SHS is a medium-wall, semi-rigid, flame-retardant, flexible polyolefin tubing with an internal layer of thermoplastic adhesive. The adhesive has high flow and adhesion characteristics, forming a permanent, non-drying, flexible and waterproof barrier. Minimum shrink temperature: 121°C. Operating temperature range: –55°C (–67°F) to 110°C (230°F). Color: black. UL recognized (file E165738). **Sold in boxes of 4′ and 6″ lengths.**

Size	Expanded Inside Dia. (Min.)	Recovered Inside Dia. (Max.)	Recovered Melt Wall (Nom.)	Recovered Nom. Wall Thickness	4′ Lengths					6″ Lengths				
					Stock No.	Type	Lengths Per Box	Total Ft.	Per Box	Stock No.	Type	Lengths Per Box	Total Ft.	Per Box
0.300″	0.300″	0.060″	0.033″	0.028″	66N9258	SHS-300-4012-BLK	12	48′	237.03	66N9254	SHS-300-6022-BLK	22	11′	33.74
0.350″	0.350″	0.080″	0.038″	0.033″	66N9259	SHS-350-4012-BLK	12	48′	251.64	66N9255	SHS-350-6020-BLK	20	10′	37.13
0.450″	0.400″	0.105″	0.043″	0.053″	66N9260	SHS-450-4012-BLK	12	48′	294.02	66N9256	SHS-450-6016-BLK	16	8′	40.47
0.700″	0.700″	0.175″	0.060″	0.055″	66N9261	SHS-700-4005-BLK	5	20′	176.86	66N9257	SHS-700-6012-BLK	12	6′	43.86

(6320) (ne06184)

KYS SERIES (2:1) SHRINK RATIO KYNAR® THIN-WALL HEAT-SHRINK TUBING

KYS series heat-shrink tubing made from semi-rigid, flame-retardent polyvinylidene fluoride. Meets MIL-I-23053/8, AMS3632 requirements. Thin wall and continuous operating temperature of +175°C. Operating temperature range: –55°C to +175°C. Minimum shrink temperature: 175°C (347°F). For VWH dielectric strength 900 V/mil. Color: clear. UL recognized (file E52331). **Sold in boxes of 4′ and 6″ lengths.**

Size	Recommended Useable ID Range	Recovered Nom. Wall Thickness	4′ Lengths					6″ Lengths				
			Stock No.	Type	Lengths Per Box	Total Footage	Per Box	Stock No.	Type	Lengths Per Box	Total Footage	Per Box
3/64″	0.023-0.046″	0.010″ (0.254)	37N1555	KYS-003-4025-CLR	25	100	105.37	...	...	...	...	...
1/16″	0.031-0.063″	0.010″ (0.254)	37N1556	KYS-004-4025-CLR	25	100	114.68	37N166	KYS-004-6028-CLR	28	14	20.21
3/32″	0.046-0.093″	0.010″ (0.254)	37N1557	KYS-006-4025-CLR	25	100	134.55	37N167	KYS-006-6024-CLR	24	12	20.21
1/8″	0.062-0.125″	0.010″ (0.254)	37N1558	KYS-008-4025-CLR	25	100	146.77	37N168	KYS-008-6020-CLR	20	10	20.21
3/16″	0.093-0.187″	0.010″ (0.254)	37N1559	KYS-012-4025-CLR	25	100	228.33	37N169	KYS-012-6016-CLR	16	8	20.21
1/4″	0.125-0.250″	0.012″ (0.305)	37N1560	KYS-016-4025-CLR	25	100	281.57	37N170	KYS-016-6012-CLR	12	6	20.21
3/8″	0.187-0.375″	0.012″ (0.305)	37N1561	KYS-024-4025-CLR	25	100	370.22	37N171	KYS-024-6008-CLR	8	4	20.21
1/2″	0.250-0.500″	0.012″ (0.305)	37N1562	KYS-032-4005-CLR	5	20	112.41	37N172	KYS-032-6004-CLR	4	2	20.21
3/4″	0.375-0.750″	0.017″ (0.431)	37N1563	KYS-048-4005-CLR	5	20	206.59	37N173	KYS-048-6002-CLR	2	1	20.21

(6303) (ne01608)

NPS SERIES (2:1) SHRINK RATIO NEOPRENE THICK-WALL HEAT-SHRINK TUBING

Type NPS tubing provides superior cut-through and abrasion resistance. Excellent resistance to oils. Maintains flexibility at low temperature. Rated for continuous operation from –70°C (–94°)F to 121°C(250°F). Recommended for applications requiring a tough, highly flexible covering to operate in severe environmental conditions. Oil resistance properties make tubing ideal for auto, helicopter and construction equipment industries. It is particularly useful for fabrication and repair of flexible harnesses and wire bundles and for covering hydraulic couplings. Meets MIL-R-46846, Type I, Class 1; MIL-I-23053/1, Class 1, 2; AMS-3623. Color: black. **Sold in spools sizes indicated below.**

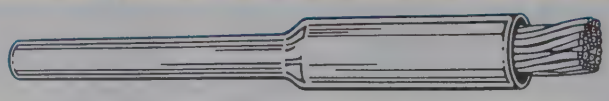
Size	Recommended Usable ID Range	Recovered Nominal Wall Thickness	Standard Spool Size	Standard Spool			25′ Spool		
				Stock No.	Type	1-3	Stock No.	Type	1-9
0.250″	0.125-0.250″	0.035″	200′	03F3552	NPS-016-1200-BLK	195.24	03F3554	NPS-016-1025-BLK	63.51
0.375″	0.187-0.375″	0.040″	100′	03F3569	NPS-024-1100-BLK	234.12	03F3571	NPS-024-1025-BLK	77.50
0.500″	0.250-0.500″	0.048″	100′	03F3555	NPS-032-1100-BLK	254.39	03F3557	NPS-032-1025-BLK	85.04
0.625″	0.312-0.625″	0.052″	100′	03F3558	NPS-040-1100-BLK	266.93	03F3560	NPS-040-1025-BLK	90.42
1.00″	0.500-1.000″	0.070″	100′	03F3562	NPS-064-1100-BLK	436.56	03F3564	NPS-064-1025-BLK	143.87
1.250″	0.625-1.250″	0.087″	50′	03F3565	NPS-080-1050-BLK	302.84	03F3567	NPS-080-1025-BLK	185.27
1.500″	0.750-1.500″	0.095″	50′	03F3572	NPS-096-1050-BLK	367.56	03F3574	NPS-096-1025-BLK	226.67

(6304) (ne01609)

PVC HEAT-SHRINK TUBING

VOLTREX™ BRAND PVS SERIES (2:1) SHRINK RATIO NON-IRRADIATED PVC HEAT-SHRINK TUBING

VOLTREX™ brand MADE IN USA



PVS series is ideal for production insulation and jacketing of cable, bars, wire splices, and terminals. Resists most chemicals and oils as well as sunlight, fungus, and moisture. Operating temperature range: –20°C to +105°C. Minimum shrink temperature: 100°C (212°F). Maximum (short period) temperature: 118°C (244°F). When heated to temperatures exceeding 200°F, tubing shrinks to half its supplied diameter and less than 20% in length. All sizes through ½″ diameter are air spooled. Meets MIL-I-23053/2, ASTM D 922, MIL-I-631D, and AMS 3579 requirements. Marked in accordance with UL requirements. Color: black. UL recognized E52331. Made in the U.S.A. **Sold in spool sizes indicated.**

Size	Recommended Usable I.D. Range	Recovered Nom. Wall Thickness	Stock No.	Spool Size	Per Spool	Stock No.	Spool Size	Per Spool	Stock No.	Spool Size	Per Spool	Stock No.	Spool Size	Per Spool
3/64″	0.028 to 0.038″	0.020″	03F3452	1000′	364.02	03F3451	500′	195.00	03F3448	100′	44.28	03F3450	25′	12.78
1/16″	0.038 to 0.053″	0.020″	03F3456	1000′	390.67	...	...	...	03F3453	100′	47.67	03F3455	25′	13.71
3/32″	0.053 to 0.075″	0.020″	03F3461	1000′	432.10	03F3460	200′	102.33	03F3457	100′	53.77	03F3459	25′	15.57
1/8″	0.075 to 0.106″	0.020″	03F3466	1000′	457.55	03F3465	200′	104.31	03F3462	100′	55.34	03F3464	25′	16.26
3/16″	0.106 to 0.150″	0.020″	03F3472	1000′	557.36	03F3471	200′	124.20	03F3467	100′	67.42	03F3469	25′	19.97
1/4″	0.150 to 0.215″	0.025″	03F3477	1000′	704.44	03F3476	200′	157.12	03F3473	100′	85.20	03F3475	25′	25.09
3/8″	0.215 to 0.300″	0.025″	...	...	...	03F3481	200′	174.92	03F3478	100′	94.64	03F3480	25′	27.87
1/2″	0.300 to 0.425″	0.025″	...	...	...	...	...	...	03F3482	100′	106.72	03F3485	25′	30.50
3/4″	0.425 to 0.600″	0.030″	...	...	...	...	...	...	03F3487	100′	134.76	03F3489	25′	41.12
1″	0.600 to 0.800″	0.035″	...	...	...	...	...	...	03F3490	100′	188.79	03F3492	25′	55.78

(6355) (ne50562)

VOLTREX™ BRAND PVHR SERIES (2:1) SHRINK RATIO NON-IRRADIATED PVC HEAT-SHRINK TUBING

Offers excellent abrasion resistance and withstands most chemicals and oils as well as sunlight, moisture and fungus. Forms a smooth, tight fitting insulation for most applications with a high degree of flexibility. Shrinks quickly at temperatures below 200°F to provide dielectric and mechanical protection without damage to enclosed or adjacent components. MIL-I-23053/2 Class 1 and 2; L subject 224 VW-1, 105°C. Longitude shrinkage: approximately 5% allows ripple-free conformance around sharp bends as in appliance handles and bus bars. Operating temperature range: –20°C to +105°C. Minimum shrink temperature: 100°C (212°F). Maximum (short period) temperature: 118°C (275°F). Color: black. UL recognized E52331, CSA certified LR41513M5 M. Made in the U.S.A. **Sold in spool sizes indicated below.**

Size	Recommended Usable ID Range	Recovered Nom. Wall Thickness	Stock No.	Spool Size	Per Spool	Stock No.	Spool Size	Per Spool	Stock No.	Spool Size	Per Spool
3/64″	0.023 to 0.046″	0.020″	04F6450	1000′	310.81	04F6447	100′	44.28	04F6449	25′	12.78
1/16″	0.032 to 0.063″	0.020″	04F6454	1000′	314.85	04F6451	100′	47.67	04F6453	25′	13.71
3/32″	0.046 to 0.093″	0.025″	04F6458	1000′	115.98	04F6455	100′	53.77	04F6457	25′	15.57
1/8″	0.063 to 0.125″	0.025″	04F6462	1000′	359.25	04F6459	100′	55.34	04F6461	25′	16.26
3/16″	0.093 to 0.187″	0.025″	04F6466	1000′	435.95	04F6463	100′	67.42	04F6465	25′	19.97
1/4″	0.125 to 0.250″	0.025″	04F6470	1000′	544.93	04F6467	100′	85.20	04F6469	25′	25.09
3/8″	0.187 to 0.375″	0.028″	04F6474	500′	424.92	04F6471	100′	94.64	04F6473	25′	27.87
1/2″	0.250 to 0.500″	0.028″	04F6478	250′	251.51	04F6475	100′	106.72	04F6477	25′	30.50
3/4″	0.375 to 0.750″	0.033″	04F6482	250′	330.16	04F6479	100′	134.76	04F6481	25′	41.12
1″	0.500 to 1.000″	0.038″	04F6486	250′	462.52	04F6483	100′	188.79	04F6485	25′	57.39
1 1/2″	0.750 to 1.500″	0.043″	...	...	...	...	...	...	04F6488	25′	104.96

(6277) (de50563)

VOLTREX™ BRAND (2:1) SHRINK RATIO ADHESIVE-LINED NON-IRRADIATED PVC HEAT-SHRINK TUBING

Low-shrink temperature PVC tubing with inner adhesive liner that when heated melts, creating a moisture-resistant protective barrier that is ideal for splicing or strain relief applications. Tubing bonds with most substrate including PVC jacketed wire and cable which will not deteriorate over time. Ideal for production insulation, jacketed cable, bars, and terminals. Resists most chemicals and oils, as well as sunlight, fungus, and moisture. Recovered melt wall: 0.005″ nominal. Operating temperature range: –20°C to +105°C. Minimum operating shrink temperature: +100°C. Color: black. Made in the U.S.A. **Sold in spools of 25′ and 100′.**

Size	Recommended Usable ID Range	Recovered Nom. Wall Thickness	Stock No.	Type	Spool Size	Per Spool	Stock No.	Type	Spool Size	Per Spool
3/16″	0.187 to 0.093″	0.035″	16N3275	8475-0875	100′	94.86	84N571	3544	25′	26.39
1/4″	0.250 to 0.125″	0.035″	16N3276	8475-0876	100′	116.34	84N572	3545	25′	29.49
3/8″	0.375 to 0.187″	0.035″	16N3277	8475-0877	100′	129.78	84N573	3546	25′	33.63
1/2″	0.500 to 0.250″	0.035″	16N3278	8475-0878	100′	145.44	84N574	3547	25′	37.77
3/4″	0.750 to 0.375″	0.040″	16N3279	8475-0879	100′	189.64	84N575	3548	25′	43.98
1″	1.000 to 0.500″	0.045″	16N3280	8475-0880	100′	276.42	84N576	3549	25′	61.58

(6332) (ne08369)

VOLTREX™ BRAND (2:1) SHRINK RATIO ADHESIVE-LINED IRRADIATED PVC HEAT-SHRINK TUBING

UV resistant, irradiated PVC tubing with inner adhesive liner developed specifically to bond with most substrates, including PVC jacketed cable, to provide an impermeable seal. When heated, an adhesive lining melts, creating a moisture-resistant protective barrier that is ideal for splicing or strain relief applications. Performance comparable to polyolefin tubing in flammability, dielectric strength, oil resistance, tensile strength, and ultra-violet weatherability. Recovered melt wall: 0.005″ nominal. Operating temperature range: –20°C to +105°C. Minimum recommended shrink temperature: +105°C. Color: black. Made in the U.S.A. **Sold in spools of 25′ and 100′.**

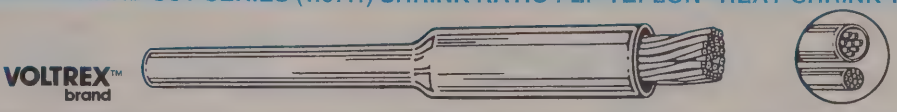
Size	Recommended Usable ID Range	Recovered Nom. Wall Thickness	Stock No.	Type	Spool Size	Per Spool	Stock No.	Type	Spool Size	Per Spool
3/16″	0.187 to 0.093″	0.035″	16N3281	8475-0881	100′	100.51	84N577	3550	25′	27.42
1/4″	0.250 to 0.125″	0.035″	16N3282	8475-0882	100′	123.20	84N578	3551	25′	30.53
3/8″	0.375 to 0.187″	0.035″	16N3283	8475-0883	100′	137.45	84N579	3552	25′	34.67
1/2″	0.500 to 0.250″	0.035″	16N3284	8475-0884	100′	153.92	84N580	3553	25′	38.81
3/4″	0.750 to 0.375″	0.040″	16N3285	8475-0885	100′	201.34	84N581	3554	25′	46.05
1″	1.000 to 0.500″	0.045″	16N3286	8475-0886	100′	293.78	84N582	3555	25′	65.72

(6333) (ne08370)

NEWARK STOCKS MORE PRODUCTS THAN ANY OTHER ELECTRONICS DISTRIBUTOR!

TEFLON® HEAT-SHRINK TUBING

VOLTREX™ BRAND SST SERIES (1.67:1) SHRINK RATIO FEP TEFLON® HEAT-SHRINK TUBING



Chemical and thermal characteristics of FEP (fluorinated ethylene propylene) Teflon®, an outstanding electrical insulator that offers resistance to many chemicals except molten alkali metals and fluorine. Has the ability to partially shrink at 150°F with complete recovery at 350°F. Use on soldering joints, parts, components, fittings of plastic, metal, and wood. Meets MIL-I-23053/11 specifications. Operating temperature range: –75°C to +200°C. Color: clear. **Sold in boxes of 2′ and 6″ lengths.**

Size	Recommended Useable ID Range	Recovered Nom. Wall Thickness	2′ Lengths					6″ Lengths				
			Stock No.	Type	Lengths Per Box	Total Footage	Per Box	Stock No.	Type	Lengths Per Box	Total Footage	Per Box
3/32″	0.056-0.093″	0.008″	**37N295**	SST-006-2050-CLR	50	100	**248.79**	**92N5995**	SST-006-6025-CLR	25	12.5	**43.95**
1/8″	0.075-0.125″	0.010″	**37N296**	SST-008-2050-CLR	50	100	**205.99**	**92N5996**	SST-008-6025-CLR	25	12.5	**43.95**
3/16″	0.115-0.188″	0.010″	**37N297**	SST-012-2025-CLR	25	50	**136.32**	**92N5997**	SST-012-6025-CLR	25	12.5	**44.95**
1/4″	0.150-0.250″	0.010″	**37N298**	SST-016-2025-CLR	25	50	**148.80**	**92N5998**	SST-016-6025-CLR	25	12.5	**46.95**
3/8″	0.225-0.375″	0.012″	**37N299**	SST-024-2010-CLR	10	20	**80.04**	**92N5999**	SST-024-6010-CLR	10	5.0	**25.95**
1/2″	0.300-0.500″	0.015″	**37N300**	SST-032-2010-CLR	10	20	**112.80**	**92N6000**	SST-032-6010-CLR	10	5.0	**32.95**
3/4″	0.450-0.750″	0.020″	**37N301**	SST-048-2005-CLR	5	10	**100.80**	**92N6001**	SST-048-6010-CLR	10	5.0	**49.95**
1″	0.600-1.000″	0.025″	**37N302**	SST-064-2005-CLR	5	10	**170.00**	**92N6002**	SST-064-6010-CLR	10	5.0	**69.95**
1 1/2″	0.900-1.500″	0.030″	**37N303**	SST-096-2001-CLR	1	2	**47.07**	**92N6003**	SST-096-6005-CLR	5	2.5	**58.95**
2″	1.200-2.000″	0.030″	**37N304**	SST-128-2001-CLR	1	2	**50.68**	**92N6004**	SST-128-6005-CLR	5	2.5	**65.95**

(6300) (ne01605)

VOLTREX™ BRAND TTS SERIES (2:1) SHRINK RATIO THIN WALL PTFE TEFLON® HEAT-SHRINK TUBING

PTFE (Polytetrafluoroethylene) Teflon®, an outstanding electrical insulator that offers resistance to many chemicals except molten alkali metals and fluorine. Shrink temperature: 327°C (625°F). Operating temperature range: –75°C to +250°C. Meets MIL-I-23053/12, Class 3 specifications. Color: natural. **Sold in boxes of 2′ and 6″ lengths.**

AWG	Recommended Useable ID Range	Recovered Nom. Wall Thickness	2′ Lengths					6″ Lengths				
			Stock No.	Type	Lengths Per Box	Total Footage	Per Box	Stock No.	Type	Lengths Per Box	Total Footage	Per Box
16	0.061-0.093″	0.012″	**37N1632**	TTS-S16-2050-NAT	50	100	**177.00**	**81N2701**	TTS-S16-6016-NAT	16	8	**15.67**
14	0.072-0.120″	0.012″	**37N1633**	TTS-S14-2050-NAT	50	100	**183.00**	**81N2702**	TTS-S14-6014-NAT	14	7	**14.15**
12	0.089-0.150″	0.012″	**37N1634**	TTS-S12-2025-NAT	25	50	**100.80**	**81N2703**	TTS-S12-6014-NAT	14	7	**16.17**
10	0.112-0.191″	0.012″	**37N1635**	TTS-S10-2025-NAT	25	50	**116.40**	**81N2704**	TTS-S10-6012-NAT	12	6	**15.47**
8	0.141-0.240″	0.015″	**37N1636**	TTS-S08-2025-NAT	25	50	**201.20**	**81N2705**	TTS-S08-6010-NAT	10	5	**22.25**
6	0.178-0.302″	0.015″	**37N1637**	TTS-S06-2010-NAT	10	20	**98.87**	**81N2706**	TTS-S06-6008-NAT	8	4	**21.34**
4	0.224-0.370″	0.015″	**37N1638**	TTS-S04-2010-NAT	10	20	**110.80**	**81N2707**	TTS-S04-6006-NAT	6	3	**19.05**
2	0.278-0.430″	0.015″	**37N1639**	TTS-S02-2010-NAT	10	20	**133.00**	**81N2708**	TTS-S02-6004-NAT	4	2	**14.70**
0	0.347-0.470″	0.015″	**37N1640**	TTS-S00-2010-NAT	10	20	**160.60**	**81N2709**	TTS-S00-6003-NAT	3	1.5	**13.33**

(6301) (ne01606)

VOLTREX™ BRAND TFM SERIES (2:1) SHRINK RATIO ADHESIVE-LINED TEFLON® HEAT-SHRINK TUBING

Offers outstanding electrical, chemical, and mechanical properties of Teflon®. When heated, an adhesive lining melts creating a moisture-resistant protective barrier that is ideal for splicing or strain relief applications. Operating temperature range: –75°C to +230°C. Shrink temperature: 327°C (627°F). Service temperature: 450°F. Color: natural. **Sold in boxes of 2′ and 6″ lengths.**

Size	Recommended Useable ID Range	Recovered Nom. Wall Thickness	2′ Lengths					6″ Lengths				
			Stock No.	Type	Lengths Per Box	Total Footage	Per Box	Stock No.	Type	Total Footage	Lengths Per Box	Per Box
3/32″	0.000-0.036″	0.023″	**37N315**	TFM-002-2050-NAT	50	100	**199.95**	**92N6005**	TFM-002-6025-NAT	25	12.5	**53.95**
1/16″	0.000-0.060″	0.028″	**37N316**	TFM-004-2050-NAT	50	100	**249.95**	**92N6006**	TFM-004-6025-NAT	25	12.5	**68.95**
1/8″	0.000-0.130″	0.032″	**37N317**	TFM-008-2050-NAT	50	100	**339.95**	**92N6007**	TFM-008-6025-NAT	25	12.5	**94.95**
3/16″	0.062-0.190″	0.035″	**37N318**	TFM-012-2025-NAT	25	50	**259.95**	**92N6008**	TFM-012-6025-NAT	25	12.5	**119.95**
1/4″	0.125-0.250″	0.035″	**37N319**	TFM-016-2025-NAT	25	50	**289.95**	**92N6009**	TFM-016-6010-NAT	10	5.0	**68.95**
3/8″	0.312-0.450″	0.055″	**37N320**	TFM-024-2010-NAT	10	20	**249.95**	**92N6010**	TFM-024-6010-NAT	10	5.0	**119.95**
3/4″	0.440-0.700″	0.055″	**37N322**	TFM-048-2005-NAT	5	10	**219.95**	**92N6011**	TFM-048-6005-NAT	5	2.5	**92.95**

(6302) (ne01607)

VOLTREX™ BRAND HIGH (4:1) SHRINK RATIO PTFE TEFLON® SEMI-RIGID HEAT-SHRINK TUBING

PTFE (Polytetrafluoroethylene) Teflon® tubing is the most difficult of the four tubing materials to shrink because of the extreme shrink temperature. The most reliable way to shrink PTFE is in a controlled oven temperature. Extreme care must be exercised in heating PTFE tubing during the shrinking process. PTFE shrink tubing will become completely clear when it reaches the gel state. PTFE will completely recover to its specified size provided a slow cooling process is allowed. Shrink temperature: 625°F/327°C. Continuous use temperature range: –100°F to +500°F (–75°C to +250°C). Overheating will damage the tubing so do not heat above 700°F/327°C. Meets MIL-I-23053/12 Class 5, ATSM D2092 Type I, AMS3584. Color: natural. **Sold in boxes of 4′ and 6″ lengths.**

Size	Minimum Expanded Inside Dia.	Maximum Recovered Inside Dia.	Recovered Nom. Wall Thickness	4′ Lengths					6″ Lengths				
				Stock No.	Type	Lengths Per Box	Total Footage	Per Box	Stock No.	Type	Lengths Per Box	Total Footage	Per Box
5/64″	0.078″	0.025″	0.009″	**16N2363**	8416-0887	25	100′	**159.95**	**92N6012**	3494	25	12.5	**33.95**
1/8″	0.125″	0.037″	0.010″	**16N2364**	8416-0888	25	100′	**119.95**	**92N6013**	3495	25	12.5	**33.95**
3/16″	0.188″	0.050″	0.012″	**16N2365**	8416-0889	25	100′	**129.95**	**92N6014**	3496	25	12.5	**33.95**
1/4″	0.250″	0.063″	0.012″	**16N2366**	8416-0890	25	100′	**139.95**	**92N6015**	3497	25	12.5	**34.95**
5/16″	0.313″	0.078″	0.012″	**16N2367**	8416-0891	25	100′	**155.95**	**92N6016**	3498	25	12.5	**36.95**
3/8″	0.375″	0.096″	0.012″	**16N2368**	8416-0892	25	100′	**169.95**	**92N6017**	3499	25	12.5	**39.95**
7/16″	0.438″	0.112″	0.015″	**16N2369**	8416-0893	25	100′	**179.95**	**92N6018**	3500	25	12.5	**43.95**
1/2″	0.500″	0.144″	0.015″	**16N2370**	8416-0894	25	100′	**229.95**	**92N6019**	3501	10	5.0	**25.95**
5/8″	0.625″	0.178″	0.015″	**16N2371**	8416-0895	8	32′	**119.95**	**92N6020**	3502	10	5.0	**31.95**
3/4″	0.750″	0.224″	0.015″	**16N2372**	8416-0896	8	32′	**139.95**	**92N6021**	3503	10	5.0	**38.95**
7/8″	0.875″	0.244″	0.015″	**16N2373**	8416-0897	8	72′	**159.95**	**92N6022**	3504	10	5.0	**47.95**
1″	1.000″	0.278″	0.015″	**16N2374**	8416-0898	8	72′	**169.95**	**92N6023**	3505	5	2.5	**25.95**
1 1/4″	1.250″	0.347″	0.015″	**16N2375**	8416-0899	5	20′	**119.95**	**92N6024**	3506	5	2.5	**36.95**

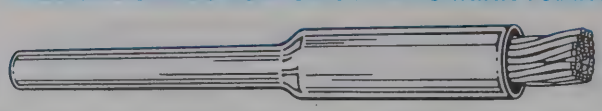
(6331) (ne08368)

SPECIALTY HEAT-SHRINK TUBING

MEDICAL-GRADE NONTOXIC HEAT-SHRINK TUBING

NEW

VOLTREX™ brand



Flexible, nontoxic acrylic olefin heat-shrink tubing features superior dielectric properties that meet USP Class VI requirements. Unaffected by a wide range of chemicals, such as hexachlorophene (phisohex), saline solution, povidone-iodine (betandine), benzalkonium (zephiran), and alcohol, as well as moisture, sunlight, and fungi. Autoclavable for a variety of applications. Dielectric strength: 1800/2000vpm in air @ 500kV/min. rise. Tensile strength: 3200/3600 psi. Recommended shrink temperature: 121°C. Operating temperature range: -55°C to +121°C. Color: white. **Sold in spool sizes indicated below.**

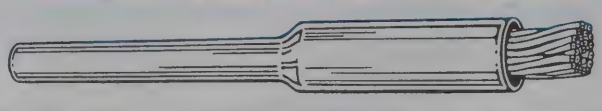
Spool Size	Expanded I.D. (Min.)	Recovered I.D. (Max.)	Recovered Nom. Wall Thickness	Stock No.	Type	Spool Size	Per Spool	Stock No.	Type	Spool Size	Per Spool
1/16″	0.063″	0.031″	0.017″	**84N617**	3568	25′	**20.65**	**84N621**	3568	100′	**72.40**
3/32″	0.093″	0.046″	0.020″	**84N618**	3569	25′	**21.69**	**84N622**	3569	100′	**75.51**
1/8″	0.125″	0.062″	0.020″	**84N619**	3566	25′	**23.76**	**84N623**	3570	100′	**79.65**
3/16″	0.187″	0.093″	0.020″	**84N553**	3526	25′	**18.17**	**84N565**	3538	100′	**53.82**
1/4″	0.250″	0.125″	0.025″	**84N554**	3527	25′	**20.19**	**84N566**	3539	100′	**61.07**
3/8″	0.375″	0.187″	0.025″	**84N555**	3528	25′	**25.36**	**84N567**	3540	100′	**70.38**
1/2″	0.500″	0.250″	0.025″	**84N556**	3529	25′	**27.43**	**84N568**	3541	100′	**79.70**
5/8″	0.625″	0.312″	0.030″	**84N620**	3567	25′	**93.10**	**84N624**	3571	100′	**310.45**

(32672) (ne32672)

FOOD-GRADE NONTOXIC HEAT-SHRINK TUBING

NEW

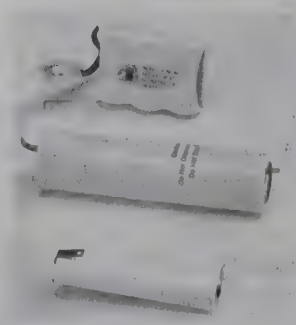
VOLTREX™ brand



Nontoxic heat-shrink tubing meets the requirements of the USFDA Reg. CFR 117.1330 for food contact, nontoxic material. Adheres to most substrates, such as glass and metal, without the use of adhesives. Removable without cutting, making it ideal for tamperproof applications. Resists a wide range of chemicals and oils, as well as sunlight, moisture, and fungi. Forms a smooth, tight-fitting insulation for most applications with high degree of flexibility. Shrink ratio: 2:1. Recommended shrink temperature: 121°C (275°F) with heat gun, infrared, or other sources. **Sold in spool sizes indicated below.**

Size	Expanded I.D. (Min.)	Recovered I.D. (Max.)	Recovered Nom. Wall Thickness	Stock No.	Type	Spool Size	Per Spool	Stock No.	Type	Spool Size	Per Spool
1/16″	0.063″	0.031″	0.020″	**84N609**	3556	25′	**18.58**	**84N613**	3560	100′	**64.12**
3/32″	0.093″	0.046″	0.025″	**84N610**	3557	25′	**19.62**	**84N614**	3561	100′	**66.19**
1/8″	0.125″	0.062″	0.025″	**84N611**	3558	25′	**20.65**	**84N615**	3562	100′	**68.26**
3/16″	0.187″	0.093″	0.025″	**84N547**	3520	25′	**15.01**	**84N559**	3532	100′	**46.58**
1/4″	0.250″	0.125″	0.025″	**84N548**	3521	25′	**17.08**	**84N560**	3533	100′	**50.72**
3/8″	0.375″	0.187″	0.028″	**84N549**	3522	25′	**20.19**	**84N561**	3534	100′	**60.03**
1/2″	0.500″	0.250″	0.028″	**84N550**	3523	25′	**23.29**	**84N562**	3535	100′	**67.28**
5/8″	0.625″	0.312″	0.033″	**84N612**	3559	25′	**68.26**	**84N616**	3563	100′	**206.95**

(32671) (ne32671)



1693

LAYFLAT PVC HEAT-SHRINK TUBING

Layflat PVC heat-shrink tubing is a thin-wall material offering good electrical and mechanical characteristics. When exposed to heat in excess of 275°F for a few seconds, the specially-formulated polyvinyl chloride material shrinks rapidly and uniformly to conform to the shape of the object being covered. Applications include insulating and jacketing of batteries, capacitors and similar objects; protective covering of precision machine parts and cutting tools; wire and cable identification; industrial equipment; toys, sporting goods, electronics, medical and consumer products. Operating temperature: +85°C to –20°C. Shrink ratio: 2:1. A heat gun can be used for shrinking in most applications; *order separately on page 1241.* Wall thickness: 0.004″. Meets flammability requirements of UL VW-1 and MIL-I-631 specifications. Color: White. UL listed. **Sold in 100′ spools.**

Stock No.	Type	Size	Flat Width	I.D.	O.D.	1-4	5-9	10-24
92N3687	1693	7/16″	0.728″	0.430″	0.438″	**28.97**	**24.63**	**22.17**
92N3688	1694	9/16″	0.925″	0.558″	0.563″	**29.28**	**24.89**	**22.40**
92N3689	1695	3/4″	1.220″	0.742″	0.750″	**29.59**	**25.16**	**22.64**
92N3690	1696	7/8″	1.417″	0.867″	0.875″	**30.01**	**25.51**	**22.96**
92N3691	1697	1″	1.654″	0.992″	1.000″	**30.53**	**25.95**	**23.35**
92N3692	1698	1 1/8″	1.850″	1.117″	1.125″	**31.04**	**26.39**	**23.75**
92N3693	1699	1 1/4″	2.047″	1.242″	1.250″	**33.63**	**28.59**	**25.73**
92N3694	1700	1 3/8″	2.244″	1.367″	1.375″	**35.18**	**29.91**	**26.92**
92N3695	1701	1 1/2″	2.441″	1.492″	1.500″	**38.29**	**32.55**	**29.29**
92N3696	1702	1 3/4″	2.835″	1.742″	1.750″	**43.46**	**36.94**	**33.25**

(13544) (ne10417)

CAN'T LOCATE A PARTICULAR PRODUCT?
NEWARK STOCKS THOUSANDS OF ITEMS NOT LISTED IN THIS CATALOG. CALL US TODAY!

HEAT-SHRINK TUBING KITS AND HEAT GUNS

HEAT-SHRINK TUBING KITS

Kits contain a wide assortment of heat-shrink tubing, listed in the table below, enabling the engineer to choose the best kind for each application before putting a prototype into production. The basic kit contains 88 pieces of tubing, each 6″ (150) long. The advanced kit contains 174 pieces of tubing, each 3″ (75) long. Both kits are packaged in a sectioned, high-impact polystyrene storage box with "Quick-Scan" chart identifying contents.

KIT CONTENTS

Type	Description	Basic Kit Pcs.	Advanced Kit Pcs.
PVS	Flexible Polyvinylchloride 105 Shrink Tubing	18	18
FPS	Flexible Polyolefin Shrink Tubing	18	18
FPF	Flexible Polyolefin Flame-Retardant Shrink Tubing	18	18
KYS	Kynar® Polyvinylidene Shrink Tubing	15	16
PHD	Multiple Wall Polyolefin Shrink Tubing with Thermoplastic Adhesive Liner	9	10
SRM	Semi-Rigid, Multiple Wall Polyolefin Shrink Tubing	10	10
LTP	Flexible Polyolefin, Low-Temp. Shrink Tubing	...	18
PHS	Flexible, Multi-Wall, Adhesive-Lined, High-Ratio Shrink Tubing	...	10
PVHR	Irradiated PVC 105 Shrink Tubing	...	18
TTS	Teflon® (TFE) Shrink Tubing	...	12
SST	Teflon® Super-Shrink Tubing	...	14
TFM	Teflon® (TFE) w/ FEP Inner-Melt Teflon® Tubing	...	12

50N9500 Type 8400-150 Basic Kit. **Each** **85.76**
(6360)

50N9501 Type 8400-075 Advanced Kit. **Each** **170.78**
(6360) (ne52169)

POLYOLEFIN HEAT-SHRINK TUBING KIT

102-piece kit includes samples of general-purpose polyolefin tubing. Tubing offers an outstanding balance of electrical, physical, and chemical properties for a wide variety of industrial and military applications. Rated 135°C for continuous operation. Tubing is typically used as a shrink-fit electrical insulation over cable splices and terminations. Also used for lightweight wire harness covering, wire marking, and wire bundling. 2:1 shrink ratio. All pieces are 6″ long. Meets MIL-I-23053/5 Class 1 and Class 2 specifications. Color: black. Kit contents described below. UL recognized, CSA certified.

KIT CONTENTS

Diameter	No. of Pieces	Diameter	No. of Pieces
1/16″	30	1/4″	15
1/8″	25	3/8″	7
3/16″	20	1/2″	5

92N5421 Type 2778. **Each** **51.74**
(13553) (ne10420)

PVC HEAT-SHRINK TUBING KIT

45-piece kit includes samples of **SPC, PVS,** and **VPV1 series.** Includes the following diameters and quantities: 3⁄16″ = 20 pieces; 1⁄4″ = 15 pieces; 3⁄8″ = 10 pieces. The **VPV1 series** features the only low shrink temperature PVC with an inner adhesive liner. Provides excellent electrical insulation along with low shrink temperature. Best for applications where high shrink temperatures can damage enclosed or adjacent components. 2:1 ratio. Shrinks to a full 50% quickly at 200°F. Resists most chemicals and oils, as well as sunlight, moisture, and fungus. All pieces are 6″ long. Meets MIL-I-23053/2 Class 2 specifications. UL listed, CSA certified.

92N5420 Type 2777 **Each** **57.95**
(13552) (ne10421)

TEFLON® HEAT-SHRINK TUBING KIT

40-piece kit includes teflon® heat-shrink tubing samples. Includes 8 pieces each of the following diameters: 0.084″ (#16), 0.125″, 0.188″, 0.250″, and 0.375″. Teflon® heat shrink tubing is a unique thermoplastic that possesses excellent characteristics for tubing used in high-temperature applications and corrosive atmospheres, and as electrical insulation. Teflon® possesses the lowest coefficient of friction of any known solid and is used widely because of its anti-stick properties. Non-wetting and self-lubricating. Offers excellent chemical-resistant qualities and is unaffected by weathering due to outdoor exposure. Features the widest working range of any plastics material (–250°C to +260°C). Shrink ratio: 2:1. Meets MIL-I-23053/12 specifications. All pieces are 6″ long. UL recognized.

92N5424 Type 2781. **Each** **49.67**
(13551) (ne10422)

DELUXE HIGH-TEMPERATURE HEAT GUN AND ACCESSORIES -- BY STEINEL

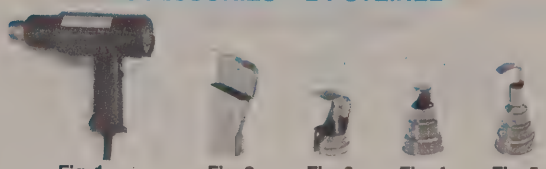


Fig. 1 Fig. 2 Fig. 3 Fig. 4 Fig. 5

Type 2390 heat gun features automatic temperature control and cool air stage. Built-in temperature sensor regulates and monitors temperature electronically, allowing user to select a specified temperature within the 120°F–1100°F range. High and low hot air flow settings up to 17cfm. Selectable cool air stage for drying, cleaning or cooling. Voltage: 120VAC. Output: 1500W. UL listed. *Order nozzle attachments separately below.* Manufactured for SPC Technology by Steinel (Steinel #HL1802E).

Stock No.	Type	Fig.	Description	Each
92N4506	2390	1	Heat Gun	**164.99**
92N4507	2391	2	3″ Reflector Nozzle for Large Dia. Applications	**15.95**
92N4508	2392	3	1¼″ Reflector Nozzle for Med. Dia. Applications	**11.95**
92N4509	2393	4	5⁄8″ Reflector Enclosed Nozzle with No Vents for Quick Heat to Solder Sink Wire Connectors	**11.95**
92N4510	2394	5	3⁄8″ Reflector Nozzle with 1½″ Reflector that is Formed for Shrinking Small Dia. Tubing	**13.95**

(13546) (ne10419)

ECONOMY HEAT GUN

NEW

Economical, flameless, high-temperature heat gun is designed for shrinking Voltrex™ brand tubing in general heat-shrink applications. Quiet, efficient, multifunctional operation helps reduce operator fatigue and increases production. Lightweight, durable, impact-resistant plastic housing. Tough stainless steel nozzle accepts various attachments, *ordered separately on this page.* Features dual temperature settings: Low: 500°F to 700°F; High: 700°F to 1100°F; and Off. Power requirements: 120 volts, 50/60Hz, 15A. 8′ cord with grounding plug. UL listed.

92N6025 Type 3507. **Each** **45.95**
(32674) (ne32674)

INDUSTRIAL-GRADE HEAT GUN

NEW

Heavy-duty, flameless, high-temperature heat gun is designed for shrinking Voltrex™ brand tubing in general heat-shrink applications. Quiet, efficient, multifunctional operation helps reduce operator fatigue and increases production. Lightweight, tough, impact-resistant plastic housing. Durable nickel-plated steel nozzle accepts various attachments; *ordered separately on this page.* Dual temperature settings: Low: 500°F to 700°F; High: 700°F to 1100°F; and Off. Features electronic variable temperature control that is adjustable to one of 5 LED indicator settings. Power requirements: 120 volts, 50/60Hz, 15A. 8′ cord with grounding plug. UL listed.

92N6026 Type 3508. **Each** **53.95**
(32675) (ne32675)

NOZZLE ATTACHMENTS FOR ECONOMY AND INDUSTRIAL-GRADE HEAT GUNS

Fig. 1 Fig. 2 Fig. 3 Fig. 4 Fig. 5 Fig. 6 Fig. 7

Durable metal attachments fasten onto heat gun easily. Designed for use on **type 3507** economy heat gun, *order separately on this page,* and on **type 3508** industrial-grade heat gun, *order separately on this page.* Convenient carrying case not shown.

Stock No.	Type	Fig.	Description	Each
92N6027	3512	1	Removal Tool	**1.79**
92N6028	3513	2	Concentrator	**1.99**
92N6029	3514	3	Flare Nozzle	**2.89**
92N6030	3515	4	Concentrator	**2.89**
92N6031	3516	5	Deflector Nozzle	**3.29**
92N6032	3517	6	Hook	**1.99**
92N6033	3518	7	Glass Protection Nozzle	**3.29**
92N6034	3519	...	Carrying Case	**6.99**

(32673) (ne32673)

INSULATING TUBING

VOLTREX™ BRAND PVI SERIES PVC INSULATING TUBING

Superior, high-dielectric strength tubing offers high-heat stability and is flame-retardant and self-extinguishing. Passes UL VW-1 flame test and meets MIL-I-631D, MIL-I-22129C specifications. Ideal for abrasion resistant applications, wire harnesses, flexible wire and ground strap protection. PVC sleeving is unaffected by most acid and alkali solutions. Retains flexibility throughout operating temperature range of –20°C to +105°C. Dielectric strength: 750V/MIL. Tensile strength: 2800psi. Color: black. Also available in clear, except type numbers with (*); *contact your local Newark sales office for details.* UL recognized, CSA certified. Made in the U.S.A. **Sold in 50′ and 100′spools.**

Stock No.	Type	AWG Size	Inside Diameter			Wall Thickness		Spool Size	Per Spool		
			Nominal	Max.	Min.	Nominal	±		1-9	10-24	25-49
03F3576	PVI-S24-1100-BLK	24	0.022″	0.027″	0.020″	0.012″	0.002″	100′	6.97	6.59	6.34
03F3581	PVI-S22-1100-BLK	22	0.027″	0.032″	0.025″	0.012″	0.002″	100′	6.97	6.59	6.34
03F3587	PVI-S20-1100-BLK	20	0.034″	0.039″	0.032″	0.016″	0.003″	100′	7.44	7.03	6.76
03F3709	PVI-S19-1100-BLK*	19	0.038″	0.044″	0.036″	0.016″	0.003″	100′	7.44	7.03	6.76
03F3592	PVI-S18-1100-BLK	18	0.042″	0.049″	0.040″	0.016″	0.003″	100′	8.13	7.69	7.39
03F3704	PVI-S17-1100-BLK	17	0.047″	0.055″	0.045″	0.016″	0.003″	100′	8.13	7.69	7.39
03F3597	PVI-S16-1100-BLK	16	0.053″	0.061″	0.051″	0.016″	0.003″	100′	8.60	8.13	7.82
03F3699	PVI-S15-1100-BLK	15	0.059″	0.066″	0.057″	0.016″	0.003″	100′	8.60	8.13	7.82
03F3602	PVI-S14-1100-BLK	14	0.066″	0.072″	0.064″	0.016″	0.003″	100′	7.44	7.03	6.76
03F3694	PVI-S13-1100-BLK	13	0.076″	0.080″	0.072″	0.016″	0.003″	100′	7.44	7.03	6.76
03F3607	PVI-S12-1100-BLK	12	0.085″	0.089″	0.081″	0.016″	0.003″	100′	8.13	7.69	7.39
03F3688	PVI-S11-1100-BLK	11	0.095″	0.101″	0.091″	0.016″	0.003″	100′	8.13	7.69	7.39
03F3612	PVI-S10-1100-BLK	10	0.106″	0.112″	0.102″	0.016″	0.003″	100′	9.29	8.79	8.45
03F3683	PVI-S09-1100-BLK	9	0.118″	0.124″	0.114″	0.020″	0.003″	100′	11.15	10.54	10.14
03F3617	PVI-S08-1100-BLK	8	0.133″	0.141″	0.129″	0.020″	0.003″	100′	12.08	11.42	10.99
03F3678	PVI-S07-1100-BLK	7	0.148″	0.158″	0.144″	0.020″	0.003″	100′	13.01	12.30	11.82
03F3622	PVI-S06-1100-BLK	6	0.166″	0.178″	0.162″	0.020″	0.003″	100′	13.94	13.18	12.67
03F3673	PVI-S05-1100-BLK	5	0.186″	0.198″	0.182″	0.020″	0.003″	100′	14.87	14.06	13.52
03F3627	PVI-S04-1100-BLK	4	0.208″	0.224″	0.204″	0.020″	0.003″	100′	15.36	14.36	13.35
03F3759	PVI-S03-1100-BLK	3	0.234″	0.249″	0.229″	0.020″	0.003″	100′	16.73	15.82	15.21
03F3632	PVI-S02-1100-BLK	2	0.263″	0.278″	0.258″	0.020″	0.003″	100′	18.58	17.57	16.90
03F3764	PVI-S01-1100-BLK*	1	0.294″	0.311″	0.289″	0.020″	0.003″	100′	20.91	19.77	19.01
03F3637	PVI-020-1100-BLK	5/16″	0.313″	0.334″	0.313″	0.025″	0.003″	100′	27.41	25.91	24.92
03F3642	PVI-S00-1100-BLK	0	0.330″	0.347″	0.325″	0.025″	0.003″	100′	23.46	22.18	21.33
03F3647	PVI-024-1100-BLK	3/8″	0.375″	0.399″	0.375″	0.025″	0.003″	100′	31.63	29.56	27.49
03F3768	PVI-028-1100-BLK	7/16″	0.438″	0.462″	0.438″	0.025″	0.003″	100′	26.02	24.60	23.65
03F3652	PVI-032-1100-BLK	1/2″	0.500″	0.524″	0.500″	0.025″	0.003″	100′	28.47	26.60	24.74
03F3657	PVI-040-1100-BLK*	5/8″	0.625″	0.655″	0.625″	0.030″	0.003″	100′	41.12	38.43	35.74
03F3661	PVI-048-1050-BLK*	3/4″	0.750″	0.786″	0.750″	0.035″	0.005″	50′	35.24	32.94	30.63
03F3667	PVI-064-1050-BLK	1″	1.000″	1.036″	1.000″	0.035″	0.005″	50′	55.13	51.53	47.92
03F3786	PVI-128-1050-BLK	2″	2.000″	2.070″	2.000″	0.060″	0.010″	50′	132.69	116.77	...

(9931) (ne51632)

VOLTREX™ BRAND TEFLON® INSULATING TUBING

Non-toxic, chemically inert tubing offers superior insulating and highly stable electrical properties. Features excellent electrical resistance and translucent clarity. Withstands wicking, moisture absorption, and contamination. Continuous operating temperature: –230°C to +260°C. Meets MIL-I-22129C specifications. UL 94V-0 flammability rating. **TTI series** is used for miniaturized and compact installations. **TSI series** is used where extra-dielectric or mechanical strength is needed. UL recognized E52331. Made in the U.S.A. **Sold in 100′ spools.**

AMS-3655 TTI SERIES THIN-WALL TEFLON® TUBING

Stock No.	Type	AWG Size	Inside Diameter			Wall Thickness		Per 100′ Spool		
			Nominal	Max.	Min.	Min.	Max.	1-9	10-24	25-49
37N489	TTI-S28-1100-NAT	28	0.015″	0.018″	0.013″	0.007″	0.011″	23.35	22.07	21.22
37N490	TTI-S26-1100-NAT	26	0.018″	0.021″	0.016″	0.007″	0.011″	21.10	19.95	19.18
37N491	TTI-S24-1100-NAT	24	0.023″	0.027″	0.020″	0.007″	0.013″	22.90	21.65	20.81
37N492	TTI-S22-1100-NAT	22	0.028″	0.032″	0.026″	0.007″	0.013″	26.93	25.46	24.48
37N493	TTI-S20-1100-NAT	20	0.035″	0.038″	0.032″	0.009″	0.015″	31.65	29.58	27.51
37N494	TTI-S18-1100-NAT	18	0.043″	0.046″	0.040″	0.009″	0.015″	36.90	34.48	32.07
37N495	TTI-S16-1100-NAT	16	0.055″	0.058″	0.051″	0.009″	0.015″	44.31	41.41	38.52
37N496	TTI-S14-1100-NAT	14	0.068″	0.072″	0.064″	0.009″	0.015″	48.68	45.49	42.31
37N481	TTI-S12-1100-NAT	12	0.085″	0.091″	0.081″	0.009″	0.015″	57.50	51.97	49.20
37N482	TTI-S10-1100-NAT	10	0.106″	0.112″	0.102″	0.009″	0.015″	68.75	62.14	58.83
37N483	TTI-S08-1100-NAT	8	0.134″	0.139″	0.129″	0.012″	0.018″	103.11	93.20	88.24
37N484	TTI-S06-1100-NAT	6	0.168″	0.174″	0.162″	0.012″	0.018″	118.20	104.02	...
37N487	TTI-S00-1100-NAT	0	0.334″	0.342″	0.325″	0.012″	0.018″	222.40	195.72	...

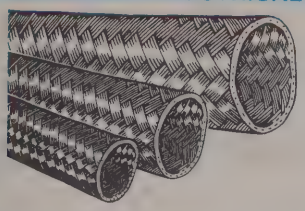
AMS-3653B TSI SERIES STANDARD WALL TEFLON® TUBING

37N1580	TSI-S24-1100-NAT	24	0.023″	0.026″	0.020″	0.010″	0.014″	27.29	25.50	23.72
37N1581	TSI-S22-1100-NAT	22	0.028″	0.032″	0.026″	0.010″	0.014″	30.35	28.36	26.38
37N1582	TSI-S20-1100-NAT	20	0.035″	0.038″	0.032″	0.013″	0.019″	41.69	38.96	36.24
37N1584	TSI-S18-1100-NAT	18	0.043″	0.046″	0.040″	0.013″	0.109″	48.90	45.70	42.51
37N1586	TSI-S16-1100-NAT	16	0.055″	0.058″	0.051″	0.013″	0.019″	56.76	53.04	49.33
37N1588	TSI-S14-1100-NAT	14	0.068″	0.072″	0.064″	0.013″	0.019″	61.96	56.00	53.02
37N1590	TSI-S12-1100-NAT	12	0.065″	0.091″	0.081″	0.013″	0.019″	74.26	67.12	63.55
37N1592	TSI-S10-1100-NAT	10	0.106″	0.112″	0.102″	0.013″	0.019″	90.38	81.69	77.35
37N1594	TSI-S08-1100-NAT	8	0.134″	0.139″	0.129″	0.016″	0.024″	128.20	112.82	...
37N1595	TSI-S07-1100-NAT	7	0.148″	0.155″	0.144″	0.016″	0.024″	138.20	121.62	...
37N1596	TSI-S06-1100-NAT	6	0.168″	0.174″	0.162″	0.016″	0.024″	149.20	131.30	...
37N1597	TSI-S05-1100-NAT	5	0.186″	0.182″	0.224″	0.016″	0.024″	164.40	144.68	...
37N1598	TSI-S04-1100-NAT	4	0.211″	0.218″	0.204″	0.016″	0.024″	178.60	157.17	...

(6358) (ne51631)

ELECTRICAL SLEEVING

BRAIDED FIBERGLASS ELECTRICAL SLEEVING



- **Class 240C Insulation**
- **Heat Annealed**
- **UL Recognized (File E92997)**

Tightly braided fiberglass sleeving designed as Class 240C insulation that is heat annealed to remove organic impurities, improve handling and reduce end fraying. Compatible with varnishes, epoxies and bonding agents where maximum reinforcement between the glass and encapsulant is needed. Can be used as primary and secondary insulation for motor leads, small appliances, brush assemblies, electric resistance heating elements, and similar low voltage applications. Ideal for abrasion and cut-through protection over insulated leads. Operating temperature: –76°F (-60°C) to +1200°F (649°C). **Sold in spools of 100′.**

NATURAL COLOR, HEAT-TREATED SLEEVING

Stock No.	Type	Size	Nom. I.D.	Nom. Wall Thickness	1-9	10-24
50N080	SPC4913	24	0.022″	0.012″	13.25	11.27
50N081	SPC4914	22	0.027″	0.012″	13.25	11.27
50N082	SPC4915	20	0.034″	0.012″	13.75	11.69
50N083	SPC4916	18	0.042″	0.012″	14.25	12.12
50N084	SPC4917	16	0.053″	0.013″	14.25	12.12
50N085	SPC4918	14	0.066″	0.015″	14.50	12.33
50N086	SPC4919	12	0.085″	0.015″	15.95	13.56
50N087	SPC4920	10	0.106″	0.015″	18.95	16.11
50N088	SPC4921	8	0.133″	0.015″	19.95	16.96
50N089	SPC4922	6	0.166″	0.015″	24.95	21.21
50N090	SPC4923	4	0.208″	0.015″	30.25	25.72
50N091	SPC4924	2	0.263″	0.018″	37.95	32.26
50N092	SPC4925	0	0.330″	0.018″	49.95	42.46
50N093	SPC4926	3/8″	0.375″	0.022″	63.95	54.36
50N094	SPC4927	7/16″	0.438″	0.022″	79.95	67.96
50N095	SPC4928	1/2″	0.500″	0.022″	99.95	84.96
50N096	SPC4929	5/8″	0.625″	0.022″	122.95	104.51
50N097	SPC4930	3/4″	0.750″	0.022″	149.95	127.46
50N098	SPC4931	7/8″	0.875″	0.022″	159.95	135.96
50N099	SPC4932	1″	1.000″	0.022″	219.95	186.96

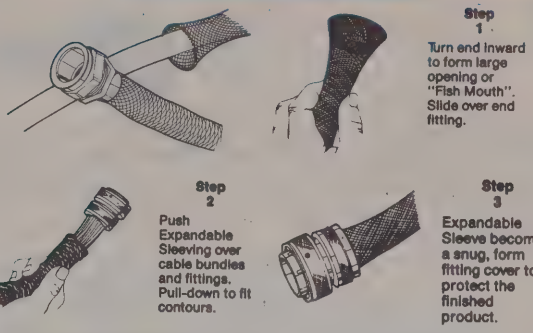
TAN DYED, HEAT-TREATED SLEEVING

The addition of a tan-colored, high-temperature resin dye affords additional fray resistance and firmness required for cutting and installation.

04F4470	GSX-S24-1100-NAT	24	0.022″	0.012″	13.47	12.74
04F4471	GSX-S22-1100-NAT	22	0.027″	0.012″	13.47	12.74
04F4472	GSX-S20-1100-NAT	20	0.034″	0.012″	15.10	14.28
04F4473	GSX-S18-1100-NAT	18	0.042″	0.012″	15.79	14.93
04F4474	GSX-S16-1100-NAT	16	0.053″	0.013″	16.26	15.37
04F4475	GSX-S14-1100-NAT	14	0.066″	0.015″	17.20	16.26
04F4476	GSX-S12-1100-NAT	12	0.085″	0.015″	17.89	16.91
04F4477	GSX-S10-1100-NAT	10	0.106″	0.015″	19.52	18.45
04F4478	GSX-S08-1100-NAT	8	0.133″	0.015″	19.52	18.45
04F4479	GSX-S06-1100-NAT	6	0.166″	0.015″	26.02	24.60
04F4480	GSX-S04-1100-NAT	4	0.208″	0.015″	30.72	28.71
04F4481	GSX-S02-1100-NAT	2	0.263″	0.018″	39.32	36.75
04F4482	GSX-S00-1100-NAT	0	0.330″	0.018″	51.51	48.14
04F4483	GSX-024-1100-NAT	3/8″	0.375″	0.022″	62.38	56.39
04F4484	GSX-028-1100-NAT	7/16″	0.438″	0.022″	82.11	74.22
04F4485	GSX-032-1100-NAT	1/2″	0.500″	0.022″	100.80	88.71
04F4486	GSX-040-1100-NAT	5/8″	0.625″	0.022″	121.20	106.66
04F4487	GSX-048-1100-NAT	3/4″	0.750″	0.022″	149.00	131.12
04F4489	GSX-064-1100-NAT	1″	1.00″	0.022″	221.20	194.66

(6350) (ne50391)

EXPANDABLE SLEEVING


Step 1
Turn end inward to form large opening or "Fish Mouth". Slide over end fitting.
Step 2
Push Expandable Sleeving over cable bundles and fittings. Pull-down to fit contours.
Step 3
Expandable Sleeve becomes a snug, form fitting cover to protect the finished product.

Expandable sleeving is a lightweight, woven, polyester monofilament tubing designed to encapsulate and protect cable bundles and wire harnesses. Self-fitting and adjusts to irregular surfaces and contours. Provides abrasion and fungus resistance in addition to being unaffected by most chemical environments and common solvents. Wall thickness: 0.025″. Standard operating temperature: –70°C to +125°C. Short-term maximum temperature to +230°C. Flame-retardent sleeving features white criss-cross threaded tracer. Meet UL VW-1 specifications. Color: black. Standard sleeving also available in clear, neon red, orange, neon yellow, neon green, neon blue, and purple; *contact your local Newark sales office for details.* UL recognized. **Sold in spool lengths indicated.**

BLACK STANDARD SLEEVING

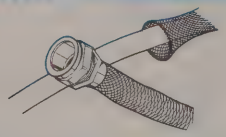
Stock No.	Type	Size	Min. Dia.	Expanded Size	Spool Length	1-9	10-24
52N9768	8465-0228	1/8″	0.093″	0.125″	100′	31.00	28.47
52N9769	8465-0229	1/4″	0.125″	0.438″	100′	36.18	33.12
52N9770	8465-0230	3/8″	0.187″	0.625″	100′	41.35	38.04
52N9771	8465-0231	1/2″	0.250″	0.750″	100′	62.05	57.19
52N9772	8465-0232	3/4″	0.500″	1.250″	50′	56.88	52.27
52N9773	8465-0233	1 1/4″	0.750″	1.750″	50′	67.23	61.85
52N9774	8465-0234	1 1/2″	0.750″	2.000″	50′	75.51	69.30
52N9775	8465-0235	1 3/4″	1.250″	2.750″	25′	56.88	52.27
52N9776	8465-0236	2″	1.500″	3.500″	25′	79.65	73.23
52N9777	8465-0237	2 1/2″	1.750″	4.500″	25′	85.86	78.92

BLACK FLAME-RETARDANT SLEEVING — WHITE TRACER

52N9760	8465-0220	1/8″	0.093″	0.125″	100′	33.12	30.54
52N9761	8465-0221	1/4″	0.125″	0.438″	100′	48.65	44.77
52N9762	8465-0222	1/2″	0.250″	0.750″	100′	86.94	79.96
52N9763	8465-0223	3/4″	0.500″	1.250″	50′	68.31	62.88
52N9764	8465-0224	1 1/4″	0.750″	1.750″	50′	90.83	83.58
52N9765	8465-0225	1 3/4″	1.250″	2.750″	25′	86.43	79.44
52N9766	8465-0226	2″	1.500″	3.500″	25′	95.74	87.98
52N9767	8465-0227	2 1/2″	1.750″	4.500″	25′	143.35	131.97

(6341) (ne08574)

FRAY-RESISTANT EXPANDABLE SLEEVING



Available in standard and flame-retardant grades. Designed for use on wire harness or hose applications where abrasion protection, full coverage, and sleeve fray resistance is required. Fray-resistant, monofilament polyester construction can be cut to length with scissors or hot knife for a clean, finished end. Allows for frequent expansion at the cut ends without unraveling. Easy installation for new assemblies or rework and repairs. Wall thickness: 0.024″ ±0.005″. Temperature rating: -70°C to +125°C. Melt temperature: 230°C. Color: black. UL recognized (file E107055), CSA certified (file LR66145-1). **Sold in spool lengths indicated.**

STANDARD SLEEVING

Stock No.	Type	Size	Expansion Min.	Expansion Max.	Spool Length	1-9	10-24
50N469	SPC5146	1/8″	1/8″	1/4″	100′	38.75	32.95
50N470	SPC5147	1/4″	5/32″	7/16″	100′	44.95	38.25
50N471	SPC5148	3/8″	3/16″	5/8″	100′	55.00	47.75
50N472	SPC5149	1/2″	1/4″	3/4″	100′	72.50	61.50
50N473	SPC5150	3/4″	5/8″	1″	50′	59.95	50.75
50N474	SPC5151	1″	3/4″	1 3/16″	50′	49.95	42.50
50N475	SPC5152	1/4″	1″	1 1/2″	50′	72.00	61.50
50N476	SPC5153	1 1/2″	1 1/4″	2″	50′	84.75	72.50

FLAME-RETARDANT SLEEVING

50N477	SPC5154	1/8″	1/8″	1/4″	100′	46.50	39.50
50N478	SPC5155	1/4″	5/32″	7/16″	100′	64.95	49.95
50N479	SPC5156	3/8″	3/16″	5/8″	100′	79.95	69.95
50N480	SPC5157	1/2″	1/4″	3/4″	100′	99.95	84.95
50N481	SPC5158	3/4″	5/8″	1″	50′	81.95	69.95
50N482	SPC5159	1″	3/4″	1 3/16″	50′	46.95	39.95
50N483	SPC5160	1 1/4″	1″	1 1/2″	50′	105.95	89.95
50N484	SPC5161	1 1/2″	1 1/4″	2″	50′	119.95	101.95

(34081) (ne34081)

NEW PRODUCTS ARE BEING ADDED TO OUR INVENTORY EVERY DAY.
CALL NEWARK FOR INFORMATION ON WHAT'S CURRENTLY IN STOCK.

CABLE MANAGEMENT PRODUCTS

SHRINK-A-SHIELD TUBING KIT

NEW

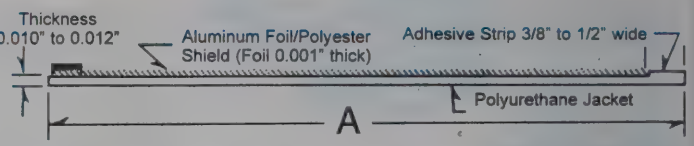
Heat-shrink tubing with EMI/RFI shielding. 2:1 shrink ratio polyolefin with conductive cloth liner combines an efficient shield with a shrink-fit jacket. Ideal for shielding wire or cable, adding additional shielding, or repairing shielding that has been stripped back for wire termination. Meets MIL-I-25053/5, Class 1 specifications. Passes VW-1 vertical wire flame test. Dielectric strength: 300 volts/mil. Attenuation averages 85dB from 1MHz to 1GHz. Temperature range: -40°F to +250°F. Kit includes: 1′ of shielding tubing and 3′ of 24 AWG grounding wire.

Stock No.	Type	Size	Recom. Useable I.D. Range	Recovered Nom. Wall Thickness	1-9	10-24
50N161	SPC5086	3⁄16″	0.090 - 0.180″	0.020″	7.25	6.17
50N162	SPC5087	1⁄4″	0.121 - 0.242″	0.025″	9.75	8.29
50N163	SPC5088	3⁄8″	0.184 - 0.367″	0.025″	11.95	10.16
50N164	SPC5089	1⁄2″	0.246 - 0.492″	0.025″	13.75	11.69
50N165	SPC5090	3⁄4″	0.371 - 0.742″	0.030″	18.95	16.11
50N166	SPC5091	1″	0.496 - 0.992″	0.035″	22.50	19.13

(34083) (ne34083)

WRAP-A-SHIELD TUBING

NEW

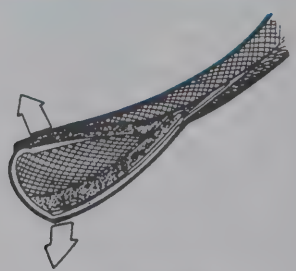


Wraparound EMI/RFI shielding in sizes that allow coverage up to 2″ round and 3″ flat. Ideal shielding for longer lengths, diameters from 1⁄4″ to 3″, and for flat cable applications. Allows stacking of flat cable and shielding as a multilayer package. Adhesive strip closure allows for a custom fit. Attachable braid strap provides for soldering of drain wire. Polyurethane jacket with aluminum foil/polyester shield. Simply cut to length needed, attach drain wire, wrap around cable, and close the adhesive strip. **Sold in 10′ lengths.**

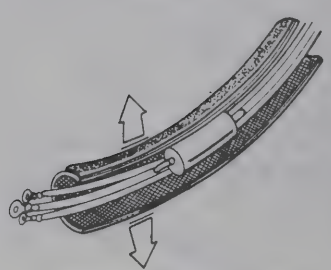
Stock No.	Type	Dim. to Cover		Dim. A	1-9	10-24
		Max. Round	Max. Flat			
50N167	SPC5092	1⁄2″	0.78″	2 5⁄16″	78.50	66.73
50N168	SPC5093	1″	1.55″	4 1⁄8″	94.95	80.71
50N169	SPC5094	2″	3.14″	7 3⁄8″	139.95	118.96

(34082) (ne34082)

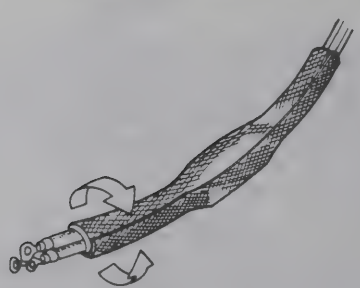
HOOK & LOOP WRAP SLEEVING



1. Opens Easily



2. Insert Wire, Cable, or Tubing



3. Just Wrap and Seal

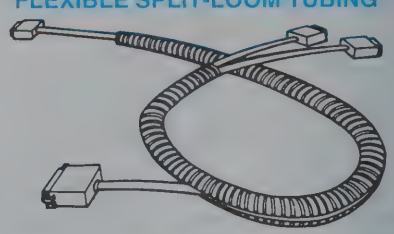
Lightweight, expandable, braided monofilament sleeving with hook & loop fastening system is designed to allow easy wrap bundling and protection for wire, cable, hoses, and tubes. Monofilaments are constructed from durable P.E.T. providing continuous protection against abrasion, fungus, and rotting in addition to being unaffected by most chemical environments, and solvents. Meets UL VW-1 standard. Temperature rating: –75°C to +125°C. Melt temperature: +250°C. **Sold in 25′ spools.**

Stock No.	Type	Nom. I.D.	1-9	10-24
52N9778	8465-0238	1⁄2″	102.47	87.10
52N9779	8465-0239	3⁄4″	115.25	106.09
52N9780	8465-0240	1 1⁄4″	157.58	144.85
50N513	SPC5162*	1 1⁄4″	32.95	27.95
52N9781	8465-0241	2″	168.14	154.74

*Sold in 3′ lengths

(6342) (ne08575)

FLEXIBLE SPLIT-LOOM TUBING



Split-loom tubing is the perfect wire harness protective covering. Features an easy-opening seam for quick wire insertion and removal. Offers excellent resistance to fluids and abrasion while providing a uniform, tailored appearance. Made of durable polyethylene or nylon. Bulk quantities and other colors and sizes available; *contact your local Newark sales office for details.* **Sold in the lengths indicated below.**

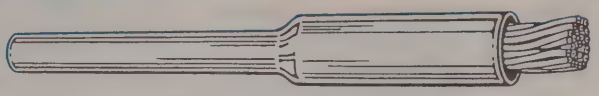
Stock No.	Type	Nom. I.D.	Length	1-4	5-9
BLACK POLYETHYLENE (–40°F–200°F)					
92N3675	1435	0.250″	100′	27.94	23.75
92N3676	1436	0.375″	100′	28.97	24.63
92N3677	1437	0.500″	100′	31.04	26.39
92N3678	1438	0.625″	50′	23.80	20.23
92N3679	1439	0.750″	50′	28.97	24.63
92N3680	1440	1.000″	50′	40.36	34.30
BLACK HEAT-STABILIZED NYLON (–40°F–300°F)					
92N3681	1441	0.250″	100′	27.94	23.75
92N3682	1442	0.375″	100′	30.01	25.51
92N3683	1443	0.500″	100′	31.04	26.39
92N3684	1444	0.625″	50′	33.11	28.15
92N3685	1445	0.750″	50′	35.18	29.91
92N3686	1446	1.000″	50′	41.39	35.18
GRAY FLAME-RETARDANT POLYETHYLENE (–40°F–200°F)					
92N3669	1429	0.250″	100′	30.01	25.51
92N3670	1430	0.375″	100′	36.22	30.79
92N3671	1431	0.500″	100′	41.39	35.18
92N3672	1432	0.625″	50′	24.83	21.11
92N3673	1433	0.750″	50′	31.04	26.39
92N3674	1434	1.000″	50′	48.64	41.34

(12834) (ne10336)

AT NEWARK, YOUR ORDER IS OUR FIRST PRIORITY.

HEAT-SHRINK TUBING

FIT®-221 MULTIPURPOSE IRRADIATED POLYOLEFIN SHRINK TUBING



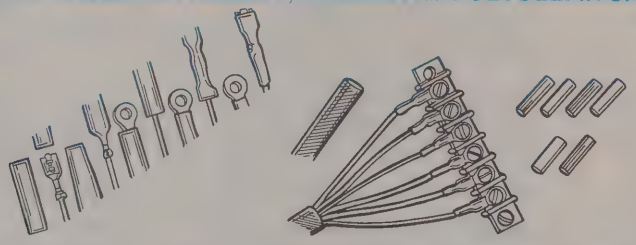
FIT®-221 is an irradiated flexible, flame-retardant polyolefin tubing. Use for harnessing, wire bundling, strain reliefs, or any application where components must be insulated or packaged. Operating temperature: –55°C to +135°C, 2:1 shrinkage ratio @ 121°C. MIL-I-23053/5B. Black tubing is UL recognized standard 224, CSA certified standard 198. Clear tubing is not UL recognized or CSA certified. Also available in white, red, yellow, blue, or green; *contact your local Newark sales office.* **Sold in packages of 4′ (1.219m) and 6″ (152.4mm) lengths.**

Min. Supp. I.D.	Max. Rec. I.D.	Nom. Rec. Wall	Type	4′ Lgth. Total	Stock No. Black	Stock No. Clear	Each	2-4	5-9	6″ Lgth. Total	Stock No. Black	Stock No. Clear	Each	2-4	5-9
0.046″	0.023″	0.016″	FIT-221-3/64	100′	37F7022	37F7019	34.95	32.86	30.76	20′	37F6989	37F6980	12.95	12.18	11.40
0.063″	0.031″	0.017″	FIT-221-1/16	100′	37F7023	37F7016	35.45	33.33	31.20	18′	37F6990	37F6981	12.95	12.18	11.40
0.093″	0.046″	0.020″	FIT-221-3/32	100′	37F7024	37F7014	36.75	34.55	32.34	16′	37F6991	37F6982	12.95	12.18	11.40
0.125″	0.062″	0.020″	FIT-221-1/8	100′	37F7025	37F7011	37.95	35.68	33.40	14′	37F6992	37F6983	12.95	12.18	11.40
0.187″	0.093″	0.020″	FIT-221-3/16	100′	37F7026	37F7013	49.95	46.96	43.96	12′	37F6993	37F6984	12.95	12.18	11.40
0.250″	0.125″	0.025″	FIT-221-1/4	100′	37F7027	37F7012	54.95	51.66	48.36	10′	37F6994	37F6985	12.95	12.18	11.40
0.375″	0.187″	0.025″	FIT-221-3/8	100′	37F7028	37F7017	64.95	61.06	57.16	8′	37F6995	37F6986	12.95	12.18	11.40
0.500″	0.250″	0.025″	FIT-221-1/2	20′	37F7029	37F7015	14.95	14.06	13.16	7′	37F6996	37F6987	12.95	12.18	11.40
0.750″	0.375″	0.030″	FIT-221-3/4	20′	37F7030	37F7018	15.95	15.00	14.04	6′	37F6997	37F6988	12.95	12.18	11.40
1.000″	0.500″	0.035″	FIT-221-1	20′	37F7031	37F7020	29.95	28.16	26.36	4′	37F6998	37F6963	12.95	12.18	11.40
1.500″	0.750″	0.040″	FIT-221-1 1/2	20′	37F7032	37F7021	44.95	42.26	39.56	2.5′	37F6999	37F6964	12.95	12.18	11.40
2.000″	1.000″	0.050″	FIT-221-2	20′	37F7033	81F5724	59.95	56.36	52.76	1.5′	37F7000	37F6965	12.95	12.18	11.40
3.000″	1.500″	0.050″	FIT-221-3	8′	37F7034	81F5725	69.95	65.76	61.56	1.0′	37F7001	37F6966	12.95	12.18	11.40
4.000″	2.000″	0.055″	FIT-221-4	8′	37F7035	81F5726	75.95	71.40	66.84	0.5′	37F7002	37F6967	12.95	12.18	11.40

(6504) (ne52705)

FIT®-221V HIGHLY FLAME-RETARDANT, IRRADIATED POLYOLEFIN SHRINK TUBING

VW-1



FIT®-221V is radiation cross-linked polyolefin heat shrinkable tubing. Passes VW-1 vertical wire flame test. For electrical insulation, harness bundling, and cable jacketing. Shrinkage ratio: 2:1 at 121°C. Operating temperature: –40°C to +125°C. Color: black. UL recognized standard 224 and CSA certified standard 198. Also available in white, red, yellow, blue, or green; *contact your local Newark sales office.* **Sold in packages of 4′ (1.219m) and 6″ (152.4mm) lengths.**

Min. Supplied I.D.	Max. Rec. I.D.	Nominal Rec. Wall	Type	4′ Lengths Total	Stock No.	Each	2-4	5-9	6″ Lengths Total	Stock No.	Each	2-4	5-9
0.046″	0.023″	0.016″	FIT-221V-3/64	100′	37F7036	36.95	34.74	32.52	20′	37F7003	13.95	13.12	12.28
0.063″	0.031″	0.017″	FIT-221V-1/16	100′	37F7037	36.95	34.74	32.52	18′	37F7004	13.95	13.12	12.28
0.093″	0.046″	0.020″	FIT-221V-3/32	100′	37F7038	37.95	35.68	33.40	16′	37F7005	13.95	13.12	12.28
0.125″	0.062″	0.020″	FIT-221V-1/8	100′	37F7039	38.95	36.62	34.28	14′	37F7006	13.95	13.12	12.28
0.187″	0.093″	0.020″	FIT-221V-3/16	100′	37F7040	51.95	48.84	45.72	12′	37F7007	13.95	13.12	12.28
0.250″	0.125″	0.025″	FIT-221V-1/4	100′	37F7041	55.95	52.60	49.24	10′	37F7008	13.95	13.12	12.28
0.375″	0.187″	0.025″	FIT-221V-3/8	100′	37F7042	65.95	62.00	58.04	8′	37F7009	13.95	13.12	12.28
0.500″	0.250″	0.025″	FIT-221V-1/2	20′	37F7043	15.95	15.00	14.04	7′	37F7010	13.95	13.12	12.28
0.750″	0.375″	0.030″	FIT-221V-3/4	20′	37F7044	16.95	15.94	14.92	6′	37F6937	13.95	13.12	12.28
1.000″	0.500″	0.035″	FIT-221V-1	20′	37F7045	30.95	29.10	27.24	4′	37F6938	13.95	13.12	12.28
1.500″	0.750″	0.040″	FIT-221V-1 1/2	20′	37F7046	45.95	43.20	40.44	2.5′	37F6939	13.95	13.12	12.28
2.000″	1.000″	0.045″	FIT-221V-2	20′	37F7047	60.95	57.30	53.64	1.5′	37F6940	13.95	13.12	12.28

(6503) (ne52704)

FIT®-321V, NON-ADHESIVE, 3 TO 1 SHRINK RATIO SHRINK TUBING

Use for wire harnesses, wire splices, insulation of terminals, and cable/connector protection/repair. **FIT®-321V** has a shrinkage ratio of approximately 3 to 1 at 90°C. Operating temperature: -45°C to 125°C. UL Standard 224, CSA Standard 198, passes UL VW-1 Flame Test. Available in black or white, *contact your local Newark sales office.*

Min. Supplied I.D.	Max. Expanded	Nom. Rec. Wall	Color	Type	Spool Size	Stock No.	Each
0.093″	0.031″	0.023″	Black	FIT-321V-3/32-500	500′	83F7727	121.81
0.093″	0.031″	0.023″	White	FIT321V-3/32-500	500′	83F7728	121.99
0.125″	0.042″	0.023″	Black	FIT-321V1/8-500 B	500′	83F7729	131.88
0.125″	0.042″	0.023″	White	FIT-321V-1/8-500	500′	83F7730	131.88
0.250″	0.083″	0.023″	Black	FIT-321V1/4-250 B	250′	83F7731	93.07
0.250″	0.083″	0.023″	White	FIT-321V1/4-250 W	250′	83F7732	93.07
0.375″	0.125″	0.023″	Black	FIT-321V3/8-200 B	200′	83F7733	83.19
0.375″	0.125″	0.023″	White	FIT-321V3/8-200 W	200′	83F7734	83.19
0.500″	0.166″	0.024″	Black	FIT-321V1/2-150 B	150′	83F7735	70.36
0.500″	0.166″	0.024″	White	FIT-321V1/2-150 W	150′	83F7736	70.36
0.750″	0.250″	0.024″	Black	FIT-321V3/4-250 B	250′	83F7737	138.72
0.750″	0.250″	0.024″	White	FIT-321V3/4-250 W	250′	83F7738	138.72
1.000″	0.330″	0.024″	Black	FIT-321V-1-IN-250	250′	83F7739	207.26
1.000″	0.330″	0.024″	White	FIT-321V-1-IN-250	250′	83F7740	207.26

(34172) (ne34172)

PERSONALIZED SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

HEAT-SHRINK TUBING

FIT®-321 IRRADIATED POLYOLEFIN SHRINK TUBING

FIT®-321

FIT®-321 offers 3:1 shrink ratio at 125°C. Meets MIL-I-23053/4C, Class 3. Meltable encapsulating adhesive inner wall. Water resistant. Excellent bonding to substrates. Flexible flame-retardant outer wall. Uses include: replace potting/molding compounds; strain relief for electrical connections; cable-to-connector transitions. **Sold in packages of 4′ (1.219m) or 6″ (152.4mm) lengths.**

Type	Min. Supp. I.D.	Max. Rec. I.D.	Nom. Rec. Wall	4′ Lgth. Tot.	Stock No.	Each	2-4	6″ Lgth. Tot.	Stock No.	Each	2-4
FIT-321-1/8	0.120″	0.040″	0.040″	100′	37F7050	172.79	158.44	14′	37F6943	51.25	48.75
FIT-321-1/4	0.240″	0.080″	0.040″	100′	37F7051	263.18	241.32	10′	37F6944	51.25	48.75
FIT-321-1/2	0.470″	0.160″	0.070″	20′	37F7052	78.03	74.22	7′	37F6945	51.25	48.75
FIT-321-1	0.940″	0.320″	0.100″	20′	37F7053	140.99	129.28	4′	37F6946	49.72	47.29
FIT-321-1 1/2	1.570″	0.510″	0.100″	20′	37F7054	231.78	212.53	2.5′	37F6947	51.25	48.75

(6506) (ne53045)

FIT®-621 HIGH RATIO SHRINK TUBING

FIT®-621

FIT®-621 tubing shrinks approximately 6:1 at 120°C. Length is 6″. Moisture protection guaranteed. Suitable for indoor/outdoor applications and direct burial; provides insulation for cables rated to 1000V. Color: black. **Sold in packages of 3.**

Stock No.	Type	Supplied I.D.	Recovered I.D.	Each	2-4	5-9
95F3608	FIT-621-5/8-6IN	0.60″	0.150″	34.44	32.76	30.24
95F3609	FIT-621-1 1/4-6IN	1.25″	0.220″	37.11	35.30	32.58
95F3610	FIT-621-3-6IN	3.00″	0.750″	84.01	79.92	73.77
95F3611	FIT-621-4-6IN	4.00″	0.900″	114.54	105.03	94.50

(6470) (ne02705)

FIT®-300 SURFACE IRRADIATED POLYOLEFIN SHRINK TUBING

FIT®-300

FIT®-300 tough outer wall shrinks, inner wall melts and seals; operating temperature 110°C, 3:1 to 6:1 shrinkage ratio depending on size. Used for component encapsulation, end cap transitions, connector strain relief. Meets MIL-I-23053/4C, Class 1. UL recognized standard 224. **Sold in packages of 4″ (1.219m) or 6″ (152.4mm) lengths.**

Type	Min. Supp. I.D.	Max. Rec. I.D.	Nom. Rec. Wall	4′ Lgth. Tot.	Stock No.	Each	2-4	6″ Lgth. Tot.	Stock No.	Each	2-4
FIT-300-1/8	0.125″	0.023″	0.038″	100′	37F7063	125.26	114.86	7′	37F6956	16.79	15.65
FIT-300-3/16	0.187″	0.060″	0.043″	100′	37F7064	152.90	140.20	6′	37F6957	16.28	15.17
FIT-300-1/4	0.250″	0.080″	0.047″	100′	37F7065	190.35	174.54	5′	37F6958	16.28	15.17
FIT-300-3/10	0.300″	0.050″	0.100″	100′	37F7069	434.69	398.58	2′	37F6962	16.28	15.17
FIT-300-3/8	0.375″	0.135″	0.050″	100′	37F7066	211.98	194.38	4′	37F6959	16.28	15.17
FIT-300-1/2	0.500″	0.195″	0.055″	20′	37F7067	56.58	53.82	3′	37F6960	16.28	15.17
FIT-300-3/4	0.750″	0.313″	0.065″	20′	37F7068	87.13	82.88	2′	37F6961	16.79	15.65

(6505) (ne53044)

FIT®-600 HIGHLY-FLEXIBLE IRRADIATED ELASTOMER

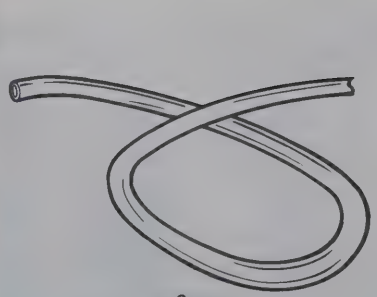
FIT®-600

FIT®-600 is a highly flexible irradiated elastomer tubing with outstanding abrasion resistance properties. For outdoor use as a cable jacketing and harness material where maximum abrasion protection is required. Shrinkage ratio: appoximately 1.75 to 1 at 135°C. 600V maximum per UL Standard 224. CSA Standard 198. MIL-I-23053/1B Class 2†, MIL-R-46846, Type 1, Class 1†. Operating temperature: –70°C to +121°C. Color: black. **Sold in spools of 25′.**

Stock No.	Type	Min. Supp. I.D.	Max. Rec. I.D.	Nom. Wall Thick.	Each	2-4	5-9	10-24
97F8069	FIT-600-1/4	0.250″	0.143″	0.035″	102.30	97.31	89.82	84.83
97F8070	FIT-600-3/8	0.375″	0.214″	0.040″	108.54	99.52	89.55	80.60
97F8071	FIT-600-1/2	0.500″	0.286″	0.048″	120.52	110.51	99.44	89.50
94F5301	FIT-600-5/8	0.625″	0.357″	0.052″	131.45	120.53	108.45	97.61
97F8072	FIT-600-3/4	0.750″	0.428″	0.057″	150.70	138.18	124.34	111.91
97F8073	FIT-600-1	1.000″	0.570″	0.070″	183.88	168.60	151.71	136.54
97F8074	FIT-600-2	2.000″	1.140″	0.110″	410.69	376.58	338.85	304.97

(6405) (de04085)

FIT® FLEX HIGHLY-FLEXIBLE IRRADIATED SILICONE RUBBER



Fit® Flex

Fit® Flex provides strain relief, terminal insulation, cable jacketing, and wire harnessing protection in applications where flexibility and durability are mandatory. Durable in wide range of temperature extremes. Flame retardant. Passes UL VW-1 flame test. Resists extreme heat shock. Outstanding thermal insulator. Suitable sheathing for fiber-optic bundles. Other applications include: electrical appiances, medical equipment, robotic, and other moving equipment. Provides outstanding strain relief and thermal insulation. Resistant to most acids and alkalis. Conforms to peculiar shapes and sizes. UL Standard 224. Operating temperature: –75°C to +200°C. Comes in gray. **Sold in spools of 25′.** Also available in 100′ spools; *contact your local Newark sales office.*

Stock No.	Type	Minimum Supplied	Maximum Recovered	Nominal Wall Thick.	Each	2-4	5-9	10-24
05F1638	FIT FLEX-2	0.112″	0.070″	0.040″	173.44	159.04	143.10	128.79
05F1639	FIT FLEX-3	0.190″	0.116″	0.040″	225.40	206.68	185.97	167.38
05F1640	FIT FLEX-5	0.305″	0.184″	0.040″	304.66	279.36	251.37	226.24
05F1641	FIT FLEX-6	0.391″	0.240″	0.060″	343.86	315.30	283.71	255.34
05F1642	FIT FLEX-9	0.588″	0.357″	0.060″	452.89	415.27	373.67	336.30
05F1643	FIT FLEX-12	0.825″	0.475″	0.080″	665.94	610.63	549.45	494.51
05F1644	FIT FLEX-20	1.217″	0.790″	0.080″	1167.51	1070.53	963.29	866.96

(9934) (de04142)

NEWARK ELECTRONICS® IS AN ISO 9002 COMPANY.

TUBING, HEAT GUNS AND ACCESSORIES

FIT®-115 ADHESIVE-LINED IRRADIATED DUAL-WALL PVC SHRINK TUBING

Use for waterproofing and encapsulation, cable/connector protection, and insulation repairs. PVC bonding adhesive-lined. For irradiated PVC wire and cable. Operating temperature: –20°C to +105°C. Shrinkage ratio: approx. 2:1. Color: black. **Sold in spools of 100′.**

Stock No.	Type	Minimum Supplied I.D.	Maximum Recovered I.D.	Nominal Recovered Wall Thickness	Each
66F8280	FIT-115-3/16	0.187″	0.093″	0.035″	101.98
66F8282	FIT-115-1/4	0.250″	0.125″	0.035″	120.44
66F8284	FIT-115-3/8	0.375″	0.187″	0.035″	133.53
66F8286	FIT-115-1/2	0.500″	0.250″	0.035″	151.43
66F8288	FIT-115-3/4	0.750″	0.375″	0.040″	202.48
66F8290	FIT-115-1B	1.000″	0.500″	0.045″	296.56

(6474) (ne06369)

FIT® WRAP HEAT SHRINKABLE WRAPAROUND SLEEVE WITH ADHESIVE

FIT® WRAP

FIT® WRAP is a flame-retardant wraparound sleeve that repairs damaged or split cables without cutting or disconnecting them from equipment. Acts as a pressure-sensitive adhesive for ease of installation; ensures complete waterproofing, abrasion and corrosion resistance. Provides strain relief, flexibility and an environmental seal. Eliminates need for epoxy, tape, and vulcanizing. Conforms to irregular shapes and sizes. Meets flammability requirements of MIL-I-23053/15A. Insulates and seals cable rated to 600 volts. Operating temperature: –55°C to +110°C. **Sold in packages of 5.**

Stock No.	Type	Minimum Recovered I.D.	Maximum Recovered I.D.	Flat Length	Each
97F8156	FIT WRAP 80-6	0.25″	1.20″	6″	104.98
97F8157	FIT WRAP 80-8	0.25″	1.20″	8″	145.44
97F8158	FIT WRAP 80-16	0.25″	1.20″	16″	263.61
97F8159	FIT WRAP 110-6	0.31″	1.70″	6″	145.44
97F8160	FIT WRAP 110-8	0.31″	1.70″	8″	168.17
97F8161	FIT WRAP 180-6	0.47″	2.05″	6″	154.53
97F8162	FIT WRAP 180-8	0.47″	2.05″	8″	192.82

(6472) (ne04167)

FIT® HEAT GUNS

Fit Gun

Alpha Fit Gun-1 and **Fit Gun-3**: Lightweight, quiet, two-temperature heat guns. Multipurpose for industrial applications; 3-position rocker switch (off-low-high) quiet, brushless DC motor. Ceramic encapsulated heating element protects against coil breakage, reduces internal heat concentration, prolongs coil life and concentrates air flow; lightweight, high impact housing for increased durability. UL listed. CSA certified. Temperature settings: **Fit Gun-1**: Low: 300°C (570°F); High: 566°C (1050°F). **Fit Gun-3**: Low: 400°C (750°F); High: 590°C (1090°F). Price of **Fit Gun-3** includes built-in stand and hanging ring as well as accessory **type GA-20** hook reflector and **type GA-21** concentrator nozzle.

Stock No.	Type	Description	Each
95F3604	FIT-GUN-1	Fit Gun-1	119.12
93F1914	FIT-GUN-3	Fit Gun-3	63.27

(6404) (de03355)

FIT®-PRINT HEAT SHRINKABLE IDENTIFICATION SYSTEM

FIT®-PRINT

FIT®-PRINT is designed to economically meet the wire identification needs of the electronic interconnect, industrial, computer, office automation, marine, and electrical markets. Constructed of polyolefin tubing with a 3:1 shrink ratio, smear-resistant sleeves feed directly into standard typewriters or dot matrix printers. All markers are 2″ wide. UL recognized standard 224. **Sold in spools of 250 markers.**

Stock No.	Type	Approx. Wire Gauge (AWG) Min.	Approx. Wire Gauge (AWG) Max.	Minimum I.D. Space	Color	Each
93F5821	FIT-PRINT-1/8YEL	22	16	0.125″	Yellow	99.22
93F5820	FIT-PRINT-1/8WHT	22	16	0.125″	White	99.22
93F5823	FIT-PRINT-1/4YEL	16	8	0.250″	Yellow	100.59
93F5822	FIT-PRINT-1/4WHT	16	8	0.250″	White	100.59
93F5825	FIT-PRINT-1/2YEL	8	2	0.500″	Yellow	227.54
93F5824	FIT-PRINT-1/2WHT	8	2	0.500″	White	227.54
93F5827	FIT-PRINT-1YEL	2	400	1.000″	Yellow	262.85
93F5826	FIT-PRINT-1WHT	2	400	1.000″	White	262.85

(6469) (ne02703)

HEAT-SHRINK FIT® SAMPLER KITS

Alpha FIT®-KITS provide a complete sampler selection of the most popular FIT® tubing types, colors, and sizes. Kits include assortments of replaceable, task-specific FIT® heat-shrinkable tubing and hardware devices for portability and convenience. In some cases, heat guns and termination tools are included. Kits contain all necessary materials to satisfy strain relief, splicing, connecting, environmental protection, and cable repair needs. Includes rugged, molded carrying case with formed compartments for all components. All kit contents can be purchased individually; *contact your local Newark sales office.*

FIT®-KIT-1

Type	Material	Sizes (Assorted Colors)	6″ Lengths	Stock No.	Each
FIT-105	Vinyl	9 Sizes 3⁄64″-3⁄4″	18	81F9269	98.10
FIT-221	Polyolefin	9 Sizes 3⁄64″-3⁄4″	19		
FIT-295	Semi-Rigid Polyolefin	8 Sizes 3⁄64″-1⁄2″	12		
FIT-300	Surface Irradiated Polyolefin	5 Sizes 1⁄8″-1⁄2″	10		
FIT-350	Kynar	7 Sizes 3⁄64″-3⁄8″	14		
FIT-CAPS	Polyolefin	Cap 1,2,3,4	6 Caps		
FIT-CRIMPS	Nylon	Assortments	5 Markers		

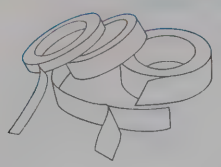
FIT®-KIT-2 (ALSO INCLUDES ALL FIT®-KIT-1 CONTENTS)

Type	Material	Sizes (Assorted Colors)	No. Lengths 6″	No. Lengths 1″	Stock No.	1-3	4-5
FIT-321	Adhesive-Lined Polyolefin	2 Sizes 1⁄4″-1⁄2″	16	24	81F9270	127.26	116.69
FIT-400	FEP Teflon	6 Sizes 12-24 AWG	22				
FIT-500	TFE Teflon	5 Sizes 18-26 AWG	17				
FIT-600	Elastomer	5 Sizes 1⁄4″-1″	8				
FIT-700	Cable Sleeves	2 Sizes 1,2	2				
FIT-750	Adhesive Cable Sleeves	1 Size 3⁄8″		10			

FIT® KIT-7

Type	Material	Sizes (Assorted Colors)	6″ Lengths	Stock No.	Each
FIT-105	Vinyl	7 Sizes 1⁄8″-1⁄2″	14	46F3173	121.81
FIT-130	Mylar	6 Sizes 3⁄32″-1⁄2″	12		
FIT-221	2:1 Polyolefin	7 Sizes 1⁄16″-1⁄2″	28		
FIT-250	Nylon	5 Sizes 1⁄16″-1⁄4″	10		
FIT-260	Ground Lead Polyolefin	3 Sizes 1⁄8″-1⁄2″	6		
FIT-300	Surface Irradiated Polyolefin	4 Sizes 1⁄2″-3⁄8″	8		
FIT-321	3:1 Polyolefin	3 Sizes 1⁄8″-1⁄2″	6		
FIT-350	Kynar	7 Sizes 3⁄64″-1⁄2″	14		
FIT-CRIMPS	Shrink Nylon Crimps	3 Sizes 1-3	12		

(6403) (de03352)

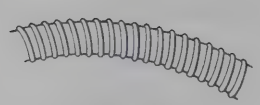


EMI/RFI COPPER SHIELDING TAPE

Provides a low impedance connection between metal connector backshell and braided cable shield in molded cables. The pressure-sensitive adhesive contains a uniform dispersion of unique oxidation-resistant conductive particles resulting in shielding performance approx. 50dB (5dB better than other metal foil shielding tapes). Meets ASTM-D-1000 and MIL-Standard 202C. UL recognized. **Sold in rolls of 36 yards.**

Stock No.	Type	Width	1-4	5-9
50F9571	CST-15-36YDS	1.5″ (38.1)	177.26	162.54
50F9572	CST-20-36YDS	2.0″ (50.8)	233.94	214.51

(6416) (de51084)



FNT

FLEXIBLE NONMETALLIC ELECTRICAL TUBING

- **UL Recognized; CSA Certified (except for ¼ sizes)**
- **Fusion of PVC Construction to Rigid PVC Core Forms Integral Extra-Flexible Tubing**
- **Smooth Inside Facilitates Easy Wire Pulling and Installation**
- **Uses Alpha Connectors to Ensure Liquidtight Integrity**

UL rated: 70°C. Black. **Sold in 100′ spools except *50′.**

Stock No.	Type	Maximum I.D.	Minimum O.D.	Each	2-4	5-9	10-14
03F7389	FNT-1/4	0.405″ (10.29)	0.560″ (14.22)	91.63	84.02	75.60	68.04
03F7391	FNT-3/8	0.504″ (12.80)	0.690″ (17.53)	97.47	89.37	80.42	72.38
03F7393	FNT-1/2	0.642″ (16.31)	0.820″ (20.83)	118.92	109.04	98.12	88.31
03F7395	FNT-3/4	0.840″ (21.34)	1.030″ (26.16)	131.59	120.66	108.57	97.72
03F7397	FNT-1	1.066″ (27.08)	1.290″ (32.77)	204.67	187.67	168.87	151.99
03F7399	FNT-1 1/4	1.410″ (35.81)	1.630″ (41.40)	263.16	241.30	217.13	195.42
03F7401	FNT-1 1/2*	1.600″ (40.64)	1.865″ (47.37)	384.98	353.01	317.64	285.88
03F7403	FNT-2*	2.045″ (51.94)	2.340″ (59.44)	637.39	584.45	525.90	473.31

(6364) (de00583)

FLEXIBLE NONMETALLIC ELECTRICAL CONNECTORS

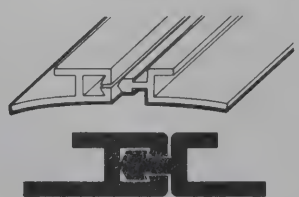
- **Molded of 6/6 Nylon; ASTM D-4066-82**
- **Flammability Classification 94V-2**
- **Liquidtight, Nonmetallic**
- **UL Listed, CSA Certified**

Prefix SLC in type number indicates straight connector; **prefix RLC** indicates right-angle connector. Color: black.

Stock No.	Type	Trade Sizes	Thread Size	1-9	10-24	25-49
50F7718	SLC-3/8-2	0.375″ (9.53)	½ NPT	4.43	4.13	3.82
50F7720	SLC-1/2-2	0.500″ (12.70)	½ NPT	3.27	3.05	2.83
50F7722	SLC-3/4-2	0.750″ (19.05)	¾ NPT	4.43	4.13	3.82
50F7724	SLC-1-2	1.00″ (25.40)	1 NPT	7.83	7.30	6.76
50F7710	RLC-3/8-2	0.375″ (9.53)	½ NPT	4.25	3.96	3.67
50F7712	RLC-1/2-2	0.500″ (12.70)	½ NPT	4.46	4.16	3.86
50F7714	RLC-3/4-2	0.750″ (19.05)	¾ NPT	7.08	6.60	6.12
50F7716	RLC-1-2	1.00″ (25.40)	1 NPT	14.02	13.06	12.11

(6365) (de00593)

ZIP



LOC-TRAC® Closure

PVC ZIPPER TUBING

- **Easy-to-Use Jacket Material Provides Covering for Conductors or Small Cables**
- **Adds Extra Protection for Existing Cables—No Tape Wrapping Required**
- **Ideal for Cable Repairs or Modification—No Need for Disconnections**
- **Loc-Trac® Provides Permanent Closure—Even Under Severe Flexing**
- **Operating Temperature: –36°C to +105°C**
- **Self-Extinguishing (UL VW-1)**
- **UL Recognized, CSA Certified**
- **Sold in Spools of 100′**

GENERAL PURPOSE 0.20″ (5.08) WALL THICKNESS BLACK PVC

Stock No.	Type	Nominal I.D.	Flat Width	Each	2-4	5-9	10-14
04F3749	ZIP-41-1/2	0.500″ (12.70)	2.000″ (50.80)	231.07	211.88	190.65	171.59
04F3750	ZIP-41-5/8	0.625″ (15.88)	2.375″ (60.33)	239.76	219.85	197.82	178.04
04F3751	ZIP-41-3/4	0.750″ (19.05)	2.750″ (69.85)	248.92	228.25	205.38	184.85
04F3752	ZIP-41-7/8	0.875″ (22.23)	3.125″ (79.38)	257.83	236.42	212.73	191.46
04F3753	ZIP-41-1	1.000″ (25.40)	3.562″ (90.47)	287.25	263.39	237.00	213.30
04F3754	ZIP-41-11/8	1.125″ (28.58)	3.937″ (100.00)	277.05	254.04	228.59	205.73
04F3755	ZIP-41-11/4	1.250″ (31.75)	4.125″ (104.78)	281.18	257.82	231.99	208.80
04F3756	ZIP-41-11/2	1.500″ (38.10)	4.875″ (123.83)	299.03	274.19	246.72	222.05
04F3757	ZIP-41-1 3/4	1.750″ (44.45)	5.625″ (142.88)	317.10	290.76	261.63	235.47
04F3758	ZIP-41-2	2.000″ (50.80)	6.375″ (161.93)	359.97	330.07	297.00	267.30

(6363) (de00582)

THIS NEWARK CATALOG IS AVAILABLE ON CD-ROM!
CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR DETAILS.

COPPER BRAIDS AND FIBERGLASS SLEEVING

TINNED COPPER BRAID

TUBULAR BRAID
- Woven Tinned Copper
- Each Strand Meets ASTM-B-33

OVAL BRAID
- Round Construction per QQ-B-575B
- Shield Coverage 95% Minimum

FLAT BRAID
- Woven Tinned Copper
- Combines High Current Carrying Capacity and Flexibility
- Suitable for Grounding and Bonding Strap Applications

The shielding of electronic interconnect cables can play a critical role in overall system performance. System configuration, type of signals transmitted and proximity to noise generating sources all must be considered. These factors plus the type of interference, whether electromagnetic (EMI), electrostatic (ESI) or radio frequency (RFI), will determine the necessity and type of shielding required. Alpha's copper braid conforms to FCC socket 20780 governing EMI and RFI shielding. **Sold in spools of 100′.**

TINNED COPPER TUBULAR BRAID

Nom. I.D.	AWG Equiv.	Circular Mil Area	Type	Amps	Stock No.	Each	2-4	5-9	10-14
1/16″	19	1200	2162	11	02F7917	32.86	29.77	27.20	26.30
7/64″	16	2400	2164	19	02F7919	50.32	45.59	41.65	40.27
1/8″	15	3000	2166	25	02F7920	52.48	47.54	43.43	42.00
11/64″	14	4200	2168	32	02F7921	66.86	60.57	55.34	53.51
13/64″	11	7630	2170	46	02F7922	93.05	84.30	77.02	74.47
1/4″	10	9600	2171	53	03F2631	118.45	109.82	102.39	99.00
9/32″	9	12060	2171/1	60	03F2632	123.55	114.54	106.79	103.26
3/8″	10	9600	2172	53	02F7923	82.59	76.57	71.40	69.18
7/16″	6	24120	2173	90	03F2633	201.40	186.72	174.08	168.33
1/2″	9	13200	2174	62	02F7924	167.37	155.16	144.66	139.89
9/16″	3	48240	2175	145	03F2634	302.97	276.34	258.22	250.03
21/32″	1	77180	2175/1	190	03F2635	439.06	416.36	389.55	371.44
25/32″	7	21600	2176	88	02F7925	222.12	202.60	189.32	183.31

TINNED COPPER OVAL BRAID

1/16″	19	1192	2132	11	02F9791	20.33	18.42	16.83	16.27
11/64″	14	4770	2138	32	02F9792	51.31	46.49	42.47	41.07
1/4″	12	6678	2142	41	02F9794	66.71	60.43	55.21	53.39
3/8″	11	7632	2144	46	02F9795	74.36	67.36	61.55	59.51
1/2″	9	13356	2146	62	04F9483	132.80	123.12	114.79	111.00
5/8″	8	14264	2148	64	04F9484	144.47	133.94	124.88	120.75
11/16″	7	19080	2150	81	04F9485	178.29	165.29	154.10	149.01
25/32″	7	20988	2152	85	04F9486	194.77	180.56	168.35	162.79

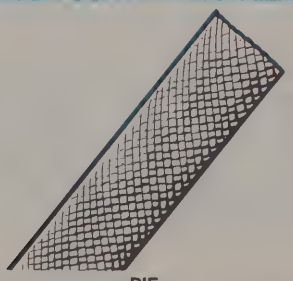
TINNED COPPER FLAT BRAID

Sold in spools of 100′ or 1000′.

				100′ Spool					1000′ Spool				
Flat Width	AWG Equiv.	Circular Mil Area	Type	Stock No.	Each	2-4	5-9	10-14	Stock No.	Each	2-4	5-9	10-14
.025″	27	200	1221	02F7885	20.33	18.42	16.83	16.27	02F7886	156.51	145.10	135.28	130.81
1/32″	24	400	1222	02F7887	21.86	19.81	18.10	17.50	02F7888	167.43	155.22	144.72	139.94
3/64″	22	600	1223	02F7889	23.20	21.02	19.20	18.57	02F7891	178.69	165.66	154.45	149.35
3/32″	19	1200	1224	02F7892	25.75	23.32	21.31	20.60	02F7893	205.78	187.70	175.39	169.83
1/8″	18	1800	1229	02F7894	28.98	26.25	23.98	23.19	02F7895	229.82	209.63	195.88	189.67
3/16″	15	3000	1230	02F7896	31.56	28.59	26.12	25.26	02F7897	255.88	233.39	218.09	211.17
1/4″	14	4200	1231	02F7898	42.84	38.81	35.46	34.28	02F7900	357.04	325.67	304.31	294.66
3/8″	12	7200	1232	02F7901	68.56	62.11	56.75	54.87	02F7903	556.57	527.79	493.81	470.85
1/2″	10	9600	1233/2	02F7904	86.87	78.69	71.89	69.52	02F7906	717.64	680.53	636.72	607.11
5/8″	10	9600	1233	02F7907	82.73	74.95	68.47	66.21	02F7909	744.84	706.89	661.85	631.82
3/4″	7	20800	1234	02F7910	175.24	162.46	151.47	146.47	02F7912	1626.47	1547.79	1453.75	1371.23
1″	7	20800	1235	02F7913	204.35	186.39	174.17	168.64	02F7915	1657.05	1576.89	1481.08	1397.01
1 3/8″	5	33700	1239	02F9052	231.68	211.31	197.46	191.20	02F9054	1985.78	1889.71	1774.90	1674.14
1 1/2″	3	53064	1240	02F9055	374.78	324.14	296.11	277.20	...	...	...	...	...
1 3/4″	2/0	125424	1241	03F3292	613.85	582.11	544.63	519.31	...	...	...	...	...
2″	3/0	154368	1242	02F9056	756.78	718.22	672.46	641.95	...	...	...	...	...
3″	4/0	225000	1242/4	02F9057	1385.60	1318.57	1238.46	1168.16	...	...	...	...	...

(6462) (de52392)

SILICONE RUBBER-COATED FIBERGLASS SLEEVING



PIF

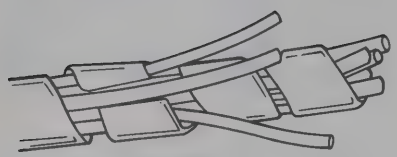
Closely woven, braided fiberglass uniformly coated with silicone rubber. Superior flexibility is unaffected by weather. Easy-to-handle sleeving cuts cleanly and will not fray. UL standard 1441. Operating temperature: –70°C to +200°C. Color: natural. **Sold in spools of 100′.**

Stock No.	Type	Nominal Inside Diameter	Each	2-4	5-9	10-24
05F1950	PIF-200-3/8	0.375″	293.08	268.74	241.82	217.64
04F9108	PIF-200-0	0.330″	223.71	205.13	184.58	166.12
04F9110	PIF-200-2	0.268″	167.02	153.15	137.81	124.03
05F1787	PIF-200-4	0.208″	125.86	115.41	103.85	93.46
04F9111	PIF-200-9	0.119″	98.32	93.53	86.33	81.54
04F9109	PIF-200-14	0.069″	79.40	75.53	69.72	65.85

(6362) (de00581)

SPIRAL WRAP TUBING

Type SW spiral wrap tubing is designed to provide a professional finish to harness installations by eliminating exposed wire and cable. All materials maintain flexibility when bent around sharp edges or corners. Unlimited breakouts and tap off connections may be made through spiral openings. Polyethylene operating temperature: -20°C to +80°C. Nylon operating temperature: -40°C to +120°C. Teflon® operating temperature: –70° to +250°C.



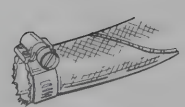
SW

Stock No.	Type	Description	Dia.	Length	Each	2-4	5-9	10-24
04F8682	SW 1 25CLR	Clear Polyethylene	1/8″	25′	3.96	3.69	3.42	3.15
04F8683	SW 2 25CLR		1/4″		7.18	6.69	6.20	5.71
04F8684	SW 3 25CLR		3/8″		10.04	9.35	8.67	7.98
04F8685	SW 4 25CLR		1/2″		11.91	11.09	10.28	9.47
04F8686	SW 5 25CLR		3/4″		16.86	15.71	14.56	13.41
04F8687	SW 6 25CLR		1″		42.64	40.56	37.44	35.36
04F8688	SW 1 100CLR	Clear Polyethylene	1/8″	100′	13.62	12.69	11.77	10.84
04F8689	SW 2 100CLR		1/4″		21.24	20.21	18.65	17.62
04F8690	SW 3 100CLR		3/8″		35.18	33.47	30.89	29.18
04F8691	SW 4 100CLR		1/2″		27.00	25.69	23.71	22.39
04F8692	SW 5 100CLR		3/4″		63.74	60.63	55.97	52.86
04F8693	SW 6 100CLR		1″		146.19	134.05	120.62	108.56
05F1610	SW11-1/4-25WHT	Fire-Resistant Polyethylene	1/4″	25′	17.10	15.93	14.77	13.60
05F1612	SW12-3/8-25WHT		3/8″		28.19	26.82	24.75	23.38
05F1614	SW13-1/2-25WHT		1/2″		36.95	35.14	32.44	30.64
05F1615	SW14-3/4-25WHT		3/4″		63.72	60.61	55.95	52.84
05F1609	SW11-1/4-100WHT	Fire-Resistant Polyethylene	1/4″	100′	57.32	54.53	50.33	47.54
05F1611	SW12-3/8-100WHT		3/8″		101.85	96.88	89.43	84.46
05F1613	SW13-1/2-100WHT		1/2″		113.81	104.36	93.90	84.51
05F1617	SW21-1/4-100 NAT		3/4″		60.01	57.08	52.69	49.76
05F1616	SW20-1/8-25NAT	Nylon	1/8″	25′	10.65	9.93	9.20	8.47
05F1618	SW21-1/4-25NAT		1/4″		17.08	16.15	15.84	...
05F1620	SW22-3/8-25NAT		3/8″		38.79	36.90	34.06	32.17
05F1622	SW23-1/2-25NAT		1/2″		50.09	47.64	43.98	41.54
05F1623	SW24-3/4-25NAT		3/4″		104.79	96.09	86.46	77.82
05F1624	SW25-1-25NAT		1″		134.28	123.13	110.79	99.72
05F1619	SW22-3/8-100-NAT	Nylon	3/8″	100′	119.12	109.23	98.28	88.46
05F1621	SW23-1/2-100NAT		1/2″		154.52	141.68	127.49	114.74
05F1625	SW30-1/8-25NAT	Teflon	1/8″	25′	75.98	72.27	66.71	63.01
05F1626	SW32-3/8-25NAT		3/8″		202.22	185.42	166.85	150.16
05F1627	SW34-3/4-25NAT		3/4″		471.97	432.77	389.42	350.48
05F1628	SW35-1-25NAT		1″		362.49	...	...	...
92F4379	SW31-1/4-100-NAT	Teflon	1/4″	100′	435.74	399.55	359.52	323.57
92F4380	SW32-3/8-100NAT		3/8″		703.24	644.83	580.23	522.21
92F4381	SW33-1/2-100NAT		1/2″		946.80	868.16	781.19	703.07
05F1629	SW40-1/8-25BLK	UV-Resistant Black Polyethylene	1/8″	25′	4.21	3.92	3.63	3.35
05F1631	SW41-1/4-25BLK		1/4″		7.25	6.75	6.26	5.77
05F1633	SW42-3/8-25BLK		3/8″		11.91	11.09	10.28	9.47
05F1635	SW43-1/2-25BLK		1/2″		13.44	12.52	11.61	10.69
05F1636	SW44-3/4-25		3/4″		25.40	24.16	22.31	21.07
05F1637	SW45-1-25		1″		57.24	54.45	50.26	47.47
05F1630	SW41-1/4-100BLK	UV-Resistant Black Polyethylene	1/4″	100′	27.00	25.69	23.71	22.39
05F1632	SW42-3/8-100-BLK		3/8″		38.54	36.66	33.84	31.96
05F1634	SW43-1/2-100BLK		1/2″		50.09	47.64	43.98	41.54

(6396) (de02729)

EXPANDABLE BRAIDED POLYESTER SLEEVING

GRP series lightweight, expandable woven polyester sleeving offers high flexibility with high resistance to abrasion and cutting. Ideal for protecting wire bundles, harnesses, pneumatic hoses, hydraulic lines, cable, and highly polished or threaded machine parts. New fry-resistant version available; *contact you local Newark sales office.*



GRP

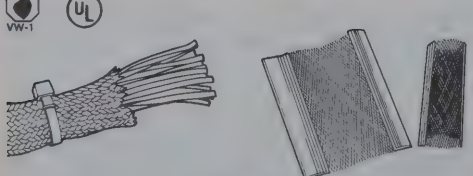
Stock No.	Type	I.D.(in.) Min.	I.D.(in.) Max.	Nom. Wall Thick. (in.)	Length (ft.)	Color	Each	2-4
04F8663	GRP-120-⅛	0.093	0.250	0.025	100	Black	51.23	48.73
04F8666	GRP-120-⅛	0.093	0.437	0.025	100	White	51.23	48.73
04F8667	GRP-120-¼	0.125	0.437	0.025	100	White	73.87	70.26
04F8668	GRP-120-½	0.250	0.750	0.025	100	White	117.08	107.36
04F8669	GRP-120-¾	0.500	1.250	0.025	100	White	174.59	160.09
04F8664	GRP-120-1¼	0.750	1.750	0.025	50	Black	114.21	104.72
04F8670	GRP-120-1¼	0.750	1.750	0.025	50	White	114.21	104.72
04F8665	GRP-120-1¾	1.250	2.750	0.025	50	Black	176.10	161.47
04F8671	GRP-120-1¾	1.250	2.750	0.025	50	White	176.10	161.47
04F8672	GRP-120-2	1.500	3.500	0.025	50	White	201.52	184.78

(6394) (de02725)

EXPANDABLE POLYESTER WEBBED SLEEVING

VW-1 UL

ZIP-GRP series expandable webbing offers superb flexibility and high tensile strength, while providing added protection against flame, chemicals, and abrasion. With its velcro-type enclosure wires, cable assemblies and wire harnesses are always accessible. Great for cable management. Temperature rating: –70°C to +125°C. Passes UL VW-1 Flame Test. Color: black. **Sold in spools of 25′.**



ZIP-GRP

Stock No.	Type	Supplied Diameter Min.	Expanded Diameter Max.	Nominal Flat Width	Each	2-4	5-9	10-24
50F7692	ZIP-GRP-7/8	0.750″	1″	2.500″	131.59	120.66	108.57	97.72
50F7693	ZIP-GRP-1-1/2	1.000″	2.000″	3.750″	142.88	131.01	117.89	106.10
50F7694	ZIP-GRP-2	1.500″	2.125″	5.000″	154.86	142.00	127.77	115.00

(6406) (de04099)

CABLE TIES

CABLE TIES

VOLTREX™ brand

MADE IN USA

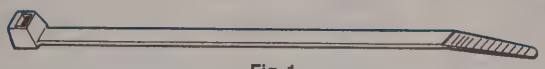


Fig. 1

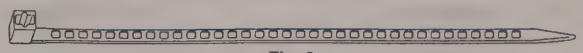


Fig. 2

VRT series are for general-purpose indoor applications. UL94V-2 rated flammability. –40°F to +185°F continuous temperature range. **VUVT series** are for general-purpose outdoor applications. UL94V-2 rated flammability. –40°F to +185°F continuous temperature range. **VHST series** are for higher-temperature, indoor applications. UL94V-2 rated flammability. –40°F to +220°F continuous temperature range. **VTZT series** are for high-temperature, chemical, radiation applications. UL94V-0 rated flammability. –50°F to +302°F continuous temperature range. **VHRT series** for plenum wiring applications. UL94V-0 rated flammability. Low smoke density. –50°F to +248°F continuous temperature range. *Order cable tie installation tools separately on page 1258* **. Sold in packages of quantities listed below.**

VRT SERIES, NATURAL NYLON 6/6 TIES - FIG. 1

Bundle Diameter	Tensile Strength	Length	Width	Stock No.	Type	Pkg. of	Per Pkg. 1-9	Per Pkg. 10-24	Per Pkg. 25-49	Stock No.	Type	Pkg. of	Per Pkg. 1-9	Per Pkg. 10-24	Per Pkg. 25-49
⅝″	18 lbs.	3⅜″	0.08″	**81N1693**	VRT-05M-C	100	**3.00**	**2.55**	**2.29**	**81N1692**	VRT-05M-M	1000	**19.50**	**16.58**	**14.92**
¾″	18 lbs.	4″	0.10″	**78N506**	VRT-06M-C	100	**3.00**	**2.55**	**2.29**	**78N536**	VRT-06M-M	1000	**20.69**	**17.59**	**15.83**
1¼″	18 lbs.	5¾″	0.10″	**84N1531**	VRT101M-M	100	**31.39**	**3.60**	**3.24**	**84N1532**	VRT101M-M	1000	**31.39**	**26.68**	**24.01**
2″	18 lbs.	8″	0.10″	**78N517**	VRT-11M-M	100	**32.08**	**3.60**	**3.24**	**78N530**	VRT-11M-M	1000	**32.08**	**27.27**	**24.54**
1¼″	30 lbs.	6″	0.14″	**78N507**	VRT-10I-M	100	**31.85**	**3.78**	**3.40**	**78N537**	VRT-10I-M	1000	**31.85**	**27.07**	**24.37**
2″	40 lbs.	8½″	0.15″	**78N508**	VRT-16S-M	100	**41.39**	**6.33**	**5.70**	**78N538**	VRT-16S-M	1000	**41.39**	**35.18**	**31.67**
3″	40 lbs.	11½″	0.15″	**16N869**	8409-0379	100	**11.17**	**9.50**	**8.55**	**16N872**	8409-0382	1000	**82.59**	**70.20**	**63.18**
4″	40 lbs.	14½″	0.15″	**16N875**	8409-0385	100	**12.31**	**10.46**	**9.42**	**16N878**	8409-0388	1000	**106.29**	**95.66**	**88.01**
1¾″	50 lbs.	8″	0.18″	**78N518**	VRT-16I-C	100	**6.82**	**5.80**	**5.22**	**78N531**	VRT-16I-M	1000	**41.39**	**35.18**	**31.67**
3″	50 lbs.	11¾″	0.18″	**78N509**	VRT-22S-C	100	**15.52**	**13.19**	**11.87**	**78N539**	VRT-22S-M	1000	**115.19**	**103.67**	**95.38**
4″	50 lbs.	15½″	0.18″	**78N510**	VRT-36S-C	100	**16.55**	**14.07**	**12.66**	**78N540**	VRT-36S-D	500	**51.74**	**43.98**	**39.58**
4″	120 lbs.	15¼″	0.30″	**78N511**	VRT-34H-L	50	**14.48**	**12.31**	**11.08**	**78N541**	VRT-34H-C	100	**39.32**	**33.43**	**30.08**
6″	150 lbs.	21″	0.35″	**16N830**	8409-0340	25	**11.38**	**9.67**	**8.71**	**...**	...	...	**...**	**...**	**...**
8¾″	120 lbs.	29¾″	0.30″	**16N828**	8409-0338	50	**20.69**	**17.59**	**15.83**	**...**	...	...	**...**	**...**	**...**

VUVT SERIES, BLACK WEATHER-RESISTANT NYLON 6/6 TIES - FIG. 1

⅝″	18 lbs.	3⅜″	0.10″	**46N2670**	VUVT-05M-C	100	**3.10**	**2.63**	**2.37**	**46N2679**	VUVT-05M-M	1000	**24.26**	**20.63**	**18.56**
¾″	18 lbs.	4″	0.10″	**46N2671**	VUVT-06M-C	100	**3.31**	**2.81**	**2.53**	**46N2680**	VUVT-06M-M	1000	**22.76**	**19.35**	**17.41**
2″	18 lbs.	8″	0.10″	**46N2672**	VUVT-11M-C	100	**4.75**	**4.04**	**3.64**	**46N2681**	VUVT-11M-M	1000	**36.90**	**31.37**	**28.23**
1¼″	30 lbs.	6″	0.14″	**46N2673**	VUVT-10I-C	100	**4.96**	**4.22**	**3.80**	**46N2682**	VUVT-10I-M	1000	**35.03**	**29.77**	**26.80**
2″	40 lbs.	8½″	0.15″	**46N2675**	VUVT-16S-C	100	**8.27**	**7.03**	**6.33**	**46N2684**	VUVT-16S-M	1000	**49.41**	**42.00**	**37.80**
3″	40 lbs.	11½″	0.15″	**16N870**	8409-0380	100	**12.31**	**10.46**	**9.42**	**16N873**	8409-0383	1000	**90.87**	**77.24**	**69.51**
4″	40 lbs.	14½″	0.15″	**16N876**	8409-0386	100	**13.45**	**11.43**	**10.29**	**16N879**	8409-0389	1000	**116.95**	**105.25**	**96.83**
1¾″	50 lbs.	8″	0.18″	**46N2674**	VUVT-16I-C	100	**7.55**	**6.42**	**5.78**	**46N2683**	VUVT-16I-M	1000	**54.53**	**46.35**	**41.71**
3″	50 lbs.	11¼″	0.18″	**46N2676**	VUVT-22S-C	100	**17.17**	**14.60**	**13.14**	**46N2685**	VUVT-22S-M	1000	**126.68**	**114.01**	**104.89**
4″	50 lbs.	15½″	0.18″	**46N2677**	VUVT-36S-C	100	**17.59**	**14.95**	**13.46**	**46N2686**	VUVT-36S-D	500	**60.54**	**51.46**	**46.31**
4″	120 lbs.	15¼″	0.30″	**46N2678**	VUVT-34H-L	50	**15.73**	**13.37**	**12.03**	**46N2687**	VUVT-34H-C	100	**31.04**	**26.39**	**23.75**
8¾″	120 lbs.	29¾″	0.30″	**16N829**	8409-0339	50	**23.80**	**20.23**	**18.21**	**...**	...	...	**...**	**...**	**...**

VHST SERIES, BLACK HEAT-STABILIZED NYLON 6/6 TIES - FIG. 1

⅝″	18 lbs.	3⅜″	0.08″	**16N855**	8409-0365	100	**3.10**	**2.63**	**2.37**	**16N856**	8409-0366	1000	**19.50**	**16.58**	**14.92**
¾″	18 lbs.	4″	0.10″	**16N857**	8409-0367	100	**3.00**	**2.55**	**2.29**	**16N858**	8409-0368	1000	**20.69**	**17.59**	**15.83**
1¼″	18 lbs.	5¾″	0.10″	**16N859**	8409-0369	100	**4.24**	**3.60**	**3.24**	**16N860**	8409-0370	1000	**31.39**	**26.68**	**24.01**
2″	18 lbs.	8″	0.10″	**16N862**	8409-0372	100	**4.24**	**3.60**	**3.24**	**16N864**	8409-0374	1000	**32.08**	**27.27**	**24.54**
1¼″	30 lbs.	6″	0.14″	**16N865**	8409-0375	100	**4.44**	**3.78**	**3.40**	**16N866**	8409-0376	1000	**31.87**	**27.09**	**24.38**
2″	40 lbs.	8½″	0.15″	**16N867**	8409-0377	100	**7.45**	**6.33**	**5.70**	**16N868**	8409-0378	1000	**41.39**	**35.18**	**31.67**
3″	40 lbs.	11½″	0.15″	**16N871**	8409-0381	100	**11.17**	**9.50**	**8.55**	**16N874**	8409-0384	1000	**82.59**	**70.20**	**63.18**
4″	40 lbs.	14½″	0.15″	**16N877**	8409-0387	100	**12.31**	**10.46**	**9.42**	**16N880**	8409-0390	1000	**106.29**	**95.66**	**88.01**
1¾″	50 lbs.	8″	0.18″	**16N881**	8409-0391	100	**6.82**	**5.80**	**5.22**	**16N882**	8409-0392	1000	**41.39**	**35.18**	**31.67**
3″	50 lbs.	11¾″	0.18″	**16N883**	8409-0393	100	**15.52**	**13.19**	**11.87**	**16N884**	8409-0394	1000	**115.19**	**103.67**	**95.38**
4″	50 lbs.	15½″	0.18″	**16N885**	8409-0395	100	**16.55**	**14.07**	**12.66**	**16N886**	8409-0396	1000	**51.74**	**43.98**	**39.58**

VTZT SERIES, AQUA BLUE TEFZEL® TIES - FIG. 1

Stock No.	Type	Bundle Diameter	Tensile Strength	Length	Width	Pkg. of	Per Pkg. 1-9	Per Pkg. 10-24	Per Pkg. 25-49
16N850	8409-0360	⅞″	18 lbs.	4″	0.10″	100	**41.82**	**35.55**	**31.99**
16N851	8409-0361	1¾″	50 lbs.	8″	0.18″	100	**78.97**	**67.13**	**60.42**

VHRT SERIES, RED HALAR® TIES - FIG. 1

16N948	8459-0666	⅞″	18 lbs.	4″	0.10″	100	**15.95**	**13.56**	**11.49**
16N949	8459-0667	1¾″	50 lbs.	8″	0.18″	100	**25.95**	**22.06**	**18.69**

LADDER TIES - FIG. 2

Not tool installable.

92N3613	1703	1¾″	40 lbs.	7″	0.14″	100	**3.41**	**2.90**	**2.61**
92N3614	1704	3″	40 lbs.	11″	0.14″	100	**8.79**	**7.47**	**6.73**

(6487) (ne50680)

SAME-DAY SHIPMENT ON ORDERS PLACED BY 5:00 PM C.S.T.

CABLE TIES

VOLTREX™ BRAND CABLE TIES

Fig. 1 - Screw Mount

Fig. 2 - Push Mount

Fig. 3 - Flag/Marker Tie

Fig. 4 - Flag/Marker Tie

Fig. 5 - Flag/Marker Tie

Fig. 6 - Beaded Tie

Fig. 7 - Standard Releasable

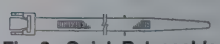


Fig. 8 - Quick Releasable

Fig. 9 - Hook-and-Loop

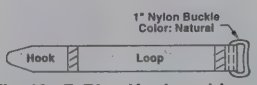


Fig. 10 - D-Ring Hook-and-Loop

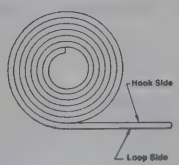


Fig. 11 - Hook-and-Loop Rolls

Fig. 12
Twist-Lock

Fig. 13
Kurly-Lok

VMT SERIES, NATURAL NYLON 6/6 SCREW MOUNT TIES - FIG. 1

Ties secure wire bundles with a common screw and pre-drilled hole.

Bundle Diameter	Tensile Strength	Length	Width	Screw Size	Stock No.	Type	Pkg. of	1-9	10-24	Stock No.	Type	Pkg. of	1-9	10-24
¾″	18 lbs.	4¼″	0.10″	#4	16N832	8409-0342	100	13.24	11.26	16N833	8409-0342	1000	93.56	79.52
1¼″	30 lbs.	6¼″	0.14″	#8	16N834	8409-0344	100	13.35	11.34	16N835	8409-0344	1000	98.63	83.83
1½″	50 lbs.	6¾″	0.18″	#10	78N512	VMT-12S-C	100	13.71	11.65	16N836	VMT-12S-C	1000	94.18	80.05
4″	120 lbs.	16¼″	0.30″	¼″	16N837	8409-0347*	100	14.38	12.22	...	...	1000	...	...

VPMT SERIES, NATURAL NYLON 6/6 PUSH MOUNT TIES - FIG. 2

Ties snap into a pre-drilled hole.

Bundle Diameter	Tensile Strength	Length	Width	Hole Size	Stock No.	Type	Pkg. of	1-9	10-24	Stock No.	Type	Pkg. of	1-9	10-24
1¼″	30 lbs.	6½″	0.14″	0.187″	16N838	8409-0348	100	11.38	9.67	16N839	8409-0349	1000	86.11	73.19
1¾″	50 lbs.	8½″	0.18″	0.250″	16N840	8409-0351	100	98.63	83.83	16N841	8409-0351	1000	98.63	83.83

VFMT SERIES, NATURAL NYLON 6/6, FLAG AND MARKER TIES - FIGS. 3, 4, 5

Ties bundles and identify wires. Can be marked with **type TNMP-0** SPC marker pen; *order separately on page 1258.*

Bundle Diameter	Tensile Strength	Length	Width	Fig.	Stock No.	Type	Pkg. of	1-9	10-24	Stock No.	Type	Pkg. of	1-9	10-24
¾″	18 lbs.	4″	0.10″	3	16N842	8409-0352	100	10.14	8.62	16N843	8409-0353	1000	78.96	67.12
¾″	18 lbs.	4¼″	0.10″	4	16N844	8409-0354	100	10.24	8.70	16N845	8409-0355	1000	78.96	67.12
1¾″	50 lbs.	8″	0.18″	5	16N846	8409-0356	100	16.55	14.07	16N847	8409-0357	1000	142.82	128.54

COLORED BEADED TIES - FIG. 6▲

Wrap around wire bundle thread through specially designed loop, pull tight, and lock in place. To add more to bundle, open the tie, add wires, and refasten. High-dielectric strength makes beaded ties perfect for electrical harnesses.

Stock No.	Type	Length	Color	Material	Pkg. of	1-4	5-9
32N692	BTP-4-RED	4″	Red	Polyethylene	100	5.63	4.79
32N1250	BTP-4-YEL	4″	Yellow	Polyethylene	100	5.63	4.79
32N1251	BTP-4-BLU	4″	Blue	Polyethylene	100	5.63	4.79
32N1267	BTN-4-WHT	4″	White	Polyethylene	100	5.55	4.72
23N3683	BTP-6-RED	6″	Red	Nylon	100	9.61	8.17
23N3684	BTP-6-YEL	6″	Yellow	Polyethylene	100	9.61	8.17
23N3685	BTP-6-BLU	6″	Blue	Polyethylene	100	9.61	8.17
23N3686	BTN-6-WHT	6″	White	Polyethylene	100	9.15	7.78
23N3687	BTP-8-RED	8″	Red	Nylon	100	12.63	10.74
23N3688	BTP-8-YEL	8″	Yellow	Polyethylene	100	12.63	10.74
23N3689	BTP-8-BLU	8″	Blue	Polyethylene	100	12.63	10.74
23N3690	BTN-8-WHT	8″	White	Polyethylene	100	12.05	10.24
92N4772	BTN-8-WHT-M	8″	White	Nylon	1000*	36.99	...
23N3693	BTP-10-BLU	10″	Blue	Polyethylene	100	15.40	13.09
23N3694	BTN-10-WHT	10″	White	Nylon	100	14.70	12.50

*While quantities last.

VRTR SERIES, NATURAL NYLON STANDARD RELEASABLE TIES - FIG. 7▲

Ideal for applications that require changing or repair. Tie is easily removed by depressing protruding tab in head.

Stock No.	Type	Bundle Diameter	Tensile Strength	Length	Width	Pkg. of	1-9	10-24	24-49
81N1697	VRTR-12S-C	1½″	50 lbs.	6″	0.19″	100	7.00	5.95	5.36
81N1699	VRTR-16S-C	2″	50 lbs.	8″	0.19″	100	8.16	6.94	6.24
95N3331	VRTR-32S	4″	50 lbs.	15½″	0.18″	100	21.73	18.47	16.62

NATURAL NYLON QUICK RELEASABLE TIES - FIG. 8▲

Releasable, adjustable and reusable. Tie releases by simply pressing tab with finger; no tools required.

Stock No.	Type	Bundle Diameter	Tensile Strength	Length	Width	Pkg. of	1-9	10-24	24-49
16N979	8408-0416	2″	40 lbs.	8″	0.21″	100	15.82	13.45	12.10
92N4818	2603	2½″	40 lbs.	10½″	0.21″	100	20.65	17.55	15.80
16N980	8408-0417	4¼″	40 lbs.	15½″	0.21″	100	34.15	30.73	28.28

CONTINUED

CABLE TIES

VOLTREX™ BRAND CABLE TIES (CONT.)

BLACK HOOK-AND-LOOP RELEASABLE TIES - FIG. 9▲

Easy to wrap and unwrap. Ideal for power cords, extension cords, and computer cable. Other colors available; *contact your local Newark sales office for details.*

Stock No.	Type	Bundle Diameter	Length	Width	Pkg. of	1-9	10-24	24-49
16N981	8408-0418	1″	6″	½″	10	**12.67**	**10.77**	**9.69**
16N982	8408-0419	1½″	8″	½″	10	**13.87**	**11.79**	**10.61**
16N983	8408-0420	2½″	11″	½″	10	**16.69**	**14.19**	**12.77**
16N984	8408-0421	3½″	15″	¾″	10	**34.61**	**29.42**	**26.48**

▲Not tool installable.

D-RING HOOK-AND-LOOP RELEASABLE TIES - FIG.10▲

Allows for easy bunding of cable for permanent or temporary use. Woven nylon tie with 1″ nylon D-ring buckle for easy cinching. Releasable, adjustable, and reusable. Choose from 7 popular colors. Operating temperature: 120°. **Sold in multiples of 10.**

Stock No.	Type	Color	Bundle Diameter	Length	Width	Each
50N928	SPC5345	Black	2″	9″	1″	**1.45**
50N935	SPC5352	Black	3″	12″	1″	**1.50**
50N942	SPC5359	Black	4″	15″	1″	**1.75**
50N949	SPC5366	Black	5″	20″	1″	**1.95**
50N956	SPC5373	Black	6½″	24″	1″	**2.25**
50N929	SPC5346	White	2″	9″	1″	**1.45**
50N936	SPC5353	White	3″	12″	1″	**1.50**
50N943	SPC5360	White	4″	15″	1″	**1.75**
50N950	SPC5367	White	5″	20″	1″	**1.95**
50N957	SPC5374	White	6½″	24″	1″	**2.25**
50N930	SPC5347	Red	2″	9″	1″	**1.45**
50N937	SPC5354	Red	3″	12″	1″	**1.50**
50N944	SPC5361	Red	4″	15″	1″	**1.75**
50N951	SPC5368	Red	5″	20″	1″	**1.95**
50N958	SPC5375	Red	6½″	24″	1″	**2.25**
50N931	SPC5348	Blue	2″	9″	1″	**1.45**
50N938	SPC5355	Blue	3″	12″	1″	**1.50**
50N945	SPC5362	Blue	4″	15″	1″	**1.75**
50N952	SPC5369	Blue	5″	20″	1″	**1.95**
50N959	SPC5376	Blue	6½″	24″	1″	**2.25**
50N932	SPC5349	Green	2″	9″	1″	**1.45**
50N939	SPC5356	Green	3″	12″	1″	**1.50**
50N946	SPC5363	Green	4″	15″	1″	**1.75**
50N953	SPC5370	Green	5″	20″	1″	**1.95**
50N960	SPC5377	Green	6½″	24″	1″	**2.25**
50N933	SPC5350	Orange	2″	9″	1″	**1.45**
50N940	SPC5357	Orange	3″	12″	1″	**1.50**
50N947	SPC5364	Orange	4″	15″	1″	**1.75**
50N954	SPC5371	Orange	5″	20″	1″	**1.95**
50N961	SPC5378	Orange	6½″	24″	1″	**2.25**
50N934	SPC5351	Yellow	2″	9″	1″	**1.45**
50N941	SPC5358	Yellow	3″	12″	1″	**1.50**
50N948	SPC5365	Yellow	4″	15″	1″	**1.75**
50N955	SPC5372	Yellow	5″	20″	1″	**1.95**
50N962	SPC5379	Yellow	6½″	24″	1″	**2.25**

▲Not tool installable.

HOOK-AND -LOOP ROLLS - FIG. 11▲

Create the cable tie size required by cutting only the length needed and saving the remainder for future use. Low-density polyethylene hook with durable nylon knit loop. Releasable, adjustable, and reusable. Choose from 6 popular colors. Operating temperature: 120°. Individually wrapped. **Sold in 15′ rolls.**

Stock No.	Type	Color	Bundle Diameter	Length	Width	Per Roll
50N691	SPC5325	Black	Various	15′	¾″	**14.95**
50N693	SPC5327	Red	Various	15′	¾″	**14.95**
50N692	SPC5326	Blue	Various	15′	¾″	**14.95**
50N694	SPC5328	Green	Various	15′	¾″	**14.95**
50N963	SPC5380	Orange	Various	15′	¾″	**14.95**
50N695	SPC5329	Yellow	Various	15′	¾″	**14.95**

▲Not tool installable.

TWIST-LOCK NYLON TIES - FIG. 12

Nylon 6/6 twist-type ties are ideal for wire bundling and a variety of other applications. Easy to use and reuse. Simply twist to secure wire bundles and untwist to unwrap. UL recognized.

Diameter	Color	Stock No.	Type	Pkg. of	1-4	5-9	Stock No.	Type	Pkg. of	1-4	5-9
0.20-0.30″	Natural	**78N594**	TWT-3	100	**5.84**	**4.97**	...	...	...	...	...
0.20-0.30″	Green	**90N6331**	TWT-3-CG GRN	100	**6.05**	**5.14**	**90N6334**	TWT-3-MG	1000*	**56.10**	**47.69**
0.30-0.40″	Natural	**78N595**	TWT-4	100	**6.21**	**5.28**	...	...	...	...	...
0.30-0.40″	Blue	**90N6332**	TWT-4-CB BLUE	100	**6.46**	**5.49**	**90N6335**	TWT-4-MB	1000*	**59.99**	**50.99**
0.40-0.50″	Natural	**78N596**	TWT-5	100	**6.96**	**5.92**	**90N6330**	TWT-5-MN	1000*	**64.67**	**54.97**
0.70-0.80″	Natural	**78N597**	TWT-8	100	**8.16**	**6.94**	...	...	...	...	...
0.70-0.80″	Yellow	**90N6333**	TWT-8-CY YEL	100	**8.45**	**7.18**	**90N6336**	TWT-8-MY	1000*	**78.42**	**66.65**

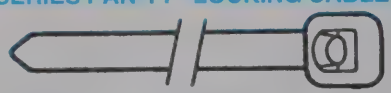
*While quantities last.

KURLY-LOK NYLON TIES - FIG. 13

Nylon 6/6 twist-type ties fasten and release with a fingertip twist. Easy to use and reuse. Rounded edges prevent abrasion. Holds up to 20 lbs. tensile strength. UL recognized.

Stock No.	Type	Bundle Diameter	Color	Pkg. of	1-4	5-9
16N2823	8408-0934	0.20-0.30″	Blue	1000	**49.68**	**42.23**
16N2824	8408-0935	0.30-0.40″	Orange	1000	**53.82**	**45.75**
16N2825	8408-0936	0.40-0.50″	Brown	1000	**57.96**	**49.27**
92N9073	LWT-6-NATURAL	0.55-0.65″	Natural	100	**63.97**	**54.37**
16N2826	8408-0937	0.55-0.65″	Yellow	1000	**64.59**	**54.90**
16N8046	8408-0933	0.55-0.65″	Black	1000	**67.24**	**57.15**
16N2827	8408-0938	0.70-0.80″	Lime Green	1000	**70.80**	**60.18**

PLT SERIES PAN-TY® LOCKING CABLE TIES



Natural nylon 66 cable ties for most applications pass UL 94V-2 flammability test requirements. Tie bundle diameters up to 13″ and have minimum loop tensile strength from 12-120 lbs. Can be joined together for even larger diameters. Operating temperature range: –40°C to +85°C. Minimum loop tensile strength stated is strength when tested in accordance with MIL-S-23190E specifications. UL recognized. Outdoor and high-temperature cable ties also available; *contact your local Newark sales office for details.* **Sold in package quantities indicated below.**

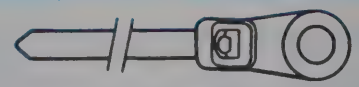
SPECIFICATIONS

Type	Max. Bundle Diameter	Length	Min. Loop Tensile Strength	Cross Section/Width
PLT.6SM-C	0.60″	2.8″	12 lbs.	Sm. 0.07″
PLT.7M-C	0.68″	3.1″	18 lbs.	Min. 0.09″
PLT1M-C	0.87″	3.9″	18 lbs.	Min. 0.09″
PLT1.5M-C	1.25″	5.6″	18 lbs.	Min. 0.09″
PLT2M-C	2.00″	8.0″	18 lbs.	Min. 0.10″
PLT1.5I-C	1.38″	5.6″	40 lbs.	Int. 0.14″
PLT2I-C	2.00″	8.0″	40 lbs.	Int. 0.14″
PLT3I-C	3.00″	11.4″	40 lbs.	Int. 0.14″
PLT4I-C	4.00″	14.6″	40 lbs.	Int. 0.14″
PLT1S-C	1.00″	4.8″	50 lbs.	Std. 0.19″
PLT2S-C	1.88″	7.4″	50 lbs.	Std. 0.19″
PLT2.5S-C	2.50″	9.8″	50 lbs.	Std. 0.19″
PLT3S-C	3.00″	11.5″	50 lbs.	Std. 0.19″
PLT4S-C	4.00″	14.5″	50 lbs.	Std. 0.19″
PLT2H-L	2.00″	8.1″	120 lbs.	Lt. Hvy. 0.30″
PLT4H-L	4.00″	14.5″	120 lbs.	Lt. Hvy. 0.30″
PLT6LH-L	6.00″	21.9″	120 lbs.	Lt. Hvy. 0.30″
PLT7LH-L0	7.00″	24.7″	120 lbs.	Lt. Hvy. 0.30″
PLT8H-L0	8.00″	27.6″	120 lbs.	Lt. Hvy. 0.30″
PLT9LH-L	9.00″	30.5″	175 lbs.	Lt. Hvy. 0.30″
PLT.6SM-M	0.60″	2.8″	12 lbs.	Sm. 0.07″
PLT.7M-M	0.68″	3.1″	18 lbs.	Min. 0.09″
PLT1M-M	0.87″	3.9″	18 lbs.	Min. 0.09″
PLT1.5M-M	1.25″	5.6″	18 lbs.	Min. 0.09″
PLT2M-M	2.00″	8.0″	18 lbs.	Min. 0.10″
PLT1.5I-M	1.38″	5.6″	40 lbs.	Int. 0.14″
PLT2I-M	2.00″	8.0″	40 lbs.	Int. 0.14″
PLT3I-M	3.00″	11.4″	40 lbs.	Int. 0.14″
PLT4I-M	4.00″	14.6″	40 lbs.	Int. 0.14″
PLT1S-M	1.00″	4.8″	50 lbs.	Std. 0.19″
PLT2S-M	1.88″	7.4″	50 lbs.	Std. 0.19″
PLT2.5S-M	2.50″	9.8″	50 lbs.	Std. 0.19″
PLT3S-M	3.00″	11.5″	50 lbs.	Std. 0.19″
PLT4S-M	4.00″	14.5″	50 lbs.	Std. 0.19″
PLT2H-D	2.00″	8.1″	120 lbs.	Lt. Hvy. 0.30″
PLT4H-TL	4.00″	14.5″	120 lbs.	Lt. Hvy. 0.30″
PLT6LH-C	6.00″	21.9″	120 lbs.	Lt. Hvy. 0.30″
PLT7LHC	7.00″	24.7″	120 lbs.	Lt. Hvy. 0.30″
PLT9LH-C	9.00″	30.5″	120 lbs.	Lt. Hvy. 0.30″

Stock No.	Type	Pkg. of	Per Pkg. Each	Per Pkg. 2-4	Stock No.	Type	Pkg of	Per Pkg.
84F1313	PLT.6SM-C	100	12.37	11.80	84F1314	PLT.6SM-M	1000	30.19
89F229	PLT.7M-C	100	11.40	10.83	89F230	PLT.7M-M	1000	20.93
78F506	PLT1M-C	100	12.00	9.37	78F536	PLT1M-M	1000	24.00
78F580	PLT1.5M-C	100	15.91	15.17	78F586	PLT1.5M-M	1000	34.37
78F581	PLT2M-C	100	19.44	18.54	78F587	PLT2M-M	1000	35.72
78F507	PLT1.5I-C	100	13.93	10.88	78F537	PLT1.5I-M	1000	37.28
78F582	PLT2I-C	100	24.24	23.11	78F588	PLT2I-M	1000	46.56
78F584	PLT3I-C	100	27.38	26.29	78F590	PLT3I-M	1000	100.04
78F585	PLT4I-C	100	36.22	34.78	78F611	PLT4I-M	1000	156.00
94F3125	PLT1S-C	100	20.20	19.26	94F2841	PLT1S-M	1000	66.98
78F508	PLT2S-C	100	17.91	17.01	78F538	PLT2S-M	1000	91.34
84F1315	PLT2.5S-C	100	34.07	32.71	84F1316	PLT2.5S-M	1000	130.53
78F509	PLT3S-C	100	36.20	34.39	78F539	PLT3S-M	1000	130.01
78F510	PLT4S-C	100	41.19	39.13	78F540	PLT4S-M	1000	146.67
84F1317	PLT2H-L	50	23.98	22.87	84F1318	PLT2H-D	500	113.60
78F511	PLT4H-L	50	29.54	28.36	90F1729	PLT4H-TL	250	87.32
95F3557	PLT6LH-L	50	42.80	41.09	95F3558	PLT6LH-C	100	60.89
84F637	PLT7LH-L0	50	53.47	51.34	98F1691	PLT7LHC	100	63.53
84F639	PLT8H-L0	50	73.78	68.40	...	...	...	...
50F2901	PLT9LH-L	50	59.27	54.95	84F1320	PLT9LH-C	100	86.26

(6501) (ne51344)

PLC SERIES PAN-TY® LOCKING CLAMP TIES



Natural nylon 66 cable ties for most applications pass UL 94V-2 flammability test. Used to attach a bundle of wires to another surface such as a control panel, wall or ceiling. Design allows for bundling before or after screwing clamp in place. Operating temperature range: –40°C to +85°C. Minimum loop tensile strength stated is strength when tested in accordance with MIL-S-23190E. UL recognized. Outdoor and high-temperature cable ties also available; *contact your local Newark sales office for details.* **Sold in package quantities indicated below.**

SPECIFICATIONS

Type	Screw Type	Max. Bundle Diameter	Length	Min. Loop Tensile Strength	Cross Section/Width
PLC1M-S4-C	#4	0.75″	04.3″	18 lbs.	Min. 0.10″
PLC1.5I-S8-C	#8	1.25″	06.1″	40 lbs.	Int. 0.14″
PLC2S-S10-C	#10	1.84″	07.9″	50 lbs.	Std. 0.19″
PLC3S-S10-C	#10	3.00″	12.0″	50 lbs.	Std. 0.19″
PLC4S-S10-C	#10	4.00″	15.0″	50 lbs.	Std. 0.19″
PLC4H-S25-L	¼	4.00″	15.1″	120 lbs.	Lt. Hvy. 0.30″
PLC1M-S4-M	#4	0.75″	04.3″	18 lbs.	Min. 0.10″
PLC1.5I-S8-M	#8	1.25″	06.1″	40 lbs.	Int. 0.14″
PLC2S-S10-M	#10	1.84″	07.9″	50 lbs.	Std. 0.19″
PLC3S-S10-M	#10	3.00″	12.0″	50 lbs.	Std. 0.19″
PLC4S-S10-M	#10	4.00″	15.0″	50 lbs.	Std. 0.19″
PLC4H-S25-D	¼″	4.00″	15.1″	120 lbs.	Lt. Hvy. 0.30″

Stock No.	Type	Pkg. of	Per Pkg.	Stock No.	Type	Pkg. of	Per Pkg.
94F3118	PLC1M-S4-C	100	22.86	70B1399	PLC1M-S4-M	1000	133.72
94F3117	PLC1.5I-S8-C	100	24.15	84F1323	PLC1.5I-S8-M	1000	141.68
78F512	PLC2S-S10-C	100	27.17	78F542	PLC2S-S10-M	1000	138.49
84F1325	PLC3S-S10-C	100	57.24	84F1978	PLC3S-S10-M	1000	248.33
84F1326	PLC4S-S10-C	100	62.72	84F1979	PLC4S-S10-M	1000	307.23
89F223	PLC4H-S25-L	50	40.32	89F222	PLC4H-S25-D	500	283.16

(13162) (ne10415)

PAN-TY® MARKER TIES

Fig. 1 Fig. 2

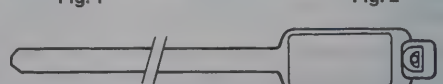


Fig. 3

Natural nylon 66 cable ties for most applications pass UL94V-2 flammability test requirements. Marker ties fasten and identify bundles simultaneously. Operating temperature range: –40°C to +85°C. Minimum loop tensile strength stated is strength when tested in accordance with MIL-S-23190E specifications. UL recognized. Outdoor and high-temperature cable ties also available; *contact your local Newark sales office for details.* **Sold in package quantities indicated below.**

SPECIFICATIONS

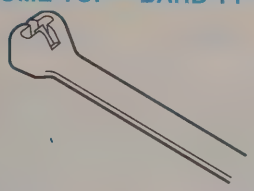
Type	Fig.	Marker Size	Max. Bundle Diameter	Length	Min. Loop Tensile Strength	Cross Section/Width
PLM1M-C	1	0.26 x 0.95″	0.75″	03.9″	18 lbs.	Min. 0.10″
PLM2M-C	1	0.26 x 0.95″	2.00″	08.0″	18 lbs.	Min. 0.10″
PLF1M-C	2	0.75 x 0.31″	0.87″	04.3″	18 lbs.	Min. 0.10″
PLF1MA-C	2	0.76 x 1.04″	0.87″	05.1″	18 lbs.	Min. 0.10″
PLM2S-C	3	0.44 x 0.87″	1.75″	07.4″	50 lbs.	Std. 0.19″
PLM4S-C	3	0.44 x 2.00″	4.00″	14.6″	50 lbs.	Std. 0.19″
PLM1M-M	1	0.26 x 0.95″	0.75″	03.9″	18 lbs.	Min. 0.10″
PLM2M-M	1	0.26 x 0.95″	2.00″	08.0″	18 lbs.	Min. 0.10″
PLF1M-M	2	0.75 x 0.31″	0.87″	04.3″	18 lbs.	Min. 0.10″
PLF1MA-M	2	0.76 x 1.04″	0.87″	05.1″	18 lbs.	Min. 0.10″
PLM2S-D	3	0.44 x 0.87″	1.75″	07.4″	50 lbs.	Std. 0.19″
PLM4S-D	3	0.44 x 2.00″	4.00″	14.6″	50 lbs.	Std. 0.19″

Stock No.	Type	Pkg. of	Per Pkg. Each	Per Pkg. 2-4	Stock No.	Type	Pkg. of	Per Pkg.
78F513	PLM1M-C	100	26.31	25.26	78F543	PLM1M-M	1000	139.93
94F3120	PLM2M-C	100	35.79	34.37	94F2835	PLM2M-M	1000	200.57
78F592	PLF1M-C	100	26.31	25.26	78F593	PLF1M-M	1000	139.93
84F1958	PLF1MA-C	100	40.75	39.13	84F1959	PLF1MA-M	1000	205.35
78F514	PLM2S-C	100	50.88	48.86	90F1725	PLM2S-D	500	131.31
94F3164	PLM4S-C	100	63.53	58.90	84F1322	PLM4S-D	500	154.16

(13166) (ne10416)

SAME-DAY SHIPMENT ON ORDERS PLACED BY 5:00 PM C.S.T.

BT SERIES DOME-TOP™ BARB-TY® CABLE TIES



Natural nylon 6-6 cable ties for most applications UL94V-2 flammability test requirements. Operating temperature range: –40°C to +85°C. Minimum tensile strength stated refers to strength when tested in accordance with MIL-S-23190E specifications. UL recognized. Outdoor and high-temperature cable ties also available; *contact your local Newark sales office for details.*

SPECIFICATIONS

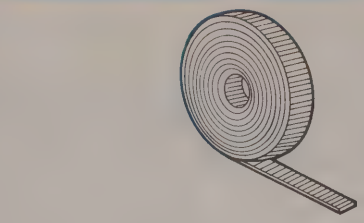
Type	Max. Bundle Diameter	Length	Min. Loop Tensile Strength	Cross Section/ Width
BT1M-C	0.90″	4.0″	18 lbs.	Min. 0.095″
BT1.5M-C	1.50″	6.3″	18 lbs.	Min. 0.095″
BT2M-C	2.00″	7.9″	18 lbs.	Min. 0.095″
BT3M-C	3.00″	11.1″	18 lbs.	Min. 0.095″
BT4M-C	4.00″	14.2″	18 lbs.	Min. 0.095″
BT1.5I-C	1.50″	6.1″	40 lbs.	Int. 0.141″
BT2I-C	2.00″	8.0″	40 lbs.	Int. 0.141″
BT3I-C	3.00″	11.1″	40 lbs.	Int. 0.141″
BT4I-C	4.00″	14.3″	40 lbs.	Int. 0.141″
BT2S-C	2.00″	8.0″	50 lbs.	Std. 0.185″
BT3S-C	3.00″	12.0″	50 lbs.	Std. 0.185″
BT4S-C	4.00″	15.1″	50 lbs.	Std. 0.185″
BT5LH-C	5.00″	18.1″	120 lbs.	Lt. Hvy. 0.275″
BT6LH-C	6.00″	21.2″	120 lbs.	Lt. Hvy. 0.275″
BT7LH-L	7.00″	24.4″	120 lbs.	Lt. Hvy. 0.275″
BT8LH-L	8.00″	27.5″	120 lbs.	Lt. Hvy. 0.275″
BT9LH-L	9.00″	30.7″	120 lbs.	Lt. Hvy. 0.275″
BT1M-M	0.90″	4.0″	18 lbs.	Min. 0.095″
BT1.5M-M	1.50″	6.3″	18 lbs.	Min. 0.095″
BT2M-M	2.00″	7.9″	18 lbs.	Min. 0.095″
BT3M-M	3.00″	11.1″	18 lbs.	Min. 0.095″
BT4M-M	4.00″	14.2″	18 lbs.	Min. 0.095″
BT1.5I-M	1.50″	6.1″	40 lbs.	Int. 0.141″
BT2I-M	2.00″	8.0″	40 lbs.	Int. 0.141″
BT3I-M	3.00″	11.1″	40 lbs.	Int. 0.141″
BT4I-M	4.00″	14.3″	40 lbs.	Int. 0.141″
BT2S-M	2.00″	8.0″	50 lbs.	Std. 0.185″
BT3S-M	3.00″	12.0″	50 lbs.	Std. 0.185″
BT4S-M	4.00″	15.1″	50 lbs.	Std. 0.185″

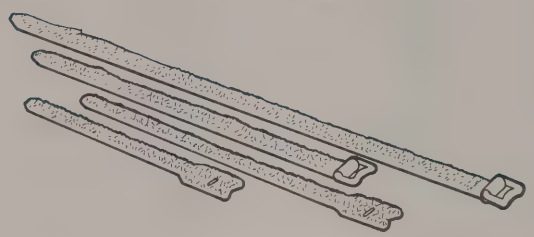
Stock No.	Type	Pkg. of	Per Pkg. Each	2-4	5-9
96F9934	BT1M-C	100	13.89	13.24	12.65
16F5111	BT1.5M-C	100	15.91	15.17	14.49
16F5112	BT2M-C	100	19.44	18.54	17.71
16F5137	BT3M-C	100	23.73	22.63	21.62
16F5113	BT4M-C	100	23.93	22.98	20.89
96F9936	BT1.5I-C	100	16.16	15.41	14.72
96F9938	BT2I-C	100	24.24	23.11	22.08
96F9940	BT3I-C	100	27.38	26.29	23.90
96F9942	BT4I-C	100	36.22	34.78	31.61
96F9944	BT2S-C	100	20.45	19.50	18.63
96F9946	BT3S-C	100	35.58	34.16	31.05
96F9948	BT4S-C	100	40.53	38.92	35.38
16F5145	BT5LH-C	100	52.18	50.10	45.54
16F5146	BT6LH-C	100	60.89	56.45	52.63
16F5126	BT7LH-L	50	44.58	42.80	38.91
16F5127	BT8LH-L	50	55.21	51.18	47.72
16F5128	BT9LH-L	50	57.27	53.09	49.50
96F9935	BT1M-M	1000	34.50	33.12	30.11
16F5130	BT1.5M-M	1000	47.43	45.54	41.40
16F5131	BT2M-M	1000	49.59	47.61	43.28
16F5132	BT3M-M	1000	64.95	60.22	56.14
16F5133	BT4M-M	1000	85.25	79.03	73.69
96F9937	BT1.5I-M	1000	51.75	49.68	45.16
96F9939	BT2I-M	1000	62.92	58.33	54.39
96F9941	BT3I-M	1000	126.51	117.77	110.19
96F9943	BT4I-M	1000	156.00	151.44	146.98
96F9945	BT2S-M	1000	66.98	62.10	57.90
96F9947	BT3S-M	1000	136.90	132.90	128.98
96F9949	BT4S-M	1000	154.41	149.89	145.48

(12537) (ne09832)

NEED IT FAST? OVERNIGHT SHIPMENT IS AVAILABLE ANYWHERE, ANYTIME.
CONTACT YOUR LOCAL NEWARK SALES OFFICE.

HL SERIES PAN-TY® VELCRO™ CABLE TIES



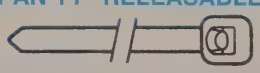


Velcro™ brand cable ties prevent over-tensioning of high-performance Category 5 cable. 1-piece design simplifies installation and provides improved durability. Color: black. Other colors available; *contact your local Newark sales office for details.* **Sold in packages of 10 except type HLS-15RO which is sold in 15′ roll.**

Stock No.	Type	Description	Length	Max. Bundle Dia.	Per Pkg. Each	2-4	5-9
66F3593	HLC3S-X0	Cinching	12.0″	3.0″	16.59	15.82	15.11
66F3594	HLC5S-X0	Cinching	18.0″	5.0″	20.35	19.41	18.54
66F3595	HLT2I-X0	Loop	8.0″	1.9″	11.56	11.03	10.54
66F3596	HLT3I-X0	Loop	12.0″	3.2″	15.02	14.33	13.69
66F3597	HLS1.5S-X0	Strip	6.0″	1.5″	10.00	9.54	9.11
66F3598	HLS3S-X0	Strip	12.0″	3.2″	16.36	15.60	14.91
66F3599	HLS5S-X0	Strip	18.0″	5.0″	23.83	22.73	21.71
66F3600	HLS-15R0	15′ Roll	180.0″	Various	20.63	19.67	18.79

(12538) (ne09833)

PRT SERIES PAN-TY® RELEASABLE CABLE TIES



Natural nylon 66 cable ties for most applications pass UL94V-2 flammability test. Exclusive extended tab end of releasable cable ties permit easy release and reuse even after tie has been pulled up snug by hand. Useful in harnessing where changes are anticipated. Minimum loop tensile strength: 50 lbs. (strength when tested in accordance with MIL-S-23190E). Cross-section width: std. 0.018″. Operating temperature range: –40°C to +85°C. UL recognized. Outdoor and high-temperature cable ties also available; *contact your local Newark sales office for details.* **Sold in packages of 100 and 1000.**

Stock No.	Type	Max. Bundle Diameter	Length	Pkg. of	Per Pkg.
78F515	PRT2S-C	1.88″	7.4″	100	29.54
94F2858	PRT3S-C	3.00″	11.5″	100	53.47
94F3133	PRT4S-C	4.00″	14.5″	100	57.24
84F2186	PRT2S-M	1.88″	7.4″	1000	111.18
94F5607	PRT3S-M	3.00″	11.5″	1000	240.37
94F5717	PRT4S-M	4.00″	14.5″	1000	272.21

(13157) (ne10414)

CABLE TIE INSTALLATION TOOLS

STS2 GS2B GS4H

Type STS2 installer-controlled tension/cutoff tool installs miniature, intermediate, and standard ties. **Type STH2** installs standard, light heavy, and heavy ties. **Type GS2B** controlled tension/cutoff tool installs miniature, intermediate, and standard ties. **Type GS4H** installs standard, light heavy, and heavy ties.

Stock No.	Type	Each	2-4	5-9
81F4588	STS2	23.00	21.85	20.47
81F4589	STH2	26.61	25.28	23.69
78F547	GS2B	124.65	118.42	110.94
78F566	GS4H	184.91	175.66	164.57

(6422) (de51345)

TY-RAP® CABLE TIES

SELF-LOCKING TY-RAP® CABLE TIES

Fig. 1

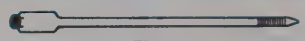


Fig. 2

Fig. 3

Stock No.	Type	Fig.	Max. Bundle Diam.	Tie Body Width	Minimum Unlocking Strength	Pkg. of	1-4	5-9
31F2658	TY-523M*	1	0.625″	0.091″	18 lbs.	100	14.24	11.39
10F8228	TY52315M	1	1.500″	0.091″	18 lbs.	100	18.50	14.80
31F2713	TY-5232M*	1	2.000″	0.091″	18 lbs.	100	19.69	15.76
31F2714	TY-5234M*	1	4.000″	0.091″	18 lbs.	100	28.29	20.59
31F2659	TY-524M*	1	1.125″	0.140″	40 lbs.	100	16.46	13.17
31F2715	TY-5242M*	1	2.000″	0.140″	40 lbs.	100	24.59	19.67
31F2716	TY-526M*	1	3.000″	0.140″	40 lbs.	100	32.45	23.62
31F2717	TY-5244M	1	4.000″	0.140″	40 lbs.	100	42.72	31.10
31F2660	TY-525M*	1	1.750″	0.184″	50 lbs.	100	20.76	16.61
10F8229	TY5253M*	1	3.000″	0.184″	50 lbs.	100	41.97	30.56
31F2718	TY-528M*	1	4.000″	0.184″	50 lbs.	100	47.77	34.78
10F8230	TY5272M	1	2.000″	0.301″	120 lbs.	50	24.34	19.47
31F2719	TY-527M*	1	3.500″	0.301″	120 lbs.	50	34.81	25.34
93F7726	TY5275M	1	5.000″	0.270″	120 lbs.	50	42.06	30.62
93F7727	TY5277M	1	7.000″	0.270″	120 lbs.	50	54.38	39.59
31F2720	TY-529M*	1	9.000″	0.301″	120 lbs.	50	53.96	47.74
31F2654	TY-23M*	1	0.625″	0.091″	18 lbs.	1000	33.64	24.49
10F8218	TYB2315M	1	1.500″	0.091″	18 lbs.	1000	47.87	34.85
31F2650	TY-232M*	1	2.000″	0.091″	18 lbs.	1000	50.46	36.74
31F2651	TY-234M*	1	4.000″	0.091″	18 lbs.	1000	64.43	56.99
31F2524	TY-24M*	1	1.125″	0.140″	40 lbs.	1000	52.01	37.87
31F2652	TY-242M*	1	2.000″	0.140″	40 lbs.	1000	47.28	41.83
31F2605	TY-26M*	1	3.000″	0.140″	40 lbs.	1000	102.67	90.82
31F2653	TY-244M	1	4.000″	0.140″	40 lbs.	1000	152.02	134.48
31F269	TY-25M*	1	1.750″	0.184″	50 lbs.	1000	51.24	45.33
10F8219	TY-253M*	1	3.000″	0.184″	50 lbs.	1000	132.43	117.15
31F2502	TY-28M*	1	4.000″	0.184″	50 lbs.	1000	150.13	132.81
31F2501	TY-27M*	1	3.500″	0.301″	120 lbs.	500	155.79	137.81
93F7728	TY275M	1	5.000″	0.270″	120 lbs.	500	186.11	164.64
93F7729	TY277M	1	7.000″	0.270″	120 lbs.	500	189.15	175.93
31F2721	TY-29M*	1	9.000″	0.301″	120 lbs.	500	256.72	238.77

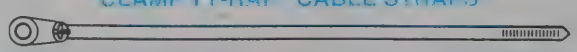
*NOTE: To order black weather-resistant outdoor-use cable ties, add **suffix X** to Type No.

TY-RAP IDENTIFICATION NYLON CABLE TIES

31F2663	TY-546M	2	1.750″	0.184″	50 lbs.	100	60.84	44.29
10F8231	TY548M	2	4.000″	0.184″	50 lbs.	100	58.68	51.91
31F2724	TY-551M	3	0.625″	0.091″	18 lbs.	50	15.49	12.39
31F2504	TY-46M	2	1.750″	0.184″	50 lbs.	1000	163.99	152.53
31F2530	TY-51M	3	0.625″	0.091″	18 lbs.	500	55.95	49.49

(6452) (de51736)

CLAMP TY-RAP® CABLE STRAPS



Stock No.	Type	Max. Bundle Diam.	Screw Size	Minimum Unlocking Strength	Pkg. of	1-4	5-9
31F2722	TY-533M*	0.625″	4	18 lbs.	100	27.12	19.74
31F2661	TY-34M*	1.125″	8	40 lbs.	100	28.62	20.84
31F2662	TY-535M*	1.750″	10	50 lbs.	100	32.19	23.44

*UL recognized, File no. E49405
(6453) (de51737)

MOUNTING ACCESSORIES

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

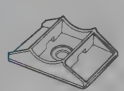


Fig. 6

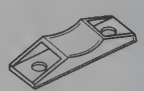


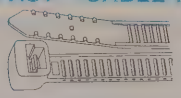
Fig. 7

Stock No.	Type	Fig.	Description	Pkg.	Per Pkg. 1-4	Per Pkg. 5-9
10F8223 31F2613	TC342A TC342A	1	2-Way Adhesive-Backed Mount Base For Use with Ty-Rap® Cable Ties 0.190″ Max. Width.	100 1000	76.05 269.08	67.27 250.26
10F8226 10F8227	TC347A TC347A	2	4-Way Adhesive-Backed or Screw Mount Base For Use with Ty-Rap® Cable Ties 0.190″ Max. Width and 0.301″ Max. Width for Diagonal 2-Way Entry.	100 1000	73.02 265.82	64.59 247.23
10F8225	TC5823	3	0.250″ Push-in Mount Base	100	33.95	24.72
48F3174 48F3175	LPM-9-M LPM-0-M	4	Low Profile Mount Base for Use with Cable Ties Up to 50-lb. Tensile Strength (Miniature through Standard)	1000 1000	50.00 50.00	36.40 36.40
48F3176 48F3177 48F3178 48F3179 48F3180	SMNY-000-9-D SMNY-001-9-D SMNY-002-9-D SMNY-001-0-D SMNY-002-0-D	5	Screw Mount Base for Use with Cable Ties (**Type MNY-001** Bases for Ties up to 50-lb. Tensile Strength and **Type SMNY-002** Bases for Ties up to 120-lb. Tensile Strength)	500 500 500 500 500	55.00 26.25 56.42 31.25 56.42	40.04 19.11 49.91 22.75 49.91
48F3181	MCNY-1250-9-D	6	Mounting Cradle Base for Use with Cable Ties up to 50-lb. Tensile Strength (Miniature through Standard)	500	111.02	98.21
48F3182	C4NY-203-0-D	7	Strap Mount Base for Use with Cable Ties up to 175-lb. Tensile Strength	500	175.63	155.37

(6454) (de51738)

CABLE TIES AND ACCESSORIES

TY-FAST™ CABLE TIES



Nylon 6/6 design lowers installation costs and provides features to ease fastening for harness fabrication and wire bundling in the manufacturing environment. Integrally formed nylon pawl combines low insertion and high locking strength. Rounded, low-profile head reduces number of snags. Tails have two-sided finger-grip design that helps the operator grasp and pull ties snug. "Sure Grip" tab keeps the tail from popping out while being threaded, then holds it securely for final tightening by hand or tool. Quick, easy pull-through increases productivity and reduces operator fatigue. Smooth edges are designed to prevent damage to wire insulation, reducing the opportunity for shorting. Color: natural (standard) or black (outdoor weatherable). Temperature range: –40°F to +185°F.

STANDARD CABLE TIES

Stock No.	Type	Max. Bundle Diam.	Tie Body Width	Length	Minimum Tensile Strength	Pkg.	1-4	5-9
16F1186	TY075-18	0.75″	0.095″	3.60″	18 lbs.	1000	17.08	13.67
16F1187	TY125-18	1.25″	0.095″	5.34″	18 lbs.	1000	37.78	27.51
16F1188	TY125-40	1.25″	0.140″	5.60″	40 lbs.	1000	43.22	31.46
91F3215	TY175-50	1.75″	0.184″	7.30″	50 lbs.	1000	47.36	34.48
16F1189	TY200-18	2.00″	0.095″	7.75″	18 lbs.	1000	45.29	32.97
16F1190	TY200-40	2.00″	0.140″	8.00″	40 lbs.	1000	51.24	37.30
16F1191	TY200-120	2.00″	0.299″	8.63″	120 lbs.	500	85.62	75.74
16F1192	TY300-40	3.00″	0.140″	11.40″	40 lbs.	1000	76.86	67.99
16F1193	TY300-50	3.00″	0.184″	11.40″	50 lbs.	1000	152.30	113.46
16F1194	TY400-50	4.00″	0.184″	14.30″	50 lbs.	1000	112.46	99.49
16F1195	TY400-120	4.00″	0.301″	14.30″	120 lbs.	500	116.70	103.23
			OUTDOOR WEATHERABLE CABLE TIES					
16F1196	TY075-18X	0.75″	0.095″	3.60″	18 lbs.	1000	33.38	24.30
16F1197	TY125-18X	1.25″	0.095″	5.34″	18 lbs.	1000	53.82	39.18
16F1198	TY125-40X	1.25″	0.140″	5.60″	40 lbs.	1000	54.86	39.94
16F1203	TY175-50X	1.75″	0.184″	7.30″	50 lbs.	1000	51.75	37.68
16F1199	TY200-18X	2.00″	0.095″	7.75″	18 lbs.	1000	63.40	46.15
16F1200	TY200-40X	2.00″	0.140″	8.00″	40 lbs.	1000	50.49	44.66
16F1201	TY200-120X	2.00″	0.299″	8.63″	120 lbs.	500	98.99	87.57
16F1202	TY300-40X	3.00″	0.140″	11.40″	40 lbs.	1000	108.13	95.65
16F1204	TY300-50X	3.00″	0.184″	11.40″	50 lbs.	1000	112.08	99.15
16F1205	TY400-50X	4.00″	0.184″	14.30″	50 lbs.	1000	127.72	112.98
16F1206	TY400-120X	4.00″	0.301″	14.30″	120 lbs.	500	134.97	119.40

(15440) (ne09869)

TY-GRIP™ FASTENERS

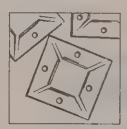
NEW

Loop Tie

Buckle Tie

Strip Tie

Rolled Hook and Loop


Mounting Base

Handy ties are very easy to release and reuse, making them ideal for applications where changes are anticipated or continuous access is required.

LOOP TIES

Stock No.	Type	Max. Bundle Diam.	Length	Minimum Tensile Strength	Pkg.	1-4	5-9
48F3162	FO200-40	2.00″	9.00″	40 lbs.	10	10.88	8.70
48F3163	FO200-50	2.00″	9.00″	50 lbs.	10	18.23	14.58
48F3164	FO350-40	3.50″	13.00″	40 lbs.	10	14.13	11.30
48F3165	FO350-50	3.50″	13.00″	50 lbs.	10	22.90	18.32
			BUCKLE TIES				
48F3166	FOL300-50	3.00″	12.00″	50 lbs.	10	15.63	12.50
48F3167	FOL500-50	5.00″	18.00″	50 lbs.	10	19.13	15.30
			STRIP TIES				
48F3168	FOS150-50	1.50″	6.00″	50 lbs.	10	9.40	7.52
48F3169	FOS320-50	3.20″	12.00″	50 lbs.	10	15.38	12.30
48F3170	FOS500-50	5.00″	18.00″	50 lbs.	10	22.48	17.98
			ROLLED HOOK AND LOOP				
48F3171	FOR180-50	Various	180.00″	50 lbs.	1	21.83	17.46

MOUNTING BASES

Stock No.	Type	Description	Mounting Screws	Max. Tie Width	Pkg.	1-4
48F3172	TC368	2 x 2″ Screw Mount	#8	0.75″	500	395.40
48F3173	TC368A	2 x 2″ Adhesive Mount	#8	0.75″	500	434.72

(39371) (ne39371)

INSTALLATION TOOLS AND MARKING PENS

WT193A

WT197

WT1, WT2

Ty-Rap® Tools. Pistol-type, easy tension adjustment. Cut tails off flush. **Type WT193A** tool installs Ty-Rap® cable ties having body widths of 0.094″ to 0.184″. **Type WT197** tool installs Ty-Rap® cable ties having body widths of 184″ to 0.301″.

31F2657 Type WT193A tool. **Each** 142.71
34F1254 Type WT197 tool. **Each** 287.50

Economy Ty-Rap® Tools. Compact, hand-operated cable tying tools install Ty-Rap® cable ties. Pre-set tension. Cuts off flush. **Type WT-1-TB** tool installs cable ties having body widths of 0.094″ to 0.184″. **Type WT2-TB** tool installs cable ties having body width of 0.301″.

31F2639 Type WT-1-TB tool. **Each** 21.52
34F1256 Type WT2-TB tool. **Each** 27.64

Nylon Marking Pens permanently mark Ty-Rap® ties, straps and other nylon items.

31F2507 Type WT163M-1 Black. **Each** 10.85
(6455) (de51739)

CABLE TIE ACCESSORIES AND KITS

VOLTREX™ BRAND ADHESIVE-BACKED FLAT CABLE TIE HOLDERS

Sold in package quantities indicated below.

Fig.	L x W	Description	Tensile Strength	Package of 100			Package of 1000		
				Stock No.	Type	Each	Stock No.	Type	Each
1	1.03 x 0.68″	2-Way/PVC	18-50 lbs.	**23N3670**	VRTH-02	**28.28**	**16N8733**	8408-1021	**269.27**
1	1.00 x 1.00″	2-Way/Nylon	18-50 lbs.	**37N2110**	VRTH-04A	**53.20**	**16N8734**	8408-1022	**506.53**
2	0.50 x 0.50″	4-Way/Nylon	18-50 lbs.	**92N4802**	2587	**27.94**	**92N4803**	2588	**227.69**
2	0.75 x 0.75″	4-Way/Nylon	18-50 lbs.	**81N2596**	VRTH-05A	**27.16**	**16N8736**	8408-1024	**258.84**
2	0.84 x 0.84″	4-Way/PVC	18-50 lbs.	**50N4897**	VRTH-10-A	**17.47**	**16N8750**	8413-1034	**131.40**
2	1.00 x 1.00″	4-Way/Nylon	18-50 lbs.	**81N2598**	VRTH-07A	**34.03**	**16N8737**	8408-1025	**324.29**
2	1.08 x 1.08″	4-Way/Nylon	18-50 lbs.	**50N4898**	VRTH-12-SA	**22.75**	**16N8751**	8413-1035	**170.77**
2	1.50 x 1.50″	4-Way/Nylon	18-120 lbs.	**92N4801**	2586	**22.38**	**16N8739**	8408-1027*	**427.50**
2	2.00 x 2.00″	4-Way/Nylon	18-120 lbs.	**92N4800**	2585	**123.52**	**16N8741**	8408-1029*	**726.04**

***Sold in pkg. of 500.**

(6361) (de00488)

VOLTREX™ brand

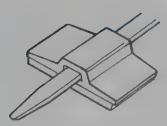


Fig. 1

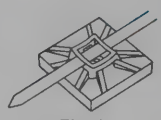


Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

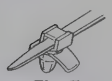


Fig. 7

Fig. 8

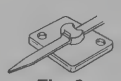


Fig. 9

VOLTREX™ BRAND SCREW-MOUNT FLAT CABLE TIE HOLDERS

Material: Nylon. Color: Natural. **Sold in packages of 100.**

Stock No.	Type	Fig.	L x W	Description	Tensile Strength	Screw or Panel	Per Package
23N3669	VRTH-01	3	0.75 x 0.50″	Low-Profile Mount	18-50 lbs.	#8 Screw	**17.31**
16N852	8409-0362	4	0.40 x 0.80″	Tie Anchor Plate	18-50 lbs.	#8 Screw	**11.17**
16N853	8409-0363	5	0.38 x 0.60″	Std. Tie Anchor	18-50 lbs.	#8 Screw	**11.69**
16N854	8409-0364	5	0.62 x 0.88″	Hvy. Tie Anchor	18-120 lbs.	#10 Screw	**17.59**
92N4504	2184	6	0.40 x 0.60″	Push Mount	18-50 lbs.	0.250″ Hole	**16.55**
37N2108	VRTH-03	7	0.56 x 0.50″	Winged Push Mount	18-50 lbs.	0.187″ Hole	**19.21**
92N4505	3359	8	0.26 x 0.40″	Pushbutton Mount	18-50 lbs.	0.250″ Hole	**16.55**
81N2595	VRTH-05	9	0.75 x 0.75″	Swivel-Head Mount	18-50 lbs.	#6 Screw	**18.34**

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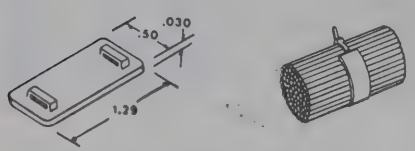

Fig. 10

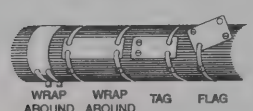

Fig. 11

VOLTREX™ BRAND CABLE TIE IDENTIFICATION TAGS AND MARKING PENS

Marking tags are used to permanently identify wires, bundles, or leads of terminals. Special matted surface accepts ink, pencil, or marking pen; *order separately below.* Secures with single cable tie.

IDENTIFICATION TAGS

Fig.	L x W	Write-on Area	Use with Ties*	Package of 100			Package of 1000		
				Stock No.	Type	Each	Stock No.	Type	Each
10	0.50 x 1.29″	0.50 x 1.29″	18-50 lbs.	**81N1695**	VRTM-2‡	**59.12**	**81N1694**	VRTM-1+	**59.12**
11	0.75 x 1.50″	0.75 x 1.0″	18-50 lbs.	**92N4492**	2172	**47.60**	**92N4493**	2173	**289.79**
11	0.75 x 1.75″	0.75 x 1.3″	18-50 lbs.	**92N4494**	3354	**48.64**	**92N4495**	2175	**300.14**
11	0.75 x 2.00″	0.75 x 1.5″	18-50 lbs.	**92N4496**	3355	**51.74**	**92N4497**	2177	**331.19**
11	0.75 x 2.50″	0.75 x 2.0″	18-50 lbs.	**92N4498**	2178	**55.88**	**92N4499**	2179	**393.29**
11	0.75 x 3.50″	0.75 x 3.0″	18-50 lbs.	**92N4500**	3356	**62.09**	**92N4501**	3357	**445.04**
11	1.75 x 2.50″	1.75 x 2.0″	18-50 lbs.	**92N4502**	3358	**99.35**	**92N4503**	2183	**310.49**
12	0.63 x 2.0″	0.63 x 2.0″	18-30 lbs.	**92N4798**	2583	**63.29**	**92N4799**	2584	**629.28**

*Tensile strength; **+Sold in packages of 50; ‡Sold in packages of 500.**

MARKING PENS

Fine-tip nylon marking pen permanently marks cable ties and tags. Writes where ordinary pens will not.

Stock No.	Type	Color	Each
50N9498	TNMP-0 BLACK	Black	**4.55**
50N9499	TNMP-2 RED	Red	**4.55**

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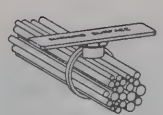

Fig. 12

Marking Pen

VOLTREX™ BRAND CABLE TIE INSTALLATION TOOLS

Type SPC5299 economy cable tie installation tool offers left- or right-hand operation. Accommodates ties 0.35 to 0.50″ wide and 0.080″ thick. Squeeze action cinches ties and excess tail is cut away when twisted 180 degrees. Tension adjustment. Suited for spot-typing applications. Lightweight all-metal construction with blue enamel finish. **Type 8510-50** pocket-size wire tie installation tool constructed of high-impact ABS plastic. Squeeze to tension, twist to cut. Designed for 18- to 50-lb. ties. Color: orange. **Type 8409-0397** cable tie installation tool same as **type 8510-50** except designed for 120- and 175-lb. ties. Color: blue. **Type 8506T-001** heavy-duty cable tie installation tool automatically tightens and trims flush. Adjustable tension settings. Deposits waste when trigger is released. Designed for 18- to 50-lb. ties. Ruggedly construction of lightweight polycarbonate. Color: yellow.

Stock No.	Type	Description	Each
50N230	SPC5299	Economy Tool	**36.99**
84N1533	8510-50	Pocket-Size Tool	**29.76**
16N887	8409-0397	Pocket-Size Tool	**41.39**
50N9502	8506T-001	heavy-Duty Tool	**155.24**

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SPC 5299

8506T-001

8510-50, 8409-0397

8433-1020-T

CWTK-362

VOLTREX™ BRAND CABLE TIE ASSORTMENT KITS

Type CWTK-362 plastic, multicompartment kit contains 100 each 18-lb. 4″, 30-lb. 6″, and 50-lb. 8″ cable ties, 50 4-way adhesive mounts, and a pocket-size (**type 8510-50**) installation tool. Perfect for maintenance, lab, prototype, and construction jobs.

51N2381 Type CWTK-362. **Each** **91.08**

Type 8433-1020-T economy kit contains 650 multipurpose cable ties in 4″, 8″, and 11″ lengths and a variety of colors. Handy screw-top storage canister makes this kit ideal for do-it-yourself projects.

16N8732 Type 8433-1020-T. **Each** **15.48**

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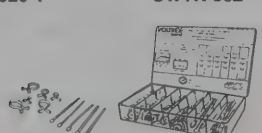

8408-TWT

VOLTREX™ BRAND WIRE TIE ASSORTMENT KIT

Kit contains 50 pieces each of 0.20″ to 0.80″ bundle-size twist ties and; 50 pieces each of 4″ red and natural color beaded ties.

23N3621 Type 8408-TWT. **Each** **29.99**

(6439) (de51677)

WIRING ACCESSORIES

ADHESIVE-BACKED CABLE CLIPS/CLAMPS

VOLTREX™ brand

For securing cables, cords, tubing, hose, etc. Constructed of durable PVC. **Types AUC, ACC, ALC, ADC** are gray. **Type ALCC** is black. **Type 8408** is made from natural-colored nylon. Aggressive adhesive easily mounts to any clean, regular surface. **Sold in packages of 100.**

Stock No.	Type	Cable Dia. D	Clamp Width W	Clamp Length	Style	Per Pkg. 1-4
16N1049	AUC-1	0.125″	0.750″	0.750″	U-Clamp	35.44
16N1050	AUC-2	0.250″	0.750″	0.750″	U-Clamp	40.41
16N1051	AUC-3	0.375″	0.750″	0.750″	U-Clamp	45.09
16N1052	AUC-4	0.500″	1.000″	1.000″	U-Clamp	48.77
16N1053	AUC-6	0.750″	1.000″	1.000″	U-Clamp	69.56
16N1054	ACC-1	0.125″	0.750″	0.750″	C-Clamp	35.61
16N1055	ACC-2	0.250″	0.750″	0.750″	C-Clamp	40.24
16N1056	ACC-3	0.375″	0.750″	0.750″	C-Clamp	45.01
16N1057	ACC-4	0.500″	1.000″	1.000″	C-Clamp	53.08
32N689	ALC-2	0.250″	0.750″	0.750″	Locking	44.76
32N684	ALC-4	0.500″	1.000″	1.000″	Locking	54.90
32N682	ALC-6	0.750″	1.000″	1.000″	Locking	79.00
81N2603	ADC-2	0.500″	0.750″	0.750″	Locking	23.44
50N6923	ALCC-1	0.188″	1.000″	0.750″	Locking	20.16
50N6924	ALCC-2	0.250″	1.000″	1.000″	Locking	27.41
50N6925	ALCC-3	0.375″	1.000″	1.000″	Locking	30.54
50N6926	ALCC-4	0.500″	1.000″	1.250″	Locking	36.87
50N6927	ALCC-5	0.625″	1.250″	1.250″	Locking	57.48
50N6928	ALCC-6	0.750″	1.500″	1.500″	Locking	81.80
50N6929	ALCC-7	0.188″	0.500″	0.750″	Locking	16.14
50N6930	ALCC-8	0.250″	0.500″	1.000″	Locking	23.15
50N6931	ALCC-9	0.375″	0.500″	1.000″	Locking	25.72
50N6932	ALCC-10	0.500″	0.500″	1.250″	Locking	26.15
50N6933	ALCC-11	0.625″	0.625″	1.250″	Locking	26.78
50N6934	ALCC-12	0.750″	0.750″	1.500″	Locking	41.48
92N4768	3363	1.000″	1.98″	2.24″	Locking	178.54
92N4769	3364	1.500″	2.92″	2.95″	Locking	227.70
16N965	8408-0402	0.31-0.41″	0.400″	1.000″	Adjustable	45.34
16N966	8408-0403	0.47-0.56″	0.400″	1.250″	Adjustable	56.68
16N967	8408-0404	0.58-0.75″	0.500″	1.500″	Adjustable	78.13
16N968	8408-0405	0.885-1″	0.500″	2.000″	Adjustable	88.43

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WIRE SADDLES

VOLTREX™ brand

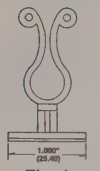
Fig. 1

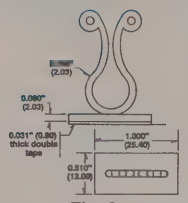

Fig. 2

Fig. 3

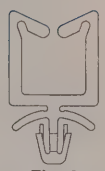
Fig. 4

Nylon wire saddles enable the easy routing and removal of wires. **Types CLTA, LWTA,** and **CLTAS** are twist ties with an aggressive adhesive base. **Type 8408** saddles feature beveled entry for positive wire retention in both round and square shapes. **Fig. 3** style snap-fits into 0.250″ pre-drilled hole. **Fig.4** style snap-locks in a 0.187″ diameter hole. **Sold in packages of 100.**

Stock No.	Type	Fig.	Max. Clamp Dia.	Clamp Height	Mounting	Per Pkg.
95N5153	CLTA-35	1	0.40″	1.07″	Adhesive Base	24.84
95N5154	CLTA-45	1	0.50″	1.23″	Adhesive Base	27.45
81N1642	LWTA-75	1	0.75″	1.58″	Adhesive Base	28.86
81N1641	LWTA-45	1	0.45″	1.23″	Adhesive Base	27.45
95N5155	CLTAS-4	2	0.40″	1.28″	Adhesive Base	32.88
95N5156	CLTAS-8	2	0.40″	1.53″	Adhesive Base	33.08
16N973	8408-0410	3	1.00″	1.33″	Push Mount	16.61
16N974	8408-0411	3	0.63″	1.00″	Push Mount	10.40
16N969	8408-0406	4	0.19″	0.50″	Push Mount	10.52
16N970	8408-0407	4	0.39″	0.70″	Push Mount	10.85
16N971	8408-0408	4	0.75″	1.07″	Push Mount	14.66
16N972	8408-0409	4	1.07″	1.37″	Push Mount	15.86

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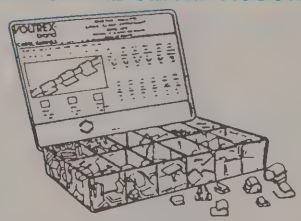
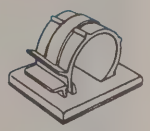
ADHESIVE CABLE CLAMP ASSORTMENT KIT

VOLTREX™ brand





Adhesive cable clamps install quickly and easily. Kit contains 365 clamps: 40 **type ALC-2**, 15 **type ALC-4**, 10 **type ALC-6**, 50 **type ACC-1**, 50 **type ACC-2**, 25 **type ACC-3**, 25 **type ACC-4** , 10 **type ACC-6**, 50 **type AUC-1**, 50 **type AUC-2**, 25 **type AUC-3**, and 15 **type AUC-4**.

Stock No.	Type	Description	Each
23N3617	8408-ACC	Adhesive Cable Clamp Assortment Kit	91.99

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FLAT CABLE MOUNTS AND CLIPS

VOLTREX™ brand

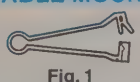


Fig. 1

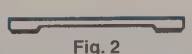


Fig. 2

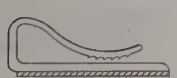


Fig. 3

Fig. 4

Fig. 5

For securing single or multiple layers of flat wire and cable. **Types CFCC, FCC,** and **8408** use aggressive foam tape adhesive for securement. **Type 8408** (**Fig. 5**) uses push-mounts that snap-fit into pre-drilled 0.156″ diameter holes. **Type LFCC** simply holds multiple flat cables together. **Type CFCC** is made from Noryl, color: white; **type FCC** from PVC, color: black; and **types 8408** and **LFCC** from nylon, color: natural. **Sold in packages of 100.**

Stock No.	Type	Fig.	Clamp Width	Max. Cable Width	Style	Per Pkg.
81N2610	LFCC-5	1	3″	2.5″	Loop Clip	23.35
16N1063	FCC-2	2	2″	1″	Adhesive Clip	62.64
23N3682	CFCC-2	3	1.06″	0.88″	Adhesive C Clip	36.52
23N3681	CFCC-1	3	0.56″	0.40″	Adhesive C Clip	29.27
16N975	8408-0412	4	1.75″	1.20″	Adhesive Clip	101.02
16N976	8408-0413	4	3″	2.5″	Adhesive Clip	126.27
16N977	8408-0414	5	1.6″	1″	Push Mount Clip	82.80
16N978	8408-0415	5	3″	2.5″	Push Mount Clip	103.50

(6432) (de51662)

OVERNIGHT SHIPMENT IS AVAILABLE WHEN YOU NEED IT.
CONTACT YOUR LOCAL NEWARK SALES OFFICE.

CABLE TIE MOUNTS

NYLON CABLE TIE MOUNTS

Fig. 1

Fig. 2

Fig. 3

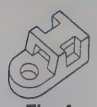


Fig. 4

Fig. 5

Fig. 6

Fig. 7

Fig. 8

Fig. 9

SIZE CODES FOR CABLE TIE MOUNTS

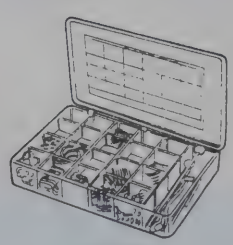
Code	Fig.	W x L	Mounting	Use With Cable Ties*
A	1	0.50 x 0.50″	Adhesive	M
B	1	0.75 x 0.75″	Adhesive	M,I
C	1	1.00 x 1.00″	Adhesive	M,I,S
D	1	1.50 x 1.50″	Adhesive	M,I,S,H
E	1	2.00 x 2.00″	Adhesive	M,I,S,H
F	2	1.00 x 1.00″	Adhesive	M,I,S
G	3	1.13 x 1.13″	Adhesive	M,I,S
H	4	0.37 x 0.75″	#8 Screen	M,I,S
J	5	0.75 x 0.50″	#8 Screw	M,I,S
L	6	0.32 x 0.50″	#4 Screw	M
M	6	0.42 x 0.63″	#6 Screw	M,I,S
N	6	0.42 x 0.63″	#8 Screw	M,I,S
O	6	0.62 x 0.88″	#8 Screw	M,I,S,H
P	6	0.62 x 0.88″	#10 Screw	M,I,S,H
Q	7†	0.77 x 0.63″	Push-¼″ hole	M,I,S
R	8††	0.71 x 0.72″	Push-¼″ hole	M,I,S
S	9‡	0.38 x 0.62″	Push-¼″ hole	M,I,S

* *Order cable ties separately on page 1254.* **M**-Miniature; **I**-Intermediate; **S**-Standard; **H**-Heavy (including Light Heavy-LF). †For 0.105″ maximum panel; ‡For 0.125″ maximum panel; ††For 0.09″ maximum panel.

Stock No.	Type	Code	Pkg. of	Each	2-4	5-9	10-24
89F2504	ABM1M-A-C	A	100	48.94	46.99	42.72	39.83
94F5616	ABM1M-AT-C	A	100	51.31	49.27	44.79	41.76
78F622	ABMM-A-C	B	100	66.86	63.52	53.49	48.14
78F623	ABM2S-A-C	C	100	90.01	85.51	72.01	64.81
84F1818	ABM3H-A-L	D	50	71.99	68.39	57.60	51.84
95F5094	ABM100-A-C	F	100	90.01	85.51	72.01	64.81
78F615	ABMS-A-C	G	100	90.01	85.51	72.01	64.81
89F2509	ABM1M-A-M	A	1000	226.92	215.57	181.54	163.39
87F6091	ABMM-A-D	B	500	145.59	138.31	116.48	104.83
89F2510	ABM2S-A-D	C	500	168.57	160.14	134.86	121.37
84F1819	ABM3H-A-T	D	200	128.62	124.86	121.18	117.75
84F1820	ABM4H-A-T	E	200	173.83	166.26	161.51	156.99
95F5097	ABM100-A-D	F	500	168.57	160.14	134.86	121.37
78F616	ABMS-A-D	G	500	168.57	160.14	134.86	121.37
78F620	TA1S8-C	H	100	31.12	29.56	24.90	22.41
84F603	LPMSS8-C	J	100	26.74	25.40	21.40	19.26
89F2506	TM1S4-C	L	100	21.92	20.82	17.54	15.79
89F2507	TM2S6-C	M	100	31.35	29.78	25.08	22.58
78F624	TM2S8-C	N	100	31.35	29.78	25.08	22.58
94F3155	TM3S8-C	O	100	31.35	29.78	25.08	22.58
87F6100	TM3S10-C	P	100	52.58	49.95	42.07	37.86
89F2508	PWMS-H25-C	Q	100	32.13	30.85	28.04	26.14
95F5095	TM2PWH25-C	R	100	60.28	55.89	52.11	49.59
94F3129	PM2H25-C	S	100	29.11	27.95	25.41	23.69
78F621	TA1S8-M	H	1000	109.26	101.71	95.16	88.08
98F7641	LPMS-S8-M	J	1000	134.18	124.91	116.87	108.17
89F2513	TM2S6-M	M	1000	120.98	117.44	113.98	110.76
89F2514	TM2S8-M	N	1000	139.93	130.26	121.87	112.81
84F2089	TM3S8M	O	1000	216.49	207.06	201.15	195.52
50F2892	TM3S10-M	P	1000	213.31	204.02	198.19	192.64
95F5099	TM2PWH25-M	R	1000	300.86	287.75	279.54	271.71
50F2906	PM2H25-M	S	1000	122.57	118.99	115.48	112.21

(6502) (ne51421)

CABLE TIE AND MOUNT KIT


KP509

Type KP509 kit contains over 600 pieces including PAN-TY® cable ties (in different styles, sizes, colors, and materials), 25 different cable tie mounts, and 30 different wiring accessories. Ideal for prototyping and new product development. Packaged in a sturdy plastic storage box. **Type KP507** kit contains over 700 pieces of fixed diameter cable clamps, as detailed in the table below. Size range: 0.12″ to 1.25″ bundle capacity.

TYPE KP507 KIT CONTENTS

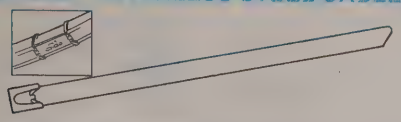
(75) CCS12-S8	(25) CCS50-S8	(25) CCH44-S10	(10) CCH81-S10
(75) CCS10-S8	(70) CCH12-S10	(25) CCH50-S10	(10) CCH87-S10
(50) CCS25-S8	(50) CCH19-S10	(25) CCH56-S10	(5) CCH100-S10
(50) CCS31-S8	(45) CCH25-S10	(15) CCH62-S10	(5) CCH112-S10
(35) CCS38-S8	(35) CCH31-S10	(10) CCH69-S10	(5) CCH119-S10
(25) CCS44-S8	(25) CCH38-S10	(10) CCH75-S10	(5) CCH125-S10

Stock No.	Type	Each	2-4	5-9
50F1285	KP509	146.52	142.23	138.04
99F7035	KP507	130.87	121.82	113.98

(6429) (de51426)

NEWARK STOCKS MORE PRODUCTS THAN ANY OTHER ELECTRONICS DISTRIBUTOR!

PAN-STEEL™ STAINLESS STEEL CABLE TIES



High-strength 304 nonmagnetic stainless steel cable ties are designed for bundling, identifying and fastening applications in harsh environments. Fast and easy to install. Resistant to abrasion, radiation, weathering corrosion, and temperature extremes. Self-locking, no sharp edges, and easily installed by hand or tool; *order installation tool separately on this page.* For extra protection, choose Nylon II-coated 316 stainless steel ties, *ordered separately below.* **Sold in packages of 50 and 100.**

NONMAGNETIC STAINLESS STEEL TIES

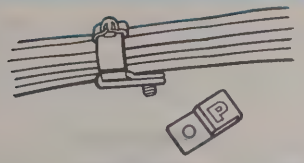
Stock No.	Type	Maximum Bundle Diameter	Length	Cross-Section Tensile	Pkg. of	Per Pkg. Each	Per Pkg. 2-4
84F1852	MLT1S-CP	1.00″	5.0″	Std. 100-lb.	100	**87.07**	**80.73**
81F4590	MLT2S-CP	2.00″	7.9″		100	**93.57**	**86.75**
94F2792	MLT4S-CP	4.00″	14.3″		100	**103.70**	**96.54**
94F2793	MLT6S-CP	6.00″	20.5″		100	**129.10**	**125.32**
94F3105	MLT2H-LP	2.00″	7.9″	Heavy 250-lb.	50	**56.22**	**52.12**
81F4586	MLT4H-LP	4.00″	14.3″		50	**65.97**	**61.16**
84F1850	MLT6H-LP	6.00″	20.5″		50	**98.75**	**91.54**

NYLON II-COATED 316 STAINLESS STEEL TIES

84F608	MLT2H-LP316	2.00″	7.9″	Heavy 120-lb.	50	**72.97**	**67.65**
84F1854	MLTC4H-LP316	4.00″	14.3″		50	**136.67**	**127.23**
84F1857	MLTC10H-LP316	10.00″	33.0″		50	**266.79**	**255.17**

(6414) (de51008)

STAINLESS STEEL MOUNTS



Provides an entire stainless steel attachment when used with Panduit stainless steel ties, *order separately on this page.* Screw-fastened. Low profile. Utilizes only one hole for mounting. **Sold in packages of 100.**

Stock No.	Type	For MLT Tie Width in. (mm)	Mounting Method	Size	Per Pkg. Each	Per Pkg. 2-4
96F3458	MTM1H-C	.18(5) OR .31(8)	#8 Screw	.40″ x .90″(23)	**99.68**	**92.79**
95F5452	MTM1H10-C	.18(5) OR .31(8)	#10 Screw	.40″ x .90″(23)	**99.68**	**92.79**
95F5453	MTM1H25-C	.18(5) OR .31(8)	¼″ Screw	.40″ x .90″(23)	**99.68**	**92.79**

(6384) (de02000)

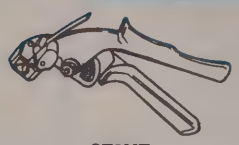
STAINLESS STEEL 2-WAY SCREW MOUNT

2-way mount allows stainless steel cable ties to be inserted from either of 2 sides, providing a low-profile attachment with only 1 hole for maximum holding and stability. Maximum screw head height 0.09″(2.3) ties. Used with Pan-Steel™ stainless steel ties, *ordered separately on this page.* **Sold in packages of 25.**

Stock No.	Type	Used with Pan-Steel™ Ties	L x W x H	Per Pkg. Each	Per Pkg. 2-4
95F5454	MTM2H-Q	MLT-S/H	.71 (18.0) x .71 (18) x .30″ (8.0)	**62.82**	**58.24**

(6385) (de02001)

INSTALLATION TOOLS



ST2MT

GS4MT

For standard and heavy cross-section PAN-STEEL™ stainless steel ties, *ordered separately on this page.* When installing over resilient objects **type GS4MT** automatically tensions and cuts off tie flush when predetermined tension is reached. **Type ST2MT** enables the installer control tension and cuts off excess tail with a twist of the wrist.

Stock No.	Type	Each
94F3097	GS4MT	**606.42**
94F3151	ST2MT	**252.57**

(6457) (de51910)

STAINLESS STEEL/ALUMINUM MARKER PLATES

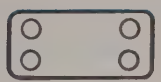


Fig. 1

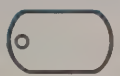


Fig. 2

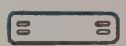


Fig. 3

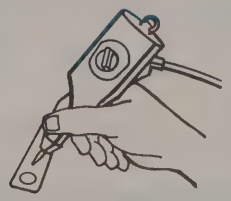
Marker plates/tags are designed for permanent identification applications in harsh environments, radiation, chemical and weather resistance. All are stainless steel, except for **type AP350H**, which is aluminum. Use with **type MLT-S*** locking ties, *ordered separately on this page.*

Stock No.	Type	Fig.	Size	Pkg. of	Per Pkg. Each	Per Pkg. 2-4
94F2794	MMP350-C	1	0.75″ x 3.50″	100	**60.46**	**58.42**
95F5419	MMP172-C316	1	0.75″ x 1.72″	100	**57.55**	**55.62**
95F5420	MMP172W38-C	1	0.38″ x 1.72″	100	**40.83**	**39.40**
95F5440	MT206W119A-Q	2	1.19″ x 2.06″	25	**28.14**	**27.02**
95F5451	AP350HW86-C	3	0.86″ x 3.50″	100	**55.01**	**51.00**

*Also used with "S" hooks, jack chains and beaded chains.

(6415) (de51009)

ELECTRIC ENGRAVER



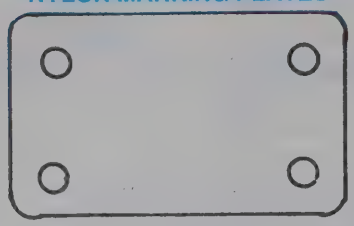
Ideal for on-the-spot identifications. For use with all Panduit tags, ties and marker plates in this catalog.

Stock No.	Type	Description	Each
96F3459	MET	Plug-In, Requires 110 Volts, 60-cycle	87.41
95F5455	MET-DT	Diamond Tip Accessory for MET Engraving Tool	65.58

(6386) (de02002)

CHECK NEWARK'S WEB SITE FOR PRODUCT NEWS AND INFORMATION.
http://www.newark.com

NYLON MARKING PLATES

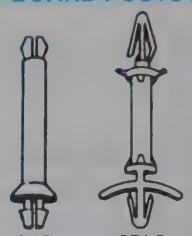


White nylon marking plates are used with miniature, intermediate and standard size nylon cable ties for permanent or temporary identification. Can be used vertical or horizontal as a wrap, tag, or flag. Mark with marking pens; *ordered separately on this page.* Can also be marked with marking machines or hot stamped. **Sold in packages of 100 and 1000.**

Stock No.	Type	H x W	Pkg. of	Per Pkg. Each	Per Pkg. 2-4
84F1913	MP150-C	0.75 x 1.50″	100	52.98	49.11
94F2796	MP175-C	0.75 x 1.75″	100	53.99	50.05
94F3108	MP200-C	0.75 x 2.00″	100	57.85	53.63
94F3109	MP250-C	0.75 x 2.50″	100	62.31	57.77
98F029	MP350-C	0.75 x 3.50″	100	71.04	65.86
84F1825	MP175-M	0.75 x 1.75″	1000	299.27	286.23
94F2797	MP250-M	0.75 x 2.50″	1000	345.43	320.95
84F1828	MP250W175-M	1.75 x 2.50″	1000	555.55	516.18

(6426) (de51423)

NYLON CIRCUIT BOARD POSTS AND SUPPORTS

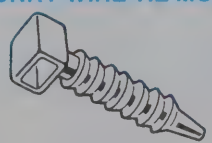


CBP series circuit board posts for board-to-board or board-to-chassis mounting. Accept up to 0.062″ thick panel; have 0.156″ dia. mounting hole. Snap into pre-drilled holes. Bell flange on bottom end provides greater stability. **CBLS series** circuit board locking supports for board-to-chassis support. Snap-in design for fast assembly. Wing design on chassis mounting provides constant tension and stability. For circuit boards: 0.062″ thick with 0.156″ dia. mounting holes. For chassis: 0.03″ to 0.08″ thick with 0.187″ to 0.192″ dia. mounting holes. Releasable and reusable. **Sold in packages of 100 and 1000.**

Stock No.	Type	Height	Pkg. of	Per Pkg. Each	Per Pkg. 2-4	Per Pkg. 5-9
84F1399	CBP12-C	0.125″	100	20.45	19.50	18.62
84F1400	CBP25-C	0.250″	100	20.70	19.74	18.85
84F1401	CBP37-C	0.375″	100	21.21	20.23	19.30
84F1402	CBP50-C	0.500″	100	21.46	20.47	19.53
84F1403	CBP75-C	0.750″	100	23.23	22.15	21.14
84F1404	CBP100-C	1.000″	100	25.00	23.84	22.75
84F1406	CBLS25-C	0.250″	100	19.19	18.30	17.47
84F1407	CBLS50-C	0.500″	100	21.71	20.71	19.76
88F1136	CBLS50-M	0.500″	1000	101.60	94.57	88.49

(6424) (de51348)

MASONRY WIRE TIE MOUNTS



Used to secure wire, cable or tubing to masonry surfaces. Install quickly into pre-drilled holes. Design holds bundle securely. Constructed from impact-modified, UV-resistant resin. Use by drilling appropriately sized hole in masonry and hammer into place. Provides strong, long-term masonry mounting device. Used with **types M, I, S** cable tie cross-sections. **Sold in packages of 100.**

Stock No.	Type	Hole Size W x D	Pkg. of	Per Pkg. Each	Per Pkg. 2-4
84F598	MPMS19-C0	0.188″ x 1.25″	100	46.79	44.92
84F1822	MPMS25-C0	0.25″ x 1.25″	100	52.18	50.10

(6428) (de51425)

MARKING PENS

Provide fast drying, permanent, legible identification markings on nylon parts. **Types PX-0** and **PX-2** feature reversible tip for long pen life. **Type PX-10** has white ink for marking on black or dark-colored parts.

Stock No.	Type	Description	Each	2-4	5-9
78FX626	PX-0	Black Ink, Reversible Tip	9.32	8.89	8.49
78FX627	PX-2	Red Ink, Reversible Tip	9.32	8.89	8.49
44F1479	PX-10	White Ink, Regular Tip	14.24	13.58	12.97
46F1525	PFX-0	Black Ink, Fine Tip	7.96	7.80	7.64
46F1526	PFX-2	Red Ink, Fine Tip	7.96	7.80	7.64

(6427) (de51424)

NYLON WIRE STANDOFFS

Ideal for retaining wires, cable, components, or tubing away from panel or conductive chassis. Finger-grip flange can be locked/unlocked. Hand installed in pre-drilled panel hole. Fit 0.187″ to 0.192″ dia. hole in 0.03″ to 0.08″ thick panel. UL recognized. **Sold in packages of 100.**

Stock No.	Type	Dimensions D	Dimensions H	Pkg. of	Per Pkg. Each	Per Pkg. 2-4	Per Pkg. 5-9
84F1390	WS35-25-C	0.35″	0.25″	100	28.46	27.33	24.84
84F1393	WS50-25-C	0.48″	0.25″	100	29.76	28.57	25.97
84F1396	WS75-25-C	0.80″	0.25″	100	32.34	31.05	28.23
84F1398	WS75-75-C	0.80″	0.75″	100	35.79	34.37	31.24

(6425) (de51349)

THE FOLLOWING PANDUIT PRODUCTS ARE ALSO OFFERED IN THIS CATALOG:

- CABLE TIES
- IDENTIFICATION PRODUCTS
- LOCKOUT & TAGOUT PRODUCTS
- NETWORK MODULAR WIRING SYSTEMS
- PORTABLE LABELING SYSTEMS
- PREMISE WIRING PRODUCTS
- TERMINALS & DISCONNECTS
- WIRING DUCTS & RACEWAYS
- WIRING TOOLS & KITS

SEE THE MANUFACTURERS INDEX FOR A COMPLETE LISTING OF ALL PANDUIT PAGES.

(15226) (ne10606)

CABLE CLAMPS, CLIPS AND KITS

PLASTIC CABLE CLAMPS

VOLTREX™ brand

ECC series plastic propionate clamps anchor tubing, cable, and wire bundles securely with a single nail or screw. Lightweight and chemical resistant with excellent shock-resisting properties. Temperature range: –40°F to +185°F. Mount with #10 screw. Color: amber. **Sold in packages of 100.**

Stock No.	Type	Holding Diameter	Width	Pkg. of	Per Pkg. 1-9	Per Pkg. 10-24
32N1269	ECC-2	0.13″	0.475″	100	7.46	6.34
32N1270	ECC-3	0.19″	0.475″	100	7.70	6.55
32N1271	ECC-4	0.25″	0.475″	100	7.91	6.73
32N1272	ECC-5	0.31″	0.475″	100	8.37	7.11
32N1273	ECC-6	0.375″	0.475″	100	9.44	8.03
32N1275	ECC-8	0.50″	0.475″	100	11.80	10.03
32N1277	ECC-10	0.63″	0.475″	100	12.84	10.91
32N1279	ECC-12	0.75″	0.475″	100	15.69	13.34
32N1281	ECC-16	1.00″	0.475″	100	19.46	16.54

NCC series same as **ECC series** but nylon with temperature range –40°F to +185°F. Mount with #8 screw. Color: natural. **Sold in packages of 100.**

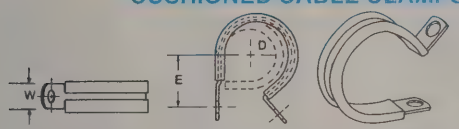
32N1284	NCC-2	0.13″	0.38″	100	4.19	3.56
32N1285	NCC-3	0.19″	0.38″	100	4.81	4.09
32N1286	NCC-4	0.25″	0.38″	100	5.01	4.26
32N1287	NCC-5	0.31″	0.38″	100	5.05	4.30
32N1288	NCC-6	0.38″	0.38″	100	5.51	4.68
32N1290	NCC-8	0.50″	0.38″	100	5.76	4.90
32N1292	NCC-10	0.56″	0.50″	100	11.80	10.03
32N1294	NCC-12	0.75″	0.50″	100	14.00	11.90
32N1296	NCC-16	1.00″	0.50″	100	17.06	14.50

NCCB series are nylon with temperature range of –40°F to +185°F. Mount with #10 screw. Multiple mounting hole design. Color: black. **Sold in packages of 100.**

95N5159	NCCB-3	0.187″	0.500″	100	8.12	6.90
95N5160	NCCB-4	0.250″	0.500″	100	8.82	7.50
95N5161	NCCB-6	0.375″	0.500″	100	10.48	8.91

(6430) (de51660)

CUSHIONED CABLE CLAMPS



VOLTREX™ brand

Route and protect tubes, pipes, wire bundles, and cables. Material thickness is 0.032″ for diameters 0.250″ - 0.438″ and 0.050″ for diameters 0.5″ - 1″. Use #10 screw except (*) ¼″. **Type SVC** made of pregalvanized low carbon steel (ASTM A 527) and cushioned with neoprene. Temperature range: –40°F to +250°F. **Type SSSC** combines stainless steel clamp with silicone rubber cushioning. Temperature range: –85°F to +450°F. **Types 2589** through **2597** combine sturdy aluminum clamp with vinyl cushioning. **Sold in package quantities listed below.**

NEOPRENE-CUSHIONED CABLE CLAMPS

Stock No.	Type	Dia. D	Width W	Center E	Pkg. of	Per Pkg. 1-4
81N2623	SVC-4	0.25″	0.38″	0.623″	100	87.98
81N2624	SVC-5	0.31″	0.38″	0.656″	100	90.05
81N2625	SVC-6	0.38″	0.38″	0.686″	100	92.12
81N2626	SVC-7	0.44″	0.38″	0.717″	100	94.19
81N2627	SVC-8	0.50″	0.38″	0.766″	100	96.26
81N2628	SVC-10	0.63″	0.38″	0.829″	100	99.36
81N2629	SVC-12	0.75″	0.50″	0.951″	100	103.50
81N2630	SVC-16	1.00″	0.50″	1.076″	100	113.85

SILICONE RUBBER CUSHIONED CABLE CLAMPS

81N2613	SSSC-4	0.25″	0.38″	0.623″	100	89.01
81N2614	SSSC-5	0.31″	0.38″	0.656″	100	91.08
81N2615	SSSC-6	0.38″	0.38″	0.686″	100	93.15
81N2616	SSSC-7	0.44″	0.38″	0.717″	100	95.22
81N2617	SSSC-8	0.50″	0.38″	0.766″	100	98.33
81N2618	SSSC-10	0.63″	0.38″	0.829″	100	103.50
81N2619	SSSC-12	0.75″	0.50″	0.951″	100	134.55
81N2620	SSSC-16	1.00″	0.50″	1.076″	100	150.08

VINYL-CUSHIONED CABLE CLAMPS

92N4804	2589	0.187″	0.50″	0.56″	25	6.96
92N4805	2590	0.250″	0.50″	0.59″	25	7.08
92N4806	2591	0.375″	0.50″	0.59″	25	7.37
92N4807	2592	0.500″	0.50″	0.65″	25	7.66
92N4808	2593	0.625″	0.50″	0.78″	25	8.04
92N4809	2594	0.750″	0.50″	0.84″	25	8.57
92N4810	2595	1.000″	0.50″	0.96″	25	9.19
92N4811	2596	1.500″	0.50″	1.23″	25	11.60
92N4812	2597	2.000″	0.50″	1.49″	25	13.29

(6435) (de51665)

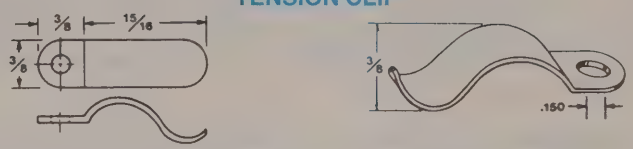
WIRE HARNESS CLIPS

Easily facilitates the bundling of wire and cable. Wires snap in and out of clips, no need to unfasten screw. Natural color nylon clips mount with #10 screw. **Sold in packages of 100.**

Stock No.	Type	I.D.	Width	Pkg. of	Per Pkg. 1-4	Per Pkg. 5-9
37N2118	EHC-4	0.25″	0.40″	100	19.01	16.16
37N2119	EHC-8	0.50″	0.40″	100	20.50	17.42
92N4816	2601	0.75″	0.50″	100	23.80	20.23
92N4817	2602	1.00″	0.50″	100	26.90	22.87

(6433) (de51663)

TENSION CLIP

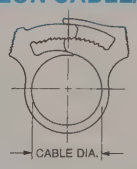


Acetal plastic. Color: white. Temperature range: –40°F to +122°F (–40°C to +50°C). **Sold in packages of 100.**

Stock No.	Type	Pkg. of	Per Pkg. 1-4	Per Pkg. 5-9
23N3646	TC-1	100	13.21	11.23

(6434) (de51664)

NYLON CABLE/HOSE CLAMPS



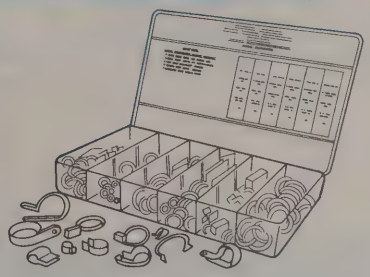
VOLTREX™ brand

CHC series seal hoses and tubing. Material: nylon 6.6. Color: natural. Quick installation; easy to tighten. Provides 360° seal. **Sold in packages of 100.**

Stock No.	Type	Min. Dia.	Max. Dia.	Pkg. of	Per Pkg. 1-4
93N1017	CHC-19	0.531″	0.594″	100	36.23
93N1018	CHC-21	0.594″	0.696″	100	37.06
93N1019	CHC-28	0.750″	0.875″	100	37.06
93N1020	CHC-32	0.875″	1.000″	100	34.99
93N1021	CHC-35	0.953″	1.100″	100	42.44
93N1022	CHC-38	1.030″	1.190″	100	47.20
93N1023	CHC-52	1.410″	1.630″	100	55.69
93N1024	CHC-58	1.590″	1.810″	100	56.93

(6484) (ne08412)

CABLE CLAMP ASSORTMENT KITS



VOLTREX™ brand

Fasten cable tubing, pipe, or rod to flat surface with screw or nail. **Type 8408-ECC** clamps are propionate; **type 8408-NCC** clamps are nylon. Combine light weight with excellent resistance to shock and chemicals. Temperature range: –40°F to +185°F. Kit contains 175 pieces: 50 each 0.13″ and 0.25″, 25 pieces 0.38″ and 0.50″, 15 pieces 0.75″, and 10 pieces 1.00″ dia. **Type 8408-CHC** 230-piece kit includes 8 sizes of **CHC series** nylon cable/hose clamps: 50 each **types CHC-19** and **-21**, 25 each **types CHC-28, -32, -35** and **-38**, 20 **type CHC-52**, and 10 **type CHC-58**. Color: natural.

Stock No.	Type	Description	Each
23N3618	8408-ECC	Screw Mounted, Propionate Cable Clamp Kit	29.99
23N3619	8408-NCC	Screw Mounted, Nylon Cable Clamp Kit	22.99
23N3620	8408-CHC	Nylon Cable/Hose Clamp Kit	99.99

(6431) (de51661)

CABLE MOUNTS AND WIRING ACCESSORIES FOR USE WITHOUT CABLE TIES

Fig. 1

Fig. 2

Fig. 3

Fig. 4

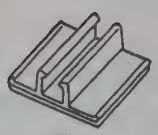


Fig. 5

Fig. 6

Fig. 7

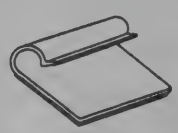


Fig. 8

Fig. 9

Fig. 10

Fig. 11

Cable mounts and wiring accessories include **type ARC.68** adjustable releasable clamp. Clamp provides a fast and convenient method of securing bundles. **Type ACC** cord clip easily snaps bundles into or out of the clips. Available in three sizes to hold cords, tubing, cable or wire bundles. **Type BEC** and **type BECP** offer beveled entry for easy snapping. Available in adhesive-backed and pushback styles. **Type AMC** holds a single cable and can be mounted on any flat, smooth surface. **Type LC** latching clip retains and supports wire. Offers a quickly-installed mount with a locked cover for withstanding vibration. **Type MACC** metal adhesive cord clip can be opened and closed without damage to the clip. **Type AJC** low-profile "J" clips retain cords, wires or tubing. Flexible design for easy insertion but secure performance. **Type PMCC** push-mount cord clip snaps easily into pre-drilled hole in panels up to .105" thick. Integral mounting device and winged design holds mount in place. **Type PLA25** locking and **type PRA25** releasable adhesive-mount screws for added mounting strength. **Type CCS** fixed diameter cable clamps are constructed of durable nylon. **Type CCH** are heavy-duty nylon. **All mounts below are sold in package quantities indicated.**

Stock No.	Type	Fig.	Bundle Diameter	W x L	Mounting	Pkg. of	Per Package		
							Each	2-4	5-9
89F2515	ARC.68-A-Q14	1	0.68"	1.00 x 1.00"	Adhesive-Backed	25	34.86	33.12	27.89
76F869	ARC.68-A-C14	1	0.68"	1.00 x 1.00"	Adhesive-Backed	100	72.87	67.55	62.98
94F1495	ACC19-A-C	2	0.19"	0.75 x 0.62"	Adhesive-Backed	100	50.79	48.25	40.64
89F1911	ACC19-A-M	2	0.19"	0.75 x 0.62"	Adhesive-Backed	1000	251.51	240.56	233.69
76F868	ACC38-A-C	2	0.38"	1.00 x 1.00"	Adhesive-Backed	100	59.61	56.63	47.69
89F1912	ACC38-A-M	2	0.38"	1.00 x 1.00"	Adhesive-Backed	1000	276.98	264.92	257.35
94F5618	ACC62-A-C	2	0.62"	1.12 x 1.25"	Adhesive-Backed	100	81.23	77.17	64.99
84F1968	ACC62-A-D	2	0.62"	1.12 x 1.25"	Adhesive-Backed	500	202.17	193.36	187.84
84F1961	BEC38-A-L	3	0.375 x 1.00"	1.25 x 1.50"	Adhesive-Backed	50	44.52	42.75	38.86
96F9950	BEC62-A-L	3	0.625 x 1.00"	1.25 x 1.50"	Adhesive-Backed	50	56.43	52.31	48.77
84F1962	BEC75-A-L	3	0.750 x 1.00"	1.50 x 1.50"	Adhesive-Backed	50	61.81	57.30	53.42
84F1969	BEC38-A-T	3	0.375 x 1.00"	1.25 x 1.50"	Adhesive-Backed	200	105.81	98.50	92.16
96F9951	BEC62-A-T	3	0.625 x 1.00"	1.25 x 1.50"	Adhesive-Backed	200	129.58	125.79	122.08
84F1970	BEC75-A-T	3	0.750 x 1.00"	1.50 x 1.50"	Adhesive-Backed	200	149.95	145.57	141.28
84F1964	BECP75H25-L	4*	0.750 x 1.00"	0.75 x 1.50"	Push (¼" Hole)	50	50.56	48.55	44.13
84F1434	AMC25-AT-C10	5	0.28"	1.00 x 0.81"	Adhesive-Backed	100	27.17	26.09	23.71
84F1435	LC3-A-C8	6	0.20 Sq. inch	0.75 x 0.75"	Adhesive-Backed	100	25.84	24.55	20.68
94F3099	LC5-A-C8	6	0.36 Sq. inch	1.00 x 1.00"	Adhesive-Backed	100	33.24	31.58	26.60
94F3098	LC10-A-L8	6	0.93 Sq. inch	1.50 x 1.00"	Adhesive-Backed	50	23.25	22.09	18.60
84F1436	MACC25-A-C	7	0.25"	0.53 x 0.79"	Adhesive-Backed	100	47.86	45.96	41.78
84F1437	MACC62-A-C	7	0.62"	0.75 x 1.18"	Adhesive-Backed	100	73.07	67.74	63.16
89F2516	AJC12-A-C	8	0.12"	1.00 x 0.86"	Adhesive-Backed	100	26.95	25.88	23.52
84F1438	AJC19-A-C	8	0.19"	1.25 x 0.89"	Adhesive-Backed	100	27.81	26.71	24.28
94F1496	AJC25-A-C	8	0.25"	1.50 x 0.92"	Adhesive-Backed	100	31.26	30.02	27.29
94F5587	AJC31-A-C	8	0.31"	1.75 x 1.23"	Adhesive-Backed	100	42.48	40.78	37.07
94F2751	AJC38-A-C	8	0.38"	2.00 x 1.28"	Adhesive-Backed	100	51.31	49.27	44.79
84F1408	PMCC38H25-C	9	0.38"	0.38 x 0.50"	Push (¼" Hole)	100	43.12	41.40	37.64
96F9952	PLA2S-A-Q	10	1.85"	0.90 x 1.00"	Adhesive-Backed	25	32.18	30.90	28.09
96F9954	PRA2S-A-Q	10	1.85"	0.90 x 1.00"	Adhesive-Backed	25	35.25	33.85	30.77
96F9953	PLA2S-A-C	10	1.85"	0.90 x 1.00"	Adhesive-Backed	100	96.80	90.11	84.31
96F9955	PRA2S-A-C	10	1.85"	0.90 x 1.00"	Adhesive-Backed	100	107.15	99.75	93.33
89F4459	CCS12-S8-C	11	0.12"	0.38" Wide	#8 Screw	100	10.86	10.36	9.89
84F1414	CCS19-S8-C	11	0.19"	0.38" Wide	#8 Screw	100	10.86	10.36	9.89
89F4460	CCH25-S10-C	11	0.25"	0.50" Wide	#10 Screw	100	14.90	14.21	13.57
84F1415	CCH38-S10-C	11	0.38"	0.50" Wide	#10 Screw	100	16.92	16.13	15.41
89F4461	CCH50-S10-C	11	0.50"	0.50" Wide	#10 Screw	100	17.42	16.61	15.87
84F1416	CCH75-S10-C	11	0.75"	0.50" Wide	#10 Screw	100	23.73	22.63	21.62
89F1905	CCS12-S8-M	11	0.12"	0.38" Wide	#8 Screw	1000	54.80	50.81	47.37
84F1430	CCS19-S8-M	11	0.19"	0.38" Wide	#8 Screw	1000	54.80	50.81	47.37
89F1906	CCH25-S10-M	11	0.25"	0.50" Wide	#10 Screw	1000	75.10	69.62	64.91
89F1907	CCH50-S10-M	11	0.50"	0.50" Wide	#10 Screw	1000	87.28	80.91	75.44

* For panel thickness 0.09" max.

(6423)

(de51347)

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CABLE MOUNTS AND WIRING ACCESSORIES FOR USE WITHOUT CABLE TIES

Fig. 1

Fig. 2

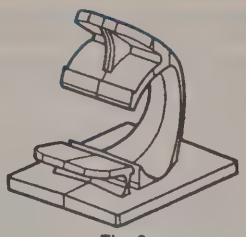
Fig. 3

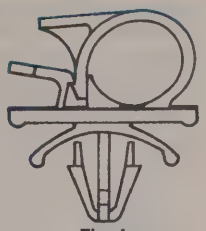
Fig. 4

Fig. 5

Fig. 6

Fig. 7

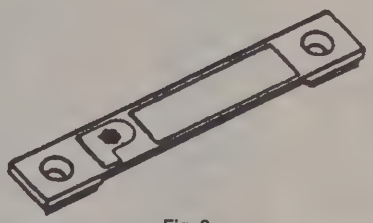
Fig. 8

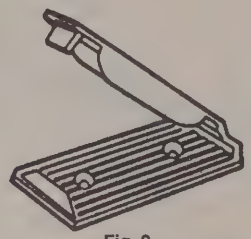
Fig. 9

Cable mounts and wiring accessories include **type VWS** wire saddles with funnel-entry design. Used in pre-drilled 0.187″ holes in 0.03″ to 0.08″ thick panels. **Type SICH** snap-in clips are designed for pre-drilled 0.250″ holes in 0.03″ to 0.10″ thick panels. Placed on the bundle first, then attached to panel. **Type LWC-A** adhesive-backed mounts feature releasable latch, large mounting base for high bonding strength. **Type LWC-H25** push-in mounts snap into 0.250″ hole. **Type TWR** tension wire retainer allows wires to be "slid" into the clip and held in place by tension. Top-loading **type VCC** vertical cord clip features funnel-entry design. **Types FCC** and **FCM** clips accommodate any width flat cable for a maximum stack height of 0.17″. **Type LPFCM** low-profile mount offers cable containment and identification for stack heights up to 0.105″. **Sold in package quantities indicated below.**

Stock No.	Type	Fig.	Bundle Diameter	W x L	Mounting	Pkg. of	Per Package		
							Each	2-4	5-9
84F1431	VWS4218-C	1	0.18 x 42″	0.18 x 42″	Push (3⁄16″ Hole)	100	11.62	11.08	10.58
84F1432	VWS4238-C	1	0.40 x 42″	0.40 x 42″	Push (3⁄16″ Hole)	100	11.87	11.32	10.81
84F1424	VWS4238-M	1	0.40 x 42″	0.40 x 42″	Push (3⁄16″ Hole)	1000	62.92	58.33	54.39
84F1433	VWS4274-C	1	0.74 x 42″	0.74 x 42″	Push (3⁄16″ Hole)	100	17.42	16.61	15.87
84F1426	VWS4274M	1	0.74 x 42″	0.74 x 42″	Push (3⁄16″ Hole)	1000	99.46	92.20	85.97
84F1965	SICH25-C	2	0.25″	...	Push (1⁄4″ Hole)	100	14.90	14.21	13.57
84F1974	SICH25-M	2	0.38″	...	Push (1⁄4″ Hole)	1000	77.13	71.51	66.67
84F1966	SICH38-C	2	0.50″	...	Push (1⁄4″ Hole)	100	16.41	15.65	14.95
84F1967	SICH50-C	2	0.25″	...	Push (1⁄4″ Hole)	100	20.20	19.26	18.40
91F7316	LWC19-A-C	3	0.19″	0.61 x 0.85″	Adhesive-Backed	100	51.62	49.56	45.05
95F5101	LWC25-A-C	3	0.25″	0.80 x 100″	Adhesive-Backed	100	59.27	54.95	51.23
95F5103	LWC38A-C	3	0.38″	1.00 x 1.00″	Adhesive-Backed	100	64.95	60.22	56.14
95F5104	LWC38-A-D	3	0.38″	1.00 x 1.00″	Adhesive-Backed	500	182.27	174.33	169.35
95F5105	LWC50-A-L	3	0.50″	1.00 x 1.28″	Adhesive-Backed	50	53.89	49.96	46.58
95F5106	LWC50-A-T	3	0.50″	1.00 x 1.28″	Adhesive-Backed	200	113.86	105.99	99.17
91F7317	LWC75-A-L	3	0.75″	1.23 x 1.48″	Adhesive-Backed	50	90.60	84.00	78.31
91F7318	LWC100-A-L	3	1.00″	1.98 x 2.22″	Adhesive-Backed	50	96.77	90.08	84.28
91F7319	LWC19-H25-C	4	0.187″	0.50 x 0.86″	Push (1⁄4″ Hole)	100	34.17	32.81	29.83
91F7320	LWC25-H25-C	4	0.25″	0.50 x 0.86″	Push (1⁄4″ Hole)	100	36.39	34.94	31.76
91F7321	LWC38-H25-C	4	0.38″	0.58 x 0.94″	Push (1⁄4″ Hole)	100	40.29	38.68	35.16
91F7322	LWC50-H25-L	4	0.50″	0.76 x 1.25″	Push (1⁄4″ Hole)	50	21.39	20.53	18.67
95F5107	TWR-C	5	0.38″	0.38 x 1.44″	#6 Screw	100	22.97	21.91	20.93
95F5109	TWR-C0*	5	0.38″	0.38 x 1.44″	#6 Screw	100	21.78	20.91	19.01
95F5111	VCC25-A-C	6	0.25″	1.00 x 1.56″	Adhesive-Backed	100	36.87	35.40	32.18
95F5113	VCC25-A-C0*	6	0.25″	1.00 x 1.56″	Adhesive-Backed	100	40.75	39.13	35.57
				FLAT CABLE MOUNTS					
89F2517	FCC5-A-C8	7	Any Width	0.56 x 1.00″	Adhesive-Backed	100	29.11	27.95	25.41
89F1913	FCC5-A-D8	7	Any Width	1.09 x 1.00″	Adhesive-Backed	500	100.47	93.14	86.84
81F4613	FCC-A-C8	7	Any Width	0.56 x 1.00″	Adhesive-Backed	100	35.36	33.95	30.86
89F1914	FCC-A-D8	7	Any Width	1.09 x 1.00″	Adhesive-Backed	500	115.01	107.06	100.17
84F1427	LPFCM14-A-C14	8	1.44″ Wide	0.50 x 2.56″	Adhesive-Backed	100	63.94	59.28	55.26
84F1418	LPFCM14-A-D14	8	1.44″ Wide	0.50 x 2.56″	Adhesive-Backed	500	199.78	191.08	185.62
84F1428	LPFCM22-A-C14	8	2.19″ Wide	0.50 x 3.31″	Adhesive-Backed	100	65.76	60.97	56.84
84F1419	LPFCM22-A-D14	8	2.19″ Wide	0.50 x 3.31″	Adhesive-Backed	500	206.15	197.17	191.54
84F1429	LPFCM34-A-C14	8	3.44″ Wide	0.50 x 4.56″	Adhesive-Backed	100	68.00	63.04	58.77
81F4611	FCM1-A-C14	9	1.00″ Wide	1.00 x 1.17″	Adhesive-Backed	100	95.60	88.63	82.63
89F1915	FCM1-A-T14	9	1.00″ Wide	1.00 x 1.17″	Adhesive-Backed	200	138.02	128.48	120.20
84F1417	FCM1.2-A-C14	9	1.25″ Wide	1.00 x 1.36″	Adhesive-Backed	100	106.96	99.57	93.16
84F1421	FCM1.2-A-T14	9	1.25″ Wide	1.00 x 1.36″	Adhesive-Backed	200	159.50	152.56	148.20
78F628	FCM2-A-C14	9	2.00″ Wide	1.00 x 2.23″	Adhesive-Backed	100	100.44	93.50	87.48
89F1916	FCM2-A-T14	9	2.00″ Wide	1.00 x 2.23″	Adhesive-Backed	200	153.77	149.27	144.88
89F4458	FCM3.25-A-L14	9	3.25″ Wide	1.00 x 3.41″	Adhesive-Backed	50	76.72	71.13	66.32
89F1904	FCM3.25-A-T14	9	3.25″ Wide	1.00 x 3.41″	Adhesive-Backed	200	199.62	190.92	185.47

*Weather-resistant black nylon
(13738)

(ne10332)

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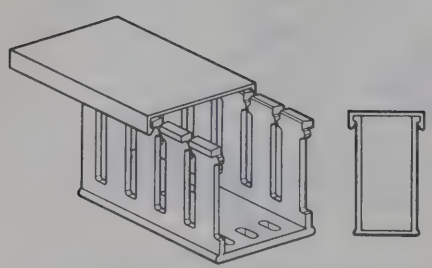
TYPE E PANDUCT® PLASTIC WIRING DUCTS

- **Route, Protect, and Conceal Wires in Control Panels and Communications Closets**
- **Removable Cover Allows Full Access to Wires for Quick Changes**

Type E duct is the original Panduit slotted-wall wiring duct. Offered in sizes from 0.5 x 0.4″ to 4 x 5″. Features smooth, rounded edges to protect wires and installer's hands from abrasion. UL flammability rating of 94V-0. Color: light gray. Also available in dark gray and white; *contact your local Newark sales office.* UL recognized. CSA certified. **Sold in packages of four 6′ lengths.**



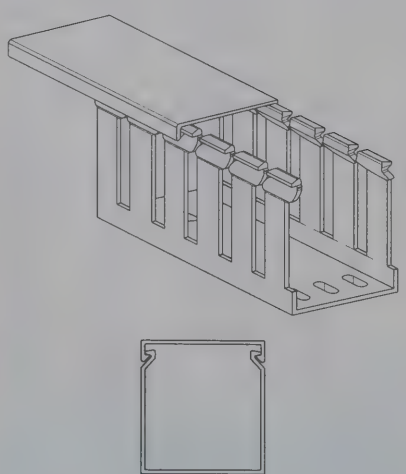
Stock No.	Type	W x H	Per Package 1-4	5-9	10-24
78W301	E.5X.5LG6N	0.50 x 0.50″	70.70	68.09	62.32
89F1362	E.5X.62LG6N	0.50 x 0.62″	74.52	71.77	65.69
78W304	E.5X1LG6N	0.50 x 1.00″	82.64	79.59	72.84
89F1363	E.5X1.25LG6N	0.50 x 1.25″	92.67	89.25	81.69
78W308	E.75X.75LG6N	0.75 x 0.75″	83.60	80.51	73.69
89F1366	E.75X1LG6N	0.75 x 1.00″	87.90	84.65	77.47
89F1367	E.75X1.5LG6N	0.75 x 1.50″	103.97	102.06	93.59
89F1368	E.75X2LG6N	0.75 x 2.00″	123.75	121.48	111.39
78W312	E1X1LG6N	1.00 x 1.00″	75.36	71.59	60.29
89F1378	E1X1.25LG6N	1.00 x 1.25″	102.13	100.26	91.93
78W316	E1X1.5LG6N	1.00 x 1.50″	94.08	89.38	75.27
78W320	E1X2LG6N	1.00 x 2.00″	102.24	97.13	81.80
78W352	E1X3LG6N	1.00 x 3.00″	133.44	126.77	106.76
89F1379	E1X4LG6N	1.00 x 4.00″	181.01	177.77	166.11
89F1380	E1.5X1LG6N	1.50 x 1.00″	89.52	85.04	71.62
78W324	E1.5X1.5LG6N	1.50 x 1.50″	116.85	114.71	105.18
78W356	E1.5X2LG6N	1.50 x 2.00″	111.84	106.25	89.48
78W360	E1.5X3LG6N	1.50 x 3.00″	142.08	134.98	113.67
89F1381	E1.5X4LG6N	1.50 x 4.00″	184.56	181.25	169.37
89F1382	E2X1LG6N	2.00 x 1.00″	103.51	101.61	93.17
89F1383	E2X1.5LG6N	2.00 x 1.50″	123.75	121.48	111.39
78W364	E2X2LG6N	2.00 x 2.00″	112.80	107.16	90.24
89F1369	E2X2.5LG6N	2.00 x 2.50″	152.17	149.45	139.65
78W368	E2X3LG6N	2.00 x 3.00″	145.68	138.40	116.55
89F1370	E2X4LG6N	2.00 x 4.00″	184.42	178.33	172.67
78W372	E3X2LG6N	3.00 x 2.00″	136.32	129.50	109.06
78W376	E3X3LG6N	3.00 x 3.00″	167.52	159.14	134.02
89F1376	E4X2LG6N	4.00 x 2.00″	171.69	168.62	157.56
89F1377	E4X3LG6N	4.00 x 3.00″	194.10	187.69	181.73
81F4599	E4X4LG6N	4.00 x 4.00″	226.32	215.00	181.06

(31676) (ne31676)

TYPE G PANDUCT® PLASTIC WIRING DUCTS

- **Route, Protect, and Conceal Wires**
- **Removeable Duct Cover (*) For Easy Wire Access**

Type G duct is interchangeable with **type E** slotted-wall wiring duct. Features the same external dimensions and mounting hole pattern as **type E** duct, but provides increased wire capacity. Offered in sizes from 0.5 x 0.5″ to 4 x 5″. Like all Panduit wiring ducts, **type G** features smooth, rounded edges to protect wires and installer's hands from abrasion. Color: light gray. Also available in dark gray and white; *contact your local Newark sales office. *Order nonslip duct cover separately on page 1267.* A full line of accessories is available; *contact your local Newark sales office for details.* UL recognized, CSA certified. **Sold in packages of four 6′ lengths.**



Stock No.	Type	W x H	Per Package Each	2-4	5-9	10-24
91F6173	G.5X.5LG6N	0.50 x 0.50″	68.31	65.79	60.21	55.52
91F6175	G.75X.75LG6N	0.75 x 0.75″	80.77	77.79	71.19	65.65
91F6176	G.75X1LG6N	0.75 x 1.00″	84.92	81.79	74.86	69.03
91F6177	G.75X1.5LG6N	0.75 x 1.50″	100.46	98.61	90.42	84.78
91F6178	G.75X2LG6N	0.75 x 2.00″	119.57	117.37	107.63	100.91
91F6179	G1X1LG6N	1.00 x 1.00″	85.85	82.68	75.67	69.78
91F6180	G1X1.5LG6N	1.00 x 1.50″	104.46	102.54	94.02	88.16
91F6181	G1X2LG6N	1.00 x 2.00″	112.90	110.83	101.62	95.28
91F6182	G1X3LG6N	1.00 x 3.00″	141.88	139.34	130.21	122.18
91F6183	G1X4LG6N	1.00 x 4.00″	174.89	171.76	160.49	150.60
91F6184	G1.5X1.5LG6N	1.50 x 1.50″	112.90	110.83	101.62	95.28
91F6185	G1.5X1LG6N	1.50 x 1.00″	95.12	93.38	85.62	80.28
91F6186	G1.5X2LG6N	1.50 x 2.00″	123.12	120.86	110.83	103.91
91F6187	G1.5X3LG6N	1.50 x 3.00″	151.31	148.60	138.86	130.30
91F6190	G2X1.5LG6N	2.00 x 1.50″	119.57	117.37	107.63	100.91
91F6191	G2X2LG6N	2.00 x 2.00″	109.44	103.97	87.56	78.80
91F6192	G2X3LG6N	2.00 x 3.00″	155.17	152.39	142.40	133.63
91F6193	G2X4LG6N	2.00 x 4.00″	178.18	172.30	166.83	159.26
91F6196	G3X1LG6N	3.00 x 1.00″	123.12	120.86	110.83	103.91
91F6197	G3X2LG6N	3.00 x 2.00″	145.31	142.71	133.35	125.14
91F6198	G3X3LG6N	3.00 x 3.00″	178.32	175.12	163.64	153.56
91F6199	G3X4LG6N	3.00 x 4.00″	203.81	197.08	190.82	182.17
91F6203	G4X3LG6N	4.00 x 3.00″	187.54	181.34	175.59	167.62
91F6204	G4X4LG6N	4.00 x 4.00″	228.63	221.07	214.06	204.35
91F6205	G4X5LG6N	4.00 x 5.00″	320.16	309.58	299.76	286.16

(13161) (ne10413)

WIRING DUCT AND ACCESSORIES

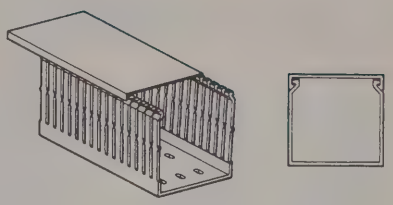
TYPE F PANDUCT® PLASTIC WIRING DUCT

- **Restricted Longer Slot Design**
- **Safe, Rounded Slot Edges**
- **Numerous Mounting Holes**
- **Routes, Protects, and Conceals Wires**
- **Removeable Duct Cover* For Easy Wire Access**

Type F duct is a slotted-wall wiring duct offered in 29 sizes. Features smooth rounded edges to protect wires and installer's hands from abrasion. Narrow fingers and more slots allow greater wiring flexibility for newer, compact terminal blocks. Ideal for use in control panels and communications closets. Flammability rating of 94V-0. Color: light gray. Also available in dark gray and white; *contact your local Newark sales office. (*) Order nonslip cover separately on this page.* UL recognized, CSA certified. **Sold in packages of four 6′ lengths.**

Stock No.	Type	Dimensions W x H (in.)	Dimensions W x H (mm)	Each	2-4	5-9	10-24
95F5115	F.5X.5LG6N	0.50 x 0.50	12.7 x 12.7	70.70	68.09	62.32	57.46
95F5116	F.5X1LG6N	0.50 x 1.00	12.7 x 25.4	70.56	67.03	56.45	50.81
95F5117	F.75X.75LG6N	0.75 x 0.75	19.1 x 19.1	83.60	80.51	73.69	67.95
95F5118	F.75X1.5LG6N	0.75 x 1.50	19.1 x 38.1	103.97	102.06	93.59	87.75
95F5119	F1X1LG6N	1.00 x 1.00	25.4 x 25.4	72.96	69.31	58.37	52.54
95F5120	F1X1.5LG6N	1.00 x 1.50	25.4 x 38.1	91.68	87.10	91.68	91.68
95F5121	F1X2LG6N	1.00 x 2.00	25.4 x 50.8	99.36	94.39	79.49	71.54
95F5122	F1X3LG6N	1.00 x 3.00	25.4 x 76.2	146.85	144.22	134.76	126.46
95F5124	F1.5X1LG6N	1.50 x 1.00	38.1 x 25.4	98.45	96.64	88.62	83.09
95F5125	F1.5X1.5LG6N	1.50 x 1.50	38.1 x 38.1	116.85	114.71	105.18	98.62
95F5126	F1.5X2LG6N	1.50 x 2.00	38.1 x 50.8	108.72	103.28	86.98	78.28
95F5127	F1.5X3LG6N	1.50 x 3.00	38.1 x 76.2	156.61	153.80	143.72	134.86
95F5130	F2X1.5LG6N	2.00 x 1.50	50.8 x 38.1	123.75	121.48	111.39	104.44
95F5131	F2X2LG6N	2.00 x 2.00	50.8 x 50.8	109.44	103.97	87.56	78.80
95F5132	F2X3LG6N	2.00 x 3.00	50.8 x 76.2	160.60	157.72	147.38	138.30
95F5133	F2X4LG6N	2.00 x 4.00	50.8 x 101.6	184.42	178.33	172.67	164.83
95F5136	F3X2LG6N	3.00 x 2.00	76.2 x 50.8	150.40	147.70	138.02	129.51
95F5137	F3X3LG6N	3.00 x 3.00	76.2 x 76.2	184.56	181.25	169.37	158.93
95F5140	F4X2LG6N	4.00 x 2.00	101.6 x 50.8	171.69	168.62	157.56	147.85
95F5141	F4X3LG6N	4.00 x 3.00	101.6 x 76.2	194.10	187.69	181.73	173.49
95F5142	F4X4LG6N	4.00 x 4.00	101.6 x 101.6	236.63	228.81	221.55	211.50

(6492) (ne50926)



NONSLIP COVER FOR TYPES "E", "F" AND "G" DUCTS

Color: light gray. Also available in dark gray and white; *contact your local Newark sales office.* **Sold in packages of four 6′ lengths.**

Stock No.	Type	For Duct Width	Each	2-4	5-9
78W328	C.5LG6N	0.50″	18.24	17.33	14.60
78W332	C.75LG6N	0.75″	19.92	18.92	15.94
78W336	C1LG6N	1.00″	21.12	20.06	16.90
78W348	C1.5LG6N	1.50″	27.60	26.22	22.08
78W380	C2LG6N	2.00″	33.36	31.69	26.69
78W384	C3LG6N	3.00″	49.44	46.97	39.56
81F5743	C4LG6N	4.00″	60.00	57.00	48.00

(6491) (ne50925)

TYPE DNT-100 DUCT NOTCHING TOOL AND TYPE DCT DUCT CUTTING TOOL

Type DNT-100 notches **types E, F** and **G** wiring duct down to base and shoreline for "T" and corner junctions. Spring-action handle allows one-hand operation. Steel construction. **Type DCT** is a duct cutting tool for all types of wire duct and cover.

Stock No.	Type	Each	2-4	5-9	10-24
81F4605	DNT-100	103.64	98.46	92.24	...
92F483	DCT	103.91	100.47	97.22	92.70

(13260) (ne09821)

NYLON RIVETS AND INSTALLATION TOOL

Type NR1-C nylon rivets are easily installed in all ducts with **type TNR** tool. Installation tool constructed of lightweight aluminum and acetal. **Rivets sold in packages of 100.**

Stock No.	Type	Description	Each	2-4	5-9	10-24
81F4601	NR1-C	Rivets	14.66	14.37	14.08	12.80
81F4606	TNR	Rivet Tool	122.05	115.95	108.63	...

(6493) (ne50927)

NR1-C

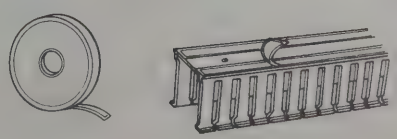
TNR

ACRYLIC ADHESIVE FOAM TAPE

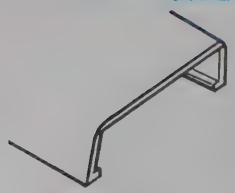
2-sided polyethylene foam tape for mounting duct to control panels without screws. Reduces transmission of vibration, joins uneven surfaces, cushions gaskets, and attaches a variety of materials. Recommended for high temperature (180°F) and UV light applications. UL recognized. 72 yard length.

Stock No.	Type	Width	Each	2-4	5-9	10-24
89F1384	P32W2A2-50-72	0.50″	66.28	63.83	58.42	53.87
89F1385	P32W2A2-75-72	0.75″	88.21	84.96	77.76	71.70
44F1478	P32W2A2-100-72	1.00″	104.99	103.06	94.50	88.61

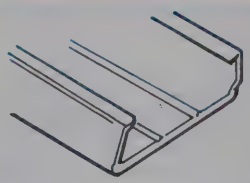
(6494) (ne50929)



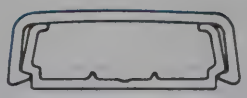
TYPE PD LOW-PROFILE SURFACE RACEWAY



Snap-on Cover



Base



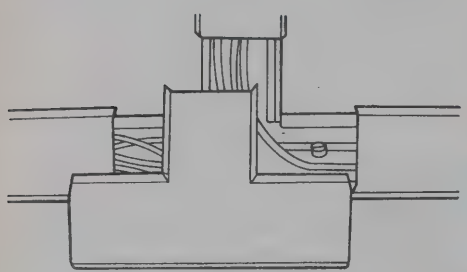
Assembled Raceway (Cover and Base)

Low-profile surface raceway can be used for communication or electrical wiring. 2-piece plastic surface for power or low-voltage wiring. Choose screw-applied base or adhesive-backed base for fast and easy applications. UL listed for electrical power up to 300 volts when screw mounted. CSA certified. Meets NEC specifications for nonmetallic surface raceways. Use with MOD-COM™ products; *contact your local Newark sales office for details.* **Sold in packages of 8′ lengths.**

Stock No.	Type	Description	Color	W x H	Package Quantity	Each	2-4	5-9	10-24
48F1875	PD3EI8N	Screw Mount	Electrical Ivory	0.86 x 0.37″	24′	54.92	52.90	48.41	44.64
48F1876	PD3EI8N-A	Adhesive Mount	Electrical Ivory	0.86 x 0.37″	24′	54.92	52.90	48.41	44.64
48F1879	PD3IW8N	Screw Mount	Off White	0.86 x 0.37″	24′	54.92	52.90	48.41	44.64
48F1880	PD3IW8N-A	Adhesive Mount	Off White	0.86 x 0.37″	24′	54.92	52.90	48.41	44.64
83F7001	PD6EI6N	Screw Mount	Electrical White	1.33 x 0.46″	24′	39.54	38.77	36.65	32.52
48F1878	PD6EI8N-A	Adhesive Mount	Electrical White	1.33 x 0.46″	24′	61.39	59.12	54.11	49.89
48F1881	PD6IW8N	Screw Mount	Off White	1.33 x 0.46″	24′	61.39	59.12	54.11	49.89
48F1882	PD6IW8N-A	Adhesive Mount	Off White	1.33 x 0.46″	24′	61.39	59.12	54.11	49.89

(6495) (ne51338)

TYPE P FITTINGS



P Fitting

Matching fittings for use only with **type P** low-profile surface raceway *ordered separately on this page.* Eliminate special cuts to speed installation. Easy to use, just snap into place. UL listed. Color: electrical ivory. Also available in light gray, white, and off-white; *contact your local Newark sales office.*

Stock No.	Type	Description	Use With	Each	2-4	5-9	10-24
84F1671	PCF3EI-X	Coupling	PD3	0.52	0.51	0.50	0.46
84F1672	PECF3EI-X	End Cap		0.72	0.70	0.69	0.62
84F1673	PICF3EI-X	Inside Corner		1.79	1.76	1.72	1.56
84F1674	POCF3EI-X	Outside Corner		1.79	1.76	1.72	1.56
84F1675	PRAF3EI-X	Right-Angle		1.88	1.84	1.80	1.64
84F1676	PTF3EI-X	Tee		2.46	2.41	2.36	2.15
89F1740	PCF6EI-X	Coupling	PD6	0.54	0.53	0.52	0.47
84F1677	PECF6EI-X	End Cap		0.80	0.79	0.77	0.70
89F1741	PICF6EI-X	Inside Corner		1.84	1.80	1.76	1.60
89F1742	POCF6EI-X	Outside Corner		1.84	1.80	1.76	1.60
89F1711	PRAF6EI-X	Right-Angle		2.07	2.03	1.99	1.81
89F1712	PTF6EI-X	Tee		2.61	2.56	2.51	2.28
89F1714	PWR6-X	Wire Retainer		0.41	0.40	0.40	0.36

(6496) (ne51339)

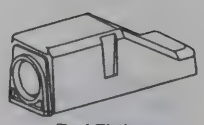
Junction Box

TYPE P JUNCTION BOXES

2 styles for use with **type P** raceway. Cover knockouts fit raceway for easy installation. User supplies wiring device and wall plate. Color: electrical ivory. Also available in light gray, white, and off-white; *contact your local Newark sales office.*

Stock No.	Type	Style	Description	Each	2-4	5-9	10-24
83F7005	JBP1EI	1 Gang	Screw Mount	7.69	7.54	7.38	6.71
83F7006	JBP2EI	2 Gang	Screw Mount	10.23	10.03	9.82	8.93

(6497) (ne51340)



End Fitting

TYPE P ENTRANCE END FITTINGS

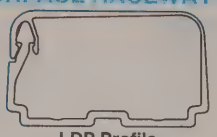
Provides transition from ½″ conduit to **type P** raceway (**types PD3** or **PD6**) *ordered separately on this page.* Color: electrical ivory. Also available in light gray, white, and off-white; *contact your local Newark sales office.*

Stock No.	Type	Each	2-4	5-9	10-24
84F1680	PEEF36EIX	5.09	4.99	4.89	4.44

(11926) (ne09834)

NEWARK HAS WHAT YOU NEED.
WITH SO MUCH IN STOCK, YOU HAVE THE COMPONENTS YOU NEED AT YOUR FINGERTIPS.

PAN-WAY™ TYPES LDP AND LD SURFACE RACEWAY



LDP Profile

Types LDP and **LD** surface raceway protect premises cabling with a complete routing system. Hinged-cover design allows cable to be laid-in instead of pulled through. Adhesive back speeds installation process. **Type LD** is an adhesive-back, one-piece raceway for low-voltage cable (under 48V). **Type LDP** is UL listed to 600V and can be used for routing low-voltage communication cabling, including fiber-optic cables. Both can be used with the PAN-NET™ networking cabling system for Category 5 UTP, ScTP, coax and fiber-optic cabling applications. Color: electrical ivory. Also available in brown, light gray, off-white, and white; *contact your local Newark sales office. Order raceway fittings separately on this page.* **Sold in packages of four 6′ lengths.**

TYPE LDP RACEWAY

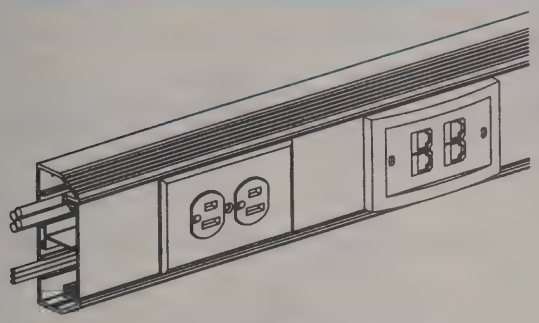
Stock No.	Type	W x H	Per Package Each	2-4	5-9	10-24
01F1026	LDP3EI6N-A	0.46 x 0.77″	62.88	55.44	44.64	...
01F1027	LDP5EI6N-A	0.60 x 1.01″	69.60	59.44	51.20	...
01F1028	LDP10EI6N-A	0.86 x 1.51″	91.68	80.64	65.04	...

TYPE LD RACEWAY

46F2166	LD3EI6N-A	0.46 x 0.77″	51.84	49.25	41.48	37.33
81F4604	LD5EI6N-A	0.60 x 1.01″	57.36	54.49	45.89	41.30
46F2162	LD10EI6N-A	0.86 x 1.51″	83.52	73.44	59.28	...

(13447) (ne51341)

PAN-WAY™ TYPE T-70 SURFACE RACEWAY



T70BCE116N

Type T-70 surface raceway allows accessibility for future revisions. Can be used with the PAN-NET™ networking cabling system for Category 5 UTP, ScTP, coax and fiber-optic cabling applications. Raceway can also be used with any standard communications faceplates. Maintain the EIA/TIA required 1″ minimum bend radius of Category 5 and fiber-optic cabling. Color: electrical ivory. Also available in light gray, off-white, and white; *contact your local Newark sales office.* 1″ bend radius control fittings available; *contact your local Newark sales office.* **Raceway base and cover sold in packages of four 6′ lengths; other items sold individually.**

Stock No.	Type	Description	Each	2-4
01F1014	T70BCEI6N	Raceway Base and Cover (Pkg. of 4)	165.00	156.75
01F1016	T70WR-X	Wire Retainer	1.84	1.80
01F1017	T70DB-X	Device Bracket	4.07	3.98
01F1018	T70BCEI-X	Base Coupler Fitting	6.00	5.88
01F1019	T70CCEI-X	Cover Coupler Fitting	3.45	3.38
01F1020	T70ICEI	Inside Corner Fitting	15.23	14.92
01F1021	T70RAEI	Right-Angle Fitting	23.00	22.55
01F1022	T70OCEI	Outside Corner Fitting Base	15.23	14.92
01F1023	T70TREI	Transition Fitting (Base Only)	20.46	20.05
01F1024	T70TRCEI	Transition Fitting (Cover Only)	17.48	17.13
01F1025	T70ECEI	End Cap Fitting	5.90	5.78

(13455) (ne10412)

NEWARK PROVIDES OPTIMUM SERVICE.
SAME-DAY SHIPMENT WHEN YOU PLACE YOUR ORDER BY 5:00 PM C.S.T.

FITTINGS FOR TYPE LD AND LDP SURFACE RACEWAY

Fittings for **Type LD** and **Type LDP** surface raceway. **Type LD** fittings are used for low voltage adhesive-backed surface raceway only. **Type LDP** fittings are Category 5 compliant. Both eliminate special cuts, speed up installation. Snap into place. Color: electrical ivory. Also available in brown, light gray, off-white, and black (**type LD5** only); *contact your local Newark sales office. Order* **type LDP** *and* **type LD** *surface raceway separately on this page.*

TYPE LD FITTINGS

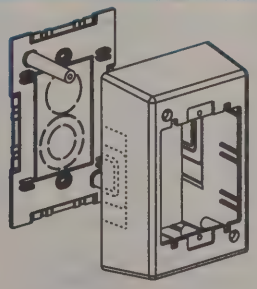
Stock No.	Type	Description	Use With	Each	2-4
89F1727	CF3EI-E	Coupling	LD3	1.58	1.55
89F1728	DCF3EI-X	Drop Ceiling		2.46	2.41
66F3546	ECF3EI-E	End Cap		1.58	1.55
89F1729	ICF3EI-E	Inside Corner		1.58	1.55
89F1731	OCF3EI-E	Outside Corner		1.58	1.55
89F1732	RAF3EI-E	Right-Angle		1.58	1.55
66F3516	TF3EI-E	Tee		1.58	1.55
89F1705	CF5EI-E	Coupling	LD5	1.71	1.67
89F1706	DCF5EI-X	Drop Ceiling		2.46	2.41
89F1707	ECF5EI-E	End Cap		1.71	1.67
89F1708	ICF5EI-E	Inside Corner		1.71	1.67
89F1709	OCF5EI-E	Outside Corner		1.71	1.67
89F1710	RAF5EI-E	Right-Angle		1.71	1.67
89F1721	TF5EI-E	Tee		1.71	1.67
66F3547	RFX53EI-E	Reducer (to LD3)		1.62	1.59
89F1722	CF10EI-X	Coupling	LD10	1.84	1.80
89F1723	DCF10EI-X	Drop Ceiling		2.46	2.41
66F3550	ECF10EI-X	End Cap		1.84	1.80
89F1725	ICF10EI-X	Inside Corner		1.84	1.80
89F1726	OCF10EI-X	Outside Corner		1.84	1.80
89F1715	RAF10EI-X	Right-Angle		1.84	1.80
89F1716	RFX103EI-X	Reducer (to LD3)		1.79	1.76
89F1718	RFX105EI-X	Reducer (to LD5)		1.79	1.76
89F1719	TF10EI-X	Tee		1.84	1.80

TYPE LDP FITTINGS

Stock No.	Type	Description	Use With	Each	2-4
01F1031	CFX3EI-X	Coupling	LDP3	1.36	1.31
01F1035	DCEFXEI-X	Drop Ceiling	LDP3, 5, 10	7.32	7.17
01F1038	ECFX3EI-X	End Cap	LDP3	1.52	1.49
01F1033	ICFC3EI-X	Inside Corner	LDP3	1.84	1.80
01F1036	OCFX3EI-X	Outside Corner	LDP3	2.98	2.92
01F1034	RAFC3EI-X	Right-Angle	LDP3	1.84	1.80
01F1037	TFC3EI-X	Tee	LDP3	1.84	1.80
01F1032	CFX5EI-X	Coupling	LDP5	1.47	1.41
01F1039	ECFX5EI-X	End Cap		1.65	1.62
66F3964	ICFC5EIX	Inside Corner		2.07	2.03
66F3966	OCFX5EI-X	Outside Corner		3.07	3.00
66F3970	RAFC5EI-X	Right-Angle		2.07	2.03
66F3967	TFC5EI-X	Tee		2.00	1.96
01F1041	RFX53EI-X	Reducer (to LDP3)		1.65	1.62
66F3968	CFX10EI-X	Coupling	LDP10	1.58	1.52
01F1040	ECFX10EI-X	End Cap		1.77	1.74
66F3551	ICFC10EI-X	Inside Corner		2.15	2.11
66F3552	OCFX10EI-X	Outside Corner		3.71	3.64
66F3553	RAFC10EI-X	Right-Angle		2.15	2.11
66F3554	TFC10EI-X	Tee		2.15	2.11
01F1042	RFX105EI-X	Reducer (to LDP5)		1.77	1.74
01F1043	RFX103EI-X	Reducer (to LDP3)		1.77	1.74

(6499) (ne51342)

JUNCTION BOXES FOR TYPES LDP AND LD RACEWAY



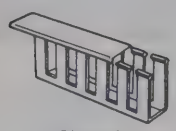
Cover knockouts fit raceway. User supplies connector and wall plate. Color: electrical ivory. Also available in gray, off-white, and white; *contact your local Newark sales office.*

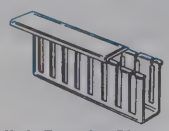
Stock No.	Type	Style	Description	Each
83F7009	JB1EI-A	1 Gang	Adhesive-Backed	5.48
83F7006	JBP2EI	2 Gang	Adhesive-Backed	10.23

(6500) (ne51343)

WIRING DUCTS AND ACCESSORIES

VOLTREX™ BRAND WIRING DUCTS


Slotted


High-Density Slotted

Solid

SLOTTED WIRING DUCTS

Slotted wall design enables numerous wire breakouts. Double-scored breakaway duct fingers make larger breakouts easy. Restricted opening design prevents unintended removal of wires. High-impact PVC material. Color: gray. Flammability rated UL94V-0. UL recognized, CSA certified. Made in the U.S.A. *Order duct covers separately on this page.* **Sold in packages of 24′ in four 6′ lengths.**

Stock No.	Type	W × H	Per 24′ Pkg. 1-9	10-24	25-99
51N2344	WDLT-0404-72	1 × 1″	56.84	38.37	30.14
51N2345	WDLT-0406-72	1 × 1.5″	75.43	50.92	40.00
51N2346	WDLT-0408-72	1 × 2″	78.54	53.01	41.65
51N2347	WDLT-0412-72	1 × 3″	100.24	67.66	53.15
51N2349	WDLT-0604-72	1.5 × 1″	64.07	43.25	33.97
51N2350	WDLT-0606-72	1.5 × 1.5″	77.50	52.32	41.10
51N2351	WDLT-0608-72	1.5 × 2″	83.70	56.50	44.38
51N2352	WDLT-0612-72	1.5 × 3″	135.37	91.37	71.78
51N2353	WDLT-0616-72	1.5 × 4″	162.24	109.51	86.03
51N2354	WDLT-0804-72	2 × 1″	73.37	49.52	38.91
51N2355	WDLT-0808-72	2 × 2″	85.77	57.89	45.48
51N2356	WDLT-0812-72	2 × 3″	141.57	95.56	75.07
51N2357	WDLT-0816-72	2 × 4″	169.47	114.39	89.86
51N2358	WDLT-1204-72	3 × 1″	81.64	55.11	43.29
51N2359	WDLT-1208-72	3 × 2″	110.57	74.64	58.63
51N2360	WDLT-1212-72	3 × 3″	147.77	99.74	78.36
51N2361	WDLT-1216-72	3 × 4″	187.04	126.25	99.18
16N2376	8443-0336	3 × 5″	242.44	163.65	128.56
51N2362	WDLT-1608-72	4 × 2″	124.01	83.70	65.76
51N2363	WDLT-1612-72	4 × 3″	169.47	114.39	89.86
51N2364	WDLT-1616-72	4 × 4″	203.57	137.41	107.95
16N2377	8443-0337	4 × 5″	257.35	173.71	136.46

HIGH-DENSITY SLOTTED WIRING DUCTS

High-density slotted wall ducts come with narrow fingers, equaling a 2-to-1 ratio compared to standard slotted wiring ducts. The narrow fingers reduce fanning of the wires to the terminal blocks for a neater appearance and to accommodate more compact designs and components in control panels, communications closets, and other applications. Made with a versatile mounting hole pattern which lines up with DIN 35 rail; the mounting hole rows are also consistent with standard slotted wiring duct, so the two ducts can easily be interchanged. Double-scored breakaway duct fingers make larger breakouts easy. Restricted opening design prevents unintended removal of wires. Color: gray. Flammability rated UL94V-0. UL recognized, CSA certified. Made in the U.S.A. *Order duct covers separately on this page.* **Sold in packages of 24′ in four 6′ lengths.**

Stock No.	Type	W × H	Per 24′ Pkg. 1-9	10-24	25-99
97N9468	DHD-1X1	1 × 1″	65.58	44.27	34.78
97N9469	DHD-1X1.5	1 × 1.5″	86.45	58.35	45.84
97N9470	DHD-1X2	1. × 2″	90.42	61.04	47.95
97N9471	DHD-1X3	1 × 3″	115.26	77.80	61.12
97N9472	DHD-1X4	1 × 4″	202.70	136.82	107.48
97N9473	DHD-1.5X1	1.5 × 1″	72.54	48.96	38.46
97N9474	DHD-1.5X1.5	1.5 × 1.5″	89.43	60.37	47.42
97N9475	DHD-1.5X2	1.5 × 2″	96.38	65.06	51.11
97N9476	DHD-1.5X3	1.5 × 3″	155.01	104.63	82.19
97N9477	DHD-1.5X4	1.5 × 4″	185.81	125.42	98.53
97N9478	DHD-2X1	2 × 1″	86.45	58.35	45.84
97N9479	DHD-2X2	2 × 2″	98.37	66.40	52.16
97N9480	DHD-2X3	2 × 3″	161.96	109.32	85.88
97N9481	DHD-2X4	2 × 4″	195.74	132.13	103.79
97N9482	DHD-3X1	3 × 1″	93.40	63.05	49.53
97N9483	DHD-3X2	3 × 2″	127.18	85.85	67.44
97N9484	DHD-3X3	3 × 3″	169.91	114.69	90.10
97N9485	DHD-3X4	3 × 4″	214.62	144.87	113.80
97N9486	DHD-4X2	4 × 2″	143.08	96.58	75.87
97N9487	DHD-4X3	4 × 3″	195.74	132.13	103.79
97N9488	DHD-4X4	4 × 4″	234.49	158.28	124.34

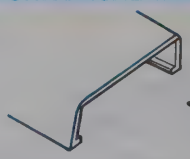
SOLID WALL WIRING DUCTS

Solid wall design for straight wires runs where no breakouts are required. Color: gray. Flammability rated UL94V-0. UL recognized, CSA certified. Made in the U.S.A. *Order duct covers separately on this page.* **Sold in packages of 24′ in four 6′ lengths.**

Stock No.	Type	W × H	Per 24′ Pkg. 1-9	10-24	25-99
51N2341	WDWT-0202-72	0.5 × 0.5″	49.61	33.48	26.30
51N2342	WDWT-0204-72	0.5 × 1″	56.84	38.37	30.14
51N2343	WDWT-0303-72	0.75 × 0.75″	55.76	37.64	29.57

(6374) (de01866)

VOLTREX™ BRAND UNIVERSAL WIRING DUCT COVERS

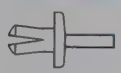

MADE IN USA

Designed for slotted, high-density slotted, and solid wiring ducts, *ordered separately on this page.* Versatile snap-on design with nonslip liner. Made of high-impact PVC material. Color: gray. Flammability rated UL94V-0. UL recognized, CSA certified. Made in the U.S.A. **Sold in packages of 24′ in four 6′ lengths.**

Stock No.	Type	Duct Width	Per 24′ Pkg. 1-9	10-24	25-99
51N2365	WDCT-02-72	0.50″	18.60	12.56	9.86
51N2366	WDCT-02-72	0.75″	18.60	12.56	9.86
51N2367	WDCT-04-72	1.00″	18.60	12.56	9.86
51N2368	WDCT-06-72	1.50″	28.93	19.53	15.34
51N2369	WDCT-08-72	2.00″	31.00	20.93	16.44
51N2370	WDCT-12-72	3.00″	39.27	26.51	20.82
51N2371	WDCT-16-72	4.00″	48.57	32.79	25.76

(31982) (ne31982)

DUCT MOUNTING RIVETS AND TOOL


WDRT-1A

WDRT-1

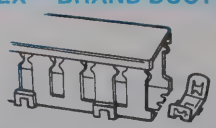
MADE IN USA

Plastic, 1-piece rivets provide a fast, economical means of affixing wiring ducts. The rivet is inserted into a 3⁄16″ pre-punched hole and the pin is driven into the base, thereby expanding the rivet legs and locking the duct and sub-panel in place. Maximum duct/panel thickness is 3⁄16″. Installation tool, *ordered separately below,* installs any plastic rivet. Made in the U.S.A.

Stock No.	Type	Description	1-9	10-24
51N2380	WDRT-1A	Plastic Rivets **(Pkg. of 100)**	11.97	8.08
51N2379	WDRT-1	Rivet Tool	60.28	40.69

(6376) (de01868)

VOLTREX™ BRAND DUCT MOUNTING CLIPS


MADE IN USA

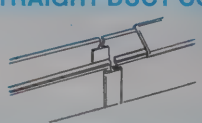
Speed installation and protect wiring ducts from excessive vibration. Duct snaps into clip; mounting hole alignment is not required. Metal will not touch the inside of the duct, eliminating grounding conductors. Made in the U.S.A. **Sold in packages of 25.**

Stock No.	Type	Duct Width	Per Pkg. 1-9	10-24
51N2372	WDMC-1-C	1″ (25.4)	17.60	11.88
51N2373	WDMC-1-5-C	1.5″ (38.1)	14.49	9.78
51N2374	WDMC-2-C	2″ (50.8)	15.53	10.48
51N2375	WDMC-3-C	3″ (76.2)	16.56	11.18
51N2376	WDMC-4-C	4″ (101.6)	17.60	11.88

(6375) (de01867)

CORNER STRIP AND STRAIGHT DUCT CONNECTORS

WDCS-72


WDSS-72

MADE IN USA

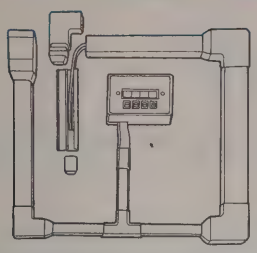
Join ducts at corners or straight connections to cover and protect wires. Work with any duct sizes; simply cut to length. High-impact PVC, rated UL94V-0. Color: gray. Made in the U.S.A. **Sold in packages of 24′ in four 6′ lengths.**

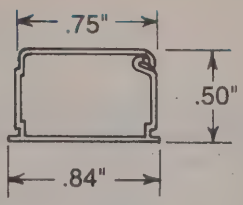
Stock No.	Type	Description	Length	Per Package 1-9	10-24	25-99
51N2377	WDCS-72	Corner Strip	6′ (1.83m)	53.74	36.27	28.50
51N2378	WDSS-72	Straight Fitting	6′ (1.83m)	53.74	36.27	28.50

(6378) (de01870)

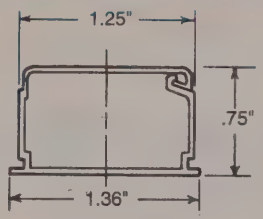
RACEWAYS AND ACCESSORIES

ADHESIVE-BACKED SURFACE MOUNT RACEWAY SYSTEMS

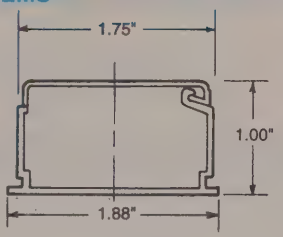




¾″ Duct



1¼″ Duct



1¾″ Duct

Surface mount raceway system is a one-piece latching duct designed to contain, route, and protect wire and cable when it can't be run within a wall. Designed with a special flexible hinge, the raceway allows numerous openings without creating stress cracking, or discoloration. The self-locking, hidden positive latch allows for quick re-entry and secure installation of wire and cable. Raceways are paintable with a latex-based paint to fit any office or home decor. System is made from PVC, rated UL 94V-0. Adhesive is 1/16″ thick urethane foam tape which features good high-temperature and solvent resistance. **Duct sold in packages of four 6′ lengths.**

White		Ivory			
Stock No.	Type	Stock No.	Type	Description	Per Pkg.
16N2378	8443-0446	**16N2417**	8443-0485	¾″ x ½″ x 6′ Duct	**42.73**
16N2379	8443-0447	**16N2418**	8443-0486	1¼″ x ¾″ x 6′ Duct	**67.57**
16N2380	8443-0448	**16N2419**	8443-0487	1¾″ x 1″ x 6′ Duct	**104.33**

(6485) (ne08424)

FITTINGS AND ACCESSORIES FOR SURFACE MOUNT RACEWAY SYSTEMS

Accessories made of PVC, rated UL94V-0. 1″ minimum bend radius accessories are EIA/TIA compliant which helps provide consistent data transmission performance of Category 5 communications systems. Cables within raceway meet recommended bend radius requirements for Category 5 systems.

White		Ivory			
Stock No.	Type	Stock No.	Type	Description	Each
16N2381	8443-0449	**16N2420**	8443-0488	Splice Cover, ¾″	**1.04**
16N2382	8443-0450	**16N2421**	8443-0489	Splice Cover, 1¼″	**1.45**
16N2383	8443-0451	**16N2422**	8443-0490	Splice Cover, 1¾″	**3.48**
16N2387	8443-0455	**16N2426**	8443-0494	Internal Cover, ¾″	**1.91**
16N2388	8443-0456	**16N2427**	8443-0495	Internal Cover, 1¼″	**2.03**
16N2389	8443-0457	**16N2428**	8443-0496	Internal Cover, 1¾″	**3.32**
16N2390	8443-0458†	**16N2429**	8443-0497†	Internal Cover, ¾″ for 1″ Min. Bend	**1.99**
16N2391	8443-0459†	**16N2430**	8443-0498†	Internal Cover, 1¼″ for 1″ Min. Bend	**2.03**
16N2392	8443-0460†	**16N2431**	8443-0499†	Internal Cover, 1¾″ for 1″ Min. Bend	**3.21**
16N2393	8443-0461	**16N2432**	8443-0500	External Cover, ¾″	**1.91**
16N2394	8443-0462	**16N2433**	8443-0501	External Cover, 1¼″	**2.03**
16N2395	8443-0463	**16N2434**	8443-0502	External Cover, 1¾″	**3.32**
16N2396	8443-0464	**16N2435**	8443-0503	Elbow Cover, ¾″	**2.03**
16N2397	8443-0465	**16N2436**	8443-0504	Elbow Cover, 1¼″	**2.16**
16N2398	8443-0466	**16N2437**	8443-0505	Elbow Cover, 1¾″	**3.36**
16N2399	8443-0467†	**16N2438**	8443-0506†	Elbow Cover, ¾″ for 1″ Min. Bend	**2.03**
16N2400	8443-0468†	**16N2439**	8443-0507†	Elbow Cover, 1¼″ for 1″ Min. Bend	**2.16**
16N2401	8443-0469†	**16N2440**	8443-0508†	Elbow Cover, 1¾ for 1″ Min. Bend	**3.36**
16N2402	8443-0470	**16N2441**	8443-0509	Tee Cover, ¾″	**2.03**
16N2403	8443-0471	**16N2442**	8443-0510	Tee Cover, 1¼″	**2.16**
16N2404	8443-0472	**16N2443**	8443-0511	Tee Cover, 1¾″	**3.36**
16N2405	8443-0473†	**16N2444**	8443-0512†	Tee Cover, ¾″ for 1″ Min. Bend	**2.03**
16N2406	8443-0474†	**16N2445**	8443-0513†	Tee Cover, 1¼″ for 1″ Min. Bend	**2.16**
16N2407	8443-0475†	**16N2446**	8443-0514†	Tee Cover, 1¼″ for 1″ Min. Bend	**3.36**
16N2384	8443-0452	**16N2423**	8443-0491	End Cap, ¾″	**0.79**
16N2385	8443-0453	**16N2424**	8443-0492	End Cap, 1¼″	**1.20**
16N2386	8443-0454	**16N2425**	8443-0493	End Cap, 1¾″	**3.36**
16N2408	8443-0476	**16N2447**	8443-0515	Ceiling Drop Fitting, ¾″	**4.31**
16N2409	8443-0477	**16N2448**	8443-0516	Ceiling Drop Fitting, 1¼″	**4.60**
16N2410	8443-0478	**16N2449**	8443-0517	Ceiling Drop Fitting, 1¾″	**4.39**
16N2411	8443-0479	**16N2450**	8443-0518	Reducer, 1¾" to 1¼″	**1.83**
16N2412	8443-0480	**16N2451**	8443-0519	Reducer, 1¾" to ¾″	**1.83**
16N2413	8443-0481	**16N2452**	8443-0520	Reducer, 1¼" to ¾″	**1.83**
16N2414	8443-0482	**16N2453**	8443-0521	Junction Box, 1¼″ Depth	**9.86**
16N2415	8443-0483	**16N2454**	8443-0522	Junction Box, 2″ Depth	**10.23**
16N2416	8443-0484	**16N2455**	8443-0523	Dual Gang Junction Box, 1½″ Depth	**21.49**

†Not shown.
(6486) (ne08425)

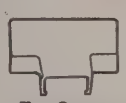
Splice Cover

Internal Cover

End Cap

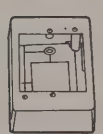
External Cover

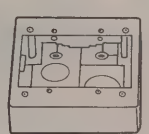
Elbow Cover


Tee Cover

Ceiling Drop Fitting

Reducer


Junction Box

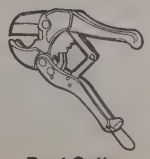

Dual Gang Junction Box

DUCT CUTTER

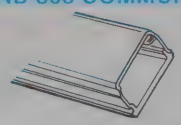
Heavy-duty, ratchet-action tool cuts wiring duct and surface raceway.

84N1046 Type 4006. **Each** **69.99**
(33777) (ne33777)

NEW


Duct Cutter

TYPE 801, 802, AND 803 COMMUNICATIONS DUCT



Routes, connects, conceals station wire, RG-59/62 coax fiber-optic cable, and IBM types 1, 2, and 3 cable outside of wall. Top-opening hinge allows opening/closing of cover for wiring revisions, with no stress cracking/discoloration. Adesive-backed PVC base rated UL94V-0. Three sizes available in ivory or white. *Order fittings separately on this page and junction boxes separately on this page.* **Sold in packages of ten 6′ sections.**

Stock No.	Type	W x H x 6′L	Color	1-4
50F4768	801-6I	0.75 x 0.50″	Ivory	93.67
50F4770	802-6I	1.25 x 0.75″	Ivory	91.42
50F4772	803-6I	1.75 x 1.00″	Ivory	161.05
92F1419	803-6W	1.75 x 1.25″	White	161.05

(6371) (de01500)

TYPE 801, 802, AND 803 DUCT FITTINGS

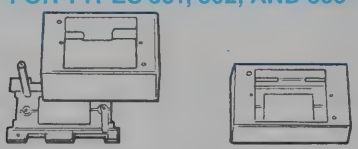
Joint Cover Tee Elbow End Cap

For use with **types 801, 802,** and **803** communications duct. Snap into place. May be painted. ABS Cycolac KJB; flammability rated UL94V-0. Color: Ivory. Other sizes and styles available; *contact your local Newark sales office.* **Sold in packages of 5.**

Stock No.	Type	Description	For Duct	1-4
50F4774	801IJCSP	Joint Cover	801I	7.01
50F4778	803IJCSP	Joint Cover	803I	11.20
50F4794	802ITSP	Tee	802I	7.58
50F4802	803IECSP	End Cap	803I	11.20
50F4804	801ILSP	Elbow	801I	7.01
50F4808	803ILSP	Elbow	803I	11.20

(6373) (de01503)

SURFACE MOUNT JUNCTION BOXES FOR TYPES 801, 802, AND 803



High-Profile Low-Profile

High- and low-profile sizes facilitate various outlet installations and provide easy access to wires and splice points. Includes base, cover and screws. NEMA electrical ivory finish. ABS Cycolac KJB rated UL94V-0. For use with single gang wall plates (not included). **Type 800I-HB is sold in packages of 10; type 800I-LB is sold individually.**

Stock No.	Type	Size	Color	1-9
50F4816	800I-HB	High-Profile	Ivory	75.23
50F4818	800I-LB	Low-Profile	Ivory	7.33

(6372) (de01501)

SCOTCHCODE® WRITE-ON WIRE MARKER TAPE DISPENSERS AND MARKING PENS

Flexible, compact system for marking wire and cable. Lightweight, durable dispenser provides a flat, stable writing surface. Easy-to-use **SLW** large write-on tape dispenser with 1 x ¾″ writing area contains 70 die-cut markers on a roll, transparent, pressure-sensitive vinyl tape and one **SMP** black ink marking pen. **SWD** regular write-on tape dispenser contains 250 die-cut markers on a roll, transparent, pressure-sensitive vinyl tape and one **SMP** black ink marking pen. **Type SLS** large dispenser has a 1 x 2.5″ writing area. Use with .090 to .315″ outer diameter wire and cable, control panels, motor leads, sub-assemblies and distribution panels.

Stock No.	Type	Description	1-9
87F735	SWD	Dispenser, Markers, Black Marking Pen	25.43
87F737	SLW	Large Dispenser, 70 Markers, Black Marking Pen	30.28
87F736	SWD-R	Refill Tape Roll for SWD	20.37
87F738	SMP	Marking Pen, Permanent Black Ink	4.93
96F4522	SLW-R	Refill Tape Roll for SLW	23.33
01F335	SLS	Large Dispenser for Write-On Markers	26.39

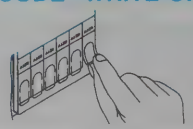
(6418) (de51269)

WIRE MARKING DISPENSER KIT

Dispenser kit is perfect for use in the field; fits in a shirt pocket or hooks on a tool belt with carrying loop. Includes platform for writing, **type SMP** marking pen in its own compartment, and an area inside for a refill roll.

01F336 Type STD-TAG. **1-9**..... **44.00**
(13140) (ne09855)

SCOTCHCODE® WRITE-ON BOOKS

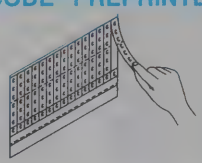


Write-on wire marker for marking wire and cable with an O.D. of 0.16 to 1.55″ with most types of permanent ink. Features self-laminating protective shield over legend to provide maximum protection against most environments. Can be applied or removed without touching the adhesive, keeping contamination of the adhesive to a minimum.

Stock No.	Type	Mrkrs./Pkg.	Write Area W x H	Size W x L	Wire Dia.	1-9
95F6271	SWB-1	180	0.50 x 0.50″	0.5 x 1.5″	0.16-0.31″	16.60
95F6272	SWB-2	120	0.75 x 0.75″	0.75 x 1.75″	0.24-0.31″	16.60
95F6273	SWB-3	60	1.0 x 1.0″	1.0 x 2.85″	0.32-0.58″	16.60

(6399) (de03282)

SCOTCHCODE® PREPRINTED BOOKS

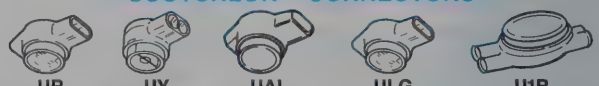


Mark electrical wires and terminal strips to maximum diameter of 0.47″. Also use SPB markers to mark load centers and alarm systems. Made of vinyl-impregnated cloth with a top coat. Natural rubber adhesive. Characters are printed with black ink on white background. Size: 1.37″ (34.79) x 0.22″ (5.58), with a 0.22″ (5.58) x 0.22″ (5.58) terminal marker.

Stock No.	Type	Description	1-9
95F6275	SPB-01	45 Each 0-9; 15 Each L1,L2,L3,T1,T2,T3	16.26
95F6276	SPB-02	10 Each A-Z; 0-15, +, –, /	16.26
95F6277	SPB-03	10 Each 1-45	16.26

(6400) (de03283)

SCOTCHLOK™ CONNECTORS



UR UY UAL ULG U1R

- **Sealed, Moisture-Resistant Construction**
- **Full Wire Range Capability**
- **Increased Port Sizes**

Insulation displacement connectors for communications may be used on standard polyethylene wire insulation, polypropylene insulation of filled cable, and on pulp. Limited only to wire range and port size; wire sizes may be intermixed. **Sold in packages of 100, except type UY, which is sold individually.**

BUTT SPLICING

Stock No.	Type	No. of Wires	Max. Insul. OD	Cable Type, AWG: PIC-Unfilled	PIC-Filled	Pulp	1-24
00Z1487	UR	2,3	0.066″	19-26	22-26	19-26	15.75
00Z1489	UY	2	0.060″	22-26	22-26	22-26	0.13
00Z1003	UAL	2,3	0.082″*	19-24**	19-24	19-24	16.80
00Z1004	ULG	2,3	0.082″*	19-24	19-24	19-24	15.75

IN-LINE SPLICING

00Z1006	U1R	2	0.125″	19-24	19-24	19-24	121.00

* Center port: 0.076″ (1.93). ** Aluminum AWG is 17-20.
(6407) (de04428)

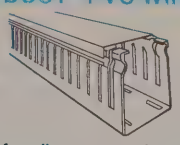
SCOTCHLOK™ CRIMP TOOLS

Type E-9Y crimp tool for use with all Scotchlok™ connectors, *order separately on this page,* except **type U1R.** Features stepped jaws and long nose for easy parallel crimping. Includes a side wire cutter, spring return and insulated handle.

Stock No.	Type	1-4
98F5807	E-9Y	24.86

(6387) (de02229)

ELECTRO-DUCT® PVC WIRING DUCT



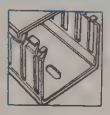
Temporary adhesive mounting for alignment and positioning before final installation Prescored snap-off fingers enlarge slot. Snap-on/off cover. Standard lengths of 6′6″ (2M). Meets JIC. Color: Gray

Stock No.	Type	W x H	Length/Feet Per Pkg.	1-2
46F2279	BA6-40025G	1.18 x 1.73″	24/157′	464.64
46F2280	BA6-60040G	1.81 x 2.56″	20/131′	672.02
46F2281	BA6-80040G	1.85 x 3.35″	10/65′	417.16
46F2282	BA6-80060G*	2.64 x 3.35″	10/65′	479.39

*With permanent adhesive base strip.

(6447) (de51708)

DNG SERIES HIGH-IMPACT PVC WIRING DUCT



Prescored, snap-off fingers permit slot enlargement for large wire bundle lead offs. Cover included. Standard lengths of 6′6″ (2m). Meets JIC. Color: Gray

Stock No.	Type	W x H	Length/Feet Per Pkg.	1-2
51F2865	DNG-20020G	0.75 x 0.75″	32/209′	442.12
51F2866	DNG-37037G	1.45 x 1.41″	16/104′	306.08
51F2867	DNG-50050G	1.93 x 1.93″	24/157′	508.95
51F2782	DNG-100100G	3.90 x 3.80″	6/39′	307.95

(6446) (de51707)

Z SERIES SLIP-ON PVC CABLE MARKERS

Comply with military, civil and trade associations [J.I.C., MIL-E-5400 (ASG), MIL-E-4158A (USAF)]. White with black marking. Available in 5 different series (Z1P, Z2P, Z3P, Z4P and Z5P) for 5 different cable diameters. Order by series. To order, specify the series you want, with the letter or number you want, as a suffix. For example, in series Z1P, letter A would be Z1PA. In series Z2P, number 2 would be Z2P2. Or, *contact your local Newark sales office.* **Sold in packages of 100.**

Series	For Cable Diameter	1-9
Z1P	0.045″-0.065	3.32
Z2P	0.060″-0.085	3.32
Z3P	0.080″-0.120	3.32
Z4P	0.110″-0.170	3.32
Z5P	0.160″-0.215	3.38

(9935) (de51701)

C SERIES CLIP-ON CABLE MARKERS

Removable for recoding without breaking terminal connection. Rigid PVC material. Use for single wire or cable. Available in 6 different series (C2P, C3P, C4P, C5P, C6P and C7P) for 6 different cable diameters. Order by series. To order, specify the series you want, with the letter or number you want, as a suffix. For example, in series C2P, letter A would be C2PA. In series C3P, number 2 would be C3P2. Or, *contact your local Newark sales office.* **Sold in packages of 100.**

Series	For Cable Diameter	1-9
C2P	0.080-0.100″	5.03
C3P	0.100-0.120″	5.03
C4P	0.120-0.140″	5.11
C5P	0.140-0.160″	5.22
C6P	0.156-0.187″	5.49
C7P	0.187-0.218″	6.21

(9937) (de51704)

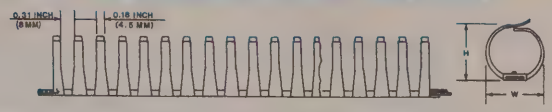
WAND MOUNTED C-TYPE CABLE MARKERS

Fit end of wand over wire and push marker forward until clips onto wire. Available in 4 different series (CWD02, CWD03, CWD06 and CWD09) for 4 different cable diameters. Order by series. To order, specify the series you want, with the letter or number you want, as a suffix. For example, in series CWD02, letter A would be CWD02A. In series CWD03, number 3 would be CWD033. Or, *contact your local Newark sales office.*

Series	AWG	Cable Diameter	1-9
CWD02	22/20	0.055-0.071″	21.99
CWD03	18	0.075-0.105″	21.99
CWD04	16/14	0.103-0.138″	21.99
CWD05	14	0.127-0.177″	21.99

(9936) (de51703)

VK-FLEX GREY NYLON WIRING DUCT

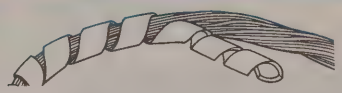


Flexible wiring duct that is especially suitable for switchgear, control panels, distribution equipment, cubicles and other areas where flexibility of design and installation are required.

Stock No.	Type	Dimensions L	W	H	Wire Capacity #18	#16	#14	1-9
83F7653	VK 10	9.84″	0.43″	0.59″	10	8	5	2.24
89F6124	VK-20	19.68″	0.90″	0.83″	20	18	13	5.52
89F6125	VK-30	19.68″	1.30″	1.22″	57	46	30	6.18
83F7654	VK 40	19.68″	1.69″	1.77″	101	53	30	10.15

(6445) (de51706)

SPIROBAND HARNESSING DEVICES

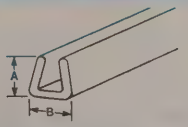


Flexible spiral wrapping for electric harnesses and cables. High dielectric strength provides excellent insulation.

Stock No.	Type	Bundle Range Min.	Max.	Std. Pkg.	1-9
NATURAL POLYETHYLENE					
30F839	SP1/8CP	0.063″	0.375″	100′	11.55
30F840	SP-1/4 CP	0.188″	1.000″	100′	13.57
47F005	SP3/8CP50	0.250″	2.000″	50′	14.41
30F841	SP1/2CP	0.375″	4.000″	25′	13.20
89F6127	SP3/4CP	0.625″	5.000″	10′	20.26
89F4292	SP1-CP	0.875″	8.000″	1′	2.70
ULTRAVIOLET-RESISTANT POLYETHYLENE (BLACK)					
89F6128	SP1/8UV	0.063″	0.375″	100′	12.20
89F6129	SP1/4UV	0.188″	1.000″	100′	19.00
89F6130	SP3/8UV	0.250″	2.000″	50′	14.86
89F6119	SP1/2UV	0.375″	4.000″	25′	13.97
89F6118	SP3/4UV	0.625″	5.000″	10′	28.47
FIRE-RETARDANT POLYETHYLENE UL 94V-2					
89F6121	SP1/8FR	0.062″	0.375″	100′	15.50
89F6117	SP1/4FR	0.188″	1.000″	100′	34.50
89F6122	SP3/8FR	0.250″	2.000″	50′	26.42
89F6112	SP3/4FR	0.625″	5.000″	10′	53.03
HIGH-TEMPERATURE NYLON (TO 250°F)					
47F006	SP1/8N100	0.063″	0.375″	100′	33.81
47F007	SP1/4NN	0.188″	1.000″	100′	59.51
47F008	SP3/8NN	0.250″	2.000″	50′	89.77
47F009	SP1/2NN	0.375″	4.000″	25′	49.68
HIGH-TEMPERATURE TEFLON (TO 500°F)					
47F010	SP1/8TF25	0.063″	0.375″	25′	130.26
89F6114	SP1/4TF	0.188″	1.000″	25′	129.10
89F6115	SP3/8TF	0.250″	2.000″	25′	255.20

(6444) (de51705)

GS SERIES GROMMET STRIPS

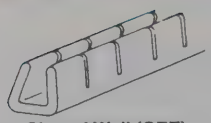


Snip with shears and fit in hole. Meet ASTM D 1248-65T, L-P390, MIL-P-3803, MIL-I-631C and MIL-E-16400. **Sold in packages of 100′ except * 50′.**

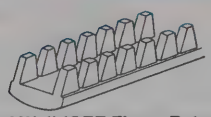
Stock No.	Type	Sht. Thick Range	Dimensions A	B	1-9	10-24
LOW DENSITY POLYETHYLENE, UL94V-0						
30F315	GS-2 CP	0.020-0.039″	.130″	.120″	17.37	16.02
30F320	GS-2ACP	0.040-0.062″	.150″	.160″	18.98	17.52
30F316	GS-3 CP	0.062-0.099″	.170″	.180″	20.24	18.68
30F317	GS-4 CP	0.100-0.144″	.175″	.240″	23.25	21.45
30F318	GS-5 CP*	0.145-0.187″	.215″	.290″	20.32	18.74
30F319	GS-6 CP*	0.187-0.250″	.275″	.370″	29.37	27.10

(6443) (de51702)

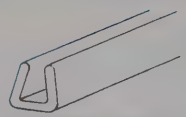
GROMMET EDGING



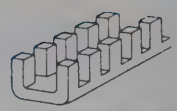
Slotted Wall (GEE)



Slotted Wall (GEE Flame Retardant)



Solid Wall (GES)



Slotted Wall (GE)

Grommet edging used where aesthetics are a primary concern. **Type GEE** is for irregularly shaped and round panel holes. **Type GES** is for solid wall product on straight edges. **Sold in rolls or strips as indicated below.**

CONTINUOUS ROLL POLYETHYLENE SLOTTED WALL

Stock No.	Type	Color	For Panel Thickness	Pkg. of	Each	2-4
89F1908	GEE36F-C	Natural	0.026-0.036″	100′	28.70	27.55
89F1909	GEE62F-C	Natural	0.036-0.062″	100′	30.55	29.34
89F1910	GEE99F-C	Natural	0.062-0.099″	100′	34.97	33.58
89F1897	GEE144F-C	Natural	0.099-0.144″	100′	39.50	37.92
			CONTINUOUS ROLL POLYETHYLENE SOLID WALL			
84F1830	GES62F-C	Natural	0.036-0.062″	100′	24.80	23.65
84F1832	GES144F-C	Natural	0.099-0.144″	100′	27.26	26.18
			UL VO FLAME RETARDANT POLYETHYLENE SLOTTED WALL			
96F4111	GEE62FR-C	Natural	0.036-0.062″	100′	41.25	39.61
96F4112	GEE99FR-C	Natural	0.062-0.099″	100′	52.47	50.38
96F4113	GEE144FR-C	Natural	0.099-0.144″	100′	55.79	51.73
			UL VO FLAME RETARDANT POLYETHYLENE SOLID WALL			
96F4117	GES144FR-C	Natural	0.099-0.144″	100	40.93	39.30
			12¾″ STRIPS, NYLON SLOTTED WALL			
89F1899	GE85-C*	Natural	0.052-0.085″	100 Strips	96.61	89.57
89F1900	GE128-C*	Natural	0.085-0.128″	100 Strips	100.06	93.15
89F1901	GE192-L*	Natural	0.128-0.192″	50 Strips	69.72	64.64
89F1902	GE255-L*	Natural	0.192-0.255″	50 Strips	103.61	96.45
			ADHESIVE-LINED CONTINUOUS ROLL POLYETHYLENE SLOTTED WALL			
91F7323	GEE62F-A-C	Natural	0.036-0.062″	100′	45.37	43.56
83F7233	GEE62F-A-CO	Black	0.036-0.062″	100′	50.34	46.67
91F7324	GEE99F-A-C	Natural	0.062-0.099″	100′	51.91	49.84
83F7234	GEE99F-A-CO	Black	0.062-0.099″	100′	55.68	51.62
91F7325	GEE144F-A-C	Natural	0.099-0.144″	100′	55.23	51.20
83F7232	GEE144F-A-CO	Black	0.099-0.144″	100′	62.93	58.34
			ADHESIVE-LINED CONTINUOUS ROLL POLYETHYLENE SOLID WALL			
91F7326	GES62F-A-C	Natural	0.036-0.062″	100′	31.42	30.16
83F7237	GES62F-A-CO	Black	0.036-0.062″	100′	35.98	34.54
91F7327	GES99F-A-C	Natural	0.062-0.099″	100′	36.10	34.66
83F7238	GES99F-A-CO	Black	0.062-0.099″	100′	41.83	40.16
91F7328	GES144F-A-C	Natural	0.099-0.144″	100′	40.50	38.88
83F7236	GES144F-A-CO	Black	0.099-0.144″	100′	46.54	44.68

*Military Part No. MS21266-1N thru -5N.

(6458) (de52084)

SPIRAL CABLE WRAPPING

Reusable spiral wrapping for organizing multiple cables. Each package includes an installation tool. Allows breakouts of single/multiple wires and rerouting of replacement wires. Color-coded wire bundles. Organizes wires for communication and computer equipment. **Sold in spools of varying lengths as indicated below.**

POLYETHYLENE

Stock No.	Type	Bundle	Spool Length	Each	2-4
84F1838	T12F-C	1/16″-1/2″	100′	37.02	35.55
78F548	T25F-C	3/16″-2″	100′	49.96	47.97
84F1841	T38F-C	5/16″-3″	100′	84.90	78.71
84F599	T50F-C	3/8″-4″	100′	121.09	112.73
84F1846	T62F-C	1/2″-4 1/2″	100′	132.24	123.10
84F1847	T75F-C	5/8″-5″	100′	122.51	118.92
84F1848	T100F-C	7/8″-6″	100′	122.92	119.33
		WEATHER RESISTANT POLYETHYLENE (BLACK)			
84F1839	T12F-C0	1/16″-1/2″	100′	44.48	42.71
78F498	T25F-CO	3/16″-2″	100′	62.08	57.56
84F1842	T38F-C0	5/16″-3″	100′	100.27	93.34
84F1844	T50F-C0	3/8″-4″	100′	125.74	122.06
84F2047	T75F-C0	5/8″-5″	100′	153.18	148.70
84F1849	T100F-C0	7/8″-6″	100′	175.80	168.14
		FLAME RETARDANT POLYETHYLENE (U.L. VO WHITE)			
96F4101	T12FR-C	1/16″-1/2″	100′	52.07	49.99
96F4102	T25FR-C	3/16″-2″	100′	80.52	74.65
96F4105	T62FR-C	1/2″-4 1/2″	100′	170.85	163.41
		NYLON			
78F546	T25N-C	3/16″-2″	100′	107.56	100.13
		TEFLON			
84F1840	T12T-C	1/16″-1/2″	100′	293.41	280.63
78F499	T25T-L	3/16″-2″	50′	268.15	256.47
94F2880	T50T-Q	3/8″-4″	25′	279.23	267.07

(6459) (de52085)

CORRUGATED LOOM TUBING

Available in both black polyethylene and heat stabilized nylon. Tubing is slit and can easily be slipped around an existing wire bundle to provide abrasion protection. Reduces the risk of damage to wiring circuits. **Sold in spools of the lengths indicated below.**

POLYETHYLENE

Stock No.	Type	Inside Diameter	Spool Size	Each	2-4
96F4118	CLT25F-C20	0.265	100′	32.99	31.68
96F4119	CLT35F-C20	0.350	100′	35.15	33.75
96F4120	CLT38F-C20	0.415	100′	38.97	37.42
96F4121	CLT50F-C20	0.505	100′	41.30	39.65
96F4122	CLT62F-C20	0.665	100′	48.57	46.63
96F4123	CLT75F-C20	0.760	100′	55.91	51.83
96F4124	CLT100F-C20	1.090	100′	72.12	66.86
83F7264	CLT125F-L2O	1.290	50′	48.31	46.68
83F7266	CLT150F-D20	1.550	500′	357.96	347.48
		HEAT-STABILIZED BLACK NYLON			
96F4125	CLT25N-C630	0.265	100′	46.13	44.29
96F4126	CLT35N-C630	0.350	100′	47.06	45.19
96F4127	CLT38N-C630	0.415	100′	49.79	47.80
96F4128	CLT50N-C630	0.505	100′	72.10	66.84
96F4129	CLT62N-C630	0.665	100′	69.64	64.56
96F4130	CLT75N-C630	0.760	100′	91.92	85.22
96F4131	CLT100N-C630	1.090	100′	136.26	126.85
83F7265	CLT125N-L630	1.290	50′	92.27	89.22
83F7267	CLT150N-D630	1.550	500′	419.06	406.80

(6460) (de52086)

HARNESS WRAP AND EDGING

PROTECTIVE HARNESS WRAP

- **Easy to Apply and Remove**
- **Reusable and Flexible**
- **Strong and Versatile**

For temporary or permanent wire harness application where abrasion protection is required. Useful for harnesses which carry wiring around sharp corners. Leads can be brought out at any point to make a "tailor-made," tight-fitting harness. Color: natural. **Sold in coils of 100′.**

Stock No.	Type	O.D.	Bundle Range	Material	Per 100′ Coil 1-4	Per 100′ Coil 5-9
23N3648	HWN-02	1/8″	1/16-1/2″	Nylon	40.04	34.03
23N3649	HWN-03	3/16″	1/8-1″	Nylon	59.70	50.75
23N3650	HWN-04	1/4″	3/16-1 1/2″	Nylon	78.79	66.97
23N3651	HWN-06	3/8″	5/16-2″	Nylon	164.36	147.93
23N3652	HWN-08	1/2″	3/4-4″	Nylon	248.94	224.05
50N4758	HWP-02-P	1/8″	1/16-1/2″	Polyethylene	27.91	23.72
50N4759	HWP-03-P	3/16″	1/8-1″	Polyethylene	31.76	26.99
50N4760	HWP-04-P	1/4″	3/16-1 1/2″	Polyethylene	34.28	29.14
50N4761	HWP-06-P	3/8″	5/16-2″	Polyethylene	44.26	37.62
50N4762	HWP-08-P	1/2″	3/4-4″	Polyethylene	46.37	39.42

(6442) (de51681)

VOLTREX™ brand

Harness Wrap

SPLIT HARNESS WRAP WITH INSTALLATION TOOL

NEW

Revolutionary new split harness wrap saves installation time. Quickly wraps wires, rubber hoses, or cable in a protective enclosure. Slits allow for flexible installation and maintenance. Easy to install and reuse. Material: Nylon 6. RMS-63 polyproplene. Color: black. *Order patented installation tool for harness wrap separately below.* **Sold in 100′ spools.**

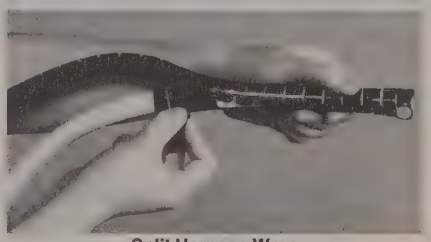
SPLIT HARNESS WRAP

Stock No.	Type	Inner Diameter	Max. Bundle Diameter	Use Installation Tool	Per 100′ Spool
50N681	SPC5315	0.31″ (8)	0.39″ (10)	SPC5319	59.95
50N682	SPC5316	0.59″ (15)	0.63″ (16)	SPC5320	74.95
50N683	SPC5317	0.79″ (20)	0.90″ (23)	SPC5321	99.95
50N684	SPC5318	0.98″ (25)	0.98″ (25)	SPC5322	129.95

INSTALLATION TOOLS

Stock No.	Type	For Harness Wrap	Each
50N685	SPC5319	SPC5315	15.95
50N686	SPC5320	SPC5316	19.95
50N687	SPC5321	SPC5317	24.95
50N688	SPC5322	SPC5318	36.95

(34975) (ne34975)



Split Harness Wrap

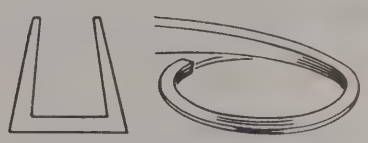
CONTINUOUS GROMMET EDGING

Solid grommet edging is designed for straight and gently curving runs. Flexible to fit holes of any size or shape. Color: natural. **Sold in rolls of 100′.**

Stock No.	Type	Panel Thickness	Material	Per 100′ Roll
23N3658	CGP-1	Up to 0.036″	Polyethylene	16.85
23N3659	CGP-2	0.037-0.071″	Polyethylene	18.59
23N3660	CGP-3	0.106-0.164″	Polyethylene	29.11
23N3661	CGP-4	0.165-0.187″	Polyethylene	29.81
23N3662	CGP-5	0.188-0.250″	Polyethylene	38.42
92N4792	2577	Up to 0.036″	Nylon	32.75
92N4793	2578	0.037-0.071″	Nylon	37.72
92N4794	2579	0.072-0.105″	Nylon	43.14
92N4795	2580	0.106-0.164″	Nylon	48.52
92N4796	2581	0.165-0.187″	Nylon	60.49
92N4797	2582	0.188-0.250″	Nylon	66.66

(6411) (de50559)

VOLTREX™ brand



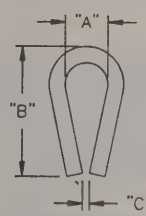
Grommet Edging

DURO STRIP CHANNEL

These channels have many uses such as wear strips, non-abrasive edging, noise-reducing conveyor strips, framing, binders, or protection from sharp edges. Strips have a built-in lubricant for reduced friction and longer part life. Material: nylon. Color: gray. **Sold in packages of 25 4′ lengths.**

Stock No.	Type	A	B	C (Max.)	Wall Thickness	Per Pkg.
92N4789	2574	0.125″	0.375″	0.020″	0.047″	84.34
92N4790	2575	0.188″	0.500″	0.031″	0.047″	123.87
92N4791	2576	0.250″	0.625″	0.045″	0.063″	181.83

(17646) (ne10721)

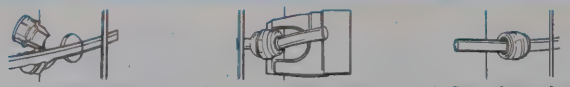


Duro Strip Channel

NEWARK SAVES YOU TIME.
A SIMPLE PHONE CALL CAN GET YOU OVERNIGHT DELIVERY ANYTIME, ANYWHERE.

STRAIN RELIEF BUSHINGS AND ACCESSORIES

VOLTREX™ BRAND EZ SERIES STRAIN RELIEF BUSHINGS



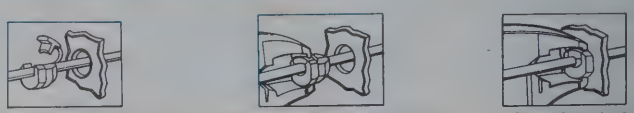
1. Place bushing on cable 2. Press with pliers 3. Snap into place

EZ series nylon strain relief bushings save installation time and money. To install, fold bushing's hinged-halves over wire or cable. No special orientation or alignment is necessary. **Type 8508-050** installation tool, *ordered separately on this page*, inserts then locks the bushing in place with one smooth motion. Bushings securely anchor, absorb, and protect cable and wire from push/pull and twist forces while insulating them from irregular or sharp panel edges. For use in confined areas, its bullet-shaped design and streamlined nose does away with large cumbersome straps that complicate other bushing styles. Color: black. UL recognized. Made in the U.S.A. **Sold in packages of 100.**

Stock No.	Type	Wire	Cord Type	Wire Size	Panel Thickness	Dia.	Flats	Cross Section	Length	Width	Per Package 1-9	10-24	25-49
92N4967	2462	2 #18 2 #16	HPN HPN	0.150 x 0.280″	0.100″	0.500″	0.465″	Flat	0.550″	0.505″	5.17	4.39	3.95
92N4968	2463	2 #18 2 #16	SPT SPT	0.150 x 0.280″	0.100″	0.500″	0.465″	Flat	0.580″	0.510″	5.17	4.39	3.95
92N4969	2464	2 #18	HPN	0.150 x 0.280″	0.062″	0.500″	0.465″	Flat	0.550″	0.505″	5.17	4.39	3.95
92N4970	2465	2 #18 2 #16	SPT SPT	0.150 x 0.280″ 0.160 x 0.300″	0.062″ 0.062″	0.500″ 0.500″	0.465″ 0.465″	Flat	0.570″	0.500″	5.17	4.39	3.95
92N4971	2466	3 #16 3 #16 3 #18	SJT SJ SJT	0.300″ 0.355″ 0.405″	0.062″ 0.062″ 0.062″	0.625″ 0.625″ 0.625″	0.550″ 0.550″ 0.550″	Round	0.740″	0.640″	9.31	7.91	7.12
92N4972	2467	3 #16 3 #16 3 #18	SJT SJ SJT	0.300″ 0.355″ 0.405″	0.125″ 0.125″ 0.125″	0.625″ 0.625″ 0.625″	0.550″ 0.550″ 0.550″	Round	0.740″	0.640″	9.31	7.91	7.12
92N4973	2468	2 #18 2 #18	SJT SJO	0.300″ 0.390″	0.062″ 0.062″	0.625″ 0.625″	0.550″ 0.550″	Round	0.730″	0.640″	9.31	7.91	7.12

(17546) (ne10720)

VOLTREX™ BRAND CORD STRAIN RELIEF BUSHINGS

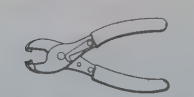


1. Place bushing on cord 2. Press together with pliers 3. Snap into hole

One-piece nylon-construction bushings withstand temperatures to 221°F. Easily installed with specially designed pincers or ordinary pliers. Eliminates strain that tears cords loose from contacts or connections. UL recognized, CSA certified. Made in the U.S.A. **Sold in packages of 100.**

Stock No.	Type	Cords Accommodated: Wires	Cords Accommodated: Cord Type	Approx. Wire Size	Max. Thick. Dim. T	Max. Panel Dia. H	Dim. W	Key Contour	Dimensions A	Dimensions B	Per Package 1-9	10-24	25-49
46N7803	SRR-05	2 #18	SP-1, SPT-1	0.156 x 0.187″	0.062″	0.375″	0.330″	Round	0.391″	0.410″	3.84	2.59	2.04
46N7804	SRF-10	2 #18 2 #18	SP-1, SPT-1, XT	0.12 x 0.22″ 0.09 x 0.18″	0.062″	0.437″	0.390″	Flat	0.484″	0.410″	4.57	3.09	2.42
46N7801	SRF-15	2 #18 3 #18	SPT-2, HPN SPT-1	0.12 x 0.30″	0.062″	0.500″	0.465″	Flat	0.578″	0.406″	5.49	3.71	2.91
46N7805	SRF-30	2 #18 3 #18 2 #16	SP-2, SPT-2, HPN SPT-1 SP-2, SPT-2, HPN	0.12 x 0.30″ 0.15 x 0.28″ 0.16 x 0.30″	0.100″	0.500″	0.465″	Flat	0.578″	0.406″	5.49	3.71	2.91
46N7806	SRF-40	3 #18 2 #16 3 #16	SPT-2 SPT-2 HPN	0.12 x 0.30″ 0.16 x 0.30″ 0.16 x 0.37″	0.125″	0.562″	0.530″	Flat	0.625″	0.609″	7.36	4.97	3.90
46N7807	SRF-50	2 #18 3 #18 2 #16 3 #16 3 #16	SPT-3 SPT-3 SPT-3 SPT-1 SPT-3	0.19 x 0.35″ 0.19 x 0.39″ 0.20 x 0.37″ 0.12 x 0.30″ 0.16 x 0.41″	0.125″	0.730″	0.560″	Flat	0.750″	0.670″	8.33	5.62	4.42
46N7808	SRR-10	2 #18 2 #18 3 #18 2 #16	HPD SV, SVT SV, SVT HPD	0.270″ 0.250″ 0.250″ 0.290″	0.100″ 0.100″ 0.100″ 0.100″	0.500″ 0.500″ 0.515″ 0.515″	0.450″	Round	0.578″	0.438″	5.49	3.71	2.91
46N7809	SRR-20	2 #18 3 #18 2 #16 3 #16	SJ, SJT, SJO SJ, SJT, SJO SJT SJT	0.300″ 0.300″ 0.325″ 0.325″	0.125″	0.625″	0.550″	Round	0.703″	0.580″	8.37	5.65	4.44
46N7802	SRRA-60*	2 #18 3 #18	SV, SVT SV, SVT	0.250″ 0.265″	0.100″	0.500″	0.450″	Round	0.560″	0.687″	7.90	5.34	4.19

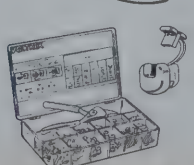
*Right-angle (6412) (de50560)



VOLTREX™ BRAND STRAIN RELIEF BUSHING INSTALLATION TOOL

Tool makes assembly of bushings a snap. Designed for use with Voltrex™ brand strain relief bushings.

23N3647 Type 8508-050. **Each** **15.52**
(6409) (de50557)



VOLTREX™ BRAND CORD STRAIN RELIEF BUSHING ASSORTMENT KIT

120-piece strain relief bushing assortment prevents insulation/conductor injury and lengthens cord life. Features a variety of products to fit different cord sizes and contours. Rugged 1-piece nylon construction. Withstands temperatures to 221°F. Eliminates need to tie or knot cord. Includes 10 pieces each of **types SRR-05, SRF-10, SRF-15,** and **SRF-30** bushings; 20 pieces each of **types SRF-40, SRF-50, SRR-10,** and **SRR-20** bushings. Also contains installation pincers and polystyrene sectioned box with ID chart on lid. Made in the U.S.A.

23N3612 Type 8408-SRF. **Each** **39.99**
(17635) (de50561)

MULTI-POSITION LIQUIDTIGHT CONNECTORS

Allow straight feed of wires, then turn to any position from straight to 90° and back. Same fitting for all applications. Non-metallic nylon in gray for use with PolyTuff I conduit or black for use with PolyTuff II tubing, *on this page.* Color: **Suffix BK** = black; **Suffix GY** = gray. UL listed, CSA certified.

Stock No.	Type	Trade Size	Length	1-5	6-10
93F6878	PS0509N-BK	0.50″ (12.70)	3.268″ (83.01)	**4.41**	**4.06**
93F6879	PS0759N-BK	0.75″ (19.05)	3.659″ (92.93)	**6.61**	**6.09**
91F2288	PS0389NBK	0.38″ (9.65)	3.268″ (83.01)	**4.24**	**3.91**
91F2287	PS0389NGY	0.38″ (9.65)	3.268″ (83.01)	**4.24**	**3.91**

(2688) (de00586)

STRAIGHT MALE CORD CONNECTORS

Nylon

Aluminum

Available machined aluminum or corrosion-resistant nylon. *To order nylon, add* **CR** *suffix to type numbers listed below.* Color-coded Gotcha® ring offers liquidtight performance and pull-out protection. UL listed, CSA certified. *Other sizes available; contact your local Newark sales office.*

MACHINED ALUMINUM STRAIGHT MALE CORD CONNECTORS

Stock No.	Type	N.P.T. Hub Size	Color Code	Cord Diameter	1-5	6-10
89F5180	SHC1010*	0.375″	Black	0.250-0.312″	**5.94**	**5.41**
89F5183	SHC1015*	0.500″	Red	0.187-0.250″	**6.19**	**5.64**
89F5184	SHC1016*	0.500″	Black	0.250-0.312″	**6.34**	**5.64**
89F2808	SHC1017*	0.500″	White	0.312-0.375″	**5.40**	**4.98**
89F5186	SHC1022†	0.500″	White	0.250-0.375″	**5.29**	**4.87**
89F5187	SHC1023†	0.500″	Blue	0.375-0.500″	**5.29**	**4.87**
89F2812	SHC1024†	0.500″	Brown	0.500-0.625″	**5.40**	**4.98**

* Form Size 1 † Form Size 2

(2689) (de00587)

STRAIN RELIEF I GRIPS

Constructed of plastic-coated, galvanized steel mesh. Fit 2-, 3-, 4-, and 5-wire Insulgrip® plugs and connector bodies. Eye tabs fit under nylon cord clamp and the screws slide through the eyelets, securing the grip in place. Eyelet hole diameter: 0.203″. UL listed, CSA certified.

Stock No.	Type	Cable Diameter	Length		1-5	6-10
			Eye	Mesh		
91F2323	07310002	0.43-0.56″	1.25″	4.75″	**25.97**	**22.60**
91F2324	07310003	0.56-0.73″	1.50″	6″	**27.24**	**23.71**

(14836) (ne10350)

DUSTIGHT STRAIN RELIEF GRIPS

These noninsulated, wide range strain relief grips are constructed of galvanized steel mesh with aluminum fittings. For use with insulated cables. UL listed, CSA certified.

Stock No.	Type	Cable Diameter	Thread Size NPT	Mesh Length @ Nom. Dia.	1-5	6-10
91F2326	073031201	0.32-0.43″	0.5″	3.75″	**13.41**	**12.36**
91F2327	073031202	0.43-0.54″	0.5″	4.75″	**14.79**	**13.63**
91F2328	073031204	0.73-0.97″	1″	7″	**19.69**	**18.14**

(14831) (ne10351)

BUS DROP SUPPORT GRIPS

Constructed of galvanized steel. Used to hold the weight of electrical cable as it hangs in vertical, sloping, or horizontal position. Also absorb additional strain from flexure, vibration, expansion, and contraction. UL listed, CSA certified.

Stock No.	Type	Cable Diameter	Approx. Breaking Strength	Length		1-5	6-10
				Eyelet	Mesh		
91F2319	073041278	0.43-0.56″	550 lbs.	6″	4.75″	**12.88**	**11.87**
91F2320	073041279	0.56-0.73″	1000 lbs.	7″	6″	**14.58**	**13.44**
91F2321	073041280	0.73-0.85″	1400 lbs.	7″	6.75″	**17.67**	**16.28**

(14829) (ne10352)

DELUXE STRAIGHT MALE THREAD LIQUIDTIGHT CORD GRIPS

Aluminum fitting with stainless steel grip and mesh. UL listed, CSA certified.

Stock No.	Type	N.P.T. Hub Size	Cord Diameter	1-5	6-10
93F6881	074-01-018	0.750″	0.625-0.750″	**50.99**	**44.38**
98F6279	074-01-025	1.000″	0.875-1.000″	**57.45**	**51.30**

(2690) (de00588)

POLYTUFF™ II TUBING/CONNECTORS

Extra-flexible, black non-metallic PVC tubing used in vibrating, flexing, motion and limited-space applications. Cuts clean, no burrs to trim. Black nylon connectors tighten by hand and resist pull out. UL recognized, CSA certified. **Tubing sold in spools of 100′.**

EXTRA-FLEXIBLE, LIQUIDTIGHT TUBING

Stock No.	Type	Trade Size	Inner Diameter	1-5	6-10
89F2833	B2050	0.500″ (12.70)	0.632″ (16.05)	**88.10**	**78.13**
89F2834	B2075	0.750″ (19.05)	0.830″ (21.08)	**113.85**	**105.43**

LIQUIDTIGHT STRAIGHT CONNECTORS

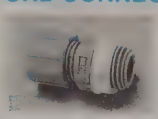
Stock No.	Type	Trade Size	Knockout Hole Max.	1-5	6-10
89F2825	P038N-BK*	0.375″ (9.53)	0.906″ (23.01)	**2.98**	**2.74**
89F2826	P050N-BK-A	0.500″ (12.70)	0.906″ (23.01)	**3.04**	**2.80**
93F6888	P075N-BK-A	0.750″ (19.05)	1.141″ (28.98)	**4.17**	**3.84**

* Has 0.50″ (12.70) N.P.T. hub

(2687) (de00585)

MINIATURE STRAIN RELIEF CORD CONNECTORS

HJ1011G


HJ1002G

Corrosion resistant gray nylon. Offer liquidtight performance and pull-out protection. Easy hand-tighten installation. UL listed, CSA certified.

LIQUIDTIGHT CORD CONNECTORS WITHOUT SPIRAL

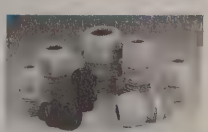
Stock No.	Type	N.P.T. Hub Size	Cord Diameter	1-5	6-10
89F2848	HJ1002G	0.250″	0.135-0.200″	**2.62**	**2.42**
89F2849	HJ1003G	0.250″	0.200-0.265″	**2.62**	**2.42**
89F2837	HJ1005G	0.375″	0.210-0.275″	**2.62**	**2.42**
89F2838	HJ1006G	0.375″	0.275-0.340″	**2.62**	**2.42**
93F6909	HJ1059G	0.500″	0.312-0.375″	**5.29**	**4.87**

LIQUIDTIGHT CORD CONNECTORS WITH SPIRAL

89F3025	HJ1011G	0.250″	0.135-0.200″	**2.85**	**2.62**
89F3026	HJ1012G	0.250″	0.200-0.265″	**2.85**	**2.62**
89F3028	HJ1014G	0.375″	0.210-0.275″	**2.85**	**2.62**
89F3029	HJ1015G	0.375″	0.275-0.340″	**2.85**	**2.62**
93F6911	HJ1041G	0.500″	0.312-0.375″	**5.62**	**5.18**
93F6912	HJ1042G	0.500″	0.375-0.437″	**5.62**	**5.18**

(2691) (de00589)

EUROPEAN STYLE CORD CONNECTORS



Allow termination of flexible cord and control cables to enclosures, motors, and panels. Also provide strain relief with a liquidtight seal to keep dust, moisture, and other contaminants out. Constructed of polyamide. Color: gray. Black versions are also available; *substitute* **suffix G** *with* **suffix B** *in type number when ordering.* Meets UL94V-0. UL listed, CSA certified, and VDE approved.Locking nuts not included *contact your local Newark sales office.*

NPT VERSIONS

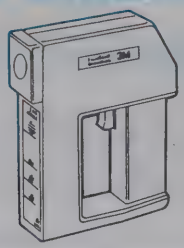
Stock No.	Type	Hub Size	Cord Range	1-5	6-10
91F2298	SEC38G	⅜″ NPT	0.20-0.32″	**2.13**	1.97
91F2300	SEC50G	½″ NPT	0.24-0.47″	**2.88**	**2.65**
91F2302	SEC75G	¾″ NPT	0.47-0.71″	**4.37**	4.02
91F2304	SEC100G	1″ NPT	0.67-0.98″	**5.96**	**5.49**

PG VERSIONS

91F2306	SECP7G	PG7	0.18-0.26″	**1.75**	**1.61**
91F2308	SECP9G	PG9	0.20-0.32″	**1.79**	**1.65**
91F2310	SECP11G	PG11	0.22-0.39″	**2.22**	**2.04**
91F2312	SECP13G	PG13	0.24-0.47″	**2.60**	**2.40**
91F2314	SECP16G	PG16	0.32-0.55″	**2.71**	**2.49**
91F2316	SECP21G	PG21	0.47-0.71″	**3.64**	**3.36**

(14828) (ne10353)

SCOTCHTRAK™ INFRARED HEAT TRACERS

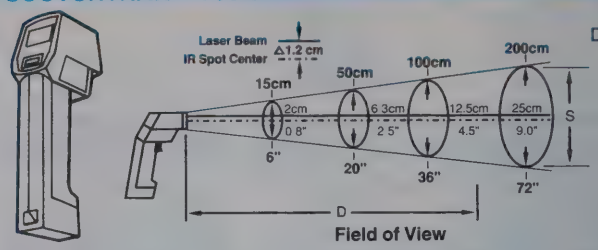


Portable non-contact (infrared) thermometer designed for monitoring operating temperatures of mechanical and electrical plant and production equipment without removing equipment from service. Highly accurate: ±1% of reading, ±1 digit. Adjustable emissivity: 0.10 to 1.00. Switch selectable °F and °C temperature display. Operating temperature: 0°C to 55°C. **Type IR-16EX** extended performance model has data memory capabilities, current, maximum, minimum, difference, average temperature measurement parameters and 30:1, 0.8″ spot at 2′ distance field of view. **Type IR-16EXL3** laser sighted model offers switch-selectable digital or analog data output, audible high/low alarm and 30:1, 0.8″ spot at 2′ distance field of view. All models include carrying case and instruction manual.

Stock No.	Type	Temperature Range	1-4
16F4823	IR-16EX	–18 to 870°C	1817.04
16F4824	IR-16EXL3	–18 to 870°C	1817.04

(6417) (de51268)

SCOTCHTRAK™ 750 SERIES INFRARED HEAT TRACERS

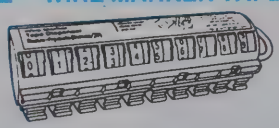


Scotchtrak™ infrared heat tracers provide an accurate and safe way to measure a wide range of temperatures at a safe distance. Plant engineers and technicians can now monitor equipment more closely, more accurately and more often–helping to spot trouble before it leads to costly malfunction and repair. Applications include reading surface temperatures of most objects including motors, electrical/electronic devices and industrial equipment. Hand-held portable heat tracers are noncontact thermometers and provide the user with the actual temperature. **Type IR-750CEXL2** features Class II infrared laser sighting.

Stock No.	Type	1-4
16F4825	IR-750C	261.25
16F4826	IR-750CEXL2	646.85

(6481) (ne08237)

SCOTCHCODE™ WIRE MARKER TAPE DISPENSER



Compact, refillable 10-roll tape dispenser lets you choose number or color code tape needed for marking wire, cable or tubing. Use special end loop to hook dispenser to a belt or tool pouch. 10 rolls of tape included. *Order replacement rolls of tape separately on this page.*

Stock No.	Type	1-9	10-24
10-ROLL DISPENSER WITH NUMBERED TAPE (1 EACH OF 0-9)			
44F3232	STD-0-9	32.20	30.60
10-ROLL DISPENSER WITH COLORED TAPE			
44F3233	STD-C	32.20	30.60
EMPTY WIRE MARKER TAPE DISPENSER			
95F6311	STD	10.99	10.44

(6420) (de51271)

TYPE 35 SCOTCH™ VINYL ELECTRICAL TAPE FOR COLOR CODING

Premium-grade 7-mil flame-retardant electrical tape resistant to weather, abrasion, moisture, UV rays, solvents, alkalies, and many acids. Choice of 8 colors. Other colors available; *contact your local Newark sales office.* Meets UL510 and CSA Std.C22.Z requirements.

Stock No.	Type	Size	Color	1-9
36F900	35	½ x 20′	Red	1.34
46F4354	35	¾ x 66′	Red	4.23
36F902	35	½ x 20′	Yellow	1.34
46F4356	35	¾ x 66′	Yellow	4.23
87F673	35	½ x 20′	Green	1.34
36F903	35	½ x 20′	Gray	1.34
36F907	35	¾ x 66′	Gray	4.23
36F901	35	½ x 20′	White	1.34
46F4355	35	¾ x 66′	White	4.23
87F758	35	½ x 20′	Blue	1.34
87F759	35	¾ x 66′	Blue	4.23
87F754	35	¾ x 66′	Brown	4.23
87F756	35	¾ x 66′	Orange	4.23

(6419) (de51270)

SCOTCHCODE™ WIRE MARKER TAPE REFILLS FOR STD DISPENSER

For use with **type STD** wire marker tape dispenser, *order separately on this page.* 5.5-mil high tack adhesive epoxy film tape adheres to clean neoprene, hypalon, nylon, PVC insulation materials. Resists oil, water. Meets UL 510 flame retardant specs. Each roll is 0.215″ x 8′. Tape available in 10 individual numbers (0 thru 9) and 10 colors listed in table below. Alphabet also available; *for example to order* **"A"** *use* **SDR-A**.

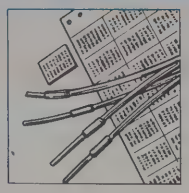
Stock No.	Type	Description	1-9
44F3234	SDR-0	0	2.13
44F3235	SDR-1	1	2.13
44F3236	SDR-2	2	2.13
44F3237	SDR-3	3	2.13
44F3238	SDR-4	4	2.13
44F3239	SDR-5	5	2.13
44F3240	SDR-6	6	2.13
44F3241	SDR-7	7	2.13
44F3242	SDR-8	8	2.13
44F3243	SDR-9	9	2.13
44F3244	SDR-BK	Black	2.13
44F3245	SDR-BL	Blue	2.13
44F3246	SDR-BN	Brown	2.13
44F3247	SDR-GN	Green	2.13
44F3248	SDR-GY	Gray	2.13
44F3249	SDR-OR	Orange	2.13
44F3250	SDR-RD	Red	2.13
44F3251	SDR-VL	Violet	2.13
95F9665	SDR-WH	White	2.13
95F9666	SDR-YL	Yellow	2.13

(6421) (de51272)

NEWARK MAKES IT EASY.
MORE PAYMENT OPTIONS! USE YOUR MAJOR CREDIT CARD, CORPORATE PURCHASING CARD, PUT IT ON YOUR ACCOUNT, OR PLACE A C.O.D. ORDER.

E-Z-CODE® WIRE MARKING SYSTEM

E-Z-CODE® WIRE & CABLE MARKER SHEETS



Customize, personalize markers using information stored in word processors, automatic typewriters, computer printers. Using pin-fed holes and fan-folded sheets that fit standard printers or laser printable sheets, these markers can provide entire schematic wiring data, serial numbers, sequencing data, data coding, date coding, routing and connecting information. Self-laminating vinyl provides maximum protection against most common elements. **Sold in packages of 25 sheets.**

MARKER SHEETS FOR STANDARD PRINTERS

Stock No.	Type	Markers per Sheet	Total Markers per Package	Marker Size	Wire Diameter	1-4
87F991	WES-12112	64	1600	½x1½″	0.313″	55.87
87F3482	WES-1112	32	800	1x1½″	0.313″	55.87
87F994	WES-1214	24	600	2x2¼″	0.469″	66.38

MARKER SHEETS FOR LASER PRINTERS

16F1175	WLP-1112	48	1200	1x1½″	0.313″	88.28
16F1176	WLP-1214	32	800	1x2¼″	0.469″	88.28
16F1178	WLP-12112	96	2400	½x½″	0.313″	87.71

(6450) (de51713)

HEAT-SHRINK WIRE MARKERS

Sheet size: 9½ x 12″. Marker length: 1½″. **Sold in packs of 5 sheets.**

Stock No.	Type	Markers per Sheet	Max. Wire OD	AWG	1-4
48F3184	HVM187-9-1S	48	0.187″	18-10	35.95
48F3185	HVM250-9-1S	48	0.25″	12-6	40.40
48F3186	HVM375-9-1S	24	0.375″	8-2	28.13
48F3187	HVM500-9-1S	24	0.5″	6-0	33.43

(38870) (ne38870)

E-Z-CODE® LABELING SOFTWARE

Full-featured labeling system is used to create custom labels for your cable and wire marking needs.

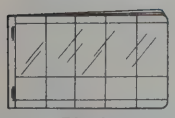
87F996 Type ISSW3.0. **Each** 141.24
(6408) (de08658)

WIRE MARKING PRINTER

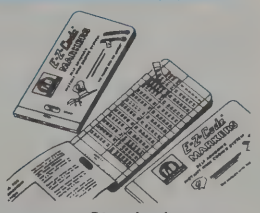
Wire marking printer accepts all Thomas & Betts pin-fed wire markers.

48F3183 Type HVM-PTR. **Each** 610.47
(38971) (ne38971)

E-Z-CODE® WIRE MARKER BOOKS



Blank



Standard

WBC VINYL CLOTH STANDARD BOOKS

Stock No.	Type	Number of Markers and Legends	1-4
46F5979	WM-0-9M	46 Each Page	17.11
46F5984	WM-A-33	10 Each: 1-33, A, B, C, +, -, T_1, T_2, T_3, L_1, L_2, L_3	17.11
46F6503	WM-0-45	10 Each: 0 Thru 45	17.11
46F5985	WM-A-90	6 Each: 0-15, 4 Each: 16-90, 2 Each: A-Z	17.11
46F5980	WM-46-90	10 Each	17.11
46F5981	WM-A-Z	10 Each: A Thru Z, +, –, and 0 Thu 15	17.11

WSL VINYL SELF-LAMINATING STANDARD BOOKS

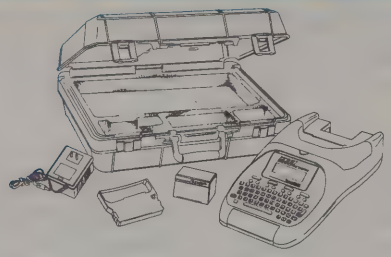
46F5967	WMSL-0-45	10 Each: 0 Thru 45	23.78
46F5969	WMSL-A-Z	10 Each: A-Z; +, –, and 0-15	23.78

WSL VINYL SELF-LAMINATING STANDARD BLANK WRITE-ON BOOKS

46F5971	WM-BW3	30 1″x4⅞″ Marking Area: 1″x1″	25.59
46F5972	WM-BW5	50 1″x2¾″ Marking Area: 1″x ¾″	25.59
46F5973	WM-BW12	200 ½″x1¼″ Marking Area: ½″x⅝″	25.59
46F5974	WM-BW14	400 ¼″x1¼″ Marking Area: ¼″x⅝″	25.59
46F5975	WM-BW34	140 ¾″x1¼″ Marking Area: ¾″x⅝″	25.59

(6449) (de51712)

E-Z-CODE® IS951 IDENTIFICATION SYSTEM



The E-Z Code™ **IS951** dot-matrix printer provides high-resolution printing of labels up to 2″ wide in a broad range of materials, including heat-shrink sleeves. Backlit, tilt LCD display. Fast manual and auto label pin feed features allow precise scrolling and registration. Includes ink ribbon, (1) roll of markers, user manual, registration card and UL listed AC adapter. Weight: 7.5 lbs (without case). 1 year warranty. FCC Class A approved. DC stepper motor drive mechanism.

16F7006 Type IS951 Identification System. **Each** 1509.66

REPLACEMENT PARTS

Stock No.	Type	Description	Each
16F7007	IS951-ICS	Black High-Performance Ribbon	15.14
16F7008	IS951-HC	Carrying Case	101.16
16F7009	IS951-AC	AC Adapter	131.86
16F7010	IS951-BP	Rechargeable Nicad Battery Pack	131.86

ELECTRONIC COMPONENT LABELS

Stock No.	Type	Material	Per Roll	Width	Length	Each
16F7011	WL067022-2-VC	Vinyl Cloth	750	0.67″	0.225″	32.99
16F7012	WL067022-2-PW	White Polyester	750	0.67″	0.225″	25.26
16F7013	WL100022-1-VC	Vinyl Cloth	390	1.00″	0.225″	17.83
16F7014	WL100022-1-PW	White Polyester	750	1.00″	0.225″	30.56

DATA/VOICE PLATE LABELS

16F6995	WL150022-1-P	Removable Paper	750	1.50″	0.225″	22.00

GENERAL COMPONENT LABELS

16F6996	WL050027-2-VC	Vinyl Cloth	500	0.50″	0.275″	24.20
16F6997	WL050027-2-PM	Metallized Polyester	500	0.50″	0.275″	24.43
16F6998	WL100027-1-VC	Vinyl Cloth	345	1.00″	0.275″	17.83
16F6999	WL100027-1-PM	Metallized Polyester	500	1.00″	0.275″	28.60

WIRE MARKER LABELS

16F7000	WL025075-4-V	Clear Vinyl	1000	0.25″	0.75″	37.39
16F7001	WL025075-4-VC	Vinyl Cloth	500	0.25″	0.75″	27.77
16F7002	WL050100-2-V	Clear Vinyl	440	0.50″	1.00″	32.45
16F7003	WL050100-2-VC	Vinyl Cloth	240	0.50″	1.00″	26.91

TERMINAL BLOCK STRIP LABEL

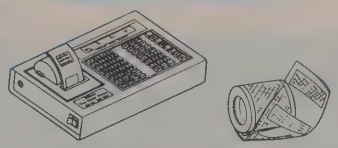
16F7004	TBM281-3*	Vinyl Cloth	0.28″	...	...	30.80

HEAT-SHRINK MARKERS

Stock No.	Type	Material	AWG	Width	Length	Each
16F7005	WHS-187**	Polyolefin	18-10	...	1.50″	21.12

* Continuous strips, 3 strips across, 138″ rolls **Printable on both sides
(6482) (ne08251)

TYPE WD-26P PROGRAMMABLE ALPHA-NUMERIC WIRE MARKER PRINTER



WD-26P E-Z-Coder® wire marker printer produces letters, numbers and symbols allowing you to mark insulated wire ranging in size from 18AWG to 750MCM. Storage capacity offers such features as: auto recall of last legend; storage of up to 100 labels and job lists; marker recall option; delete function for obsolete markers; instant marker identification; and prints job list. Printing may be stopped and resumed. Letters and numbers can be sequenced in any position on any line. Single to double sequencing is capable and sequenced characters are identified by the flashing cursor. Prints up to four different legend lines. Included are: 120VAC wall adapter; internal Ni-Cad batteries; marker roll; ribbon cartridge; and carrying case. *Order refill tape rolls separately on this page.*

90F1619 Type WD-26P. **Each** 632.58
(6448) (de51711)

TAPE ROLLS FOR TYPE WD-26P WIRE MARKER PRINTER

Stock No.	Type	Label Size	Write-On Area	Markers/Characters	1-4
46F5963	WPR-125A	1 1/16x1⅜″	1 1/16x⅝″	500/7	55.48
46F5964	WPR-125B	1⅜x1⅜″	1⅜x⅝″	250/16	55.49
94F3064	WPR-125C	1 15/32x1⅜″	1 15/32x⅝″	750/4	55.49
90F2344	WPR-125D	1 11/32x1⅜″	1 11/32x⅝″	1000/3	55.49

(6451) (de51714)

Electronic Terms and Measurements

Resistance

Opposition to current flow. Basic unit is the ohm (Ω).

1 kilohm — kΩ	1,000 or $1x10^3$ ohms
1 Megohm — MΩ	1,000,000 or $1x10^6$ ohms

Voltage

Electromotive force. Basic unit is the volt (V).

1 millivolt — mV	1/1,000 or $1x10^{-3}$ volt
1microvolt — µV	1/1,000,000 or $1x10^{-6}$ volt

Current

Movement of electricity. Basic unit is the ampere (A).

1 milliampere — mA	1/1,000 or $1x10^{-3}$ ampere
1 microampere — µA	1/1,000,000 or $1x10^{-6}$ ampere

Frequency

Number of cycles per second. Basic unit is the hertz (Hz).

1 kilohertz — kHz	1,000 or $1x10^3$ hertz
1 Megahertz — MHz	1,000,000 or $1x10^6$ hertz
1 Gigahertz — GHz	1,000,000,000 or $1x10^9$ hertz

Time

Basic unit is the second (s).

1 millisecond — ms	1/1,000 or $1x10^{-3}$ second
1 microsecond — µs	1/1,000,000 or $1x10^{-6}$ second
1 nanosecond — ns	1/1,000,000,000 or $1x10^{-9}$ second

Temperature Conversion

°C	°F
100	212
80	175
60	140
40	105
35	95
30	85
25	75
20	70
15	60
10	50
5	40
0	32

Conversion Table

Metric to U.S.	U. S. to metric
1 centimeter = 0.39 inch	1 inch = 2.54 centimeters
1 millimeter = 0.039 inch	1 inch = 25.4 millimeters
1 meter = 3.28 feet	1 foot = 0.305 meter
1 gram = 0.035 ounce	1 ounce = 28.35 grams
1 kilogram = 2.2 pounds	1 pound = 454 grams
1 milliliter = 0.034 fl. ounce	1 pound = 0.45 kilogram
1 liter = 0.264 gallon	1 fl. ounce = 29.57 milliliters
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Where operating life is given at a certain temperature, for every drop of 10°C life expectancy will double.

If life expectancy is 1,000 hours at 105°C
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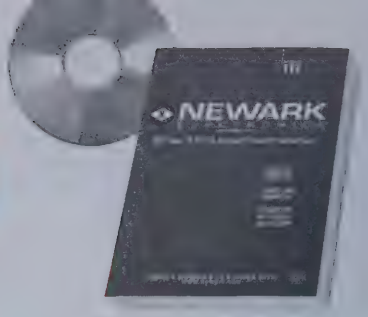

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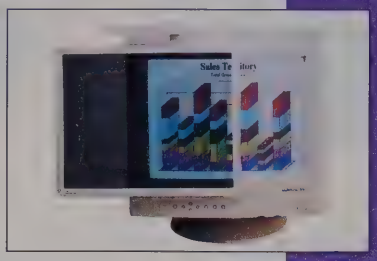

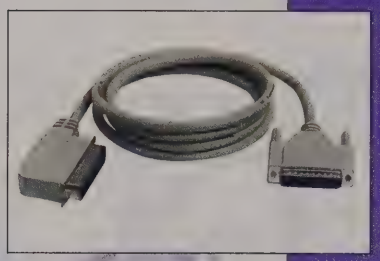

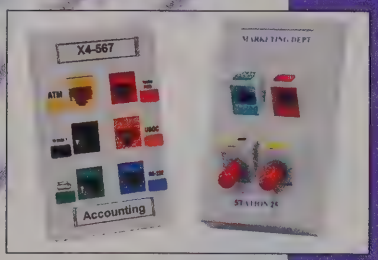

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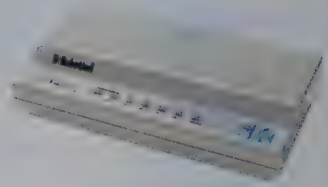

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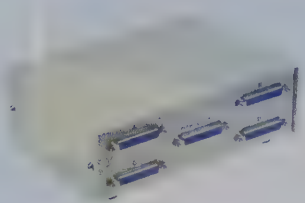

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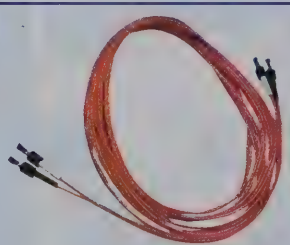

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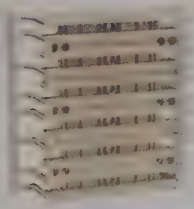

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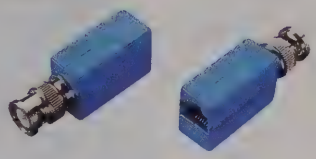

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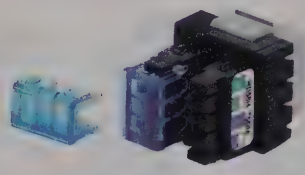

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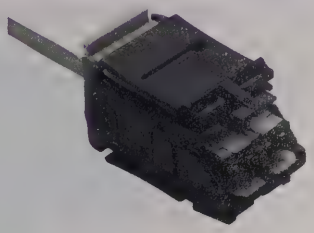

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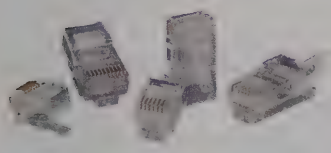

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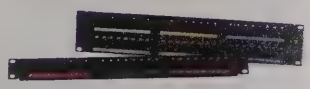

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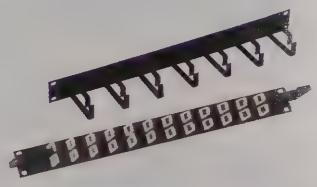

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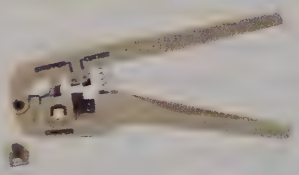

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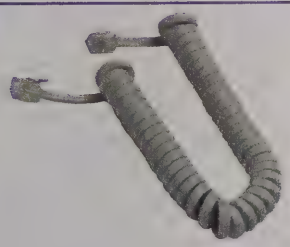

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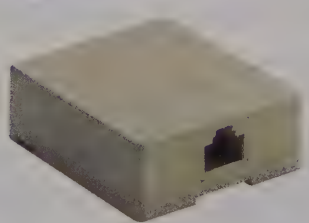

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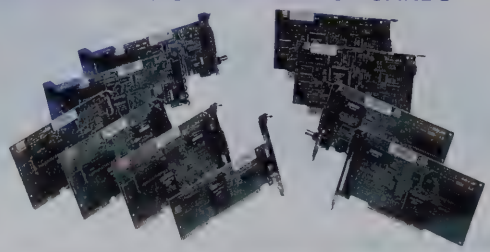

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92F723	3C900B-COMBO	PCI	Coax/AUI/10Base-T	160.00
92F719	3C900B-TPO	PCI	10Base-T	66.00
92F721	3C509B-TP	ISA	AUI/10Base-T	132.00
16F5974	3C509B-TPO	ISA	10Base-T	72.00
92F722	3C509B-COMBO	ISA	Coax/AUI/10Base-T	150.00
16F5994	3C592-TPO	EISA	10Base-T	229.00
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Dual-speed, fast EtherLink® XL PCI cards allow high-performance personal computers and servers to run at the fastest available data throughput rates in both 10Base-T and 100Base-T environments. The card senses the speed of the switch or hub port and configures itself automatically. 32-bit bus mastering. Supports 10/100Base-T for the PCI bus. Plug-and-play compliant with Windows® 95. AutoLink™ software for one-step configuration of NetWare drivers. **Type 3C980-TX** is specially designed for high-performance network servers. Full-duplex auto-negotiation. **Type 3C985-SX** provides Gigabit Ethernet over 850mm multimode fiber.

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83F3435	3C905B-TX-NM*	PCI	10Base-T/100Base-TX	113.00
01F653	3C905B-TX	PCI	10Base-T/100Base-TX	116.00
01F654	3C905-T4	PCI	10Base-T/100Base-T4	165.00
01F647	3C515-TX	ISA	10Base-T/100Base-TX	195.00
01F645	3C597-TX	EISA	10Base-T/100Base-TX	295.00
83F8494	3C985-SX	PCI	1000Base-SX	895.00
83F8495	3C980B-TX	PCI	100Base-TX	199.00

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LAN PC cards deliver top performance on Ethernet LANs. **Type 3CCFE575BT** CardBus PC card works either with a 32-bit CardBus slot or a 16-bit slot. **Type 3C574-TX** works with notebooks equipped with a 16-bit Type II PC card slot and supports full duplex operation at 10Mbps. Both use Nway auto-negotiation to configure cards automatically for 10Mbps or 100Mbps networks and connect directly to Catagory 5 UTP wiring. **Types 3CXE589EC** and **3CXE589ET** function on 10Mbps networks. LAN+Modem PC cards combine the features of LAN cards with a 56Kbps modem. Support V.90 and legacy x2™ technology. Built-in mobile speakerphone, Caller ID, and telephone answering device capability. 10/100 LAN version features Nway auto-negotiation to configure itself automatically for Fast Ethernet.

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83F3434	3C574-TX	16-Bit	Cable	10Base-T/100Base-TX	189.00
83F3508	3CXE589ET	16-Bit	XJACK	10Base-T	164.00
83F3507	3CXE589EC	16-Bit	XJACK	10Base-T/10Base-2	223.00

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83F8500	3CXEM556BT	16- or 32-Bit	XJACK	10Base-T	219.00
83F8520	3CCFEM556B	16- or 32-Bit	Cable	10Base-T/100Base-TX	249.00

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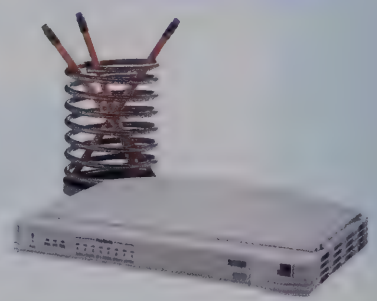

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Stock No.	Type	Ports	Media	Each
83F8507	3C16723-US	4	100Base-TX, RJ-45	125.00
01F597	3C16722-US	8	100Base-TX, RJ-45	225.00
83F8508	3C16721-US	12	100Base-TX, RJ-45	645.00

ETHERNET HUBS

01F601	3C16704-US	4	10Base-T, RJ-45(4)	59.00
01F599	3C16700	8	10Base-T, RJ-45(8), BNC(1)	99.00
01F600	3C16702-US	16	10Base-T, RJ-45(16), BNC(1)	215.00

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Stock No.	Type	Description	Ports	Each
83F3460	3C16610-US	SuperStack II Dual-Speed Hub 500	12 10/100-Base-TX/RJ-45	1095.00
83F3461	3C16611	SuperStack II Dual-Speed Hub 500	24 10/100-Base-TX/RJ-45	1495.00
83F8517	3C16405	SuperStack II PS Hub 40	12 10-Base-T/RJ-45	759.00
83F8518	3C16406	SuperStack II PS Hub 40	24 10Base-T/RJ-45	1339.00
83F8519	3C16450-US	SuperStack II PS Hub 50	25* 10Base-T/RJ-45 100Base-TX/RJ-45	1445.00

*Includes 24 Ethernet ports (RJ-45) and 1 Fast Ethernet port for 100Base-TX.

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Stock No.	Type	Description	Ports	Each
83F3471	3C16951-US	SuperStack II Switch 1100	12 Switched Ethernet 2 10/100 Ethernet	1295.00
83F3472	3C16950-US	SuperStackII Switch 1100	24 Switched Ethernet 2 10/100 Ethernet	1795.00
83F8511	3C16981-US	SuperStack II Switch 3300	12 10/100Base-TX	2395.00
83F8512	3C16980-US	SuperStack II Switch 3300	24 10/100Base-TX 2 100Base-TX	3595.00
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ANALOG MODEMS			
83F8497	002806-0	Courier V.Everything 56K Corporate Modem External, PC/MAC	326.00
83F8498	002805-0	Courier V.Everything 56K Corporate Modem Internal, PC	290.00
ISDN MODEMS			
83F8499	001102-1	Courier I-Modem ISDN with V.Everything U External, PC/MAC	339.00
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US ROBOTICS® MODEMS

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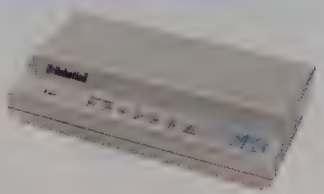


- **Compatibility with All ITU and Bell Standard Modems and Devices from 56Kbps down to 1.2Kbps**

56K faxmodems feature V.90 standard-based download capability of 56 Kbps. Microsoft Plug-and-Play support ensures effortless installation with Windows® 95 and later operating systems. RapidComm™ software enables faxing directly from computer (including group and delayed faxes), while running other applications. DOS/Windows compatible.

Stock No.	Type	Description	Each
ANALOG MODEMS: 56Kbps			
01F567	005686-0	U.S. Robotics 56K Faxmodem External	179.95
92F041	005683-01	U.S. Robotics 56K Winmodem Internal	92.22
92F043	005685-0	U.S. Robotics 56K Voice Faxmodem Internal	179.95
92F042	005605-0	U.S. Robotics 56K Voice Faxmodem Pro External	249.95
ANALOG MODEMS: 33.6Kbps			
92F766	000839-0	U.S. Robotics 33.6K Faxmodem External	109.95
92F767	000840-0	U.S. Robotics 33.6K Faxmodem Internal	103.75

(35887) (ne35887)

NEW DATA COMMUNICATION PRODUCTS

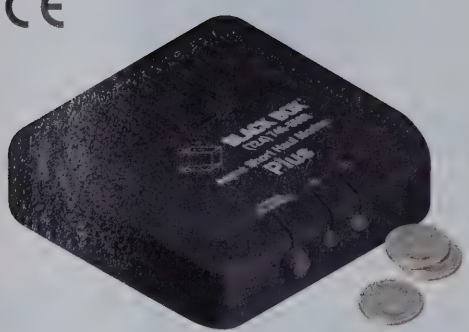
ASYNC SHORT-HAUL MODEMS

- **Transmits Data up to 4 Miles (6.4km) on 4 Wires at Speeds up to 19.2 Kbps**
- **Flip-Top Lid for Quick DTE/DCE Selection**
- **Provides Surge Protection on Both Transmit and Receive Lines**
- **RS-232 Interface**
- **Full-Duplex Operation**

Feature transformer and optical isolation to protect data from electrical interference. Run loopback test to check operation at both ends by simply pressing front panel button. Includes 6′ cable, AC adapter, and sturdy metal case. **Type ME805C-R2** rack mountcard CE compliant. Flip-top lid for quick DTE/DCE selection. Must be used in pairs. 1-year Fido Protection™.

Stock No.	Type	Description	H x W x D	Each
83F3975	ME800A-R2	Stand-Alone	1.5 x 4.3 x 4.5″	**149.95**
83F3976	ME805C-R2	Rack Mount Card	0.5 x 4.3 x 4.5″	**147.95**
83F3527	ME810	Short Haul Modem-B Rack (16 Card)	5.5 x 419 x 8.5″	**360.00**

(37575) (ne37575)



ASYNC SHORT-HAUL MODEM-B PLUS

- **Transmits Data up to 4 Miles (6.4km) on 4 Wires at Speeds up to 115.2Kbps**
- **Extends Distance for RS-232 Communications**
- **External DTE/DCE Switch**
- **Includes Its Own Cables**

Type ME800A-PLUS modem features built-in optical isolation and external switch for flow control. Transmits data at 9600bps to to 2 miles (3.3km). Line-status LEDs indicate transmit and receive activity, correct cabling, and online status. Includes AC adapter and sturdy plastic case. Connectors, one each: DB-25 female, 4-screw terminal block, and RJ-11. Dimensions.: 1.3H x 4.2W x 4.1″D. CE compliant. 1-year Fido Protection™.

83F7479 Type ME800A-PLUS. **Each** **159.95**
(37570) (ne37570)

DATA CENTER MODEMS

- **Ideal for Managing Wide-Ranging Access to a Central Host or Network**
- **Programmable Dialback Security Remembers Codes for 50 Modes**
- **Transmits Synchronous or Asynchronous Data on Leased or Dialup Analog Lines**

3400-type modems are 100% compliant with V.34 standard. 28.8Kbps. 3600-type modems are 100% compliant with V.34+ standard. 33.3Kbps. Both provide a full range of standard functions required in today's data centers: multiple configuration options (remote, front-panel LCD, or AT command set), full Group III fax capability, V.8 compliant automode and automatic rate adaptation. Provide the fastest possible data rates between 2 modems (with fully conditioned lines). Include 6′ DB-25 male-to-female cable and DB-25 male-to-female adapter, RJ-45 to RJ-11 cable, RJ-45 to 4-spade lug adapter. Diagnostics: V.54 remote loopback control; V.52 511 PN pattern; analog and digital loopback; test pattern. Operation: 2-wire full-duplex dialup or leased lines; 4-wire full-duplex leased lines. Includes cable and adapter. Dimensions: 2.5H X 7W x 9.6″D.

Stock No.	Type	Description	Each
83F3979	MD880A-R2	Modem 3400 Stand-Alone	**814.95**
83F3980	MD880C	Modem 3400 Rack Mount Card	**790.00**
83F7480	MD1000A-CABPAK	Modem 3600 Stand-Alone	**869.95**
83F7481	MD1000C	Modem 3600 Rack Mount Card	**870.00**

(37473) (ne37473)

THE CUSTOM CABLE EXPERTS AT BLACK BOX PROVIDE:

- **IN-HOUSE DESIGN AND ENGINEERING**
- **FAST DELIVERY — MOST CUSTOM CABLE SHIPS WITHIN 3-5 DAYS**
- **100% GUARANTEE — EACH CABLE IS TESTED AND CERTIFIED**

(42173) (blrb26014)

NEW

SERVSWITCH SERVER SELECTORS

SERVSWITCH™ ULTRA SWITCH BOXES

- **Built-in on-Screen Menus Make it Fast and Easy to Identify and Switch servers**
- **Flash-ROM upgradeable**
- **PS/2® Mouse Conversion for Mixing PS/2® and Serial Mice**
- **Cable Distances up to 100 Feet with Coax Cable**

ServSwitch™ Ultraswitch boxes features on-screen menus for convenient switching between servers. Identify servers with custom names. Expand up to 16 ports in full-sized chassis. Daisychain up to 256 servers. LED indicators for power, CPU selected, CPU power, and each CPU port. Cable distances up to 100′ (30.5m) with coax cable. PC and Mac: up to 19.6′ (6m) with standard ServSwitch™ cable. Connectors: 5-pin DIN for power, RJ-11 for serial control and flash-ROM upgrades, DB-25F for common KVM, DB-25F or each CPU port. Supported CPUs: IBM® PS/2s, 286, 386, 486, Pentium® or compatible processors. System requirements: Computer platform, monochrome, CGA, XGA, EGA, VGA, SVGA. Max. video resolution: 1280 x 1024.

Stock No.	Type	Ports	Chassis Style	1-4	5-9
83F3144	KV5102MA	2-Port	Mini	725.00	703.25
83F3145	KV5104MA	4-Port	Mini	825.00	800.25
83F3146	KV5108SA	8-Port	Slim	1275.00	1236.75
83F3147	KV5112FA	12-Port	Full	1825.00	1770.25
83F3148	KV5116FA	16-Port	Full	2325.00	2255.25

CPU/SERVER TO SERSWITCH™ CABLE FOR PC

Stock No.	Type	Cable Length	Each
83F3517	EHN051-0005	5′ (1.5m)	47.95
16F5281	EHN051-0010	10′ (3.0m)	63.95
83F3518	EHN051-0020	20′ (6.0m)	95.95

SERVSWITCH™ TO MONITOR/KEYBOARD/MOUSE CABLE FOR PC

83F7471	EHN054-0001	1′ (0.3m)	31.95
83F7472	EHN054-0005	5′ (1.5m)	47.95
83F7473	EHN054-0010	10′ (3.0m)	63.95
83F7474	EHN054-0020	20′ (6.0m)	95.95

(37372) (ne37372)

SERVSWITCH™ JR. SWITCH BOXES

- **Direct Access Port Switching**
- **Easy-to-Install**
- **Compact Only 1 RU in Height**

ServSwitch™ Jr. controls up to 4 PC with a single keyboard, monitor, and mouse. Uses standard ServSwitch cabling. Requires only 1 cable between the switch and each CPU. Standard cable length: up to 19.6′ (6m); with coax cable: up to 100′ (30.4m). Supported CPUs: IBM® PS/2, 286, 386, 486, Pentium® or compatible. Computer connectors: DB-25F. VGA monitor: HD15M. RS-232 mouse: DB-9M. PS/2 mouse: 6-pin mini-DIN. PS/2 keyboard: 5-pin DIN F. Dimensions: 1.8H x 8.9W x 3.4″D.

Stock No.	Type	Ports	1-4	5-9
83F7475	SW621A	2	325.00	315.25
83F7476	SW622A	4	425.00	412.25

CPU/SERVER TO SERVSWITCH™ CABLES

Stock No.	Type	Description	1-4	5-9
16F5281	EHN051-0010	10′	63.95	62.04
83F3518	EHN051-0020	20′	95.95	93.08

(37375) (ne37375)

SERVSELECT™ SERVSWITCHES

- **On-Screen Menu Makes Switching Easy**
- **Space-Saving Design Fits Under PC or into 19″ Rack. Only 1 U (1 3/4″) High**
- **Daisychain Switches to Support up to 64 Servers**
- **Supports up to 8 CPUs on a Single Keyboard, Monitor and Mouse**

ServSelect™ offers highly convenient switching options including easy front panel pushbuttons and command sequences from the keyboard. Easy-to-read and easy-to-use menu enable users to identify and switch servers quickly. Servers can be custom-named for easy recognition. Connectors: DB-25 (4-**type KV104A-R2** or 8 **type KV108A-R2**), (2) 6-pin Mini DIN F, (1) HD DB-15, (1) DB-9F, (1) IEC 320. ServSelect™ cable: (1) DB-25F, (1) HD DB-15M, (1) DB-9F, (1) 6-pin DIN M, (1) 5-pin DIN M, (1) 6-pin mini-DIN M. Peripherals: IBM® PC, PS/2 and compatibles. Video: VGA, SVGA, XGA®, XGA II; max. resolution: 1280 x 1064 @60Hz.

Stock No.	Type	Ports	Each
83F7482	KV104A-R2	4	845.00
83F3138	KV108A-R2	8	1245.00

SERVSELECT™ TO CPU CABLE (SERVSELECT™ CABLE)

Stock No.	Type	Cable Length	Each
83F7483	EHN056-0006	6′ (1.8m)	45.95
83F7484	EHN056-0008	8′ (2.4m)	62.95
83F7485	EHN056-0015	15′ (4.5m)	87.00
83F7486	EHN056-0030	30′ (9.1m)	133.00

(37370) (ne37370)

PERSONAL SERVSWITCH™

- **Controls up to 4 PCs With One Keyboard, Monitor and Mouse**
- **Switches With Just a Single Button or Keyboard Command**
- **Easy to Install — No Power Source or Software Needed**
- **Support PS/2®, Serial Mice, and Microsoft® IntelliMouse**

Designed especially for small offices, ServSwitch's small size makes it ideal for desktop use. LEDs indicate which PCs are on-line and which is selected. Utilizes standard PC cables. Supported CPUs: IBM® PS/2, 286, 386, 486, Pentium®, or compatible. Video connectors: HD DB-15F. Keyboard: 6-pin mini-DIN F. Mouse (user): 6-pin mini-DIN F. Mouse (CPU): 6-pin mini-DIN F and DB-9 F. 1.9H x 8.1W x 4.5″D. Order cable for each attached CPU separately. *Contact your local Newark sales office for details.*

Stock No.	Type	Ports	1-4	5-9
83F7477	SW625A-R2	2	229.00	222.13
83F7478	SW626A-R2	4	329.00	319.13

CABLE KITS

Stock No.	Type	Description	1-4	5-9
83F4074	EHN405-AT	AT Style	59.00	57.23
83F4073	EHN405-PS2	PS/Z Style	59.00	57.23

(37374) (ne37374)

IF YOU DON'T SEE THE PRODUCT YOU NEED LISTED HERE - CALL!
1-800-4-NEWARK
(1-800-463-9275)

ETHERNET PRODUCTS

DYNA-FAST 100BASE-T STACKABLE FAST ETHERNET HUBS

FEP-20012T-S

- **Comply with IEEE 802.3µ and 100Base-TX Fast Ethernet Class I and Class II Standards**
- **Automatically-Partition Bad Ports to Protect Network**
- **LEDS Indicate Port Connect and Utilization Status**
- **Up to 4 Hubs Can Be Cascaded Together to Form a Larger Network**
- **Either UTP or STP Category 5 Cable Can Be Used for Port Connection**

Up to 4 hubs can be stacked together to generate one repeater with DB25 cable to build a larger network without disturbing the existing network. Six 12-port Fast Ethernet hubs could generate one repeater and connect up to 48 stations in a Fast Ethernet LAN system. Port 1 on **type FEP-20004T-S** could also be used as uplink port with proper uplink switch setting; allows stacking of 2 hubs using DB-15 cable. **Types FEP-20008T-S** and **FEP-20012T-S** are 19″ rack mountable; allow stacking of 4 hubs using DB-25 cable. LEDs indicate power, collision, link/activity, error, and utilization status. 5-year warranty.

Stock No.	Type	Ports	Description	1-3	4-6
91F2177	FEP-20004T-S	4	Uplink Port #1 (Separated)	**124.33**	**114.08**
91F2178	FEP-20008T-S	8	Uplink Port #8 (Separated)	**255.81**	**235.90**
91F2179	FEP-20012T-S	12	Uplink Port #12 (Separated)	**369.89**	**341.10**

(17428) (ne10592)

MICRO-NET 10BASE-T HUBS

- **Comply with IEEE 802.3 Repeater, 10Base-T, 10Base-2, and 10Base-5 Standards**
- **Partition Off Bad Ports to Protect Network**
- **Allow Cascading up to 4 Hubs via STP/UTP**

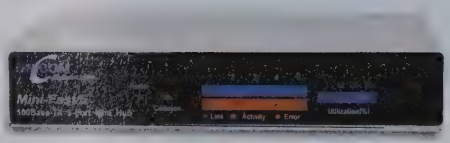
Type ETP-20005TM-1 is a super-compact, 5-port Ethernet hub that is ideal for connecting 2 to 5 10Base-T workstations. A separate uplink port is provided for cascading up to 4 hubs, giving network expansion capabilities of up to 14 workstations. **Type ETP-20008TM-1** is an 8-port Eternet hub with a coaxial backbone connection that allows for up to 30 hubs to be cascaded. **Type ETP-20016TM-1** is a 16-port Ethernet hub with coaxial or AUI connections for expansion up to 100 hubs. All hubs provide the flexibility to expand to larger networks.

Stock No.	Type	Ports	Description	1-3	4-6
83F3367	ETP-20005TM-1	5	5 RJ-45 Jacks	**51.86**	**47.82**
83F3368	ETP-20008TM-1	8	8 RJ-45 Jacks, 1 BNC	**72.60**	**66.95**
83F3369	ETP-20016TM-1	10	16 RJ-45 Jacks, 1 BNC, 1 AUI	**145.19**	**133.89**

(17429) (ne10593)

NEW

MINI-FAST 100BASE-TX HUBS



- **Comply to IEEE 802.3µ 100Base-TX Class II Standards**
- **LED Indicators for Power, Collision, Link/Activity, Error, Utilization**
- **Automatically Partition Off Bad Ports to Protect Network**

These compact, powerful Fast Ethernet hubs are the perfect choice for small to medium size networks. Simply cascade two hubs together with UTP cable to support either 8 (**type FEP-20005T**) or 14 (**type FEP-20008T**) workstations. Cable distance: 5 meters hub-to-hub, 100 meters hub-to-workstation. Power supply: 12V DC, 800mA external adapter. Operating temperature: 0°C to +55°C.

Stock No.	Type	Description	1-3	4-6
83F3375	FEP-20005T	5RJ-45 for 100Base-TX	**120.56**	**110.62**
83F3376	FEP-20008T	8RJ-45 for 100Base-TX	**203.44**	**186.68**

(34793) (ne34793)

DYNA-NET 10BASE-T HUBS

Dyna-Net 10Base-T Hubs

- **Automatically Partitions Off Bad Ports to Protect Networks**
- **Equipped with Power, Coax, AUI, Reset, and Collision LEDs to Indicate Connection**

ETP series Dyna-Net 10Base-T hubs can be added to existing networks without disturbing operation. **Types ETP-20012T** and **ETP-20016T** integrate into larger networks via Thick or Thin Ethernet, or UTP (unshielded twisted pair) can be used to make it part of an Ethernet backbone. **Type ETP-20008T** with Thinnet or UTP and **type ETP-20004T** are perfect for adding one or two additional workstations. Conform to IEEE 802.3 repeater and 10Base-T standards. **Type ETP-20004T** features 9V external power adapter; other types feature 115VAC internal power supply.

Stock No.	Type	Ports	1-3	4-6
97F7969	ETP-20004T	4RJ-45	**126.18**	**116.36**
01F016	ETP-20008T	8BNC, RJ-45	**216.06**	**199.24**
50F9455	ETP-20012T	12BNC, AUI, RJ-45	**338.78**	**312.41**
92F9004	ETP-20016T	16BNC, AUI, RJ-45	**362.98**	**334.72**

(17430) (ne10594)

IF YOU DON'T SEE THE PRODUCT YOU NEED LISTED HERE - CALL!
1-800-4-NEWARK
(1-800-463-9275)

ADAPTER CARDS AND ACCESSORIES

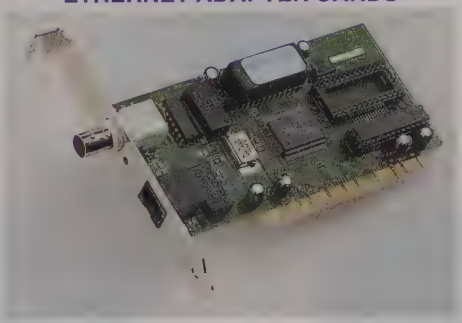
10BASE-2/T CONVERTER

Type ETP-20038T converts existing thin Ethernet to a 10Base-T network. Transceiver converts and repeats signals from the existing Thin Ethernet to a suitable form for transmission over unshielded twisted pair (UTP) cable to a 10Base-T hub. Includes a flexible 3-position terminator switch (open, 25-ohm, and 50-ohm) for Thin Ethernet and female BNC connector and RJ-45 jack. 185 meter maximim transmission distance over Thin Ethernet cable, 100 meter maximum for UTP cable. 9V external power adapter included. Conforms to IEEE 802.3 repeater, 10Base-T, and 10Base-2 standards.

Stock No.	Type	1-9	10-24	25-49
93F5277	ETP-20038T	134.82	124.33	115.45

(17735) (ne10921)

ETHERNET ADAPTER CARDS

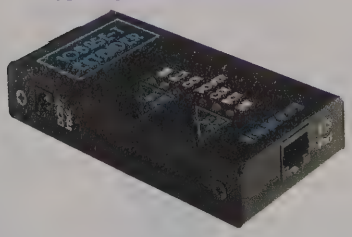


Adapter cards are Windows® 95 plug-and-play compatible. Compy with IEEE 802.3 standard. **Type FEP-4206-E** supports half- and full-duplex operation. Bus-master design for maximum throughput and minimum CPU utilization. Complies with 10Base-T and IEEE 802.3u 100Base-TX standards. **Type ETP-4204-E** features a special driver that boosts network performance up to 50% higher than 16-bit ISA NE-2000 compatible cards. Software configuration for interrupt line, I/O, and PROM address. **Type ETP-4104-EP** has jumperless, jumper, and Windows® 95 plug-and-play modes. Accepts UTP or thin coaxial connections. Novell® NE2000 and Western Digital/SMC™ Ethernet card compatible. Complies with 10Base-T and 10Base-2 standards.

Stock No.	Type	Description	Media	1-14
91F2180	FEP-4206-E	32-Bit PCI	10Base-T, 100Base-TX: RJ-45	40.99
01F015	ETP-4204-EP	32-Bit PCI	10Base-T: RJ-45, 10Base-2: BNC	19.88
92F2441	ETP-4104-EP	16-Bit ISA	10Base-T: RJ-45, 10Base-2: BNC	19.36

(17734) (ne10920)

10BASE-T EXTENDER

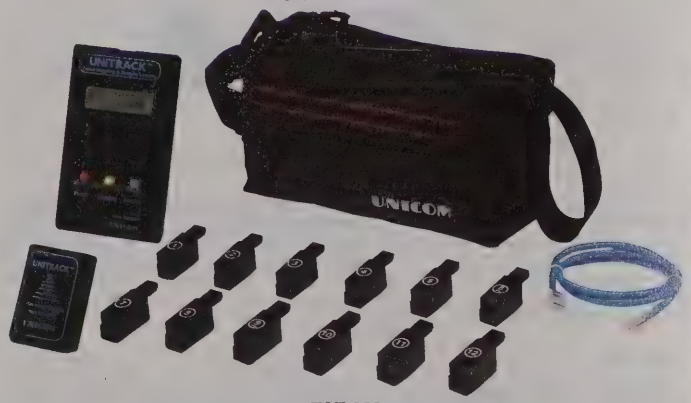


Plug-and-play extender works in conjunction with a 10Base-T hub to double the 100 meter distance of the cable to 10Base-T work stations or hubs. Includes power, link, collision, and receive LEDs.

Stock No.	Type	1-3	4-6	7-9
92F9009	ETP-20058T	88.15	81.29	75.49

(17736) (ne10922)

TYPE TST-038 UNITRACK™ WIRE MAPPING AND REMOTE LOCATOR KIT



TST-038

Type TST-038 tester features wire mapping, remote locating, and patch cord testing all in one unit. Tests up to 1000′ of any UTP cable. Wire mapping function tests end-to-end connections on local and remote locations. Remote locator function pinpoints remote location numbers for a terminal or workstation. A 32-character LCD screen displays wiring information on breaks, shorts, crossovers, or any combination of mapping between end-to-end modular jacks and plugs. Kit contents: 1 main unit, remote mapping device, 12 remote locators, two 3′ RJ-45 patch cords, one 9V battery, and carrying case. Also features battery low-indicator warning. Weight: 8 oz.

92F6333 Type TST-038. **Each** 391.81

(17747) (ne10802)

XTEND-5/T CONVERTER

Type ETP-20088T converts existing Thick Ethernet to 10Base-T networking. Super-slim design. Repeats signals from the Thick Ethernet to a suitable form for transmission over UTP wires. Includes power, link, collision, and TP RCV LED indicators. Cable lengths: 100 meters maximum for UTP cable; 50 meters maximum for AUI cable; 500 meters maximum per Thick Ethernet segment. Conforms to IEEE 802.3 repeater, 10Base-T, and 10Base-5 standards.

Stock No.	Type	1-3
92F9008	ETP-20088T	129.64

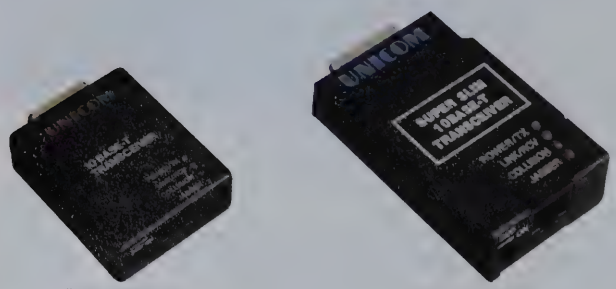
(17733) (ne10919)

NEW PRODUCTS ARE BEING ADDED TO OUR INVENTORY EVERY DAY.
CALL NEWARK FOR INFORMATION ON WHAT'S CURRENTLY IN STOCK.

ETHERNET PRODUCTS

10BASE-T TRANSCEIVER

yes It runs with NetWare



ETP-20028-T ETP-20028T-S

Small, lightweight transceivers connect existing Thick Ethernet adapter card to a 10Base-T UTP network. Transceivers convert signals from standard Ethernet cable to a format suitable for transmission over UTP wires. Conforms to IEEE 802.3 10Base-T and 10Base-5 standards. Provides 1 RJ-45 jack for 10Base-T hub connection and 1 male AUI connector for Thick Ethernet adapter card connection. SQE switch provided. LEDs simplify troubleshooting and maintenance. **Type ETS-20028T-S** has the same features as **type ETP-20028-T** but in a slim design for narrow slot spaces.

Stock No.	Type	Description	1-9	10-24
50F9456	ETP-20028T	10Base-T Transceiver	27.66	25.51
92F9006	ETP-20028T-S	Slim Design 10Base-T Transceiver	34.57	31.88

(8132) (ne08839)

VIDEO/AUDIO ADAPTERS

Video/Audio Adapters

- **Built-In Impedance Matching Device and Filter for Baseband Video Channel Signal Transmission over Category 5 UTP Cable**
- **Handle Either NTSC or PAL Video Signals**
- **2 Optional Audio Channels Can Be Used for HF Stereo Signal**
- **Easy Installation with Existing Premises Wiring and Wall Jacks**

Video/audio adapters convert the impedance from video and/or audio signal to a 100-ohm signal for transmission over Category 5 cables which are typically used for voice and data transmission rates up to and including 100MHz. Signal distortion is minimized as high-frequency noise is filtered from the received signal. A male BNC-to-phono jack adapter (**type CBP-MF**) is also available for applications where a phono jack is used for video interface.

Stock No.	Type	Description	1-24	25-49
91F2174	VAA-U501-VA	Adapter with Video and Audio Interface	91.68	86.31
91F2175	VAA-U501-V	Adapter with Video Interface Only	79.73	75.07
91F2176	CBP-MF	BNC (Male) to Phono Jack Adapter	1.80	1.69

(17427) (ne10596)

10BASE-T TRANSCEIVERS

yes It runs with NetWare

ETP-20028T

The Trans-One double pigtail transceiver is designed to connect Thick Ethernet interface to a 10Base-T UTP application. Conforms to IEEE 802.3 10Base-T and 10Base-5 standards. LEDs simplify troubleshooting and network maintenance. Includes a 6″ AUI cable and a 15′ 24 AWG stranded UTP cable, 1 RJ-45 plug for 10Base-T hub connection and 1 male AUI connector for Thick Ethernet adapter card connection. Convert signals from Thick Ethernet to a proper form for transmission over cable to each workstation. Suitable for workstations with a narrow slot space design.

TRANS-ONE

Stock No.	Type	Description	1-9	10-24
84F774	ETP-20028T-2	Double Pigtail	36.30	33.48
92F9005	ETP-20028T-3	Double Pigtail w/Long Screws	36.30	33.48

(8130) (ne08836)

10BASE-T/FL CONVERTER

Designed to connect existing 10Base-T Ethernet network to a 10Base-FL network with fiber-optic cable ranging up to 2000m long. The unit simply repeats signals from 10Base-T Ethernet to a suitable form for transmission over fiber-optic cable to the 10Base-FL link. Provides backward compatibility for communication between FOIRL and 10Base-FL transceivers over 1000m of fiber-optic cable max. LEDs indicate LMON, COL, XMT, power, RCV, JAB, and link. Interface: RJ-45 jack for 10Base-T connection; ST® connector for 10Base-FL fiber-optic connection. Accepts Category 3, 4, or 5 UTP cable for 10Base-T; 62.5/125µm multimode duplex fiber-optic cable for 10Base-FL connection. Includes 9VDC external adapter. Conforms to IEEE 802.3 10Base-T and 10Base-FL standards.

Stock No.	Type	Description	1-3	4-6
92F6332	ETP-20108	10 Base-T/FL Converter	241.99	223.15

(8121) (ne08366)

TRANS-2/5 ETHERNET TRANSCEIVERS

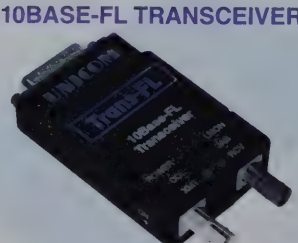
ETP-20048T

Trans-2/5 Ethernet transceivers convert existing Thick Ethernet adapter cards to 10Base-2 applications. Feature flexible 3-position terminator switch for Thin Ethernet. SQE switch provided. Conform to IEEE 802.3, 10Base-5 and 10Base-2 standards. Available in mini (**type ETP-20048T**) and super-slim (**type ETP-20048T-S**) sizes. **Type ETP-20048T-S** is ideal for narrow slot spaces such as SUN, SPARC, IBM® RISC/6000, and Apple® Macintosh.

Stock No.	Type	Description	1-9	10-24
93F5278	ETP-20048T	Mini 10Base-2/5	36.30	33.48
92F9007	ETP-20048T-S	Super-Slim 10Base-2/5	38.03	35.07

(17426) (ne10595)

10BASE-FL TRANSCEIVER



Converts existing Thick Ethernet adapter card to a 10Base-FL connection. Provides backward compatibility for communications between FOIRL and 10Base-FL transceivers over 1000m of fiber-optic cable. Super-slim design for tight spaces. LEDs indicate power, LMON, COL, JAB, XMT, and RCV. Interface: DB-15 male connector to Thick Ethernet adapter cards; dual ST connectors to 10Base-FL fiber-optic connection. Accepts optional AUI cable for DB-15 connection; 6.25/125µm multi-mode duplex fiber-optic cable for 10Base-FL connection. Switch: SQE On/Off. Conforms to IEEE 802.3, 10Base-5 and 10Base-FL Ethernet standards. Allows up to 2000 meters between connectors.

Stock No.	Type	Description	1-3	4-6
92F6331	ETP-20098T	10 Base-FL Transceiver	164.21	151.42

(8122) (ne08367)

NETWORK MANAGEMENT PRODUCTS

FASTHUB® 112T AND 124T 10/100 HUBS

NEW

12 or 24 10Base-T/100Base TX autosensing ports with internal bridging. Provide a fast exchange of information between users and workgroup servers without additional network hardware. Delivers the LAN performance necessary for high-bandwidth multimedia applications. One MDI port enables users to connect to another switch, hub or router without a special crossover cable. Permits direct connection to other Class II hubs, including the Cisco Fasthub® **300** and **200 series**. Convenient LEDs provide simple visual management. Fits in either standard 19″ or 24″ rack. Supports either 10- or 100Mbps. Connect up to 12 or 24 PCs at either Ethernet or fast Ethernet speeds. Complete technical support and 1-year warranty.

83F3439 Type WS-C112T 24-port unmanaged hub. **Each** **995.00**
83F3441 Type WS-C124T 12-port unmanaged hub. **Each** **1595.00**
(34778) (ne34778)

FASTHUB® 100/200/300 SERIES 100BASE-T HUBS AND REPEATERS

NEW

High-performance hubs combine all the benefits of stackable hubs with unmatched flexibility. Powerful and affordable, these repeaters are perfect for power users, server farms and high-speed local backbones for switch-based networks. A range of densities are available to support the appropriate number of servers using UTP or fiber media options. 100Mbps peak and aggregate throughout. Several configuration options give you flexibility. Standard software, power supply and cable assembly are included.

Stock No.	Model	Description	Each
01F1185	WS-C116T	16-Port, 100Base-TX Unmanaged Repeater Hub	995.00
83F3440	WS-C216T	16-Port, 100Base-TX Managed Repeater Hub	1595.00
01F1189	WS-C316T	16-Port, 100Base-TX Hub, 16RJ-45	1495.00
01F1188	WS-C316C	16-Port, 100Base-TX Port Hub, 15RJ-45, 1SC Port	1795.00
83F3443	WS-C316-BMM-T	16-Port, 100Base-TX/BMM Hub	1495.00
83F3442	WS-C316-BMM-C	15-Port, 100Base-TX/1 Port 100Base-FX/BMM Hub	1795.00
01F1187	WS-C316-NMM	Network Management Module	1195.00
83F3444	WS-C316-CAB-EXP	Expansion Cable	120.00

(34777) (ne34777)

MICRO WEBSERVER

- **Interfaces with Netscape or Internet Explorer Browsers**
- **Removable Zip Drive Provides 100MB of Data and Storage**

Type MWEB100 features plug-and-play technology to provide solutions from web page hosting to workgroup intranets. Java GUI management application offers seamless operating in all networking environments. Embedded microkernel offers a high level of security. Supports over 2Mbps data throughput and more than 10 connections per second.

01F1190 Type MWEB100. **Each** **995.00**
(17644) (ne10923)

700 SERIES ISDN ROUTERS

CISCO761M-CH

700 series ISDN routers offer telecommuters and small professional offices affordable, high-speed ISDN access to corporate networks and the Internet. ClickStart™ software configures router using a standard browser like Netscape Navigator®. **Type CISCO761M-CH** provides a low-cost solution for connecting an Ethernet LAN to ISDN Basic Rate Interface services. **Type CISCO762M-CH** router includes an integrated Network Termination 1 device. **Types CISCO765M-CH** and **CISCO766M-US-CH** include two analog telephone interfaces. **Types CISCO771M-CH** are similar to **types CISCO761M-CH** but also include a 4-port Ethernet hub and a "Call Connect/Disconnect" switch. Software, memory upgrades, cable assembly, and power supply are sold separately; *contact your local Newark sales office.*

Stock No.	Type	Description	Each
01F1192	CISCO761M	Access Router	599.00
01F1193	CISCO762M-US	Access Router with NT1	549.00
01F1194	CISCO765M-US	Access Router with 2 POTS	649.00
01F1195	CISCO766M-US	Access Router with NT1 and 2 POTS	799.00
01F1196	CISCO771M	Access Router with 4-Port Hub	599.00
01F1197	CISCO772M	Access Router with NT1 and 4-Port Hub	749.00
01F1198	CISCO775M	Access Router with 2 POTS and 4-Port Hub	749.00
01F1199	CISCO776M	Access Router with NT1, 2 POTS, and 4-Port Hub	899.00

(17648) (ne10925)

ETHERNET AND TOKEN RING ROUTERS

Ethernet and Token Ring routers optimize configuration options for different network sizes and protocols. Dual-LAN configuration provides low-cost network segmentation. Flash memory provides easy software image maintenance. **Types CISCO2501-CH, CISCO2503-CH,** and **CISCO2514-CH** provide multiprotocol routing capability between WANs and LANs. Preconfigured and tailored for easy inventory, installation and maintenance. A software feature pack (not included) must be specified when ordering; *contact your local Newark sales office for details.* Memory upgrades, cable assembly, and power supply are sold separately; *contact your local Newark sales office.*

ETHERNET ROUTERS

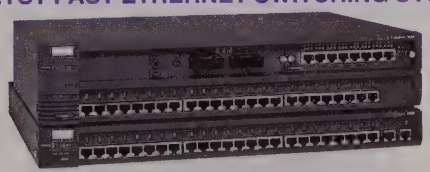
Stock No.	Type	Description	Each
01F1128	CISCO2501-CH	1 Ethernet/2 Synchronous Serial Ports	2195.00
01F1130	CISCO2503-CH	1 Ethernet AUI/2 Synchronous Serial/1 ISDN BRI Ports	2695.00
01F1137	CISCO2514-CH	2 Ethernet AUI/2 Synchronous Serial Ports	2695.00

TOKEN RING ROUTERS

01F1129	CISCO2502-CH	1 Token Ring/2 Synchronous Serial Ports	2695.00
01F1131	CISCO2504-CH	1 Token Ring/2 Synchronous Serial/1 ISDN BRI Ports	3395.00
01F1136	CISCO2513-CH	1 Ethernet/1 Token Ring/2 Synchronous Serial Ports	3395.00

(17649) (ne10925)

CATALYST FAST ETHERNET SWITCHING SYSTEMS



WS-C1924-A

WS-1924-A series switching systems feature 24 switched ports for attachment to workstations and 10Base-T hubs. Two switched 100Base-T ports give 100Mbps connectivity to help eliminate bottlenecks. **WS-C2822-A** and **WS-C2828-A** series switching systems feature 25 switched Ethernet ports and 2 high-speed expansion slots for maximum configuration and backbone flexibility. Both **WS-C1900** series and **WS-C2822-A** and **WS-C2828-A** series have 25 switched 10Base-T ports and 1 AUI port that deliver 10Mbps of throughput. Software, memory upgrades, cable assembly, and power supply are sold separately; *contact your local Newark sales office.*

Stock No.	Type	Description	Each
01F1169	WS-C1924-A	24 10Base-T & 2 100Base-TX Ports/1024 Address Cache	1495.00
01F1174	WS-C1924C-A	24 10Base-T & 1 100Base-TX/1 100Base-FX Port/1024 Address Cache	1995.00
01F1170	WS-C2822-A	2 High-Speed Expansion Slots/2048 Address Cache	1495.00
01F1171	WS-C2828-A	2 High-Speed Expansion Slots/8192 Address Cache	1995.00

(17729) (ne10929)

LAN INTERCONNECT PRODUCTS

CATEGORY 5e ENHANCED PERFORMANCE PATCH PANELS

The latest technology in printed circuit board manufacturing provides consistent high-speed voice/data transmission. Meet or exceed TIA/EIA 568-A Category 5 standards. Panels are part of Hubbell's 5E6 system that's specially balanced for optimal results. Performance tested to 350MHz. The paired punch down sequence allows pair twist within ½" of termination. A new, separate label field over each 8-port cluster on the front of the panel provides for added flexibility in port identification, as well as a new rear label scheme. UL listed, CSA certified. *Order support bar for rear cable management separately below.*

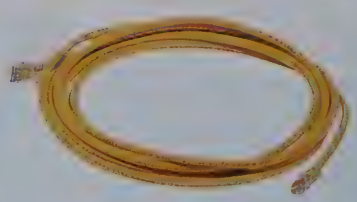
Stock No.	Type	No. of Ports	Wire Cap.	Each
83F3615	MCC5802110A19E	16	64 Pair	104.92
83F3616	MCC5803110A19E	24	96 Pair	123.66
83F3617	MCC5804110A19E	32	128 Pair	202.35
83F3618	MCC5806110A19E	48	192 Pair	249.19
83F3619	MCC5812110A19E	96	384 Pair	477.76

SUPPORT ARMS

Stock No.	Type	Description	Each
83F3620	MCCSWB19	Support Bar	9.37

(7998) (de02739)

CATEGORY 5 ENHANCED PATCH CORDS



Specially designed and balanced with Hubbell HD5 jacks and Category 5 patch panels for enhanced channel performance. Meet or exceed Category 5 standards. Wiring is T568A and T568B compatible. Manufactured to exacting specifications. Also available in black and gray; *contact your local Newark sales office.*

Stock No.	Type	Length	Color	Each	2-4	5-9
83F3583	PC5E6Y02	2′	Yellow	4.79	4.70	4.63
83F3591	PC5E6B02	2′	Blue	4.79	4.70	4.63
83F3584	PC5E6Y04	4′	Yellow	5.25	5.16	5.08
83F3592	PC5E6B04	4′	Blue	5.25	5.16	5.08
83F3585	PC5E6Y06	6′	Yellow	5.82	5.72	5.63
83F3593	PC5E6B06	6′	Blue	5.98	5.88	5.78
83F3586	PC5E6Y08	8′	Yellow	6.73	6.62	6.51
83F3594	PC5E6B08	8′	Blue	6.73	6.62	6.51
83F3587	PC5E6Y10	10′	Yellow	7.48	7.35	7.23
83F3595	PC5E6B10	10′	Blue	7.48	7.35	7.23
83F3588	PC5E6Y12	12′	Yellow	8.23	8.09	7.96
83F3596	PC5E6B12	12′	Blue	8.23	8.09	7.96
83F3589	PC5E6Y16	16′	Yellow	9.73	9.56	9.41
83F3597	PC5E6B16	16′	Blue	9.73	9.56	9.41
83F3590	PC5E6Y20	20′	Yellow	11.23	11.04	10.86
83F3598	PC5E6B20	20′	Blue	11.23	11.04	10.86

(7999) (de02740)

FRONT ACCESS PATCH PANELS

Front access panels feature 110 punch down fields and Category 5e modular jacks on the front panel. Integrated cable management. Mount directly to the wall or on the 89D bracket included. Designed with a removable protective cover featuring both numerical port identifiers and a write-in area for easy labeling. Comply with ISO/IEC 11801 and Cenelec EN 50173.

Stock No.	Type	Description	H x W x D	Each
01F390	HPW5FA12B	12-Port Front Access, T568B	2.5 x 10 x 1.5″	148.01
01F391	HPW5FA12A	12-Port Front Access, T568A*	2.5 x 10 x 1.5″	148.01

*Also available in 24-port version; *contact your local Newark sales office.*

(13163) (ne09813)

12-PORT CROSS-CONNECT BLOCKS

5811089I

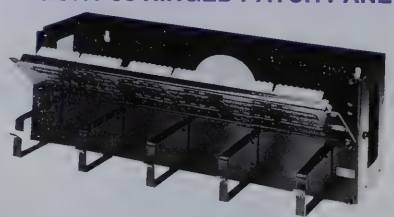
25811089I

Ideal for smaller cross-connect applications. Printed circuit board design provides high-quality transmission while the removable 89D brackets act as a workbench to facilitate punch down. 110 style combines printed circuit board wired jack fields with new generation, 110 wire termination 66 style block provides upgraded cross-connection between modular jacks and 66-block termination. Available in Categories 5e and 3, 110 style along with Category 3, 66 type termination. Capacity: 50 pair.

Stock No.	Type	Wiring Format	Style	Category	Each	2-4
52F9865	5811089A	T568B	110	5	82.44	81.05
52F9848	5811089I	T568A	110	5	82.44	81.05
96F6187	25811089A	T568B	110	3	71.20	70.00
96F6188	25811089I	T568A	110	3	71.20	70.00
96F6185	BR258066A	T568B	66	3	63.31	62.25

(8113) (ne08353)

CATEGORY 5e HINGED PATCH PANELS

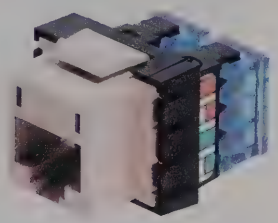


48-port Category 5e panels fold down for easy access. Stack to only 4U (7.00″) high. **Types MCC5806FDK** and **MCC5806FDKA** include a wall bracket, cable management panels, and a Category 5e patch panel. **Types MCC5806FD** and **MCC5806FDA** include a cable management panel hinged to a Category 5e patch panel. Comply with ISO/IEC 11801 and Cenelec EN 50173.

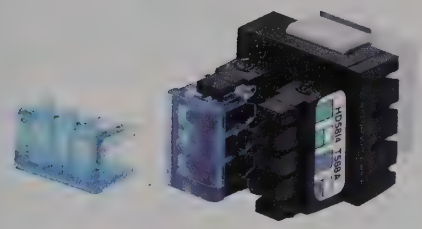
Stock No.	Type	Description	H x W x D	Each
01F392	MCC5806FDK	Wall Mount Version,T568B	7.0 x 19 x 4.0″	402.82
01F393	MCC5806FDKA	Wall Mount Version,T568A	7.0 x 19 x 4.0″	402.82
01F394	MCC5806FD	Rack Mount Version,T568B	7.0 x 19 x 1.5″	365.35
01F395	MCC5806FDA	Rack Mount Version,T568A	7.0 x 19 x 1.5″	365.35

(13159) (ne09812)

CATEGORY 5e ENHANCED HIGH-DENSITY MODULAR JACKS



HD5e-Front



HD5e-Back

- **Exceeds Upcoming TIA Category 5e Requirements**
- **Mount up to 6 Jacks in a Single Faceplate**

HD5 series 8-position modular jacks provide high-quality, reliable transmission performance which exceeds Category 5 requirements. Tested to 350MHz. Surpass pending standards for NEXT, Power Sum NEXT, FEXT, Return Loss, and Attenuation for a margin of safety over proposed Category 5e requirements. Specially designed for use with **PC5E series** patch cords and category 5e patch panels to maximize system performance. Compact size allows up to 6 jacks to fit in a multiport faceplate. **Contractor quantities sold in packs of 25 below.**

T568A WIRED

Stock No.	Type	Color	Each	2-4
52F9880	HD58I6	Office White	4.93	4.85
52F9881	HD58I5	Black	4.93	4.85
52F9882	HD58I4	Gray	4.93	4.85
52F9883	HD58I3	White	4.93	4.85
52F9884	HD58I7	Orange	4.93	4.85
52F9885	HD58I9	Telco Ivory	4.93	4.85
52F9886	HD58IB	Blue	4.93	4.85
52F9887	HD58IR	Red	4.93	4.85
01F428	HD58IG	Green	4.93	4.85
01F429	HD58I2	Elect. Ivory	4.93	4.85

T568B WIRED

52F9875	HD58A6	Office White	4.93	4.85
52F9872	HD58A5	Black	4.93	4.85
52F9873	HD58A4	Gray	4.93	4.85
52F9874	HD58A3	White	4.93	4.85
52F9876	HD58A7	Orange	4.93	4.85
52F9877	HD58A9	Telco Ivory	4.93	4.85
52F9878	HD58AB	Blue	4.93	4.85
52F9879	HD58AR	Red	4.93	4.85
01F430	HD58AG	Green	4.93	4.85
01F431	HD58A2	Elect. Ivory	4.93	4.85

CONTRACTOR PACKS - T568B WIRED

Stock No.	Type	Color	Per Pkg.
83F3568	HD58A625	Office White	117.75
83F3569	HD58A525	Black	117.75
83F3570	HD58A425	Gray	117.75
83F3571	HD58A725	Orange	117.75
83F3572	HD58A925	Telco Ivory	117.75
83F3573	HD58AB25	Blue	117.75
83F3574	HD58AR25	Red	117.75

(8135) (ne09064)

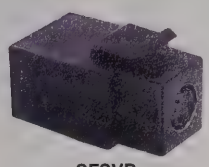
SNAP-IN CONNECTOR FITTINGS

SFST

SFBN

SFF

SFRC



SFSVB

Snap-in fittings bring multiple connector capability to Hubbell's family of flush jack plates and station housings; *order separately on page 1294.* Add flexibility to modular wall plates. Mount in Hubbell premise wiring jack openings. Shown in office-white. Also available in gray, white, telco-ivory, electric ivory, and black; *contact your local Newark sales office.*

Stock No.	Mfr. Part No.	Description	Each	2-4
96F6144	SFB10	Blank Fitting, 10-Pack	3.57	3.51
96F6145	SFST	Fitting w/ST® Adapter	7.39	7.27
96F6146	SFF	Fitting w/Female/Female F Connector	4.04	3.97
96F6147	SFBN	Fitting w/Female/Female BNC Connector	6.73	6.62
83F3576	SFRC	RCA Type (Office White Only)	3.00	2.95
83F3577	SFSVB	S-Video Type (Black Only)	15.17	14.92

(8002) (de03174)

WALL MOUNT DATA CABINETS

Fully assembled with locking plexiglas or solid front doors that provide both security and protection from harsh environments. Louvered sides, knock-outs in both top and bottom, two-hinge design for both front and rear access, and fully adjustable mounting rails from front to back. Mount on 19″ panels. Heavy-duty 16-gauge cold-rolled steel. Black. Cabinets also available in office white. *Contact your local Newark sales office.*

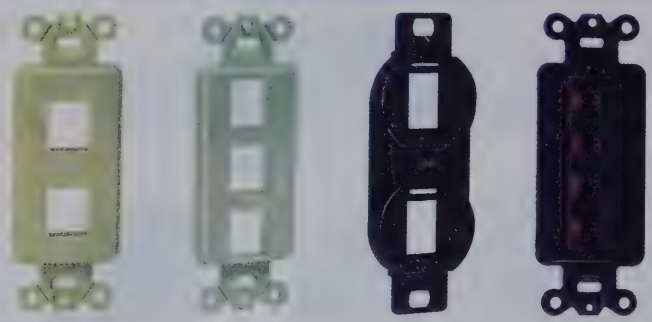
Stock No.	Type	Rack Spaces*	Door Style	H x W x D	Each
52F9890	MCC24WMC19	12U	Window	24 x 21 x 20″	562.07
52F9891	MCC48WMC19	26U	Window	48 x 21 x 20″	822.49
83F4331	MCC48WMC19D	26U	Window	48 x 21 x 26″	926.83
83F4332	MCC24WMCSD19	12U	Solid	24 x 21 x 20″	507.12
83F4333	MCC48WMCSD19	26U	Solid	48 x 21 x 20″	739.86
83F4334	MCC48WMCSD19D	26U	Solid	48 x 21 x 26″	867.18

*1U = 1.75″

(8139) (ne09066)

OVERNIGHT SHIPMENT IS AVAILABLE WHEN YOU NEED IT.
CONTACT YOUR LOCAL NEWARK SALES OFFICE.

OUTLET FRAMES



FSL244I FSL344OW BR106B SL584A

FSL series and **BR106 series** outlet frames provide jack mounting in industry-standard rectangular or duplex footprints. Compatible with a broad variety of retrofit applications in addition to providing design options when combined with decorator wall plates, available separately; *contact your local Newark sales office.* **Type SL584A** features 568B wiring. **Type SL584I** features 568A wiring.

2-PORT

Stock No.	Type	Color	Each	2-4
52F9851	FSL244OW	Office White	3.11	3.06
52F9852	FSL244BL	Black	3.11	3.06
52F9853	FSL244GY	Gray	3.11	3.06
52F9854	FSL244I	Electrical Ivory	2.16	2.13

3-PORT

Stock No.	Type	Color	Each	2-4
52F9855	FSL344OW	Office White	3.11	3.06
52F9856	FSL344BL	Black	2.16	2.13
52F9866	FSL344GY	Gray	3.11	3.06
52F9867	FSL344I	Electrical Ivory	3.11	3.06

BR106 SERIES DUPLEX FRAMES

52F9868	BR106C	Office White	2.09	2.06
52F9869	BR106B	Black	2.09	2.06
52F9870	BR106G	Gray	2.09	2.06
52F9871	BR106E	Electrical Ivory	2.09	2.06

4-PORT CAT5e*

48F1064	SL584A	Black	2.12	2.09
48F1065	SL584I	Black	2.12	2.09

*Contain 4 built-in Cat 5e Jacks

(8137) (ne09066)

SURFACE HOUSINGS

Combine flush jack mounting and side exiting with TIA/EIA-606 station labeling capability. Mount modular jacks or blank snap-in fittings. Colored and textured label field covers are included. Color: office white. Other colors are available; *contact your local Newark sales office.*

Stock No.	Type	Ports	Each	2-4
52F9849	8602O	2	2.79	2.74
52F9850	8604O	4	3.38	3.32

(8136) (ne09065)

FLUSH WALL PLATES

FPL11 FPL260

FPL series flush wall plates provide attractive flush mounting options for Category 5, Category 3, and USOC jacks and snap-in connector fittings. **Suffix H** in type number indicates jacks are mounted horizontally. Available in single- and double-gang versions. TIA/EIA-606 station labeling ability. Label fields are contained over screw mounting holes and allow identification of each location. UL listed, CSA Certified. Choice of clear label cover or colored (Both included). FPL1 plates measure 2.75″W x 4.5″H, FPL2 plates measure 4.5″W x 7.5 H. Color: office white. Also available in telco ivory, gray, white, and electrical ivory; *contact your local Newark sales office.*

Stock No.	Type	Ports	Each	2-4
96F6132	FPL11	1	1.56	1.53
96F6133	FPL12	2	1.56	1.53
96F6135	FPL13	3	1.56	1.53
96F6137	FPL14H	4	1.56	1.53
96F6138	FPL16H	6	1.56	1.53
99F5982	FPL26O	6	2.84	2.79
01F398	FPL29O	9	2.84	2.79

*Accept **HD series** jacks or SF series connector fittings only; †Double-gang version.

(8138) (ne09067)

ANGLED FIBER/COPPER FACEPLATES

AFP12SCD AFP14

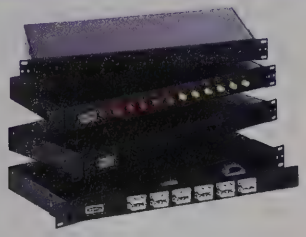
Angled faceplates offer 45° jack and connector mounting along with TIA/EIA 606 station labeling ability. **Type AFP14** plate is designed for flush mounting any 4 Hubbell high-density jacks or SF connector fittings. **Type AFP12SCD** accommodates 2 high-density jack mountings and 1 SC duplex adapter. UL listed, CSA certified. Office-white shown. Also available in telco ivory, gray, and white; *contact your local Newark sales office.*

Stock No.	Type	Each	2-4
01F396	AFP14	1.54	1.51
01F397	AFP12SCD	1.54	1.51

(12948) (ne09802)

FRIENDLY, QUALITY SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

RACK MOUNT OPTICAL PATCH PANELS



Rack mounting is recommended for better cable management and closer positioning of the active equipment to the panel. **FPR series** rack mount optical patch panels are constructed of 16-gauge CRS steel, coated with electrostatically applied powder paint. Pre-loaded in ST or SC versions. The "technician's side" of the panels have facilities for securing the cable, storing fiber slack and arranging and identifying the terminated fibers. The "user's side" of the panels have similar features for the management of optical patch cords. Panels occupy one rack position and have a swing-out fiber management tray for full-front access. Dimensions: 11W x 17L x 1.75"H.

FPR SERIES RACK MOUNT PATCH PANELS

Stock No.	Type	Description	Each
52F9857	FPR012STM	12-Port ST Panel, 12 Multimode ST Adapters	239.18
52F9858	FPR012SCM	12-Port SC Panel, 6 Duplex Multimode SC Adapters	310.75
52F9859	FPR024STM	24-Port ST Panel, 24 Multimode ST Adapters	325.88
52F9860	FPR024SCM	24-Port SC Panel, 12 Duplex Multimode SC Adapters	453.14

(8114) (ne08354)

WALL MOUNT OPTICAL CABINETS AND ADAPTER PANELS

NEW

Ideal where rack space or wiring closet space is limited. Base unit cabinets accept either 2 or 4 ST or SC adapter 6-packs for field design and custom installation to your specs. Single-door, extended front cover for full patch cord protection. Low-profile panel depth conserves wall space. High quality 16-ga. cold-rolled steel covered with black electrostatically-coated powder paint.

Stock No.	Type	Ports	W x H x D	Each
83F3578	FTU2SP	12	11.06 x 8.5 x 2.5"	67.45
83F3579	FTU4SP	24	13.5 x 11 x 2.5"	106.80

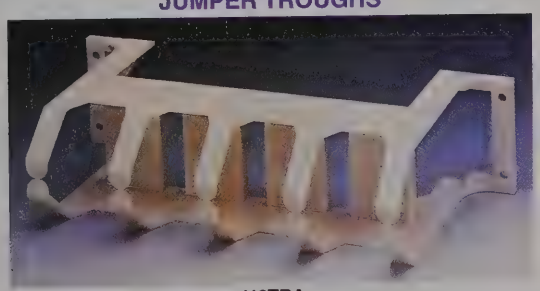
6-PACK ADAPTER PANELS

Panels easily snap mount into wall mount cabinets to provide a modular fiber distribution system. Saves installation costs while providing future expansion capability.

Stock No.	Type	Description	Each
83F3580	FSPSCD3	With 3 SM/MM SC (Blue) Duplex Adapters	67.76
83F3581	FSPST6	With 6 SM/MM ST Adapters	37.22
83F3582	FSPB	Blank Panel	8.12

(36379) (ne36379)

JUMPER TROUGHS



110TRA

Type 110TR jumper troughs can be installed between wiring blocks for horizontal routing of patch cords. Backboard accommodates 300 pairs of wiring blocks and provides a vertical path between blocks for routing patch cords. Dimensions: 8.5W x 2.68H x 2.68"D. Backboards are also available; *contact your local Newark sales office.*

Stock No.	Type	Description	Each	2-4
01F418	110TRA	With Legs	13.58	13.35
01F419	110TRB	Without Legs	6.70	6.58

(12327) (ne10320)

CATEGORY 5 110 FIELD TERMINATION KITS AND TOOLS

110BLK

MPPDT

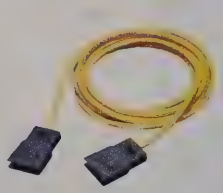
IBT110B

Type 110BLK Category 5 field termination kits feature wiring blocks with modular standoff legs to allow for future expansion. Each kit also includes 100- or 300-pair connecting blocks, label holders and designation strips. Provide for an economical 110 solution.

Stock No.	Type	Description	Each	2-4	5-9
01F404	110BLK100FTK4	100-Pair Field Kit	26.77	26.32	25.88
01F408	110BLK300FTK4	300-Pair Field Kit	66.92	65.79	64.70
92F500	IPT110B	110 Termination Tool	76.37	75.09	73.85
01F426	MPPDT	Multipair Impact Tool	355.09	349.11	343.35
92F501	IPB110	110 Blade Only	19.01	18.69	18.38
92F502	IPB66	66 Blade Only	19.01	18.69	18.38

(12326) (ne10321)

CATEGORY 5 110 WIRING BLOCK PATCH CORDS



110C5L5PK10

119C5L5PK10

Type 110C5L patch cords accommodate 110 to 110 connectors. **Type 119C5L** patch cords accommodate 110 to RJ-45 position modular plugs. Crosstalk elimination technology incorporated in plugs provides excellent performance. Color: yellow. Other lengths are also available; *contact your local Newark sales office.* **Sold in packages of 10.**

Stock No.	Type	Length	Per Package	
			Each	2-4
01F411	110C5L3PK10	3'	158.43	155.77
01F412	110C5L5PK10	5'	169.48	166.63
01F414	110C5L9PK10	9'	219.48	215.79
01F421	119C5L3PK10	3'	159.26	156.58
01F422	119C5L5PK10	5'	171.30	168.42
01F424	119C5L9PK10	9'	194.50	191.23

(12235) (ne10322)

THIS NEWARK CATALOG
IS AVAILABLE ON CD-ROM!
CONTACT YOUR LOCAL NEWARK
SALES OFFICE FOR DETAILS.

FJ SERIES OPTI-JACK™ FIBER-OPTIC CONNECTORS

Plug Jack

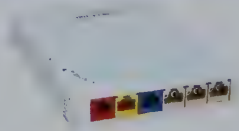
- **Comprised of a Plug and Jack**
- **Adapterless**
- **Mates with a Simple Push and Click**
- **50% Smaller than Existing Duplex SC Connectors**
- **Provides up to 40 lbs. of Coupling Strength**

FJ series Opti-Jack™ connectors are the first fiber connectors specifically designed for fiber-to-the-desk and backbone cabling applications. For use with 62.5/125µm multimode glass optical fiber cable. Modular design simplifies upgrades from copper to fiber. Opti-Jack™ connectors can be used in all Mini-Com™ outlets *(order separately on this page)*, modular patch panels, and Opticom™ enclosures *(order separately on this page)*. Meet or exceed optical and mechanical requirements of TIA/EIA-568-A. Designed for simple field termination. *(Order termination kit separately on this page)*. Do not require preterminated patch cords. Available in single-mode, duplex and multi-mode and pre-polished multimode styles. Each duplex jack includes housing, cover, two ferrule assemblies, two crimp sleeves, one dust cap, two 900 µm boots (for buffered fiber) and two 3.0mm boots (for jacketed fiber). Duplex plug includes plug housing, plug boot, two plug ferrule assemblies, two crimp sleeves and two dust caps. Plug-to-plug multi-mode adapter mates 2 Opti-Jack™ multi-mode plugs. Used for calibration of test cables and equipment and for plug-to-plug cross contacts. Includes 2 dust caps. Insertion loss: 0.3dB average. Durability: 500 cycles minimum. Temperature cycling: -25°C to +70°C.

Stock No.	Type	Description	Color	Each	2-4
01F1044	FJJGM5CEI	Multi-Mode Jack	Elec. Ivory	32.12	30.99
01F1045	FJPGM5CEI	Multi-Mode Plug	Elec. Ivory	28.96	27.95
83F3758	FJJGM5CIW	Multi-Mode Jack	Off White	31.04	29.94
83F4335	FJPGM5CIW	Multi-Mode Plug	Off White	28.96	27.95
83F4336	FJGCCEI	Plug-to-Plug Adapter	Blye	13.41	12.93
83F4337	FJJGS9CBU	Single Mode Jack	Blue	49.68	48.01
83F4338	FJPGS9CBU	Single Mode Plug	Blue	37.60	36.28

(17737) (ne10793)

CB SERIES MINI-COM™ MULTIMEDIA/FIBER OUTLETS



CBXF6EI-A

- **Wall Mount Over Single- or Double-Gang**
- **Built-In Spool Stores Excess Fiber Per TIA-568A**

CB series outlets can be used with Opti-Jack™ fiber optic connectors *(order separately on this page)* or Pan-Way™ raceway for surface mount applications. Cable entry from side and rear knockouts and from opening in bottom of base. Accept Mini-Com™ modules for UTP (including Category 5), fiber-optic and coax cables. Unique fiber spool design secures cables in place. **Type CBXF6EI-A** and **type CBXF12EI-A** hold Mini-Com™ connector modules or Opti-Jack™ fiber-optic connectors. Include mounting screws and adhesive backing. Outlet kit **type CBFX6KITEI** upgrades **type CBXF6EI-A** to accept 12-connector modules. Includes bridge, deep cover and tamper-resistant screw. Type numbers listed in table below are for electrical ivory color. Also available in off-white, light gray, white, and black; *contact your local Newark sales office for details.*

Stock No.	Type	Description	Module Space	Each	2-4
01F1011	CBXF6EI-A	Surface Mount Box	6	18.22	17.58
01F1012	CBXF12EI-A	Surface Mount Box	12	20.24	19.53
01F1013	CBFX6KITEI	Fiber Outlet Kit	...	11.30	10.90

(17738) (ne10794)

FIBER-OPTIC TERMINATION KIT

FJKITG

Kit contains all of the components needed for the proper termination of OPTI-JACK™ fiber optic connectors. **Type FJKITG** fiber-optic termination kit features fast-acting adhesive and a proven, reliable polishing procedure. Kit includes: 10ml fast-acting adhesive, 50ml primer, fiber cleaver, polishing pad, inspection microscope, fiber jack-style connector crimp tool, tweezers, indelible marking pen, safety stickers, screwdriver, safety glasses, squirt bottle, alcohol bottle, 100-piece cloth wipes, 100-piece cleaning swabs, 10 syringes with needle tips, 10-piece polishing puck for glass optical fiber, 1µm and 5µm polishing paper, and black carrying case.

01F1010 Type FJKITG. **Each**..... **1314.99**

(17739) (ne10795)

OPTICOM™ FIBER-OPTIC/MULTIMEDIA ENCLOSURES, DRAWERS AND PANELS

Wall Mount/Rack Mount

Type FWM wall mount enclosures keep optical fiber cabling neat and organized for easy maintenance. They can also be customized to meet multimedia requirements with Mini-Com™ snap-in connector modules for Category 5 UTP, ScTP, coax, and can be used with Opti-Jack™ fiber-optic connectors cables , *(order separately on this page)*. Ideal for building entrances, equipment rooms, main and immediate cross-connects and telecommunications closets. Available in up to 72-port configurations, with or without ST adapter panels. **Type FRM** rack mount enclosures are specially designed for copper-based installations which need to be expanded to accommodate optical fiber. Used with Opti-Jack™ fiber-optic connectors as well as single-mode and multimode SC or ST fiber terminations. Can be customized to meet exact multimedia requirements with Mini-Com™ snap-in connector modules. Support as many as 144 optical fiber or multimedia terminations. Designed to work with the complete Pan-Net™ cable management system. Also available in black and light gray. **FMD series** drawers slide out the front to provide access to fiber connections, splice tray, and cable storage. Accepts either 6-port fiber adapter panels or 6-port multimedia modular panels. Use for both single and multimode fiber terminations. Drawers include fiber optic cable routing accessory kit, rear cover. Adapter and multimedia panels snap into front of drawers. Fiber optic multimode/single-mode adapters have phosphor bronze sleeves.

WALL MOUNT ENCLOSURES

Stock No.	Type	Description	Each
01F1050	FWME12	12/24 Port - Light Gray	85.95
83F7270	FWME12BL	12/24 Port-Black	85.95
01F1051	FWME-12ST	12-Port with ST Adapter Panels - Lt. Gray	177.43
01F1052	FWME24	24/48 Port - Light Gray	201.63
83F7231	FWME24BL	24/48 Port-Black	201.63
01F1053	FWME 24ST	24-Port with ST Adapter Panels - Lt. Gray	258.08

RACK MOUNT ENCLOSURES

01F1054	FRME24	12/48 Port - Light Gray	209.69
83F3736	FRME24BL	12/48 Port-Black	209.69
01F1055	FRME 24ST	24-Port with ST Adapter Panels - Lt. Gray	329.14
01F1056	FRME 48	48/96 Port - Light Gray	290.34
83F3738	FRME48BL	48/96 Port-Black	290.34
01F1057	FRME 48ST	48-Port with ST Adapter Panels - Lt. Gray	569.06
01F1058	FRME 72	72/144 Port - Light Gray	338.36
83F3740	FRME72BL	72/144 Port-Black	338.36
01F1059	FRME 72ST	72-Port with ST Adapter Panels - Lt. Gray	715.17

INTERCONNECT DRAWERS

Stock No.	Type	Ports	Panels Accepted	H X W x D	Each
83F3742	FMD24	24	Up to 4 **FAP** or **FMP Series**	1.69 x 18.27 x 11.18″	201.63
83F3743	FMD48	48	Up to 8 **FAP** or **FMP Series**	3.44 x 18.27 x 11.18″	258.08

MULTMEDIA MODULAR PANELS

Stock No.	Type	Ports	Description	Each
83F6784	FMP6	6	Accepts Opti-Jack™ or Mini-Com™ Connector Modules	9.63

FIBER OPTIC ADAPTER PANELS

83F6785	FAP6WST	6	Includes 6 ST Adapters	44.73
83F6786	FAP6WSC	6	Includes 6 SC Simplex Adapters	75.43
83F6787	FAP3WDSC	6	Includes 3 SC Duplex Adapters	75.43
83F6788	FAP6WDSC	12	Includes 6 SC Duplex Adapters	141.70

PANELS WITHOUT FIBER OPTIC ADAPTERS

83F6790	FAP6ST	0	Accommodates 6 ST Adapters	8.99
83F6789	FAPB	0	Blank Panel with no Openings	5.10

(17740) (ne10796)

POWERSUM+™ ENHANCED CATEGORY 5 PATCH CORDS

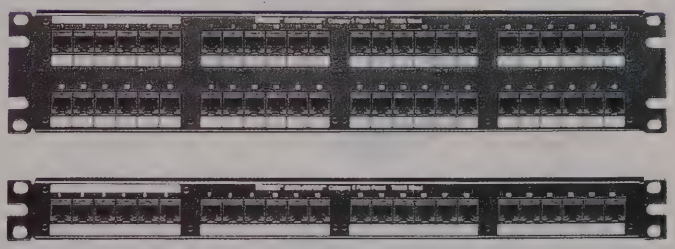
All are 8-conductor modular jack to modular jack patch cords. Meet EIA/TIA specifications. Color: off-white. Tangle free latch prevents snags and provides easy release, saving time on frequent moves, adds and changes. Other colors available, *contact your local Newark sales office for details.*

"TANGLE FREE" MODULAR PLUGS

Stock No.	Type	Length	Each	2-4	5-9
48F5237	UTPCH2	2″	5.97	5.75	5.56
48F5238	UTPCH4	4″	6.12	5.90	5.69
48F5239	UTPCH6	6″	7.52	7.26	7.00
48F5240	UTPCH8	8″	8.39	8.09	7.81
48F5241	UTPCH12	12″	10.30	9.93	9.59
48F5242	UTPCH14	14″	11.38	10.97	10.59
48F5243	UTPCH20	20″	14.26	13.76	13.28

(8077) (ne02070)

CATEGORY 5 PATCH PANELS



Preconfigured patch panels mount to standard EIA 19″ racks. Feature clearly identified wiring scheme on front of panel. Supplied with either T568A or T568B wiring configurations. Punchdowns are spaced to accommodate cable routings. All 8-position, 8-wire. Meet EIA/TIA Category 5 requirements. Available in 110 style.

110 STYLE - WIRED T568A

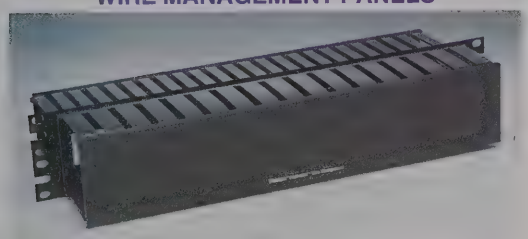
Stock No.	Type	Description	Rack Spaces*	Each	2-4
97F8821	DP24588110A	24-Port	1U	142.17	135.35
97F8823	DP48588110A	48-Port	2U	273.79	265.31
97F8825	DP96588110A	96-Port	4U	487.10	472.85

110 STYLE - WIRED T568B

Stock No.	Type	Description	Rack Spaces*	Each	2-4
97F8826	DP24588110B	24-Port	1U	142.17	135.35
97F8828	DP48588110B	48-Port	2U	273.79	265.31
97F8830	DP96588110B	96-Port	4U	487.10	472.85

*1U = 1.75″
(8076) (ne02068)

WIRE MANAGEMENT PANELS



WMP1

For routing cable on the front and back of 19″ communication racks.

FRONT AND BACK CABLE ROUTING

Stock No.	Type	Description	Each	2-4
93F6726	WMP1	2U (3.5″) Rack Space Height	63.43	61.30
97F8816	WMPS	1U (1.75″) Rack Space Height	55.52	53.65
16F4524	WMPH2	2U (3.5″) Rack Space Height	71.37	68.97

FRONT CABLE ROUTING ONLY

97F8817	WMPF1	2U (3.5″) Rack Space Height	49.56	47.90
97F8818	WMPFS	1U (1.75″) Rack Space Height	45.20	43.61
16F4525	WMPHF2	2U (3.5″) Rack Space Height	55.52	53.65

(8080) (ne03578)

MINI-COM® 12-PORT SNAP-IN FACEPLATE PATCH PANELS

Type CWPP12WBL mounts directly to wall. Can also be mounted vertically or horizontally on the floor or on modular furniture. Ideal for consolidation point applications. **Type CPP12WBL** snaps into brackets and can be mounted vertically or horizontally wall mounted to meet your application and space requirements. Both types accept all MINI-COM® connector modules for UTP, ScTP, coax and fiber including OPTI-Jack™ fiber connector modules. Their unique design provides additional space behind the jacks for routing cables and maintaining cable bend radius. *Order* **type WB89D** *brackets for* **type CPP12WBL** *patch panels separately; contact your local Newark sales office for details.*

Stock No.	Type	Description	Each	2-4
83F3760	CWPP12WBL	Wall Mount (Direct)	29.20	28.64
83F3761	CPP12WBL	Wall Mount (Needs Bracket)	23.54	23.08

(34978) (ne34978)

WIRE MANAGEMENT BRACKETS

WMBV1

WMBV2

Rubber-coated metal brackets for routing cable vertically on 19″ racks.

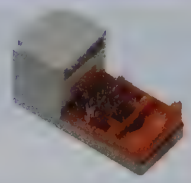
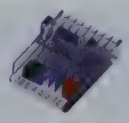
Stock No.	Type	Size	Each	2-4
97F8819	WMBV1	1″ Wide	13.10	12.63
97F8820	WMBV2	2″ Wide	14.74	14.22

(8081) (ne03579)

CONTACT NEWARK FOR LARGE-QUANTITY PRICING.

MINI-COM™ NETWORK CABLING SYSTEM

MINI-JACK™ CATEGORY 5E MODULAR JACKS

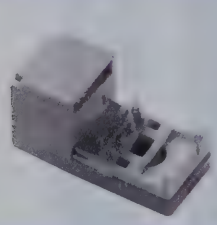
Mini-Com™ Mini-Jack™ Category 5E modular jacks are 8-position, 8-wire and feature state-of-the-art insulation displacement contacts for quality and reliability. Terminates 24 AWG solid unshielded twisted pair to a modular jack. Patented termination cap allows each jack to be terminated to Category 5 installation guidelines. Can be reterminated a minimum of 10 times. UL listed, file E1298860, for Category 5 maximum performance. Other colors are available; *contact your local Newark sales office for details.*

T568A AND T568B CODED (RJ-45 TYPE)

Stock No.	Type	Color	Each	2-4
52F7089	CJ588IW	Off-White	5.40	4.77
52F7090	CJ588EI	Elec. Ivory	5.40	4.77
52F7091	CJ588IG	Light Gray	5.40	4.77
52F7092	CJ588WH	White	5.40	4.77
52F7093	CJ588BL	Black	5.40	4.77
TIA 568A CODED (RJ-45 TYPE)				
52F7094	CJ588AIW	Off-White	5.40	4.77
52F7095	CJ588AEI	Elec. Ivory	5.40	4.77
52F7096	CJ588AIG	Light Gray	5.40	4.77
52F7097	CJ588AWH	White	5.40	4.77
52F7098	CJ588ABL	Black	5.40	4.77
TIA 568B CODED (RJ-45 TYPE)				
52F7099	CJ588BIW	Off-White	5.40	4.77
52F7100	CJ588BEI	Elec. Ivory	5.40	4.77
52F7101	CJ588BIG	Light Gray	5.40	4.77
52F7102	CJ588BWH	White	5.40	4.77
52F7103	CJ588BBL	Black	5.40	4.77
T568A AND T568B CODED (RJ-45 TYPE) KEYED				
16F4518	CJ588KEI	Elec. Ivory	5.40	4.77

(8093) (ne07188)

MINI-JACK™ CATEGORY 3 MODULES



UNIVERSAL 8-POSITION, 8-WIRE T568A AND T568B CODED (RJ-45 TYPE)

IDC contact design eliminates need to strip individual contacts. Terminates 24 AWG solid unshielded twisted pair to a modular jack. Re-terminates a min. of 10 times. **Type CJ88KEI** is keyed for data. Other colors are available; *contact your local Newark sales office for details.*

Stock No.	Type	Color	Each	2-4
52F7104	CJ88IW	Off-White	4.88	4.31
52F7105	CJ88EI	Elec. Ivory	4.88	4.31
16F4537	CJ88KEI	Elec. Ivory	4.88	4.31
52F7106	CJ88IG	Light Gray	4.88	4.31
52F7107	CJ88WH	White	4.88	4.31
52F7108	CJ88BL	Black	4.88	4.31
6-POSITION, 6-WIRE USOC CODED (RJ-11 TYPE)				
52F7109	CJ66UIW	Off-White	4.93	4.75
52F7110	CJ66UEI	Elec. Ivory	4.93	4.75
6-POSITION, 6-WIRE (RJ-11 TYPE)				
52F7111	CJ66IW	Off-White	4.93	4.75
52F7112	CJ66EI	Elec. Ivory	4.93	4.75
6-POSITION, 4-WIRE (RJ-11 TYPE)				
16F4539	CJ64EI	Elec. Ivory	5.40	4.77

(8094) (ne07189)

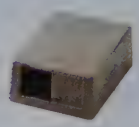
MODULAR JACK SNAP TOOL

Terminates all Mini-Jack™ and Pan-Jack™ modular jacks. Makes termination of Category 3 and Category 5 modules easy.

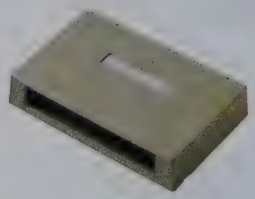
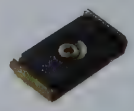
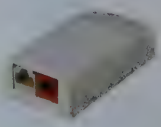
16F4519 Type CJT-X. **Each** **2.09**

(8095) (ne07191)

MINI-COM™ SURFACE MOUNT BOXES



CBXJ2 **CBX4**

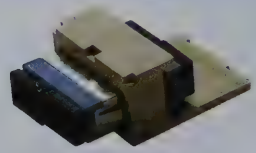
CBX6 **CBM-X** **CBX2**

Mini-Com™ one/two module space surface mount box features an extremely low-profile design that accepts 1 or 2 Mini-Com™ modules. Includes a blank molded directly into the cover. Breakout blank to add a second module. Boxes can be wall mounted with screws or adhesive or mounted to metal desks or filing cabinets with an optional magnet. **Type CBXJ2, CBX2** holds up to 2 Mini-Com™ connector modules. **Type CBX4** holds up to 4 Mini-Com™ connector modules. **Type CBX6** holds up to 6 Mini-Com™ connector modules. Boxes can also be used with Pan-Way™ raceway; *ordered separately; contact your local Newark sales office for details. Order Mini-Com™ Category 3 modules and Mini-Com™ Category 5 modules separately on this page.*

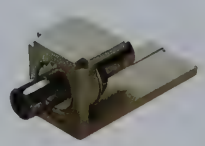
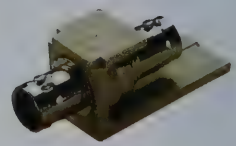
Stock No.	Type	Description	Each	2-4
52F7084	CBXJ2EI-A	Elec. Ivory	3.61	3.48
52F7085	CBXJ2IW-A	Off-White	3.61	3.48
16F4646	CBX4EI-A	Elec. Ivory	5.87	5.66
52F7087	CBX6EIA	Elec. Ivory	9.51	9.17
16F4523	CBM-X	Optional Magnet	2.07	1.97
83F3725	CBX2IW-A	Off-White	5.37	5.18
83F3726	CBX2EI-A	Elec. Ivory	5.37	5.18
83F3727	CBX2IG-A	Light Gray	5.37	5.18
83F3728	CBX2WH-A	White	5.37	5.18
83F3729	CBX2BL-A	Black	5.37	5.18

(8092) (ne07187)

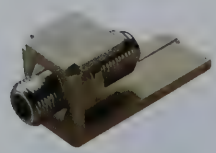
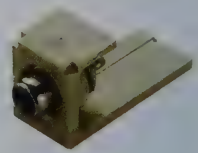
MINI-COM™ MODULES



CMDSC

CMST **CMBA**

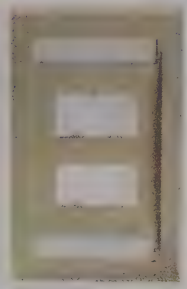
CMFBA **CMRCA**

Mini-Com™ modules snap into and out of all Mini-Com™ faceplates, boxes, and modular patch panels. Color: electrical ivory. Other colors are available; *contact your local Newark sales office.*

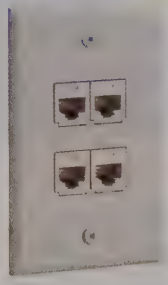
Stock No.	Type	Description	Each	2-4	5-9
16F4513	CMDSCEI	SC Duplex Fiber-Optic Adapter	27.66	26.69	25.79
16F4514	CMSTEI	ST® Fiber-Optic Adapter	9.59	9.25	8.93
16F4515	CMBAEI	BNC Coaxial Coupler	8.46	8.16	7.87
16F4516	CMFBAEI	F-Type Coupler	5.28	5.09	4.91
16F4542	CMRCAEI	RCA Module	3.71	3.58	3.45
16F4517	CMBEI-X	Blank Module	0.58	0.56	0.54

(8110) (ne08350)

MINI-COM® EXECUTIVE AND DESIGNER FACEPLATES



CFPE4



CFP4

Mini-Com® faceplates are high-density, single- and double-gang versions that accept all Mini-Com® connector modules for Category 3 and 5 UTP, ScTP, coax and fiber-optic applications. **Executive series** faceplaces, **Type CFPE2** is single-gang and holds up to 2 connector modules. **Type CFPE4** is single-gang and holds up to 4 connector modules. **Type CFPE6** is single-gang and holds up to 6 connector modules. **Type CFPE10** is double-gang and holds up to 10 connector modules. All are supplied with mounting screws, labels and label holder/screw covers. **Designer series** compliments the modern workplace. *See Mini-Com® Category 3 modules, ordered separately on page 1298. Also see Mini-Com® Category 5 modules, ordered separately on page 1298.*

EXECUTIVE FACEPLATES

Stock No.	Type	Color*	Each	2-4
52F7073	CFPE1IW	Off-White	2.69	2.59
52F7074	CFPE2EI	Elec. Ivory	2.69	2.59
52F7075	CFPE2IW	Off-White	2.69	2.59
52F7076	CFPE4EI	Elec. Ivory	2.69	2.59
52F7077	CFPE4IW	Off-White	2.69	2.59
52F7078	CFPE6EI	Elec. Ivory	3.32	3.20
52F7079	CFPE6IW	Off-White	3.32	3.20
52F7080	CFPE10EI-2G	Elec. Ivory	5.35	5.16
52F7081	CFPE10IW-2G	Off-White	5.35	5.16

*Other colors are available; *contact your local Newark sales office for details.*

DESIGNER FACEPLATES

ONE MODULE SPACE, SINGLE GANG FACEPLATE

Stock No.	Type	Color*	Each	2-4
83F4339	CFP1IW	Off-White	2.07	2.02
83F8153	CFP1EI	Elect. Ivory	1.84	1.77

TWO MODULE SPACE, SINGLE GANG FACEPLATE

Stock No.	Type	Color*	Each	2-4
83F4340	CFP2IW	Off-White	2.07	2.02
83F7261	CFP2EI	Elect. Ivory	1.84	1.77

FOUR MODULE SPACE, SINGLE GANG FACEPLATE

Stock No.	Type	Color*	Each	2-4
83F3731	CFP4IW	Off-White	1.84	1.77
83F3730	CFP4EI	Elect. Ivory	1.84	1.77

SIX MODULE SPACE, SINGLE GANG FACEPLATE KIT**

Stock No.	Type	Color*	Each	2-4
83F4341	CFPF6IW	Off-White	5.52	5.41
83F3733	CFPF6EI	Elect. Ivory	4.91	4.74

*Other colors are available; *contact your local Newark sales office.* **Contains single gang bezel, three flat module inserts with module spaces, each supplied with mounting screws.

(8091) (ne07186)

MINI-COM® SLOPED EXECUTIVE FACEPLATES

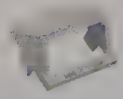
Mini-Com® sloped executive faceplates are single-gang faceplates and two sloped housings (2 module spaces each) and feature the aesthetic appeal of the executive series faceplate, the technical benefits of sloped outlets, and the flexibility of single snap-in modules. Outlet accepts all Mini-Com® connector modules for Category 3 and 5 UTP, ScTP, coax and fiber-optic applications. Mounting screws, labels, and label holder/screw covers are included. *See Mini-Com® Category 3 modules, ordered separately on page 1298; also see Mini-Com® Category 5 modules, ordered separately on page 1298.*

Stock No.	Type	Color*	Each	2-4
52F7082	CFPSE4EI	Elec. Ivory	3.93	3.79
52F7083	CFPSE4IW	Off-White	3.93	3.79

*Other colors available; *contact your local Newark sales office.*

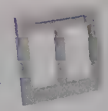
(8090) (ne07185)

MINI-COM® EXECUTIVE AND DESIGNER BEZELS AND INSERTS



Sloped Insert

Flat Insert



Double-Gang Bezel

Mini-Com® modular inserts come sloped or flat. Units snap into bezels. Accept 2 Mini-Com® modules; *order separately on page 1298.*

EXECUTIVE BEZELS

Stock No.	Type	Description	Color*	Each	2-4
92F708	CBEEI	Single-Gang Bezel	Elect. Ivory	2.24	2.17
92F709	CBEEI-2G	Double-Gang Bezel	Elect. Ivory	4.10	3.95

DESIGNER BEZELS

Stock No.	Type	Description	Color*	Each	2-4
83F8155	CBIW	Single-Gang Bezel	Off-White	2.24	2.17
83F7259	CBEI	Single-Gang Bezel	Elect. Ivory	2.24	2.17
83F8156	CBIW-2G	Double-Gang Bezel	Off-White	4.10	3.95
83F7260	CBEI-2G	Double-Gang Bezel	Elect. Ivory	4.10	3.95

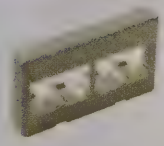
INSERTS

Stock No.	Type	Description	Color*	Each	2-4
16F4645	CHS2EI-X	Sloped Insert	Elect. Ivory	0.77	0.74
16F4520	CHF2EI-X	Flat Insert	Elect. Ivory	0.77	0.74
16F4521	CHB2EI-X	Blank Insert	Elect. Ivory	0.77	0.74

*Other colors available, *contact your local Newark sales office.*

(8112) (ne08352)

MINI-COM® SNAP-IN FACEPLATE



Mini-Com® snap-in faceplates fit modular furniture openings (panel cutout requirements: 1.345 to 1.405″H x 2.670 to 2.75″W). Holds up to four Mini-Com® modules for UTP, fiber-optic, and coaxial cables. *See Mini-Com® Category 3 Modules sold separately on page 1298. Also see Mini-Com® Category 5 Modules sold separately on page 1298.* Listed in electrical ivory. Other colors are available; *contact your local Newark sales office.*

Stock No.	Type	Description	Each	2-4
16F4522	CFFP4EI	Faceplate	3.65	3.52
95F3553	MFFPEEI	½″ Deep Faceplate Extender	5.49	5.29

(8133) (ne09042)

MINI-COM® ALL METAL MODULAR PATCH PANELS

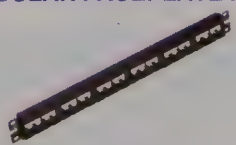
NEW

All metal modular patch panels are ideal for screened twisted pair (ScTP) applications. Accepts all snap-in Mini-Com® connector modules (UTP, ScTP, coax and fiber) including OPTI-JACK™ fiber connector modules. Modules snap directly into panel, faceplates not required. Mounts to standard EIA 19″ racks. Ideal for Catagory 5 UTP, multimedia applications. TIA/EIA-606 compliant white write-on areas help identify panels and ports. **Type CP72BL** ultra hgh density patch panel requires rear cable management to prevent twisting.

Stock No.	Type	Ports	Each	2-4
52F7113	CP24BL	24	29.17	28.14
52F7114	CP48BL	48	57.19	55.26
83F3759	CP72BL	72	77.89	75.01

(36670) (ne36670)

MINI-COM® MODULAR FACEPLATE PATCH PANELS

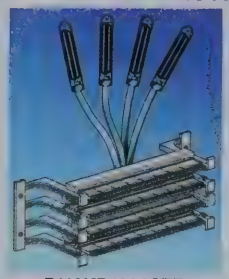


Mini-Com® modular faceplate patch panels accept snap-in Mini-Com® modules for UTP, ScTP, coax and fiber optics. Makes adding ports, mixing and matching media, and switching or replacing modules fast and easy. Ideal for use with Catagory 5 applications. Patch panels make color coding simple. Provides an advantage over pre-configured PC board panels. **Type CPP24WBL** accepts up to 24 modules and includes 6 snap-in faceplates. **Type CPP48WBL** accepts up to 48 modules and includes 12 snap-in faceplates. *Connector modules sold separately on page 1298.*

Stock No.	Type	Description	Each	2-4
16F4540	CPP24WBL	24-Port (1 Rack Space)	30.11	29.05
16F4541	CPP48WBL	48-Port (2 Rack Spaces)	56.28	54.39

(8111) (ne08351)

PAN-PUNCH™ PREWIRED 110 ASSEMBLIES



P110KB1004CTF

Pan-Punch™ Category 5 prewired 110 assemblies offer a quick and easy method for making connections to network. 100- and 300-pair bases with 4-pair connecting blocks. 6″ pigtails extend from the top of the assembly. Available with either male or female RJ-21/Telco connectors. Designed for wall mount applications. All assemblies include legs.

CONNECTORIZED TOP FEMALE

Stock No.	Type	Description	Each	2-4
91F3443	P110KB1004CTF	100-Pair Base	155.65	148.18
91F3444	P110KB3004CTF	300-Pair Base	409.68	397.69

CONNECTORIZED TOP MALE

91F3445	P110KB1004CTM	100-Pair Base	155.49	148.02
91F3446	P110KB3004CTM	300-Pair Base	409.68	397.69

(18140) (ne10436)

PAN-PUNCH™ CATEGORY 5 110 CONNECTING BLOCKS

P110CB4-X

Pan-Punch™ 110 connecting blocks provide a reliable 110 termination solution. Designed for use with Pan-Punch™ bases, *order separately on this page*. Also compatible with other existing 110 systems. Dual IDC terminates UTP cable on 110 base and UTP cable, or 110 patch cord, *order separately on this page*, for second-level termination. Used with 22-26 AWG solid or stranded UTP cable. UL94V-0 high-impact polycarbonate material. TIA/EIA 568A compliant. UL listed, CSA certified.

Stock No.	Type	Description	Each	2-4
91F3418	P110CB3-X	3-Pair 110 Connecting Block	0.62	0.59
91F3419	P110CB4-X	4-Pair 110 Connecting Block	0.67	0.65
91F3420	P110CB5-X	5-Pair 110 Connecting Block	0.76	0.74

(18132) (ne10430)

PAN-PUNCH™ CATEGORY 5 110 PATCH CORDS

NEW

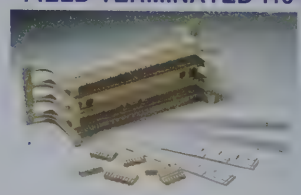
P110PC4IG2

Category 5, factory-terminated 110 patch cord assemblies feature a clear cap for visual inspection of proper wire sequence and connector orientation (clear cap will always be on top). 110 connectors on both ends. Cable retaining clips secure the jacket close to the point of termination. Integral strain relief. Guides in the housing facilitate easy assembly. Can be used with Pan-Punch™ 110 connecting blocks and other existing 110 systems, *order separately*. Color: gray. UL listed, CSA certified. Factory-terminated 110 connector to RJ-45 modular plug — T568A or -B wired also available; *contact your local Newark sales office.*

Stock No.	Type	Length	Each	2-4
91F3427	P110PC4IG2	2′	11.95	11.52
91F3429	P110PC4IG4	4′	13.25	12.77
91F3431	P110PC4IG6	6′	14.54	14.02
91F3432	P110PC4IG7	7′	15.19	14.65
91F3433	P110PC4IG8	8′	15.84	15.27
91F3435	P110PC4IG12	12′	18.43	17.77
91F3436	P110PC4IG15	15′	20.00	19.30
91F3437	P110PC4IG18	18′	22.68	21.88

(18137) (ne10433)

PAN-PUNCH™ FIELD-TERMINATED 110 SYSTEM KITS



P110KB3004

Pan-Punch™ Category 5 field-terminated kits include all of the components required to completely wire a 110 style base. **Type P110KB1004** includes 1 base, 24 connecting blocks, 2 label holders, and 2 labels. **Type P110KB3004** includes 1 base, 72 connecting blocks, 6 label holders, and 6 labels.

Stock No.	Type	Description	Each	2-4
91F3441	P110KB1004	100-Pair Base Kit	28.27	27.28
91F3442	P110KB3004	300-Pair Base Kit	80.72	78.01

(18139) (ne10435)

PAN-PUNCH™ 110 WIRING BASES

P110BW300-X

Pan-Punch™ bases feature an exclusive deep channel that provides more space for the cable jacket. Align UTP cable for termination on to Pan-Punch™ 110 connecting blocks, *order separately on this page*. Available with or without legs. Legs allow cables to be routed behind bases. Bases without legs are for frame mount or rack mount wiring behind bases. Help maintain pair twists to within ½″. UL94V-0 high-impact polycarbonate material. UL listed, CSA certified.

Stock No.	Type	Description	Each	2-4
91F3421	P110BW100-X	100-Pair Base–With Legs	15.43	13.63
91F3422	P110BW300-X	300-Pair Base–With Legs	38.11	33.66
91F3423	P110B100-X	100-Pair Base–Without Legs	14.28	13.77
91F3424	P110B300-X	300-Pair Base–Without Legs	33.93	32.73

(18133) (ne10431)

TERMINATION TOOLS FOR 110 CONNECTING BLOCKS

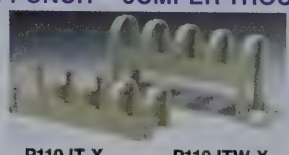
PDT110

Single and 5-pair punch down tool and blade is for 110 style IDCs. Terminates and cuts cable in one operation. Multiple punch down tool terminates up to 5 pairs at a time.

Stock No.	Type	Description	Each	2-4
95F3588	PDT110	Single Punch Down Tool	183.64	177.95
95F3590	PDTH110	Single-Tool Replacement Blade	59.09	57.11
91F3438	PDT110M	5-Pair Multiple Punch Down Tool	148.78	141.64
91F3439	PDH110M	5-Pair Tool Replacement Head Assembly	49.94	48.26
91F3440	PDB110M	5-Pair Tool Replacement Blade	30.81	29.72

(18138) (ne10434)

PAN-PUNCH™ JUMPER TROUGHS



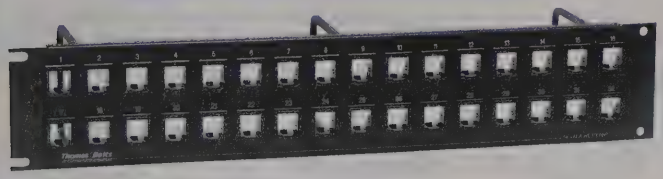
P110JT-X, P110JTW-X

Pan-Punch™ jumper troughs provide effective cable management when used with Pan-Punch™ bases, *order separately on this page*. Feature exclusive rounded corners to facilitate bend radius requirements. Meet Category 5 installation requirements. Available with or without legs. UL listed, CSA certified.

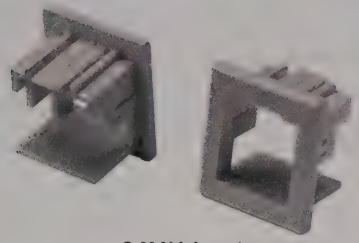
Stock No.	Type	Description	Each	2-4
91F3426	P110JTW-X	With Legs	8.75	8.43
91F3425	P110JT-X	Without Legs	8.06	7.77

(18136) (ne10432)

O.M.N.I. PATCH PANELS AND INSERTS



O.M.N.I. Panel



O.M.N.I. Insert

The O.M.N.I. system provides the user flexibility, ease of installation, and interchangeability. Any O.M.N.I. jack will fit in all O.M.N.I. information outlets and patch panels. Both information outlets and patch panels can be color coded with a choice of 9 colors using jacks or a combination of jacks and inserts in blank O.M.N.I. panels. Both voice and Category 5 data applications can be combined in information outlets and patch panels. Additional inserts for RJ-11, BNC, and fiber are available; *contact your local Newark sales office.*

O.M.N.I. panels are designed so each port accepts a variety of Nevada Western® connectors and couplers, including standard 6P or 8P jacks, looping jacks, jacks with shorting bars, coaxial BNC connectors, SMA/ST fiber-optic couplers and F connectors. 3 built-in vertical wire minders on the back of the panel provide strain relief and tie-down capabilities. Individually wired jacks allow convenient activation, deactivation, and troubleshooting. The panel can be field-wired to T568A or T568B standards or customized to specific wiring needs. These high-density panels allow 16, 24, 32 or 48 ports in a minimum of space. When the screened O.M.N.I. connector is inserted into the modified panel, the body of the connector makes contact with the grounding strip. This completes the ground circuit, which is necessary to make a screened system operate properly. *Order Catagory 5 O.M.N.I. jacks separately on page 1303.*

O.M.N.I. PANELS (WITHOUT CONNECTORS)

Stock No.	Mfr. Part No.	No. of Ports*	H x W x D	Rack Spaces†	Each
16F630	025-1099-16-1	16	1.75 x 19 x 2.6″	1U	**43.79**
48F2100	025-1099-24-1A	24	1.75 x 19 x 2.6″	1U	**52.60**
16F613	025-1099-32-1	32	3.50 x 19 x 2.6″	2U	**57.24**
93F6438	025-1099-48-1	48	5.25 x 19 x 2.6″	3U	**66.34**

*64-port panel available, †1U = 1.75″

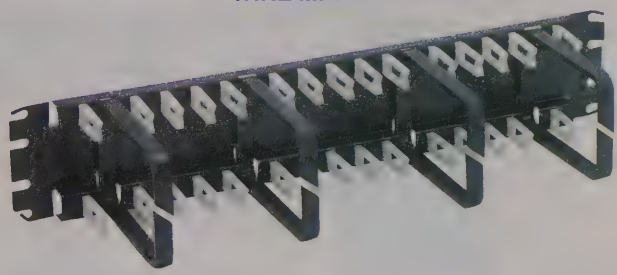
O.M.N.I. PANEL INSERTS FOR COLOR CODING‡

Stock No.	Type	Description	Each	2-4	5-9
96F5465	025-1099-1W	White	**0.44**	**0.43**	**0.43**
96F5466	025-1099-1R	Red	**0.44**	**0.43**	**0.43**
96F5467	025-1099-1BK	Black	**0.44**	**0.43**	**0.43**
96F5468	025-1099-1BL	Blue	**0.44**	**0.43**	**0.43**

‡Also available in TIA 606 colors: purple, orange, green, brown, and gray.

(8115) (ne08360)

WIRE MINDER

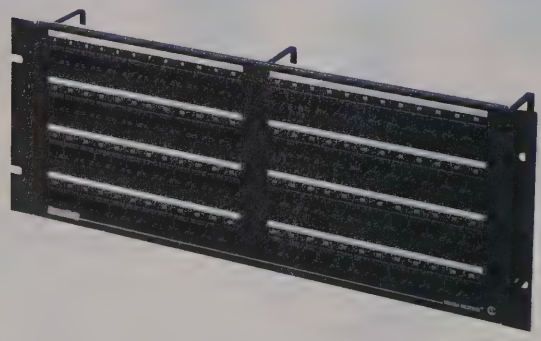


Wire minders route and organize patch cords between panels. Port identification is easier because cables and patch cords are arranged in an orderly fashion and do not block access to patch panels. Mount on 19″ centers.

Stock No.	Type	H x W x D	Rack Spaces	Each	2-4
93F6432	028-9971-X2-20	3.50 x 19.00 x 5.00″	2U (3.50″)	**59.71**	**58.60**

(7997) (de01613)

CATEGORY 5 HIGH-DENSITY 110 PATCH PANELS



Category 5 high-density 110 patch panel offers 24 ports in 1U rack space, 48 ports in 2U rack spaces, and 96 ports in 4U rack spaces (1U = 1.75″). Panels are fully compliant with the TIA/EIA TSB40 Category 5 specifications. These panels are available in either T568A or T568B wiring schemes.

T568A WIRING PANELS

Stock No.	Type	Ports	H x W	Rack Spaces*	Each	2-4
96F910	023-7501-24-8	24	1.75 x 19″	1U	**134.35**	**131.83**
96F911	023-7501-48-8	48	3.50 x 19″	2U	**261.73**	**256.83**
96F912	023-7501-96-8	96	7.00 x 19″	4U	**518.48**	**508.77**

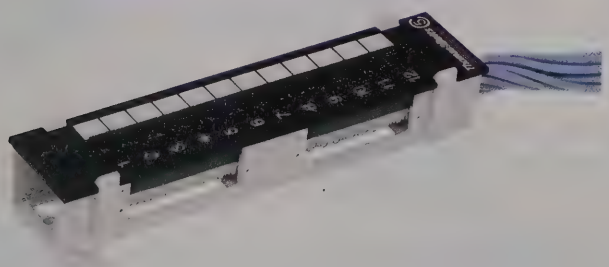
T568B WIRING PANELS

96F913	023-8501-24-8	24	1.75 x 19″	1U	**134.35**	**131.83**
96F914	023-8501-48-8	48	3.50 x 19″	2U	**261.73**	**256.83**
96F915	023-8501-96-8	96	7.00 x 19″	4U	**518.48**	**508.77**

*1U = 1.75″

(8005) (de03506)

CATEGORY 5 110 WALL MOUNT BLOCK



026-12C-C5

Designed for installations that require high performance. Integrate into a backboard mounting arrangement. 12-port configuration, which corresponds to most hub and concentrator patching applications. 110 connect. Includes mounting block.

Stock No.	Type	Description	Each	2-4
16F615	026-12C-C5	T568A Wiring Panel	**76.63**	**75.20**
16F616	026-12A-C5	T568B Wiring Panel	**76.63**	**75.20**

(8116) (ne08361)

T-1 AND D-3 PATCH PANELS

023-248X-24-T1

Specifically designed to interface with T-1 and D-3 Digital Communications Channel Bank Systems. Separate 25-pair terminations of transmits and receives for quicker installation. Shorted and non-shorted 4-wire 8-position jacks wired RJ-48X or RJ-48C (pins 1, 2, 4 and 5) on the T-1 panel. 4-wire 8-position jacks wired RJ-48S (pins 1, 2, 7 and 8) on the D-3 panel. All 24 transmit pairs are terminated on a single RJ-21X (50-pin) connector and all 24 receive pairs are terminated on a separate RJ-21X (50-pin) connector. UL listed, CSA certified. All models offer 24 ports and mount in 1U rack space (1.75″). Dimensions: 1.75H x 19W x 2.6″D.

Stock No.	Type	Description	Each
48F2103	023-248X-24-T1	RJ-48X Shorting Bar Jacks for T-1	**200.00**
48F2104	023-248C-24-T1	RJ-48C Jacks for T-1	**259.61**
48F2105	023-248S-24-D3	RJ-48S Jacks for D-3	**200.00**

(35772) (ne35772)

O.M.N.I. FLUSH MOUNT INFORMATION OUTLETS

O.M.N.I. information outlets offer the ability to custom-wire information outlets on-site by mounting different media in a single information outlet. Made of impact-resistant, flame-retardant plastic. Available in 1-, 2-, 4- and 6-port configurations. These plates are also available in Office White (OW), Black (BK), Dawn Gray (DG) and Red (R). **Types 009F0245-4-I** and **009F0245-4-W** have 2 normal ports and 2 ports on a 45° angle. Dimensions: 4⅝H x 2¹³⁄₁₆W x ⅝"D. *Contact your local Newark sales office for details.*

Stock No.	Type	Ports	Color	Each	2-4
48F2070	009-FXOM-1-I	1	Ivory	1.73	1.70
48F2075	009-FXOM-1-W	1	White	1.73	1.70
48F2071	009-FXOM-2-I	2	Ivory	1.73	1.70
48F2076	009-FXOM-2-W	2	White	1.73	1.70
48F2072	009-FXOM-3-I	3	Ivory	1.73	1.70
48F2077	009-FXOM-3-W	3	White	1.73	1.70
48F2073	009-FXOM-4-I	4	Ivory	2.12	2.08
48F2078	009-FXOM-4-W	4	White	2.12	2.08
48F2074	009-FXOM-6-I	6	Ivory	2.12	2.08
48F2079	009-FXOM-6-W	6	White	2.12	2.08
48F2080	009FO245-4-I	4	Ivory	2.89	2.83
48F2081	009FO245-4-W	4	Ivory	2.89	2.83

*Minimum box width of 1⁵⁄₁₆".

(8154) (ne09256)

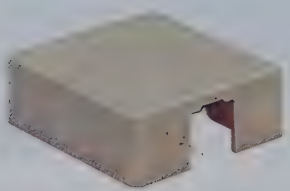
O.M.N.I. PORT FILLERS

For use when O.M.N.I. information ports are not in use. Other colors available; *contact your local Newark sales office for details.*

Stock No.	Type	Color	Each	2-4
16F652	009-6-BP-01	Black	0.52	0.51
48F2082	009-6-BP01-I	Ivory	0.50	0.49
48F2083	009-6-BP01-W	White	0.50	0.49

(8155) (ne09257)

O.M.N.I. SURFACE MOUNT BOX AND JACK COVER



009-5-735-1

Type 009-5-735-3 surface mount box accommodates up to 3 O.M.N.I. modular jacks, coaxial connectors, video connectors, fiber-optic couplers, or any combination in 1 box. Includes doublestick tape for mounting. **Type 009-5-735-1** jack cover provides finished look when surface mounting O.M.N.I. modules. *Order jacks separately; contact your local Newark sales office.*

Stock No.	Type	Ports	H x W x D	Each	2-4
93F6443	009-5-735-3	3	1¹⁄₁₆ x 3½ x 2½"	5.00	4.91
16F655	009-5-735-1	1	⅞ x 2⅛ x 2⅛"	1.02	1.00

(8156) (ne09258)

O.M.N.I. 8-PORT INFORMATION OUTLETS

009-4-700-8

009-4-2P

Allow up to 8 O.M.N.I. connectors to be mounted in a single-gang receptacle. **Types 009-2-45** allow 2 jacks to be mounted at a 45° angle. Requires box with a minimum width of 1⅞". Other colors and O.M.N.I. jacks are available separately; *contact your local Newark sales office.*

Stock No.	Type	Description	Each	2-4
OUTLETS				
16F617	009-4-700-8	8-Port Information Outlet, Ivory	2.69	2.64
16F619	009-4-700-8W	8-Port Information Outlet, White	2.69	2.64
ADAPTERS, BLANK FILLERS, AND INSERTS				
16F618	009-4-2P	2-Port Adapter, Ivory	1.20	1.18
16F620	009-4-2P-W	2-Port Adapter, White	1.20	1.18
16F621	009-4-BLNK	Blank Filler, Ivory	0.50	0.49
16F604	009-4-BLNK-W	Blank Filler, White	0.50	0.49
16F605	009-2-45	2-Port Insert, 45° Angle, Ivory	1.99	1.96
16F606	009-2-45-W	2-Port Insert, 45° Angle, White	1.99	1.96

(8145) (ne09246)

O.M.N.I. WALL PLATES AND SURFACE MOUNT BOX

037-703AB-2

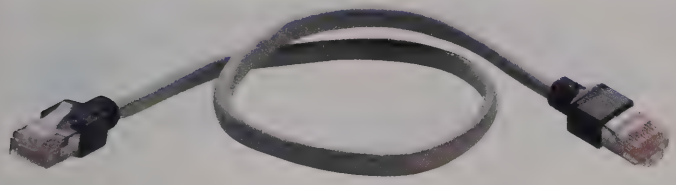
037-705AB-2

Accept single data connector, connector and O.M.N.I. connector, or data connector and either 2 or 4 O.M.N.I. connectors. Wall plates are made of durable, flame-retardant lightweight plastic.

Stock No.	Type	Description	H x W x D	Each	2-4
93F6467	037-701A-2	1 Data Connector	5.25 x 3.38 x 0.50"	3.33	3.27
93F6468	037-702AB-2	1 Data Connector and 1 O.M.N.I. Connector		3.80	3.73
93F6469	037-703AB-2	1 Data Connector and 2 O.M.N.I. Connectors		4.14	4.07
93F6495	037-705AB-2	1 Data Connector and 4 O.M.N.I. Connectors		6.09	5.98
93F6441	037-9-725MB	Magnetic-Backed Surface Mount Box for Token Ring Wall Plates	5.25 x 3.38 x 2.00"	11.45	11.23

(8043) (de50814)

O.M.N.I. SCREENED LINE/PATCH CORDS

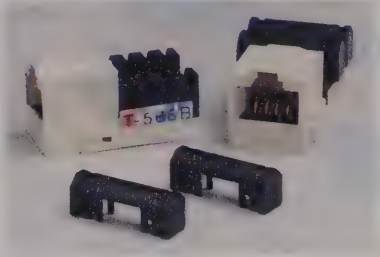


Screened twisted pair line/patch cords are assembled using screened Category 5 cables and plugs. Assemblies allow the ground plane to be continued when connecting between screened jacks. Compatible with TIA/EIA 568A Category 5 wiring schemes.

Stock No.	Type	Cord Length	Each	2-4
16F590	009-SC-89F1-05	1′	7.39	7.25
16F591	009-SC-89F2-05	2′	9.06	8.89
16F592	009-SC-89F3-05	3′	9.50	9.32
16F593	009-SC-89F5-05	5′	10.79	10.59
16F594	009-SC-8907-05	7′	10.37	10.18
16F577	009-SC-8910-05	10′	6.09	5.98
16F578	009-SC-8914-05	14′	13.34	13.09
16F579	009-SC-8920-05	20′	17.20	16.88
16F580	009-SC-8925-05	25′	18.47	18.13

(8151) (ne09251)

O.M.N.I. 110 CATEGORY 5 JACKS



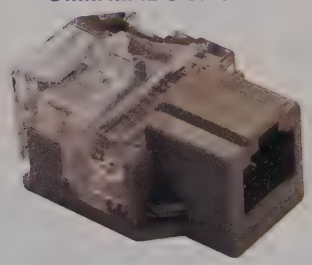
- **Exceeds UL Category 5 Standards**
- **Sleek 4 Pair 110-Termination Field**
- **Provides Outstanding Mounting Flexibility**
- **Industry Standard 110 Termination Technique**

Connector easily terminates with any 110 punch down tool, or pair of channel locks or pliers. Cable cutout allows jack to be terminated at a 90° angle to the cable for mounting in tight places. Lead frame construction accomplishes Cat. 5 without requiring a PC card. Features the highest density face plates available using O.M.N.I. configurable single and dual gang outlets. Other colors than are listed are available; *contact your local Newark sales office.*

Stock No.	Type	Color	Each	2-4
TIA 568A				
48F2084	009-5E-110A	Ivory	5.29	5.19
48F2085	009-5E-110A-BK	Black	5.29	5.19
48F2086	009-5E-110A-BL	Blue	5.29	5.19
48F2087	009-5E-110A-GY	Gray	5.29	5.19
48F2088	009-5E-110A-R	Red	5.29	5.19
48F2089	009-5E-110A-W	White	5.29	5.19
TIA 568B				
48F2090	009-5E-110B	Ivory	5.29	5.19
48F2091	009-5E-110B-BK	Black	5.29	5.19
48F2092	009-5E-110B-BL	Blue	5.29	5.19
48F2093	009-5E-110B-GY	Gray	5.29	5.19
48F2094	009-5E-110B-R	Red	5.29	5.19
48F2095	009-5E-110B-W	White	5.29	5.19

(8146) (ne09247)

O.M.N.I. IDC JACKS

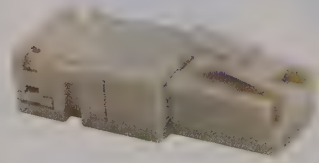


O.M.N.I. jacks allow a variety of cable and connector types to be installed into O.M.N.I. patch panels and wall plates. Connectors are easily terminated in the field. No special tools are necessary.

Stock No.	Type	Positions	Description	Each	2-4
93F6433	009-6-723F-40	4	2-Pair RJ-11	3.29	3.23
93F6482	009-6-723F-60	6	3-Pair RJ-11	3.39	3.32
16F597	009-6-723G-60	6	3-Pair w/Adapter for Metal Outlets RJ-11	3.92	3.85
93F6478	009-6-741F-80	8	4-Pair RJ-45	3.49	3.42
16F598	009-6-741G-80	8	4-Pair w/Adapter for Metal Outlets RJ-45	3.98	3.91
93F6428	009-6-747F-80	8	Keyed, 4-Pair RJ-45	3.69	3.62

(13245) (ne09815)

IDC NARROW PLUGS



Narrow plugs feature opaque dressing blocks. Accommodates any wiring scheme.

Stock No.	Type	Description	Each	2-4
16F600	009-7-460-X1	4-Position, 2-Pair	4.08	4.01
16F601	009-7-660-X1	6-Position, 3-Pair	4.48	4.40
93F6479	009-7-880-X1	8-Position, 4-Pair	4.78	4.69
16F602	009-7-881-X1	8-Position, 4-Pair, Keyed	4.78	4.69

(13239) (ne09817)

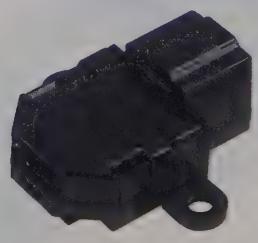
EMI/RFI SCREENED CATEGORY 5 JACKS

Screened O.M.N.I. jacks offer a new level of convenience for screened modular jacks. Screened jacks offer strain relief, color-coding strip for wiring either 568A or 568B, a short dressing block that allows maintaining pair twist integrity to less than ½″, and overall connector screening. Entire connector is wrapped with 0.01″ thick tin-plated brass. The dressing block fits entirely within the wall of the connector to completely screen out EMI/RFI from the connector when terminated. Fits all O.M.N.I. receptacles. UL listed, CSA certified.

Stock No.	Type	Wiring	Each	2-4
16F588	009-5-SH747-C5	568B	7.57	7.42
16F589	009-5-SH747-C5A	568A	7.57	7.42

(8148) (ne09248)

IDC JACK WITH SHORTING BAR

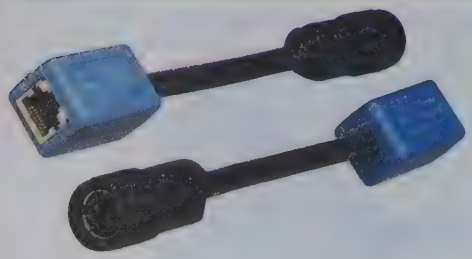


Pin 4 shorts to Pin 1 and Pin 5 shorts to Pin 8 when unplugged. 8 position, 4-pair. 50μ″ gold combed contacts prevent shorting of this modular connector. All black dressing block.

Stock No.	Type	Each	2-4	5-9
16F599	009-6-741SB-8	4.08	4.01	3.93

(13241) (ne09816)

BALUNS AND MEDIA FILTER

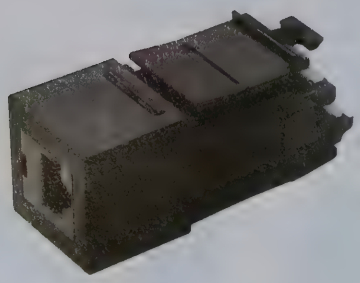


NEV ★ STAR PLUS™ BALUNS

070 series twinax/modular jack baluns (100-ohm, twinax) for IBM® systems 36/38/AS400. Twinax to 6-position modular jack. **Sold in packages of 2.**

Stock No.	Type	Description	Active Signal	RJ Pins Shield	Wiring	Each
93F6485	038-070-12-00P	M Twinax to RJ-11	3	4	NWS	39.81
92F1206	038-070-13-00P	M Twinax to 8-Position Modular Jack	4	5	NWS	39.81
92F1208	038-070-13-11P	M Twinax to 8-Position Modular Jack	2	1	AT&T	39.81

(8041) (de50812)



UDC10 BASE 2 AND TOKEN RING BALUNS

The universal data connector balun is used to match the impedance of Type 1 cabling and unshielded twisted pair (UTP), which allows users to integrate UTP lobes into their shielded cabling scheme. Plug compatible to IBM® part numbers 6091000 and 8310574, and Nevada Western® part number 037-600-04-1. Available in Token Ring wiring (pins 3, 4, 5, and 6) and 10Base-T wiring (pins 1, 2, 3, and 6). Impedance matching for full-distance cable runs in LAN environments.

Stock No.	Type	Description	Each
16F631	037-048-45-12	10Base-T UDC Balun	29.86
16F632	037-048-45-07	Token Ring UDC Balun	29.86

(8108) (ne08177)

COAXIAL BALUNS

Convert RG62 coax cable to twisted pair and vice versa. Baluns match impedance of RG62 coax cable to the impedance of 24AWG data grade unshielded twisted pair (UTP) wire. Superbaluns help filter common mode noise and balance signal for maximum distances of up to 2000′. Standard baluns are rated for maximum distances of up to 1500′. **Sold in packages of 2.**

Stock No.	Type	Description	Active Signal	RJ Pins Shield	Wiring	Each	2-4
93F6476	038-058-12-00P	Superbalun, M BNC to RJ-11	3	4	NWS/IBM	52.75	51.76
16F628	038-058-13-00P	Superbalun Device, M BNC to 8-position Modular Jack	4	5	NWS/IBM	52.75	51.76
93F6474	038-050-12-00P	Standard balun, M BNC to RJ-11	3	4	NWS/IBM	27.39	26.88
93F6487	038-050-12-02P	Standard balun, M BNC to RJ-11	2	5	...	27.39	26.88
16F629	038-050-13-00P	M BNC to 8-Pos. Mod. Jack	4	5	NWS/IBM	27.39	26.88
93F6442	038-050-13-11P	Standard balun, M BNC to RJ-45	2	1	AT&T	27.39	26.88
93F6435	038-050-13-01P	Standard balun, M BNC to RJ-45	1	2	NWS	27.39	26.88

(8042) (de50813)

037-M45

CABLELESS MEDIA FILTER

Compact, single-piece unit that attaches to the back of a Token Ring card in a computer. Category 3 and runs either 4Mbps or 16Mbps systems and requires no switches to be set. Features extra-long jack screws for toolless attachments to the card.

Stock No.	Type	Each	2-4
16F633	037-M45	37.82	37.11

(8109) (ne08178)

NEWARK MAKES ORDERING SIMPLE.
ONE CALL IS ALL IT TAKES TO GET FAST, EFFICIENT DELIVERY.

PATCH CORDS/BALUNS AND CABLE

PATCH CORDS/CABLE ASSEMBLIES

Patch cord has an enhanced data connector on each end and utilizes Type 6A cable. Can be used to make moves and changes at the distribution patch panel, or as an extension cable in work areas. The PC adapter cable consists of Type 6A cable with an enhanced data connector on one end and a 9-pin D-Sub connector on the other. Can be used in Token Ring applications to connect information outlets to workstations.

Stock No.	Type	Description	Each	2-4
16F634	037-2551-4E	4′ Patch Cord	**21.74**	**21.33**
16F635	037-2551-E	8′ Patch Cord	**22.79**	**22.37**
16F636	037-9088-4E	4′ PC Adapter Cable	**18.21**	**17.87**
16F637	037-9088-E	8′ PC Adapter Cable	**20.21**	**19.83**

(8107) (ne08176)

CATEGORY 5 UTP LINE/PATCH CORDS

Meet TIA/EIA 568A Category 5 requirements. Constructed of 24-gauge stranded cable and are terminated with clear 8-position plugs on either end. Color-coded boot versions allow quick identification and protection in heavily wired areas. Color-coded patch cords have blue boots. Other colors available; *contact your local Newark sales office.*

LINE/PATCH CORDS

Stock No.	Type	Cord Length	Each	2-4
93F9861	009-0-89F1-05	1′	**2.79**	**2.74**
93F9862	009-0-89F3-05	3′	**3.59**	**3.52**
48F2101	009-0-89F5-05	5′	**2.91**	**2.85**
93F9863	009-0-8907-05	7′	**4.56**	**4.48**
93F9864	009-0-8910-05	10′	**5.08**	**4.98**
93F9865	009-0-8914-05	14′	**6.59**	**6.47**
93F9866	009-0-8920-05	20′	**8.22**	**8.07**

LINE/PATCH CORDS WITH COLOR-CODED BOOTS

16F581	009-B-89F1-05-BL	1′	**3.45**	**3.38**
16F568	009-B-89F3-05-BL	3′	**4.20**	**4.12**
48F2102	009-B-89F5-05BL	5′	**3.33**	**3.27**
16F573	009-B-8907-05-BL	7′	**5.28**	**5.18**
16F560	009-B-8914-05-BL	14′	**7.21**	**7.07**
16F565	009-B-8925-05-BL	25′	**9.99**	**9.81**

(8150) (ne09250)

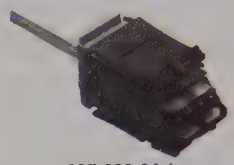
25-PAIR EXTENDER CABLE ASSEMBLIES

Category 3 25-pair extender cable assemblies feature male RJ-21X and female RJ-21X connections. PVC cable jacket. Connect LANs, voice switching equipment, terminal and data devices, and connectorized distribution cable.

Stock No.	Type	Length	Each	2-4
99F3964	009-0-9605-3	5′	**15.21**	**14.92**
16F8494	009-0-9615-3	15′	**27.31**	**26.80**
16F8495	009-0-9625-3	25′	**27.39**	**26.88**

(13264) (ne09818)

IBM®-TYPE DATA CONNECTORS



037-600-04-1

Type 037-600-04-1 genderless connector is used in IEEE 802.5 standard Token Rings and IBM® cabling LAN applications. Built-in locking tabs secure the data connector into place, with no tools needed. Wire range: 22-26 AWG stranded or solid copper, shielded twisted pair. Can be used in 4- & 16Mbps applications also. **Type 037-600-53** genderless connector can be used in IEEE 802.5 standard 4- and 16Mbps Token Ring networks and in IBM® cabling system applications. Electrical performance characteristics of the standard connector have been improved in the EDC connector to comply with IEEE 802.5 and EIA/TIA proposed TSB-53 (draft) connector specification for high-performance data rate applications utilizing 150-ohm STP cables and connectors.

ENHANCED IBM®-TYPE DATA CONNECTORS

Stock No.	Type	H x W x D	IBM Ref. Equiv. No.	Each	2-4
96F916	037-600-53	1.9 x 1 x 1.2″	60G1060	**7.17**	**7.03**
93F6473	037-600-04-1	1.19 x 1.00 x 1.88″	6091000	**5.18**	**5.08**

(8039) (de50810)

IBM®-TYPE CABLE BALUN

Single cable red balun has IBM® part number 6091000 and 8310574 compatibility. Use with Type 1 or 2 cabling (150-ohm) to RG-62 coaxial cable (93-0hm). 2.5m long.

Stock No.	Type	Description	Length	Each	2-4
16F624	037-2546	Single Cable Red Balun	2.5m	**51.73**	**50.76**

(8040) (de50811)

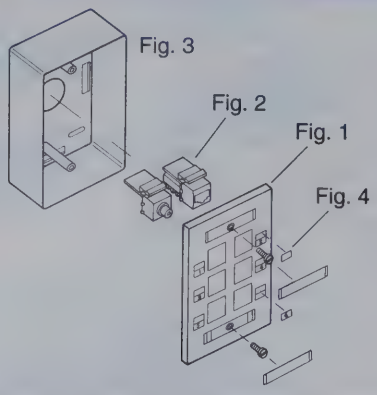
COMPLETE LINE OF THOMAS & BETTS PRODUCTS AVAILABLE:

- **IDC CONNECTORS** ***on pages 212-213 and 215***
- **D-SUB CONNECTORS** ***on page 218***
- **TERMINAL BLOCKS AND CONNECTORS** ***on pages 1074 and 1077-1079, and 1119***
- **TY-RAP CABLE TIES** ***on page 1256***
- **WIRE MARKER BOOKS AND CARDS** ***on pages 1272 and 1279***

(41975) (ne41975)

LAN INTERCONNECT PRODUCTS

CATEGORY 5 MULTIPORT INFORMATION OUTLETS



6-Outlet Faceplate

Angled Faceplate

Blank Port Filler

Meet EIA/TIA TSB40-A Category 5 UTP standards for T568A and T568B wiring for data transmission up to 100MHz applications. Provides quick snap-in/out feature that enables quick addition of jacks without having to remove others. Keystone jacks are available in a variety of colors and contain a high-quality 110-type connector and jack with printed circuitry. Jacks are available in single RJ-12, RJ-45, USOC, BNC, F, phono, and ST® connector modules. Faceplates are also available in beige and white and support 1, 2, 4, or 6 keystone jacks in one faceplate. Faceplates come complete with clear station labels in top and bottom. Numbers are hot-stamped next to each port for documentation and maintenance. Each port on the faceplates contain two areas to insert icons; *order separately from table below.* Application icons include: workstation, phone, Ethernet, 100Base-T, 100VG-AnyLAN, ATM, and others. UL listed, CSA certified.

FACEPLATES, MOUNTING BOX, AND APPLICATION ICONS

Stock No.	Type	Description	Fig.	Color	Each
16N2555	8461-0611	6-Jack Outlet Faceplate	1	Beige	2.39
16N2556	8461-0612	6-Jack Outlet Faceplate	1	White	2.39
16N2557	8461-0613	4-Jack Outlet Faceplate	1	Beige	2.39
16N2558	8461-0614	4-Jack Outlet Faceplate	1	White	2.39
92N4050	2205	4-Jack Outlet Angled Faceplate	1	Beige	3.49
92N4051	2206	4-Jack Outlet Angled Faceplate	1	White	3.49
16N2559	8461-0615	2-Jack Outlet Faceplate	1	Beige	2.39
16N2560	8461-0616	2-Jack Outlet Faceplate	1	White	2.39
92N4048	3360	2-Jack Outlet Angled Faceplate	1	Beige	3.49
92N4049	2204	2-Jack Outlet Angled Faceplate	1	White	3.49
16N2561	8461-0617	1-Jack Outlet Faceplate	1	Beige	2.39
16N2562	8461-0618	1-Jack Outlet Faceplate	1	White	2.39
16N2589	8461-0645	Faceplate Mounting Box	3	White	3.69
92N4077	2232	Faceplate Mounting Box	3	Beige	3.69
16N2590	8461-0646	Application Icons, 10-Pack	4	...	4.49
		JACKS			
16N2563	8461-0619	Category 5 RJ-45, T568A Wiring	2	Beige	6.69
16N2564	8461-0620	Category 5 RJ-45, T568A Wiring	2	Black	6.69
16N2565	8461-0621	Category 5 RJ-45, T568A Wiring	2	Blue	6.69
16N2566	8461-0622	Category 5 RJ-45, T568A Wiring	2	Green	6.69
16N2567	8461-0623	Category 5 RJ-45, T568A Wiring	2	Red	6.69
16N2568	8461-0624	Category 5 RJ-45, T568A Wiring	2	White	6.69
16N2569	8461-0625	Category 5 RJ-45, T568A Wiring	2	Yellow	6.69
16N2570	8461-0626	Category 5 RJ-45, T568B Wiring	2	Beige	6.69
16N2571	8461-0627	Category 5 RJ-45, T568B Wiring	2	Black	6.69
16N2572	8461-0628	Category 5 RJ-45, T568B Wiring	2	Blue	6.69
16N2573	8461-0629	Category 5 RJ-45, T568B Wiring	2	Green	6.69
16N2574	8461-0630	Category 5 RJ-45, T568B Wiring	2	Red	6.69
16N2575	8461-0631	Category 5 RJ-45, T568B Wiring	2	White	6.69
16N2576	8461-0632	Category 5 RJ-45, T568B Wiring	2	Yellow	6.69
16N2577	8461-0633	Category 3 RJ-12, USOC Wiring	2	Beige	4.99
16N2578	8461-0634	Category 3 RJ-12, USOC Wiring	2	White	4.99
16N2579	8461-0635	Coaxial BNC/BNC Keystone Jack	2	Beige	4.99
16N2580	8461-0636	Coaxial BNC/BNC Keystone Jack	2	White	4.99
16N2581	8461-0637	Coaxial F/F Keystone Jack	2	Beige	4.69
16N2582	8461-0638	Coaxial F/F Keystone Jack	2	White	4.69
16N2583	8461-0639	Phono/Phono Keystone Jack	2	Beige	4.69
16N2584	8461-0640	Phono/Phono Keystone Jack	2	White	4.69
16N2585	8461-0641	Fiber-Optic ST/ST Keystone Jack	2	Beige	10.99
16N2586	8461-0642	Fiber-Optic ST/ST Keystone Jack	2	White	10.99
16N2587	8461-0643	Blank Port Faceplate Filler	2	Beige	3.69
16N2588	8461-0644	Blank Port Faceplate Filler	2	White	3.69

(8152) (ne09254)

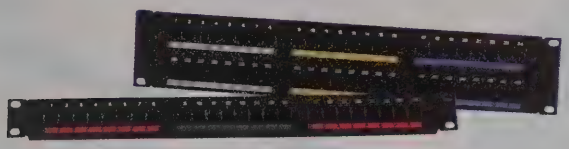
CATEGORY 5 EXPANDABLE SURFACE MOUNT MODULES

Expandable surface mount modules feature a slide latch design which allows any number of modules to be connected. The modules connect on either side, thus allowing the creation of desired mounting formation. Designed to hold a modular keystone jack. Applications include: high-speed data communication with an RJ-45 keystone jack or low-speed telephone systems with an RJ-12 keystone jack. *Order keystone jacks separately on this page.*

Stock No.	Type	Description	Color	Each
16N2591	8461-0647	UTP Single-Port Module	Beige	1.99
16N2592	8461-0648	UTP Single-Port Module	White	1.99

(8153) (ne09255)

CATEGORY 5 AND ENHANCED CATEGORY 5 PATCH PANELS



Available in 24- and 48-port sizes that are rack mountable, with the 24-port version occupying only 1U (1.75″) rack space. Units feature an area to place gray vinyl, erasable label strips, included. Port and pin labeling is contained on the back of the panel to facilitate installation. Optional wire minder tray both organizes cable and meets cable bend radius requirements. Enhanced catagory 5 panels meet and exceeds EIA/TIA 568-A proposed standards. Provides a minimum 3dB headroom in NEXT. Tested to 350MHz. Units include PCB RJ-45 jack with captive pin and 110 type connector. Panel is 0.06″ steel with black polyurethane semi-gloss finish. Operates up to 100MHz. Meets EIA/TIA 568A UTP Category 5 standards. Other color label strips are available, *see below.*

CATEGORY 5 PATCH PANELS

Stock No.	Type	Wiring	Ports	H x W x D	Each
16N2470	8461-0526	T568A	24	1.75 x 19.0 x 1.32″	**115.99**
16N2471	8461-0527	T568A	48	3.50 x 19.0 x 1.32″	**199.99**
16N2472	8461-0528	T568B	24	1.75 x 19.0 x 1.32″	**115.99**
16N2473	8461-0529	T568B	48	3.50 x 19.0 x 1.32″	**199.99**
92N4076	2231	BNC	32	3.50 x 19.0 x 0.87″	**139.99**

ENHANCED CATEGORY 5 PATCH PANELS

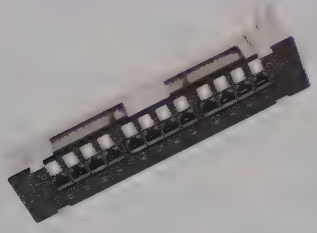
Stock No.	Type	Wiring	Ports	Rack	Each
50N603	SPC5238	T568A	24	1	**136.99**
50N605	SPC5240	T568A	48	2	**219.99**
50N604	SPC5239	T568B	24	1	**136.99**
50N606	SPC5241	T568B	48	2	**219.99**

DESIGNATION LABEL STRIPS

Stock No.	Type	Color	Each
16N2474	8461-0530	Blue	**4.49**
16N2475	8461-0531	Green	**4.49**
16N2476	8461-0532	Gray	**4.49**
16N2477	8461-0533	Red	**4.49**
16N2478	8461-0534	White	**4.49**
16N2479	8461-0535	Yellow	**4.49**

(6140) (ne09069)

CATEGORY 5 MINI WALL MOUNT PATCH PANEL



These mini 12-port wall mount patch panels are designed for limited space applications. Port and pin numbers are silk-screened on the back for port number identification. Features an RJ-45 PCB jack with captive pin. Units are 0.128″ aluminum with black anodized finish. Operates up to 100MHz and meets EIA/TIA 568A Category 5 standards. Dimensions: 1.84H x 10.00W x 2.24″D. UL listed.

Stock No.	Type	Wiring	Each
16N2480	8461-0536	T568A	**109.00**
16N2481	8461-0537	T568B	**109.00**

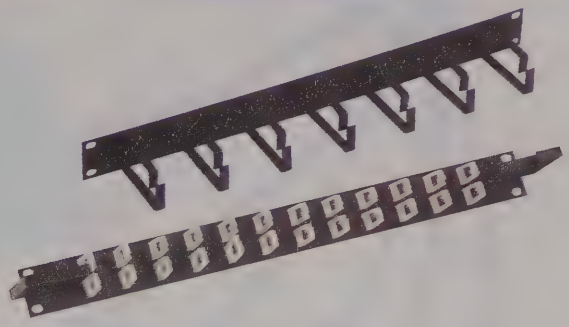
(8141) (ne09070)

CATEGORY 5 WALL MOUNT KEYSTONE JACK PANEL

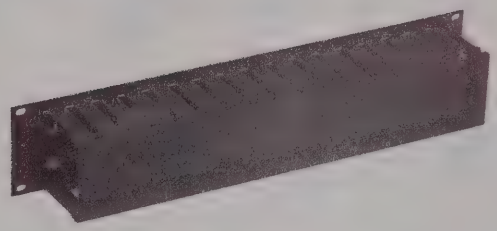
Support up to 12 keystone jacks. Units come complete with wall mount bracket. Cutout port design for ease in changing keystone jacks, *ordered separately*. Silk-screened for identification. Panel plate is 0.06″ steel with black polyurethane semi-gloss finish.

16N2593 Type 8461-0649. **Each** **29.99**
(8142) (ne09071)

WIRE MANAGERS



Horizontal D-Rings



1428

Designed to organize and manage cables and patch cords exactly where needed and according to EIA/TIA specifications. Units are 19″ rack mountable and occupy 1 rack space. Constructed of black zinc-plated 14-gauge steel. **Type 8461-0650** holds patch cords in a horizontal arrangement and features 1 steel D-ring on each side with 2 rows of 12 plastic wire saddles in between. **Type 8461-0651** features 7 D-rings mounted in a single row across the panel for the organization of horizontal patch cords. **Type 1428** features slotted fingers which both route and protect the cable. Double-scored so duct fingers can be easily bent and broken away. Includes duct covers and mounting screws. All these wire management items can be used in telecommunications closets and equipment rooms for cable management and networking installations.

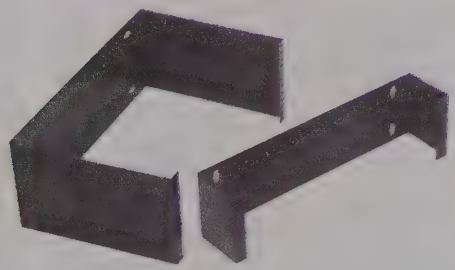
Stock No.	Type	Description	Each
16N2594	8461-0650	Horizontal D-Rings: 2.46W x 3.0″H; Wire Saddles: 0.59H x 1.4″D	34.99
16N2595	8461-0651	Vertical D-Rings: 1.56H x 3.0″D	**39.99**
10N147	1428	Horizontal: 19.0W x 3.5″H; 3 x 3″ Slotted Duct	69.34

CABLE HANGERS

Stock No.	Type	Rows	Hangers	Each
50N696	SPC5330	1	5 Metal	**29.99**
50N697	SPC5331	2	5 Metal	**45.99**
50N698	SPC5332	2	5 Plastic	**45.99**

(8143) (ne09072)

WALL MOUNT BRACKETS



Features universal ⅝″, ⅝″, ½″ alternating hole pattern with built-in #10-24 screw size pemnuts to allow maximum usage of mounting space. Fully compatible with EIA/TIA standard 1¼″-½″ hole patterns. Cable access holes are located on the back of the brackets for ease of installation of cable through the wall. Constructed of black zinc-plated 14-gauge steel. Side hinge feature facilitates adds and changes to the mounted panels.

Stock No.	Type	Rack Spaces*	H x W x D	Cable Access Holes No.	Cable Access Holes H x W	Each
16N2596	8461-0652	1U	1.75 x 19 x 4″	0	...	**22.99**
16N2597	8461-0653	2U	3.50 x 19 x 4″	1	1.5 x 8″	**26.99**
16N2598	8461-0654	3U	5.25 x 19 x 4″	1	1.5 x 8″	**29.99**
16N2599	8461-0655	4U	7.00 x 19 x 4″	1	1.5 x 8″	**39.99**

*1U = 1.75″
(8144) (ne09073)

PATCH CORDS

CATEGORY 5 PATCH CORDS

Category 5 patch cord assemblies are capable of carrying transmissions of up to 100 Mbps. Feature 8-position RJ45 plug on either end (male-to-male). Wired with EIA/TIA 568B pinning. 24 AWG stranded Category 5 wire for superior electrical performance. Unshielded PVC jacket. Available in a variety of colors and lengths.

Stock No.	Type	Length	Color	1-24	25-49	50-99	100-249
91F9224	621894-1	1′	Gray	5.05	4.80	4.56	...
91F9225	621894-2	2′	Gray	5.57	5.30	5.03	...
91F9226	621894-3	3′	Gray	6.06	5.76	5.47	...
91F9227	621898-1	3′	Red	6.06	5.76	5.47	...
91F9228	621895-1	3′	Blue	6.06	5.76	5.47	...
91F9229	621899-1	3′	White	6.06	5.76	5.47	...
91F9230	621900-1	3′	Yellow	6.06	5.76	5.47	...
91F9231	621896-1	3′	Green	6.06	5.76	5.47	...
91F9232	621897-1	3′	Black	6.06	5.76	5.47	...
91F9233	621894-4	5′	Gray	7.07	6.72	6.38	...
91F9234	621898-2	5′	Red	7.07	6.72	6.38	...
91F9235	621895-2	5′	Blue	7.07	6.72	6.38	...
91F9236	621899-2	5′	White	7.07	6.72	6.38	...
91F9237	621900-2	5′	Yellow	7.07	6.72	6.38	...
91F9238	621896-2	5′	Green	7.07	6.72	6.38	...
91F9239	621897-2	5′	Black	7.07	6.72	6.38	...
91F9240	621894-5	7′	Gray	8.07	7.67	7.28	...
91F9241	621898-3	7′	Red	8.07	7.67	7.28	...
91F9242	621895-3	7′	Blue	8.07	7.67	7.28	...
91F9243	621899-3	7′	White	8.07	7.67	7.28	...
91F9244	621900-3	7′	Yellow	8.07	7.67	7.28	...
91F9245	621896-3	7′	Green	8.07	7.67	7.28	...
91F9246	621897-3	7′	Black	8.07	7.67	7.28	...
91F9247	621894-6	10′	Gray	9.69	9.21	8.74	...
91F9248	621898-4	10′	Red	9.69	9.21	8.74	...
91F9249	621895-4	10′	Blue	9.69	9.21	8.74	...
91F9250	621899-4	10′	White	9.69	9.21	8.74	...
91F9251	621900-4	10′	Yellow	9.69	9.21	8.74	...
91F9252	621896-4	10′	Green	9.69	9.21	8.74	...
91F9253	621897-4	10′	Black	9.69	9.21	8.74	...
91F9254	621894-7	14′	Gray	10.69	9.84	8.86	...
91F9255	621898-5	14′	Red	10.69	9.84	8.86	...
91F9256	621895-5	14′	Blue	10.69	9.84	8.86	...
91F9257	621899-5	14′	White	10.69	9.84	8.86	...
91F9258	621900-5	14′	Yellow	10.69	9.84	8.86	...
91F9259	621896-5	14′	Green	10.69	9.84	8.86	...
91F9260	621897-5	14′	Black	10.69	9.84	8.86	...
83F1034	621894-8	25′	Gray	13.31	12.25	11.02	...
83F1038	621898-6	25′	Red	13.31	12.25	11.02	...
83F1036	621895-6	25′	Blue	13.31	12.25	11.02	...
83F1039	621900-6	25′	Yellow	13.31	12.25	11.02	...
83F1037	621896-6	25′	Green	13.31	12.25	11.02	...
83F924	621897-6	25′	Black	13.31	12.25	11.02	...
83F926	621898-7	50′	Red	19.19	17.66	15.89	...
83F923	621895-7	50′	Blue	19.19	17.66	15.89	...
83F928	621899-7	50′	White	19.19	17.66	15.89	...
83F929	621900-7	50′	Yellow	19.19	17.66	15.89	...
83F925	621897-7	50′	Black	19.19	17.66	15.89	...
83F1035	1-621894-0	75′	Gray	24.94	22.95	20.65	...
83F813	1-621894-1	100′	Gray	30.93	27.84	25.06	...

(13940) (ne10125)

BOOTED CATEGORY 5 PATCH CORDS

Category 5 fully booted patch cord assemblies are capable of carrying transmissions of up to 100 Mbps. Protective boot plus molded strain relief provide durability for the rigors of a desktop environment. Ideal for 10Base-T technology. Feature 8-position RJ-45 plug on either end (male-to-male). Wired with EIA/TIA 568B pinning. 24 AWG stranded Category 5 wire for superior electrical performance. Unshielded PVC jacket. Available in a variety of colors and lengths.

Stock No.	Type	Length	Color	1-24	25-49	50-99	100-249
91F9261	621901-1	3′	Gray	7.32	6.96	6.61	...
91F9262	621902-1	3′	Blue	7.32	6.96	6.61	...
91F9263	621903-1	3′	Green	7.32	6.96	6.61	...
91F9264	621904-1	3′	Black	7.32	6.96	6.61	...
91F9265	621905-1	3′	Red	7.32	6.96	6.61	...
91F9266	621906-1	3′	Yellow	7.32	6.96	6.61	...
91F9271	621901-2	5′	Gray	8.31	7.90	7.50	...
91F9267	621902-2	5′	Blue	8.31	7.90	7.50	...
91F9268	621903-2	5′	Green	8.31	7.90	7.50	...
91F9269	621904-2	5′	Black	8.31	7.90	7.50	...
91F9270	621905-2	5′	Red	8.31	7.90	7.50	...
91F9272	621906-2	5′	Yellow	8.31	7.90	7.50	...
91F9273	621901-3	7′	Gray	9.31	8.85	8.40	...
91F9274	621902-3	7′	Blue	9.31	8.85	8.40	...
91F9275	621903-3	7′	Green	9.31	8.85	8.40	...
91F9276	621904-3	7′	Black	9.31	8.85	8.40	...
91F9277	621905-3	7′	Red	9.31	8.85	8.40	...
91F9278	621906-3	7′	Yellow	9.31	8.85	8.40	...
91F9283	621901-4	10′	Gray	10.93	10.06	9.05	...
91F9284	621902-4	10′	Blue	10.93	10.06	9.05	...
91F9279	621903-4	10′	Green	10.93	10.06	9.05	...
91F9280	621904-4	10′	Black	10.93	10.06	9.05	...
91F9281	621905-4	10′	Red	10.93	10.06	9.05	...
91F9282	621906-4	10′	Yellow	10.93	10.06	9.05	...
83F1068	621901-5	14′	Gray	11.93	10.98	9.88	...
83F1069	621902-5	14′	Blue	11.93	10.98	9.88	...
83F971	621903-5	14′	Green	11.93	10.98	9.88	...
83F973	621904-5	14′	Black	11.93	10.98	9.88	...
83F975	621905-5	14′	Red	11.93	10.98	9.88	...
83F977	621906-5	14′	Yellow	11.93	10.98	9.88	...
83F969	621901-6	25′	Gray	14.55	13.39	12.05	...
83F970	621902-6	25′	Blue	14.55	13.39	12.05	...
83F972	621903-6	25′	Green	14.55	13.39	12.05	...
83F974	621904-6	25′	Black	14.55	13.39	12.05	...
83F976	621905-6	25′	Red	14.55	13.39	12.05	...
83F978	621906-6	25′	Yellow	14.55	13.39	12.05	...

(13933) (ne10126)

PERSONALIZED SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

PATCH CORDS

ENHANCED CATEGORY 5 SNAGLESS PATCH CORDS

Snagless

Meets EUA/TIA 568-B requirements. Use for speeds up to 100MHz. 24AWG. Enhanced Category 5 snagless patch cords feature a short body design that minimizes the distance of untwisting in a pair as a result of termination to contact pins. RJ-45 plugs on each end have snagless molded boot to help prevent snagging on other cables or hardware and reduces crosstalk normally produced by kinked connections. Tested to 350MHz. Molded Category 5 patch cords reduce crosstalk normally caused by kinked connections. UL listed. CSA certified. 5-year warranty.

ENHANCED CATEGORY 5 SNAGLESS UTP PATCH CORDS

	Black		Blue		Green		Orange		Red		Yellow		White		
Lgth.	Stock No.	Type	Stock No.	Type	Stock No.	Type	Stock No.	Type	Stock No.	Type	Stock No.	Type	Stock No.	Type	Each
1′	**50N530**	SPC5165	**50N531**	SPC5166	**50N532**	SPC5167	**50N533**	SPC5168	**50N534**	SPC5169	**50N535**	SPC5170	**50N529**	SPC5164	**4.79**
3′	**50N537**	SPC5172	**50N538**	SPC5173	**50N539**	SPC5174	**50N540**	SPC5175	**50N541**	SPC5176	**50N542**	SPC5177	**50N537**	SPC5172	**5.49**
7′	**50N544**	SPC5179	**50N545**	SPC5180	**50N546**	SPC5181	**50N547**	SPC5182	**50N548**	SPC5183	**50N549**	SPC5184	**50N543**	SPC5178	**6.59**
10′	**50N551**	SPC5186	**50N552**	SPC5187	**50N553**	SPC5188	**50N554**	SPC5189	**50N555**	SPC5190	**50N556**	SPC5191	**50N550**	SPC5185	**7.99**
14′	**50N558**	SPC5193	**50N559**	SPC5194	**50N560**	SPC5195	**50N561**	SPC5196	**50N562**	SPC5197	**50N563**	SPC5198	**50N557**	SPC5192	**9.39**
25′	**50N565**	SPC5200	**50N566**	SPC5201	**50N567**	SPC5202	**50N568**	SPC5203	**50N569**	SPC5204	**50N570**	SPC5205	**50N564**	SPC5199	**15.99**
50′	**50N572**	SPC5207	**50N573**	SPC5208	**50N574**	SPC5209	**50N575**	SPC5210	**50N576**	SPC5211	**50N577**	SPC5212	**50N571**	SPC5206	**28.99**

(40975) (ne40975)

SNAGLESS, MOLDED AND NONMOLDED UTP PATCH CORDS

Nonmolded

Snagless

All Category 5 patch cords are 4-pair stranded UTP wiring and RJ-45 plugs on each end. Meet EIA/TIA 568-B Category 5 requirements. Used for speeds up to 100 MHz. Conductor guage is 24 AWG. UL listed, CSA Certified, Lifetime warranty. Category 5 snagless parch cords have molded, snag-free boots to prevent cable kinks and bents pins when removing from patch panels, and they reduce crosstalk. Molded Category 5 patch cords reduce crosstalk normally caused by kinked connections. Available in up to seven colors. 5-year warranty.

SNAGLESS CATEGORY 5 UTP PATCH CORDS

	Black		Blue		Green		Orange		Red		Yellow		White		
Lgth.	Stock No.	Type	Stock No.	Type	Stock No.	Type	Stock No.	Type	Stock No.	Type	Stock No.	Type	Stock No.	Type	Each
1′	**50N609**	SPC5244	**50N617**	SPC5252	**50N625**	SPC5260	...	...	**50N633**	SPC5268	**50N641**	SPC5276	**50N649**	SPC5284	**4.49**
3′	**50N610**	SPC5245	**50N618**	SPC5253	**50N626**	SPC5261	...	...	**50N634**	SPC5269	**50N642**	SPC5277	**50N650**	SPC5285	**4.99**
5′	**50N611**	SPC5246	**50N619**	SPC5254	**50N627**	SPC5262	...	...	**50N635**	SPC5270	**50N643**	SPC5278	**50N651**	SPC5286	**5.99**
7′	**50N612**	SPC5247	**50N620**	SPC5255	**50N628**	SPC5263	...	...	**50N636**	SPC5271	**50N644**	SPC5279	**50N652**	SPC5287	**7.59**
10′	**50N613**	SPC5248	**50N621**	SPC5256	**50N629**	SPC5264	...	...	**50N637**	SPC5272	**50N645**	SPC5280	**50N653**	SPC5288	**8.59**
14′	**50N614**	SPC5249	**50N622**	SPC5257	**50N630**	SPC5265	...	...	**50N638**	SPC5273	**50N646**	SPC5281	**50N654**	SPC5289	**8.99**
25′	**50N615**	SPC5250	**50N623**	SPC5258	**50N631**	SPC5266	...	...	**50N639**	SPC5274	**50N647**	SPC5282	**50N655**	SPC5290	**13.59**
50′	**50N616**	SPC5251	**50N624**	SPC5259	**50N632**	SPC5267	...	...	**50N640**	SPC5275	**50N648**	SPC5283	**50N656**	SPC5291	**26.59**

MOLDED UTP PATCH CORDS

1′	**92N4059**	2214	**92N4060**	2215	**92N4061**	2216	...	...	**92N4062**	2217	...	...	**92N4063**	2218	**4.19**
3′	**16N2525**	8461-0581	**16N2526**	8461-0582	**16N2527**	8461-0583	...	...	**16N2528**	8461-0584	...	...	**16N2529**	8461-0585	**4.75**
5′	**16N2530**	8461-0586	**16N2531**	8461-0587	**16N2532**	8461-0588	...	...	**16N2533**	8461-0589	...	...	**16N2534**	8461-0590	**5.59**
7′	**16N2535**	8461-0591	**16N2536**	8461-0592	**16N2537**	8461-0593	...	...	**16N2538**	8461-0594	...	...	**16N2539**	8461-0595	**6.29**
10′	**16N2540**	8461-0596	**16N2541**	8461-0597	**16N2542**	8461-0598	...	...	**16N2543**	8461-0599	...	...	**16N2544**	8461-0600	**7.29**
14′	**16N2550**	8461-0606	**16N2546**	8461-0602	**16N2547**	8461-0603	...	...	**16N2548**	8461-0604	...	...	**16N2549**	8461-0605	**8.39**
25′	**16N2550**	8461-0606	**16N2551**	8461-0607	**16N2552**	8461-0608	...	...	**16N2553**	8461-0609	...	...	**16N2554**	8461-0610	**13.39**
50′	**92N4071**	2226	**92N4072**	2227	**92N4073**	2228	...	...	**92N4074**	2229	...	...	**92N4075**	2230	**25.99**

NONMOLDED UTP PATCH CORDS

1′	**92N4052**	2207	**92N4053**	2208	**92N4054**	2209	**92N4055**	2210	**92N4056**	2211	**92N4057**	2212	**92N4058**	2213	**3.29**
3′	**16N2483**	8461-0539	**16N2484**	8461-0540	**16N2485**	8461-0541	**16N2486**	8461-0542	**16N2487**	8461-0543	**16N2488**	8461-0544	**16N2489**	8461-0545	**3.65**
5′	**16N2490**	8461-0546	**16N2491**	8461-0547	**16N2492**	8461-0548	**16N2493**	8461-0549	**16N2494**	8461-0550	**16N2495**	8461-0551	**16N2496**	8461-0552	**4.29**
7′	**16N2497**	8461-0553	**16N2498**	8461-0554	**16N2499**	8461-0555	**16N2500**	8461-0556	**16N2501**	8461-0557	**16N2502**	8461-0558	**16N2503**	8461-0559	**4.99**
10′	**16N2504**	8461-0560	**16N2505**	8461-0561	**16N2506**	8461-0562	**16N2507**	8461-0563	**16N2508**	8461-0564	**16N2509**	8461-0565	**16N2510**	8461-0566	**5.89**
14′	**16N2511**	8461-0567	**16N2512**	8461-0568	**16N2513**	8461-0569	**16N2514**	8461-0570	**16N2515**	8461-0571	**16N2516**	8461-0572	**16N2517**	8461-0573	**7.25**
25′	**16N2518**	8461-0574	**16N2519**	8461-0575	**16N2520**	8461-0576	**16N2521**	8461-0577	**16N2522**	8461-0578	**16N2523**	8461-0579	**16N2524**	8461-0580	**10.99**
50′	**92N4064**	2219	**92N4065**	2220	**92N4066**	2221	**92N4067**	2222	**92N4068**	2223	**92N4069**	2224	**92N4070**	2225	**21.99**

(41170) (ne41170)

CATEGORY 5 PRODUCTS

TOOLESS IDC KEYSTONE JACKS

NEW

Require no tooling for termination and have built-in strain relief. USOC wiring for telephone application; meet Category 3 and 5 standards. Available in a variety of colors.

CATEGORY 5

Stock No.	Type	Connection	Wires	Color	Each
50N585	SPC5220	RJ-45	8	Beige	6.99
50N586	SPC5221	RJ-45	8	Black	6.99
50N587	SPC5222	RJ-45	8	Blue	6.99
50N588	SPC5223	RJ-45	8	Green	6.99
50N589	SPC5224	RJ-45	8	Orange	6.99
50N590	SPC5225	RJ-45	8	Red	6.99
50N591	SPC5226	RJ-45	8	White	6.99
50N592	SPC5227	RJ-45	8	Yellow	6.99

CATEGORY 3

50N581	SPC5216	RJ-12	6	Beige	4.99
50N582	SPC5217	RJ-12	6	White	4.99
50N583	SPC5218	RJ-45	8	Beige	5.59
50N584	SPC5219	RJ-45	8	White	5.59

ENHANCED CATEGORY 5

Provide a minimum of 3dB headroom to EIA/TIA 568A Category 5 enhanced standards. The least distance (0.25″) of untwisted pairs is maintained by the shortened body design for maximum performance. The innovative built-in strain relief secures termination. Compatible with SPC faceplates and keystone patch panels. Termination takes less than 30 seconds. Available in a variety of colors.

Stock No.	Type	Connection	Wires	Color	Each
50N593	SPC5228	RJ-45	8	Beige	8.29
50N594	SPC5229	RJ-45	8	Black	8.29
50N595	SPC5230	RJ-45	8	Blue	8.29
50N596	SPC5231	RJ-45	8	Green	8.29
50N957	SPC5374	RJ-45	8	Orange	2.25
50N598	SPC5233	RJ-45	8	Red	8.29
50N599	SPC5234	RJ-45	8	White	8.29
50N600	SPC5235	RJ-45	8	Yellow	8.29

(35478) (ne35478)

CATEGORY 5 IN-LINE COUPLER

- **Extends Category 5 Patch Cords without Losing Category 5 Performance**
- **Locking Mechanism Design for Easy Feed-Thru Panel Installation**
- **PCB Design for Maximum Reliability**

Maintain Category 5 performance with this in-line coupler. Allows joining of Category 5 patch cords while maintaining EIA/TIA Category 5 requirements. Ideal for unusual applications where longer patch cords are required. Accepts RJ-45 jacks with captive pins on either end of coupler. Dimensions: 1.18H x 0.69W x 1.93″D. Enclosure material rated UL94-V0. Meets EIA/TIA T568A or T568B Category 5 requirements. UL listed.

Stock No.	Type	Description	Each
16N2482	8461-0538	Category 5 In-Line Coupler	8.99
50N580	SPC5215	UTP, 1, ⅔, 6 Crossover	14.39
50N579	SPC5214	In-Line Coupler, Shielded T568A/B	16.99
50N578	SPC5213	Shielded 1, ⅔, 6 Crossover	16.99

(8160) (ne09335)

CATEGORY 5 PATCH CORD BULK CABLE

NEW

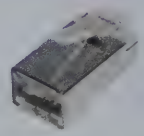
Constructed of stranded 24 AWE wire, 4 pair, twisted. Low attenuation and near-end crosstalk for 100MHz applications. ETL verified and EIA/TIA compliant. Impedance: 100 ±15 ohms. Wire jacket made of PVC, rated 75°C. 5.5mm O.D. UL listed, CSA certfied. **Sold in rolls of 500′.**

Stock No.	Type	Color	Each
92N5986	3468	Black	69.99
92N5987	3469	Blue	69.99
92N5988	3470	Green	69.99
92N5989	3471	Orange	69.99
92N5990	3472	Red	69.99
92N5991	3473	Yellow	69.99
92N5992	3474	White	69.99
92N5993	3475	Gray	69.99

(35479) (ne35479)

CATEGORY 5 MODULAR PLUGS

NEW



High-performance 8-position plugs meet TIA/EIA TSB40-A Category 5 NEXT requirements. Dual-point contact terminates 24-26 AWG stranded and solid conductors. Use to mate PC board mount 8-position modular jacks. Handle speeds up to 100MHz. Designed in shielded and unshielded versions to control EMI/RFI. Current rating: 1.5 amps. Voltage rating: 30VAC/42VDC. Dielectric withstanding: 100Vrms, 1 min. (60Hz). **Sold in packages of 10.**

Stock No.	Conductors	Description	Per Pkg.
92N5994	8	Unshielded, Short Body For Round Stranded Cable	4.99
92N5983	8	Shielded, for Round Stranded Cable	12.99
92N5984	10	Shielded, for Rounded Stranded Cable	18.99

(35481) (ne35481)

COLOR-CODED STRAIN RELIEF BOOTS

NEW

Short and snap-on boots accept 4-pair Category 5UTP cable. Long accepts 2-, 3-, and 4-pair cable for voice and Category 3, 4, and 5 stranded or solid wire. Long boot allows strain relief to be cut to size. Short and long boot versions are used for pre-connector termination. Snap-on boot is used for post-connector termination. **Sold in packages of 10.**

SHORT BOOT

Stock No.	Type	Color	Per Pkg.
10N264	1221	Black	3.41
10N267	1224	Blue	3.41
10N266	1223	Green	3.41
10N270	1227	Gray	3.41
10N268	1225	Red	3.41
10N265	1222	Yellow	3.41
10N269	1226	White	3.41

SNAP-ON BOOT

10N271	1228	Black	6.20
10N274	1231	Blue	6.20
10N273	1230	Green	6.20
10N277	1234	Gray	6.20
10N275	1232	Red	6.20
10N272	1229	Yellow	6.20
10N276	1233	White	6.20

LONG BOOT

10N278	1235	Black	7.24
10N282	1239	Blue	7.24
10N281	1238	Green	7.24
10N279	1236	Gray	7.24
10N283	1240	Red	7.24
10N280	1237	Yellow	7.24
10N284	1241	White	7.24

(35482) (ne35482)

CAT5 SURFACE MOUNT BOXES

Used in work areas and available in single and dual versions, as well as shielded and unshielded. Feature IDC connectors. Include mounting screws and double-sided adhesive tape. Meet Category 5 100MHz requirements. Accept 4-pair 24 AWG Category 5 cable.

UNSHIELDED

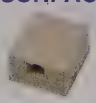
Stock No.	Type	Description	Each	2-4	5-9
16F3025	45-5618-00BU	Single Outlet, White	11.88	11.61	11.34
16F2960	45-5711-00BU	Single Outlet, Ivory	11.88	11.61	11.34
16F2933	45-5620-00BU	Dual Outlet, White	20.09	19.62	19.18
16F2961	45-5712-00BU	Dual Outlet, Ivory	20.09	19.62	19.18

SHIELDED

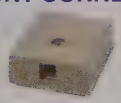
16F2932	45-5619-00BU	Single Outlet, White	14.15	13.82	13.51
16F2934	45-5621-00BU	Dual Outlet, White	20.09	19.62	19.18

(7927) (ne09050)

CAT5 MODULAR SURFACE MOUNT CONNECTING BLOCKS



Adhesive-Backed



Screw Mount

These voice and data connecting blocks feature IDC contacts and accept 22-26 AWG wire. Color: ivory.

ADHESIVE-BACKED PUNCH DOWN QUICK-CONNECT

Stock No.	Type	Description	Each	2-4	5-9
97F8877	45-0107-00BU	8-Conductor	6.90	6.74	6.59

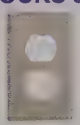
SCREW MOUNT

97F8871	45-0126-00BU	6-Conductor, 6-Position	6.02	5.88	5.74
97F8872	45-127	8-Conductor, 8-Position	6.76	6.60	6.45
16F3012	45-5107-00BU	Dual 8-Conductor	8.58	8.38	8.19

(7928) (ne09051)

FLUSH MOUNT CONNECTING BLOCKS & FACEPLATES

45-5100-BU



45-5104-BU

Units are available in dual versions and feature IDC contact data jacks. Can be trimmed with standard electrical wall faceplate. Accepts 22 to 26 AWG. Color: ivory.

BLOCKS

Stock No.	Type	Description	Each	2-4	5-9
16F3006	45-5100-00BU	6-Conductor, 6-Position	8.48	8.29	8.10
16F3007	45-5101-00BU	6-Conductor, 6-Position/ 8-Conductor, 8-Position	8.43	8.24	8.05
16F3008	45-5102-00BU	8-Conductor, 8-Position	9.15	8.94	8.73

FACE PLATE

16F3009	45-5104-500BU	Dual Version	1.68	1.64	1.60

(7929) (ne09052)

CAT5 IN-LINE COUPLER

Maintain true EIA/TIA Category 5 performance when joining two or more patch cables together. This 8-conductor modular coupler snaps into multimedia wall plates.

Stock No.	Type	Each	2-4	5-9
16F2947	45-5639-00BU	5.52	5.40	5.27

(7932) (ne09055)

TELCO BALUNS

Use inexpensive UTP cabling with your coax equipment. BNC male to RJ-11 female.

Stock No.	Type	Each	2-4	5-9
83F7115	45-540M	17.84	17.43	17.03

(31673) (ne31673)

CAT5 PATCH CABLES

100% transmission tested for Category 5 compliance. Assemblies perform properly to 100MHz. Modular plugs meet FCC part 68, subpart F specifications. Cables are UL listed 24 AWG, 4-pair UTP.

Stock No.	Type	Color	Each	2-4	5-9
16F2962	45-5681	Red, 3′	3.08	3.01	2.94
16F2963	45F 5682	Yellow, 3′	3.08	3.01	2.94
16F2964	45-5683	Blue, 3′	3.08	3.01	2.94
16F2965	45-5684	Black, 3′	3.08	3.01	2.94
16F2966	45-5685	Green, 3′	3.08	3.01	2.94
16F2967	45-5686	Red, 7′	4.61	4.51	4.40
16F2968	45-5687	Yellow, 7′	4.61	4.51	4.40
16F2969	45-5688	Blue, 7′	4.61	4.51	4.40
16F2970	45-5689	Black, 7′	4.61	4.51	4.40
16F2971	45-5690	Green, 7′	4.61	4.51	4.40
16F2972	45-5691	Red, 14′	6.95	6.79	6.64
16F2976	45-5695	Yellow, 14′	6.95	6.79	6.64
16F2973	45-5692	Blue, 14′	6.95	6.79	6.64
16F2974	45-5693	Black, 14′	6.95	6.79	6.64
16F2975	45-5694	Green, 14′	6.95	6.79	6.64
83F7110	45-5320	Red, 25′	8.93	8.73	8.53
83F7111	45-5322	Yellow, 25′	8.93	8.73	8.53
83F7112	45-5324	Blue, 25′	8.93	8.73	8.53
83F7113	45-5325	Black, 25′	8.93	8.73	8.53
83F7114	45-5376	Green, 25′	7.60	7.42	7.25

(7933) (ne09056)

CAT5 MODULAR PATCH PANELS

8-conductor 110 style patch panels are available in 12-, 16-, 24-, and 48-port configurations. Can be mounted on standard EIA 19″ racks. Panels are color-coded for 110 style termination and T568B wiring. Ports are numbered and come with additional numbering strip. 100% tested to TIA specifications. Modular outlets comply with FCC part 68, subpart F specifications.

Stock No.	Type	Ports	Each	2-4
16F2977	45-5697	12	130.49	127.48
16F2978	45-5698	16	177.44	173.34
16F3026	45-5699	24	234.12	228.71
16F3027	45-5700	48	471.31	460.42

(7937) (ne09060)

CONNECTOR PLATES AND INSERTS

Dual Plate

Insert

Allow custom modular F and BNC connectors to be installed quickly. Use to transmit voice and data in any network environment. Designed for quick installation and removal. All wall plates and inserts listed are ivory.

WALL PLATES

Stock No.	Type	Description	Each	2-4	5-9
16F2981	45-0950	Single Plate	2.25	2.19	2.14
16F2983	45-0938-00BU	Dual Plate	2.25	2.19	2.14
16F2980	45-0937-00BU	4-Way Plate	2.25	2.19	2.14

INSERTS

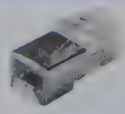
16F2986	45-0945-00BU	BNC Connector Insert	0.62	0.61	0.59
16F2984	45-0942-00BU	Blank Insert	0.62	0.61	0.59

(7931) (ne09054)

AT NEWARK, YOUR ORDER IS OUR FIRST PRIORITY.

MODULAR PLUGS AND JACKS

SHIELDED MODULAR PLUGS



Six- and eight-position shielded plug assemblies meets FCC rules and regulations. Can be inserted into shielded or unshielded jacks, *ordered separately.* Terminate on round, metallized polyester shielded cable using standard tools, *ordered separately on page 164.* Polycarbonate housing, rated UL94V-0. Tin-lead plated copper alloy shield. 0.014″ (0.36) thick phosphor bronze terminals plated gold in localized area and gold flash on remainder, over nickel underplate. UL listed, CSA certified.

Stock No.	Type	Positions	Cable Style	1-24	25-99	50-99
66F1677	5-555174-2	6*	Stranded	1.81**	1.76**	1.69**
97F9546	5-555175-3	6*	Round	2.22	1.75	1.41
16F9028	5-569532-3	8	Round	1.36	1.23	1.10
16F9029	5-569530-3	8†	Round	1.36	1.23	1.10

*Long body; †Keyed solid wire
**Price column quantities vary from above, *contact your local Newark sales office for details.*
(12526) (ne04163)

UNSHIELDED MODULAR PLUGS

True mass termination of jacketed cable with tinsel, solid or stranded conductors. One-piece construction with preloaded, gold over nickel plated phosphor bronze contacts. Polycarbonate housing, rate UL 94V-0. 150 VAC max. at 1.5 amps; UL listed, CSA certified. *Order modular plug professional hand tools separately on page 164.*

Stock No.	Type	Description	1-24	25-99	100-499
50F893	5-641334-3	4-Pos. Handset	0.19	0.18	0.18
50F940	5-641335-3	4-Pos. Line, Flat Oval Cable	0.19	0.18	0.18
50F941	5-641337-3	6-Pos. Line, Flat Oval Cable	0.25**	0.25**	0.24**
50F855	5-555042-3	6-Pos. Solid Wire*	0.25	0.24	0.23
50F856	5-555426-3	6-Pos. Long Body Solid Wire*	0.49	0.47	0.45
50F857	5-554739-3	8-Pos. Line, Flat Oval Cable	0.44	0.42	0.40
50F858	5-554743-3	8-Pos. Line, Keyed, Flat Oval Cable	0.44	0.42	0.40
50F859	5-554720-3	8-Pos. Solid Wire*	0.47	0.45	0.43
97F9578	5-557963-3	10-Pos. Stranded Wire‡	1.88	1.48	1.19
50F2174	5-556384-3	4-Pos. Flat Oval Solid Line	0.42	0.33	0.28
50F2175	5-554710-3	6-Pos. Round Stranded Line	0.38	0.30	0.24
66F8126	5-557970-3	6-Pos. Flat Oval Small Solid Conductor Line	0.11	...	...
50F2176	5-555176-3	6-Pos. Long Flat Oval Stranded Line	0.40	0.37	0.36
50F2177	5-555177-3	6-Pos. Long Round Stranded Line	0.80	0.62	0.51
92F6657	5-555237-2†	6-Pos. Flat Oval Stranded Offset Latch	55.83	45.98	40.21
66F8127	5-557315-3	8-Pos. Round Solid Line	0.71	0.56	0.45
50F2178	5-554169-3	8-Pos. Round Stranded Line	0.66	0.52	0.42

**Price column quantities vary from above, *contact your local Newark sales office for details.*
*Modular plugs which terminate loose jacketed, solid conductor cable will accommodate 26-24 AWG wire. ‡Round cable 26-28 AWG †**Sold in packages of 100**
(12444) (ne52789)

MODULAR PLUG ACCESSORIES AND TOOLING

High performance 8-position modular plugs exceed EIA-TIA 568A and TSB-40A requirements for Category 5 four-pair (RJ45) UTP applications. Meet all dimensional, tolerance and metallic plating requirements of FCC Part 68. Clear polycarbonate housing with phosphor bronze terminal plated gold in localized area, gold flash over remainder, over nickel underplate. Available keyed or unkeyed, shielded or unshielded. Accepts 24 AWG round stranded conductor. Load bar design makes loading wires easy prior to termination while maintaining ½″ twist. Mate with Category 5 modular jacks, *ordered separately on this page.* Color-coded cable boots, **type 3-231652-0** termination hand tool and **type 1-853400-0** 8-position plug die set, *ordered separately below.* Other modular plug tools are available, *ordered separately on page 164.*

Stock No.	Type	Description	Pkg. of	1-9	10-24	25-99
66F3370	5-558530-4	Unkeyed	25	15.16	13.18	12.52
66F3371	5-558595-4	Keyed	25	24.99	22.32	20.03
66F3372	5-558593-4	Unkeyed, Shielded	25	27.54	24.59	22.05
66F3373	5-558594-4	Keyed, Shielded	25	44.94	37.86	35.68
66F6153	5-558530-3	Unkeyed	100	57.73	51.04	48.72
66F6154	5-558595-3	Keyed	100	61.38	57.97	55.66
66F6155	5-558593-3	Unkeyed, Shielded	100	160.21	130.25	126.81

CONTINUED

MODULAR PLUG ACCESSORIES AND TOOLING (CONT.)

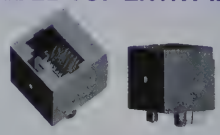
CABLE BOOTS

Stock No.	Type	Description	1-99	100-249	250-499
66F6219	558211-1	Black Boot	0.41	0.40	0.33
66F6220	558211-2	Lt. Almond Boot	0.34	0.33	0.31
66F6221	558211-3	Red Boot	0.34	0.33	0.31
66F6222	558211-4	Green Boot	0.34	0.33	0.31
66F6223	558211-5	Blue Boot	0.34	0.33	0.31
66F6224	558211-6	Yellow Boot	0.34	0.33	0.31
66F6225	558211-7	Orange Boot	0.34	0.33	0.31
66F6226	558211-8	White Boot	0.34	0.33	0.31
66F6227	558211-9	Violet Boot	0.34	0.33	0.31

Stock No.	Type	Description	Each
66F3376	3-231652-0	Hand Tool and 8-Position Plug Die Set	111.75
66F3374	1-853400-0	8-Position Plug Die Set Only	45.00

(12443) (ne06318)

PC BOARD SHIELDED TOP ENTRY MODULAR JACKS



Eight-position flangeless jacks with panel stops, panel and PC board grounds. Conform to FCC rules and regulations Part 68 and REA bulletin 345-81, PE-76 specifications. Black polyester housing. Copper zinc alloy shield plated with tin-lead over copper underplate. 0.0138″ (0.350) thick phosphor bronze terminals plated with gold in localized area and tin-lead in solder area over nickel underplate. **Type 557969-1** is keyed.

Stock No.	Type	Positions/Contacts	Description	1-24	25-49	50-99
97F9548	557730-1	8/8	Shielded	1.12	1.01	0.96
97F9549	557969-1	8/8	Top Entry	1.13	1.01	0.96

(8083) (ne04160)

HIGH-PERFORMANCE CATEGORY 5 JACKS

Shielded

Unshielded

Eight-position/contact side entry single port or multi-port jacks exceed Category 5 Near End Crosstalk (NEXT) requirements for EIA/TIA TSB 40. Meet FCC Part 68 rules and regulations. Available shielded with PC board or panel grounding or unshielded with or without panel stops. Black polysulfone housing with gray terminal insert, rated 94V-0. Bright tin-lead plated brass shield. Phosphor bronze terminals plated gold over nickel in contact area, tin-lead over nickel in solder area. Current rating: 1.5 amp max. at 25°C. Voltage rating: 150 VAC max. Operating temperature: –40°C to +70°C.

Stock No.	Type	Ports	Description	1-24	25-49	50-99
97F9579	558341-1	1	Unshielded without	1.65	1.49	1.41
97F9580	558343-1	1**	Panel Stops	1.65	1.49	1.41
97F9581	558342-1	1	Shielded with PC Ground	2.55*	2.48*	2.39*
97F9570	558504-1	6		11.34*	8.15*	6.16*
97F9573	558505-1	8		14.45*	10.38*	7.84*
97F9582	558344-1	1	Shielded with Panel Ground	2.57	2.31	2.19

*Price column quantities vary from above, *contact your local Newark sales office for details.*
**With panel stops
(8085) (ne04162)

MULTI-PORT MODULAR JACKS

Unshielded

Shielded

Low profile with narrow width to allow more ports in less space. Fully compliant to FCC Part 68 rules and regulations. Industry standard PC board footprint. Black polysulfone housing, rated UL94V-0. Tin-plated copper alloy shield. 8 port version has center mounting leg. 0.013″ (0.33) thick phosphor bronze contacts plated with gold in localized area, tin-lead in solder area over nickel underplate. Current rating: 1.5 amp max. Voltage rating: 150VAC max. Operating temperature: –40°C to +70°C.

UNSHIELDED

Stock No.	Type	Ports/Pins	Length	1-24	25-49	50-99
97F9553	557560-1	2/8	1.20″	1.66	1.49	1.42
97F9555	557562-1	4/8	2.30″	3.33	3.00	2.85
97F9557	557564-1	6/8	3.40″	4.99	4.49	4.27
97F9559	557566-1	8/8	4.50″	7.27	6.54	5.89

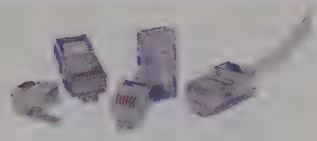
SHIELDED

Stock No.	Type	Ports/Pins	Length	1-24	25-49	50-99
97F9560	557570-1	2/8	1.23″	3.31*	3.22*	3.10*
97F9561	557571-1	4/8	2.33″	4.62*	4.49*	4.33*
97F9563	557573-1	8/8	4.53″	9.86*	7.09*	5.24*

*Price column quantities vary from above, *contact your local Newark sales office for details.*
(8084) (ne04161)

STEWART MODULAR PLUGS AND JACKS

UNSHIELDED MODULAR PLUGS



Plugs for voice, data, and high-speed networking applications. 50µ" selective gold-plated contacts. Available in 4, 6, 8 or 10 contact positions. Stranded or solid conductor. Accepts 28 to 24 AWG wire range. Housing rated UL94V-0. *Order external strain relief boots separately; contact your local Newark sales office for details.*

SOLID

Stock No.	Type	Contacts	Positions	Cable Style	1-9	10-24
83F4229	940-SP-3046-B25	4	6	Flat	0.22	0.19
83F4230	940-SP-3046R-B25	4	6	Round	0.22	0.19
83F4232	940-SP-3066R-B25	6	6	Round	0.31	0.26
83F4234	940-SP-3088R-B25	8	8	Round	0.46	0.40
83F4236	940-SP-3066OB-B25	6	6	Oversized	0.28	0.24
83F4237	940-SP-3088OB-B25	8	8	Oversized	0.44	0.38
	STRANDED					
83F4227	937-SP-3044-B25	4	4	Flat	0.22	0.19
83F4228	937-SP-3044R-B25	4	4	Round	0.22	0.19
83F4231	937-SP-3066R-B25	6	6	Round	0.31	0.27
83F4233	937-SP-3088R-B25	8	8	Round	0.49	0.42
83F4235	937-SP-301010RB25	10	10	Round	0.78	0.67

(28476) (ne28476)

UNSHIELDED CABLE-READY JACK

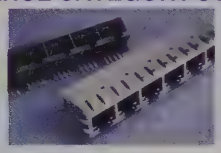
Jacks for telco, data, mobile and coupling applications. 10-position, 8-contact jack accommodates 24 and 26 AWG wire range. Features user-friendly wire management technique for easy assembly and termination. Jack is optimized for mobile/cellular applications. Built-in strain relief. UL recognized, CSA certified.

Stock No.	Type	Description	1-9	10-24
83F4242	SS-800810SB-040-2	Unshielded	8.75	7.50

(28475) (ne28475)

HIGH-PERFORMANCE CATEGORY 5 MODULAR JACKS

NEW



Single-part or multiport modular jacks designed for fast installation into high-speed applications. Standard PC board footprint for fast and easy replacement. Meet FCC Part 68S standards. Shielded version offers maximum EMI protection. Housing: UL94V-0 glass-filled thermoplastic. Contacts: copper alloy with selective gold plate in contact area, tin-lead in solder tail area. Available in standard 8-contact, 8-position format. UL listed, CSA certified.

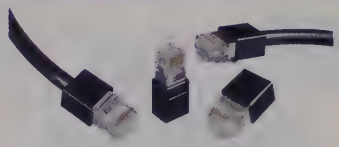
VERTICAL UNSHIELDED

Stock No.	Type	Ports	1-9	10-24
83F6913	SS-7188V-A-FLS*	1	1.89	1.62
83F6914	SS-7188V-A-NF	1	1.89	1.62
	VERTICAL SHIELDED			
83F6915	SS-7188VS-A-FLS*	1	2.87	2.46
83F6916	SS-7188VS-A-NF	1	2.87	2.46
	RIGHT-ANGLE UNSHIELDED			
83F6917	SS-7188-NF	1	1.40	1.20
83F6918	SS7188-FLS*	1	1.40	1.20
83F6922	SS-718804-NF	4	6.09	5.22
83F6923	SS-718806-NF	6	11.13	9.54
83F6924	SS-718808-NF	8	12.11	10.38
	RIGHT-ANGLE SHIELDED			
83F6919	SS-7188S-A-NF	1	1.96	1.68
83F6920	SS-7188S-A-FLS*	1	1.93	1.65
83F6921	SS-7188S-A-PG4-BA**	1	1.86	1.59
83F6925	SS-718802S-A-NF-A	2	6.34	5.43
83F6926	SS-718802S-A-NF	2	6.34	5.43
83F6927	SS-718804S-A-NF	4	10.33	8.85
83F6928	SS-718804S-A-FLS*	4	10.33	8.85
83F6929	SS-718806S-A-NF	6	13.69	11.73
83F6930	SS-718808S-A-NF	8	16.24	13.92

*Indicates panel stop; **Indicates panel ground

(34798) (ne34798)

SHIELDED MODULAR PLUGS



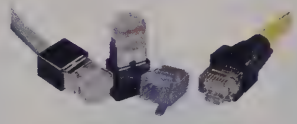
8-position, 8-contact plugs for high-speed networking applications. Ideal for EMI environments. Electropolished 50µ" selective gold-plated contacts. Stranded or solid conductor. Tin-plated brass shield. Accepts 28 to 24 AWG wire range. UL recognized, CSA certified. *Order external strain relief boots separately; contact your local Newark sales office for details .*

SOLID

Stock No.	Type	Contacts	Positions	Cable Style	1-9	10-24
83F4241	940-SP-360808-A16	8	8	Round	1.02	0.87
	STRANDED					
83F4240	937-SP-360808-A16	8	8	Round	0.98	0.84

(28477) (ne28477)

CATEGORY 5 UNSHIELDED AND SHIELDED MODULAR PLUGS



Management bar facilitates precise conductor alignment. Exceeds TIA/EIA-568A performance requirements. 8-position, 8-contact plugs are designed for high-speed networking applications exceeding 100Mbps. Electropolished gold-plated contacts. For 28 to 24 AWG wire range. *Order external strain relief boots separately; contact your local Newark sales office for details .*

Stock No.	Type	Description	1-9	10-24
83F4238	943-SP-370808M2A2	Unshielded	0.47	0.41
83F4239	943-SP-370808SM2A	Shielded	1.02	0.87

(28474) (ne28474)

PC-MOUNT MULTIPORT MODULAR STACKJACKS

NEW

Space-saving design provides up to 16 ports in a 2-row configuration. Standard and low-profile versions are available. The enhanced shield offers a closely spaced array of compliant panel contacts on all sides for maximum EMI protection. Contacts are constructed of phosphor bronze with selective gold plate in contact areas. Formed wire contacts provide low contact resistance.

Stock No.	Type	Ports	Contacts	1-9	10-24
83F6982	SS-7388H44S-PG4-A	4/4	8	16.80	14.40
83F6983	SS-7388H66S-PG4-A	6/6	8	25.20	21.60

(34799) (ne34799)

MODULAR SHIELDED AND UNSHIELDED FILTER JACKS

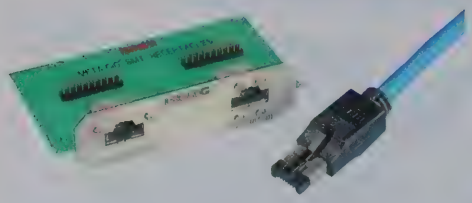
NEW

Offer filtering capabilities for high-speed network and telecom applications. Filter jacks are compatible with industry-standard contact footprint. Filter jacks are fast, drop-in replacements for standard jacks to reduce EMI emissions. Meet requirements of FCC 68.5. Made of UL94V-0 rated thermoplastic copper alloy contacts and selective gold plate in contact area.

Stock No.	Type	Ports	Description	1-9	10-24
83F6975	SS-728802SFR1-A-N	2	Shielded, No Flange	5.32	4.56
83F6976	SS-728804SFR1-A-N	4	Top/Bottom Tabs	9.52	8.16
83F6977	SS-728804SFR1-PG4	4	No Flange	11.10	9.51
83F6978	SS-728806SFR1-A-N	6	No Flange	15.26	13.08
83F6979	SS-728808SFR1-A-N	8	Enhanced Shield	19.71	16.89
83F6980	SS-7288SFR1-A-FLS	1	With/Shield, Flanges	3.15	2.70
83F6981	SS-7288SFR1-A-PG4	1	Enhanced Shield	3.47	2.97

(34800) (ne34800)

METAGIG™ CONNECTORS AND JACKS



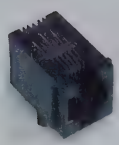
METAGIG™ ETHERNET CONNECTORS

The MetaGig™ system is an 150-ohm impedance-controlled interconnect system designed for high-speed serial data communication. It is an 8-position connector designed to meet copper Fiber Channel specification FC-PH3 and Gigabit Ethernet specification IEEE 802.3z PMD paragraph 38 or other high-speed serial applications. Fully shielded connectors, with shielding effectiveness of -40 to -50dBm, handle data rates up to 2.5Gbps. Receptacle available in two versions: standard bulkhead mount and PCI card mount. Plug connector accepts 21 to 30 AWG cable. Audible latch. First-mate, last-break ground and power contacts are blade-on-beam design.

Stock No.	Type	Description	1-24
83F5633	72487-001	Standard Bulkhead Mount Receptacle	10.38
83F5634	73465-001	PCI Card Mount Receptacle	10.38
83F5635	73637-001	Plug Connector	21.26

(29376) (ne29376)

PC BOARD JACKS



Horizontal

Vertical

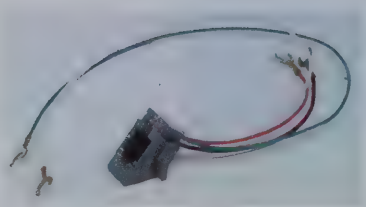
Low-Profile

Come in 4-, 6- and 8-position receptacles in horizontal and vertical entry styles. Feature press-fit design to eliminate heat and cold staking. Any pin configuration available through selective loading. Generation II modular jacks feature jack-to-board footprint of 0.100″ x 0.100″ (2.54 x 2.54). Jacks housed in heat-resistant thermoplastic polyester resin, flammability rated at UL 94V-0. Color: black. Contact wire is phosphor bronze alloy UNS C51000, with GTX™ palladium-nickel alloy with gold flash finish. 0.018″ (0.457) diameter. Standard/low-profile modular jacks have 0.080″ x 0.100″ (2.04 x 2.54) jack-to-board footprint. Used to connect electronic phone sets and data processing systems. Insulation resistance: 10 megohms minimum. Dielectric withstanding voltage: 1000Vrms, 60Hz. Contact resistance: 20 milliohms maximum. Current rating: 1.5A for standard/low-profile jacks; 2.0A for jacks. UL listed.

STANDARD JACKS

Stock No.	Type	Lead	Description	1-99
89F4693	68897-001	4-Wire	4-Pos. Horizontal, Right-Angle	0.55
89F4576	68898-001	6-Wire	6-Pos. Horizontal, Right-Angle	0.60
89F4694	68899-001	8-Wire	8-Pos. Horizontal, Right-Angle	0.65
89F4724	69253-001	4-Wire	4-Pos. Vertical, Top Entry	0.55
89F4725	69254-001	6-Wire	6-Pos. Vertical, Top Entry	0.60
89F4726	69255-001	8-Wire	8-Pos. Vertical, Top Entry	0.65
STANDARD/LOW-PROFILE JACKS				
97F9679	66010-001	4-Wire	4-Pos. Horizontal, Right-Angle, Standard	0.60
97F9680	66011-001	6-Wire	6-Pos. Horizontal, Right-Angle, Standard	0.60
97F9682	87180-044	4-Wire	4-Pos. Horizontal, Low-Profile, Right-Angle	0.55
97F9683	87180-066	6-Wire	6-Pos. Horizontal, Low-Profile, Right-Angle	0.60
97F9684	87180-088	8-Wire	8-Pos. Horizontal, Low-Profile, Right-Angle	0.65

(8424) (de52049)



Handset 616W Round

LEADED MODULAR JACKS

4-wire lead handset cord and line cord connectors meet most telephone interconnection requirements. Brass spade terminals on all except **type76361-014** which has stripped top coat leads. Gray ABS resin housing. Contact wire plating: 30μ″ (0.76μm) hard gold. Electrical performance: minimum insulation resistance 10 megohms; maximum, dielectric voltage 1000VRMS; contact resistance 20 milliohms maximum. Current rating: 2.0 amp, DC. UL recognized, CSA certified.

Stock No.	Type	Description	1-99
97F9671	65899-011	Handset, 616D	0.58
97F9672	65902-018	Handset, 616P	0.75
97F9673	65906-001	Handset, 616W Round*	0.75
97F9674	65906-025	Handset, 616W Square*	0.75
97F9678	76361-014	Handset, 616W Stripped†	0.60
97F9675	66017-008	Handset, 623D Square*	0.77
97F9676	66018-007	Line Base Mount, 523	1.15
97F9677	66434-006	Line Wall Mount, 625F	0.58

*Terminals; †Leads

(8446) (ne03565)

8-Port Gang Jack

GANG JACKS

Shielded right-angle jacks are used for networking 0.018″ contact wires. Low-profile, with snap-in pegs and 8-wire pen ports. Press fit design eliminates hot and cold staking. Will mate with modular plugs conforming toFCC part 68, subpart F. Meets industry standards for jack-to-board footprint. Electrical performance: 500 megohm minimum insulation resistance; 1000 VRMS dielectric standing volts, 60 Hz; 2-Amp current, DC. Made of nylon with glass-reinforced shielding of 0.25mm copper alloy. Contact spring plating is 0.76μm (30μ″) GTX™. GTX™ is a palladium-nickel alloy with gold flash (a BERG Electronics gold equivalent plating, to ensure a high cycle life and excellent solderability).

DIAMOND PEG TYPE

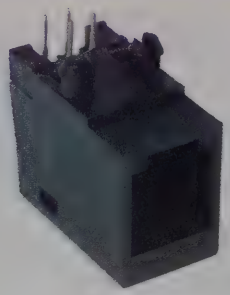
Stock No.	Type	Description	1-99
97F9667	94710-008	8-Position, 8-Port	11.98
97F9669	94710-004	8-Position, 4-Port	6.69
97F9670	94710-002	8-Position, 2-Port	4.05
SNAP PLUG TYPE			
66F9618	94910-008M	8-Position, 8-Port	7.01
66F9620	94910-004M	8-Position, 4-Port	3.51
66F9621	94910-002M	8-Position, 2-Port	12.07

(8445) (ne03563)

VISIT NEWARK'S WEB SITE AT www.newark.com

MODULAR JACKS AND RECEPTACLES

RIGHT-ANGLE MODULAR JACKS



Flangeless Mount

Available in flush mount and flangeless mount versions. Current: 1.5A. Dielectric withstanding voltage: 1000VACrms 60Hz for one minute. Insulation resistance: 500MΩ min. Durability: 500 mating cycles min. Housing: black, glass-filled polyester, rated UL94V-0. Contacts: phosphor bronze. PC board thickness: 0.062″ (1.57). UL recognized, CSA certified.

FLUSH MOUNT

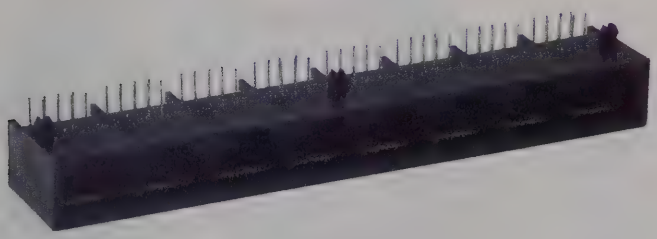
Stock No.	Type	Housing Size	Loaded Contacts	1-9	10-24
66F9869	15-43-7544	4	4	2.88	2.59
66F9868	15-43-7564	6	4	3.01	2.71
66F9867	15-43-7566	6	6	3.21	2.89
66F9866	15-43-7588	8	8	3.26	2.94

FLANGELESS MOUNT

66F9873	15-43-8544	4	4	2.88	2.59
66F9872	15-43-8564	6	4	3.01	2.71
66F9871	15-43-8566	6	6	3.07	2.77
66F9870	15-43-8588	8	8	3.26	2.94

(8465) (ne07437)

GANGED RIGHT-ANGLE MODULAR JACKS



Unshielded

Available in shielded and unshielded versions. Current 1.5A. Dielectric withstanding voltage: 1000VACrms 60Hz for one minute. Insulation resistance: 500MΩ min. Durability: 500 mating cycles min. Housing: black, glass-filled nylon, rated UL94V-0. Contacts: (8) phosphor bronze. PC board thickness: 0.062″ (1.57). UL recognized, CSA certified.

UNSHIELDED

Stock No.	Type	Housing Size	Ports	1-9	10-24
66F9879	43223-8122	8	2	6.98	6.28
66F9880	43223-8140	8	4	13.95	12.56
66F9881	43223-8176	8	8	27.90	25.11

SHIELDED

66F9882	43223-8125	8	2	12.66	11.39
66F9883	43223-8143	8	4	25.31	22.78
66F9884	43223-8179	8	8	50.62	45.56

(9467) (ne07439)

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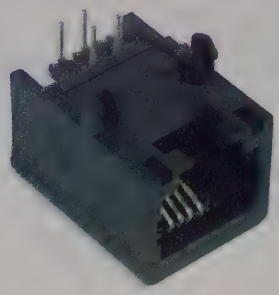
ULTRA LOW-PROFILE RIGHT-ANGLE MODULAR JACKS



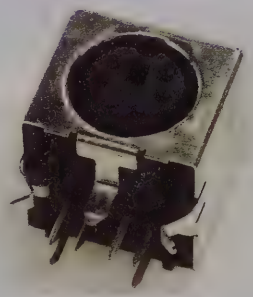
Flangeless mount jacks are 0.456″ (11.58) high. Current: 1.5A. Dielectric withstanding voltage: 1000VACrms 60Hz for one minute. Insulation resistance: 500MΩ min. Durability: 500 mating cycles min. Housing: black glass-filled nylon, rated UL94V-0. Contacts: phosphor bronze. PC board thickness: 0.062″ (1.57). UL recognized, CSA certified.

Stock No.	Type	Housing Size	Loaded Contacts	1-9	10-24
66F9874	43202-4101	4	4	3.08	2.77
66F9875	43202-6104	6	4	3.22	2.90
66F9876	43202-6101	6	6	3.29	2.96
66F9877	43202-8104	8	8	3.49	3.14
66F9878	43202-8110	8*	8	6.33	5.70

* Shield with ground tabs, height: 0.466″ (11.84)

(8466) (ne07438)

MINI-DIN PCB RECEPTACLES

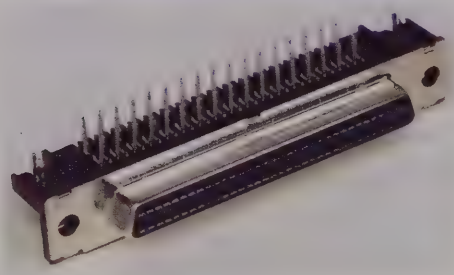


Front-shielded Mini-DIN PCB receptacles feature EMI/RFI shielding, kinked metal PCB hold downs to provide stable retention to the PCB, positive polarization, and select terminal loading. Voltage: 12V. Current: 2A. Contact resistance: 50mΩ max. Dielectric withstanding voltage: 250VAC. Contact insertion force: 2.5 oz. (71g). Housing: glass-filled polyester, rated UL94V-0. Contacts: phosphor bronze. Plating: 0.76µm (30µ″) min. select gold with tin/lead on PC tails. Durability: 500 cycles min. Temperature range: –40°C to +105°C. Color: black. **Sold in packages of 10.**

Stock No.	Type	Circuits	1-9	10-24
52F7518	87220-1411	4	19.38	17.44
52F7519	87220-1611	6	21.67	19.50
52F7520	87220-1811	8	25.15	22.64

(8463) (ne07434)

SCSI 2 AND SCSI 3 I/O SYSTEMS



15-87-6200

2.0 x 2.0mm grid pattern. Current: 1A. Voltage: 125VAC. Contact resistance: 25mΩ max. Dielectric withstanding voltage: 500VACrms applied between terminals. 15µ″ gold plating. **Type 15-87-6050** is a shielded right-angle receptacle with latches. **Type 15-87-6200** is a shielded right-angle receptacle without latches. **Type 15-87-0305** is a vertical plastic receptacle. **Type 704-98-3068** is a 0.025″ ribbon cable male plug.

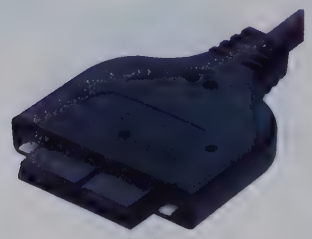
Stock No.	Type	Circuits	1-9	10-24
52F094	15-87-6050	50	24.92	22.42
52F095	15-87-6200	68	31.08	27.98
52F096	15-87-0305	68	24.36	21.93
52F097	704-98-3068	68	38.28	34.45

(8458) (ne07417)

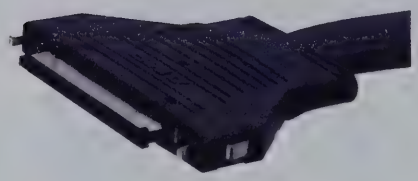
AMP

CABLE ASSEMBLIES

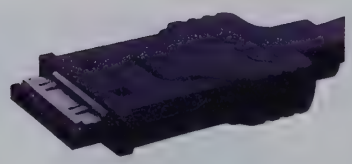
INFOPORT PCMCIA CABLE ASSEMBLIES



Series I



Series II



Series III

Series I, II and III cable assemblies are designed to meet the critical input/output requirements of Type II PC card applications. Each circuit line of the connector is soldered to a 30 AWG stranded conductor for maximum flex life. Cable assemblies have pigtails at the opposite end to allow easy custom termination to input/output device.

SERIES I

Stock No.	Type	Pos.	Length	Description	1-9
92F1154	557707-2	9	10.6″	Unshielded w/Grommet	11.15
83F1090	621370-1	9	72″	Shielded	13.03
92F1158	557712-2	15	10.6″	Unshielded	11.98
92F1157	557712-1	15	10.6″	Shielded	12.45
83F1091	621371-1	15	72″	Shielded	16.26

SERIES II

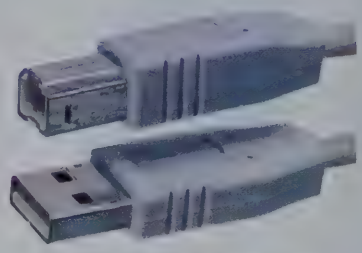
Stock No.	Type	Positions	Length	Description	Key	1-9
83F1092	621222-1	15	19″	Shielded	2	17.50
83F1093	621347-1	15	12″	Shielded	1	17.50
83F1094	621302-2	33	36″	Shielded	2	27.21
83F1095	621302-1	33	10″	Shielded	2	24.45

SERIES III

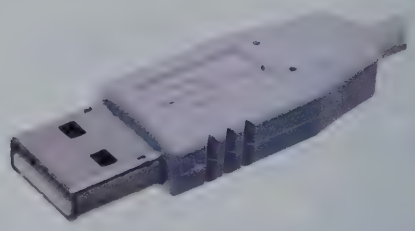
83F1098	621611-2	15	72″	Shielded	1	16.97
83F1099	621611-1	15	12″	Shielded	1	13.46
83F1101	621612-1	15	12″	Shielded	2	13.46
83F1100	621612-2	15	72″	Shielded	2	16.97
83F1097	621107-1	15	12″	Shielded	3	13.46
83F1096	621107-2	15	72″	Shielded	3	16.97
83F1103	621613-1	15	12″	Shielded	4	13.46
83F1102	621613-2	15	72″	Shielded	4	16.97
83F1105	621614-1	15	12″	Shielded	5	13.46
83F1104	621614-2	15	72″	Shielded	5	16.97

(28330) (ne28330)

USB CABLE ASSEMBLIES



Bus Extender Cable Assemblies



Blunt End Cut Assemblies

Universal Serial Bus (USB) cable assemblies are designed for plug-and-play computer peripherals. Connect USB-equipped computers to keyboards, mice, printers, video cameras, etc. Application requires an "A" receptacle Universal Serial Port. Connectors have 4 positions (2 positions make contact before the others) and a common overall shield. Cable assembly type: A to B (bus extender) or A to Blunt (blunt end).

BUS EXTENDER/FROST WHITE

Stock No.	Type	AWG	Length	1-9
83F1106	621772-1	2/28, 2/28	0.5m	6.32
83F1107	621773-1	2/28, 2/26	1.0m	6.65
83F1108	621774-1	2/28, 2/24	1.5m	6.97
83F1109	621774-2	2/28, 2/24	2.0m	7.39
83F1110	621775-1	2/28, 2/22	2.5m	9.13
83F1111	621775-2	2/28, 2/22	3.0m	10.83
83F1112	621776-2	2/28, 2/20	4.0m	12.61
83F1113	621776-3	2/28, 2/20	5.0m	14.27

BUS EXTENDER/BLACK

83F8398	621775-5	2/28, 2/22	1.0m	6.65
83F8399	621775-4	2/28, 2/22	2.0m	7.39
83F8400	621775-3	2/28, 2/22	3.0m	10.83

BLUNT END/SHIELDED

83F1114	621745-1	2/28, 2/28	0.83m	6.04
83F1115	621746-2	2/28, 2/26	1.00m	8.70
83F1116	621747-1	2/28, 2/24	2.00m	6.86

BLUNT END/UNSHIELDED

83F8401	636315-1	2/28, 2/24	0.83m	5.87
83F8402	636315-2	2/28, 2/24	1.00m	5.90
83F8403	636315-3	2/28, 2/24	2.00m	6.46

(28327) (ne28327)

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(41570) (ne41570)

PC CABLE ASSEMBLIES

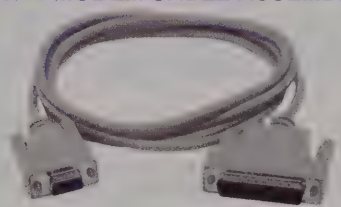
NULL MODEM CABLE ASSEMBLIES

Null modem serial cable assemblies allow 2 DTE or DCE devices to communicate with no conflict in data transmission. Transmit and receive signals are crossed to enable proper data transmission. Cable assemblies are designed with a rugged, overmolded construction that provides added strain relief and are foil shielded for protection from EMI/RFI interference. Allows connections to DB-9 (AT™) or DB-25 (PC) serial ports. Male-to-female configurations are typically used as serial printer cables, while female-to-female versions are typically used to connect 2 PC serial ports.

Stock No.	Type	Length	Connector Style	Gender	1-9
83F891	621849-1	6′	DB-25	M/M	**6.88**
83F892	621849-2	10′	DB-25	M/M	**8.12**
83F893	621849-3	15′	DB-25	M/M	**9.38**
83F990	621849-4	25′	DB-25	M/M	**13.13**
83F889	621848-1	6′	DB-25	M/F	**6.88**
83F890	621848-2	10′	DB-25	M/F	**8.12**
83F989	621848-3	15′	DB-25	M/F	**9.38**
83F1078	621848-4	25′	DB-25	M/F	**13.13**
83F888	621847-2	10′	DB-25/DB-9	M/F	**8.12**
83F1077	621847-3	15′	DB-25/DB-9	M/F	**9.38**
83F988	621847-4	25′	DB-25/DB-9	M/F	**13.13**
83F894	621850-1	6′	DB-9	F/F	**6.88**
83F895	621850-2	10′	DB-9	F/F	**8.12**
83F1079	621850-3	15′	DB-9	F/F	**9.38**
83F1075	621846-1	6′	DB-25	F/F	**6.88**
83F1076	621846-2	10′	DB-25	F/F	**8.12**
83F986	621846-3	15′	DB-25	F/F	**9.38**
83F987	621846-4	25′	DB-25	F/F	**13.13**

(28329) (ne28329)

PC/AT™ MODEM CABLE ASSEMBLIES



PC/AT™ modem cable assemblies have a fully molded and foil-shielded design to provide long-lasting data integrity, regardless of modem baud rates. Industrial strength hoods feature office-quality appearance with long, easy-grip slotted thumbscrews for neat, easy connections. DB-25 male to DB-9 female.

AT™ MODEM CABLES

Stock No.	Type	Length	1-9
83F860	621792-1	6′	**6.60**
83F861	621792-2	10′	**7.14**
83F862	621792-3	15′	**8.33**

PC MODEM CABLES

83F863	621851-1	6′	**7.14**
83F864	621851-2	10′	**8.33**
83F963	621851-3	15′	**9.55**

(28670) (ne28670)

DB-9 EXTENSION CABLE ASSEMBLIES

DB-9 extension cable assemblies are fully shielded to prevent EMI/RFI interference and have a fully molded design for excellent strain relief.

Stock No.	Type	Length	Gender	1-9
83F831	621804-1	6′	M/M	**7.04**
83F832	621804-2	10′	M/M	**8.07**
83F951	621804-3	15′	M/M	**10.11**
83F833	621808-1	6′	M/F	**7.04**
83F834	621808-2	10′	M/F	**8.07**

CONTINUED

DB-9 EXTENSION CABLE ASSEMBLIES (CONT.)

Stock No.	Type	Length	Gender	1-9
83F835	621808-3	15′	M/F	**10.11**
83F830	621803-1	6′	F/F	**7.04**
83F949	621803-2	10′	F/F	**8.59**
83F950	621803-3	15′	F/F	**14.16**

(28328) (ne28328)

DB-25 EXTENSION CABLE ASSEMBLIES

Extend existing serial or parallel cable assemblies. All 25 lines connect pin-to-pin and each cable is foil shielded for EMI/RFI protection. Available in a variety of lengths and gender combinations. Stock lengths have fully molded connectors with thumbscrews.

Stock No.	Type	Length	Gender	1-9
83F823	621797-1	3′	Male-to-Male	**4.94**
83F824	621797-2	6′	Male-to-Male	**6.18**
83F825	621797-3	10′	Male-to-Male	**7.44**
83F826	621797-5	15′	Male-to-Male	**10.62**
83F827	621797-6	20′	Male-to-Male	**11.86**
83F828	621797-7	25′	Male-to-Male	**13.13**
83F1046	621797-8	35′	Male-to-Male	**16.87**
83F829	621797-9	50′	Male-to-Male	**23.12**
83F946	1-621797-0	75′	Male-to-Male	**30.63**
83F816	621796-1	1′	Male-to-Female	**3.70**
83F817	621796-2	3′	Male-to-Female	**4.94**
83F818	621796-3	6′	Male-to-Female	**6.18**
83F819	621796-4	10′	Male-to-Female	**7.44**
83F820	621796-6	15′	Male-to-Female	**10.62**
83F1044	621796-7	20′	Male-to-Female	**11.86**
83F821	621796-8	25′	Male-to-Female	**13.13**
83F1045	621796-9	35′	Male-to-Female	**16.87**
83F822	1-621796-0	50′	Male-to-Female	**23.12**
83F944	1-621796-1	75′	Male-to-Female	**30.63**
83F943	621796-5	100′	Male-to-Female	**37.49**
83F934	621795-1	3′	Female-to-Female	**4.94**
83F1043	621795-2	6′	Female-to-Female	**6.18**
83F935	621795-3	10′	Female-to-Female	**7.44**
83F937	621795-5	15′	Female-to-Female	**10.62**
83F938	621795-6	20′	Female-to-Female	**11.86**
83F939	621795-7	25′	Female-to-Female	**13.13**
83F940	621795-8	35′	Female-to-Female	**16.87**
83F941	621795-9	50′	Female-to-Female	**23.12**
83F942	1-621795-0	75′	Female-to-Female	**30.63**
83F936	621795-4	100′	Female-to-Female	**37.51**

(33071) (ne33071)

DB-37 EXTENSION CABLE ASSEMBLIES

DB-37 extension cable assemblies are fully shielded against EMI/RFI interference. Use these cable assemblies for reliable data storage and retrieval.

Stock No.	Type	Length	Gender	1-9
83F1048	621801-1	3′	Male-to-Male	**23.94**
83F948	621801-2	6′	Male-to-Male	**28.74**
83F947	621800-1	3′	Male-to-Female	**23.94**
83F1047	621800-2	6′	Male-to-Female	**28.74**

(42276) (ne42276)

RJ-45 MODULAR ADAPTERS

Color-coded modular adapters are used to easily manage and identify connections from point to point. Color-coding connections helps to cut down on troubleshooting time while taking advantage of the modular adapter approach.

Stock No.	Type	Gender	Color	Connector Style	1-9
83F865	621836-1	Female	Gray	RJ12/DB-25	5.94
83F866	621837-1	Male	Gray	RJ12/DB-25	5.94
83F867	621838-1	Female	Gray	RJ12/DB-9	5.94
83F1061	621839-1	Male	Gray	RJ12/DB-9	5.94
83F868	621840-1	Female	Black	DB-25	5.94
83F869	621841-1	Male	Black	DB-25	5.94
83F870	621842-1	Female	Red	DB-9	5.94
83F871	621843-1	Male	Red	DB-9	5.94

(28570) (ne28570)

GENDER CHANGERS

DB-style gender changers quickly and easily convert the gender of any parallel, serial, or video port. Allows user to change the gender of existing port and use the same cable, instead of buying new cable for each new application. Each changer is molded and fully shielded.

STANDARD GENDER CHANGERS

Stock No.	Type	Connector Style	Gender	1-9
83F840	621818-1	DB-25	M/M	4.35
83F839	621815-1	DB-25	F/F	4.35
83F1051	621817-1	DB-25	M/F	4.35
83F842	621824-1	DB-9	M/M	4.35
83F841	621822-1	DB-9	F/F	4.35
83F954	621823-1	DB-9	M/F	4.35
83F1050	621813-1	HD DB-15	M/M	4.26
83F1049	621812-1	HD DB-15	F/F	4.26
83F955	621889-1	HD15	M/F	4.26
83F953	621821-1	C50	M/M	10.78
83F1052	621820-1	C50	F/F	10.78
83F952	621819-1	4 Pin Mini	F/F	9.85

SLIMLINE GENDER CHANGERS

83F843	621825-1	DB-25	F/F	5.45
83F844	621826-1	DB-25	M/M	5.45
83F845	621827-1	DB-9	F/F	6.18
83F846	621828-1	DB-9	M/M	6.18

(28331) (ne28331)

HIGH-SPEED SERIAL DATA CABLE ASSEMBLIES

NEW

Cable assemblies for copper implementations of the serial data technologies known as Fiber Channel (NCITS T11) and Serial Storage Architecture (NCITS T10.1). Includes fully shielded, controlled impedance cable-to-board interconnect which can handle data transfer rates above 2.125Gbps using low skew, 150-ohm shielded quad cable.

Cable Assembly

BOARD MOUNT RECEPTACLES

Stock No.	Type	Positions	Description	1-9
83F8404	621735-1	6	Right-Angle Surface Mount	8.60
83F8405	636180-1	8	Right-Angle Surface Mount	8.60
83F8406	621754-1	6	Straddle Mount	8.60

8-position cable plugs mate to 6-position or 8-position board mount receptacles.

DB-9 Cable

CABLE ASSEMBLIES

Stock No.	Type	Gender	Positions	Length (m)	1-9
83F8357	6-621724-4	M/M	8	1	62.54
83F8358	6-621724-2	M/M	8	5	66.15
83F8359	6-621724-1	M/M	8	10	72.29
83F8360	6-621724-6	M/M	8	20	92.80
83F8361	6-636136-1*	M/M	8	30	139.52

DB-9 CABLE ASSEMBLIES

83F8362	6-621771-2	M/M	9	1	62.54
83F8363	6-621771-6	M/M	9	5	66.15
83F8364	6-621771-9	M/M	9	10	97.57

* With equalizer

(33072) (ne33072)

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- **Shielded or Unshielded Models**
- **Single-Ended Passive or Active**

Improve signal integrity with these high-quality SCSI-1 50-position terminators. For use with .050″ center-line ribbon cable. AMP-LATCH® IDC unshielded plugs feature black thermoplastic shell and housing, rated UL94V-0. Phosphor bronze contacts plated tin or tin-lead over nickel underplate. **Type 748339-1** AMPLIMITE® HD-20 shielded plug features tin-plated steel shell and shield with black thermoplastic housing and enclosure, rated UL94V-0. Phosphor bronze contacts plated gold on mating end over nickel underplate. Includes black, chromate-plated zinc alloy jackscrews. All terminators have thick film resistor composition on alumina substrate.

Stock No.	Type	Terminators	Width	1-2	3-4	5-9
95F819	869383-1	Unshielded Plug, Single-Ended, Passive	2.960″	**39.13**	**35.22**	**31.70**
95F820	869574-1	Unshielded Plug, Single-Ended, Active	2.960″	**34.10**	**33.17**	**20.75**
01F669	869884-1	Unshielded Plug, Single-Ended, Active	2.000″	**32.49**	**27.62**	**24.86**
95F821	748339-1	Shielded Plug, Single-Ended, Passive	2.406″	**85.00**	**76.50**	**68.85**

(7989) (de00819)

869574-1

SCSI-1 TERMINATOR RECEPTACLES

- **50-Position SCSI-1 Standard Profile**
- **Single-Ended Passive and Active, or Differential**

AMPMODU® SCSI-1 50-position terminators feature brown nylon cover and housing. Phosphor bronze contacts plated gold on mating end, gold flash on remainder, with nickel underall. Thick film resistor composition on alumina substrate provides necessary resistance to match system characteristic impedance.

Stock No.	Type	Terminators	Width	1-2	3-4	5-9
95F822	869036-1	Unshielded Receptacle, Single-Ended, Passive	2.680″	**56.63**	**52.97**	**49.67**
95F823	869576-1	Unshielded Receptacle, Single-Ended, Active	2.680″	**45.34**	**40.81**	**36.73**
95F824	869041-1	Unshielded Receptacle, Differential	2.680″	**39.02**	**35.12**	**31.61**

(7990) (de00820)

869576-1

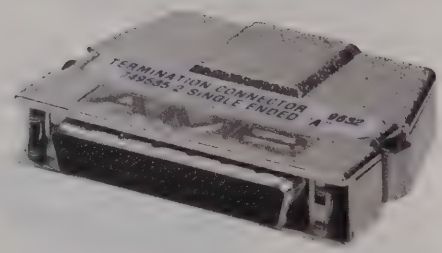
SCSI-2 HIGH-DENSITY NARROW TERMINATORS

- **50-Position SCSI-2 Standard Profile**
- **Single-Ended Passive and Active, or Differential**
- **Diecast Cover or Plastic Cover with Inner Shield**

AMPLIMITE® .050 series SCSI-2 high-density, 50-position terminators with spring latches for use with "A" cable. Available with zinc-plated diecast cover or low profile plastic cover with inner shield. All terminators feature phosphor bronze contacts plated gold on mating end over nickel underplate, black thermoplastic housing, rated UL94V-0, and thick film resistor composition on alumina substrate.

Stock No.	Type	Terminators	1-2	3-4	5-9
95F825	749535-2	Shielded Plug, Single-Ended, Passive – Diecast Cover	**54.60**	**40.46**	**31.08**
95F826	750881-1	Shielded Plug, Single-Ended, Passive – Plastic Cover	**28.61**	**20.58**	**15.80**
95F828	869546-1	Shielded Plug, Single-Ended, Active – Plastic Cover	**44.34**	**32.84**	**25.22**
95F827	869545-1	Shielded Plug, Differential – Plastic Cover	**39.62**	**35.66**	**32.09**

(9740) (de00821)



749535-2

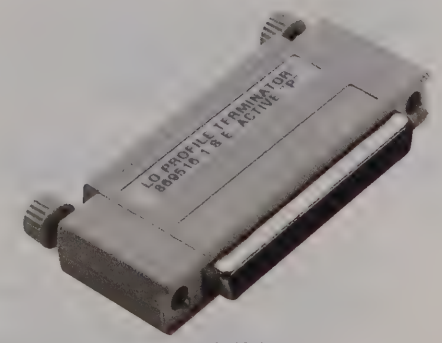
SCSI-3 HIGH-DENSITY WIDE TERMINATORS

- **68-Position SCSI-3 Standard Profile**
- **Single-Ended Active or Differential**

AMPLIMITE® SCSI-3 high-density, 68-position terminators for high-end workstations with a mix of peripherals. Use with "P" and "Q" cable. Feature beige ABS cover and black thermoplastic housing, both rated UL94V-0. Copper inner shield. Steel shell tin or tin-lead plated over copper. Phosphor bronze contacts plated gold on mating end over nickel underplate. Black, chromate-plated steel alloy jackscrews. Thick film resistor composition on alumina substrate. SCSI-3 incorporates Fast (synchronous-transmission) and Wide (16- and 32-bit word-length) SCSI techniques to boost transfer rates to more than 10 Mbps.

Stock No.	Type	Terminators	Width	1-2	3-4	5-9
95F829	869516-1	Shielded Plug, Single-Ended, Active	2.608″	**42.00**	**31.08**	**23.88**
95F830	869515-1	Shielded Plug, Differential	2.608″	**35.15**	**25.25**	**19.40**

(7992) (de00822)



869516-1

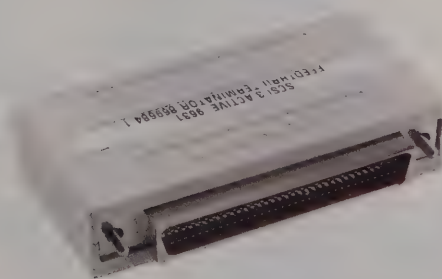
SCSI FEED-THRU TERMINAL ADAPTERS

- **50-to-68-Position SCSI Standard Profile**
- **68-to-68-Position SCSI Standard Profile**
- **Feed-Thru Active or Differential**

AMPLIMITE® .050 series D-subminiature SCSI feed-thru adapters are ideal for computer and printer needs. Feature steel shell plated tin or tin-lead over copper with high-density internal copper shield. Phosphor bronze contacts plated gold on mating end over nickel underplate. Black thermoplastic housing and beige ABS cover, both rated UL94V-0. Thick film resistors and/or discreet components on plastic laminate. Include stainless steel, passivated jackscrews with PVC heads. **Types 869680-1** and **869678-1** also have clear, chromate finish screw latches.

Stock No.	Type	Plug-to-Receptacle Positions	Feed-Thru	Shield	Width	1-9	10-24	25-49
01F675	869680-1	50-to-68	Active	Wide-to-Narrow	2.610″	**61.29**	**45.97**	**36.78**
99F7097	869678-1	50-to-68	Differential	Wide-to-Narrow	2.610″	**65.91**	**54.28**	**47.47**
01F674	869684-1	68-to-68	Active	Wide-to-Wide	2.610″	**107.25**	**92.50**	**85.25**
52F6243	869682-1	68-to-68	Differential	Wide-to-Wide	2.610″	**69.30**	**51.28**	**39.40**

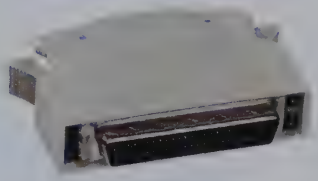
(13135) (ne10127)



869684-1

SCSI CABLES AND TERMINATORS

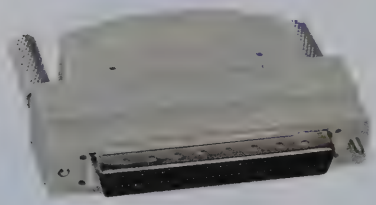
SCSI-2 TERMINATOR



50-position SCSI-2 half-pitch active terminator. Single-end, male, molded with spring latches. Gold-over-nickel contacts.

50N227 Type SPC5296. **Each** **19.99**
(40772) (ne40772)

SCSI-3 TERMINATORS

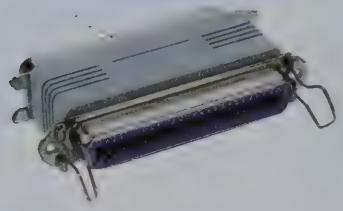


SCSI-3 half-pitch, 68-position male terminator. Gold-over-nickel contacts.

Stock No.	Type	Description	Each
50N228	SPC5297	Single End Active Terminator	**22.99**
50N229	SPC5298	Differential Type Terminator	**24.99**

(40771) (ne40771)

SCSI TERMINATORS

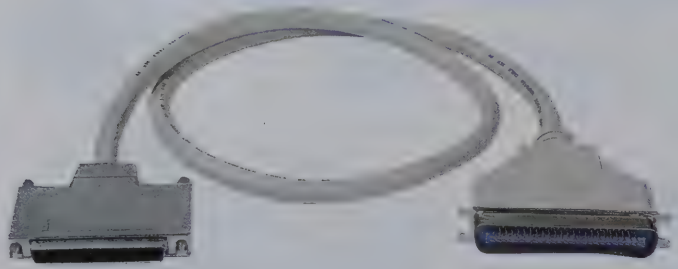


Enables accurate transmission of information to and from the computer and SCSI devices (external drives, scanners, printers). A terminator should be placed at each end to provide accurate data transmission. Active terminators will regulate the signal strength in more complex or longer distance SCSI applications. Active terminators have LEDs that indicate a signal is being regulated.

Stock No.	Type	Description	Each
52N9370	8587-0114	Double-Sided Centronics® 50-Pin Male-to-Female	**19.99**
52N9371	8587-0115	Active Centronics® 50-Pin Single-Sided Male	**39.99**

(7635) (ne08671)

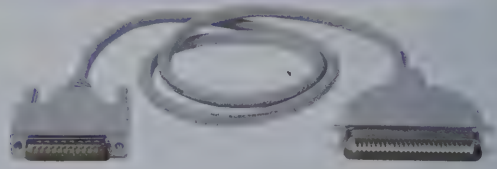
SCSI-2 TO SCSI-3 CABLE ASSEMBLIES



Half-pitch DB-50 male to Centronics® 50-pin male cable assembly is used in adapting SCSI-2 to SCSI-3. Features 25 twisted pair high-impedance cable and will allow proper data transfer between SCSI-2 and SCSI-3 external devices. **Type 8587-0116** length: 3′. **Type 8587-1304** length: 6′.

84N1992 Type SPC4447. **Each** **44.99**
84N1993 Type SPC4448. **Each** **55.99**
(7811) (ne08676)

SCSI SYSTEM CABLE ASSEMBLIES



Used to interface SCSI devices with a DB-25 female port directly to the SCSI port on the Macintosh computer. DB-25 female to 50-position Centronics® male.

Stock No.	Type	Description	Each
52N9363	8587-0107	3′ SCSI System Cable Assembly	**12.99**
52N9364	8587-0108	6′ SCSI System Cable Assembly	**12.99**

(7966) (ne08672)

SCSI EXTENSION CABLE ASSEMBLIES

SCSI cable can be used to extend SCSI system and SCSI peripheral cables. The total distance between SCSI devices should not exceed 18′. Centronics® 50-pin male-to-female, 25 lines wired.

Stock No.	Type	Description	Each
52N9365	8587-0109	SCSI Extension Cable Assembly, 3′	**16.99**
52N9366	8587-0110	SCSI Extension Cable Assembly, 6′	**16.99**

(7808) (ne08673)

SCSI-2 CABLE ASSEMBLIES

Cable complies with or exceeds SCSI-2 specifications. For SCSI-2 systems up to 10MB per second. Half-pitch DB-50, male-to-male.

Stock No.	Type	Length	Each
52N9367	8587-0111	3′	**64.59**
84N2006	SPC4472	6′	**66.99**

(7809) (ne08674)

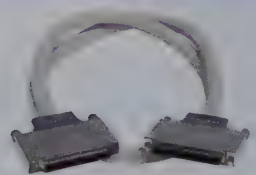
SCSI-3 CABLES

68-pin half-pitched cables feature ultra-high impedance and double-shield.

Stock No.	Type	Description	Length	Each
52N9368	8587-0112	25 pair Half-Pitch DB-68-Pin Male to Centronics® 50 Male	3′	**67.99**
10N171	8587-1303	25 pair Half-Pitch DB-68 Pin Male to Centronics® 50 Male	6′	**79.99**

(7810) (ne08675)

SCSI-3 CABLE ASSEMBLY



Ultra-high-impedance and double-shielded. 34-pair half-pitch DB-68 pin male-to-male cable assembly.

Stock No.	Type	Length	Each
52N9369	8587-0113	3′	**89.99**

(40770) (ne40770)

RS-449 DB-37 CABLE ASSEMBLIES

Standard DB-37 connectors, all cables wired straight through. 100% shielded.

Stock No.	Type	Description	L	Each
97F8867	45-0463	Male/Female	3′	17.23
97F8868	45-0466	Male/Female	6′	22.16

(7465) (de03611)

FLOPPY DISK DRIVE CABLES

45-410

Power Splitter cables for most applications.

Stock No.	Type	Description	Each
97F8863	45-0410	Floppy Drive "Y"	2.97
83F7052	45-0413	Floppy Splitter 6″	1.65
83F7053	45-4102	Floppy/CD Splitter 6″	2.12
83F7054	45-4103	Floppy/CD Splitter 12″	2.36
83F7055	45-4104	FDD/HDD Splitter 12″	3.08

(7466) (de03614)

SCSI-2 CABLE ASSEMBLIES

For high-transfer systems, up to 10Mbps. Meet SCSI-2 standards. 6′ length. Half pitch.

Stock No.	Type	Description	Each
95F2274	45-0890	HP DB-50 Male/Male	91.43
95F2275	45-0896	CEN-50M to HP DB-50M	73.81

(7554) (ne03326)

SCSI PERIPHERAL CABLE ASSEMBLIES

Used to link SCSI devices, disk drives, tape drives, scanners, and printers together. Centronics® 50-pin male-to-male.

Stock No.	Type	Description	Each
95F2268	45-0853	25-Wire Cable, 3′ Length	11.22
95F2272	45-0854	50-Wire Cable, 3′ Length	20.09
95F2273	45-0855	50-Wire Cable, 6′ Length	24.03

(7552) (ne03319)

SCSI-3 CABLE ASSEMBLIES

68-pin half-pitched male/male cable assemblies feature ultrahigh impedance and double-shielded 34-pair cable.

DB-68 PIN TO CENTRONICS 50®

Stock No.	Type	Length	Each
97F8848	45-0875	3′	86.26
97F8849	45-0877	6′	67.77

(7463) (de03603)

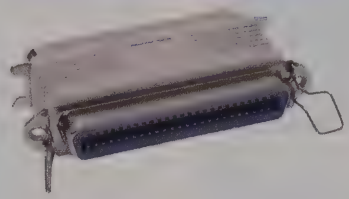
SCSI-2 TO SCSI-3 CABLES

Half pitch DB-50 Male to half pitch DB-68. Used in adapting SCSI-2 to SCSI-3, these cables feature the same twisted pair high-impedance cable and will ensure proper data transfer between SCSI-2 and SCSI-3 cable.

Stock No.	Type	Length	Each
16F3036	45-0906	3′	59.76
16F3037	45-0907	6′	43.13

(7601) (ne08572)

SCSI 50-PIN TERMINATORS



Provide accurate data transmission between computer and SCSI peripherals.

CENTRONICS® 50-PIN

Stock No.	Type	Description	Each
95F2263	45-0870	2-Sided, Male/Female	18.45
95F1444	45-0871	2-Sided, Male/Male	9.81

(7459) (de03322)

SCSI EXTENSION CABLE ASSEMBLY

Centronics® 50-pin male-to-female connectors, 25 lines wired.

Stock No.	Type	Description	Each
95F2267	45-0876	6′ Assembly	22.50

(7458) (de03321)

NULL MODEMS

Allows communication between any 2 DCE or DTE devices. Standard DB-25 male-to-female connectors.

Stock No.	Type	Description	Each
83F7106	45-0582	Standard Type	4.53
83F7107	45-0583	Full Handshake	4.53
83F7108	45-0584	No-Handshake	4.53
83F7109	45-0589	Standard Type #1	4.53

(31674) (ne31674)

VGA/SVGA CABLES

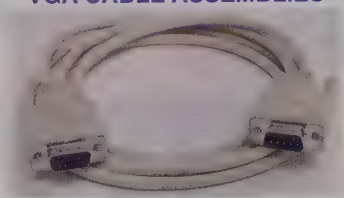
45-1838 (Female)

High density DB-15 connectors. Constructed from the same mini-coaxials used by monitor manufacturers. Guard video signal integrity and ensure a cleaner and clearer image. These cables utilize 3 coaxial cables and 4 discrete cables.

Stock No.	Type	Description	L	Each
16F3038	45-1838	Male/Female	10′	26.08
16F3039	45-1839	Male/Male	10′	26.08
16F3040	45-1845	Male/Female	25′	46.21
16F3041	45-1841	Male/Male	25′	46.21

(7602) (ne08573)

VGA CABLE ASSEMBLIES



Connect VGA monitors to VGA adapters. Shielded, 6′ cable with molded connectors and thumb screws.

Stock No.	Type	Description	Each
95F1454	45-437	DB-9 M/HD-15 M	7.86
95F1455	45-438	DB-9 F/HD-15 F	7.86

(7460) (de03324)

Lap-Link Cable

Provides universal link between IBM®-compatible laptop and desktop computers. 6-headed assembly permits serial or parallel port connection. Each end has a male and female DB-25 and a female DB-9.

(7553) **95F2271** Type 45-0730. **Each**..... **33.25** (ne03323)

ASYNC NULL MODEM CABLE ASSEMBLIES

Connect 2 serial devices configured as DTEs or DCE async only. Connect computer to computer for file transfer through the serial port.

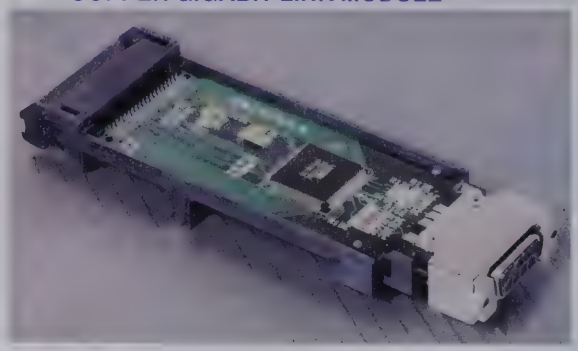
Stock No.	Type	Description	L	Each
83F7101	45-0389	DB9 F/DB9 F	6′	5.93
83F7102	45-0390	DB9 M/DB9 M	10′	7.12
83F7103	45-0393	DB25 M/DB25 F	6′	5.93
83F7104	45-0394	DB25 M/DB25 M	10′	7.12
83F7105	45-0395	DB25 M/DB25 F	10′	7.12

(31675) (ne31675)

TERMINATORS, ADAPTERS AND CONVERTERS

COPPER GIGABIT LINK MODULE

NEW



This clever link module features a 20-bit wide bus that's designed to transfer data encoded with the 8B/10B encoding scheme specified by the Fibre Channel XB/T11 committee. The transmitter and receiver pair form a high-speed serial link with a data rate of 1.0625 GBd. The parallel data bits to be transferred are serialized by the card and transmitted through the copper cable. On the receiver, a PLL (phase locked loop) recovers the data clock and shifts the data into a deserializing circuit.

48F2176 Type DM 1063-CGLM9. **Each** **163.15**
(41973) (ne41973)

PENTIMATE™ USB HUB

NEW

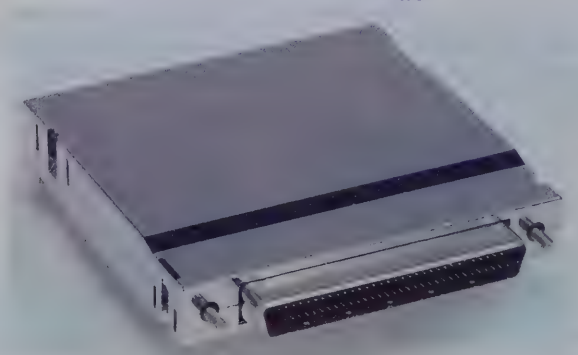
MADE IN USA

Unique 4-port, bus-powered USB hub with the 5-sided styling of Pentimate™. Power that the hub and the 4 USB devices connected to it require is provided by the host computer. This innovative feature completely eliminates the need for external power adapters. Provides solid-state "circuit breaker" protection to each attached USB device. Supports 1.5/12 Mbps operations. USB Standard Rev 1.0. FCC/EN Radiated EMI Class B. FCC/EN Conducted EMI. EN 50082-1 Radiated Immunity. EN 50082-1 ESD. CE compliant.

48F2175 Type DM 7006. **Each**..... **104.65**
(41976) (ne41976)

LVD-TO-SE SCSI CONVERTER

NEW

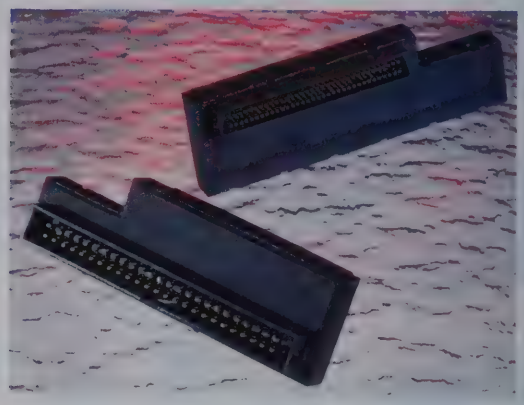


Acts as a bridge between LVD and single-ended devices and allows single-ended drives to be conveniently attached to LVD systems without degrading LVD bus performance. External power supply not required. Supports synchronous and asynchronous data transfer. Provides 80MB/sec. data transfer rate. 68-pin to 68-pin high-density connector. LVD and S.E. termination provided. May be used as a bus extender. Conforms to FCC Part 15, Class B.

48F4020 Type DM-7200-6868-02. **Each** **170.43**
(41971) (ne41971)

INTERNAL ADAPTERS

NEW



Pluggable feed-thru adapters used to connect a low-density device to a high density device; or a high- density to a low-density one. Low-density contact spacing is 0.100″ and high density contact spacing is 0.050″. 100% electrically tested. material: copper alloy. Insulator Material: glass-filled LCP, rated UL 94V-0. Housing material: glass-filled LCP rated UL 94V-0.

Stock No.	Type	Description	Gender	Each
96F9813	DM5000-5068-02	Universal Feed Thru With Caps on High Lines	Female	**33.83**
83F6836	SP5000-5068-13	Custom Circuit	Female	**23.23**
83F6837	DM5000-5068-19	Custom Circuit	Male	**21.45**
83F6838	DM5000-5068-25	Universal Feed Thru Open	Male	**38.68**

(41972) (ne41972)

DM SERIES DATAMATE SCSI BUS TERMINATORS

DM550

DM800

DM2050

SCSI terminators create impedance to prevent reflection of transmitted data. Regulated devices stabilize voltages at signal pins to 2.85 volts and improve noise margin in longer cable runs. **DM550 series** internal style male/female devices install between I/O port and ribbon cable. 25 rows/50 positions on 0.100″ x 0.100″ (2.54 x 2.54) grid spacing. **DM800 series** low density external shielded style male devices terminate 0.085″ (2.16) center miniature ribbon I/O port. **DM2050 series** high density external shielded style male devices install into 0.050″ (1.27) center SCSI 2 high density female connectors. All external styles feature internal shielding for EMI and RFI. UL recognized, CSA certified, VDE approved.

Stock No.	Type	BUS Interface SCSI	1-24
95F9539	DM550-06-0	Single Ended (Passive)	**28.85**
95F9538	DM550-05-0	Differential (Passive)	**33.66**
95F9540	DM550-06-R	Single Ended Regulated (Active)	**37.18**
51F1146	DM800-09-0	Single Ended (Passive)	**12.82**
95F9541	DM800-09-R	Single Ended Regulated (Active)	**31.05**
95F9543	DM2050-01-68D	Differential (Passive)	**21.33**
95F9544	DM2050-02-68R	Single Ended Regulated (Active)	**28.67**

(4785) (de52243)

CABLE ASSEMBLIES

D-SUBMINIATURE CABLE ASSEMBLIES

fig. 1

Fig. 2

Fig. 3

Designed for long life and reliable performance in input/output and keyboard interface applications. Shielded cables have connector shells soldered to cable shield for positive ground path. Point-to-point wiring. 37-position has point-to-point wiring with shield to connector shell and pin number 1. UL recognized.

9-POSITION 2464 300V, 80°; NEC CM FOIL SHIELD

Stock No.	Type	Fig.	Gender	Length ft.	Length m	Each	2-4	5-9	10-24
46F7213	49900A	1	M/M	5	1.5	46.83	43.12	37.72	34.14
46F7214	49901A	1	M/M	10	3.0	51.42	47.35	41.42	37.49
46F7215	49902A	1	M/M	25	7.6	60.74	55.05	49.48	45.63
46F7216	49905A	1	M/F	5	1.5	45.36	41.77	36.54	33.07
46F7217	49906A	1	M/F	10	3.0	50.50	46.50	40.68	36.82
46F7218	49907A	1	M/F	25	7.6	59.86	54.25	48.76	44.97

9-POSITION 20197 30V, 60°C FOIL SHIELD

46F7219	49910A	2	M	5*	1.525	32.14	29.59	25.89	23.43
46F7220	49911A	2	M	7.5*	2.286	36.55	33.65	29.44	26.64

15-POSITION 2464 300V, 80°C; NEC CM FOIL + 90% BRAID

46F7236	49721A	1†	M/M	10	3.0	59.86	54.25	48.76	44.97
46F7239	49725A	1†	M/F	5	1.5	54.58	49.47	44.46	41.00
46F7227	49740A	1	M/M	5	1.5	52.82	47.87	43.02	39.68
46F7231	49745A	1	M/F	5	1.5	55.46	50.26	45.17	41.66
46F7232	49746A	1	M/F	10	3.0	61.62	55.85	50.19	46.29
46F7233	49747A	1	M/F	25	7.6	81.87	74.20	66.68	61.50

25-POSITION 2464 300V, 80°C; NEC CM FOIL SHIELD

37F5008	49668A	3	M/M	5	1.5	58.98	53.45	48.04	44.31
37F5009	49669A	3	M/M	10	3.0	67.78	61.43	55.21	50.92
37F5011	49671A	3	M/M	50	15.2	129.40	117.28	105.40	97.21
37F5013	49673A	3	M/F	5	1.5	57.22	51.86	46.61	42.99
37F5014	49674A	3	M/F	10	3.0	70.43	63.83	57.36	52.91
37F5015	49675A	3	M/F	25	7.6	92.43	83.77	75.29	69.44

37-POSITION 2464 300V, 80°C; NEC CM FOIL + 65% BRAID

46F7285	49950A	3	M/M	5	1.5	84.51	76.59	68.83	63.49
46F7286	49951A	3	M/M	10	3.0	100.36	90.95	81.74	75.39
46F7287	49952A	3	M/M	25	7.6	150.53	136.42	122.61	113.08
46F7289	49955A	3	M/F	5	1.5	87.15	78.98	70.98	65.47
46F7290	49956A	3	M/F	10	3.0	103.00	93.34	83.89	77.37
46F7291	49957A	3	M/F	25	7.6	152.29	138.02	124.04	114.40
46F7292	49958A	3	M/F	50	15.2	210.62	188.28	171.88	158.30

50-POSITION 2464 300V, 80°C; NEC CL2X DUOFOIL + 90% BRAID

46F7293	49760A	3	M/M	5	1.5	113.56	102.92	92.49	85.31
46F7294	49761A	3	M/M	10	3.0	133.81	121.27	108.99	100.52
46F7295	49762A	3	M/M	25	7.6	191.91	173.92	156.31	144.16
46F7297	49765A	3	M/F	5	1.5	115.32	104.51	93.93	86.63
46F7298	49766A	3	M/F	10	3.0	115.32	104.51	93.93	86.63

*Extended body length † Foil Shield
(7417)

(de01538)

COMPUTER-PRINTER PARALLEL INTERFACE CABLE ASSEMBLIES

2464; NEC CM

Universal 36-position ribbon connector (Centronics® compatible) on one end and 25-position D-Subminiature connector (IBM PC and PC-XT compatible) on other. 300V, 80°C. Foil and 65% braid shielding, all male to male.

Stock No.	Type	Fig.	Length ft.	Length m	Each	2-4	5-9	10-24
46F7301	49500	1	5	1.5	73.07	66.22	59.51	54.89
46F7302	49501	1	8	2.4	75.71	68.61	61.66	56.87
46F7303	49502	1	10	3.0	80.99	73.40	65.97	60.84

(7419)

(de01540)

GPIB SHIELDED AND UNSHIELDED MOLDED CABLE ASSEMBLIES

Programmable controllers, signal generators, bridges, scopes, counters, digital multimeters, plotters, power sources and test fixtures can all be interconnected to perform intricate testing simply and easily with high reliability GPIB molded cable assemblies. GPIB molded cable assemblies meet full electrical, mechanical and functional requirements of IEEE 488 standard for cable interface among up to 15 programmable instruments in a bus connected system. Fully-molded male and female connectors (on each end of the cable) are designed for easy stacking and come with molded-in metric jackscrews. Gray. UL recognized. Each cable consists of 6 prs. 26AWG (7x34) 10 singles 26AWG (7x34), and 1 single 24AWG (7x32).

SHIELDED HANDLE, SHIELDED CABLE

Stock No.	Type	Length	Each	2-4	5-9	10-24
87F2992	49733	1.6′ (0.5m)	103.88	94.14	84.61	78.03
87F2993	49734	3.3′ (1.0m)	106.52	96.54	86.76	80.02
87F2994	49735	6.6′ (2.0m)	111.80	101.32	91.06	83.98
87F2995	49736	9.9′ (3.0m)	117.08	106.11	95.36	87.95
87F2996	49737	13.1′ (4.0m)	125.00	113.29	101.81	93.90
87F2997	49738	26.2′ (8.0m)	149.65	135.63	121.89	112.42

UNSHIELDED HANDLE, SHIELDED CABLE

37F3283	49642	3.3′ (1.0m)	99.48	90.15	81.02	74.73
37F3284	49643	6.6′ (2.0m)	103.88	94.14	84.61	78.03
46F7476	49645	26.2′ (8.0m)	140.85	127.65	114.72	105.81

(7483)

(de50320)

MODULAR KEYBOARD CABLE ASSEMBLIES

Fig. 1

Fig. 2

For rapid interconnection of electronic computers. With its positive locking latch, the connector cannot vibrate loose from equipment. Polarized connector prevents improper insertion. The retractile cords have a 15″ body with 1.5″ tails; the straight cords are 18″ long.

UNSHIELDED

Modular wiring crosswired is standard on unshielded constructions.

Stock No.	Type	Fig.	Length	Pos./ Conds.	Each	2-4	5-9	10-24
44F1692	49441	1*	67.5″ (1.714m)	6/6	9.19	8.46	7.40	6.70
44F1693	49442	1*	67.5″ (1.714m)	8/8	10.32	9.51	8.32	7.53

BELDFOIL® SHIELD PLUS DRAIN

Straight wiring is standard on shielded constructions.

44F1686	49402	1*	67.5″ (1.714m)	8/7	11.94	10.99	9.62	8.71
44F1684	49403	1*	67.5″ (1.714m)	6/5	10.32	9.51	8.32	7.53
44F1688	49413	2*	18.0″ (0.457m)	6/5	6.04	5.57	4.87	4.41

*Extended body length
(7487)

(de50324)

DIN MALE CONNECTOR CABLE ASSEMBLIES

Fig. 1

Fig. 2

Male connector assemblies are for use where a shielded cable is needed to connect microcomputer keyboards. All are NEC CM, UL recognized 2464, 300V.

BELDFOIL® SHIELD PLUS BRAID SHIELD - 26AWG (19x38)

Stock No.	Type	Fig.	Length	No. of Conds.	Each	2-4	5-9	10-24
46F7184	49153A	1	10′ (3.0m)	5	18.18	16.74	14.65	13.26

BELDFOIL® SHIELD - 26AWG (19x38)

46F7206	49104A	2	*	8	22.77	20.97	18.34	16.60
46F7211	49152A	1	10′ (3.0m)	5	15.79	14.54	12.72	11.52

*Length 14.5″ (368.3mm)/72.5″ (1.84M) Extended
(7486)

(de50323)

COMPUTER ACCESSORIES

RS-232 SERIAL ADAPTERS

45-585-BU

45-2509

Convert IBM® AT™ or PS/2™ DB-9 computer serial port to a DB-25.

CONVENTIONAL

Stock No.	Type	Description	Each	2-4	5-9
50F6464	45-0585-00BU	DB-9F-DB25M AT™ to Modem	3.90	3.81	3.72
50F6465	45-0586-00BU	DB-9F-DB25M AT™ to Serial Printer	3.90	3.81	3.72
50F6467	45-0588-00BU	DB-9F-DB25M Straight Through	3.90	3.81	3.72
LOW PROFILE					
83F7067	45-2509	DB25F-DB9F	3.93	3.84	3.75
83F7068	45-2510	DB25F-DB9M	3.93	3.84	3.75
83F7069	45-2511	DB25M-DB9F	3.93	3.84	3.75

(7545) (ne03255)

IBM® PS/2™ MOUSE ADAPTERS AND ADAPTER CABLE

Type 45-888

45-888

45-578

6-pin mini-DIN male to DB-9 male allows a standard mouse to be used with equipment that has a PS/2™ 6-pin port. 6″ cable. **Type 45-578** and **45-579** are adapters only.

Stock No.	Type	Description	Each	2-4	5-9
97F8864	45-0880	Mini Din6-DB9M	6.66	6.50	6.36
83F7070	45-0578	DB9M-MD6M	4.03	3.93	3.85
83F7071	45-0579	DB9F-MD6F	4.03	3.93	3.85

(7464) (de03607)

HIGH-DENSITY D-SUB ADAPTERS

Adapters convert DB-9 to high-density DB-15. Widely used to convert IBM® or compatible video computer output to multisynch monitor.

Stock No.	Type	Description	Each	2-4	5-9
50F6457	45-0590-00BJ	Female/Female	4.29	4.19	4.10
50F6458	45-0591-00BU	Female/Male	4.29	4.19	4.10
50F6459	45-0592-00BU	Male/Female	4.29	4.19	4.10
50F6460	45-0593-00BU	Male/Male	4.29	4.19	4.10

(7453) (de03257)

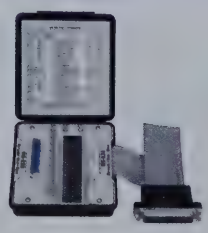
RS-232 GENDER CHANGERS

All 25 lines wired through. Fully shielded, epoxy encapsulated. Gold contacts.

Stock No.	Type	Description	Each	2-4	5-9
44F4591	45-4100	Male/Male	9.59	9.37	9.15
44F4592	45-4101	Female/Female	9.59	9.37	9.15

(7550) (ne03267)

MINI BREAKOUT BOX



Portable, pocket-size test set provides access to all 25 conductors of the RS-232/V.24 interface between data terminals and data modems. 10 LEDs monitor status at the source of 10 primary signals, and 2 additional spare LEDs. 24 miniature switches allow interface conductors (except frame ground or pin 1) to be individually interrupted to allow isolated testing and observation of terminal or modem signals. Features pins on each side of each switch and small jumper cables (stored in cover) to allow cross-patching and monitoring of signals.

83F7073 Type 45-0491. **Each** **51.20**

(31671) (ne31671)

GENDER CHANGERS AND PORT PROTECTORS

STANDARD GENDER CHANGERS

Stock No.	Type	Description	Each	2-4	5-9
50F6421	45-0510-00BU	DB-9, Male/Male	3.45	2.88	2.65
50F6422	45-0515-00BU	DB-9, Female/Female	3.45	2.88	2.65
50F6424	45-0520-00BU	DB-15, Male/Male	3.80	3.71	3.63
50F6425	45-0525-00BU	DB-15, Female/Female	3.80	3.71	3.63
50F6418	45-0500-00BU	DB-25, Male/Male	4.35	3.63	3.34
50F6419	45-0505-00BU	DB-25, Female/Female	4.35	3.63	3.34
50F6429	45-0540-00BU	DB-37, Male/Male	8.16	7.97	7.79
50F6430	45-0543-00BU	DB-37, Female/Female	6.73	6.58	6.43
50F6432	45-0560-00BU	High-Density DB-15, Male/Male	5.52	5.40	5.27
50F6433	45-0561-00BU	High-Density DB-15, Female/Female	5.52	5.40	5.27
LOW-PROFILE GENDER CHANGERS					
50F6439	45-0517-00BU	DB-9, Male/Male	3.87	3.23	2.97
50F6440	45-0518-00BU	DB-9, Female/Female	3.18	3.11	3.04
50F6441	45-0519-00BU	DB-9, Male/Female, Slim	3.18	3.11	3.04
50F6442	45-0527-00BU	DB-15, Male/Male	3.70	3.62	3.53
50F6443	45-0528-00BU	DB-15, Female/Female	4.54	4.43	4.33
50F6436	45-0507-00BU	DB-25, Male/Male	4.35	3.63	3.34
50F6437	45-0508-00BU	DB-25, Female/Female	8.97	7.48	6.88
STANDARD PORT PROTECTORS					
50F6423	45-0516-00BU	DB-9, Male/Female	3.26	3.18	3.11
50F6426	45-0526-00BU	DB-15, Male/Female	3.80	3.71	3.63
50F6420	45-0506-00BU	DB-25, Male/Female	4.35	3.63	3.34
50F6431	45-0545-00BU	DB-37, Male/Female	9.42	9.20	8.99
50F6434	45-0562-00BU	High Density DB-15, Male/Female	5.52	5.40	5.27
LOW-PROFILE PORT PROTECTORS					
50F6438	45-0509-00BU	DB-25, Male/Female	3.58	3.49	3.41

(7549) (ne03266)

RS-232-C QUICK-CHECK PORT TESTER

Checks computer and terminal equipment for signal generation. Monitors RS-232 lines. LEDs indicate data or control signals.

Stock No.	Type	LED'S	Each	2-4	5-9
94F3468	45-0580-00BU	7	14.94	12.45	11.45
83F7072	45-1518	18	16.00	15.63	15.28

(7551) (ne03268)

RS-232-C IN-LINE SURGE PROTECTOR

Protects valuable computer equipment from in-line electrical spikes and surges. Male-to-female.

Stock No.	Type	Each	2-4	5-9
50F6468	45-0581-00BU	12.45	10.38	9.55

(7546) (ne03256)

RECONFIGURATION ADAPTERS

Designed to allow custom solder of in-line male/female data cable adapter. With jumper wires.

Stock No.	Type	Description	Each	2-4	5-9
50F6462	45-0481-00BU	DB-9	9.52	9.30	9.08
50F6461	45-0480-00BU	DB-25	11.58	9.65	8.88

(7548) (ne03262)

BI-DIRECTIONAL PRINTER CABLES

IEEE-1284 compliant cables support both the enhanced parallel port (EPP) or the extended capabilities (ECP) port with up to 100 times faster speeds than older parallel ports. 18 twisted pair ensure compliance with I-EEE. UL listed.

Stock No.	Type	Description	Each
16F3031	45-1806	6′ DB-25M to Centronics 36M	20.85
16F3032	45-1810	10′ DB-25M to Centronics 36M	29.85
16F3034	45-1830	10′ DB-25M to Half Pitch 36M	43.13

(7599) (ne08570)

IBM® PARALLEL PRINTER CABLE ASSEMBLY

Connect IBM® PS/2™ and compatibles to Epson-type printers with a Centronics®-type parallel connector. DB25 Male to Centronics 36 Male. 100% shielded.

Stock No.	Type	Length	Each
44F4593	45-4424	7′	18.95

(7433) (de02749)

RS-232 DB-25 25-LINE CABLE ASSEMBLIES

All 25 lines wired straight through. Standard 25-pin (DB-25) subminiature connectors each end. 100% shielded precious metal contacts with copper braid over Mylar foil. PVC insulation throughout. All are male-to-male connections.

Stock No.	Type	Length	Each
44F4576	45-4363	5′	20.33
44F4577	45-4364	10′	27.73

(7435) (de02751)

IBM® AT™ TO MODEM CABLE ASSEMBLY

Connects IBM® AT™ and compatibles to modem. 6′ length. DB9 Female to DB25 Male connectors.

87F2829 Type 45-4427. **Each**..... **25.36**
(7436) (de02752)

RS-232 ADAPTER CABLE ASSEMBLIES

Convert IBM® AT™ computer DB-9 serial ports to DB-25 (female-to-male). 100% Mylar foil shield.

Stock No.	Type	IBM® AT™ to	L	Each
50F6410	45-0320	Mouse/Modem	6′	6.16
50F6411	45-0321	Mouse/Modem	10′	7.89
50F6412	45-0391	Serial Printer	6′	6.14

(7450) (de03061)

IBM® PS/2™ EXTENSION CABLE ASSEMBLIES

Types 45-431 and **45-435** extend video and keyboard cable length. **Type 45-405** keyboard extension permits additional desktop space. All 100% Mylar foil shield.

Stock No.	Type	Extension	L	Each
50F6413	45-0431	PS/2™ Keyboard, Mini Din 6 Male to Mini Din 6 Female	6′	6.04
50F6414	45-0435	PS/2™ Monitor, HD15 Male to HD15 Female	6′	7.37
50F6415	45-0405	IBM® Keyboard, Din 5 Male to Din 5 Female	6′	4.91

(7544) (ne03062)

MAC®/APPLE® DATA EXTENSION CABLE ASSEMBLIES

Extend current 8-pin mini-DIN data cables. 100% Mylar foil shield.

Stock No.	Type	Extension	L	Each
50F6416	45-0805	Male/Male	10′	8.87
50F6417	45-0815	Male/Female	10′	8.87

(7451) (de03063)

TYPE 45-1840 MONITOR CABLE

High-resolution cable used on NEC and other monitors requiring 4 or 5 BNC connectors. Made of 5 separate mini coaxes. 6′ high density DB-15M. Color-coded for easy port identification. Separate red, green, blue, horizontal, and vertical.

16F3035 Type 45-1840. **Each**..... **41.87**
(7600) (ne08571)

IBM® PARALLEL PRINTER CABLE ASSEMBLIES

Cables with 36-pin straight Centronics® and 90° Centronics® connectors attach IBM® (and compatible) computers to parallel printers. 100% Mylar foil shield.

STRAIGHT PARALLEL CONNECTORS, DB-25

Stock No.	Type	Description	L	Each
50F6376	45-0202	M/M	2′	5.55
50F6375	45-0201	M/M	6′	7.37
50F6377	45-0204	M/M	10′	8.60
50F6378	45-0206	M/M	25′	13.29

90° PARALLEL CONNECTORS, DB-25

50F6379	45-0210	M/M	6′	8.60
50F6380	45-0213	M/M	10′	9.34

(7541) (ne03058)

RS-232 DATA CABLE ASSEMBLIES

Connect IBM® computer to RS-232 communication peripherals or other components. Straight-through wires. 100% Mylar foil shield. Available in DB-9 or DB-25 connector configurations.

DB-9 CONNECTOR

Stock No.	Type	Description	L	Each
50F6383	45-0302	Male/Stripped	7′	6.14
50F6384	45-0303	Female/Stripped	7′	6.14
50F6386	45-0308	Male/Female	6′	7.50
50F6387	45-0314	Male/Female	10′	7.13
50F6385	45-0306	Male/Female	25′	12.79
50F6388	45-0315	Male/Male	6′	6.16
50F6389	45-0316	Male/Male	10′	7.13

DB-25 CONNECTOR

50F6392	45-0358	Male/Female	2′	5.40
50F6393	45-0379	Male/Female	6′	7.64
50F6394	45-0374	Male/Female	10′	9.32
83F7058	45-1555	Male/Female	15′	10.69
50F6395	45-0375	Male/Female	25′	19.57
50F6396	45-0355	Male/Female	50′	36.28
50F6397	45-0356	Male/Female	100′	68.98
50F6398	45-0376	Male/Male	6′	7.35
50F6399	45-0377	Male/Male	10′	9.32
83F7059	45-1565	Male/Male	15′	10.69
50F6400	45-0378	Male/Male	25′	19.57
50F6401	45-0357	Male/Male	50′	37.09
50F6402	45-0369	Male/Male	100′	68.98
50F6404	45-0371	Female/Female	6′	8.60
50F6403	45-0373	Female/Female	10′	10.08
50F6405	45-0372	Female/Female	15′	16.10

(7542) (ne03059)

CENTRONICS® DATA CABLE ASSEMBLIES

Connect one Centronics® 36 parallel port to another. Each cable has a Centronics® 36 parallel connector on each end with 100% Mylar foil shield.

Stock No.	Type	Description	L	Each
50F6406	45-0700	Male/Male	6′	8.63
50F6407	45-0705	Male/Male	10′	16.49
50F6408	45-0710	Male/Female	6′	8.63
50F6409	45-0715	Male/Female	10′	16.49

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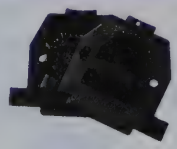
(7543) (ne03060)

D-SUBMINIATURE PLASTIC HOODS



Allows construction of custom-wired assemblies with D-subminiature connectors and hoods. Includes installation hardware. Can be used with crimp and solder connectors.

Stock No	Type	Color	Each	2-4	5-9	10-24
9-POSITION						
16F2999	45-5016-00BU	Black	0.96	0.94	0.92	0.88
83F7075	45-5006	Gray	1.65	1.61	1.57	1.50
83F7076	45-5021	Blue	1.65	1.61	1.57	1.50
83F7078	45-5023	Red	1.65	1.61	1.57	1.50
83F7077	45-5022	Green	1.65	1.61	1.57	1.50
83F7079	45-5025	Yellow	1.65	1.61	1.57	1.50
15-POSITION						
16F3000	45-5017-00BU	Black	0.96	0.94	0.92	0.88
83F7080	45-5007	Gray	1.65	1.61	1.57	1.50
83F7082	45-5031	Blue	1.65	1.61	1.57	1.50
83F7083	45-5033	Red	1.65	1.61	1.57	1.50
83F7081	45-5024	Green	1.65	1.61	1.57	1.50
83F7084	45-5035	Yellow	1.65	1.61	1.57	1.50
25-POSITION						
16F3001	45-5018-00BU	Black	0.96	0.94	0.92	0.88
83F7074	45-5008	Gray	1.65	1.61	1.57	1.50
16F3002	45-5041-00BU	Blue	0.96	0.94	0.92	0.88
16F3004	45-5043-00BU	Red	0.96	0.94	0.92	0.88
16F3003	45-5042-00BU	Green	0.96	0.94	0.92	0.88
16F3005	45-5045-00BU	Yellow	0.96	0.94	0.92	0.88

(7936) (ne09059)

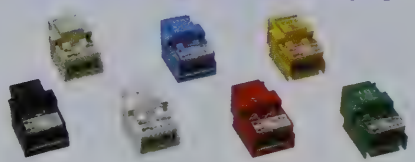
CAT5 MODULAR IDC CONNECTORS

Catagory 5, 8-conductor T568B modular IDC connectors allow termination of twisted pair cable. Feature IDC contacts for 22 to 26 AWG wire, 50µ" gold plating on modular contacts. Comply with IEEE 802.3 (10Base-T) and 802.5 (Token Ring) standards. Designed to snap into patch panels and wall plates. A variety of colors allows flexibility in wiring schemes. TIA and AT&T wiring compatible.

Stock No.	Type	Color	Each	2-4	5-9	10-24
16F3020	45-5550-BU	Black	7.96	7.78	7.60	7.27
16F3023	45-5554-BU	White	7.96	7.78	7.60	7.27
16F3022	45-5553-BU	Red	7.96	7.78	7.60	7.27
16F3024	45-5555-BU	Yellow	7.96	7.78	7.60	7.27
16F3021	45-5552-BU	Blue	7.96	7.78	7.60	7.27
16F3019	45-5216-BU	Green	7.15	6.99	6.83	6.53

(7938) (ne09061)

CAT5 KEYSTONE CONNECTORS



Category 5, 110 style IDC contacts, arranged in a 1, 2, 3, 4 orderly fashion for quick installations. Tested to a bandwidth of 1-155MHz. Supports these data transmissions: 10Mbps 10Base-T Ethernet (IEEE 802.3), 4/16Mbps Token Ring (IEEE 802.5), 100Mbps 100Base-T Ethernet (Fast Ethernet), 100Mbps TP-PMD (ANSI-X3T9.5), and 155Mbps ATM (ATM forum). Pass EIA 568A Category 5 specifications for return and loss attenuation up to 155MHz. Accept 22-24 AWG solid or stranded wire. UL listed, CSA certified.

Stock No.	Type	Color	Each	2-4	5-9	10-24
16F2952	45-5674-BU	Black	6.44	6.29	6.14	5.88
16F2953	45-5675-BU	Ivory	6.44	6.29	6.14	5.88
16F2954	45-5676-BU	White	6.44	6.29	6.14	5.88
16F2955	45-5677-BU	Green	6.44	6.29	6.14	5.88
16F2956	45-5678-BU	Yellow	6.44	6.29	6.14	5.88
16F2957	45-5679-BU	Red	6.44	6.29	6.14	5.88
16F2958	45-5680-BU	Blue	6.44	6.29	6.14	5.88

(7939) (ne09062)

RS-232 DB-25 SWITCH BOXES

1 I/O DB-25 female connects to choice of 2 to 5 DB-25 female I/O connectors.

Stock No.	Type	No. of I/O	Each	2-4	5-9	10-24
50F6343	64-2001	2	18.90	15.75	14.49	14.18
50F6344	45-2002	3	24.20	23.64	23.11	22.10
90F8891	45-2005	4	32.13	26.78	24.63	24.10
50F6346	45-2006	5	39.68	38.76	37.88	36.23

(7547) (ne03259)

RS-232 DB-9 SWITCH BOXES

1 female DB-9 I/O connects to choice of 2 to 4 I/O female DB-9 connectors.

Stock No.	Type	No. of I/O	Each	2-4	5-9	10-24
50F6356	45-2030	2	23.44	22.90	22.38	21.40
50F6358	45-2035	4	25.88	25.28	24.71	23.63

(7456) (de03262)

BNC DATA SWITCH BOX

Connects 1 I/O female BNC to 2 I/O female BNC connectors.

Stock No.	Type	No. of I/O	Each	2-4	5-9	10-24
50F6372	45-2108	2	25.14	24.56	24.00	22.95

(7457) (de03265)

KEYBOARD/MONITOR SWITCHES

Type 45-2255 connects two monitors and keyboards to one computer. **Types 45-2205** and **452206** connect two keyboards to one computer.

Stock No.	Type	NO. of I/O	Each	2-4	5-9	10-24
83F7097	45-2255	2-HD15F & 2DIN5F	29.53	28.85	28.19	26.96
83F7098	45-2205	2-DIN5F	19.03	18.59	18.17	17.37
83F7099	45-2206	2-MINIDIN6F	22.65	22.12	21.62	20.68

(31670) (ne31670)

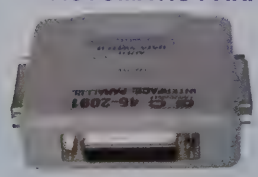
RJ-11 SWITCH BOX

Type 45-2064 switch has 1 I/O female RJ-11 connecting to 4 I/O female RJ-11 connectors.

Stock No.	Type	No. of I/O	Each	2-4	5-9	10-24
50F6366	45-2064	4	27.23	26.61	26.00	24.87

(7454) (de03260)

AUTOMATIC PARALLEL DATA SWITCHES



45-2091

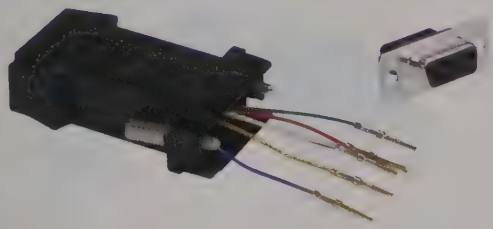
45-2225

Automatically switch between two or eight computers sharing a single printer. Requires no external power. DB-25 connectors. **Type 45-2225** is a bi-directional A/B switch.

Stock No.	Type	No. of I/O	Each	2-4	5-9	10-24
96F9979	45-2091	2	28.34	27.69	27.06	25.88
83F7095	45-2225	2	71.31	69.67	68.08	65.12
83F7096	45-2580	8	226.08	220.86	215.83	206.43

(7461) (de03446)

D-SUB TO RJ JACK ADAPTERS



Ultraslim, single-piece hood, 16mm wide adapters are designed for high-density applications where width between ports is critical. Used to join D-Sub 9-, 15-, and 25-pin male and female connectors with RJ-11, RJ-45, or MMJ (modified offset) modular jacks. Color: black. Kit form. Pre-pinned available; *contact your local Newark sales office.*

Stock No.	Type	Description	1-24	25-49
50F9354	DEM-25F	D-Sub 9 Female to 6-Wire RJ-11	**2.65**	**2.49**
50F9355	DEM-25M	D-Sub 9 Male to 6-Wire RJ-11	**2.65**	**2.49**
50F9356	DEM-45F	D-Sub 9 Female to 8-Wire RJ-45	**2.65**	**2.49**
50F9357	DEM-45M	D-Sub 9 Male to 8-Wire RJ-45	**2.65**	**2.49**
50F9359	DAM-25M	D-Sub 15 Male to 6-Wire RJ-11	**2.65**	**2.49**
50F9360	DAM-45F	D-Sub 15 Female to 8-Wire RJ-45	**2.65**	**2.49**
50F9361	DAM-45M	D-Sub 15 Male to 8-Wire RJ-45	**2.65**	**2.49**
50F9366	DEM-25-F-0S	D-Sub 9 Female-to-MMJ	**2.65**	**2.49**
50F9367	DEM-25M-OS	D-Sub 9 Male-to-MMJ	**2.65**	**2.49**
50F9368	DBM-25F-0S	D-Sub 25 Female-to-MMJ	**2.65**	**2.49**
50F9369	DBM-25M-OS	D-Sub 25 Male-to-MMJ	**2.65**	**2.49**

*Used with DEC operating system only.

NOTE: Suffix in type number indicates black (**-BK**), yellow (**-YL**), red (**-RD**), green (**-GN**), and blue (**-BL**).

Stock No.	Type	Description	1-24	25-49
50F9363	DBM-25M-BK	D-Sub 25 Male to 6-Wire RJ-11	**2.65**	**2.49**
93F5270	DBM-25M-YL	D-Sub 25 Male to 6-Wire RJ-11	**2.65**	**2.49**
93F5271	DBM-25M-RD	D-Sub 25 Male to 6-Wire RJ-11	**2.65**	**2.49**
93F5272	DBM-25M-GN	D-Sub 25 Male to 6-Wire RJ-11	**2.65**	**2.49**
93F5287	DBM-25M-BL	D-Sub 25 Male to 6-Wire RJ-11	**2.65**	**2.49**
50F9362	DBM-25F-BK	D-Sub 25 Female to 6-Wire RJ-11	**2.65**	**2.49**
93F5275	DBM-25F-RD	D-Sub 25 Female to 6-Wire RJ-11	**2.65**	**2.49**
93F5276	DBM-25F-GN	D-Sub 25 Female to 6-Wire RJ-11	**2.65**	**2.49**
50F9364	DBM-45F-BK	D-Sub 25 Female to 8-Wire RJ-45	**2.65**	**2.49**
93F5280	DBM-45M-YL	D-Sub 25 Male to 8-Wire RJ-45	**2.65**	**2.49**
93F5281	DBM-45M-RD	D-Sub 25 Male to 8-Wire RJ-45	**2.65**	**2.49**
93F5282	DBM-45M-GN	D-Sub 25 Male to 8-Wire RJ-45	**2.65**	**2.49**
93F5279	DBM-45M-BL	D-Sub 25 Male to 8-Wire RJ-45	**2.65**	**2.49**
50F9365	DBM-45M-BK	D-Sub 25 Male to 8-Wire RJ-45	**2.65**	**2.49**
93F5284	DBM-45F-YL	D-Sub 25 Female to 8-Wire RJ-45	**2.65**	**2.49**
93F5285	DBM-45F-RD	D-Sub 25 Female to 8-Wire RJ-45	**2.65**	**2.49**
93F5286	DBM-45F-GN	D-Sub 25 Female to 8-Wire RJ-45	**2.65**	**2.49**
93F5283	DBM-45F-BL	D-Sub 25 Female to 8-Wire RJ-45	**2.65**	**2.49**

(8182) (ne52192)

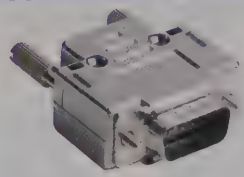
66 TERMINAL BLOCKS

Pre-wired and terminated to standard Telco connectors. Comes with 1 or 2 Telco 50 pin Female connectors to connect a Modular Patch panel with a 25 pair trunk cable.

Stock No.	Type	Description	1-24	25-49
97F7967	66M2-50W1	25-Pair Connection with 1 Female Telco Connector	**34.12**	**32.13**
93F4144	66M2-50W2	50-Pair Connection with 2 Female Telco Connectors	**48.26**	**45.43**

(8006) (de03533)

D-SUB CONNECTOR KITS



Enables user to perform custom wiring. Crimp kits include pins or sockets, D-Sub shell, shielded/metallized hood, and mounting hardware. Solder kits include pre-assembled shell with solder contacts, shielded/metallized hood, and mounting hardware. Pins and sockets plated with 30µ" gold. Hoods made of high-quality, UL approved nickel-plated plastic.

CRIMP KITS

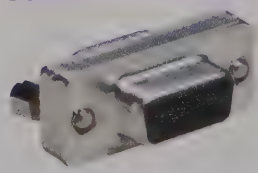
Stock No.	Type	Description	1-4	5-9
92F6310	DEC-M-KIT	DB-9, Male w/9 Pins	**2.27**	**2.07**
92F6311	DEC-F-KIT	DB-9, Female w/9 Sockets	**2.29**	**2.08**
92F6314	DAC-M-KIT	DB-15, Male w/15 Pins	**3.13**	**2.85**
92F6315	DAC-F-KIT	DB-15, Female w/15 Sockets	**3.13**	**2.85**
92F6318	DBC-M-KIT	DB-25, Male w/25 Pins	**3.83**	**3.48**
92F6319	DBC-F-KIT	DB-25, Female w/25 Sockets	**3.97**	**3.62**

SOLDER KITS

92F6312	DE-M-KIT	DB-9, Male w/9 Pins	**2.00**	**1.82**
92F6313	DE-F-KIT	DB-9, Female w/9 Sockets	**2.06**	**1.88**
92F6316	DA-M-KIT	DB-15, Male w/15 Male	**2.63**	**2.39**
92F6317	DA-F-KIT	DB-15, Female w/15 Sockets	**2.69**	**2.45**
92F6320	DB-M-KIT	DB-25, Male w/25 Pins	**3.26**	**2.97**
92F6321	DB-F-KIT	DB-25, Female w/25 Sockets	**3.41**	**3.10**

(8024) (de04400)

D-SUB AND TELCO GENDER CHANGERS AND D-SUB CONNECTOR SAVERS



Low-profile devices provide connection between units of the same gender. Available in male-to-male, female-to-female, and male-to-female versions. Male-to-female changers also function as connection savers to reduce contact wear in high-cycle mating applications. Telco 50-pin changer features plastic enclosure. D-Sub changer has ¼" thickness, is fully shielded from RFI and EMI, and meets FCC requirements.

GENDER CHANGERS

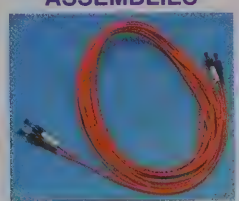
Stock No.	Type	Description	1-24	25-49
50F9370	GC-9FF-LP	D-Sub 9-Pin Female-to-Female	**2.65**	**2.49**
50F9372	GC-9MM-LP	D-Sub 9-Pin Male-to-Male	**2.65**	**2.49**
50F9373	GC-15FF-LP	D-Sub 15-Pin Female-to-Female	**2.99**	**2.82**
50F9375	GC-15MM-LP	D-Sub 15-Pin Male-to-Male	**2.99**	**2.82**
50F9376	GC-25FF-LP	D-Sub 25-Pin Female-to-Female	**3.17**	**2.99**
50F9378	GC-25MM-LP	D-Sub 25-Pin Male-to-Male	**3.17**	**2.99**
50F9379	GC-50FF	Telco Female-to-Female	**15.97**	**15.04**
50F9380	GC-50MF	Telco Male-to-Female	**15.97**	**15.04**
50F9381	GC-50MM	Telco Male-to-Male	**15.97**	**15.04**

CONNECTOR SAVERS

50F9371	GC-9MF-LP	D-Sub 9-Pin Male-to-Female	**2.88**	**2.71**
50F9374	GC-15MF-LP	D-Sub 15-Pin Male-to-Female	**2.88**	**2.71**
50F9377	GC-25MF-LP	D-Sub 25-Pin Male-to-Female	**3.45**	**3.25**

(8053) (de52190)

FOA SERIES MULTIMODE FIBER-OPTIC CABLE ASSEMBLIES



FOA-D1111B-R05

FOA series fiber-optic cable assemblies are multimode duplex fiber-optic cable with STor FDD connector. Ferrule type: ceramic. **Types FOA-D111** are ST/ST 62.5/125µm riser cable. Jacket color: orange. Insertion loss: 0.4dB typ. and 0.7dB max.

Stock No.	Type	Cable Length	1-24	25-49	50-99
91F7191	FOA-D1111B-R01	1m	**50.00**	**47.07**	**45.05**
91F7192	FOA-D1111B-R03	3m	**53.24**	**50.12**	**47.97**
91F7193	FOA-D1111B-R05	5m	**62.11**	**58.47**	**55.96**
91F7194	FOA-D1111B-R10	10m	**79.04**	**74.42**	**71.21**

(17746) (ne10801)

USB (UNIVERSAL SERIAL BUS) CABLE ASSEMBLIES AND CONNECTORS

NEW

USB Type B and A

USB Type A PCB Mount Single Stack USB-4200A-S

USB Type B PCB Mount USB-4200B-S

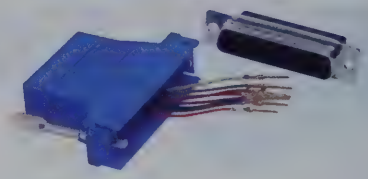
USB Type A PCB Mount Double Stack USB-4200A-D

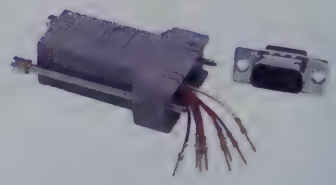
Provide flexibility to personal computers, notebook computers, and most peripheral devices, such as ones using serial, parallel, keyboard, mice, or game ports. Feature "Plug-and-Play" insant PC expansion, "Hot-Swapping" capabilities - (PC automatically detects the peripheral and configures the necessary software). Permit transfer rates up to 12MB/sec. and support up to 127 devices. Allow data flow both ways between the computer and the peripheral. Meet PC98/PC99 requirements.

Stock No.	Type	Description	Each
50N151	SPC4798	USB Cable A to B	**4.50**
50N152	SPC4799	USB Cable A to B	**4.90**
50N153	SPC4800	USB Cable A to B	**5.50**
50N154	SPC4801	USB Cable A to B	**9.10**
50N155	SPC4802	USB Connector	**1.85**
50N156	SPC4933	USB Connector	**1.85**
50N157	SPC4934	USB Connector	**3.60**
50N158	SPC4935	USB Connector	**3.60**
50N159	SPC4936	USB Connector	**1.85**
50N160	SPC4937	USB Connector	**1.85**

(39579) (ne39579)

TELEPHONE ADAPTERS FOR DB-9, DB-15, OR DB-25 PORTS





Allow the use of low-cost telco (telephone) wire between computer and peripherals. Available in either DB-9, DB-15, or DB-25 connectors on one end and 4-, 6-, or 8-contact telco connectors on the other end. Provide both economy of installation and fast and simple changing of cables when moving equipment. Telco cables and connectors available separately; *contact your local Newark sales office.*

PLASTIC TELCO ADAPTERS WITH EMI/RFI SHIELDING

Stock No.	Type	Color	Description	1-4	5-9
92N3452	1497	Gray	DB-9 Male to RJ-45, 8 Conductor	**12.42**	**10.56**
92N3453	1498	Gray	DB-9 Male to RJ-45, 8 Conductor	**12.42**	**10.56**
92N3454	1499	Gray	DB-25 Male to Rj-45, 8 Conductor	**12.42**	**10.56**
92N3455	1500	Gray	DB-25 Male to RJ-45, 8 Conductor	**12.42**	**10.56**

PLASTIC TELCO ADAPTERS FOR DB-9, 15 OR 25

92N3420	1596	Black	DB-25 Female to RJ-45, 8 Conductor	**2.35**	**2.00**
92N3421	1597	Black	DB-25 Male to RJ-45, 8 Conductor	**2.35**	**2.00**
92N3422	1598	Blue	DB-25 Female to RJ-45, 8 Conductor	**2.35**	**2.00**
92N3423	1599	Blue	DB-25 Male to RJ-45, 8 Conductor	**2.35**	**2.00**
92N3424	1600	Red	DB-25 Male to RJ-45, 8 Conductor	**2.35**	**2.00**
92N3425	1601	Red	DB-25 Male to RJ-45, 8 Conductor	**2.35**	**2.00**
92N3426	1602	Green	DB-25 Female to RJ-45, 8 Conductor	**2.35**	**2.00**
92N3427	1603	Green	DB-25 Male to RJ-45, 8 Conductor	**2.35**	**2.00**
92N3428	1604	Yellow	DB-25 Female to RJ-45, 8 Conductor	**2.35**	**2.00**
92N3429	1605	Yellow	DB-25 Male to RJ-45, 8 Conductor	**2.35**	**2.00**
52N9485	8588-0195	Gray	DB-9 Female to RJ-11, 4 Conductor	**2.59**	**3.18**
52N9487	8588-0197	Gray	DB-9 Female to RJ-12, 6 Conductor	**2.59**	**3.18**
52N9489	8588-0199	Gray	DB-9 Female to RJ-45, 8 Conductor	**2.99**	**4.37**
52N9484	8588-0194	Gray	DB-9 Male to RJ-11, 4 Conductor	**2.59**	**4.37**
52N9486	8588-0196	Gray	DB-9 Male to RJ-12, 6 Conductor	**2.59**	**3.18**
52N9488	8588-0198	Gray	DB-9 Male to RJ-45, 8 Conductor	**2.99**	**3.18**
52N9490	8588-0200	Gray	DB-15 Male to RJ-45, 8 Conductor	**3.29**	**3.64**
52N9491	8588-0201	Gray	DB-15 Famale to RJ-45, 8 Conductor	**3.29**	**3.64**
52N9483	8588-0193	Gray	DB-25 Female to RJ-45, 4 Conductor	**2.99**	**3.18**
52N9466	8588-0176	Gray	DB-25 Female to RJ-12, 6 Conductor	**2.99**	**3.45**
52N9482	8588-0192	Gray	DB-25 Male to RJ-11, 4 Conductor	**2.99**	**3.18**
52N9465	8588-0175	Gray	DB-25 Male to RJ-12, 6 Conductor	**2.99**	**3.45**
52N9467	8588-0177	Gray	DB-25 Male to RJ-45, 8 Conductor	**3.29**	**3.45**

(7817) (ne08682)

NETWORK MAINTENANCE KIT

- **Includes Essential Stripping and Crimping Tools**

Kit includes: 6″ adjustable wrench, 6″ straight forceps, inspection mirror, mini-flashlight, desoldering pump, 5″ (125mm) diagonal cutting nipper, 5″ (125mm) snipe nose plier, precision wire stripper (AWG 20-30), modular connector installing tool for 4P, 6P, 8P use, rotary coaxial cable stripper, coaxial crimping tool, IC extractor, 7-pc. folding type hex wrench, PRO-SOFT duplex color screw drivers (Phillips #0 x 75, #1 x 75, #2 x 100mm; slotted: 3 x 75, 5 x 75, 6 x 100mm; nut: 5mm, 6mm; Torx: T10, T15, T20), 30W ceramic soldering iron and zippered carrying case.

84N633 Type 3583. **Each** **189.99**
(29785) (ne29785)

PERSONAL COMPUTER TOOL KIT

- **Ideal for Support Technicians and PC Owners**

Kit includes: 5″ long-nose plier, 7-in-1 crimping tool, stainless tweezer, brush, IC extractor, IC insert tool, 3 prong holder, solder core, desoldering pump, PRO-SOFT dulpex color screwdrivers (Phillips: #0 x 75, #1 x 75mm; slotted: 3 x 75, 5 x 75mm; nut: 5mm, 6mm; Torx: T10, T15), 6″ adjustable wrench, antistatic wrist strap, 30W ceramic soldering iron, and zippered carrying case.

84N632 Type 3582. **Each** **69.99**
(29786) (ne29786)

COMPUTER CABLES

SERIAL CABLE ASSEMBLIES

Standard DB-25 connectors. Cable-wired straight through. Shielded with 100% aluminized Mylar foil wrap. Gold contacts provide accurate data transmission.

Stock No.	Type	Description	Length	Each
84N1978	SPC4433	Male-to-Male	6′	5.99
84N1979	SPC4434	Male-to-Male	10′	7.59
10N168	8587-1300	Male-to-Male	25′	12.99
52N9378	8587-0122	Male-to-Female	6′	5.99
52N9350	8587-0094	Male-to-Female	10′	6.99
84N1983	SPC4438	Male-to-Female	25′	13.99
84N1281	SPC4372	Female-to-Female	6′	5.99
84N1282	SPC4373	Female-to-Female	10′	8.99

(7834) (ne08699)

MONITOR CABLE ASSEMBLIES

Can be used to extend or replace monitor cable assemblies. Fully shielded and molded connections. Subminiature DB-9 cable has gold-flashed contacts. Cable wired straight through.

Stock No.	Type	Description	Length	Each
52N9379	8587-0123	DB-9 Male-to-Male	6′	3.99
52N9351	8587-0095	DB-9 Male-to-Male	10′	4.99
52N9380	8587-0124	DB-9 Male-to-Female	6′	4.29
52N9352	8587-0096	DB-9 Male-to-Female	10′	4.99
84N1972	SPC4427	High-Density 15 Male-to-Female	10′	5.99
84N1283	SPC4374	High-Density 15 Female-to-Female	6′	3.99
84N1284	SPC4375	High-Density 15 Female-to-Female	10′	4.99
84N1994	SPC4449	Subminiature DB-9 Male-to-Female	6′	5.49

(7832) (ne08697)

CENTRONICS® 36-PIN PARALLEL PRINTER CABLE ASSEMBLIES

Used in parallel printer applications. Fully shielded and molded connections.

Stock No.	Type	Description	Length	Each
52N9353	8587-0097	Male-to-Male	6′	9.95
52N9376	8587-0120	Male-to-Male	10′	10.99
52N9381	8587-0125	Male-to-Female	6′	6.99
52N9382	8587-0126	Male-to-Female	10′	10.99
84N1277	SPC4368	Female-to-Female	6′	8.99
84N1278	SPC4369	Female-to-Female	10′	12.99

(7836) (ne08701)

KEYBOARD CABLES

Designed to extend or replace original equipment keyboard cable. PS/2™ keybord extension cables have mini DIN 6-pin (M2/CF). 100% Mylar shield. Molded connectors.

Stock No.	Type	Description	Length	Each
84N1984	SPC4439	PS/2™ Keyboard Extension	6′	4.59
52N9375	8587-0119	PS/2™ Keyboard Extension	12′	6.99
52N9401	8587-0145	DIN 5 Male-to-Female Straight	6′	3.99
52N9402	8587-0146	Mini--DIN 6 Male-to-Female	6′	4.99

(7833) (ne08698)

BIDIRECTIONAL PRINTER CABLE ASSEMBLIES

The IEEE 1284 cable has been adapted as the newest standard in parallel port data transfer. Support both the enhanced parallel port (EPP) and the extended capabilities port (ECP) at speeds up to 100 times faster than older parallel ports. For all bidirectional printers. 18 twisted pair cable provide compliance with IEEE standards. UL listed.

Stock No.	Type	Description	Length	Each
84N1964	SPC4419	DB-25 Male to Centronics® 36 Male	6′	17.99
84N1965	SPC4420	DB-25 Male to Centronics® 36 Male	10′	26.99
52N9359	8587-0103	DB-25 Male to Half-Pitch 36 Male	6′	29.99
52N9360	8587-0104	DB-25 Male to Half-Pitch 36 Male	10′	33.99

(7830) (ne08695)

IBM® PARALLEL PRINTER CABLE ASSEMBLIES

DB-25 male to Centronics® 36-pin male cable assemblies are designed to connect IBM® (and compatible) computers to Epson® (and compatible) parallel printers. 100% Mylar foil shield.

Stock No.	Type	Description	Length	Each
52N9386	8587-0130	Straight	6′	4.79
52N9356	8587-0100	Straight	10′	5.99
84N1975	SPC4430	Straight	25′	14.99
52N9385	8587-0129	90°	6′	6.99
52N9355	8587-0099	90°	10′	7.99

(7828) (ne08693)

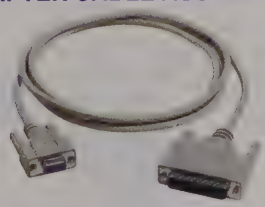
VGA/SVGA CABLE ASSEMBLIES

High-quality. Constructed from the same mini-coaxes used by the monitor manufacturers to guard video signal integrity and provide a cleaner and clearer image. These DB-15 cable assemblies utilize 3 coaxial cables and 3 discrete cables.

Stock No.	Type	Description	Length	Each
52N9361	8587-0105	High-Density Male-to-Female	10′	29.95
52N9362	8587-0106	High-Density Male-to-Male	10′	21.99

(7831) (ne08696)

IBM®-AT™, PS/2™, AND COMPATIBLE SERIAL PORT ADAPTER CABLE ASSEMBLIES



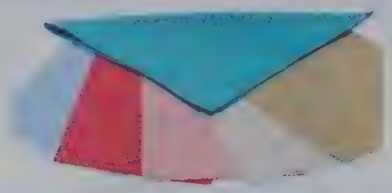
Cables are terminated in a DB-9 female at the computer end and DB-25 male at the peripheral end. Aluminum Mylar foil for 100% shielding.

Stock No.	Type	Description	Each
84N1998	SPC4453	RS-232 DB-9 Female to DB-25 Male, 6′	4.99
84N1994	SPC4449	RS-232 DB-9 Female to DB-25 Male, 10′	5.49

(7634) (ne08670)

COMPUTER ACCESSORIES

ADVANCED MICROFIBER CLEANING CLOTH



Type 2943 advanced microfiber cleaning cloth cleans oil, dirt, water, etc. from glass and plastic. For use on computer monitors, LCD panels, TV screens, eyeglasses, copy machine glass, CDs, etc. Completely washable fabric. Scratch-free. Size: 7⅞ x 7⅞".

92N4432 Type 2943. **Each** **7.24**
(18430) (ne10319)

COMPUTER AC AND EXTENSION CORDS

These power adapter cords connect the monitor to the auxiliary receptacle on the rear of the computer's power supply. The user is able to turn the monitor off and on with the computer.

COMPUTER AC CORDS

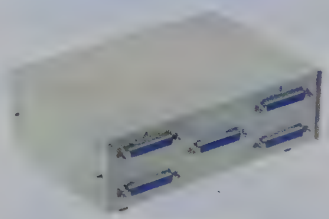
Stock No.	Type	Description	Each
84N2000	SPC4455	Shrouded Male to AC Jack, 1′	2.99
52N9410	8587-0154	Shrouded Male to AC Jack, 6′	4.99
52N9413	8587-0157	Shrouded Male to AC Jack, 12′	5.99

COMPUTER EXTENSION CORDS

52N9389	8587-0133	Shrouded Male to Molded Female, 1′	3.29
16N2311	8587-0524	Shrouded Male to Molded Female, 6′	3.99
16N2362	8587-0525	Shrouded Male to Female, 12′	5.99

(ne08668)

DATA SWITCH BOXES



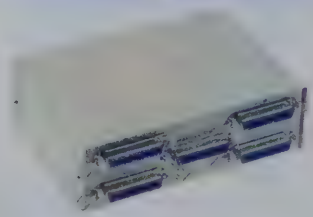
Data switches permit computer users to share printers, modems, monitors, computers, phone lines, etc. providing economy by decreasing the amount of equipment needed. All data switches are datatransparent and all lines are switched "straight through". This permits using an A/B switch, for instance, to share one printer between two computers; or using two printers with one computer. The data switches are constructed of steel, providing excellent shielding characteristics and durability. The switches are sealed and contacts are constructed of precious metal (low resistance).

RS-232 DB-25 SWITCH BOX

Two-way switch box (**type 8587-0158**) has 1 female, 25-pin input connection and 2 female, 25-pin output connections. Four-way switch box (**type 8587-0159**) has 1 female, 25-pin input connection and 4 female, 25-pin output connections.

52N9414 Type 8587-0158 2-Way. **Each** **13.99**
52N9415 Type 8587-0159 4-Way. **Each** **27.99**
(7603) (ne08579)

CENTRONICS® SWITCH BOX



Type 8587-0219 2-way switch box has 1 female, 36-pin Centronics® input connection and 2 female, 36-pin Centronics® connections. **Type CPS-910-4-A** 4-way switch box has 1 female, 36-pin Centronics® input connection and 4 female, 36-pin Centronics® connections.

52N9416 Type 8587-0219. **Each** **19.99**
92N6696 Type CPS-910-4-A 4-Way. **Each** **57.45**
(7604) (ne08580)

RS-232 BREAKOUT BOX

Monitors individual interface lines and detects presence or absence of activity. Rewires RS-232 interfaces. Unit is line powered and 10 dual-state LEDs monitor both positive and negative signal levels. Includes 1 male and 1 female RS-232 connector and rugged plastic case.

Stock No.	Type	Each
89N1592	RSBB-945-25	49.99

(18431) (ne10441)

RGB MONITOR CABLE

6′ HD to DD-15 male monitor cable for high resolution monitors requiring 4 or 5 BNCs.

50N223 Type SPC5292. **Each** **36.95**
(35473) (ne35473)

AT™ TO PS/2™ KEYBOARD ADAPTER

Permits use of an IBM® AT™ (or compatible) keyboard on a PS/2™ computer. 5-pin female DIN connector on a 6-pin mini-DIN male connector.

52N9396 Type 8587-0140. **Each** **3.29**
(7844) (ne08709)

COMPUTER LAPTOP-TO-PRINTER CABLE ASSEMBLY

Type 2773 3′ laptop printer cable is for convenient storage and transport. 25-line ribbon cable with a DB-25 male connector to Centronics® male. Compatible with most printers.

92N5315 Type 2773-SPC. **Each** **9.99**
(18429) (ne10308)

BNC/TELCO BALUNS

BNC coaxial baluns allow mating a coaxial cable to twisted pair telephone wire for both economy and ease of installation. Available with male BNC to 6-position telco jack and to screw terminals. For RG-62 (93-ohm).

52N9412 Type 8587-0156. **Each** **15.99**
(7605) (ne08581)

COMPUTER ACCESSORIES

GENDER CHANGERS AND ADAPTERS

DB-9 DB-15 DB-25 Centronics® 36-Pin

Stock No.	Type	Description	Each
52N9405	8587-0149	DB-9 Male-to-Male	2.99
52N9406	8587-0150	DB-9 Female-to-Female	2.99
52N9407	8587-0151	DB-9 Female-to-High Density DB-15 Male	3.59
52N9403	8587-0147	DB-15 Male-to-Male	3.25
52N9404	8587-0148	DB-15 Female-to-Female	3.25
52N9399	8587-0143	High-Density DB-15 Male-to-Male	3.99
52N9400	8587-0144	High Density DB-15 Female-to-Female	3.99
52N9393	8587-0137	DB-25 Male-to-Male	3.50
52N9394	8587-0138	DB-25 Female-to-Female	3.50
52N9395	8587-0139	DB-25 Female-to-Male	3.50
52N9391	8587-0135	Centronics® 36-Pin Male-to-Male	5.99
52N9392	8587-0136	Centronics® 36-Pin Female-to-Female	5.99

(7840) (ne08705)

LOW-PROFILE TELCO GENDER CHANGERS

VOLTREX brand

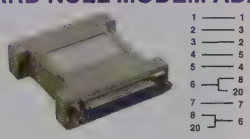
2764-SPC

Low-profile design is ideal when space is a prime consideration in a permanent installation. Fully shielded. Gold-flashed contacts. 0.7″ deep at thickest point.

Stock No.	Type	Description	Each
50N226	SPC5295	DB-9 Male-to-Female	2.59
52N9430	8587-0073	DB-9 Female-to-Female	2.59
92N5306	2764-SPC	DB-9 Male-to-Male	2.59
50N225	SPC5294	DB-15 Male-to-Female	2.99
52N9374	8587-0118	DB-15 Male-to-Male	2.99
92N5305	2763-SPC	DB-15 Female-to-Female	2.99
50N224	SPC5293	DB-25 Male-to-Female	2.99
52N9453	8587-0163	DB-25 Female-to-Female	3.29
92N5304	2762-SPC	DB-25 Male-to-Male	3.29

(18426) (ne10305)

STANDARD NULL MODEM ADAPTERS



Standard DB-25 male-to-female connectors at each end. Fits in line to connect like devices, either DTE or DCE. Most commonly used circuit for the null modem adapters; *see wiring schematic.*

52N9397 Type 8587-0141. **Each** **3.59**
(7841) (ne08706)

DB-25 PORT RECONFIGURATION KIT

Permits assembly of an in-line adapter for nonstandard ports. Male-to-female connectors mounted on a PC board with pads for soldering jumper wires (included). Soldering is required.

52N9411 Type 8587-0155. **Each** **8.99**
(7842) (ne08707)

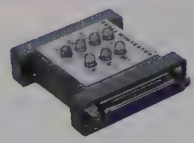
TRIPORT ADAPTERS

Adapts two RS-232 DB-25 interfaces to one DB-9. Adapts one RS-232 DB-25 and one DB-9 interface to RS-232 DB-25 interface. DB-9 to DB-25 pin out is the same as AT modem type.

Stock No.	Type	Description	Each
90N9988	RSTA-973-25	DB-25 Male/Female/DB-9 Male	6.99
90N9989	RSTA-974-25	DB-25 Male/Female/DB-9 Female	6.99

(40370) (ne40370)

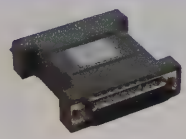
RS-232-C QUICK-CHECK PORT TESTER



Provides an easy method of checking computer and terminal equipment to be sure that signals are being generated. Standard RS-232 lines are monitored and LEDs indicate presence of data or control signals. Quickly determines whether a problem is in equipment or cable. Male-to-female.

52N9409 Type 8587-0153. **Each** **15.99**
(7847) (ne08712)

RS-232-C SURGE ARRESTER



Protects data lines from spikes and surges from other equipment or those picked up inductively. Eliminates surge-induced misread data and data loss. Fast MOVs on each end of the RS-232 lines: 2, 3, 4, 5, and 7. Male-to-female; insert at port or in line.

52N9408 Type 8587-0152. **Each** **10.99**
(7846) (ne08711)

IBM-AT SERIAL PORT ADAPTERS

NEW

2775

Adapters permit use of standard 25-line RS232 cables by reconfiguring DB-9 AT serial port to 25-pin male DB-25 connector. Eliminate the need for several different cables.

Stock No.	Type	Description	Each
92N5317	2775-SPC	AT Connection to Modem DB-9 Female to B-25 Male	2.99
92N5318	2776-SPC	AT Connection to Serial Printer DB-9 Female to DB-25 Male	2.99

(18427) (ne10306)

HIGH-DENSITY ADAPTER

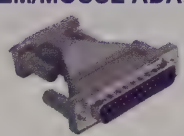
Male high-density DB-15 to DB-25 adapter.

Stock No.	Type	Each
10N128	8587-1309	6.99

(7815) (ne08680)

MODEM/MOUSE ADAPTER

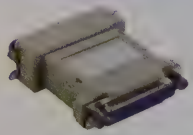
NEW



Type 2774 DB-25 female to DB-9 male assembly adapts DB-25 serial ports to Hayes and compatible modems. Also adapts to a mouse.

92N5316 Type 2774-SPC. **Each** **2.99**
(18428) (ne10307)

IBM®-COMPATIBLE PORT ADAPTER



Adapter eliminates need for special printer and plugs into Centronics®-type 36-pin connector on most parallel printers and converts the connector to a standard 25-pin "D". Allows use of standard 25-line cable of any length. Use with most parallel printers. DB-25 female to Centronics® 36-pin male.

52N9398 Type 8587-0142. **Each** **4.99**
(7843) (ne08708)

COMPUTER ACCESSORIES

FLOPPY DISK DRIVE POWER ADAPTER KIT

Contains 4″ power adapter cable for converting larger Molex®-type plugs to smaller plugs used by 3.5″ drives and a 34-pin IDC to 34-pin card edge adapter for data communication.

84N1048 Type 3368. **Each** **2.35**
(7858) (ne08967)

MOTHERBOARD EXTENSION CABLE ASSEMBLY

12-conductor power extension cable that is ideal for situations where existing power cables are too short or are stretched tight. Commonly used in full tower cases. Connectors are polarized Molex® type 1 main 12-pin header to 2 6-pin connectors. Length: 12″.

84N1052 Type 3372. **Each** **3.31**
(7623) (ne08609)

40-PIN IDE HARD DRIVE CABLE ASSEMBLY

Popular cable assembly for easy installation of IDE hard drives. Provides communication between hard drive and controller card. Has 2 IDC sockets and is 18″ long. Can be used with any dual IDE/FDD controller card or any IDE drive.

84N1061 Type 3381. **Each** **3.19**
(7882) (ne08991)

FLOPPY DISK DRIVE POWER SUPPLY CABLE ASSEMBLY

Power supply cable assembly for one 5.25″ and one 3.5″ floppy disk drive. Assembly complete with one 5.25″ power plug to 5.25″ and 3.5″ power sockets.

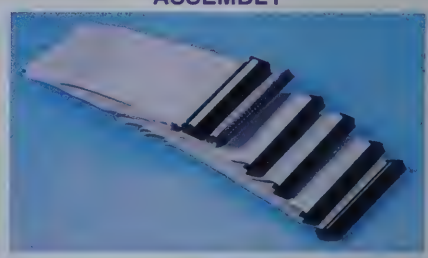
84N1050 Type 3370. **Each** **2.69**
(7622) (ne08608)

3.5″ FLOPPY DISK DRIVE RIBBON CABLE ASSEMBLY

Allows connection of 2 floppy disk drives to personal computer. Includes ribbon cable with 34-pin socket to 34-pin socket.

84N1062 Type 3382. **Each** **3.19**
(7883) (ne08992)

6-CONNECTOR SCSI CABLE ASSEMBLY



6 IDC 50-pin connectors in-line. Length: 52″.

84N1065 Type 3385. **Each** **6.49**
(7620) (ne08606)

FLOPPY DISK DRIVE POWER SUPPLY CABLE ASSEMBLY

Power supply cable assembly for two 3.5″ floppy disk drives. Assembly complete with one 5.25″ power plug to two 3.5″ power sockets.

84N1053 Type 3373. **Each** **2.65**
(7625) (ne08611)

TOWER-TYPE DUAL IDE DRIVE CABLE ASSEMBLY

Contains 3 40-pin IDC connectors in-line (no-twist). Length: 18″.

84N1069 Type 3389. **Each** **2.49**
(7886) (ne08995)

SCSI INTERNAL HARD DRIVE CABLE ASSEMBLY

50-pin Centronics® to 7 in-line 50-pin IDC to 50-pin Centronics® connectors. All in-line (no-twist). Length: 56″.

16F1477 Type 83-3470. **Each**..... **13.72**
(7860) (ne08969)

POWER SUPPLY "Y" CABLE ASSEMBLY

For use when adding additional disk drives. 4-pin Molex®-type male to 2 female connectors.

84N1058 Type 3378. **Each** **2.95**
(7624) (ne08610)

TOWER-TYPE COMPUTER DUAL FLOPPY DISK DRIVE CABLE ASSEMBLY

Designed for full tower installation of both 3.5″ and 5.25″ floppy disk drives. Length: 32″.

16F1485 Type 83-3350. **Each**..... **4.13**
(7885) (ne08994)

SCSI INTERFACE AND DRIVE CABLE ASSEMBLY

Allows connection of SCSI disk drives and peripherals on personal computers. Hard disk drive cable for 2 SCSI drives. Connectors have 50 pins.

16F1486 Type 83-1355. **Each**..... **4.55**
(7884) (ne08993)

REMOVABLE HARD DISK DRIVE FRAME

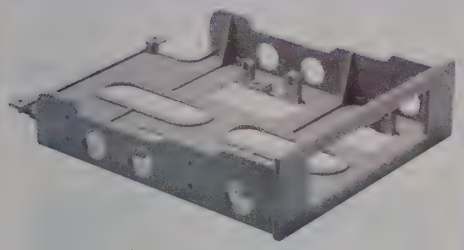
Install any IDE drive into a half-height bay. Constructed of durable hard plastic. AT™ bus compatible. Includes 2 security keys and carrying pouch.

84N1081 Type 3401. **Each** **41.95**

AT™ is a trademark of the International Business Machines Corporation.

(7611) (ne08597)

3.5″ FLOPPY DISK DRIVE ADAPTER KIT

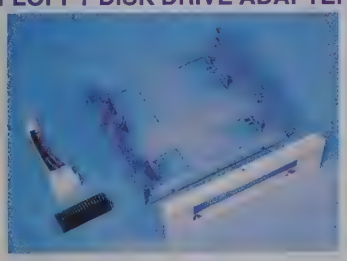


Mounts 3.5″ floppy disk drives in 5.25″ bays. Comes complete with aluminum mounting frame, front plate adapter, 34-pin gender adapter, power cord adapter, and mounting screws.

84N1084 Type 3404. **Each** **6.25**

(7609) (ne08594)

3.5″ FLOPPY DISK DRIVE ADAPTER KIT



Universal 5.25″ mounting frame for 3.5″ floppy disk drive. Comes complete with frame, screws, power adapter, and data connector adapter.

84N1082 Type 3402. **Each** **5.45**

(7607) (ne08591)

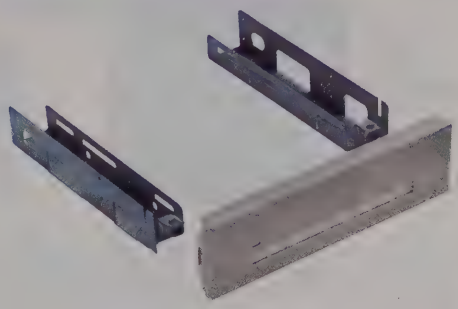
3.5″ DRIVE MOUNTING BRACKET

Mount 3.5″ drives in computer case. Comes complete with mounting screws.

84N1083 Type 3403. **Each** **4.95**

(7608) (ne08593)

FLOPPY/HARD DISK DRIVE ADAPTER KITS



Mount 3.5″ floppy and hard disk drives in a 5.25″ bay. Comes complete with frame, screws, power adapter, and data connector adapter.

Stock No.	Type	Description	Each
16F1545	83-2075	3.5″ HDD Mounting Kit	5.38
16F1548	83-2080	3.5″ FDD Mounting Kit	5.38

(7606) (ne08590)

BIDIRECTIONAL INTERFACE

Connect serial and parallel printers to opposite devices (serial-to-parallel or parallel-to-serial). Includes RS-232 interface, user-selectable DIP switches, DB-25 male/C-36 female connectors, X-ON/X-OFF, DTR handshaking protocol, and parallel signal-boosting functionality. Supports baud rates of 300 to 38,400bps, odd, even, or no parity. 7- or 8-bit character length and external AC power source. 500mA, DC adapter included. Nonbuffered.

16F1499 Type 83-6315. **Each**..... **71.94**

(7893) (ne09002)

MINI JUMPERS

Allows quick connection of circuits on circuit boards, shorting socket jumper for address or code strip line plugs. **Sold in packages of 25.**

Stock No.	Type	Style	Height	Per Pkg.
84N1090	3410	Open	4mm	1.09
84N1089	3409	Closed	6mm	1.09
84N1088	3408	Open	8mm	1.09
84N1087	3407	Closed	8mm	1.09
84N1091	3411	Open	8mm	1.09

(7862) (ne08971)

CALL NEWARK FOR FAST, DEPENDABLE SERVICE.

1-800-4-NEWARK (1-800-463-9275)

PARALLEL PRINTER SWITCHES

Provide an electronic solution for multiple computers to share a single printer. Sense data coming from a computer and automatically switch it to the printer. Eliminates the need for a manual switch. Both units are power-free.

Stock No.	Type	Description	Each
16F1503	83-2875	2:1 Parallel	25.83
16F1506	83-2880	4:1 Parallel	41.39

(7891) (ne09000)

COMPACT PARALLEL PRINTER SWITCHES

Electronic alternative to using a manual switch box. Forward and reverse direction capabilities provide access to 1 printer from up to 4 computers, or in the reverse direction, support access to 2 or 4 printers from 1 computer.

Stock No.	Type	Description	Each
16F1505	83-2850	2:1 Parallel	51.74
16F1494	83-2855	4:1 Parallel	72.44

(7888) (ne08997)

PARALLEL PRINTER CABLE AND SIGNAL BOOSTER

PrinterLINK™ combined parallel printer cable and signal booster extends parallel printer cable distance capabilities. Can span distances of up to 1200′. Features DB-25 male to DB-25 male gender adapter and 50′ of cable.

16F1497 Type 83-2835. **Each**..... **87.97**

(7894) (ne09003)

PRINTER BUFFER

CompactBUFFER™ is an in-line device that captures print files sent to a single parallel printer. Buffer receives data at a faster rate than most printers and allows the sending computer to complete its printing transaction more quickly.

16F1492 Type 83-2845. **Each**..... **195.62**

CompactBUFFER™ is a trademark of Primax.

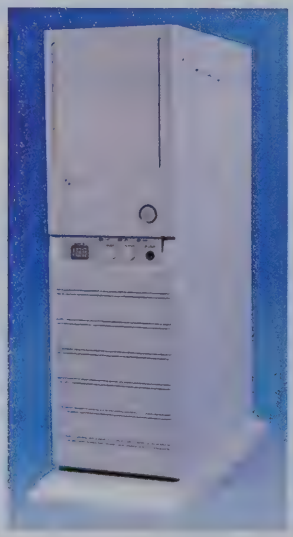
(7890) (ne08999)

MINITOWER CASE WITH 200W POWER SUPPLY

Baby AT™ and XT™ compatible. Slots for two 5.25″ and 3.5″ floppy drives and two 3.5″ hard drives. Features turbo switch, reset switch, and key lock. 200W power supply included. Dimensions: 16H x 12W x 20″D.

16F1553 Type 83-3985. **Each**..... **82.75**
(7914) (ne09024)

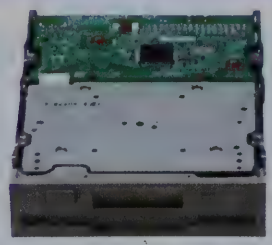
FULL TOWER CASE WITH 230W POWER SUPPLY



Provides space for expansion for computers or network servers. Unit can accommodate full, half, or baby motherboard. Features 6 5.25″ and 4 3.5″ slots for installing floppy drives, CD-ROM drives, or tape backups. 8 expansion slots in the back allow access to all input/output controllers such as video board, serial, parallel, or sound card. 2-digit display indicates computer operating speed. 230W PS/2™ power supply and base stand for stability are included. Dimensions: 25½H x 7½W x 16½″D.

16F1552 Type 83-8720. **Each**..... **98.28**
(7913) (ne09023)

3.5″ 1.44MB FLOPPY DISK DRIVE



83-2915

TEAC disk drive available to suit your system's requirements. Features high memory capacity, low energy circuitry, low power consumption, and reduced heat generation.

Stock No.	Type	Description	Each
16F1562	83-2915	3.5″, 1.44MB Drive	56.88

(7617) (ne08603)

COMPUTER POWER SUPPLIES

For use in many popular IBM®-compatible personal computers. Units include standard motherboard and disk drive power connectors, as well as extended switch cabling. Power requirements: 115VAC, 60Hz, 5A. Power output: +5V, 20A; –5V, 0.5A; +12V, 8A; –12V, 0.5A. Dimensions: 5¹⁵⁄₁₆W x 3⅜H x 5½″D. UL listed. Switch not included.

Stock No.	Type	Output Power	Each
16F1556	83-1980	230W	74.47
16F1557	83-1945	250W	93.10

(7614) (ne08600)

DB-9 TO PS/2™ ADAPTER

DB-9 serial connector to IBM® PS/2™ type connector. Can be used for serial mouse on IBM® PS/2™ computers.

16F1435 Type 83-1870. **Each**..... **3.72**
(7626) (ne08612)

CPU COOLING FANS

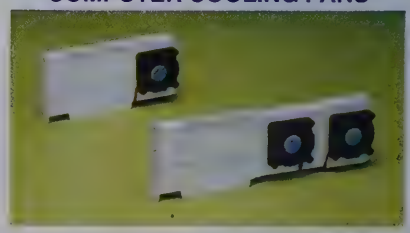
83-1975

Protect CPUs from overheating. Fans are 12VDC, 0.9W. Mount on CPU to prolong processor life span. Note: fan mounts on CPU not motherboard. Floppy disk drive power connector clips onto power source. Include mounting frame and heat sink.

Stock No.	Type	Description	Each
84N1086	3406	486 CPU Fan	14.25
16F1431	83-2695	Pentium® 90-100MHz Fan	15.48
84N1085	3405	Pentium® 60-66MHz Fan	14.95

(7618) (ne08604)

COMPUTER COOLING FANS



Cool down entire personal computer, prevent overheating, and prolong computer life. Rated 12VDC, 0.8A, 18.7 cfm. Available in single or double fan versions, these fans cool down computers up to 35% in the first two minutes, and up to 75% in the first three hours. Requires one 8-bit ISA slot and power supply connector.

Stock No.	Type	Description	Each
16F1560	83-2685	Single Fan	19.62
16F1559	83-2690	Double Fan	25.83

(7619) (ne08605)

COMPUTER CASE SCREWS

83-3600

Used for adding items to computer or replacing lost screws. **Sold in packages of 20 or 30.**

Stock No.	Type	Description	Pkg. of	Each
16F1467	83-3600	0.37″	20	0.82
16F1473	83-3605	0.3″	20	0.82
16F1438	83-3615	Assorted	30	1.24

(7880) (ne08989)

NEW PRODUCTS ARE BEING ADDED TO OUR INVENTORY EVERY DAY.
CALL NEWARK FOR INFORMATION ON WHAT'S CURRENTLY IN STOCK.

MULTIMEDIA DRIVES AND ACCESSORIES

SOUND BLASTER® SOUND CARDS

CREATIVE WWW.SOUNDBLASTER.COM

NEW Call for current price

All Sound Blaster cards have a digital effects engine for reverb, chorus, flange and delay, 16 MIDI channels, 128 GM and GS compatible instruments, and 10 drum kits. Feature CD quality, 16-bit stereo digital audio, and full duplex support for simultaneous Internet record and playback. All have MIDI interface and joystick ports, IBM®-compatible 15-pin joystick port with analog and digital support, built-in 15-pin MIDI interface (requires adapter, not included; *contact your local Newark sales office*). **Type 50S3101002** includes 2MB, 4MB, and 8MB sample sets. Utilizes system RAM for wave-table synthesis; user-configurable for 2MB, 4MB, or 8MB. Compatible with Windows® 95, 98, NT 4.0, general MIDI, MPC-3, plug-and-play Microsoft DirectSound, DirectSound 3D, and derivatives. **Types 50455001001** and **20433601001** feature E-mu 3D Positional Audio, E-mu Systems® wave-table synthesis, and SoundFont® that lets you add new sounds and instruments to card. They accelerate Microsoft® DirectSound games and applications and include 1MB of build-in sound samples. Value card has 512K onboard RAM; Gold card has 4MB. Both are compatible with Windows® 95, NT, 3.1, DOS 5.0 and higher, general MIDI, MPC-3, plug-and-play, Sound Blaster, and Sound Blaster Pro 16, and AWE32.

Stock No.	Type	Description	Each
48F1725	50S3101002	PCI128 Sound Card	**74.95**
48F1722	5045001001	ISA AWE64 Value Sound Card	**109.95**
48F1719	2043601001	ISA AWE64 Gold Sound Card	**249.00**

(35984) (ne35984)

COMPUTER AMPLIFIED SPEAKERS

Shielded speakers provide an economical solution when adding or replacing speakers to your computer system, portable stereo or small TV. Includes 3″ woofer and 1.5″ tweeter in each speaker. Volume and bass boost controls. 3W RMS output. 24W PMPO. 50-15,000Hz frequency response. 8 ohm impedance. 3.5mm audio plug to music source. Color: white. Power requirements: 4 C-batteries (not included) or 6VDC power adapter (not included). *Call your local Newark office for details.*

83F4436 Type 83-7702. **Each** **14.95**
(35281) (ne35281)

MONITOR-MOUNTED AMPLIFIED COMPUTER SPEAKERS

5-watt RMS, low-distortion, magnetically shielded speakers attach to computer monitors from 14″ to 21″. Feature volume and super bass controls, superior sound quality, RCA and ⅛″ mini stereo plug.

16F1564 Type 35-805. **Each Pair** **62.05**
(7916) (ne09026)

MULTIMEDIA MICROPHONE

Allows audio input for custom applications.

16F1551 Type 83-2680. **Each** **8.27**
(7915) (ne09025)

DVD-ROM AND 32X CD-ROM INTERNAL DRIVES

CREATIVE WWW.SOUNDBLASTER.COM

NEW Call for current price

Type5000001054 Blaster second-generation PC-DVD™ x2 drive has maximum data transfer rate of 3000Kbps (CD) and 2700Kbps (DVD). CD-ROM data capacity of 748MB (mode 2). Plays DVD videos with decoder board, available separately; *contact your local Newark sales office.* Includes IDE data cable, audio cable installation disk and manual. **Type 5071201000** PC-DVD Encore Dxr2 drive includes everything to upgrade your PC. Includes a second-generation DVD-ROM drive combined with the PCI-based Dxr2 card that includes state-of-the-art picture enhancement technology and MPEG-2 Dolby digital decoding. **Type 50000001043** 32x internal drive has up to 4800Kbps data transfer rate, with 85ms access time or better. Features front-loading motorized tray design and enhanced IDE interface; supports vertical or horizontal installation and operation. Includes IDE data cable, CD-ROM audio cable, and manual. **Type 5045201009** AWE64/32x multimedia kit is a complete package of sound. Includes 32x CD-ROM drive, AWE64 value Sound Blaster card, and 2 SBS10 speakers.

Stock No.	Type	Description	Each
48F1721	5000001054	Blaster DVD-ROM Drive	**145.95**
48F1723	5071201000	PC-DVD Encore Upgrade Kit	**379.99**
48F1720	5000001043	Blaster CD 32x CD-ROM Internal Drive	**99.95**
48F1724	5045201009	AWE64/32x Multimedia Kit	**194.95**

(35983) (ne35983)

HIGH-POWERED COMPUTER SPEAKERS

Designed with a 4″ bass and two 2″ mid-range speakers amplified by a 30W (max.) amplifier. Triangular design and 15° rotating angle at right and left allow each speaker better sound reproduction. These speakers can also be used for TV, CD players, and personal stereo equipment. Each speaker features 14W RMS per channel with volume/bass/treble controls, RCA to 3.5mm adapter, and swivel bottoms. Dimensions: 13H x 8W x 5¾"D. Frequency response: 50Hz—20KHz.

16F1549 Type 35-810. **Each Pair** **159.00**
(7917) (ne09027)

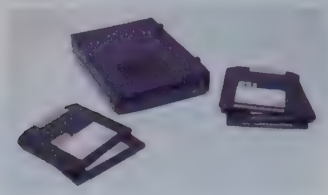
DIRECTIONAL BOOKSHELF SPEAKERS

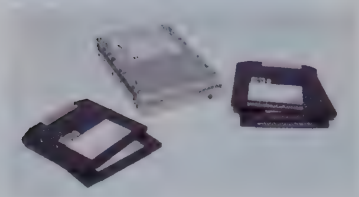
Compact speakers deliver high-quality sound. Feature a dual 3″ full-range speaker and a 3″ woofer. 4-ohm impedance. Dimensions: 7H x 4W x 4″D. Frequency response: 250Hz—20KHz.

83F2098 Type 50-2590. **Each** **70.00**
(35282) (ne35282)

IOMEGA® DISK AND TAPE DRIVES

Call for current price





ZIP® 100MB DRIVES AND DISK

- **Zip Media is Ideal for Hard Drive Back-up, Multimedia Presentations, and Internet Downloads**
- **Up to 1.40MB/sec. Sustained Transfer Rate**
- **Easy Plug-and-Go Setup and Operation**
- **Average Seek Time: 29ms Read / 12ms Write**

Zip® 100MB drives provide the power, mobility, and performance to back-up valuable data and optimize hard drive operation. SCSI Zip drives are available in either external or internal versions. **Type 10714 SCSI** internal model installs easily in any 5¼" drive bay and connects to the included Zip zoom SCSI accelerator card. **Type 10012** parallel port drive connects directly to parallel port and includes a printer pass-through feature. **Type 10660** ZipPlus™ external drive provides speed up to 50 times faster than a floppy drive in Windows® 95. Fits all SCSI and parallel ports. Features a lightweight universal power supply and innovative multimedia software. Iomega 100MB Zip Media stores data quickly, easily and economically. Sustained transfer rate: 0.79 MB/sec. minimum, 1.40MB/sec. maximum. Typical throughput: up to 60MB/min. (SCSI), up to 20MB/min. (parallel).

ZIP® DRIVES

Stock No.	Type	Description	Each
48F1726	10011	Zip 100 SCSI Drive for PC/Mac	149.00
48F1750	10670	Zip 100 ATAPI IDE Internal Drive	114.95
48F1751	10714	Zip 100 SCSI Internal Drive	139.95
48F1773	C4341B#ABA	ZipPlus™ 100 External Drive	199.95

ZIP® MEDIA

48F1728	10020	Zip PC Disk, 1-Pack	11.95
48F1729	10021	Zip PC Disk, 3-Pack	49.95
48F1730	10028	Zip PC Disk, 10-Pack	129.95
48F1741	10533	Zip PC Disk, Multicolor, 10-Pack	129.95

ZIP® is registered marked of the Iomega® Corporation
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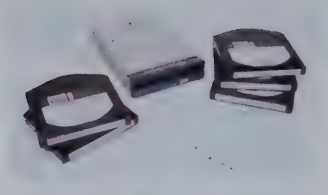
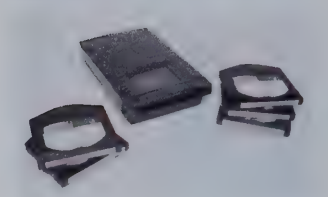
Call for current price





2GB JAZ® DRIVES AND DISKS

- **Expand Hard Drive Without Limits**
- **High-Capacity Storage of Audio, Video, and Graphic Files**
- **Up to 8.70MB/sec. Sustained Transfer Rate**
- **1-Year Limited Warranty on Drive; Limited Lifetime Warranty on Media**
- **Average Seek Time: 10ms Read / 12ms Write**

Plug the Jaz drive into a SCSI port for an instant storage solution and unlimited expansion. Mac, DOS/Windows®, Windows 95, and Windows NT® compatible. The internal SCSI Jaz drives easily fit into any standard 3.5" or 5.25" drive bay on computer using a SCSI connection. 2GB Jaz drives provide enough space to back up a 4GB hard drive (with 2:1 compression). Up to an 8.7MB/sec. sustained transfer rate. 2GB Jaz drives are also backward compatible with 1GB Jaz disks.

JAZ® DRIVES

Stock No.	Type	Description	Each
48F1739	10479	Jaz 2GB Insider SCSI Drive	349.95
48F1740	10508	Jaz 2GB External SCSI Drive	349.95

JAZ® MEDIA

48F1733	10150	Jaz 1GB PC Disk, 1-Pack	124.95
48F1738	10387	Jaz 1GB PC Disk, 3-Pack	299.85
48F1743	10599	Jaz 2GB PC Disk, 1-Pack	129.95
48F1742	10597	Jaz 2GB PC Disk, 3-Pack	339.00

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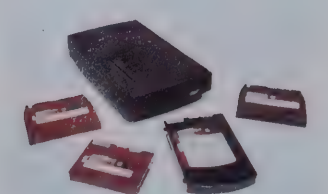
(ne35978)

Call for current price



DITTO™ TAPE DRIVES AND CARTRIDGES

- **One-Step Point-and-Click Backup**
- **Up to 10GB Storage Capacity (With Compression)**
- **Easy 5-Minute Installation**
- **Available in Parallel Port or Internal Version (Fits any 5.25" Bay)**

1-step Restore function identifies and retrieves files lost during backup. Ditto's Works software provides every detailed backup customization option. Plug-and-go connections make parallel drives extremely portable and simple to use. Internal tape drives are also easy to install in any half-height drive bay. 2GB Ditto™ drives feature average backup time of up to 19MB/min. maximum (internal); 9.5MB/min. maximum (external). Ditto Max™ and Ditto Max™ Pro drives offer professional strength backup with disaster recovery with FuliBack™ system recovery software. Backup maximum throughput: internal-36MB/min.; external-19MB/min.; using file compression of 2/1.

DITTO™ TAPE DRIVES

Stock No.	Type	Description	Cartridge	Each
48F1734	10333	Ditto 2GB External Parallel Drive	3.7GB	179.95
48F1735	10334	Ditto 2GB Insider Drive	3.7GB	129.95
48F1744	10608	Ditto Max 7GB Insider Drive	3, 5 and 7GB	219.95
48F1745	10609	Ditto Max 7GB External Parallel Drive	3, 5 and 7GB	219.95
48F1779	C4836B#ABA	Ditto Max Pro 10GB Insider Drive	3, 5, 7 and 10GB	319.00
48F1782	C4689A#ABA	Ditto Max Pro 10GB External Parallel Drive	3, 5, 7 and 10GB	319.00

DITTO™ TAPE CARTRIDGES

Stock No.	Type	Description	Each
48F1736	10367	Ditto 3.7GB Tape Cartridge, 1-Pack	25.95
48F1737	10368	Ditto 3.7GB Tape Cartridge, 3-Pack	69.95
48F1746	10612	Ditto Max 3GB Tape Cartridge, 1-Pack	19.95
48F1747	10613	Ditto Max 3GB Tape Cartridge, 3-Pack	59.95
48F1748	10614	Ditto Max 5GB Tape Cartridge, 1-Pack	25.95
48F1749	10616	Ditto Max 7GB Tape Cartridge, 1-Pack	29.95
48F1737	10368	Ditto Max 10GB Tape Cartridge, 1-Pack	69.95

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(35979)

(ne35979)

HARD DISK DRIVES

Seagate

NEW Call for current price

DiscWizard is a Windows Software program designed to overcome the limited storage capacity of the BIOS. Bundled with selected Seagate hard drives, provides detailed instruction on best suitable installation. 3 year limited warranty on Medalist drives. 5 year limited warranty on Barracuda and Cheetah drives.

MEDALIST IDE

Stock No.	Type	Capacity	Interface	Connector	Seek Time	RPM's	Cache Memory	Each
83F4143	ST33210A	3.2GB	Ultra EIDE (UDMA)	40-Pin IDE	10.5ms	5400	128KB	149.00
83F4145	ST34321A	4.3GB	Ultra EIDE (UDMA)	40-Pin IDE	10.5ms	5400	128KB	169.00
83F4154	ST36531A	6.5GB	Ultra EIDE (UDMA)	40-Pin IDE	10.5ms	5400	512KB	194.56
83F4153	ST36530A	6.5GB	Ultra EIDE (UDMA)	40-Pin IDE	10ms	7200	512KB	239.00
83F4155	ST38641A	8.6GB	Ultra EIDE (UDMA)	40-Pin IDE	10.5ms	5400	128KB	228.57
83F4156	ST39140A	9.1GB	Ultra EIDE (UDMA)	40-Pin IDE	10ms	7200	512KB	279.00
83F8283	ST310240A	10.2GB	Ultra EIDE (UDMA)	40-Pin IDE	10.5ms	5400	128KB	260.63

MEDALIST SCSI

83F8284	ST34520N	4.55GB	Ultra/Fast	50-Pin SCSI	9.5ms	7200	512KB	274.04
83F8285	ST34520W	4.55GB	Ultra/Wide	68-Pin SCSI	9.5ms	7200	512KB	274.04
83F8286	ST36530N	6.5GB	Ultra/Fast	50-Pin SCSI	9.5ms	7200	512KB	388.20
83F8287	ST36530W	6.5GB	Ultra/Wide	68-Pin SCSI	9.5ms	7200	512KB	388.20
83F8288	ST39140N	9.1GB	Ultra/Fast	50-Pin SCSI	9.5ms	7200	512KB	503.13
83F8289	ST39140W	9.1GB	Ultra/Wide	68-Pin SCSI	9.5ms	7200	512KB	503.13

BARRACUDA SCSI

83F4151	ST34572WD	4.55GB	Differential/Ultra/Wide	68-Pin SCSI	8.8ms	7200	512KB	560.75
83F4157	ST39173N	9.1GB	Uitra/Fast	50-Pin SCSI	7.8ms	7200	512KB	532.25
83F4158	ST39173W	9.1GB	Ultra/Wide	68-Pin SCSI	8ms	7200	512KB	534.97
83F4159	ST39173WC	9.1GB	Ultra/Wide	80-Pin SCA	8ms	7200	512KB	534.97
83F4136	ST118273N	18.2GB	Ultra/Fast	50-Pin SCSI	7.6ms	7200	512KB	1016.72
83F4137	ST118273W	18.2GB	Ultra/Wide	68-Pin SCSI	7.6ms	7200	512KB	1021.95
83F4138	ST118273WC	18.2GB	Ultra/Wide	80-Pin SCA	7.6ms	7200	512KB	1011.55
83F4139	ST118273WD	18.2GB	Differential/Ultra/Wide	68-Pin SCSI	7.6ms	7200	512KB	1099.80

CHEETAH SCSI

83F4146	ST34501N	4.55GB	Ultra/Fast	50-Pin SCSI	7.5ms	10000	512KB	584.83
83F4147	ST34501W	4.55GB	Ultra/Wide	68-Pin SCSI	7.5ms	10000	512KB	582.99
83F4148	ST34501WD	4.55GB	Differential/Ultra/Wide	68-Pin SCSI	7.5ms	10000	512KB	644.32
83F4140	ST19101N	9.1GB	Ultra/Fast	50-Pin SCSI	8ms	10000	512KB	755.53

(17534) (ne10797)

WD HARD DRIVES

Western Digital

NEW Call for current price

WD CAVIAR IDE

Stock No.	Type	Capacity	Interface	Connector	Seek Time	RPM's	Cache Memory	Each
83F8271	AC14300	4.3GB	Ultra EIDE (UDMA)	40-pin IDE	11ms	5400	256KB	184.89
83F8272	AC310100	10.1GB	Ultra EIDE (UDMA)	40-pin IDE	9.5ms	5400	512KB	282.29
83F8275	AC26400	6.4GB	Ultra EIDE (UDMA)	40-pin IDE	9.5ms	5400	256KB	218.67
83F8276	AC38400	8.4GB	Ultra EIDE (UDMA)	40-pin IDE	9.5ms	5400	256KB	244.23
83F8274	AC35100UDMA	5.1GB	Ultra EIDE (UDMA)	40-pin IDE	11ms	5400	256KB	194.52

WD ENTERPRISE SCSI

83F8279	E4360-0003	4.3GB	Ultra/Fast SCSI	50-pin SCSI	8ms	7200	512KB	484.20
83F8280	E4360-0007	4.3GB	Ultra/ Wide SCSI	68-pin SCSI	8ms	7200	512KB	498.03
83F8281	E9100-0003	9.1GB	Ultra/Fast SCSI	50-pin SCSI	8ms	7200	512KB	664.00
83F8282	E9100-007	9.1GB	Ultra/Wide SCSI	68-pin SCSI	8ms	7200	512KB	677.88

(35272) (ne35272)

G80 SERIES DATA ENTRY KEYBOARDS

G80 series keyboards are IBM compatible with PC, XT, AT and PS/2 systems. Storage temperature: -4°F to +140°F. Operating temperature: +32°F to +122°F. UL recognized, CSA certified, VDE approved.

Stock No.	Type	Description	Each
91F9705	G80-11900LAMUS	Compact, 104 Keys, Beige (AT) Integrated Touch Pad (Serial)	188.05
83F3554	G80-11900LPMUS	Compact, 104 Keys, Beige (PS/2) Integrated Touch Pad (PS/2)	188.05
83F8539	G80-3700HAU	21-Key Numeric Pad, Beige (AT) 4/Programmable, 4/Relegendable Keys	93.38
83F8540	G80-3700HQU	21-Key Numeric Pad, Beige (PS/2) 4/Programmable, 4/Relegendable Keys	93.38
83F3711	G80-5000 HAMUS	Ergonomic, 88 Keys (AT), Windows Keys, Integrated Wrist Supports, Articulated Design, Completely Adjustable	196.45
83F3713	G80-5000HPMUS	Ergonomic, 88 Keys, Beige (PS/2), Windows Keys, Integrated Wrist Supports, Articulated Design, Completely Adjustable	196.45
83F3710	G80-5700 HAAUS	17-Key Numeric Pad, Beige (PS/2), For G805000 Only (Connects To G80-5000 But Does Not Interface with the PC)	39.92
83F8541	G81-1800HBAUS	Compact, 101 Keys, Black (AT)	95.41
83F8542	G81-1800LAMUS	Compact, 104 Keys, Beige (AT)	76.13
83F8543	G81-1800LPMUS	Compact, 104 Keys, Beige (PS/2)	76.13
83F8544	G81-3000LANUS	Full-Size, 104 Keys, Beige (AT)	66.99
83F8545	G81-3000LPNUS	Full-Size, 104 Keys, Beige (PS/2)	66.99
83F8538	G81-8308LAAUS	Full-Size, 125 Keys, Beige (AT), 24 Programmable Function Keys, 10 Additional Function Keys On the Left	209.09
83F8561	G83-6101LADUS	Full-Size, 101 Keys, Beige (AT)	28.42
83F3555	G83-6101LPDUS	Full-Size, 101 Keys, Beige (PS/2)	29.42
83F3553	G83-6104LANUS	Full-Size, 104 Keys, Beige (AT)	29.42
83F8546	G83-6104LPNUS	Full-Size, 104 Keys, Beige (PS/2)	28.42
83F8547	G83-6300LANUS	Full-Size, 104 Keys, Beige (AT), Spill Resistant	60.90
83F8548	G83-6300LPNUS	Full-Size, 104 Keys, Beige (PS/2), Spill Resistant	60.90

(32792) (ne32792)

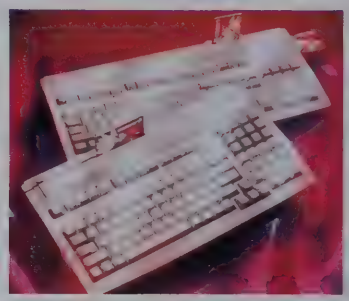
KEYBOARD ACCESSORIES

Stock No.	Type	Description	Each
50F7484	0617-0580	AT, TO (PS/2) Adapter Cable (6.5″)	18.91
83F8560	0617-0848	(PS/2) TO, AT Adapter Cable (6.5″)	20.55

(19726) (ne11130)

CONTACT NEWARK FOR LARGE-QUANTITY PRICING.

TRANSACTION PROCESSING/ACCESS-CONTROL KEYBOARDS



Stock No.	Type	Description	Each
83F8551	G80-1950PPAXB	Compact Matrix, 105 Keys, Beige (PS/2) 105 Programmable/Relegendable Keys Track 1 and 2 Magnetic Stripe	373.52
83F8552	G80-1950PQAXB	Compact Matrix, 105 Keys, Beige (PS/2) 105 Programmable/Relegendable Keys Track 1 and 2 Magnetic Stripe Reader, 9-Pin Bar Code Port	393.82
83F8553	G80-8113LRBUS	Full-Size, 115 Keys, Beige (PS/2), 58 Programmable/47 Relegendable Keys Track 1 and 2 Magnetic Stripe Reader, Integrated Touch Pad (PS/2)	459.80
83F8554	G80-8200LPAUS	Full-Size, 120 Keys, Beige, (PS/2), 59 Programable/48 Relegendable Keys, Track 1 & 2 Magnetic Stripe Reader, 6- and 9-Pin Bar Code Ports	438.48
83F8555	G80-8200LPBUS	Full-Size, 120 Keys, Beige, (PS/2), 59 Programable/48 Relegendable Keys, Track 1 & 2 Magnetic Stripe Reader	315.67
83F8556	G81-7000LPBUS	Compact, 104 Keys, Beige (PS/2), 43 Programmable Keys, Track 1 & 2 Magnetic Stripe Reader	293.34
83F8557	G81-7000LPCUS	Compact, 104 Keys, Beige (PS/2), 43 Programmable Keys, Track 1 & 2 Magnetic Stripe Reader, 6- and 9-Pin Bar Code Ports	414.12
83F8558	G81-8000LPBUS	Full-Size, 104 Keys, Beige (PS/2), 43 Programmable Keys, Track 1 & 2 Magnetic Stripe Reader	293.34
83F8559	G81-8000LPCUS	Compact, 104 Keys, Beige (PS/2), 43 Programmable Keys, Track 1 & 2 Magnetic Stripe Reader, 6- and 9-Pin Bar Code Ports	414.12

(33789) (ne33789)

G84 SERIES NOTEBOOK STYLE KEYBOARDS

G84-4100PPAUS

Mechanical ML keyswitches with gold cross point contacts mounted on a printed circuit board with 3mm full travel for life expectancy of over 20 million actuations. Ideal for applications with space limitations and mobile computing.

Stock No.	Type	Description	Each
66F5977	G84-4100PAAUS	Notebook Size, 83 Keys Beige (AT)	78.79
97F7727	G844100PPAUS	Notebook Size, 83 Keys Beige (PS/2)	112.41
83F8549	G84-4100PRAUS	Notebook Size, 83 Keys Black (PS/2)	88.31
83F3712	G84-4400PPAUS	Notebook Size, 83 Keys Beige (PS/2), Integrated Trackball (PS/2)	196.45
83F8550	G84-4700PPAUS	Notebook Size, 21 Key Numeric Pad Beige (PS/2), 4 Programmable/4 Relegendable Keys	73.08

(7467) (de03671)

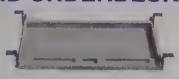
104-KEY WINDOWS™ 95 KEYBOARD

Full-size keyboard features Windows™ 95 keys for switching or starting active or additional applications. IBM® AT™ and PS/2™ compatible. Membrane key switching. Cord: 6′9″ coiled with DIN5 connector. Dimensions: 1 3/16H x 19W x 8 3/32″D.

16F1522 Type 83-6175. **Each** **51.70**
(7907) (ne09017)

SPC TECHNOLOGY

KEYBOARD UNDERDESK DRAWER

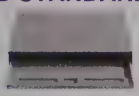


Ideal for desks that do not have a lap drawer. Slides out and locks for user access. Mounting hardware and instructions included.

84N1077 Type 3397. **Each** **19.95**
(7903) (ne09012)

SPC TECHNOLOGY

KEYBOARD STANDARD DRAWER



Stores computer keyboard when not in use. Slides out and locks for user access. Adhesive rubber strips provided to prevent slipping.

84N1078 Type 3398. **Each** **31.95**
(7902) (ne09011)

Microsoft®

NATURAL® KEYBOARD ELITE

NEW

Features an ergonomic design and built-in palm rest that allow hands, wrists and forearms to rest in a naturally comfortable position while typing. Fits easily on your desktop or in keyboard trays. Keyboard legs adjust to accommodate your body, chair and desk size. Compatible with MS-DOS® and Windows® operating systems, and provides easy, one-button shortcuts to Windows® 95 and Windows® 98. Connects keyboard easily to any computer with the Universal Serial Bus (included) or with a PS/2 port. **Type 875-00002 sold in packages of 10.**

Stock No.	Type	Description	Each
48F1758	286-00082	Natural® Keyboard	64.95
48F1759	875-00002	Natural® Keyboards.	239.00

(35273) (ne35273)

Microsoft®

INTELLIMOUSE® TRACKBALL

NEW

Provides comfort and accuracy with precise fingertip control. Pointer can be controlled without moving your wrist or arm so operator is more relaxed while working. AutoScroll feature lets you roll past on-screen information, hands-free, at whatever speed you choose. Also features quick and easy zoom function.

48F1753 Type 858-00015. **Each** **49.95**
(35276) (ne35276)

SPC TECHNOLOGY

REPLACEMENT COMPUTER MOUSE

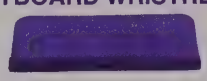
3393

Replaces broken computer mouse for many popular personal computers. Software and manual not included.

Stock No.	Type	Description	Each
84N1073	3393	3 Button Serial Mouse	11.95
84N1080	3400	2 Button PS/2 Mouse	12.95

(7896) (ne09005)

KEYBOARD WRISTREST



Provides wrist support while working with keyboards. Places wrist in proper position alleviating stress and strain caused by typing. Foam rubber construction. Units slide underneath keyboard to prevent movement while typing.

16F1517 Type 83-1915. **Each** **8.58**
(7901) (ne09010)

MOUSE HOLDER AND PAD

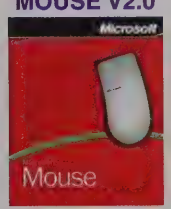
Pad: blue, ¼″ thick. Holder includes double sided tape for mounting to monitor or desk.

16F1528 Type 83-1770. **Each** **4.24**
(7895) (ne09004)

Microsoft®

MOUSE V2.0

NEW



Offers exceptional comfort and accuracy with a unique balanced, weighted design and smooth cursor action. Features a raised back that fits in the palm of your hand, and a curved side that's easy to hold for both right- and left-handed users.

48F1752 Type 365-00084. **Each** **54.95**
(35274) (ne35274)

Microsoft®

WHEEL MOUSE

NEW

This 2-button mouse lets you navigate through your documents by simply rolling its wheel forward or backward, instead of clicking on a scroll bar or arrow. Easy to use, just plug into a serial or PS/2 port and install the included intellipoint software.

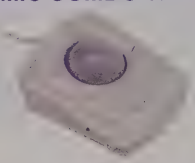
48F1757 Type 062-00003. **Each** **34.95**
(35277) (ne35277)

MOUSE 3 - THE ERGONOMIC MOUSE

Special palm-shaped design for long-term comfort. Microsoft® and Mouse Systems® modes. 400dpi.

83F3250 Type CSMOU3. **Each** **19.51**
(34791) (ne34791)

ERGONOMIC COMBO TRACK BALL



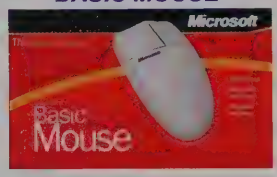
Features a large ball for comfort and 3 buttons. Compatible with Mouse Systems®, Microsoft Mouse, DOS, windows® x.1x, 95 and Office 97. Includes programmable driver. PS/2 or Serial, 6 pin DIN to 9 pin serial adapter included.

83F3254 Type 83-7651. **Each** **36.18**
(34792) (ne34792)

Microsoft®

BASIC MOUSE

NEW



This mouse is definitely the easy choice - simply plug it into a serial or PS/2 port, and it's ready to use. Built to meet strict standards, so you can count on its solid construction for years of use.

48F1754 Type A50-00001. **Each** **19.95**
(35275) (ne35275)

Microsoft®

INTELLIMOUSE®

NEW

Features an ergonomic shape and natural alignment that lets you work more comfortably. Raised back design fits the palm of your hand, and the curved side is designed for easy of use by left- and right-handed operators. Scrolls smoothly and precisely with a simple roll of the wheel. AutoScroll function lets you scroll through documents hands-free, at any speed. Also includes a quick and easy zoom capability (in Microscroft® Office 97 - compatible applications).

48F1756 Type 673-00089. **Each** **64.95**
(35278) (ne35278)

NEW PC SECURITY SYSTEMS AND ACCESSORIES

LOK-KIT II™ UNIVERSAL PLATE KIT

Economical security solution for desktop computers. Cast-metal plates with vinyl surfaces are activated with industrial-strength Super Bond adhesive. Kit includes 3 cast-metal plates (two 1.75″ round and one 0.75″ x 2″ rectangular, 5′ steel cable, 3-gram bottle of Super/Bond adhesive, keyed lock with 2 keys. Keyed alike, master keyed, and guaranteed keyed different versions available; *contact your local Newark sales office.* **Type 05403** includes 1.75″ round and 0.75″ x 2″ ectangular plates and 3-gram bottle of Super Bond adhesive. **Type 04115** is a 5′ vinyl-coated, steel braided, aircraft-style cable with eyelet fitting and ball fitting on each end. Other cable lengths available; *contact your local Newark sales office.*

Stock No.	Type	Description	Each
48F2980	06401	Lok-Kit II™ Universal Plate Kit	**37.45**
48F2988	05403	Pad-Lok II™ Plates	**18.69**
48F2989	04115	Cable-Lok 5A™ Cable	**14.94**

(34786) (ne34786)

FILE-LOK II™ FLOPPY DISK DRIVE LOCK

Secures virtually any laptop, notebook or desktop computer with a 3.5″ floppy disk drive. Prevents unauthorized copying of data from a network or hard drive; helps prevent viruses. Includes 2 keys. Keyed alike, master keyed, and guaranteed keyed different versions available; *contact your local Newark sales office.*

48F2987 Type 03107. **Each** **24.95**
(34797) (ne34797)

MULTIMEDIA STORAGE BOX

Holds 80 3.5″ diskettes 24 CDs, 40 Zip® disks, 12 Jazz® disks, or any combination. Organizes and protects valuable media. Smoke-tinted. See-through lid opens wide for easy access. Measures 6H x 8.25W x 8.75″D.

48F2983 Type 14525. **Each** **8.10**
(34784) (ne34784)

DISKETTE STORAGE BOXES

SDD1

DBL2

11330

Space-saving, high-capacity files help to organize and protect 3.5″ diskettes. **Types DBL2** and **11330** include dividers and tilt-up, see-through lid. **Type DBL2** also holds 2 working diskettes outside for fast access. **Type SDD1** is stackable. Color: light gray.

Stock No.	Type	Description	Capacity	H x W x D	Each
48F2986	DBL2	Locking Diskette File	40	5.25 x 5.25 x 9″	**8.12**
48F2975	11330*	Diskette Case	50	4.75 x 4.19 x 8.06″	**6.45**
48F2984	SDD1†	Locking Disk Box	56	16 x 3 x 11″	**17.50**

*Can hold 25 Zip® disks. †Can hold 22 3.5″ optical diskettes
(34785) (ne34785)

BASIC PC SECURITY SYSTEM

Easy-to-install PC security system attaches to any flat surface. To attach, simply remove the backing of pre-applied industrial tape. Kit includes 2-cast-metal plates, 5′ steel cable, keyed lock with 2 keys. Keyed alike, master keyed, and guaranteed keyed versions available; *contact your local Newark sales office.*

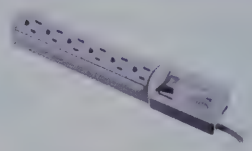
48F2990 Type 06183. **Each** **31.20**
(34780) (ne34780)

MEMORY/CPU SECURITY SYSTEM

Secures computers, peripherals, fax machines, copiers even internal computer components when mounted to a chassis cover screw. Includes 2 security housings with mounting hardware, 5′ steel cable, keyed lock with 2 keys. 1.75″ round Super Bond plate (for use as anchoring point or to secure a peripheral), and bottle of Super Bond adhesive. Keyed alike, master keyed, and guaranteed keyed versions available; *contact your local Newark sales office.*

48F2991 Type 09116. **Each** **37.45**
(34783) (ne34783)

6-AND 8-OUTLET SURGE PROTECTORS



SP700

SP3200

Protect computer equipment from power surge damage. Complete surge protection on all 3 incoming AC lines (hot, neutral, ground). Free cable organizer kit included. Lighted On/Off switch. UL 1449 rating: 330V. **Type SP3200** provides telephone/modem/fax protection; Internet ready, protects one telephone device (includes 6′ telephone cable), accommodates RJ-11 jack.

Stock No.	Type	No. of Outlets	Joules	Equipment Warranty	Cord	Each
48F2954	SP700	6	360	5-Year/$10,000	4′	**15.25**
48F2958	SP2200*	8	750	Lifetime/$20,000	6′	**23.12**
48F2955	SP3200†	6	890	Lifetime/$20,000	6′	**30.00**

*4 "constant power" outlets, 4 controlled by switch; †2 "constant power" outlets, 4 controlled by switch
(34781) (ne34781)

NETWORK SURGE PROTECTORS

SP9200T

Peovide advanced 2-device phone/modem/fax protection in a power adapter friendly design. EMI/RFI filtering minimizes line noise. 1350 total joules. Right-angle plug minimizes space requirements behind furniture. Complete surge protection on all 3 incoming AC lines (hot, neutral, ground). **Type SP8400T** features advanced telephone line protection. Pushbutton on/off prevents accidental shut-off. Includes built-in cable manager with colored caps, cable organizer kit, 6′ power cord. UL 1449 rating: 330V. Lifetime $25,000 equipment warranty.

Stock No.	Type	No. of Outlets	Each
48F2957	SP9200T	8	**62.50**
48F2972	SP8400T	9	**57.50**

(34782) (ne3482)

NEW

COMPUTER AND DESKTOP ACCESSORIES

ZERO-GLARE™ MONITOR FILTERS

Zero Glare™ monitor filters reduce glare by up to 99%. Zero Glare™ Plus cuts radiation by 99%. ClearView filter has a lighter tint for maximum brightness. Patented mounting hinge flips up for easy cleaning of monitor screen and filter.

Stock No.	Type	Description	Fits Monitors	Each
48F2956	ZG1	Zero Glare™ Glass	14″-15″	**33.75**
48F2981	ZG3	Zero Glare™ Glass	17″	**66.25**
48F2985	ZG2	Zero Glare™ Plus	14″-15″	**50.00**
48F2978	ZG5	Zero Glare™ ClearView	14″-15″	**33.75**

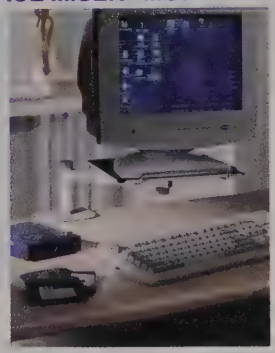
(37571) (ne37571)

PERFECT FIT™ KEYBOARD PROTECTOR KIT

Flexible, custom-molded polymer film cover protects keyboards while you work. Won't interfere with keying action. Soft, pliable polymer film. Universal fit. Mailer kit contains keyboard listing, prepaid order certificate and preaddressed envelope. Order direct from our manufacture. Ships in 5 days.

48F2979 Type 19000. **Each** **25.95**
(37572) (ne37572)

SPACE MISER® MONITOR ARM



Securely holds 15″ monitors weighing up to 50 lbs. Arm swivels 360° and extends 16″ for comfortable viewing. Retractable keyboard storage rack and cable organizing kit included. 3 mounting options to fit most monitors. 13¼W x 6¾D x 12½″H.

48F2963 Type MA6. **Each** **64.37**
(37573) (ne37573)

CD MONITOR DECK

Conveniently stores 21 CDs. Elevates monitor 4″ for comfortable viewing. Heavy-duty construction supports a 19″ monitor weighing up to 50 lbs. 16W x 4⅝H x 13″D.

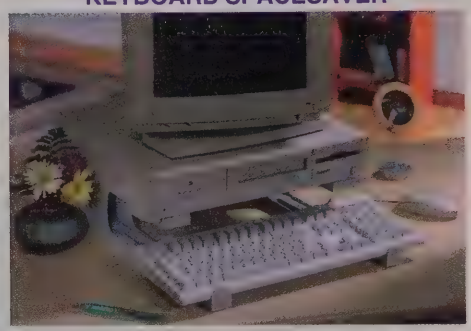
48F2971 Type 18451. **Each** **31.45**
(37574) (ne37574)

MONITOR DECK

Raises monitor to reduce neck, eye strain. Storage area organizes paper, desktop supplies, mouse, files or keyboard, and up to 10 cables. Notebook computer slips under bottom tray for easy hook-up to large screen monitor. 13¼W x 3⅝H x 14⅜″D.

48F2970 Type 18450. **Each** **31.45**
(37576) (ne37576)

KEYBOARD SPACESAVER



Lets user slide keyboard away to create more desktop space. Fits any keyboard. Mounts on or underneath desktop. Compact, modular 2-piece construction with anti-skid feet. 16W x 2½H x 9″D.

92F868 Type KS1. **Each** **31.05**
(37577) (ne37577)

TELEPHONE STAND

Saves valuable desktop space while positioning telephone at comfortable angle. 3¼″ high storage area allows quick access to directories or answering machines. Sturdy, 1-piece construction, clear acrylic. Nonskid feet. 9$^{13}/_{16}$W x 10D x 4⅝″H.

92F873 Type 94260. **Each** **31.00**
(37578) (ne37578)

TELEPHONE ORGANIZER

Holds telephone plus large directories in the same amount of desk space. Stores directories or answering machines up to 3¼″ high. Side storage area for message pads, small directories, and file folders. Sturdy, 1-piece construction, clear acrylic. 11¾W x 11⅛D x 4⅜″H.

92F862 Type 94261. **Each** **31.00**
(37579) (ne37579)

ADJUSTABLE CPU STAND

Desktop space saver adjusts 3″ to 6½″ to support most CPUs. Heavy-duty construction with a sturdy, nontip base that provides stable vertical support for CPUs. 12½W x 4$^{7}/_{16}$D x 7½″H.

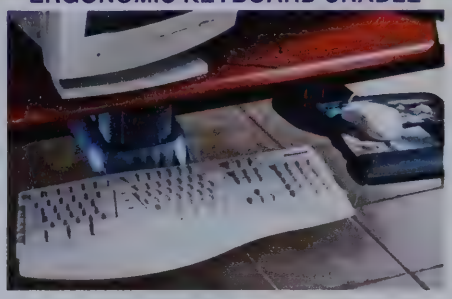
48F2977 Type SS4. **Each** **8.75**
(37580) (ne37580)

CURTIS
COMPUTER PRODUCTS

NEW

ERGONOMIC DESKTOP ACCESSORIES

ERGONOMIC KEYBOARD CRADLE



Height adjusts up to 3″ in ¼″ increments with 0° to -15° tilt. Backslope keeps wrist in a neutral keying position for comfort. Underdesk design saves desktop space. Includes wrist pad. Pulls out 13″ from under desk top. Holds all standard keyboards, including the Microsoft Natural Keyboard™. Hardware included. Mounting clearance: 19½W x 20⅜″D. Overall dimensions: 7¼H x 19⅜W x 20⅜″D. Color: Charcoal.

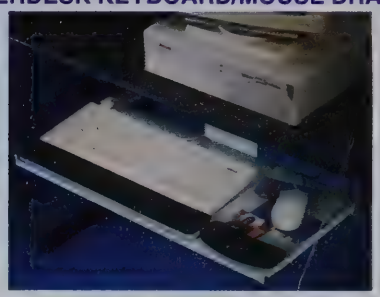
48F2959 Type 76540. **Each** **89.95**
(38075) (ne38075)

ADJUSTABLE MOUSE CRADLE

Pivots ±30° to your hand's natural mousing angle. Use independently or nest with keyboard cradle to reduce hand travel. Order separately *on this page* above. Height adjusts up to 2 1/2". Pulls out 13″ from under desk top. Padded wrist support. Lexan® mouse surface for precise tracking, photo display. Mounting clearance: 10½W x 18″D (8W x 18″D when used with **type 76540** keyboard cradle). Overall dimensions: 6¹³⁄₃₂H x 10⁵⁄₁₆W x 18″D. Color: Charcoal.

48F2967 Type 76545. **Each** **59.95**
(38074) (ne38074)

UNDERDESK KEYBOARD/MOUSE DRAWER



Extra-wide drawer ergonomically positions mouse surface next to keyboard for added comfort. Furniture-quality drawer slides out and locks into position. Provides smooth, quiet performance. Padded keyboard and mouse wrist supports. Clear Lexan® mouse surface improves tracking, displays photos, cleans easily. Holds all standard keyboards, including the Microsoft® Natural Keyboard™. Color: Light gray.

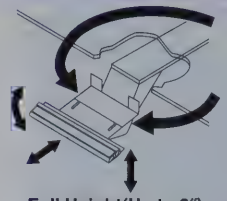
48F2973 Type 76533. **Each** **79.95**
(38076) (ne38076)

CLEAR ACRYLIC KEYBOARD CARREL™

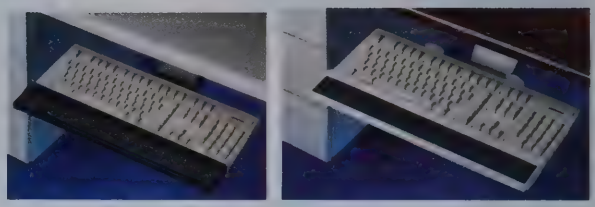
Stacks monitor and CPU. Holds keyboard to save valuable desktop space. Sturdy design supports up to 80 lbs. Attractive clear acrylic looks great on any worksurface. Stores any standard keyboard. Dimensions: 3¼H x 21⅞W x 14⅞″D.

48F2966 Type 76805. **Each** **49.95**
(38077) (ne38077)

ARTICULATING KEYBOARD PLATFORMS



Full Height(Up to 6″)
Rotates 360°

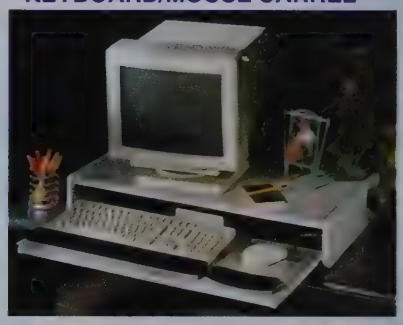


Tilt range of 25° allows 10° negative angle adjustment for wrist neutral keying. Pulls out 12″, rotates 360° side-to-side. Saves space by storing keyboard under desk top. Padded wrist/palm support. Standard platforms include a single control for height and tilt adjustability. Hold standard keyboards up to 22W x 5⁷⁄₁₆D to 9⁵⁄₁₆″D; platform dimensions: 4½H x 18⁷⁄₁₆W x 17⅜″D. Deluxe platforms feature separate height and tilt adjustments for precise positioning; holds standard keyboards up to 22W x 5¹¹⁄₁₆″D to 9⅛″D. Platform dimensions: 5¼H x 18⁷⁄₁₆W x 19″D.

Stock No.	Type	Description	Color	Each
48F2969	76510	Standard	Light Gray	**149.95**
48F2968	76511RK	Standard	Black	**149.95**
48F2960	76515	Deluxe	Light Gray	**199.95**
48F2974	76516	Deluxe	Black	**199.95**

(38079) (ne38079)

KEYBOARD/MOUSE CARREL™



Slide-out drawer ergonomically positions mousing surface next to keyboard. Furniture-quality cabinet construction. Sliding drawer. Padded keyboard and mouse wrist rests for comfort. Clear Lexan® mouse surface improves tracking, displays photos, cleans easily. Dimensions: 4⅜H x 29⅜W x 16⁹⁄₁₆″D.

Stock No.	Type	Description	Each
48F2962	76835	Light Gray	**99.95**
48F2964	76836	Medium Oak	**99.95**
48F2965	76837	Walnut	**99.95**

(38078) (ne38078)

THIS NEWARK CATALOG IS AVAILABLE ON CD-ROM!
CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR DETAILS.

CURTIS COMPUTER PRODUCTS

JET STAX® PRINTER STAND

NEW

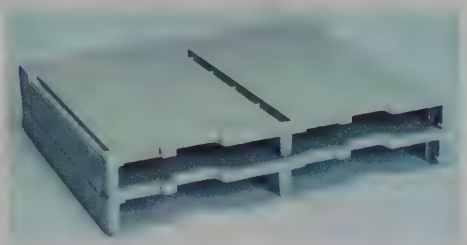
Holds any inkjet or bubblejet printer. Provides convenient storage for paper and envelopes. High-impact polystyrene. Cord managing slot in back. 2¾H x 17¼W x 11½"D. Color: Light gray.

48F2976 Type PS6. **Each** **30.00**
(34788) (ne34788)

CURTIS COMPUTER PRODUCTS

PRINTER STANDS

NEW



Turns your laser printer into an organized workstation. 4 heavy-duty shelves stack and lock beneath your printer. Compartments for stationery, letter and legal size paper. File labels included. Laser Stax™ - Light gray color, dimensions: 2⅞H x 16W x 20⅛D. Laser Rak® Platinum color, dimensions: 9H x 17½W x 13¼"D.

Stock No.	Type	Description	Each
92F863	PS5	Laser Stax™	31.05
92F874	18250M	LaserRak®	43.47

(34794) (ne34794)

CURTIS COMPUTER PRODUCTS

ROLL 'N RACK DESK-HEIGHT PRINTER CART

NEW

Conveniently positions equipment at desk height. Top shelf holds a fax machine, overhead projector, scanner or small copier. Bottom shelf stores supplies. Reinforced molded plastic construction. Holds up to 75 lbs. of equipment. 4 casters. 13⅜W x 9⅛D x 25¾"H. Color: Light gray.

48F2982 Type 18295. **Each** **69.95**
(34790) (ne34790)

CURTIS COMPUTER PRODUCTS

JEWEL CASES

NEW

Replaces broken or lost CD/CD-ROM jewel cases. Durable plastic construction. Includes ten 3.5" clear cases.

83F4328 Type JC10 Pk/10. **Each** **9.27**
(34795) (ne34795)

CURTIS COMPUTER PRODUCTS

KEYBOARD KEEPER™

NEW

Attaches in seconds to the top of any monitor. Quickly and easily holds keyboard firmly in place and out of the way. Platinum color.

92F872 Type 15620. **Each** **8.23**
(34796) (ne34796)

CURTIS COMPUTER PRODUCTS

ROLL 'N RACK® STOWAWAY PRINTER CART

NEW

Stores easily under furniture or countertop. 2 sturdy stacking shelves on casters hold equipment and supplies weighing up to 75 lbs. Reinforced molded plastic construction. 18W x 9⅜D x 10⅛"H. Color: Light gray.

48F2961 Type 18290. **Each** **49.95**
(34789) (ne34789)

CURTIS COMPUTER PRODUCTS

GEL-REST™ MOUSE PAD AND WRIST SUPPORT

NEW

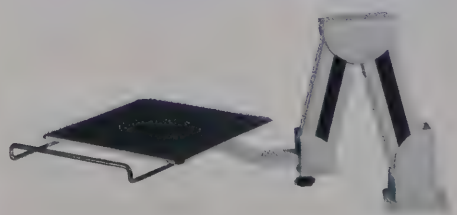
Gel conforms to user's wrist for optimum comfort. Gel-filled Lycra® mouse pad and wrist support make long hours at the computer more relaxing. Unique design complements any surface. Dimensons: Mouse Pad: 1H x 11W x 13"D. Wrist Support: 1H x 20W x 4"D.

Stock No.	Type	Description	Each
83F4330	MP11 MOUSE PAD	Mouse Pad	20.68
83F4329	WR4 GEL-REST	Wrist Support	31.03

(34787) (ne34787)

SPC TECHNOLOGY

COMPUTER MONITOR EXTENSION ARM

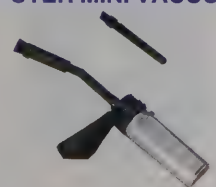


Constructed of heavy-gauge steel. Unit is 15¾"H, span variable 6" to 21". Tray: 12" sq. with tilting angle to 15°. Desktop width clamping range: 1¼ to 3". Holds up to 88 lbs.

84N1072 Type 3392. **Each** **45.95**
(7924) (ne09034)

SPC TECHNOLOGY

COMPUTER MINI VACUUM KIT



Ideal for field service. Removes dust and debris from keyboards and other items. Kit contains filter, brush, crevice nozzle, and straight and angled hose attachments. Requires 2 AA-size batteries (not included).

84N1047 Type 3367. **Each** **9.15**
(7942) (ne09113)

SERVICE/UTILITY CARTS AND ACCESSORIES

WORKSTATION TRADES CART

6180

Type 6180 mobile workbench system that features 2 storage bins for essential tools and supplies with 4 compartments for parts and hardware. Designed to move easily over hard surfaces on 6″ nonmarking casters. Flat top working area. **Type 6180-88** is also fully enclosed with locking storage compartment doors. Top shelf holds 150 lbs, bottom 200 lbs. Convenient height. Dimensions: 38L x 19¼W x 33⅜″H. Color: gray.

Stock No.	Type	1-2
01F177	6180	245.98
83F7445	6180-88	324.00

(12231) (ne10311)

FLAT SHELF CARTS

4505

Carts for moving PCs and workstations and transport of oversized, bulky items. Non-marking casters for easy movement. Capacity: 400 lbs, 200 lbs per shelf. Dimensions: **type 4505** 38L x 19W x 33″H, **type 4594** 38L x 19″W, **type 4525** 44L x 26W x 33″H, **type 4595** 44L x 26″W.

Stock No.	Type	Description	1-2	3-4
01F182	4505-BEIGE	Cart	158.19	133.21
01F184	4594-BEIGE	Shelf	49.42	41.62
01F183	4525-BEIGE	Cart	179.35	151.03
01F185	4595-BEIGE	Shelf	58.35	49.14

(12330) (ne10312)

X-TRA™ INSTRUMENT CART

Type 4094 instrument cart features locking doors to keep parts and tools safe. Sliding top drawer. Easy-to-clean shelves. Pound-together assembly with 2 molded handles. Capacity: 300 lbs, 100 lbs per shelf. 40⅝L x 20W x 38″H. Color: gray.

Stock No.	Type	1-2	3-4
01F194	4094-GRAY	298.08	264.96

(12333) (ne10315)

X-TRA™ UTILITY CARTS

NEW

4091

Light-duty utility carts with large shelves, 300 lbs. total load capacity; 100 lbs. per shelf. Available in 3 styles: open-sided, with enclosed-ends or enclosed on 3 sides. Dimensions: 40⅝L x 20W x 37¹³⁄₁₆″H. Color: Black.

Stock No.	Type	Description	Each
83F7452	4091	Open On All Sides	189.05
83F7453	4092	2 Enclosed Ends	252.90
83F7454	4093	3 Sides Enclosed	288.00

(34494) (ne34494)

HEAVY-DUTY SERVICE/UTILITY CARTS

4500/4597

Transport equipment and supplies. Lightweight, yet sturdy. Features 4″ lip on top and bottom shelves to help contain parts. Duramold® construction resists denting and chipping. Capacity: 400 lbs. Shown with optional middle shelf. Dimensions: **type 4500** 16L x 30W x 32″H, **type 4597** 16L x 30″W, **type 4520** 24L x 36W x 32″H, **type 4598** 24L x 36″W.

Stock No.	Type	Description	1-2
01F178	4500-BEIGE	Cart	158.19
01F180	4597-BEIGE	Shelf	49.42
01F179	4520-BEIGE	Cart	179.35
01F181	4598-BEIGE	Shelf	58.35

(12331) (ne10313)

TILT TRUCKS

NEW

Made to handle bulky, medium-to-heavyweight materials. Sturdy, plastic construction weighs much less than metal. Easy to handle, maneuver and dump contents. Smooth surface is easy to clean. Dimension for **types 1304** and **1305** 60½L x 28W x 38⅝″H (½ cubic yard). Dimensions for **types 1314** and **1315**: 72¼L x 33½W x 43¾″H (1 cubic yard).

Stock No.	Type	Description	Capacity	Each
83F7441	1304	Utility-Duty	300 lbs.	377.10
83F7442	1305	Standard-Duty	750 lbs.	544.09
83F7443	1314	Utility-Duty	750 lbs.	511.74
83F7444	1315	Standard-Duty	1000 lbs.	700.24

(34496) (ne34496)

PALLETOTE® BOXES

NEW

Boxes meet USDA 3A sanitary standards. Very heavy-duty, all-plastic construction. Patented design for stacking and nesting. Dimensions: **type 1721** 19½L x 15½W x 10″L, **type 1722** 19½L x 15½W x 13″L, **type 1731** 23½L x 19½W x 10″L, **type 1732** 23½L x 19½W x 13″L.

BOXES

Stock No.	Type	Capacity	Each
83F7446	1721	1⅝ cu. ft.	22.86
83F7447	1722	1⅝ cu. ft.	28.16
83F7448	1731	2 cu. ft.	30.20
83F7449	1732	2⅝ cu. ft.	37.15

LIDS

Stock No.	Type	Description	Each
83F7450	1720	Fits Types 1721, 1722	10.51
83F7451	1730	Fits Types 1731, 1732	11.90

(34495) (ne34495)

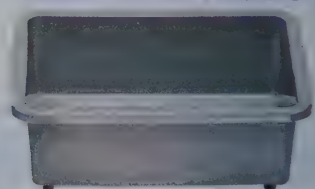
STEP STOOL

Type 2523 heavy-duty step stool glides on retractable rubber casters. Kicks quickly into place. 16″ diameter base. 13″ high with two steps.

Stock No.	Type	1-2	3-4
01F188	2523-BLACK	49.44	41.64

(12336) (ne10318)

DUR-X™ UTILITY BOXES



Stackable utility boxes feature reinforced handles, ribs, and bottom. Rounded corners. Extra-strong rim. Easy to clean. Dimensions: **type 3349** 20L x 15W x 5″D and capacity of 4.5 gallons, **type 3351** 21½L x 17W x 7″L and capacity of 7.5 gallons.

Stock No.	Type	1-2	3-4
01F189	3349-GRAY	6.75	6.39
01F190	3351-GRAY	11.02	10.44

(12334) (ne10316)

PLANTRONICS

TELEPHONE HEADSETS

SUPRA® PROFESSIONAL HEADSETS

H51

H61

2 year warranty

Long-wearing comfort with adjustable headband and soft ear cushion for perfect fit. Wearable on either ear. Features clear adjustable voice tube. Binaural model provides sound to both ears. **Types H51N** and **H61N** feature noise-cancelling microphone to reduce transmission of ambient noise. Weight: 1.7 oz. Includes 10′ cord and quick-disconnect. UL listed, CSA certified. 2-year warranty. Requires **type M12** or **P10** adapter, *ordered separately on this page.*

Stock No.	Type	Description	1-4	5-9
52F8424	H51	Monaural w/Adjustable Voice Tube	78.66	74.73
52F8428	H51N	Monaural w/Noise-Cancelling Microphone	103.50	98.33
52F8427	H61	Binaural w/Adjustable Voice Tube	103.50	98.33
52F8430	H61N	Binaural w/Noise-Cancelling Microphone	124.20	117.99

(7972) (nec7454)

UNIVERSAL MODULAR AND PLUG PRONG ADAPTERS

M12

P10

2 year warranty

Required for use with Plantronics® professional headset tops. Separate controls for independent adjustment of transmit and receive volumes. Automatic gain control system adjusts incoming sound levels. **Type M12** is for hookup to phones with modular connections. **Type P10** is for hookup to operator consoles requiring a plug prong jack. UL listed, CSA certified.

Stock No.	Type	Description	1-4	5-9
83F6869	M12	Universal Modular Adapter	136.95	130.11
52F8435	P10	Plug Prong Adapter	113.85	108.16

(7975) (nec7457)

CONSUMER SERIES HEADSETS

PLX-400

PLX-500

Increase productivity with hands-free convenience to complete other tasks. Mute button and volume control. Headset/handset button switches call from handset to headset. **Type PLX-500** headset used with single- or multiple-line phones. **Type PLX-400** is a headset/single-line phone with dial pad and ringer. UL listed, CSA certified. 1-year warranty.

Stock No.	Type	Description	1-4	5-9
52F8431	PLX-400	Headset w/Telephone	113.80	108.11
52F8426	PLX-500	Headset for Single/Multiline Phone	108.63	103.20

(7974) (nec7456)

HEADSET REPLACEMENT PARTS KITS

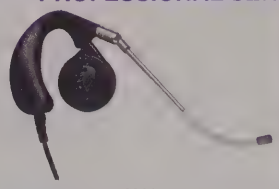
NEW

Kits include replacement parts for headsets *ordered separately on this page.* All kits include a headset cleaning towelette and QD cord clip. **Type 40706-01** also includes voice tube, BNS tip, and instruction card. **Types 40704-01** and **40701-01** also include ear cushions, voice tube, BNS tip, and instruction card. **Type 40705-01** also has windscreen and ear cushions.

Stock No.	Type	Description	1-4	5-9
83F6870	40706-01	Kit for **Types H41** Headset	8.95	8.51
83F6871	40704-01	Kit for **Types H51/H61** Headsets	9.95	9.46
83F6872	40705-01	Kits for **Types H51N/H61N** Noise Cancelling Headsets	4.95	4.71
83F6873	40707-01	Kit for **Types H91/H101** Headsets	7.95	7.56

(37771) (ne37771)

PROFESSIONAL SERIES HEADSETS


H41

H81

MIRAGE® PROFESSIONAL HEADSETS

Lightweight, behind-the-ear **H41 series** headsets feature a tiny earpiece which rotates to rest on the outside of the ear. Includes clear adjustable voice tube, 10′ cord, and quick-disconnect. Can be worn on either ear. Works with any phone system. Requires **type M12** or **P10** adapter, *ordered separately.* UL listed, CSA certified. 2-year warranty.

Stock No.	Type	Description	1-4	5-9
52F8425	H41	Headset w/Voice Tube	91.08	86.53
52F8429	H41N	Headset w/Noise-Cancelling Microphone	115.92	110.13

TRISTAR® PROFESSIONAL HEADSETS

Ultra-light **H81 series** headsets feature 3-point design for stability behind, on-top-of, and on the ear, plus 4 earbuds for precise fit. Includes clear, adjustable voice tube, 10′ cord, and quick-disconnect. Requires **type M12** or **P10** adapter, *ordered separately.* UL listed, CSA certified. 2-year warranty.

Stock No.	Type	Description	1-4	5-9
16F1141	H81	Headset w/Voice Tube	111.78	106.20
16F1142	H81N	headset w/Noise-Cancelling Microphone	132.48	125.86

(7973) (nec7455)

ENCORE® PROFESSIONAL HEADSETS

H91

H101

H91 and **H101 series** headsets feature soft ear cushions and SES™ Sound Enhancement System tone control switch. Click-stop adjustable headband and microphone turret with clear adjustable voice tube. Ear cushion seals out noise, stays comfortable. Lightweight (1.7 oz.). **Types H91N** and **H101N** feature noise-cancelling microphone for use in noisy environments. **H101 series** (binaural models) feature yokeless cable. Includes 10′ cord and quick-disconnect. Each requires **type M12** or **P10** adapter, *ordered separately on this page.* UL listed, CSA certified. 2-year warranty.

Stock No.	Type	Description	1-4	5-9
16F1143	H91	Headset with Voice Tube	107.64	102.26
16F1144	H91N	Headset with Noise-Cancelling Microphone	132.48	125.86
16F1145	H101	Binaural Headset with Voice Tube	132.48	125.86
16F1146	H101N	Binaural with Noise-Cancelling Microphone	153.18	145.53

(7577) (ne08373)

HANDS-FREE MOBILE HEADSETS

NEW

Convenient mobile headsets provide hands-free safety while driving and increased productivity in the office or home. Noise-cancelling microphone filters out background noise. for use with cellular/PCS and cordless phones. Comes with standard 2.5mm plug. **Type CHS142N** is designed to convert from a headband-style to an over-the-ear headset. **Type CHS122N** features an adjustable headband for a perfect fit every time. 1-year warranty.

Stock No.	Type	Description	1-4	5-9
83F6874	CHS142N	Convertible Headset Headband/Over-the-Ear	69.95	66.46
83F6875	CHS122N	Headband-Style Headset	49.95	47.46

(37772) (ne37772)

TWO-WAY RADIOS AND ACCESSORIES

4W

1W and 2W Radio

PROFESSIONAL 2-WAY RADIOS

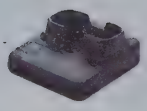
The new SPIRIT® series on-site 2-way radios allow workers to communicate with each other inside buildings or outdoors. FM business frequencies are used. All models include NiCad battery, charger, spring-action belt clip, license information, and 1-year warranty. Interference eliminator (coded squelch) includes up to 38 user-selectable codes. An audio accessory jack permits use of external speaker/microphone or headset/microphone. 1W and 2W models have voice-assisted programming. Users can communicate with 1 to 4 workgroups depending on the number of channels. **Types MU24CVS** and **SU42CST** have channels with scan. **Types MV21CV, MU21CV, MU22CV**, and **MU24CVS** have built-in VOX.

VHF RADIOS

Stock No.	Type	Watts	No. of Ch.	No. of Freq.	Description	Each
83F6099	MV11CV	1	1	4	For wood structures up to 150,000 sq. ft. or 8 floors, or outdoors up to 4 miles in open areas with no obstructions.	225.00
16F8958	MV21CV	2	1	4	For wood structures up to 180,000 sq. ft. or 10 floors, or outdoors up to 5 miles in open areas with no obstructions.	257.72
					UHF RADIOS	
96F4529	MU21CV	2	1	8	For greater coverage in large steel/concrete structures up to 250,000 sq. ft. or 20 floors, or outdoors up to 5 miles in open areas with no obstructions.	284.63
83F6100	MU22CV	2	2	8	For maximum coverage and improved signal quality in large steel/concrete structures up to 350,000 sq. ft. or 30 floors, or outdoors up to 5 miles with no obstructions.	305.00
83F6101	MU24CVS	2	4	8	For maximum coverage and improved signal quality in large steel/concrete structures up to 350,000 sq. ft. or 30 floors, or outdoors up to 5 miles with no obstructions.	344.00
83F6102	SU42CST	4	2	2	For maximum coverage and improved signal quality in large steel/concrete structures up to 350,000 sq. ft. or 30 floors, or outdoors up to 5 miles with no obstructions.	499.00

(29690) (ne29690)

DROP-IN DESK-TOP CHARGER



3-HOUR RAPID CHARGER

EXTERNAL SPEAKER/ MICROPHONE

HEADSET WITH MICROPHONE

TWO-WAY PHONE ACCESSORIES

DROP-IN DESKTOP CHARGER

Charges batteries in the radio or separately. Radio is usable while charging. For **types SV-21** and **SU-21** (included with **SV-22** and **SU-22**).

3-HOUR RAPID CHARGER

Charges batteries in the radio or separately in 3 or 10 hours. Radio is usable while charging in 10-hour mode.

EXTERNAL SPEAKER/MICROPHONE

Allows user to talk and listen without removing the radio from belt. Ideal for noisy areas. Has push-to-talk button for easy transmit.

HEADSET WITH MICROPHONE

Ideal for communicating where privacy is needed or around noisy areas. Usable with **type HMN9037** voice activated adapter for hands-free transmission.

Stock No.	Type	Description	Each
96F4536	HNN9056	Replacement NiCad Battery	36.23
96F4537	HTN9205	3-Hr. Desktop Charger	56.93
16F8960	HTN9204	Drop-In Desktop Charger	22.77
92F5784	HLN9775	Spring-Loaded Belt Clip	11.39
96F4533	HMN9026	External Speaker/Microphone	62.10
92F6679	HMN9038	Headset with Microphone	62.10

(6548) (nec9090)

Type HNN8148A

Type HNN9018AR

Type HNN9628A

BATTERIES FOR MOTOROLA 2-WAY RADIOS AND NEXTEL POWERFONES

All are NiCad batteries, except for **type NTN8100C**, which is an NiMH extended-life battery.

Stock No.	Type	V	Cap. (mAh)	Description	Each
83F6107	NTN8100C	...	1200	Fits Nextel i & r series Powerfones	48.75
83F6112	HNN8148A	7.5	1100	Fits Radius P110 2-Way Radio	83.00
83F6108	HNN9018AR	7.5	1100	Fits Radius SP50 2-Way Radio	45.00
83F6111	HNN9027A	11.3	650	Fits Radius P50 (Tall Version) 2-Way Radio	45.00
83F6110	HNN9360A	7.5	1100	Fits Radius GP350 2-Way Radio	83.00
83F6109	HNN9628A	7.5	1100	Fits Radius GP300 2-Way Radio	83.00
83F6114	NTN5414BR	10	1000	Fits HT600 2-Way Radio	92.00
83F6113	NTN7143CR	7.5	1200	Fits HT1000, MT2000, MTX8000 2-Way Radios	85.00

(29691) (ne29691)

NEW

TELECOM TEST SETS AND TOOLS

TS22®AL, TS22®A TEST SETS

Built-in, amplified 2-way speakerphone for hands-free conversations; has 3 audio levels and is ideal for use with automated voice response (AVR) systems. High-impedance feature for DataSafe operation allows technician to clip onto a line in monitor mode without disrupting existing traffic. Features PBX pause button and mute switch. DropSafe passes 20' drop test; RainSafe enables performance in severe weather conditions. Stores nine 18-digit numbers in repertory dialer (speed dialing) for easy access to test boards and other frequently called numbers; has last-number redial and audible ringer for callbacks. Type 22804-009 has data lockout that protects against disturbing data flow on a variety of high-frequency digital lines including T1, ISDN, SW56, SRDL and HDSL. Angled clips included.

Stock No.	Type	Description	Each
48F4945	22801-001	Piercing Pin Clips	**374.90**
48F4946	22801-009	Bed-of-Nails Clips	**374.90**
48F4963	22804-009	Bed-of-Nails Clips /Data Lockout	**467.34**

(39375) (ne39375)

TS21® TELECOM TEST SETS

These durable and reliable sets offer full features including selectable tone/pulse operation, DTMF loop-length signal compensation, last-number redial, polarity test button and a mute function. The keypad "out" switch allows for line testing on very long loops. Passes 20' drop test. Hearing-aid compatible.

Stock No.	Type	Description	Each
48F4965	21800-081	With Angled Piercing Pin Clips	**220.85**
48F4964	21800-089	With Angled Bed-Of-Nails Clips	**220.83**

(39378) (ne39378)

TELECOMMUNICATION TOOLS

44210-013

Type 44210-013 stainless steel double-slot stripper accommodates 2 different wire gauges in a single tool with one slot for each wire gauge, includes wire cutter. **Type 44600-000** ProbePic is a tough nylon tool with probe-and pic-end with safety cap; snaps to shirt pocket. **Type 44007-000** can wrench has color coded socket ends and built-in ribs for user comfort, safety and greater torque power. 2 hex heads fix all new network interface boxes. 7/16" socket end is black oxidized to distinguish it from the 3/8" zinc-plated socket end.

Stock No.	Type	Description	Each
48F4959	44210-013	Double-Slot Stripper	**46.56**
48F4961	44600-000	ProbePic	**5.36**
48F4960	44007-000	Can Wrench	**13.09**

(39372) (ne39372)

TS22® TELCOM TEST SETS

Test set with angled piercing pin clips has built-in amplified speaker that provides 3 audio levels for hands free listening and is ideal for use with automated voice response (AVR) systems. PBX pause button and mute switch. DropSafe passes 20' drop test; RainSafe enables performance in severe weather conditions. Stores nine 18-digit numbers in repertory dialer (speed dialing) for easy access to test boards and other frequently called numbers. Last number redial. Audible ringer for callbacks.

48F4944 Type 22800-001. **Each** **287.59**
(39376) (ne39376)

TS19™ TEST SETS

Specifically designed for in-house telecom technicians. High impedance monitor prevents accidental disruption of service from clipping onto a data line while in monitor mode. Features include selectable tone/pulse operation, talk/monitor capabilities, polarity test button and last number redial. Has 2 monitor modes, polarity indication in talk mode, and convenient spring-loaded, field-replaceable belt clip.

Stock No.	Type	Description	Each
48F4962	19800-003	With Banana Jacks and Alligator Clips	**118.99**
48F4943	19800-009	With Angled Bed-of-Nails Clips	**118.99**

(39374) (ne39374)

REPLACEMENT LINE CORDS

Each cord has a durable outer layer of braided synthetic webbing that resists fraying and stays flexible in all kinds of weather. Inside, a protective sheath of plastic insulation protects the inner shielded wire from negative factors such as kinking and magnetic interference.

Stock No.	Type	Description	Each
48F4970	P3218-234	w/Angled Bed-Of-Nails Clips	**36.89**
48F4969	P3218-024	w/Straight Bed-Of-Nails Clips	**35.70**
48F4968	P2280-062	Assembly w/Ground Start Cord for Non Lockout Series	**54.74**
48F4967	P1980-009	Assembly w/Angled Bed-Of-Nails Clips	**33.32**
48F4966	P1980-001	Assembly w/Angled Piercing Pin Clips	**28.56**

(39379) (ne39379)

TS30™ TELECOM TEST SET

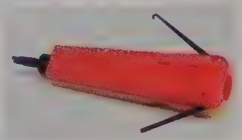
30800-009

Test set with angled bed-of-nails clips provides superior quality at an affordable price. High-impedance feature for DataSafe operation allows technician to clip onto a line in monitor mode without disrupting existing traffic. New ergonomic design for comfortable handling; Rain-safe and weatherproof for improved protection during severe weather. Passes 20' drop test. Unit has hook-flash button, mute switch, last-number redial and audible ringer for callbacks.

48F4947 Type 30800-009. **Each** **176.11**
(39377) (ne39377)

IMPACT TELECOM TOOLS AND BLADES

10054-000



10051-000

TOOLS

D914 and **D814** are tested to perform up to 1 million terminations. **Types 10051-000** and **10051-501 D914** is specially designed to combine torque and impact. It features two versatile tools, the hook and spudger, to trace wires from a block, pick one wire from a bunch, and remove modules from Krone blocks without damaging them. **Types 10054-000** and **10055-501 D814** is a unique all-in-one punch down tool that offers more efficient connections with much less effort. Blade storage in handles. *Order interchangeable task blades separately below.*

Stock No.	Type	Description	Each
48F4930	10051-000	D914 Handle	**61.88**
48F4931	10051-501	D914 Handle w/66, M110 & Blade	**86.87**
48F4932	10054-000	D814 Handle	**57.12**
48F4933	10055-501	D814 Handle w/66, M110 & Blade	**77.35**

BLADES

Choose from an assortment of blades or 2 convenient blade kits. **Type 10979-003** D66 blade kit containts 2 66 blades, 1 630 blade, and 1 wood screw start blade. **Type 10979-004** D110 blade kit contains two 110 blades, one 66 blade, and 1 wood screw starter blade.

Stock No.	Type	Description	Each
48F4941	10979-003	D66 Blade Kit	**66.64**
48F4942	10979-004	D110 Blade Kit	**66.64**
48F4934	10051-200	Screwdriver	**22.61**
48F4935	10056-000	66 Blade	**21.42**
48F4956	10057-000	630 Blade	**22.61**
48F4936	10176-000	M110 Blade	**21.42**
48F4958	10436-001	Center Punch	**19.04**
48F4940	10565-000	Krone	**44.03**
48F4957	10665.000	BIX® Blade	**45.22**

(39373) (ne39373)

BANJO MODULAR ADAPTERS

Permit testing on working lines without disrupting service. Helps determine whether the trouble is in phone or in the line. Have replaceable test leads that enable to fix broken jack clips easily without discarding the entire unit. In-Line style.

Stock No.	Type	Description	Each
48F4937	10210-100	4-Wire	**22.02**
48F4938	10220-100	6-Wire	**23.80**
48F4939	10230-100	8-Wire	**33.92**

(39380) (ne39380)

TELEPHONE ACCESSORIES

FLUSH MOUNT MODULAR JACKS

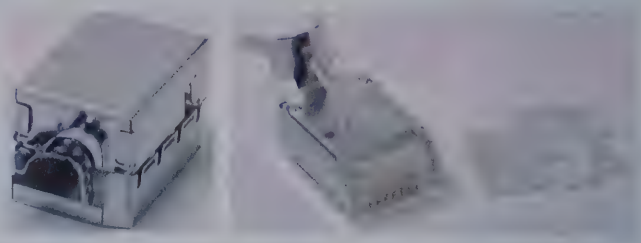
Can connect in parallel. Connect independently or in series using 1 or 2 lines.

Stock No.	Type	Wires	Color	Each	2-4
46F2000	30-9707-00BU	4	Ivory	1.65	1.38
44F3938	30-9700-00BU	6	Ivory	2.61	2.18
46F2001	30-9706-00BU	8	Ivory	4.00	3.90
DUAL MODULAR JACKS					
44F3923	30-9703-00BU	4	Ivory	2.37	1.98
95F1471	30-9713-00BU	4	White	2.40	2.00
95F1472	30-9708-00BU	8	Ivory	6.63	6.48

(7513) (de52667)

MODULAR CONNECTOR SHIELDS

NEW



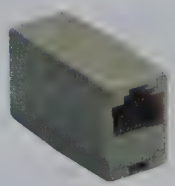
Used to shield Category 5 modular connectors.

Stock No.	Type	Description	Each	2-4
83F7060	45-5600	Modular Jack Shield	3.55	3.47
83F7061	45-5641	Modular Plug Shield	3.08	3.00

(31989) (ne31989)

ADAPTERS AND COUPLERS

T-Adapter



Coupler

T-adapters allow 2 modular plugs to be used in 1 jack. Contains 6µm gold contacts. In-line couplers join modular phone cords and are available in straight through wiring versions for data communications or reverse wiring for voice communications.

T-ADAPTERS

Stock No.	Type	Description	Each	2-4
16F5517	30-9615	4-Cond., White	2.62	2.56
44F3930	30-9654-00BU	4-Cond., Ivory	1.19	1.16
16F2926	30-9646-00BU	6-Cond., White	3.33	2.78
16F2927	30-9647-00BU	6-Cond., Ivory	3.33	2.78
16F2928	30-9648-00BU	8-Cond., White	4.78	4.67
16F2929	30-9649-00BU	8-Cond., Ivory	4.78	4.67
IN-LINE COUPLERS				
44F3921	30-9678-00BU‡	4-Cond., Ivory	1.26	1.23
16F2912	30-9683-00BU‡	6-Cond., White	2.12	2.07
16F5515	30-9686‡	6-Cond., Ivory	3.28	3.21
16F2913	30-9687-00BU‡	6-Cond., White	2.79	2.72
16F2914	30-9685-00BU†	8-Cond., White	2.79	2.72
16F2915	30-9689-00BU‡	8-Cond., White	3.39	2.83
98F8400	30-9688-00BU	8-Cond., Ivory	3.87	3.78

†Straight thru wiring; ‡Reverse wiring

(7571) (ne08082)

WALL MOUNT PHONE JACK

Convenient snap-in mounting for wall phones. Screw-terminal hookups.

Stock No.	Type	Each	2-4
44F3928	30-9704-00BU	3.21	2.68

(7514) (de52668)

PHONE CORDS

30-9513-BU

30-9529-BU

PHONE REPLACEMENT CORDS

Modular plug end fits wall jack; spade-terminal end connects to phone.

Stock No.	Type	Description	Each	2-4
44F3924	30-9540-00BU	Silver, 6′	1.43	1.40
44F3925	30-9542-00BU	Silver, 25′	5.13	5.01

PLUG-TO-PLUG EXTENSION CORDS

Extend cord length from phone to wall jack.

46F2002	30-9513-00BU	Ivory, 15′	2.52	2.46
46F2003	30-9514-00BU	Ivory, 25′	2.39	2.34
44F3940	30-9515-00BU	Silver, 15′	2.52	2.46
44F3941	30-9516-00BU	Silver, 25′	3.78	3.15

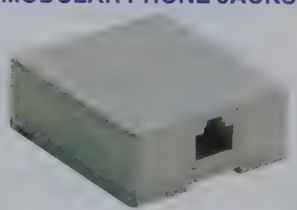
HANDSET COIL CORDS

Modular plugs at both ends.

44F3959	30-9529-00BU	Black, 25′	5.65	5.52
44F3962	30-9535-00BU	Almond, 25′	3.39	2.83

(7512) (de52664)

MODULAR PHONE JACKS



30-9660BU

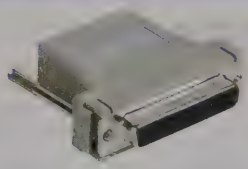
Stock No.	Type	Description	Each	2-4
44F3932	30-9604-00BU	4-Wire, Surface Jack	1.88	1.83
46F2005	30-9607-00BU	6-Wire, Surface Jack	3.57	2.98
46F2006	30-9660-00BU	8-Wire, Surface Jack	4.34	4.24
44F3933	30-9605-00BU	Dual, 4-Wire Surface	3.50	3.42

(7508) (de52657)

NEWARK SAVES YOU TIME.
A SIMPLE PHONE CALL CAN GET YOU OVERNIGHT DELIVERY ANYTIME, ANYWHERE.

TELEPHONE ACCESSORIES

TELCO/MODULAR ADAPTERS



Adapters allow the use of low-cost flexible telco (telephone) wire instead of bulky RS-232 cable. Screw-together hoods with an RS-232 connector on one end and an RJ-11, RJ-12, or RJ-45 telephone jack on the other end. Telco cables and connectors are available separately; *contact your local Newark sales office.*

Stock No.	Type	Description	Each	2-4	5-9
50F6451	45-5108-00BU	DB-9 F/RJ-11/4	3.12	2.60	2.39
50F6452	45-5111-00BU	DB-9 F/RJ-11/4	3.12	2.60	2.39
50F6453	45-5109-00BU	DB-9 M/RJ-11/6	3.12	2.60	2.39
50F6445	45-5121-00BU	DB-25 M/RJ-11/4	2.32	2.27	2.21
50F6446	45-5125-00BU	DB-25 F/RJ-11/4	2.82	2.35	2.16
50F6447	45-5122-00BU	DB-25 M/RJ-11/6	3.00	2.50	2.30
50F6448	45-5126-00BU	DB-25 F/RJ-11/6	3.00	2.50	2.30
16F3013	45-5110-00BU	DB-9 M/RJ-45/8	2.57	2.51	2.45
50F6456	45-5113-00BU	DB-9 F/RJ-45/8	3.12	2.60	2.39
16F3016	45-5120-00BU	DB-15 M/RJ-45/8	2.79	2.72	2.66
16F3015	45-5117-00BU	DB-15 F/RJ-45/8	3.06	2.99	2.92
50F6449	45-5123-00BU	DB-25 M/RJ-45/8 & RJ-45K	3.39	2.83	2.60
50F6450	45-5127-00BU	DB-25 F/RJ-45/8 & RJ-45K	3.39	2.83	2.60

(7452) (de03064)

TELCO RS-232 ADAPTERS

Converts RS-232-type cables to less expensive modular cables that carry data over longer distances. Adapters are wired to telephone jack but not to RS-232 connector.

Stock No.	Type	Description	Each
92F504	45-4506	RJ-45M to RJ-11F	4.61
92F503	45-4545	RJ-45TEL to RJ-45-T5688	4.61
92F505	45-6645-00BU	RJ-12M to RJ-45TEL	4.61
		6-FT. EXTENSION ADAPTERS	
92F506	45-5786	Single RJ-45M plug to 2 RJ-45F jacks	11.83
92F507	45-5787-00BU	Single RJ-45F jack to 2 RJ-45M plugs	9.59

(32793) (ne32793)

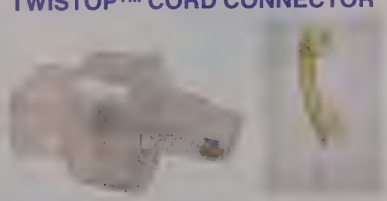
TELCO CRIMPING TOOLS

Fast, clean cut and crimp of wire and modular telephone connectors.

Stock No.	Type	Conductors	Each	2-4
89F871	12-001	8	24.52	23.96
89F872	12-004	4, 6	24.03	23.48
89F866	12-005	4 Modular	22.06	21.55
96F9976	30-9955	10	50.00	48.85
96F9977	12-002	4, 6 Handset	17.87	17.46

(7509) (de52660)

TWISTOP™ CORD CONNECTOR

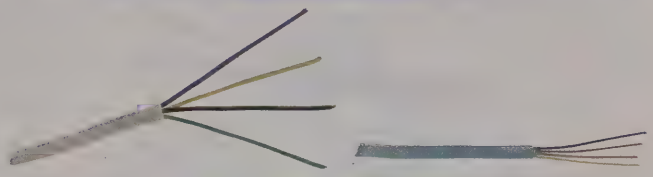


Prevents twisted/tangled modular handset cords.

Stock No.	Type	Each	2-4	5-9
95F1473	30-9310	9.79	9.56	9.34

(7462) (de03483)

TELEPHONE WIRE



SOLID PHONE HOOK-UP WIRE

Beige, jacketed hook-up wire with color-coded wires.

22-GAUGE 4-CONDUCTOR

Stock No.	Type	Description	Each	2-4
44F3920	30-9905	500′ Knockout Carton	52.77	51.55
46F2009	30-9959	1000′ Knockout Carton	75.46	73.72
		22-GAUGE 6-CONDUCTOR		
46F2011	30-9970	500′ Knockout Carton	72.95	71.26
46F2012	30-9971	1000′ Knockout Carton	127.98	125.02
		24-GAUGE 4-CONDUCTOR		
89F868	30-9957	500′ Knockout Box	42.46	41.48
89F869	30-9958	1000′ Knockout Box	54.59	53.33
89F870	30-9952	1000′ Pullout Box	54.59	53.33
		24-GAUGE 6-CONDUCTOR		
46F7307	30-9976	1000′ Knockout Carton	74.45	72.73

26-GAUGE STRANDED FLAT MODULAR CORD

Silver (*) or ivory (†) jacketed line cord with color-coded wires. Use with modular plugs.

4-CONDUCTOR

Stock No.	Type	Description	Each	2-4
44F3952	30-9908*	100′	15.48	15.12
46F2016	30-9906*	500′	58.11	56.77
46F2017	30-9924†	500′	41.82	40.86
46F2018	30-9962*	1000′	86.03	84.05
46F2019	30-9963†	1000′	86.03	84.05
46F2020	30-9961*	5000′	227.90	222.45
		6-CONDUCTOR		
46F2022	30-9932*	100′ Hank	22.70	22.18
46F2024	30-9934*	500′ Knockout	80.51	78.65
46F2027	30-9965*	1000′ Spool	118.39	115.66
46F2026	30-9966†	1000′ Spool	118.39	115.66
		8-CONDUCTOR		
46F2028	30-9945*	500′ Spool	105.90	103.45
46F2029	30-9940*	1000′ Spool	199.98	195.36

(7515) (de52669)

WIRELESS INTERCOM

Ideal for home or office, this 3-channel, 2-station wireless FM frequency intercom uses home AC line for transmission. Upgradable to 4 stations with purchase of second set. Maximum range: 1000′. Circuitry: PLL (phase-locked loop). Power source: 115V-120V. Power consumption: 3W. Frequency: channel "A" 200kHz. RF output power: 50mΩ across 10Ω channel "B" 230kHz, channel "C" 260kHz. Audio power: 350mΩ. Dimensions: 2H x 7W x 4¼"D (51 x 178 x 121). Weight: 1⅜ lbs. (550g). UL listed.

Stock No.	Type	Each	2-4
16F2919	30-6035	66.54	65.00

(7572) (ne08083)

OUTDOOR TELEPHONE BELL

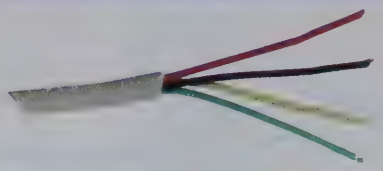
Weather resistant for use indoors or outdoors.

Stock No.	Type	Each	2-4	5-9
90F8867	30-9835	68.41	66.83	65.31

(7511) (de52663)

TELEPHONE CORDS AND ACCESSORIES

STRANDED FLAT MODULAR LINE CORD



Jacketed line cord with color-coded wires. Used with telephone modular plugs.

4-CONDUCTOR -26 GUAGE

Stock No.	Type	Description	Per Pkg.
52N9469	8588-0179	100′ Hank—Silver	11.99
52N9470	8588-0180	500′ Knockout Box—Silver	39.99
87N3644	TXW4601-WA	100′ Hank—Silver	11.20
87N3645	TXW4655-WF	500′ Knockout Box—Silver	53.80
6-CONDUCTOR - 26 GUAGE			
52N9471	8588-0181	100′ Hank—Silver	16.99
52N9472	8588-0182	500′ Knockout Box—Silver	59.99
87N3646	TXW6151-WA	100′ Hank—Silver	16.60
87N3647	TXW6205-WF	500′ Knockout Box—Silver	79.80
8-CONDUCTOR - 26 GUAGE			
52N9475	8588-0185	500′ Spool—Silver	89.99
87N3648	TXW6251-WA	100′ Hank—Silver	21.88
89N4516	TXW6255WF	500′ Spool—Silver	110.40

(7629) (ne08665)

SHIELDED TELEPHONE/STATION CABLE WITH DRAIN

Shielded station wire is excellent for data communications use. Color-coded, 24 AWG stranded conductors. Silver PVC jacket with low abrasion resistance. EMI shielded with drain wire that provides low resistance ground path.

Stock No.	Type	No. of Conductors	Spool Length	Per Spool 1-4	Per Spool 5-9
90N8923	TXWD2401-24-WA	4	100′	22.64	18.85
90N8924	TXWD2402-24-WE	4	250′	55.96	46.59
90N8925	TXWD2404-24-WA	6	100′	31.64	26.34
90N8926	TXWD2405-24-WE	6	250′	78.24	65.14
90N8927	TXWD2407-24-WA	8	100′	39.80	33.14
90N8928	TXWD2408-24-WE	8	250′	98.32	81.86

(13540) (ne09810)

MODULAR PLUGS

Attach to flat stranded wire. **Sold in packs of 10.**

RJ-11 4-CONDUCTOR (HANDSET PLUGS)

Stock No.	Description	Per Pkg.
52N9463	Flat Stranded	1.99
RJ-11 4-CONDUCTOR		
52N9462	Flat Stranded	1.99
RJ-12 6-CONDUCTOR		
52N9478	Flat Stranded	2.29
10N174	Round Stranded	2.29
RJ-45 8-CONDUCTOR		
52N9477	Flat Stranded	2.99
10N175	Round Stranded, Shielded	8.99
10N176	Round Solid, Shielded	9.99

(7630) (ne08666)

24-GAUGE SOLID TELEPHONE STATION WIRE

Beige jacketed hook-up wire with color-coded wires within. 24 AWG solid conductors.

Stock No.	Type	Description	Each
52N9473	8588-0183	100′ Hank	8.99
52N9474	8588-0184	500′ Knockout Box	29.99

(7628) (ne08664)

MODULAR PLUG-TO-PLUG EXTENSION CORD

Used to extend length of cord between telephone and wall jack or as an extension cord. 26-gauge, 4-conductor. Color: silver

Stock No.	Type	Length	Each
52N9460	8588-0170	15′	1.99
52N9461	8588-0171	25′	2.99

(7586) (ne08460)

MODULAR PLUG-TO-TWIN MODULAR JACKS EXTENSION CORDS

25′ modular extension telephone cord has a modular plug on one end and a modular jack on the other end. The modular plug snaps into the wall receptacle and the modular jack at the other end accepts line cord from existing telephone. Color: ivory.

Stock No.	Type	Description	1-4	5-9
52N9455	8588-0165	Single Jack	4.99	5.02
52N9451	8588-0161	Duplex Jack	5.99	5.75

(7627) (ne08663)

MODULAR TELEPHONE REPLACEMENT CORD

Used for converting hardwired telephones to modular, or as a replacement/extension cord. Spade terminals on one end, modular plug on the other end.

Stock No.	Type	Length	Color	Each
44N4137	TA-19-B07	7′	Beige	1.29
52N9450	8588-0160	25′	Ivory	2.99

(7587) (ne08461)

TELEPHONE CORDS AND ACCESSORIES

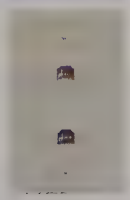
FLUSH WALL JACKS

Modular flush wall jack assembly allows flush-mounted connection of plug-ended modular line cords. Ideal for initial installation or conversion from existing wall receptacles.

Stock No.	Type	Description	1-4	5-9
52N9457	8588-0167	4-Conductor, Almond	1.59	2.30
52N9500	8588-0210	4-Conductor, Ivory	1.59	2.53
52N9420	8588-0063	4-Conductor, White	1.59	2.30
52N9501	8588-0211	6-Conductor, Ivory	2.29	2.72
52N9424	8588-0067	6-Conductor, White	2.29	4.14
52N9502	8588-0212	8-Conductor, Ivory, Keyed	2.99	5.75
52N9425	8588-0068	8-Conductor, White, Keyed	2.99	3.91

(7821) (ne08686)

DUAL FLUSH WALL JACKS



Can be flush mounted in wall to eliminate external wires. 2 modular jacks permit use of 2 telephones at the same location or 1 telephone and answering machine or other related equipment. 2 solderless jacks can be connected independently or in series, utilizing 1 or 2 lines.

Stock No.	Type	Description	1-4	5-9
52N9418	8588-0061	4-Conductor, Ivory	2.29	3.67
52N9449	8588-0092	4-Conductor, White	2.29	3.67
52N9419	8588-0062	6-Conductor, Ivory	2.99	3.67
52N9426	8588-0069	6-Conductor, White	2.99	4.24
52N9417	8588-0060	8-Conductor, Ivory	3.29	5.51
52N9427	8588-0070	8-Conductor, White, Keyed	2.99	5.20

(7823) (ne08688)

QUICK-MOUNT WALL JACKS

Use when mounting wall-type telephones. Easy to hook up screw-type terminals. Heavy-duty construction.

Stock No.	Type	Description	1-4	5-9
52N9459	8588-0169	4-Conductor, Almond	2.99	3.45
52N9504	8588-0214	4-Conductor, Ivory	2.99	3.64
52N9446	8588-0089	4-Conductor, White	2.99	3.67

(7822) (ne08687)

ROUND FLUSH WALL JACKS

Complies with USOC numbers RJ-11.

Stock No.	Type	Description	1-4	5-9
52N9458	8588-0168	4-Conductor, Ivory	1.99	2.53
10N129	8588-1310	4-Conductor, White	1.99	2.53

(7825) (ne08690)

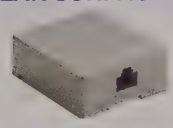
MODULAR HANDSET COIL CORDS

Coiled cords with modular plugs at both ends fit between handset and phone base. Available in 3 lengths and 6 color selections.

Stock No.	Type	Description	1-4	5-9
52N9499	8588-0209	6′ Almond Cord	1.99	2.66
52N9437	8588-0080	12′ Black Cord	2.99	3.22
52N9438	8588-0081	12′ White Cord	2.99	3.22
52N9439	8588-0082	12′ Beige Cord	2.99	3.22
52N9440	8588-0083	12′ Chocolate-Brown Cord	2.99	3.22
52N9441	8588-0084	12′ Almond Cord	2.99	3.22
52N9422	8588-0065	25′ Black Cord	3.99	4.14
52N9442	8588-0085	25′ White Cord	3.99	4.10
52N9443	8588-0086	25′ Beige Cord	3.99	4.10
52N9444	8588-0087	25′ Chocolate-Brown Cord	3.99	4.10
52N9421	8588-0064	25′ Almond Cord	3.99	4.14
52N9445	8588-0088	25′ Blue Cord	3.99	4.10
92N5985	3467	25′ Gray Cord	4.45	3.79

(7585) (ne08459)

MODULAR SURFACE JACKS



Modular surface jack mounts to baseboard or wall. Screw terminals for easy installation.

Stock No.	Type	Description	1-4	5-9
52N9496	8588-0206	4-Conductor, Ivory	1.59	1.83
52N9448	8588-0091	4-Conductor, White	1.59	2.58
52N9476	8588-0186	4-Conductor, Almond	1.59	1.83
52N9497	8588-0207	6-Conductor, Ivory	2.59	2.99
52N9428	8588-0071	6-Conductor, White	2.59	3.64
52N9498	8588-0208	8-Conductor, Ivory	2.99	3.67
52N9429	8588-0072	8-Conductor, White, Keyed	2.99	4.37

(7824) (ne08689)

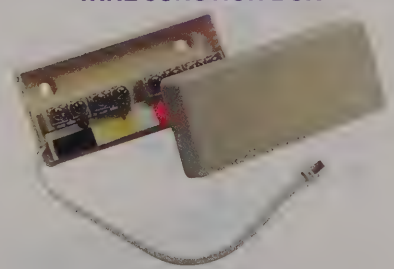
5-OUTLET MODULAR JUNCTION BOX WITH CORD

Permits up to 5 telephone-related devices to be used from single modular jack. Color: ivory. 6′ cord.

Stock No.	Type	1-4	5-9
52N9481	8588-0191	7.59	8.24

(7827) (ne08692)

WIRE JUNCTION BOX



Enables user to add outlets for telephone extensions by running 1, 2, 3, or 4 telephone wires to different parts of a house. The modular plug will connect to an existing modular outlet.

Stock No.	Type	1-4	5-9
52N9452	8588-0162	3.99	3.91

(7826) (ne08691)

TELEPHONE ACCESSORIES

SINGLE WALL JACKS

NEW

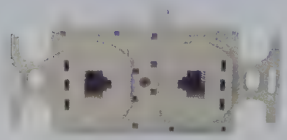
Single flush mount connecting blocks feature IDC contact data jacks. Accepts 22-26 AWG. 30µ" gold contacts. Color: Ivory. Can be trimmed with blank faceplate **type SPC5333**, *order separately below.*

Stock No.	Type	Description	Each	2-4	5-9
50N704	SPC5338	4-Conductor	3.99	3.40	3.00
50N705	SPC5339	6-Conductor	4.29	3.65	3.22
50N706	SPC5340	8-Conductor	4.59	3.91	3.45
50N699	SPC5333	Blank Faceplate Single Jacks	0.99	0.85	0.75

(35987) (ne35987)

DUPLEX WALL JACKS

NEW



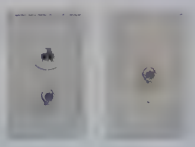
Dual Flush mount connecting blocks feature IDC contact data jacks. Accepts 22-26 AWG. 30µ" gold contacts. Color: Ivory. Can be trimmed with blank faceplate **type SPC5334**, *order separately below.*

Stock No.	Type	Description	Each	2-4	5-9
50N707	SPC5341	4-Conductor	4.99	4.25	3.75
50N708	SPC5342	6-Conductor	5.39	4.59	4.05
50N709	SPC5343	8-Conductor	5.79	4.93	4.35
50N700	SPC5334	Blank Faceplate Duplex Jacks	0.99	0.85	0.75

(35980) (ne35986)

F CONNECTOR WALL PLATES

NEW



Combine a standard ivory faceplace with an in-line F connector for CATV/MATV cable connection. **Type SPC5336** also includes an in-line F connector and a 4-wire telephone jack.

Stock No.	Type	Description	Each	2-4	5-9
50N701	SPC5335	F Connector	1.29	1.10	0.97
50N702	SPC5336	F Connector and 4-Wire Telephone Jack	2.29	1.95	1.72

(36275) (ne36275)

PRINTED CIRCUIT BOARD MOUNT JACKS

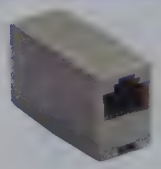
TA23-4C

2 snap-mounting lugs extend from the bottom downward to fasten to the circuit board. Available in 4- and 6-conductor configurations. Molded of flame-retardant thermoplastic. **Type TA23-4C** is designed for handsets. Color: gray.

Stock No.	Type	Conductors	Each
46N5992	TA-22-4C	4	0.87
46N5993	TA-22-6C	6	1.11
46N5994	TA-23-4C	4	0.87

(13538) (ne09809)

MODULAR IN-LINE COUPLERS



Allows modular line cords to be connected together to increase length. Reverse configuration version is for voice communication only. Straight configuration is for data communication only. Color for straight configuration style: ivory.

REVERSE CONFIGURATION

Stock No.	Type	Description	1-49	50-99
52N9505	8588-0215	4-Conductor, Ivory	0.99	0.85
52N9447	8588-0090	4-Conductor, White	0.99	0.85
52N9506	8588-0216	6-Conductor, Ivory	1.59	1.36
52N9435	8588-0078	6-Conductor, White	1.59	1.47
52N9423	8588-0066	8-Conductor, Ivory	2.59	2.38
52N9436	8588-0079	8-Conductor, White	2.59	2.40

STRAIGHT CONFIGURATION

Stock No.	Type	Description	1-49	50-99
92N5980	3462	4-Conductor	1.09	0.93
92N5981	3463	6-Conductor	1.69	1.44
92N5982	3464	8-Conductor	2.89	2.46

(7814) (ne08679)

MODULAR T ADAPTERS

T adapter enables 2 modular plugs to be used in a single modular jack.

Stock No.	Type	Description	1-49	50-99
52N9507	8588-0217	4-Conductor, Ivory	1.29	1.24
52N9456	8588-0166	4-Conductor, White	1.29	1.24
52N9432	8588-0075	6-Conductor, Ivory	2.59	2.48
52N9431	8588-0074	6-Conductor, White	2.59	2.48
52N9434	8588-0077	8-Conductor, Ivory	3.99	4.17
52N9433	8588-0076	8-Conductor, White	3.99	4.17

(7813) (ne08678)

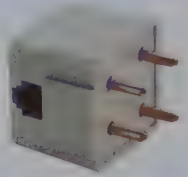
SURFACE MOUNT CONNECTING BLOCKS

These 6-8 or 8-8 conductor data blocks utilize insulation displacement terminals. Connects data equipment and key telephone sets. Mounts with screws or double-sided adhesive pads. Contacts accept 22 to 26 AWG wire. Can be used with voice or data.

Stock No.	Type	Description	1-4	5-9
52N9508	8588-0218	Duplex 4-, 6- & 8-Conductor Jack, Ivory	8.99	8.74
52N9492	8588-0202	Duplex 8-Conductor Jacks, Ivory	9.99	9.66

(7819) (ne08684)

STANDARD-TO-MODULAR ADAPTER



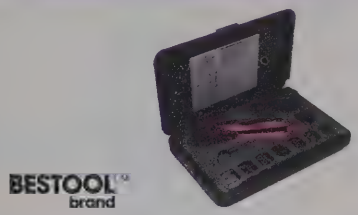
Adapts telco modular plug end to standard (4-prong) system.

Stock No.	Type	1-4	5-9
52N9494	8588-0204	1.29	1.83

(7812) (ne08677)

CRIMP TOOLS AND CABLE STRIPPERS

SUPER CRIMP SYSTEM



BESTOOL™ brand

Type LTK-100 crimp tool system includes everything needed to make coax and RJ crimp jobs fast and easy. Includes: a coax crimp tool and an RJ crimp tool with two mounting screws to allow easy die set change-over; die sets for RJ-11, RJ-45 and 10-pin modular plug applications; a D-subminiature die set; die sets for Plenum and PVC coaxial applications; Easy Strip® preps RG-58, -59, and -62 cable (removes the outer jacket on twisted pair). Features a ratchet-type crimp tool with adjustable tension, an offset head and a spring-release lever. Frame has an angled head for easy product loading and unloading. Molded grips maximize comfort and minimize user fatigue. Coax dies, used for hex crimping, are numbered by wire size; Plenum coax dies are labeled appropriately. Allen wrench included for setting spring tension.

97N8779 Type LTK-100. **Each** **400.29**

REPLACEMENT CRIMP FRAME & DIE SETS

CRIMP TOOL FRAMES

High carbon steel construction. Manufactured to exacting specifications. Life conservatively rated at 50,000 crimps. Interlocking die sets are easily interchanged with mounting screws.

66N9835 Type CTT-100L. **Each** **74.01**

2100-06 Crimps RJ-11 6-position plugs. Crimps 6, 4 and 2 conductors in RJ-11, 6-position plugs. Crimps conductor and strain relief in one crimp cycle.

66N9836 Type CTD-100-06. **Each** **37.68**

2100-06LB Crimps RJ-11 long-body 6-position plugs. Crimps 6, 4 and 2 conductors in RJ-11, 6-position plugs. Crimps conductor and strain relief in one crimp cycle.

66N9837 Type CTD-100-06LB. **Each** **37.68**

2100-08 Crimps RJ-45 8-position keyed or nonkeyed plugs, long-body 6-position plugs. Crimps 6, 4 and 2 conductors in RJ-11 6-position plugs. Crimps conductor and strain relief in one crimp cycle.

66N9838 Type CTD-100-08. **Each** **37.68**

2100-10 Crimps 10-position plugs. Crimps conductor and strain relief in one crimp cycle.

66N9839 Type CTD-100-10. **Each** **37.68**
(7557) (ne04269)

MODULAR PLUG CRIMP TOOL KIT

NEW

BESTOOL™ brand

Modular plug kit allows for efficient and convenient crimping. Easy Strip® preps RG-58, -59, and -62 cable; removes the outer jacket on twisted pair cable. Molded grips maximize comfort. Kit includes high carbon steel universal frame, die sets for RJ-11 and long-body version, RJ-45, and 10-position modular plugs, 50 6-position RJ-11 plugs, 50 8-position RJ-45 plugs, Allen wrench, and plastic storage case with protective foam.

16N1883 Type 8455-0664 Modular Plug Crimp Tool Kit. **Each** **395.58**
(37470) (ne37470)

MODULAR PLUG CRIMPER AND DIE SETS

1763

Modular plug crimper features full-cycle action to provide consistent terminations. Release lever helps prevent faulty crimps. Built-in latch provides comfortable hand operation. Interchangeable color-coded die sets for 10, 8 and 6 positions, *order separately below.*

Stock No.	Type	Description	Each
92N3758	1763	Modular Plug Crimper	**78.61**
92N3759	3328	6-Position Die Set	**28.93**
92N3760	1765	8-Position Die Set	**28.93**
92N3761	1766	10-Position Die Set	**28.93**

(17832) (ne10789)

MULTIPURPOSE CABLE STRIPPERS

1753

Multipurpose telestripper slits and strips twisted pair cable and strips flat telecommunications cable. Durable and user-friendly tool features long-life cutting blades for slitting and stripping. **Type 1754** features recessed cutting surface to slit long runs of twisted pair cable. Also features multiple nest cavities to allow the removal of a wide variety of jacket materials on twisted pair cable. Disengage tension loop for thin jacketed cables. Opposing cutting surfaces with penetration stops strip flat telecommunications cable.

Stock No.	Type	Description	Each
92N3748	1753	Standard Stripper	**33.07**
92N3749	1754	Twisted Pair Stripper	**20.65**

(17835) (ne10792)

AUTOMATIC PUNCH DOWN TOOL

Automatic punch down tool for 110/66 style terminals with impact adjustment (punch). Reversible blade has 110 punch on one end and 66 punch on the other end.

95N3642 Type WC-110. **Each** **39.99**
95N3643 Type WC-110B Replacement Blade. **Each** **10.99**
16N8723 Type 2945 Blade for 66 Pin. **Each** **10.99**
16N8724 Type 2946 Blade for 110/66 Pin. **Each** **10.99**
(7965) (ne51867)

4-CONDUCTOR MODULAR PLUG CRIMP TOOL

Crimp tool makes it easy to install 4-conductor modular plugs on modular line cord. Also crimps 4-conductor handset plugs. Has built-in wire stripper and cutter.

52N9464 Type 8588-0174. **Each** **8.99**
(7631) (ne08667)

TELCO CRIMPING TOOL

Cuts, strips, and crimps telephone wire for application of modular connectors.

Stock No.	Type	Description	1-4	5-9
52N9479	8588-0189	8-Contact Professional	**19.99**	**23.88**
52N9503	8588-0213	4- and 6-Contact Professional	**19.99**	**24.83**

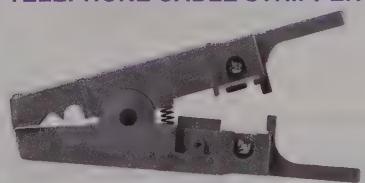
(7818) (ne08683)

MULTIFUNCTION TELEPHONE CRIMP TOOL

Type 2045 telephone tool crimps, cuts, and strips. Steel frame offers long-term durability and dependability. Crimps primary modular plug strain relief only.

92N3783 Type 2045. **Each** **49.99**
(17834) (ne10791)

TELEPHONE CABLE STRIPPER



Type 1421 strips round or flat, solid or stranded cable. 2-, 4-, 6-, 8-conductor.

10N285 Type 1421. **Each** **12.99**
(17833) (ne10790)

LS5 AND LS5E INDUSTRIAL PORTABLE LABELING SYSTEMS

LS5-KIT

- **High Quality 203 dpi Thermal Transfer Printing**
- **4.5H x 6.0W x 11.5″D (114 x 152 x 292mm)**
- **File Storage Memory**
- **Automatic Serialization and Legend Repeat Functions**
- **RS-232 Serial Communication Port**
- **2-Line x 16-Character Display**
- **32°F to 104°F (0°C to +40°C)**
- **6 C-Cell NiCad Batteries (Included)**

Hand-held, portable labeling systems designed to meet the rugged demands of industrial labeling applications. Produce self-laminating labels and wire markers, continuous laminated tape including bar codes, non-laminated commercial tapes, heat-shrink wire markers, tamper-evident labels, and die-cut labels. *Order AC power supply separately below.*

INDUSTRIAL LABELING SYSTEM KIT

Stock No.	Type	Description	Each
97F8841	LS5-KIT	Industrial Labeling System Kit (Includes LS5 Printer with 16k Usable Memory, 6 C-Cell NiCad Batteries, NiCad Battery Charger, 1 Black-on-White Laminated 1″ Industrial Tape Supply Cartridge, 8 Resident Bar-Code Fonts)	750.00
92F8128	LS5-2	Soft-Sided Carrying Case	134.60
92F8129	LS5-3	Hand Strap	21.44
92F8131	LS5-60	AC Power Supply*	208.29
83F7243	LS5E	Enhanced Industrial Labeling Kit with Feed Control, time and date clock, 450K Usable Memory (Includes 6 C-Cell NiCad Batteries. NiCad Battery Charger, 1 Black-on-White Laminated 1″ Industrial Tape Supply Cartridge, 10 resident Bar-Code Fonts)	1420.10

*UL listed and CSA certified.

(6620) (nec9240)

LAMINATED INDUSTRIAL TAPE SUPPLY CARTRIDGES

1″ x 40′ industrial tape.

Stock No.	Type	Description	Each	2-4
92F8143	LS5-30	Black/Clear	94.73	87.82
92F8144	LS5-32	Red/Clear	94.73	87.82
92F1414	LS5-33	Black/White	94.73	87.82
92F8147	LS5-38	Black/Yellow	94.73	87.82
92F8148	LS5-42	White/Clear	94.73	87.82
92F8149	LS5-47	White/Blue	94.73	87.82
92F8150	LS5-48	White/Red	94.73	87.82
92F8152	LS5-50	Black/Orange	94.73	87.82

(6623) (nec9243)

FRIENDLY, QUALITY SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

SELF-LAMINATING WIRE MARKERS AND DIE-CUT LABEL CARTRIDGES

Stock No.	Type	Description	Each	2-4
92F8130	LS5-11	1.0 x 0.75″ Vinyl Self-Lam Wire Marker, 0.8 x 0.375″ Write-On Area (200 Labels/Cartridge)	46.66	44.80
92F8132	LS5-12	1.0 x 0.75″ TEDLAR® Self-Lam Wire Marker, 0.8 x 0.375″ Write-On Area (200 Labels/Cartridge)	55.80	51.73
92F8133	LS5-13	1 x 1.25″ Vinyl Self-Lam Wire Marker, 1 x 0.5″ Write-On Area (160 Labels/Cartridge)	46.66	44.80
92F8134	LS5-14	1 x 1.25″ TEDLAR® Self-Lam Wire Marker,1 x 0.5″ Write-On Area (160 Labels/Cartridge)	55.80	51.73
92F8135	LS5-15	1 x 2.5″ Vinyl Self-Lam Wire Marker,1 x 0.75″ Write-On Area (110 Labels/Cartridge)	46.66	44.80
92F8136	LS5-16	1 x 2.5″ TEDLAR® Self-Lam Wire Marker,1 x 0.75″ Write-On Area (110 Labels/Cartridge)	55.80	51.73
92F8137	LS5-17	0.5 x 1″ Die-Cut Polyester Label (174 Labels/Cartridge)	94.73	87.82
83F7241	LS5-10	1 x 4″ Vinyl Self-Laminating Wire Marker Cartridge (83 Labels/Cartridge)	45.08	43.28

TEDLAR® is a registered trademark of E.I. DuPont Co.

(6621) (nec9241)

HEAT-SHRINK TUBING FLATTENED POLYOLEFIN SUPPLY CARTRIDGES

Sold in lengths of 100″.

Stock No.	Type	Description	Each	2-4
92F8141	LS5-HS3	¼″ Dia., Black on White	78.45	72.73
66F714	LS5-HS4	⅜″ Dia., Black on White	78.45	72.73
66F715	LS5-HS5	½″ Dia., Black on White	78.45	72.73
92F8142	LS5-HS8	¼″ Dia., Black on Yellow	78.45	72.73
66F716	LS5-HS9	⅜″ Dia., Black on Yellow	78.45	72.73
66F717	LS5-HS10	½″ Dia., Black on Yellow	78.45	72.73

(6622) (nec9242)

LAMINATED INDUSTRIAL TAPE SUPPLY CARTRIDGES

0.8″ x 40′ industrial tape.

Stock No.	Type	Description	Each	2-4
92F8153	LS5-70	Black/Clear	83.10	77.04
92F8155	LS5-73	Black/White	83.10	77.04
92F8159	LS5-78	Black/Yellow	83.10	77.04

(6624) (nec9244)

TYPE HSG HEAT SHRINK TOOLS

NEW

HSG Tools

Industrial-grade heat gun (**type HSG-115V-500**) features neoprene jacketed cord with molded strain relief with easy-change springs, brushes and 3-position switch (off, cold, hot) to help extend heat element life. Shrink tube reflectors (**type HSG-A1** and **type HSG-A2**) direct heat around tubing to reduce shrink time. Shrink tube concentrator (**type HSG-A3**) directs heat toward tubing and away from heat-sensitive items. UL listed, CSA certified (tools only). For use with Panduit heat shrink tubing sold *on page 1357.*

Stock No.	Type	Description	Each
92F8180	HSG-115V-500	Heat Gun	154.43
92F8181	HSG-A1	Shrink Tube Reflector –up to ¾″ Inside Diameter	22.74
99F3980	HSG-A2	Shrink Tube Reflector –up to 1½″ Inside Diameter	23.53
92F8120	HSG-A3	Shrink Tube Concentrator	31.87
92F8121	HSG-A4	Carrying Case	112.94

(18334) (ne10429)

ENHANCED PAN-QUIK™ TYPE LS3E HAND-HELD PRINTER

NEW

Creates crisp, clear legends in a variety of sizes. Simple to use, easy loading. Long battery life. Memory function saves, recalls and edits legends, formats and codes. Quik-Key™ fast label formatting system for text size, position, case, font, print density and label formatting. Print self-laminating wire markers, heat-shrink markers and network labels. Features time-saving automatic label serialization. Includes printer, battery pack, charger, printer ribbon, wrist strap, and manual. *Order replacement parts and accessories for* **type LS3E** *hand-held printer separately below. Order* **LWS series** *vinyl wire markers on this page.*

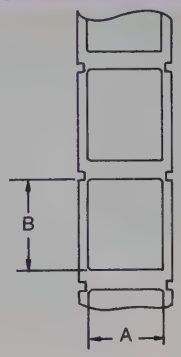
83F3744 Type LS3E. **Each** **498.75**

REPLACEMENT PARTS AND ACCESSORIES

Stock No.	Type	Description	Each	2-4
91F5176	LS3-RIB	Replacement Printer Ribbon	19.09	18.42
83F3745	LS3E-BP	Replacement Battery Pack	129.71	123.49
83F3746	LS3EC-S	Replacement 120V Battery Charger	77.36	74.75
83F3747	LS3EACS	AC/Battery Charger Set: w/Universal AC Adapter, Battery Charge Pack, Power Cord.	161.04	153.31
83F3748	LS3EAK-S	AC Adapter Set: w/Universal AC Adapter, Power Cord	103.19	99.77
83F3749	LS3ECAP	Auto Power Set w/Battery Charging Pack, Auto Plug	90.51	87.52
91F5175	LS3-CASE	Carrying Case	58.94	56.96
91F5173	LS3-BS	Printer Belt Holster	73.67	71.19

(37076) (ne37076)

VINYL CLOTH COMPONENT AND WIRE MARKER LABELS



LC series vinyl cloth component labels and **LW series** vinyl cloth wire marker labels can be used with Pan-Quik™ **type LS3E** printer, *order separately on this page.* **Sold in rolls.**

COMPONENT LABELS

Stock No.	Type	Width A	Length B	Labels per Roll	Each	2-4
91F5207	LC-1	1.500″	1.250″	250	38.52	36.98
91F5208	LC-2	1.000″	1.000″	250	30.31	29.10
91F5209	LC-3	0.500″	0.500″	500	36.73	35.26
91F5210	LC-4	1.000″	0.750″	250	28.17	27.04
91F5211	LC-5	1.500″	0.750″	250	33.35	32.02
91F5212	LC-6	0.500″	0.275″	500	29.06	27.90
91F5213	LC-7	1.000″	0.275″	500	33.35	32.02
91F5214	LC-8	1.500″	0.275″	500	37.98	36.46
91F5215	LC-9	1.000″	0.400″	500	41.54	39.88
91F5216	LC-10	1.000″	0.500″	500	41.54	39.88
91F5217	LC-11	1.500″	0.500″	500	46.70	44.84

WIRE MARKER LABELS

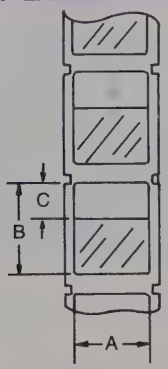
91F5178	LW-1	0.500″	1.250″	250	27.29	26.20
91F5179	LW-2	1.000″	1.250″	250	32.62	31.32
91F5180	LW-3	0.500″	1.000″	250	25.15	24.14
91F5181	LW-4	0.500″	0.750″	250	23.71	22.76

TERMINAL BLOCK MARKER LABELS

83F8154	LC-14	0.31″	35 ft.	...	33.08	31.76
83F8152	LC-15	0.38″	35 ft.	...	33.25	31.92

(18435) (ne10806)

LWS SERIES SELF-LAMINATING WIRE MARKERS



LWS-1

LWS series vinyl wire markers can be used with Pan-Quik™ **type LS3E** printer, *order separately on this page.* **Sold in rolls.**

Stock No.	Type	Total Area A x B	Write-On Area A x C	Labels per Roll	Each
91F5184	LWS-1	0.500″ x 1.250″	0.500″ x 0.500″	250	21.40
91F5185	LWS-2	1.000″ x 1.250″	1.000″ x 0.500″	250	29.25
91F5186	LWS-3	1.500″ x 1.250″	1.500″ x 0.500″	250	34.77
91F5187	LWS-4	0.500″ x 1.000″	0.500″ x 0.375″	250	21.58
91F5188	LWS-5	1.000″ x 1.000″	1.000″ x 0.375″	250	27.29
91F5189	LWS-6	0.500″ x 0.750″	0.500″ x 0.375″	250	21.93
91F5190	LWS-7	1.000″ x 0.750″	1.000″ x 0.375″	250	24.96
91F5193	LWS-10	1.000″ x 2.500″	1.000″ x 0.750″	100	24.00
91F5194	LWS-11	1.500″ x 2.500″	1.500″ x 0.750″	100	26.04

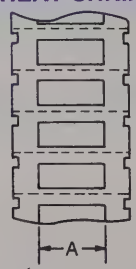
TEDLAR®* WIRE MARKER (FOR INDOOR/OUTDOOR APPLICATIONS)

83F8151	LWS-54	1.000″ x 1.250″	1.000″ x 0.500″	250	37.16

*Tedlar® is a registered trademark of E. I. DuPont Co.

(18434) (ne10805)

LHS SERIES HEAT-SHRINK MARKERS



LHS series heat-shrink markers are made of 3:1 flattened polyolefin. Service temperature range: –22°F to +220°F (–30°C to +105°C). Available in white (**type LHSW**) and yellow (**type LHSY**). Markers can be used with Pan-Quik™ **type LS3E** printer, *order separately on this page.* **Sold in rolls of 100.**

⅛″ MARKERS

Stock No.	Type	Tube Diameter	Marker Width (A)	Each	2-4	5-9
91F5198	LHSW-2	0.125″	1.000″	43.73	41.98	38.16
91F5203	LHSY-2	0.125″	1.000″	43.73	41.98	38.16

¼″ MARKERS

91F5200	LHSW-4	0.250″	1.000″	56.70	52.56	49.01
91F5205	LHSY-4	0.250″	1.000″	56.70	52.56	49.01

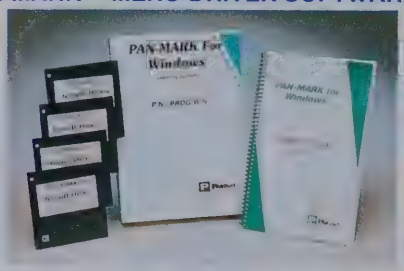
½″ MARKERS

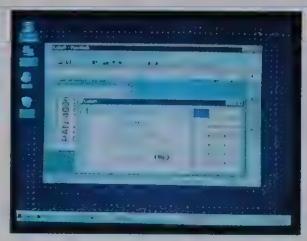
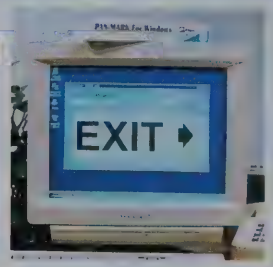
91F5201	LHSW-5	0.500″	1.000″	93.33	86.52	80.67
91F5206	LHSY-5	0.500″	1.000″	93.33	86.52	80.67

(18436) (ne10807)

COMPUTER PRINTABLE ID PRODUCTS

PAN-MARK™ MENU-DRIVEN SOFTWARE FOR COMPUTER PRINTABLE LABELS/DATA PLATES



Type PDL-PROG-LT for DOS features quick labeling program for component and wire identification. Requires DOS 3.0 or higher, minimum 2MB RAM. Supports most dot matrix printers. Features serialization, alpha and numeric, and the ability to add special ASCII characters to legend. Supplied with 5.25″ and 3.5″ disks. **Type PROG-WIN2** features quick labeling program for component and wire identification. Requires Windows® 3.1 Windows 95, 98, or NT 3.5 operating system, any printer supported by Windows®, mouse or keyboard driven. Recommended for 486 processor and minimum 8MB RAM. Labeling system uses only 30 MB of hard drive space. Identifies wires and devices quickly and economically. Password protection for formats and label files.

Stock No.	Type	Each
96F3327	PDL-PROG-LT	119.99
52F7117	PROG-WIN2	278.70

(7963) (ne51410)

SELF-LAMINATING EDP LABELS

VINYL FILM WHITE LABELS WITH CLEAR OVERWRAP

For indoor wire and cable applications; resistant and durable.

Stock No.	Type	Label Size W × L	Print-On Area	Labels per Pkg.	Each	2-4	5-9
84F1771	PDL-241	0.30 × 0.94″	0.30 × 0.38″	5000	81.19	75.27	70.18
84F1773	PDL-42	0.50 × 0.75″	0.50 × 0.38″	5000	115.01	107.06	100.17
84F1756	PDL-243	0.50 × 0.94″	0.50 × 0.38″	5000	115.01	107.06	100.17
84F1757	PDL-1	0.50 × 1.44″	0.50 × 0.50″	5000	124.60	115.99	108.52
84F1759	PDL-245	0.75 × 1.75″	0.75 × 0.50″	5000	286.53	274.05	266.23
84F1760	PDL-247	0.80 × 0.94″	0.80 × 0.38″	5000	134.18	124.91	116.87
50F2902	PDL-8	0.80 × 1.44″	0.80 × 0.50″	5000	214.90	205.54	199.67
84F1763	PDL-251	1.00 × 0.94″	1.00 × 0.38″	5000	159.19	152.25	147.91
84F1764	PDL-2	1.00 × 1.44″	1.00 × 0.50″	5000	214.90	205.54	199.67
84F1774	PDL-4	1.00 × 2.44″	1.00 × 0.75″	1000	87.28	80.91	75.44
84F1775	PDL-6	1.00 × 3.94″	1.00 × 1.00″	1000	130.53	126.71	122.98
84F1778	PDL-18	1.90 × 3.19″	1.90 × 0.75″	1000	171.92	164.43	159.74
98F299	PDL-3	2.00 × 1.44″	2.00 × 0.50″	5000	374.08	347.57	337.84
84F1779	PDL-5	2.00 × 2.44″	2.00 × 0.75″	1000	162.37	155.30	150.86
84F1780	PDL-7	2.00 × 3.94″	2.00 × 1.00″	1000	243.55	232.94	226.29
84F1781	PDL-17	2.00 × 7.44″	2.00 × 1.50″	1000	358.17	332.78	323.47

POLYVINYLFLUORIDE WHITE LABELS WITH CLEAR OVERWRAP

Polyvinylfluoride film for high-temperature wire/cable application.

84F1783	PDL-54	1.00 × 1.38″	1.00 × 0.50″	5000	222.86	213.15	207.07
84F1784	PDL-56	1.00 × 2.44″	1.00 × 0.75″	1000	122.57	118.99	115.48

(7497) (de51411)

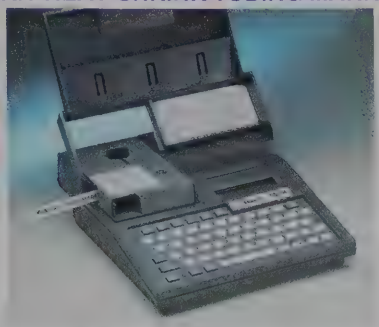
BLANK WHITE EDP LABELS

3 materials: 1) impregnated vinyl cloth with ink-receptive coating; 2) paper for permanent applications (destructs upon removal), except **type PDL-65** is litho paper for temporary marking; 3) outdoor polyester film for high temperature. Other labels and colors available; *contact your local Newark sales office.* **Sold in packages of 5000.**

Stock No.	Type	Label Size (W × L)	Label Material	Per Package		
				Each	2-4	5-9
84F1791	PDL-43	0.50 × 0.75″	Vinyl Cloth	134.18	124.91	116.87
87F4573	PDL-36	0.65 × 0.20″	Polyester	81.19	75.27	70.18
84F1798	PDL-92	0.90 × 0.25″	Paper	35.79	34.37	31.24
84F1803	PDL-74	1.00 × 0.38″	Paper	46.79	44.92	40.83
87F4572	PDL-31	1.00 × 0.38″	Polyester	119.39	115.90	112.48
87F6096	PDL-19	1.00 × 0.50″	Vinyl Cloth	159.19	152.25	147.91
84F1804	PDL-65	1.00 × 0.50″	Paper	60.89	56.45	52.63

(7498) (de51413)

TYPE LS4H-KIT HEAT-SHRINK TUBING MARKER SYSTEM



Produce heat-shrink tubing markers for wire and cable identification. Self-contained marking system provides permanent tube markers and 3:1 flattened polyolefin heat-shrink tubing that meets UL-224 requirements. Kit includes **type LS4H** printer, 4 D-cell nickel cadmium batteries, battery charger, 1 black-on-white cartridge of 3⁄16″ tubing, 1 black-on-white cartridge of ¼″ tubing, scissors, and black carrying case. Text features include bold and underline. Prints scratch-resistant labels either horizontally or vertically. LCD user screen displays legend prior to printing.

92F1413 Type LS4H-KIT. **Each** **552.24**
92F8168 Type LS4-60. 115VAC Power Adapter. **Each** **111.91**

Laminated Industrial Supply Cartridges

Stock No.	Type	Length (m)	Width (mm)	Color	Each	2-4
92F8175	LS4H-30I	50′ (15.2)	0.50″ (12.7)	Black/Clear	**74.96**	**69.49**
92F8176	LS4H-33I	50′ (15.2)	0.50″ (12.7)	Black/White	**74.96**	**69.49**
92F8177	LS4H-37I	50′ (15.2)	0.50″ (12.7)	Black/Red	**74.96**	**69.49**
92F8178	LS4H-38I	50′ (15.2)	0.50″ (12.7)	Black/Yellow	**74.96**	**69.49**

Heat Shrink Tubing Supply Cartridges

Stock No.	Type	Nominal Cable O. D. (mm)	Length (mm)	Dia. (mm)	Color	1-9	10-24
92F8169	LS4H-1	0.04-0.13″ (1.1-3.2)	100″ (2540)	0.13″ (3.2)	Black/White	**76.44**	**70.87**
92F8170	LS4H-2	0.06-0.19″ (1.6-4.8)	100″ (2540)	0.19″ (4.8)	Black/White	**76.44**	**70.87**
92F8171	LS4H-3	0.08-0.25″ (2.1-6.4)	100″ (2540)	0.25″ (6.4)	Black/White	**76.44**	**70.87**
92F8172	LS4H-4	0.04-0.13″ (1.1-3.2)	100″ (2540)	0.13″ (3.2)	Black/Yellow	**76.44**	**70.87**
92F8173	LS4H-5	0.06-0.19″ (1.6-4.8)	100″ (2540)	0.19″ (4.8)	Black/Yellow	**76.44**	**70.87**
92F8174	LS4H-6	0.08-0.25″ (2.1-6.4)	100″ (2540)	0.25″ (6.4)	Black/Yellow	**76.44**	**70.87**

(18331) (ne10426)

TYPE LS4M MULTIPLE-LINE PORTABLE LABELING SYSTEM

High-performance, self-contained labeling system prints up to 4 lines of text on ½″ wide adhesive tape. Indestructible polyester laminate. Tape is heat-and-scratch resistant on convenient cassettes. Uses 4 D-cell alkaline batteries, *order separately*, or AC power adapter (included).

96F3326 Type LS4-M. **Each** **734.71**
92F8167 Type LS4-53. Replacement 115VAC Power Adapter. **Each** **217.43**

Heavy Duty Outdoor Industrial Labeling Tape

Stock No.	Type	Width (m)	Length (mm)	Color	Each	2-4
66F708	LS4-30I	0.50″ (12.7)	50′ (15.2)	Black/Clear	**76.40**	**70.83**
66F709	LS4-33I	0.50″ (12.7)	50′ (15.2)	Black/White	**76.40**	**70.83**
66F710	LS4-38I	0.50″ (12.7)	50′ (15.2)	Black/Yellow	**76.40**	**70.83**

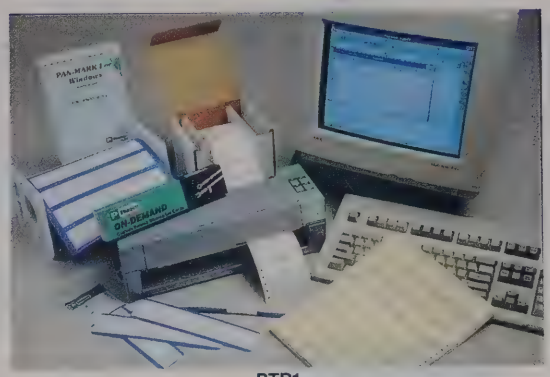
Standard Labeling Tapes

Stock No.	Type	Width (m)	Length(mm)	Color	Each	2-4
93F1922	LS4-30	0.50″ (12.7)	50′ (15.2)	Black/Clear	**62.31**	**57.77**
93F1923	LS4-33	0.50″ (12.7)	50′ (15.2)	Black/White	**62.31**	**57.77**
99F4202	LS4-34	0.50″ (12.7)	50′ (15.2)	Blue/White	**62.31**	**57.77**
93F1924	LS4-35	0.50″ (12.7)	50′ (15.2)	Red/White	**62.31**	**57.77**
66F697	LS4-37	0.50″ (12.7)	50′ (15.2)	Black/Red	**62.31**	**57.77**
93F1925	LS4-38	0.50″ (12.7)	50′ (15.2)	Black/Yellow	**62.31**	**57.77**
66F700	LS4-43	0.50″ (12.7)	50′ (15.2)	Green/White	**62.31**	**57.77**
66F701	LS4-44	0.50″ (12.7)	50′ (15.2)	White/Black	**62.31**	**57.77**
66F705	LS4-48	0.50″ (12.7)	50′ (15.2)	White/Red	**62.31**	**57.77**

(18332) (ne10427)

TYPE PTR1 DOT-MATRIX PRINTER KIT

CE



PTR1

Type PTR1 24-pin, dot-matrix printer creates legends on heat-shrink tubing, wire marker cards or any Panduit computer-printable dot-matrix label. Includes: printer, AC adapter, indelible ribbon and operator's manual. Compatible with existing Windows™ or DOS operating systems. Features adjustable print head and durable, rugged metal construction. Prints at 166 characters per second (draft) and 83 characters per second (near letter quality). Dimensions: 4.82H x 15.13W x 7.5″D. Weight: 10 lbs. CE compliant. Heat-shrink tubing for **type PTR1** printer *ordered separately on this page.*

Stock No.	Type	Description	Each
91F7310	PTR1	Printer	**1208.75**
91F7313	PTR1-RIB	Indelible Replacement Ribbon	**77.64**
91F7314	PTR1-STD	Standard Replacement Ribbon	**21.75**

(18333) (ne10428)

COMPUTER-PRINTABLE HEAT-SHRINK TUBING

UL

Type LHS heat-shrink tubing is for use with dot-matrix printer kit **type PTR1**, *order separately on this page.* Precut tubing is roll-mounted on hole-punched plastic carrier. Available in white or yellow in 4 minimum expanded inside diameters. Material: flattened polyolefin. Shrink ratio: 3:1 @ 212°F (100°C). UL listed. Meets UL standard 224 for flammability. **Sold in rolls.**

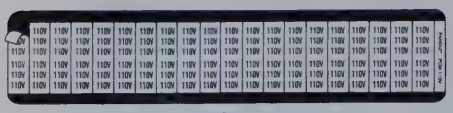
WHITE

Stock No.	Type	Min. Expanded I.D.	Sleeve Width	Markers per Roll	Each
91F7290	LHS12W1	0.125″	2.00″	500	**179.46**
91F7291	LHS12W2	0.125″	1.00″	1000	**188.42**
91F7292	LHS12W4	0.125″	0.50″	2000	**188.42**
91F7296	LHS25W1	0.250″	2.00″	500	**284.15**
91F7297	LHS25W2	0.250″	1.00″	1000	**298.35**
91F7298	LHS25W4	0.250″	0.50″	2000	**308.79**
91F7302	LHS50W1	0.500″	2.00″	500	**471.12**
91F7303	LHS50W2	0.500″	1.00″	1000	**494.67**

YELLOW

91F7293	LHS12Y1	0.125″	2.00″	500	**179.46**
91F7294	LHS12Y2	0.125″	1.00″	1000	**188.42**
91F7295	LHS12Y4	0.125″	0.50″	2000	**188.42**
91F7299	LHS25Y1	0.250″	2.00″	500	**294.09**
91F7300	LHS25Y2	0.250″	1.00″	1000	**308.79**
91F7301	LHS25Y4	0.250″	0.50″	2000	**308.79**
91F7304	LHS50Y1	0.500″	2.00″	500	**471.12**
91F7305	LHS50Y2	0.500″	1.00″	1000	**494.67**

(18335) (ne10944)



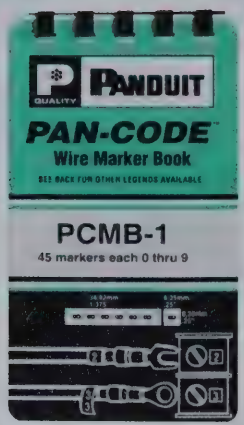
PCM

WIRE MARKER CARDS

Vinyl cloth material with black legends on white background. Full-size markers: 1.5″ (38.10) long for up to 0.375″ (9.53) O.D. Legends available include individual solid letter repeated: (choose only ONE letter) A thru Z. Individual solid number repeated (choose only ONE number) 0 thru 100. 36 consecutive letters: A thru Z: Consecutive numbers: 1 thru 33; 34 thru 66; 67 thru 99; 100 thru 124; or 1975 thru 1999. To order, specify **type PCM** and add, as a suffix, the legend you want. For example, the legend "A" = **type PCM-A**; the legend "50" = **type PCM-50**; the legend "100 thru 124" = **type PCM-100-124** ; the legend "A thru Z" = **type PCM-A-Z**. Half-size markers 0.750″ (19.05) long for up to 0.188″ (4.78) O.D. are available; substitute **type PCMH-** for **type PCM-** when ordering. **Sold in packages of 25 cards (36 labels per card on two-digit markers, 25 labels per card on three-digit markers).**

Stock No.	Type	Legend	Each	2-4	5-9	10-24
87F4610	PCM-A	Specify	32.53	30.91	26.36	23.37

(6463) (ne01637)

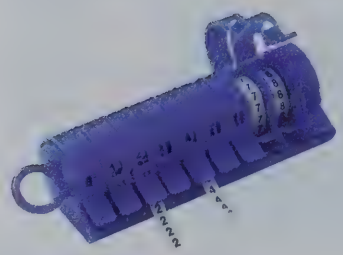


WIRE MARKER BOOKS

Vinyl cloth material with black legends on white background except for solid NEMA color books (**type PCMB-10**). Marker size: 1.375″ (34.93) long for up to 0.375″ (9.53) outer diameter with matching terminal marker. Feature 10 pages per book, except **type PCMB-25** which features 12 pages per book.

Stock No.	Type	Legends	No. Markers/ Each Legend	Each	2-4	5-9	10-24
87F6093	PCMB-1	0-9	45	15.29	14.53	13.73	12.18
87F6383	PCMB-2	A-Z, 0-15, +, –, /	10	15.29	14.53	13.73	12.18
87F6094	PCMB-3	1-45	10	15.29	14.53	13.73	12.18
87F6384	PCMB-4	1, 2, 3	150	15.29	14.53	13.73	12.18
87F6385	PCMB-5	A, B, C	150	15.29	14.53	13.73	12.18
87F6386	PCMB-6	T1, T2, T3	150	15.29	14.53	13.73	12.18
87F6387	PCMB-7	L1, L2, L3	150	15.29	14.53	13.73	12.18
87F4562	PCMB-8	1-15 16-90 A-Z, +, -, /, 0	6 4 2	15.29	14.53	13.73	12.18
87F4563	PCMB-9	1, 2, 3, A, B, C L1, L2, L3, T1, T2, T3	45 30	15.29	14.53	13.73	12.18
87F4564	PCMB-10	NEMA Colors	45 ea.	15.29	14.53	13.73	12.18
87F4565	PCMB-11	1-30	15	15.29	14.53	13.73	12.18
87F4566	PCMB-12	A-Z + – Blank (Write-On)	15 8 7 21	15.29	14.53	13.73	12.18
87F4567	PCMB-16	0-33, A, B, C, +, – L1, L2, L3, T1, T2, T3	10 10	15.29	14.53	13.73	12.18
87F4568	PCMB-25	0-9 L1, L2, L3, T1, T2, T3	45 15	15.29	14.53	13.73	12.18

(6464) (ne01638)



PMD-0-9

WIRE MARKER TAPE AND DISPENSERS

Type PMD-0-9 dispenser includes ten 8′ (2.44M) rolls of tape, black legends, 0 thru 9, on white background. **Type PMD** dispenser comes without tape. **Type PMDR-** polyester film tape fits **type PMD** tape dispenser. Black legends on white background. Legends available: "A" thru "Z", "0" thru "9". *To order, specify* **type PMDR** *and add, as a suffix, the legend you want. For example: the legend "M" =* **type PMDR-M.**

DISPENSER

Stock No.	Type	Legend	Each	2-4	5-9	10-24
87F6095	PMD-0-9	Dispenser Filled; Legend 0 - 9	37.97	36.46	33.14	30.90
87F4576	PMD	Dispenser Only	17.47	16.66	15.90	14.92

TAPE

Stock No.	Type	Legend	Each	2-4	5-9	10-24
87F4587	PMDR-A	Specify	23.50	22.57	20.51	19.13

(6466) (ne01641)

PLD SERIES CABLE MARKER DISPENSER KITS

Types PLD-1 and **PLD-2** self-laminating vinyl marker kits contain dispenser, roll of blank markers, and marking pen. Marker tape rolls load easily into tough polypropylene dispenser.

Stock No.	Type	Blank Markers: Overall Size	Blank Markers: Write-On Area	Blank Markers: Per Kit	Each	2-4	5-9
97F8844	PLD-1	1.0 x 1.5″	1.0 x .38″	200	29.69	28.51	25.91
97F8845	PLD-2	1.0 x 3.0″	1.0 x .75″	100	29.69	28.51	25.91

(13227) (ne09823)

CABLE MARKER BOOKS

PSCB series blank white self-laminating pre-assembled marker books. Protects handwritten legend.

Stock No.	Type	Overall Size	Write-On Area	Pkg. Qty.	Per Package: Each	2-4	5-9	10-24
84F1733	PSCB-12	1.5 x 0.5″	0.62 x 0.5″	180	24.73	23.75	21.59	20.13
87F4651	PSCB-3	3 x 1″	0.75 x 1″	60	24.73	23.75	21.59	20.13
84F1734	PSCB-13	3 x 1.5″	0.75 x 1.5″	40	24.73	23.75	21.59	20.13
87F4652	PSCB-5	5 x 1″	1 x 1″	30	24.73	23.75	21.59	20.13
94F5720	PSCB-6	6 x 1″	1 x 1″	30	24.73	23.75	21.59	20.13
84F1735	PSCB-16	6 x 1.5″	1 x 1.5″	20	24.73	23.75	21.59	20.13

(6465) (ne01639)

DYMO®

LABELMAKERS AND TAPES

EMBOSSING LABELMAKER

Dymo Organizer™ kit imprints ¼″ and ⅜″ Dymo tape. Features quick-change character wheels and easy label cut-off. Hand-held and portable. Includes: (1) **type 1610** labelmaker, (3) rolls ⅜″ x 12′ Dymo tape (one each red, black, and blue), (1) 1.18″ standard horizontal wheel, 1.125″ character script wheel, (1) 1.125″ character vertical wheel, and (1) carrying case. Dimensions: 11¼L x 4W x 4½″H. Weight: 1.38 lbs.

Stock No.	Type	Description	Each
16F1327	1610-05	Embossing Labelmaker Kit	40.52

(7578) (ne08452)

METAL TAPE EMBOSSING SYSTEM

Embosses Dymo ½″ vinyl and metal tape. Features heavy-duty cast aluminum body construction, built-in hole punch, front scissor cut-off, tape advance and rewind control, and wheel character-selection window to help reduce embossing errors. Hand-held design. System includes: (1) **type 1011** tapewriter, (1) roll **type 310** Dymo nonadhesive ½″ x 16′ aluminum tape, (1) roll Dymo ½″ black vinyl tape, (1) 1.188″ character horizontal wheel, and (1) carrying case. Creates 36 characters: A-Z, 2-9 plus punctuation; 0.188″ high. Dimensions: 11½ L x 4W x ½″H. Weight: 2.4 lbs.

Stock No.	Type	Description	Each
16F1329	1011-05	Metal Tape Labelmaking System	284.68

(7579) (ne08453)

EMBOSSING LABELING TAPES

¼″ x 12′ GLOSSY LABELING TAPE FOR ALL ¼″ DYMO EMBOSSING MACHINES

Stock No.	Type	Description	1-4	5-9
16F1330	5206-02	Red	2.68	2.55
16F1312	5206-05	Green	2.68	2.55
16F1313	5206-06	Blue	2.68	2.55
16F1314	5206-09	Black	2.68	2.55

⅜″ x12′ GLOSSY LABELING TAPE FOR ALL ⅜″ DYMO EMBOSSING MACHINES

16F7954	5201-02	Red	3.37	3.20
16F1316	5201-05	Green	3.37	3.20
16F1317	5201-06	Blue	3.37	3.20
16F1318	5201-09	Black	3.37	3.20

½″ x 12′ GLOSSY LABELING TAPE FOR ALL ½″ DYMO EMBOSSING MACHINES

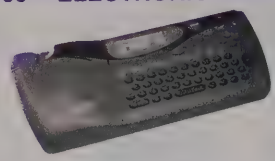
16F1320	158-02	Red	4.24	4.02
16F7955	158-05	Green	4.24	4.02
16F1307	158-06	Blue	4.24	4.02
16F1308	158-09	Black	4.24	4.02

METAL LABELING TAPE FOR MODEL 1011-05

16F1309	310-00	½ ″ x 16′ Aluminum, No Adhesive	3.10	2.94
16F1310	325-00	½″ x 21′ Stainless Steel, No Adhesive	5.18	4.92
16F1311	358-00	½″ x 12′ Aluminum, with Adhesive	6.21	5.90

(7580) (ne08454)

DYMO 5500™ ELECTRONIC LABELMAKER



Features QWERTY keyboard with 15-character LCD display, built-in bar coding capability, last-label 1-touch repeat printing, and 100-character memory. Fixed label length for printing same length labels automatically. Print features include: sequential numbering, 4 lines, box, underline, bold, italics, 6 sizes, 3 heights, and 2 widths. Tab cut on tape for easy application. Dimensions: 12L x 4.8W x 2.9″H. Weight: 2.11 lbs. Operates on 5 AA batteries (included) or AC adapter, *ordered separately on this page.*

Stock No.	Type	Description	Each
16F1300	DYM55770	Electronic Labelmaker	229.95

(7581) (ne08455)

DYMO 3500™ ELECTRONIC LABELMAKER

Breakaway flip-top protects QWERTY keyboard with 8-character display. Print features include: vertical, horizontal, 2 lines, box, underline, bold, italics, 6 sizes, 2 heights, and 3 widths. Fixed label length for printing same length labels automatically. Dimensions: 6.6L x 2.2W x 4.2″H. Weight: 1.78 lbs. Operates on 5 AA batteries (included) or AC adapter, *ordered separately on this page.*

Stock No.	Type	Description	Each
16F1299	35910	Electronic Labelmaker	129.38

(7582) (ne08456)

DYMO 2000™ ELECTRONIC LABELMAKER

Features ABC vertical-style keyboard with 15-character display, built-in bar coding capability, and 100-character memory. Print features include: sequential numbers, horizontal, 4 lines, box, underline, bold, italics, 6 sizes, 3 heights, and 2 widths. Fixed label length for printing same length labels automatically. Tab cut on tape for easy operation. Made for hand-held use. Operates on 5 AA batteries (included) or AC adapter, *ordered separately below.* Dimensions: 7.6L x 4.3W x 2.6″H. Weight: 1.65 lbs.

Stock No.	Type	Description	Each
16F1298	20201	Electronic Labelmaker	199.95
AC ADAPTER FOR DYMO 5500, 3500, AND 2000			
16F1888	40030	AC Adapter	30.69

(7583) (ne08457)

ELECTRONIC LABELING TAPES

½″ x 23′ ELECTRONIC LABELING TAPE FOR ALL DYMO ELECTRONIC LABELMAKERS

Stock No.	Type	Description	1-4	5-9
16F1301	45010	Black on Clear	18.63	17.70
16F1302	45013	Black on White	18.63	17.70
16F1303	45015	Red on White	18.63	17.70
16F1304	45018	Black on Yellow	18.63	17.70
16F1305	45020	White on Clear	18.63	17.70
16F1306	45021	White on Black	18.63	17.70

¾″ x 23′ ELECTRONIC LABELING TAPE FOR MODELS 2000 AND 5500

16F1321	45800	Black on Clear	25.88	24.59
16F1322	45803	Black on White	25.88	24.59
16F1323	45805	Red on White	25.88	24.59
16F1324	45808	Black on Yellow	25.88	24.59
16F1325	45810	White on Clear	25.88	24.59
16F1326	45811	White on Black	25.88	24.59

(7584) (ne08458)

WIRE AND CABLE TOOLS

MINITRACKER™ AND MINI COAX TESTER

NEW

62-202

62-204

Type 62-202 tester is designed for cable TV, security video, broadcast, and automation systems applications. Consists of a main unit and 4 remote color-coded F-type terminators. Each terminator has a unique resistor value. A main unit and remote terminator are required to perform coaxial cable testing. Tone mode sends a tone signal on coaxial cable for tracing. Provides testing for continuity, opens or shorts in multiple or single runs of coax. Identifies different termination points and cable runs within a structure. **Type 62-204** is designed for quick and easy operation. Tests opens and shorts on coax connected with BNC jacks. 2 modes of operation, standard and Hi-Z for long runs. LED low-battery indicator. Includes 500Ω BNC.

48F1311 Type 62-202. **Each**..... **95.58**
(33790)

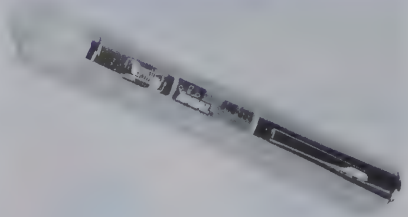
48F1312 Type 62-204. **Each**..... **51.18**
(33790) (ne33790)

WIRING VERIFIER - PATCH CORD CABLE TESTER

Type 62-050 verifies proper wiring sequence of modular plug cable assemblies. Identifies shorts, diagnoses open circuits and determines miswires. Tests continuity of paired cable and coaxial cable. Includes coaxial port, premium-grade RJ-45 jack ports and coaxial cable 50Ω terminator.

52F6556 Type 62-050. **Each**..... **110.38**
(18626) (ne11026)

POCKET-SIZE CONTINUITY TESTER



Checks continuity of dead circuits and grounds on conduit systems, identifies wires in multiwire cables. Light signal indicates completed circuit. Pocket clip reverses to serve as probe. Bulb in end works as flashlight. Includes 4′ (1.22m) removable cord with alligator clip. *Order 2 AA batteries separately; see product index.*

35F2236 Type 61-030. **Each**..... **18.39**

48F1315 Type 45-331. **Each**..... **41.37**
(5602) (de00839)

TEST-GLO™ INDUSTRIAL CIRCUIT TESTER

Dust-proof, moisture-resistant unit checks electrical circuits, spark plugs, motors, fuses and more. Long, thin handles with no-slip rings for deep probing. Neon lamp for easy spotting. 24″ (609.60) lead rated 10,000V permits wide-span use. Resistors between test prod and lead reduce voltage reaching leads. Use with 80 to 600V AC/DC.

35F2237 Type 61-040. **Each**..... **19.58**
(5604) (de00841)

VIDEOTRACKER™ COAX TESTER

NEW

Designed for cable TV, security video, broadcast, and automation system applications. Consists of a main unit and 8 remote color-coded F-type terminators. Main unit and one or more remote terminators perform coaxial cable testing. Tone mode sends a tone signal. Remote terminals are not required to send tone signal on coax in tone mode. Provides testing for continuity, opens or shorts. Identifies different termination points and cable runs within a structure. Single run mode tests and identifies individual cables within a group. Multi-run mode tests coax cables joined within a splitter. 9V battery included.

48F1313 Type 62-020. **Each**..... **119.95**
(33791) (ne33791)

CIRCUIT IDENTIFIERS

61-052

Locate and identify any circuit breaker or fuse protecting energized single-phase 120VAC electrical circuits without guesswork or service interruption. Multifunctional E-Z Check® Plus transmitter checks energized single-phase 120VAC outlets for proper wiring sequence and GFCI operation. Hand-held receiver with adjustable sensitivity level identifies specific circuit breakers or fuses with a flashing LED light and audible tone.

52F9081 Type 61-052. **Each**..... **64.27**
(5797) (ne08956)

WIRE AND CABLE STRIPPING TOOLS AND TESTING AND CRIMPING KITS

33-812

Stock No.	Type	Description	Each
16F7657	33-812	PathFinder™ Twisted Pair and Coax Tester	269.05
52F6555	33-811	Cable Service/ Termination Kit	469.84
01F019	33-802	Tone Generator and Probe Kit	113.80
16F7673	33-750	Economy 10Base-T Crimp Kit	102.41
01F020	33-652	Crimpmaster™ 10Base-T, RJ-45 Crimping Kit	201.78

(7536) (de53671)

GFI & RECEPTACLE CIRCUIT TESTERS

Type 61-051 GFI circuit tester identifies faults in 3-wire, 125V receptacles, and tests integrity and operation of GFI protected circuits or outlets. Push-pull shape, easy-to-read indicators. Safety-yellow. **Type 61-035** receptacle tester is the same except no GFI outlet test capability. Both UL listed, CSA certified.

90F2394 Type 61-051. **Each**..... **33.87**

35F2254 Type 61-035. **Each**..... **16.61**
(5603) (de00840)

ABS™ AND LINKMASTER™ TESTER

NEW

62-180

62-200

Type 62-180 "Almost a Butt Set" tester permits identification of dial tone problems, polarity certification, presence of power, and tone tracing. A low-cost alternative to the traditional butt test. Features: speaker-verified, dual-tone quality, ring indicator tests lines for correct number, polarity indicator tests for correct wiring and power, tone trace feature finds tracing tone signal, volume control switch, RJ-11 jack for access to wall outlets, and 2 replacement line cords.

48F1308 Type 62-180. **Each**..... **94.44**

Type 62-200 for use with UTP/STP cables. Designed to test installed twisted pair wiring. Tests wiring configurations, checks for shorts, miswires, reversals, split pairs, unshielded and shielded modular plugs. Works great on Category 5 cabling. Debug, automatic shutoff feature and low-battery LED indication. Main unit and remote allow 1 person testing.

48F1310 Type 62-200. **Each**..... **108.10**
(33792) (ne33792)

VOLTAGE TESTERS

61-065

61-101

61-050

61-061

Type 61-065 has 2 separate volt indicators for double protection. Range: 80-600V AC/DC, 25-60Hz. Tests fuses, AC/DC identification, grounding, and leakage. UL listed, CSA certified.

35F2249 Type 61-065. **Each**..... **32.68**

Type 61-076 heavy-duty voltage/non-switching continuity tester. Range: 5-600V AC/DC, 24-60Hz. Tests circuit continuity, AC or DC identification, DC polarity, fuses, grounding, current leakage. UL listed, CSA certified. Uses **type 61-201** 1½V batteries, which are in packages of four; *order separately below.*

81F2816 Type 61-076. **Each**..... **56.87**

81F2819 Type 61-201. **Pkg. of 4**..... **7.09**

Type 61-070 replacement leadset for **types 61-065** and **61-076** voltage testers.

81F2820 Type 61-070. **Each**..... **17.80**

VOL-CON® LITE AUDIBLE VOLTAGE/CONTINUITY TESTER

Type 61-101 Lite Audible tester offers 6V to 460V AC and 120V to 240V DC. Offers features of **type 61-076** with smaller size and audible tones to distinguish AC/DC:

66F9137 Type 61-101. **Each**..... **81.81**

VOL-TEST™ AND POWR-GLO™ POCKET TESTERS

Vol-Test™ **type 61-050** tests continuity, polarity and voltage. Screwdriver tip removes/replaces faceplates quickly—no extra tools needed. 12-440V AC/DC. Includes 1.5V batteries.

50F3182 Type 61-050. **Each**..... **12.44**

Powr-Glo™ **type 61-060** electronic voltage detector checks voltage 12-440V AC/DC without contact. Detects breaks along live wires, energized AC circuits, underground leaks. **Type 61-061** is the same, but includes audible indicator. Both include 1.5V batteries.

50F3183 Type 61-060. **Each**..... **17.80**

93F8750 Type 61-061. **Each**..... **24.94**
(5605) (de00842)

TELEMASTER™ TELEPHONE TOOLS

30-496

Ratcheting

Multifunction telephone tool crimps, cuts, and strips. Durable steel frame. For RJ-11 (1, 2, 3 pair) and RJ-45 (4 pair) plugs. Modular plugs not included.

Stock No.	Type	Description	Each
92F1528	30-496	RJ-11 and RJ-45 Plugs	45.49
16F7671	30-497	RJ-45 and DECconnect MMJ	45.49
52F9085	30-498	RJ-11 and DECconnect MMJ	45.49
48F1305	30-696	Ratcheting, RJ-11 and RJ-45 Modular Plugs	56.87

(7802) (de04286)

FUSE PULLERS

34-003

34-016

Types 34-001, 34-002, 34-003 fuse pullers for cartridge-type fuses. Fully insulated, reinforced, high-dielectric engineering plastic. No-slip grip, marked amp range, moisture resistant. **Types 34-015** and **34-016** molded of high-impact nylon with no-slip grip and finger stops.

Stock No.	Type	Length	Removes Fuses	Each
87F2747	34-001	5″	Small 9⁄32-½″ dia.	6.31
87F2748	34-002	7½″	0-100A, 250V; 600V	10.66
87F2740	34-003	11¾″	31-600A, 250V; 31-400A, 600V	23.45
87F2741	34-015	5″	0-30A, 250V	7.86
87F2742	34-016	7¼″	0-100A, 250V; 0-60A, 600V	9.29

(5693) (de52269)

CABLE TIE INSTALLATION TOOLS

15-991

41-990

Types 15-991 and **41-990** tools handle miniature, intermediate, and standard cable ties. Flush cutoff leaves no projections.

01F2598 Type 15-991. **Each** **72.30**
01F2597 Type 41-990. **Each** **137.87**
(19334) (ne10999)

WIRE CONNECTORS

76B

451

30-165
30-265

Wire-Nut®: screw-on, pressure-type connectors back off for repeat usage. Rated 105°C. **Types 71B, 72B**: 300V; **type 73B**: 600V; **types 74B, 76B**: 600V. **Wing-Nut®**: Extra-tight grip, fast application. 600V max. All are UL listed, CSA certified.

WIRE-NUT® SCREW-ON WIRE CONNECTORS

Stock No.	Type	Model	Pkg. Size	Per Pkg.
35F2450	30-071-71B	71B	100	5.75
35F2451	30-171-71B	71B	1000	43.44
59F1111	30-072-72B	72B	100	6.46
59F1112	30-172 72B	72B	1000	50.26
35F2452	30-073-73B	73B	100	7.48
35F2453	30-173-73B	73B	1000	58.59
35F2454	30-074-74B	74B	100	8.59
35F2455	30-174-74B	74B	1000	65.75
35F2456	30-076-76B	76B	100	12.74

WING-NUT® DEEP SKIRT WIRE CONNECTORS

90F2437	30-451	451	100	10.78
90F2395	30-551	451	1000	77.58
90F2438	30-452	452	100	14.27
90F2396	30-552	452	1000	100.92
90F2397	30-454	454	50	18.21

Twister® Al/Cu wire connector. Simplifies aluminum to copper retrofit applications. UL 486C listed.

52F9083 Type 30-165. **Card of 25. Each** **60.19**
52F9084 Type 30-265. **Pkg. of 100. Each** **2.00**
(5601) (de00837)

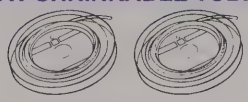
PUNCH GUN

NEW

Terminations made easy with an electric punch gun tool. Extremely light weight and comfortable.

48F1306 Type 35-499. **Each** **179.95**
(34570) (ne34570)

HEAT SHRINKABLE TUBING



Dispenser of thinwall tubing fits in tool pouch or tool box. **Sold in 4′ spools.**

Stock No.	Type	Exp. I.D. min.	Rec. I.D. max.	Nom. Rec. Wall	Per Spool
50F3171	46-600	0.046″	0.023″	0.016″	11.35
50F3172	46-601	0.063″	0.031″	0.017″	11.75
50F3173	46-602	0.093″	0.046″	0.020″	12.42
50F3174	46-603	0.125″	0.062″	0.020″	12.69
50F3175	46-604	0.187″	0.093″	0.020″	12.95
50F3176	46-605	0.250″	0.125″	0.025″	13.36
50F3177	46-606	0.312″	0.156″	0.025″	14.03
50F3178	46-607	0.375″	0.187″	0.025″	14.83
50F3179	46-608	0.500″	0.250″	0.025″	14.99
50F3180	46-609	0.750″	0.375″	0.030″	18.88
50F3181	46-610	1.000″	0.500″	0.035″	27.65

(5695) (de52271)

PUNCHMASTER II™ PUNCH DOWN TOOL

35-483

Types 35-485 and **35-487** seat and cut cable terminations. Impact-absorbing, neoprene-cushioned grip reduces operator stress for high-volume installers and provides increased nonslip comfort. Sure-Lock™ blade holder provides fast and easy blade changes and prevents blade pull-out. *Handle and blades may be ordered separately below.*

Stock No.	Type	Description	Each
01F2600	35-483	Punch Down Tool, Handle Only	58.06
01F2601	35-485	Punch Down Tool w/110 Blade	60.29
01F2602	35-487	Punch Down Tool w/ 66 Blade	60.29
01F2603	35-495	110 Replacement Blade	18.99
01F2604	35-497	66 Replacement Blade	18.99

(18627) (ne11027)

WIRE-MARKER BOOKLETS

Plastic-impregnated cloth resists dirt, moisture, oil. Non-smear legends. –40° to +250°F temperature range. 1.5″ (38.10) perforated markers break into half-length sizes.

Stock No.	Type	Number of Markers	Each
35F2238	44-101	45 Each	14.83
35F2239	44-102	10 Each	14.83
35F2240	44-103	10 Each	14.83
35F2241	44-104	10 Each	14.83
35F2246	44-109	6 Each 4 Each 2 Each	14.83
35F2247	44-110	45 Each 30 Each	14.83
35F2248	44-111	45 Each 33 Each 27 Each 21 Each	14.83

(5600) (de00836)

ESD STATIC GUARD

61-046

Type 61-038 plug indicates hard ground for 3-wire, 125V receptacles. Banana jack insert allows easy connection of ESD wrist strap and cordset to a proven ground. **61-046** field service system includes plug, 10′ lead set.

Stock No.	Type	Description	Each
46F4157	61-038	Statgard Plug	31.14
46F4158	61-039	10′ Lead Set	22.69
46F4159	61-041	15′ Lead Set	24.09
46F4162	61-044	Universal Size Wrist Strap	11.41
46F4163	61-046	Statgard Kit	57.82

(7443) (de02903)

Paladin Tools

WIRE AND CABLE TOOLS

COAX-CHECK™ AND COAX-CHECK™ REMOTE

PA-1560 PA-1565

A hand-held instrument designed to test continuity of coaxial cables. Tests continuity of 50 and 75 ohm coaxial cables including R658, R659, and RG62AU. Provides a pass/fail diagnosis with a clear LED display identifying an open conductor or braid/shield and shorted connection. Powered by a 9V battery (included). **Type PA-1560** identifies open and shorted connection. **Type PA-1565** includes a 75 ohm BNC adapter, F/F BNC adapter, and remote cables.

Stock No.	Type	Description	1-9	10-24
92F2623	PA-1560	Coax-Check™	48.54	47.13
66F8710	PA-1565	Coax-Check™ Remote	55.15	53.54

(7558) (ne06078)

PATCH-CHECK™ AND PATCH-CHECK™ PLUS TELEPHONE AND DATA WIRING TESTERS

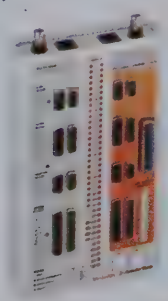
1529 1531

Both Patch-Check™ and Patch-Check™ Plus test local continuity for telephone (voice) and computer data cables (both RJ11 and RJ45) up to 1000 feet (Patch-Check™) and 1200 feet (Patch-Check™ Plus). Identifies open, shorted and cross-connected wires with a clear LED display. Identifies connector and cable pin-out using true mapping, not pairing. Includes 9V battery (2 in Patch-Check™ Plus). Patch-Check™ Plus is two units, a transmitter and a receiver to test remote cables installed through bulkheads or walls. Patch-Check™ Plus includes RJ11 and RJ45 patch cables (2 each).

Stock No.	Type	Description	1-9	10-24
50FX180	1529	Patch-Check™ Tester	65.10	63.21
50F6278	1531	Patch-Check™ Plus Tester	292.38	283.88

(7968) (ne53553)

PC CABLE-CHECK™ AND MAC CABLE-CHECK™ COMPUTER CABLE TESTERS



1570

Both PC and Mac Cable-Check tests continuity of male and female 9-pin, 15-pin, and 25-pin D-subminiature cables, RJ11, RJ12, and RJ45 phone cables, and 50 and 75 ohm coaxial cables. Additionally, the PC Cable-Check tests continuity of male and female 15-pin high density D-subminiature cables, and 36-pin Centronics printer cables. Also, the Mac Cable-Check tests continuity of male and female 50-pin Centronics printer cables, mini-Din, Din 5, and SCSI Powerbook cables. Both units powered by 9V battery (included).

Stock No.	Type	Description	1-9	10-24
92F2624	1570	PC Cable-Check™	174.68	169.60
88F1884	1575	Mac Cable-Check	247.97	228.13

(7559) (ne06079)

IMPACT PUNCH DOWN TOOL

3528

Telecommunications impact tool terminates and cuts wire on 66 and 110 type terminals. Reversible clip-in blade, with spare blade storage in handle. Adjustable spring-loaded impact mechanism. Tool includes one blade; *order extra blades separately.* 1-year warranty. Tool kit comes with 66 and 110 blades in leather holster.

Stock No.	Type	Description	1-9	10-24
50F6280	3528	Punch Down Tool-110	55.15	53.54
50F6281	3527	Punch Down Tool-66	55.15	53.54
50F6282	4528	Repl. Punch Down Blade-110	14.15	13.74
50F6283	4527 (2528)	Repl. Punch Down Blade-66	14.15	13.74
92F5008	4529	Repl. Punch Down Blade-630	14.15	13.74
48F2042	4530	Repl. Punch Down Blade-B1X	24.86	24.14
48F2043	4531	Repl. Punch Down Blade-Krone	13.67	13.27
48F2044	3540.1	Punch Down Tool Kit - 66, 110	69.95	67.92

(7535) (de53555)

NEWARK MAKES IT EASY.

MORE PAYMENT OPTIONS! USE YOUR MAJOR CREDIT CARD, CORPORATE PURCHASING CARD, PUT IT ON YOUR ACCOUNT, OR PLACE A C.O.D. ORDER.

Industrial Control & Automation Products

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27

- Aromat/NAIS
- Artisan
- Barber-Colman Company
- F.W. Bell
- Brady®
- Carlo Gavazzi Inc.
- Clarostat
- Cramer Company
- Crydom
- Daniel Woodhead
- Dual-Lite
- Durant
- EAO Switch Corporation
- Eaton/Cutler-Hammer
- Edwards
- Fluke
- General Electric
- Grayhill Inc.
- Harting Elektronik
- Honeywell SSEC
- Hubbell/Kellems
- Idec
- Industrial Timer Company
- Klockner Moeller
- Linemaster
- 3M
- MGR Industries, Inc./ Keymat Technology Ltd.
- Micro Switch
- Modutec
- Newport
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- Redington Counters
- Siemens Electromechanical Components/Potter & Brumfield
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- Skan-A-Matic
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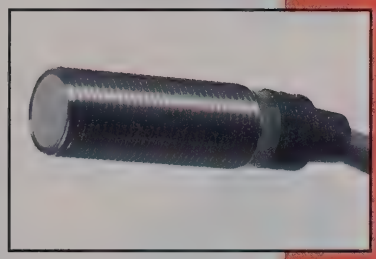
- Square D/Merlin Gerin
- Square D/Telemecanique
- Superior Electric
- Syrelec/Crouzet
- Thomas & Betts
- Thomas & Betts/Agastat®
- Total Control Products, Inc.
- Triplett
- Veeder Root/Dynapar
- Wieland



Products include...

Adjustable Frequency Drives

Contactors, Power Relays, Motor Controllers

Encoders

Panel Instruments

Power Supplies

Programmable Controllers

Pushbutton, Limit & Control Switches

Sensors & Sensor Controls

Timers, Counters, Safety Relays, Rate Meters & Totalizers

Warning Signals

Wiring Devices

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For Power Supplies and Power Conditioning Products, see Section 14

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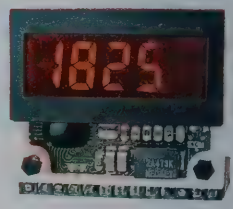

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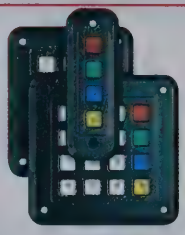

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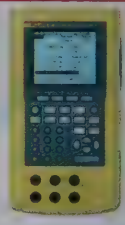

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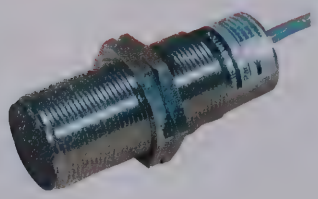

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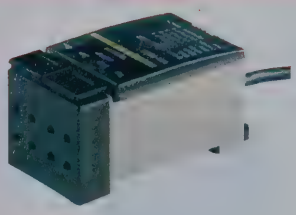

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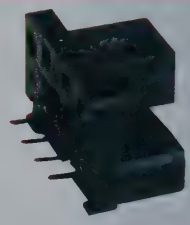

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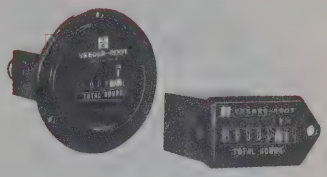

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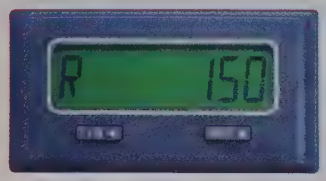

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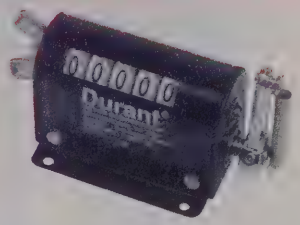

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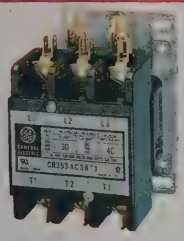

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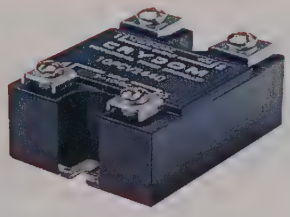

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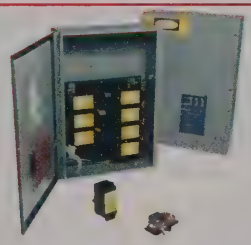

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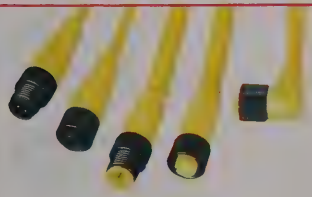

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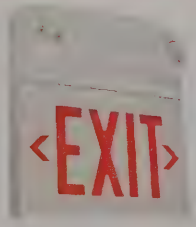

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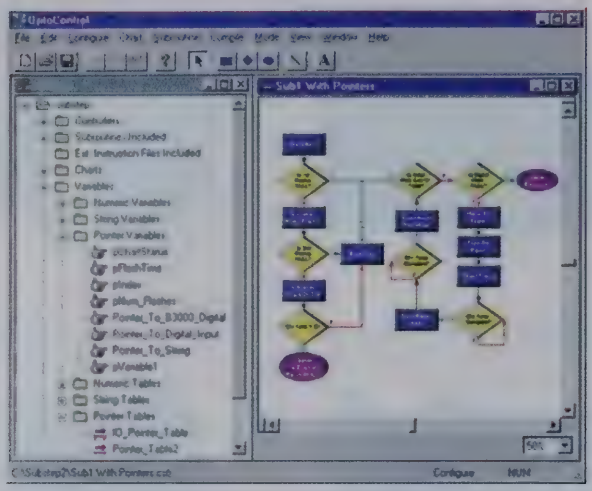
OPTO 22

SOFTWARE

FACTORYFLOOR SOFTWARE



FactoryFloor, Opto 22's new suite of Windows® 32-bit applications, is designed to deliver total control to industrial automation customers. It consists of four integrated components.

- **OptoControl - A graphical, flowchart-based, multitasking control language**
- **OptoDisplay - A graphical multimedia operator interface**
- **OptoServer - A 32-bit Windows-based client-server that connects the Opto 22 controller network with a PC-based FactoryFloor network**
- **OptoConnect - A drag-and-drop database utility that makes building SQL Server and Access databases a snap**

FACTORYFLOOR

Stock No.	Type	Description	1-9
52F7463	FACTORY FLOOR	32-Bit Control Suite for Windows® 95	418.00
52F7464	OPTO CONTROL	32-Bit Control Software for Windows® 95	2000.00
52F7465	OPTO DISPLAY	32-Bit MMI Application for Windows® 95	1200.00
52F7466	OPTO SERVER	32-Bit Data Server for Windows® 95	800.00
91F5825	OPTOCONNECT	Data Management Software	1000.00

OPTODRIVER

The OptoDriver Toolkit helps you build custom solutions for Opto 22 I/O Systems. Programmers using high-level languages such as Microsoft C++ or Microsoft Visual Basic can use the OptoDriver Toolkit to writer Microsoft Windows and DOS software applications that can access the brain board, rack and I/O combination that best fits their applications. Includes new 32-bit Windows-compatible drivers, Windows 16-bit drivers and Opto 22's classic DOS drivers.

52F7467	OPTODRIVER	OptoDriver Tool Kit	295.00

(3549) (ne07316)

PC INDUSTRIAL AUTOMATION LEARNING CENTER

Features:

- **PC based**
- **Fully functional industrial automation package with Opto 22 hardware/software**
- **Guides user through assembly and installation**
- **SNAP rack -SNAP-B8M**
- **8 digital points - SNAP-IDC5D and SNAP-ODC5SRC**
- **4 analog points - SNAP-AOV-27, SNAP-AICTD and SNAP-AIV**
- **B3000 brain board with a simulation panel and bar code reader**
- **Opto 22's Factoryfloor software suite/OptoControl, OptoDisplay, OptoServer and OptoConnect**
- **G4LC32ISA-LT communications/microprocessor card**
- **Steps to PC-based Industrial Automation tutorial**

Tutorial Activities Include:

- **Running a demonstration control strategy**
- **Investigation of powerful debugging tools**
- **Creation of flow charts**
- **Defining events/reactions**
- **Configuring PID loops**
- **Creating a man-machine interface**

Stock No.	Type	Description	Each
91F9695	LEARNING CNTR-SNA	Industrial Automation Package	1495.00

(14632) (ne10523)

NEWARK MAKES IT EASY.

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SNAP PRODUCTS

SNAP BRAIN BOARD AND I/O UNITS

- **A high performance I/O processor used remotely to control a mix of analog & digital I/O modules**
- **Used with either an Opto 22 controller or a host computer**
- **On-board intelligence enables many distributed control functions**
- **Can be combined with Snap "B-series" racks, *order separately on this page***

Stock No.	Type	Description	1-9
52F7439	B3000	SNAP Analog and Digital Remote Multifunctional Brain Board	499.29
91F5827	SNAP-B4	SNAP 32 Channel Pamux Protocol Digital Brain Board	240.30
91F5828	SNAP-BRS	SNAP 32 Channel Mistic Protocol Remote Digital Brain Board	287.83
83F5691	SNAP-BRS-HA	32 Channel Remote Digital Brain Board	311.33
83F5692	SNAP-B3000-HA	32 Channel ARC Net Analog and Digital Brain Board	587.40
83F5693	SNAP-B3000-MODUS	Analog/Digital Brain Modbus Protocol	453.90
83F5694	SNAP-B6	High Speed Analog/Digital Pamux Brain Board	587.40
48F1704	SNAP-B3000-ENET	Analog/Digital Ethernet Brain Board	742.26

(3564) (ne07511)

SNAP I/O MODULES

- **Convenient pluggable connector for removable top mounted field wiring**
- **Ready access to standard fuses**
- **Modules "SNAP" securely on racks. No screws required**
- **Versatile DIN rail or panel mounting**
- **Single distributed I/O processor does it all**
- **Analog, digital or mixed I/O**
- **Highly visible LED status indicator for each channel**
- **Mix analog and digital modules on the same rack**
- **Handy snap on ID plates for channel labels**

SNAP I/O is Opto 22's newest and highest density I/O packaging. SNAP I/O includes 4-channel AC and DC digital modules and intelligent analog modules. SNAP's compact design delivers an overall space savings of 60 percent over traditional I/O, while innovative new packaging allows modules to simply "snap" in place.

SNAP DIGITAL AC INPUTS

Stock No.	Type	Description	Each
52F7491	SNAP-IAC5	4 Channel AC Input 90-140VAC 5VDC	48.30
52F7490	SNAP-IAC5A	4 Channel AC Input 180-280VAC 5VDC	48.30

SNAP DIGITAL DC INPUTS

52F7489	SNAP-IDC5	4 Channel DC Input 10-32VDC 5VDC	48.30
83F5699	SNAP-IDC5Q	2 Axis Quadrature Position Input	194.38
83F5702	SNAP-IDC5D	4 Channel 2.5-28 VDC Input 5VDC	48.30
91F5826	SNAP-IDC5FAST	4 Channel High Speed DC Input 2.5-16VOC 5VDC Logic	52.90
83F5703	SNAP-IDC5-FAST-A	4 Channel High Speed DC Input 18-32VDC 5VDC Logic	52.90

SNAP DIGITAL AC OUTPUTS

52F7488	SNAP-OAC5	4 Channel AC Output 12-280VAC 5VDC	48.30

SNAP DIGITAL DC OUTPUTS

52F7486	SNAP-ODC5SRC	4 Channel DC Output 5-60VDC 5VDC	48.30
52F7487	SNAP-ODC5SNK	4 Channel DC Output 5-60VDC 5VDC Logic Sink	48.30
83F5706	SNAP-ODC5R	4 Channel DC Dry Contact Output	51.75

SNAP ANALOG INPUTS

91F5814	SNAP-AICTD	2-Channel Temperature Input ICTD	194.38
52F7453	SNAP-AIMA	2 Channel Analog Input Current	194.38
91F5815	SNAP-AIRTD	2-Channel Temperature Input 100 ohm PT RTD	208.26
52F7438	SNAP-AITM	2 Channel Analog Input Thermocouple	194.38
91F5816	SNAP-AITM2	2 Channel Thermocouple Input Type B, C, D, G, N, T, R, S	194.38
52F7437	SNAP-AIV	2 Channel Analog Input Voltage	194.38
83F5700	SNAP-AIRATE	0-25,000 Hz Analog Rate Input	208.26

CONTINUED

SNAP I/O MODULES (CONT.)

SNAP ANALOG OUTPUTS

Stock No.	Type	Description	Each
16F1842	SNAP-AOA-3	Single Channel Analog Output Current 4 to 20mA	160.20
16F1843	SNAP-AOV-5	Single Channel Analog Output 0 to 10VDC	160.20
16F1844	SNAP-AOV-7	Single Channel Analog Output Voltage -10 to +10VDC	160.20
91F5818	SNAP-AOV-25	2-Channel Voltage Ouput 0 to 10VDC	194.38
91F5819	SNAP-AOV-27	2-Channel Voltage Output Bi-Polar –10 to +10VDC	194.38
91F5817	SNAP-AOA-23	2-Channel Analog Output Current Loop 4-20 ma	194.38

SNAP POWER SUPPLIES

91F5820	SNAP-PS24	Loop Power—110VDC to 24VDC	213.60
91F5821	SNAP-PS5	Single Rack—110VAC to 5VDC	213.60
83F5698	SNAP-PS5-24DC	Loop Power - 24VDC to 5VDC	213.60

SNAP I/O ACCESSORIES

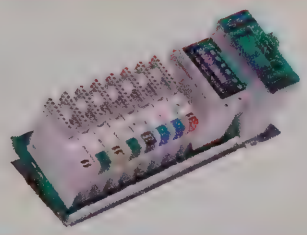
16F3660	SNAP-FIELDCONB	Field connector	14.00
16F3662	SNAPMODLATCHB	Module release rack	20.00
16F3663	SNAP-RETN4B	4 Module retention rail, 25 pack	112.00
16F3664	SNAP-RETN6B	6 Module retention rail, 25 pack	140.00
83F5695	SNAP-STRAP	Jumper Strap for Snap Module Field Wiring Connector	13.00
83F5696	SNAP-WIRESTRAP	Jumper for 4 Snap-Straps	9.00
83F5697	SNAP-PSDIN	DIN-Rail Adapter	40.00
91F5823	SNAP-FUSE-4AB	4 Amp Fuse, 25-Pack	12.50

SNAP CONTROLLERS

83F5704	SNAP-LCSX	2 Com Parts	675.51
83F5707	SNAP-LCSX-PLUS	4 Com Parts	816.49

(3745) (ne07329)

SNAP I/O MOUNTING RACKS



SNAP B SERIES BRAIN BOARD RACKS

Stock No.	Type	Description	Each
52F7483	SNAPB8M	8 Module Rack w/Snap Brain Connector	101.52
52F7484	SNAP-B8MC	8 Module Rack w/Snap Brain Connector Common TB	111.08
52F7449	SNAP-B12MCP	12 Module Rack w/Snap Brain Connector Common TB Pluggable	328.95
52F7446	SNAP-B12M	12 Module Rack w/Snap Brain Connector	119.62
52F7447	SNAP-B12MC	12 Module Rack w/Snap Brain Connector Common TB	142.05
52F7449	SNAP-B12MCP	12 Module Rack w/Snap Brain Connector Common TB Pluggable	328.95
52F7450	SNAP-B16M	16 Module Rack w/Snap Brain Connector	171.95
52F7451	SNAP-B16MC	16 Module Rack w/Snap Brain Connector Common TB	194.38
52F7452	SNAP-B16MCP	16 Module Rack w/Snap Brain Connector Common TB Pluggable	448.56
52F7485	SNAP-B8MCP	8 Module Rack w/Snap Brain Connector Common TB Pluggable	231.76

SNAP D SERIES DIRECT CONNECT RACKS

52F7440	SNAP-D4M	Digital 4 Module Rack w/Header Connector	48.30
52F7441	SNAP-D4MC	Digital 4 Module Rack w/Header Connector Common TB	51.75
52F7442	SNAP-D4MC-P	Digital 4 Module Rack w/Header Connector Common TB Pluggable	111.08
52F7443	SNAP-D6M	Digital 6 Module Rack w/Header Connector	64.80
52F7444	SNAPD6MC	Digital 6 Module Rack w/Header Connector Common TB	75.60
52F7445	SNAP-D6MC-P	Digital 6 Module Rack w/Header Connector Common TB Pluggable	170.88
52F7477	SNAP-D8M	Digital 8 Module Rack w/Header Connector	87.48
52F7478	SNAP-D8MC	Digital 8 Module Rack w/Header Connector Common TB	101.52
52F7479	SNAP-D8MCP	Digital 8 Module Rack w/Header Connector Common TB Pluggable	224.28
52F7480	SHAP-D12M	Digital 12 Module Rack w/Header Connector	111.08
52F7481	SNAP-D12MC	Digital 12 Module Rack w/Header Connector Common TB	131.37
52F7482	SNAP-D12MCP	Digital 12 Module Rack w/Header Connector Common TB Pluggable	314.00

(3563) (ne07507)

MODULAR CONTROLLERS & ACCESSORIES

M4RTU

Modular controllers are designed to take advantage of the Opto 22 distributed, intelligent I/O architecture and provide a hardware foundation for Opto 22's new Windows® 32-bit FactoryFloor software suite. The **M4** bus supports a variety of communications interfaces with Ethernet, Arcnet, RS-485, RS-232, and fiber-optic cards. The modular controller line includes a general purpose controller, an I/O controller for data acquisition and control, and a powerful remote telemetry unit/distributed automation system. All modular controllers provide industrial packaging and include an **M4** processor, Opto 22's M4 expansion bus, and accommodate one of the various plug-in power supply options.

Stock No.	Type	Description	1-4
52F7459	M4	Modular Controller	1779.83
52F7460	M4I/O	Modular I/O Controller	1901.04
52F272	M4RTU	Modular Remote Telemetry Unit	2091.15
52F273	M4RTUX	Modular Remote Telemetry Unit Extender	393.56
52F279	M4PS12D	Modular Controller DC Power Supply 9-15V	311.33
52F280	M4PS24D	Modular Controller DC Power Supply 18-35V	311.33
52F281	M4PS48D	Modular Controller DC Power Supply 36-60V	311.33
52F282	M4PS125D	Modular Controller DC Power Supply 125V	311.33
52F283	M4PS120A	Modular Controller DC Power Supply 90-130V	334.82
52F284	M4PS240A	Modular Controller DC Power Supply 180-250V	334.82
52F277	M4PSF	Modular Controller DC Filter Board	170.35

MODULAR CONTROLLER INTERFACES

Stock No.	Type	Description	1-4
52F274	M4SARC	RTU Arcnet Adapter Card	224.28
52F275	M4SARCF	RTU Fiber-optic Arcnet Adapter Card	411.18
52F276	M4SARCFR	RTU Fiber-optic Arcnet Repeater	528.66
52F278	M4SSER	Serial Adapter Card	246.71
52F7469	M4S-ENETU	Ethernet Adapter, Unshielded, Twisted Pair	654.50
52F7468	M4S-ENETC	Ethernet Adapter Coaxial Cable	654.50
83F5705	M4DUALARC	Dual Twisted Pair ARCUET Parts for M4 Contr.	370.07

ACCESSORIES

Stock No.	Type	Description	1-9
52F263	G4BATT32	3.6V Battery for Controller Memory	30.80
52F285	M4RTUF1M	Modular Controller Flash Memory 1 MB Upgrade	252.59

(3550) (ne07317)

ISA CONTROLLERS

ISA controllers utilize the computer to deliver the same functionality as the Classic SX controller. Acting as a slave or bus master, the ISA controller can be used with either active or passive backplanes. Battery backed RAM starts at 256K and is expandable to 2MB. A hardware math coprocessor is available as an option.

Stock No.	Type	Description	1-4
52F258	G4LC32ISA	ISA Controller	1521.37
92F3395	G4LC32ISALT	ISA Lite Controller	746.00
52F266	G4LC32ISAF1M	ISA Controller Flash Memory 1MB Upgrade	252.59

CONTINUED

ISA CONTROLLERS (CONT.)

ISA CONTROLLER INTERFACES

Stock No.	Type	Description	1-4
52F261	G4LC32ISAARC	ISA Arcnet Adapter for G4LC32ISA	246.71
52F262	G4LC32ISASER	ISA Serial Adapter for G4LC32ISA	246.71

ACCESSORIES

Stock No.	Type	Description	1-9
52F263	G4BATT32	3.6V Battery for Controller Memory	30.80

(3562) (ne07506)

CLASSIC CONTROLLERS

G4LC32

G4LC32 controllers include all the options required to solve the most sophisticated control problems. Classic controller performance is based on state-of-the-art 32-bit technology. The **G4LC32** controller includes: four high-speed serial ports, an Arcnet port, and a 4-line back-lit LCD display. 25-key membrane key pad. LED status indicators for diagnostics, and 512K battery backed RAM for program and data storage. The Classic **G4LC32SX** controller is an alternative to the Classic **G4LC32** for applications that do not require a keypad, display, or floating point math coprocessor. Floating point math is available on the SX but is performed with software rather than hardware and is for less intensive applications. The SX controller is equipped with 256K of battery-backed RAM that is expandable to 1MB. The SX is supplied with two RS-232/485 serial ports. Additional ports can be added using either of the two available interface adapters.

CLASSIC CONTROLLERS AND POWER SUPPLIES

Stock No.	Type	Description	1-9
52F256	G4LC32	Classic Controller	2937.00
52F257	G4LC32SX	Classic SX Controller	1721.09
52F349	G4PS245A	Classic Controller Power Supply, +7 Bricks 120VAC	528.66
52F350	G4PS245AFM	Classic Controller Power Supply, +7 Bricks 120VAC, Factory Mutual Approved	528.66
52F351	G4PS245B	Classic Controller Power Supply, +7 Bricks 220VAC	528.66

CLASSIC CONTROLLER INTERFACES

Stock No.	Type	Description	1-9
52F260	G4LC32SER	Classic Serial Adapter for G4LC32SX	317.20
52F259	G4LC32ARC	Classic Arcnet/Serial Adapter for G4LC32SX	317.20

CLASSIC CONTROLLER ACCESSORIES

Stock No.	Type	Description	1-9
52F264	G4LC32F1M	Controller Flash Memory 1MB Upgrade	469.92
52F265	G4LC32SXF1M	Lite Controller Flash Memory 1MB Upgrade	252.59
52F268	G4RAM4M	4 MB Memory Expansion RAM Chip for Flash-Based Controllers	105.00

ACCESSORIES

Stock No.	Type	Description	1-9
52F263	G4BATT32	3.6V Battery for Controller Memory	30.80
52F267	G4RAM1M	1 MB Memory Expansion RAM Chip for Flash-Based Controllers	51.04

(3551) (ne07318)

CALL NEWARK FOR
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BRICKS

- **High performance I/O bricks.**
- **Intelligent and flexible single point I/O control in a rugged, deadfront, compact package.**
- **Event/reactions direct orderly shutdowns and execute high speed deterministic responses to sophisticated control sequences, alarm monitoring, diagnostics and host interrupts.**

REMOTE ANALOG BRICK

Stock No.	Type	Description	Each
52F287	G4A8R	8-Channel Multifunction I/O Unit MISTIC Protocol	722.51
52F7470	G4B2	8-Channel I/O Unit Optomux Protocol	517.98
52F288	G4RAX	8-Channel I/O Unit Extender	357.78

REMOTE DIGITAL BRICK

52F7471	G4B1	16-Channel I/O Unit Optomux Protocol	464.58
52F295	G4D16R	16-Channel Multifunction I/O Unit MISTIC Protocol	722.51
52F296	G4D32RS	32-Channel I/O Unit MISTIC Protocol	480.60

REMOTE ANALOG BRICK BRAIN BOARDS

52F301	G4EXR	Analog Extender Brain Card	100.98
52F303	G4RA	Analog 16-Channel Multifunction Brain MISTIC Protocol	581.53

REMOTE DIGITAL BRICK BRAIN BOARDS

52F299	G4RD	16-Channel Multifunction Brain MISTIC Protocol	581.53
52F305	G4RS	32-Channel Brain MISTIC Protocol	245.64

ACCESSORIES

52F355	BRICKSTRAP	Bus Bar for Brick Base	6.00
52F7474	GHABRICK	Analog 8-Channel Brick Assembly	261.66
52F7475	G4BRICKBASE	Mounting Base for Brick Assembly	84.70
52F7476	G4DBRICK	Digital 16-Channel Brick Assembly	240.30
52F358	G4IOR	Remote Panel Interface MISTIC Protocol	73.66
52F346	G4PS24XA	Power Supply, 7 Bricks, 120VAC	405.31
52F347	G4PS24XAFM	Power Supply, 7 Bricks, 120VAC Factory Mutual Approved	405.31
52F348	G4P24XB	Power Supply, 7 Bricks, 220VAC	405.31
52F354	G4RCOMMKIT	MISTIC 200 Remote Comm. Kit	166.83
52F304	G4REG	Brick Power Regulation Module	106.92
52F353	G4RPANEL	MISTIC 200 Remote Panel Kit	340.70
52F254	G4TELEMETRY	MISTIC Telem. Eprom & Software	234.96
52F356	SBTA	Single Brick Terminal Adapter	31.63
52F364	REMOTE CABLE 200	Remote Cable	56.93

(3555) (ne07323)

G4 ANALOG I/O MODULES

Offer high-density, single-channel packaging. Each module includes an LED status indicator. Factory-calibrated, offer 12-bit resolution, and require a single 24-volt power supply. All current loop modules include an isolated loop power supply for added flexibility and reduced instrumentation costs.

G4 ANALOG INPUTS

Stock No.	Type	Description	1-4
52F315	G4AD10	100 Ohms Platinum RTD	146.85
52F316	G4AD11	–5 to 5VDC Input	137.46
52F317	G4AD12	–10 to 10VDC Input	137.46
52F318	G4AD13	0 to 100MV Input	146.85
52F319	G4AD16	0 to +5 Amp AC/DC	196.20
52F320	G4AD17	Type R Thermocouple	146.85
52F321	G4AD18	Type T Thermocouple	146.85
52F322	G4AD19	Type E Thermocouple	146.85
52F323	G4AD20	Frequency Input Module	176.22
52F324	G4AD22	0 to 1 Volt DC Input	137.46
52F325	G4AD23	Type S Thermocouple	146.85
52F326	G4AD24	Type B Thermocouple	146.85
52F327	G4AD25	0 to 100V AC/DC	146.85
52F328	G4AD26	DV/DT Input Module	146.85
52F306	G4AD3	+4 to +20mA Input	117.48
52F307	G4AD4	ICTD Temperature Module	137.46

CONTINUED

G4 ANALOG I/O MODULES (CONT.)

G4 ANALOG INPUTS (CONT.)

Stock No.	Type	Description	1-4
52F308	G4AD5	Type J Thermocouple	146.85
52F309	G4AD6	0 to +5VDC	137.46
52F310	G4AD6HS	0 to +5VDC High Speed	137.46
52F311	G4AD7	0 to +10VDC	137.46
52F312	G4AD7HS	0 to +10VDC High Speed	137.46
52F313	G4AD8	Type K Thermocouple	146.85
52F314	G4AD9	0 to +50MV	146.85

G4 ANALOG OUTPUTS

52F329	G4DA3	4 to +20mA Output	117.48
52F330	G4DA4	0 to +5VDC Output	137.46
52F331	G4DA5	0 to +10VDC Output	137.46
52F332	G4DA6	–5 to +5VDC Output	137.46
52F333	G4DA7	–10 to +10VDC Output	137.46
52F334	G4DA8	0 to +20mA Output	137.46
52F335	G4DA9	Time Proportional Output-DC	117.48
52F336	G4DA10	Time Proportional Output-AC	117.48

HIGH-DENSITY ANALOG

52F292	G4AITM	16 Channel Analog Input TC/MV	1339.28
52F291	G4AIVA	16 Channel Voltage/Current Input	1168.93

(3746) (ne07330)

I/O MODULES FOR OPTOMUX/PAMUX

- **High density, single channel analog & digital modules**
- **Digital modules include LED status indicator. Also available with manual switching (MA) capability for field wiring and control logic testing.**
- **Digital output modules feature a top-mounted replaceable fuse (FUSEG4).**
- **Analog modules are factory-calibrated, offer 12-bit resolution and require a single 24-volt power supply.**
- **Analog input types include voltage, current, thermocouple, RTD, ICTD, frequency and velocity.**
- **Analog outputs include voltage, current and time-proportional output.**

Offer high-density, single-channel packaging. Each module includes an LED status indicator. Top mounted replaceable fuse. Input types include voltage, current, thermocouple, RTD, ICTD, frequency, and velocity. Outputs include voltage, current, and time-proportional output.

G4 DIGITAL AC INPUTS

Stock No.	Type	Description	1-9
96F1065	G4IAC5	90-140VAC 5VDC Logic	12.73
96F6448	G4IAC5A	180-280VAC 5VDC Logic	14.07
96F1059	G4IAC5MA	90-140VAC 5VDC Logic W/SW	28.13

G4 DIGITAL DC INPUTS

96F1066	G4IDC5	10-32VDC 5VDC Logic	12.73
96F1067	G4IDC5B	4-16VDC 5VDC Logic High Speed	17.41
96F1068	G4IDC5D	2.5-28VDC 5VDC Logic	11.39
96F6451	G4IDC5G	35-60VDC 5VDC Logic	12.73
96F6452	G4IDC5K	2.5-16VDC 5VDC Logic Very High Speed	17.41
96F1058	G4IDC5MA	10-32VDC 5VDC Logic with HOA/SW	28.13
52F337	G4IDC5Q	2.5-16VDC 5VDC Logic, 2 Channel Quadrature	229.09

G4 DIGITAL AC OUTPUTS

96F1042	G4OAC5	12-140VAC 5VDC Logic	12.73
96F6457	G4OAC5A	24-280VAC 5VDC Logic	14.07
96F1043	G4OAC5A5	24-280VAC 5VDC Logic NC	14.07
52F339	G4OAC5A5FM	24-280VAC 5VDC Logic NC	14.89
52F338	G4OAC5AFM	24-280VAC 5VDC Logic Factory Mutual Approved	14.89
52F7457	G4OAC5AMA	24-280VAC 5VDC Logic with HOA/SW	27.18
96F1044	G4OAC5MA	12-140VAC with HOA/SW	28.13

G4 DIGITAL DC OUTPUTS

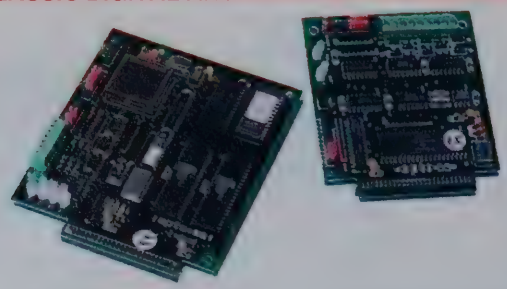
96F1045	G4ODC5	5-60VDC 5VDC Logic	12.73
96F6460	G4ODC5A	5-200VDC 5VDC Logic	20.63
52F341	G4ODC5AFM	5-200VDC 5VDC Logic Factory Mutual Approved	21.23
52F342	G4ODC5FM	5-60VDC 5VDC Factory Mutual Approved	13.59
96F7187	G4ODC5MA	5-60VDC 5VDC Logic with HOA/SW	28.13
96F1046	G4ODC5R	Reed Relay Output 5VDC Logic	14.07
96F1047	G4ODC5R5	Reed Relay Output 5VDC Logic NC	14.07
52F344	G4ODC5R5FM	Reed Relay Output 5VDC Logic NC Factory Mutual Approved	14.89
52F343	G4ODC5RFM	Reed Relay Output 5VDC Logic Factory Mutual Approved	14.89

(3753) (ne07510)

OPTO 22

DISTRIBUTED INTELLIGENT I/O SYSTEMS

CLASSIC DIGITAL AND ANALOG BRAIN BOARDS



Classic brain boards are distinguished by the protocol that they support. Mistic protocol brain boards include the B100 (digital) and B200 (analog). The Optomux protocol is supported by the B1 and B100 (digital) and B2 and B200 (analog) brain boards. Pamux brain boards include B4 (32 channel digital), B5 (16 channel digital) and B6 (16 channel) analog). The mistic protocol provides seamless integration with Opto 22's FactoryFloor software. The DeviceNet brain board allows DeviceNet customers to take advantage of Opto 22I/O. The DeviceNet brain board, operating as a Group 2 slave, can be integrated with Opto 22 Classic and SNAP digital mounting racks.

DIGITAL

Stock No.	Type	Description	1-9
92F3447	B1	16-Channel Digital Brain Optomux Protocol	244.29
52F247	B100	16-Channel Digital Brain MISTIC/Optomux Protocol	281.96
92F3449	B4	32-Channel Digital Brain PAMUX Prototcol	174.65
92F3450	B5	16-Channel Digital Brain PAMUX Protocol	166.92
52F7473	BD-DEVNET	16-Channel Digital Brain Devicenet	315.06

ANALOG

92F3448	B2	16-Channel Analog Brain OPTOMUX Protocol	248.71
52F248	B200	16-Channel Analog Brain MISTIC/OPTOMUX Protocol	293.70
92F3451	B6	16-Channel Analog Brain PAMUX Protocol	342.67

(3556) (ne07324)

CLASSIC BRAIN BOARD RACKS

GENERATION 4 DIGITAL

Stock No.	Type	Description	1-9	10-24
92F3462	G4PB16H	16 Channel Rack w/Header Connector	77.13	72.40
92F3463	G4PB16HC	16 Channel Rack w/Header Connector, Common TB	162.49	157.63
92F3464	G4PB32H	32 Channel Rack w/Header Connector for B4 Brain	132.65	128.68
92F9074	G4PB8H	8 Channel Rack w/Header Connector	49.99	48.04

QUAD PAK™ DIGITIAL

96F1034	PB16HQ	Quad 4 Module Position Rack	77.13	72.40
92F3479	PB32HQ	Quad 8 Position Rack w/Header Connector for B4 Brain	132.65	128.68

STANDARD DIGITAL

92F3474	PB16H	16 Channel Rack w/Header Connector	77.13	72.40
92F3475	PB16HC	16 Channel Rack w/Header Connector, Common TB	109.55	102.95
92F3481	PB4H	4 Channel Rack w/Header Connector	49.99	48.04
92F3483	PB8H	8 Channel Rack w/Header Connector	62.60	58.83

STANDARD ANALOG

92F3473	PB16AH*	16 Channel Analog Mounting Rack	187.92	182.29
92F3480	PB4AH	4 Channel Analog Mounting Rack	95.02	93.90
92F3482	PB8AH*	8 Channel Analog Mounting Rack	138.18	134.04

INTEGRAL DIGITAL

92F3476	PB16J*	DC Input 4-16VDC 16 Channel Integral Rack	127.12	123.31
92F3477	PB16K	DC Input 16-28VDC 16 Channel Integral Rack	127.12	123.31
92F3478	PB16L*	DC Output 5-60VDC 16 Channel Integral Rack	127.12	123.31
52F269	G4PB16J*	DC Input 4-16VDC 16 Channel Integral Rack	186.90	181.30
52F270	G4PB16K*	DC Input 16-28VDC 16 Channel Integral Rack	186.90	181.30
52F271	G4PB16L*	DC Output 5-60VDC 15 Channel Integral Rack	202.92	196.84

* Denotes items with price breaks of 1-4 and 5-9.

(3557) (ne07326)

SINGLE BOARD CONTROLLERS

The Opto 22 LC4 family of controllers are powerful 8-bit single board computers intended for use with Optomux and Pamux I/O systems. The LC4 uses the EX1 interface for Pamux compatibility while the EX2 provides two additional serial ports and a 24-line parallel port for direct connection to Classic or SNAP mounting racks. The LC4 is not FactoryFloor compatible. Programming is accomplished with interpretive BASIC or FORTH.

Stock No.	Type	Description	1-4
92F3468	LC4	No Power Supply	768.24
92F3469	LC4A	120VAC	823.51
92F3470	LC4B	220VAC	823.51
92F3471	LC4DC	DC Filter Board	823.51
92F3487	PS115-1.5A	Power Supply for LC4, 115VAC/1.5A	149.23
52F7461	PS230-1.5A	Power Supply for LC4, 230VAC/1.5A	144.18

SINGLE BOARD CONTROLLER INTERFACES

Stock No.	Type	Description	1-9
92F3460	EX1	PAMUX Adapter for LC4	130.41
92F3461	EX2	Serial/PAMUX Adapter for LC4	130.41

(3552) (ne07319)

TRADITIONAL ADAPTER CARDS

Stock No.	Type	Description	1-9	10-49
96F7185	AC5	ISA BUS to I/O Rack Adapter with 6' Cable	154.76	150.12
96F7186	G4AC5	ISA BUS to I/O Rack Adapter with 6' Cable	154.76	150.12
92F3394	AC24AT	ISA BUS Serial Port RS-422/485, Isolated	210.03	203.73
92F3396	AC28	ISA BUS to PAMUX BUS Adapter	187.92	182.29
92F3406	AC37	ISA BUS High Speed Serial Coprocessor, RS-485	668.76	648.72
52F345	AC39	ISA BUS to Local BUS Adapter-AT	434.50	423.50
92F3412	AC42	ISA BUS Fiber-Optic Serial Coprocessor	668.76	648.72
92F3414	AC422AT	ISA BUS Serial Port RS-422/485, Non-Isolated	171.34	166.20
92F3416	AC7A	RS-232 to RS-422/485 Converter 120VAC	116.07	112.59
92F3417	AC7B	RS-232 to RS-422/485 Converter 220VAC	116.07	112.59
92F3418	AC8	Half-Duplex Modem Interface	187.92	182.29
92F3419	AC8A	Half-Duplex Modem Interface 120VAC	276.35	268.07
92F3420	AC8B	Half-Duplex Modem Interface 220VAC	276.35	268.07
92F3397	AC30A	RS-485 Multidrop Repeater 120VAC	116.07	112.59
92F3398	AC30B	RS-485 Multidrop Repeater 220VAC	116.07	112.59
92F3399	AC31A	Addressable RS-232 Interface 120VAC	326.09	316.32
92F3400	AC31B	Addressable RS-232 Interface 220VAC	326.09	316.32
92F3401	AC31C	Addressable RS-232 Interface DC	326.09	316.32
92F3405	AC36	MULTIBUS to PAMUX BUS Adapter	132.65	128.68
92F3407	AC38A	High Speed RS-485 Repeater 120VAC	443.81	430.52
92F3408	AC38B	High Speed RS-485 Repeater 220VAC	443.81	430.52
92F3409	AC40A	Fiber-Optic Repeater, 120VAC	668.76	648.72
92F3410	AC40B	Fiber-Optic Repeater, 240VAC	668.76	648.72
92F3490	UCA4	General Purpose PAMUX Interface	132.65	128.68
83F5701	AC47	Two Individual or a Redundant Pair of Twisted Pair ARCNET Ports for the PC ISA Bus	336.42	326.34

Stock No.	Type	Description	1-9	10-24
92F3415	AC7	RS-232 to RS-422/485 Converter	95.02	82.59
92F3488	TERM 1	PAMUX BUS Termination Card	35.71	34.49
92F3489	TERM 2	PAMUX BUS Termination Card, Shielded Cable	35.71	34.49

(3554) (ne07322)

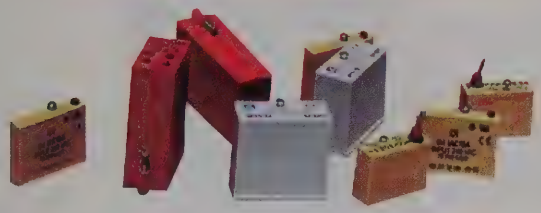
ACCESSORIES FOR RACKS

Fuses, power supplies and switch assemblies for use with brain board racks.

Stock No.	Type	Description	1-9
92F3172	FUSE.125	1/8 Amp Fuse, Analog I/O Channel	1.45
92F3484	PBSA	Power Supply 120 VAC	78.25
92F3486	PBSC	Power Supply 12/24 VDC	106.20
92F3170	FUSE01	1 Amp Fuse G1 Digital Logic Power	1.45
96F1041	PB4MOA	4 Channel Switch Assembly	71.54
96F7189	FUSE01G4	1 Amp Fuse G4 Digital Rack Logic Power, Brick Regulator	1.45
92F3171	FUSE02	2 Amp Fuse for 32 Channel Digital Logic	1.45

(3559) (ne07328)

I/O MODULES FOR OPTOMUX/PAMUX



- **High density, single channel analog & digital modules**
- **Digital modules include LED status indicator. Also available with manual switching (MA) capability for field wiring and control logic testing.**
- **Digital output modules feature a top-mounted replaceable fuse (FUSEG4).**
- **Analog modules are factory-calibrated, offer 12-bit resolution and require a single 24-volt power supply.**
- **Analog input types include voltage, current, thermocouple, RTD, ICTD, frequency and velocity.**
- **Analog outputs include voltage, current and time-proportional output.**

Offer high-density, single-channel packaging. Each module includes an LED status indicator. Top mounted replaceable fuse. Input types include voltage, current, thermocouple, RTD, ICTD, frequency, and velocity. Outputs include voltage, current, and time-proportional output.

G4 DIGITAL AC INPUTS

Stock No.	Type	Description	1-9
96F1065	G4IAC5	90-140VAC 5VDC Logic	12.73
96F6448	G4IAC5A	180-280VAC 5VDC Logic	14.07
96F1059	G4IAC5MA	90-140VAC 5VDC Logic W/SW	28.13

G4 DIGITAL DC INPUTS

Stock No.	Type	Description	1-9
96F1066	G4IDC5	10-32VDC 5VDC Logic	12.73
96F1067	G4IDC5B	4-16VDC 5VDC Logic High Speed	17.41
96F1068	G4IDC5D	2.5-28VDC 5VDC Logic	11.39
96F6451	G4IDC5G	35-60VDC 5VDC Logic	12.73
96F6452	G4IDC5K	2.5-16VDC 5VDC Logic Very High Speed	17.41
96F1058	G4IDC5MA	10-32VDC 5VDC Logic with HOA/SW	28.13
52F337	G4IDC5Q	2.5-16VDC 5VDC Logic, 2 Channel Quadrature	229.09

G4 DIGITAL AC OUTPUTS

Stock No.	Type	Description	1-9
96F1042	G4OAC5	12-140VAC 5VDC Logic	12.73
96F6457	G4OAC5A	24-280VAC 5VDC Logic	14.07
96F1043	G4OAC5A5	24-280VAC 5VDC Logic NC	14.07
52F339	G4OAC5A5FM	24-280VAC 5VDC Logic NC	14.89
52F338	G4OAC5AFM	24-280VAC 5VDC Logic Factory Mutual Approved	14.89
52F7457	G4OAC5AMA	24-280VAC 5VDC Logic with HOA/SW	27.18
96F1044	G4OAC5MA	12-140VAC with HOA/SW	28.13

G4 DIGITAL DC OUTPUTS

Stock No.	Type	Description	1-9
96F1045	G4ODC5	5-60VDC 5VDC Logic	12.73
96F6460	G4ODC5A	5-200VDC 5VDC Logic	20.63
52F341	G4ODC5AFM	5-200VDC 5VDC Logic Factory Mutual Approved	21.23
52F342	G4ODC5FM	5-60VDC 5VDC Factory Mutual Approved	13.59
96F7187	G4ODC5MA	5-60VDC 5VDC Logic with HOA/SW	28.13
96F1046	G4ODC5R	Reed Relay Output 5VDC Logic	14.07
96F1047	G4ODC5R5	Reed Relay Output 5VDC Logic NC	14.07
52F344	G4ODC5R5FM	Reed Relay Output 5VDC Logic NC Factory Mutual Approved	14.89
52F343	G4ODC5RFM	Reed Relay Output 5VDC Logic Factory Mutual Approved	14.89

(36173) (ne07510)

QUAD PAK™ I/O MODULES

- **Four channels of digital I/O in one high-density package**
- **Integral LED for each channel on the module**
- **For use with Quad Pak brain board compatible mounting racks, PB16HQ and PB32HQ**

Stock No.	Type	Description	1-9	10-49
96F1014	IAC5Q	4-Channel, AC Input, 90-140VAC 5VDC Logic	50.79	47.55
96F6465	IAC5AQ	4-Channel, AC Input, 180-280VAC 5VDC Logic	50.79	47.55
96F1017	IDC5BQ	4-Channel, DC Input, 4-16VDC 5VDC Logic, High-Speed	65.30	60.51
96F1019	IDC5Q	4-Channel, DC Input, 10-32VDC 5VDC Logic	50.79	47.55
96F1023	OAC5Q	4-Channel, AC Output, 12-280VAC 5VDC Logic	50.79	47.55
96F6471	ODC5AQ	4-Channel, DC Output, 5-200VDC 5VDC Logic	72.56	60.51
96F1025	ODC5Q	4-Channel, DC Output, 5-60VDC 5VDC Logic	50.79	47.55

(3748) (ne07333)

STANDARD I/O MODULES

Analog I/O modules provide a single channel of isolated A to D or D to A conversion for a wide variety of sensors and devices. The "T" module also includes 4000Vrms channel-to-channel isolation which eliminates any ground loop problems. Factory calibrated, no user adjustments.

STANDARD ANALOG INPUTS

Stock No.	Type	Description	1-9	10-49
92F3422	AD11	–5 to +5VDC Input	72.66	64.49
92F3424	AD12	–10 to +10VDC Input	72.66	64.49
92F3435	AD3	4 to 20mA Input	53.57	48.04
92F3437	AD4	ICTD Input	67.07	54.30
92F3440	AD6	0 to +5VDC Input	61.48	55.44
92F3441	AD6HS	0 to +5VDC Input High-Speed	61.48	55.44
92F3443	AD7	0 to +10VDC Input	61.48	55.44

STANDARD ANALOG INPUTS

Stock No.	Type	Description	1-9	10-49
92F3421	AD10T2	100 Ohm RTD Input Isolated	132.65	128.68
92F3423	AD11T	–5 to +5VDC Input Isolated	110.54	107.23
92F3425	AD12T	–10 to +10VDC Input Isolated	110.54	107.23
92F3426	AD13T	0 to 100MV Input Isolated	132.65	128.68
92F3427	AD14T	10 Ohm RTD Input Isolated	132.65	128.68
92F3428	AD15T	28 to 140VAC Input Isolated	110.54	107.23
92F3429	AD16T	0-5 Amp Input Isolated	132.65	128.68
92F3430	AD17T	Type R or S Thermocouple Input Isolated	132.65	128.68
92F3431	AD18T	Type T Thermocouple Input Isolated	132.65	128.68
92F3432	AD19T	Type E Thermocouple Input Isolated	132.65	128.68
92F3434	AD2T	Frequency Input	110.54	107.23
92F3433	AD20	0 to 20mA Input Isolated	132.65	128.68
92F3436	AD3T	4 to 20mA Input Isolated	110.54	107.23
92F3438	AD5	Type J Thermocouple Input	110.54	107.23
92F3439	AD5T	Type J Thermocouple Input Isolated	132.65	128.68
92F3442	AD6T	0 to +5VDC Input Isolated	110.54	107.23
92F3444	AD8	K Thermocouple Input	110.54	107.23
92F3445	AD8T	K Thermocouple Input Isolated	132.65	128.68
92F3446	AD9T	0 to 50MV Input Isolated	132.65	128.68

STANDARD ANALOG OUTPUTS

Stock No.	Type	Description	1-9	10-49
92F3452	DA3	4 to 20mA Output	106.20	97.29
92F3453	DA3T	4 to 20mA Output Isolated	116.07	112.59
92F3454	DA4	0 to +5VDC Output	106.20	97.29
92F3455	DA4T	0 to +5VDC Output Isolated	116.07	112.59
92F3456	DA5	0 to +10VDC Output	106.20	97.29
92F3457	DA6	–5 to +5VDC Output	121.60	117.95
92F3458	DA7	–10 to +10VDC Output	121.60	117.95
92F3459	DA8	0 to 20mA Output	106.20	97.29

(3747) (ne07332)

MISCELLANEOUS I/O RACK ACCESSORIES

LC Communicator is a 20-key numeric pad with a 2-line, 16 characters/line alpha-numeric, backlighted display. Straps are for single-channel or quad I/O applications which require that one line of each I/O be a common.

Stock No.	Type	Description	1-4	5-9
92F3467	LCCOMMUNICATOR	Hand-Held Terminal/Keypad	359.25	348.49

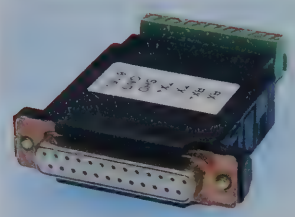
Stock No.	Type	Description	1-9	10-49
92F3466	JUMPERS	Jumpers, Quantity 10	1.66	1.54
96F1071	STRAP2	2-Position Strap, Single Rack R0433	1.25	1.15
96F1072	STRAP2Q	2-Position Strap, Quad Rack R0432	1.25	1.15
96F1073	STRAP4Q	4-Position Strap, Quad Rack R0431	2.07	1.92
96F1074	STRAP8	8-Position Strap, Single Rack R0430	2.07	1.92
96F1056	G4STRAP	G4 Jumper Strap R5187	9.32	8.62

(3751) (ne07336)

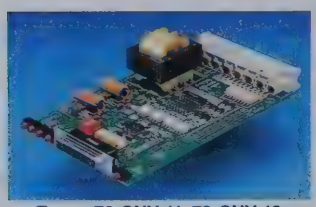
AT NEWARK, YOUR ORDER IS OUR FIRST PRIORITY.

PC ACCESSORIES AND CONTROLLERS

72 SERIES COMMUNICATION CONVERTERS



Types 72-CNV-2, 72-CNV-4, 72-CNV-5



Types 72-CNV-11, 72-CNV-12

Types 72-CNV are RS-232 to RS-422/485 bi-directional converters which can be configured for DTE or DCE operation. **Types 72-CNV, -4,** and **-5** plug into any male RS-232 DB-25 connector and require external DC power supplies. **Type 72-CNV-11** is panel mounted and **type 72-CNV-12** is DIN rail mounted. Both have on-board 120/240VAC power supplies. **Types 72-CNV, -11,** and **-12** are optically isolated.

Stock No.	Type	Description	1-4
16F7278	72-CNV-4	Converter, 8-15VDC	71.73
16F7279	72-CNV-5	Converter, 5VDC	71.73
16F7280	72-CNV-11	Isolated Converter, 120/240VAC	117.99
16F7281	72-CNV-12	Isolated Converter, 120/240VAC	135.69

(3565) (ne08054)

PAMUX® BUS ADAPTER CARDS

72-PMX-24D

Type 72-PC5 adapter boards control/monitor 24 digital I/O modules. Each group of 8 I/O modules are accessed through a separate I/O PAMUX® address using INP or OUTP function calls. Plugs into standard, mini, or G5 racks up to 24 positions. **Type 72-PMX-32D** and **72-PMX-32AD** plug into **70GRCP32**. The **D suffix** in the type number indicates control of digital I/O only; **AD suffix** indicates any combination of analog or digital I/O.

Stock No.	Type	Description	1-4
96F7582	72-PC5-24D	24-Point Digital I/O Controller	188.79
66F6005	72UMP	PAMUX Bus Users Manual	38.20
16F7282	72-PMX-32D	32 Digital I/O Controller	201.77
16F7337	72-PMX-32AD	32 Analog or Digital I/O Controller	625.94
16F7338	72GRCP32-HL	32-Position Rack	175.40

PAMUX® is a registered trademark of Opto 22.
(3568) (ne08057)

DEVICENET CONTROLLERS-DACNET

CE

72-DNT-32AD

DacNet controllers interface 32 analog and digital single-point I/O modules with DeviceNet an economical, open communications bus for industrial devices. The 5-conductor CAN bus connector provides power for the controller along with communications lines. Compatible with other DeviceNet devices. **Type 72-DNTE** is packaged in a DIN rail mountable metal enclosure. Controller size: 4.25 x 5.50″ (108 x 140). Operating temperature range is 0°C to +70°C. **Type 72-DNTE** is CE compliant.

Stock No.	Type	Description	1-4
16F7339	72-DNT-32AD	32 Analog or Digital I/O Controller	460.17
16F7340	72-DNTE-32AD	Enclosed 32 Analog or Digital Controller	501.46
16F7341	72-DNT-I	DacNet Users Manual	15.03

(3569) (ne08058)

MICRODAC AND PROMUX® CONTROLLERS

CE

72-MDC-32ADC

The host computer and MicroDAC or ProMux® controller(s) communicate serially using RS-422/485 in a multi-drop or repeat configuration and standard Optomux* messages. Messages permit simple ON/OFF functions, monitor voltages, current or temperature signals. Analog inputs can also be scanned for out-of-range alarming, averaging, or min/max capture. C programs can be downloaded to onboard MicroDAC memory for execution. 64K onboard RAM memory for data storage. All MicroDACs control a maximum of 32 analog or digital I/O's. MicroDAC LT does not have an auxiliary RS-232 port, SBX expansion port, or real time clock. PAMUX® boards control only digital I/O to a maximum of 24 points. **Types 72-MDC** and **72-MDLE** are packaged in DIN rail mountable metal enclosures and are CE compliant. MicroDACs measure 7.9 x 6.4″ (200.66 x 162.56). MicroDAC LTs 4.25 x 5.5″ (107.95 x 139.7) and ProMux® 4.0 x 4.5″ (101.60 x 114.30). Supply voltage is 4.75 to 5.25VDC. Supply current is 1.0A max. for MicroDAC; 0.5A max. for MicroDAC LT and ProMux®. Operating temperature range is 0°C to 60°C. Software utilities include setup and troubleshooting assistance; DLL and DDE packages. **Types 72-MDC** and **72-MDLE** are CE compliant.

Stock No.	Type	Description	1-4
95F9848	72-MDC-32ADC	32 Analog/Digital I/O, C Programmable	938.02
95F9846	72-MDC-32AD	32 Analog/Digital I/O, Non-Programmable	784.64
92F3692	72-MDL-32AD	LT. 32 Analog/Digital I/O, Non-Programmable	392.91
92F3693	72-MDL-32ADC	LT. 32 Analog/Digital I/O, C Programmable	460.17
16F9128	72-MDLE-32AD	LT. 32 Analog/Digital I/O; Non-Programmable, Enclosure	489.66
16F9129	72-MDLE-32ADC	LT. 32 Analog/Digital I/O C Programmable, Enclosure	556.92
90F8813	72-PMO-1	ProMux, 24 Digital I/O, Plug Connector	206.49

*Optomux is a trademark of Opto 22.
(3570) (ne08059)

LONWORKS™ CONTROLLER-MICROLON

CE

The Microlon controller combines the power of LonWorks™ technology with Grayhill Industrial I/O racks and modules. Microlon controllers control/monitor 8 analog and/or digital I/O modules using one of three different communications media-twisted pair transformers isolated at 78Kbps or 1.25Mbps or tree topology star at 78Kbps. 64 controllers per serial channel. 8K of external RAM is provided. Types with **C** suffix are packaged in a DIN rail mountable metal enclosure and are CE compliant. Controllers measure 4.5 x 4.9″ (114.3 x 124.46). Operating voltage is 4.75 to 5.25VDC. LonMark compliant. User manuals and software available; *contact your local Newark sales office.*

Stock No.	Type	Description	1-4
16F7330	72-LON-8AD-12P	TPT/XF 1250 Transformer Isolated, Panel Mount	280.82
16F9130	72-LON-8AD-78P	TPT-XF 78 Transformer Isolated, Panel Mount	276.10
16F7331	72-LON-8AD-FTTP	FTT-10 Transformer Isolated, Panel Mount	283.18
16F7332	72-LON-8AD-78C	TPT-XF 78 Transformer Isolated, Enclosure	402.35
16F7333	72-LON-8AD-12C	TPT/XF 1250 Transformer Isolated, Enclosure	407.07
16F7334	72-L0N-8AD-FTTC	FTT-10 Transformer Isolated, Enclosure	409.43

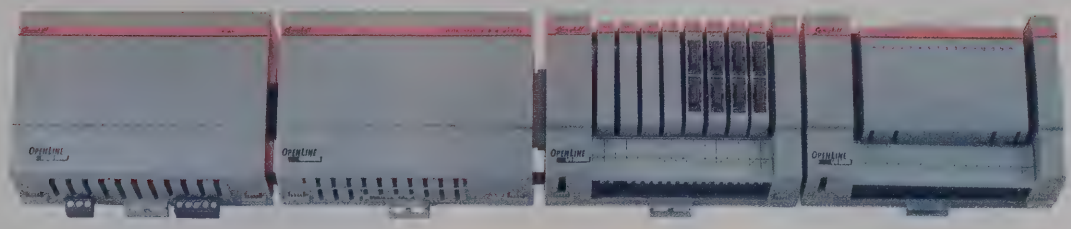
MANUALS

Stock No.	Type	Description	1-9
16F7335	72-LON8	Introduction to Microlon	0.03
16F7336	72-LON-I8	Microlon Users Manual	38.20

(3572) (ne08061)

PC-BASED CONTROL AND DATA ACQUISITION

CONTROLLER PRODUCTS ASSEMBLY

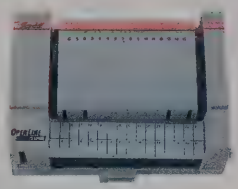


Power Supply | Controller | Dual Point I/O Modules | I/O Bricks

(13826) (ne10520)

DUAL POINT AND BRICK I/O

Dual Point Input Module and Output Module



I/O Brick

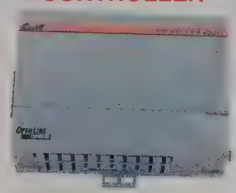
70L and **73L series** dual-point I/O modules are available in a wide range of analog and digital input and output versions which can be mixed and matched on each base. They provide I/O flexibility and isolation (dual-point digital modules are two separate field isolated circuits). The modules are 2.7″ wide, 0.5″ thick and stand 2.5″ above the PCB (68.5 x 12.7 x 63.5). **77 series** analog and digital I/O bricks provide 16 channels of the same type of I/O. Bricks reduce the cost per channel in applications with a high concentration of the same I/O. Operating temperature range: –40°C to +85°C. Bricks measure 4.0 x 2.7 x 2.3″ (101.6 x 68.6 x 58.4). UL recognized, CSA certified, CE compliant.

Stock No.	Type	Description	1-9	10-24	25-49
91F4842	70L-OAC	Dual 120VAC Output	25.05	22.98	20.21
91F4843	70L-OACA	Dual 240VAC Output	25.05	22.98	20.21
91F4844	70L-ODC	Dual 3-60VDC Output	25.05	22.98	20.21
91F4845	70L-ODCA	Dual 4-200VDC Output	33.10	31.03	29.20
91F4846	70L-IAC	Dual 120VAC Input	20.04	18.39	16.17
91F4847	70L-IACA	Dual 240VAC Input	20.04	18.39	16.17
91F4848	70L-IDC	Dual 3-32VDC Input	20.04	18.39	16.17
91F4849	70L-IDCB	Dual 3-32 Fast DC Input	20.04	18.39	16.17

Stock No.	Type	Description	1-4	5-9	10-24
91F4853	73L-II420	Dual 4-20mA Analog Input	117.99	110.13	105.68
91F4855	73L-IV100M	Dual 0-100mV Analog Input	117.99	110.13	105.68
91F4856	73L-IV1	Dual 0-1V Analog Input	117.99	110.13	105.68
91F4857	73L-IV5	Dual 0-5V Analog Input	117.99	110.13	105.68
91F4858	73L-IV10	Dual 0-10V Analog Input	117.99	110.13	105.68
91F4859	73L-IV5B	Dual –5 to +5V Analog Input	117.99	110.13	105.68
91F4860	73L-IV10B	Dual –10 to +10V Analog Input	117.99	110.13	105.68
91F4861	73L-ITCJ	Dual J Thermocouple Input	141.59	132.15	126.81
91F4862	73L-ITCK	Dual K Thermocouple Input	141.59	132.15	126.81
91F4863	73L-ITR100	Dual 100Ω Platinum RTD Input	153.39	143.17	137.38
91F4864	73L-OI420	Dual 4-20mA Analog Output	141.59	132.15	126.81
91F4866	73L-OV10	Dual 0-10VDC Analog Output	141.59	132.15	126.81

(13828) (ne10398)

CONTROLLER



The open-line controllers are compact 386 or 586 based CPUs for local control and data acquisition programs. The controllers are intelligent slave devices on an RS485 Modbus or Ethernet TCP/IP network. Every controller is capable of interfacing with a combination of up to 8 I/O bases (128 channels of local I/O). IECI 1131-3 soft logic or C programs can be downloaded to on-board memory for execution. Real time clocks, auxiliary RS-232 port and PC104 expansion included on all versions. Operating temperature range is -40 to 70°C. Controllers measure 5.9 x 4.4 x 2.9″ (150.0 x 112.0 x 73.5).

Stock No.	Type	Description	1-4	5-9	10-24
91F4850	72-MOD-4200	Modbus Controller, 386 2MB DRAM, 1MB Flash	1297.89	1211.37	1162.41
91F4851	72-MOD-4300	Ethernet Controller, 386 2MB DRAM, 4MB Flash	1769.85	1651.86	1585.11

(13830) (ne10400)

POWER SUPPLY

Open-line DIN rail-mountable power supplies are available in 85-264VAC or 18-36VDC input types and provide ±5V and ±12V outputs. +5V output is rated at 7A and the rest at 0.75A. Operating temperature range is 0°C to 70°C. Derate above 40°C. Pluggable connectors for input and output voltages. The unit measures 5.9 x 4.4 x 2.9″ (150.0 x 112.0 x 73.5). UL recognized, CSA certified, CE compliant.

Stock No.	Type	Description	1-4	5-9	10-24
91F4870	74-PWR-AC1	85-26VAC to +5VDC	235.98	220.25	211.35
91F4871	74-PWR-DC24	24VDC to +5VDC	330.38	308.35	295.89

(13829) (ne10397)

DUAL-POINT AND BRICK I/O BASES

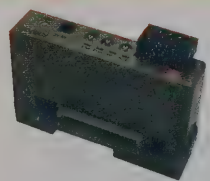
I/O bases provide field-wiring terminals for 16-channels of analog or digital I/O. For dual-point I/O bases, 8 dual-point modules (any mix of analog or digital module versions) snap into the base. For brick I/O bases, a single 16-channel brick snaps into the base. Intelligence in the base keeps track of the type and current status of each I/O. The values are stored in dual-port RAM memory. Operating temperature range is –40°C to +85°C. UL recognized, CSA certified, CE compliant.

Stock No.	Type	Description	1-4	5-9	10-24
91F4872	FSLI0B16	16-Position Dual Module I/O Base	206.49	192.72	184.93
91F4873	7SLIOB16B	16-Position Brick I/O Base	206.49	192.72	184.93

(13827) (ne10399)

OPENDAC BUS INTERFACE

NEW



For use when local control is not required, OpenDAC bus interfaces connect 32 analog or digital OpenLine points to Modbus, Profibus DP, or Optomux. OpenDACs can be networked with other OpenDACs, computers, or devices from third parties.

Stock No.	Type	Description	1-4	5-9	25-49
83F7597	72-MOD-4000	OpenDAC for Modbus	285.00	266.00	245.00
83F7598	72-OPT-4000	OpenDAC for Optomux	285.00	266.00	245.00
83F7599	72-PRO-4000	OpenDAC for Profibus	427.50	399.00	367.50
83F7601	70LRCK16-HL	I/O Rack for Use with OpenDAC Controllers	68.20	63.12	56.73

(32785) (ne32785)

INDUSTRIAL WIRELESS DATA COMMUNICATIONS

EZCOM™ RADIO

- Modubus ASCII, Modbus RTU or optomux protocols
- Provides Wireless Data Communications
- Long-Range Communication
- High Speed 211Kbs Data Rate
- Panel or DIN Rail Mount
- Industrial Temperature Range
- Forward Error Construction

The EZCom™ radio is a 900MHz direct sequence, spread spectrum (DSSS) industrial transceiver that can be used for point-to-point or point-to-multipoint data communications. Based on spread spectrum technology with direct sequence spreading for enhanced immunity to interference and jamming, reliability, and extended range. Power: +12VDC or +24VDC. No FCC user or site license required. Has store and forward repeater capability, and attached or remote antenna. Designed for industrial environments. 2-year warranty.

Stock No.	Type	Description	1-4	5-9	10-24
83F4202	WL9D-MOD	EZCom™ TransceiverModbus	1628.82	1520.24	1458.80
83F4206	WL-UM-MOD	EZCom™ User Manual	0.01	...	...
83F7593	WL9D-DF1	EZCom™ With DF1	1672.01	1560.54	1497.47

(28369) (ne28369)

EZCOM™ DEVELOPMENT SYSTEM

The EZCom™ development system contains everything to develop and test an application including: 2 EZCom™ radios, 2 power supplies, 2 antennas, 2 data cables, 1 programming cable, user manuals, and EZsetup/EZdemo software, all packaged in a rugged case.

Stock No.	Type	Description	Each
83F7593	WL9D-DF1	EZCom™ Development System	1672.01
83F7594	WL9D-MOD-EVK	EZCom™ Development System	3448.50

(32791) (ne32791)

MINI POWER SUPPLY WITH POWER CORD

The power supply offers a reliable, compact unit for powering the EZCom™ radio with 120- or 240VAC. The power connector plugs directly into the EZCom™ transceiver.

Stock No.	Type	Description	Each
83F4205	WL-PWR-AC1	EZCom™ Power Supply	106.02

(32789) (ne32789)

PROGRAMMING CABLE

The programming cable allows the user to configure or monitor the EZCom™ radio network from a local computer. The programming cable is 8′ long and plugs directly into the EZCom™ monitor port.

Stock No.	Type	Description	Each
83F4204	WL-CPRG-8	EZCom™ Programming Cable	49.82

(32788) (ne32788)

DATA CABLE

The data cable connects the data port of the radio to the host computer or end device. Standard RS-232, female-to-female cable assembly. 6′ long.

Stock No.	Type	Description	Each
83F7585	503994-3	EZCom™ Data Cable	22.35

(32787) (ne32787)

WHIP ANTENNA

The whip antenna connects directly to the EZCom™ RF connector providing unity gain. Mechanical hinge to allow it to adjust from 0° to 90°.

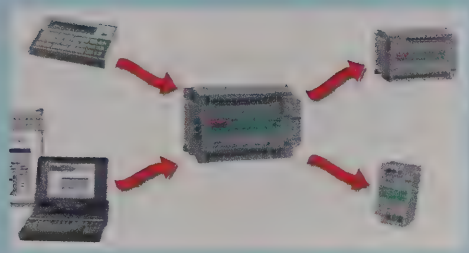
Stock No.	Type	Description	Each
83F4203	WL-ANT-MNUA	EZCom™ Whip Antenna	30.75

(32786) (ne32786)

NEWARK ELECTRONICS® IS AN ISO 9002 COMPANY.

PROGRAMMABLE LOGIC CONTROLLERS AND PRESET LOADERS

IDEC'S MICRO-1 PLCs DO THE JOB OF NUMEROUS RELAYS AND TIMERS...



...AND NEWARK CAN SUPPLY THESE TO SUIT YOUR APPLICATION NEEDS!

(13938) (ne85146)

MICRO-1 PROGRAMMABLE LOGIC CONTROLLERS

- **Replaces Many Relays and Timers**
- **8 Inputs, 6 Outputs; Expandable to 16 Inputs and 12 Outputs**
- **80 Timers, 160 Internal Relays, and 47 Counters Built-in**
- **Micro Expansion for Incremental I/O**
- **WindLDR Software to Program the PLC**

GENERAL SPECIFICATIONS (STANDARD MODE ONLY)

Programming	Boolean or Ladder Logic
Program Capacity	600 Steps
Processor Speed	8µsec per Step
Internal Relays	160 Points
Counter/Timer (0-9999 Range)	127 Points (80 Timers/47 Counters)
Shift Register	128 Points
Computer Link Communication	32 Units
Expansion	1 Unit (Max.)
Communication Port	Loader 5V TTL
Memory	EEPROM, Built-In
I/O Points	28 Points (Max.) with Expansion
Total I/O Points	28 Points (Max.)
Special Internal Relays	89 Points
Power Failure Protection	Capacitor Backup: 3 Days Internal Relay, Shift Register, Counter, and Reversible Counter
Self Diagnostics	CPU Error (WDT), CRC Error, Check Sum Error, Communication Error
Catch Input	1 Point, 0.5msec Pulse
Voltage Range	100-240VAC/24VDC, 50/60Hz (Base Unit and Expansion Units) 100-240VAC/12VDC (Base Unit and 8 Input, 6 Output Expansion Only)
Temperature	0°C to +55°C (Operation), –20°C to +70°C (Storage)
Humidity	45-85% Relative Humidity (Operation, No Condensation)
Weight	450g Base Unit/410g Expansion
Mounting Style	35mm DIN Rail/Panel Mount

INPUT SPECIFICATIONS -- 8 INPUT POINTS

	12VDC at 8mA	24VDC at 8mA
On/Off Current	On: 3mA (Min.), Off: 1.5mA (Max.)	On: 4mA (Min.), Off: 1mA (Max.)
On/Off Time	On: 7 msec, Off: 11 msec (Max.)	On: 7 msec, Off: 11 msec (Max.)
Input Signal	For NPN Inputs, Use Source Input Micro-1; for PNP Inputs, Use Sink Input; for No-Voltage Dry Contact Input, Use Either Source or Sink Input Micro-1	

OUTPUT SPECIFICATIONS

Relay Output	**6 Points**
Configuration	3 Points with Common Return/3 Points with Independent Return
Switching Capacity	220VAC, 2A or 30VDC, 2A per Point (Not Exceeded by Total Across 3 Points Con. R/L)
Life Rating	Mechanical: 20,000,000/Electrical: 100,000 Operations (No Load/Rated Load) @ 1800 Op./h
Transistor Output	**6 Points**
Configuration	Sink: NPN Transistor, 6/Common; or Source: PNP Transistor, 6 Common
Rated Load	0.4A per Circuit (Max.), 12 to 24VDC ±10%
On Voltage	Sink: +1.5V (Max.); Source: Load Voltage –1.5V (Min.)
On/Off Time	On: 1 msec (Max.), Off: 1 msec (Max.)
External Current	40mA, 12 to 24VDC

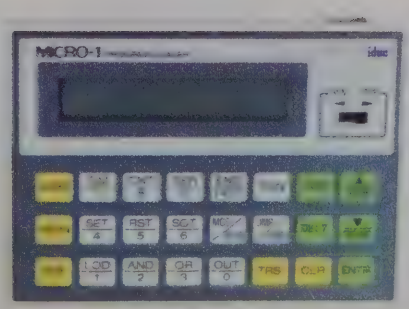
Stock No.	Type	Description	Each
96F4007	FC1A-C1A4E	CPU, 24VDC Type, Source (NPN) Input, Relay Output	**245.82**
96F4006	FC1A-C1A1E	CPU, VAC Type, Source (NPN) Input, Relay Output	**245.82**
96F4008	FC1A-C2A1E	CPU, VAC Type, Sink (PNP) Input, Relay Output	**245.82**
96F4009	FC1A-C2A4E	CPU, 24VDC Type, Sink (PNP) Input, Relay Output	**245.82**
96F4010	FC1A-E1A1E	Expansion Unit, VAC Type, Source (NPN) Input, Relay Output	**241.88**
96F4011	FC1A-E1A4E	Expansion Unit, 24VDC Type, Source (NPN) Input, Relay Output	**241.88**
96F4013	FC1A-E2A4E	Expansion Unit, 24VDC Type, Sink (PNP) Input, Relay Output	**241.88**
96F4015	FC1A-M1XE	Micro Expansion Unit, 4 Source (NPN) Input	**93.95**
96F4016	FC1A-MXAE	Micro Expansion Unit, 3 Relay Output	**93.95**

(13936) (ne10375)

PROGRAM AND DATA PRESET LOADERS

24-key, 16-character LCD hand-held program loader allows convenient direct entry of program commands. Data preset loader allows for changing only the timer and counter preset values without otherwise changing the user program, plus monitoring timer/counter operations with the new preset values in addition to I/O, internal relay and shift register operations. Cannot be used for entering or changing programs. Control key controls RUN/STOP switch. Power supplied from base unit. Units hook onto base units. CMOS-RAM backed up power failure protection.

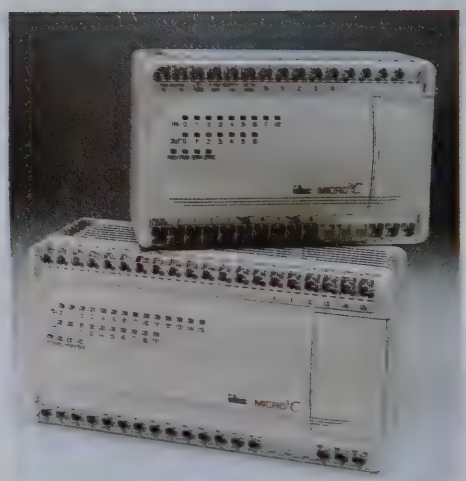
96F4022 Type FC1A-HL1E Program loader. **Each** **245.82**
96F4024 Type FC1A-PL1E Data present loader. **Each** **252.70**
(3425) (de02620)



Program Loader

MICRO³C PROGRAMMABLE LOGIC CONTROLLERS

Feature advanced remote communications with the capability to talk to any intelligent device with a protocol like bar code readers, scales, pagers, and modems. Two communications ports: ASCII or binary transmit/receive via RS-232 serial port; programming, networking, or expansion can be achieved via RS-485 port. UL listed, CSA certified, CE marked.



GENERAL SPECIFICATIONS

	Standard Processing	High Speed Processing
Data Register (16 Bit in Width)	500 Points	32 Points
Advanced Instructions	35 Instructions	
I/O Points	16 I/O (9/7), 24 I/O (14/10)	
Analog Potentiometer	1 Point	
Operating Humidity	45 to 85% Relative Humidity (No Condensation)	
Communications	Loader Port Standards: EIA RS232C; Data Link Terminal: EIA RS485, Expansion/Data Link communication: 19,200 bps (fixed); Loader Protocol Communication: 9600 bps (Fixed)	

I/O SPECIFICATIONS

Input Specifications

Input Voltage	24VDC at 7mA
On/Off Current	On: 2.5mA (Min.) at 11VDC, Off: 1.2mA (Max.)
On/Off Voltage	On: 11 VDC (Min.), Off 5VDC (Max.)
On/Off Time	Depends on Input Filter (Fun 7) Setting

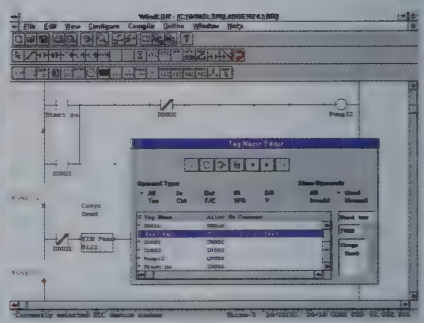
Output Specifications

Relay Output	**7, 10 Points Output (Micro³C Relay)**
Configuration 16 I/O	7 Out, 4/Common + 2/Common Return and 1 Independent Return
Configuration 24 I/O	10 Out, 4/Common + 4/Common Return and 2 Independent Return
Switching Capacity	Independent Contact/Common Contact: (240VAC or 30VDC, 2A) Resistive Load
Life Ratings	Mechanical: 20,000,000/Electrical: 100,000 Operations (No Load/Rated Load) @ 1800op/h
Transistor Output	**7, 10 Points Output (Micro³C Transistor)**
Configuration 16 I/O	7 Out, 4/Common + 3/Common Return
Configuration 24 I/O	10 Out, 5/Common + 5/Common Return
Rated Load	0.5A, 24VDC (Max.): 0.625A/Circuit (30VDC)
On Voltage	Sink: 1.5VDC (Max.)
On/Off Time	On: 500µsec (Output Q0: 5µsec), Off: 500µsec (Output Q0: 5µsec)
External Current	24VDC, 100mA (Max.)

Stock No.	Type	Description	Each
91F5731	FC2A-C16A1C	CPU VAC Supply, 9 DC Inputs, 7 Relay Outputs	**437.55**
91F5732	FC2A-C24A1C	CPU VAC Supply, 14 DC Inputs, 10 Relay Outputs	**535.88**

(14426) (ne10354)

WINDLDR™ PLC SOFTWARE



- **One Software Package Programs All Micro Series PLCs**
- **Intuitive Programming**
- **Pre-Define Tags Using Tag Name Editor**
- **Customize View**
- **On-Line Monitoring**
- **Drag & Drop Feature**
- **On-Line Manuals**
- **Advantages of Clip and Cubiq Software, Plus Windows-Based Graphic Interface**
- **Icon Driven Toolbar**
- **Provides Ability to Customize Screen**

Combines the logic of ladder programming with the intuitive approach of a Windows environment. Supports the programming configuration of Micro series PLCs. Tag name editor: allows to pre-define labels for ladder logic before writing any code. Customize: ladder, toolbars, fonts, rung height, length, and width. On-line monitoring: debug mode, read and write, force outputs ON/OFF. Drag & drop: user friendly pulldown menus accessed through left and right mouse buttons. On-line: help, user manual, and example pages.

91F5723 Type WINDLDR. **Each** **195.67**
(13932) (ne10362)

FEATURES	BENEFITS
• TAG EDITOR	ACCESS AND EDIT COIL DATA IN ONE CONVENIENT OPTION
• CUSTOMIZATION	FOR TOOLBAR, LADDER FILE CHARACTERISTICS, AND MANY PROGRAM FEATURES
• RIGHT MOUSE BUTTON	CONTEXT-SENSITIVE FOR CONVENIENT ACCESS TO MOST COMMONLY USED COMMANDS
• ON-LINE MONITORING	DEBUG AND OBSERVE REAL-TIME PLC FUNCTIONALITY, RIGHT FROM YOUR PC
• MULTIPLE LADDER FILES	OPEN UNLIMITED LADDER FILES TO COMPARE AND REUSE INSTANTLY
• DRAG & DROP	USER-FRIENDLY TOOLBAR MAKES LADDER CREATION AND EDITING SIMPLE
• FIND STRING	SEARCHES FOR TEXT IN VARIOUS WAYS; LARGE LADDER FILES ARE EASY TO MANAGE
• MULTILEVEL UNDO	LIMITED ONLY BY AVAILABLE MEMORY
• CLIP AND CUBIQ	FULLY COMPATIBLE FOR UPGRADE
• ON-LINE HELP	CONTEXT-SENSITIVE; EXTENSIVE COVERAGE OF WINDLDR™ AND PLC FUNCTIONALITY
• MANUALS	THE WINDLDR TUTORIAL PROVIDES A QUICK, SIMPLE WAY TO GET UP AND RUNNING
• SUPPORT	CUSTOMER SERVICE AND SUPPORT SERVICES ARE AVAILABLE

(13934) (ne85145)

MICRO³ PROGRAMMABLE LOGIC CONTROLLERS

Units perform the work of over 200 relays and 32 timers/counters. Feature all of the benefits of large PLCs in a small size. Units feature built-in networking, user-programmable password protection, DC power supply for sensors, catch input, pulse output (PWM), high-speed mode 400µsec/100 steps, and 10kHz counter. Real-time clock and calendar available. Meet IEC-1131. UL listed. CSA certified, and CE compliant.

GENERAL SPECIFICATIONS

Micro3	Standard Mode	High Speed
Programming	Boolean or Ladder Logic	Boolean or Ladder Logic
Program Capacity	1012 Steps	100 Steps
Processor Speed	2.9 msec/1K Steps	400 µsec per 100 Steps
Internal Relay	232 Points	40 Points
Data Register (16 Bit in Width)	100 Points	32 Points
Counter/Timer (0-9999 Range)	32 Points Total	16 Points Total
Shift Register	64 Points	32 Points
Data Link Communication	1 Master, 6 Slave Station	
Computer Link Communication	32 Units	
Expansion	1 Unit (max.)	
Communication Port	Loader/Data Link RS-485/RS-485	
Advanced Instruction	32 Instructions	
Memory	EEPROM (Built into Unit)	
I/O Points	10 I/O (6/4) 16 I/O (9/7) 24 I/O (14/10)	
Total I/O Points	48 Expansion/168 Data Link	
Special Internal Relay	16 Points	
High-Speed Counter	1 Point, Single-Phase 10kHz (Max.), 32 bits	
Power Failure Protection	Back-Up Time: 30 Days (after Lithium Battery is charged), Int. Relay, Shift Register, Counter, Data Register without Clock: 50 Days @ +25°C (Approx.)	
Self Diagnostics	CPU Error (WDT), User Program CRC Error, User Sum Check, Comm. Error, Transistor Overload Error	
Catch Input	Depends on Input Filter Setting 10-17	
Analog Potentiometer	1 Point (10 I/O), 2 Points (16-24 I/O)	
Real-Time Clock	Year, Month, Day, Hour, Minute, and Second	
Voltage Range	AC: 100-240VAC, 50/60Hz (85-264VAC), DC: 24VDC (19-30VDC)	
Temperature	0°C to +60°C Operating, –20°C to +70°C Storage	
Humidity	45 to 85% (No Condensation)	
Weight	290g (10 I/O), 350g (16 I/O), 390g (24 I/O)	
Mounting Style	35mm DIN Rail/Panel Mount	

I/O SPECIFICATIONS

Input Specifications

No. Of Input Points	DC Input (6, 9, 14)	AC Input (9)
Input Voltage	24VAC @ 7mA	100-120VAC @10mA
On/Off Current	On: 2.5mA (Min.) @ 11VDC, Off: 1.2mA (Max.)	On: 4mA (Min.) @ 79VAC, Off: 2mA (Max.)
On/Off Voltage	On: 11VDC (Min.), Off: 5VDC (Max.)	On: 79VAC (Min.), Off: 20VAC (Max.)
On/Off Time	Depends on Input Filter (Fun 7) Setting	On: 20 msec (Max.), Off: 20 msec (Max.)

Output Specifications

Relay Output	4, 7, 10 Points Output (Micro³ Relay)
Configuration 10 I/O	4 Out, 3/Common Return, and 1 Independent Return
Configuration 16 I/O	7 Out, 4/Common + 2/Common Return and 1 Independent Return
Configuration 24 I/O	10 Out, 4/Common + 4/Common Return and 2 Independent Return
Switching Capacity	Independent Contact/Common Contact: (240VAC or 30VDC, 2A) Resistive Load
Life Ratings	Mechanical: 20,000,000/Electrical: 100,000 Operations (No Load/Rated Load) @ 1800op/h
Transistor Output	**4, 7, 10 Points Output (Micro³ Transistor)**
Configuration 10 I/O	4 Out, 4/Common Return
Configuration 16 I/O	7 Out, 4/Common + 3/Common Return
Configuration 24 I/O	10 Out, 5/Common + 5/Common Return
Rated Load	0.5A, 24VDC-Maximum: 0.625A/Circuit (30VDC)
On Voltage	Sink: 1.5VDC (Max.)
On/Off Time	On: 500µsec (Output Q0: 5µsec), Off: 500 µsec (Output Q 0: 5 µsec)
External Current	24VDC, 100mA (Max.)

Stock No.	Type	Description	Each
91F5724	FC2A-C10A1*	10 I/O, CPU VAC Supply, 6 DC Inputs, 4 Relay Outputs	**265.48**
91F5725	FC2A-C10B1*	10 I/O, CPU VAC Supply, 6 DC Inputs, 4 Transistor Sink Outputs	**265.48**
91F5726	FC2A-C16A1	16 I/O, CPU VAC Supply, 9 DC Inputs, 7 Relay Outputs	**351.02**
91F5727	FC2A-C24A1	24 I/O, CPU VAC Supply, 14 DC Inputs, 10 Relay Outputs	**451.32**
91F5728	FC2A-C16B1	16 I/O, CPU VAC Supply, 9 DC Inputs, 7 Transistor Sink Outputs	**351.02**
91F5729	FC2A-C24B1	24 I/O, CPU VAC Supply, 14 DC Inputs, 10 Transistor Sink Outputs	**451.32**
91F5730	FC2A-CA16A1	16 I/O, CPU VAC Supply, 9 AC Inputs, 7 Relay Outputs	**396.25**

* Real-time calendar not available on 10 I/O versions.

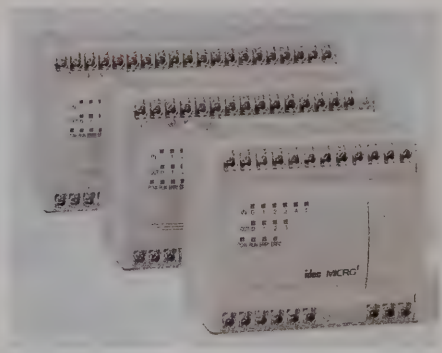
(14031) (ne10358)

ANALOG INPUT/OUTPUT MODULES FOR MICRO³ PLCs

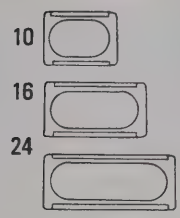
Interface with Micro3's built-in height speed counter and pulse output.

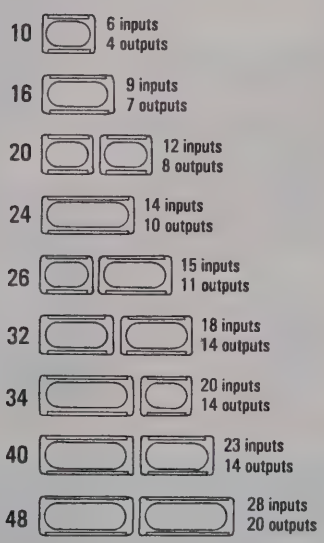
Stock No.	Type	Description	Each
91F5733	FC2A-AD2	Analog Input, 0-10V	**130.78**
99F6382	FC2A-AD4	Analog Input, 4-20mA	**130.78**
91F5734	FC2A-DA2	Analog Output, 0-10V	**130.78**
91F5735	FC2A-DA4	Analog Output, 4-20mA	**130.78**

(14032) (ne10359)



Available I/O Configurations





Analog I/O Modules

PLC SOFTWARE IS AVAILABLE *on page 1376*

(31691) (ne31691)

OMRON®

MICRO PLCs

CPM1A SERIES MICRO PLCs

Offer combination of compact size, high speed, high functionality, and high I/O counts for small-scale control systems. I/O density of 10, 20, 30, and 40, expandable up to 100. CPU, power supply, and I/O integrated into "micro" unit. Four configurable input interrupt response modes: immediate, high-speed counter, quick response, and scheduled interrupts to subroutines allow faster response to production situations. Communications options include RS-232C or RS-422 to a personal computer. Programs with low-cost, easy-to-use Windows-based software. Size: 3.5H x 3.35"D. UL listed, CSA certified.

Item	CPM1A-10CDR-A	CPM1A-20CDR-A	CPM1A-30CDR-A	CPM1A-40CDR-A
Supply Voltage	100 to 240VAC, 50/60Hz			
Programming Language	Ladder Logic			
Width	2.6"	3.39"	5.12"	5.91"
I/O Points	10 points (6 Input/4 Output)	20 Points (12 Input/8 output)	30 Points (18 Input/12 Output)	40 Points (24 Input/16 Output)
Timers/Counters	128 timers/Counters: TIM/CNT 000 to TIM/CNT 127 100ms Timers: TIM 000 to TIM 127 10ms Timers: TM000 to TIM 003 Decrementing and Reversible Counters			
Program Capacity	2048 Words			
Execution Time	Basic: 0.72 to 16.2 µsec. Special: MOV=16.3 µsec.			
Self-Diagnostic Functions	CPU Failure (Watchdog Timer), I/O Bus Error, Memory failure			

Stock No.	Type	Description	Each
83F6494	CPM1A-10CDR-A	10 I/O Controller	259.00
83F6495	CPM1A-20CDR-A	20 I/O Controller	375.55
83F6496	CPM1A-30CDR-A	30 I/O Controller	518.00
83F6496	CPM1A-30CDR-A	40 I/O Controller	518.00

ACCESSORIES

Stock No.	Type	Description	Each
83F6498	CPM1-A20EDR	Expansion I/O Block	278.43
83F6499	CPM1-CIF01	RS-232C Adapter	106.47
83F6500	CPM1-CIF11	RS-422 Adapter	128.59
83F6501	SYSWIN-CMPM1V3.2A	Windows® Programming Software	292.25
83F6502	W317-E1-1	Operation Manual	10.86
83F6503	W228B-E3-3	Programming Manual	10.02

(29470) (ne29470)

CPM1A MICRO PROGRAMABLE CONTROLLER OFFERS GREATER SPACE SAVINGS, SYSTEM EXPANSION

- 51% SMALLER THAN THE 10 I/O CPM1. THIS REDUCTION AND COMPARABLE ONES FOR THE 20 I/O (48% SMALLER) AND 30 I/O (57% SMALLER) VERSIONS MAKE OMRON'S CPM1A TRULY A MICRO PLC.
- NEW 40 I/O UNITS PROVIDE ROOM FOR THE SYSTEM TO GROW
- FOUR CONFIGURABLE INPUT INTERUPT RESPONSE MODES: IMMEDIATE, HIGH-SPEED COUNTER, QUICK RESPONSE AND SCHEDULED INTERRUPTS TO SUBROUTINES ALLOW FASTER RESPONSE TO PRODUCTION SITUATIONS.
- BUILT-IN HIGH SPEED COUNTER SUPPORTS INCREMENTAL MODE (5kHZ) OR PHASE DIFFERENTIAL (2.5 kHZ) INPUTS
- USER-SET INPUT DELAY IMPROVES INPUT RELIABILITY BY FILTERING FOR CONTACT BOUNCE.
- TWO EXTERNAL ANALOG SETTING CONTROLS FINE-TUNE TIMER AND COUNTER VARIABLES
- PROGRAMS WITH LOW-COST, EASY-TO-USE WINDOWS-BASED PROGRAMING SOFTWARE
- COMMUNICATIONS OPTIONS INCLUDE RS-232C OR RS422 TO A PERSONAL COMPUTER

(16037) (ombiurb3)

FP0 SERIES SHIRT POCKET PROGRAMMABLE LOGIC CONTROLLERS

The **FP0 series** basic control module has a footprint of only 3 ½" square and is fully expandable. Up to 3 expansion modules can be snapped together with the base controller. Integral connectors eliminate external interface wiring. DIN rail mounting is built in. Control units are available in 10 and 14 relay I/O, 16 and 32 transistor I/O, and have a 2.7k step program capacity (the 32 I/O transistor unit has a program capacity of 5k steps). All offer a fast scan time of 1msec for a 500-step program, including overhead. Expansion units contain 8 or 16 relay I/O, and 16 or 32 transistor I/O. Maximum I/O configuration is 128 with transistor only outputs. All units include simultaneous 2 axis motion control function (pulse output up to 10kHz), 4 high-speed inputs (10kHz total) or 2 quadrature mode inputs (2kHz total), FP *soft*™ PLC programming software, an optional second RS-232C port, and networking capability. UL listed, CSA certified, CE compliant.

GENERAL AND PERFORMANCE SPECIFICATIONS

Operating Voltage	24VDC
I/O Points (CPU)	10, 14, 16, or 32
Program Capacity	2720 or 5000 Steps
Operation Speed	1msec/500 Steps
Labels/Step Ladders/Subroutines	64/128/16

INPUT SPECIFICATIONS

Input Voltage	24VDC
Electrical Isolation	Optical Coupler
Response Time	2msec or Less

OUTPUT SPECIFICATIONS

Relay	1 N.O., Form A, 2A @ 250VAC, Response Time 10msec or Less
Transistor	100mA @ 24VDC, Response Time 1msec or Less, Electrical Isolation: Optical Coupler

Stock No.	Type	Description	Each
91F7540	FP0-C10RS	24VDC Power, 6 Inputs (24VDC Sink/Source), 4 Outputs (Relay), Screw Terminals (CPU)	**176.07**
91F7541	FP0-C14RS	24VDC Power, 8 Inputs (24VDC Sink/Source), 6 Outputs (Relay), Screw Terminals (CPU)	**196.43**
91F7542	FP0-C16T	24VDC Power, 8 Inputs (24VDC Sink/Source), 8 Outputs (NPN), Includes I/O Connectors (CPU)	**208.64**
91F7543	FP0-C32T	24VDC Power, 16 Inputs (24VDC Sink/Source), 16 Outputs (NPN), Includes I/O Connectors (CPU)	**376.57**
91F7544	FP0-E8RS	24VDC Power, 4 Inputs (24VDC Sink/Source), 4 Outputs (Relay), Screw Terminals	**122.13**
91F7545	FP0-E16RS	24VDC Power, 8 Inputs (24VDC Sink/Source), 8 Outputs (Relay), Screw Terminals	**173.01**
91F7546	FP0-E16T	24VDC Power, 8 Inputs (24VDC Sink/Source), 8 Outputs (NPN)	**173.01**
91F7547	FP0-E32T	24VDC Power, 16 Inputs (24VDC Sink/Source), 16 Outputs (NPN)	**325.68**

(14927) (ne10569)

ATM SERIES INTELLIGENT OPERATOR PANELS AND ACCESSORIES

ATM-100

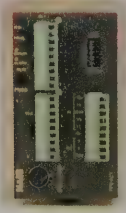
ATM-20

ATM-100 provides a compact, panel mount interface for any **FP series** programmable logic controller. The NEMA 4X front panel includes a 20 character by 2 line backlit LCD and a full numeric keypad with 24 programmable function keys. Up to 487 storage/display screens are available for the user to custom design an interface to command a variety of functions. The display can be set up to scroll or flash messages, which are triggered by the controller's internal relays, with up to 248 characters per screen. The panel can read and write PLC registers by address number or description. Comes with 3 built-in serial ports, EEPROM program memory, a real-time clock, user-definable function key stickers, 16 alarm messages, an audible beep function, and password security. Required operating voltage: 12-24VDC. Operating temperature range: 0°C to 50°C. UL listed, CSA certified. **ATM-20** is a powerful text display operator panel. Features a NEMA 4X front panel, 20 character x 2-line backlit LCD display, and tactile-feedback membrane keypad with 2 system keys and 6 function keys. Up to 248 user-configurable screens with up to 248 scrolling or flashing characters per screen. Includes 2 built-in serial ports, pass-thru capability to allow programming of the PLC, recipe entry, bar graph function, and alarm annunciation. Can be used with any **FP series** PLC and draws 5VDC operating voltage directly from the PLC program port.

Stock No.	Type	Description	Each
16F1369	ATM-100	ATM-100 Operator Panel	**573.56**
91F7548	ATM-20	ATM-20 Operator Panel	**332.06**
16F1884	XKIT-ATM-ALL	ATM-100 Software Manual, AFP15IBM-US9 Cable	**81.42**
16F1885	AFP15IBM-US9	ATM-100 Program Cable to IBM Computer	**30.54**
91F7549	AFC 1523-US	FP0 Programming Cable for ATM-20/-100, 1.5m Long	**50.88**
16F1886	AFP1523-US	Cable FP1 Program Port, 3m	**50.88**
16F1887	AFP8ATM-US9	Cable RS-232C Port, 3m	**30.54**

(3593) (ne08337)

FP0 ANALOG MODULE



Provides two 12-bit analog inputs (±10V, 0-5V, or J, K, T thermocouple) and one 12-bit analog output (0-20mA, ±10V) in a compact plastic housing that snaps together with the FP0 CPU and expansion units. Automatic thermocouple linearization is standard. Combining the unit with the FP0 CPU provides full PID control with auto tuning. I/O: 2 analog inputs, 1 analog output. Resolution: 12 bits (1 part in 4000) for both inputs and output. Input signals: thermocouple (J, K, T type), ±10V, 0-5V. Output: 0-20mA, ±10V. Operating temperature: 0°C to 55°C.

48F3912 Type FPO-A21 **Each** **333.63**
(33994) (ne33994)

FP0 POWER SUPPLY

Space-saving 24VDC switch mode power supply for the FP0 PLC is DIN rail mountable for quick and easy installation. Input voltage: 100-240VAC. Output voltage: 24VDC at 600mA. 3.54(90)H x 1.18(30)W x 3.27"(83)D.

48F3913 Type FPO-PSA1 **Each** **79.17**
(33995) (ne33995)

OMRON®

TOUCH SCREENS

NT20S GRAPHICAL LCD TOUCH SCREEN

5″ touch screen connects to any Omron PLC for a customized window into the system. Program touch switches, thumb wheels, lamps, and alarms. Field replaceable backlight. 500 screen capacity. Front panel meets NEMA 4. Dimensions: 4.33 x 7.48 x 2.28″. Operating voltage: 24VDC, 10W max.

Stock No.	Type	Description	Each
48F4636	NT20S-ST121B	5" Black Touch Screen with Black Front Bezel	1052.10
48F4637	NT20S-ST161B	5" Black Touch Screen with Black Front Bezel	1052.10
48F4638	NT20S-CFL01	Replacement Backlight	128.59
48F4639	NT20S-KBA01	Chemical-Resistant Cover	53.78
48F4640	NT20M-KBA04	Screen Protective Sheet	49.10
48F4641	NT-ZJ3AT1-EV	Programming Software	350.70
48F4642	C200H-CN510-EU	1.6′ 9 to 9 Pin NT to PLC Communication Cable	95.86
48F4643	C200H-CN320-EU	9.8′ 9 to 9 Pin NT to PLC Communication Cable	102.88
48F4644	C200H-CN520-EU	16.4′ 9 to 9 Pin NT to PLC Communication Cable	108.72
48F4645	C200H-CN229-EU	1.6′ 9 to 9 PC to NT Program Download Cable	95.86
48F4646	V020-E3-2	NT20S Operation Manual	13.45

(34470) (ne34470)

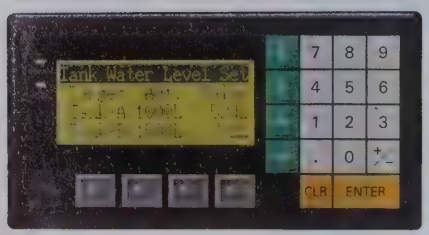
NT31 BACKLIT LCD TOUCH SCREEN

Choose a 5.7″ monochrome or 8-color LCD display. Bi-color allows allows the monochrome LCD to flash red for alarm conditions. The 8-color STN LCD provides bright, sharp color display. Connect to all Omron, Allen-Bradley SLC5/02, 02, 04, 05 (DFI protocol), and GE Fanuc 90-30 series (SNP-X protocol) PLCs. Connect directly to a barcode reader. Features log and view data points. Display bitmaps, touch switches, thumb wheels, lamps, alarms. **Type NT-MF261** memory module allows quick download/transfer of screen data to NT31 units. Field replaceable backlight. 2000 screen capacity. Front panel meets NEMA 4. Dim.: 5.59 x 7.68 x 2.19″ (H x W x D). Operating voltage: 24VDC, 10W max.

Stock No.	Type	Description	Each
48F4654	NT31-ST121B	5.7″ Monochrome Display with Black Front Bezel	1452.90
48F4655	NT31C-ST141B	5.7″ 8-Color Display with Black Front Bezel	1953.90
48F4656	NT31C-CFL014	Replacement Backlight	175.35
48F4657	NT30-KBA01	Chemical-Resistant Cover	53.78
48F4658	NT30-KBA04	Screen Protective Sheet	30.40
48F4659	NT-MF261	2MB 2-Bank Memory Module	227.96
48F4641	NT-ZJ3AT1-EV	Programming Software	350.70
48F4642	C200H-CN510-EU	1.6′ 9 to 9 Pin NT-Omron PLC Communication Cable	95.86
48F4643	C200H-CN320-EU	9.8′ 9 to 9 Pin NT-Omron PLC Communication Cable	102.88
48F4644	C200H-CN520-EU	16.4′ 9 to 9 Pin NT-Omron PLC Communication Cable	108.72
48F4648	NT31C-CN511-EU	1.6′ 9 to 9 Pin NT-AB PLC Communication Cable	95.86
48F4649	NT31C-CN321-EU	9.8′ 9 to 9 Pin NT-AB PLC Communication Cable	102.88
48F4650	NT31C-CN521-EU	16.4′ 9 to 9 Pin NT-AB PLC Communication Cable	108.72
48F4651	NT31C-CN512-EU	1.6′ 9 to 9 Pin NT-GE PLC Communication Cable	95.86
48F4652	NT31C-CN322-EU	9.8′ 9 to 9 Pin NT-GE PLC Communication Cable	102.88
48F4653	NT31C-CN522-EU	16.4′ 9 to 9 Pin NT-GE PLC Communication Cable	108.72
48F4645	C200H-CN229-EU	1.6′ 9 to 9 PC to NT Program Download Cable	95.86

(34371) (ne34371)

NT11S ALPHA NUMERIC LCD TOUCH SCREEN



4-line x 20 character backlit LCD is a capable alphanumeric interface for any Omron PLC. Features display bar-graphs, annunciate alarms, and control access with password-protected screens. 4 legend function keys, navigation keys, and a number pad allow easy data entry and display. 250 screen capacity. Front panel meets NEMA 4. Dimensions: 4.45 x 8.58 x 1.5″ (HxWxD). Operating voltage: 24VDC, 10W max.

Stock No.	Type	Description	Each
48F4647	NT11S-SF121B	Display with Black Front Bezel	578.66
48F4641	NT-ZJ3AT1-EV	Programming Software	350.70
48F4642	C200H-CN510-EU	1.6′ 9 to 9 Pin NT to PLC Communication Cable	95.86
48F4643	C200H-CN320-EU	9.8′ 9 to 9 Pin NT to PLC Communication Cable	102.88
48F4644	C200H-CN520-EU	16.4′ 9 to 9 Pin NT to PLC Communication Cable	108.72
48F4645	C200H-CN229-EU	1.6′ 9 to 9 PC to NT Program Download Cable	95.86

(34370) (ne34370)

CLEAR, DEPENDABLE DATA PRESENTATION AND CONTROL

- **Control and Access Critical Information from a Single Point**
- **Communication to PLC as Simple as the Touch of a Screen**
- **Significant Cost Savings from Replacing Hundreds of Pushbuttons, Thumbwheel Switches, Digital Readouts with One Compact Control Center**
- **Large, Easy-to-Read Screens and Flat Panel Construction**
- **Built-in Communications and Memory — No Complicated Configuration**

(34472) (ne34472)

DRN AND DRX SERIES DIN RAIL MOUNT SIGNAL CONDITIONERS

DRN/DRX Specifications:
- **10-32 VDC Input Power Supply**
- **DRN Output: 0-10V @ 10mA Max: 0-20mA or 4-20mA, 10V Compliance**
- **DRX Output: 2-Wire (Half Duplex) RS-485**
- **Isolation: 1800V Peak**
- **Typical Step Response to 99%: 1 Second**
- **Operating Temperature Range (Ambient): –5°C to +55°C (+23°F to +131°F)**
- **Storage Temperature Range: –40°C to +85°C (–40°F to +185°F)**
- **Mountable on to 32mm or 35mm DIN Rail**
- **Dimensions: 2.95H x 0.89W x 4.77″ (75 x 22.5 x 121)**

DRN/DRX Series DIN rail mount signal conditioners are ideal for all process and power monitoring applications. Models feature 3-way isolation, high-accuracy input, and programmable outputs. The signal conditioners can be used as front-end interfaces for programmable logic controllers or data acquisition systems. Models are available for most input signals including thermocouples, RTDs, AC voltage, AC current, process, voltage, strain, and frequency/pulse inputs. 2-wire (half-duplex) **DRN Series** feature analog scalable output, 0-10V, 4-20mA or 0-20mA.**DRX Series** feature RS-485 serial output and complete sensor-to-computer solution.

Stock No.	Type	Description	Each
16F2351	DRNTCN	J, K, T, E, R, S, B, J, DIN	341.42
16F2352	DRNRTDC/N	Pt100, 500, 100 ohm, 10 ohm CU	372.94
16F2353	DRNPR/N	Process-DC Millivolt and Volt	341.42
16F2354	DRNST/N	Strain Gauge/ Load-Millivolt	362.44
16F2355	DRNFPC/N	Frequency/Pulse Input	309.91
16F2356	DRNACVC/N	AC Voltage Input	362.44
16F2357	DRNACCC/N	AC Current Input	362.44
91F9157	DRXTC-/N	J, K, T, E, R, S, B, J, DIN	262.64
91F9158	DRXRTD-/N	PE100, 500, 100ohm, 10ohm CU	262.64
91F9159	DRXPR-/N	Process-DC Millivolt and Volt	288.90
91F9160	DRXST-/N	Strain Gauge/Load-Millivolt	315.16
91F9161	DRXFP-/N	Frequency/Pulse Input	262.64
91F9162	DRZACV-/N	AC Voltage Input	283.65
91F9163	DRXACC/N	AC Current Input	283.65
		ACCESSORIES	
16F2360	DRNPS750/N	Power Supply (Linear), 115VAC Input, 24VDC Output @ 750mA	143.43
48F5067	DB9-RJ12	DB9 to RJ12 Connector Adapter. Includes 7′ RJ12 Cord	33.51
48F5068	DB25-RJ12	DB25 to RJ12 Connector Adapter. Includes 7′ RJ12 Cord	33.51

(2460) (ne08168)

DRN/DRX SERIES PROGRAMMABLE SIGNAL CONDITIONERS/TRANSMITTERS REPRESENT STATE-OF-THE-ART TECHNOLOGY

- **Computer Configurable Models**
- **Available for Thermocouple, RTD, Process, Strain, Frequency/Pulse, AC Voltage, and Current**
- **DRN Series Provides 0-10V, 4-20mA or 0-20mA Analog Output**
- **DRX Series Provides RS-485 Output**

The DRN/DRX Series DIN rail mount signal conditioners represent state-of-the-art signal conditioning technology, ideal for all process and power monitoring applications. The intelligent microprocessor-based modules provide a number of features including: high accuracy inputs, field programmable ranges, and 3-way electrical isolation. Models are available for most process signals, including thermocouples, RTDs, process, voltage, strain, frequency, pulse, AC voltage, and AC current measurement. Two base styles are available: the DRN Series, which provides an output in an analog voltage or current format; and the DRX Series, which provides a digital RS-485 output.

The DRN Series is designed to be the front-end for a PLC or data acquisition system. They feature an analog output signal which is directly proportional to the input signal. The output is scalable and may be set for 0-10V, 4-20mA or 0-20mA. Units are easily configured for different operating parameters by connecting to a standard PC serial port and using the DRN-CONFIG Windows-based software package. Once the unit is configured, the parameters are saved in non-volatile memory. Unit may be disconnected from the PC and needs to be reconnected again if an operating parameter is to be changed.

The DRX Series provides a complete sensor-to-computer solution. The units accept a variety of input signals and produce an RS-485 signal that may be sent to a computer or virtually any other instrument containing an RS-485 serial port. The DRX Series may be used to create a comprehensive distributed process monitoring network. Up to 32 modules may be interconnected over a distance of 4000′ (1200m) on a single pair of wires. Using the optional RS-485 repeaters, additional modules and distances are easily accommodated. With repeaters, up to 254 modules may be connected to a single RS-485 port. The modules feature a powerful, easy-to-use ASCII-based command set. Because communication is accomplished by simply reading and writing to and from the computer's serial port, a program may be developed using any language that provides serial port support. Software can be downloaded from Newport's website.

(16038) (ne2blurb)

CAN'T LOCATE A PARTICULAR PRODUCT?
NEWARK STOCKS THOUSANDS OF ITEMS NOT LISTED IN THIS CATALOG. CALL US TODAY!

ADVANCED PID CONTROLLERS WITH FUZZY LOGIC-BASED ADAPTIVE TUNING

E5-J series auto-tuning controllers feature fuzzy logic adaptive tuning to optimize PID constants and improve process control even during changing conditions. Accurate to ± 0.5% set value for tight control. They offer an externally selectable second set point, field-selectable inputs, scaleable °F/°C ranges, event inputs, input shift function, two built-in alarms, and built-in heater burnout alarms. Selectable input types include: J, K, T, L, U, N, and platinum RTDs. Control modes include: Auto-tuning PID, PID, and ON/OFF. 1/4 and 1/8 DIN models offer digital inputs for run/stop operations and plug-in interchangeable outputs for easy, long-term maintenance. All models offer large LED displays, which present easy-to-read process and set values at a glance. All units require 100 to 240VAC supply voltage. Front panels are IEC IP54 rated (NEMA 4 with optional covers). Panel mounting adapters supplied. UL recognized, CSA certified.

E5EJ

1/4 AND 1/8 DIN CONTROLLERS

Control output boards are listed below.

Stock No.	Type	Size	Description	Each
52F4114	E5AJ-A2HB-F	1/4 DIN	Standard Model, 3.78H x 3.78W x 4.33"D (96 x 96 x 110)	369.93
52F4131	E5EJ-A2HB-F	1/8 DIN	Standard Model, 3.78H x 1.89W x 4.33"D (96 x 48 x 110)	369.93

1/16 DIN CONTROLLERS

1/16 DIN models have built-in outputs. Dimensions: 1.89H x 1.89W x 4.33"D (48 x 48 x 110).

Stock No.	Type	Description	Output Type	Each
52F4127	E5CJ-R2HB-F	Two Alarms, One Event Input, Heater Burnout Alarm (Except Current Output)	Relay, SPDT-NO, 3A, 250VAC	262.71
52F4126	E5CJ-R2-F	Two Alarms, One Event Input	Relay, SPDT-NO, 3A, 250VAC	246.62
52F4128	E5CJ-R-F	No Alarms, No Event Inputs	Relay, SPDT-NO, 3A, 250VAC	235.90
52F4124	E5CJ-Q2HB-F	Two Alarms, One Event Input, Heater Burnout Alarm (Except Current)	Voltage, NPN, 20mA @ 12VDC	262.71
52F4123	E5CJ-Q2-F	Two Alarms, One Event Input	Voltage, NPN, 20mA @ 12VDC	246.62
52F4125	E5CJ-Q-F	No Alarms, No Event Inputs	Voltage, NPN, 20mA @ 12VDC	235.90
52F4120	E5CJ-C2B-F	Two Alarms, One Event Input, Heater Burnout Alarm (Except Current)	Current, 4-20mA, 600Ω max.	305.60
52F4121	E5CJ-C2-F	Two Alarms, One Event Input	Current, 4-20mA, 600Ω max.	287.37

E5CJ

CONTROL OUTPUT AND COMMUNICATIONS BOARDS FOR 1/4 AND 1/8 DIN CONTROLLERS

NOTE: If control period is less than five seconds, select solid state or voltage relay.

Stock No.	Type	Description	Each
52F4108	E53-R	SPDT, Relay, 5A, 250VAC	9.39
52F4109	E53-S	SSR, 1A, 250VAC	17.43
52F4105	E53-Q	Voltage, 12VDC, NPN, 40mA	20.11
52F4106	E53-Q3	Voltage, 24VDC, NPN, 20mA	17.43
52F4107	E53-Q4	Voltage, 24VDC, PNP, 20mA	17.43
52F4100	E53-C3	Linear Current, 4-20mA DC, 600Ω	71.04

ACCESSORIES FOR TEMPERATURE CONTROLLERS

52F4112	E54-CT1	Current Transformer for Heater Burnout Type Controllers, 0.23" (5.8) Dia. Hole	26.81
52F4113	E54-CT3	Current Transformer for Heater Burnout Type Controllers, 0.47" (12) Dia. Hole	40.21
52F4133	Y92A-48N	1/16 DIN Sized NEMA 4 Cover	30.83
52F4134	Y92A-49N	1/8 DIN Sized NEMA 4 Cover	36.19
52F4135	Y92A-96N	1/4 DIN Sized NEMA 4 Cover	45.58

(2445) (ne07248)

LOW-COST, 1/16 DIN PID CONTROLLER

Versatile, low-cost controller features selectable temperature ranges, control modes (PID, ON/OFF), and °F/°C scales. Accurate to ± 0.5% of full scale. Input voltage: 100 to 240VAC. Large, easy to read LED display. Eight-function alarm output (SPDT-NO relay, 1A, 250VAC). Rated IP50 (NEMA 4 with optional cover *on this page*). Dimensions: 1.89H x 1.89W x 4.17"D (48 x 48 x 106). Panel mounting adapter is supplied. UL recognized, CSA certified.

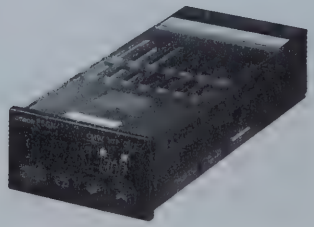
E5CS

Stock No.	Type	Description	Each
52F4129	E5CS-Q1KJX-F AC120	12VDC, 20mA with Short-Circuit Protection, Accepts J,K Thermocouples, Auto-Tuning of P Band	211.24

(2446) (ne07249)

SERIES E5GN DIGITAL TEMPERATURE CONTROL

1/32 DIN controller features selectable auto-tune or self-tune, on/off or PID. Accepts various temperature and analog inputs. NEMA4 front panel. UL listed, CSA certified, CE compliant.



STANDARD TEMPERATURE CONTROLLERS

Stock No.	Type	Description	Voltage	Each
48F4660	E5GN-R1TC AC100-2	Relay Output, 1 Alarm	100-200VAC	139.86
48F4661	E5GN-Q1TC AC100-2	Voltage Output, 1 Alarm	100-240VAC	139.86
48F4662	E5GN-R1TC AC/DC 2	Relay Output, 1 Alarm	24VAC/VDC	139.86
48F4663	E5GN-Q1TC AC/DC 2	Voltage Output, 1 Alarm	24VAC/VDC	139.86

TEMPERATURE CONTROLLERS WITH COMMUNICATIONS

48F4664	E5GNR03TCFLKAC100	Relay Output, RS-485	Relay Output, RS-485	150.22
48F4665	E5GNR03TCFLKAC/DC	Relay Output, RS-485	Relay Output, RS-485	150.22

(34471) (ne34471)

NEWARK HAS WHAT YOU NEED.
WITH SO MUCH IN STOCK, YOU HAVE THE COMPONENTS YOU NEED AT YOUR FINGERTIPS.

PROCESS AND TEMPERATURE CONTROLLERS WITH ADVANCED PID AND FUZZY LOGIC SELF-TUNING

Switch selectable for up to 22 input types with a wide selection of field-changeable output boards. Universal 100-240VAC or 24VDC power supply. Units feature heat/cool or standard operation. Control output units listed below must be used in conjunction with process controller. Current transformers for heater burnout alarm function and other accessories are available; *contact your local Newark sales office.* Meet IEC enclosure IP66 classification and NEMA enclosure type 4X. UL recognized, CSA certified, CE compliant.

Stock No.	Type	Description	Each
91F5956	E5AK-AA2-500	1/4 DIN, 100-240VAC Supply	428.91
91F5957	E5AK-AA2-500-AC/D	1/4 DIN, 24VDC Supply	434.27
91F5958	E5EK-AA2-500	1/8 DIN, 100-240VAC Supply	418.19
91F5959	E5EK-AA2-500-AC/D	1/8 DIN, 24VDC Supply	423.55
91F5960	E5CK-AA1-500	1/16 DIN, 100-240VAC Supply	235.90
91F5961	E5CK-AA1-500-AC/D	1/16 DIN, 24VDC Supply	257.35

CONTROL OUTPUT UNITS FOR TYPES E5AK AND E5EK CONTROLLERS

Up to 2 output units may be used with each controller. NOTE: If the control period is less than 5 seconds, use solid-state relay or pulse voltage output board.

52F4108	E53-R	Single SPDT, Relay, 5A, 250VAC	9.39
52F4109	E53-S	Single SSR, 1A, 250VAC	17.43
52F4105	E53-Q	Single Voltage, 12VDC, NPN, 40mA	20.11
52F4106	E53-Q3	Single Voltage, 24VDC, NPN, 20mA	17.43
52F4107	E53-Q4	Single Voltage, 24VDC, PNP, 20mA	17.43

CONTROL OUTPUT UNITS FOR TYPE E5CK CONTROLLERS

Only 1 output unit necessary. NOTE: If the control period is less than 5 seconds, use solid-state relay or pulse voltage output board.

91F5962	E53-R4R4	Dual SPST Relay, 3A, 250VAC	29.49
91F5963	E53-Q4R4	Single SPST Relay, 3A, 250VAC and Single 12VDC, NPN, 20mA Voltage	26.81
91F5965	E53-C4R4	Single SPST Relay, 3A, 250VAC and Single Linear Current 4-20mA, 500Ω	103.21
91F5968	E53-Q4Q4	Single 12VDC, NPN, 20mA Voltage and Single 12VDC, PNP, 20mA Voltage	76.40
91F5969	E53-Q4HQ4H	Single 12VDC, PNP, 20mA Voltage	76.40

(15428) (ne10706)

SERIES E5K RAMP/SOAK PROCESS CONTROLLERS

NEW

Ramp/soak equipped process controllers have a time accuracy of ±0.2% (±500ms) of set value and can be programmed via time or ramp setting methods. All have multiple patterns, steps and broad set times (0-99 hrs, 59 min.; or 0-99 min. 59 sec.) to go with 16 steps for precise control, virtually eliminating overshoots. 6 customizable levels of security. Automatic PID tuning.100 ms sampling for analog input. RS-485, RS-232C, and RS-422 communications ports. NEMA 4, IP66 certified. UL listed, CSA certified, CE compliant.

Stock No.	Type	Description	Voltage	Each
48F1106	E5AK-TAA2-500 AC1	8 Patterns	100-240VAC	450.66
48F1107	E5AK-TAA2-500 AC/	8 Patterns	24VAC/VDC	492.10
48F1108	E5E5-TAA2-500 AC1	4 Patterns	100-240VAC	435.12
48F1109	E5EK-TAA2-500 ACD	4 Patterns	24VAC/VDC	440.30

(34078) (ne34078)

OMRON'S E5K SERIES CONTROLLERS PROVIDE VERSATILITY WITH ADVANCED PID AND FUZZY LOGIC SELF-TUNING

FEATURES:

- Switch Selectable for up to 22 Input Types
- Wide Selection of Field-Changeable Output Boards
- Multi-Functional with Front Panel Programming
- Universal 100-240VAC or 24VDC Power Supply
- Meets IEC Enclosure IP66 Classification and NEMA Enclosure Type 4X
- Built-In Advanced Process Control Functions
- Heat/Cool or Standard Operation

Omron's new E5K series controllers provide unmatched accuracy and application versatility. Choose from 1/4, 1/8, or 1/16 DIN sizes with universal AC or 24VDC power supply voltages.

These controllers feature a wide range of switch selectable input types, including: 15 thermocouples, 2 RTDs, and 2 linear current and 3 voltage types to meet virtually every controller application. Choose from a wide variety of output boards, *ordered separately*, including: relay, solid state, voltage, or current.

The E5K series meets IEC enclosure IP66 classification and NEMA enclosure type 4X, which makes them suitable for harsh environments such as food and beverage processing, packaging, semiconductor manufacturing, chemical, pulp and paper applications, and more.

The unique fuzzy logic self-tuning function constantly monitors controller performance and modifies the PID parameters as necessary to maximize controller performance during start-up, steady-state, and process disturbance operations. The result is faster ramp to set point during start-up without overshoot, faster recovery from process upsets, and better overall process management.

RAMP/SOAK PROCESS CONTROLLER FEATURES

- Time Accuracy of ±0.2% (±500ms) of Set Value
- Can be Programmed via Time or Ramp Setting Methods
- Multiple Patterns, Steps and Broad Set Times (0-99 hrs, 59 min.; or 0-99 min. 59 sec.)
- 16 Steps for Precise Control, Virtually Eliminating Overshoots
- 6 Customizable Levels of Security
- Automatic PID Tuning
- 100 ms Sampling for Analog Input
- RS-485, RS-232C, and RS-422 Communications Ports

(15429) (omblurb1)

ADVANCED DIGITAL PANEL AND ELAPSED TIME METERS

HAWK II AND HAWK H235 MICROPROCESSOR CONTROLLERS

HAWK II

HAWK

Types Hawk II H235 and **Hawk HK35** microprocessor controller/indicators. Easy front panel setup of display scaling, decimal point precision, alarm setpoints and relay settings. Up to two 5A relay outputs. 120VAC power. Both models have 3½ digit red LED displays and fit ⅛ DIN cutout. **Type Hawk II** has NEMA 4 front panel, is UL recognized, CE and CSA compliant. Options include 24VAC, 48VAC, or 12-48VDC power, excitation output, analog output. **Type HK35** options include 4½ digit display, 24/48VAC or 8-32VDC power, and analog or digital outputs. Additional inputs include DC Current, DC Process, ACTRMS voltage/current, resistance, frequency, temperature and tachometer. NEMA 4 cover available. *Contact your local Newark sales office.*

DC VOLTAGE CONTROLLERS

Stock No.	Tupe	Input	Relay Outputs	1-4	5-9
95F5574	H2351-0110-000	200mV	None	165.94	156.53
95F5576	H2351-0130-000	20V	None	165.94	156.53
95F5577	H2351-0110-010	200mV	One	210.49	198.55
95F5579	H2351-0120-010	2V	One	210.49	198.55
95F5580	H2351-0130-010	20V	One	210.49	198.55
95F5581	H2351-0140-010	200V	One	210.49	198.55
95F5582	H2351-0110-020	200mV	Two	232.76	219.56
95F5583	H2351-0120-020	2V	Two	232.76	219.56
95F5584	H2351-0130-020	20V	Two	232.76	219.56
95F5585	H2351-0140-020	200V	Two	232.76	219.56
16F2262	HK351-0150-020	750V	Two	332.99	314.11

DC PROCESS CONTROLLERS

95F5586	H2351-0710-000	4-20mA	None	165.94	156.53
95F5590	H2351-0710-010	4-20mA	One	210.49	198.55
95F5594	H2351-0710-020	4-20mA	Two	232.76	219.56

AC VOLTAGE CONTROLLERS

95F5596	H2351-0340-010	200V	One	249.46	235.32
95F5598	H2351-0340-020	200V	Two	271.74	256.33
50F8930	HK3510340020	200V	Two	371.97	350.88

AC CURRENT CONTROLLERS

For higher AC current levels, use with Simpson® current transformers.

95F5600	H2351-0460-000	5A	None	204.92	193.30
95F5601	H2351-0460-010	5A	One	249.46	235.32
95F5602	H2351-0460-020	5A	Two	271.74	256.33
50F8932	HK3510460020	5A	Two	371.97	350.88

RESISTANCE CONTROLLERS

92F4093	H2351-0810-010	200 ohm	One	282.87	266.84
92F4090	H2351-0820-010	2 Kohm	One	282.87	266.84
92F4091	H2351-0830-010	20 Kohm	One	282.87	266.84
92F4092	H2351-0840-010	200 Kohm	One	282.87	266.84

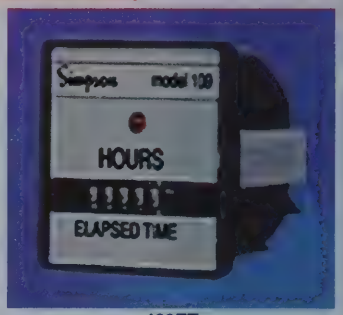
TEMPERATURE CONTROLLERS

Stock No.	Type	Thermocouple	Relay Outputs	1-4	5-9
92F4250	H2351-0910-0-0-0	Type J (°C/F)	None	232.76	219.56
92F4251	H2351-0910-010	Type J (°C/F)	One	277.31	261.58
92F4252	H2351-091-0-0-2-0	Type J (°C/F)	Two	299.58	282.60
92F4255	H2351-0920-020	Type K (°C/F)	Two	299.58	282.60
92F4257	H2351-0930-020	RTD PT 100	Two	310.72	293.10

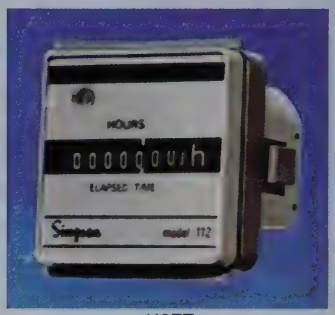
(2444) (ne07090)

ELAPSED TIME METERS

55ET



109ET



112ET

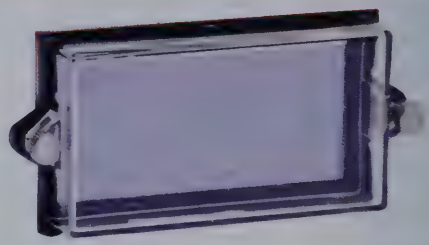
ELAPSED TIME METERS

Type 55ET 3.5″ size, 120VAC or 240VAC input power. Accuracy synchronous with AC power. **Type 112ET** 1½″ size, 120VAC input power. Accuracy < =0.01%/24 hrs. **Type 109ET** 1½″ size, 10-80VDC input power or 100-265VAC with optional **Type 03619** adapter. Accuracy < =0.01%/24 hrs. All types totalizing, non-resettable.

Stock No.	Type	Style	1-4	5-9
55F4359	03580	120VAC, Round ET Meter	91.22	88.70
55F4363	03600	240VAC, Round ET Meter	91.78	89.24
46F1399	03618(109ET)	10-80VDC, 1.5″ ET Meter	48.20	46.54
46F1438	03619	AC Converter Module	11.68	11.45
87F3240	03622 (112)	120VAC, 1.5″ ET Meter	37.72	36.42

(2378) (de03704)

LENS COVER FOR HAWK SERIES CONTROLLERS



NEMA-4 (IP-65) splash-proof lens cover fits all Simpson® ⅛ DIN controllers and indicators, providing protection against dust, falling dirt, salt spray, dripping water, and non-corrosive liquids. 4.30W x 2.41H x 0.96″D (109.22 x 61.21 x 24.38).

Stock No.	Type	Description	1-9	10-24
92F4277	45003	NEMA-4 Lens Cover	39.46	38.10

(42170) (ne42170)

LET NEWARK CONNECT™ AUTOMATICALLY REPLENISH YOUR INVENTORY.
CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR DETAILS.

DIGITAL PANEL METERS

3/64 DIN MINI-MAX SERIES (AC TRUE RMS) AC VOLTAGE INDICATORS

Types M235 3½-digit and **M245** 4½-digit indicators with, LCD or negative image red backlighting. User-selectable decimal point and display scaling. Behind-panel depth only 2.36″ Screw terminal connectors. 85-250VAC power. CE approved. Optional excitation output and 9-32VDC or 48VDC power available; *contact your local Newark sales office.*

Stock No.	Type	Input	Backlight	1-4	5-9
95F5652	M235-0-0-34-0	200V	None	138.10	130.27
52F5895	M235-0-0-35-0	750V	None	138.10	130.27
95F5659	M235-1-0-34-0	200V	Negative Red	160.37	151.28
16F2259	M235-1-0-35-0	750V	Negative Red	160.37	151.28
92F4227	M245-0-0-34-0	200V	None	171.51	161.78
92F4234	M245-1-0-34-0	200V	Negative Red	193.78	182.80

(16738) (ne09904)

3/64 DIN MINI-MAX AND 1/8 DIN FALCON SERIES AC LINE FREQUENCY INDICATORS

Falcon Series

Mini-Max Series

Type M235 3/64 DIN **Mini-Max series** 3½-digit indicators with LCD or negative image red backlighting. Behind-panel depth only 2.36″. Screw terminal connectors. 85-250VAC power. CE compliant. Square wave measurement also available; *contact your local Newark sales office.* **Type F35** 1/8 DIN Falcon series 3½-digit indicators with red LED display. Rugged splash proof case only 3.12″ deep. Screw terminal connectors. 120VAC power. Square wave measurement also available; *contact your local Newark sales office.*

3/64 DIN MINI-MAX SERIES

Stock No.	Type	Input	1-4	5-9
91F9696	M235-0-0-81-0	20-199.9Hz RMS	100.04	97.28
91F9697	M235-0-0-82-0	20-1999Hz RMS	100.04	97.28
91F9698	M235-1-0-81-0	20-199.9Hz RMS	121.39	114.51
91F9699	M235-1-0-82-0	20-1999 Hz RMS	121.39	114.51
1/8 DIN FALCON SERIES				
91F9700	F35-1-91-0	20-199.9Hz RMS	116.90	113.67
91F9701	F35-1-92-0	20-1999Hz RMS	116.90	113.67

(16732) (ne09906)

1/8 DIN FALCON SERIES (AC AND AC TRUE RMS) AND 2800 SERIES AC VOLTAGE INDICATORS

Falcon Series

2800 Series

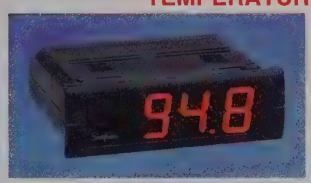
Types F35 3½-digit and **F45** 4½-digit 1/8 DIN Falcon series indicators with red LED display. Rugged splash proof case only 3.12″ deep. User-selectable decimal point and display scaling. 120VAC power. Optional excitation output and 220VAC or 9-32VDC power available; *contact your local Newark sales office.* **Type 2869** 3½-digit indicator with red LED display. Jumper-selectable decimal point. Fits 1.682 x 3.622″ cutout. Input/output edge connector included. 120VAC power.

1/8 DIN FALCON SERIES

Stock No.	Type	Input	1-4	5-9
93F9500	F35-1-31-0	200mV	159.26	150.23
93F9501	F35-1-32-0	2V	159.26	150.23
93F9502	F35-1-33-0	20V	159.26	150.23
93F9503	F35-1-34-0	200V	159.26	150.23
93F9504	F35-1-35-0	750V	159.26	150.23
93F9511	F35-1-51-0	200mV True RMS	188.21	177.54
93F9512	F35-1-52-0	2V True RMS	188.21	177.54
93F9513	F35-1-53-0	20V True RMS	188.21	177.54
93F9514	F35-1-54-0	200V True RMS	188.21	177.54
93F9515	F35-1-55-0	750V True RMS	188.21	177.54
95F5558	F45-1-31-0	200mV	249.46	235.32
95F5559	F45-1-32-0	2V	249.46	235.32
95F5560	F45-1-33-0	20V	249.46	235.32
95F5561	F45-1-34-0	200V	249.46	235.32
95F5562	F45-1-35-0	750V	249.46	235.32
95F5569	F45-1-51-0	200mV True RMS	282.87	266.84
95F5571	F45-1-53-0	20V True RMS	282.87	266.84
95F5572	F45-1-54-0	200V True RMS	282.87	266.84
95F5573	F45-1-55-0	750V True RMS	282.87	266.84
2800 SERIES				
89F3533	24633	200V	289.56	273.14

(16736) (ne09905)

3/64 DIN MINI-MAX AND 1/8 DIN FALCON SERIES TEMPERATURE INDICATORS



Mini-Max Series

Falcon Series

Type M240 3/64 DIN **Mini-Max series** 4-digit indicators with red LED display. J or K thermocouple, RTD Pt100, and mVDC inputs. Jumper-selectable input type and °F/°C display (shipped as °F). Screw terminal connectors. 85-250VAC power. *Order thermocouple and RTD sensors separately; contact your local Newark sales office.* **Type F45** 1/8 DIN **Falcon series** 4½-digit indicators with red LED display. User-selectable input type and °F/°C display (shipped as °F). Screw terminal connectors. 120VAC power. Other thermocouple types and 220VAC or 9-32VDC power optional; *contact your local Newark sales office.*

3/64 DIN MINI-MAX SERIES

Stock No.	Type	Input	1-4	5-9
52F6604	M2400-910F	J T/C	177.08	167.04
52F6605	M2400-920F	K T/C	177.08	167.04
52F6606	M2400-930F	RTD Pt100	177.08	167.04
52F6607	M2400-940	mVDC	177.08	167.04
1/8 DIN FALCON SERIES				
95F5692	F45-1-80-0	J	210.49	198.55
95F5693	F45-1-81-0	K	210.49	198.55
95F5551	F45-1-90-0	RTD Pt100	210.49	198.55

(16733) (ne09907)

2800 SERIES TEMPERATURE INDICATORS

2800 Series

Type 2871 3½-digit indicators with red LED display. Type J thermocouple input. Choice of °F or °C instruments. 120VAC power. *Order type J thermocouples separately; contact your local Newark sales office.*

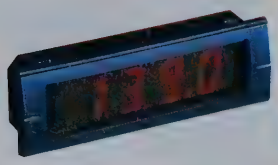
Stock No.	Type	Input	1-4	5-9
89F3504	24660	0-200°F	222.74	210.11
89F3505	24661	0-1200°F	222.74	210.11
89F3506	24662	0-200°C	222.74	210.11
89F3507	24663	0-650°C	222.74	210.11

(16734) (ne10232)

NEW PRODUCTS ARE CONTINUALLY ADDED.
CALL NEWARK FOR CURRENT SELECTION.

DIGITAL PANEL METERS

3/64 DIN MINI & MINI-MAX SERIES DC VOLTAGE INDICATORS



Types M135 3½-digit and **M145** 4½-digit **3/64 DIN Mini series**, LCD or negative image red backlighting. Shallow 0.5″ deep case. Backlit units require 5VDC backlight power: 5VDC power standard, ±5VDC and 9VDC optional; *contact your local Newark sales office.* **Types M235** 3½-digit and **M245** 4½-digit **3/64 DIN Mini-Max series**, LCD or negative image red backlighting. User-selectable decimal point. Behind-panel depth only 2.36″. Screw terminal connectors. 85-250VAC power. Optional excitation output and 9-32VDC or 48VDC power; contact your local Newark sales office. The Mini-Max series is CE approved.

3/64 DIN MINI SERIES

Stock No.	Type	Input	Backlight	1-4	5-9
95F5604	M135-0-0-11-0	200mV	None	66.32	64.49
95F5605	M135-0-0-12-0	2V	None	66.32	64.49
95F5606	M135-0-0-13-0	20V	None	66.32	64.49
95F5607	M135-0-0-14-0	200V	None	66.32	64.49
95F5616	M135-1-0-11-1	200mV	Negative Red	88.80	86.35
95F5617	M135-1-0-12-1	2V	Negative Red	88.80	86.35
95F5618	M135-1-0-13-1	20V	Negative Red	88.80	86.35
95F5619	M135-1-0-14-1	200V	Negative Red	88.80	86.35
92F4197	M145-0-0-11-0	200mV	None	87.68	85.25
92F4198	M145-0-0-12-0	2V	None	87.68	85.25
92F4199	M145-0-0-13-0	20V	None	87.68	85.25
92F4200	M145-0-0-14-0	200V	None	87.68	85.25
92F4191	M145-1-0-11-1	200mV	Negative Red	110.16	107.11
92F4192	M145-1-0-12-1	2V	Negative Red	110.16	107.11
92F4193	M145-1-0-13-1	20V	Negative Red	110.16	107.11
92F4194	M145-1-0-14-1	200V	Negative Red	110.16	107.11

3/64 DIN MINI-MAX SERIES

Stock No.	Type	Input	Backlight	1-4	5-9
95F5628	M235-0-0-11-0	200mV	None	100.04	97.28
95F5629	M235-0-0-12-0	2V	None	100.04	97.28
95F5630	M235-0-0-13-0	20V	None	100.04	97.28
95F5631	M235-0-0-14-0	200V	None	100.04	97.28
95F5634	M235-1-0-11-0	200mV	Negative Red	121.39	114.51
95F5635	M235-1-0-12-0	2V	Negative Red	121.39	114.51
95F5636	M235-1-0-13-0	20V	Negative Red	121.39	114.51
95F5637	M235-1-0-14-0	200V	Negative Red	121.39	114.51
92F4239	M245-0-0-11-0	200mV	None	132.53	125.02
92F4240	M245-0-0-12-0	2V	None	132.53	125.02
92F4241	M245-0-0-13-0	20V	None	132.53	125.02
92F4242	M245-0-0-14-0	200V	None	132.53	125.02
92F4245	M245-1-0-11-0	200mV	Negative Red	154.80	146.03
92F4246	M245-1-0-12-0	2V	Negative Red	154.80	146.03
92F4247	M245-1-0-13-0	20V	Negative Red	154.80	146.03
92F4221	M245-1-0-14-0	200V	Negative Red	154.80	146.03

(16040) (ne09892)

1/8 DIN FALCON SERIES DC VOLTAGE INDICATORS

Types F35 3½-digit and **F45** 4½-digit red LED display. Rugged splash-proof case only 3.12″ deep. User-selectable decimal point and display scaling. 120VAC power. Optional excitation output and 220VAC or 9-32VDC power; *contact your local Newark sales office.*

Stock No.	Type	Input	1-4	5-9
93F9480	F35-1-11-0	200mV	116.90	113.67
93F9481	F35-1-12-0	2V	116.90	113.67
93F9482	F351-13-0	20V	116.90	113.67
93F9483	F35-1-14-0	200V	116.90	113.67
93F9484	F35-1-15-0	750V	116.90	113.67
95F5529	F45-1-11-0	200mV	210.49	198.55
95F5530	F45-1-12-0	2V	210.49	198.55
95F5531	F45-1-13-0	20V	210.49	198.55
95F5532	F45-1-14-0	200V	210.49	198.55
95F5533	F45-1-15-0	750V	210.49	198.55

(16041) (ne09894)

2800 SERIES DC VOLTAGE INDICATORS

Type 2865 3½-digit, 120VAC. **Type 2866** 3½-digit, 5VDC. **Type 2842** 4½-digit, 120VAC. All types fit 1.682″ x 3.622″ cutout. Input/output edge connector included. Red LED display.

Stock No.	Type	Input	Operating Power	1-4	5-9
55F1688	24500 2865 200MV	200mV	120VAC	178.19	168.09
55F1689	24501 2865 2V	2V	120VAC	178.19	168.09
55F1690	24502 2865 20V	20V	120VAC	178.19	168.09
55F1691	24503 2865 200V	200V	120VAC	178.19	168.09
55F1697	24600 2866 200MV	200mV	5VDC	161.48	152.33
55F1698	24601 2866 2V	2V	5VDC	161.48	152.33
55F1699	24602 2866 20V	20V	5VDC	161.48	152.33
55F1700	24603 2866 200V	200V	5VDC	161.48	152.33
58F1260	24860	200mV	120VAC	311.83	294.15
58F1261	24861	2V	120VAC	311.83	294.15
58F1262	24862	20V	120VAC	311.83	294.15
58F1263	24863	200V	120VAC	311.83	294.15

(16042) (ne09895)

3/64 DIN MINI-MAX AND 1/8 DIN FALCON SERIES DC PROCESS INDICATORS

Mini-Max Series

Falcon

Types M235 3½-digit and **M245** 4½-digit **3/64 DIN Mini-Max series**, LCD or negative image red backlighting. User-selectable offset, decimal point, display scaling. Behind-panel depth only 2.36″. Screw terminal connectors. 85-250VAC or 9-32VDC power. Optional excitation output or 48VDC power; *contact your local Newark sales office.* **Types F35** 3½-digit and **F45** 4½-digit **1/8 DIN Falcon series** red LED display. Broad range scaling and offset. User-selectable decimal point. Rugged splash proof case. 120VAC power. Optional excitation output and 220VAC or 9-32VDC power; *contact your local Newark sales office.* The Mini-Max series is CE approved.

3/64DIN MINI-MAX SERIES

Stock No.	Type	Input	Power	Backlight	1-4	5-9
95F5663	M235-0-0-71-0	4-20mA	85-250VAC	None	116.90	113.67
16F2260	M235-0-0-73-0	0-10V	85-250VAC	None	116.90	113.67
95F5665	M235-1-0-71-0	4-20mA	85-250VAC	Negative Red	138.10	130.27
16F2261	M235-1-0-73-0	0-10V	85-250VAC	Negative Red	138.10	130.27
95F5667	M235-0-2-71-0	4-20mA	9-32VDC	None	149.23	140.77
95F5669	M235-1-2-71-0	4-20mA	9-32VDC	Negative Red	171.51	161.78
92F4238	M245-0-0-71-0	4-20mA	85-250VAC	None	149.23	140.77
92F4213	M245-1-0-71-0	4-20mA	85-250VAC	Negative Red	171.51	161.78
92F4215	M245-0-2-71-0	4-20mA	9-32VDC	None	182.64	172.29
92F4217	M245-1-2-71-0	4-20mA	9-32VDC	Negative Red	204.92	193.30

1/8 DIN FALCON SERIES

Stock No.	Type	Input	1-4	5-9
93F9485	F351-71-0	4-20 mA DC	150.90	142.35
93F9487	F351-73-0	0-10 VDC	150.90	142.35
95F5539	F45-1-71-0	4-20mADC	210.49	198.55
95F5541	F45-1-73-0	0-10VDC	210.49	198.55

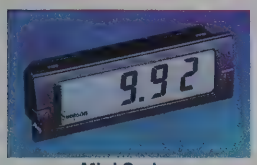
1/8 DIN FALCON SERIES WITH 24VDC EXCITATION OUTPUT

93F9491	F351-71-2	4-20 mA DC	211.04	199.08
93F9493	F351-73-2	0-10 VDC	211.04	199.08
95F5689	F45-1-71-2	4-20mADC	270.62	255.28
95F5691	F45-1-73-2	0-10 VDC	270.62	255.28

(16043) (ne09896)

DIGITAL PANEL METERS

3/64 DIN MINI AND MINI-MAX SERIES DC CURRENT INDICATORS



Mini Series

Mini-Max Series

Types M135 3½-digit and **M145** 4½-digit 3/64 DIN Mini series indicators with LCD or negative image red backlighting. Shallow 0.5″ deep case. 5VDC power standard, ±5VDC or 9VDC optional; *contact your local Newark sales office.* Backlit units require 5VDC backlit power. **Types M235** 3½-digit and **M245** 4½-digit 3/64 DIN Mini-Max series with LCD or negative image red backlighting. User-selectable decimal point and display scaling. Behind-panel depth only 2.36″. Screw terminal connectors. 85-250VAC power. Optional excitation output and 9-32VDC or 48VDC power; *contact your local Newark sales office.* Only Mini-Max series is CE approved.

3/64 DIN MINI SERIES

Stock No.	Type	Input	Backlight	1-4	5-9
95F5608	M135-0-0-23-0	20mA	None	**66.32**	**64.49**
95F5609	M135-0-0-24-0	200mA	None	**66.32**	**64.49**
95F5620	M135-1-0-23-1	20mA	Negative Red	**88.80**	**86.35**
95F5621	M135-1-0-24-1	200mA	Negative Red	**88.80**	**86.35**
92F4201	M145-0-0-23-0	20mA	None	**87.68**	**85.25**
92F4202	M145-0-0-24-0	200mA	None	**87.68**	**85.25**
92F4195	M145-1-0-23-1	20mA	Negative Red	**110.16**	**107.11**
92F4196	M145-1-0-24-1	200mA	Negative Red	**110.16**	**107.11**

3/64 DIN MINI-MAX SERIES

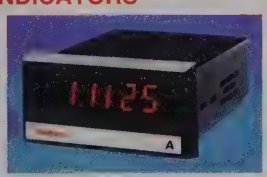
Stock No.	Type	Input	Backlight	1-4	5-9
95F5628	M235-0-0-11-0*	200mV	None	**100.04**	**97.28**
95F5632	M235-0-0-24-0	200mV	None	**100.04**	**97.28**
95F5633	M235-0-0-25-0	2A	None	**100.04**	**97.28**
95F5638	M235-1-0-24-0	200mA	Negative Red	**121.39**	**114.51**
95F5639	M235-1-0-25-0	2A	Negative Red	**121.39**	**114.51**
92F4239	M245-0-0-11-0*	200mV	None	**132.53**	**125.02**
92F4243	M245-0-0-24-0	200mA	None	**132.53**	**125.02**
92F4244	M245-0-0-25-0	2A	None	**132.53**	**125.02**
92F4222	M245-1-0-24-0	200mA	Negative Red	**154.80**	**146.03**
92F4223	M245-1-0-25-0	2A	Negative Red	**154.80**	**146.03**

*Scale display, requires use with Simpson external shunt for higher DC levels; *contact your local Newark sales office*

(16729) (ne09898)

1/8 DIN FALCON SERIES AND 2800 SERIES DC CURRENT INDICATORS

Falcon Series



2800 Series

Types F35 3½-digit and **F45** 4½-digit indicators with red LED display. Rugged splash proof case only 3.12″ deep. User-selectable decimal point and display scaling. 120VAC power. Optional excitation output and 220VAC or 9-32VDC power available; *contact your local Newark sales office.* **Types 2865** 3½-digit red LED display. Jumper-selectable decimal point. Fits 1.682″ x 3.622″ cutout. Input/output edge connector included. 120VAC power.

1/8 DIN FALCON SERIES

Stock No.	Type	Input	1-4	5-9
93F9480	F35-1-11-0*	200mV	**116.90**	**113.67**
93F9475	F35-1-21-0	200µA	**116.90**	**113.67**
93F9476	F35-1-22-0	2mA	**116.90**	**113.67**
93F9477	F35-1-23-0	20mA	**116.90**	**113.67**
93F9478	F35-1-24-0	200mA	**116.90**	**113.67**
93F9479	F35-1-25-0	2A	**116.90**	**113.67**
95F5529	F45-1-11-0*	200mV	**210.49**	**198.55**
95F5534	F45-1-21-0	200µA	**210.49**	**198.55**
95F5535	F45-1-22-0	2mA	**210.49**	**198.55**
95F5536	F45-1-23-0	20mA	**210.49**	**198.55**
95F5537	F45-1-24-0	200mA	**210.49**	**198.55**
95F5538	F45-1-25-0	2A	**210.49**	**198.55**

*Scale display, requires use with Simpson external shunt for higher DC current levels; *contact your local Newark sales office.*

2800 SERIES

Stock No.	Type	Input	1-4	5-9
55F1692	24504 2865 20UA	20µA	**178.19**	**168.09**
55F1693	24505 2865 200UA	200µA	**178.19**	**168.09**
55F1694	24506 2865 2MA	2mA	**178.19**	**168.09**
55F1695	24507 2865 20MA	20mA	**178.19**	**168.09**
55F1696	24508 2865 200MA	200mA	**178.19**	**168.09**

(16728) (ne09901)

3/64 DIN MINI-MAX SERIES AC CURRENT INDICATORS

CE

Types M235 3½-digit and **M245** 4½-digit indicators with LCD or negative image red backlighting. User-selectable decimal point and display scaling. Behind-panel depth only 2.36″. Screw terminal connectors. 85-250VAC power. CE approved. Optional excitation output and 9-32VDC or 48VDC power available; *contact your local Newark sales office.*

Stock No.	Type	Input	Backlight	1-4	5-9
95F5653	M235-0-0-44-0	200mA	None	**138.10**	**130.27**
95F5654	M235-0-0-45-0	2A	None	**138.10**	**130.27**
95F5655	M235-0-0-46-0*	5A	None	**138.10**	**130.27**
95F5660	M235-1-0-44-0	200mA	Negative Red	**160.37**	**151.28**
95F5661	M235-1-0-45-0	2A	Negative Red	**160.37**	**151.28**
95F5662	M235-1-0-46-0*	5A	Negative Red	**160.37**	**151.28**
92F4228	M245-0-0-44-0	200mA	None	**171.51**	**161.78**
92F4229	M245-0-0-45-0	2A	None	**171.51**	**161.78**
92F4230	M245-0-0-46-0*	5A	None	**171.51**	**161.78**
92F4235	M245-1-0-44-0	200mA	Negative Red	**193.78**	**182.80**
92F4236	M245-1-0-45-0	2A	Negative Red	**193.78**	**182.80**
92F4237	M245-1-0-46-0*	5A	Negative Red	**193.78**	**182.80**

*Scale display, requires use with Simpson current transformer for higher AC current levels; *contact your local Newark sales office.*

(16726) (ne09902)

1/8 DIN FALCON SERIES AC CURRENT INDICATORS

Types F35 3½-digit and **F45** 4½-digit indicators with red LED display. Rugged splash proof case only 3.12″ deep. User-selectable decimal point and display scaling. 120VAC power. Optional excitation output and 220VAC or 9-32VDC power available; *contact your local Newark sales office.*

Stock No.	Type	Input	1-4	5-9
93F9498	F35-1-45-0	2A	**159.26**	**150.23**
93F9499	F35-1-46-0*	5	**159.26**	**150.23**
93F9509	F35-1-65-0	2A True RMS	**188.21**	**177.54**
93F9510	F351-66-0*	5A True RMS	**188.21**	**177.54**
95F5556	F45-1-45-0	2A	**249.46**	**235.32**
95F5557	F45-1-46-0*	5	**249.46**	**235.32**
95F5567	F45-1-65-0	2A True RMS	**282.87**	**266.84**
95F5568	F45-1-66-0*	5A True RMS	**282.87**	**266.84**

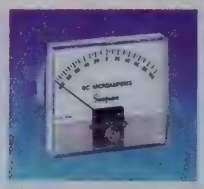
*Scale display, requires use with Simpson current transformer for higher AC current levels; *contact your local Newark sales office.*

(16730) (ne09903)

NEWARK: YOUR ONE-STOP SHOP.

PANEL METERS AND ACCESSORIES

TRU-VUE PANEL METERS



Modern, clear acrylic lens to update your panel design. All models shown have black knife-edge pointer and ±2% f.s. accuracy. Available in 5 sizes: 1½", 2½", 3½", 4½", 4"x 6"; *contact your local Newark sales office for sizes and ranges not shown. Order external shunts and current transformers separately below.*

DC Microammeters (Pivot and Jewel)

Range	Resistance (ohms)	Type 921 1½" Stock No.	Each	Type 922 2½" Stock No.	Each
0-100	1800	95F5675	82.34	95F5676	83.46
0-200	1100	95F5679	75.87	95F5680	75.59
100-0-100	1100	95F5683	75.87	95F5684	77.00

DC Milliammeters (Pivot and Jewel)

0-1	43	95F5696	70.76	95F5697	72.50
0-5	2.0 (20)*	95F5700	70.76	95F5701	72.50
0-25	4.0 (6.0)*	95F5704	74.13	95F5705	73.06
0-100	1.0 (1.5)*	95F5708	74.13	95F5709	73.06

*Resistance of 1½" size DC milliameters are shown in parentheses.

DC Ammeters (Pivot and Jewel)

0-1	0.05	95F5712	74.13	95F5713	73.06
0-5	0.01	95F5716	74.13	95F5717	73.06
0-10	0.005	95F5720	74.13	95F5721	73.06
0-50†	0.001*	95F5724	74.13	95F5725	73.06
0-100‡	10.0*	95F5728	74.13	95F5729	73.06
0-500‡	10.0*	95F5732	74.13	95F5733	73.06

*1½ size only —10 ohms
†**Type 921** 1½" requires external shunt; *order separately on this page.*
‡Requires external shunt; *order separately on this page.*

DC Millivoltmeters (Pivot and Jewel)

0-50	10	95F5736	74.13	95F5737	73.06
50-0-50	20	95F5740	74.13	95F5741	73.06

DC Voltmeters (Pivot and Jewel)

0-15	1000 Ohms per Volt	95F5744	77.00	95F5745	77.00
0-30		95F5748	77.00	95F5749	77.00
0-50		95F5752	77.00	95F5753	77.00
0-150		95F5756	77.00	95F5757	77.00
0-500*	2000	95F5760	77.00	95F5761	79.25

*Type 921 1 ½" requires external multiplier; *order separately. Contact your local Newark branch.*

DC Microammeters (Pivot and Jewel)

Range	Resistance (ohms)	Type 923 3½" Stock No.	Each	Type 924 4½" Stock No.	Each
0-100	1800	95F5677	85.99	95F5678	95.54
0-200	1100	95F5681	79.25	95F5682	85.99
100-0-100	1100	95F5685	79.81	95F5695	86.55

DC Milliammeters (Pivot and Jewel)

0-1	43	95F5698	73.63	95F5699	79.25
0-5	2.0	95F5702	73.63	95F5703	79.25
0-25	4.0	95F5706	77.00	95F5707	82.62
0-100	1.0	95F5710	77.00	95F5711	82.62

DC Ammeters (Pivot and Jewel)

0-1	0.05	95F5714	77.00	95F5715	83.12
0-5	0.01	95F5718	69.30	95F5719	83.12
0-10	0.005	95F5722	77.00	95F5723	83.12
0-50	0.001	95F5726	77.00	95F5727	83.12
0-100†	10.0	95F5730	77.00	95F5731	83.12
0-500†	10.0	95F5734	77.00	95F5735	83.12

†Requires external shunt; *order separately on this page.*

DC Millivoltmeters (Pivot and Jewel)

0-50	10	95F5738	77.00	95F5739	83.12
50-0-50	20	95F5742	77.00	95F5743	83.12

DC Voltmeters (Pivot and Jewel)

0-15	1000 Ohms per Volt	95F5746	77.84	95F5747	84.25
0-30		95F5750	77.84	95F5751	84.25
0-50		95F5754	77.84	95F5755	84.25
0-150		95F5758	77.84	95F5759	84.25
0-500	2000	95F5762	77.84	95F5763	84.25

AC Ammeters (Iron Vane)

Range	Resistance (ohms)	Type 953 3½" Stock No.	Each	Type 954 4½" Stock No.	Each
0-5	0.008	95F5776	71.38	95F5777	75.26
0-15	0.0025	95F5778	71.38	95F5779	75.26
0-25	0.002	95F5780	73.63	95F5542	77.50

CONTINUED

TRU-VUE PANEL METERS (CONT.)

AC AMMETERS (Iron Vane) (CONT.)

Range	Resistance (ohms)	Type 953 3½" Stock No.	Each	Type 954 4½" Stock No.	Each
0-50	0.001	95F5543	73.63	95F5544	77.50
0-75‡	0.008	95F5545	71.38	95F5546	75.26
0-100‡	0.008	95F5547	71.38	95F5548	75.26
0-300‡	0.008	95F5549	71.38	95F5550	75.26

‡Requires external 5A current transformer; *order separately on this page.*

AC Milliammeters (Iron Vane)

Range	Resistance (ohms)	Type 953 3½" Stock No.	Each	Type 954 4½" Stock No.	Each
0-50	80	95F5764	71.38	95F5765	75.26
0-100	17.2	95F5766	71.38	95F5767	33.71

AC Voltmeters (Iron Vane)

0-50	3333	95F5768	75.59	95F5769	83.18
0-150	25000	95F5770	78.12	95F5771	83.18
0-300	50000	95F5772	78.12	95F5773	83.18
0-500*	25000	95F5774	75.59	95F5775	83.18

*Requires external multiplier, available separately; *contact your local Newark sales office.*

(2411) (de51186)

DESIGNER PANEL METERS

Clean, uncluttered design offers maximum readability in minimum required height. Black phenolic case with glass window. Both models feature ±2% f.s. accuracy and red knife-edge pointer. Other ranges available; *contact your local Newark sales office.*

DC SELF-SHIELDING VOLTMETERS

Range	Resistance	Type 523 Stock No.	Each	Type 524 Stock No.	Each
0-5	1000 Ohms Per Volt	62F3315	77.84	...	...
0-10		...	...	62F3320	84.25
0-15		55F735	77.84	...	...
0-30		55F736	77.84	...	...
0-150		62F3318	77.84	...	...

DC SELF-SHIELDING MICROAMMETERS

0-25	2100	55F717	114.71	...	...
0-50	1800	55F718	93.86	55F724	101.16
0-100	1800	55F719	85.99	55F725	95.54
50-0-50	1800	55F721	86.55	55F727	96.39
100-0-100	1100	55F722	79.81	...	...

(2404) (de50951)

PANEL METER ACCESSORIES

Current Transformers

Shunts

Shunts are for use with DC ammeters requiring external shunts. Donut current transformers are for use with AC ammeters requiring external current transformers. *Contact your local Newark sales office for a complete listing of shunts and current transformers.*

SHUNTS

Stock No.	Type	Amps	Each
55F266	06709 50A SHUNT	50	52.25
55F2569	06713	100	52.25
55F298	06508 500A SHUNT	500	79.77

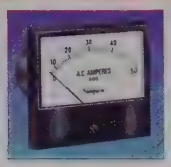
CURRENT TRANSFORMERS

55F2575	01306	75	39.40
55F270	01297 100A XFMR	100	38.69
55F2578	01300	300	38.69

(13548) (ne10236)

ANALOG PANEL METERS

CENTURY PANEL METERS



Attractive, easy-to-read meters in black phenolic case with glass window. All models shown have black knife-edge pointer and ±2% accuracy. UL recognized. Many other ranges available; *contact your local Newark sales office. Order external shunts separately on this page.*

DC VOLTMETERS WITH SELF-SHIELDING METER MOVEMENT

Range	Ohms	Type 2121 1.5″ Stock No.	Type 2121 1.5″ Each	Type 2122 2.5″ Stock No.	Type 2122 2.5″ Each	Type 2123 3.5″ Stock No.	Type 2123 3.5″ Each
0-5	1KΩ Per V	...	...	55F5357	77.00	...	...
0-10		...	...	55F5358	77.00	98F6026	73.82
0-15		55F5412	77.00	55F5359	77.00	55F5368	77.84
0-25		...	...	55F5360	77.00	...	...
0-30		55F5413	77.00	...	...	55F5370	77.84
0-50		...	...	55F5362	77.00	55F5371	77.84
0-100		...	...	55F5363	77.00	...	...
0-150		...	...	55F5364	77.00	55F5373	77.84

DC AMMETERS WITH SELF-SHIELDING METER MOVEMENT

Range	Ohms	Type 2122 2.5″ Stock No.	Type 2122 2.5″ Each	Type 2123 3.5″ Stock No.	Type 2123 3.5″ Each	Type 2124 4.5″ Stock No.	Type 2124 4.5″ Each
0-3	00.0166	55F5252	73.06	55F5259	77.00	...	...
0-5	00.0100	55F5253	73.06	55F5260	77.00	...	...
0-10	00.0050	55F5254	73.06	...	...	...	...
0-15	00.0033	55F5255	73.06	...	...	...	...
0-25	00.0020	55F5256	73.06	55F5263	77.00	...	...
0-50	00.0010	55F5257	73.06	...	...	55F5272	83.12
0-100†	10.0	...	...	55F5265	77.00	55F5273	83.12

† Requires external shunt, *order separately on this page.*

DC MICROAMMETERS WITH SELF-SHIELDING METER MOVEMENT

Range	Ohms	Type 2122 2.5″ Stock No.	Type 2122 2.5″ Each	Type 2123 3.5″ Stock No.	Type 2123 3.5″ Each	Type 2124 4.5″ Stock No.	Type 2124 4.5″ Each
0-50	1800	55F5300	92.17	...	...	55F5322	101.16
0-100	1800	55F5301	83.46	55F5311	85.99	55F5324	95.54
0-200	1800	...	...	55F5313	79.25	55F5326	85.99
25-0-25	1800	...	...	55F5315	94.98	55F5328	102.01

DC MILLIAMMETERS WITH SELF-SHIELDING METER MOVEMENT

Range	Ohms	Type 2122 2.5″ Stock No.	Type 2122 2.5″ Each	Type 2123 3.5″ Stock No.	Type 2123 3.5″ Each
0-5	2.00	...	...	55F5342	73.63
0-25	4.00	...	...	55F5344	77.00
0-100	1.00	55F5337	73.06	...	...
0-500	0.20	...	...	55F5349	77.00

AC VOLTMETERS WITH IRON-VANE METER MOVEMENT

Range	Ohms	Type 2153 3.5″ Stock No.	Type 2153 3.5″ Each	Type 2154 4.5″ Stock No.	Type 2154 4.5″ Each
0-150	25000	55F5387	78.12	55F5392	83.18
0-250	41166	55F5388	78.12	...	...
0-300	50000	55F5389	78.12	...	...

AC AMMETERS WITH IRON-VANE METER MOVEMENT

Range	Ohms	Type 2152 2.5″ Stock No.	Type 2152 2.5″ Each	Type 2153 3.5″ Stock No.	Type 2153 3.5″ Each	Type 2154 4.5″ Stock No.	Type 2154 4.5″ Each
0-5	0.0080	55F5275	67.39	55F5284	71.38	55F5291	75.26
0-10	0.0040	55F5276	67.39	55F5285	71.38	55F5292	75.26
0-15	0.0025	55F5277	67.39	55F5286	71.38	...	...
0-25	0.0020	55F5278	69.64	55F5287	73.63	...	...
0-50	0.0010	55F5280	69.64	55F5288	73.63	55F5295	77.50

(2405) (de50952)

PANEL METER ACCESSORIES

Shunts

Current Transformers

Shunts are for use with DC ammeters requiring external shunts. Donut current transformers are for use with AC ammeters requiring external current transformers. *Contact your local Newark sales office for a complete listing of shunts and current transformers.*

SHUNTS

Stock No.	Type	Amps	Each
55F2569	06713	100	52.25
55F2570	06715	200	52.25

CONTINUED

PANEL METER ACCESSORIES (CONT.)

SHUNTS (CONT.)

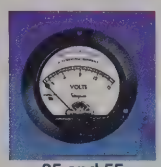
Stock No.	Type	Amps	Each
55F2573	06506	300	55.87
55F298	06508 500A SHUNT	500	79.77

CURRENT TRANSFORMERS

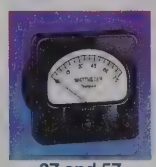
Stock No.	Type	Amps	Each
55F270	01297 100A XFMR	100	38.69

(13457) (ne10237)

ROUND AND RECTANGULAR PANEL METERS



25 and 55



27 and 57

29, 59 and 79

Popular replacement meters feature black phenolic case, glass window, and black spade pointer. Accuracy for all models shown: ±2% f.s. UL recognized (except wattmeters). Other ranges available; *contact your local Newark sales office. Order external shunts and current transformers separately on this page.*

DC VOLTMETERS WITH SELF-SHIELDING METER MOVEMENT

Range	Resistance Ω	Type 25 3.5″ Stock No.	Type 27 3.5″ Stock No.	Each	Type 29 4.5″ Stock No.	Each
0-5	1000 Ohms Per Volt	...	55F039	77.84	...	...
0-15		...	...	...	55F251	84.25
0-25		...	55F038	77.84	...	...
0-30		55F1112	...	77.84	55F145	84.25
0-50		55F1015	55F043	77.84	55F183	84.25
0-100		62F3253	...	77.84	55F252	84.25
0-150		...	55F045	77.84	55F170	84.25
0-250		55F1018	...	77.84	...	...
0-300		...	...	...	55F184	84.25
0-3000+	2000	...	...	...	55F255	111.93

+External multiplier furnished with meter

DC AMMETERS WITH SELF-SHIELDING METER MOVEMENT

Range	Resistance Ω	Type 25 3.5″ Stock No.	Type 27 3.5″ Stock No.	Each	Type 29 4.5″ Stock No.	Each
0-2	0.025	...	...	...	55F259	83.12
0-3	0.0166	55F1057	...	77.00	55F260	83.12
0-5	0.010	...	...	...	55F210	83.12
0-10	0.005	...	55F064	77.00	55F211	83.12
0-25	0.0020	55F1060	...	77.00	55F261	83.12
0-30	0.0017	...	55F4828	77.00	...	...
0-50	0.001	...	...	...	55F212	83.12
0-200*	10.0	62F3268	...	77.00	...	...
0-300*	10.0	...	...	...	62F3279	83.12
0-500*	10.0	...	...	...	62F3280	83.12
30-0-30	0.0017	55F1062	...	80.54	...	...

*Require external shunt; *order separately on this page.*

DC MICROAMMETERS WITH SELF-SHIELDING METER MOVEMENT

Range	Resistance Ω	Type 25 3.5″ Stock No.	Type 27 3.5″ Stock No.	Each	Type 29 4.5″ Stock No.	Each
0-50	1800	55F1031	55F071	78.12	55F176	101.16
0-100	1800	...	55F072	85.99	55F177	95.54

AC VOLTMETERS WITH IRON-VANE TYPE METER MOVEMENT

Range	Resistance Ω	Type 55 3.5″ Stock No.	Type 57 3.5″ Stock No.	Each	Type 59 4.5″ Stock No.	Each
0-10	133	55F1067	...	75.59	...	...
0-50	3,333	55F1069	...	75.59	...	...
0-150	25,000	55F1071	55F115	78.12	55F181	83.18
0-250	41,166	...	55F273	78.12	62F3296	83.18
0-300	50,000	55F1072	62F3291	78.12	55F191	83.18
0-500+	83,333	...	...	...	55F192	105.60
0-1000+	166,666	...	55F275	113.04	...	...

+External multiplier furnished with meter

AC AMMETERS WITH IRON-VANE TYPE METER MOVEMENT

Range	Resistance Ω	Type 55 3.5″ Stock No.	Type 57 3.5″ Stock No.	Each	Type 59 4.5″ Stock No.	Each
0-3	0.028	...	...	...	55F194	75.26
0-5	0.008	55F1088	...	71.38	55F195	75.26
0-10	0.004	55F1089	55F134	71.38	55F196	75.26
0-15	0.0025	55F1119	55F156	71.38	55F282	75.26
0-25	0.002	55F1090	55F135	73.63	55F197	77.50
0-50	0.001	55F1091	55F136	73.63	55F219	77.50
0-100**	0.008	55F1121	...	71.38	55F284	75.26

**Requires external transformer; *order separately on this page.*

WATTMETERS WITH DYNAMOMETER MOVEMENT

Range	Volts	Amps	Type 79 4.5″ Stock No.	Each
0-75	150	1.0	55F232	228.30
0-150	150	2.0	55F233	228.30
0-300	150	4.0	55F234	228.30
0-750	150	10.0	55F235	228.30
0-1500	300	10.0	55F236	228.30
0-3000	300	20.0	55F1140	228.30

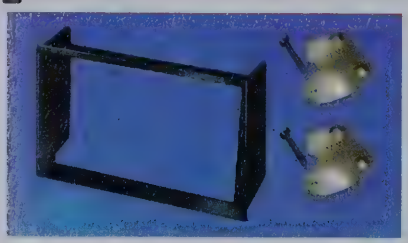
(2393) (de50390)

ANALOG PANEL METERS

WIDE-VUE PANEL METERS

Black phenolic case with clear acrylic window for wide-angle visibility. 1½″ models have black knife-edge pointer; 2½″, 3½″, 4½″ models have black spade pointer. Accuracy for all models show: ±2% f.s. UL recognized. *Other ranges available; contact your local Newark sales office.*
(15726) (ne10676)

WIDE-VUE PANEL METER BEZEL, ILLUMINATION KITS, SHUNTS AND CURRENT TRANSFORMERS



Bezels are made for 3½″ and 4½″ Wide-Vue meters. Designed for behind panel mounting on thicknesses from ⅛″ to 3/16″. Groove and flange construction, die-cast metal with black enamel satin finish. Include mounting hardware and template. *Order illumination kit for bezels separately.* **Type 01253** is designed for use with **types 1327, 1357. Type 01123** is for use with **types 1329, 1359. Type 01165** is an illumination kit for bezels. For **types 1327, 1357, 1329,** and **1359** panel meters *on this page.*

Stock No.	Type	Each
55F4353	01253	16.17
55F4354	01123	19.10
62F1446	01165 KIT	31.44

Shunts for use with DC ammeters requiring external shunt. Donut current transformers for use with AC ammeters requiring external current transformer.

SHUNTS

Stock No.	Type	Amps	Each
55F2569	06713	100	52.25
55F2570	06715	200	52.25
55F2573	06506	300	55.87
55F298	06508 500A SHUNT	500	79.77

CURRENT TRANSFORMERS

55F270	01297 100A XFMR	100	38.69
55F2577	01299	200	38.69
55F2578	01300	300	38.69

AC VOLTMETERS WITH IRON VANE METER MOVEMENT

Type 1257 2½″

Range	Resistance Ω	Stock No.	Each
0-500	0.9	55F2538	67.39
Type 1357 3½″			
0-50	80.0	55F2539	71.38
0-100	17.2	55F2540	71.38
0-250	3.15	55F2541	71.38

(15727) (ne10675)

AC AND DC METERS

DC VOLTMETERS WITH SELF-SHIELDING METER MOVEMENT

Range	Resistance Ω	Type 1212 1½″ Stock No.	Each	Type 1227 2½″ Stock No.	Each	Type 1327 3½″ Stock No.	Each	Type 1329 4½″ Stock No.	Each
0-5	1000 Ohms Per Volt	55F436	77.00	55F1143	77.00	55F1146	77.84	...	...
0-10		55F437	77.00	55F1500	77.00	55F1550	77.84	55F1600	84.25
0-15		55F438	77.00	55F1501	77.00	55F1551	77.84	55F1601	84.25
0-25		55F439	77.00	55F1502	77.00	55F1552	77.84	55F1602	84.25
0-30		55F440	77.00	55F1503	77.00	55F1553	77.84	55F1603	84.25
0-50		55F441	77.00	55F1504	77.00	55F1554	77.84	55F1604	84.25
0-100		55F442	77.00	55F1505	77.00	55F1555	77.84	...	...
0-150		55F443	77.00	55F1506	77.00	55F1556	77.84	55F1606	84.25
0-200		...	...	...	...	55F1148	77.84	...	...
0-500	2000	...	...	...	...	55F1558	82.06	...	...

DC AMMETERS WITH SELF-SHIELDING METER MOVEMENT

0-1	0.050	55F447	74.13	55F1172	73.06	...	...	...	...
0-1.5	0.033	...	...	55F1173	73.06	55F1181	77.00	55F1191	83.12
0-2	0.025	55F448	74.13	...	...	55F1560	77.00	...	...
0-3	0.0166	55F449	74.13	...	...	55F1561	77.00	...	...
0-5	0.010	55F466	74.13	55F1512	73.06	55F1562	77.00	55F1612	83.12
0-10	0.005	55F467	74.13	55F1513	73.06	55F1563	77.00	55F1613	83.12
0-15	0.0033	...	...	55F1176	73.06	55F1564	77.00	55F1614	83.12
0-25	0.0020	...	...	55F1177	73.06	55F1565	77.00	55F1615	83.12
0-30	0.0017	...	...	...	...	55F1182	77.00	55F1192	83.12
0-50	0.001	...	...	55F1178	73.06	55F1566	77.00	55F1616	83.12
0-100*	10.0	...	...	55F1179	73.06	55F1183	77.00	55F1193	83.12
0-200*	10.0	...	...	...	...	55F1185	77.00	55F1195	83.12
0-300*	10.0	...	...	...	...	...	...	55F1196	83.12
0-500*	10.0	...	...	...	...	...	...	55F1197	83.12

*Requires external shunt; *order separately on this page.*

DC MILLIAMMETERS WITH SELF-SHIELDING METER MOVEMENT

0-1	43.0	55F481	70.76	55F1517	72.50	55F1567	73.63	55F1617	79.25
0-3	2.0	...	...	55F1198	72.50	55F2501	73.63	...	...
0-5	2.0(20)	55F482	70.76	55F1518	72.50	...	...	...	...
0-10	10.0(2.2)	55F483	70.76	55F1519	72.50	...	...	...	...
0-15	6.6(2.2)	...	...	...	...	55F2502	73.63	...	...
0-20	5.0	...	...	...	...	55F2503	73.63	55F2508	79.25
0-25	4.0(6.0)	55F485	74.13	55F1520	73.06	55F1570	77.00	...	...
0-50	2.0(3.0)	55F486	74.13	55F1521	73.06	55F1571	77.00	...	...
0-100	1.0(1.5)	55F487	74.13	...	...	55F1572	77.00	55F1622	82.62
0-200	0.50(.75)	55F489	74.13	55F1524	73.06	...	...	55F1624	82.62
0-250	0.40	...	...	55F2500	73.06	...	...	...	...
0-300	0.33(.50)	55F491	74.13	...	...	...	...	...	...
0-500	0.20(.30)	55F492	74.13	55F1527	73.06	55F1577	77.00	55F1627	82.62

Resistances of **type 1212** 1½″ models shown in parentheses.

DC MICROAMMETERS WITH SELF-SHIELDING METER MOVEMENT

0-50	1800	55F473	92.73	55F1529	92.17	55F1579	93.86	55F1629	101.16
0-100	1800	55F474	82.34	55F1530	83.46	55F1580	85.99	55F1630	95.54
0-200	1100	...	...	55F1531	75.59	55F1581	79.25	55F1631	85.99
25-0-25	1800	55F477	92.73	...	...	...	...	...	...
50-0-50	1800	55F478	82.34	55F1533	84.30	55F1583	86.55	55F1633	96.39
100-0-100	1100	55F479	75.87	55F4850	77.00	55F2513	79.81	...	...

Resistance of **type 1212** meters in 0-50 and 25-0-25 range is 5500.

TAUT BAND DC MICROAMMETERS WITH SELF-SHIELDING METER MOVEMENT

Range	Resistance Ω	Type 1227T 2½″ Stock No.	Each	Type 1327T 3½″ Stock No.	Each	Type 1329T 4½″ Stock No.	Each
0-10	4900	...	...	55F2228	150.90	...	...
0-25	1960	55F2225	125.57	55F2230	131.69	...	...
0-100	500	...	...	...	...	55F2237	103.69

AC VOLTMETERS WITH IRON VAN METER MOVEMENT

		Type 1257 2½″		Type 1327T 3½″		Type 1329T 4½″	
	133	55F1534	73.06	...	...	...	...
0-50	3,333	...	...	55F2527	75.59	55F2534	83.18
0-150	25,000	55F1535	73.06	55F1585	78.12	55F1635	83.18
0-300	50,000	55F1536	73.06	55F1586	78.12	55F1636	83.18
0-500††	83,333	...	...	55F2530	98.86	55F2537	105.60

AC AMMETERS WITH IRON VANE METER MOVEMENT

0-1	0.213	...	...	55F1537	71.38	55F1587	75.26
0-2	0.065	...	...	55F2589	71.38	55F2596	75.26
0-3	0/028	...	...	55F2590	71.38	55F2597	75.26
0-5	0.008	55F2582	67.39	55F1538	71.38	55F1588	75.26
0-10	0.004	55F2583	67.39	55F1539	71.38	55F1589	75.26
0-10+	0.008	...	...	48F5566	68.97	48F5570	72.71
0-15	0.0025	55F2584	67.39	55F1540	71.38	55F1590	75.26
0-25	0.002	55F2585	69.64	55F1541	73.63	55F1591	77.50
0-25+	0.008	...	...	48F5567	68.97	48F5571	72.71
0-50	0.001	55F2586	69.64	55F1542	73.63	55F1592	77.50
0-50+	0.008	...	...	48F5568	68.97	48F5568	68.97
0-75	0.0002	...	...	55F1008	78.12	...	...
0-75+	0.008	...	...	48F5569	68.97	48F5573	72.71
0-200†	0.008	...	...	55F2591	71.38	55F2598	75.26
0-200†	0.008	...	...	55F2593	71.38	55F2600	75.26
0-300†	0.008	...	...	55F2594	71.38	...	...

†Requires external current transformer, *order separately*®. ††Furnished with external multiplier.
(2417) (de91157)

THERMOCOUPLES, CONTROLLERS AND ACCESSORIES

10 SERIES 1/4 AND 1/8 DIN TEMPERATURE CONTROLLERS

10 Series

10 Series 1/4 and 1/8 DIN temperature controllers have universal inputs that are field changeable for thermocouple and DC input. Display: dual 4-digit for setpoint and process value. Units are field selectable for On/Off or PID control. Self-tuning and adaptive tuning. Power requirements: 85 to 250VAC, 50/60 Hz. Faceplate meets IEC enclosure IP65 classification. Feature a 4-digit security code, second setpoint, ramp up and ramp down to new setpoints, and Auto Comp™ sensor break. Outputs: relay – 2A at 240VAC (resistive); SSR – 12VDC, 25mA max.; Triac – 1A, 24 to 240VAC (resistive minimum load), 50mA. UL listed, CE compliant.

1/8 DIN PROCESS/TEMPERATURE CONTROLLERS

Stock No.	Type	Output 1	Output 2	Each
52F5085	10ER1JF00000000	Relay	Relay	**394.49**
52F5087	10E22JF00000000	SSR	SSR	**416.23**
52F5089	10ETTJF00000000	Triac	Triac	**416.23**

1/4 DIN PROCESS/TEMPERATURE CONTROLLERS

52F5091	10QR1JF00000000	Relay	Relay	**452.09**
52F5092	10Q20JF00000000	SSR	...	**434.70**
52F5094	10QT0JF00000000	Triac	...	**434.70**
52F5095	10QTTJF00000000	Triac	Triac	**479.26**
91F3216	10Q3-0JF01-000-0-	Current	...	**511.86**

(2448) (ne07364)

1/16 DIN SINGLE DISPLAY TEMPERATURE CONTROLLERS

7SD

Types 7SD have universal input for thermocouple (J, K, L, N) or RTD Pt 100. Units feature single 3-digit display contained in a face plate that meets NEMA enclosure type 4X, 0.3% accuracy, On/Off or PID field selectable, AT auto and adaptive tuning, lock function, and LEDs to indicate deviation from setpoint. Power requirements: 100 to 240VAC, 50/60Hz. **Type 7SL** Limitrol® version is a Factory Mutual Approved high and low limit safety device. Output: Relay-3A at 250VAC (resistive); SSR-14VDC at 17mA max. UL listed, CSA certified, CE compliant. 24VAC/VDC units also available. *Contact your local Newark sales office.*

Stock No.	Type	Output	Each
16F4063	7SD-49103	Relay	**199.69**
16F4064	7SD-49603	SSR	**199.69**
16F4065	7SL-91003	Relay	**239.63**

(2462) (ne08174)

1/16 DIN DUAL DISPLAY TEMPERATURE CONTROLLERS

Series 7SF and **7SC** has universal inputs for thermocouple (J, K, L, N, R, S) or RTD Pt 100 and DC inputs. Units feature dual 4-digit display for setpoint and process value contained in a faceplate that meets NEMA enclosure type 4X, 0.2% accuracy, On/Off or PID field selectable, AT auto and adaptive tuning, 3-digit pass code security, and dual output (2nd is programmable as alarm or cooling output). Power requirements: 100 to 240VAC, 50/60Hz. Output: Relay-3A at 250VAC (resistive); SSR-14VDC at 17mA max; current: 4 to 20mA or 0 to 20 max. 500 ohms. UL listed, CSA certified. CE compliant. 24VAC/VDC units also available; *contact your local Newark sales office.*

Stock No.	Type	Output 1	Output 2	Each
16F4066	7SF-93110-3	Relay	Relay	**239.63**
16F5283	7SF-93610-3	SSR	Relay	**239.63**
91F3217	7SC-93711-3	Current	Relay	**285.28**

(2463) (ne08175)

THERMOCOUPLE LEAD WIRE

Select either Type J or Type K thermocouple wire. PVC insulated wire is extension grade up to 221°F (±4°F). Fiberglass insulated wire is thermocouple grade up to 530°F (±4°F/± 0.75% 530°F to 1400°F). Wire is 20-gauge solid. **Sold in spools of 100′.**

Stock No.	Type	Description	Each	2-4
91F3225	WJ20-51502	Type J, PVC Insulated	**24.09**	**23.27**
91F3226	WJ20-11304	Type J, Fiberglass Insulated	**54.52**	**52.65**
91F3227	WK20-51502	Type K, PVC Insulated	**36.77**	**35.51**
91F3228	WK20-11304	Type K, Fiberglass Insulated	**76.08**	**73.47**

(12965) (ne10019)

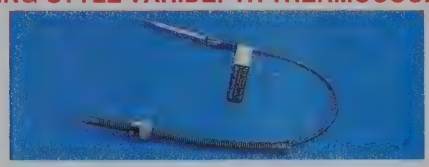
LOW-TEMPERATURE THERMOCOUPLE

Type SK5687 single-element Type J thermocouple with rigid sheath probe is designed for direct immersion in noncorrosive liquids or gases. Max. temperature: 600°F. Unit features grounded hot junction 3⁄16″ O.D. 304 stainless steel sheath, 72″ leads with stripped wire ends, fiberglass extension wire, and shrink sleeve strain relief.

91F3224 Type SK5687. **Each**..... **23.79**

(12963) (ne10018)

SPRING-STYLE VARIDEPTH THERMOCOUPLES

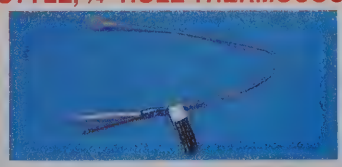


P111-31100 series spring-style type J varidepth thermocouples adjust to many immersion depths, eliminating the need to stock a variety of sizes. The locking cap rotates on the spring to create the desired holding force of thermocouple to the thermowell or object being monitored to ensure rapid heat transfer. This thermocouple has a spring, grounded single 3⁄16″ silver-soldered tip for fast response, stainless steel overbraid, and 20-gauge stranded wire with spade lug terminations. Maximum probe temperature: 750°F.

Stock No.	Type	Length	Each	2-4
52F5105	P111-31100048A	48″	**15.74**	**14.18**
52F5106	P111-31100072A	72″	**17.93**	**16.15**
52F5107	P111-31100096A	96″	**20.68**	**18.63**
52F5108	P111-31100120A	120″	**23.44**	**21.12**

(3525) (ne07146)

LUG-STYLE, ¼″ HOLE THERMOCOUPLES



P111-00100 series lug-style type J thermocouples measure the surface temperature of an object such as a barrel or mold. The lug or ring is placed over a threaded stud and held in place with a nut. Lug type thermocouples are often connected in parallel with a second thermocouple to control at an average temperature. Wire is 20-gauge stranded and terminated with spade lugs.

Stock No.	Type	Length	Each	2-4
52F5113	P111-00100-048-703	48″	**18.04**	**16.25**
52F5114	P111-00100-096-703	96″	**23.56**	**21.22**

(3527) (ne07148)

QUICK DISCONNECT PLUGS AND JACKS

Plug Jack

Cable Clamp

Quick disconnect plugs and jacks are molded glass-filled plastic with the connecting parts made of the particular thermocouple calibration material. Frequent make-or-break will not impair the accuracy of the mating parts. Suitable for laboratory or industrial use where ambient temperature does not exceed 450°F.

Thermo-couple Type	Plug				Jack			
	Stock No.	Type	Each	2-4	Stock No.	Type	Each	2-4
J	**52F5124**	HD20-J	**10.30**	**8.24**	**52F5126**	HD21-J	**7.56**	**6.05**
K	**52F5125**	HD20-K	**13.72**	**10.98**	**52F5127**	HD21-K	**8.23**	**6.59**

CABLE CLAMP FOR PLUG OR JACK

Stock No.	Type	Description	Each	2-4
52F5128	A-7124	Weight: ½ oz.	**1.25**	**1.00**

BAYONET MOUNT ADAPTERS

Attaches bayonet lock-type thermocouple assemblies.

52F5117	A-2709-1	13⁄16″L, 1⁄8″-NPT Thread	**3.11**	**2.49**
52F5118	A-3076-1	15⁄16″L, 3⁄8″-24 Thread	**3.32**	**2.65**

(3532) (ne07153)

1/16 DIN TEMPERATURE/PROCESS CONTROLLERS

ICN77000 MICRO-INFINITY™ SERIES 1/16 DIN AUTOTUNE TEMPERATURE PROCESS CONTROLLER

NEMA 12

NEMA 4

Feature a large dual display, front panel configuration, and selectable temperature/process inputs. Available in single and dual output configurations, the **ICN77000 series** is available with relay, SSR, DC pulse, analog voltage, or current outputs. A single alarm is standard. *See applications information on this page.* Round cutout models are available, *contact your local Newark sales office.*UL listed, CE compliant.

Stock No.	Type	Enclosure Rating	Output1	Output2	Each
92F6227	ICN77333	NEMA 12	Relay	Relay	256.66
16F2346	ICN77522	NEMA 4	SSR	SSR	251.08
92F6228	ICN77530	NEMA 4	Relay	Analog	245.45
92F6229	ICN77533	NEMA 4	Relay	Relay	256.66
16F2347	ICN77534	NEMA 4	Relay	Pulse	251.08
16F2348	ICN77543	NEMA 4	Pulse	Relay	251.08
16F2349	ICN77540	NEMA 4	Pulse	Analog	240.57
16F2350	ICN77544	NEMA 4	Pulse	Pulse	251.08

(2459) (ne08167)

MICROINFINITY™ ICN77300 AND ICN77500 SERIES OFFER FLEXIBLITY FOR PROCESS CONTROL

The MICROINFINITY™ series of controllers offers unparalleled flexibility in process control. Each unit allows the user to select the input type from 10 thermocouple types (J, K, T, E, R, S, B, C, N, and J DIN), Pt RTDs (100, 200, 500, or 1000Ω, with either 385 or 392 curve), or analog voltage or current input. The voltage/current inputs are fully scalable to engineering units, with selectable decimal point, perfect for use with pressure, flow, or other process input. The MICROINFINITY™ features a large, dual-LED display, front panel configuration, selectable temperature/process inputs, and universal 90 to 250 VAC/DC power supply, and more listed below.

Features:

- **Extremely High Accuracy, ±0.5°C, 0.03% Rdg. for Process Inputs**
- **Dual 4-Digit LED Display with Indicators for Output and Alarm Sounds**
- **Relay, SSR, DC Pulse, 0-10V and 0-20mA Output Types**
- **Ramp-to-Setpoint Feature Standard**
- **Universal Power Supply, VAC or VDC (Optional 10-34VAC or VDC)**
- **Thermocouple, RTD, or Process Voltage/Current Inputs**
- **Single- and Dual-Output Models with Dual-Alarm Capability**
- **Optional RS-232, RS-485, or Analog Output**
- **1/16 DIN Cutout with 2.1″ Square Bezel, NEMA 4 or 12 Protection**
- **Standard with One Alarm**

The ICN77300 Series controllers have many features of larger 1/4 DIN controllers in a compact size. They feature NEMA 12 rating and have dual-LED displays with different colors for the actual process and setpoint values. Individual indicators provide output and alarm status.

The ICN77500 Series controllers feature NEMA 4 rating, have selectable temperature/process inputs, and are available in either single- or dual-output configurations.

(16039) (newblurb)

DC VOLTMETERS

Type 201AN

Type 2001

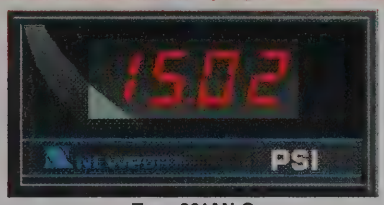
Type 215

Factory calibrated for DC input range indicated. Bright, 0.56″ (14.22) LED display. Decimal point programmable at connector. **201AN** and **2001 series** are 120VAC and fit standard ⅛ DIN panel cutout; screw-terminal barrier strip standard for signal and power. 215 series are 5VDC and fit half-height ⅛ DIN panel cutout; solder-tab board edge connector standard. Display range is 3½-digits (±1,999 counts) or 4½-digits (±19,999 counts).

Stock No.	Type	Signal Input Range, VDC	Display Range	Operating Voltage	Each
89F1836	201AN-2D4	0.1999	±1,999	120VAC	**178.30**
89F1837	201AN-3D4	1.999	±1,999	120VAC	**178.30**
89F1838	201AN-4D4	19.99	±1,999	120VAC	**178.30**
89F1839	201AN-5D4	199.9	±1,999	120VAC	**178.30**
89F1840	2001A-3D4	1.9999	±19,999	120VAC	**221.66**
89F1841	2001A-4D4	19.999	±19,999	120VAC	**221.66**
89F1842	2001A-5D4	199.99	±19,999	120VAC	**221.66**
89F1829	215-2	0.1999	±1,999	5VDC	**110.75**
89F1830	215-3	1.999	±1,999	5VDC	**110.75**
89F1831	215-4	19.99	±1,999	5VDC	**110.75**

(2296) (de00178)

AC POWER-LINE MONITORS AND AMMETERS



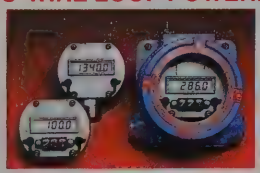
Type 201AN-C

3½-digit units feature bright 0.56″ (14.22) LED displays, screw terminal barrier strip for power and signal connections, operate on 120VAC and fit standard ⅛ DIN panel cut-out. Decimal point programmable at barrier strip. **201AN-AC** series AC power-line monitors use factory-calibrated half-wave rectifier to read RMS values of sinusoidal signals. Provide AC voltmeter performance for AC ranges.

Stock No.	Type	Signal Input Range, VAC	Display Range	Each
89F1833	201AN-AC5	20-199.9	±1,999	**199.35**
89F1834	201AN-AC6	20-650	±1,999	**199.35**

(2297) (de00179)

TWO-WIRE LOOP POWERED PROCESS INDICATORS



508B-2
508B-1 in Explosion Proof Housing

558B

LCD display indicators show such process variables as pressure, flow, temperature or level, depending on sensor and application. 3 1/2 active digit 0.35″ (8.89) display to ±1,999 and selectable dummy right hand zero for displays to ±19,990. Powered by 4-20mA input signal and jumper selectable for 1-5 and 10-50mA input signal applications. Standard electrical configuration for readout from 0 to 100.0 for 4-20mA. BASEEFA certified. EECS licensed. Cenelec Certified.

Stock No.	Type	Description	Each
89F1815	508B-1	Wall Mount w/Screw Terminal Barrier Strip	**341.42**
89F1816	508B-2	½″ EMT Male Conduit Fitting w/2-#18AWG Wires	**200.54**
89F1818	558B	⅛ DIN Panel Cutout Indicator	**166.12**

(2299) (de00215)

PROCESS INDICATORS AND CONTROLLERS

Type 202A-E

Type 2002A-P

Indicators/controllers, when integrated with sensors or transducer, reflect changes in voltage or current by displaying calibrated engineering units for pressure, loads or distance (depending on transducer) once indicator is scaled in the field. All units feature 0.56″ (14.22) LED displays, screw terminal barrier strip for power and signal connections. Units are standard ⅛ DIN panel cut-out (45 x 92mm). 120VAC. Models with relay output have dual setpoint controller board with 2 internal form C relays rated 10 amps at 20VDC or 24VDC resistive. 2 LED lamps indicate on/off status of either relay. Two pushbuttons on front-panel display high and low setpoints. Controller units can be wired for hysterisis, fail-safe control, latched or non-latched. Units with excitation output provide voltage supply to power transmitters, active transducers or passive networks. INFCP UL listed, CSA certified.

INPUT SIGNAL-CURRENT

Stock No.	Type	Signal Input Range	Display Range	Relay Output	Excitation Output	Each
89F1813	202A-E1	4-20mA	±1,999	No	10-24V	**257.38**
89F1801	2002A-E1	4-20mA	±19,999	No	10-24V	**299.40**

INPUT SIGNAL-VOLTS

89F1814	202A-E2	0-10 VDC	±1,999	No	10-24V	**257.38**
89F1802	2002A-E2	0-10 VDC	±19,999	No	10-24 VDC	**299.40**

INPUT SIGNAL-CURRENT

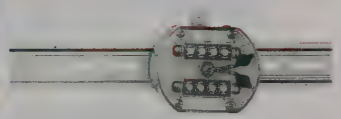
Stock No.	Type	Signal Input Range	Display Range	Relay Output	Each
89F1819	202A-P1	4-20mA	±1,999	No	**204.88**
89F1821	2002A-P1	4-20mA	±19,999	No	**283.65**

INPUT SIGNAL-VOLTS

89F1820	202A-P2	0-10 VDC	±1,999	No	**153.08**
89F1808	2002A-P2	0-10 VDC	±19,999	No	**283.65**

(2298) (de00180)

ISOLATED 2-WIRE 4-20mA TRANSMITTERS



Send low level signals over thousands of feet of copper wiring with noise immunity that voltage signals can't provide. Current loop power. Units input/output isolated to 1500Vrms. Zero suppression and span are course and fine field-adjustable. Housed in 2.9″ (73.66) diameter die-cast zinc alloy casing waterproof to 5psi. 55g shock resistant. Temperature range –40°C to +85°C with rated accuracy. Case surface mounts via four #6 rear-entry screws through-tapped holes, or push mounts into 2.5″ (63.50) relay track.

THERMOCOUPLE TRANSMITTERS

Stock No.	Type	Input Thermocouple Signal	Temperature Range	Output Current	Each
89F1803	502A-J	Type J	0 to 500°C	4-20mA	**341.42**
89F1804	502A-K	Type K	0 to 800°C	4-20mA	**341.42**
89F1805	502A-T	Type T	0 to 400°C	4-20mA	**341.42**
98F6954	501	RTD	0 to 850°C	4-20mA	**351.93**

CURRENT TRANSMITTERS

Stock No.	Type	Configured Input Signal Range	Adjustable Input Spans		Each
			20mA Output	0mA Output	
89F1806	504	0 to 50mV	5 to 100mV	–30 to 60mV	**341.42**
89F1807	505	4 to 20mA	5 to 100mA	–30 to 60mA	**341.42**
89F1794	506-1	0 to 5V	0.5 to 5VDC	–3.5 to 6VDC	**341.42**
89F1795	506-2	0 to 50V	5 to 50VDC	–35 to 60VDC	**341.42**

(2300) (de00216)

NEW PRODUCTS ARE BEING ADDED TO OUR INVENTORY EVERY DAY.
CALL NEWARK FOR INFORMATION ON WHAT'S CURRENTLY IN STOCK.

INF7 SERIES ⅛ DIN RATEMETER/TOTALIZERS

NEWPORT®

- **Reliable NEMA-4 Front Panel**
- **High Accuracy, Microprocessor Based**
- **Non-Volatile Memory-No Battery Backup Required**
- **Programmable Via Pushbuttons or RS-232/RS-485**
- **5 Open-Collector Outputs for Rate, Totalize, and Time**
- **Large Digital Offset for Scaling in Engineering Units**
- **6-Digit, 14-Segment LED Display**

Features an advanced microprocessor which permits the unit to be configured as a rate meter and counter with or without integral square root extraction, batch controller, or real-time clock. Standard features include a programmable decimal point and non-volatile memory. Calibration and scaling into engineering units is accomplished using front panel pushbuttons and/or optional RS-232 or RS-485 serial output boards.

Stock No.	Type	Signal Inputs	Relay Output	Each
84F855	INF7-00000-R	TTL/5V CMOS NPN Open-Collector	No	414.96
84F856	INF7-00200-R		Yes	493.75
84F857	INF7-00210-R		Yes	609.31
92F6596	INF7-00211-R		Yes	724.87
84F858	INF7-01000-R	2-Wire Inductive, NPN/PNP	Yes	493.75
84F859	INF7-01200R		Yes	572.54
84F860	INF7-01210-R		Yes	609.31
92F6597	INF7-01211-R		Yes	803.66
84F861	INF7-02000-R	Analog to Frequency Converter for 4-20mA, 0-5 or 10VDC	No	619.81
84F862	INF7-02200-R		Yes	698.60
84F863	INF7-02210-R		Yes	814.16
92F6598	INF7-02211-R		Yes	929.72

(2458) (ne08166)

INFINITY™ SERIES ⅛ DIN INDICATORS/CONTROLLERS

NEWPORT®

- **Process, Strain, T/C, RTD**
- **Smart Filtering**
- **4 Isolated Open Collector Outputs**
- **Accuracy: ± 0.005% of Reading**

6-digit meters can measure a broad spectrum of DC voltage and current ranges, thermocouple types, a variety of RTDs, inputs from pressure transducers, load cells, strain gages, as well as potentiometer inputs. On-board excitation is included to power virtually any sensor or transmitter. 4 standard set points can be configured as active above or below, latching or non-latching, as either high deviation, low deviation or band deviation, as well as numerous other possibilities. Front panel meets NEMA enclosure type 4 and has security lockout. Standard 1/8 DIN case panel cutout. User selectable 0-5V/1-5V/0-10V/0-20mA/4-20mA analog output. 115VAC standard, also available in 230VAC or 10-32VDC power.

TEMPERATURE METERS

Stock No.	Type	Signal Inputs (Standard)	Relay Output	Each
84F866	INFT-0000-KF	J, K, T, E, B, R, S, N, J-DIN (Thermocouples), 100 Pt. RTD 0.00385 Alpha, 100 Pt. RTD, 0.00392 Pt. RTD, or 10 Copper	No	625.07
84F867	INFT-0200-KF		Yes	703.86
84F868	INFT-0210-KF		Yes	819.41
92F6592	INFT-0211-KF		Yes	934.97
84F869	INFT-0000-RTD2		No	625.07
84F870	INFT-0200-RTD2		No	703.86
84F871	INFT-0210-RTD2		Yes	819.41
92F6593	INFT-0211-RTD2		Yes	934.97

CONTINUED

INFINITY™ SERIES ⅛ DIN INDICATORS/CONTROLLERS (CONT.)

STRAIN METERS

Stock No.	Type	Signal Inputs (Standard)	Relay Output	Each
84F872	INFS-0000-DC1	0-100mV, 0-1V, 0-5V, 1-5V, 0-10V, 0-100V, ±50mV, ±500mV, ±50V, 0-20mA, 4-20mA	No	572.54
84F873	INFS-0200-DC1		Yes	651.33
84F874	INFS-0210-DC1		Yes	766.89
92F6594	INFS-0211-KF		Yes	882.45
16F6464	INFW-0000-DC1		No	625.07

PROCESS METERS

Stock No.	Type	Signal Inputs (Standard)	Relay Output	Each
84F845	INFP-0000-DC1	0-100mV, 0-1V, 0-5V, 1-5V, 0-10V, 0-100V, ±50mV, ±500mV, ±5V, ±50V, 0-20mA, 4-20mA	No	572.54
84F846	INFP-0200-DC1		Yes	651.33
84F847	INFP-0210-DC1		Yes	766.89
92F6595	INFP-0211-DC1		Yes	882.45

UNIVERSAL METERS

Stock No.	Type	Signal Inputs (Standard)	Relay Output	Each
16F6465	INFU-0000-DC1	All Inputs from Above Tables	No	677.59
16F6466	INFU-0200-DC1		Yes	756.38
16F6467	INFU-0210-DC1		Yes	871.94

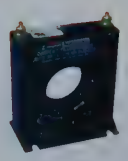
ACCESSORIES

Stock No.	Type	Description	Each
84F848	REL1	Isolated Dual 7 Amp Relay	86.94
16F6468	REL4	Isolated Dual 7 Amp & Dual 1 Amp Relays	193.08
84F849	AN02	Isolated Analog Output Board for INFT, INFP, INFS	121.82
84F850	RS20	Isolated RS-232 Serial Output Board	121.82
84F851	RS40	Isolated RS-485 Serial Addressable Output Board	121.82
84F852	9SC2	9-Pin Serial Connector with RJ-11 Jack for RS-232	34.78
84F853	9SC4	9-Pin Serial Connector with RJ-12 Jack for RS-485	34.78
84F854	P7A5	Analog Signal Input Condition for INF7	201.83
92F6599	P7A1	Isolated Signal Conditioner for INF7	86.71

(2457) (ne08165)

CURRENT TRANSFORMERS

Crompton INSTRUMENTS



802

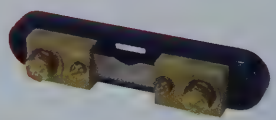
802 series current transformers are for ammeter use. Terminals are No. 8-32 UNC brass studs with one flat washer, lockwasher, and regular nut. Frequency: 50-400Hz. UL recognized, CSA certified. Round donut-style current transformers with 18" leads and no fixing feet are also available. *Contact your local Newark salers office.*

Stock No.	Type	Current Ratio	Burden, 60Hz	Each
83F9147	802-943U-NTLS	50:5A	2VA	25.50
83F9148	802-943U-PBLS	75:5A	2VA	25.50
83F9149	802-943U-PKLS	100:5A	2VA	25.50
83F9150	802-943U-PZLS	150:5A	4VA	25.50
83F9151	802-943U-RLLS	200:5A	5VA	25.50
83F9152	802-943U-RXLS	300:5A	10VA	25.50
83F9153	805-943U-SFLS	500:5A	25VA	29.00

(3465) (de08740)

BASE-MOUNTED SHUNTS

Crompton INSTRUMENTS



Type FN base-mounted shunts are separately mounted units used for extending measurement of currents beyond the available limits of self-contained DC ammeters. Designed for use with standard 50- or 100-mV switchboard indicating or recording instrument calibrated in terms of the ampere rating of the shunts. The millivolt drop of the shunt is adjusted at the factory to within ¼% accuracy. For continuous operation, it is recommended that shunts are not run at more than ⅔ the rated current under normal conditions of use as per IEEE standards. Where possible, all shunts should be mounted on the grounded side of the circuit. Panel-mounted shunts with insulated bases must be mounted on the grounded side of circuits above 750 volts.

BASE-MOUNTED SHUNTS

Stock No.	Type	Current	mV	Each
92F5447	FN-5-50	5A	50	25.88
92F5448	FN-15-50	15A	50	25.88
92F5449	FN-25-50	25A	50	25.88
92F5450	FN-50-50	50A	50	25.88
92F5451	FN-100-50	100A	50	25.88
92F5452	FN-200-50	200A	50	25.88
83F9154	FN-500-50	200A	50	22.00

(3462) (de04346)

PROCESS AND PANEL METERS

TYPE IDP PROCESS METER

4-digit LED process meter that has user-selectable inputs of 4-20 mA, 20-4 mA, 0-5V, 1-5V or 0-10V. Features are easy scaling to engineering units with or without an input signal to meter, front panel and remote tare, peak or valley recall and memory. 10V or 24VDC sensor excitation. ⅛ DIN case 4″ deep. Removable screw terminals for easy connections. *115VAC and red display standard. 230VAC, 10-32VDC and green displays are optional. CE compliant.

Stock No.	Type	Signal Input Range, VDC	Display Range	Relay Output	Excitation Output	Each
92F4386	IDP-0	4-20mA, 20-4MA 0-5V, 1-5V or 0-10V	+9999 –1999	No	10VDC or 24VDC	**215.15**

(2387) (de04304)

IDPH PH METER

NEW

Economical, user-friendly panel meter for pH measurement. Depth of 4.10″ (104) allows easy installation in areas with limited panel depth. Accommodates any pH elecrode with BNC connector. Temperature compensation is either manual or automatic with use of any 1000Ω platinum RTD. Input impedance: 10Ω. Display range: 0-14 pH. Accuracy: ± 0.02 pH.

88F1042 Type IDP-O/E **Each** **258.34**

(37371) (ne37371)

TYPE IDT THERMOCOUPLE METER

4-digit LED temperature meter has user selectable inputs of: J, J DIN, K, T, E, R/S and N. Selections are made via the front pushbuttons. Features are: C/F switchable, 1.0 and 0.1 resolution, min/max recall, external display HOLD input. ⅛ DIN case 4″ deep. Removable screw terminals for easy connections. *115VAC and red display standard. 230VAC, 10-32VDC and green displays are optional. CE compliant.

Stock No.	Type	Signal Input Range, Vdc	Display Range	Relay Output	Excitation Output	Each
92F4387	IDT-00	J	–346 to 1400°F	N/A	N/A	
		JDIN	–200 to 1652°F	N/A	N/A	
		K	–337 to 2500°F	N/A	N/A	
		T	–454 to 752°F	N/A	N/A	
		E	–454 to 1832°F	N/A	N/A	
		R/S	–58 to 3214°F	N/A	N/A	
		N	-454 to 2372°F	N/A	N/A	**248.25**

(2388) (de04305)

SPLASH-PROOF LENS COVERS FOR PANEL METERS

Meet NEMA enclosure type 4 and IEC enclosure IP65 Classification. Protects against dust, falling dirt, salt spray, dripping water, and non-corrosive liquids.

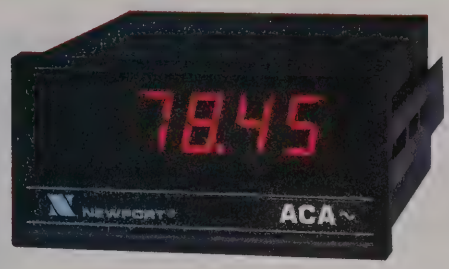
Stock No.	Type	Description	Each
92F4398	SPC18	1/8 DIN	**34.69**
89F1847	SPC4	1/8 DIN Heavy-Duty w/Thumb Screws	**31.52**

(2492) (ne09307)

PERSONALIZED SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

PROCESS INDICATORS AND CONTROLLERS

NEW



Feature 0.56″ (14.22) LED displays, screw terminal barrier strip for power and signal connections. Units are standard ⅛ DIN panel cutout. Relay output. Dual setpoint controller board with 2 internal form C relays rated 10A at 20VDC or 240VAC resistive. 2 LED lamps indicate on/off status of either relay. Setpoints are screwdriver adjusable over entire display range or over narrower ranges selected by jumpers on screw terminal strip.

INPUT SIGNAL-CURRENT

Stock No.	Type	Signal Input Range	Display Range	Excitation Output	Each
89F1843	Q2001E-1	4-20mA	±1,999	10 or 15V	**477.99**
89F1845	Q9001E-1	4-20mA	±9,999	10 or 15V	**520.01**
89F1809	Q2001P-1	4-20mA	±1,999	10 or 15V	**456.98**
89F1811	Q9001P-1	4-20mA	±9,999	10 or 15V	**499.00**

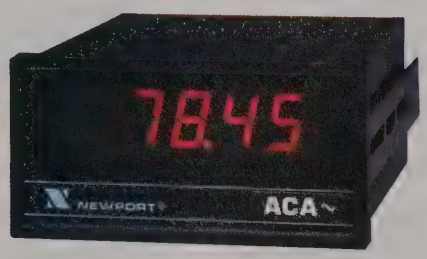
INPUT SIGNAL-VOLTS

89F1844	Q2001E-2	0-10VDC	±1,999	...	**477.99**
89F1846	Q9001E-2	0-10VDC	±9,999	...	**520.01**
89F1810	Q2001P-2	0-10VDC	±1,999	...	**456.98**
89F1812	Q9001P-2	0-10VDC	±9,999	...	**499.00**

(37373) (ne37373)

AC AMMETERS

NEW

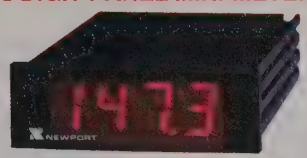


3½-digit units feature bright 0.56″(14.22) LED displays, screw trerminal barrier strip for power and signal connections, operate on 120VAC, fit standard ⅛ DIN panel cut-out. Decimal point programmable at barrier strip. Factory-calibrated precision op-amp rectifier circuit to read true RMS values of sinusoidal waves. 5A signal input range for direct connection to current transformer with 5A secondary without a step-down transformer.

Stock No.	Type	Display Range	Each
89F1835	Q2000DCR7-1	1-10/100/1000	**288.90**
89F1823	Q2000DCR7-3	0-20/200	**288.90**
89F1826	Q2000DCR7-6	0-50/500	**288.90**

(37270) (ne37270)

3½-DIGIT PANEL MINI-METERS



Indicators have 0.56″ (14.22) red LED display. 115VAC. Panel space 37.5% of standard 1/8 DIN meter. Process meters provide zero and span adjustments for readout in engineering units. Thermocouple meters include cold junction compensation, linearization, jumper selection of C or F, thermocouple break detection and analog output (1mV/count). Connection to sensor can be 2, 3 or 4 wire.

Stock No.	Type	Signal Input	Display Span	Each
90F8938	205-PA1-R-C0	4-20mA	±1,999	**215.96**
90F8939	205-PV3-R-C0	1-5V	±1,999	**160.58**
90F8940	205-PV4-R-C0	1-10V	±1,999	**160.58**
90F8941	205-JF1-R-C0	"J"T/C	–346° to +1400°F	**215.96**
90F8942	205-JC1-R-C0	"J"T/C	–210° to +760°C	**215.96**
90F8943	205-KF1-R-C0	"K"T/C	–157° to +1999°F	**215.96**

(2301) (de00217)

1/8 DIN DIGITAL PANEL METERS

INFINITY "C" SERIES INDICATORS/CONTROLLERS

9 Models for process, thermocouple, RTD,and strain inputs. Dual 7A relays and analog options available at time of order. Models feature 4-digit red LED display. Dual 6A relays and analog options available at time of order. Scalable 0-10VDC, 0-20mA, or 4-20mA analog output can be used for retransmission of the display value or as a proportional control output. Sleek 1/8 DIN design. All temperature models are C/F switchable. 115VAC standard. 230VAC, 10-32VDC or 25-56VDC power also available; *contact your local Newark sales office.*
(2473) (ne08438)

INFCTRA SERIES ⅛ DIN 6-DIGIT RATEMETER/TOTALIZER

- **Measures Rate from 0.5Hz to 30kHz**
- **Totalizes Up or Down from -99,999 to 999,999 or Acts as Accumulating Stopwatch**
- **Fast Low Frequency Measurements Every 50 Seconds**
- **Optional HI and LO Setpoints for Control or Alarm**
- **1/8 DIN Case with 5 Programming Keys**

INFCTRA Series ratemeter/totalizer offers user programming via 5 front panel keys. Programs are stored in non-volatile memory with 3 levels of program lockout for security. Selectable sensor excitation of 12.5VDC 50mA, 8.2VDC @ 40mA or 5.0VDC @ 30mA. Wide selection of signal inputs such as TTL compatible with protection to 25VDC, low level (25mVrms), high level signals protected to 115VAC, NAMUR or open collector PNP or NPN. 6-digit, 7-segment LED display. Accuracy: 0.01%. Power: 115VAC. Other configurations are available; *contact your local Newark sales office.*

Stock No.	Type	Description	Each
96F6826	INFCTRA-0000-R	Ratemeter, No Outputs	273.14
96F6827	INFCTRA-0100-R	Ratemeter, Dual Relay Output	351.93
96F6828	INFCTRA-0010-R	Ratemeter, Analog Output	378.19
96F6832	INFCTRA-0000-T	Totalizer, No Outputs	273.14
96F6834	INFCTRA-0010-T	Totalizer, Analog Output	378.19

(2352) (de02488)

INFCTP PROPORTIONAL THERMOCOUPLE TEMPERATURE PANEL METERS

Features time-proportional relay and open-collector outputs, 0.1° or 1.0° resolution, dual 6A relay and analog outputs. Rated 115VAC. Red LED display.

Stock No.	Type	Signal Input	Control Output	Analog Output	Each
93F9331	INFCTP-011	J,K,T,J-DIN	Yes	Yes	572.54

(2476) (ne08441)

INFCR RTD TEMPERATURE PANEL METERS

Standard features include a choice of 0.00385 or 0.00392 alpha curves; 2, 3 or 4 wire RTDs, 0.1° or 1.0° resolution, dual set points. Rated 115VAC. Red LED display.

Stock No.	Type	Signal Input	Control Output	Analog Output	Each
93F9325	INFCR-000	0.00385 or 0.00392	No	No	257.38
92F6552	INFCR-010		Yes	No	330.92
93F9334	INFCR-011		Yes	Yes	414.96

Optional Power: 25-56VDC and 10-32VDC are available on all models; *contact your local Newark sales office.*
(2477) (ne08442)

INFCT THERMOCOUPLE INPUT TEMPERATURE

Standard features include 0.1° or 1.0° resolution and dual setpoints. Rated 115 VAC. Red LED display.

Stock No.	Type	Signal Input	Control Output	Analog Output	Each
93F9323	INFCT-000	J,K,T,J-DIN	No	No	257.38
92F6545	INFCT-010	J,K,T,J-DIN	Yes	No	330.92
92F6546	INFCT-011	J,K,T,J-DIN	Yes	Yes	414.96

(2474) (ne08439)

INFCS STRAIN PANEL METERS

Wide selection of signal inputs, dual setpoints, peak reading, large offset capabilities for display in engineering units, front panel and remote tare, user selectable sensor excitation of 5, 10, 12, or 24VDC. Rated 115VAC. Signal Input: 0-100mV ±50mV, 0-5V, 1-5V, 0-10V ±5VDC, 0-20mA, 4-20mA. Red LED display.

Stock No.	Type	Control Output	Analog Output	Each
93F9329	INFCS-000	No	No	257.38
92F6568	INFCS-010	Yes	No	330.92
92F6569	INFCS-011	Yes	Yes	414.96

(2481) (ne08447)

INFCP PROCESS

Wide selection of signal inputs, dual setpoints, peak reading, large offset capabilities for display in engineering units, front panel and remote tare, user selectable sensor excitation of 5, 10, 12 or 24VDC. Rated 115VAC. Signal Input: 0-100mV ±50mV, 0-5V, 1-5V, 0-10V ±5VDC, 0-20mA, 4-20mA. Red LED display.

Stock No.	Type	Control Output	Analog Output	Each
93F9321	INFCP-000	No	No	257.38
99F3708	INFCP-010	Yes	No	330.92
92F4385	INFCP-011	Yes	Yes	414.96

(2480) (ne08445)

TEMPERATURE CONTROLLERS

INFCRP PROPORTIONAL RTD TEMPERATURE

Features time-proportional relay, open-collector outputs, 0.1° outputs, 0.00385 or 0.00392 alpha curve. Rated 115VAC. Red LED display.

Stock No.	Type	Signal Output	Control Output	Analog Output	Each
16F2829	INFCRP-011	0.00385 or 0.00392	Yes	Yes	572.54

INFCDR DIFFERENTIAL RTD TEMPERATURE

Accepts 2, 3, or 4 wire RTDs, 0.00385 or 0.00392 alpha curve, front panel selection of T1, T2, or T1-T2 indication, 0.1° or 1.0° resolution. Rated 115VAC.

92F6561	INFCDR-000	0.00385 or 0.00392	No	No	362.44
92F6552	INFCDR-010		Yes	No	330.92

(2478) (ne08443)

UNIVERSAL COUNTER/TIME/TOTALIZER

Universal 6-digit 0.56" (14.22) LED display is frequency meter, tachometer, rate meter, timer, totalizer with RS-232 interface. 7MHz maximum frequency. Fast low-frequency measurements, such as power-line monitoring to 5-digit accuracy every 150 microseconds. Selection of operating mode, scaling and setpoints via front-panel pushbuttons (with selectable hardware lockout). Units capable of handling TTL, NPN, PNP sensors, contact closures and passive magnetic pickups (not included). Fit 1/8 DIN panel cutout. Screw terminals for signal and power. 115VAC, 50/60Hz or non-isolated 5.5-12VDC. Relay output provides dual 10A relays for ON/OFF control or alarm applications, with latched or auto-reset modes.

Stock No.	Type	Signal Input	Relay Output	Analog Output	Each
89F1797	P6000A	TTL/5V CMOS-level, 2 Channel	No	No	346.68
89F1800	P6001A	±10mV to 240Vrms, 1 Channel	No	No	446.48
89F1798	P6020A	TTL/5V CMOS-level, 2 Channel	Yes	No	430.72
89F1799	P6021A	±10mV to 240Vrms, 1 Channel	Yes	No	530.52
51F3961	P6030A	TTL/5V CMOS-level, 2 Channel	No	Yes	562.03
51F3962	P6031A	±10mV to 240Vrms, 1 Channel	No	Yes	609.31
51F3960	P6024A	1-5V, 0-10V, 4-20mA, 1 Channel	Yes	No	572.54
51F3963	P6034A	1-5V, 0-10V, 4-20mA, 1 Channel	No	Yes	651.33

(2303) (de00220)

PANEL METERS AND BAR GRAPHS

450 SERIES BAR GRAPH

- Various Shapes, Sizes, and Options
- Nonvolatile Memory
- Two-Year Warranty
- 88,000-Hour Life Expectancy

Models TB-101 are front panel programmable, single LED bar graph with optional digital display and relays. These 101-segment bar graphs are available as indicators only or with 2 or 4 front panel programmable relays. They are also available with a 4-digit display. The LED bars and digital display are red. **Models TB-101** (w/o digital display) can be mounted either vertically (std.) or horizontally. Power supply: 110VAC (std.), 220VAC, 5VDC, 24 VDC. Case dimensions: 1.42W x 5.85H x 6.25″D.
TB-202 series is a dual LED bargraph indicator with two 101 segment LED indicators in one unit. The versatile bargraph has two isolated inputs and comes with red LED bars. **TB-202** can be mounted either vertically (std.) or horizontally. Power supply: 110VAC (std.), 220VAC, 5VDC, 24VDC. Case dimensions: 1.42W x 5.85H x 6.25″D.
TB-52 is a compact LED bar graph indicator. This 52-segment bar graph is the perfect indicator when size is a factor. The bright LED is only available in red and may be mounted vertically (std.) or horizontally. Power supply: 5VDC (std), 24VDC. Case dimensions: 0.73W x 2.85H x 4.60″D. Other models with 220VAC, 5VDC, or 24VDC power supplies, input ranges, and display colors are available; *contact your local Newark sales office for details.*

INDICATOR ONLY

Stock No.	Model	Type	Input	Power	Each
16F145	TB-52	450-101	4-20mA DC	5VDC	189.00
16F146	TB-52	450-102	1-5VDC	5VDC	189.00
16F149	TB-101	450-105	4-20mA DC	110VAC	241.50
16F150	TB-101	450-106	1-5VDC	110VAC	241.50
16F153	TB-101	450-153	4-20mA DC	110VAC	399.00
16F154	TB-101	450-154	1-5VDC	110VAC	399.00
16F157	TB-202	450-201	4-20mA DC	110VAC	367.50
16F158	TB-202	450-202	1-5VDC	110VAC	367.50
2 RELAYS					
48F3871	TB-101	450-109	4-20ma DC	110VAC	446.25
48F3872	TB-101	450-110	1-5VDC	110VAC	446.25
48F3873	TB-101	450-157	4-20ma DC	110VAC	551.25
48F3874	TB-101	450-158	1-5VDC	110VAC	551.25
4 RELAYS					
48F3875	TB-101	450-113	4-20mA DC	110VAC	525.00
48F3876	TB-101	450-114	1-5VDC	110VAC	525.00

(3618) (ne08862)

MICROPROCESSOR-BASED DPMs

NEW

- 4500 Series - 3½-Digit, 1999-Count
- 4550 Series - 4½-Digit, 19999-Count
- DC Current and Voltage
- Blue-Green Vacuum Fluorescent Display
- Fit in DIN and NEMA Cutouts
- Screw Terminals Standard
- Snap-In Case - No Tools Required

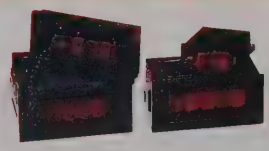
Also available as a controller, other ranges available; *contact your local Newark sales office.*

4500 SERIES

Stock No.	Type	Range	Each
48F3888	CE-4700-0000	0 to ±199.9mVDC	375.95
99F5800	CE-0401-0000	0 to ±1.999VDC	254.30
4550 SERIES			
48F3889	CJ-4700-0000	0 to ±199.9VDC	428.48
48F3890	CJ-0401-0000	0 to ±199.9VDC	428.48

(33981) (ne33981)

DIGITAL PANEL METERS



- Types AP-501:
- ⅛ DIN Thin Pack Case
- 3½-Digit, 0.56″ LED
- DC Voltage
- Power Supply: 5VDC
- Ranges: ±199.9mV to ±199.9V
- Accuracy: ±0.1 Rdg. ±1 Digit (23°C ±5°C)

Stock No.	Type	Input	Each
46F5458	AP-501-11	±199.9mV	89.25
46F5459	AP-501-12	±1.999V	89.25
46F5460	AP-501-13	±19.99V	89.25
46F5461	AP-501-14	±199.9V	89.25

- Types AP-201A:
- 1/32 DIN Subminiature Case
- 3½-Digit, 0.40″ LED
- DC Voltage
- Power Supply: 5VDC ±5%, 60mA
- Ranges: ±199.9mV to ±199.9V
- Accuracy: ±0.1% Rdg. ±1 digit (23°C ±5°C)
- Stability Max. 2 Digits (for Type AP-201A-11 Only)

Stock No.	Type	Input	Each
16F131	AP-201A-11	±199.9mV	78.75
16F132	AP-201A-12	±1.999V	78.75
16F133	AP-201A-13	±19.99V	78.75
16F134	AP-201A-14	±199.9V	78.75

- Types AP-101:
- 1/8 DIN Case
- 3½-Digit, 0.56″ LED
- DC Voltage
- DC Current
- Power supply: 120VAC
- Ranges: ±199.9mV to ±199.9A
- Accuracy: ±0.3 Rdg. ±1 Digit for Type AP-101-25 Only) Voltage: ±10.1% Rdg. ±11 Digit (23°C ±5°C) Current: (±0.2% Rdg ±1 Digit (23°C ±5°C

DC VOLTAGE

Stock No.	Type	Input	Each
46F5417	AP-101-11-1	±199.9mV	122.85
46F5418	AP-101-12-1	±1.999V	122.85
46F5419	AP-101-13-1	±19.99V	122.85
46F5420	AP-101-14-1	±199.9V	122.85
DC CURRENT			
46F5421	AP-101-21-1	±199.9µA	122.85
46F5422	AP-101-22-1	±1.999mA	122.85
46F5424	AP-101-24-1	±199.9mA	122.85
94F5540	AP-101-25-1	±199.9A	122.85

(3581) (ne08116)

DIGITAL PANEL METERS

NEW

- 40 Series: 3½-Digit, 1999 Count
- 50 Series: 4½-Digit, 19999 Count
- DC Current and Voltage
- High Intensity, 0.56″ Red LED
- Fit in DIN and NEMA Cutouts
- Screw Terminals Standard
- Snap-In Case - No Tools Required

Other ranges available; *contact your Newark sales office.*

40 SERIES

Stock No.	Type	Range	Each
81F2860	CA-4700-0000	0 to ±199.9mVDC	149.18
81F2861	CA-0401-0000	0 to ±1.999VDC	149.18
81F2863	CA-7701-0000	0 to ±199.9VDC	149.18
81F2867	CA-4303-0000	0 to ±19.99mADC	149.18
50 SERIES			
95F3791	CC-4700-0000	0 to ±199.9mVDC	242.19
95F3792	CC-0401-0000	0 to ±1.999VDC	242.19
95F3793	CC-7701-0000	0 to ±199.9VDC	242.19

(33980) (ne33980)

ANALOG METER-RELAYS AND PANEL METERS

195 SERIES OPTICAL METER-RELAYS

NEW

Types 1952 (2½"), 1953 (3½"), 1954 (4½")

MADE IN USA

- Plug-in Control Module
- Long-Life Lamp Operation
- Plastic Front and Base
- Proven Optical Setpoints
- On/Off or Alarm Control

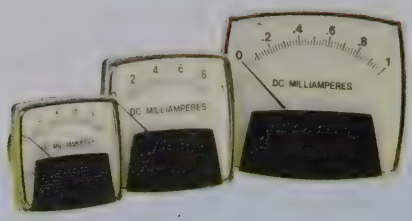
Type 195 series meter-relays contain an exclusive light-sensitive transistor switch that provides the ultimate in control simplicity and reliability. This switch controls the load relays. There are no pointer contacts or mechanical interferences in the meter mechanism. The controllers are supplied with a plug-in control module that mounts directly on the rear of the meter-relay or that may be remotely mounted with an accessory cable. **Type 1952** available in select ranges, *contact your local Newark sales office.*

Stock No.	Type	Range	Each
48F3914	V3-10FA-FA00	0-1mADC (High)	430.50
48F3915	V3-30FA-FA00	0-1mADC (Double)	504.00
48F3916	V3-11EC-EC00	0-50mVDC (High)	430.50
48F3917	V3-31EC-EC00	0-50mVDC (Double)	504.00
48F3918	V3-14LS-LS00	0-5AAC (High)	514.50
48F3919	V3-34LS-LS00	0-5AAC (Double)	588.00
48F3920	V3-35PZ-PZ00	0-150VAC (Double)	525.00
48F3921	V4-10FA-FA00	0-1mADC (High)	430.50
48F3922	V4-30FA-FA00	0-1mADC (Double)	504.00
48F3923	V4-14LS-LS00	0-5mAAC (High)	514.50
48F3924	V4-34LS-LS00	0-5AAC (Double)	588.00
48F3925	V4-35PZ-PZ00	0-150VAC (Double)	525.00

(33985) (ne33985)

195 SERIES PANEL METERS

NEW



Type 1952 (2½"), Type 1953 (3½"), Type 1954 (4½")

- Low Cost
- Interchangeable with Other Manufacturers Meters
- Wide Selection of Ranges
- UL Recognized

Stock No.	Type	Range	Each
83F4806	1952-DMA-001T	0-1mADC (TB)	30.90
48F1453	1952-DCV-001P	0-1mADC	32.96
83F4809	1952-DVV-010P	0-10VDC	32.96
48F1456	1952-DCV-050P	0-50VDC	32.96
48F1457	1952-DCA-005P	0-5ADC	35.02
48F1461	1952-ACA-005	0-5AAC	32.96
83F4820	1952-ACV-150	0-150VAC	32.96
83F4821	1952-ACV-300	0-300VAC	35.02
83F4822	1953-DMA-001T	0-1mADC (TB)	32.96
83F4823	1953-DMA-001P	0-1mADC	32.96
83F4824	1953-DMV-050P	0-50mVDC	35.02
48F1463	1953-DCV-010P	0-10VDC	35.02
48F1464	1953-DCV-015P	0-15VDC	35.02
48F1467	1953-DCA-005P	0-5ADC	37.08
83F4836	1953-ACV-150	0-150VAC	35.02
83F4837	1953-ACV-300	0-300VAC	37.08
83F4838	1954-DMA-001T	0-1mADC (TB)	35.02

CONTINUED

195 SERIES PANEL METERS (CONT.)

Stock No.	Type	Range	Each
83F4839	1954-DMA-001P	0-1mADC	35.02
83F4840	1954-DMV-050P	0-50mVDC	35.02
48F1473	1954-DCV-010P	0-10VDC	35.02
48F1475	1954-DCV-030P	0-30VDC	37.08
48F1477	1954-DCA-005P	0-5ADC	39.14
48F1481	1954-ACA-005	0-5AAC	37.08
83F4852	1954-ACV-150	0-150VAC	37.08
83F4853	1954-ACV-300	0-300VAC	39.14

(33984) (ne33984)

S SERIES PANEL METERS

NEW

Types 220S (2½"), 320S (3½"), 420S (4½")

MADE IN USA

- Low Cost
- Interchangeable with Other Manufacturers Meters
- Wide Selection of Ranges
- UL Recognized

Stock No.	Type	Range	Each
48F1361	220S-DMA-001T	0-1mADC (TB)	30.90
48F1362	220S-DMA-001P	0-1mADC	30.90
48F1365	220S-DCV-010P	0-10VDC	32.96
48F1368	220S-DCV-050P	0-50VDC	32.96
48F1369	220S-DCA-005P	0-5ADC	35.02
48F1373	230S-ACA-005	0-5AAC	32.96
48F1374	230S-ACV-150	0-150VAC	32.96
48F1375	230S-ACV-300	0-300VAC	35.02
48F1376	320S-DMA-001T	0-1mADC (TB)	32.96
48F1377	320S-DMA-001P	0-1mADC	32.96
48F1378	320S-DMV-050P	0-50mVDC	35.02
48F1380	320S-DCV-010P	0-10VDC	35.02
48F1381	320S-DCV-015P	0-15VDC	35.02
48F1384	320S-DCA-005P	0-5AAC	37.08
48F1389	330S-ACV-150	0-150VAC	35.02
48F1483	330S-ACV-300	0-300VAC	37.08
48F1390	420S-DMA-001T	0-1mADC (TB)	35.02
48F1391	420S-DMA-001P	0-1mADC	35.02
48F1392	420S-DMV-050P	0-50mVDC	35.02
48F1394	420S-DCV-010P	0-10VDC	35.02
48F1396	420S-DCV-030P	0-30VDC	37.08
48F1398	420S-DCA-005P	0-5ADC	39.14
48F1402	430S-ACA-005	0-5AAC	37.08
48F1404	430S-ACV-150	0-150VAC	37.08
48F1405	430S-ACV-300	0-300VAC	39.14

(33986) (ne33986)

NEWARK STOCKS MORE PRODUCTS THAN ANY OTHER ELECTRONICS DISTRIBUTOR!

TRIPLETT

ANALOG PANEL METERS

G AND GL SERIES METERS

Fig.1

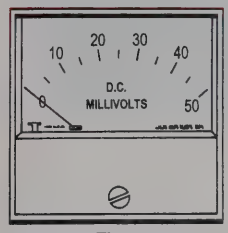


Fig.2

High quality meters have ±2% accuracy and high overload capacity. Feature spring-back bearings, white enameled metal dials, ceramic pointer stops, molded zero adjusters, and rugged construction. 0.73″ (18.54) terminal extension. **G series** meters have thermoplastic cases, and are 4-stud mount. Optional shallow barrel available. Half bezel illumination available as accessories. **GL series** have flat back thermoplastic cases and are 4-stud mount. Glass window contains contoured base with sealed meter movement, which allows use of lower front for mounting controls and switches. *Other case styles and meter types available; contact your local Newark sales office for details.*

Type	Meter Type	Nominal Size	Fig.	Scale Length	Flange Size W x H″	Body Size Diameter x Thickness″
220-G	DC	2½″	1	2.48	2.77 x 2.39	2.2 x 1.39
230-G	AC	2½″	1	2.11	2.77 x 2.39	2.2 x 1.39
220-GL	DC	2½″	2	2.24	2.38 x 2.38	2.16 x 1.11
230-GL	AC	2½″	2	2.24	2.38 x 2.38	2.16 x 1.11
320-G	DC	3½″	1	3.16	3.50 x 2.99	2.75 x 1.39
330-G	AC	3½″	1	2.68	3.50 x 2.99	2.75 x 1.39
420-G	DC	4½″	1	4.03	4.55 x 4.068	2.75 x 1.39
430-G	AC	4½″	1	3.43	4.55 x 4.068	2.75 x 1.39

Description	Range	Resistance	Type 220G Stock No.	Each	Type 220GL Stock No.	Each	Type 320G Stock No.	Each	Type 420G Stock No.	Each
DC Microammeters (Pivot & Jewel)	0-50	2300	44F7058	66.15	44F7062	66.15	44F7066	68.25	44F7082	70.35
	0-100	825	44F7059	65.10	48F3881	65.10	44F7067	67.20	44F7083	69.30
	0-200	360	44F7060	64.05	44F7064	64.05	44F7068	66.15	48F3887	66.15
DC Milliameters	0-1	55	44F7094	61.95	48F3882	61.95	44F7110	64.05	44F7141	67.20
	0-5	8.5	48F3877	63.00	44F7103	73.50	44F7111	65.10	...	...
	0-10	3.1	48F3878	63.00	48F3883	63.00	44F7112	65.10	...	...
	0-25	2.0	44F7097	63.00	44F7105	73.50	44F7113	65.10	44F7144	67.20
	0-50	1.0	44F7098	63.00	44F7106	73.50	...	...	...	...
	0-100	0.50	44F7099	63.00	48F3884	63.00	44F7115	65.10	44F7146	67.20
	0-200	0.25	44F7100	64.05	44F7108	74.55	...	...	44F7147	68.25
	0-500	0.10	44F7101	64.05	44F7109	74.55	44F7117	66.15	...	...
DC Ammeters	0-1		44F7154	65.10	44F7162	75.60	44F7169	67.20	44F7203	69.30
	0-5		44F7155	65.10	44F7163	75.60	44F7170	67.20	44F7204	69.30
	0-10		44F7156	65.10	44F7164	75.60	44F7171	67.20	44F7205	69.30
	0-30		44F7157	66.15	...	...	44F7172	68.25	44F7206	70.35
	0-50		44F7158	64.05	44F7165	74.55	44F7173	66.15	44F7207	68.25
	0-100+		44F7159	64.05	48F3885	64.05	44F7174	66.15	44F7208	68.25
	0-200+		44F7160	64.05	44F7168	74.55	...	...	44F7209	68.25
	0-500+		48F3879	64.05	44F7168	74.55	44F7176	66.15	44F7210	68.25
DC Millivoltmeters	0-50	6.7	44F7212	64.05	44F7213	74.55	44F7214	66.15	44F7221	68.25
DC Voltmeters	0-5	1000/V	44F7229	64.05	44F7236	74.55	44F7243	66.15	44F7276	68.25
	0-10	1000/V	44F7230	64.05	44F7237	74.55	44F7244	66.15	44F7277	68.25
	0-25	1000/V	44F7231	64.05	44F7238	74.55	44F7245	66.15	...	...
	0-30	1000/V	44F7232	64.05	44F7239	74.55	44F7246	66.15	44F7279	68.25
	0-50	1000/V	44F7233	64.05	44F7240	74.55	44F7247	66.15	44F7280	68.25
	0-100	1000/V	44F7234	64.05	44F7241	74.55	44F7248	66.15	44F7281	68.25
	0-150	1000/V	44F7235	64.05	44F7242	74.55	44F7249	66.15	44F7282	68.25
	0-200	1000/V	...	...	...	...	44F7250	66.15	44F7283	68.25

Description	Range	Resistance	Type 230G Stock No.	Each	Type 230GL Stock No.	Each	Type 330G Stock No.	Each	Type 430G Stock No.	Each
AC Millammeters	0-100	40	44F7085	67.20	...	...	...	...	44F7297	65.10
	0-250	5.9	44F7086	60.90	44F7288	64.05	44F7290	63.00	44F7298	65.10
AC Ammeters	0-1	0.38	44F7299	60.90	48F3886	60.90	44F7317	63.00	...	...
	0-2	0.092	44F7300	60.90	44F7309	64.05	...	...	...	...
	0-3	0.039	44F7301	60.90	44F7310	64.05	44F7319	63.00	...	...
	0-5	0.014	44F7302	60.90	44F7311	64.05	44F7320	63.00	44F7356	65.10
	0-10	0.004	44F7303	63.00	...	...	44F7321	65.10	44F7357	67.20
	0-15	0.003	44F7304	63.00	...	...	44F7322	65.10	44F7358	67.20
	0-25	0.002	44F7305	63.00	...	...	44F7323	65.10	44F7359	67.20
	0-50	0.00035	44F7306	63.00	...	...	44F7324	65.10	44F7360	67.20
	0-100*		44F7307	60.90	44F7316	64.05	44F7325	63.00	44F7361	65.10
AC Voltmeters	0-10	10/V	44F7362	63.00	44F7369	66.15	44F7373	65.10	44F7401	67.20
	0-50	50/V	44F7363	63.00	...	...	...	...	44F7402	67.20
	0-100	91/V	44F7402		44F7371	66.15	44F7375	65.10	44F7403	67.20
	0-150	125/V	44F7365	63.00	44F7372	66.15	44F7376	65.10	44F7404	67.20
	0-250	144/V	44F7366	63.00	...	...	44F7377	65.10	44F7405	67.20
	0-300	144/V	44F7367	63.00	...	...	44F7378	65.10	44F7406	67.20
	0-500**	125/V	44F7368	127.05	...	...	44F7379	129.15	44F7407	131.25

* A basic 0-5 ampere AC instrument; dial reads "AC Amperes." Transformer not included. +Require External Shunt **0-500VAC includes multiplier box.

(34296)

(ne34296)

DIGITAL PANEL METERS

⅛ DIN BIG-DIGIT PANEL METERS

NEW

- **3½ Digits with 0.8″ LED or 0.98″ LCD for Easy, Precise Viewing**
- **Requires Only 1.37″ (35) Depth Behind Panel**

Universal panel meters with large LCD or red or green LED displays for voltage or current. Standard ⅛ DIN industry panel cutout. Snap-in panel mount design for easy installation and secure mounting. Fit panels up to 0.08″ thick. Standard 4-20mA input is displayed as 0-100.0. Decimal point selectable by solder jumpers. Overrange and polarity indication. Surface mount design. DCV power: +5VDC. DCA power: loop (4-20mA DC).

Stock No.	Type	Display	Input	1-2	3-4
83F8113	1801111	Red LED	2VDC	**80.19**	**79.00**
83F8114	1802111	Green LED	2VDC	**80.19**	**79.00**
83F8115	1803111	LCD	2VDC	**80.19**	**79.00**
83F8116	180500	LCD	4-20mA DC	**91.35**	**90.00**

(32678) (ne32678)

2000 SERIES 1/8 DIN DC INPUT METERS

- **Meet NEMA 4, 12 and IPC 55 (Splash-Proof/Hose Down) Standards**
- **Shallow, 1″ (25.40) Depth**

Fit 1/8 DIN panel cutout. Ideal for dairy, pharmaceutical, food, petrochemical, and other demanding applications. Accuracy: ±0.1% + 1 count typical; ±0.2% + 1 count maximum. 0.5″ (12.70)H, 3.5-digit, 7-segment backlit, positive green LCD visible in sun or bright light. User-selectable decimal. Screw terminal connector. Polycarbonate case has gasket. Temperature range: –20° to +60°C. DPM and backlit power: 115VAC. 7th digit "**0**" denotes voltmeter.

Stock No.	Type	Input Range	Input Resistance	Each
51F3579	2033-3401-04-U	200mVDC	≥100mΩ	**126.07**
51F3580	2033-3402-04-U	2VDC	≥100mΩ	**126.07**
51F3581	2033-3403-04-U	20VDC	1mΩ	**126.07**
51F3582	2033-3404-04-U	200VDC	1mΩ	**126.07**

(3403) (de00779)

2000 SERIES 1/8 DIN LOOP-POWERED METER

Process meters similar to **2000 series** DC input models except self-powered from 4-20mA control loop. Accuracy: ±0.1% f.s. + 1 count. Conversion rate: 2.5 per second. Operating temperature range: –40° to +65°C. User-selectable decimal point.

Stock No.	Type	Input Range	Loop Drop Maximum	Each
51F3596	2013-3019-00-U	00.0 for 4mA Inputs	2.2V	**160.73**

(3407) (de00783)

2000 SERIES 1/8 DIN AC INPUT METERS

Rugged industrial meters have same features as **2000 series** DC models except AC input and negative red display. Accuracy: ±0.05% + 1 count; (*) denotes ±0.5% + 5 count.

Stock No.	Type	Input Range	Input Resistance	Each
51F3588	2053-3429-04-U	80-260VAC	1mΩ	**126.07**
51F3590	2053-3439-04-U	0-50AAC*	Current Transformer	**126.07**

(3404) (de00780)

SNAP BEZEL FOR 1000 SERIES DPMs

No mounting hardware required.

51F3600 Type BK-1000-U. **Each** **6.65**

(6511) (nec00787)

2000 SERIES UNIVERSAL SELECTABLE METERS

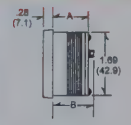


Figure A

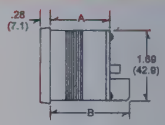


Figure B

- **High-Impact Polycarbonate Case**
- **NEMA 4, 12, and IPC 55 (Splash-Proof / Hose Down) Standards**
- **DIN Industry Standard Cutout**

Universal selectable true RMS AC voltage and current model or Process DC voltage/DC current meters allow you to select different inputs, scale in engineering units, select decimal point and calibrate from the rear of the instrument without opening the case. Surface mount and special design features result in unit that is only 1″ deep behind the panel (1½″ for **type 2153-3419-04**) and is splash- and hose-down proof. Screw terminals eliminate added cost of plug-on screw terminals or solder connectors. Operating temperature: –20° to +60°C. Over-range indication.

DIMENSIONS

Input Type	Figure	A	B
AC	A	0.99″ (25.1)	1.15″ (29.2)
DC	A	0.99″ (25.1)	1.15″ (29.2)
4-20mA Process	B	1.49″ (37.8)	2.00″ (50.8)

UNIVERSAL SELECTABLE: PROCESS, DC VOLTAGE OR DC CURRENT TYPE, 115VAC

Stock No.	Type	Input	Scaled	Each
93F7500	2153-3406-04	10VDC	0-10.00	**192.88**
93F7502	2153-3419-04	4-20mADC	0-100.0	**192.88**

UNIVERSAL SELECTABLE: POWER RANGES (TRUE RMS)

93F7507	2353-1024-10	200VAC	0-200.0	**223.24**
93F7508	2353-1026-10	250VAC	0-250	**223.24**

(3469) (de50267)

MINIATURE DIGITAL PANEL METERS

1000 Series

1000 SPM Series are 3½-digit, 7-segment backlit digital panel meters. Input: 200mVDC. Input resistance: ≥100MΩ. Conversion rate: 2.5 per second. Operating temperature: 0°C to +60°C. Accuracy: ±0.25% + 1 count maximum. 13-pin terminals. Window mount. **Types 1030-00-19** and **1060-00-19** are loop-powered from signal and input: 4-20mA DC. Accuracy: ±0.1% of F.S. + 1 count. Operating temperature: –30°C to +80°C. Window mount. *For bezel mounting, order snap bezel separately on this page.*

Stock No.	Type	Display Color	DPM Power	Each
51F3573	1030-01-01	Positive Green	9VDC	**57.89**
51F3575	1060-01-01	Positive Red	9VDC	**57.89**
51F3576	1060-02-01	Positive Red	+5V & –5VDC	**59.36**
51F3577	1030-00-19	Positive Green	Loop Powered	**96.44**
51F3578	1060-00-19	Positive Red	Loop Powered	**96.44**

(6605) (nec9203)

2000 SERIES 1/8 DIN TEMPERATURE METER

Industrial temperature meter similar to **2000 series** DC input models except thermocouple input. User-selectable °C or °F. Input characteristic: 45µV maximum per 100Ω. Accuracy: ±0.1% + 1 count. Negative red display. DPM and backlit power: 115VAC. *Order thermocouples separately-see Product Index for selection.*

Stock No.	Type	Thermocouple Input Type	Each
51F3591	2053-3480-04-U	J: –30° to +650°C/–10° to +1200°F	**126.07**

(3405) (de00781)

2000 SERIES 1/8 DIN RTD TEMPERATURE METER

Temperature meter same as **2000 series** thermocouple models except RTD input. 100Ω platinum 0.00385 2- or 3-wire connection. Input characteristic 1mA RTD current. Accuracy: ±0.2% + 1 count maximum. °F or °C user selectable. DPM and backlit power: 115VAC. Negative red display. *Order RTD sensor separately; contact your local Newark sales office.*

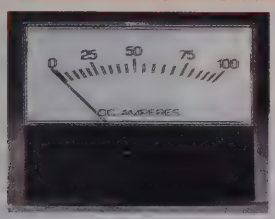
Stock No.	Type	Temperature Inputs	Each
51F3594	2053-3470-04-U	–300° to +500°C/–200° to +600°F	**126.07**

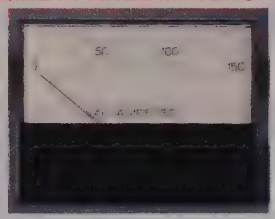
(3406) (de00782)

MODUTEC

MOVING MAGNET AND DIGITAL PANEL METERS

M SERIES MOVING-MAGNET PANEL METERS





- **5% Accuracy of Full Scale**
- **Flush or Surface Mount without Modification**

Quality meters feature high-torque, powerful ballistic movements that permit mounting in steel panels without special calibration and production-engineered mounting and electrical connections. **OMS** and **MSQ series** are square meters with operating zero adjusters and scales printed on translucent plastic. **ME series** edgewise meters are interchangeable with many d'Arsonval meters. Feature flush-to-panel covers, no disfiguring bulge. **3MAS series** rectangular 3½″ meters have operating zero adjusters and scales printed on translucent plastic, permitting diffused lighting. All **M series** meters operating temperature range: 0° to +50°C.

DC MILLIAMMETERS

Range	OMS Series 1½″ Square Stock No.	Type	1-4	MSQ Series 2½″ Square Stock No.	Type	1-4
0-1	62F3541	OMS-DMA-001-U	18.96	54F1032	MSQ-DMA-001-U	21.81
0-5	62F3542	0MS-DMA-005-SP	18.96	54F1033	MSQ-DMA-005	19.42
0-10	87F2559	OMS-DMA-010-U	18.96	87F2560	MSQ-DMA-010-U	21.81
1-0-1	44F4762	OMS-DMA-1U1-U	18.96	44F4779	MSQ-DMA-1U1-SP	21.81

DC AMMETERS

0-5	62F3544	OMS-DAA-005-U	18.96	54F1024	MSQ-DAA-005-U	21.81
0-10	...	...	...	54F1025	MSQ-DAA-010-U	21.81
0-20	44F4763	OMS-DAA-020-U	18.96	44F4780	MSQ-DAA-020-U	21.81
0-30	...	...	...	54F1026	MSQ-DAA-030-U	21.81

DC VOLTMETERS

0-10	44F4766	OMS-DVV-010-U	20.50	44F4782	MSQ-DVV-010-U	23.33
0-15	62F3546	OMS-DVV-015-U	20.50	54F1013	MSQ-DVV-015-SP	23.33
0-30	44F4767	0MS-DVV-030-SP	20.50	54F1014	MSQ-DVV-030-U	23.33
0-50	62F3547	OMS-DVV-050-U	20.50	54F1015	MSQ-DVV-050-U	23.33
0-100	44F4768	OMS-DVV-100-U	20.50	54F1016	MSQ-DVV-100-SP	23.33

AC AMMETERS

0-1	44F4771	OMS-AAA-001-U	23.33	44F4785	MSQ-AAA-001-U	26.23
0-5	44F4772	0MS-AAA-005-SP	23.33	44F4786	MSQ-AAA-005-U	26.23
0-10	44F4773	OMS-AAA-010-U	23.33	44F4787	MSQ-AAA-010-U	26.23

AC VOLTMETERS

0-150	62F3549	OMS-AVV-150-U	20.50	54F1006	MSQ-AVV-150-U	23.33
0-300	62F3550	OMS-AVV-300-U	20.50	54F1007	MSQ-AVV-300-U	23.33

DC MILLIAMMETERS

Range	3MAS Series 3½″ Rectangular Stock No.	Type	1-4	ME Series 2″ Edgewise Stock No.	Type	1-4
0-1	54F1035	3MAS-DMA-001-U	23.33	54F1029	ME-DMA-001-U	18.12
0-5	...	...	...	44F4789	ME-DMA-005-U	18.12
0-10	87F2561	3MAS-DMA-010-U	23.33	87F2543	ME-DMA-010-U	18.12
1-0-1	...	...	...	44F4795	ME-DMA-1U1-U	18.12

DC AMMETERS

0-5	54F1027	3MAS-DAA-005-U	23.33	54F1020	ME-DAA-005-U	18.12
0-10	...	...	...	44F4798	ME-DAA-010-U	18.12
0-20	...	...	...	44F4799	ME-DAA-020-U	18.12

DC VOLTMETERS

0-10	...	...	...	44F4802	ME-DVV-010-U	18.96
0-15	54F1018	3MAS-DVV-015-U	24.82	54F1010	ME-DVV-015-U	18.96
0-30	...	...	...	44F4803	ME-DVV-030-U	18.96
0-50	54F1019	3MAS-DVV-050-U	24.82	54F1011	ME-DVV-050-U	18.96
0-100	...	...	...	44F4804	ME-DVV-100-U	18.96

AC AMMETERS

0-1	...	...	...	44F4808	ME-AAA-001-U	21.81
0-5	...	...	...	44F4809	ME-AAA-005-U	21.81
0-10	...	...	...	44F4810	ME-AAA-010-U	21.81

AC VOLTMETERS

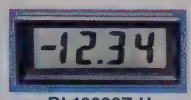
0-150	54F1008	3MAS-AVV-150-U	24.82	...	...	...
0-300	54F1009	3MAS-AVV-300SP	24.82	...	...	...

DC MICROAMMETERS WITH 500-0-500 RANGE

3MAS Series 3½″ Rectangular Stock No.	Type	1-4	ME Series 2″ Edgewise Stock No.	Type	1-4
87F2557	3MAS-DUA-5H5-U	24.82	87F2558	ME-DUA-5H5-SP	19.92

(3470) (de50268)

BIG-LITTLE LCD 3½-DIGIT PANEL METERS



BL10020Z-U

BL130201-U

BL176201-U

- **High-Contrast LCD Readout**
- **User-Selectable Decimal Point**
- **Low Power Consumption**
- **Auto-Polarity (–) Displayed**

BL series digital panel meters feature 0.5″ (12.70) high digits on high-contrast LCD. 1999-count maximum. Accuracy: ±0.1% reading +2 count. Resolution: one art in 2000. User-selectable decimal point. Automatic polarity (–) displayed. **Type BL-100** is surface/window mount. **Type BL-130** is bezel mount. Both types have a 13-pin terminal. **Type BL-176** is flat pack DPM with solder pad connections. *Order* **type 176-BK** *bezel kit with mounting hardware separately below.* **Types BL-300** and **BL-500** are LCD digital panel meters with LED backlighting. Easily read in dark or bright sunlight. Digits are 0.5″ (12.70) high. 1999-count maximum. Decimal point user-selectable. Auto polarity. Red or green backlight. Backlight power: 5VDC. Voltage range: 4.7V to 5.25V maximum. Red current: 130mA to 200mADC, 165mA nominal. Green current: 75mA to 160ADC, 115mA nominal. 13-pin terminal. Operating temperature range: -20° to +60°C. **Type BL-300** positive image dark on green background; **type BL-500** negative image, red segments on dark background.

WINDOW-MOUNT DIGITAL PANEL METERS

Stock No.	Type	Power	Input	Each
46F164	BL100202-U	+5V and –5VDC	2VDC	56.42
46F165	BL100301-U	+5VDC	200mVDC	63.82
46F166	BL100302-U	+5VDC	2VDC	63.82
90F9684	BL100303U	+5VDC	20VDC	63.82

BEZEL-MOUNT DIGITAL PANEL METERS

46F169	BL130201-U	+5V and –5VDC	200mVDC	60.09
46F170	BL130202-U	+5V and –5VDC	2VDC	60.09
46F171	BL130301-U	+5VDC	200mVDC	67.50
46F172	BL130302-U	+5VDC	2VDC	67.50
90F9686	BL130303U	+5VDC	20VDC	67.50

FLAT-PACK DIGITAL PANEL METERS

46F175	BL176201-U	+5V and –5VDC	200mVDC	40.35
46F176	BL176202-U	+5V and –5VDC	2VDC	40.35
46F177	BL176301-U	+5VDC	200mVDC	56.31
46F178	BL176302-U	+5VDC	2VDC	56.31
90F9688	BL176303U	+5VDC	20VDC	56.31

GREEN BACKLIGHT, WINDOW-MOUNT DPMs

87F2571	BL300301-01U	+5VDC	200mVDC	81.10
87F2572	BL300302-01U	+5VDC	2VDC	79.63

GREEN BACKLIGHT, BEZEL-MOUNT DPMs

87F2574	BL330202-01U	+5V and –5VDC	2VDC	75.90
87F2575	BL330301-01U	+5VDC	200mVDC	83.31
87F2562	BL330302-01U	+5VDC	2VDC	83.31

RED BACKLIGHT, BEZEL-MOUNT DPMs

87F2535	BL530301-01U	+5VDC	200mVDC	89.46
87F2536	BL530302-01U	+5VDC	2VDC	89.46

BEZEL KIT

89F4226 Type 176BK. **Each** **4.01**
(3468) (de50133)

BIG-LITTLE™ DUAL-INPUT/DUAL-DISPLAY LCD BAR GRAPH METERS WITH LED BACKLIGHTING

BGE

BGE series elliptical LCD bar graphs utilize surface mount components and chip-on-board technology. Fast responding 100-segment bar graphs give trend information and follow rapidly changing input signal. Ideal for power supplies, UPS systems, or applications that monitor two parameters. Backlit LCD display reads easily in sunlight and dark areas. Bar graph is 3.5″ (88.90) long, with three 7-segment (±999) digits. Digit height: 0.34″ (8.64). Decimal point: 3 positions, external selection. Input: 200mV, backlight power 5VDC. Accuracy: bar graph ±1% typical, ±1.5% full scale maximum; digits, ±0.1% typical, ±0.25% full scale maximum. **Types BGE-30** positive green (dark segments, bright green background); **BGE-40** negative green (bright green segments, dark background); **BGE-50** negative red (bright red segments, dark background).

Stock No.	Type	Description	Each
89F1700	BGE-30-999-0	+Green	102.96
89F1699	BGE-40-999-0	–Green	105.48
89F1698	BGE-50-999-0	–Red	109.36
89F1697	BGE309990VA-1000	+Green with Labeling	102.96
89F1695	BGE-50-9990VA1000	–Red with Labeling	109.36

(6513) (nec50135)

INTERCHANGEABLE KEYPADS FOR DIFFERENT ENVIRONMENTS

STORM® 1000 SERIES KEYPADS FOR PUBLIC AND OUTDOOR ENVIRONMENTS

VANDAL RESISTANT · Storm K Range · IP67 SEALED · OPERATIONS PER KEY · RESPONSIVE KEY ACTION · ESD PROTECTED

- Illustration shows telephone format
- Anti-vandal
- Metal casing and keytops (chromed)
- Fully sealed to meet IP67 standards for use in exposed outdoor applications
- Engraved keytop characters
- Gold on nickel plated FR4 contact PCB
- Available in 4-, 12-, and 16-key formats
- Operational life >4 million cycles per key
- –40°C (dry) to +100°C operational

Case color is silver; keytop color is silver. Connector is 0.1″ pitch, gold plated, square pin, male with locking ramp. CE compliant. Keypad height: 118.50mm for all types.

Stock No.	Type	Array	Description	1-9
92F2823	1K041103	1x4 Matrix	4 Key (← ↓ ↑ →)	47.70
92F2824	1K042103	1x4 Matrix	4 Key (F1-F4)	47.70
96F1406	1K120103	3x4 Matrix	12 Key (Calculator Format)	68.90
96F8228	1K12T103	3x4 Matrix	12 Key (Telephone Format)	68.90
96F1407	1K160103	4x4 Matrix	16 Key (Calculator Format)	82.68
96F8229	1K16T103	4x4 Matrix	16 Key (Telephone Format)	82.68

(6537) (nec8912)

STORM® 2000 SERIES KEYPADS FOR USE IN HARSH INDUSTRIAL/WET ENVIRONMENTS

IMPACT RESISTANT · IP65 SEALED · OPERATIONS PER KEY · RESPONSIVE KEY ACTION · ESD PROTECTED

- Tough, impact-resistant construction
- Super high impact-resistant polymer casing and keytops
- Fully sealed to IP65, enabling low pressure hose wash down and use in exposed area
- Laser-engraved keytop characters
- Gold on nickel plated FR4 contact PCB
- Available in 4-, 12-, and 16-key formats
- Operational life >4 million cycles per key
- –25°C (dry) to +85°C operational

Case color is mid-gray; keytop color is light gray. Connector: 0.1″ pitch, gold plated, square pin, male with locking ramp. CE compliant.

Stock No.	Type	Description	Array	1-9
92F1784	2K042103	4 Key (F1-F4)	1x4 Matrix	32.86
92F1783	2K041103	4 Key (Arrows)	1x4 Matrix	32.86
92F1786	2K120103	12 Key (Calc.)	3x4 Matrix	47.70
92F1785	2K12T103	12 Key (Tel.)	3x4 Matrix	47.70
92F1788	2K160103	16 Key (Calc.)	4x4 Matrix	58.30
92F1787	2K16T103	16 Key (Tel.)	4x4 Matrix	58.30

(6539) (nec8914)

STORM® K RANGE ACCESSORIES

- Rear casing provides space to house additional components and circuitry (12 key keypad format only)

Stock No.	Type	Description	1-9
92F1789	RC120203	Rear Casing (Provides additional circuitry housing)	29.15
92F2831	1K000003	Set of 4 blank keys **(1000 series)**	7.42
92F1790	2K000003	Set of 4 blank keys **(2000 & 3000 series)**	3.18
50F9584	40000003	Universal Encoder (for Storm® Series)	144.16

(6538) (nec8913)

STORM® 1000 PLX SERIES KEYPADS FOR PUBLIC/ OUTDOOR ENVIRONMENTS

CE · Storm® · VANDAL RESISTANT · OPERATIONS PER KEY · RESPONSIVE KEY ACTION · IP65 SEALED · IMPACT RESISTANT · ESD PROTECTED

- Compatible with Universal Encode
- Illustrations shows calculator form
- 4-, 12-, and 16-key formats
- Black case, silver chrome keys
- Telephone and calculator format keytop graphics
- IP65 rated against water and dust
- High level resistance to impact and operator abuse
- Long and reliable operational life (4 million plus operations per key)

Reducing cost and weight of vandal resistant keypads, the **PLX series** uses a revolutionary super high impact polymer case for resistance to abuse and attack. Ideal for applications that require toughness and resistance to water and dust. Keypad height: 118.50mm for all types. Chromed keys are retained to provide keytop graphics with unsurpassable toughness and wear resistance. Case color: black. Keytop color: silver. Connector: 0.1″ pitch, gold plated, square pin, male with locking ramp. CE compliant.

Stock No.	Type	Description	Array	1-9	10-24
83F2314	PLX042203	4 Key (F1 - F4)	1 x 4 Matrix	50.66	49.13
83F2317	PLX041203	4 Key (← ↓ ↑ →)	1 x 4 Matrix	50.66	49.13
83F2315	PLX120203	12 Key (Calculator Format)	3 x 4 Matrix	59.95	58.14
83F2318	PLX12T203	12 Key (Telephone Format)	3 x 4 Matrix	59.95	58.14
83F2316	PLX160203	16 Key (Calculator Format)	4 x 4 Matrix	73.20	70.99
83F2319	PLX16T203	16 Key (Telephone Format)	4 x 4 Matrix	73.20	70.99

(16533) (ne10524)

STORM® 3000 SERIES GENERAL SERVICE AND SHELTERED OUTDOOR USE KEYPADS

IP64 SEALED · OPERATIONS PER KEY · RESPONSIVE KEY ACTION · ESD PROTECTED

- General service polymer casing and keytops
- Rain and splashproof to IP54 for sheltered outdoor applications
- Printed hard-coated keytop characters
- Gold on nickel plated FR4 contact PCB
- Operational life >2 million cycles per key
- Available in 4-, 12-, and 16-key formats
- –10°C (dry) to +85°C operational

Case color is medium gray; keytop color is light gray. Connector is 0.1″ pitch, gold-plated, square pin, male. CE compliant.

Stock No.	Type	Description	Array	1-9
92F2834	3K042103	4 Key (Arrows)	1x4 Matrix	20.99
92F2832	3K041103	4 Key (F1-F4)	1x4 Matrix	20.99
92F2835	3K120103	12 Key (Calc.)	3x4 Matrix	30.96
92F2836	3K12T103	12 Key (Tel.)	3x4 Matrix	30.96
92F2837	3K160103	16 Key (Calc.)	4x4 Matrix	37.63
92F2838	3K16T103	16 Key (Tel.)	4x4 Matrix	37.63

(6540) (nec8915)

MGR INDUSTRIES INC

TOUGH KEYBOARDS FOR TOUGH ENVIRONMENTS

1100 SERIES TOUGH KEYBOARDS FOR TOUGH ENVIRONMENTS

CE

Storm®

VANDAL RESISTANT

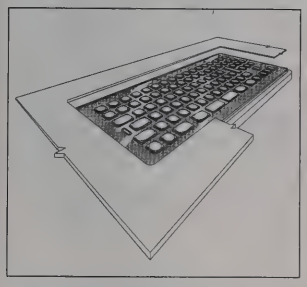
IMPACT RESISTANT

IP65 SEALED

OPERATIONS PER KEY

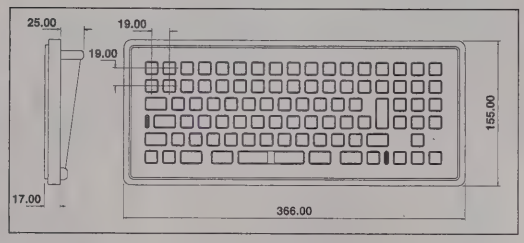
RESPONSIVE KEY ACTION

ESD PROTECTED



Under-panel mount configuration

Assembled with the optional 10″ rack mount kit

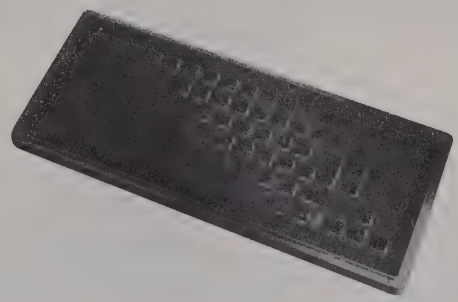


All dimensions are in millimeters (mm)

Constructed in super high-impact polymer with a hardened stainless-steel surface, these new keyboards are suitable for use in applications where the risk of vandalism or accidental damage prevents the use of conventional keyboards.

Many features of the proven Storm® **1000 series** vandal-resistant keypads have been incorporated to achieve a rugged, reliable, and responsive keyboard for use in most public or industrial applications.

- Resistant to impact, sharp objects, and operator abuse
- Resistant to most industrial solvents and cleaning agents
- Permanent, laser-engraved keytop graphics
- Small footprint (366 x 155 x 42mm) will fit into most 1U 19″ rack drawers
- Optional kits for under-panel mounting or conversion into a 4U high 19″ rack panel
- PC AT™ and PS/2™ compatible
- Excellent tactile characteristics for rapid and reliable data entry
- Operational life: >4 million cycles per key
- Operational temperature: –25°C (dry) to +85°C
- Shock and vibration protection exceeds MIL Standard 810D
- Environmental protection rating meets IEC enclosure IP65 classification
- Protected against RFI/EMI in accordance with US and European directives
- Sealed to IP65 / Industrial Keyboard sealed to IP54
- Keyboard cable fitted with 6-pin mini-DIN connector
- Case color: **11000203** is mid-gray; **11020203** is black
- Keytop color: **11000203** is mid-gray; **11020203** is black
- CE compliant



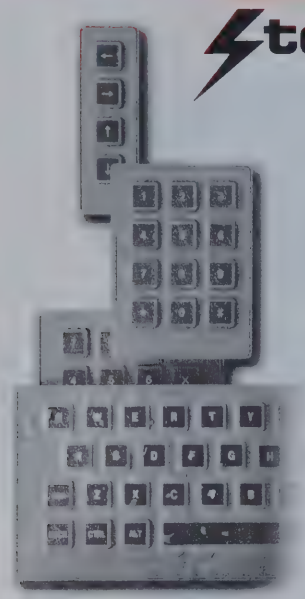
STORM® 1100 Industrial PC Keyboard

Stock No.	Type	Description	1-9
92F2819	11000203	Vandal Resistant Keyboard, USA Layout	**476.47**
48F2601	11020203	Industrial Reduced Weight PC Keyboard-Black, USA Layout	**349.69**
92F2820	11RM0003	4U High, 19″ Rack Panel Conversion Kit	**84.27**
92F2821	11UP0003	Under-Panel Mounting Kit	**20.67**
92F2822	11 AT 0003	6-Pin MiniDIN to 5-Pin DIN Adapter	**15.90**

(6542) (nec8923)

STORM® SEALED KEYPADS

STORM® 700 AND 900 SERIES KEYPADS FOR WET OR DIRTY ENVIRONMENTS



IP67 SEALED · RESPONSIVE KEY ACTION · ESD PROTECTED

- Illuminated (**900 Series**) or Non-Illuminated (**700 Series**)
- Interchangeable keytop legends
- Fast reliable data entry, even when keys are struck off center
- 4, 12, 16 or 36 key formats
- Positive tactile response
- Easy to clean and decontaminate
- Top-Surface or Under-Panel Mountable
- Compatible with the Universal Encoder (Type 40000003)
- Connector: 0.1″ pitch gold plated, square pin male with locking ramp
- Contact circuit: Gold on nickel plated FR4 PC board

A range of high-specification sealed keypads offering rapid and reliable data entry in extreme wet, dirty, or sterile environments. Storm® **700** and **900 series** keypads can be used individually or in combination to create more complex key panel layouts. Storm® **900 series** illuminated keypads incorporate twin diode dual-color LEDs. CE approved.

Stock No.	Type	Description	Array	Each
50F9591	70040103	4 Key	Gray 1 x 4 Matrix	**28.34**
50F9590	70040203	4 Key	Black 1 x 4 Matrix	**28.34**
50F9593	70120103	12 Key	Gray 3 x 4 Matrix	**37.23**
50F9592	70120203	12 Key	Black 3 x 4 Matrix	**37.23**
50F9595	70160103	16 Key	Gray 4 x 4 Matrix	**47.78**
50F9594	70160203	16 Key	Black 4 x 4 Matrix	**47.78**
50F9597	70360103	36 Key	Gray 4 x 9 Matrix	**82.44**
50F9596	70360203	36 Key	Black 4 x 9 Matrix	**82.44**
95F2224	9004A103	4 Key	Gray 1 x 4 Matrix	**43.24**
50F9581	90120103	12 Key	Gray 3 x 4 Matrix	**68.20**
95F2225	9016A103	16 Key	Gray 4 x 4 Matrix	**90.94**

(6645) (nec9368)

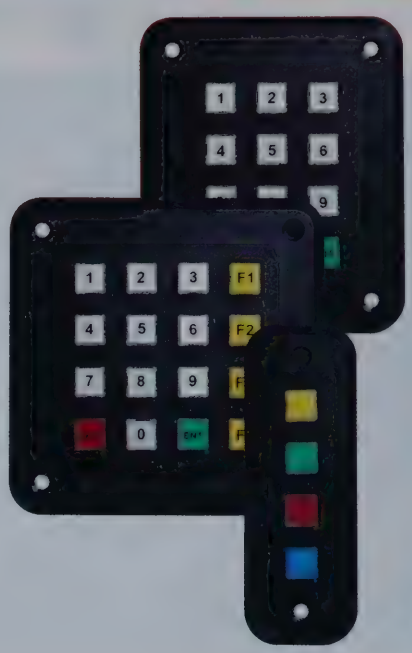
LEGEND TILES FOR STORM® 700 AND 900 SERIES KEYPADS

Legend Tiles: Six standard format legend tile sets are available for use with Storm® **700** and **900 series** keypads. Alternatively, custom keytop graphics can be printed or engraved onto the blank legend tile set E **(type 70E00103 - 700 series; 90E00103 - 900 series)**. Storm® **700 series** legend tiles are mid-gray, opaque, and non-illuminated; **900 series** legend tiles are translucent and illuminated.

Stock No.	Type	Description	Each
50F9585	70A00103	Set A= 0-9, ENT, CE/C, Arrows, Arithmetics	**4.24**
50F9586	70B00103	Set B = ENT, DEL, INS, CAP, ESC, Arrows, /	**4.24**
50F9587	70C00103	Set C = Alpha Characters (26)	**4.24**
50F9588	70D00103	Set D = F1-F12, ( ), >, ?, , $, etc.	**4.24**
50F9589	70E00103	Set E (Blank)	**4.24**
50F9573	70F00103	Set F = 0-9, A-F, ENT, CLR, Arithmetics	**4.24**
50F9580	7004CL03	Mounting Clips	**4.24**
50F9574	90A00103	Set A = 0-9, ENT, CE/C, Arrows, Arithmetics	**4.24**
50F9575	90B00103	Set B = ENT, DEL, INS, CAP, ESC, Arrows, /	**4.24**
50F9576	90C00103	Set C = Alpha Characters (26)	**4.24**
50F9577	90D00103	Set D = F1-F12, ( ), >, ?, , $, etc.	**4.24**
50F9578	90E00103	Set E (Blank)	**4.24**
50F9579	90F00103	Set F = 0-9, A-F, ENT, CLR, Arithmetics	**4.24**

(6647) (nec9370)

STORM® GRAPHIC SERIES KEYPADS WITH CUSTOM KEYTOP LEGENDS



Storm® **Graphic series** keypads feature keytop legends that can be configured or customized. The unique snap-on keytop cover encapsulates a polymer legend tile. The legend tiles can be selected from an extensive library of characters or symbols to suit many applications. Alternatively, customized keytop graphics can be created using laser-printed acetate film or screen-printed polymer film. Keytop colors can also be customized by backing the transparent polymer or acetate legend tile with a second colored tile. The impact- resistant keytop cover, once snapped into place, provides a permanent tamper-resistant lens, protecting the encapsulated legend from physical damage and water ingress. The introduction of the **Graphic series** means that Storm® keypads can now be tailored to meet specialized requirements even in low or medium quantities. These keypads are ideal for use in industrial, commercial, point of sale, or public applications.

- High impact polymer casing and keytops (with configurable keytop graphics)
- Rain, splash, and dust resistant to P54 rating
- Gold on nickel plated FR4 contact PC Board
- Operational life in excess of 2 million operations per key
- –10°C to +75°C operational
- Available in 4, 12, and 16 key formats

Keypad housing is black, keytops are transparent to show chosen encapsulated color. The **Graphic series** keytops are also available as individual items and can be used to replace keytops with permanent legends fitted to **STORM 1000, 2000, and 3000 series keypads**.

Stock No.	Type	Description	Array	1-9
91F9976	GS040203	4 Key	1 x 4 Matrix	**26.29**
91F9977	GS120203	12 Key	3 x 4 Matrix	**38.16**
91F9978	GS160203	16 Key	4 x 4 Matrix	**46.64**
91F9979	GSA0T203	26 Tiles	Legend Tile Set A	**2.76**
91F9980	GSB0T203	26 Tiles	Legend Tile Set B	**2.76**
91F9981	GSC0T203	26 Tiles	Legend Tile Set C	**2.76**
91F9982	GSD0T203	26 Tiles	Legend Tile Set D	**2.76**
91F9983	GSE0T203	26 Tiles	Legend Tile Set E	**2.76**
91F9984	GSF0T203	26 Tiles	Legend Tile Set F	**2.76**
91F9989	GS000203	26 Tiles	Gray	**1.83**
91F9990	GS000303	26 Tiles	Red	**1.83**
91F9991	GS000403	26 Tiles	Green	**1.83**
91F9992	GS000503	26 Tiles	Blue	**1.83**
91F9993	GS000603	26 Tiles	Yellow	**1.83**
91F9994	GS000003	4 Keytops	Spare Keytops	**5.48**

(16532) (ne10522)

STORM® UNIVERSAL KEYPAD ENCODER

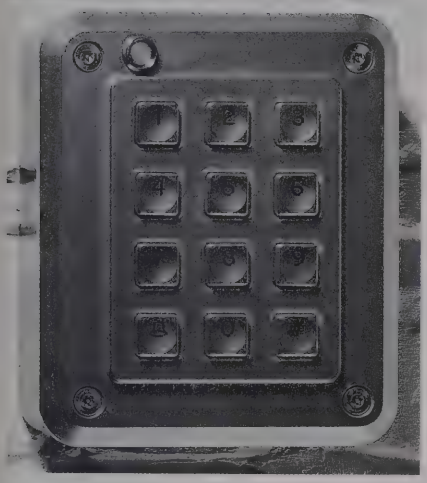
Enables individual keypads or combinations of keypad modules to interface directly with commonly used computer systems. Each unit is delivered ready for use and does not require additional assembly. The encoder's 8 DIP switches can be set by the user to enable configuration with PC XT, AT™, PS/2™, or ASCII RS-232 or 423 systems. Unit is capable of reading up to 90 individual key positions and includes an insulation displacement connector. Depending upon the combination of modules, each encoder can handle up to 4 keypads. Features a rugged ABS case designed to enclose electronics and provide mounting versatility.

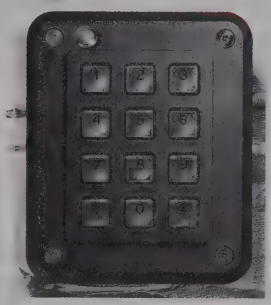
50F9584 Type 40000003. **Each**..... **144.16**
(6646) (nec9369)

STORM® AXS STRIKEMASTER™ KEYPADS

STRIKEMASTER™ AND CODEMASTER™ KEYPADS FOR ACCESS CONTROL

CE Storm® AXS Secure Keypads for access control





Black version recommended for use with STORM® AXS-COM

VANDAL RESISTANT | IMPACT RESISTANT | IP64 SEALED | OPERATIONS PER KEY | RESPONSIVE KEY ACTION | ESD PROTECTED

Secure, self-contained keypad and controller for electrically operated door locks and strikes. Storm® AXS keypads provide rapid and reliable access control in "high-traffic" applications. Constructed to withstand hard use and abuse, the keypads can be fitted in exposed, unsupervised locations. Available in the "vandal resistant" specification, complying with mandatory standards, Storm® AXS keypads are ideal for use in all indoor and outdoor installations. Authorized personnel use their PIN code to open either one or two normally locked doors. Up to 50 different 4-, 5-, or 6-digit codes can be individually programmed. Each code can be set to trigger an electric lock or strike for a pre-set time (allowing just one person to access); or to "latch" the door in an unlocked condition (requiring the code to be re-entered to "unlatch" or re-lock the door). If the Strike Master™ keypad is used to control a single door, the "forced door alarm", "anti-tamper alarm", and "duress alarm" features can be enabled. The black version is recommended for use with **STORM® AXS-COM**. Code Master™ converts codes entered via the keypad into industry standard (26 & 32 bit Weigand) data. Suitable for use as a replacement for (or in conjunction with) most standard card readers. All types are 12 key (Tel.).

- Up to 50 user-programmable PIN codes
- 4-, 5-, or 6-digit PIN codes
- Indexing permits the secure allocation and re-allocation of PIN codes
- One- or two-door control
- Operational life >4 million cycles per key
- Anti-tamper alarm
- PIN code entered under duress alarm
- Forced door alarm
- Timed strike or latching door operation
- Fail (open) Fail (closed) option
- Timed lockout for repeated invalid code input
- Remote exit switch facility
- Disguised PIN code feature
- All-weather resistant
- LED and audible tone status indication
- Requires 11 to 28VDC or 9 to 20VAC power supply
- Quick and easy to install

Stock No.	Type	Description	Each
16F9591	DE1KT103	Strike Master™ A/Vandal	220.01
48F2602	DEPLXT203	Strike Master™ Black	203.52
48F2603	WE1KT103	Code Master™ A/Vandal	186.12
48F2604	WE2KT103	Code Master™ Robust	162.95
48F2605	1KFS0203	Privacy Shroud (Optional)	31.21

(6543) (nec8924)

CHECK NEWARK'S WEB SITE FOR PRODUCT NEWS AND INFORMATION.

http://www.newark.com

AXS-COM INTERCOM FOR ACCESS CONTROL

CE Storm®

VANDAL RESISTANT | IMPACT RESISTANT | IP64 SEALED | OPERATIONS PER KEY | RESPONSIVE KEY ACTION | ESD PROTECTED

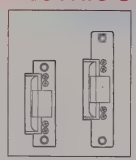
Storm® AXS-COM is a secure, self contained, two way voice communication system. A receptionist can converse with visitors awaiting access through a locked door. Then by pressing a release switch the receptionists can unlock the door remotely. **AXS-COM** is a stand alone system, or can be used in conjunction with **Storm® AXS-COM** Access Control Keypads. There are two versions of **AXS-COM**, one providing communication between a visitor and a single station within the building, and another providing communication between a visitor and up to four stations within the building (e.g. receptionist, goods in, trade desk, night security; etc.) Each **AXS-COM** is supplied complete with one receptionist's handset incorporating a remote release switch. Additional handsets can be ordered; *contact your local Newark sales office*. Can be used to control the Electric Door Strike or in conjunction with the Power Supply, *contact your local Newark sales office*. CE compliant.

- Tough, weather resistant and vandal resistant construction
- Clear, two way voice communication
- Anti-tamper alarm output
- Door bell / Call buttons
- Quick and easy installation
- 1-4 Station communication

Stock No.	Type	Description	Each
91F9995	IC010203	Single station Intercom (Incl. 1 Handset)	169.55
91F9996	IC040203	4-Station Intercom (Incl. 1 Handset)	204.53
91F9997	HS000103	Additional Handset (with Remote-Lock-Release)	42.35
48F2605	1KFS0203	Privacy Shroud (Optional)	31.21

(16534) (ne10521)

AXS ELECTRIC STRIKE



Faceplates for timber or aluminum/ steel frames included

Storm® AXS electric strikes operate in conjunction with deadlatches and offer remote traffic control. A jaw strength of 2000 lbs. (907kg) is achieved by a stainless-steel blocking mechanism. The strike is controlled by the STORM® AXS keypads and Storm® AXS COM intercoms.

Storm® AXS electric strikes have flat faceplates for mounting in the frame of single-action, single-leaf doors.

- Tested to 1 million cycles
- UL Listed for burglary resistance
- Current draw: 0.170A @ 24VDC
- Latch throw: 12.7mm (0.5")
- Faceplates for both timber frames and aluminum/steel frames included

Stock No.	Type	Description	Each
16F9589	DEST0203	Electric Door Strike	137.70
16F9590	DEPS0203	Power Supply	52.90

(6644) (nec9367)

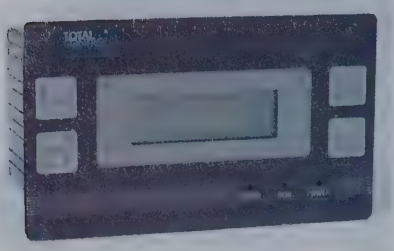
GREYLINE OPERATOR INTERFACES

2000/2100/2200/2300 SERIES GREYLINE OPERATOR WORKSTATIONS

2- or 4-line (20 characters per line) operator interfaces are available in 4mm or 5mm backlit supertwist LCD or vacuum fluorescent display. Case: molded plastic. Feature 8 main tactile dome function keys, 8 separately legendable indicator LEDs, and a numeric keypad with 4 additional legendable function keys. Direct PLC interface with more than 20 downloadable protocols. Dimensions: 7.7H x 6.85W x 3.67"D. Operating voltage: 110VAC. Front panel meets NEMA enclosure type 4. **2000 series** is UL and cUL listed. Also available with serial communication ports with 19.2K baud rate using ASCII protocol via optically isolated RS-232 or RS-422 ports. Optional real-time clock/calendar is also available; *contact your local Newark sales office. Order Greyline universal software and cables separately on this page.*

Stock No.	Type	Description	Each
91F9099	2024	2-Line LCD Display for PLC	753.71
91F9101	2025	4-Line LCD for PLC	862.16
91F9103	2124	2-Line VF for PLC	862.16
91F9105	2125	4-Line VF for PLC	970.61
91F9107	2224	Serial 2-Line LCD	645.27
91F9108	2225	Serial 4-Line LCD	753.71
91F9109	2324	Serial 2-Line VF	753.71
91F9110	2325	Serial 4-Line VF	862.16

(15441) (ne10581)



5400/5600 SERIES MICRO MESSAGE CENTERS

2- or 4-line displays are available in either LCD or vacuum fluorescent displays with 5mm characters. Connect directly to PLC ports. Feature 4 user-definable function keys with audible feedback. Dimensions: 4H x 7W x 4.5"D. Operating voltage: 10-30VDC. Also available with serial communications ports with 19.2K baud rate, ASCII protocol using PS-232 or RS-422 ports. Front panel sealed to meet NEMA enclosure type 4. *Order Greyline universal software for use with* **5400 series** *and cables separately on this page.*

Stock No.	Type	Description	Each
91F9138	5401	2-Line LCD Display	536.82
91F9139	5402	4-Line LCD Display	677.80
91F9140	5412	4-Line VF	786.25
91F9141	5601	2-Line LCD Display, Serial Interface	536.82
91F9142	5602	4-Line LCD Display, Serial Interface	677.80
91F9143	5612	4-Line VF, Serial Interface	786.25

(15442) (ne10582)

3400 SERIES OPERATOR WORKSTATIONS

2- or 4-line (20 characters per line) multifunction operator interface devices are capable of information display and data entry. Connect directly to PLC ports. Feature 16 independent indicator LEDs, 20 legendable tactile dome function keys, numeric keypad, legendable slide-in logo, and run, error, and power LEDs. Units available with or without real-time clock/calendar. Dimensions: **types 3414**, 5.875H x 13W x 2.619"D; **types 3415**, 7.125H x 13W x 2.68"D. Operating voltage: 110VAC. Front panel sealed to meet NEMA enclosure type 4. *Order Greyline universal software and cables separately on this page.*

Stock No.	Type	Description	Each
91F9111	3414	2-Line VF	1621.29
91F9112	3414-128-C	2-Line VF w/RTV	1962.90
91F9113	3415	4-Line VF	1838.19
91F9114	3415-128-C	4-Line VF w/RTV	1962.90

(15443) (ne10583)

NEW CE UL NEMA

MICRO GREYLINE OPERATOR INTERFACE

1000 series operator interface is a low-cost, 2-line, VF or LCD operator interface with 4 pushbuttons, 4 LEDs, arrow keys, inc/dec keys and a numeric keypad function. One RS-232/422 port connects the OI to the comm./prog. port of all the most popular micro PLCs, including AB, Idec, Omron, Mitsubishi, PLCDirect/Koyo, Modicon, GE, Siemens, and others. A WIN95 compatible editor is available to enter messages and download the appropriate driver. Also supports ASCII serial communications. 24VDC @ 2.5W. Meets NEMA enclosure type 4/12. UL listed, CE compliant.

Stock No.	Type	Description	Each
48F1785	1024	2-Line LCD	366.73
48F1786	1025	2-Line VF	507.78
48F1787	MICROGUS	WIN95 Software w/cable	112.84

(33799) (ne33799)

OPERATOR INTERFACE SOFTWARE AND CABLES

For use with workstations and message centers. Many other options available; *contact your local Newark sales office.*

Stock No.	Type	Description	Each
		SOFTWARE	
91F9717	GUS	Greyline Universal Software	108.45
		CABLES	
91F9721	CBL-114	AB PLC5, Ch. 0, Omron Host Link	86.76
91F9722	CBL-115	Modicon 984	86.76
91F9723	CBL-116	AB SLC500 KF3	86.76
91F9724	CBL-121	Simatic TI405, PLC Direct DL405	86.76
91F9725	CBL-127	AB SLC500 Prog. Port	86.76
91F9726	CBL-128	GE Series 90	86.76
91F9728	CBL-138	AB SLC503/504 Ch. 0	86.76
91F9730	CBL-147	Idec (Link Adapter)	86.76

(15439) (ne10584)

FRIENDLY, QUALITY SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

PLC KEYPADS, DIGITSWITCHES AND DISPLAYS

600 SERIES NUMERIC KEYPAD ENTRY

Compatible with programmable controllers and microprocessor-based digital control systems. LED displays blink as keys are pressed. Removable screw terminals or ribbon cable sockets. Internal and external clear. Available with contact, BCD, or serial output. DIP switch-selectable setups.

Stock No.	Type	Description	Each
91F9089	601	Membrane Keypad with Contact Outputs	**211.48**
91F9090	601-FT	Full-Travel Keypad with Contact Outputs	**190.87**
91F9091	612A-SI	Membrane Keypad with BCD Sinking Outputs	**599.72**
91F9092	612A-SO	Membrane Keypad with BCD Sourcing Outputs	**599.72**
91F9706	6216A-SI	Membrane Keypad with Serial Interface, Sinking Outputs	**568.27**
91F9707	6216A-SO	Membrane Keypad with Serial Interface, Sourcing Outputs	**568.27**

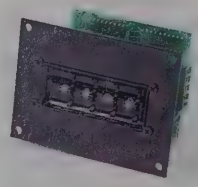
(15430) (ne10585)

829 SERIES DIGITSWITCH ASSEMBLY

Panel-mounted thumbwheel switches provide BCD data for input into a programmable controller. 2-, 3-, or 4-digit versions are available. Units provide diode isolation and individual digit commons. Termination: screw terminals. 0 and 1 true logic versions are available.

Stock No.	Type	Description	Each
91F9093	829-2-0	2-Digit with 0 True Logic	**106.28**
91F9094	829-2-1	2-Digit with 1 True Logic	**106.28**
91F9095	829-3-0	3-Digit with 0 True Logic	**112.79**
91F9096	829-3-1	3-Digit with 1 True Logic	**112.79**
91F9097	829-4-0	4-Digit with 0 True Logic	**130.14**
91F9098	829-4-1	4-Digit with 1 True Logic	**130.14**

(15431) (ne10586)



BCD TO 7-SEGMENT PANEL DISPLAY AND ACCESSORIES

Panel display converts BCD information into a 7-segment red LED display. 5 or 24VDC models are available. 2-, 3- 4- and 6-digit displays are available. Models with 2″ characters available and requires separate lens. Units are housed in a rugged extruded aluminum case with a black front bezel. Switch-selectable logic and strobe signal. Optional panel sealing to meet NEMA enclosure types 4 and 12. Dimensions: 1.6875H x 3.625W x 4.5″D. 30-pin solder tail connectors. *Order screw terminal adapters separately below.*

Stock No.	Type	Description	Each
91F9115	4161-2-24	2-Digit, 7-Segment LED Display, BCD Input, 24V	**222.32**
91F9117	4161-3-24	3-Digit, 7-Segment LED Display, BCD Input, 24V	**217.98**
91F9120	4161-4-24	4-Digit, 7-Segment LED Display, BCD Input, 24V	**244.01**
91F9125	4161-4-5	4-Digit, 7-Segment LED Display, BCD Input, 5V	**217.98**
91F9128	4162-24	Single 7-Segment 2″H Character LED Display, 24V	**185.45**
91F9708	4261A-4	4-Digit, 7-Segment Display, Serial ASCII Input	**386.08**
91F9709	4261A-6	6-Digit, 7-Segment LED, Serial ASCII Input	**368.72**
		ACCESSORIES	
91F9131	4162-L-3	Lens Cover for **Type 4162**, 3-Digit	**37.96**
91F9132	4162-L-4	Lens Cover for **Type 4162**, 4-Digit	**41.21**
91F9145	788	Screw Terminal Adapter for 2-4 Digit Versions	**73.75**
91F9151	856	Adapter for Multiplexing Individual Digits	**80.25**
91F9154	8162	Adapter for Multiplexing **Type 4162**	**69.41**

(15432) (ne10587)

MESSAGE CENTERS AND DISPLAYS

Message centers display status or alarm messages that can be viewed up to 35′ away. **Types 5003, 5004,** and **5004D** are programmable controller-compatible and come complete with all interface options. 99 programmable messages comprised of 9mm, 11mm, or 15mm green alphanumeric dot matrix characters. BCD or binary parallel input for message call-up. 5208A and 5209A display 1 or 2 lines of 20 characters; multidrop up to 127 individual stations; communicate via RS-232 or RS-422 at up to 19.2K baud rate. Operating voltage: 110VAC. Dimensions: **type 5003,** 4.25H x 10.25W x 4.75″D; **types 5004** and **5004D,** 4.25H x 13.875W x 4.75″D; **types 5208A** and **5209A,** are 5.875H x 13.0W x 3.875″D. Panel sealed to NEMA enclosure type 4.

Stock No.	Type	Description	Each
91F9133	5003	1-Line, Parallel Input, Vacuum Flourescent Display	**759.14**
91F9134	5004	1-Line, Parallel Input, Vacuum Flourescent Display	**933.73**
91F9135	5004D	2-Line, Parallel Input, Vacuum Flourescent Display	**1217.87**
91F9136	5208A	1-Line, Serial Input, Vacuum Flourescent Display	**918.55**
91F9137	5209A	2-Line, Serial Input, Vacuum Flourescent Display	**979.28**

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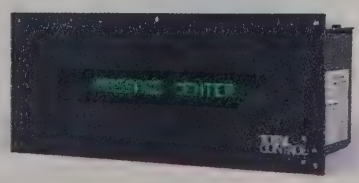


QUICKMARQUEE DISPLAYS AND ACCESSORIES

Available in bright red or tri-color LED displays that are visible up to 275′. Uses ASCII protocol to display messages from any intelligent ASCII device. Can be used with optional protocol converter for direct PLC control. Can also be used with optional marquee controllers, allowing messages to be created, stored, and triggered by any PLC via discrete I/O (binary or BCD). Communication via RS-232, RS-422, or RS-485 port at up to 19.2K baud rate. Operating voltage: 110VAC. Mounting: front, wall, back-to-back, or tri-way bracketed options. Meet NEMA enclosure types 4 and 12. *Order* **Type GUS** *programming software for* **type 9450-SA** *PLC protocol converter separately on page 1406.*

Stock No.	Type	Description	Each
		DISPLAYS	
91F9155	5228BSL	1 Line of 20 x 2″ Red Characters	**1195.09**
91F9710	QM1104ROA	1 Line of 10 x 4.8″ or 2 Lines of 20 x 2.1″ Red Characters	**2803.37**
91F9711	QM1204ROA	1 Line of 20 x 4.8″ or 2 Lines of 40 x 2.1″ Red Characters	**4473.46**
91F9712	QM2204ROA	2 Lines of 20 x 4.8″ or 4 Lines of 40 x 2.1″ Red Characters	**8355.87**
91F9713	QM42004ROA	4 Lines of 20 x 4.8″ or 8 Lines of 40 x 2.1″ Red Characters	**14922.35**
		ACCESSORIES	
91F9714	SM1000SMC	Marquee Controller (Red Only), Parallel Interface to PLC	**954.34**
91F9715	SM1000MEL	Off-Line Editor	**715.76**
91F9716	9450-SA	Protocol Converter for Direct PLC Connections	**704.91**
91F9718	SM1000HWB	Wall Mounting Brackets	**70.49**
91F9719	SM1000BBB	Back-to-Back Brackets	**119.30**
91F9720	SM1000TMB	Tri-Way Brackets	**178.94**

(15438) (ne10589)

FLUKE

PROCESS CALIBRATORS

744

DOCUMENTING PROCESS CALIBRATORS

Fluke's **740 series** documenting process calibrators help with troubleshooting problems or running routine maintenance. They do many different tasks quickly and well to help get the job done fast.

Type 741B offers simultaneous source and measure capabilities for all common process parameters. Create and execute automated procedures and automatically capture the results.
Type 743B offers all the capability of **type 741B**, plus adds a serial interface for 2-way communication with popular PC-based instrumentation management applications.
Type 744B offers all of the capabilities of the **type 743B**, plus the ability to maintain and calibrate selected HART transmitters without a second tool.
Each **740 series** process calibrator includes **type TL24** test leads (2 sets), **type AC20** test clips (2 sets), **TP20** test probes (1set), battery pack, battery charger, serial port cable (except **type 741B**), HART communications cable (**type 744B** only), DPC/TRACK sample with free PC communication utility software (except **type 741B**), instruction manual, and NIST traceable calibration report and data. 3-year warranty.

83F9130 Type FLUKE-741B 120. **Each** **2995.00**
83F9131 Type FLUKE-743B 120. **Each** **3995.00**
48F2061 Type FLUKE-744. **Each** **4495.00**

ACCESSORIES

83F9126 Type FLUKE-700SW DPC/TRACK Software. **Each** **1495.00**
83F9097 Type FLUKE-700-IV Current Shunt. **Each** **195.00**
83F9096 Type FLUKE-700BCW Bar Code Wand and Adapter Cable. **Each** **395.00**
92F7018 Type BC7210 120 Battery Charger. **Each** **109.00**
83F9093 Type BE9005 120 Battery Eliminator. **Each** **59.00**
92F8581 Type BP7217 NiCad Battery Pack. **Each** **99.00**
83F9094 Type C700 Hardshell Carrying Case. **Each** **149.00**
91F6072 Type C781 Compact Soft Carrying Case. **Each** **39.00**
92F7017 Type C789 Large Soft Carrying Case. **Each** **80.00**

(34076) (ne34076)

741B & 743B

700 SERIES PRESSURE MODULES

Stock No.	Type	Description	Range/Resolution 1 year	Maximum Overpressure	Each
83F9098	FLUKE-700P01	Differential	10.000 in. H_2O/2.491OkPa	30 in. H_2O	**995.00**
83F9099	FLUKE-700P02	Differential	1.0000 psi/6.8948kPa	3 psi	**995.00**
83F9107	FLUKE-700P22	Differential	1.0000 psi, Wet/6.8948kPa	3 psi	**995.00**
83F9100	FLUKE-700P03	Differential	5.0000 psi/34.474kPa	15 psi	**995.00**
83F9108	FLUKE-700P23	Differential	5.0000 psi, Wet/34.474kPa	15 psi	**995.00**
83F9101	FLUKE-700P04	Differential	15.000 psi/103.42kPa	45 psi	**995.00**
83F9109	FLUKE-700P24	Differential	15.000 psi/103.42kPa	45 psi	**995.00**
83F9102	FLUKE-700P05	Gage	30.000 psi/206.84kPa	90 psi	**995.00**
83F9103	FLUKE-700P06	Gage	100.00 psi/689.48kPa	300 psi	**995.00**
83F9104	FLUKE-700P07	Gage	500.00 psi/3447.4kPa	1500 psi	**995.00**
83F9105	FLUKE-700P08	Gage	1000.0 psi/6894.8kPa	3000 psi	**995.00**
83F9106	FLUKE-700P09	Gage	1500.0 psi/10342kPa	3000 psi	**995.00**
83F9113	FLUKE-700PA3	Absolute	5.0000 psi/34.474kPa	20 psia	**995.00**
83F9114	FLUKE-700PA4	Absolute	15.000 psi/103.42kPa	60 psia	**995.00**
83F9115	FLUKE-700PA5	Absolute	30.000 psi/206.84kPa	105 psia	**995.00**
83F9116	FLUKE-700PA6	Absolute	100.00 psi/689.48kPa	315 psia	**995.00**
83F9124	FLUKE-700PV3	Vacuum	-5.0000 psi/-34.474kPa	15 psi	**995.00**
83F9125	FLUKE-700PV4	Vacuum	-15.000 psi/-103.42kPa	45 psi	**995.00**
83F9118	FLUKE-700PD2	Dual	±1.0000 psi/±6.8948kPa	5 psi	**1095.00**
83F9119	FLUKE-700PD3	Dual	±5.0000 psi/±34.474kPa	15 psi	**1095.00**
83F9120	FLUKE-700PD4	Dual	±15.000 psi/±103.42kPa	45 psi	**1095.00**
83F9121	FLUKE-700PD5	Dual	-15/30.000 psi/-100/208.84kPa	90 psi	**1095.00**
83F9122	FLUKE-700PD6	Dual	-15/100.00 psi/-100/689.48kPa	300 psi	**1095.00**
83F9123	FLUKE-700PD7	Dual	-15/200.00 psi/-100/1379.0kPa	600 psi	**1095.00**
83F9110	FLUKE-700P29	High	3000.00 psi/20.684 MP.	6000 psi	**1595.00**
83F9111	FLUKE-700P30	High	5000.0 psi/34.474 mp	10000 psi	**1595.00**
83F9112	FLUKE-700P31	High	10000 psi/68.948 mp	15000 psi	**1595.00**

(34077) (ne34077)

700P22

TYPE 787 PROCESSMETER™

- **Digital Multimeter and Loop Calibrator in One Tool**
- **Precision 1000V, 440mA Multimeter with Features Similar to Type 87**
- **20mA DC Current Source/Loop Calibrator with Simultaneous mA and % of Scale Readout**
- **Manual Step (25%, Coarse, Fine) Plus Auto Step and Auto Ramp**
- **Min/Max/Average Record, TouchHold®, and Relative Modes**
- **1000V Category III per IEC-1010 Safety Rating**
- **3-Year Warranty**

Type 787 ProcessMeter™ combines a digital multimeter and loop calibrator in one rugged hand-held tool. Measures true-RMS AC volts and current, DC volts and current, resistance, frequency, and continuity. 4000-count backlit display (30,000-count for DC current). Basic DCV accuracy: ±(0.1% + 1 digit). Includes C81Y protective holster with Flex-Strand™, TL-75 test leads, AC70A alligator clips, 9V battery, and operator's manual. **Type 787** with NIST certificate of calibration is also available; *contact your local Newark sales office.*

Stock No.	Type	Description	Each
91F6067	787	ProcessMeter™	**495.00**
89F3404	C81Y	Replacement Holster	**16.00**
89F3403	C81G	Replacement Holster	**16.00**

(18930) (ne10729)

787

FLUKE

DIGITAL MULTIMETERS

710 SERIES SINGLE-FUNCTION CALIBRATORS

NEW

All Fluke 710 series calibrators include: **type C81Y** protective yellow holster with Flex-Stand™, test leads and alligator clips (except **type 714**), battery, instruction sheet, and statement of quality assurance practices.
(34074) (ne34074)

PRESSURE CALIBRATORS

TYPE FLUKE 713 30G AND TYPE FLUKE 713 100G PRESSURE CALIBRATORS

- **Measure Pressure to 30 psi (207 kPa) with Type 713-30G or 100 psi (690 kPa) with Type 713-100G, 0.05% of Full Scale and a Resolution of 0.001 psi with Type 713-30G or 0.01 with Type 713-100G**
- **Measure Current to 24mA with a Resolution of 0.001mA and Accuracy of 0.025%**
- **Calibrate I/P Transmitters with Simultaneous Pressure and Current Measurement**

Includes: 2 shrouded banana jacks, C81Y yellow holster, test leads, alligator clips, 9V battery, and statement of calibration practices.

83F4180 Type FLUKE 713-30G. **Each** **795.00**
83F4181 Type FLUKE 713-100G. **Each** **795.00**
(28358) (ne28358)

LOOP CALIBRATOR

NEW

- **Large Display and Simple, Push-Button Interface**
- **mA Accuracy of 0.02%**
- **Simultanious mA and %**
- **Push-button 25% Steps for Fast, Easy Linearity Checks**
- **Span-Check for Fast Confirmation of Zero and Span**
- **Selectable Slow Ramp, Fast Ramp, and Step to Provide Smooth Outputs for Value Slewing and Loop Functional Tests**
- **24V Internal Loop Supply, to Power and Read a Transmitter at the Same Time Without Carrying a DMM**
- **0 - 20mA or 4 - 20mA Default Start-Up Modes**

Type 705 includes: test leads, test clips, holster, and instruction manual. It is a feature-rich solution to loop calibration, maintenance and repair applications.

48F2058 Type FLUKE-705. **Each** **449.00**
(34070) (ne34070)

PRESSURE CALIBRATORS

NEW

- **Measure Pressure, 0.05% of Full Scale with Internal 30 psig Sensor (Type 717 Only)**
  –1/8 NPT Pressure Fitting
  –Compatible with Non-Corrosive Gasses and Liquids
- **Measure Pressure to 10,000 psi/69 mPa Using One of 27 Fluke 700Pxx Pressure Modules**
- **Measure mA with 0.025% Accuracy and 0.001mA Resolution, While Sourcing 24V Loop Power**
- **Calibrate P/I or I/P Transmitter with Simultaneous Pressure and Current Measurement**
- **Select from Eleven Different Engineering Units**

83F9128 Type FLUKE-716. **Each** **795.00**
83F9129 Type FLUKE-717 30G. **Each** **995.00**
(37972) (ne37972)

PRESSURE CALIBRATORS

NEW

Type 718 pressure calibrator presents a fresh alternative in pressure calibration. A complete, self-contained calibration solution offers:

- **Built-in Pressure/Vacuum Hand Pump, with Vernier and Bleed Valve**
- **Pressure Measurement to 0.05% of Full Span, Using an Internal Pressure Sensor**
- **Pressure Measurement to 10,000 psi/700 bar Using Any of Type 700Pxx Pressure Modules**
- **Wide Range of Selectable Measurement Units for Pressure**
- **Current Measurement with 0.025% Accuracy and 0.001 mA Resolution**
- **24 Volt Loop Power Supply**
- **Min-Max Hold Functions**
- **Type 718 30G Measures Up to 30 psig (207 kPa)**
- **Type 718 100G Measures Up to 100 psig (690 kPa)**

48F2059 Type FLUKE-718 30G. **Each** **1695.00**
48F2060 Type FLUKE-718 100G. **Each** **1695.00**
(34075) (ne34075)

RTD CALIBRATOR

NEW

- **Simulate and Measure Seven Types of RTDs with Range from 200°C to 800°C and an Accuracy of 0.1Ω and Resolution of 0.1°C**
- **Calibrate and Measure other RTDs Using the Ohms Source and Measure Functions**
- **Range is 10Ω to 3200Ω with Accuracy and Resolution of 0.1Ω**
- **Users Can Select °C or °F Temperature Units**

Type 712 simulates and measures seven types of resistance temperature detectors (RTDs).

83F4179 Type FLUKE 712. **Each**..... **795.00**
(34071) (ne34071)

THERMOCOUPLE CALIBRATOR

NEW

- **Measure and Simulate Temperatures from -200°C to +1800°C with a resolution of 0.1°C and an Accuracy of 0.3°C + 10mV**
- **Calibrate Millivolt Transmitters with a -10 to +75mV Source in 0.01mV Steps**

Type 714 calibrates nine types of thermocouples (J, K, T, E, R, S, B, L, U). **Types700TC1 & 700TC2** thermocouple mini-plug kits are sold separately, below.

83F4182 Type FLUKE 714. **Each**..... **795.00**
83F4188 Type FLUKE 700TC1. **Each**..... **59.00**
83F4189 Type FLUKE 700TC2. **Each**..... **49.00**
(34072) (ne34072)

VOLT/mA CALIBRATOR

NEW

Type 715 Measures and Sources Current to 24mA with 0.025% Accuracy and 1mA Resolution.

- **Displays as mA or as % of Span**
- **Measure and Source Voltage Output Process Signals from PLCs and Transmitters with 0.025% + 1 Count, and a Resolution of 0.01mV (100mV Scale) or 1mV (10V Scale)**
- **Provides 24V Loop Supply with Simultaneous Current Measurement**

83F4183 Type FLUKE 715. **Each**..... **795.00**
(34073) (ne34073)

PANEL METERS

EDM SERIES MODULAR DIGITAL PANEL METERS

- ⅛ DIN, 3½ Digit Digital Indicators and Controllers
- Modular Design Allows Simple Insertion of Output Cards, Making a Controller
- Rugged IP65 Splash-Proof Front Cover
- Shallow Behind Panel Depth of 3¼"
- Microprocessor-Based Design
- Optional Realy or Analog Output
- Optional Analog or Excitation Output

EDM series µP-based indicators/controllers are available as assembled indicators, allowing for the addition of optional output cards, *on this page*, or as easily assembled components *on this page*. Feature easy to read 0.56"H, 3½ digit display, min./max. recording, data hold, display/input range scaling, and password protection. Indicators become controllers by inserting one or more of the output cards. Controllers feature up to two set points, adjustable hysteresis, delay and various alarms. Front keypad programming via easy to use menu-driven format. 120VAC supply voltage. Other supply voltages are available; *contact your local Newark sales office.* UL recognized, CSA certified, and CE marked.

Stock No.	Type	Input Signal	Input Range	Each
52F214	EDM35-A3D50-XXX-05	DCmA	4 to 20mA	198.24
52F215	EDM35-V1D50-XXX-02	DCmV	0 to ±200mV	197.26
52F216	EDM35-V3D50-XXX-02	DC Volts	0 to 10 Volts	197.26
52F217	EDM35-A6A50-XXX-06	AC Amps	0 to 5 Amps	198.24
52F218	EDM35-V5A50-XXX-02	AC Volts	0 to 600 Volts	197.26

(2974) (ne06178)

OPTIONAL OUTPUT CARDS

- Slide Cards into an Indicator to Make it a Controller
- One or Two 5-Amp Relay Output(s)
- 0-20mA, 4-20mA or 0-10VDC Analog Output
- 12 or 24VDC Excitation Output

The following output cards are easily inserted into the back of any of the assembled **EDM** panel meters, or components. Simply slide the output card(s) into the back of **EDM series** indicators, and they become controllers. One or two relay output(s) possible (not both) and/or a proportional analog or excitation output (not both).

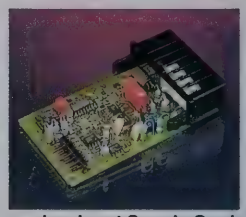
Stock No.	Type	Output	Description	Each
92F3103	5100561	One relay	One 5A SPDT	51.66
92F3104	5100562	Two relays	Two 5A SPDT	81.18
92F3101	5100560	Analog	0-20mA, 4-20mA or 0-10VDC	61.15

(3007) (ne06519)

EDM SERIES COMPONENTS (FOR ASSEMBLY)

Select a Display...

A Power Supply Card...



and an Input Supply Card

The **EDM Series** can also be purchased as components as shown below. When a power supply card and multi-range configurable input card are slid into a display, it becomes an indicator. Indicators become controllers by inserting one of the output cards, *listed separately on this page.*

Stock No.	Mfr. Part No.	Description	Range	Each
DISPLAY REQUIRED				
92F3085	5100511	Red	±1999	134.54
92F3087	5100512	High Eff. Red	±1999	162.67
POWER SUPPLY CARDS REQUIRED				
16F2830	5100524	10-48VAC	±15%	119.02
92F3090	5100521	115VAC	±10%	32.38
92F3091	5100520	230VAC	±10%	39.07
INPUT CARD (PRE-CALIBRATED) REQUIRED				
92F3092	5100530	VDC	±200m,2,20,200,600V	46.89
92F3093	5100531	VAC	200m,2,20,200,600V	46.89
92F3094	5100532	ADC	±200µ,2m,20m,200m,2,5A	48.00
92F3095	5100533	AAC	200µ,2m,20m,200m,2,5A	48.00
92F3096	5100534	10A AC/DC	±9.99A AC/DC	113.84
92F3097	5100535	Ohm	200,2K,20K,200KΩ	94.89
92F3099	5100537	J Thermo.	−148 to +1400°F	103.49
92F3100	5100538	K Thermo.	−148 to +1999°F	103.49
48F990	5100540	Tachometer	199.9 or 1999 RPM	116.92
48F991	5100541	Frequency	199.9 or 1999Hz	116.92

(2763) (de03771)

AMMETERS, VOLTMETERS, AND FREQUENCY METERS

Microprocessor-based 3-digit, ⅛ DIN indicators feature shallow behind-panel depth of less than 3", IP50 protection degree. Supply voltage: 115VAC +10%/−15%; accuracy ±0.5% f.s. Connection: screw-type. Display: 0.56"H. Other supply voltages and IP67 protection are also available; *contact your local Newark sales office.*

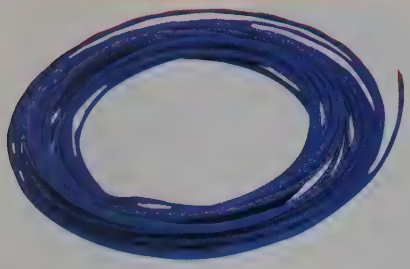
Stock No.	Type	Input	Input Range	Each
91F4638	LDI3AV6C0XXXX	DC Amps/Volts	60mV, 1A, 100V, 500V	176.82
91F4639	LDI3AV1C0XXXX	AC Amps/Volts	1A, 100V	176.82
91F4640	LDI3AV5C0XXXX	AC Amps/Volts	5A, 500V	176.82
91F4641	LDI3F1KC0XXXX	AC Frequency	999Hz, (@ 9-500VAC)	176.82

(14026) (ne10357)

OVERNIGHT SHIPMENT IS AVAILABLE WHEN YOU NEED IT.
CONTACT YOUR LOCAL NEWARK SALES OFFICE.

THERMOCOUPLES AND ACCESSORIES

THERMOCOUPLE WIRE



Insulated wire in 25′ lengths. Available in Types J (iron-constantan) and K (chromel-alumel). Thermocouple wire Types T and E are available upon request. Other lengths and gauges are available; *contact your local Newark sales office.*

Stock No.	Type	AWG	T/C Type	Insulation	Each
93F9302	TT-K-20-25/N	20	K	Teflon®	35.94
93F9303	TT-K-24-25/N	24	K	Teflon®	26.67
93F9304	GG-K-20-25/N	20	K	Glass	30.14
93F9305	GG-K-24-25/N	24	K	Glass	22.03
93F9306	TT-J-20-25/N	20	J	Teflon®	28.98
93F9307	TT-J-24-25/N	24	J	Teflon®	24.35
93F9390	GG-J-20-25/N	20	J	Glass	49.82
93F9291	GG-J-24-25	24	J	Glass	17.39

(6610) (nec9230)

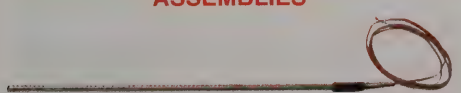
INDUSTRIAL THERMOCOUPLES

12″ stainless-steel sheath probe with cast iron protection head with terminal block and ½″ NPT threaded connection. 3.5″ dia. x 18″. Types J (iron-constantan) and K (chromel-alumel). "G" in type number denotes grounded junction; "U" in type number denotes ungrounded junction. Also available in T and E and other lengths; *contact your local Newark sales office.*

Stock No.	Type	T/C Type	Dia.	Each
93F9275	NB1-ICSS-18G-12/N	J	⅛″	48.69
93F9276	NB1-ICSS-14G-12/N	J	¼″	54.49
93F9277	NB1-ICSS-18U-12/N	J	⅛″	51.01
93F9278	NB1-ICSS-14U-12/N	J	¼″	56.80
93F9279	NB1-CASS-18G-12/N	K	⅛″	48.69
93F9280	NB1-CASS-14G-12/N	K	¼″	54.49
93F9263	NB1-CASS-18U-12/N	K	⅛″	51.01
93F9264	NB1-CASS-14U-12/N	K	¼″	56.80

(6611) (nec9231)

TRANSITION JOINT THERMOCOUPLE ASSEMBLIES

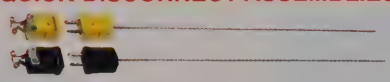


12″ stainless-steel sheath probes are available in Types J (iron-constantan) and K (chromel-alumel). Types T and E available upon request. Grounded junction is standard. Ungrounded and exposed junctions and various lengths are available; *contact your local Newark sales office.*

Stock No.	Type	T/C Type	Dia.	Each
93F9267	JTSS-116G-12/N	J	1⁄16″	24.35
93F9288	JTSS-18G-12/N	J	⅛″	22.03
93F9289	JTSS-14G-12/N	J	¼″	22.03
93F9272	KTSS-116G-12/N	K	1⁄16″	22.03
93F9273	KTSS-18G-12/N	K	⅛″	22.03
93F9274	KTSS-14G-12/N	K	¼″	22.03

(6612) (nec9232)

QUICK-DISCONNECT ASSEMBLIES



12″ stainless-steel sheath probe assemblies with standard size male connector molded directly onto the probe. Available in Types J (iron-constantan) and K (chromel-alumel). Types T and E available upon request. Standard size female mating connector included. Grounded junction is standard. Ungrounded and exposed junctions, as well as other lengths, are available; *contact your local Newark sales office.*

Stock No.	Type	T/C Type	Dia.	Each
93F9281	JQSS-116G-12/N	J	1⁄16″	25.51
93F9282	JQSS-18G-12/N	J	⅛″	26.67
93F9283	JQSS-14G-12/N	J	¼″	31.30
93F9284	KQSS-116G-12/N	K	1⁄16″	25.51
93F9285	KQSS-18G-12/N	K	⅛″	26.67
93F9286	KQSS-14G-12/N	K	¼″	31.30

(6613) (nec9233)

THERMOCOUPLE CONNECTORS

SMP

OST

Glass-filled nylon and alloy construction for accurate connections. Physical operating temperature is 425°F max. Available in Types J (iron-constantan) and K (chromel-alumel). Types T, E, R, S, G, C, D, and N are available upon request; *contact your local Newark sales office.* **Type SMP** connector is miniature flat-pronged. **Type OST** connector is standard size round prong.

Stock No.	Type	T/C Type	Connector	Each
93F9292	SMP-K-M/N	K	Male	2.03
93F9293	SMP-K-F/N	K	Female	2.61
93F9294	SMP-J-M/N	J	Male	2.03
93F9295	SMP-J-F/N	J	Female	2.61
93F9296	OST-K-M/N	K	Male	2.60
93F9308	OST-K-F/N	K	Female	3.93
93F9297	OST-J-M/N	J	Male	2.60
93F9298	OST-J-F/N	J	Female	3.95

(6614) (nec9234)

HIGH TEMPERATURE CERAMIC CONNECTORS

Ceramic connectors are permanently color-dot-coded to conform to ANSI standards. K, J, E can be used at temperatures up to 1200°F (650°). In the table below, type numbers prefaced with a "U" are unglazed ceramic. Types T, E, R, S, G, C, D, and N are available. *Contact your local Newark sales office.*

MINIATURE SIZE

Stock No.	Type	T/C Type	Connector	Each
48F5069	SHX-K-M/N	K	Male	6.15
48F5070	SHX-K-F/N	K	Female	7.26
48F5071	SHX-J-M/N	J	Male	6.15
48F5072	SHX-J-F/N	J	Female	7.26
48F5073	USHX-K-M/N	K	Male	6.15
48F5074	USHX-K-F/N	K	Female	7.26
48F5075	USHX-J-M/N	J	Male	6.15
48F5076	USHX-J-F/N	J	Female	7.26

STANDARD SIZE

Stock No.	Type	T/C Type	Connector	Each
48F5077	NHX-K-M/N	K	Male	8.94
48F5078	NHX-K-F/N	K	Female	7.82
48F5079	NHX-J-M/N	J	Male	8.94
48F5080	NHX-J-F/N	J	Female	7.82
48F5081	UHX-K-M/N	K	Male	8.94
48F5082	UHX-K-F/N	K	Female	7.82
48F5083	UHX-J-M/N	J	Male	8.94
48F5084	UHX-J-F/N	J	Female	7.82

(36975) (ne36975)

EXTRUDER THERMOCOUPLES

2″ stainless-steel probe with ⅛″ NPT compression fitting (allow 1″ for compression fitting) for measuring temperature in processing machinery at die, barrel, crosshead, or pipewall. Probe comes with 60″ of armored cable, 3⁄16″ dia., ⅛″ NPT brass compression fitting, spade lugs, termination and grounded junction. Available in Types J (iron-constantan) and K (chromel-alumel). Types T and E are available upon request.

Stock No.	Type	T/C Type	Probe Length	Each
93F9265	CF000J2601/N	J	2″	24.35
93F9266	CF000K2601/N	K	2″	24.35
93F9267	CF000J4601/N	J	4″	24.35
93F9268	CF000K4601/N	K	4″	24.35

(6616) (nec9236)

INSULATED THERMOCOUPLES

36″ insulated thermocouples in convenient 5-pack. Wire is special limits of error quality and comes stripped-end standard. Available in Types J (iron-constantan) and K (chromel-alumel). Types T and E and special lengths are available; *contact your local Newark sales office.* **Sold in packages of 5.**

Stock No.	Type	T/C Type	Insulation	Per Pkg.
93F9309	5TC-TT-K-24-36/N	K	Teflon®	45.21
93F9310	5TC-TT-K-30-36/N	K	Teflon®	51.01
93F9311	5TC-TT-J-24-36/N	J	Teflon®	45.21
93F9312	5TC-TT-J-30-36/N	J	Teflon®	51.01
93F9313	5TC-GG-K-24-36/N	K	Glass	38.26
93F9314	5TC-GG-K-30-36/N	K	Glass	38.26
93F9315	5TC-GG-J-24-36/N	J	Glass	38.26
93F9316	5TC-GG-J-30-36/N	J	Glass	38.26

(6615) (nec9235)

FAST RESPONSE THERMOCOUPLES

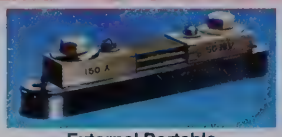
Self-adhesive thermocouples are designed for fast temperature measurements. Manufactured from 30AWG Teflon-coated thermocouple wire with a flattened bead secured between a high-temperature polymer and a high-temperature, fiber-reinforced polymer for thermal conductivity and fast response. **Sold in packages of 5.**

Stock No.	Type	T/C Type	Pricebreak 1
48F5575	SA1-J/N	J	67.02
66F5598	SA1-K/N	K	69.37
48F5576	SA1-E/N	E	67.02
48F5577	SA1-T/N	T	67.02

(36976) (ne36976)

PANEL METER ACCESSORIES

EXTERNAL PORTABLE AND SWITCHBOARD SHUNTS



External Portable

External Switchboard

Use with analog or digital DC ammeter panel or switchboard meters requiring external shunts. Adjusted for 50mV drop. Accuracy: ±1%. 5′ leads (0.065Ω resistance) included.

EXTERNAL SWITCHBOARD SHUNTS

Stock No.	Type	Amps	Each
55F2572	06504	200	55.87
55F2573	06506	300	55.87
55F298	06508 500A SHUNT	500	79.77

EXTERNAL PORTABLE SHUNTS

55F294	06700 1A SHUNT	1	52.25
55F295	06703 5A SHUNT	5	52.25
55F264	06704 10A SHUNT	10	52.25
55F265	06705 15A SHUNT	15	52.25
55F296	06707 25A SHUNT	25	52.25
55F266	06709 50A SHUNT	50	52.25
55F267	06711 75A SHUNT	75	52.25
55F2569	06713	100	52.25
55F2570	06715	200	52.25

(3466) (de50128)

AC CURRENT TRANSFORMERS

For use with panel AC ammeters where external transformers are required. All have 5A AC secondary current signal. Donut-type transformers are inserted 1 turn primary, rated at 2VA, and include 2′ leads. Terminal-type transformers have #8-32 brass studs with washers for easy connection to meter. Leads not included.

DONUT TYPE

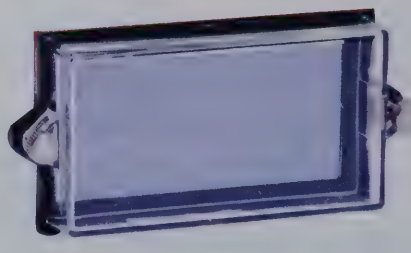
Stock No.	Type	Primary Current	Each
55F269	01293 50A XFMR	50A	37.46
55F2575	01306	75A	39.40
55F270	01297 100A XFMR	100A	38.69
55F2576	01298	150A	38.69
55F2577	01299	200A	38.69
55F2578	01300	300A	38.69
55F2579	01301	500A	38.69

TERMINAL TYPE

Stock No.	Type	Primary Current	Each
16F2267	37020	100A	28.96
16F2268	37021	150A	28.96
16F2269	37022	200A	28.96
16F2270	37023	300A	28.96
16F2271	37024	500A	28.96

(3467) (de50131)

LENS COVER FOR HAWK SERIES CONTROLLERS



NEMA-4 (IP-65) splash-proof lens cover fits all Simpson® ⅛ DIN controllers and indicators, providing protection against dust, falling dirt, salt spray, dripping water, and non-corrosive liquids. 4.30W × 2.41H × 0.96″D (109.22 × 61.21 × 24.38).

Stock No.	Type	Description	1-9	10-24
92F4277	45003	NEMA-4 Lens Cover	39.46	38.10

(2436) (ne04118)

AC TO DC CURRENT TRANSDUCERS

Convert high levels of AC current to 4-20mADC signal for use with process indicators. Accuracy ± 0.5% F.S. 24VDC power required. Leads not included.

Stock No.	Type	Primary Current	Each
16F2263	37000	5A AC	238.55
16F2264	37001	50A AC	266.61
16F2265	37003	100A AC	281.81
16F2266	37006	300A AC	311.05

(3582) (ne08147)

NON-ISOLATED 2-WIRE, 4-20mA TRANSMITTERS

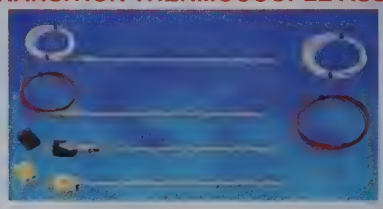
For long-distance temperature measurement, these 2-wire transmitters convert temperature input into 4-20mADC signal for use with process indicator. Field adjustable thermocouple and RTD input span. Compact, 1.73″ diameter. Accuracy: 0.1% of span.

NON-ISOLATED TRANSMITTER TYPE TR800

Stock No.	Type	Range	Signal Input	Each
92F4274	TR800-2-1-2-0-400	0-400°F	J	121.39
92F4275	TR800-2-2-2-0-500	0-500°F	K	121.39
92F4276	TR800-1-0-2-0-400	0-400°F	RTD	121.39

(3513) (ne03828)

METAL TRANSITION THERMOCOUPLE ASSEMBLIES



Metal Transition type features 12″ probe of 316 stainless steel for excellent corrosion resistance and includes 48″ of FEP Teflon®-coated wire with stripped leads. Soft-wire thermocouples are available in 5- and 15-ft. lengths in either 20 or 24 AWG wire sizes with a choice of FEP Teflon® or glass braid insulation, *on this page.* Beaded butt-welded measurement junction and solid bare wire cold junction terminations. *Other lengths and thermocouple types available; contact your local Newark sales office.* For fast-responding, durable quick-disconnect type thermocouple assemblies with bendable 12″-long 316 stainless steel probe and standard ANSI color-coded plug and jack connectors, *on this page. Compression fittings also available; contact your local Newark sales office.*

Stock No.	Type	Sensor Type	Each
92F4262	21242	J	55.03
92F4263	21243	K	55.03
92F4264	21244	RTD	150.29

(3509) (ne03812)

INSULATED SOFT WIRE THERMOCOUPLES

Stock No.	Type	Sensor Type	Gauge/Length	Insulation	Each
92F4265	TH-J-1-0-5	J	24/5ft.	Glass Braid	10.18
92F4266	TH-J-1-0-15	J	24/15ft.	Glass Braid	30.54
92F4267	TH-K-1-0-5	K	24/5ft.	Glass Braid	10.18
92F4268	TH-K-1-0-15	K	24/15ft.	Glass Braid	30.54
92F4269	TH-J-0-3-5	J	20/5ft.	Teflon®	17.97
92F4270	TH-J-0-3-15	J	20/15ft.	Teflon®	53.89

(3510) (ne03813)

QUICK DISCONNECT THERMOCOUPLE ASSEMBLIES

Stock No.	Type	Sensor Type	Each
92F4258	21238	J	59.82
92F4259	21239	K	59.82

(3511) (ne03814)

NEW COUNTERS, ENCODERS AND ACCESSORIES

PRESET COUNTERS

The **S660** series of counters comes standard with 2 presets (including a new "boundary" setting) and are capable of handling count speeds of up to 20kHz. Simple menu-driven programming features word prompts, not difficult codes. The rugged NEMA 4 case fits standard ⅛ DIN cutouts, and is equipped with large tactile buttons that can be pressed easily even when the user has gloves on. The counters feature a 6-digit LED display and 120VAC power. Optional features include quadrature inputs, two 5-amp mechanical relays and 12VDC excitation output @ 100mA (220VAC power upon request). The modular design allows for easy field replacement of input and output cards. **Type S660** is an up/down, add/subtract totalizing counter, **type 661** is a rate counter, **type 662** is a totalizer/batch counter, and **type 663** is a rate/totalizer counter

UP/DOWN, ADD/SUBTRACT TOTALIZER (TYPE S660)

Stock No.	Type	Input	Relay/Excitation	1-4	5-9
83F8782	S660-1-1-0-0-0	Pulse Input	None/None	181.85	171.54
83F8783	S660-1-1-1-0-0	Pulse Input	One/None	208.75	196.91
83F7506	S660-1-1-2-0-0	Pulse Input	Two/None	224.89	212.14
83F7507	S660-1-1-2-1-0	Pulse Input	Two/12VDC	251.79	237.51
83F8780	S660-1-2-0-0-0	Quad Input	None/None	203.37	191.84
83F8781	S660-1-2-1-0-0	Quad Input	One/None	230.27	217.21
83F7508	S660-1-2-2-0-0	Quad Input	Two/None	246.41	232.44
83F7509	S660-1-2-2-1-0	Quad Input	Two/12VDC	273.31	257.81

RATE (TYPE S661)

83F7510	S661-1-1-0-0-0	Pulse Input	None/None	181.85	171.54
83F7511	S661-1-1-1-0-0	Pulse Input	One/None	208.75	196.91
83F7512	S661-1-1-2-0-0	Pulse Input	Two/None	224.89	212.14
83F7513	S661-1-1-2-1-0	Pulse Input	Two/12VDC	251.79	237.51
83F7514	S661-1-2-0-0-0	Quad Input	None/None	203.37	191.84
83F7515	S661-1-2-1-0-0	Quad Input	One/None	230.27	217.21
83F7516	S661-1-2-2-0-0	Quad Input	Two/None	246.41	232.44
83F7517	S661-1-2-2-1-0	Quad Input	Two/12VDC	273.31	257.81

TOTALIZER/BATCH (TYPE S662)

83F7518	S662-1-1-0-0-0	Pulse Input	None/None	214.13	201.99
83F7519	S662-1-1-1-0-0	Pulse Input	One/None	241.03	227.36
83F7520	S662-1-1-2-0-0	Pulse Input	Two/None	257.17	242.59
83F7521	S662-1-1-2-1-0	Pulse Input	Two/12VDC	284.07	267.96
83F7522	S662-1-2-0-0-0	Quad Input	None/None	235.65	222.29
83F7523	S662-1-2-1-0-0	Quad Input	One/None	262.55	247.66
83F7524	S662-1-2-2-0-0	Quad Input	Two/None	278.69	262.89
83F7525	S662-1-2-2-1-0	Quad Input	Two/12VDC	305.59	288.26

RATE/TOTALIZER (TYPE S663)

83F7526	S663-1-1-0-0-0	Pulse Input	None/None	214.13	201.99
83F7527	S663-1-1-1-0-0	Pulse Input	One/None	241.03	227.36
83F7528	S663-1-1-2-0-0	Pulse Input	Two/None	257.17	242.59
83F7529	S663-1-1-2-1-0	Pulse Input	Two/12VDC	284.07	267.96
83F7530	S663-1-2-0-0-0	Quad Input	None/None	235.65	222.29
83F7531	S663-1-2-1-0-0	Quad Input	One/None	262.55	247.66
83F7532	S663-1-2-2-0-0	Quad Input	Two/None	278.69	262.89
83F7533	S663-1-2-2-1-0	Quad Input	Two/12 VDC	305.59	288.26

(33380) (ne33380)

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http://www.newark.com

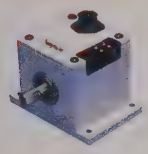
FREQUENCY COUNTERS

Type S664 frequency counters provide a low cost ⅛ DIN frequency counter with ranges from 1Hz to 60kHz. The only programming required is range selection and input card setup. The rugged NEMA 4 case fits standard ¼ DIN cutouts. The S664 comes standard with a 4-digit LED display and 120VAC power. Optional features include quadrature inputs, 12 VDC excitation output @ 100 mA, and 220VAC power (upon request). The modular design allows for easy field replacement of input and output cards.

Stock No.	Type	Input	Excitation	1-4	5-9
83F7534	S664-1-1-0-0-0	Pulse Input	None	144.73	136.52
83F7535	S664-1-1-0-1-0	Pulse Input	12VDC	171.63	161.90
83F7536	S664-1-2-0-0-0	Quad Input	None	166.25	156.82
83F7537	S664-1-2-0-1-0	Quad Input	12VDC	193.15	182.20

(33379) (ne33379)

OPTICAL ENCODERS

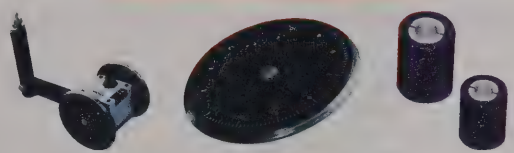


Type SE encoders combine the most popular features into one economical, easy-to-order encoder package. The cube-style, quadrature encoder offers dual ⅜″ flat keyed shafts and 2 LEDs that flash as the shaft is turned, to aid in troubleshooting.

Stock No.	Type	P.P.R.	1-4	5-9
83F7538	SE-060	60	139.88	131.95
83F7539	SE-100	100	139.88	131.95
83F7540	SE-120	120	139.88	131.95
83F7541	SE-360	360	139.88	131.95
83F7542	SE-600	600	139.88	131.95

(33378) (ne33378)

ENCODER ACCESSORIES



A counter and encoder; can be combined with a chariot and wheels to make a length measurement system. The chariot offers an anodized aluminum body with a flexible mounting neck. The wheels are made of anodized aluminum and are 12″ in circumference. Furnished with replaceable tires, which are available in 4 different durometers for use on a wide range of materials. This package is essential in many cut-to-length or length measurement applications. Simpon's flexible couplings have dual 3-beam construction to provide superior performance at high and low speeds with minimum windup and rotary oscillation.

CHARIOT

Stock No.	Type	1-4	5-9
83F7543	46012	88.24	85.80

WHEELS

Stock No.	Type	Durometer	1-4	5-9
83F7544	46004	80A	31.24	30.16
83F7545	46005	83A	31.24	30.16
83F7546	46006	92A	31.24	30.16
83F7547	46007	70A	31.24	30.16

Flexible Couplings

Stock No.	Type	Size	1-4	5-9
83F7548	46000	0.25″	43.97	42.45
83F7549	46001	0.375″	43.97	42.45
83F7550	46002	0.3125″	43.97	42.45
83F7551	46003	Pkg.: 0.25″, 0.375″, & 0.3125″	48.60	46.92

(33381) (ne33381)

PROXIMITY SENSORS

990 SERIES INDUCTIVE PROXIMITY SENSORS

990 series 8mm, 12mm, 18mm and 30mm nickel-brass cylindrical inductive proximity sensors for use in position-sensing applications. All sensors have LED operation indicators visible from 360°. 08, 12, 18 and 30 in type number indicates sensor size (mm). Sensors are sealed to meet IEC enclosure IP67 classification. Operating temperature: –25°C to 80°C. Preleaded versions include 2m of cable. Also available in 5m and 10m versions. Length of 8mm sensors is 36.6mm. Types listed are also available in normally-closed circuitry with 35mm short body style. PNP output types also available; *contact your local Newark sales office.*

PRELEADED STYLES 3-WIRE DC (10-30VDC SUPPLY)

Stock No.	Type	Sensing Distance	Shielded	Output Type	Each
16F3998	992AA08AN-C2	1.4mm	Yes	NPN-NO	58.82
16F4000	992AB08AN-C2	2.5mm	No	NPN-NO	46.47
16F4002	992AA12AN-A2	2mm	Yes	NPN-NO	50.09
16F4004	992AB12AN-A2	5mm	No	NPN-NO	50.09
16F4006	992AA18AN-A2	5mm	Yes	NPN-NO	50.09
16F4008	992AB18AN-A2	8mm	No	NPN-NO	50.09
16F4010	992AA30AN-A2	10mm	Yes	NPN-NO	49.88
2-WIRE DC (10-30VDC SUPPLY)					
16F4014	996AA12AT-B2	2mm	Yes	NO	48.12
16F4015	996AB12AT-B2	5mm	No	NO	48.12
16F4017	996AB18AT-B2	8mm	No	NO	48.12
16F4018	996AA30AT-B2	10mm	Yes	NO	57.64
2-WIRE AC (20-250VAC SUPPLY)					
16F4020	993AA12AT-B2	2mm	Yes	NO	51.54
16F4021	993AB12AT-B2	5mm	No	NO	51.54
16F4022	993AA18AT-B2	5mm	Yes	NO	51.54
16F4023	993AB18AT-B2	8mm	No	NO	51.54

CONNECTOR STYLES 3-WIRE DC (10-30VDC SUPPLY)

Stock No.	Type	Sensing Distance	Output Type	Connector Style	Each
16F3964	992AB08AN-HD*	2.5mm	NPN-NO	Micro 4-pin	46.47
16F3966	992AA12AN-HD	2mm	NPN-NO	Micro 4-pin	50.09

* Denotes unshielded sensor type.

(3590) (ne08179)

980 SERIES INDUCTIVE PROXIMITY SENSORS

980 series 3-wire DC proximity sensors are sealed with epoxy resin in nickel-plated brass. 0.8mm sensing distance. Sense proximity of metals at high-speed operations. 100% solid-state circuitry simplifies interface with programmable controllers as well as other computer-based systems. Temperature range: –25° to +70°C. Sensors are sealed to meet IEC IP67 classification in industrial environments. Short circuit, overload, and reverse polarity protection. Output: **Types A3N**, N.O. N(NPN); **Types A3P**; P(PNP). Sensors are shielded and preleaded with 2m of jacketed cable.

Stock No.	Type	Sensor Size	Input Voltage	Each
51F3979	982FSO.8-A3N-L	4mm	10-30 VDC	106.40
51F3980	982FSO.8-A3P-L	4mm	10-30 VDC	106.40
51F3981	982FSO.8-A3N-G-L	5mm	10-30 VDC	106.40
51F3982	982FSO.8-A3P-G-L	5mm	10-30 VDC	106.40

(3591) (ne08180)

FL7M SERIES UNIVERSAL VOLTAGE 2-WIRE AC/DC INDUCTIVE PROXIMITY SENSORS

Two-color LED set alignment indicator aids in positioning the sensor for optimum operate point. Supply voltage: 20-250VDC, 20-250VAC. DC voltage short circuit protected. Temperature range: –25°C to +70°C. Output: normally open. Sealed to IP67. **Type FL7M-3J** and **type FL7M-7J** have short housings. Connectorized versions of **Type FL7M-3J** and **type FL7M-7J** are UL listed and CSA approved. Versions with N.C. circuitry available, *contact your local Newark sales office.*

Stock No.	Type	Sensing Range	Sensor Size	Each
48F2805	FL7M-3T7HD-M	3mm	12mm	99.42
48F2806	FL7M-3T7HD-CMG	3mm	12mm	94.14
48F2807	FL7M-7T7HD-M	7mm	18mm	83.58
48F2808	FL7M-7T7HD-CMG	7mm	18mm	94.14
95F5196	FL7M-3J6HD-M	3mm	12mm	102.80
48F2809	FL7M-3J6HD-CM*	3mm	12mm	75.67
95F5199	FL7M-7J6HD-M	7mm	18mm	71.03
48F2810	FL7M-7J6HD-CM*	7mm	18mm	81.39

*Quick-connector termination style.

(3523) (ne06354)

3-WIRE COMPACT SUB-MINIATURE DC PROXIMITY SENSORS

Ideal for applications where space is at a premium. These sensors offer both top and side sensing solutions that save space and provide mounting flexibility. LED indicator is visible from 3 directions to allow easy checking of operating state. Meet IEC enclosure IP67 classification for superior sealing in industrial environments. 2.5mm (0.10″) sensing distance. 12-24VDC supply voltage. Dimensions: 0.24H x 0.31W x 0.98″D. Normally closed versions are available, *contact your local Newark sales office.*

Stock No.	Type	Sensing	Output	Locking Boss†	Each	2-5	6-10
83F5716	APM-A3D1-H	Top	PNP, N.O.	No	46.04	42.96	40.28
83F5717	APM-B3A1-H	Top	NPN, N.O.	Yes	46.04	42.96	40.28
83F5718	APM-B3D1-H	Top	PNP, N.O.	Yes	46.04	42.96	40.28
83F5719	APM-C3A1-H	Side	NPN, N.O.	No	46.04	42.96	40.28
83F5720	APM-C3D1-H	Side	PNP, N.O.	No	46.04	42.96	40.28
83F5721	APM-D3A1-H	Side	NPN, N.O.	Yes	46.04	42.96	40.28
83F5722	APM-D3D1-H	Side	PNP, N.O.	Yes	46.04	42.96	40.28

N.O. = normally open † = Locking boss for single screw mounting

(28878) (ne28878)

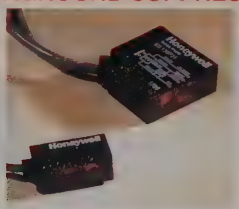
CONVERSION TABLE

Metric to U.S.	U.S. to metric
1 centimeter = 0.39 inch	1 inch = 2.54 centimeters
1 millimeter = 0.039 inch	1 inch = 25.4 millimeters
1 meter = 3.28 feet	1 foot = 0.305 meter
1 gram = 0.035 ounce	1 ounce = 28.35 grams
1 kilogram = 2.2 pounds	1 pound = 454 grams
1 milliliter = 0.034 fl. ounce	1 pound = 0.45 kilogram
1 liter = 0.264 gallon	1 fl. ounce = 29.57 milliliters
	1 gallon = 3.79 liters

(38573) (Filler02)

PHOTOELECTRIC AND PROXIMITY SENSORS

BS SERIES BACKGROUND SUPPRESSION SENSORS



Background suppression diffuse photoelectric sensors achieve background suppression via triangulation method. Simple object alignment is performed using red LED light. Supply current: 10-30VDC, ≤50mA. Max. switching current: 100mA. Units have cable connections and are available in either NPN (sinking) or PNP (sourcing) output versions. Targets are recognized independent of color and material surface properties. Backgrounds are suppressed independent of color and material surface properties. Sensing distances can be precisely adjusted. Better repeatability is achieved due to control's small active sensing distance. Typical applications include conveyor belt alignment, transfer line process control, detection against light color or other reflective backgrounds, and wafer detection. Available in miniature and subminiature versions. Subminiature versions include mounting bracket.

MINIATURE—SEALED TO IEC ENCLOSURE IP67 CLASSIFICATION

Stock No.	Type	Operation Mode	Output Type	Sensing Range	Each
91F5336	BS150P21	Light ON/Dark ON	PNP	0.59 to 5.9″	**162.15**
91F5337	BS150N21	Light ON/Dark ON	NPN	0.59 to 5.9″	**162.15**
SUBMINIATURE—SEALED TO IEC ENCLOSURE IP65 CLASSIFICATION					
91F5338	BS50P11	Light ON Only	PNP	0.79 to 1.97″	**162.15**
91F5339	BS50N11	Light ON Only	NPN	0.79 to 1.97″	**162.15**

(14830) (ne10035)

HPJ SERIES ULTRAMINIATURE AMPLIFIED PHOTOELECTRIC SENSORS

Suitable for electronic applications that require a high-speed, low-cost subminiature photoelectric control. Units are available in convergent diffuse or thru-scan with a typical response time of 1 ms. The visible red **type HPJ-D21** convergent beam is suitable for general PC board detection. The infrared **type HPJ-A21** convergent beam is suitable for dark or low reflection PC board detection. Supply voltage: 10.8 to 26.4VDC (ripple 10% max.). Scan distance: thru-scan versions = 1.5m; convergent diffuse = 30mm. Units are pre-leaded and have reverse connection protection circuit. Output: NPN.

THRU-SCAN—0.866 x 0.433 x 0.31″

Stock No.	Type	Orientation	Scan Distance	Operation Mode	Each
91F5340	HPJ-T11	Horizontal	1.5m	Dark ON	**75.69**
91F5341	HPJ-T21	Vertical	1.5m	Dark ON	**75.69**
91F5342	HPJ-T23	Vertical	1.5m	Light ON	**73.49**
CONVERGENT DIFFUSE—1.18 x 0.47 x 0.31″					
52F8843	HPJ-D21	Vertical	30mm	Light ON	**75.69**
91F5343	HPJ-A21	Vertical	30mm	Light ON	**73.49**

(14832) (ne10036)

941 SERIES PRECISION LIMIT SWITCH STYLE ANALOG AND DIGITAL ULTRASONIC PROXIMITY SENSORS

Feature background suppression, die-cast zinc limit switch style housing, temperature compensated (±1%), analog output proportional to sensor-to-target distance, field adjustable analog output slope, 2 independently adjustable digital setpoints, PNP N.O. outputs, and inhibit input for multiple sensor synchronization. Input voltage (V_{CC}): 19-30VDC. Termination: 5-pin microconnector. Sealed to meet IEC enclosure IP65 classification and NEMA enclosure types 4 and 12. Sensing range: 7.87 to 59.05″.

Stock No.	Type	Output Type	LED	Switch Frequency	Each
91F5352	941-C2V-2E-001	PNP	Yes	10Hz	**1046.54**
91F5353	941-C2V-2E-1C0	Analog	Yes	10Hz	**963.16**

(14835) (ne10039)

945 SERIES PRECISION 18mm DIGITAL AND ANALOG ULTRASONIC PROXIMITY SENSORS

Plastic

Stainless Steel

Feature background suppression, fixed or adjustable setpoint control, compensation over 0°C to 50°C (32°F to 122°F) and inhibit/synchronization input. Supply voltage: 19-30VDC. Units are sealed to meet IEC enclosure IP65 classification. Available in either plastic or stainless steel versions. Digital sensors feature external setpoint adjustment and preleaded or quick-connect termination. Analog sensors feature sensitivity or output adjustment and 1-6VDC, 10mV/mm or 30mV/mm analog output.

PLASTIC

Stock No.	Type	Sensing Range	Switch Freq.	Output Type	Setpoint Adjustment	Each
91F5344	945-F4Y-2D-001	3.9-19.68″	16Hz	PNP	Fixed 15.75″ (400) Ext. Potentiometer	**278.31**
91F5345	945-F4Y-2D-002	3.9-19.68″	16Hz	NPN	Fixed 15.75″ (400) Ext. Potentiometer	**278.31**
99F6654	945-N4Y2D-001	3.9-7.87″	60Hz	PNP	Fixed 7.87″ (200) Ext. Potentiometer	**288.05**
91F5346	945-N4Y-2D-002	3.9-7.87″	60Hz	NPN	Fixed 7.87″ (200) Ext. Potentiometer	**261.31**
STAINLESS STEEL						
91F5348	945-L4Y-2D-002	3.9-19.68″	16Hz	NPN	Built-In Potentiometer	**322.83**
91F5349	945-L4Y-2D-1C0	3.9-23.6″	...	Analog	...	**356.11**

(14833) (ne10037)

940 SERIES PRECISION 30mm ANALOG AND DIGITAL ULTRASONIC PROXIMITY SENSORS

Feature background suppression, stainless steel housing with integral setpoint adjustment available, compensated over 0°C to 70°C (32°F to 158°F), and quick-connect termination. Sealed to meet IEC enclosure IP65 classification. LED alignment/echo strength indicator simplifies installation. Transmit inhibit allows multiplexing several sensors. Input voltage (V_{CC}): digital sensor, 19-30VDC; analog sensor, 19-50VDC.

Stock No.	Type	Sensing Range	Switch Frequency	Output Type	Each
91F5350	940-A4V-2D-002	5.9-47.2″ (150-2000)	20Hz @ Max. Rate	NPN	**511.44**
91F5351	940-A4V-2E-1C0	5.9-47.2″ (150-2000)	...	Analog	**588.79**

(14834) (ne10038)

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PROXIMITY SENSORS

2-WIRE AC PROXIMITY SENSORS

Selectable output. LY Types: Input voltage: 93-132VAC. All units have a zinc die-cast body with LED indicator. **Type 923H26** has 20-250VAC input voltage, 5-position adjustable head and plug-in body, that uses the same receptable as used with limit switches. **923H26** is sealed to IP67 classification. FM approved for non-incendive Class 1, Division 2, Groups A, B, C, D and Class I, Division 2, Group G hazardous locations. Temperature range: –25°C to +85°C. 1.62Wx4.53Hx1.75"D. (41.15x115.06x44.45). Side sensing types are field adjustable for rotation in 4 directions. Meets NEMA enclosure types 3, 3R, 4, 12, 13. UL listed, CSA certified.

Stock No.	Type	Sensing Distance	Output Type	Sense Direction	Each
51F4009	LYS01C-2S	12.7mm	N.O.	Side	212.63
51F4010	LYS01E-2S	12.7mm	N.O./N.C.	Side	231.52
51F4011	LYT01C-2S	12.7mm	N.O.	Top	212.63
51F4012	LYT01E-2S	12.7mm	N.O./N.C.	Top	231.52
23F4746	LYT02E-2S	14.5mm	N.O./N.C.	Top	231.52
51F3984	923H26Q-A7T-L	15.0mm	N.O.	5-Position	129.54

(3484) (de51417)

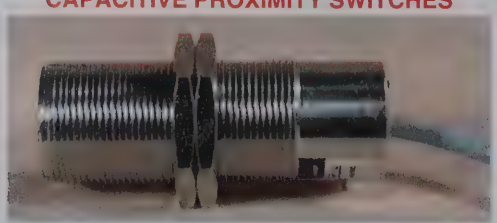
RECTANGULAR 3-WIRE DC SENSORS

Sensing range: 0.05" (1.27). Release point: 0.085" (2.16). Supply voltage: 6-16VDC. Frequency: 1kHz. Housing: glass filled thermoplastic. Temperature range: –40°C to +125°C. 0.88W x 1.30H x 0.52"D. (22.35 x 33.02 x 13.21).

Stock No.	Type	Termination	Each
23F2228	101XK11-1	22-Gauge Wires, PVC Insulation, 12" (305)	56.33
23F2227	101XK11-Q	Solder/Quick Connect Terminals	49.93

(3483) (de51416)

CAPACITIVE PROXIMITY SWITCHES



Senses any material such as glass, rubber, oil, metals, water, wood, and more. Sensing distance of 15mm except **type 972CP8TM** is 8mm. 20mm sensing distance versions are also available, *contact your local Newark sales office.* Sensor size 30mm, except **972CP8TM** is 18mm. Meets IEC enclosure IP67 classification.

SHIELDED METAL SENSORS

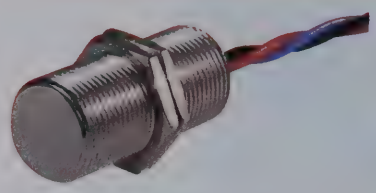
Stock No.	Type	Input	Output	Each
50F5209	972CP8TM-A13P-L	10-48VDC	PNP N.O.	121.91
50F5210	972CP15TM-A13P-L	10-48VDC	PNP N.O.	134.65
50F5212	973CP15TM-A11T-L	90-250VAC	N.O.	145.73

UNSHIELDED PLASTIC SENSORS

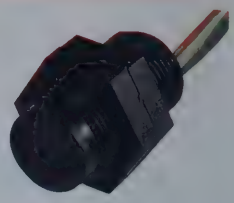
50F5218	973CP15TP-A11T-L	90-250VAC	N.O.	142.47

(3482) (de51415)

103SR AND SR4 SERIES HALL-EFFECT SENSORS



103SR



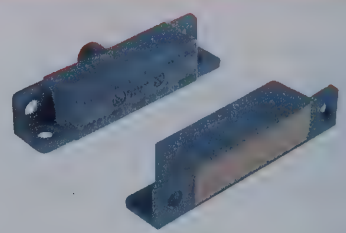
SR4P2-A1

Adjustable mounting, threaded aluminum housing contains Hall-Effect sensor operated by proximity to external magnet. Sealed housing meets NEMA enclosure types 3, 3R, 3S, 4, 4X, 12, and 13. 20-gauge, 6" stranded Teflon® insulated, color-coded lead wires at termination. Types with **2-suffix** are supplied with one meter PVC jacketed cable. Digital current sinking output, except **type 103SR3-F-5** which is analog output. **103SR11** and **103SR12 types** are current sourcing. **Types 103SR13** are current sinking. Magnetics type for **Types 103SR:** unipolar. Dimensions: 15/32-32NS x 1"L. Operating temperature range: –40°C to +100°C. **Type SR4P2-A1** is a magneto-resistive position sensor. Completely sealed in a threaded bushing. Operate point @ 25°C: 15 gauss typical. Can be operated with either the North or South magnetic pole.

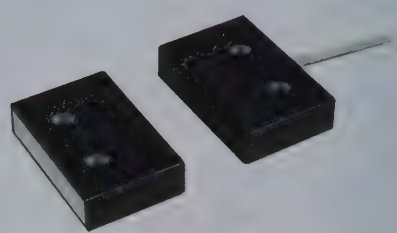
Stock No.	Type	Supply Voltage	Supply Current	Voltage Output	Each
23F2233	103SR11A-1	4.5-5.5VDC	4mA	Vs-1.5VDC	24.84
23F2234	103SR12A-1	6-24VDC	10.0mA	Vs-1.5VDC	23.12
50F5280	103SR12A-2	6-24VDC	10.0mA	Vs-1.5VDC	30.83
23F4974	103SR13A-1	4.5-24VDC	10.0mA	0.4VDC	23.12
50F5281	103SR13A-2	4.5-24VDC	10.0mA	0.4VDC	30.83
16F3164	103SR3F-5	4-10VDC	3.5mA	1.75-2.25VDC	27.39
92F3008	SR4P2-A1	6-24VDC	13.5mA	0.4VDC	25.40

(3486) (de51479)

TWO-PIECE REED PROXIMITY SWITCHES



40FR



50FR

Compact reed proximity switches are magnetically actuated. **Types 40FR** and **41FR** contact area hermetically glass-to-metal sealed. **50FR** and **52FR** magnets are enclosed in high-impact thermoplastic housing and are solid-state logic compatible. Power ratings for **40FR & 50FR:** 10W, 132VDC, 750mA for maximum DC; 10VA, 120VAC, 300mA for maximum AC. Electrical life: 30,000,000 operations. Temperature rating: –40°C to +125°C. Meet NEMA enclosure type 4. **40FR series** micro connector versions are also available; *contact your local Newark sales office.*

Stock No.	Type	Contact Arrangement	1-9
23F2199	40FR1-3	SPNO	91.61
23F2205	50FR2-3-1	SPNO	69.88
23F2201	41FR2	Magnetic Actuator	63.28
23F2217	52FR1	Magnetic Actuator	32.19

(3485) (de51419)

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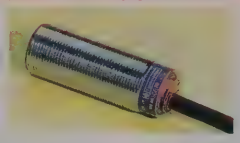
PROXIMITY AND PHOTOELECTRIC SENSORS

CABLE STYLE TUBULAR INDUCTIVE PROXIMITY SENSORS



High visibility, 360° indicators allow faster troubleshooting. Output mode: NO. 2-wire, 20-264V. Units come in cutting oilproof enclosure. Sensor has shielded metal case. Other units are available. *Order sensor with unshielded metal case by changing type number* **prefix XS1** *to* **XS2;** *for shielded plastic case change prefix to* **XS3;** *and for unshielded plastic case change prefix to* **XS4**. DC version 8mm also available. *Contact your local Newark sales office.* UL listed, CSA certified. CE compliant.

UNIVERSAL AC/DC POWER SUPPLY

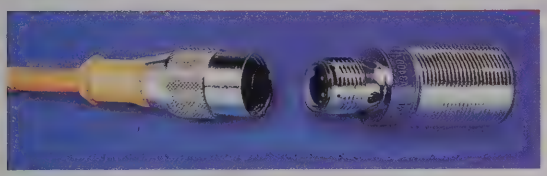
Stock No.	Diameter	Length	Sensing Distance	Each
96F2189	8mm	1.97″ (50)	1.5mm	**139.53**
96F2193	12mm	1.97″ (50)	2mm	**118.35**
96F2197	18mm	2.36″ (60)	5mm	**121.97**
96F2201	30mm	2.36″ (60)	10mm	**128.01**

DC POWER SUPPLY

91F5304	12mm	1.97″ (50)	2mm	**107.30**
91F5305	18mm	2.02″ (51.5)	5mm	**102.65**
91F5306	30mm	2.02″ (51.5)	10mm	**119.56**

(3491) (de52360)

MICRO STYLE CONNECTOR PROXIMITY SENSORS



High visibility, 360° indicators allow faster troubleshooting. Output mode: NO. 2-wire, 20-264V. Units come in cutting oilproof enclosure. Sensor has shielded metal case. Other units are available. *Order sensor with unshielded metal case by changing type number* **prefix XS1** *to* **XS2;** *for shielded plastic case change prefix to* **XS3;** *and for unshielded plastic case change prefix to* **XS4**. 30mm with 15mm sensing distance also available. *Contact your local Newark sales office.* UL listed, CSA certified. CE compliant.

UNIVERSAL AC/DC POWER SUPPLY

Stock No.	Type	Diameter	Length	Sensing Distance	Each
96F2205	XS1M08MA230K	8mm	2.40″ (61)	1.5mm	**147.54**
96F2208	XS1M12MA230K	12mm	2.40″ (61)	2mm	**125.59**
96F2211	XS1M18MA230K	18mm	2.36″ (60)	5mm	**130.42**

DC POWER SUPPLY

91F5307	XS1M08DA21OD	8mm	2.40″ (61)	1.5mm	**113.52**
91F5308	XS1M12DA21OD	12mm	2.40″ (61)	2mm	**100.23**
91F5309	XS1M18DA21OD	18mm	2.36″ (60)	5mm	**102.65**
91F5310	XS1M30DA21OD	30mm	2.36″ (60)	10mm	**119.56**

(3492) (de52361)

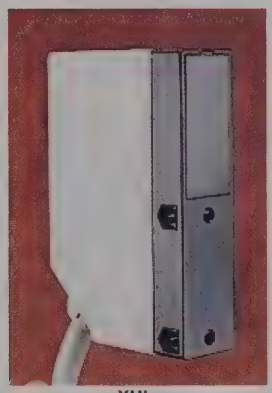
PLASTIC PROXIMITY SENSOR MOUNTING BRACKETS

Replaces Telemecanique proximity sensors without regauging replacement sensor. 30mm version also available. *Contact your nearest Newark sales office.*

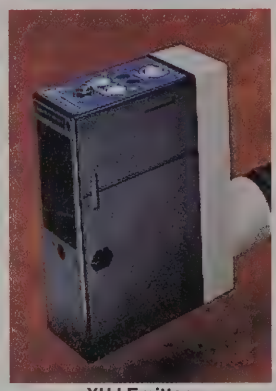
Stock No.	Type	Description	Each
96F2217	XSZB108	8mm	**6.24**
96F2218	XSZB112	12mm	**7.86**
96F2219	XSZB118	18mm	**9.34**

(3493) (de52362)

INDUSTRIAL-RATED PHOTOELECTRIC SENSORS



XUL



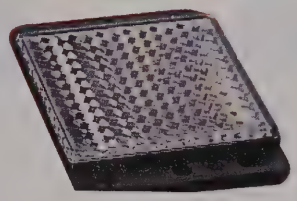
XUJ Emitter

XUL series subcompact medium range sensors feature small size, flat lenses, side or front mounting, and LED visible from front and top. Five-wire relay output. 6′ cable. NO/NC. AC/DC: 20-264VAC, 20-60VDC. **Type XUJT060319** compact rectangular long-range sensor features ½″ NPT conduit entrance, screw terminals, and ON and OFF delay timer. Operating frequency 20Hz. UL listed, CSA certified, CE compliant. Other versions also available. *Contact your nearest Newark sales office.*

Stock No.	Type	Description	Each
96F2227	XUL M0600	Emitter with 24′ Range	**77.42**
96F2229	XUL M040319	Polarized Retroflexive, Light, 16′ Range	**125.59**
96F2230	XUL M300318	Proximity Diffuse, Light, .8′ Range	**139.53**
96F2233	XUJ T060319	Polarized Retroflexive, Light/Dark, 24′ Range	**235.61**

(3495) (de52364)

REFLECTORS FOR PHOTOELECTRIC SENSORS



XUZC24

Provide highly-reliable reflection of light in same direction it came from. Eliminate blind spot and allow reflector to come as close as touching sensor lenses. Max. temperature: 65°C. Reflective surfaces are constructed of acrylic. NOTE: **types XUZC24** and **XUZC50** reflectors must always be mounted in the vertical plane with respect to the optical axis of the switch.

Stock No.	Type	Description	Each
96F2237	XUZC24	1.3 x 1.1″ Close Proximity	**6.24**
96F2238	XUZC50	2 x 2″ Close Proximity	**9.34**
97F8350	RF30	3″ Diameter, Acrylic	**6.24**
97F8351	RF13	3.25 x 1.5″ Acrylic	**6.24**

(3497) (de52366)

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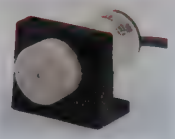
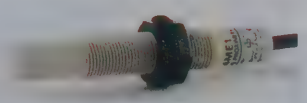
CAPACITIVE PROXIMITY SENSORS


E2K-C


E2K-X

Type E2K-X standard and **E2K-C** adjustable range capacitive proximity sensors detect metallic and non-metallic objects such as glass, wood, paper, water, oil, and plastic. Both versions come with a wide power supply range of 90-250VAC or 10-40VDC for adjustable range versions and 10-30VDC for standard versions, switching up to 200mA. Both versions feature operation indicators, come pre-wired with 6.5′ of cable, and operate in temperatures from –13°F to +158°F. **Type E2K-C** adjustable versions have plastic body construction, are 3.23″ (82) long, offer a sensing range of 0.12″ to 0.98″ (3-25), and include mounting brackets. **Type E2K-X** standard versions are unshielded and have threaded plastic body construction and are 3.15″ (80) long with mounting nuts. Diameters are listed in description column. Sensing ranges are given in inches and (mm). All sensors are CSA certified. **Types E2K-C** are UL listed. **Types E2K-X** are UL recognized. All meet IEC enclosure IP66 classification and NEMA enclosure types 1, 4, 12, and 13.

ADJUSTABLE RANGE VERSIONS

Stock No.	Type	Description	Sensing Range	Each
52F4322	E2K-C25ME1	DC (NPN), NO, 34mm Dia.	0.12-0.98″ (3-25)	**122.71**
52F4323	E2K-C25ME2	DC (NPN), NC, 34mm Dia.	0.12-0.98″ (3-25)	**122.71**
52F4230	E2K-C25MY1	AC (SCR), NO, 34mm Dia.	0.12-0.98″ (3-25)	**55.98**
52F4231	E2K-C25MY2	AC (SCR), NC, 34mm Dia.	0.12-0.98″ (3-25)	**55.98**

STANDARD VERSIONS

52F4328	E2K-X4ME1	DC (NPN), NO, 12mm Dia.	0.16″ (4)	**97.96**
52F4329	E2K-X4ME2	DC (NPN), NC, 12mm Dia.	0.16″ (4)	**97.96**
52F4324	E2K-X4MY1	AC (SCR), NO, 12mm Dia.	0.16″ (4)	**128.10**
52F4326	E2K-X15MY1	AC (SCR), NO, 30mm Dia.	0.59″ (15)	**128.10**
52F4327	E2K-X15MY2	AC (SCR), NC, 30mm Dia.	0.59″ (15)	**128.10**
52F4332	E2K-X15ME1	DC (NPN), NO, 30mm Dia.	0.59″ (15)	**99.03**

(3533) (ne07211)

METAL BODY, CYLINDRICAL PROXIMITY SENSORS

E2E-X1R5Y1-N

E2E-X10MY1-53US

Type E2E proximity sensors detect metal objects at ranges up to 0.39″ (10). Packaged in threaded, cylindrical nickel-plated housing. All except **E2E-X10MY1-53-US** are shielded for reliable sensing even when mounted near metal housings. All feature operation indicators, mounting nuts, and come pre-wired with 6.5′ of cable. Mounting accessories and protective silicone covers are also available; *contact your local Newark sales office.*

2-WIRE AC SENSORS, NORMALLY OPEN

Input voltage: 20-264VAC, switching to 300mA. Types with **-53-US suffix** are short circuit protected and have a switching voltage range from 90-140VAC, 300mA. Rated NEMA 1, 4, 6, 12, 13, and IP67. UL recognized. Types with **-US suffix** are CSA certified. Dimensions and sensing ranges are given in inches and (mm).

Stock No.	Type	Description	Sensing Range	Each
52F4306	E2E-X1R5Y1-N	8mm Dia. x 1.42″ (36)L	0.06″ (1.5)	**79.66**
91F5949	E2E-X5Y1-US	18mm Dia. x 2.56″ (65) L	0.20″ (5)	**87.19**
52F4308	E2E-X2Y1-US-N	12mm Dia. x 1.50″ (38)L	0.08″ (2)	**80.73**
91F4948	E2E2-X2Y1-US	12mm Dia. x 2.36″ (60) L	0.08″ (2)	**85.11**
52F4311	E2E-X10MY1-53-US	18mm Dia. x 1.85″ (47)L	0.39″ (10)	**94.73**

3-WIRE DC SENSORS, NORMALLY OPEN

Input voltage: 10-40VDC supply voltage, switch up to 200mA. Rated NEMA 1, 4, 6, 12, 13, and IP67.

52F4299	E2E-X1R5E1-N	NPN, 8mm Dia. x 1.02″ (26)L	0.06″ (1.5)	**69.97**
52F4298	E2E-X1R5F1-N	PNP, 8mm Dia. x 1.02″ (26)L	0.06″ (1.5)	**69.97**
52F4302	E2E-X2E1-N	NPN, 12mm Dia. x 1.30″ (33)L	0.08″ (2)	**69.97**
52F4301	E2E-X2F1-N	PNP, 12mm Dia. x 1.30″ (33)L	0.08″ (2)	**69.97**
91F5950	E2E2-X2C1-M1	NPN, 12mm Dia. x 2.36″ (60)L	0.08″ (2)	**67.82**
91F5951	E2E2-X2B1-M1	NPN, 12mm Dia. x 2.36″ (60)L	0.08″ (2)	**67.82**
52F4303	E2E-X5F1-N	PNP, 18mm Dia. x 1.50″ (38)L	0.20″ (5)	**73.20**
91F5952	E2E2-X5C1-M1	NPN, 18mm Dia. x 2.56″ (65)L	...	**69.97**

2-WIRE DC SENSORS, NORMALLY OPEN

Input voltage: 10-30VDC, switch up to 100mA. Rated NEMA 1, 4, 6, 12, 13, and IP67. Include surge absorber and short circuit protection.

52F4286	E2E-X2D1-N-N	8mm Dia. x 1.02″ (26)L	0.08″ (2)	**69.97**
52F4287	E2E-X3D1-N-N	12mm Dia. x 1.30″ (33)L	0.12″ (3)	**71.05**
52F4288	E2E-X7D1-N-N	18mm Dia. x 1.50″ (38)L	0.27″ (7)	**69.97**

(3534) (ne07212)

PLASTIC BODY, CYLINDRICAL PROXIMITY SENSORS

Type E2F detect metal objects and offer excellent resistance to chemical and water washdown environments. Shielded for mounting near metal. Feature operation indicators and are pre-wired with 6.5′ of cable and two mounting nuts. Output short circuit protection available. Rated NEMA 1, 3, 4, 6, 12, 13, and IP68. Mounting brackets are available; *contact your local Newark sales office.* Dimensions and sensing ranges are given in inches and (mm).

2-WIRE AC SENSORS

Input voltage: 20-264VAC, switch up to 100mA; except circuit protected types with **-53-US suffix**, which are 90-140VAC, 300mA. UL recognized, CSA certified (**53-US** versions only.)

Stock No.	Type	Description	Sensing Range	Each
52F4293	E2F-X1R5Y1	NO, 8mm Dia. x 1.57″ (40)L	0.05″ (1.5)	**77.50**
52F4292	E2F-X2Y1	NO, 12mm Dia. x 1.57″ (40)L	0.07″ (2)	**77.50**
52F4290	E2F-X5Y1-53-US	NO, 18mm Dia. x 1.89″ (48)L	0.20″ (5)	**87.19**

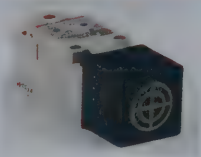
3-WIRE DC SENSORS

Input voltage: 10-30VDC, switch up to 200mA. NPN.

52F4294	E2F-X1R5E1	NO, 8mm Dia. x 1.18″ (30)L	0.05″ (1.5)	**61.36**
52F4297	E2F-X10E1	NO, 30mm Dia. x 1.97″ (50)L	0.39″ (10)	**65.66**

(3535) (ne07213)

LIMIT SWITCH STYLE AC PROXIMITY SENSORS



Type E2Q detect metal objects and allow easy form-fit-function replacement of standard limit switches with reliable non-contact switching. Shielded for mounting near metal. Dimensions: 4.53H x 1.65W x 1.57″D (115 x 42 x 40). Versatile five-position head for end or side sensing. Weld field immune version available. Specifications: switch up to 300mA, SCR-NO or NC output, and are switch selectable. ½″-14 NPT conduit ready. Rated NEMA 1, 2, 4, 6, 12, 13, and IP67. UL listed, CSA certified.

Stock No.	Type	Description	Sensing Range	Each
52F4278	E2Q-N15Y4	20-264VAC Input Voltage	0.59″ (15)	**157.16**
52F4279	E2Q-N15Y4-51	90-140VAC Input Voltage; Weld Field/RFI Immunity	0.59″ (15)	**172.23**

(3536) (ne07214)

ALL METAL DETECTING PROXIMITY SENSORS

Type E2EV detect both ferrous and non-ferrous metals at the same distance. Ideal for applications with work pieces of different metals. Metal body cylindrical sensor features short circuit and reverse polarity protection and operation indicators. 10-30VDC input voltage, switches 100mA. Available in NO or NC, PNP or NPN versions. Rated NEMA 1, 3, 4, 6, 12, 13, and IP67. Pre-wired with 6.5′ of cable. Includes two mounting nuts. All are 2.36″ (60) long.

Stock No.	Type	Description	Sensing Range	Each
52F4313	E2EV-X2C2	NPN, NC, 12mm Dia.	0.08″ (2)	**99.03**
52F4314	E2EV-X5C1	NPN, NO, 18mm Dia.	0.20″ (5)	**105.49**
52F4315	E2EV-X5C2	NPN, NC, 18mm Dia.	0.20″ (5)	**105.49**
52F4316	E2EV-X10C1	NPN, NO, 30mm Dia.	0.39″ (10)	**108.72**
52F4317	E2EV-X10C2	NPN, NC, 30mm Dia.	0.39″ (10)	**99.03**

(3537) (ne07215)

NON-FERROUS METAL DETECTING PROXIMITY SENSORS

Type E2EY sense only non-ferrous metals. Cylindrical metal body is shielded for reliable sensing when mounted near metal. Input voltage: 10-30VDC, switch up to 100mA. Feature short circuit and reverse polarity protection and operation indicators. Pre-wired with 6.5′ of cable. Two mounting nuts are included. Mounting brackets are available; *contact your local Newark sales office.* Rated NEMA 1, 3, 4, 6, 12, 13, and IP67. Dimensions and sensing ranges are given in inches and (mm).

Stock No.	Type	Description	Sensing Range	Each
52F4318	E2EY-X4C1	NPN, NO, 18mm Dia. x 2.36″ (60)L	0.16″ (4)	**139.94**
52F4319	E2EY-X8C1	NPN, NO, 30mm Dia. x 2.36″ (60)L	0.31″ (8)	**145.32**

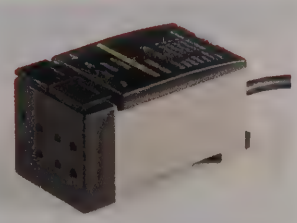
(3538) (ne07216)

OMRON®

PHOTOELECTRIC SENSORS

FIBER-OPTIC SENSORS

E3X-NT



E3X-NM

Type E3X fiber-optic sensors combine high functionality and speed with the versatility of fiber-optics. Sensing range up to 11.42″ (290); 82.68″ (2.100m) with lens attachment. **NT suffix** in type number indicates single-channel. Dimensions: 1.30H x 0.39W x 2.32″D (33 x 10 x 59). **NM suffix** in type number indicates four-channel amplifiers available with auto-sensitivity (Teach) setting, self-diagnostics, and operation indicators. Dimensions: 1.30H x 1.27W x 2.32″D (33 x 32.2 x 59). Fast 0.5ms response time with switch selectable Light-ON/Dark-ON mode. 12-24VDC supply voltage with 100mA output. Available in NPN or PNP output. Fibers available in thru-beam or diffuse configurations. Versions with built-in OFF display timers are also available; *contact your local Newark sales office.* Units come pre-wired with 6.5′ of cable. Units can be DIN rail or panel mounted. Sensing range is given in inches and (mm).

FIBER-OPTIC AMPLIFIERS

Stock No.	Type	Description	Sensing Range Thru-Beam/Diffuse	Each
52F4374	E3X-NT11	NPN, w/o Timer	11.42″ (290)/4.33″ (110)	145.32
52F4375	E3X-NT21	NPN, w/Timer	11.42″ (290)/4.33″ (110)	161.46
52F4376	E3X-NT41	PNP, w/o Timer	11.42″ (290)/4.33″ (110)	145.32
52F4377	E3X-NT51	PNP, w/Timer	11.42″ (290)/4.33″ (110)	161.46
52F4372	E3X-NM11	NPN, w/Timer	10.63″ (270)/3.94″ (100)	376.74
52F4373	E3X-NM41	PNP, w/Timer	10.63″ (270)/3.94″ (100)	376.74

FIBER-OPTIC CABLES AND ACCESSORIES

Plastic fibers are 6.5′ long. Cutter included with cable. Diameter is given in inches and (mm).

Stock No.	Type	Description	Each
52F4370	E32-TC200	Thru-Beam Fiber Cable, 0.16″ (4) Dia. Threaded Head	48.44
52F4379	E32-DC200	Diffuse Fiber Cable, 0.24″ (6) Dia. Threaded Head	48.44
52F4367	E39-F1	Long-Range Lens Attachment for Fibers	34.78

(3539) (ne07251)

HEAVY-DUTY, LONG-RANGE PHOTOELECTRIC SENSORS

E3K

Type E3K sensors offer long-range sensing up to 32.81′ (10m). Rugged plastic housing and replaceable output relays for added life. Wide AC/DC input voltage range (42-240VAC, 24-240VDC). DPDT output 10A, 240VAC. Adjustable sensitivity with operation and stability indicators. Light-ON/Dark-ON switch selectable. ¾″-14 NPT conduit entry. Rated NEMA 1, 4, 4x, 12, 13, and IP67. Dimensions: 7.32H x 3.50W x 2.48″D (186 x 89 x 63). Mounting bracket and reflector for retroreflective type are included. UL recognized, CSA certified. Sensing range is given in feet and meters (m).

Stock No.	Type	Description	Sensing Range	Each
52F4334	E3K-R10K4	Retroreflective	32.81′ (10)	198.06
52F4335	E3K-D2K4	Diffuse	6.56′ (2)	198.06

(3541) (ne07253)

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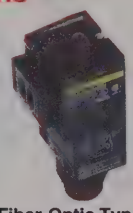
COMPACT LIMIT SWITCH STYLE PHOTOELECTRIC SENSORS

Pre-wired



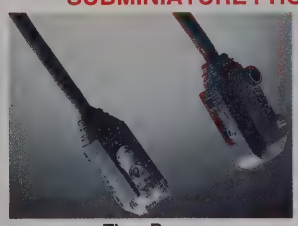
Fiber-Optic Type

Type E3JU general purpose sensors offer built-in sensitivity adjustment and operation indicators. Universal supply voltage: 24-240VAC/VDC (pre-wired version), 24-240VAC/12-240VDC (fiber-optic version). 12ms response time. Compact size: 2.74H x 1.80W x 1.42″D (69.5 x 45.6 x 36). Available in polarized retroreflective (reflector included) or diffuse in standard or fiber-optic version. Pre-wired with 6.5′ of cable or mini-change type connectors: ON-delay, OFF-delay, ON/OFF-delay, one shot retrig, or non-retrig. Plastic housing is rated NEMA 1, 2, 3, 4x, 5, 12, and IP67 Fiber-optic types are IP68. Fiber-optic cables, listed in table below, are 3′ (0.95m) L, 5⁄16-29 thread. UL recognized, CSA certified. T.B. = through-beam, Diff. = diffuse. Fiber-optic cables are not included with fiber-optic sensors. *Order fiber-optic cables, listed separately, below.*

Stock No.	Type	Description	Sensing Range	Each
91F5986	E3JU-R5M4	Retroreflective, Pre-Wired	196.85″ (5m)	99.63
91F5987	E3JU-R5M4T-3	Retroreflective, Pre-Wired w/Timer	196.85″ (5m)	110.83
91F5988	E3JU-R5M4-MN1	Retroreflective, Conn. Type	196.85″ (5m)	99.63
91F5989	E3JU-R5M4T-MN1	Retroreflective, Conn. Type w/Timer	196.85″ (5m)	110.83
91F5990	E3JU-D1M4-3	Diffuse, Pre-Wired	39.37″ (1m)	99.63
91F5991	E3JU-D1M4T-3	Diffuse, Pre-Wired w/Timer	39.37″ (1m)	110.83
91F5992	E3JU-D1M4-MN1	Diffuse, Conn. Type	39.37″ (1m)	100.25
91F5993	E3JU-D1M4T-MN1	Diffuse, Conn. Type w/Timer	39.37″ (1m)	110.83
91F5994	E3JU-XM4-3	Fiber-Optic, Pre-wired	T.B. 15.7″ (40cm), Diff. 3.5″ (9cm)	103.34
91F5995	E3JU-XM4T-3	Fiber-Optic,Pre-wired w/timer	T.B. 15.7″ (40cm), Diff. 3.5″ (9cm)	144.24
91F5996	E3JU-XM4-MN1	Fiber-Optic, Conn. Type	T.B. 15.7″ (40cm), Diff. 3.5″ (9cm)	103.34
91F5997	E3JU-XM4T-MN1	Fiber-Optic, Conn. Type w/ Timer	T.B. 15.7″ (40cm), Diff. 3.5″ (9cm)	144.24
91F5998	E32-UDBT1-3F	Fiber Cable w/ Stainless Steel Sheath, Diffuse	N/A	123.79
91F5999	E32-UTBT1-3F	Fiber Cable w/ Stainless Steel Sheath, T.B.	N/A	188.37

(3540) (ne07252)

SUBMINIATURE PHOTOELECTRIC SENSORS



Thru-Beam

Retro-Reflective

Diffuse

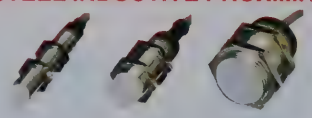
Type E3T subminiature photoelectric sensors are ideal for detecting very small objects in confined areas. They feature built-in operation and stability indicators. Pre-wired with 6.6′ (2m) of cable. Input voltage: 12-24VDC. Output: 50mA NPN. Available in thru-beam, retro-reflective, and diffuse versions. Dimensions: thru-beam types - 0.6H x 0.3W x 0.4″D (15 x 7 x 10); retro-reflective and diffuse types - 0.8H x 0.3W x 0.4″D (21 x 7 x 11). *Order mounting brackets separately, contact your local Newark sales office.*

Stock No.	Type	Description	Sensing Range	Each
91F9323	E3T-ST11	Thru-Beam, Light-ON	39.37″ (1m)	91.50
91F9324	E3T-ST12	Thru-Beam, Dark-ON	39.37″ (1m)	91.50
91F9325	E3T-SR11	Retro-Reflective, Light-ON	7.7″ (20cm)	86.12
91F9326	E3T-SR12	Retro-Reflective, Dark-ON	7.7″ (20cm)	86.12
91F9327	E3T-SL11	Diffuse, Light-ON	0.4″ (10mm)	69.97
91F9328	E3T-SL12	Diffuse, Dark-ON	0.4″ (10mm)	69.97

(12926) (ne10343)

PROXIMITY SENSORS AND AMPLIFIER CONTROLS

STAINLESS STEEL INDUCTIVE PROXIMITY SENSORS



Used in part detection, counting/sorting, position and presence sensing, speed and motion sensing, alignment detection and other sensing applications. Rugged 304 stainless steel housing. 6' PVC connection cable. Easy-to-view "ring" LED indication. Switching speeds up to 2000Hz. Short circuit and overload protection. Meets NEMA enclosure type 4 and IEC IP67 classification. 10-year warranty. CE compliant.

DC 3-WIRE NPN OUTPUT INDUCTIVE PROXIMITY SENSORS

10-40VDC, 200mA N.O. transistor output, with switching speeds up to 2000 Hz. PNP and N.C. output types are available; *contact your local Newark sales office.* UL recognized, CSA certified, CE compliant.

Stock No.	Type	Sensor Diameter	Sensing Distance	Sensor Length	Each
96F1142	EI-0501-NPOS	5mm	0.8mm	35mm	112.30
96F1146	EI-0801-NPOS	8mm	1mm	51mm	65.68
96F1150	EI-0802-NPOS*	8mm	2mm	54mm	65.68
16F2774	EI1202NPOSS	12mm	2mm	46mm	62.70
16F2775	EI1202NPOSL	12mm	2mm	66mm	66.68
16F2776	EI1204NPOSS*	12mm	4mm	50mm	62.70
16F2777	EI1204NPOSL*	12mm	4mm	70mm	66.68
16F2778	EI1805NPOSS	18mm	5mm	41.6mm	72.65
16F2779	EI1805NPOSL	18mm	5mm	61.6mm	74.64
16F2780	EI1808NPOSS*	18mm	8mm	49.6mm	72.65
16F2781	EI1808NPOSL*	18mm	8mm	69.6mm	74.64
16F2782	EI3010NPOSS	30mm	10mm	43.6mm	82.60
16F2783	EI3010NPOSL	30mm	10mm	63.6mm	83.60
16F2784	EI3015NPOSS*	30mm	15mm	55.6mm	82.60
16F2785	EI3015NPOSL*	30mm	15mm	75.6mm	83.60

AC 2-WIRE SCR OUTPUT INDUCTIVE PROXIMITY SENSORS

20–256VAC, 500mA N.O. SCR output, with switching speeds up to 25Hz. N.C. output and quick disconnect types are available; *contact your local Newark branch.* CE compliant.

Stock No.	Type	Sensor Diameter	Sensing Distance	Sensor Length	Each
96F1194	EI-1202-TBOS	12mm	2mm	66mm	97.53
96F1195	EI-1204-TBOS*	12mm	4mm	70mm	97.53
96F1196	EI-1805-TBOS	18mm	5mm	41.6mm	102.54
96F1197	EI-1808-TBOS*	18mm	8mm	49.6mm	102.52
96F1198	EI-3010-TBOS	30mm	10mm	43.6mm	107.42
96F1199	EI-3015-TBOSS*	30mm	15mm	55.6mm	107.42

NAMUR 2-WIRE INDUCTIVE PROXIMITY SENSORS

DIN 19234, input 8.2VDC, 1kΩ, switching speeds up to 2000Hz. CE compliant.

Stock No.	Type	Sensor Diameter	Sensing Distance	Sensor Length	Each
96F1135	EI-1202-NACS	12mm	2mm	46mm	36.82
96F1136	EI-1204-NACS*	12mm	4mm	50mm	36.82

* Not shielded, therefore cannot be flush mounted.
(3489) (de52279)

STAINLESS STEEL INDUCTIVE PROXIMITY SENSORS WITH QUICK-DISCONNECT

Rugged 304 stainless steel housing. M12 quick-disconnect, easy-to-view "ring" LED indication. 10-40VDC, N.O. transistor output, with switching speeds up to 2000Hz. Short circuit and overload protection. Meets NEMA enclosure type 4 and IEC enclosure IP67 classification. Quick disconnect cables required. *Order on page 1421.* 10-year warranty. Other diameters, PNP and N.C. output types are also available; *contact your local Newark sales office.* CE compliant.

Stock No.	Type	Sensor Diameter	Sensing Distance	Sensor Length	Each
96F1170	EI-0801-NPOS-1	8mm	1mm	62mm	65.68
96F1172	EI-0802-NPOS-1*	8mm	2mm	65mm	65.68
16F2786	EI1202NPOSS-1	12mm	2mm	42.6mm	62.70
16F2787	EI1202NPOSL-1	12mm	2mm	62.6mm	66.68
16F2788	EI1204NPOSS-1*	12mm	4mm	46.6mm	62.70
16F2789	EI1204NPOSL-1*	12mm	4mm	66.6mm	66.68
16F2790	EI1805NPOSS-1	18mm	5mm	43.1mm	72.65
16F2791	EI1805NPOSL-1	18mm	5mm	63.1mm	74.64
16F2792	EI1808NPOSS-1*	18mm	8mm	51.1mm	72.65
16F2793	EI1808NPOSL-1*	18mm	8mm	71.1mm	74.64
16F2794	EI3010NPOSS-1	30mm	10mm	43.6mm	82.60
16F2795	EI3010NPOSL-1	30mm	10mm	63.6mm	83.60
16F2796	EI3015NPOSS-1*	30mm	15mm	55.6mm	82.60
16F2797	EI3015NPOSL-1*	30mm	15mm	75.6mm	83.60

*Not shielded, therefore cannot be flush mounted.
(3594) (ne08374)

INDUCTIVE PROXIMITY SENSORS IN PBT HOUSINGS

3-wire NPN output inductive proximity sensors in thermoplastic polyester. Provides a lower-cost option when a stainless-steel housed sensor is not required. Easy-to-view "ring" LED indication. 10-40VDC, N.O. transistor output, with switching speeds up to 2000Hz. Six-foot connection cable. Short circuit and overload protection. Meets NEMA enclosure type 4 and IEC enclosure IP67 classification. 10-year warranty. Other diameters, PNP and N.C. output types are also available; *contact your local Newark sales office.* CE compliant.

Stock No.	Type	Sensor Diameter	Sensing Distance	Sensor Length	Each
16F2798	EI1202NPOPS	12mm	2mm	46mm	47.77
16F2799	EI1202NP0PL	12mm	2mm	66mm	54.74
16F2800	EI1204NPOPS*	12mm	4mm	50mm	47.77
16F2801	EI1204NPOPL*	12mm	4mm	70mm	54.74
16F2802	EI1805NPOPS	18mm	5mm	41.6mm	54.74
16F2803	EI1805NPOPL	18mm	5mm	61.6mm	59.71
16F2804	EI1808NPOPS*	18mm	8mm	49.6mm	54.74
16F2805	EI1808NPOPL*	18mm	8mm	69.6mm	59.71
16F2806	EI3010NPOPS	30mm	10mm	43.6mm	60.71
16F2807	EI3010NPOPL	30mm	10mm	63.6mm	63.69
16F2808	EI3015NPOPS*	30mm	15mm	55.6mm	60.71
16F2809	EI3015NPOPL*	30mm	15mm	75.6mm	63.69

*Not shielded, therefore cannot be flush mounted.
(3595) (ne08563)

INDUCTIVE PROXIMITY SENSORS IN PBT HOUSINGS WITH QUICK-DISCONNECTS

Inductive proximity sensor in thermoplastic housing, with M12 quick-disconnect. 10-40VDC, N.O. transistor output, with switching speeds up to 2000Hz. Easy-to-view "ring" LED indication. Short circuit and overload protection. Meets NEMA enclosure type 4 and IEC enclosure IP67 classification. 10 year warranty. Quick-disconnect cables are required. *Order separately on page 1421.* Other diameters, PNP and N.C. output types are also available; *contact your local Newark sales office.* CE compliant.

Stock No.	Type	Sensor Diameter	Sensing Distance	Sensor Length	Each
16F2810	EI1202NPOPS-1	12mm	2mm	42.6mm	47.77
16F2811	EI1202NPOPL-1	12mm	2mm	62.6mm	54.74
16F2812	EI1204NPOPS-1*	12mm	4mm	46.6mm	47.77
16F2813	EI1204NPOPL-1*	12mm	4mm	66.6mm	54.74
16F2814	EI1805NPOPS-1	18mm	5mm	43.1mm	54.74
16F2815	EI1805NPOPL-1	18mm	5mm	63.1mm	59.71
16F2816	EI1808NPOPS-1*	18mm	8mm	51.1mm	54.74
16F2817	EI1808NPOPL-1*	18mm	8mm	71.1mm	59.71
16F2818	EI3010NPOPS-1	30mm	10mm	43.6mm	60.71
16F2819	EI3010NPOPL-1	30mm	10mm	63.6mm	63.69
16F2820	EI3015NPOPS-1*	30mm	15mm	55.6mm	60.71
16F2821	EI3015NPOPL-1*	30mm	15mm	75.6mm	63.69

*Not shielded, therefore cannot be flush mounted.
(3596) (ne08564)

AMPLIFIER RELAYS FOR INDUCTIVE PROXIMITY SENSORS

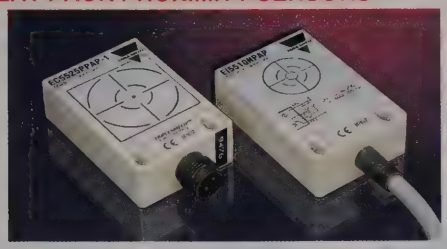
For contact input or NAMUR output inductive proximity sensors. Supply voltage: 115VAC. **Type SM155** tachometer relay with adjustable set point, SPDT 10A output and 0-1 mA analog output. **Type S114** zero-speed (jam) monitor with adjustable time-setting and DPDT 8A output. **Type S411** *11-pin socket is available on page 1445.* UL recognized, CSA certified, CE compliant, and SEV approved.

Stock No.	Type	Relay Type	Adjustable Setting	Relay Output	Each
96F1201	S114166115	Zero Speed Monitor	0.15 - 800 sec.	DPDT, 8 amp	172.84
96F1204	SM15511510K	Tachometer	1,000 - 10,000 rpm	SPDT, 10 amp	142.34
96F1202	SM1551152K	Tachometer	200 - 2,000 rpm	SPDT, 10 amp	142.34

(3490) (de52282)

PROXIMITY SENSORS AND ACCESSORIES

FLAT PACK PROXIMITY SENSORS



Ideal for use in conveying and material handling applications where mounting space is limited. Dimensions: 2.17H x 1.38W x 0.59" D (55 x 35 x 15). Housing is polycarbonate. Supply voltage: 10-40VDC. NPN N.O. and N.C. 200mA transistor output. Features mounting with 2 screws, easy-to-view LED indication, and reverse polarity and short circuit protection. Inductive types: PNP output versions are also available; *contact your local Newark sales office.* Capacitive types offer adjustable sensitivity and Tripleshield™ protection which protects against electrostatic discharge, RFI/GSM interference, and transients. All meet IEC enclosure IP67 classification and NEMA enclosure type 4. UL recognized, CSA certified, CE compliant.

INDUCTIVE SENSORS

Stock No.	Type	Output Type	Sensing Distance	Wiring Connection	Each
91F4626	EI5510NPAP	NPN, N.O./N.C.	10mm	6′ PVC Cable	**75.00**
91F4627	EI5510NPAP-1	NPN, N.O./N.C.	10mm	M12 Plug	**80.77**
91F4628	EI5515NPAP	NPN, N.O./N.C.	15mm	6′ PVC Cable	**75.00**
91F4629	EI5515NPAP-1	NPN, N.O./N.C.	15mm	M12 Plug	**80.77**

CAPACITIVE SENSORS

91F4614	EC5525NPAP	NPN, N.O./N.C.	2-25mm	6′ PVC Cable	**122.66**
91F4615	EC5525NPAP-1	NPN, N.O./N.C.	2-25mm	M12 Plug	**127.38**
91F4616	EC5525PPAP	PNP, N.O./N.C.	2-25mm	6′ PVC Cable	**122.66**
91F4617	EC5525PPAP-1	PNP, N.O./N.C.	2-25mm	M12 Plug	**127.38**

(14427) (ne10365)

CAPACITIVE PROXIMITY SENSORS

30mm Capacitive sensors, constructed in thermoplastic polyester housings, feature patented Tripleshield™ protection. Protects against the effects of electrostatic discharge, RFI/GSM interference, and transients. Used to detect various solid, liquid, or granulate materials such as oils, plastic pellets, grains, powders, etc. Commonly used for presence/level detection and other applications. Easy-to-view "ring" LED indication. Adjustable sensing ranges up to 25mm. Short circuit and overload protection. 6′ PVC connection cable provided. DC Types: 4 wire, 10-40VDC, 200mA, NO and NC transistor outputs. AC Types: 2 wire, 20-250VAC, 500mA, NO/NC (programmable) SCR output. IP67 and NEMA 4. UL recognized, CSA certified, CE compliant. Quick disconnect versions are also available; *contact your local Newark sales office.*

Stock No.	Type	Supply Voltage	Sensing Distance	Sensor Length	Each
16F2853	EC3025NPAPL	NPN, NO/NC	4-25mm	60.6mm	**108.51**
16F2854	EC3025PPAPL	PNP, NO/NC	4-25mm	60.6mm	**112.30**
91F4611	EC3025TBAPL	SCR, NO/NC	4-25mm	60.6mm	**146.25**
16F2855	EC3016TBAPL*	SCR, NO/NC	2-16mm	72.6mm	**160.40**
91F4612	EC3016NPAPL*	NPN, NO/NC	2-16mm	72.6mm	**113.22**
91F4613	EC3016PPAPL*	PNP, NO/NC	2-16mm	72.6mm	**113.22**

*Can be flush mounted.
(3585) (ne08157)

AMPLIFIER RELAYS FOR CAPACITIVE PROXIMITY SENSORS

For **type VR2-ADJUST** or any NPN output capacitive proximity sensor. Amplifiers provide power to sensors and can be used for high/low level alarm, or emptying/filling applications. 115VAC supply voltage, other voltages available upon request. **Type S411** 11-pin socket required, order separatly *on page 1445.* LED indication for supply and relay ON. UL recognized, CSA certified, CE compliant.

Stock No.	Type	Amplifier for	Output Type	Each
96F1209	SV190115	Any NPN N.O. Signal	10A, SPDT	**151.36**
96F1212	SV150115	VR2-ADJUST	10A, SPDT	**112.30**
96F1213	SV250115	VR2-ADJUST	8A, DPDT	**117.19**

(13451) (ne10364)

CAPACITIVE PROXIMITY SENSORS

CAPACITIVE SENSORS IN PTB HOUSINGS

18mm and 30mm capacitive sensors feature LED indicator on back panel, PBT housings, and 6′ PVC cable. *Contact your local Newark sales office.* DC Types: 3 or 4 wire, 10-40VDC, 200mA. N.O. and/or N.C. transistor outputs. AC Types: 2 wire, 20-250VAC, 500mA N.O. or N.C. SCR output. Diameter: **EC18 Series:** 18mm, **EC30 Series:** 30mm. IP67/NEMA4. CSA Certified, CE compliant.

Stock No.	Type	Sensing Distance	Output Type	Sensor Length	Each
96F1220	EC1808NPCP	2-10 mm	NPN, N.C.	79mm	**91.56**
96F1221	EC1808NPOP	2-10 mm	NPN, N.O.	79mm	**91.56**
96F1222	EC1808PPOP	2-10 mm	PNP, N.O.	79mm	**91.56**
96F1223	EC1808TBCP	2-10 mm	SCR, N.C.	79mm	**156.25**
96F1224	EC1808TBOP	2-10 mm	SCR, N.O.	79mm	**156.25**
96F1229	EC3015NNAP	3-20 mm	NPN, NO/NC	79mm	**102.54**
96F1230	EC3015PNAP	3-20 mm	PNP, NO/NC	79mm	**102.54**
96F1232	EC3015TBCP	5-15 mm	SCR, N.C.	79mm	**146.48**
96F1234	EC3015TBOP	5-15 mm	SCR, N.O.	79mm	**146.48**

CAPACITIVE PROXIMITY SENSOR IN GROUNDED METAL HOUSING

30mm diameter PBT housings with nickel-plated brass threads. 20-250VAC, 500mA N.O. or N.C. SCR output. 6′ PVC connection with additional ground wire provided. IP67/NEMA4. CSA Certified, CE Compliant.

Stock No.	Type	Sensing Distance	Output Type	Sensor Length	Each
96F1231	EC3015TBCM-E	5-15 mm	SCR, N.C.	80mm	**175.78**
96F1233	EC3015TBOM-E	5-15 mm	SCR, N.C.	80mm	**175.78**

CAPACITIVE SENSOR RETROFITS WITH PADDLEWHEEL TYPE SWITCHES

For use in storage hoppers and bins, direct mechanical retrofit to most paddlewheel/motorized level switches. For use with **SV150/250** amplifier. Nylon 6 housing with 3′ PVC connection cable. IP67/NEMA4. CSA certified, CE compliant.

Stock No.	Type	Sensing Distance	Sensing Diameter	Sensor Length	Each
96F1237	VR2-ADJUST	4-12 mm	1.5"	114mm	**97.53**

(3502) (de52757)

QUICK-DISCONNECT CABLES FOR SENSORS WITH M12 PLUGS

Replacement and wiring of sensors is simplified with use of sensors with M12 plugs and quick-disconnect cables. Available in straight plug or 90° angle versions. Construction: black, high-flex PVC with 22 AWG connection wires. Rated –13°F to +194°F. All N.O. (only) output sensors are compatible with 3-wire connector cables. All N.C. or complementary N.O./N.C. output sensors are compatible with 4-wire connector cables. PUR cables are also available; *contact your local Newark sales office.*

Stock No.	Type	Connector Type	Cable Type	Each
91F4603	CONH1O-A2	90°	3-Wire, 2m Long	**19.23**
91F4604	CONH1O-A5	90°	3-Wire, 5m Long	**25.96**
91F4605	CONH1A-A2	90°	4-Wire, 2m Long	**22.12**
91F4606	CONH1A-A5	90°	4-Wire, 5m Long	**27.89**
91F4607	CONH1O-S2	Straight	3-Wire, 2m Long	**19.23**
91F4608	CONH1O-S5	Straight	3-Wire, 5m Long	**25.96**
91F4609	CONH1A-S2	Straight	4-Wire, 2m Long	**22.12**
91F4610	CONH1A-S5	Straight	4-Wire, 5m Long	**27.89**

(13629) (ne10366)

PHOTOELECTRIC AND PROXIMITY SENSORS

UZJ3 SLOT-TYPE MICRO PHOTOELECTRIC SENSORS

Micro-sized U-shaped photoelectric sensors offer 17 shape variations, connector or connector with cable configurations, and 2 independent ouputs (light-on and dark-on). Fixed 5mm sensing distance. Input voltage: 5-24VDC. Consume under 15mA max. peak draw. Output: 50mA, NPN control.

Stock No.	Type	Description	Config.	Each
48F2862	UZJ311	Ultra small, with cable	K	16.26
48F2863	UZJ313	Ultra small, with cable	L	16.26
48F2864	UZJ315	Ultra small, with cable	F	16.26
48F2865	UZJ316	Ultra small, with cable	R	16.26
48F2866	UZJ317	Ultra small, with cable	U	16.26
48F2867	UZJ321	Small, with cable	K	15.17
48F2868	UZJ322	Small, with cable	T	15.17
48F2869	UZJ323	Small, with cable	L	15.17
48F2870	UZJ324	Small, with cable	Y	16.26
48F2871	UZJ325	Small, with cable	F	16.26
48F2872	UZJ326	Small, with cable	R	16.26
48F2873	UZJ331	Small, with connector	K	11.92
48F2874	UZJ332	Small, with connector	T	11.92
48F2875	UZJ333	Small, with connector	L	11.92
48F2876	UZJ334	Small, with connector	Y	13.01
48F2877	UZJ335	Small, with connector	F	13.01
48F2878	UZJ336	Small, with connector	R	13.01
UZJ3 ACCESSORIES				
48F2879	UZJ844	Connector for soldering		1.09
48F2880	UZJ845	Crimp connector		2.17
48F2881	UZJ846	Crimp connector pliers		176.62

(34682) (ne34682)

UZQ1 SERIES CYLINDRICAL PROXIMITY SENSORS

Offer 5 sizes, ranging from 3.8mm diameter to M8 threaded types. IP67 housing with LED operation indicator. Output: NPN 50 and 200 mA. Range: 0.8, 1.0, 2.0mm. All models operate from 12 to 24 VDC, 15 mA max. reset. Temperature range: -25°C to +70°C. **Type UZQ812** C insert installs over sensor to provide stronger surface for set screw (not included) to protect against overtightening.

Stock No.	Type	Description	Size	Range	Freq. Resp.	Each
48F2882	UZQ100	Shielded, Appr. ON (NO)	0.8mm	3.8mm	1kHz	80.19
48F2883	UZQ101	Shielded, Leave ON (NC)	0.8mm	3.8mm	1kHz	80.19
48F2884	UZQ110	Shielded, Appr. ON (NO)	0.8mm	4.4mm	1kHz	104.02
48F2885	UZQ111	Shielded, Leave ON (NC)	0.8mm	4.4mm	1kHz	104.02
48F2886	UZQ120	Shielded, Appr. ON (NO)	1mm	5.4mm	1kHz	95.36
48F2887	UZQ121	Shielded, Leave ON (NO)	1mm	5.4mm	1kHz	95.36
48F2888	UZQ130	Shielded, Appr. ON (NO)	0.8mm	M5	1kHz	80.19
48F2889	UZQ131	Shielded, Leave ON (NC)	0.8mm	M5	1kHz	80.19
48F2890	UZQ140	Shielded, Appr. ON (NO)	1mm	M8	1kHz	89.94
48F2891	UZQ141	Shielded, Leave ON (NO)	1mm	M8	1kHz	89.94
48F2892	UZQ150	Non-Shield, Appr. ON (NO)	2mm	M8	500kHz	73.69
48F2893	UZQ151	Non-Shield, Leave ON (NC)	2mm	M8	500kHz	73.69
UZQ1 ACCESSORIES						
48F2894	UZQ811	Mounting Bracket for UZQ100, UZQ101				2.17
48F2895	UZQ812	C Insert for UZQ100, UZQ101				2.17
48F2896	UZQ813	Mounting Bracket for UZQ120, UZQ121				2.17

(34683) (ne34683)

NEWARK SAVES YOU TIME.
A SIMPLE PHONE CALL CAN GET YOU OVERNIGHT DELIVERY ANYTIME, ANYWHERE.

UZJ SERIES PHOTOELECTRIC SENSORS

UZJ10

UZJ11

UZJ12

UZJ25

UZJ26

UZJ27

UZJ series micro-sized photoelectric sensors feature pulse modulated light source and background suppression capabilities in a compact package. Input voltage: 5-24VDC. Consume under 80mA max. peak draw. Output: 100mA NPN control. Thru-beam and fixed-focus types are available in several different mounting styles to fit any application with space or mounting restraints. Fixed-focus units are designed for applications where bright or reflective backgrounds can cause false readings. All units are available with either a connector or a connector with cable.

Stock No.	Type	Description	Each
FIXED-FOCUS REFLECTIVE (2.5 TO 8mm SENSING RANGE)			
91F6004	UZJ101	Conv. Top Sensing, IR, Light-ON, 0.8ms	34.22
91F6005	UZJ102	Conv. Top Sensing, IR, Dark-ON, 0.8ms	34.22
91F6006	UZJ111	Conv. Front Sensing, IR, Light-ON, 0.8ms	34.22
91F6007	UZJ112	Conv. Front Sensing, IR, Dark-ON, 0.8ms	34.22
91F6008	UZJ121	Conv. L-Type, Top Sensing IR, Light-ON, 0.8ms	34.22
91F6009	UZJ122	Conv. L-Type, Top Sensing IR, Light-ON, 0.8ms	34.22
U-SHAPED THRU-BEAM (FIXED 5mm SENSING DISTANCE)			
91F6010	UZJ251	Thru, K-Type, NM, IR, Dark-ON, 0.2ms*	13.90
91F6011	UZJ251B	Thru, K-Type, NM, IR, Dark-ON, 0.2ms*, w/ Cable	22.46
91F6012	UZJ252	Thru, K-Type, NM, IR, Light-ON, 0.2ms*	13.90
91F6013	UZJ252B	Thru, K-Type, NM, IR, Light-ON, 0.2ms*, w/ Cable	22.46
91F6014	UZJ261	Thru, L-Type, NM, IR, Dark-ON, 0.2ms*	18.18
91F6015	UZJ261B	Thru, L-Type, NM, IR, Dark-ON, 0.2ms*, w/ Cable	22.46
91F6016	UZJ262	Thru, L-Type, NM, IR, Light-ON, 0.2ms*	18.18
91F6017	UZJ262B	Thru, L-Type, NM, IR, Light-ON, 0.2ms*, w/ Cable	22.46
91F6018	UZJ271	Thru, T-Type, NM, IR, Dark-ON, 0.2ms*	18.18
91F6019	UZJ271B	Thru, T-Type, NM, IR, Dark-ON, 0.2ms*, w/ Cable	22.46
91F6020	UZJ272	Thru, T-Type, NM, IR, Light-ON, 0.2ms*	18.18
91F6021	UZJ272B	Thru, T-Type, NM, IR, Light-ON, 0.2ms*, w/ Cable	22.46
UZJ ACCESSORIES			
91F6022	UZJ840	Connector	2.14
91F6023	UZJ841	Connector with 1m Cable	5.34
91F6024	UZJ842	Connector with 3m Cable	9.63

*At 500Hz
(14928) (ne10558)

UZP SERIES TINY PROXIMITY SENSORS

UZP1

UZP1 tiny proximity sensors are 8mm x 8mm x 20mm and are available for top and front detection. Output: NPN. Range: 2.5mm. **UZP2** has a sensing range of 3mm and **UZP3** has a sensing range of 5mm. Both are front-detection sensors, with either NPN or PNP output. For accurate and stable attachment, the **UZP3** includes a two-part attachment arrangement. Each **UZP3** is equipped with an operation indicator for ease in checking performance from four different locations. All models operate from 12 to 24VDC, 15mA (max). Initial breakdown voltage: 1000VAC. Operating temperature: –10°C to +55°C with a storage temperature range from –30°C to +80°C.

Stock No.	Type	Description	Each
52F1172	UZP101	NPN, app. ON, front det., 2.5mm	35.30
52F1173	UZP111	NPN, leave ON, front det., 2.5mm	35.30
52F1174	UZP121	NPN, app. ON, front det., 2.5mm no int. 101	35.30
52F1175	UZP141	NPN, app. ON, top det. 2.5mm	35.30
52F1176	UZP161	NPN, app. top det. 2.5mm, no int. 141	35.30
52F1177	UZP201	NPN, app. ON, front det., 3mm	44.92
52F1178	UZP202	PNP, app. ON, front det., 3mm	44.92
52F1179	UZP221	NPN, app. ON, front det., 3mm, no int. 201	44.92
52F1180	UZP222	PNP, app. ON, front det., 3mm, no int. 202	44.92
52F1181	UZP301	NPN, app. ON, front det., 5mm	44.92
52F1182	UZP302	PNP, app. ON, front det., 5mm	44.92
52F1183	UZP311	NPN, leave ON, front det., 5mm	44.92
52F1184	UZP312	PNP, leave ON, front det., 5mm	44.92
52F1185	UZP321	NPN, app. ON, front det., 5mm, no int. 301	44.92
52F1186	UZP322	PNP, app. ON, front det., 5mm, no int. 302	44.92

(3521) (ne06211)

PHOTOELECTRIC SENSORS

TRIPLE BEAM PHOTOELECTRIC SENSORS

- **Reliably Detects Clear, Black, Multi-Colored Objects**
- **Very Accurate Beam Light Detection**
- **Stable Position Detection**
- **Selectable Outputs**
- **Integrated Transmitter/Receiver**
- **Operation/Adjustment LEDs**
- **Distance Adjustment Dials**

Advanced sensors use optical triangulation to consistently detect clear, multi- and varying-colored, small (0.002″ diameter wire) and dark objects. They diffuse light off target, detect angle of returned light, and determine if target is within user-specified range. Integrated transmitter/receiver allows one-sided mounting. Operation and adjustment LEDs. Distance adjustment dials. Light-ON/Dark-ON switch selectable. Operating temperature: –25°C to +55°C. **Type MQW** sensors are pre-wired with two meter cable. Operating speed: 2ms (250 cps). Dimensions (**except MQ-W70**): 1.00L x 0.496W x 1.260″H(25.4 x 12.6 x 32); **MQ-W70**: 1.765L x 0.732W x 2.047″H(44.83 x 18.59 x 52). **Type MR3** sensors feature operating speed of 1ms - 500cps (DC); 20ms - 25cps (AC). Maximum range: 0.2 to 1m. Infrared LED. "**T**" in type no. indicates units with timing, include switch selectable On-delay, Off-delay, one-shot, or no timing modes. **Type MQ-FW** sensors are fiber optic, DIN rail mountable. Operating speed: 1ms (500cps). Combination amplifier units are 9.6 - 30VDC. 2.185L x 0.630W x 1.102″H (55.5 x 16 x 28). In the tables below, "Maximum Range" indicates maximum distances that can be set by user from lens to object. Types with (*) feature built-in timer.

TYPE MQ-W SENSORS

Stock No.	Type	Maximum Range	LED	Output	Each
93F4288	MQ-W20A-DC12-24V	4 to 20cm	Infrared	NPN	176.47
93F4289	MQ-W20AR-DC12-24V	4 to 20cm	Red	NPN	208.56
93F4290	MQ-W20C-DC12-24V	4 to 20cm	Infrared	PNP	176.47
93F4291	MQ-W20CR-DC12-24V	4 to 20cm	Red	PNP	208.56
93F4292	MQ-W3A-DC12-24V	2 to 4cm	Infrared	NPN	176.47
93F4293	MQ-W3AR-DC12-24V	2 to 4cm	Red	NPN	208.56
93F4294	MQ-W3C-DC12-24V	2 to 4cm	Infrared	PNP	176.47
93F4296	MQ-W70A-DC12-24V	20 to 70cm	Infrared	NPN	181.81
93F4297	MQ-W70C-DC12-24V	20 to 70cm	Infrared	PNP	181.81

TYPE MR3 SENSORS

Stock No.	Type	Operating Voltage	Output	Each
93F4298	MR3M100ADC12-24V	9.6-30VDC	NPN/PNP	168.98
93F4300	MR3M100PDC12-240V	12-240VAC/DC	Relay	168.98
93F4301	MR3M100PTDC12-240V*	12-240VAC/DC	Relay	197.85
93F4302	MR3M200ADC12-24V	9.6-30VDC	NPN/PNP	168.98
93F4303	MR3M200ATDC12-24V*	9.6-30VDC	NPN/PNP	197.85
93F4304	MR3M200PDC12-240V	12-240VAC/DC	Relay	168.98
93F4305	MR3M200PTDC12-240V*	12-240VAC/DC	Relay	197.85

TYPE MQ-FW FIBER-OPTIC SENSORS

Stock No.	Type	Maximum Range	Fiber Length	Each
93F4306	MQ-FW1	15mm	50cm	53.47
93F4307	MQ-FW1-01	15mm	1m	57.76
93F4308	MQ-FW2	25mm	50cm	53.47
93F4309	MQ-FW2-01	25mm	1m	57.76

COMBINATION AMPLIFIER UNITS

Stock No.	Type	Description	Each
93F4310	MQ-FWAR2-DC12-24V	NPN output, 2m cable	121.93
93F4311	MQ-FWCR2-DC12-24V	PNP output, 2m cable	133.68

(3452) (de02974)

UZB SERIES PHOTOELECTRIC SENSORS

UZB Series micro-size photoelectric sensors are ⅛″ thick with a footprint of less than ¼″ square. Sensor housing is rated to IEC enclosure IP67 classification for installation in washdown areas. Available in thru-beam or fixed-focus reflective types with modulated, visible-red light source for easy alignment. Maximum sensing range: 500mm. Minimum target size: 0.1mm. Response time: 0.5msec. Two LED indicators show stable operation and output state. Control output NPN open-collector transistor switch rated 50mA at 30VDC. Units operate from 12 to 24VDC and have an ambient temperature range from –25°C to +55°C. Dimensions: 0.571H x 0.394W x 0.138″D (14.5 x 10 x 3.5).

Stock No.	Type	Description	Sensing Range	Each
16F1384	UZB1011	Thru-Front, Light-ON	150mm	87.70
16F1385	UZB1012	Thru-Front, Dark-ON	150mm	87.70
16F1387	UZB1022	Thru-Front, Dark-ON	500mm	87.70
16F1388	UZB2011	Thru-Side, Light-ON	150mm	87.70
16F1391	UZB2022	Thru-Side, Dark-ON	500mm	87.70
16F1392	UZB1601	Conv.-Front, Light-ON	2-25mm	75.93
16F1393	UZB1602	Conv.-Front, Dark-ON	2-25mm	75.93

(3575) (ne08073)

UZF SERIES COMPACT FIBER-OPTIC PHOTOELECTRIC SENSORS

Up to 600mm thru-beam detection, the longest range in the industry. **UZF1 series** feature automatic sensitivity setting. Resolution 8x more sensitive than conventional photoelectric sensors. Units are suitable for color mask detection and overlap detection. Dimensions: 10mm W x 31.5mm H x 59mm D. Synchronous-input models are available with NPN output; timer models: either PNP or NPN. **UZF2 series** all-purpose sensors feature faster than 1ms response time. Both NPN and PNP output, and a continuously variable sensitivity adjustment in every **UZF2** model. Both the **UZF1** and **UZF2 series** operate from 12-24VDC, 30mA (max). Operating temperature: –10° to +50°C.

Stock No.	Type	Description	Each
52F1144	UZF1201	NPN, VR, sel, 0.5ms, auto-set, self diag., OD tim., NO X-TALK	144.39
52F1145	UZF12015	PNP, VR, sel, 0.5ms, auto-set, self diag., OD tim., NO X-TALK	144.39
52F1146	UZF1211	NPN, VR, sel, 0.5ms, auto-set, self diag., gated out, NO X-TALK	160.43
52F1148	UZF21015	PNP, VR, LO/DO sw. sel., 1.0ms	80.22
52F1149	UZFRA8E	Array dif., 66mm, 0.05mm, FC, side sense	187.16
52F1152	UZFRG1	Precision, 44mm, 0.01mm, 0.5m, coax, lens appl.	52.41
52F1153	UZFRL4	Convergent beam, 4.8 to 8mm, 0.01mm, FC	151.87
52F1154	UZFRP4	2.7mm dia., 8mm, 0.01mm, FC, super-flex	55.61
52F1156	UZFRR8	90 deg., 5mm rad., 66mm, 0.01 mm, FC	67.38
52F1158	UZFRV82	Side-view, 2mm dia., 24mm, 0.02mm, FC	120.85
52F1159	UZFTA8	Array thru-beam, 210mm, 0.05mm, FC, top sense	196.79
52F1160	UZFTA8E	Array thru-beam, 180mm, 0.05mm, FC, side sense	196.79
52F1161	UZFTB8	3.5mm dia., 600mm, 0.16mm, FC, lens appl.	56.68

(3519) (ne06189)

UZC SERIES PHOTOELECTRIC SENSORS

18mm cylindrical limited photoelectric sensors are suited for applications where space is limited. Designed for long-range detection applications, devices include thru-beam, retroreflective (with or without polarization filter) and diffuse reflective types. PNP and NPN output models are available for DC units. DC models: 56mm long, operate from 10 to 30V, 20mA (max) for projection and 25mA (max) for receiving. AC models: 71mm long, perform from 24 to 240V with 1.5A (max) for projection and 2.5A for receiving. Output is SCR non-contact. Both AC and DC models function over a –25° to +55°C span. **UZC 100 series** features 20msec response time. **UZC 200** and **UZC 2000 series** feature 2msec response time.

Stock No.	Type	Description	Each
52F1118	UZC101	Thru, SCR, IR, 12m, light-on, 24-240VAC	85.56
52F1119	UZC102	Thru, SCR, IR, 12m, dark-on, 24-240VAC	85.56
52F1120	UZC131	Dif., SCR, IR, 120mm, light-on, 24-240VAC	60.97
52F1121	UZC132	Dif., SCR, IR, 120mm, dark-on, 24-240VAC	60.97
52F1122	UZC141	Pol. ret., SCR, VR, 1.5m, light-on, 24-240VAC	66.31
52F1123	UZC142	Pol. ret., SCR, VR, 1.5m, dark-on, 24-240VAC	66.31
52F1124	UZC151	Retro, SCR, IR, 3m, light-on, 24-240VAC	60.97
52F1125	UZC152	Retro, SCR, IR, 3m, dark-on, 24-240VAC	60.97
52F1126	UZC200	Thru, NPN, IR, 12m, wire sel, 10-30VDC	68.45
52F1127	UZC2005	Thru, PNP, IR, 12m, wire sel, 10-30VDC	68.45
52F1128	UZC230	Diffuse, NPN, IR, 120mm, wire sel, 10-30VDC	49.20
52F1129	UZC2305	Diffuse, PNP, IR, 120mm, wire sel, 10-30VDC	49.20
52F1130	UZC240	Pol. ret., NPN, VR, 1.5m, wire sel, 10-30VDC	53.47
52F1131	UZC2405	Pol. ret., PNP, VR, 1.5m, wire sel, 10-30VDC	53.47
52F1132	UZC250	Retro, NPN, IR, 3m, wire sel, 10-30VDC	49.20
52F1133	UZC2505	Retro, PNP, IR, 3m, wire sel, 10-30VDC	49.20

ACCESSORIES

52F1134	UZC801	UZC side-view UZC101, 102, 200, 2005 - 8m	10.70
52F1135	UZC802	UZC (Thru-beam) slit mask set	12.84

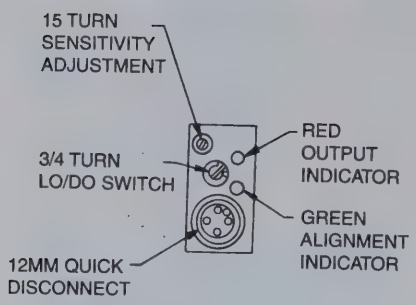
(3517) (ne06187)

PHOTOELECTRIC SENSORS

MINIATURE HIGH-PERFORMANCE PHOTOELECTRIC SENSORS

Connector Type

Preleaded Type



Harsh duty design sensors withstand high-pressure washdown (1,200 psi) exceeding NEMA enclosure type 6P and IEC enclosure IP67. Applications include food processing, as well as packaging/bottling/labeling equipment. Welded lens, together with fully-potted housing and waterproof adjustments, provide well-sealed performance. Temperature range: –22°F to +158°F. Response times: NPN/PNP output types–1msec; SCR output types–8 msec. UL listed, CSA certified. Diffuse polorized versions are also available. *Order accessories separately. Order fiber-optic cables separately on page 1427, order connectors, cables separately on page 1427, order reflectors separately on page 1427. Order mounting brackets separately below.*

20-260VAC SUPPLY VOLTAGE—SCR OUTPUT

Stock No.	Type	Scan Style	Scan Distance	Termination	Each
95F6186	MHP-R2AL	Retroreflective	18′	Preleaded 3m	156.63
16F3171	MHP-R2AQ	Retroreflective	18′	Connector	156.63
95F6188	MHP-D2AL	Diffuse	18″	Preleaded 3m	156.63
16F3174	MHP-C22AL	Convergent	2.5″	Preleaded 3m	175.94
95F6190	MHP-TR2AL	Thru-Receiver	100′	Preleaded 3m	139.44
16F3176	MHP-TR2AQ	Thru-Receiver	100′	Connector	139.70
95F6191	MHP-TE2AL	Thru-Emitter	100′	Preleaded 3m	117.86
16F3177	MHP-TE2AQ	Thru-Emitter	100′	Connector	117.97
16F3178	MHP-FR2AL	Fiber-Optic	0.4″-3.3″	Preleaded 3m	172.75
16F3179	MHP-FR2AQ	Fiber-Optic	0.4″-3.3″	Connector	172.75

10-30VDC SUPPLY VOLTAGE—NPN/PNP OUTPUT

84F2171	MHP-R33L*	Retroreflective	18′	Preleaded 3m	128.06
84F2172	MHP-R33Q	Retroreflective	18′	Connector	128.51
84F2174	MHP-D33L	Diffuse	18″	Preleaded 3m	128.06
16F3180	MHP-C233L	Convergent	2.5″	Preleaded 3m	139.51
95F6184	MHP-TLR33L	Thru-Receiver	100′	Preleaded 3m	120.43
16F3182	MHP-TLR33Q	Thru-Receiver	100′	Connector	121.00
95F6185	MHP-TLE30L	Thru-Emitter	100′	Preleaded 3m	96.07
16F3183	MHP-TLE30Q	Thru-Emitter	100′	Connector	96.41
92F3060	MHP-FR33L	Fiber-Optic	0.4″-3.3″	Preleaded 3m	135.96
92F3059	MHP-FR33Q	Fiber-Optic	0.4″-3.3″	Connector	135.96

ACCESSORIES

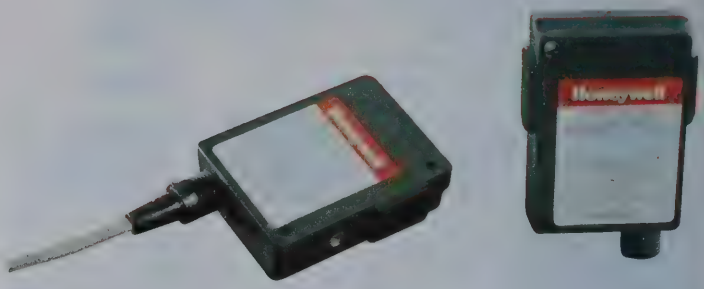
Stock No.	Type	Description	Each
84F2180	MHPSB	Mounting Bracket, Side Mount	7.78
84F2181	MHPTB	Mounting Bracket, Panel Mount	6.06

*30′ retroreflective sensors also available. *Contact your local Newark sales office.*

(3583) (ne08153)

SMART VALUE COMPACT PHOTOELECTRIC SENSORS

NEW



- **Highly Visible LEDs Indicate Power On and Output States.**
- **Compact Housing Fits in Limited Space.**
- **Right-Angle Mounting With Thru-Hole Design**
- **Shock and Vibration Resistant.**
- **Standard DC Voltage Range.**

Economical sensors are ideal for monitoring package counts, part positions, and general material conveyor applications. Compact design and thru-hole or front end mounting options enable scanning between rollers or across conveyor lines. Sensing range for retroreflective types: 20′; for diffuse types 16″. Highly visable green power and red output LEDs aid sensor installation, alignment and troubleshooting. Available with 4-pin micro-connector or pre-leaded leads. Polorized retroreflective and sourcing versions are also available. Supply voltage: 10 to 30VDC; sinking output. Dimensions: 2.36H x 0.65W x 1.93″D. Sealed to IP67. CSA certified, CE compliant.

Stock No.	Type	Terminals	Mode	Scan Type	Each	2-5	6-10
83F5730	SVP1-DIDNC	Pre-Leaded	Dark	Diffuse	48.99	46.56	44.33
83F5731	SVP1-DIDNQ	Connector	Dark	Diffuse	45.99	43.71	41.62
83F5732	SVP1-DILNC	Pre-Leaded	Light	Diffuse	48.99	46.56	44.33
83F5733	SVP1-DILNQ	Connector	Light	Diffuse	45.99	43.71	41.62
83F5734	SVP1-RIDNC	Pre-Leaded	Dark	Retroreflective	48.99	46.56	44.33
83F5735	SVP1-RIDNQ	Connector	Dark	Retroreflective	45.99	43.71	41.62
83F5736	SVP1-RILNC	Pre-Leaded	Light	Retroreflective	48.99	46.56	44.33
83F5737	SVP1-RILNQ	Connector	Light	Retroreflective	45.99	43.71	41.62

(28879) (ne28879)

GP5 GLOBAL PHOTOELECTRIC SENSORS

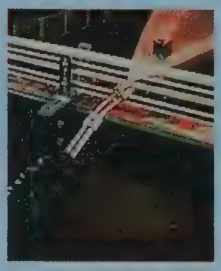
Universal voltage, 12 to 240 VDC or 24 to 240 VAC. Noise immunity per IEC 801-2/-3/-4. IP66/NEMA 4 sealing. High performance scanning ranges from a complete family of sensors: Retroreflective, Polarized Retro, Diffuse and Thru scan. SPDT relay output and Modulated LED provides ambient light immunity. Set up quick and easy. Relay: 3A. CSA certified. UL listed. Dimensions: 3.16L x 1.02W x 2.68″H.

Stock No.	Type	Scan Style	Scan Distance	Voltage VDC/VAC	Each
92F3062	GP5-LC1S-T	Retro	23′	12-240/24-240	96.75
92F3064	GP5-TC1S-T	Thru (pair)	49.2′	12-240/24-240	139.85
92F3065	GP5-DC1S-T	Diffuse	3.2′	12-240/24-240	96.75

(3456) (de03888)

HARSH-DUTY PHOTOELECTRIC SENSORS

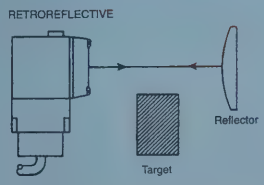
MICRO SWITCH HARSH-DUTY PHOTOELECTRIC SENSORS MEET ENVIRONMENTAL CHALLENGES FOUND IN A VARIETY OF APPLICATIONS...



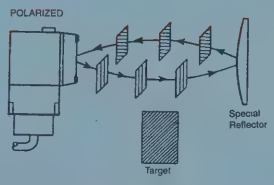
FOOD & BEVERAGE:
- WASH AND SPRAY PRESSURES UP TO 1,200 psi
- WATER OR CLEANING SOLUTION TEMPERATURES UP TO 140°F
- CAUSTIC BASE AND ACID CLEANERS
- THERMAL SHOCK

AUTOMOTIVE MACHINING AND ASSEMBLY LINES:
- CUTTING FLUIDS
- VIBRATION
- THERMAL SHOCK
- ABRASIVE METAL CHIPS
- ELECTRICAL NOISE

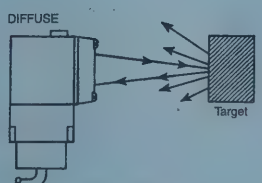
... AND NEWARK CARRIES THE FULL LINE TO MEET YOUR APPLICATION NEEDS!



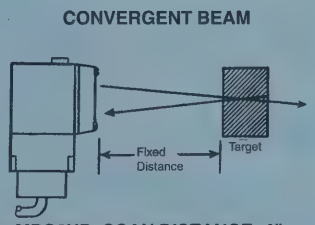
MPL6HD, SCAN DISTANCE: 30′ (9.1m)



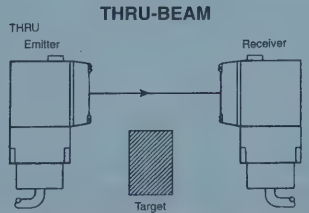
MPP1HD, SCAN DISTANCE: 20′ (6.1m)



MPD2HD, SCAN DISTANCE: 10′ (3m)



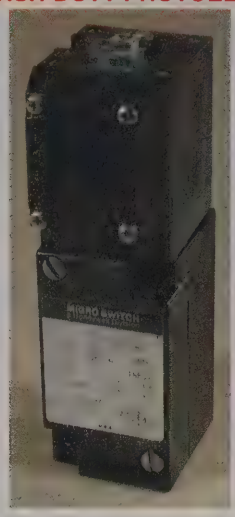
MPC6HD, SCAN DISTANCE: 4″ (10.2cm)



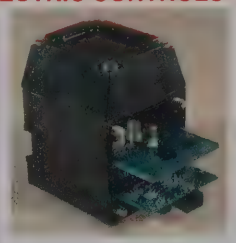
MPE2HD (EMITTER) MPR6HD (RECEIVER), SCAN DISTANCE: 200′ (61m)

(15526) (ne85144)

HARSH-DUTY PHOTOELECTRIC CONTROLS

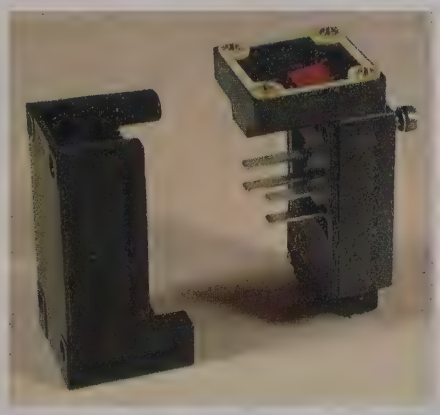


MPS 11 Base



MP Sensing Head

MP Mini Base



Receptacle and Plug-in Base

MPV 11 Relay Base

Harsh-duty **MP series** is sealed to NEMA 4, 4X, 6 and 6P and withstands a 1200psi high pressure washdown. Optional logic cards plug into the head and are available separately; *contact your local Newark sales office.* Dual LED alignment indicators are visible from all sides. Heads rotate to 4 positions. *Order bases receptacles, and logic cards separately below.*

HARSH-DUTY SENSING HEADS

Stock No.	Type	Scan Style	Scan Distance	Response Time	Each
84F2192	MPE2HD	Thru-Emitter	200′	...	50.60
50F5425	MPR6HD	Thru-Receiver	200′	1 ms	86.87
50F5430	MPL6HD	Retroreflective	30′	1 ms	92.67
16F1387	MPP1HD	Polarized Retro	20′	10 ms	87.70
16F3188	MPD2HD	Diffuse	10′	10 ms	94.84
16F3189	MPC6HD	Convergent	4″ focal pt.	1 ms	148.50

HARSH-DUTY MP BASES*

Stock No.	Type	Style	Supply Voltage	Output	Each
50F5432	MPS11HD	Plug-In Base	92-132VAC	4 Wire solid state relay, 1A max.	69.23
48F2819	MPS31HD	Plug-In Base	10-30VDC	NC-NO NPN	59.50
50F5434	MPS32HD	Plug-In Base	10-30VDC	NO NPN	75.33
50F5437	MPV11HD	Relay Base	103-132VDC	6A	120.09
50F5435	MPT11HD	Mini-Base (Pre-leaded)	92-132VAC	4 wire solid-state relay 0.5 max	81.13

HARSH-DUTY MP RECEPTACLE*

Stock No.	Type	Description	Each
50F5433	MPB20	4 terminal plug-in	11.05

*Preleaded and quick connect versions are available; *contact your local Newark sales office.*
**Receptacle required.

MULTI-FUNCTION LOGIC CARDS

Stock No.	Type	Description	Each
84F2193	MPA1HD	0.15 to 15 second time adjustment	57.56
16F3192	MPA155HD	1 to 30 second time adjustment	53.86

(3584) (ne10371)

PHOTOELECTRIC SENSORS

FE7 SERIES SUBMINIATURE PHOTOELECTRIC SENSORS

- Adjustable Sensitivity
- NEMA 12 and IP64 Sealing
- Short Circuit Protection (DC Models)
- Vertical or Horizontal Mounting Options for All Sensors
- –4°F to +140°F Operating Temperature
- 15,000 Operations per Minute (DC Models)

FE7 series feature small package size for usage in restricted space areas. Mounting bracket (included) makes mounting and alignment easy. Each sensor has its own infrared light source, photodiode, amplifier circuitry, output transistor and signal strength/alignment indicator. **Type FE7A** size: 1.20(L) x 0.39(W) x .79″(D). **type E7B** size: 1.49(L) x 0.51(W) x .90″(D). **type FE7C** size: 1.96(L) x 0.71(W) x 1.18″(D). **Types FE7A** and **FE7B** feature 1 ms on/off response time. **Type FE7C** response time: 2ms on/off. **Type FE7C** available in AC supply sensor (30ms on/off response) versions. *Contact your local Newark sales office.* L.O. = light operate; D.O. = dark operate.

FE7A MICRO-SUBMINIATURE DC SENSORS (10-28VDC SUPPLY)

Stock No.	Type	Scan Style	Scan Distance	Output	Mounting	Each
92F3030	FE7A-DA6V-M	Diffuse	2.75″	L.O.-NPN	Vertical	127.89
52F8830	FE7ADB6VM	Diffuse	2.75″	D.O.-NPN	Vertical	127.89

FE7B SUBMINIATURE DC SENSORS (10-28VDC SUPPLY)

48F2815	FE7B-RB6VG-M	Retro Reflective	5′	L.O.-NPN	Vertical	84.30
16F3921	FE7B-RA6VG-M	Retro Reflective	5′	D.O.-NPN	Vertical	87.24
52F8831	FE7BDA6VM	Diffuse	8″	L.O.-NPN	Vertical	90.91

FE7C MINIATURE DC SENSORS (10-28VDC SUPPLY)

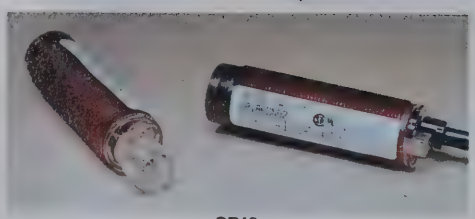
48F2816	FE7C-RC6VG-M	Retro Reflective	10′	L.O.-D.O., NPN	Vertical	103.16
48F2817	FE7C-DC6V-M	Diffuse	1.6′	L.O.-D.O., NPN	Vertical	110.09

(3619) (ne09039)

CP18 SERIES CYLINDRICAL PHOTOELECTRIC SENSORS

- 18mm Fully-Threaded Housing
- 1-Piece Polycarbonate Lens/Housing or Metal Housing
- Sealing Rated to NEMA 4 (IP67)
- Short Housing Options: DC–55mm; AC–81mm
- Operating Temperature: –30°C to +70°C (DC); –30°C to +60°C (AC)

CP18 series 18mm photoelectric sensors for simple industrial and commercial applications not requiring heavy-duty controls or sensitivity adjustments. Small package size fits in limited space areas. Alignment indicator facilitates installation. Modulated infrared LED for ambient light rejection. Preleaded with 2 meters of cable. All sensor types are available in light operate, dark operate, PNP output or 4-pin DIN connector versions. *Order connector cables separately on page 1427.* Applications include conveyor control, bin or hopper level control, packaging machinery, and web break detection.



CP18

10-30VDC SUPPLY

Response time: 1ms on/off.

Stock No.	Type	Scan Style	Scan Distance	Output	Termination	Each
50F5087	CP18D1DNL2	Diffuse	3.94″	L.O.-NPN Open Collector	Cable	40.15
50F5090	CP18LDNL2	Retro Reflective	13′	L.O.-NPN	Cable	40.15
50F5091	CP18LDND2	Retro Reflective	13′	D.O.-NPN Open Collector	Cable	40.15
48F2811	CP18LDPLC	Retro Reflective	13′	L.O.-NPN	Cable	40.84
48F2812	CP18RDPL2	Retro Reflective	30′	L.O.-PNP	Connector	35.19
52F8828	CP18EDX2	Thru Emitter	30′	...	Cable	28.01

CONNECTORIZED METAL BARREL 10-30VDC SUPPLY

Response time: 1.5ms on/off.

48F2813	CP18SDPSCM	Thru Emitter/Receiver	16′	D.O./L.O.-NPN	Connector	142.04
48F2814	CP18SDNSCM	Thru Emitter/Receiver	16′	D.O./L.O.-PNP	Connector	142.04

UNIVERSAL VOLTAGE 12-260VDC OR 20-260VAC

Response time: 10ms on/off

52F8827	CP18D1BAL2	Diffuse	3.94″	L.O.-MOSFET	Cable	60.54
52F8829	CP18LBAD2	Retro Reflective	13′	D.O.-MOSFET	Cable	60.54

ACCESSORIES

Stock No.	Description	Each
16F3932	Flush Mount/Quick Assembly Mounting Bracket Assembly	2.28
92F3046	Screw-On Right-Angle Adapter (Retro and Thru-Scan Only)	9.33
48F2814	Swivel-Type Bracket Assembly	142.04

(3620) (ne09040)

NEWARK HAS WHAT YOU NEED.
WITH SO MUCH IN STOCK, YOU HAVE THE COMPONENTS YOU NEED AT YOUR FINGERTIPS.

PHOTOELECTRIC SENSORS AND ACCESSORIES

FIBER-OPTIC CABLE

Plastic Fiber-Optic Cable for **type MHP/CPI8/CCS/HPX** photoelectric sensors.

Stock No.	Type	Description	Each
92F3073	HPF-T001-H	Lensed, 4mm Threaded End Tip, Thru Scan Pair, 2x Scan Distance	79.79
92F3075	HPF-T003-H	4mm, Threaded End Tip, Thru Scan Pair	43.53
92F3077	HPF-D002-H	6mm. Threaded End Tip, Diffuse/Retro Scan, 1.5 x Scan Distance	79.79

(3612) (ne08842)

CONNECTOR CABLE & MINI CABLE SETS

CONNECTOR CABLE

Connector Cable for **types MHP, CP18, CCS** photoelectric sensors.

Stock No.	Type	Description	Each
96F4295	804000A09M050	Connector Cable, 5m, Straight	20.33
96F4299	804001A09M050	Connector Cable, 5m, Right Angle	20.33
96F4298	804001A09M020	Connector Cable, 2m, Right Angle	15.04
96F4294	804000A09M020	Connector Cable, 2m, Straight	15.04

MINI CABLE SETS

16F3155	41108-E	6.5′ Mini Connector Cable Set	61.93
16F3156	41109-E	16.4′ Mini Connector Cable Set	100.27

(3613) (ne08843)

RETRO-REFLECTIVE TARGETS

FE-RR1

FE-RR8

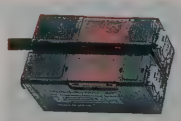
FE-RR3

For all Photoelectric Sensors.

Stock No.	Type	Description	Each
23F4252	FE-RR1	3″ (76.20) Dia. Molded Acrylic Disc, 100% Efficiency, Max. 65°C, 150°F	9.33
23F4648	FE-RR2	1 x 2″ (25.4 x 50.8) Reflective Tape, 20% Efficiency, Max. 93°C	2.26
23F4649	FE-RR3	1″ (25.4) Dia. Acrylic Disc, 50% Efficiency, Max 66°C	2.58
50F5309	FE-RR7	1 x 2″ (25.4 x 50.8) Reflective Tape (Polarized Light), 93°C, 40%	3.01
50F5308	FE-RR8	2.8 x 2″ (71.12 x 50.80) Rectangular Acrylic Reflector, 108%	12.95
93F6645	FE-RR6	2.2″ x 1″ x 0.37″ Rectangular Moded Acrylic Reflector, with 2 Mounting Holes. Max. Temp. rating 66° (150°F)	13.57
16F3154	FE-RR11	2 x 2″ pressure sensitive tape (5 pcs. per package)	10.48

(3614) (ne08844)

PHOTOELECTRIC SENSORS



- **Strobe Light Emission Permits Easy Confirmation of the Sensing Range (High Performance Thru-Scan And Polarized Retroflective)**
- **High Margin Resolution Function Adjusts Sensing Range at a Margin 3x Greater Than Usual (High-Performance Thru-Scan And Polarized Retroflective)**
- **Front Incoming Light Display Facilitates Sensing Range Adjustment (Thru-Scan)**
- **Sealed to IP67**
- **Available in Horizontal or Vertical Mounting**

Strobe light display, high margin regulation, front incoming light display, and output inhibit functions allow sensing range to be reliably adjusted at high speed. –25° to 60°C operating temperature. Pre-leaded with 2mm of cable. NPN Open collector. Supply Voltage: 10-30VDC. 30mm pigtail with connector termination available. PNP open collector version also available; *contact your local Newark sales office.*

HORIZONTAL MOUNTING STYLES

Stock No.	Type	Scan Style	Scan Distance	Response Time	Each
16F3137	HPA-T13H	Thru	10m.	0.5mS max.	225.11
16F3139	HPA-P13H	Polarized Retro	4m.	1.0mS max.	139.08
16F3141	HPA-D11H	Diffuse	20cm.	0.5mS max.	101.05
16F3143	HPA-A11H	Diffuse	80cm.	5.0mS max.	101.05

VERTICAL MOUNTING STYLES

16F3145	HPA-T23H	Thru	10m.	0.5mS max.	184.84
16F3147	HPA-P23H	Polarized Retro	4m.	1.0mS max.	139.08
16F3149	HPA-D21H	Diffuse	20cm.	0.5mS max.	99.96
16F3151	HAP-A21H	Diffuse	80cm.	5.0mS max.	96.24

(3615) (ne08845)

HPX MINIATURE FIBER-OPTIC PHOTOELECTRIC SENSOR

Features:

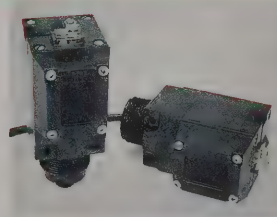
- **Provides Low Hysterisis, High Sensitivity, Mark Detection and Ultra-Fast Reponse Sensors**
- **Units can be Snap-In DIN Rail Mounted or Bracket Mounted**
- **Fiber Optic Cables Attach Quickly, without Tools**
- **Mutual Interference Protection Enhances Detection Stability and Performance Reliability**
- **Self-Diagnostic Output Gives Advance Warning of Marginal Operating Conditions**
- **Selectable Light Operate or Dark Operate**

HPX Series provides high-performance scanning in a slim-profile package. Optional 40-msec Off-delay on all models listed. Gang mountable without unit-to-unit interference. Provides diffuse/retro or thru scan depending on fiber optic cables used (*fiber optic cables available separately on this page*). NPN output. Operating Temperature: –20° to 60°C. Dimensions: 2.36 x .39 x 1.12″. 10-30VDC. **HPX-T series** offers quick and simple auto tuning capabilities. A microprocessor provides sensitivity adjustment. Sensor features a digital display of light and margin levels, as well as diagnostic error indication. Also available with 6″ pigtail with 12mm connector or PNP output; *contact your local Newark sales office.*

Stock No.	Type	Description	Response Time	Each
92F3066	HPX-H1-H	High Sensitivity	0.5mS	137.51
92F3068	HPX-A1-H	Low Hysterisis	0.5mS	137.51
52F8823	HPXT1H	Trainable High-Sensitivity	0.5mS	170.52

(3616) (ne08846)

RETROREFLECTIVE CLEAR CONTAINER SENSORS



CCS1001, Pre-Leaded Version
CCS1002, Connector Version

Features:

- **Reliably Senses Clear Glass and Plastic Containers**
- **Tri-Color Led Indicator Simplifies Sensor Adjustment**
- **Choice of Three Termination Styles**
- **Electrical Protection For Reverse Polarity Line Transients, Radiated Noise, and Short Circuits**
- **IP67 Sealed**
- **Detects Over 2,000 Containers per Minute**

New CCS series retroreflective clear container sensors readily adapt to changing factory floor conditions. Computer-based adaptive compensation automatically adjusts the sensors to allow for lighting changes by the accumulation of dirt, dust and moisture, virtually eliminating the need for periodic manual readjustments. NPN-PNP outputs. FE-RR11 reflector included with each sensor. Operating Temperature: 0° to 50°C. Supply Voltage: 13.5 to 30VDC. Dimensions: 1.57 x 2.32 x 3.58″. *Connector cable sets available separately on this page.* Mounting brackets available; *contact your local Newark sales office.*

4-CONDUCTOR CABLE TERMINATION

Stock No.	Type	Scan Style	Scan Distance	Response Time	Each
52F8817	CCS1000	Dark Op.	0.14 to 1m.	3mS ON/OFF	202.59
52F8820	CCS1100	Light Op.	0.14 to 1m.	3mS ON/OFF	202.59

MICRO CONNECTOR, 12MM CABLE FITTING

52F8818	CCS1001	Dark Op.	0.14 to 1m.	3mS ON/OFF	202.59
52F8821	CCS1101	Light Op.	0.14 to 1m.	3mS ON/OFF	202.59

MINI CONNECTOR, ⅞″- 16 CABLE FITTING

52F8819	CCS1002	Dark Op.	0.14 to 1m.	3mS ON/OFF	202.59
52F8822	CCS1102	Light Op.	0.14 to 1m.	3mS ON/OFF	202.59

(3617) (ne08847)

PHOTOELECTRIC SENSORS

GENERAL-PURPOSE PHOTOELECTRIC SENSORS

E3A2

E3B2

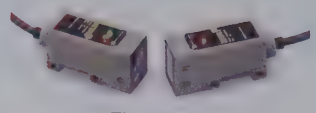
Type E3A2/E3B2 sensors feature universal AC/DC supply voltage range (24-240-VAC, 12-240VDC), long sensing ranges, and switch selectable Light-ON/Dark-ON operation. Available in thru-beam, retroreflective, and diffuse versions. Polarized retroreflective types reliably detect shiny objects. Adjustable sensitivity and mutual interface protection is included. Timer option offers ON-delay, OFF-delay, one-shot, and ON-OFF delay modes. SPDT output at 3A, 250VAC. Sensors come with operation indicators, mounting brackets, ½"-14 NPT conduit entry, and reflectors for retroreflective types. Sensing range is given in feet and meters (m). Rated NEMA 1, 4, 4x, 12, and IP66. UL recognized.

Stock No.	Type	Description	Sensing Range
52F4350	E3A2-10M4T	Thru-Beam, w/Timer, 2.95H x 1.02W x 2.95"D (75 x 26 x 75)	32.81' (10)
52F4351	E3A2-R3M4T	Polarized Retro, w/Timer, 2.95H x 1.02W x 2.95"D (75 x 26 x 75)	9.83' (3)
52F4352	E3A2-DS70M4T	Diffuse, w/Timer, 2.95H x 1.02W x 2.95"D (75 x 26 x 75)	2.30' (0.7)
52F4355	E3B2-R5M4-US	Polarized Retro w/o Timer 3.54H x 1.41W x 3.15"D (90 x 36 x 80)	16.40' (5)
52F4354	E3B2-R7M4-US	Retroreflective, w/o Timer, 3.54H x 1.41W x 3.15"D (90 x 36 x 80)	22.97' (7)
52F4356	E3B2-DM4-US	Diffuse, w/o Timer, 3.54H x 1.41W x 3.15"D (90 x 36 x 80)	6.56' (2)

Stock No.	Type	Each	2-5	6-10	11-15
52F4350	E3A2-10M4T	212.05	203.57	200.07	193.50
52F4351	E3A2-R3M4T	180.84	173.61	170.62	165.02
52F4352	E3A2-DS70M4T	155.01	148.80	146.25	141.44
52F4355	E3B2-R5M4-US	204.52	196.34	192.96	186.62
52F4354	E3B2-R7M4-US	204.52	196.34	192.96	186.62
52F4356	E3B2-DM4-US	191.60	183.94	180.78	174.84

(3542) (ne07254)

METAL BODY PHOTOELECTRIC SENSORS



Thru-Beam

Retro-Reflective

Diffuse

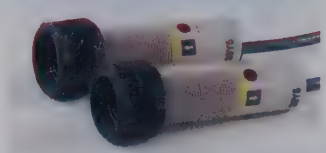
Designed for use in harsh environments and applications that require long sensing distances. Available in thru-beam, retro-reflective, and diffuse versions. Meet IEC enclosure IP67 classification and NEMA enclosure types 4X and 6P for wet and washdown applications. Rugged, fully potted electronics stand up to severe vibration. Input voltage: 10-30VDC. Output: 30VDC, 100mA. Switch selectable NPN or PNP output and light-ON/dark-ON modes. Feature operation and stability indicators, sensitivity adjustment, and fuzzy logic internal processing to prevent mutual interference by closely mounted sensors. Dimensions: horizontal mounting versions, 2L x 0.8W x 0.9H" (50 x 20 x 23); vertical mounting versions, 2.24L x 0.8W x 0.9H" (57 x 20 x 23). UL recognized, CSA certified, and CE compliant.

Stock No.	Type	Description	Sensing Range
91F5970	E3S-CT11	Thru-Beam, Horizontal Mount	98.43" (30m)
91F5974	E3S-CT61	Thru-Beam, Vertical Mount	98.43" (30m)
91F5971	E3S-CR11	Retro-Reflective, Horizontal Mount	9.54"(3m)
91F5975	E3S-CR61	Retro-Reflective, Vertical Mount	9.54"(3m)
91F5972	E3S-CD11	Diffuse, Horizontal Mount	27.56" (70cm)
91F5973	E3S-CD12	Diffuse, Horizontal Mount	6.56"(2m)
91F5976	E3S-CD61	Diffuse, Vertical Mount	27.56"(70cm)
91F5977	E3S-CD62	Diffuse, Vertical Mount	6.56"(2m)

Stock No.	Type	Each	2-5	6-10	11-15
91F5970	E3S-CT11	189.45	181.87	175.24	169.56
91F5974	E3S-CT61	189.45	181.87	175.24	169.56
91F5971	E3S-CR11	157.16	150.87	145.37	140.66
91F5975	E3S-CR61	157.16	150.87	145.37	140.66
91F5972	E3S-CD11	157.16	150.87	145.37	140.66
91F5973	E3S-CD12	167.92	161.21	155.33	150.29
91F5976	E3S-CD61	157.16	150.87	145.37	140.66
91F5977	E3S-CD62	167.92	161.21	155.33	150.29

(13462) (ne10355)

PLASTIC-BODY CYLINDRICAL PHOTOELECTRIC SENSORS



Type E3F2 sensors offer threaded-cylindrical bodies. Size: 0.73 dia. x 2.55"L (18.5 x 65). Operation indicator and circuit protection are standard. AC models: 24-240VAC input voltage, solid state (SCR) 200mA output. DC models 10-30VDC output voltage, 100mA 30VDC output. Light-ON/Dark-ON wire selectable. Pre-wired with 6.5' of cable. Two mounting nuts included. DC models rated NEMA 1, 2, 4x, 12, and IP67. AC models rated NEMA 1, 2, and 4. UL recognized, CSA certified.

Stock No.	Type	Description	Sensing Range
52F4359	E3F2-3C4	DC, NPN, Thru-Beam	9.84' (3m)
52F4362	E3F2-R2C4	DC, NPN, Retro w/Reflector	6.56' (2m)
52F4365	E3F32-DS10C4	DC, NPN, Diffuse, Adj. Sensitive	3.94" (10cm)
52F4357	E3F2-3Z1	AC, Thru-Beam, Light-ON	9.89' (3m)
52F4358	E3F2-3Z2	AC, Thru Beam, Dark-ON	9.89' (3m)
52F4360	E3F2-R2Z1	AC, Retro, Light-ON	6.56' (2m)
52F4361	E3F2-R2Z2	AC, Retro, Dark-ON	6.56' (2m)
52F4363	E3F2-DS10Z1	AC, Diffuse, Light-ON	3.94" (10cm)
52F4364	E3F2-DS10Z2	AC, Diffuse, Dark-ON	3.94" (10cm)

Stock No.	Each	2-5	6-10	11-15
52F4359	86.12	82.67	81.25	78.58
52F4362	66.74	64.07	62.97	60.90
52F4365	64.59	62.00	60.94	58.94
52F4357	113.03	108.51	106.64	103.14
52F4358	113.03	108.51	106.64	103.14
52F4360	77.50	74.40	73.13	70.72
52F4363	75.35	72.34	71.09	68.76
52F4364	75.35	72.34	71.09	68.76

(3543) (ne07255)

MINIATURE PLASTIC BODY PHOTOELECTRIC SENSORS

Thru-Beam

Diffuse

Compact design allows use in confined areas. Able to detect objects as far as 23' away. Feature operation and stability indicators, built-in sensitivity adjustment, and fully potted electronics that stand up to severe vibration. Water resistant. Available in thru-beam, retro-reflective (includes reflector), and diffuse versions. All units are wire selectable for light-ON/dark-ON operation. Input voltage: 12-24VDC. Output: 30VDC, 100mA. Dimensions: 1.48H x 0.41W x 0.71"D (35.5 x 10.4 x 18). All units are pre-wired with 6.6' (2m) of cable. UL recognized, CSA certified, and CE compliant. Mounting brackets are sold separately; *contact your local Newark sales office.*

Stock No.	Type	Description	Sensing Range
91F5978	E3V3-T61	NPN, Thru-Beam	23' (7m)
91F5979	E3V3-T81	PNP, Thru-Beam	23' (7m)
91F5980	E3V3-R61	NPN, Retro-Reflective	6.6' (2m)
91F5981	E3V3-R81	PNP, Retro-Reflective	6.6"(2m)
91F5982	E3V3-D61	NPN, Diffuse	0.2-3.15" (0.5-8cm)
91F5984	E3V3-D62	NPN, Diffuse	0.2-3.15 "(0.5-8cm)
91F5983	E3V3-D81	PNP, Diffuse	2.3' (70cm)
91F5985	E3V3-D82	PNP, Diffuse	2.3' (70cm)
91F9702	E39L104	Mounting Bracket (Order 2 for Thru-Beam Versions)	2.3' (70cm)

Stock No.	Type	Each	2-5	6-10	11-15
91F5978	E3V3-T61	115.18	110.57	106.54	103.08
91F5979	E3V3-T81	115.18	110.57	106.54	103.08
91F5980	E3V3-R61	83.96	80.60	77.67	75.15
91F5981	E3V3-R81	83.96	80.60	77.67	75.15
91F5982	E3V3-D61	78.58	75.44	72.69	70.33
91F5984	E3V3-D62	78.58	75.44	72.69	70.33
91F5983	E3V3-D81	78.58	75.44	72.69	70.33
91F5985	E3V3-D82	78.58	75.44	72.69	70.33
91F9702	E39L104	5.80	5.57	5.37	5.19

(13463) (ne10356)

PHOTOELECTRIC AND LEVEL SENSORS

COMPACT FLAT PACK PHOTOELECTRIC SENSORS

For use in conveying and material handling applications where mounting space is limited. Dimensions: 2.16H x 1.38W x 0.59"D (55 x 35 x 15). Housing material: polycarbonate. Diffuse-reflective sensing method transmits a beam off of the target, when the target reflects the beam back to the sensor, the outputs change state. Supply voltage: 10-40VDC. Output: NPN or PNP, complementary N.O. and N.C. 200mA transistor. Feature screw mounting, easy-to-view LED indication, and reverse polarity and short circuit protection. Sensing range is adjustable. Thru-beam and retro-reflective versions are also available; *contact your local Newark sales office.* Meet IEC enclosure IP67 classification and NEMA enclosure type 4. CSA certified, CE compliant.

Stock No.	Type	Output Type	Sensing Range	Wiring Connection	Each
91F4618	ED5502NPAP	NPN, N.O./N.C.	1.96-7.87"	6' PVC Cable	**75.00**
91F4619	ED5502NPAP-1	NPN, N.O./N.C.	1.96-7.87"	M12 Plug	**80.77**
91F4620	ED5502PPAP	PNP, N.O./N.C.	1.96-7.87"	6' PVC Cable	**75.00**
91F4621	ED5502PPAP-1	PNP, N.O./N.C.	1.96-7.87"	M12 Plug	**80.77**
91F4622	ED5506NPAP	NPN, N.O./N.C.	5.9-23.6"	6' PVC Cable	**76.92**
91F4623	ED5506NPAP-1	NPN, N.O./N.C.	5.9-23.6"	M12 Plug	**82.69**
91F4624	ED5506PPAP	PNP, N.O./N.C.	5.9-23.6"	6' PVC Cable	**76.92**
91F4625	ED5506PPAP-1	PNP, N.O./N.C.	5.9-23.6"	M12 Plug	**82.69**

(13832) (ne10372)

18mm BARREL-STYLE PHOTOELECTRIC SENSORS

Housed in 18mm threaded nickel-plated brass. Provided with 6.6' PVC cable and side viewable red LED indication. The **EO series** diffuse-reflective sensor's transmitter emits a beam off of the target, when the target reflects the beam back to the sensor, the outputs change state. The **EP series** polarized retroreflective sensors operate on the same principle, only the beam is reflected back off of a reflector, and when an object interrupts the beam, presence or absence is detected. DC types: 10-40VDC supply voltage, NPN or PNP, complementary N.O./N.C. 200mA transistor output, ≤120Hz switching, reverse polarity, short circuit and transient protected. AC types: 20-250VAC supply voltage, N.O. or N.C. 500mA SCR output. ≤25Hz switching, transient protected. All feature adjustable sensing ranges. Meet IEC enclosure IP67 classification and NEMA enclosure type 4. Other versions are available; *contact your local Newark sales office.* CSA certified, CE compliant.

Stock No.	Type	Supply	Output	Sensing Range	Length	Each
91F4630	EO1804NPAS	DC	NPN, N.O./N.C.	0.39-15.75"	2.15"	**99.07**
91F4631	EO1804PPAS	DC	NPN, N.O./N.C.	0.39-15.75"	2.15"	**99.07**
91F4632	EO1804TBCS	AC	SCR, N.C.	0.39-15.75"	2.81"	**113.22**
91F4633	EO1804TBOS	AC	SCR, N.O.	0.39-15.75"	2.81"	**113.22**
91F4634	EP1820NPAS	DC	NPN, N.O./N.C.	0.49-6.56'	2.15"	**127.38**
91F4635	EP1820PPAS	DC	NPN, N.O./N.C.	0.49-6.56'	2.15"	**127.38**
91F4636	EP1820TBCS	AC	SCR, N.C.	0.49-6.56'	2.81"	**146.25**
91F4637	EP1820TBOS	AC	SCR, N.O.	0.49-6.56'	2.81"	**146.25**

(13833) (ne10373)

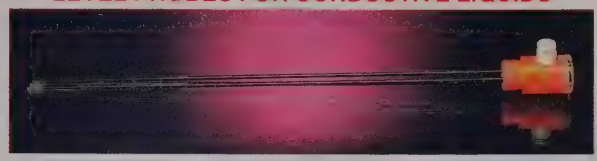
MULTIVOLTAGE AC/DC PHOTOELECTRIC SENSORS

Housed in a 2.66H x 0.98W x 3.19"D (67.5 x 25 x 81) rugged polycarbonate with self-feed entries for connecting wires. Features easy-to-view hub LED indication. Supply voltage: 12-240VDC/24-240VAC. Output: 3A SPDT Form C contact. Cable gland entry: ½" NPT. **Type PMD** diffuse-reflective sensor emits a beam off of the target, when the target reflects the beam back to the sensor, the outputs change state. **Type PMP** polarized retroreflective sensors operate on the same principle, only the beam is reflected back off of the reflector, and when an object interrupts the beam, presence or absence is detected. **Type PMR** operates on the same principle as **type PMP**, only it is not suited for detecting shiny or clear objects. Meet IEC enclosure IP67 classification and NEMA enclosure type 4. Thru-beam and adjustable time-delay versions are available; *contact your local Newark sales office.* CSA certified, CE compliant.

Stock No.	Type	Sensing Range	Each
91F4642	PMD8RI	7.87-31.5"	**132.09**
91F4643	PMP6RI	19.7'	**136.81**
91F4644	PMR10RI	32.8'	**132.09**

(13835) (ne10374)

LEVEL PROBES FOR CONDUCTIVE LIQUIDS



Probes: 316 Stainless Steel, PVC jacketed. Housing material: **types VH** and **VNY** are Nylon 6, **types VPC** are PVC. Temperature: Max. +194°F. Pressure: Max. 150 psi at +140°F. All termination points are sealed to meet IEC enclosure IP67 classification and NEMA enclosure type 4.

Stock No.	Type	Length	Mount. Diameter	No. of Electrodes	Each
96F1248	VH1	16.50'	Hanging	1	**54.74**
96F1249	VH2	16.50'	Hanging	1	**81.61**
96F1254	VNYI2	3.00'	1.5"	2	**102.54**
96F1255	VNYI3	3.00'	1.5"	3	**141.60**
48F2029	VNY14	3.00'	1.5"	4	**179.27**
96F1256	VPC205	1.63'	0.5"	2	**84.59**
96F1258	VPC3-1.0	1.63'	1.0"	3	**97.66**

(3499) (de52745)

OPTICAL LEVEL SENSORS FOR LIQUIDS

Infrared probe for liquid level detection based on refraction principle. Polysulphone types are resistant to most acids and bases, Polyamid 12 types are resistant to most solvents. LED indication for sensor on. May be used on a variety of liquids including: oil, wine, waste water, hydraulic fluid. Not recommended for use in environments with high concentrations of ambient flourescent light or sunlight. Also not recommended for use with materials which may coat or adhere to the tip of the sensor. Input voltage: **Types E** or **EP** are 10-40 VDC, 200mA, transistor output; **types 110TB** are 115 VAC, 100mA, SCR output. Thread: 3/8" ISO 288. 6' cable. Operating temperature: Max. +176°F. CE compliant.

Stock No.	Type	Housing Material	Output Type	Each
96F1241	VP01E	Polysulphone	NPN, N.C.	**77.63**
96F1243	VP02E	Polysulphone	NPN, N.O.	**77.63**
96F1245	VP03E	Polyamid 12	NPN, N.C.	**77.63**
96F1246	VP04E	Polyamid 12	NPN, N.O.	**77.63**
96F1244	VP02EP	Polysulphone	PNP, N.O.	**77.63**
96F1247	VP04EP	Polyamid 12	PNP, N.O.	**77.63**
96F1240	VP01-110TB	Polysulphone	SCR, N.C.	**90.56**
96F1242	VP02-110TB	Polysulphone	SCR, N.O.	**90.56**

(3500) (de52746)

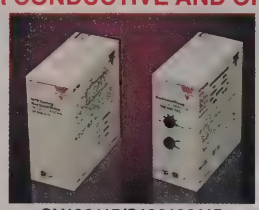
MOUNTING NUTS FOR LEVEL SENSORS

For **types VNY** or **VPC** conductive probes and **VP** optical sensors.

Stock No.	Type	For Use With Level Sensor Type	Diameter	Each
96F1239	K16	VP Series	0.375"	**1.89**
96F1250	VM0.5	VPC2-0.5	0.5"	**8.06**
96F1251	VM1.0	VPC2-1.0	1.0"	**29.86**
96F1252	VM1.5	VNY Series	1.5"	**29.86**

(3501) (de52748)

AMPLIFIERS FOR CONDUCTIVE AND OPTICAL SENSORS



SV190115/S196166115

For conductive or any NPN output optical proximity sensors. Amplifiers provide power to sensors and can be used for high/low level alarm or emptying/filling applications. **Type S197** also features an aditional high or low alarm output. Conductive probe amplifiers have the following resistance settings: **type S195** fixed at 25KΩ, **type S196** adjustable from 3.5 to 30KΩ, **type S197** adjustable from 3.5 to 30KΩ, **type S1961** adjustable from 200 to 220KΩ, split into 3 subranges. 115VAC supply voltage, others available; *contact your local Newark sales office.* **Type S411** 11 pin socket required, *listed separately on page 1445.* LED indication for supply and relay on. UL listed, CSA certified, CE compliant, SEV approved.

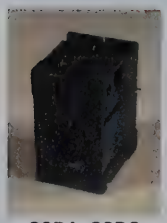
Stock No.	Type	Amplifier For	Output Type	Each
96F1209	SV190115	VP Series - NPN N.O.	10A, SPDT	**151.36**
96F1215	S195166115	VH,VNY1,VPC Series	8A, DPDT	**112.30**
96F1217	S196166115	VH, VNY1, VPC Series	8A, DPDT	**122.07**
83F8779	S197256115	VH, VNY1, VPC Series	2 x 5A, SPST	**159.47**
96F1216	S196156115	VH, VNY1, VPC Series	10A, SPDT	**117.19**

(3621) (ne09609)

HALL-EFFECT CURRENT SENSORS

CSD SERIES HALL-EFFECT DIGITAL OUTPUT CURRENT SENSORS

CSD series solid-state sensors detect absence/presence of current with digital current sink output. Response time: 100µsec. Output voltage: 0.4VDC. Changes from Vs to 0.4V at operating current. Output current: 20mA, except **type CSDB1CC**: 100mA. NOTE: Thru-hole design does not require electrical connection to sensed current. Max. Sensed current is only limited by the conductor size.



CSDA, CSDC

CSDB

Stock No.	Type	Fig.	Supply Voltage	Operating Current (max)*
51F2596	CSDA1BA	1	6 to 16VDC	0.88A-Turns
51F2597	CSDA1BC	1	6 to 16VDC	6.50A-Turns
51F2598	CSDB1CC	2	8 to 16VDC	6.50A-Turns
51F2599	CSDC1BA	1	5 ± 0.2VDC	0.88A-Turns
51F2601	CSDA1AA	1	6 to 16VDC	0.88A-Turns
51F2602	CSDA1AC	1	6 to 16VDC	6.5A
51F2605	CSDA1DA	1	6 to 16VDC	0.88A-Turns
51F2607	CSDA1DC	1	6 to 16VDC	6.5A

* at +25°C

Stock No.	Type	1-5	6-10	11-15	16-20
51F2596	CSDA1BA	16.58	15.47	14.51	13.66
51F2597	CSDA1BC	16.58	15.47	14.51	13.66
51F2598	CSDB1CC	77.57	72.72	68.46	64.65
51F2599	CSDC1BA	17.97	16.77	15.72	14.80
51F2601	CSDA1AA	18.69	17.44	16.35	15.39
51F2602	CSDA1AC	18.69	17.44	16.35	15.39
51F2605	CSDA1DA	18.69	17.44	16.35	15.39
51F2607	CSDA1DC	18.69	17.44	16.35	15.39

(3478) (de51368)

CSLA SERIES HALL-EFFECT LINEAR OUTPUT CURRENT SENSORS

CSLA series solid-state sensors provide output voltage directly proportional to current flow. AC or DC sensing. 8-16VDC supply for **series CSLA1**. 6-12VDC supply for **series CSLA2. Series CSLA2** feature temperature compensation circuitry. Offset voltage: Vs/2. Output voltage swings from 25% of Vs to 75% of Vs. NOTE: Thru-hole design does not require electrical connection to sensed current. Max. sensed current is only limited by the conductor size. Sensors with 57A to 950A capabilities also available. *Contact your local Newark sales office.*

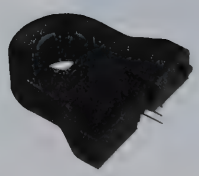


Fig. 1
Vertical Mount

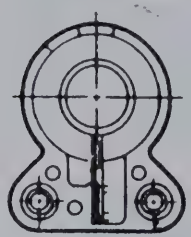


Fig. 2
Horizontal Mount

Stock No.	Type	Figure	Sensed Current	Sensitivity mV/NI
48F2800	CSLA2GE	2	92A	**26.1 (Nom.)
48F2801	CSLA2GF	2	125A	**19.6 (Nom.)
48F2802	CSLA2DJ	1	225A	**8.7 (Nom.)
48F2803	CSLA2DH	1	235A	**9.8 (Nom.)
48F2804	CSLA2CF	1	125A	**19.6 (Nom.)
51F2608	CSLA1CD	1	57A	*49.6 (Nom.)
51F2611	CSLA1CF	1	100A	*29.7 (Nom.)
51F2614	CSLA1DJ	1	225A	*13.2 (Nom.)
50F5295	CSLA2CD	1	72A	**32.7 (Nom.)

*at 12VDC supply **at 8VDC supply

Stock No.	Type	1-5	6-10	11-15	16-20
48F2800	CSLA2GE	23.36	21.80	20.44	19.24
48F2801	CSLA2GF	23.36	21.80	20.44	19.24
48F2802	CSLA2DJ	58.31	54.42	51.02	48.03
48F2803	CSLA2DH	34.98	32.65	30.60	28.81
48F2804	CSLA2CF	16.67	15.56	14.59	13.73
51F2608	CSLA1CD	22.46	20.96	19.65	18.50
51F2611	CSLA1CF	22.46	20.96	19.65	18.50
51F2614	CSLA1DJ	22.46	20.96	19.65	18.50
50F5295	CSLA2CD	17.25	16.10	15.09	14.21

(3477) (de51367)

CSN SERIES HALL-EFFECT NULL-BALANCE CURRENT SENSORS

CSN series solid-state sensors measure AC, DC, and impulse currents. Operation based on the Hall-effect principle and the null-balance or zero magnetic flux method (feedback system). The magnetic field on the sensor is constantly controlled at zero. The amount of current required to balance zero flux is the measure of primary current flowing through conductor multiplied by the ratio of the primary to secondary windings. ±0.5% accuracy. Response time: 1µsec. NOTE: Thru-hole design does not require electrical connection to the sensed current. Max. sensed current is only limited by the conductor size. Sensors with up to 1200A of sensed current also available. *Contact your local Newark sales office.*

CSNE152

CSNA111

Stock No.	Type	Supply Voltage	Sensed Current	Measuring Resistance
96F1987	CSNA111	±15VDC	70A	40Ω
96F1991	CSNE151	±15VDC	5-36A	100Ω

Stock No.	Type	1-5	6-10	11-15	16-20
96F1987	CSNA111	47.31	44.17	41.40	38.97
96F1991	CSNE151	44.36	41.40	38.82	36.53

(3410) (de02049)

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HALL-EFFECT SENSORS

GT1 HALL-EFFECT GEAR-TOOTH SENSOR

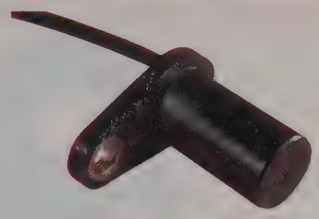
Must Consider in Combination For Optimal Performance:

- **Target Material, Geometry and Speed**
- **Sensor/Target Gap**
- **Ambient Temperature**
- **Magnetic Material in Close Proximity**

Type 1GT101DC gear-tooth sensor uses a magnetically-biased, Hall-effect integrated circuit to accurately sense movement of ferrous metal targets. Units will function from a 4.5 to 24VDC power supply and have reverse polarity protection. Dimensions: 0.70W x 1.43″D.

Stock No.	Type	1-5	6-10	11-15	16-20
92F3009	1GT101DC	23.60	22.03	20.65	19.44

(3457) (de03896)



Type GT1

TYPE 2AV54 HALL-EFFECT POSITION SENSOR

Specifically designed to translate the relative position of a ferrous metal actuator into a digital electronic signal. Current sinking output, operating temperature range: –40°C to +150°C. Dimensions: 0.68H x 0.68W x 1.29″D.

Stock No.	Type	Supply Voltage	Supply Current	Current per Output	1-5	6-10	11-15	16-20
96F1986	2AV54	4.5-24VDC	22mA	40mA	13.20	12.32	11.55	10.87

(3481) (de51371)

Type 2AV54

4AV SERIES HALL-EFFECT POSITION SENSORS

Vane-operated sensors feature dual digital current sinking outputs and closely controlled differential to predict pulse width. Sensors also offer transient protection. **Type 4AV20** has 4-pin in-line PCB terminals; **type 4AV12**and **type 4AV16** have lead wires. Operating temperature range: –40°C to +125°C. Dimensions: 0.43H x 0.52W x 0.75″D.

Stock No.	Type	Supply Voltage	Supply Current	Output Voltage	1-5	6-10	11-15
94F5381	4AV12A	6.0-16VDC	13.0mA	20mA	21.90	20.44	19.16
48F2798	4AV16F	4.5-26.5VDC	5-18.5mA	0-0.4VDC	20.36	19.00	17.81
48F2799	4AV20F	4.5-5.5VDC	5-18.5mA	0-0.4VDC	15.55	14.51	13.61

(3480) (de51370)

Type 4AV

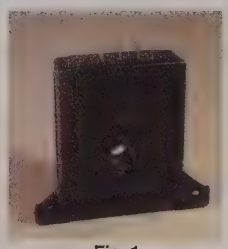


Fig. 1

CSLE/F SERIES HALL-EFFECT LINEAR CURRENT SENSORS

Enclosed internally-regulated sensors require 10.5 to 24VDC supply voltage. **Types CSLE5** and **CSLF5** providean output while sensing AC current with 150msec response time; **types CSLE4,** and **CSLF4** sense DC current with 1 msec response time. Operating temperature range: –25°C to +85°C. Offset supply current: 30mA. NOTE: Thru-hole design does not require electrical connection to sensed current. Max sensed current is only limited by the conductor size. Sensors with up to 1500A of sensed current are available. *Contact your local Newark sales office*

Stock No.	Type	Fig	Output	Sensed Current	Operating Current	Each
50F5183	CSLE5HE	1	1-5V	92A	30A	99.61
50F5185	CSLE4HG	1	1-5V	147A	73A	99.61
50F5187	CSLF5HD	1	4-20mA	18A	6A	117.82
50F5188	CSLF5JG	2	4-20mA	153A	D51A	136.99
50F5293	CSLF4JH	2	4-20mA	245A	122A	136.99

(3479) (de51369)

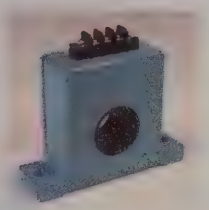


Fig. 2

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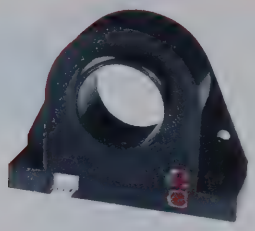
http://www.newark.com

AC AND DC CURRENT SENSORS

RUGGED OPEN-LOOP CURRENT SENSORS



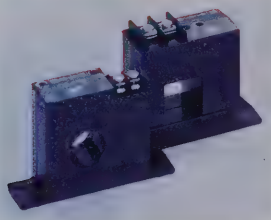
Packaged in a rugged potted case that can be panel-mounted either vertically or horizontally. **Type RS** current sensors accurately measure DC and AC currents. Large 1.25″ aperture hole allows easy installation. Output via a Molex 5045-04 conector. **Type RS** features an operating voltage of ±15VDC with a bipolar output range of ±4VDC full scale. **Type RSS** features single operating voltage of 12-15VDC with a unipolar output of 2-10V full scale, with 6V at zero current.

Stock No.	Type	Full-Scale AC or DC Peak	Op. Volts	1-5	6-9
48F4359	RS-100	100	±15VDC	42.77	39.46
48F4360	RS-200	200	±15VDC	43.96	40.56
48F4361	RSS-100	100	±15VDC	51.09	47.13
48F4362	RSS-200	200	±15VDC	52.28	48.23

(3515) (ne06122)

AC AND DC CURRENT SENSORS AND SWITCHES

UL



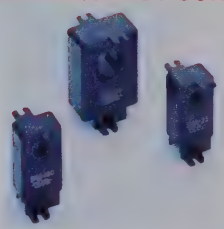
Type **PC/PCS** sensors provide 4-20mA output proportionate to AC current. **Type SCC** provide either a 4-20mA or a 0-20mA unipolar output proportional to AC or DC current. **SCV series** provides either a 0-5V or 0-10V unipolar output proportional to AC or DC current. **Type CS/CSS** detects AC current from 1A to 150A and provides a switched output when the current exceeds the adjustable switch point. Adjustment is made via multi-turn trim pot. **Types PCS, CSS, SCC,** and **SCV** clamp around existing wiring for easy installation. **Types PC/PCS** and **CS/CSS** feature simple 2-wire connection and interface to PLCs. **Types SCC** and **SCV** require 24VAC/VDC operating voltage. All models are panel-mounted, feature jumper range selection. UL listed. Higher current units are available. *Contact your local Newark sales office.*

Stock No.	Type	AC (A)	Output	Aperture	1-5	6-9
92F4429	PC-50	10-20-50	4-20mA	0.73″	138.77	128.03
92F4430	PC-200	100-150-200	4-20mA	0.73″	138.77	128.03
92F4431	PCS-50	10-20-50	4-20mA	0.85″	142.05	135.57
92F4432	PCS-200	100-150-200	4-20mA	0.85″	130.48	124.52
01F816	CS-150	1-150	Switch	0.73″	116.81	107.77
01F817	CSS-150	1.5-150	Switch	0.85″	127.17	121.37
48F4355	SCC-100P	50-75-100*	4-20mA	0.85″	234.57	223.86
48F4356	SCC-100C	50-75-100*	0-20mA	0.85″	234.57	223.86
48F4357	SCV-100L	50-75-100*	0-5V	0.85″	234.57	223.86
48F4358	SCV-100H	50-75-100*	0-10V	0.85″	234.57	223.86

*AC(A) or DC(A)

(3460) (de04009)

IHA SERIES HIGH FREQUENCY CURRENT SENSORS



Response <1µs. Frequency range DC to 50kHz. Linearity ±1%. Operating voltage ±12Vdc to ±15Vdc. Temperature range 0°C to +75°C. Case design allows for either panel or PCB mounting by use of appropriate connector; *contact your local Newark sales office.* Mounting tabs accept No.6 screws for placement on PCB or panel. Ideal for use in solid-state circuits.

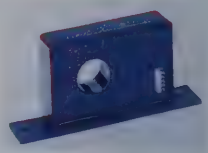
Stock No.	Type	Current Range	Full Scale Output	Aperture	1-5	6-9
92F4411	IHA-25	±25A	±1V	0.38″	55.95	51.62
92F4412	IHA-100	±100A	±5V	0.38″	60.87	56.15
92F4413	IHA-150	±150A	±5V	0.84″	67.63	62.39

(3459) (de04008)

BB SERIES HALL-EFFECT CURRENT SENSORS

BB-25/100

BB-150/300/600



BBP-150H/300H/600H

Accurately measure DC and AC currents. Provide fast response and electrical isolation from the circuit being measured. The voltage output is proportional to the current being measured. **Types BB-25/100** mount directly on PCB via thru hole pins. **Types BB-150/300/600** have four 0.12″ holes for mounting on panel. **Type BBP** sensors are potted in plastic case with flange mount. Electrical connections for 150/300/600 A models via PANDUIT Model No. CE100F26-5 mating connector. Operating voltage: ±15VDC. Operating temperature range: –25°C to +85°C.

Stock No.	Type	Full Scale DC or AC Peak	Full Scale Output	Bandwidth	Aperture	1-5	6-9
92F4399	BB-25	±25A	±1V	DC to 60kHz	0.40″	29.51	27.23
92F4400	BB-100	±100A	±5V	DC to 60kHz	0.40″	29.51	27.23
92F4401	BB-150	±150A	±6V	DC to 60kHz	0.80″	36.89	34.03
92F4402	BB-300	±300A	±6V	DC to 10kHz	0.80″	38.12	35.17
92F4403	BB-600	±600A	±6V	DC to 10kHz	0.80″	38.12	35.17
92F8899	BBP-150H	±150A	±6V	DC to 60kHz	0.80″	47.34	43.68
92F8900	BBP-300H	±300A	±6V	DC to 10kHz	0.80″	48.57	44.81
92F8901	BBP-600H	±600A	±6V	DC to 10kHz	0.80″	48.57	44.81

(3514) (ne04011)

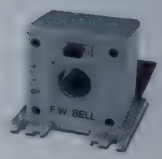
CLOSED LOOP CURRENT SENSORS

CLN-25

CLN-50

CLN-100

CLN-200



CLN-1000

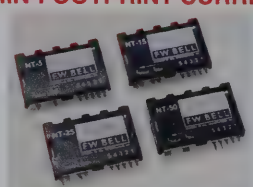
Closed loop sensors null out the flux produced by the current through the aperture. Output is a current that is proportionate to the aperture current divided by the number of turns on the coil. **Type CLN-25/50/100** mount directly on PCB. **Type CLN-200/1000** mounts on the panel. Response time <1µ. Linearity >0.2%. Frequency range: DC to 100kHz min.

Stock No.	Type	Nom. Current (Arms)	Output mA/A	Operating Voltage (±Vdc)	Aperture	1-5	6-9
83F2354	CLN-25	25*	1	12 to 15	PCB	27.05	24.96
83F2355	CLN-50	50	1	12 to 15	0.39x0.53″	34.43	31.77
83F2357	CLN-100	100	1	12 to 15	0.39x0.53″	55.34	51.05
48F4363	CLN-200	200	0.5	12 to 15	0.90″	122.87	117.26
48F4364	CLN-1000	1000	0.2	12 to 15	1.73″	329.52	314.47

***CL-25** offers choice of ranges via connection to pins on sensor: 5, 6, 8, 12 or 25 Arms.

(3458) (de04007)

NT SERIES THIN-FOOTPRINT CURRENT SENSORS



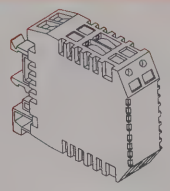
NT Series mount directly to PC Board. All electrical connections are via thru-hole pins. Small size (less than 0.25″ wide) allows placement in applications with limited board space. Measure AC and DC currents. Frequency Response DC to 50kHz. Linearity ±1%. Response time <2µs. Sensors operate from +0°C to +70°C. Ideal replacement for shunts where electrical isolation is required.

Stock No.	Type	Nom. Current (Arms)	Full Scale Output	Voltage	1-5	6-9
16F6749	NT-5	5	2.5V	±15	25.83	23.83
16F6750	NT-15	15	2.5V	±15	27.05	24.96
16F6751	NT-25	25	2.5V	±15	29.51	27.23
16F6752	NT-50	50	2.5V	±15	33.20	30.63

(3586) (ne08158)

PHOTOELECTRIC SENSORS

T60 LED MODULATING AMPLIFIER



Ambient light immunity in a DIN rail mountable DC powered unit. Controls modulate LED or IRED source of a reflective scanner or thru-beam pair and respond only to detector signals with the same modulation frequency. User configurable light or dark energize. 25-turn sensitivity adjustment. **Type T60002** uses 8-28VDC supply.

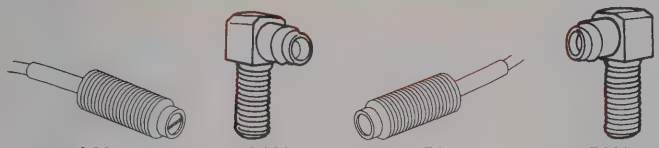
95F9347 Type T60002. **Each** **104.76**
(3444) (de02819)

TYPE L34/P34 SUBMINIATURE THRUBEAM PAIR

Designed for precise detection in restricted and abusive areas. Rated separation: 6″ up to 36″ with **Type T60** modulating amplifier, *sold elesewhere on this page.*. Smallest detectable object: 0.02″. Light source input: 60mA max. Photodetector has filter to block ambient light. Operating voltage: 30VDC max. Stainless steel bodies.

95F9362 Type L34024 Emitter. **Each** **62.19**
95F9363 Type P34024 Sensor. **Each** **60.99**
95F9348 Type L34040. **Each** **74.36**
(3448) (de02824)

MINIATURE LED THRU-BEAM PAIRS

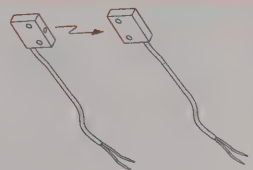


L33 **L331** **P33** **P331**

Rugged thru-beam combination in miniature size for use in conditions of severe shock and vibration. Infrared LED light sources use 100 mA max. input, have 940nm peak spectral emission. Rated separation: 36″. Beam diameter: 0.16″. Smallest detectable object 0.05″. Photo detectors have filters to block visible ambient light, have 910nm peak spectral response. Operating voltage: 20VDC max. Anodized aluminum body.

95F9353 Type L33007 Straight source. **Each** **61.21**
95F9354 Type L33107 Right angle source. **Each** **88.76**
95F9355 Type P33001 Straight sensor. **Each** **61.21**
95F9356 Type P33101 Right angle sensor. **Each** **88.78**
(3445) (de02821)

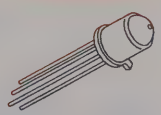
TYPE L60/P60 THRUBEAM PAIR



Small units feature infrared-pass filter for ambient light immunity, rated separation from 6″ up to 36″ with **Type T60** modulating amplifier, *sold elesewhere on this page.* Smallest detectable object: 0.02″. Infrared emitter input current: 60mA max. Sensor operating voltage: 30VDC max. Glass-filled polycarbonate housings suitable for screw or rivet mounting.

95F9364 Type L60001 Emitter. **Each** **33.16**
95F9365 Type P60001 Sensor. **Each** **33.16**
(3449) (de02825)

TYPE S27 SKANNER® SUBMINIATURE REFLECTIVE SCANNERS

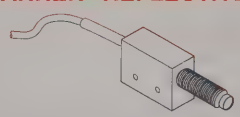


Type S27301

Complete scanner in subminiature package. LED directs infrared energy through formed epoxy lens. Reflected energy is received by fiber optic rod at lens center. Light source has 60mA max. input, spectral emission of 880nm. Photo detector has 30VDC max. Operating voltage. **Type S27301** has 4 gold-plated copper leads, mounts in socket or soldered to PC board.

95F9357 Type S27301. **Each** **44.51**
(3446) (de02822)

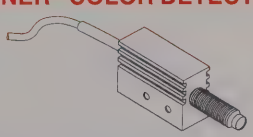
TYPE S30 SKANNER® REFLECTIVE SCANNERS



Unit has lamp located in backbody where heat is dissipated by aluminum housing. Smallest detectable object: 0.04″. Optimum distance to target: 0.10″. Maximum usable distance: 0.6 to 1.0″. Lamp emitter has 5VDC, 115mA input. Photodetector has 30VDC max. operating voltage.

95F9366 Type S32201 Lamp emitter. **Each** **152.08**
(3450) (de02826)

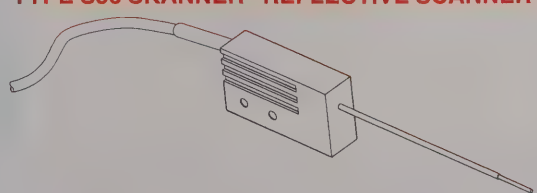
TYPE S35 SKANNER® COLOR DETECTION SCANNERS



Detects a wide range of colored marks, including blue, green, yellow, orange and red. Units include incandescent lamp, photo detector and optical filters. Red scanner detects red, orange, yellow or black marks on white and some other colored backgrounds. Blue scanner detects blue, green or black. Visible color scanner detects variety of colors. Smallest detectable object: 0.03″. Optimum distance to target: 0.10″. Anodized aluminum body with 5/16-24 UNF threaded shaft.

95F9359 Type S35201 Red scanner. **Each** **268.36**
95F9360 Type S35202 Blue scanner. **Each** **268.36**
(3447) (de02823)

TYPE S56 SKANNER® REFLECTIVE SCANNER



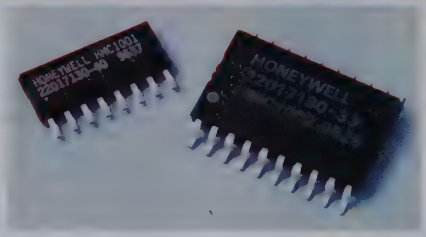
Feature coaxial cable bundle in semi-rigid snout that can be easily bent by hand to position the tip at the target. High temperature tip operable to 200°C. Smallest detectable object: 0.007″. Optimum distance to target: 0.010″. Maximum usable distance: 0.070″. Lamp emitter uses 5.0VDC, 115mA input. Detector has 20VDC max. operating voltage.

95F9368 Type S56101 Lamp emitter. **Each** **229.69**
(3451) (de02827)

Honeywell

MAGNETIC AND DISPLACEMENT SENSORS

HMC1001 AND HMC1002 SINGLE- AND DUAL-AXIS MAGNETIC SENSORS

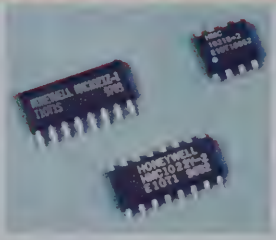


Single- and dual-axis magnetoresistive microcircuits for use in highest precision applications, such as currency detection, virtual reality headsets and compass heading electronics where precise understanding of direction or position is required. Sensors convert magnetic fields within the earth's field of 0.6 gaus to differentiate output voltage. Voltage output indicates both field magnitude and direction. Two solid-state sensors in single plastic package provide 0-5 MHz frequency response, operation over –55°C to +125°C and patented set/reset function for nulling out the effects of unwanted ambient magnetic fields. Unamplified voltage output.

Stock No.	Type	Description	Field Range	Resolution	Full-Scale Output	Each
16F5415	HMC1002	Dual-Axis	±2 Gauss	70 µGauss	50mV	**31.05**
91F4713	HMC1001	Single-Axis	±2 Gauss	70 µGauss	50mV	**18.63**

(4417) (ne08103)

TYPE HMC1021 AND HMC1022 SINGLE- AND DUAL-AXIS MAGNETIC SENSORS

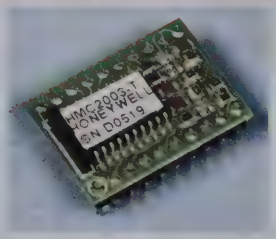


Single- and dual-axis magnetic sensors are designed for use in applications including currency detection, virtual reality headsets, and compass heading electronicsand sense magnetic fields as low as 85 microgauss. Sensors are packaged in plastic and provide 0-10MHz frequency response. They can be used together to provide 3-axis capability or alone for one- and two-axis sensing. Power supply: 3-10V. Operating temperature range: –55°C to +125°C. Patented set/reset function. **Types HMC1021S** and **HMC1022** are surface mount. **Type HMC1021Z** is thru-hole mounting. Unamplified voltage output.

Stock No.	Type	Description	Field Range	Resolution	Full-Scale Output	Each
91F4714	HMC1021	Single-Axis	±6 Gauss	85 µGauss	±60mV	**18.63**
48F2837	HMC1022	Single-Axis	±6 Gauss	85µGauss	±60mV	**16.50**
91F4715	HMC1022	Dual-Axis	±6 Gauss	85 µGauss	±60mV	**31.05**

(15230) (ne10574)

TYPE HMC2003 MAGNETIC SENSOR HYBRID

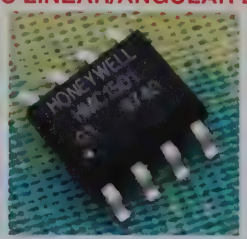


For use in high-precision applications such as vehicle control, compass heading detection or medical instruments where accurate position detection is required. Special packaging techniques provide high-resolution, temperature-compensated, amplified voltage outputs operating from single 6-15V supply. Single 20-pin DIP package. Integrated offset coils allow closed loop operation.

Stock No.	Type	Field Range	Resolution	Full-Scale Output	Each
16F5425	HMC2003	±2 Gauss	70 µGauss	4.5V	**258.75**

(4418) (ne08104)

TYPE HMC1501 MAGNETIC LINEAR/ANGULAR DISPLACEMENT SENSOR



High resolution, low power magnetoresistive sensor features absolute position sensing when used in conjuction with a magnet mounted on a shaft assembly. Method withstands large variations in gap between sensor and magnet, has less sensitivity to shock and vibration, very low hysteresis, high repeatability and immunity to stray fields when compared to Hall Effect sensors. Angular range: ±45° with less than 7° resolution. Accuracy: 0.1mm, depending on the magnet used. Repeatability: 0.05mm. Full-scale output range: 120mV with 5V power supply.

Stock No.	Type	Field Range	Average Sensitivity @ 5VDC	Full-Scale Output	Each
48F2838	HMC1501	60-150 Gauss	1.8mV/Degree	±60mV/Degree	**12.00**

(34295) (ne34295)

CONTACTORS, BLOCKS, CONTROL AND THERMAL RELAYS

DIL M SERIES CONTACTORS

Type DIL M contactors feature 600V 3 NO main poles. Coils have 3 terminals suitable for single-sided or diagonal wiring. Screw or DIN rail mounting. Order auxiliary contacts and type Z overload relays separately on this page. UL listed, CSA certified, CE compliant.

24VAC COIL VOLTS

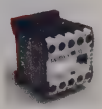
Stock No.	Type	Amps Open	Amps Encl.	1-Phase Hp 115 VAC	1-Phase Hp 240 VAC	3-Phase Hp 240 VAC	3-Phase Hp 460 VAC	Each
48F3271	DIL00M24	20	16	0.5	1.5	3	5	88.00
48F3272	DIL00AM24	20	16	1	2	3	7.5	115.50
48F3273	DIL0M24	35	30	2	3	7.5	10	132.00
48F3274	DIL0AM24	35	30	2	5	10	15	148.50
48F3275	DIL1M24	55	44	3	5	10	20	176.00
48F3276	DIL1AM24	55	44	3	7.5	15	25	206.80
48F3277	DIL2M24	90	80	3	10	20	40	236.50
48F3278	DIL2AM24	90	80	5	15	25	50	283.80
48F3279	DIL3M24	100	70	7.5	15	30	60	396.00
48F3280	DIL4M24	100	140	10	25	50	100	814.00

120VAC COIL VOLTS

48F3281	DIL00M120	20	16	0.5	1.5	3	5	88.00
48F3282	DIL00AM120	20	16	1	2	3	7.5	115.50
48F3283	DIL0M120	35	30	2	3	7.5	10	132.00
48F3284	DIL0AM120	35	30	2	5	10	15	148.50
48F3285	DIL1M120	55	44	3	5	10	20	176.00
48F3286	DIL1AM120	55	44	3	7.5	15	25	206.80
48F3287	DIL2M120	90	80	3	10	20	40	236.50
48F3288	DIL2AM120	90	80	5	15	25	50	283.80
48F3289	DIL3M24120	100	90	7.5	15	30	60	396.00
48F3290	DIL4M120	160	140	10	25	50	100	814.00

(34498) (ne34498)

DIL E SERIES MAGNETIC CONTACTORS



Compact contactors designed for light to medium duty applications. Feature 3 NO contacts and 1NO auxiliary. DIN rail or screw mount. Order auxiliary contacts and type ZE overload relays separately *on this page*. UL listed, CSA certified, CE compliant.

24VAC COIL VOLTS

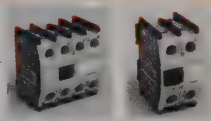
Stock No.	Type	Amps Open	Amps Encl.	1-Phase Hp 115 VAC	1-Phase Hp 240 VAC	3-Phase Hp 240 VAC	3-Phase Hp 460 VAC	Each
48F3267	DILEM1024	20	16	0.5	1.5	2	5	45.10
48F3269	DILEM10G24	20	16	0.5	1.5	2	5	53.90

120VAC COIL VOLTS

48F3268	DILEM10120	20	16	0.5	1.5	2	5	45.10
48F3270	DILEM10G120	20	16	0.5	1.5	2	5	53.90

(34499) (ne34499)

AUXILIARY CONTACT BLOCKS



Auxiliary contact blocks for **type DIL E**, **type DIL M**, and **type DIL R** contactors. Top mount only for **type DIL E**, top and side mount for **type DIL M**. Rated 10A make, 6A break. UL listed, CSA certified, CE compliant.

TOP SNAP-ON MOUNTING

Stock No.	Type	For Use With	Contacts NO	Contacts NC	Each
48F3291	11DILM	DIL00M-DIL 2AM	1	1	22.00
48F3292	22DILM	DIL00M-DIL 2AM	2	2	44.00
48F3293	31DILM	DIL00M-DIL 2AM	3	1	44.00

SIDE SNAP-ON MOUNTING

48F3294	10SDILM	DIL00M-DIL2AM	1	0	11.00
48F3295	11SDILM	DIL00M-DIL2AM	1	1	22.00
48F3296	11SIDILM	DIL3M, DIL4M	1	1	22.00
48F3297	20SIDILM	DIL3M, DIL4M	2	0	22.00

DILE MINI CONTACTOR, TOP MOUNTING

48F3245	11DILE	DILEM, DILEM-G	1	1	14.30
48F3246	20DILE	DILEM, DILEM-G	2	0	14.30
48F3247	02DILE	DILEM, DILEM-G	2	0	14.30
48F3248	22DILE	DILEM, DILEM-G	2	2	27.50
48F3249	40DILE	DILEM, DILEM-G	4	0	27.50
48F3250	31DILE	DILEM, DILEM-G	3	1	27.50

DIL R AUXILIARY CONTACTS

48F3260	02DIL	All Type DIL R Relays	2	0	22.00

CONTINUED

AUXILIARY CONTACT BLOCKS (CONT.)

DIL R AUXILIARY CONTACTS (CONT.)

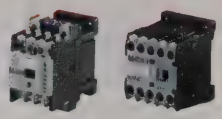
Stock No.	Type	For Use With	Contacts NO	Contacts NC	Each
48F3261	11DIL	All Type DIL R Relays	1	1	22.00
48F3262	20DIL	All Type DIL R Relays	2	0	22.00
48F3263	04DIL	All Type DIL R Relays	0	4	44.00
48F3264	13DIL	All Type DIL R Relays	1	3	44.00
48F3265	22DIL	All Type DIL R Relays	1	2	44.00
48F3266	40DIL	All Type DIL R Relays	4	0	44.00

MECHANICAL INTERLOCK FOR REVERSING

48F3298	MVDILE	DILEM, DILEM-G	...	...	19.80
48F3299	MVDILM	DIL00M-DIL2AM	...	...	33.00
48F3300	WVDILM	DIL3M, DIL4M	...	...	44.00

(34501) (ne34501)

CONTROL RELAYS



Feature interlocked opposing contacts that prevent them from both being closed at the same time, even after a default. For use in all types of control circuits, logic and interlock circuits, safety circuits (for emergency stop and safety guard operation), or as interposing relays for operating larger contactors. UL listed, CSA certified, CE certified.

TYPE DIL E RELAYS

Stock No.	Type	Coil Voltage	Contacts	Each
48F3236	DILER22120	120VAC	2NO/2NC	44.00
48F3237	DILER31120	120VAC	3NO/1NC	44.00
48F3238	DILER40120	120VAC	4NO	44.00
48F3239	DIL3M120	24VAC	2NO/2NC	44.00
48F3240	DILER3124	24VAC	3NO/1NC	44.00
48F3241	DILER4024	24VAC	4NO	44.00
48F3242	DILER22G24	24VDC	2NO/2NC	52.80
48F3243	DILER31G24	24VDC	3NO/1NC	52.80
48F3244	DILER40G24	24VDC	4NO	52.80

TYPE DIL R RELAYS

48F3251	DILR22120	120VAC	2NO/2NC	66.00
48F3252	DILR31120	120VAC	3NO/1NC	66.00
48F3253	DILR40120	120VAC	4NO	66.00
48F3254	DILR2224	24VAC	2NO/2NC	66.00
48F3255	DILR3124	24VAC	3NO/1NC	66.00
48F3256	DILR4024	24VAC	4NO	66.00
48F3257	DILR22G24	24VDC	2NO/2NC	66.00
48F3258	DILR31G24	24VDC	3NO/1NC	66.00
48F3259	DILR40G24	24VDC	4NO	66.00

(38772) (ne38772)

THERMAL OVERLOAD RELAYS

Provide protection against motor overload and damage due to locked rotor conditions. **Type Z** motor overload relays for use with **type DIL M contactors, type ZE** for use with **type DIL E**.3-pole, ambient temperature compensated, trip-free, single phasing sensitivity. 1 NO and 1NC isolated contacts allow both trip and alarm usage. Hand reset or auto reset, and have a test/de-energizing button. UL listed, CSA certified, CE compliant, VDE approved.

Stock No.	Type	For Use With	Adjustable Amp Setting	Each
48F3301	ZE-1.0	DIL EM Contactors	0.6-1.0	44.00
48F3302	ZE-1.6	DIL EM Contactors	1.0-1.6	44.00
48F3303	ZE-2.4	DIL EM Contactors	1.6-2.4	44.00
48F3304	ZE-4	DIL EM Contactors	2.4-4	44.00
48F3305	ZE-6	DIL EM Contactors	4-6	44.00
48F3306	ZE-9	DIL EM Contactors	6-9	44.00
48F3307	ZE-12	DIL EM Contactors	9-12	44.00

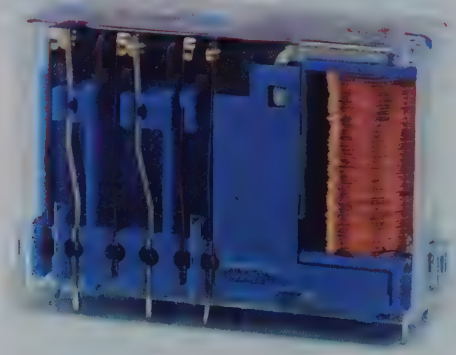
For DIL M Contactors

48F3308	Z000.16	DIL00M, 00AM	0.1-0.16	63.80
48F3309	Z000.24	0M, 0AM	0.16-0.24	63.80
48F3310	Z000.4	...	0.24-.40	63.80
48F3311	Z000.6	...	0.4-0.6	63.80
48F3312	Z001.0	...	0.6-1.0	63.80
48F3313	Z001.6	...	1.0-1.6	63.80
48F3314	Z002.4	...	1.6-2.4	63.80
48F3315	Z006	...	4.6	63.80
48F3316	Z0010	...	6-10	63.80
48F3317	Z0016	...	10-16	63.80
48F3318	Z0024	...	16-24	63.80
48F3319	Z140	DIL1M, 1AM, 2M, 2AM	24-40	82.50
48F3320	Z157	...	40-57	107.80
48F3321	Z163	...	57-63	115.50
48F3322	Z175	...	63-75	132.00

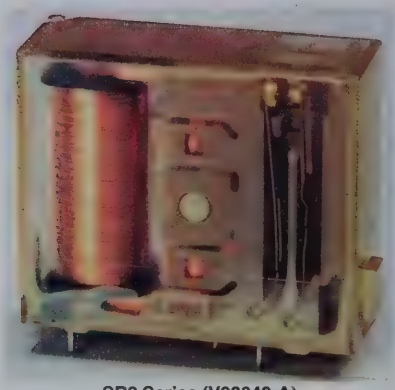
(34502) (ne34502)

SAFETY RELAYS

ZW, SR2, AND SR4 SERIES SAFETY RELAYS



ZW Series (V23048)



SR2 Series (V23049-A)

SR4 Series (V23049-B)

SR2 and **SR4 series** meet the requirements of the "Employer's Liability Insurance Associations" for the forcible actuation of contact pile-up. **SR2 series** are designed with 1 make and 1 break contact. **SR4 series** are designed with 3 make and 1 break contact. Maximum switching current: 8A. Features include: Compliance with the "Safety Rules for Controls for Power-Operated presses in Metal Working (ZH1/457)", sepearate contact chambers insuring that the actuating system is reliably isolated from the contact spring set even if the wire or spring breaks, clearance and creepage distances according to VDE 0110 insulation group C 250, and compact dimensions. Typical applications for **SR2, SR4**, and **ZW series** safety relays: emergeny stop switches, automatic door controls, two-hand controls, elevator control systems, escalator control systems, press control systems, photoelectric barriers/light-beam curatains, and system controls.

ZW SERIES SAFETY RELAYS

ZW series relays are 4-pole safetey relays designed with 2 make and 2 break or 3 make and 1 break contact configurations. All contacts are forcibly guided. Features separate contact chamber insuring that the actuating system is reliably isolated from the contact spring set even if the wire or spring breaks. Rated load voltage: 250VAC maximum. Continuous current: 6A.

Stock No.	Type	Coil Voltage (VDC)	Coil Resistant ±10% (Ω) @ 20°C	1-24	25-49	50-99
48F1594	V23048-A1001-A133	12	115	42.86	38.58	34.73
48F1595	V23048-A1003-A133	24	460	42.86	38.58	34.73

SR2 SERIES SAFETY RELAYS

SR2 series relays are 2-pole safetey relays designed with 1 make and 1 break contact. All contacts are forcibly guided. Rated load voltage: 250VAC maximum. Continuous current: 6A.

Stock No.	Type	Coil Voltage (VDC)	Coil Resistant ±10% (Ω) @ 20°C	1-24	25-49	50-99
48F1590	V23049-A1105-A111	12	315	26.81	24.13	21.73
48F1591	V23049-A1107-A111	24	1300	26.81	24.13	21.73

SR4 SERIES SAFETY RELAYS

SR4 series relays are 4-pole safetey relays designed with 2 make and 2 break or 3 make and 1 break contact configurations. All contacts are forcibly guided. Rated load voltage: 250VAC maximum. Continuous current: 6A.

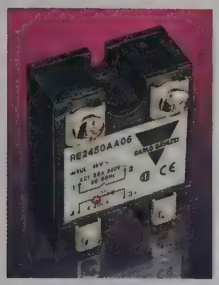
Stock No.	Type	Coil Voltage (VDC)	Coil Resistant ±10% (Ω) @ 20°C	1-24	25-49	50-99
48F1592	V23049-B1005-A131	12	255	29.87	26.89	24.20
48F1593	V23049-B1007-A131	24	1020	29.87	26.89	24.20

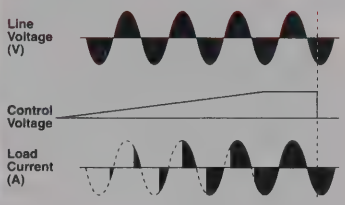
(33997) (ne33997)

NEWARK: YOUR ONE-STOP SHOP.

SOLID-STATE RELAYS AND HEAT SINKS

PHASE ANGLE FIRED ANALOG SWITCHING RELAYS





Ideally suited for "phase angle" control of resistive loads, such as heater bands or incandescent lamps. The relay switches off every time the current crosses zero and switches the load voltage proportionally with the applied analog control current. Back-to-back SCR output, rated up to 660VAC, controlled by 4-20mA DC. LED illumination is proportional to the input signal. UL recognized, CSA certified, CE compliant.

4-20 mA CONTROL CURRENT

Stock No.	Type	Line VAC	Amps	Each	2-5	6-10
96F1327	RE2410AA06	90-280	16A	90.53	87.54	83.48
96F1328	RE2425AA06	90-280	25A	102.11	98.73	94.15
96F1329	RE2450AA06	90-280	50A	115.79	111.96	106.77
96F1331	RE4825AA12	265-530	25A	115.79	111.96	106.77
96F1332	RE4850AA12	265-530	50A	134.58	130.22	122.31
96F1333	RE6050AA16	330-660	50A	178.12	172.47	164.65

(2426) (ne03236)

3-PHASE ZERO SWITCHING RELAYS

- Built-in MOVs and protective cover
- Bright LED indication
- Unique raised back plate
- Optimum heat dissipation
- AC and/or DC control voltage
- Up to 55A, 530VAC switching
- Up to 1200 Vp non-repetitive voltage

Three-phase zero switching solid-state relays for resistive loads (heater bands) and inductive loads. Optional pilot duty switch. Optional temperature limit switch monitors back plate temperature. UL recognized, CSA certified, CE compliant.

10-40 VDC CONTROL VOLTAGE

Stock No.	Type	Line VAC	Amps	Each	2-5	6-10
96F1315	RZ4825HDP0	12-530	25	165.64	160.27	150.53
96F1317	RZ4855HDP0	12-530	55	183.21	177.40	169.35

20-265 VAC/DC CONTROL VOLTAGE

Stock No.	Type	Line VAC	Amps	Each	2-5	6-10
96F1323	RZ4825HAP0	12-530	25	173.03	167.54	159.94
96F1325	RZ4855HAP0	12-530	55	193.39	187.25	178.76

(2428) (ne03239)

25 AMP TRIAC AC OUTPUT RELAYS

Economical 25-amp triac output for less demanding applications. Zero switching for resistive loads. Non-repetitive voltage: up to 650 Vp. UL recognized, CSA certified, CE compliant.

3-32 VDC CONTROL VOLTAGE

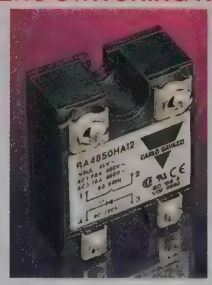
Stock No.	Type	Line VAC	Amps	Each	2-5	6-10
96F1283	RA2425-D06T	24-280	25	23.97	23.16	22.40

90-280 VAC/DC CONTROL VOLTAGE

Stock No.	Type	Line VAC	Amps	Each	2-5	6-10
96F1285	RA2425HA06T	24-280	25	28.32	27.37	26.47

(2372) (de03241)

SCR ZERO SWITCHING RELAYS



- Direct copper bonding technology
- Unique raised back plate
- Optimum heat dissipation
- AC and/or DC control voltage
- Up to 110 amp switching capability
- Up to 690 VAC switching
- Up to 1600 Vp non-repetitive voltage

Zero switching solid-state relays are commonly used for resistive and small inductive loads. They provide high current carrying capabilities for operational voltages up to 690 VACrms. Normally open, back-to-back SCR outputs are utilized in the output circuitry to reduce leakage current. UL recognized, CSA certified, CE compliant. **Type RA** SCR zero-switching relays are also available. *Contact your local Newark sales office*

3-32VDC CONTROL VOLTAGE

Stock No.	Type	Line VAC	Amps	Each	2-5	6-10
96F1265	RA2425-D06	24-280	25	26.14	25.27	24.43
96F1266	RA2450-D06	24-280	50	29.48	28.50	27.60
16F9292	RA2490D06	24-280	90	52.63	50.89	49.28
96F1271	RA4825-D12	42-530	25	31.58	30.54	29.57
96F1272	RA4850-D12	42-530	50	35.79	34.61	33.51
96F1260	RA4890-D12	42-530	90	59.30	57.34	55.52
96F1261	RA48110-D12	24-530	110	203.57	197.11	188.17
96F1263	RA60110-D16	24-690	110	223.92	216.82	206.98

90-280 VAC/DC CONTROL VOLTAGE

Stock No.	Type	Line VAC	Amps	Each	2-5	6-10
96F1274	RA2425HA06	24-280	25	28.32	27.37	26.47
96F1275	RA2450HA06	24-280	50	30.53	29.52	28.58
16F9293	RA2490HA06	24-280	90	77.90	75.32	72.93
96F1280	RA4825HA12	42-530	25	52.63	50.89	49.28
96F1281	RA4850HA12	42-530	50	58.95	57.00	55.19
16F9294	RA4890HA12	42-530	90	86.32	83.46	80.82

(2425) (ne03235)

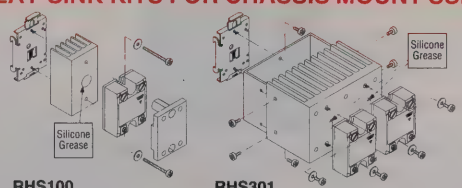
DC SWITCHING RELAYS

For fast switching of small DC loads. Transistor output, 3-32 VDC control. CSA certified and CE compliant.

Stock No.	Type	Line VDC	Current Amps	Each	2-5	6-10
96F1308	RD0605-D	3-60	5	45.27	43.77	42.38
96F1309	RD2001-D	3-200	1	58.95	57.00	55.19
96F1310	RD3501-D	3-350	1	75.79	73.29	70.96

(2427) (ne03237)

HEAT-SINK KITS FOR CHASSIS MOUNT SSRs



RHS100 RHS301

Heat-sink kits provide DIN rail mount capabilities of most chassis mount SSRs with standard 1- or 3-phase footprint. Heat-sink kits come with heat-sink, DIN rail adapter, mounting hardware, and thermally conductive compound.

Stock No.	Type	Description	°C/W	Each	2-5
91F4645	RHS00	DIN Rail Mounting Clip Only	≤12.5°	7.69	7.43
92F3115	RHS100	Heat Sink for One Single-Phase SSR	≤3.0°	32.68	31.58
92F3084	RHS301	Heat Sink for One or Two Single-Phase SSRs, or One Three-Phase SSR	≤0.8°	75.79	73.29
91F4646	RHS301F115C	**RHS301** w/ 115VAC Cooling Fan	≤0.25°	211.44	204.73

(2429) (ne03734)

CURRENT, VOLTAGE AND PHASE MONITORING CONTROLS

DIN RAIL MOUNT MONITORING RELAYS FOR VOLTAGE, PHASE AND FREQUENCY

DIN rail mount housings are 3.6H x 1.8W x 4″D (except **types EUI** which are 0.9″W), feature touch-safe front cover and compression clamp wiring terminals. Three LED indicators display: output on, time delay active, and supply voltage applied. Each relay monitors its supply voltage. **Types EUA** and **EUF** have 5A SPDT output(s). **Types EUB**, **EUC**, **EUY**, and **EFA** have 5A DPDT output(s). All monitoring relays feature adjustable delay(s), except **types EUAC**. All relays are three-phase, except **types EFA** and **EUI**, which are one phase. UL recognized, CSA certified, SEV certified and CE compliant.

Stock No.	Type	Monitoring VAC	Description	Each
16F2856	EUAC220	187-253	Phase Sequence/Loss, Monitors if	142.34
16F3115	EUAC480	408-552	Voltage is Within Set Limits. One	142.34
16F3116	EUAC600	510-690	Voltage Setting: ±15%.	152.51
16F3117	EUBC220	198-242	Monitors Phase-Phase for Over/	240.44
16F3118	EUBC480	432-528	Under VAC. Upper/Lower Settings	240.44
16F3119	EUBC600	540-660	with Adjustable Delays.	250.26
16F3120	EUCC220	114-140	Monitors Phase-Neutral For Over/	250.26
16F3121	EUCC400	208-254	Under VAC. Upper/Lower Settings with Adjustable Delays.	250.26
83F8772	EUFC220-1	187-253V	Load Guard Monitors Cosine Level	208.61
83F8773	EUFC480-1	408-552V	of Asynchronous Motors. Upper/	208.61
83F8774	EUFC600-1	510-690V	Lower Cosine Setpoints. **Type MI** CurrentTransformer Required.	208.61
16F3125	EUYC220	176-253	Monitors Over/Under VAC, Phase	299.33
16F3126	EUYC480	384-552	Asymmetry, Sequence and Loss.	299.33
16F3127	EUYC600	480-690	Upper/Lower VAC and Asymmetry Settings. Two Delay Settings. Diagnostic LEDs.	309.14
16F3128	EFAC115	98-132	1-Phase Frequency Monitor with	264.98
16F3129	EFAC230	196-254	Selectable Bandwidth Settings, Upper/Lower and Delay Settings.	264.98
16F3130	EUIC11520V	0.2-20*	Single-Phase AC/DC Over-Voltage	172.84
16F3131	EUIC115500V	1-500*	Monitor. Switch-Selectable Sub-Ranges, Adjustable Setpoint, and Delay.	172.84

*Supplied by 115VAC. Voltage to be monitored is wired to two separate terminals.

(2450) (ne08084)

DIN RAIL MOUNT CURRENT MONITORS

DIN rail mount housings are 3.6H x 0.9W x 4.0″D. These current monitors feature 5A SPDT output, LED status indicators, one setpoint, and adjustable delay time. **Type EII** accepts AC or DC current inputs from 0.4mA to 5A, split into three sub-ranges. **Type EIL** accepts inputs of 1A or 5A AC (i.e. secondary of current transformer), or can be interfaced directly to **type MI** (1-phase). **Type EIL**'s maximum current rating is typically equal to the primary side of the current transformer. Supply voltage: 115VAC. Other voltages are available; *contact your local Newark sales office.* UL recognized, CSA and SEV certified, CE compliant.

Stock No.	Type	Monitoring Range	Description	Each
16F3132	EIIC11520MA	0.4-20mA	AC/DC Current Monitoring	172.84
16F3133	EIIC115500MA	10-500mA	Relay, Adjustable Setpoint	172.84
16F3134	EIIC1155A	0.2-5A	and Delay.	172.84
16F4062	EILC115	0.1-1A 0.5-5A MI/MP C. T.	AC Current Monitoring Relay (CT Input), Adjustable Setpoint and Delay.	172.84

(2451) (ne08085)

PLUG-IN CURRENT AND VOLTAGE MONITORS

Plug-in monitors feature housings 3.2H x 1.4W x 3.2″D. Relays are activated when setpoint is reached. Output: 10A SPDT. Features adjustable setpoint, hysteresis, and latch function. Requires use with **type S411** 11-pin circular socket; *ordered separately on page 1445.* UL recognized, CSA and SEV certified, CE compliant.

1-PHASE AC/DC VOLTAGE SET POINT RELAYS

115VAC supply. Other voltages are available; *contact your local Newark sales office.*

Stock No.	Type	Monitoring Range (AC/DC Voltage)	Voltage (VAC/DC Max.)	Each
96F1359	SM1251154V	0.1-4	50	103.49
96F1360	SM12511520V	2-20	100	103.49
96F1361	SM12511550V	5-50	200	103.49
96F1362	SM125115200V	20-200	350	103.49
96F1363	SM125115500V	50-500	500	103.49

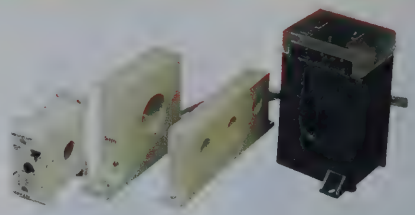
1- AND 3-PHASE AC CURRENT MONITORS

115VAC supply. Other voltages are available; *contact your local Newark sales office.*

Stock No.	Type	Monitoring Range (Amps AC)	Using CT Series	Each
96F1342	SM115115	0.5-500	MI 1-Phase, MI or MP Series	103.49

(2490) (ne08565)

1- AND 3-PHASE CURRENT TRANSFORMERS



EIS MI/A82 MP TAD

1-PHASE MINI DIN RAIL MOUNT CT WITH ADJ. SETPOINT

Housed in a miniature 2H x 0.9W x 2.2″D housing. **Types EIS** snap onto a DIN rail or can be chassis-mounted. Features a setpoint and integrated 100mA NPN output. 2-20A AC and 5-50A AC ranges. Thru-hole: 0.47″. CE compliant.

Stock No.	Type	Monitoring Range (Amps AC)	Max. Amps (AC)	Each
16F3135	EISNNOA20A	2-20	40	81.18
16F3136	EISNNOA50A	5-50	100	81.18

1-PHASE CHASSIS MINI DIN RAIL MOUNT CT WITH 4-20mA ANALOG OUTPUT

Housed in a compact 2H x 0.9W x 2.2″D housing. **Types E82** snap onto DIN rail or can be chassis mounted. Three selectable ranges. Thru-hole: 0.47″. CE compliant.

83F8775	E822025	0-5, 0-10 or 0-25	50	123.27
83F8776	E822050	0-20, 0-30 or 0-50	100	123.27

1-PHASE CHASSIS-MOUNT CTs FOR SM115, EIL & EUF SERIES

Thru-hole for **Type MI5** and **MI20:** 0.41″. **MI100** and **MI500:** 1.06″. CE compliant.

96F1345	MI5	0.5-5	20	55.88
96F1346	MI20	2-20	50	55.88
96F1347	MI100	10-100	250	74.86
96F1348	MI500	50-500	700	74.86

3-PHASE CHASSIS-MOUNT CTs FOR SM115 & EILC SERIES

Thru-hole for **Types MP3005** and **MP3020**: 0.47″; **types MP3100** and **MP3500** : 1.06″. CE compliant.

96F1349	MP3005	0.5-5	20	167.76
96F1350	MP3020	2-20	50	167.76
96F1351	MP3100	10-100	150	196.28
96F1352	MP3500	50-500	500	196.28

1-PHASE CHASSIS-MOUNT CTs WITH 4-20mA ANALOG OUTPUT

Proportional 2-wire sinking. Thru-hole:1.06″. CE compliant.

83F8777	A822025	0-25	30	194.39
96F1353	A82-20-50	0-50	60	201.19
96F1354	A82-20-100	0-100	120	201.19
83F8778	A8220250	0-250	3000	194.39
96F1355	A82-20-500	0-500	600	201.19

1-PHASE CURRENT TRANSFORMERS WITH 5A SECONDARY OUTPUT

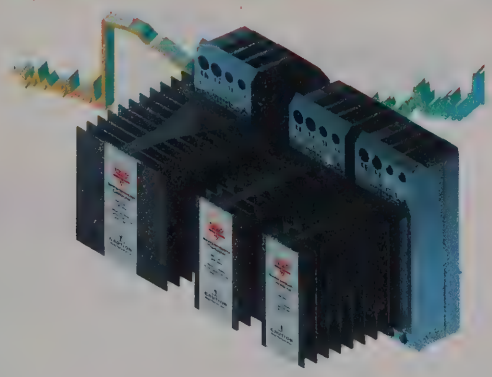
DIN rail or chassis-mounting. Thru-hole: 0.87″. Higher rated primary ratings are available; *contact your local Newark branch.*

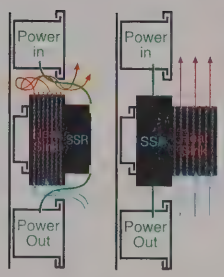
96F1392	TAD2-505A	0-50	50	46.89
96F1393	TAD2-1005A	0-100	100	46.89

(2452) (ne08086)

SOLID-STATE CONTACTORS AND RELAYS

SOLITRON SOLID-STATE CONTACTOR WITH INTEGRATED HEAT-SINK





- **User Friendly— Just Snap onto DIN Rail**
- **Ideal Alternative to Mercury Relays**
- **Front-Mounted Heat Sink for Optimium Cooling**
- **One- or Two-Pole Switching**
- **Zero Switching for Resistive Motor Loads**
- **Built-in MOV Protection**
- **LED Indication**
- **AC and/or DC Control Voltage**
- **Up to 63A Switching at 86°F**
- **24-530VAC Switching**
- **Up to 1200 Vp Non-Repetitive Voltage**

DIN rail-mounted solid-state relays feature integral front-mounted heat-sinks which provide cooling by natural air convection within the panel. Provide alternative to environmentally hazardous mercury relays. Available in single- or double-pole output versions. Double-pole versions, "Max. Total Current" rating indicates the maximum amount of current that can be switched through both output semiconductors. (For example, if a 50A relay is being used, unit allows 10A switching through one output and 40A through the other —not 50A through both). Switching 2 of 3 voltage lines to the load is acceptable in most resistive heating element applications. Dimensions: 4.74H x 4.06"D (for width, *see table below*). Higher surge current relays are available; *contact your local Newark sales office.* UL recognized, CSA certified, CE compliant.

1-POLE—5-24VDC CONTROL VOLTAGE

Stock No.	Type	Width	Line to Line VAC	Max. Total Current	Current (≤20mS)	Each
48F3468	RN1A23D30	1.77" (45)	24-250	30A	250A	100.69
91F4650	RN1A23D50	3.50" (89)	24-250	50A	600A	111.87
48F3469	RN1A23D63	3.50" (89)	24-250	63A	1000A	160.04
48F3470	RN1A48D30	1.77" (45)	42-530	30A	250A	101.70
16F2823	RN1A48D50	3.50" (89)	42-530	50A	600A	121.05
48F3471	RN1A48D63	3.50" (89)	42-530	63A	1000A	165.04
1-POLE—20-265VAC/DC CONTROL VOLTAGE						
48F3472	RN1A23A30	1.77" (45)	24-250	30A	250A	101.70
91F4648	RN1A23A50	3.50" (89)	24-250	50A	600A	111.87
48F3473	RN1A23A63	3.50" (89)	24-250	63A	1000A	160.04
48F3474	RN1A48A30	1.77" (45)	42-530	30A	250A	106.79
16F2825	RN1A48A50	3.50" (89)	42-530	50A	600A	121.05
48F3475	RN1A48A63	3.50" (89)	42-530	63A	1000A	165.04
2-POLE—5-24VDC CONTROL VOLTAGE						
48F3480	RN2A23D30	1.77" (45)	24-250	30A	250A	106.79
91F4654	RN2A23D50	3.50" (89)	24-250	50A	600A	160.04
48F3481	RN2A48D30	1.77" (45)	42-530	30A	250A	165.04
16F2827	RN2A48D50	3.50" (89)	42-530	50A	600A	173.03
2-POLE—20-265VAC/DC CONTROL VOLTAGE						
48F3482	RN2A23A30	1.77" (45)	24-250	30A	250A	140.03
91F4652	RN2A23A50	3.50" (89)	24-250	50A	600A	160.04
48F3483	RN2A48A30	1.77" (45)	42-530	30A	250A	155.04
16F2729	RN2A48A50	3.50" (89)	42-530	50A	600A	178.12

(13728) (ne08169)

SOLITRON SOLID STATE RELAY WITH SYSTEM MONITORING

- **Monitors Line, Load, and Solid State Switching**
- **Provides Alarm in Fault Conditions**
- **User Friendly — Just Snap Onto DIN Rail**
- **Front-Mounted Heat Sink for Optimum Cooling**
- **Zero Switching for Resistive/Motor Loads**
- **Built-in MOV Protection**
- **Diagnostic LED Indication**
- **DC Control Voltage**
- **Up to 50A Switching at 86°F**
- **120-530VAC Switching**
- **Up to 1200Vp Non-repetitive Voltage**

System-monitoring solid state relay provides normally-closed NPN alarm output. Internal circuit monitors line voltage, line current, correct function of relay, and input status. Red LED (half intensity) indicates DC control voltage applied, with full-intensity indicating that relay is switched on. Back-to-back SCR output. 20-32VDC control. Dimensions: 4.74 x 4.06" (H x D). Width appears in table below. CE compliant. Normally open and PNP outputs are also available. *Contact your local Newark sales office.*

Stock No.	Type	Line VAC	Max. Total Current	Current (≤10ms)	Width	Each
48F3484	RN1S23H30NC	120-265	30	250A	1.77"	111.87
48F3485	RN1S23H50NC	120-265	50	600A	3.50"	124.08
48F3486	RN1S48H30NC	180-530	30	250A	1.77"	113.91
48F3487	RN1S48H50NC	180-530	50	600A	3.50"	128.03

(34000) (ne34000)

SOLITRON MINI SOLID STATE RELAY

- **Compact Size — 0.89" (22.5mm) Wide**
- **User Friendly — Just Snap Onto DIN Rail**
- **One-Pole Switching**
- **Zero Switching for Resistive/Motor Loads**
- **AC and/or DC Control Voltage**
- **Up to 20A Switching at 86°F**
- **Up to 660VAC Switching**
- **Up to 1600Vp Non-repetitive Voltage**

DIN-rail-mounted solid state relays for lower amperage applications feature rear-mounted heat sinks, touch-safe front cover, built-in MOV protection and LED indication. Line-to-line VAC: 42-660. Dimensions: 3.92 x 0.89 x 4.06" (HxWxD). CE compliant.

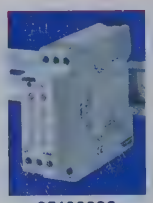
SINGLE POLE 5-32VDC CONTROL

Stock No.	Type	Max. Total Current	Current (≤20ms)	Each
48F3476	RN1A60D10U	10A	250A	33.68
48F3477	RN1A60D20U	20A	600A	42.10
SINGLE POLE 24-265VAC/VDC CONTROL				
48F3478	RN1A60A10U	10A	250A	33.68
48F3479	RN1A60A20U	20A	600A	42.10

(34001) (ne34001)

SAFETY AND CONTROL RELAYS

KNA SERIES SAFETY RELAYS


85100026

8510003X

- **Emergency Stop and Moving Guard Monitoring Functions**
- **Self-Checking Redundancy Concepts**
- **Return Loop for Connection of External Contactors**

KNA series safety relays interface between emergency pushbuttons, limit switches, pressure mats, sensors, and contactors. Redundancy and self checking make **KNA series** achieve Level 4 safety in accordance with EC European Standard EN 954-1 and the European Machinery Directive 89/392/EC. UL and cUL recognized. CE compliant.

Stock No.	Type	Safety Level	No. of Safety/Aux. Contacts	Width	Operating Voltage	Each
52F1217	85100026	3	2S	0.9″	24VAC/DC	172.09
91F5517	85100121	4	2S	1.75″	24VDC	200.71
91F5518	85100124	4	2S	1.75″	110VAC	200.71
91F5519	85100125	4	2S	1.75″	230VAC	200.71
52F1218	85100031	4	3S/2A	3.5″	24VDC	286.55
52F1220	85100035	4	3S/2A	3.5″	230VAC	286.55

(2987) (ne06296)

FAIL-SAFE, ZERO SPEED STANDSTILL MONITOR RELAYS

KSW series safety relays are used for safety gate interlocking to prevent access to hazardous areas when motors are running. For monitoring the voltage regenerated by DC or AC motors (1- or 3-phase, up to 600VAC) during rundown. No additional sensors are required. Achieve Level 3 safety in accordance with EC European Standard EN 1088 for interlocking devices. Number of safety contacts: 2. Width: 1.75″. UL and cUL recognized. CE compliant.

Stock No.	Type	Operating Voltage	Each
91F5525	85100316	24VAC/DC	319.76
91F5526	85100314	115VAC	319.76
91F5527	85100315	230VAC	319.76

(14626) (ne10568)

FW SERIES PHASE MONITORS

FW Series phase monitors protect against phase loss, phase reversal and low voltage. 48mm wide DIN rail/surface mount enclosures. LED indication for power on and 3-phase status. Two adjustable front dials for nominal voltage setting and 0.1 to 10 second time delay. Rugged construction for over voltage and line transients. UL and cUL listed, CE compliant.

Stock No.	Type	Power Supply	Each
91F5515	84873010	3 x 230VAC	96.18
91F5516	84873015	3 x 480VAC	96.18
83F7499	84873016	3 x 600VAC	92.93

(31879) (ne31879)

KZH SERIES 2-HAND CONTROL SAFETY RELAYS

KZH Series Relay

Console

KZH series safety relays achieve up to Level 4 safety in accordance with EC European Standard EN 574 (required for 2-hand logic blocks). UL and cUL recognized. CE compliant.

Stock No.	Type	Safety Level	No. of Safety/Aux. Contacts	Width	Operating Voltage	Each
91F5520	85100231	4	3S/2A	3.5″	24VDC	326.40
91F5521	85100234	4	3S/2A	3.5″	110VAC	326.40
91F5522	85100235	4	3S/2A	3.5″	230VAC	326.40

CONSOLE AND BASE

Console has 2 safety pushbuttons that are 2 N.O./2 N.C. and one emergency stop push-pull button that is 1 N.O./1 N.C.

Stock No.	Type	Description	H x W x L	Each
91F5523	85100291	Console	3.5 x 3.5 x 4.1″	521.12
91F5524	85100292	Base	31 x 20 x 10″	428.19

(14627) (ne10559)

CONTROL RELAYS

EN Liquid Level Control

MCI Current Control

EIH Current Control

EUH Voltage Control

Monitoring relays designed for current, voltage and liquid level control. Space-saving DIN rail/surface mount 22.5mm and 17.5mm enclosures. Feature adjustable time delays for avoiding nuisance tripping. LED monitoring and power on status. UL and cUL listed, CE compliant.

Stock No.	Type	Description	Power Supply	Each
91F5511	84870003	22.5mm Pump Up/Pump Down EN Conductive Liquid Level Control	120VAC	84.26
91F5512	84871009	22.5mm Over/Under (Selectable) EIH Current Control (10A AC/DC Max.)	120VAC	118.13
83F7497	84871204	22.5m Over/Under (Selectable) EIT Current Control (10 to 100A)	120VAC	109.56
83F7498	26852304	Current transformer for **Type 84871204**	...	34.89
91F5513	84871102	22.5mm MCI Current Control w/Built-In Transformer	24V, 110-240VAC	104.00
91F5514	84872009	22.5mm Over/Under (Selectable) EUH Voltage Control (600V Max.)	120VAC	120.13

(14030) (ne10363)

LIMIT AND EMERGENCY STOP SWITCHES ARE ALSO AVAILABLE ON PAGE 1491.

(31987) (ne3199)

CRYDOM

Control over power

NEW

AC SOLID-STATE RELAYS

COOLPAK™ CMRA SERIES AC OUTPUT RELAYS

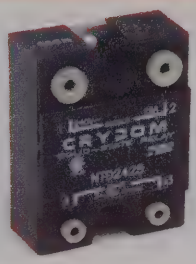
Series CMRA relays feature status-indicating LED, DIN rail, or panel mounting, and fingerproof easy to use input and output cage type terminals. All types offer integral factory- installed heat sinks and are available in zero voltage switching. All types are AC control and have 90-140Vrms control range.

240VAC OUTPUT (24-280Vrms)

Stock No.	Type	Load Current (Arms)	One-Cycle Surge (Apk)	1-9	10-24	25-49	50-99
48F953	CMRA2435	0.15-35	250	52.97	48.74	44.50	40.79
48F954	CMRA2445	0.15-45	625	56.78	52.24	47.70	43.72
48F955	CMRA2455	0.25-55	1000	68.19	62.74	57.28	52.51
48F956	CMRA2465	0.25-65	1200	78.34	72.08	65.81	60.33
480VAC OUTPUT (48-530Vrms)							
48F957	CMRA4835	0.15-35	250	55.06	50.66	46.25	42.40
48F958	CMRA4845	0.15-45	625	59.02	54.30	49.58	45.45
48F959	CMRA4855	0.25-55	1000	70.90	65.23	59.56	54.60
48F960	CMRA4865	0.25-65	1200	81.48	74.97	68.45	62.74
600VAC OUTPUT (48-660Vrms)							
48F961	CMRA6035	0.15-35	250	57.12	52.55	47.98	43.99
48F962	CMRA6045	0.15-45	625	61.25	56.35	51.45	47.17
48F963	CMRA6055	0.25-55	1000	73.59	67.71	61.82	56.67
48F964	CMRA6065	0.25-65	1200	84.58	77.82	71.05	65.13

(32983) (ne32983)

NTD AND NTA SERIES AC OUTPUT RELAYS



NTD and **NTA series** feature a wider operating range (24-280VAC), when compared to the **TD** and **TA series**, permitting optimum performance at both 120VAC and 240VAC line voltages. All types are available with zero voltage or random switching (**suffix 10**) or with the FASTON® terminal option (**suffix F**). DC types have 3-32VDC control and AC types have 90-140VAC control. ISO 9002 certified.

DC CONTROL 120/240VAC OUTPUT (24-280 VAC)

Stock No.	Type	Load Current (Arms)	1-Cycle Surge (Apk)	1-9	10-24	25-49	50-99
83F4414	NTD2410	0.15-10	120	19.57	18.01	16.44	15.07
83F4415	NTD2425	0.25-25	250	21.73	20.00	18.26	16.74
AC CONTROL 120/240VAC OUTPUT (24-280 VAC)							
83F4410	NTA2410	0.15-10	120	21.20	19.51	17.81	16.33
83F4411	NTA2425	0.15-25	250	23.66	21.77	19.88	18.22

(28128) (ne28128)

FOR COMPLETE PRODUCT SPECIFICATIONS:
CALL 888-267-9184
CMRA/CMRD CODE – 171
NTD/NTA SERIES – CODE 176
FOR ADDITIONAL CRYDOM RELAY PRODUCTS, SEE SECTION 15 OF THIS CATALOG

(30070) (ne30070)

COOLPAK™ CMRD SERIES AC OUTPUT RELAYS

CMRD series relays feature status-indicating LED, DIN rail or panel mount, and "fingerproof" easy-to-use input and output cage type terminals. All types offer integral factory-installed heat sinks and are available in zero voltage or random turn-on switching (**suffix 10** in type number). All types have 4-32VDC control. ISO 9002 certified. AC control versions are also available; *contact your local Newark sales office.*

DC CONTROL 240VAC OUTPUT (24-280 VAC)

Stock No.	Type	Load Current (Arms)	1-Cycle Surge (Apk)	1-9	10-24	25-49	50-99
83F4394	CMRD2435	0.15-35	250	50.74	46.68	42.63	39.07
83F4395	CMRD2445	0.15-45	625	54.55	50.19	45.83	42.01
83F4396	CMRD2455	0.25-55	1000	65.97	60.70	55.42	50.80
83F4397	CMRD2465	0.25-65	1200	76.11	70.03	63.94	58.61
DC CONTROL 480VAC OUTPUT (48-530 VAC)							
83F4398	CMRD4835	0.15-35	250	52.83	48.61	44.38	40.68
83F4399	CMRD4845	0.15-45	650	56.79	52.25	47.71	43.73
83F4400	CMRD4855	0.25-55	1000	68.67	63.18	57.69	52.88
83F4401	CMRD4865	0.25-65	1200	79.25	72.91	66.57	61.03
DC CONTROL 600VAC OUTPUT (48-660 VAC)							
83F4402	CMRD6035	0.15-35	250	54.90	50.51	46.12	42.28
83F4403	CMRD6045	0.15-45	625	59.02	54.30	49.58	45.45
83F4404	CMRD6055	0.25-55	1000	71.36	65.66	59.95	54.95
83F4405	CMRD6065	0.25-65	1200	82.35	75.77	69.18	63.41

(28127) (ne28127)

IF YOU DON'T SEE THE PRODUCT YOU NEED LISTED HERE - CALL!
1-800-4-NEWARK
(1-800-463-9275)

AKT/AKB SERIES ANALOG ISOLATING/COUPLING MODULES

- **ISO9001 Certified**

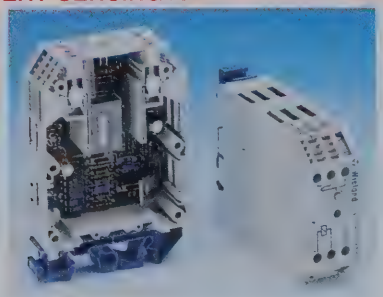
AKT/AKB series modules with or without electrical isolation for signal and supply. Used to convert an analog measurement from one signal standard to another. Supply voltage: 24V ±20%. Cut-off frequency: 20 kHz ±10V, 10kHz. Width is 22.5mm. Maximum load is 500 ohms. Operating temperature range: 0-70°C. Additional signal ranges available; *contact your local Newark sales office.*

ISOLATED VERSION

Stock No.	Type	Input Signal	Output Signal	1-24
50F7060	57.806.1053	-10-+10V	-10-+10V	196.82
50F7061	57.806.0653	0-10V	0-20mA	196.82
50F7062	57.806.0753	0-20mA	0-10V	196.82
50F7063	57.806.1153	0-20mA	0-20mA	196.82
50F7064	57.806.0853	4-20mA	0-10V	196.82
UNISOLATED VERSION				
50F7108	57-806-0353	4-20mA	0-10V	113.03
50F7109	57.806.1553	0-10V	4-20mA	113.03
50F7111	57.806.1753	0-20mA	4-20mA	111.39
50F7112	57-806-1853	4-20mA	0-20mA	113.03

(2307) (de01467)

CURRENT-SENSING ALARM RELAY MODULE



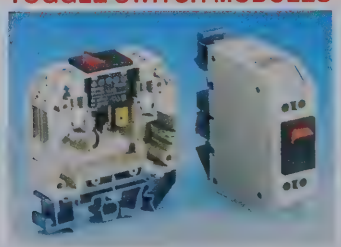
- **ISO9001 Certified**

CSR module accepts power supply feed from 9½VDC to 40VDC. Detects a current level between 4mA and 20mA DC. Dry contact closure or disconnect (SPDT). The control electronics and dry contact relay are built-in. Breaking voltage: 380VAC/125VDC. Current: 7A maximum. Maximum ambient temperature: +60°C.

Stock No.	Type	Description	1-24
50F7113	57.802.3053	CSR Module	77.58

(2308) (de01469)

TOGGLE SWITCH MODULES



Switch modules function to turn on or off a branch circuit under load. Available in DPST circuit variation. Unit is rated 8A at 125V and 4A at 250V, and designed with a universal mounting base for DIN rail assembly. Ideal for enclosures with restricted space and/or a hard-to-reach disconnect. Housing: polyamide 6.6. Pressure connector: zinc-plated and chromated steel. Current bar: tin-plated copper alloy. Color: gray. For complete technical specifications, as well as other technical configurations, *contact your local Newark sales office.*

Stock No.	Type	Circuit	1-9
16F4731	WEG-DPST-8A/125V	DPST	32.91

(2464) (ne08191)

SURGE PROTECTION MODULES

120VAC Lightning Arrester

Dual-Channel RS-485 Module

Type WT/WEG-HSP-001ATC 120VAC lightning arrester provides both common and differential mode protection. Capable of withstanding a 10kV surge. Provides primary side protection of remote electronic equipment. 2 protection stages. DIN rail mounting.

Stock No.	Type	Input	Common	Differential	1-9
16F4733	WT/WEG-HSP-001ATC	120VAC, 1 A	80 Joules	150 Joules	105.96

Type WT/WEG-LSP/RS-485 dual-channel RS-485 module is for use with lines in close proximity to industrial transients. 4-stage hybrid protection. DIN rail mounting.

Stock No.	Type	Common Energy	Common Current	1-9
16F4734	WT/WEG-LSP/RS485	3.4 Joules	1000 Amps	72.46

(2465) (ne08192)

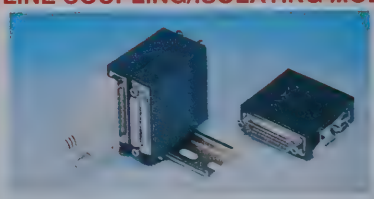
DATA CABLE CONNECTOR TO TERMINAL BLOCK INTERFACES

Terminal block accepts up to 12AWG wire. Polarized and compatible with all systems. Length (perpendicular to rail) is 80mm. 35x7.5mm DIN 46 277 (**type 98.300.0000**) and 32x15mm DIN 46 277 (**type 98.190.0000**) mounting rails available; *contact your local Newark sales office.*

Stock No.	Type	Poles	Width	1-9
MALE FLAT CABLE WITH SHORT AND LONG LEVERS — 1 AMP				
51F4117	87.210.2204.3	20	60.9mm	40.94
51F4120	87.210.2207.3	34	92.9mm	59.74
51F4121	87.210.2208.3	40	108.8mm	65.48
51F4123	87.210.2210.3	50	134.2mm	77.19
D-SUB TRAPEZOIDAL MALE CONNECTORS — 5 AMPS				
51F4140	87.200.2207.3	25	74.0mm	51.19
51F4141	87.200.2208.3	37	106.0mm	61.62
D-SUB TRAPEZOIDAL FEMALE CONNECTORS — 5 AMPS				
51F4144	87.200.2201.3	15	48.2mm	43.86
CENTRONICS® 50-PIN CONNECTOR — 2.5 AMPS				
16F4735	W-23/1/91	50	138.0mm	45.56

(2390) (de50201)

DATA LINE COUPLING/ISOLATING MODULES



- **ISO9001 Certified**

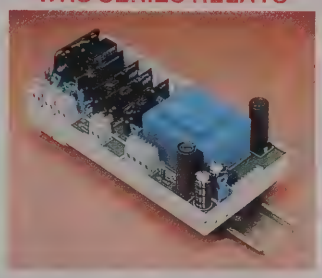
For conversion and isolation of common data lines. Data transmission up to 3250 feet. Require 5V/130mA power on pin 18 of 25-pin D-sub connector. DIN rail mount (TS 35).

Stock No.	Type	Speed	Line A	Line B	1-9
16F4736	57.007.0053.0	20k Baud	RS-232/V.24	TTY	218.22
16F4737	57.007.0153.0	20k Baud	RS-232/V.24	RS-422	218.22

(2466) (ne08194)

INDUSTRIAL DIN RAIL RELAYS AND ACCESSORIES

WRS SERIES RELAYS



- **ISO 9001 Certified**

DIN rail mount high-performance relays feature small, narrow housing to minimize space required in cabinet. Mount on TS32 or TS35 DIN rails. Accept 12 AWG wire. Include LED for status indication. 4kV I/O insolation voltage. In addition to pure resistive loads, single-and three-phase solid-state relays also switch inductive loads, such as motors, on and off, at a zero voltage crossing. Additional features include the prevention of unintentional starting and an adjustable minimum CCW/CW reversal time. All 24V input **WRS series** relays have gold plated jumpering pins that when jumpered to an adjacent **WRS series** relay, provides a common connection between the two (or more) relays -Vcc coil connection. For this purpose *order* **type Z8.000.0103.4** *insulated jumper separately; contact your local Newark sales office.*

MECHANICAL RELAYS

Stock No.	Type	Input	Output Voltage		Output Current	1-9
			Min.	Max.		
16F4756	80.010.0005.0*	24V AC/DC	12V	250V AC/DC	5A AC/DC	**17.44**
16F4757	80.010.0008.0†	24VDC	12V	250V AC/DC	5A AC/DC	**20.40**
16F4760	80.010.0007.0*	24V AC/DC	µV/µA	48VDC	20mA	**23.56**
16F4762	80.010.1002.0‡	24VDC	µV/µA	48VDC	20mA	**33.78**
16F4763	80.010.1100.0‡	115/230V AC/DC	5V	250AC/DC	5A AC/DC	**51.62**

Contacts: * SPST-NO, † SPDT, ‡ DPDT

SOLID-STATE RELAYS

Stock No.	Type	Input	Output Voltage	Output Current	Function	1-9
16F4764	80.020.2003.0	24VDC	3-60VDC	3ADC	SPST	**40.21**
16F4748	80.020.0001.0	24VDC	400VAC	4A	3-Phase Relay	**99.97**

(2485) (ne08526)

TIMER RELAY

DIN rail mount multifunction relay can be easily configured on front panel to any of the following functions: On delay, Off delay, pulse, and pulse-one shot. Time range adjustable from 0.1 to 311 sec. SPDT relay accepts 12 AWG wire. Includes green and red LEDs for status indication.

Stock No.	Type	Input	Output Voltage	Output Current	1-9
16F4750	81.020.3000.0	24VDC	250V AC/DC	8A AC/DC	**69.79**

(2486) (ne08527)

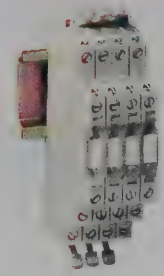
OCTAL RELAY BASE

DIN rail mount, round octal relay socket modules available for 8- and 11-pin contact relays. Universal mounting foot for attachment to either TS 35 symmetrical or TS 32 asymmetrical DIN rails. Rated 10A, 300V, 22-12AWG.

Stock No.	Type	Description	1-9
16F4751	WB.100.116.DC	8-Pin DC Version with Diode Across Input	**36.90**
16F4752	WB.100.116.AC	8-Pin AC Version	**36.90**
16F4753	WB.110.117.DC	11-Pin DC Version with Diode Across Input	**33.28**
16F4754	WB.100.117.AC	11-Pin AC Version	**33.28**

(2487) (ne08528)

FLARE SERIES 6.2mm WIDE RELAY/TERMINAL BLOCKS



DIN rail mount **Flare series** terminal block relay combinations provide a means of isolating the PLC or controller from the process. Choice of either mechanical relays with screw clamp for wiring or solid-state relays with spring clamp for wiring. Coil and contact wiring on opposite sides of block for clear visual separation. 4kV electrical isolation. 10 AWG solid or 12 AWG stranded max. wiring size. *Order* **type Z8.000.0200.8** *plastic insulated jumpers for –Vcc bridging separately; contact your local Newark sales office.*

MECHANICAL RELAYS WITH SCREW CLAMP

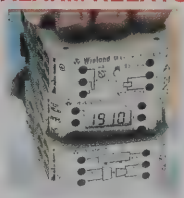
Stock No.	Type	Input	Output Voltage		Output Current	1-9
			Minimum	Maximum		
91F4907	80.010.4000.0	24VDC	24V/8mA	250V AC/DC	6A	**20.65**
91F4908	80.010.4005.0	24V AC/DC	...	48VDC	20mA	**24.67**

SOLID-STATE RELAYS WITH SPRING CLAMP

Stock No.	Type	Input	Output Voltage	Output Current	1-9
91F4909	80.020.4101.1	24VDC	48VDC	2A	**38.88**
91F4910	80.020.4100.0	24VDC	48VDC	0.5A	**34.24**
91F4911	80.020.4102.0	115V AC/DC	48VDC	0.5A	**35.37**
91F4912	80.020.4103.0	230VAC	48VDC	0.5A	**34.20**

(17632) (ne10152)

ALARM RELAYS



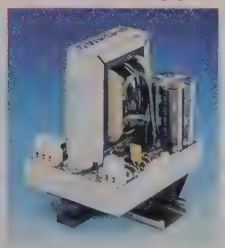
- **ISO 9001 Certified**

DIN rail mount alarm relays with 2 set points (high and low limits). The low limit output becomes active when the analog value falls below the "low" set valve. The high limit is active when a signal occurs above the "high" set value. The LCD is 4 digits with resolutions of 10mV or 10µA. The display is switchable between high set point /low set point and present signal value. Units without LCD may be configured and monitored by use of a multimeter. Isolation provided is 2-way (input/output) or 3-way (input/output/power supply). Required 24-volt power supply.

Stock No.	Type	Input Range	Output	Isolation	LCD	1-9
16F4755	57.802.2053.0	–10 to 10V	24V	2-Way	Yes	**402.34**
16F4740	57.802.2253.0	0 to 20mA	24V	2-Way	Yes	**402.75**
16F4742	57.802.1453.0	–199 to +199mV	24V	3-Way	No	**288.02**

(2488) (ne08529)

DIN RAIL POWER SUPPLIES



DIN rail mount 24-Volt power supplies mount on either TS 32 or TS 35 DIN rails. 4kV isolation voltage. Have jumper capability if used with **WRS series** relays, *ordered separately on this page.* Input and output current overload protection.

Stock No.	Type	Input	Output		1-9
			Voltage	Current	
16F4745	81.000.3000.0	115VAC/230VAC +6% –10% 50/60Hz	24V	300mA	**69.98**
16F4746	81.000.3010.0	115VAC/230VAC +6% –10% 50/60Hz	24V	1A	**135.47**

(2489) (ne08530)

ARTISAN

PRECISION TIMING DEVICES

438 SERIES UNIVERSAL IN-LINE TIMERS

Fig. 1

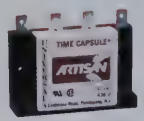


Fig. 2

Fig. 3

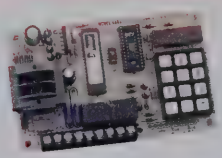
Fig. 4

438 series"Universal Voltage" in-line solid-state timers for delay-on-make and interval control of load devices operating from 19 – 288VAC/DC, except **type 438USA-INT** which provides interval timing for AC loads from 24 – 240 volts. Load devices can be relays, solenoids, or lamps with a 1 ampere load rating. Operating temperature range: –20°C to +85°C. **Type 438U** is adjusted by putting a resistor across middle two terminals – 10K/second. **Types 438USA** and **438USA–INT** are DIP switch adjustable. **Type 438UP** has an adjustable potentiometer. UL recognized, CSA certified.

Stock No.	Type	Fig.	Time Range	Each	2-4
44F7529	438USA	4	1 to 1024 sec	34.39	33.75
44F7530	438U	2	1 to 1000 sec	30.13	29.56
44F7531	438UP	3	3 sec to 8 min	32.01	31.42
96F8352	438-USA-INT	1	1 to 1024 sec	35.48	34.82

(2887) (de50183)

TYPE 4950 7-DAY PROGRAMMABLE CONTROLLERS


Type 4950120VAC

Type 4950H120VAC

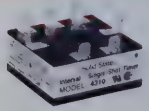
Type 4950PM120VAC

Type 4950 programmable 7-day controllers turn on and off two separate power relays on a seven day, 24-hour basis for up to 56 times per week, with a maximum of eight events per day. EEPROM program memory maintains the programmed schedule for up to ten years without battery backup. **Type 4950** is an open printed circuit board with two SPDT sets of 5 amp contact. **Type 4950H** is housed in a metal enclosure with two knockout holes for wiring. Two SPDT sets of contacts rated for 20 amperes with keypad for programming and a red LED to display time of day. **Type 4950B** is a bell controller for factories and schools which features "on" time settable in seconds. **Type 4950PM** can be front panel-mounted. Features a tactile keypad. Time of day maintained in a smart timepiece circuit that keeps time running for up to 5 days during a power failure without the use of external batteries. Other voltages available. *Contact your local Newark sales office.*

89F743 Type 4950-120VAC. **Each** **175.40**
98F7502 Type 4950B. **Each** **239.32**
50F932 Type 4950H-120VAC. **Each** **239.32**
16F503 Type 4950PM-120VAC. **Each** **175.40**

(2839) (de04398)

INTERVAL/SINGLE-SHOT TIMERS


4310-A8-B2

4300-A-2

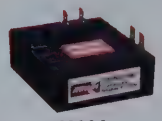
Type 4310-A8-B2 performs as either an interval or single-shot timer by applying a jumper across terminals 6 and 7. Load remains ON for the full set time period , even if the initiate switch closure is momentary. Controls DC loads to 1 ampere and AC load circuits up to 10 amperes with zero voltage switching. 120VAC. 1-300 second time delay range. 5A output. UL listed, CSA certified. **Type 4300-A-2** is an interval timer that permits operating voltage to be applied to a 1 ampere load circuit for a present time period, operating only one for each application of power. Load turns off after time delay. Operating voltage must be present for more than the preset time period. Operates at 115VAC with adjustable time range from 1 to 300 seconds. UL and cUL recognized, CSA certified. Available in DC voltage also. *Contact your local Newark sales office.*

Stock No.	Type	Description	Each
94F8583	4310A-8-B-2	Interval Single-Shot	40.36
94F8579	4300A-8-2	Interval	23.56

(3085) (ne09041)

SOLID-STATE REPEAT CYCLE TIMERS

Type 4600A-4610A


4608A

Type 4980

4600 and **4610A** series repeat cycle timer has energized time that adjusts from 50% of minimum repeat cycle time to 50% of selected repeat cycle time. **Type 4600** controls 1 ampere and **4610A** controls 10A , 115VAC loads and are available in both AC and DC voltages. **Type 4608** operates a set of 20A high power contacts. Adjustable "ON" and "OFF" times can be independently set from 1–1024 seconds by two, 10-position, binary-coded dip switches. Available in either 115 or 230VAC. **Type 4980** programmable ON-OFF repeat cycle timer is microcontroller-based with digital display of four internal time periods – tenths-of-seconds, seconds, minutes & seconds and hours & minutes. Cycle time programming is kept in memory should power fail during a timing cycle. Timer completes cycle once power has been restored. Available in 12VDC, 120VAC or 230VAC. *Contact your local Newark sales office.*

Stock No.	Type	Time Range	Each	2-4
87F077	4600A-6-1-A	0.2 to 60 sec	29.45	28.90
87F078	4600A-6-2-A	2 to 600 sec	29.45	28.90
16F504	4608A-115VAC	1 – 1024 sec	53.74	52.71
94F8576	4610-A62A	10 Amp Version	42.87	42.06
99F7894	4980-2	Programmable	189.45	172.23

(2889) (de50184)

FREEDOM 10 TIME-DELAY RELAY

Operate on 24-240VAC/VDC. All are 10A, 8-pin except Freedom 10, 5A. 2.75H x 2.37W x 1.75"D.

Stock No.	Type	Description	Each
46F1516	FREEDOM 10(OCTAL)	Delay on make. DPDT 5A	78.65
83F7635	2600A-6-12-12	Repeat Cycle, DPDT	81.09
83F7636	2300A-8-3	Interval Timer, DPDT	65.95
83F7637	2710A-8-3	Delay On Break, SPDT	76.12
83F7638	2310A-8-3	Single Shot, SPDT	73.99
83F7639	2410A-8-3	Delay on Make, DPDT	43.39

(2891) (de50185)

AC AND DC FLASHERS

For use in equipment which requires lamp, relay or solenoid to flash (pulse) at rate of 60 flashes per minute. Will turn load on for 0.5 seconds every second. Four 0.156" (3.96) mounting holes. **Type 4210-115-60FPM**: solid-state AC flasher. 1A, 115VAC. Operating temperature: –20°C to +85°C. **Type 423-24-60FPM**: solid-state DC flasher. 0.5A, 24VDC. Operating temperature:–20°C to +80°C.

Stock No.	Type	Description	Each	2-4
90F1851	4210-115-60FPM	AC Flasher	22.44	22.02
90F1850	423-24-60FPM	DC Flasher	22.24	21.82

(2893) (de50186)

INTERVAL COUNTDOWN TIMERS

Series 4970/4972 are microcontroller-based countdown interval timers with digital display of time, controlling SPDT power contacts rated for 20A. Feature four internal time basis: tenths-of-seconds, seconds, minutes and seconds and hours and minutes. UP/DOWN buttons adjust time displayed on red LED. Preset time kept in non-volatile memory. **Type 4972** features remote switch control of the start/stop and reset functions. Voltage selector switches between 115VAC or 230VAC.

96F6990 Type 4970-2. **Each** **131.26**
99F8225 Type 4972. **Each** **223.79**

(2841) (de04399)

TIME-DELAY RELAYS

DIN RAIL MOUNT TIME-DELAY RELAYS

DIN rail-mount housing features a touch-safe front cover and compression clamp wiring terminals. 5A SPDT output. Two LED indicators: output on and supply voltage applied. Repeat accuracy: ≤0.2%. Dimensions: 3.6″H x 0.9″W x 4″D. UL recognized, CSA certified, SEV approved, and CE compliant.

Stock No.	Type	Supply Voltage	Timing Function and Range	Each
16F2831	EAACT231M	115-230VAC and 24VAC/DC	Delay on Operate, 0.1s-1m	**75.91**
16F2832	EAACT2310H		Delay on Operate, 1m-10h	**75.91**
16F2833	EAMCT2310H		Delay on Operate, 0.1s-10h	**92.78**
16F2834	EBACT231M		Interval Delay, 0.1-1m	**87.51**
16F2835	EBACT2310H		Interval Delay, 1m-10h	**87.51**
16F2836	EBBCM231M	24-230 VAC/DC	True Off Delay, 1s-10s	**167.76**
16F2837	EBBCM2310H		True Off Delay 1m-10h	**167.76**
16F2838	EBFC23010S	115-230VAC	True Off Delay 1s-10s	**103.49**
16F2839	EBFC2301M		True Off Delay, 0.1m-1m	**103.49**
16F2840	EBFC23010M		True Off Delay, 1m-10m	**99.99**
16F2841	ECCCT23	115-230VAC and 24VAC/DC	µP-based Quartz Timer: Assymetrical Flasher, 0.1s-100h	**157.59**
16F2842	EMBCT23	115-230VAC and 24VAC/DC	µP-based Quartz Timer: Delay on Operate, Interval Delay, True Off Delay, Combination Delay on Operate Release, Symmetrical Flasher, 0.1s-100h	**134.54**

(3044) (ne08159)

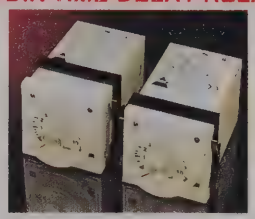
MINI DIN RAIL MOUNT TIME-DELAY RELAYS

Housed in a miniature 2″H x 0.9″W x 2.2″D housing, the Mini-E series snaps onto DIN rail or can be chassis mounted. It features an adjustable setpoint and a 500mA SCR output. Repeat accuracy: ≤0.2%. CE compliant.

Stock No.	Type	Supply Voltage	Timing Function and Range	Each
16F2843	EASSM2301S	24-230VAC/DC	Delay on Operate, 0.5s-10s	**40.19**
16F2844	EASSM231M		Delay on Operate, 0.1-1m	**40.19**
16F2845	EASSM2310M		Delay on Operate, 1-10m	**40.19**
16F2846	EBSSM2310S	24-230VAC	Interval Delay, 0.5s-10s	**40.19**
16F2847	EBSSM231M		Interval Delay, 0.1-1m	**40.19**
16F2848	EBSSM2301M		Interval Delay, 1-10m	**40.19**
16F2849	ECSSM23A10S		Symmetrical Flasher, 0.5s-10s	**40.19**
16F2850	ECSSM23A1M		Symmetrical Flasher, 0.1-1m	**40.19**
16F2851	ECSSM23A10M		Symmetrical Flasher, 1-10m	**40.19**

(3046) (ne08160)

1/16 DIN TIME-DELAY RELAYS



Housed in 1/16 DIN enclosure: 1.89H x 1.89W x 3.81″D (48 x 48 x 97). Units are delay-on-operate timers, offering 6 selectable timing subranges. Time range: 0.1 second to 10 hours. Output: 8A SPDT. Supply voltage: 24VAC/DC and 115VAC. Repeat accuracy: ≤ 0.2%. Require 8- or 11-pin circular sockets, *available separately on this page.* **Types AMB** and **BMB** timers offer 4 different timing functions. UL recognized, CSA certified, and CE compliant.

Stock No.	Type	Timing Function	Each
91F4599	AAMCD11	11-Pin Delay-On-Operate	**78.44**
91F4601	BAMCD11	8-Pin Delay-On-Operate	**78.44**
91F4600	AMBCD11	11-Pin Delay-On-Operate, Delay-On-Release, and Interval Delay (Triggered by Supply Voltage or External Trigger)	**83.53**
91F4602	BMBCD11	8-Pin Delay-On-Operate, Delay-On-Release, and Interval Delay (Triggered by Supply Voltage or External Trigger)	**83.53**

(12228) (ne10040)

UNIVERSAL PLUG-IN TIME-DELAY RELAY

Housed in a 3.2H x 1.4W x 3″D S-System housing. Multi-range, multi-function timers feature LED indication for supply voltage applied and relay on. **Type S411** 11-pin circular socket required; *listed separately on this page.* **Type S411** repeat accuracy: ≤2.0%. **Type S117** repeat accuracy: ≤1.0%.CE compliant.

Stock No.	Mfr. Part No.	Supply Voltage	Timing Function and Range	Each
48F2021	S101156924	115-230VAC & 24VAC/VDC	5A SPDT, delay on operate, 0.1 sec. to 10 hr.	**49.92**
48F2022	S102166924	115-230VAC & 24VAC/VDC	5A SPDT, delay on operate and instantaneous output or 5A DPDT delay on operate, 0.1 sec. to 10 hr.	**51.95**
48F2023	S103156924	115-230VAC & 24VAC/VDC	5A SPDT, delay on operate, interval, delay on release, recycler, 0.1 sec. to 10 hr.	**51.95**
48F2024	S103166924	115-230VAC & 24VAC/VDC	Same as above, but DPDT	**63.16**
48F2025	S105166924	115-230VAC & 24VAC/VDC	5A DPDT, true delay on release, 0.1 sec. to 10 min.	**66.21**
16F2852	S117166920	20-265VAC/DC	8A DPDT, delay on operate, interval delay, symmetrical flasher (on or off time first), 0.8 sec. to 60 min.	**139.71**

(3047) (ne08161)

8- AND 11-PIN CIRCULAR SOCKETS

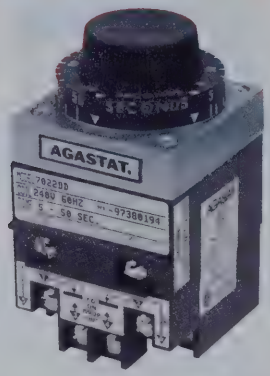
DIN rail or screw mount plug-in sockets. 8-pin socket is for **types BAM** and **BMB** timers. 11-pin socket is for **types S117, AAM,** and **AMB** timers. Socket material: Noryl. Contacts: Plated brass. UL recognized, CSA certified, and SEV approved.

Stock No.	Type	Description	Each
99F4244	S408	8-Pin Socket	**6.03**
96F1207	S411	11-Pin Socket	**6.60**

(2954) (de52749)

TIMING RELAYS

INDUSTRIAL ELECTROPNEUMATIC TIMING RELAYS



Initiate, delay, sequence and program equipment actions over wide range of applications. **7000 series** dielectric withstands 1500Vrms 60Hz between terminals and ground. Normal mounting in vertical position, from back of panel. A front mounting bracket is also supplied with each basic unit. Standard screw terminals (8-32 truss head screws supplied) located on front of unit, with permanent schematic markings. Barrier isolation accommodates spade or ring tongue terminals. UL listed, CSA certified, CE marked. QPL listed, meeting MIL-C-2212F(SHIPS).

DPDT, ON-DELAY, 120V 60Hz, 110V 50Hz

Stock No.	Type	Timing Range	1-2
57F1550	7012AB	0.5 to 5 sec.	182.39
28F1929	7012AK	1 to 300 sec.	182.39
57F1581	7012AC	1.5 to 15 sec.	182.39
57F1551	7012AD	5.0 to 50 sec.	182.39
57F1583	7012AE	20 to 200 sec.	182.39
57F1585	7012AF	1 to 10 min.	201.66
57F1552	7012AH	3 to 30 min.	208.08
57F1589	7012AI	6 to 60 min.	227.35

DPDT, OFF-DELAY, 120V 60Hz, 110V 50Hz

57F1556	7022AB	0.5 to 5 sec.	182.39
28F1931	7022AK	1 to 300 sec.	182.39
57F1582	7022AC	1.5 to 15 sec.	182.39
57F1557	7022AD	5.0 to 50 sec.	182.39
57F1584	7022AE	20 to 200 sec.	182.39
57F1586	7022AF	1 to 10 min.	201.66
57F1558	7022AH	3 to 30 min.	208.08

DPDT, ON-DELAY, 125VDC

50F3836	7012PA	0.1 to 1 sec.	182.39
50F3837	7012PB	0.5 to 5 sec.	182.39
50F3840	7012PK	1 to 300 sec.	182.39
50F3838	7012PC	1.5 to 15 sec.	182.39
50F3839	7012PD	5 to 50 sec.	182.39
50F3615	7012PF	1 to 10 min.	201.66

DPDT, OFF-DELAY, 125VDC

50F3618	7022PC	1.5 to 15 sec.	197.81
50F3619	7022PF	1 to 10 min.	217.07
94F6032	7022PB	.5 to 5 sec.	197.81

(2706) (de00815)

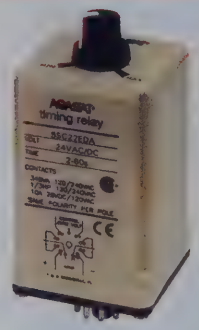
MULTI-MODE MULTI-RANGE TIMERS

Type SSF universal, heavy-duty timers offer 4 user-selectable timing modes: on-delay, off-delay, interval, latching interval. Power consumption: 2W. Output: DPDT relay, 10A resistive, 28VDC/120VAC ⅓HP, 120/240 VAC, 345VA. **Type SSFR90X** has no relay; user chooses relay that operates on standard nominal voltages. **Type SSF** units feature front screw terminals precisely set by **TC-1** calibrator. *See Product Index for Battery listings.* **Type SCF** plug-in timers have same user-selectable modes as **SSF**. UL recognized, CSA certified, CE marked.

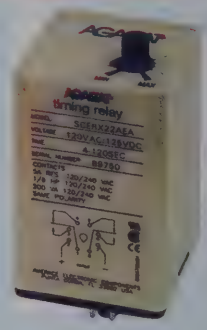
Stock No.	Type	Description	Each
46F8510	SSFR90A	Universal,100mS Reset,120VAC,50/60Hz	91.08
46F8511	SSFR90X	Universal,100mS Reset, Without Relay	77.68
46F8512	SCFRX902AA	Plug-in,35mS Reset,120VAC,50/60Hz	104.47

(2707) (de00816)

INDUSTRIAL DISCRETE SOLID-STATE TIMING RELAYS



SSC Series



SCE Series

SSC and **SCE series** are knob adjustable and feature excellent transient immunity. Repeat accuracy is better than ±1%. **SSC series** power consumption: 3W. Output: DPDT relay, 10A resistive, 28VDC/120VAC; ⅓HP, 120/240VAC. Operating voltage: 120V 50/60Hz or 120VDC. Electrical life: 100,000 operations minimum at rated resistance load. CSA certified, FM approved. **SCE series** power consumption: 0.75W. Output: DPDT relay, 5A, 120/240VAC; ⅙HP, 120/240VAC; 200VA, 120/240VAC. Electrical life: 200,000 operations at rated voltage and current. UR recognized, CSA certified, CE marked.

SSC SERIES ON-DELAY, 10 AMP 8-PIN

Stock No.	Type	Timing Range	1-2
50F3841	SSC12AAA	0.1 to 3 sec.	69.65
28F1946	SSC12ABA	0.5 to 15 sec.	69.65
28F1947	SSC12ACA	1 to 20 sec.	69.65
98F2044	SSC12ADA	2 to 60 sec.	69.65
50F3842	SSC12AFA	6 to 180 sec.	69.65
28F1948	SSC12AGA	10 to 300 sec.	69.65
50F3843	SSC12ALA	0.33 to 10 min.	69.65
28F1949	SSC12ANA	1 to 30 min.	69.65
50F5420	SSC12AIA	2 to 60 min.	69.65

SSC SERIES OFF-DELAY, 10-AMP 11-PIN

50F4669	SSC22AAA	0.1 to 3 sec.	85.72
28F1950	SSC22ABA	0.5 to 15 sec.	85.72
28F1951	SSC22ACA	1 to 30 sec.	85.72
28F1953	SSC22ANA	1 to 30 min.	85.72
98F1896	SSC22AIA	2 to 60 min.	85.72
83F7119	SSC22EAA	2 to 60 min.	67.29

SCE SERIES TRUE OFF-DELAY, 5 AMP 8-PIN

50F3623	SCERX22ABA	0.5 to 15 sec.	100.45

SCE SERIES TRUE OFF-DELAY, 10 AMP 8-PIN

83F7117	SCERW21ABA	0.5 to 15 sec.	97.05
83F7118	SCERW21AEA	4 to 120 sec.	97.05

(2708) (de00817)

PMA SERIES 3-PHASE POWER MONITOR RELAYS

Provide three-phase protection for motors and critical electrical equipment. **PMA** units continuously monitor three-phase Wye or Delta power lines, preventing the application or removal of power from motors and other valuable equipment. Operating temperature range: 0°C to +60°C. Power consumption: 1W. Electrical life: 100,000 operations. UL listed, CSA certified, CE marked.

Stock No.	Type	Operating Voltage	Status Indicators	Each
46F8516	PMALBS	208 to 240V 50/60Hz	Contacts Transferred	346.80
46F8517	PMALCS	440 to 480V 50/60Hz	and 4 Fault Status	346.80

(2709) (de00818)

CAN'T LOCATE A PARTICULAR PRODUCT?
NEWARK STOCKS THOUSANDS OF ITEMS NOT LISTED IN THIS CATALOG. CALL US TODAY!

TIME-DELAY RELAYS

3RP SERIES TIME-DELAY RELAYS

3RP Series relays have multiple time ranges. Tolerance is ±5% of full scale value. Reset time is 160ms. Contacts are silver cadmium oxide and are rated 3A @ 250VAC. Rated breaking cpacity is 2000VA. Contact expected mechanical life: 200,000 operations at 3A, 250VAC, AC-15. Rated DC power supply is 2W. Rated AC power: 6VA. Temperature range: -25° to +60°C for operating and -40° to +80°C for storage. Mechanical life: 30×10^6 operations. Maximum switching rate at a rated load is 2500 ops/h. Mounts directly on 35mm DIN track with screw terminal termination. 15 time ranges, switch adjustable also available; *contact your local Newark sales office.*

MULTIFUNCTION

Stock No.	Type	Nominal Voltage (VAC)	Action	1-24	25-49	50-99
48F4079	3RP1505-1AQ30	100-127	SPDT	66.84	62.17	55.94
48F4080	3RP1505-1AP30	200-240	SPDT	66.84	62.17	55.94
48F4081	3RP1505-1BQ30	100-127	DPDT	73.13	68.02	61.21
48F4082	3RP1505-1BW30	24-240*	DPDT	73.13	68.02	61.21
DELAY-ON						
48F4083	3RP1525-1AQ30	100-127	SPDT	44.29	41.20	37.07
48F4084	3RP1525-1AP30	200-240	SPDT	44.29	41.20	37.07
48F4085	3RP1525-1BQ30	100-127	DPDT	48.41	45.03	40.52
48F4086	3RP1525-1BP30	200-240	DPDT	48.41	45.03	40.52

* VDC/VAC
(37870) (ne37870)

CNM5 SERIES TIME-DELAY RELAY

DPDT multifunction time-delay relay for plug-in or panel mounting. Five timing functions selectable via rotary switch. 0.1 sec. to 9,990 hr. timing range. Fixed input type (120VAC ±15%). Rated 10A @ 30VDC/277VAC resistive. 1⁄16 DIN style enclosure with 11-pin plug-in base. Thumbwheel switches for programming delay time. UL recognized LR15734, CSA certified E22575. *Order DIN mount socket* **type 27E892** *or flush mount socket* **27E123** *separately on this page.*

Stock No.	Type	1-24	25-49	50-99
93F1051	CNM5	57.09	53.10	47.78

(2711) (de01968)

CN1 SERIES TIME-DELAY RELAY

DPDT on delay, time-delay relay for plug-in or panel mounting. 0.1 sec. to 9,990 hr. timing range. Fixed input type (120VAC ±15%). Rated 10A @ 30VDC/277VAC resistive. 1⁄16 DIN style enclosure with 8-pin plug-in base. Thumbwheel switches for programming delay time. UL recognized LR15734, CSA certified E22575. Dimensions: 2.83L x 1.88W x 1.88″H (71.90 x 47.80 x 47.80). *Order DIN mount socket* **types 27E122** *or* **27E891** *separately on this page.*

Stock No.	Type	1-24	25-49	50-99
93F1050	CN1	46.11	42.89	38.59

(2710) (de01967)

CNS SERIES PROGRAMMABLE RELAYS

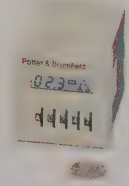
CNS

CNS Series are economical, multi-functional, programmable, time-delay relays housed in 1⁄16 DIN style enclosures. Type nos. ending with **"2"** are 8-pins; **"6"** are 11-pins. Timing function and range selected by DIP switch, and actual delay time is set with adjustment knob and calibrated dial. Delay selectable from 0.1 sec. to 100 min. DPDT contacts rated 10A @ 240VAC/30VDC. Temperature range: –10°C to +55°C. **Types CNS-35-72** and **CNS-35-92** use **type 27E122** or **27E891** sockets, *on this page.* **Types CNS-35-76** and **CNS-35-96** use **type 27E123** or **27E892** sockets, *on this page.*

Stock No	Type	Input Voltage	1-24	25-49	50-99
90F7645	CNS-35-72	120VAC	53.04	49.33	44.39
90F7646	CNS-35-76	120VAC	58.53	54.44	48.98
90F7647	CNS-35-92	24-240VAC/VDC	64.87	60.34	54.29
90F7648	CNS-35-96	24-240VAC/VDC	71.16	66.19	59.56

(13928) (ne10411)

CNT SERIES PROGRAMMABLE RELAYS



CNT

CNT Series are multi-functional, digitally programmable, time-delay relays/counters housed in 1⁄16 DIN style enclosures with an octal-style 11-pin plug-in base. Thumbwheel switches for digital programming. LCD digital readout. Delay is selectable from 0.1 sec. to 9990 hours. DPDT contacts rated 10A @ 240VAC/30VDC. Temperature range: –10°C to +55°C. *Order flush mount socket* **type 27E123** *or DIN mount socket* **type 27E892** *separately on this page.*

Stock No	Type	Input Voltage	1-24	25-49	50-99
90F7642	CNT-35-26	12VDC	86.46	80.42	72.36
90F7643	CNT-35-76	120VAC	79.48	73.92	66.52
90F7644	CNT-35-96	24-240VAC/VDC	92.06	85.62	77.04

(3089) (ne50923)

MULTIFUNCTION DIN MOUNT TIME-DELAY RELAY

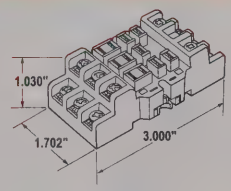
CND

Type CND has timing ranges from 0.5 seconds to 100 minutes. Contact arrangements: 1 Form C (SPDT). Contacts are silver-cadmium oxide alloy and are rated 10 A @ 28VDC or 240VAC, resistive; ½ HP @ 480VAC; ⅓ HP @ 240VAC; ¼ HP @ 120VAC. Contact expected mechanical life: 10 million operations; electrical life: 100,000 operations min. at rated load. Initial dielectric strength between open contacts: 1000V rms, 60 Hz., between all other conductors: 4,000V rms, 60 Hz. Voltage: Universal input type = 24-240V ± 15%, 50/60 Hz. AC or DC with power requirements: 10VA @ 240VAC, 5VA @ 120VAC, 1VA @ 24VAC; 10W @ 240 VDC, 5W @ 120 VDC, 1W @ 24VDC at 25°C. Dimensions: **A**= 2.95″ (75.0), **B**=.885″ (22.5), **C**=3.15″ (80.0). Mounts directly on 35mm DIN track. VDE approved. No socket required.

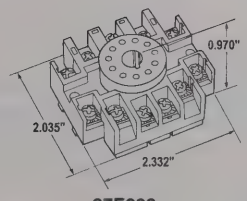
Stock No.	Type	1-24	25-49	50-99
66F7859	CND	90.62	84.28	75.84

(2970) (ne06007)

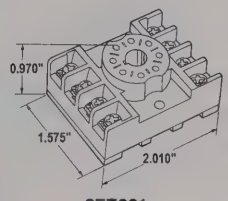
ACCESSORIES FOR TIME-DELAY RELAYS



27E893



27E892



27E891

DIN rail mount, polyamide screw terminal sockets designed to snap onto track mount system without tools. Meet UL94V-0, 10 ampere rating. Two **type 20C317** anchor clips, needed for hold-down-spring when surface mounting, are included with each socket. **Types 27E891** and **27E892** fit **type KAP, KCP, KRP, KRPA, R10T, CB, CD-38, CG, CH, CK** and **KBP** relays. Additionally, **type 27E893** socket fits relay **types CL, CU, KUMP, KUL** and **KUR.** SSA-24C667 is a panel mounting clip for **CNT** and **CNS** relays. Sockets are UL recognized, CSA certified.

Stock No.	Type	Terminal	1-24	25-49	50-99
46F3587	27E891	8-Pin octal base	6.65	5.98	5.39
46F3588	27E892	11-Pin octal base	10.03	9.02	8.12
46F3616	27E893	11-Pin octal base	10.58	9.52	8.57
57F3431	27E122	8-Pin octal base	5.65	5.09	4.58
57F3432	27E123	11-Pin octal base	8.25	7.43	6.69

84F406 SSA-24C667 **Each** **10.37**
(40879) (ne40879)

TIME-DELAY RELAYS

CH, CL, CR & CU SERIES TIME-DELAY RELAYS

CU-42, CL-42

CU-51, CL-51

CHB-38, CHD-38

CR Series

CDF-38, CHA-38, CK-38

DELAY ON OPERATE, 120VAC, RESISTOR-ADJUSTABLE – 11 PIN

Stock No.	Type	Delay Seconds	Resistor Size	Foot-notes	1-24	25-49	50-99
24F3357	CLF-41-70010	0.1-10	200K	1,2,3	76.49	71.15	64.02
67F1142	CLF-42-70010	0.1-10	200K	1,2,4	76.49	71.15	64.02
24F2937	CUF-41-70010	1.0-10	200K	1,2,3	78.15	72.68	65.40
24F2942	CUF-42-70010	1.0-10	200K	1,2,4	78.15	72.68	65.40
67F1143	CUF-41-70030	1.0-30	600K	1,2,3	78.15	72.68	65.40
24F2938	CUF41-70120	1.0-120	2.4Meg	1,2,3	78.15	72.68	65.40
24F2943	CUF-42-70120	1.0-120	2.4Meg	1,2,4	78.15	72.68	65.40

DELAY ON OPERATE, 120VAC, FIXED-TIME – 8 OR 11 PIN

Stock No.	Type	Delay Seconds	Foot-notes	1-24	25-49	50-99
67F1137	CUA-41-70001	1	1,3	78.15	72.68	65.40
95F9231	CUA-41-70003	3	1,3	78.15	72.68	65.40
33F1665	CUA-41-70005	5	1,3	78.15	72.68	65.40
67F1138	CHA-38-70001	10	1	87.74	81.61	73.43
24F2927	CUA-41-70010	10	1,3	78.15	72.68	65.40

DELAY ON OPERATE, 24VDC, KNOB-ADJUSTABLE – 8 PIN

Stock No.	Type	Delay Seconds	Foot-notes	1-24	25-49	50-99
24F2885	CHD-38-30001	1.0-10	1	96.00	89.29	80.34
24F2886	CHD-38-30003	1.0-180	1	96.00	89.29	80.34

DELAY ON OPERATE, 240VAC, KNOB-ADJUSTABLE – 8 PIN

Stock No.	Type	Delay Seconds	Foot-notes	1-24	25-49	50-99
67F1160	CHB-38-80001	1.0-10	1	96.00	89.29	80.34

DELAY ON OPERATE, 24VDC, RESISTOR-ADJUSTABLE – 11 PIN

Stock No.	Type	Delay Seconds	Resistor Size	Foot-notes	1-24	25-49	50-99
24F3358	CLH-41-30010	0.1-10	160K	1,2,3	76.49	71.15	64.02
24F2939	CUH-41-30010	1.0-10	160K	1,2,3	78.15	72.68	65.40
24F2944	CUH-42-30010	1.0-10	160K	1,2,4	78.15	72.68	65.40
24F2940	CUH-41-30120	1.0-120	2 Meg.	1,2,3	78.15	72.68	65.40

Order sockets for these relays separately on this page.

DELAY ON OPERATE, 24VAC, KNOB-ADJUSTABLE – 8 OR 11 PIN

Stock No.	Type	Delay Seconds	Foot-notes	1-24	25-49	50-99
24F3354	CLB-51-30010	0.1-10	1	85.18	79.23	71.29
24F2881	CHB-38-30001	1.0-10	1	96.00	89.29	80.34
24F2882	CHB-38-30003	1.0-180	1	96.00	89.29	80.34

DELAY ON OPERATE, 24VAC, RESISTOR-ADJUSTABLE – 11 PIN

Stock No.	Type	Delay Seconds	Resistor Size	Foot-notes	1-24	25-49	50-99
24F2941	CUF-41-30010	1.0-10	200K	1,2,3	78.15	72.68	65.40

DELAY ON OPERATE, 120VAC, KNOB-ADJUSTABLE

Stock No.	Type	Delay Seconds	Foot-notes	1-24	25-49	50-99
24F3355	CLB-51-70010	0.1-10	1	85.18	79.23	71.29
24F2883	CHB-38-70001	1.0-10	1	96.00	89.29	80.34
24F3350	CUB-51-70010	1.0-10	1	86.78	80.71	72.63
67F1159	CHB-38-70002	1.0-60	1	96.00	89.29	80.34
24F3351	CUB-51-70120	1.0-120	1	86.78	80.71	72.63
24F2884	CHB-38-70003	1.0-180	1	96.00	89.29	80.34
24F3356	CLB-51-70120	1.2-120	1	85.18	79.23	71.29

INTERVAL ON, 120VAC, KNOB-ADJUSTABLE

Stock No.	Type	Delay Seconds	Foot-notes	1-24	25-49	50-99
67F1172	CHB-38-70021	1.0-10	1	96.00	89.29	80.34
67F1173	CHB-38-70022	1.0-60	1	96.00	89.29	80.34
67F1174	CHB-38-70023	1.0-180	1	96.00	89.29	80.34

CONTINUED

CH, CL, CR & CU SERIES TIME-DELAY RELAYS (CONT.)

INTERVAL ON, 24VDC, KNOB-ADJUSTABLE

Stock No.	Type	Delay Seconds	Foot-notes	1-24	25-49	50-99
67F1175	CHD-38-30021	1-10	1	96.00	89.29	80.34

DELAY ON RELEASE, 120VAC, KNOB-ADJUSTABLE

Stock No.	Type	Delay Seconds	Foot-notes	1-24	25-49	50-99
24F2887	CHB-38-70011	1-10	1	96.00	89.29	80.34
67F1166	CHB-38-70012	1-60	1	96.00	89.29	80.34
24F2888	CHB-38-70013	1-180	1	96.00	89.29	80.34

RECYCLE TIMER, 120VAC, DELAY ON OPERATE/RELEASE

Stock No.	Type	Delay (Sec)	Foot-notes	1-24	25-49	50-99
33F1668	CRB-48-70010	0.1-10	1	173.66	161.52	145.34
95F9227	CRB-48-70030	0.3-30	1	173.66	161.52	145.34
77B2872	CRB-48-70060	0.6-60	1	173.66	161.52	145.34

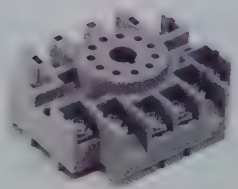
RECYCLE TIMER, 24VDC, DELAY ON OPERATE/RELEASE

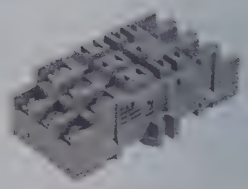
Stock No.	Type	Delay (Sec)	Foot-notes	1-24	25-49	50-99
67F1171	CRD-48-30180	1.8-180	1	173.66	161.52	145.34

FOOTNOTES: 1) Include internal relay DPDT rated 10 amps, 240VAC, resistive. **2)** Resistor not furnished. Recommended ¼ watt minimum resistor. **3)** Plain case. **4)** Bracket-mount case.
*Denotes delay in minutes.
(2924) (de51017)

ACCESSORIES FOR TIME-DELAY RELAYS

27E891


27E892


27E893

DIN rail mount, polyamide screw terminal sockets designed to snap onto track mount system without tools. Meet UL94V-0, 10 ampere rating. Two **type 20C317** anchor clips, needed for hold-down-spring when surface mounting, are included with each socket. **Types 27E891** and **27E892** fit **type KAP, KCP, KRP, KRPA, R10T, CB, CD-38, CG, CH, CK** and **KBP** relays. Additionally, **type 27E893** socket fits relay **types CL, CU, KUMP, KUL** and **KUR**. SSA-24C667 is a panel mounting clip for **CNT** and **CNS** relays. Sockets are UL recognized, CSA certified.

Stock No.	Type	Terminal	1-24	25-49	50-99
46F3587	27E891	8-Pin octal base	6.65	5.98	5.39
46F3588	27E892	11-Pin octal base	10.03	9.02	8.12
46F3616	27E893	11-Pin octal base	10.58	9.52	8.57
57F3431	27E122	8-Pin octal base	5.65	5.09	4.58
57F3432	27E123	11-Pin octal base	8.25	7.43	6.69

84F406 Type SSA-24C667. **Each** **10.37**
(3088) (ne50922)

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TIME-DELAY RELAYS

CB, CD, CG, AND CK SERIES DELAY-ON-OPERATE, DELAY-ON-RELEASE, INTERVAL ON RELAYS

11-Pin

8-Pin

CB series relays are economy, octal-type plug-in models with CMOS integrated circuits. Available in delay-on-operate, delay-on-release or interval on timing modes, all units are knob-adjustable. Molded enclosure houses the timing circuit and an internal relay. All models are DPDT, except type **CB-1022B78** which is SPDT. Contacts rated 10 amps at 240VAC, 60Hz. Power requirements typically less than 3VA for AC types; 3 watts for DC types. Operating temperature range: –10°C to +55°C. Polarity protection. Dimensions: 1.781L x 2.406W x 2.937"H. UL recognized, CSA certified. *Order sockets separately; contact your local Newark sales office.*

—AC— DELAY-ON-OPERATE RELAYS, 8 PINS

Stock No.	Type	Voltage	Delay Seconds	1-24	25-49	50-99
90F1193	CB-1042B-30	24	1.8-180	69.51	64.65	58.17
44F1128	CB-1001B-70	120	0.1-1	69.51	64.65	58.17
44F1129	CB-1002B-70	120	0.1-5	69.51	64.65	58.17
44F1130	CB-1003B-70	120	0.1-10	69.51	64.65	58.17
44F1131	CB-1004B-70	120	0.6-60	69.51	64.65	58.17
44F1132	CB-1005B70	120	1.8-180	69.51	64.65	58.17
44F1133	CB-1006B-70	120	1.0-10†	69.51	64.65	58.17
90F1195	CB-1007B-70	120	10-100†	69.51	64.65	58.17

—AC— DELAY-ON-RELEASE RELAYS, 11 PINS

90F1211	CB-1046B-38	24	1.8-180	69.51	64.65	58.17
44F1136	CB-1021B-78	120	0.1-10	69.51	64.65	58.17
44F1137	CB-1022B-78	120	0.1-10	69.51	64.65	58.17
44F1138	CB-1023B-78	120	0.6-60	69.51	64.65	58.17
44F1139	CB-1024B-78	120	1.8-180	69.51	64.65	58.17

—AC— INTERVAL ON AND INTERVAL ON WITH CONTROL SWITCH, 8 PINS

90F1194	CB-1043B-39	24	0.1-10	69.51	64.65	58.17

—DC— DELAY-ON-OPERATE RELAYS, 8 PINS

Stock No.	Type	Voltage	Delay Seconds	1-24	25-49
90F1212	CB-1047D-20	12	0.1-10	69.51	64.65
44F1134	CB-1028D-30	24	0.1-10	69.51	64.65

—DC— DELAY-ON-RELEASE RELAYS, 11 PINS

90F1190	CB-1038D-38	24	0.1-10	69.51	64.65
90F1191	CB-1039D-38	24	1.8-180	69.51	64.65

†Minutes.

DELAY-ON-OPERATE, 120VAC, RESISTOR-ADJUSTABLE

Stock No.	Type	Delay Seconds	Resistor Size	Footnotes	1-24	25-49	50-99
24F3361	CKF-38-70010	0.1-10	750K	1,2	87.74	81.61	73.43
67F1145	CDF-38-70002	0.1-5	200K	1,2	144.61	134.50	121.03

DELAY-ON-OPERATE, 24VDC, KNOB-ADJUSTABLE

24F1878	CDD-38-30003	0.1-10	...	1	153.14	142.44	128.16
24F1879	CDD-38-30004	0.6-60	...	1	153.14	142.44	128.16
24F1880	CDD-38-30005	1.8-180	...	1	153.14	142.44	128.16

DELAY-ON-OPERATE, 12VDC, KNOB-ADJUSTABLE

67F1161	CKD-38-20010	0.1-10	200K	1	96.00	89.29	80.34

DELAY-ON-OPERATE, 24VAC, KNOB-ADJUSTABLE

Stock No.	Type	Delay Seconds	Footnotes	1-24	25-49	50-99
67F1157	CDB-38-70002	0.1-5	1	153.14	142.44	128.16
24F1875	CDB-38-70003	0.1-10	1	153.14	142.44	128.16

CONTINUED

CB, CD, CG, AND CK SERIES DELAY-ON-OPERATE, DELAY-ON-RELEASE, INTERVAL ON RELAYS (CONT.)

DELAY-ON-OPERATE, 24VAC, KNOB-ADJUSTABLE (CONT.)

Stock No.	Type	Delay Seconds	Footnotes	1-24	25-49	50-99
24F3364	CKB-38-70010	0.1-10	1	96.00	89.29	80.34
33F1664	CDB-38-70006	0.3-30	1	153.14	142.44	128.16
24F1876	CDB-38-70004	0.6-60	1	153.14	142.44	128.16
67F1158	CKB-38-70060	0.6-60	1	96.00	89.29	80.34
24F3365	CKB-38-70120	1.2-120	1	96.00	89.29	80.34
24F1877	CDB-38-70005	1.8-180	1	153.14	142.44	128.16
33F1598	CGB-38-70050M	5.0-50*	1	181.18	168.51	151.63

DELAY-ON-DROP OUT, 120VAC, KNOB-ADJUSTABLE

70B8786	CKB-38-77010	0.1-10	1	129.10	120.08	108.05
95F9232	CKB-38-77060	0.6-60	1	129.10	120.08	108.05
90F1215	CKB-38-77120	1.2-120	1	129.10	120.08	108.05

INTERVAL ON 120VAC, KNOB-ADJUSTABLE

33F1603	CGB-38-79010M	1.0-10*	1	181.18	168.51	151.63

DELAY-ON-RELEASE, 120VAC, KNOB-ADJUSTABLE

95F9222	CGB-38-78010M	1-10*	1	181.18	168.51	151.63
95F9226	CGB-38-78050M	5-50*	1	181.18	168.51	151.63
24F1887	CDB-38-70012	0.6-60	1	153.14	142.44	128.16
24F3260	CKB-38-78010	0.1-10	1	96.00	89.29	80.34
67F1164	CDB-38-70014	0.1-10	1	153.14	142.44	128.16
67F1165	CDB-38-70015	1.8-180	1	153.14	142.44	128.16

DELAY-ON-RELEASE, 24VDC, KNOB-ADJUSTABLE

24F1888	CDD-38-30012	0.6-60	1	153.14	142.44	128.16
67F1167	CDD-38-30014	0.1-10	1	153.14	142.44	128.16
67F1168	CDD-38-30008	1.8-180	1	153.14	142.44	128.16

FOOTNOTES: 1) Include internal relay DPDT rated 10 amps, 240VAC, resistive. **2)** Resistor not furnished. Recommended ¼ watt minimum resistor. * Denotes delay in minutes.

(2922) (de50921)

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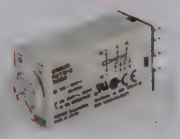
MINIATURE SOLID-STATE TIME-DELAY RELAYS



H3YN series miniature solid-state time-delay relays combine 4 switch-selectable operation modes and time ranges into a single compact unit. Selectable operation modes include ON-delay, interval, or repeat cycle (ON-start or OFF-start). Choose long-range (0.1 minute to 10 hours) or short-range (0.1 second to 10 minutes) versions, each with 4 switch-selectable sub-ranges to meet your application requirements and improve accuracy (1% FS max.). Analog set dial lets users fine-tune timing for their specific applications. Available in a choice of DPDT (5A @ 250VAC) or 4PDT (3A @ 250VAC) output configurations. Required supply voltage: 120VAC. Dimensions: 1.10H x 0.85W x 2.50″D (28 x 21.5x 63). Requires mounting socket, *ordered separately on this page.* UL recognized, CSA certified and CE compliant. Other supply voltages are available; *contact your local Newark sales office.*

Stock No.	Type	Description
16F3233	H3YN-2 AC100-120	Short Time Range, DPDT
16F3234	H3YN-21 AC100-120	Long Time Range, DPDT
16F3235	H3YN-4 AC100-120	Short Time Range, 4PDT
16F3236	H3YN-41 AC100-120	Long Time Range, 4PDT

Stock No.	Type	Each	2-5	6-10	11-15
16F3233	H3YN-2 AC100-120	43.97	43.25	42.54	40.88
16F3234	H3YN-21 AC100-120	45.04	44.31	43.58	41.87
16F3235	H3YN-4 AC100-120	45.04	44.31	43.58	41.87
16F3236	H3YN-41 AC100-120	45.04	44.31	43.58	41.87

(3037) (ne08149)

1/16 DIN ANALOG SET ON-DELAY TIMERS

Type H3CR 1/16 DIN timers provide easy analog set dial and field-selectable timing ranges from 0.05 seconds to 300 hours. Choose ON-delay or interval timing functions. **Type H3CR-A8-AC100-240** has a wide supply voltage range (100-240VAC) fits most applications. DPDT relay output: 5A, 250VAC. Compact size: 1.89H x 1.89W x 3.19″D (48 x 48 x 81). Requires eight-pin socket for mounting, *ordered separately on this page.* UL recognized, CSA certified and CE compliant.

Stock No.	Type	Description
52F4137	H3CR-A8-AC100-240	100-240VAC, 50/60Hz Contact Output
52F4138	H3CR-A8-DC12	12VDC Transistor Output
52F4139	H3CR-A8-AC/DC24	24VAC/VDC Transistor Output

Stock No.	Type	Each	2-5	6-10	11-15
52F4137	H3CR-A8-AC100-240	56.83	55.91	54.99	52.84
52F4138	H3CR-A8-DC12	56.83	55.91	54.99	52.84
52F4139	H3CR-A8-AC/DC24	56.83	55.91	54.99	52.84

(3013) (ne07302)

SOCKETS AND ACCESSORIES FOR TIMERS, COUNTERS, AND TOTALIZERS

Sockets and hold-down clips listed are for time-delay relays listed above.

Stock No.	Type	Description	Each	2-5	6-10	11-15
52F3747	PYF08A-E	Track Mounting Socket w/Front Templates for **Type H3YN-2**	6.22	5.78	5.46	4.97
52F3749	PY08	Connecting Socket w/Solder Terminals for **Type H3YN-2**	1.50	1.40	1.32	1.20
52F3770	PYF14-A-E	Track Mounting Socket w/Front Terminals for **Type H3YN-4**	9.04	8.41	7.94	7.23
52F3771	PY14	Connecting Socket w/Solder Terminals for **Type H3YN-4**	2.16	2.01	1.89	1.73
52F4186	Y92H-3	Hold-Down Clips for PYF08A-E, PYF14-A-E Sockets	1.48	1.45	1.43	1.37
52F4187	Y92F-30	Panel Mount Bracket for 1/16 DIN Timers and Counters	7.24	7.12	7.01	6.73
52F4185	PF085A	8-pin Track or Surface Mount Socket w/Top Terminals	8.05	7.92	7.79	7.48
52F4183	P3G-08	8-pin Back Mount Socket w/Bottom Terminals	8.05	7.92	7.79	7.48
52F4184	P3GA-11	11-pin Back Mount Socket w/Bottom Terminals	9.39	9.23	9.08	8.73

(3038) (ne08150)

PROGRAMMABLE 24-HOUR TIMER

Type H5L programmable 24-hour weekly timer features easy front-panel set-up, 24-hour (military time), 7-day programming, and large, easy-to-read LCD display. Unit offers 2 independent SPST 15-amp circuits (with manual override switches) and wide operating voltage: 100-240VAC. Ideal for HVAC, lighting, and other system operations in commercial or industrial environments. Programs may be tailored to daily routines within single 24-hour periods. Built-in 10-year battery protects programming. Unit may be panel, surface or DIN rail mounted. Dimensions: 3.8H x 3.8W x 2.25″D (96 x 96 x 57). UL recognized, CSA certified.

Stock No.	Type	Each	2-5	6-10	11-15
52F4158	H5L-A	202.66	199.37	196.09	188.42

(3040) (ne08151)

PROGRAMMABLE AM/PM WEEKLY TIMER

Type H5S programmable weekly timer features easy front-panel set-up, flexible daily, and overnight programming. AM/PM readout and large, easy-to-read LCD display. Unit offers 2 independent SPST-NO 15-amp circuits (with manual override switches) and wide operating voltage: 100-240VAC. Ideal for HVAC, lighting, and other system operations in commercial or industrial environments. Built-in 10-year battery protects programming. Unit may be panel, surface or DIN rail mounted. Dimensions: 2.8H x 2.8W x 2.3″D (72 x 72 x 59). UL recognized, CSA certified.

Stock No.	Type	Each	2-5	6-10	11-15
52F4159	H5S-B	209.09	205.70	202.31	194.40

(3042) (ne08152)

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1/16 DIN DIGITAL SET TIMER WITH BAR GRAPH DISPLAY

Type H3CA timer offers accurate digital thumbwheel setting and easy-to-read LCD bar graph display for time remaining and LCD indicator of output status. Eight field-selectable operation modes include ON-delay, signal interval/OFF-delay I, repeat cycle, signal OFF-delay (I and II), interval, cycle, and signal ON-delay/OFF-delay. Seven selectable timing ranges from 0.1 second to 9990 hours. Wide supply input range (24-240VAC) and SPST 3A, 250VAC control output. Includes three no-voltage inputs for start, reset, and gate. Dimensions: 1.89H × 1.89W × 3.50″D (48 × 48 × 89). Requires 11-pin socket, *ordered separately; contact your local Newark sales office.* UL recognized, CSA certified.

Stock No.	Type	Description	Each	2-5
52F4136	H3CA-A	Digital Set Multi-Mode Timer	98.65	97.05

(3015) (ne07303)

1/16 DIN NEMA 4 ON-DELAY TIMER WITH LED DISPLAY

Type H5CL digital timer provides NEMA 4 protection for use in water washdown and dusty environments. Large, easy-to-read four-digit LED display. ON-delay and cumulative operation functions with eight timing ranges from 0.001 second to 999.9 hours. Wide supply voltage range (100-240VDC) with SPDT 3A, 250VDC control output. Four no-voltage inputs include: gate, reset, start, and key protection. Rated NEMA 4 and IEC IP66 when using supplied rubber gasket. Dimensions: 1.89H × 1.89W × 2.87″D (48 × 48 × 73). Panel mounting adapter included. Requires 11-pin socket, *ordered separately; contact your local Newark sales office.* UL recognized, CSA certified.

Stock No.	Type	Description	Each	2-5
52F4156	H5CL-A-AC100-240	1/16 DIN NEMA 4 Timer	202.66	199.37

(3019) (ne07305)

DIN-SIZED MULTIFUNCTION DIGITAL COUNTERS

H7CR H7BR

H7CR/BR series are six-digit single-phase, dual preset value/set value display counters with LCD display. Wide supply voltage range (100-240VAC) with SPST 3A, 250VAC output. Maximum counting speed: 30cps, 1kcps or 5kcps selectable. Features include a wide variety of front programmable input and output modes, external and manual reset, and rear screw terminals. **Types H7CR/H7BR-B-** and **-C-** 12VDC sensor supply input included. UL recognized, CSA certified.

Stock No.	Type	Description	Each	2-5
52F4163	H7CR-A-AC100-240	Economy Counter, 1/16 DIN, 4.17″ (106) Deep, Non-Backlit LCD	161.92	159.29
52F4164	H7CR-B-AC100-240	Standard Counter, 1/16 DIN, 4.17″ (106) Deep, Backlit LCD Display	201.59	198.32
52F4166	H7CR-C-AC100-240	Reversible +/– Range Counter, 1/16 DIN, 4.17″ (106) Deep, Backlit LCD Display	240.19	236.29
52F4160	H7BR-B-AC100-240	Standard Counter, 2.83H × 2.83W × 4.17″D (72 × 72 × 106), Backlit LCD Display, Batch Function	334.55	329.12
52F4161	H7BR-C-AC100-240	+/– Range Counter, 2.83H × 2.83W x 4.17″D (72 × 72 × 106), Backlit LCD Display	407.46	400.86

(3021) (ne07306)

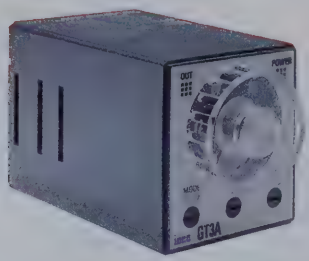
1/16 DIN PROGRAMMABLE MULTIMODE DIGITAL TIMER WITH LCD DISPLAY

Type H5CR digital, programmable timer offers nine field-selectable output modes and timing ranges from 0.001 second to 9999 hours. Precise control to 0.001 second. Easy-to-read backlit LCD display and easy programming via front panel menus. Wide supply voltage range (100-240VAC) with SPDT 5A, 250VAC output. Four input types include: reset, gate, start signal, and key protect. Built-in ten-year memory. Dimensions: 1.89H × 1.89W × 3.94″D (48 × 48 × 100). Panel mounting bracket included. UL recognized, CSA certified.

Stock No.	Type	Description	Each	2-5
52F4157	H5CR-B-AC100-240	Programmable, Digital Set, Multimode Timer	146.90	144.52

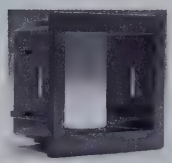
(3017) (ne07304)

GT3 SERIES MULTI-MODE TIMERS



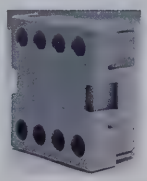
Analog Type

Digital Type



Panel Mount Adapter

DIN Rail Snap Mount



Wiring Socket Adapter

Available analog and digital versions. Both offer delayed SPDT, delayed SPDT plus instantaneous SPDT contact configurations. 60msec maximum reset time, 8- or 11-pin termination. **Type GT3A** is analog setting type, has contacts rated 250VAC/5A, 30VDC/5A max. POWER indicator flashes during time-delay operation, OUT indicator remains on while output on. Life expectancy: 20,000,000 operations mechanical, 100,000 electrical. **Type GT3D** is digital set type with contacts rated 240VAC/5A, 24VDC/5A max. Back-lit LCD display shows elapsed time or time remaining, LED OUT indicator remains lit while output on. Life expectancy: 10,000,000 operations mechanical, 100,000 electrical. 1.57″(40)H×1.42″(36)W×2.53″(64.2)D. UL recognized, CSA certified.

ANALOG MODELS

ON-delay, interval, cycle-on. Time-range: 0.05 sec.-180 hrs. 8-pin.

Stock No.	Type	Description	Each	2-5
96F3881	GT3A-2AF20	SPDT+Instant SPDT, 100-240VAC	60.47	58.22
96F3884	GT3A-3AF20	DPDT, 100-240VAC	55.64	53.57

ON-delay, cycle, signal ON/OFF delay,(with input).Time range: 0.05 sec. -180 hrs. 11-pin.

96F3887	GT3A-4AF20	DPDT, 100-240VAC	55.64	53.57

DIGITAL MODELS

ON-delay, interval, cycle, cycle-on. Time range: 0.01 sec.-99.9 hrs. 8-pin.

Stock No.	Type	Description	Each	2-5
96F3894	GT3D-2AF20	SPDT+Instant SPDT, 100-240VAC	96.76	93.16
96F3895	GT3D-2AD24	SPDT+Instant SPDT, 24VAC/DC	96.76	93.16
96F3897	GT3D-3AF20	DPDT, 100-240VAC	96.76	93.16
96F3898	GT3D-3AD24	DPDT, 24VAC/DC	96.76	93.16

ON-delay (2 types), cycle (2 types), signal ON/OFF delay (3 types), interval (2 types), one-shot (2 types), signal OFF-delay (2 types), cycle-ON, one-shot ON-delay, one shot cycle(with input). Time range: 0.01 sec.99.9 hrs. 11-pin.

96F3900	GT3D-4AF20	DPDT, 100-240VAC	96.76	93.16
96F3901	GT3D-4AD24	DPDT, 24VAC/DC	96.76	93.16

Analog type. Power OFF delay (with reset input). Time range: 2A and 2D suffix, 0.05-180 sec.; 3A and 3D suffix, 6 sec.-10min. 8-pin.

96F3905	GT3F-2A100	DPDT, 120VAC	71.95	69.29

ACCESSORIES

96F3910	RTB-G01	Panel mount adapter (GT3)	3.46	3.40
96F3911	SR3B-05	11-blade snap-mount DIN rail socket	7.35	6.91
96F3912	SR2P-06	8-pin snap-mount DIN rail socket	4.59	4.31
96F3913	SR3P-06	11-pin snap-mount DIN rail socket	7.35	6.91
96F3914	SR6P-M08G	8-pin wiring socket adapter	7.71	7.25
96F3915	SR6P-M11G	11-pin wiring socket adapter	16.11	15.13

(2738) (de02599)

RTE SERIES MULTI-FUNCTION TIMERS

8-Pin Terminal

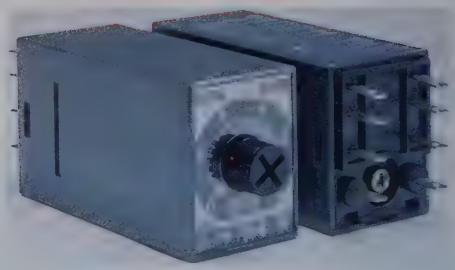
Feature ON-delay/interval or signal OFF-delay/single shot and high repeat accuracy of ±0.25%. DPDT, form C (delayed outputs) contacts rated 10A resistive at 240VAC/30VDC; 7A inductive at 240VAC/30VDC. Reset time: 0.1 sec. max. Mechanical life expectancy: 50,000,000 operations. 1.575″(40)H x 1.417″(36)W x 2.362″(60)D. UL listed, CSA certified and CE compliant.

Stock No.	Type	Description*	Time Range	Each	2-5
96F3871	RTE-P11-AC120V	On-Delay/Int.	1 sec. to 10 min.	47.06	46.17
96F3872	RTE-P11-24VAC/DC	On-Delay/Int.	1 sec. to 10 min.	47.06	46.17
96F3873	RTE-P11-12VAC/DC	On-Delay/Int.	1 sec. to 10 min.	47.06	46.17
96F3874	RTE-P12-AC120V	On-Delay/Int.	1 min. to 10 hrs.	47.06	46.17
96F3875	RTEP1124V	On-Delay/Int.	1 min. to 10 hrs.	47.06	46.17
96F3876	RTE-P21-AC120V	Off-Delay/SS	1 sec. to 10 min.	58.20	56.04
96F3877	RTE-P21-24VAC/DC	Off-Delay/SS	1 sec. to 10 min.	58.20	56.04
96F3878	RTE-P21-12VAC/DC	Off-Delay/SS	1 sec. to 10 min.	58.20	56.04
96F3879	RTE-P22-AC120V	Off-Delay/SS	1 min. to 10 hrs.	58.20	56.04
96F3861	RTE-B11-AC120V	On-Delay/Int.	1 sec. to 10 min.	54.48	52.46
96F3862	RTE-B11-24VAC/DC	On-Delay/Int.	1 sec. to 10 min.	54.48	52.46
96F3864	RTE-B12-AC120V	On-Delay/Int.	1 min. to 10 hrs.	54.48	52.46
96F3866	RTE-B21-AC120V	Off-Delay/SS	1 sec. to 10 min.	58.20	56.04
96F3867	RTE-B21-24VAC/DC	Off-Delay/SS	1 sec. to 10 min.	58.20	56.04

*Int. = Interval, SS = Single Shot.

(2740) (de02600)

GT5Y SERIES TIMERS



GT5Y series on-delay timers with four selectable time ranges feature control setting set by hand or screwdriver. Power ON and timing and LED indicators. 4PDT contact configuration. Operating temperature :–10°C to +50°C. UL recognized, CSA certified and CE compliant.

100-120VAC RATED VOLTAGE

Stock No.	Type	Time Range	Each	2-5
66F4213	GT5Y4SN1A100	0.1 sec. - 10 min.	35.43	34.76
16F281	GT5Y4SN3A100	0.1 sec. - 30 min.	35.43	34.76
16F5291	GT5Y-4SN6A100	0.1 sec. - 60 min.	35.43	34.76

24VDC RATED VOLTAGE

16F5292	GT5Y-4SN1D24	0.1 sec. - 10 min.	35.43	34.76
16F5293	GT5Y-4SN3D24	0.1 sec. - 30 min.	35.43	34.76
16F5294	GT5Y-4SN6D24	0.1 sec. - 60 min.	35.43	34.76

SOCKETS AND ACCESSORIES

Snap on to 1.38" (35mm) DIN rails.

Stock No.	Type	Description	Mounting Clip (Opt.)	Each	2-5
96F3995	SY4S-05	Standard DIN Rail	SFA-202	8.77	8.23
16F328	SY4S05C	Fingersafe DIN Rail	SFA-202	10.49	9.85
96F4000	SY4S-51	Panel Mt. w/Solder Terms.	SFA-302	1.24	1.16
16F5298	SY4S-61	PC Board Mount	SFA-302	1.37	1.29
96F4005	SY4S-62	PC Board Mount Socket	SY4S-51F1	1.37	1.29
16F5300	SFA-202	Mounting Clip		0.27	0.25
16F5301	SFA-302	Mounting Clip		0.18	0.17

(3071) (ne08344)

CONTACT NEWARK FOR LARGE-QUANTITY PRICING.

TIMERS

PM4H SERIES MULTI-FUNCTION TIMERS

PM4H series DIN 48-sized analog multi-range timers feature multiple operating modes and time ranges. Large, easily set dial allows precise time setting. Indicator LEDs. 5A, 250VAC relay output. 8- or 11-pin base. ±0.3% operation accuracy, ±2% maximum temperature error. Pilot duty C300. 50/60Hz. **Type PM4HS** is power ON-delay timer/time delay relays with 16 selectable ranges from 0.01s to 500hrs. **Type PM4HA** multi-function timer/time delay relays have pulse ON-delay, pulse flicker, pulse ON-flicker, differential ON/OFF-delay (1) (2), signal OFF-delay, pulse one shot, and pulse one cycle operation modes. 16 selectable ranges from 0.01s to 500hrs. **Type PM4HW** dual preset cyclic multi-range timer/time delay relays have 16 selectable ranges from 0.01s to 500hrs. Power OFF-start cyclic mode. **Type PM4HSD** multi-range Star-Delta timer/time delay relays provide switching time optimization for Star-Delta motor start-up. Relay control output: Star side, timed out, 1 Form A; Delta side, timed out, 1 Form A. Four selectable ranges from 0.01s to 100s Star-Delta switching time: 0.04, 0.1, 0.3, 0.5, 0.7 seconds. **Type PM4HF** multi-range true power-OFF delay timer/time delay relays run up to ten minutes after operating power has been lost. Operating voltage: **suffix -24V** in type number indicates 24V AC/DC, **suffix -AC240V** indicates 100-240VAC, and **suffix -DC12V** indicates 12VDC.

PM4HA MULTI-FUNCTION TIMERS

Stock No.	Type	1-9
16F1376	PM4HA-H-24V	50.43
16F1377	PM4HAHAC240V	50.43
PM4HW DUAL CYCLIC TIMERS		
16F1379	PM4HW-H-24V	72.49
16F1380	PM4HW-H-AC240VAC	72.49
16F1381	PM4HW-H-DC12V	72.49
PM4HSD STAR-DELTA TIMERS		
16F1382	PM4HSD-S-AC24V	69.34
16F1383	PM4HSD-S-AC240V	69.34
PM4HF TRUE OFF-DELAY TIMERS		
16F1352	PM4HF8R-M-AC24V	69.34
16F1353	PM4HF8R-M-AC120V	69.34
16F1356	PM4HFIIR-M-AC120V	69.34
16F1357	PM4HFIIR-M-AC240V	69.34
PM4HS POWER ON-DELAY TIMERS		
16F1370	PM4HS-H-24V	50.43
16F1371	PM4HS-H-AC240V	50.43
16F1372	PM4HS-H-DC12V	50.43
PM4HM MULTI-FUNCTION TIMERS		
16F1373	PM4HM-H-24V	52.53
16F1374	PM4HM-H-AC240V	52.53
16F1375	PM4HM-H-DC12V	52.53

(3067) (ne08339)

PMH SERIES MULTIRANGE COMPACT TIMERS

Feature four different time ranges in a single compact package. Subsecond timing available from 0.05 seconds. Large, easy-to-set dial. Operation LED. 1.417″W x 1.969″H 2.232″D (36 x 50 x 56.7). ±0.5% to +10ms operation accuracy, ±2% maximum temperature error. 7A, 250VAC relay output, plug-in base. Operating power (7th and 8th digits in type number indicate AC or DC): AC types, 3VA; DC types, 2W. Pilot duty C300, 7A⅛HP 125, 250VAC, 3A 30VDC. 50/60 Hz. Operating voltage: **suffix -AC120V** in type number denotes 110 to 120VAC, **suffix -DC24V** in type number denotes 24VDC.UL recognized, CSA certified.

MINUTE TIMER MODELS

Stock No.	Type	Time Range	1-9
93F4239	PMH-10M-AC120V	1s-10m	39.92
93F4243	PMH-10M-DC24V	1s-10m	37.82
93F4249	PMH-30M-AC120V	3s-30m	39.92
HOUR TIMER MODELS			
93F4234	PMH-10H-AC120V	1m-10h	39.92
93F4244	PMH-30H-AC120V	3m-30h	39.92

(2743) (de03065)

PATTERN SELECTOR TIMER LOGIC CONTROLLER

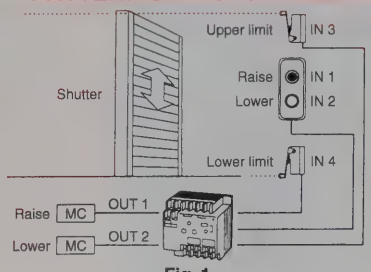


Fig. 1

APPLICATIONS:
Limit Control (See Fig. 1)
- **Opening and Closing of Shutters or Windows**
- **Raising and Lowering Freight Elevators, Sliding Tables, or Incremental Motion Mechanisms**

The pattern selector is a compact, economical pre-programmed logic controller. Incorporates 15 preset control patterns that are switch selectable (no programming). Combined with 4 multirange timers, 4 inputs, and 2 relay outputs, the unit performs functions for which a PLC is too much, and individual timers and relays present overly complex wiring or often simply won't fit. Operating voltage range: 100-240VAC. Includes built-in sensor power supply (24VDC @ 200mA).

GENERAL AND PERFORMANCE SPECIFICATIONS

Operating Voltage	100 to 240VAC
I/O Points	6
Sensor Power Supply	24VDC ± 10%, 200mA
Timer Ranges	1 sec, 10 sec, 1 min, 10 min
Timer Repeat Accuracy	± 1% Max.

INPUT SPECIFICATIONS

Input Points	4
Input Type	No-Voltage Contact or NPN or PNP Open Collector
Input Pulse Length	5.5 msec Min.
Electrical Isolation	Optical Coupler

OUTPUT SPECIFICATIONS

Output Type	2 N.O., Form A Relay
Rated Capacity	5A, 250VAC/5A, 30VDC
Response Time	15 msec or Less
Operation Indication	LED

91F7550 Type AFK-6DR-AC. **Each**..... **132.31**
(14633) (ne10579)

LT4H SERIES DIGITAL QUARTZ TIMERS

DIN 48-size, 4-digit multifunction, multirange timers use new bright 2-color backlight LCD display for easy readability in direct light or total darkness. Simple operation is provided by side panel mounted mode and time range selection DIP switches and front panel mounted time setting pushbuttons. Short, compact body is available with either pin-type or screw-type terminals. Water-proof front panel meets IEC enclosure IP66 classifications. UL listed, CSA certified, CE compliant.

4-DIGIT DISPLAY; 11-PIN TERMINAL

Stock No.	Type	Operating Voltage	Output Type	1-9
91F6041	LT4H-AC240V	100-240VAC	Relay (1C)	155.48
91F6042	LT4H-DC24V	12-24VDC	Relay (1C)	155.48
91F6043	LT4HT-AC240V	100-240VAC	Transistor	155.48
4-DIGIT DISPLAY; SCREW TERMINAL				
91F6044	LT4HT-DC24V	12-24VDC	Transistor	155.48
91F6045	LT4H-AC240VS	100-240VAC	Relay (1C)	155.48
91F6046	LT4H-DC24VS	12-24VDC	Relay (1C)	155.48
91F6047	LT4HT-AC240VS	100-240VAC	Transistor	155.48
91F6048	LT4HT-DC24VS	12-24VDC	Transistor	155.48

(15437) (ne10528)

COUNTERS AND TIMERS

EAGLE SIGNAL BRAND SERIES B846 TIMER

Combine simplicity of dial entered time presetting with advanced multimode functionality. Housed in a compact 1/16 DIN package, dial-controlled. Selectable time ranges from 0.06 seconds to 10 hours. Field configurable to operate in On-Delay, Off-Delay, Interval or repeat cycle timing modes, set by a pair of DIP switches. Rotary switch on the bottom of unit allows selection of time ranges. A unique On-Delay/Interval model performs two timing functions in one unit. In addition to working as an On-Delay timer, an independent output interval time is provided. Industry standard 8 or 11 pin socket connection. DIN rail mounted or panel mounted with optional hardware. NEMA 4 front panel and IEC 801 level 4 noise immunity. Universal power supply for 90-240VAC or 24VDC operation. Time ranges: field selectable 1, 10 seconds; 1, 10 minutes; 1,10 hours. Operating modes: **types B846-500/511** are On-Delay, Off-Delay, and interval repeat; **type B846-100** is delay interval. Setting accuracy: ±5%. Repeat accuracy: ±0.5%.

Stock No.	Type	Description	Each
16F6458	B846-500	Multi-function Timer	64.69
16F6459	B846-511	Multifunction Timer w/Instant Contacts	71.16
16F6460	B846-100	With On-Delay/Interval Timer	77.63
		ACCESSORIES	
16F6461	B846-A30	Mounting Bracket and Lock Ring	3.96
16F6462	60SR2P06	8-Pin Socket	6.21
16F6463	60SR3P06	11-Pin Socket	8.28

(3059) (ne08183)

VEEDER-ROOT BRAND SQUIRE™ PREDETERMINING COUNTERS

Offer single or dual preset count capability, or single preset count capability with a presettable batch counter. Backlit LCD display provides simultaneous count and preset indication. Nonvolatile memory retains memory during power loss. Models with calibration feature input signal to appropriate engineering unit. Annunciators and simple key sequences make operation quick and easy. A variety of count sources are accommodated, including switch or relay contacts, photoelectrics, proximity switches, and unidirectional or bidirectional encoders. Solid-state outputs interface to light-duty devices, while relay contacts offer heavy-duty load switching. Maximum count speed: 2.4kHz. 115VAC, 50/60Hz. Fit panel cut-out: 1.772″x1.772″ (45.01x45.01).

Stock No.	Type	Presets	Speed	Features*	Each
95F5069	SQC11000	1	20Hz	a/s	157.55
95F5070	SQC12000	1	2.4kHz	a/s;qu;cal;dp	188.60
95F5071	SQC22000	2	2.4kHz	a/s;qu;cal;dp	220.80
95F5072	SQB22000	1	2.4kHz	a/s;qu;cal;dp;bat	220.80

* **Features:** a/s= add/subtract input; qu = quadrature input; cal = calibrator; dp = selectable decimal point; bat = batch preset

(2916) (de50652)

PERSONALIZED SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

EAGLE SIGNAL BRAND B856 SERIES MULTIFUNCTION TIMERS

Feature a compact 1/16 DIN housing, precise digital setting, versatile functionality, and straightforward button-per-digit interface. Programmable to perform On-Delay, Off-Delay, Interval, or Repeat Cycle timing functions. Capable of performing the function of 2 separate timers. DPDT relay contact output. All programming is done from the front panel. Display: dual-line LCD.

Stock No.	Type	Description	Each
91F3079	B856-500	Timed DPDT Output	100.92
91F3080	B856-511	1 Timed, 1 Instantaneous SPDT Output	107.39

(15427) (ne10573)

VEEDER-ROOT BRAND HOURMETERS

Series 7795 rugged and reliable electric hourmeters fit 2″ diameter round or 0.95 x 1.45″ rectangular panel cutouts. 1/10 hour increments with capacity to 99,99 hours (DC models: 9,999) and 1% accuracy. Models for 120VAC or 10 to 32 VDC operation. Compact, easy to install. Sealed against dirt and moisture and non-resettable. Ideal for use on any equipment to determine usage, maintenance and warranty periods. Temperature range: AC models: –65° to +154°F (–18° to +68°C); DC models: –40° to +185°F (–40° to +85°C).

Stock No.	Type	Description	Each
87F1090	779555-216	Round, DC, Spade Terminals	59.72
87F1091	779565-216	Rectangular, DC, Spade Terminals	59.72
97F1079	779516-201	Round, AC, Screw Terminals	43.12
87F1088	779526-201	Round, AC, 7″ Leads	41.77
87F1089	779536-201	Rectangular, AC, Screw Terminals	41.77

(2758) (de03641)

VEEDER-ROOT BRAND V4545 SERIES PRESET COUNTERS

V45450-1 Counter, Single Preset

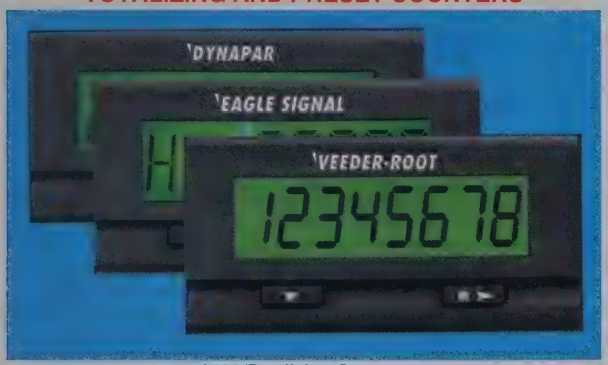
V4545 series counters are suited for applications such as cut-to-length and filling. Dual input channels accept input from a variety of sources, including encoders, dry contact, and PNP and NPN sensors. Prescale function translates signals into useful units of measure. Can be used for reversible or quadrature counting. Models available with single or dual preset, and the ability to direct batching operations. Each preset value features a transistor and a relay output. Outputs can be programmed for latching or timed operation. Large dual line LED. Scale function allows display of engineering units. High speed counting up to 10kHz. 48 W x 48mm H. Panel mount (bracket supplied), fits 45 x 45mm cutout. 7 ounces (198 g).

Stock No.	Type	Description	Each
52F1253	V45450-1	Single Preset	184.00
52F1254	V45450-2	Dual Preset	208.15
52F1255	V45450-3	Single Preset, w/Batch	208.15

(2989) (ne06323)

COUNT/TIME/RATE INSTRUMENTS

VEEDER-ROOT BRAND TOTALIZING AND PRESET COUNTERS



A103 Totalizing Counter

Type A103 totalizing and preset counters are compact and cost-efficient. Features include a supertwist LCD with .47″ (12mm) high digits and green illumination display backlight capability. 3-volt lithium battery eliminates need for external power. Accepts input signals from dry contact, PNP, or NPN sensors and encoders. High and low speed count inputs. Reset on front panel or remotely. Fits 68 x 33 mm cut-out. Front panel rated NEMA 4/IP65. *Order quick-attach option modules separately on this page.*

Stock No.	Type	Description	Each
52F1232	A103-000	Totalizer	**76.34**
52F1233	A103-001	Add/Subtract Totalizer	**102.21**
52F1234	A103-002	Position Indicator	**102.21**
52F1239	A103-007	Preset Counter	**108.37**

(2844) (de06319)

TACHOMETERS AND RATE INDICATORS

Type A103 tachometers provide readout of motor, machine shaft or other RPM. Rate indicators provide a readout of virtually any rate: gallons/minute, parts/hour, feet/minute, etc. LCD with backlighting capability. All units use an internal 3-volt single or dual battery. Magnetic input is capacitative coupled; 10 kHz (50% duty cycle); 0.2V peak (28 VDC max.). Fits 68 x 38 mm cutout. Ranges and resolution: seconds, minutes to 1/10, hours to 1/10, and hours: minutes: seconds. Weight: 2.25 oz. (64 g). Front panel is rated NEMA 4/IP65 for use in washdown environments. *Order matching totalizing and preset counters and elapsed time indicators, and quick-action option modules separately on this page.*

Stock No.	Type	Description	Each
52F1235	A103-003	Tachometer	**89.27**
52F1236	A103-004	Programmable Rate Meter	**102.21**
52F1237	A103-005*	Rate Meter & Totalizer	**108.37**
52F1241	A103-009	Rate Meter & Totalizer w/Pulse Output	**120.55**

*Provides total count as well as rate.
(2846) (de06320)

ELAPSED AND PRESET TIMERS

Type A103 elapsed time indicators and preset timers can be programmed to meet your needs. They display in seconds, minutes, hours, or hours: minutes: seconds. All units use an internal 3-volt single or dual battery. Features include a 7-digit supertwist LCD with .47″ (12mm) high digits and green illumination display backlight capability. Accepts input signals from dry contact, PNP, or NPN sensors. Timing start/stop can be initiated by solid-state signals or mechanical switches. Reset on front panel or remotely. Ranges and resolution: seconds, minutes to 1/10, hours to 1/10, hours: minutes: seconds. Connections made at screw terminals. Weight: 2.25 oz. (64 g). Front panel rated NEMA 4/IP65 for use in washdown environments. *Order matching counters, rate indicators, and quick-attach option modules separately on this page.*

Stock No.	Type	Description	Each
52F1238	A103-006	Elapsed Time Indicator	**76.34**
52F1240	A103-008	Preset Timer	**108.37**

(2848) (de06321)

A103 SERIES OPTION MODULES

These quick-attach option modules provide a power supply for sensors, display backlighting, timing signals, and mechanical relay output. They accept high or low voltage AC or DC input signals. Low voltage input accepts 15 to 30 VAC or VDC for count input. High voltage input accepts 100 to 260 volt AC/DC for count input. Mechanical relay output is SPDT (Form C); 120/240 VAC, 30 VDC contacts.

Stock No.	Type	Description	Each
52F1242	A103-A10	HV Input Module	**19.81**
52F1243	A103-A11	Relay Output Module	**19.81**
52F1244	A103-A12	AC Power Supply	**39.63**
52F1245	A103-A13	HV Input/Relay Out Module	**33.03**
52F1246	A103-A14	HV Input/Power Supply Module	**52.85**
52F1247	A103-A15	Power Supply/Relay Module	**52.85**
52F1248	A103-A16	HV Input/Power Supply/Relay Module	**64.69**
52F1249	A103-A17	LV Input Module	**19.81**
52F1250	A103-A18	LV Input/Relay Out Module	**33.03**
52F1251	A103-A19	LV Input/Power Supply	**52.85**
52F1252	A103-A20	LV Input/Power Supply/Relay Module	**64.69**

(2850) (de06322)

VEEDER-ROOT BRAND MITE SERIES ELECTRONIC TOTALIZING COUNTERS, RATE INDICATORS, AND TIME METERS

MITE series 0.315″ (8.00) high (8-digit) LCD displays feature compact overall size. Fit 1.96″ x 0.98″ (45 x 22) panel cut-out. Totalizers are powered by an internal lithium cell, and available in **type 799988D-110** unidirectional and **type 799988D-410** bidirectional models that are capable of count speeds to 10kHz. **Type 799988D-410** bidirectional totalizer provides count/direction operation—one input receives count pulses, while a second input controls counting direction. Self-powered timer **type 799988D-510** has timing ranges for seconds or minutes and seconds; **type 799988D-610** has timing ranges for hours or hours and 1/100ths **Type 799988-801** tachometer with totalizer function. Has selectable frequency or period modes allows application with a variety of sensors including one-pulse-per-revolution pickups. All units rated NEMA-4/IP65. *Order input adaptors separately below.*

Stock No.	Type	Description	Each
48F2257	79998D-110	Totalizer-add	**43.42**
48F2258	79998D-410	Totalizer-add/subtract	**54.37**
48F2259	79998D-510	Timer-seconds or minutes & seconds	**49.16**
48F2260	79998D-610	Timer-hours or hours and 100ths	**49.16**
96F5488	799988-801	Tachometer/Totalizer	**59.52**
		SNAP-ON INPUT ADAPTORS	
48F2261	108938-0001	5-240 VAC/VDC for totalizers	**17.24**
48F2262	108940-0001	5-240 VAC/VDC for totalizers	**17.24**
48F2263	108937-0001	5-240 VAC/VDC for totalizers	**13.41**
50F2689	329587-001	5-240 VAC/VDC for totalizers	**17.17**
50F2690	329588-001	5-240 VAC/VDC for timers	**17.17**
50F2682	329590-001	Screw terminal for all **MITE series**	**13.21**

(2918) (de50664)

Electronic Terms and Measurements

Resistance
Opposition to current flow. Basic unit is the ohm (Ω).

1 kilohm – kΩ	1,000 or $1x10^3$ ohms
1 Megohm – MΩ	1,000,000 or $1x10^6$ ohms

Voltage
Electromotive force. Basic unit is the volt (V).

1 millivolt – mV	1/1,000 or $1x10^{-3}$ volt
1 microvolt – µV	1/1,000,000 or $1x10^{-6}$ volts

Current
Movement of electricity. Basic unit is the ampere (A).

1 milliampere – mA	1/1,000 or $1x10^{-3}$ ampere
1 microampere – µA	1/1,000,000 or $1x10^{-6}$ ampere

Frequency
Number of cycles per second. Basic unit is the hertz (Hz).

1 kilohertz – kHz	1,000 or $1x10^3$ hertz
1 Megahertz – MHz	1,000,000 or $1x10^6$ hertz
1 Gigahertz – GHz	1,000,000,000 or $1x10^9$ hertz

Time
Basic unit is the second (s).

1 millisecond – ms	1/1,000 or $1x10^{-3}$ second
1 microsecond – µs	1/1,000,000 or $1x10^{-6}$ second
1 nanosecond – ns	1/1,000,000,000 or $1x10^{-9}$ second

(38570) (Filler01)

TACHOMETERS, TOTALIZERS AND TIMERS

DYNAPAR BRAND MAX JR TACH 1 & 2 PROGRAMMABLE RATE CONTROLLERS

Choose from two compact, economical models, both offering high-accuracy measurement techniques and simple programming. **Type MTJR1S00** MAXjr Tach 1 rate indicator/controller is ideal for basic rate or speed measurement functions. **Type MTJR2S00** MAXjr Tach 2 rate/ratio/time interval controller provides a choice of operating modes: rate of input A, as in the MAXjr Tach 1 model; ratio of two independent inputs A and B; and time interval, which can be the period of A or the elapsed time between inputs A and B; and time interval, which can be the period of A or the elapsed time between inputs A (start) and (stop). Both MAXjr Tach 1 and 2 models feature programmable 0.0001 to 99999 calibration high/low setpoint alarm capability with outputs and built-in diagnostics. Large 5-digit 0.56″ (14.22) red LED display, 0.01% accurate time interval measurement and programmable decimal point position. Sealed NEMA-4 rated front panel with panel mounting in 1/8 D 1.78x3.56″ (45.21x90.42) cutout; 5.68″ (144.27) depth. 115/230 VAC, 50/60 Hz.

Stock No.	Type	Description	Each
84F765	MTJR1S00	MAXjr Tach Rate Controller	**285.20**
04F804	MTJR2S00	MAXjr Tach Rate/Ratio/Time/Controller	**368.00**

(2920) (de50669)

DYNAPAR BRAND MAX® JR. ELECTRONIC TOTALIZING AND PRESET COUNTERS

Type MCJR1S00 8-digit totalizing counter features bidirectional operation, with ± polarity indicator and reference preset function. **Type MCJR2S00** is 5-digit redetermining counter for cut-to-length, filling, batching, locating, and similar applications. Features two presets with programmable output action. **Type MCJR3S00** similar to **MCJR2S00** but includes additional function that serves either as totalizer preset-batch counter. **Type MCJR4S00** similar to **MCJR1S00** but can instantly switch display between counted totals and rate at touch of a button. Programmable features include independent calibration and decimal point location for count and rate, allowing totals and speed to be displayed in different units, such as: totals in feet; speed in RPM. All models have bright, high-contrast red LED displays, NEMA-4 front panel rating with panel mounting in 1/8 DIN cut-out. Calibrator scales input signal for display in engineering units. Selectable decimal point positioning. Non-volatile memory retains count and program during power loss. 115/230VAC; 50/60Hz.

Stock No.	Type	Description	Each
50F2679	MCJR1S00	Count 1 Totalizing Counter	**266.80**
87F1084	MCJR2S00	Count 2 Predetermining Counter	**302.45**
97F1081	MCJR3S00	Count 3 Predetermining Counter/Totalizer	**362.25**
50F2680	MCJR4S00	Count 4 Totalizing Counter/Rate Indicator	**302.45**

(10625) (de50651)

DYNAPAR BRAND HT50 HAND TACHOMETER SYSTEM

Type HT5001 hand tachometer provides a convenient, accurate means of measuring rotary or surface speeds on all types of machinery. For non-contacting measurement the tachometer optically detects a reflective target on the rotating object. Where in-contact measurement is desired, an accessory adapter is used with the appropriate device–a wheel for surface speed or rubber tip for shaft rotation. System includes: hand tachometer; in-contact adapter, rubber tips (3 pcs.), surface speed wheels (1/10 m/min. and 1/10 yd/min.), carrying case, dry batteries (4-AAA size, 1.5V), and instruction manual.

52F8418 Type HT5001. **Each** **287.50**
(3048) (ne08162)

VEEDER-ROOT BRAND 7990 SERIES FLEX™ ELECTRONIC TIME AND RATE INDICATORS

Type 799008-100 operates as a totalizer, hour meter and timer and **799008-200** adds the ability to operate as tachometer. Both feature 0.35″ (8.89) high 8-digit LCD readout, moveable decimal point, pre-scaling capability, and front-panel or remote reset. Programmable, multi-function design provides choice of totalizer mode with count capacity to 99,999,999 and input scaling; timer mode to register hours, minutes, seconds with choice of time increment; hourmeter mode for cumulative running time in hours (whole units, tenths or hundredths); and tachometer mode (**799008-200** only) operates as 5-digit rate indicator with gate time from 0.0001 to 9.9999 seconds plus has programmable sample time and input scaling. Sealed metal case meets NEMA-4 standards and fits 2.6x1.3″ (66.04x33.02) panel cutout. Internal lithium battery operation.

Stock No.	Type	Description	Each
90F8425	799008-100	Totalizer/Timer/Hourmeter	**82.80**
90F8426	799008-200	Totalizer/Timer/Hourmeter/ Tachometer	**104.80**
		ACCESSORIES FOR 7990 SERIES FLEX™	
90F8427	328992-010	Screw terminal adaptor	**21.14**
90F8428	328992-020	Input module, 20-270 VAC or VDC frequency response 1-10 Hz*	**27.74**
90F8429	328992-030	Triac input module. Optically isolated. 10Hz frequency response*	**27.74**
90F8430	328992-120	Panel mount adaptor. Fits 3.78″x1.75″ (96.01x44.45) cut-out	**7.92**
90F8431	328992-110	Panel mount adaptor with key/switch. Fits 5.0″x1.75″ (127.00x44.45) cut-out	**14.54**

*Input adaptors have screw-terminal connections.
(2912) (de50650)

DYNAPAR BRAND HT100 HAND-TACHOMETER SYSTEM WITH LED DISPLAY

Large, red LED display is easy to see from any angle and provides instant switching between speed, time interval or count measurements. **Type HT100** hand-held rate & time indicator's display provides a highly visible reading, even in dim light or at indirect viewing angles. When used as a non-contact indicator, a marker (reflective tape supplied) is placed on the shaft, or other target that is to be measured. It is then simply pointed at the marker to read rate-per-minute, seconds-per-event, or counts. An in-contact adaptor is provided that allows display of linear feet, meters per minute, or RPM. Measurement ranges for RPM: 3 to 99,999; M/min: 0.3 to 19,999; Ft/min: 0.3 to 19,999; time interval: 0.01 to 99,999 sec.; Counts: 1 to 99.999. The 5 digit red LED, 0.4″ (10.5mm) display operates either in fixed decimal mode or floating decimal point autorange mode. Accurate to ±0.5% of reading, ±1 digit. Auto power-off after reading is displayed for 10 seconds. Last reading may be recalled for up to 1 minute after automatic power-off. Visible light source with optical range of 1″-3 feet (25mm-1000mm). **Type HT100** system is packaged in a rugged carrying case. In-contact adaptor, linear-speed measuring wheel, rubber tips, batteries and reflective tape are included.

92F2801 Type HT100 System. **Each** **276.00**
(2769) (de03935)

NEWARK HAS WHAT YOU NEED.
WITH SO MUCH IN STOCK, YOU HAVE THE COMPONENTS YOU NEED AT YOUR FINGERTIPS.

DISPLAY COUNTERS, TIMERS AND RATEMETERS

VEEDER-ROOT BRAND C346 PRESET COUNTERS

Simple button per digit setting and choice of single-line 6-digit LED or LCD display allow optimum operator interface. Very flexible input circuit with scaling feature accepts signals from encoders, NPN (sinking), PNP (sourcing), and contact-closure inputs. Suitable for most preset counting applications. Size: 1/8 DIN (48W x 48mmH) Display: 6 digit. LED or LCD. Power: 120VAC standard; optional 240VAC, 24VDC. Preset levels: 1 or 2.5 amp relay and NPN transistor per output. Input scaling: x0.001 to 9.999. Input: sinking, sourcing, contact closure, add/subtract, add/add, quadrature. Maximum count speed: 5 kHz.

Stock No.	Type	Description	Each
16F4072	C346-0411	LCD/Single Preset	166.75
16F4073	C346-0421	LCD/Dual Preset	195.49
16F4074	C346-0511	LED/Single Preset	201.25
16F4075	C346-0521	LED/Dual Preset	230.00

(3061) (ne08184)

S628 SERIES "AWESOME" DIGITAL DISPLAY PANEL METERS

NEW

1/8 DIN panel meters feature the ability to change display color when the monitored data exceed a preset limit, providing operators with instant visual alert to changes in application status. Large, super-bright 5-digit 0.71" LED display can also be set to a constant red or green color. Fully programmable feature set includes minimum and maximum value capture and programmable alarms. RS-485 communications port allows integration with system devices. Power source: 90 to 264VAC, 50/60Hz.

DC PROCESS METERS

Input for popular current and voltage standards. 2 alarm presets, each with SPDT relay and transistor output. ±0.1% of span accuracy.

Stock No.	Type	Description	Each
48F2137	S628-21000	SPDT Relay and Transistor Output	293.36
48F2138	S628-21050	With RS-485 Communications Port	365.59
48F2140	S628-11000	With Linear Voltage/Current Output	293.36

DC VOLTS/AMPS METERS

Fully scalable, wide-range current and voltage input. 2 alarm presets, each with SPDT relay and transistor output. ±0.1% of span accuracy.

48F2143	S628-51000	SPDT Relay and Transistor Output	293.36
48F2144	S628-51050	With RS-485 Communications Port	365.59
48F2145	S628-51300	With Linear Voltage/Current Output	348.92

AC VOLTS/AMPS METERS

Fully scalable, wide-range current and voltage input. 2 alarm presets, each with SPDT relay and transistor output. ±0.1% of span accuracy.

48F2146	S628-31000	SPDT Relay and Transistor Output	344.48
48F2147	S628-31050	With RS-485 Communications Port	375.08
48F2148	S628-31300	With Linear Voltage/Current Output	360.08

TEMPERATURE METERS

Input for B, J, K, N, S, and T thermocouples and 3- and 4-wire RTD. 2 alarm presets, each with SPDT relay and transistor output. ±0.1% of span accuracy.

48F2140	S628-11000	SPDT Relay and Transistor Output	293.36
48F2141	S628-11050	With RS-485 Communications Port	365.59
48F2142	S628-11300	With Linear Voltage/Current Output	348.92

(33788) (ne33788)

C628 SERIES "AWESOME" DISPLAY COUNTERS, TIMERS, AND RATEMETERS

1/8 DIN panel meters feature the ability to change display color when the monitored data exceed a preset limit, providing operators with instant visual alert to changes in application status. Large, super-bright 5-digit 0.71" LED display can also be set to a constant red or green color. Count and rate models can accept input frequency to 10kHz. Elapsed timer models operate in formats of seconds, minutes, hours, minutes and seconds, or hours and minutes. Fully programmable feature set accommodates a wide range of applications. RS-485 communications port allows integration with system devices. Power source: 90 to 264VAC, 50/60Hz.

TOTALIZING COUNTERS

Stock No.	Type	Description	Each
48F2129	C628-10000	Bidirectional; Preset for Display Color Change	250.02
48F2130	C628-10050	Bidirectional; Preset for Display Color Change; RS-485 Communications Port	322.25

PRESET COUNTERS

48F2131	C628-81000	Bidirectional; 2 Presets with Relay and Transistor Outputs	333.36
48F2132	C628-81050	Bidirectional; Preset for Display Color Change; RS-485 Communications Port	365.08

RATEMETER

48F2133	C628-41000	2 Presets with Relay and Transistor Outputs	305.58
48F2134	C628-41050	2 Presets with Relay and Transistor Outputs; RS-485 Communications Port	340.07

ELAPSED TIMER

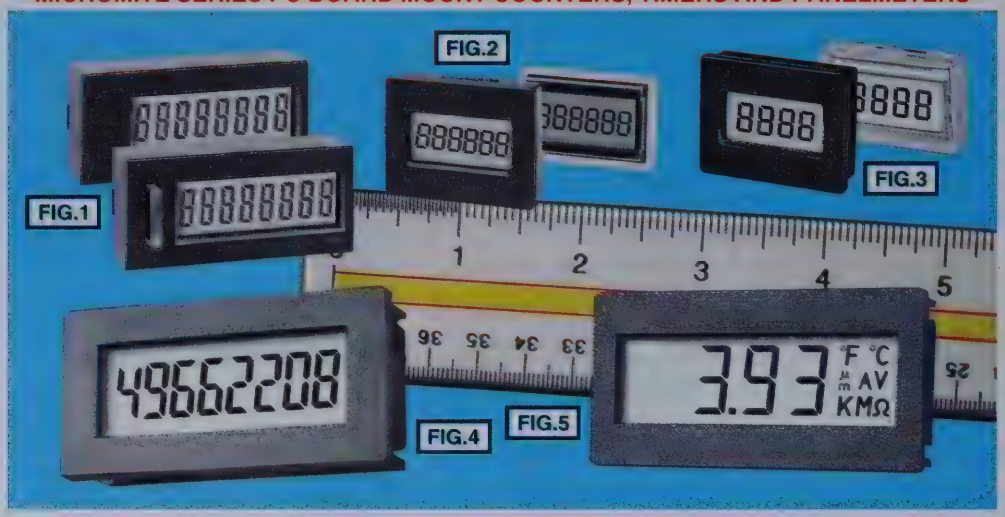
48F2135	C628-60000	1 Preset with Relay and Transistor Outputs	250.02
48F2136	C628-60050	1 Preset with Relay and Transistor Outputs; RS-485 Communications Port	322.25

(36071) (ne33788)

LET NEWARK CONNECT™ AUTOMATICALLY REPLENISH YOUR INVENTORY.
CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR DETAILS.

COUNTERS, TIMERS, TACHOMETERS AND PANEL METERS

MICROMITE SERIES PC BOARD MOUNT COUNTERS, TIMERS AND PANELMETERS



TOTALIZING COUNTERS

8-digit, 8mm-high LCD. 2.6-3.4VDC @ 10µA maximum. Count and direction inputs, 5 kHz maximum count speed. 20Hz switch bounce filter. Operating temperature: –10°C to +60°C.

Stock No.	Type	Fig.	Description	H x W x D	Each
48F2119	799988-412	1	Panel and Remote Reset	0.83 x 1.85 x 0.53″ (21 x 47 x 13.5)	24.90
48F2120	799988-402	1	Remote Reset Only	0.83 x 1.85 x 0.53″ (21 x 47 x 13.5)	24.90
6-digit, 6mm-high LCD. 2.6-3.4VDC @ 10µA maximum. 10kHz maximum count speed. Remote reset. With supplied bezel, fits 1.16 x 0.87″ cutout. Operating temperature –10°C to +60°C.					
48F2123	799986-302	2	Count Up Only	0.70 x 1.09 x 0.26″ (17.7 x 27.6 x 6.5)	24.90
48F2124	799986-402	2	Count and Direction Inputs	0.70 x 1.09 x 0.26″ (17.7 x 27.6 x 6.5)	28.73
4-digit, 6mm-high LCD. Powered by replaceable internal 1.5V button cell, 4 years expected life. 12kHz maximum count speed from contact input, reset by removing battery. With supplied bezel, fits 1.16 x .87″ cutout. Operating temperature: –10°C to +60°C.					
48F2125	799984-322	3	Count Up Only	0.70 x 1.09 x 0.42″ (17.7 x 27.6 x 10.7)	21.28
8-digit, 18mm-high LCD. Wiring option for backlighting. 3VDC @ 10µA maximum. 10kHz maximum count speed. Operating temperature –10°C to +60°C.					
48F2126	7999F8-302	4	Count Up Only	0.94 x 1.89 x 0.55″ (24 x 48 x 14)	31.92

ELAPSED TIME INDICATORS

8-digit, 8mm-high LCD. 2.6-3.4VDC @ 10µA maximum. Timing modes: seconds, mins/secs, hrs/mins, hrs/hundreths ±20ppm accuracy. Operating temperature: –10°C to +60°C.

48F2121	799988-612	1	Panel and Remote Reset	0.83 x 1.85 x 0.53″ (21 x 47 x 13.5)	24.90
48F2122	799988-602	1	Remote Reset Only	0.83 x 1.85 x 0.53″ (21 x 47 x 13.5)	24.90

PANEL METERS

5 or 9VDC @ 2mA maximum. 200mV full-scale sensitivity. Precision voltage reference. Programmable decimal point. Easy-to-use annunciators. Automatic zero and polarity. Wiring option for backlighting.

48F2127	7999F3-001	5	14mm-High LCD	1.42 x 2.83 x 0.55″ (36 x 72 x 14)	43.42
48F2128	7999F3-002	5	8mm-High LCD	0.94 x 1.89 x 0.55″ (24 x 48 x 14)	43.42

(33786) (ne33786)

C342 SERIES LCD AND LED COUNTERS, TIMERS, AND TACHOMETERS

DIN-sized family of count totalizing, elapsed-time totalizing, and speed meters with LCD or LED displays. Self-powered models contain long-life lithium battery. Externally powered models accept 12-24VDC power supply and nonvolatile RAM to provide data memory. Counters and timers have panel and remote reset. Display: 7mm-high, 8-digit LCD, or 7.6mm-high, 6-digit LED. Dimensions: 0.94H x 1.9W x 1.25″D (24 x 48 x 32). Operating temperature: –10°C to +50°C. Front panel meets IEC enclosure IP65 classification.

COUNT TOTALIZERS

Stock No.	Type	Description	Display	Power Source	Each
48F2149	C342-0464	Contact or Logic-Count Input	LCD	Battery	43.42
48F2150	C342-0474	High-Voltage (12-250VAC/VDC) Count Input	LCD	Battery	56.25
48F2157	C342-0562	Contact or Logic-Count Input	LED	External DC	100.02

TIME TOTALIZERS

48F2151	C342-1464	Hours:Minutes:Seconds Resolution; Contact or Logic Input	LCD	Battery	48.52
48F2152	C342-2464	Hours and 1/100 Resolution; Contact or Logic-Count Input.	LCD	Battery	48.52
48F2153	C342-1474	Hours:Minutes:Seconds Resolution; High-Voltage (12-250VAC/VDC) Count Input	LCD	Battery	62.49
48F2154	C342-2474	Hours and 1/100 Resolution. High-Voltage (12-250VAC/VDC) Count Input	LCD	Battery	62.49
48F2158	C342-1562	Hours:Minutes:Seconds Resolution; Contact or Logic Input	LED	External DC	105.90
48F2159	C342-2562	Hours and 1/100 Resolution; Contact or Logic Input	LED	External DC	105.90

TACHOMETERS

48F2155	C342-3464	Contact or Logic-Count Input	LCD	Battery	56.25
48F2156	C342-3462	Contact or Logic-Count Input	LCD	External DC	68.74
48F2160	C342-3562	Contact or Logic-Count Input	LED	External DC	111.78

(33785) (ne33785)

OMRON

TOTALIZERS AND DIGITAL DISPLAY

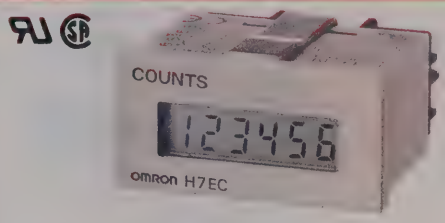
COMPACT COUNT/TIME/RPM TOTALIZERS

H7 series digital compact totalizers offer up, up/down, cumulative count, time, and RPM functions in self-powered (seven-year battery) or 100-240VDC supply voltage modes. Feature easy-to-read displays and wide internal/external resets and count speeds. Most feature DIN-sized 0.94H x 1.89″W (24 x 48) front panels. All feature screw terminals and external resets unless otherwise noted in description column. NEMA 4 versions available; *see table below.* UL recognized, CSA certified, CE compliant.

Stock No.	Type	Description
52F4167	H7EC-BL	7-Digit Self-Powered, Totalizer, No-Voltage Input, 30cps Max., DIN Sized
52F4168	H7EC-BLM	6-Digit Self-Powered, Totalizer, No-Voltage Input, 30cps Max., DIN Sized 1.93″D (49), Ext/Manual Reset
52F4169	H7EC-BVM	6-Digit Self-Powered, Totalizer, DC Input, 1kcps Max., DIN Sized 3.11″D (79) Ext/Manual Reset
52F4172	H7ET-B	7-Digit Self-Powered, Time Totalizer (0-999999.9 Hours), No-Voltage Input, DIN Sized 1.93″D (49)
52F4173	H7ET-BV	7-Digit Self-Powered, Time Totalizer (0-999999.9 Hours), No-Voltage Input, DIN Sized 3.11″D (79)
52F4171	H7ER-SBV	5-Digit Self-Powered Tachometer, Auto Reset, DC Input, 10kcps Max., Selectable Encoder Resolution and Displayed Revolutions, DIN Sized 3.11″D (79)
52F4175	H7GP-C	6-Digit Totalizing Counter, NEMA 4 Front Panel, 100-240VAC Supply Voltage, No-Voltage Input, 30cps/5kcps Selectable, Negative Transmissive LCD, Ext/Manual Reset, DIN Sized 3.15″D (80)
52F4176	H7GP-T	6-Digit Time Totalizer, NEMA 4 Front Panel, 100-240VAC Supply Voltage, No-Voltage Input, Displays 99999.9 Hour or 99h 59m 59s, Negative Transmissive LCD, Ext/Manual Reset, DIN Sized 3.15″D (80)
52F4177	H7HP-A	6-Digit UP/DOWN Count Totalizer (30cps/5kcps Max.) or Time Counter (99999.9/99h 59m 59s) Switch Selectable, NEMA 4 Front Panel, 100-240VAC Supply Voltage, No-Voltage Input, Negative Transmissive LCD, 1.42H x 2.68W x 2.60″D (36 x 72 x 66), External/Manual Reset
52F4178	H7HP-C8	8-Digit UP/DOWN Time Counter (999999.9 Hours Max.), NEMA 4 Front Panel, 100-240VAC Supply Voltage, No-Voltage Input, Negative Transmissive LCD, 1.42H x 2.68W x 2.60″D (36 x 72 x 66), External/Manual Reset

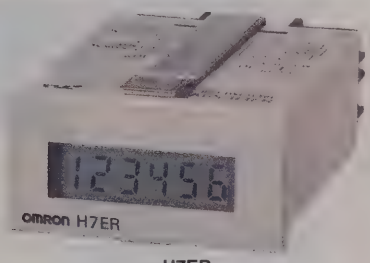
Stock No.	Type	Each	2-5	6-10	11-15
52F4167	H7EC-BL	52.54	51.69	50.84	48.85
52F4168	H7EC-BLM	52.54	51.69	50.84	48.85
52F4169	H7EC-BVM	52.54	51.69	50.84	48.85
52F4172	H7ET-B	60.05	59.08	58.10	55.83
52F4175	H7GP-C	126.53	124.48	122.43	117.64
52F4176	H7GP-T	126.53	124.48	122.43	117.64
52F4177	H7HP-A	162.99	160.34	157.70	151.53
52F4178	H7HP-C8	178.00	175.11	172.23	165.49

(3023) (ne07307)



H7EC

H7ET



H7ER

H7GP

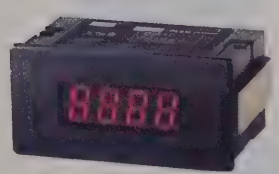
SCALABLE DIGITAL DISPLAY

Type K3TJ scaleable digital display offer four-digit LED display in highly visible red or green. Choose voltage or current models. Units require 100 to 240VDC supply voltage. Three switch-selectable display brightness levels. Dimensions: 1.89H x 3.78W x 2.75″D (48 x 48 x 106). UL listed.

Stock No.	Type	Description	Each
52F4179	K3TJ-A111G	Voltage Display (1-5VDC, 0-5VDC, 1-10VDC), Green LED	242.47
52F4180	K3TJ-A111R	Voltage Display (1-5VDC, 0-5VDC, 1-10VDC), Red LED	217.14
52F4181	K3TJ-V111G	Current Display (4-20mA DC), Green LED	242.47
52F4182	K3TJ-V111R	Current Display (4-20mA DC), Red LED	217.14

(2447) (ne07250)

H7HP



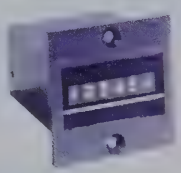
K3TJ

NEED IT FAST? OVERNIGHT SHIPMENT IS AVAILABLE ANYWHERE, ANYTIME.
CONTACT YOUR LOCAL NEWARK SALES OFFICE.

COUNTERS, HOURMETERS AND TACHOMETERS

Remote Reset

Manual & Remote Reset



P2-4816

P2-4904, P8-4904

P2-4906, P8-4906, P9-4906

9415-001

9415-003

9415-005

5300 SERIES COUNTERS, HOURMETERS AND TACHOMETERS

Redington's "Eagle" family of digital electronic counters, hourmeters and tachometers use innovative technology to provide unparalled accuracy and reliability over a wide range of applications. Positive locking mounting clip and compact size make it ideally suited for control panels, instrumentation assemblies, business machines or wherever space is a concern. Panel cutout 1.79″ x 0.89″. 7 figures, 0.32″ high LCD display. Typical 20-yr. life with lithium battery. Termination: terminal block. UL recognized, CSA certified and CE compliant.

COUNTERS

Stock No.	Type	Description	1-4	5-9
66F1113	5300-0000	7-Figure, 0-40 & 0-150 CPS, Non-Voltage (Switch) Input, Remote Reset Counter	52.96	48.68
66F1114	5300-1000	7-Figure, 0-40 & 0-150 CPS, 3-30VDC Input, Remote Reset Counter	52.96	48.68
66F1115	5300-0100	7-Figure, 0-40 & 0-150 CPS, Non-Voltage (Switch) Input, Manual & Remote Reset Counter	52.96	48.68
66F1116	5300-1100	7-Figure, 0-40 & 0-150 CPS, 3-30 VDC Input, Manual & Remote Reset Counter	52.96	48.68

20-250VAC/VDC COUNTER

Stock No.	Type	Description	1-2	3-4
66F1119	5300-2000	7-Figure, 0-40 CPS 20-250VAC/VDC Input, Remote Reset Counter	67.70	62.09

HOURMETERS

Stock No.	Type	Description	1-4	5-9
52F7934	5320-0000	7-Figure, 999999.9 hrs. max., Non-Voltage (Switch) Input, Remote Reset Hourmeter	62.26	57.22
66F1120	5320-0100	7-Figure, 999999.9 hrs. max., Non-Voltage (Switch) Input, Manual & Remote Reset Hourmeter	62.26	57.22
66F1121	5320-1000	7-Figure, 999999.9 hrs. max., 3-30VDC Input, Remote Reset Hourmeter	62.26	57.22

20-250VAC/VDC HOURMETER

Stock No.	Type	Description	1-2	3-4
66F1111	5320-2000	7-Figures, 999999.9 hrs. max., 20-250VAC/VDC Input, Remote Reset Hourmeter	79.42	72.84

TACHOMETER

Stock No.	Type	Description	1-4	5-9
66F1112	5330-0000	7-Figure, Non-Voltage (Switch) Input 1 Pulse/Rev, Remote Reset Tachometer	62.26	57.22

(2782) (de03995)

TYPE P2-4816 SERIES ELECTROMECHANICAL COUNTER

6-digit, panel mount, non-reset counter designed for general purpose industrial, commerical and OEM counting applications. Digits are white on black 0.17″ high. Panel cutout; 1.05″ x 1.72″. Speed AC 1,000 cpm. Terminations: Two #22 Awg 105° C wire leads, 12″ approx. Power 1.8 watts nominal. UL recognized, CSA certified, and CE compliant.

Stock No.	Type	Description	1-4	5-9
90F1624	P2-4816	115VAC/60Hz, 6 Figure, 1.40″ Mounting Centers	46.31	42.56

(2929) (de51258)

49 SERIES ELECTROMECHANICAL COUNTERS

Panel mount, pushbutton reset counters designed for use in equipment where limited envelope dimensions and reliable counting are required. Digits are 0.16″ high. Speed: 600 cpm. Terminations: two #22 AWG 105° C wire leads, 10″ approx. 2 watts nominal; UL recognized and CE compliant.

Stock No.	Type	Description	1-4	5-9
44F3110	P2-4904	115VAC, 4 Figure, 1.46″ x 1.01″ Panel Cutout	48.76	44.82
44F3111	P8-4904	24VDC, 4 Figure, 1.46″ x 1.01″ Panel Cutout	45.15	41.49
44F3112	P2-4906	115VAC, 6 Figure, 2.00″ x 1.01″ Panel Cutout	60.52	55.62
44F3113	P8-4906	24VDC, 6 Figure, 2.00″ x 1.01″ Panel Cutout	56.45	51.88

(2931) (de51259)

94 SERIES ELECTRONIC COUNTERS

Battery-powered 6-digit LCD counters feature 6-240VAC or VDC inputs. Interchangeable with most electromechanical counters. Digits are 0.45″ high. Rated 2400cpm with sensor input. Load resistor (1500 ohms, 10 watts) across input terminals required when using AC sensors. Weight: 1.1 lbs.

Stock No.	Type	Description	1-2	3-4
81F473	9415-001	Pushbutton Reset, Base-Mount 3.82″ x 1.75″ Opening, 3.28″ x 1.11″ Mounting Hole Centers	230.15	219.14
81F474	9415-003	Pushbutton Reset, Panel Mount 3.00″ x 1.75″ Opening, 4.06″ x 1.50″ Mounting Hole Centers	244.11	232.43
81F475	9415-005	Keylock Switch Reset, Panel Mount, 4.75″ x 1.50″ Opening, 5.12″ x 1.75″ Mounting Hole Centers	267.94	255.12

(2941) (de51356)

HOURMETERS

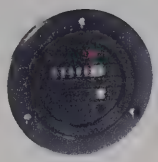
BLACKBIRD AC HOURMETERS

7 digit, 0.14″ numerals, 4 oz, 2 watts (nominal), temperature range –22°F to +158°F; panel cutout 1.99″ dia. or 1.81″ sq; incorporates retaining clip or 3-screw mounting kit included. ¼″ spade terminals obtainable by removing screws from clamp. UL recognized, CSA certified, CE compliant.

Stock No.	Type	Description	1-4	5-9
95F1399	711-0160	115VAC/60Hz, 99,999.99 Hrs, 3-Hole Round, 2.93″ Dia.	48.44	44.52
95F1400	711-0162	230VAC/60Hz, 99,999.99 Hrs, 3-Hole Round, 2.93″ Dia.	50.06	46.01
95F1401	711-0150	115VAC/60Hz, 99,999.99 Hrs, Flush Mount, 2.28″ Dia.	47.60	43.75
95F1402	711-0152	230VAC/60Hz, 99,999.99 Hrs, Flush Mount, 2.28″ Dia.	45.86	42.15
90F8438	711-0190	115VAC/60Hz, 99,999.99 Hrs, Flush Mount, 2.05″ Sq.	52.77	48.50

(2770) (de03959)

Flush Mount Round



3–Hole Mount

Flush Mount Square

710 AC HOURMETERS

5 digit reset or 6 digit non-reset, 0.22″ numerals, 6 oz., 3 watt (nominal). 115VAC/60Hz. Temperature range –20°F to +160 °F; panel cutout 2.21″ dia., 2.44 to 2.53″ slotted mounting holes. UL recognized, CSA certified, CE compliant.

NON-RESET

Stock No.	Type	Description	Termination	1-4	5-9
90F8434	710-0001	99,999.9 Hrs., Non-Reset, 2.84″ Dia. Bezel	8″ Wire Leads	55.67	51.17
90F8435	710-0002	99,999.9 Hrs., Non-Reset, 2.84″ Dia. Bezel	Terminal Block	61.55	56.57

RESET

Stock No.	Type	Description	Termination	1-2	3-4
90F8436	710-0013	9,999.9 Hrs., Reset, 2.84″ Dia. Bezel	8″ Wire Leads	110.31	101.16

(2771) (de03960)

710 Series

BULLSEYE AC/DC HOURMETERS

7 digit, numerals magnified to .14″, 4 oz., .75 watts (nominal AC), .2 watts (DC). Temperature range –13°F to +185°F, mounting by retaining clip or 2-screw mounting kit not included, 1.45″ x .87″ panel cutout. ¼″ spade terminals obtainable by removing screws from clamp. AC models UL recognized, CSA certified, CE compliant. DC models CE compliant only.

BULLSEYE AC HOURMETERS

Stock No.	Type	Description	1-4	5-9
95F1403	711-0130	115VAC/60Hz, 99,999.99 Hrs, 2-Hole, Rectangle	55.09	50.64
95F1404	711-0131	230VAC/60Hz, 99,999.99 Hrs, 2-Hole, Rectangle	55.09	50.64
95F1405	711-0113	115VAC/60Hz, 99,999.99 Hrs, Flush, Rectangle	55.09	50.64
95F1406	711-0111	230VAC/60Hz, 99,999.99 Hrs, Flush Rectangle	53.67	49.33

Type 711-0130

BULLSEYE DC HOURMETERS

Stock No.	Type	Description	1-2	3-4
95F1407	731-0040	10-50 VDC, 999,999.9 Hrs, 2-Hole, Rectangle	90.89	83.36
95F1408	731-0041	10-50 VDC, 999,999.9 Hrs, Flush, Rectangle	91.40	83.82

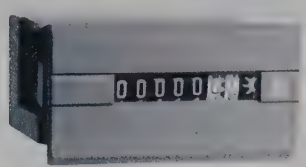
Type 711-0113

AC RECTANGULAR HOURMETERS

6 or 7 digit, flush mount, AC hourmeter, 15″ leads, 2 watts (nominal), 1.98″ x 0.99″ panel cutout. **Type 711-0019** is CE compliant with a bracket retainer for mounting. **Type 711-0020** has snap-in mounting. UL recognized, CSA certified, and CE compliant.

Stock No.	Type	Description	1-2	3-4
90F8443	711-0020	115VAC/60Hz, 99,999.99 Hrs, Non-Reset	73.94	67.81
90F8444	711-0019	115VAC/60Hz, 99,999.9 Hrs, Resettable	150.66	143.45

(2772) (de03961)



Type 711-0020

720 AC HOURMETER

MIL-SPEC hourmeter, encased in rugged steel housing, 2.5 watts (nominal), 2.16″ dia. panel opening, temp –65°F to +155°F, meets MIL-SPEC M3971/2-1 and M3971/2-5, terminal block. UL recognized, CSA certified, CE compliant.

Stock No.	Type	Description	1-2	3-4
90F8437	720-0003	115VAC/60Hz, 99,999.9 Hrs., 2.44″ Bolt Hole Centers	152.37	145.08

(2774) (de03962)

720-0003

740 VIBRATION HOURMETER

Vibration driven hourmeter, sealed in dust proof, water-tight plastic housing, screw on (threaded ring) mounting, 2.05″ dia. case. Records to 99,999.9 hrs. Requires a minimum vibration frequency and amplitude for consistent accuracy.

Stock No.	Type	Description	1-2	3-4
90F8442	740-0003	99,999.9, 2.06″ Panel Cutout	410.21	390.59

(2776) (de03963)

740-0003

TOTALIZERS AND COUNTERS

44 SERIES ELECTROMECHANICAL COUNTERS

V24-4416

RV23-4416
RV2-4416
RV8-4416

Metal/plastic frame assembly assures ruggedness and long accurate counting life. 6-digits, white on black, 0.18″ high. Speed: 600cpm. Mounting: rear, behind panel and base. Terminations: two #22 AWG 105°C wire leads, approximately 10″ long. UL recognized, CE compliant.

Stock No.	Type	Description	1-4	5-9
44F3125	RV2-4416	115VAC, Combination Mount	51.93	47.73
44F3126	RV8-4416	24VDC, Combination Mount	27.90	25.42
70B9819	RV23-4416	115VAC, Combination Mount, Counts by 2	55.22	50.75
98F4107	V24-4416	115VAC, V Base Mount, Counts by 2	56.52	51.94

(2933) (de51260)

300 SERIES ELECTROMECHANICAL COUNTERS

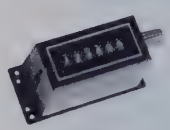
R2-3106
R8-3206

Extremely long life counter with 6-digits, white on black, 0.15″ high. Panel mount. Panel cutout: 2.02x1.05″. Power: 2.8 watts. Solder terminals. UL recognized, CSA certified, CE compliant.

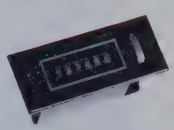
Stock No.	Type	Description	1-2	3-4
57F3505	R2-3106	115VAC, 1,000cpm, 30ms "on"/30 ms "off"	126.82	116.31
57F3506	R8-3206	24VDC, 1,500cpm, 20ms "on"/20 ms "off"	118.50	108.68
70B9191	P8-3206	24VDC, 1500cpm, 20ms "on"/20 ms "off"	119.57	109.66

(2935) (de51261)

1006 AND 1026 SERIES ELECTROMECHANICAL COUNTERS



2-1006



P2-1006

P32-1026

1006, 1026 series: premium quality 6-digit electromechanical counters have heavy duty rectifier, transient protection and a choice of reset designs. Available base or panel mount. **Type 2-1006** has 8 mounting holes that allows for various mounting configurations. Panel cutout: **type P2-1006** is 3.85″ x 1.75″; **P32-1026** is 4.88″ x 1.75″. Terminations: two #22 AWG, 105°C, 8″ (approx.) wire leads. Digits: white on black, 0.19″ high. 1000cpm capability. Power: 7.8 watts. UL recognized, CSA certified, CE compliant.

Stock No.	Type	Mount	Reset	1-2	3-4
57F3501	2-1006-115AC	Base	Knob	115.92	106.31
57F3502	P2-1006-115AC	Panel	Thumbwheel	127.89	117.29
44F3109	P32-1026-115AC	Panel	Lock/Key	147.96	140.88

(2926) (de51256)

1284 SERIES ELECTROMECHANICAL COUNTERS

2-1284

P2-1284

1284 series 4-digit 115VAC electromechanical counters are for limited space applications. Have heavy duty rectifier and are transient protected. Base mount dimension for **type 2-1284** is 2.25 x 1.81″. Mounting hole dimensions: 1.94″ x 1.14″. Panel cutout for **type P2-1284** is 1.94 x 1.13″. Terminations: two #22 AWG, 105°C, 8″ wire leads. UL recognized, CSA certified, CE compliant.

Stock No.	Type	Mount	Reset	1-2	3-4
57F1910	2-1284-115AC	Base	Knob	95.75	87.81
57F3510	P2-1284-115AC	Panel	Thumbwheel	118.19	108.39

(2927) (de51257)

MECHANICAL STROKE COUNTERS

1-4635

1-2035

46 series mechanical stroke counter for limited space applications in office, vending and other small machinery. Speed: 1000cpm. Right hand, 5-digit, manual reset. Operating lever and spring assembly. Shaft diameter: 0.156″. **20 series** mechanical stroke counter for use in machinery. Speed: 1000cpm. Right hand, 5-digit, manual reset. With operating lever and spring assembly. Shaft diameter: 0.125″.

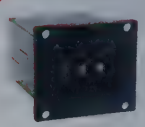
Stock No.	Type	Description	1-4	5-9
57F3516	1-4635	5 Figures, 0.19″ H., .81″ x 1.20″ Mounting Slots	51.93	47.73
57F1916	1-2035	5 Figures, 0.19″ H., .83″ x 1.20″ Mounting Slots	61.68	56.69

(2937) (de51262)

5800 AND 1063 SERIES ELECTROMECHANICAL PREDETERMINING COUNTERS

B2-5804
B8-5804

B2-5806
B8-5806



P2-1063
P8-1063

5804 and **5806 series** counters are designed for use in production, batching, and packaging count/control applications. Speed: 600cpm. Ball mount, with pushbutton reset. SPDT switch actuates repeat batching at preset number. Slides into a 2.17″ square opening. 4, 6-digit models. UL recognized. **1063 series** 3-digit, subtractive, panel mount counters are designed for control applications where a different predetermined number is required after each operation. SPDT switch actuates at 000. Speed: 600cpm. Panel mounts in 2.31″ x 1.63″ opening. Terminations: 5 #22AWG 105°C, wire leads, 8″ approx. UL recognized, CE compliant.

Stock No.	Type	Description	1-2	3-4
81F467	B2-5804-115	115VAC, 4-Digit, 2.36″ Sq. Bezel	194.57	185.26
44F3127	B8-5804-24	24VDC, 4-Digit, 2.36″ Sq. Bezel	506.26	482.04
81F468	B2-5806-115	115VAC, 6-Digit, 2.36″ Sq. Bezel	331.11	315.27
44F3128	B8-5806-24	24VDC, 6-Digit, 2.36″ Sq. Bezel	564.62	537.61
57F1912	P2-1063-115	115VAC, 3-Digit, 2.58″ x 2.32″ Bezel	141.17	134.42
57F1913	P8-1063-24	24VDC, 3-Digit, 2.58″ x 2.32″ Bezel	126.33	120.29

(2939) (de51263)

18 SERIES MECHANICAL TALLY COUNTERS

T4-1804

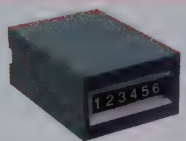
T5-1804

Type T4 hand operated reset counter has a pushbutton actuator. Case: chrome-plated steel. **Type T5** is the same, except features mounting holes on 1.34″ centers.

Stock No.	Type	Description	1-4	5-9
92F2789	T4-1804	Hand Tally	15.83	14.42
92F2790	T5-1804	Desk Tally, 0.14 dia. Mounting Holes	18.02	16.42

(2781) (de03983)

COMPACT AC ELECTROMECHANICAL COUNTER



6-figure, lightweight, 115VAC electromechanical counter offers multiple mounting options. 600 counts/minute (min. 50msec on, 50msec off). Nonreset. White on black figures, 0.12″ high. All have #22AWG leads 10.5″ long. DC and 7-digit electromechanical counters also available; *contact your local Newark sales office.*

Stock No.	Type	Mounting	Size (H x W x D)	1-4	5-9	10-24
83F6317	2-4016	Rear	0.71 x 1.18 x 1.63″	25.21	22.97	22.57
83F6318	D2-4016	D-Base	0.75 x 2.24 x 1.77″	26.59	24.22	23.80
83F6319	R2-4016	Behind-Panel	0.71 x 1.28 x 1.63″	25.21	22.97	22.57
83F6320	SR2-4016	Snap-in Panel	1.06 x 1.32 x 1.56″	25.21	22.97	22.57
83F6322	V2-4016	V-Base	2.38 x 1.63 x 1.77″	26.71	24.34	23.91

(29570) (ne29570)

Durant

DIGITAL CONTROL AND INTERFACE PRODUCTS

MULTIFUNCTION TIMERS

E42DP55

E42DP50

Type E42DP55 DIN rail- or base-mounted multifunction timer has a 3-digit LCD display that provides 2 lines of data and function annunciators: upper row, 0.275″, indicates elapsed or time remaining; the lower row, 0.157″, the setpoint. User selectable operation functions include: On Delay, Off Delay, Cycle One Shot, Single Shot, Repeat Cycle, Repeat Cycle Delay =, and Repeat Cycle =. Time setting ranges can be programmed in seconds, minutes, or hours. The inputs range from 12-260VAC/VDC and work with contact closure or NPN or PNP devices. The SPST output is programmable as a NO or NC, 10A 380VAC or 220VDC relay. Size: 3.07H x 0.88W x 3.94″D. **Type E42DP50** is a door-mounted timer with similar characteristics as **type E42DP55** plus a full 6-digit LCD and 6 keys. Size: 1.88H x 1.88W x 2.36″D.

Stock No.	Type	Description	Each
16F8939	E42DP55	DIN Rail or Base Mount	**86.01**
16F8936	E42DP50	Door Mount	**99.09**

(6626) (nec9261)

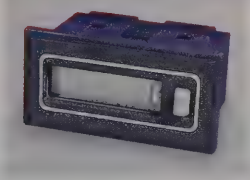
TEMPERATURE CONTROLLERS

The **E4524 series** is 1/32 DIN (24 x 48mm), 0.4″ 4-digit LED display. Features fuzzy logic PID control with Autotuning and On/Off control as well as a NEMA 4/IP 65 front panel. Universal inputs: °F or °C indication. Universal power supply: 90-264VAC. Heat/cool outputs with fail-safe, sensor break protection, ramp with dwell or soak timer for soft start, and programmble user security. Meets NEMA enclosure type 4 and IEC IP65 enclosure classification. Features 1 control output as relay, SSR, 4-20mA, or 0-10VDC with optional alarm output. Size: 1.89W x 0.94H x 3.78″D.

Stock No.	Type	Description	Each
16F8947	E45241000	Temperature Control with Relay Output	**184.10**
16F8948	E45241010	Temperature Control with Relay and Alarm Output	**195.26**
16F8949	E45242000	Temperature Control with Solid-State Relay Output	**184.10**
16F8950	E45242010	Temperature Control with Solid-State Relay and Alarm Output	**195.26**
16F9242	E45243000	Temperature Control with 4-20mA Output	**223.15**
16F9243	E45243010	Temperature Control with 4-20mA Output and Alarm Output	**234.31**

(6628) (nec9263)

TOTALIZERS & COUNT/TIME CONTROLS



Totalizer

Elapsed Timer

Preset Counter

Type E4148791 is a 48 x 48mm single-level preset counter/timer with a 2-line LCD and a NEMA 4/IP65 front panel. Input power: 85-260VAC provides sensor excitation of 12VDC @ 100mA. Count speeds to 10kHz with scaling. The SPDT relay output is rated at 8A @ 230V resistive load. Size: 1.88H x 1.88W x 3.26″D. **Type E4148792,** is a 48 x 48mm dual-level preset counter that can be configured as a single preset counter with batch control output. **Types E402400** and **E402410** totalizers and **types E42DI2475S** and **E42DI2475H** elapsed-time indicators are companion products in compact 0.94H x 1.88″W NEMA 4 DIN package and feature 8-digit LCD with 0.275″ character height. The **E40 series** is capable of count speeds of up to 10kHz. The **E42DI series** displays time in increments of seconds or 1/100ths of an hour. Features include: 10-year nonreplaceable lithium battery, remote and selectable front-panel reset button, and snap-in mounting. Voltage conversion and quadrature adapters are available; *order separately below.*

Stock No.	Type	Description	Each
16F8942	E4148791	Single Preset Count/Time Control	**184.10**
16F8943	E4148792	Dual Preset Counter or One Preset with Batch Control	**195.26**
16F8941	E402400	8-Digit Totalizer (Count Up)	**40.14**
16F8940	E402410	8-Digit Bi-Directional Totalizer (Add/Subtract)	**51.61**
16F8938	E42DI2475S	8-Digit Elapsed Timer (Sec. or Min. and Sec.)	**43.35**
16F8937	E42DI2475H	8-Digit Elapsed Timer (Hours and Minutes or Hours and 1/100ths of Hours)	**43.35**

ACCESSORIES

16F8945	E40VOLTC	Voltage Adapter for **Type E402400**	**15.18**
16F8944	E40QUAD	Quadrature Adapter for **Type E402410**	**40.14**
16F8946	E40VOLTT	Voltage Adapter for **Type E42DI2475**	**16.40**

(6627) (nec9262)

TOTALIZERS & COUNT/TIME CONTROLS

45610-400

Self-powered **type 44660-400** elapsed time indicator features compact 25x50mm DIN package and 8-digit LCD display with leading zero blanking 0.291″ (7) character height. Displays in increments of 1/100th of an hour. Capable of count speeds up to 5kHz. Front panel meets NEMA 4 specifications. Remote and selectable front panel reset. Convenient snap mounting; 0.88″H x 1.77″W (22.2 x 45) panel cut-out. Units are supplied with two replaceable size N alkaline batteries. Controls are furnished in compact 48x48mm DIN packages and feature 6-digit LCD display with leading zero blanking. AC line powered. DC output for sensors. Simple DIP switch programming, transistor ouput, Form C relay contacts and NEMA 12 capability. Space-saving 1.9″ x 1.9″ (49 x 49) panel cut-out.

Stock No.	Type	Description	Each
87F6129	45610-400	Single Preset Count/Time Control, 120/240VAC	**207.53**
94F3861	45620-400	Dual Preset Count/Time Control, 120/240VAC	**233.19**

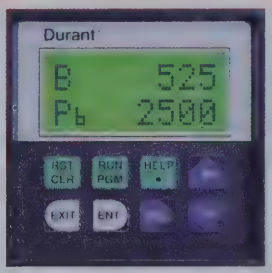
(2701) (de00771)

AT NEWARK, YOUR ORDER IS OUR FIRST PRIORITY.

Durant

TACHOMETERS, TOTALIZERS AND TIMERS

AMBASSADOR™ SERIES COUNT CONTROLS



57601-404

Compact controls feature 8 decade totalizing counter, 6 decade 1/TAU rate indicator, 9 programmable count input modes, 4 control inputs, programmable count and rate scalers, programmable decimal point for count and rate display, 2 programmable open collector transistor outputs, and programmable RS-485 half-duplex serial interface. NEMA 4 rated sealed front panel has full alpha-numeric, 16 character, 0.3″ (7) high dot matrix LCD backlit display with 8-position tactile feel keyboard. 74x74mm DIN package. Input power: 115VAC. Units have 12VDC (±25%) 100mA maximum DC power output for input device. Space-saving 2.677″ x 2.677″ (68 x 68) panel cut-out; 0.500″ (12.7) maximum panel thickness. **Types 57601-401** thru **57601-404** and **Types 57601-451** thru **57601-454** have 6 decade main counter with 1 or 2 preset levels. **Types 57601-402**, **57601-404**, **57601-452**, and **57601-454** also have 6 decade batch counter with 1 preset level. **Types 5701-405** and **5701-455** have 6 decade batch counter with 4 preset levels.

GREEN LCD DISPLAY

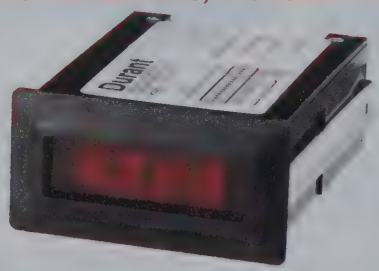
Stock No.	Type	Description	Each
50F927	57601-400	Totalizer & Rate Indicator	239.89
50F928	57601-401	Single Preset Counter & Rate Indicator	275.83
50F929	57601-402	Single Preset Counter, Rate Indicator, Batch Counter & Totalizer	303.41
50F930	57601-403	Dual Preset Counter & Rate Indicator	303.41
50F931	57601-404	Dual Preset Counter, Rate Indicator, Batch Counter & Totalizer	347.55
83F7295	57601-405	4 Preset Version	399.75
48F4353	57601-456	Feet/Inches Control	421.07

RED LCD DISPLAY

48F4347	57601-450	Totalizer & Rate Indicator	231.77
48F4348	57601-451	Single Preset Counter & Rate Indicator	266.50
48F4349	57601-452	Single Preset Counter, Rate Indicator, Batch Counter & Totalizer	293.15
48F4350	57601-453	Dual Preset Counter & Rate Indicator	293.15
48F4351	57601-454	Dual Preset Counter, Rate Indicator, Batch Counter & Totalizer	335.79
48F4352	57601-455	4 Preset Version	399.75
48F4354	57601-415	Feet/Inches Control	421.07

(2704) (de00774)

ELECTRONIC RATEMETERS, TACHOMETERS, TIMERS



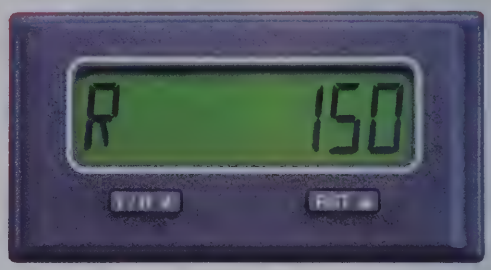
47000-420

47000 series ratemeters measure in feet, inches, and yards on production rates of paper, wire, and textiles. **Type 47000-400** ratemeter is 1 second fixed timebase. **47000-420** ratemeter is 1 millisecond to 4 second variable timebase. Both models have screw-type termination. **47100-400** microprocessor-based tachometer measures time between input signals and computes repetition rate or velocity of the measured item. All models feature 4-digit LED display, 120VAC. 2.06″H x 3.96″W x 6.02″D (52 x 100 x 152). Panel cut-out: 1.75″H x 3.63″W (44 x 92).

Stock No.	Type	Description	Each
87F6135	47000-400	Fixed Timebase Ratemeter	186.33
87F6136	47000-420	Variable Timebase Ratemeter	265.55
87F6137	47100-400	1/TAU Ratemeter/Tachometer	323.27

(2703) (de00773)

COURIER SERIES TOTALIZERS & RATEMETERS



53300-405

Electronic totalizers, add/subtract counters, and ratemeters feature high-contrast LCD display with large 0.43″ (10) high digits for easy readability and rear screw mount terminals. 36x72mm DIN size case. 1.42″H x 2.67″W (36 x 67) panel cut-out. Programmable independent scaling and remote reset. Powered by replaceable 3V lithium battery. NEMA 4A rating.

Stock No.	Type	Description	Each
50F6950	53300-400	8-Digit High-Speed Totalizer	67.66
50F6953	53300-403	7-Digit Quadrature Totalizer	96.33
50F6954	53300-404	4/5-Digit 1/TAU Ratemeter (10kHz)	90.60
50F6955	53300-405	8-Digit Totalizer/Ratemeter	112.39
83F7296	53301-474	8-Digit 1/TAU Magnetic Ratemeter	108.59
83F7297	53301-475	8-Digit 1/TAU Magnetic Totalizer/Ratemeter (10kHz)	149.85

* 8-digits of Up counting, 7 digits of Down with minus indication.

(2702) (de00772)

PRESIDENT SERIES TOTALIZERS/COUNT CONTROLS

57820-400

Electronic measuring systems feature color-coded keyboard control panel for simple selection and programmability. 0.56″ (14) LED display for count and preset values. Sealed front panel meets NEMA 4 specifications. 120/240VAC, 12VDC power input. Units have 15VDC (+1, –2 volts) 100mA maximum DC power output for input device. Non-volatile memory. All models mount in 2.677″H x 5.433″W (67 x 136) panel cut-out except **type 58810** which mounts in 1.771″H x 5.433″W (44 x 137) panel cut-out.

Stock No.	Type	Description	Each
87F6115	57810-400	7-Digit, Totalizer/Ratemeter	257.74
87F6116	57820-400	5-Digit, Single-Preset Control with Ratemeter	313.34
50F923	58821-400	5-Digit, Single-Preset Control with Scaling	446.84
98F3649	58831-400	5-Digit, Dual-Preset Control with Scaling	452.36
50F920	58851-400	6-Digit, Dual-Preset Control with Presettable Batch Counter, Totalizer and Scaling	545.04
50F918	58861-400	6-Digit, Triple-Preset Control with Scaling	545.04
50F916	58827-400	6-Digit, Single-Preset Control with Presettable Totalizer, Batch Counter and Ratemeter	568.21
50F915	58827-410	6-Digit, Single-Preset Dual Count Controls with Totalizer, Batch Counter and Ratemeter	584.05
50F924	58810-400	8-Digit, Totalizer/Ratemeter	324.38

(2705) (de00775)

CALL NEWARK FOR FAST, DEPENDABLE SERVICE.

Durant

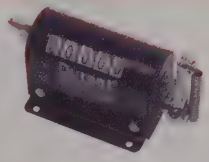
MECHANICAL AND ELECTRIC COUNTERS

TYPE 5H11R HEAVY-DUTY MECHANICAL STROKE COUNTER

High-speed, heavy-duty unit delivers 800 counts per minute. Features 5-digit readout, right-hand lever drive, wing nut reset, stainless steel shaft, and oil-less bearings. Steel plate adjusts for bottom or back mounting.

87F6146 Type 40205-400. **Each** **128.31**
(2699) (de00751)

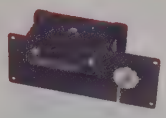
TYPE 5X11R MECHANICAL STROKE COUNTER



For light- to medium-duty work. 1000 counts per minute. 5-digit readout. Features right-hand lever drive, knob reset, and base mounting. Dust- and rust-proof.

87F6144 Type40272-402. **Each** **65.94**
(2698) (de00750)

MINIATURE ELECTRIC COUNTERS



41346-406-6

Compact panel-mount 120VAC counters feature 0.188″H (4.78) 6-digit readout and tamper-proof sealed window. Stainless steel self-lubricating shaft, nylatron pinions and synchronous electromagnetic drive assures accuracy and long-life. Speed: up to 1000 cpm. Power: count coil 3 watts. Available non-reset or pushbutton reset. Includes 10″ (254) wire leads and pin terminals. **6** suffix in type number indicates a 6-figure counter. **4** suffix in type number indicates a 4-figure counter.

Stock No.	Type	Reset	Cut-Out	Each
87F6152	41323-406	Pushbutton	2.09W x 1.11″H	**60.78**
94F7375	41346-406	Non-Reset	1.72W x 1.11″H	**44.16**
94F3858	41314-406	Pushbutton	1.72W x 1.11″H	**45.99**
98F1234	41323-402	Pushbutton	2.09W x 1.11″H	**52.53**
97F973	41346-402	Non-Reset	1.72W x 1.11″H	**37.62**
94F3839	41314-402	Pushbutton	1.72W x 1.11″H	**38.19**
94F7379	41349-402	Non-Reset	1.72W x 1.11″H	**45.99**
94F7019	41349-406	Non-Reset	1.72W x 1.11″H	**53.67**

(2694) (de00745)

PD-Q AND PD-ER PREDETERMINED ELECTRIC COUNTERS

True subtracting devices with easy pushbutton operation for both predetermined count settings and reset. Units subtract one count for each contact closure or impulse and actuates a 4A, S.P.D.T. 250VAC switch when zero is reached. Returns to predetermined number when reset and are immediately ready to control next lot or branch. 0.188″H (4.78) 5-digit readout. Count speed: 1000 cpm. Operates on 120VAC, 9 watts. Stainless steel shaft. **Type 41625-406** has electric reset for control flexibility and remote operation. Both models fit 2.718W x 1.593″H (69.04 x 40.46) panel cut-out.

94F3864 Type 41433-406. **Each** **226.50**
94F3847 Type 41625-406. **Each** **287.86**
(2696) (de00747)

PUSHBUTTON DESK TALLY

Ruggedly constructed counters feature feather-touch pushbutton operation and maximum readability. 4 figures. 2⁴⁵⁄₆₄H x 1⅞W x 1½″D.

Stock No.	Type	Description	Each
83F7293	21619-400	Push Bar	**58.73**
94F3839	41314-402	Pushbutton	**38.19**

(31689) (ne31689)

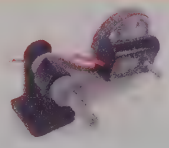
Y-RMF AND YMF ELECTRIC COUNTERS

Types 32651-400 and **32654-400** are shaded pole electric counters with straight AC operation. They feature a non-rectified, shaded pole coil designed to withstand transient and high voltage spikes. This, combined with a simplified, hinged escapement drive, also eliminates the possibility of miscounts and greatly adds to the life of the counter. Tallies at speeds up to 750 cpm. **Types 31155-402, 31066-416** and **31083-403** provide accurate counts through a wide range of speeds up to 1000 cpm. Feature fast, silent DC electromagnetic drive with built-in, higher capacity rectifier for dependable AC operation. Moving parts never need lubrication under normal operating conditions. 0.188″H (4.78) 6-digit readout. 115 VAC operating voltage with 7 watt count coil. Available with knob reset in base, panel mounting, or panel mount key reset. Panel models fit 3.703W x 1.250H x 2.469″D (94.06 x 31.75 x 62.71) opening. UL recognized.

Stock No.	Type	Reset	Mounting	Each
87F6150	31155-402	Knob	Base	**110.09**
87F6149	31066-416	Knob	Panel	**122.73**
87F6151	31083-403	Key	Panel	**176.29**
92F2786	6-Y-1-MF120A	Knob	Base	**114.92**
94F3855	32654-400	Key	Panel	**190.79**

(2695) (de00746)

ROTARY CONTACTOR MEASURING SYSTEM



Electronic rotary contactor measures shaft revolutions at speeds to 2400 RPM at 1:1 ratio; 2400 counts per minute maximum. Use for lineal paper, veneer, textile, steel, and jute lineal measurement applications. **Type 41100** has reed switch rated .5 amps for output to electronic circuits. **Type 40891** has leaf switch rated 5 amps, 120-240V for putput into electromechanical circuits. Measuring system comprises rotary contactor, mounting bracket, and wheel; *each ordered separately.*

Stock No.	Type	Description	Each
87F6106	41100-400	Rotary Contactor	**151.74**
83F7294	40891-400	Rotary Contactor	**158.47**
87F6107	40460-400	Mounting Bracket	**80.28**
87F6108	20154-300	12″ (304.8) Rubber Rim Wheel	**49.03**

(2697) (de00748)

SERIES D LINEAL COUNTERS

Lightweight counter for measuring soft, delicate fabric, paper, etc. at speeds up to 800 yards per minute. Measure in feet with maximum count of **99999**. Wing nut reset. Oiless maintenance-free bearings. System comprises rotary contactor, mounting bracket, and wheel. *Order* **type 40460-400** *bracket and* **type 20154-300** *rubber-rimmed aluminum wheel on this page.*

Stock No.	Type	Description	Each
87F6142	40187-401	Clockwise	**193.03**
94F6992	40187-417	Counter clockwise	**193.03**

(31688) (ne31688)

ELECTRONIC ENCODER MEASURING SYSTEMS

Type 38150-100 single channel encoder measures rate of rotation or position when radial load doesn't exceed 20 lbs., and axial load doesn't exceed 10 lbs. Delivers 100 pulses per revolution. Shaft: 0.375″ (9.53). Sealed against dust and oil. **Type 38151-600** medium-duty quadrature encoder delivers 600 pulses per revolution and measures in ⅓₀″ increments. Both systems operate on 9 to 16VDC. Measuring systems comprise encoder, wheel, connector with cable, and mounting bracket; *each ordered separately.*

Stock No.	Type	Description	Each
87F6118	38150-100	Single Channel Encoder, 100PPR	**205.30**
87F6102	38151-600	Quadrature Encoder, 600PPR	**301.21**
87F6104	20154-301	12″ (304.8) Rubber Rim Wheel	**44.73**
87F6105	29665-300	Connector & 10′ Shielded Cable	**44.73**
87F6103	40460-402	Mounting Bracket	**80.28**

(2693) (de00744)

TIME-DELAY RELAYS

CHRONOS PROGRAMMABLE TIMERS

Chronos Series are multi-time range, single or multi-function timers enclosed in a plug-in or Din-rail compact size enclosure. The time delay is knob-adjustable from 0.1 sec to 10 hours in one unit. Both SPDT and DPDT relay output versions are available and rated 10 amps @ 250VAC. Power On and Relay Output LED indicators are standard. 1.77L x 0.90W x 2.95"H (45 x 24 x 75).

MULTI-FUNCTION

Stock No.	Type	Input Voltage	Mounting	Output	Each
96F1875	OLRU110A	110VAC/24VAC/DC	8 Pin	SPDT	62.57
96F1876	OLRU12D	12VDC	8 Pin	SPDT	62.57
96F1877	BLRU110A	110VAC/24VAC/DC	Din-Rail	SPDT	67.17
96F1879	TLR2U110A	110VAC/24VAC/DC	11 Pin	DPDT	65.73
96F1880	TLR2U12D	12VDC	11 Pin	DPDT	65.73
		DELAY ON MAKE			
96F1881	OARU110A	110VAC/24VAC/DC	8 Pin	SPDT	45.19
96F1882	OARU12D	12VDC	8 Pin	SPDT	45.19
96F1883	BARU110A	110VAC/24VAC/DC	Din-Rail	SPDT	45.89
96F1884	BARU12D	12VDC	Din-Rail	SPDT	45.89
96F1885	OAR2U110A	110VAC	8 Pin	DPDT	47.53
96F1886	OAR2U24AD	24VAC/DC	8 Pin	DPDT	46.13
		DELAY ON BREAK			
96F1888	OCRU110A	110VAC/24VAC/DC	8 Pin	SPDT	55.49
96F1890	BCRU110A	110VAC/24VAC/DC	Din-Rail	SPDT	56.94
96F1891	BCRU12D	12VDC	Din-Rail	SPDT	56.94
96F1892	TCR2U110A	110VAC/24VAC/DC	11 Pin	DPDT	61.32
96F1893	TCR2U12D	12VDC	11 Pin	DPDT	61.32
		REPEAT-CYCLE TIMERS			
96F1894	ODRU110A	110VAC/24VAC/DC	8 Pin	SPDT	73.69
96F1895	ODRU12D	12VDC	8 Pin	SPDT	73.69
96F1896	BDRU110A	110VAC/24VAC/DC	Din-Rail	SPDT	75.09
96F1897	BDRU12D	12VDC	Din-Rail	SPDT	75.09
96F1898	ODR2U110A	110VAC	8 Pin	DPDT	79.25
96F1899	ODR2U24AD	24VAC/DC	8 Pin	DPDT	79.25
96F1900	ODR2U12D	12VDC	8 Pin	DPDT	79.25
		SINGLE-SHOT TIMERS			
96F1901	OBRU110A	110VAC/24VAC/DC	8 Pin	SPDT	55.49
96F1902	OBRU12D	12VDC	8 Pin	SPDT	55.49
96F1903	BBRU110A	110VAC/24VAC/DC	Din-Rail	SPDT	56.94
96F1904	TBR2U110A	110VAC/24VAC/DC	11 Pin	DPDT	61.32

(2716) (de02283)

TR SERIES TIMERS

TR series timers are slim-line (22.5mm) DIN rail mount enclosures. Multi-function units have 3 different operation modes, 2 time ranges and a 24 to 240VAC/DC power supply range. **Type 88893135/88893335** have 0.1 sec. to 10 hr. time range. **Type 88893003** has .06 sec. to 10 hrs. time range. All versions offer DPDT relays. UL recognized, CSA certified, CE approved.

Stock No.	Type	Power Supply	Operation Mode	Each
52F1213	88893003	24 to 240VAC/DC	Multi-function	97.31
52F1214	88893135	110/240VAC*	Delay on make	59.78
52F1215	88893335	110/240VAC*	Delay on break	68.11

*Lower voltages are also available.
(2985) (ne06294)

816 & 814 SERIES 48 x 48mm PROGRAMMABLE TIMERS

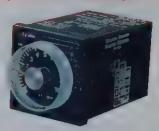
816 series has a red LED backlit LCD display. **814 series** has a standard LCD display. Both series actual and preset times, relay, power, and initiate switch status. Units are multi-function featuring 11 selectable time ranges from 0.01 seconds to 9999 hours. Enclosed in a 1/16 DIN (48 x 48mm) style enclosure. Easy front panel programming provides up or down timing and delay-on-make, delay-on-break, single-shot, interval, or repeat cycle operating modes. Output contacts: 10A SPDT. Dimensions: 1.9H x 1.9W x 3.7"D (48 x 48 x 85). Operating temperature range: –10°C to +60°C. UL recognized, CSA certified, and CE compliant.

816 SERIES

Stock No.	Type	Input Voltage	Mounting	Each
91F2033	88857607	110AC/24AC/DC	8-Pin	169.58
91F2034	88857601	220AC/24AC/DC	8-Pin	169.58
91F2035	88857707	110AC/24AC/DC	11-Pin	169.58
91F2036	88857701	220AC/24AC/DC	11-Pin	169.58
		814 SERIES		
96F1905	88857005	220AC/110AC/24AC/DC	8-Pin	105.09
96F1906	88857003	48AC/DC/24AC/DC/12DC	8-Pin	105.09
96F1907	88857105	220AC/110AC/24AC/DC	11-Pin	105.09
96F1908	88857103	48AC/DC/24AC/DC/12DC	11-Pin	105.09

(2718) (de02284)

M/G SERIES 48 x 48mm PROGRAMMABLE TIMERS



M/G Series are multi-time range timers housed in a 1/16 Din (38 x 48mm) enclosure. A large dial allows easy setting and direct reading. Time delay is adjustable from 0.1 seconds to 10 hours. Two LEDs monitor relay output and Power On. All models are DPDT output relays rated at 10 amp, 250 VAC. Dimensions: 1.9"H x 1.9"W x 3.7"L (48.3 x 48.3 x 94mm). Operating Temperature: +14°C to +122°C. UL recognized, CSA certified, and CE compliant.

MULTI-FUNCTION

Stock No.	Type	Input Voltage	Mounting	Each
96F1913	GLR2U110A	110AC/24AC/DC	11 Pin	77.38
		ON DELAY TIMERS		
96F1915	MAXR2U110A	110VAC	8 Pin	76.97
		REPEAT CYCLE TIMERS		
96F1918	MDR2U110A	110VAC	8 Pin	97.79
96F1921	GDR2U110A	110VAC	11 Pin	100.61

(2720) (de02286)

TOP 948 SERIES 48 x 48mm PROGRAMMABLE TIMERS

Top 948 Series is a multi-function timer with multi-time ranges (0.01 seconds to 9999 hours) housed in a NEMA 4 1/16 Din (48 x 48mm) style enclosure. Easy programming from the front panel push buttons allows selections of up or down timing, timing functions (On Delay, Off Delay, Repeat Cycle, Single Shot and Interval) and a 10-year EEPROM memory for each function. All models have SPDT output contacts rated at 10 amps, 250 VAC. Dimensions: 1.9"H x 1.9"W x 3.7"L (48.3 x 48.3 x 94mm). Operating Temperature: +14°C to +122°C. UL recognized, CSA certified, and CE compliant.

Stock No.	Type	Input Voltage	Mounting	Each
96F1909	88857800	110VAC	8 Pin	137.03
96F1910	88857506	110VAC	11 Pin	137.03

(2719) (de02285)

ACCESSORIES FOR TIME DELAY RELAYS

Stock No.	Type	Description	Each
96F1922	DR	3 foot extruded aluminum Din-Rail	12.30
96F1923	S08	8-Pin socket (snap on Din-Rail)†	4.48
96F1924	S11	11-Pin socket (snap on Din-Rail)†	9.83
96F1925	SA8/NN	8-Pin back connecting socket†	5.71
96F1926	SA11/NN	11-Pin back connecting socket†	7.80

† UL recognized, CSA certified.
(2722) (de02291)

HDI CURRENT AND HDU VOLTAGE MONITORS WITH LCD DISPLAY

NEW

The HDI series monitors over or under AC/DC current conditions (switch selectable) from 2mA to 10A. The HDU series monitors over or under AC/DC voltage conditions (switch selectable) from 0.2 to 600V. Both series have an LCD display that shows the actual measurements and setpoints. Units have a SPDT (5A resistive) output relay. Relay output can be selected to latch (memory function). 120V power supply. UL and cUL listed, CE compliant.

Stock No.	Type	Description	Each
83F7500	84871304	Current: 2 to 500mA	**161.42**
83F7501	84871309	Current: 0.1 to 10A	**161.42**
83F7502	84872304	Voltage: 0.2 to 60V	**161.42**
83F7503	84872309	Voltage: 10 to 600V	**161.42**

(31876) (ne31876)

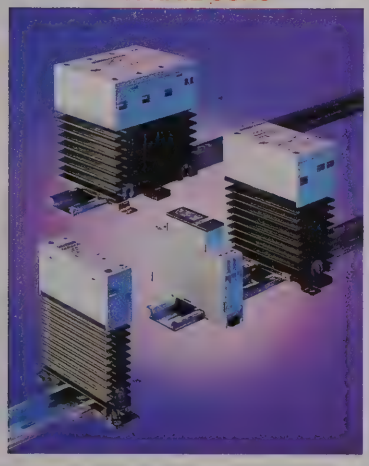
CP4 SERIES COUNTERS

The **CP4 series** of 1/16 DIN-sized digital counters offers the choice of a large green backlit LCD display or a large red illuminated display. Features 2 presets, scaling, EEPROM memory, sealed front panel and a wide range of count input nodes. Power supply: 80 to 260VAC.

Stock No.	Type	Description	Each
83F7504	87618038	2 Presets, Green Blacklit Display	**181.98**
83F7505	87618138	2 Presets, Red Backlit Display	**203.31**

(31877) (ne31877)

DIN RAIL SSRs



DIN Rail SSR series is a family of single- and three-phase SSRs with DIN rail or back panel mountable heat sinks, eliminating the need for heat sink calculation and installation. Compact size and a rugged back-to-back SCR and triac output make the new DIN rail SSR a replacement for mercury displacement relays and electromechanical contactors. DIN rail SSRs features include current regulated input, input LED, touch safe (IP20) enclosure. UL recognized, CE compliant. All have zero-crossing output type, except (*) which is random. Other versions available; *contact your nearest Newark sales office.*

Stock No.	Type	Input Voltage	Output			Pkg. Style (W)	Each
			Voltage	Current	Type		
52F1206	84130310	4-32VDC	48-660VAC	3 x 25A	SCR	90mm	**152.86**
52F1208	84130111	4-32VDC	48-660VAC	35A	SCR	45mm	**64.23**
52F1210	84130110	90-280VAC	48-660VAC	35A	SCR	45mm	**66.21**
52F1211	84130101	4-32VDC	24-280VAC	10A	Triac	22.5mm	**66.45**
52F1212	84130103	4-32VDC	24-280VAC	25A	Triac	22.5mm	**66.45**

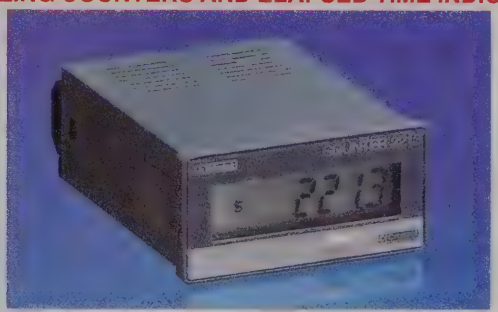
(2984) (ne06293)

SAFETY AND CONTROL RELAYS ARE ALSO AVAILABLE.

SEE PAGE 1440

(31878) (ne31878)

TOTALIZING COUNTERS AND ELAPSED TIME INDICATORS

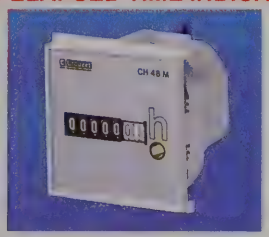


Crouzet offers totalizing counters and elapsed time indicators in DIN sized (24 x 48mm) enclosures. The CP2 Series accepts inputs by contact closure, NPN transistor, and 4 to 30 VDC voltage pulses. The **87610 Series** accepts line voltage inputs. Units have remote or front panel reset (can be disabled). Units are powered by a lithium battery. The front panel has a watertight seal (IP64).

Stock No.	Type	Description	Inputs	Each
92F3717	87610340	8 digit counter	Contact	**76.68**
92F3718	87610440	99999.9 hrs.	Contact	**78.17**
92F3719	87610050	8 digit counter	Voltage	**80.53**
92F3720	87610150	99999.9 hrs.	Voltage	**89.05**

(2784) (de04054)

99-761 ELAPSED TIME INDICATORS

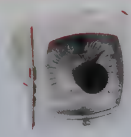


99-761 series elapsed time indicators are ruggedly constructed true-time mechanisms for recording the ON time of electrical equipment and machinery. 7-digit display has capacity of 99999.99 hrs. 1.9"W x 1.6"L. UL recognized, CSA certified.

Stock No.	Type	Input Voltage	Description	Each
96F1859	99761715	115 VAC/60 Hz	...	**29.21**
96F1860	99761718	24 VAC/60 Hz	...	**29.21**
96F1861	26546803	...	DIN Rail Adaptor	**7.37**
96F1862	26546805	...	Square Bezel	**4.39**

(2842) (de04435)

GP2 SERIES MULTI-FUNCTION TIMERS



GP2 series high-precision automatic reset timers feature 4 sets of switch contacts, plug-in convenience, run pilot light, and complete remote control. Rated 10 amps non-inductive. 120V/60Hz, +32°F to +104°F. Repeat accuracy: ±0.5% of full scale. UL recognized, CSA certified. 5, 15, 30 second; 30, 150 minute; and 5 hour time cycles are available. *Contact your local Newark sales office.*

Stock No.	Type	Maximum Cycle	Dial Division	1-2
62F1993	GP2-60S	60 seconds	1 second	319.16
62F1995	GP2-5M	5 minutes	3 seconds	319.16
62F1996	GP2-15M	15 minutes	15 seconds	319.16
62F1998	GP2-60M	60 minutes	60 seconds	319.16

(3075) (ne08582)

AB51 SERIES INTERVAL TIMER

Interval must be reset manually at beginning of each cycle. Feature an external friction providing low setting-torque and enabling setting to be changed during cycle without damage. For appliances, amusement devices, medical equipment, battery chargers. SPDT load switch contacts rated 25 amps. 120V/60Hz. UL recognized, CSA certified. *Order dials and knob separately below.* 15, 30, 60 minute and 6, 8, 12, 24 hour time cycles are available. Dials available for all time cycles. *Contact your local Newark sales office.*

TIMER

Stock No.	Time Cycle	1-2
54F150	2 Hrs.	62.95

DIALS AND KNOB FOR AB51 TIMERS

Stock No.	Description	1-2
96F5334	2 hr. Dial	9.38
54F090	Knob	4.69

(3077) (ne08583)

EG AND EF SERIES ELAPSED TIME INDICATORS

EF13

EF 27

These elapsed time indicators feature a 6-digit readout with no reset capabilities. **Type EG** is a basic timer without a housing or bezel and is designed for mounting behind a panel. **EF series** timers are provided with their own bezels. **Type EF13** has a round bezel. **Type EF27** has a square bezel. **EG series** and **Type EF13** units feature an operational indicator. Voltage: 120V/60Hz. . **EF series** is UL recognized. All are CSA certified. Minutes and tenths available. *Contact your nearest Newark sales office.*

Stock No.	Type	Description	1-2
54F062	EF1335	Round, Indicates Hours and Tenths	66.71
54F170	EF2735	Square, Indicates Hours and Tenths	66.71
87F5238	EG1335	Round, Indicates Hours and Tenths	58.93

(3083) (ne08586)

AC ELAPSED TIME INDICATOR

This non-resettable running time meter features a 5-digit readout enclosed in a glass and metal housing. Indicates hours and tenths. Panel mount with 4 holes; 1.670" diameter panel cutout. Voltage: 120V/60Hz, –12°C to +55°C. Model 7010 is hermetically sealed for extreme environments. UL recognized, CSA certified.

54F073 Type ED7212. **1-2** **132.66**
54F063 Type ED7112-120VAC. **1-2** **132.66**
54F100 Type 7010-010-003. **1-2** **256.78**

(3084) (ne08587)

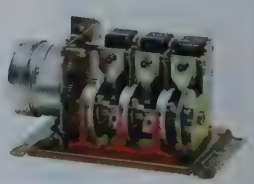
CM SERIES SINGLE CAM AND MC SERIES MULTI-CAM PROGRAMMABLE TIMERS

CM series and **MC series** recycling timers repeat a continuous adjustable on/off time cycle. A heavy duty synchronous motor, which offers 13 different speeds, is linked with a choice of gear racks *ordered separately on this page*, to allow for a variety of time cycles to be selected. SPDT switches on the cams are rated 10 amps non-inductive at 120VAC. Cams are adjustable 2-98% of total cycle time. *Order cam timers and gear racks separately from "how to order" table on this page.* Other versions available, up to 20 switches; *contact your local Newark sales office.* UL recognized. CSA certified.

Stock No.	Type	1-2
24F1827	CM0	105.40
24F1828	CM1	105.40
24F268	CM2	105.40
24F1829	CM3	105.40
24F250	CM4	105.40
24F251	CM5	105.40
24F252	CM6	105.40
24F1819	CM7	105.40
24F253	CM8	105.40
24F1820	CM9	105.40
24F254	CM10	105.40
24F255	CM12	105.40

Type CM

Stock No.	Type	Chassis	1-2
62F2002	MC2	2 Switch	151.05
62F2051	MC3	2 Switch	151.05
62F2005	MC4	2 Switch	151.05
62F2006	MC5	2 Switch	151.05
62F2053	MC7	2 Switch	151.05
62F2054	MC8	2 Switch	151.05
62F2066	MC1	4 Switch	198.33
62F2010	MC2	4 Switch	198.33
62F2067	MC3	4 Switch	198.33
62F2013	MC4	4 Switch	198.33
62F2014	MC5	4 Switch	198.33
62F2022	MC5	6 Switch	249.55



Type MC

(3079) (ne08584)

HOW TO ORDER CAM TIMERS AND GEAR RACKS

1. Locate in table below time cycle for one revolution of camshaft.
2. Note the model of cam timer designated at top of column.
3. Note across the column from time cycle the gear rack model number.
4. Specify for MC multiple cam timers the required number of load switches.

Example: should you require a single cam 30 second time cycle, you would look in table for 30S (see abbreviation code below table). 30S appears across from gear rack **type A12** and under cam timer **type CM2.** So you order gear rack **type A12, stock no. 24F315,** with cam timer **Type CM2.**

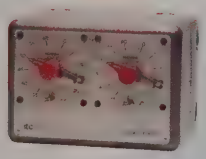
GEAR RACKS — TOTAL TIME CYCLE*

Stock No.	Type	MC0 CM0	MC1 CM1	CM2 MC2	CM3 MC3	CM4 MC4	CM5 MC5	MC6 CM6	CM7 MC7	CM8 MC8	MC9 CM9	MC10 CM10	MC12 CM12	1-2
24F306	E12	40c	4S	10S	20S	40S	2M	3M20S	10M	20M	40M	2H	8H	15.41
24F308	C12	1S	6S	15S	30S	60S	3M	5M	15M	30M	60M	3H	12H	15.41
24F311	B12	80c	8S	20S	40S	80S	4M	6M40S	20M	40M	80M	4H	16H	15.41
24F312	C18	90c	9S	22.5S	45S	90S	4M30S	7M30S	22M30S	45M	90M	4H30M	18H	15.41
24F313	B15	100c	10S	25S	50S	100S	5M	8M20S	25M	50M	100M	5H	20H	15.41
24F315	A12	2S	12S	30S	60S	2M	6M	10M	30M	60M	2H	6H	24H	15.41
24F318	A15	2S30c	15S	37.5S	75S	150S	7M30S	12M30S	37M30S	75M	2H30M	7H30M	30H	15.41
24F319	A16	2S40c	16S	40S	80S	160S	8	13M20S	40M	80M	2H40M	8H	32H	15.41
24F321	A18	3S	18S	45S	90S	3M	9M	15M	45M	90M	3H	9H	36H	15.41
24F322	A20	3S20c	20S	50S	100S	200S	0M	16M40S	50M	100M	3H20M	10H	40H	15.41
24F324	A24	4S	24S	60S	2M	4M	12M	20M	60M	2H	4H	12H	48H	15.41
24F327	A30	5S	30S	75S	150S	5M	15M	25M	75M	2H30M	5H	15H	60H	15.41
24F330	A36	6S	36S	90S	3M	6M	18M	30M	90M	3H	6H	18H	72H	15.41

*c = cycles (refers to 60 cps current; e.g. 50 c = ⅚ sec), S = seconds, M = minutes, H = hours.

(3081) (ne08585)

TM SERIES "DUAL TROL" RECYCLING TIMERS



2 Timing Elements
1 Cabinet

Compact timer continuously closes and opens SPDT load switch with repeat accuracy of ±1.5% full-scale and 0.5 second reset time at maximum setting. Timer consists of two **TM series** timing elements - one to set ON interval, second to set OFF interval - and a **type DTH-120** control cabinet. *First, select two timing elements from the five elements listed below to achieve desired combination of time cycles. Then, order* **type DTH-120** *cabinet to hold two elements.* Isolated SPDT load switch rated 10A non-inductive, 120 VAC/60Hz, connects to terminal strip in cabinet. Dimensions: 5⅛H x 5¾6W x 7½"D.

TIMING ELEMENTS (2 REQUIRED)

Stock No.	Type	Time Cycle	Dial Div.	Each
24F1861	TM-15S 115/60	15 sec.	0.25 sec.	165.49
24F1863	TM-60S	60 sec.	1 sec.	165.49
24F1865	TM-5M 115/60	5 min.	5 sec.	165.49
24F1868	TM-60M 115/60	60 min.	1 min.	165.49
24F1869	TM-3H 115/60	3 hrs.	3 min.	165.49

CABINET (1 REQUIRED)

24F1870 Type DTH-120. **Each**..... **218.03**
(2895) (de50363)

SF AND CSF SERIES TIME DELAY TIMERS

CSF-1M

For remote surface mounting where infrequent adjustment of time delay setting is anticipated. **SF series** offers clutch motor, repeat accuracy of ±1% full scale, and reset time of 5% dial setting. **CSF series** offers external clutch, repeat accuracy of ±1.5% full scale, and reset time of 0.5 seconds at max. setting. All feature auto-reset upon power removal, operate with isolated SPDT load switch rated 10A non-inductive. 120V/60Hz. UL recognized, CSA certified.

Stock No.	Type	Time Cycle	Dial Div.	Each
24F279	SF-6S 115/60	6 sec.	0.01 sec.	136.60
24F1853	SF-15S 120/60	15 sec.	0.25 sec.	136.60
24F1854	SF-30S	30 sec.	0.5 sec.	136.60
24F280	CSF1M 115/60	60 sec.	1 sec.	137.91
24F281	CSF3M 115/60	3 min.	3 sec.	137.91
24F282	CSF-5M-120/60	5 min.	5 sec.	137.91

(2897) (de50364)

P SERIES INTERVAL TIMERS

P-4R

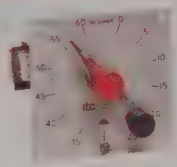
Portable timers have 3-wire power cord and load receptacles, automatic reset, infinite resolution clutch, and remote or local momentary start. Housed in metal case for surface mounting. Toggle switch provided for continuous power. Accuracy ±0.25% full scale. Set time 0.5 seconds max. at full setting. 120V/60Hz. CSA certified.

15 second, 30 second, and 3 minute time cycle versions are available; *contact your local Newark sales office.*

Stock No.	Type	Time Cycle	Dial Division	Each
81F031	P-1M	60 sec.	1 sec.	256.12
81F033	P-5M	5 min.	5 sec.	256.12

(2899) (de50365)

H/CH SERIES TIME DELAY TIMERS



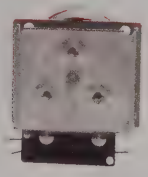
CH-1M

External wiring is connected to terminal strip. Isolated SPDT load switch rated 10A non-inductive, 120VAC. **H series** have clutch motor, repeat accuracy ±1 full scale, and reset time 5% of dial setting. **CH series** have external clutch, repeat accuracy ±1½% full scale, and reset time 0.5 second at max. setting. Both provide automatic reset upon removal of power and are panel-mounted. UL recognized, CSA certified.

Stock No.	Type	Time Cycle	Dial Div.	Each
24F1855	H-6S-120/60	6 sec.	0.01 sec.	144.48
24F296	H-15S	15 sec.	0.25 sec.	144.48
24F1856	H-30S	30 sec.	0.5 sec.	144.48
24F297	CH-1M-120/60	1 min.	1 sec.	144.48
24F298	CH3M 115/60	3 min.	3 sec.	144.48
24F299	CH5M 115/60	5 min.	5 sec.	144.48

(2901) (de50366)

90 SERIES DELAY TIMERS



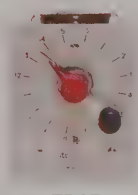
For applications requiring infrequent adjustment. Isolated SPDT load switch, rated 10A, non-inductive, 120V/60Hz. Repeat accuracy: +1% full scale. Reset time: 5% of set time delay. Auto-reset upon power removal. UL recognized, CSA certified. 6 and 60 second time cycles versions are available. *Contact your local Newark sales office.*

Stock No.	Type	Setting		Each
		Max.	Min.	
24F1844	90-15S	15 sec.	1.5 sec.	124.74
24F1845	90-30-S	30 sec.	3 sec.	124.74
24F1847	90-90S-120/60	90 sec.	9 sec.	124.74

(2903) (de50367)

TDAB AND TDAF SERIES HIGH-PRECISION TIMERS

TDAB



TDAF

For applications requiring high repetitive accuracy, fast reset, and anticipate heavy usage. Accuracy: ±0.25% full scale. Reset time: 0.5 seconds max. at full setting. Feature automatic reset and infinite-resolution clutch. Isolated SPDT switch rated 15A, 120V/60Hz. UL recognized, CSA certified. 6,15,60 second, 60 minutes, and 3 hour time cycles are available. *Contact your local Newark sales office.*

BACK-MOUNT

Stock No.	Type	Time Cycle	Dial Division	Each
24F302	TDAB-15S	15 sec.	0.25 sec.	212.78

PANEL-MOUNT

24F1808	TDAF-15M	15 min.	15 sec.	212.78

(2905) (de50368)

MPB SERIES INTERVAL TIMERS

Automatic reset, pushbutton-operated timers feature metal bezel-framed dial with time selector ring and start button in one assembly. SPDT snap action switch is rated 15A non-inductive, 125/250VAC. Time rated 120V/60Hz. ¼" push-on terminals. 4H x 4W x 2½"D. UL recognized, CSA certified.

Stock No.	Type	Setting		Each
		Max.	Min.	
24F1756	MPB-60S 120/60	60 sec.	1 sec.	105.40
24F1757	MPB-5M 120/60	5 min.	5 sec.	105.40
24F1758	MPB-15M 120/60	15 min.	15 sec.	105.40
24F1759	MPB-60M 120/60	60 min.	1 min.	105.40

LPB panel-mount units also available, *contact your local Newark sales office.*
(2907) (de50370)

SAR SERIES SIGNALING INTERVAL TIMER

Audible signal at end of preset cycle. Load operates during or after cycle. SPDT switch rated 10A. ±0.5% repeat accuracy. Timer 120V/60Hz. Reset time 0.5 sec. max. at full setting. 5 minute and 1 hour time cycles available. *Contact your local Newark sales office.*

Stock No.	Type	Time Cycle	Dial Div.	Each
24F345	SAR-15M115/60	15 min.	15 sec.	279.76

(2908) (de50371)

C-2 AND C-5 SERIES ELAPSED TIME INDICATORS

Types C-2, C2A

Type C-5

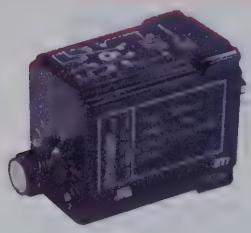
C-2 series is non-reset running time indicator enclosed in panel-mount housing with 2.81" mounting hole. **C-5 series** is a reset time totalizer mounted in steel housing with 2.875" mounting hole. 120V/60Hz. CSA certified.

Stock No.	Type	Max. Hours	Reading	Each
55F670	C2 115V-60CY	10,000	Hr. & 1/10	133.97
55F680	C5	10,000	Hr. & 1/10	181.26
24F1816	C-2A	100,000	1 Hr.	133.97

(2910) (de50372)

NEWARK SAVES YOU TIME.
A SIMPLE PHONE CALL CAN GET YOU OVERNIGHT DELIVERY ANYTIME, ANYWHERE.

SOLID STATE PLUG-IN TIMERS



390

394

Timers with adjustment of delay, interval or cycle timing. Isolated DPDT relay contact output, rated 10A resistive @ 120VAC. 50-60 Hz. Compact 2.813H x 1.750W x 2.375"D (71.45 x 44.45 x 60.32), exclusive of knobs. Potter & Brumfield **type 27E122** 8-pin socket fits **390, 391** and **394 series** timers; Potter & Brumfield **type 27E123** 11-pin socket fits **392 series** timers available separately; *contact your local Newark sales office for details.*

390 SERIES ON DELAY TIMERS, REPEATABILITY ±2%

Stock No.	Type	Time Range	1-4
55F3118	20003	0.05-2.0 Seconds	**117.81**
55F3119	20004	0.1-10 Seconds	**117.81**
393 SERIES INTERVAL TIMERS			
55F3130	20015	0.05-5 Seconds	**125.89**
55F3132	20017	0.3-30 Seconds	**125.89**
394 SERIES REPEAT CYCLE TIMERS			
55F3136	20021	0.1-10 Seconds	**183.60**

(2679) (de00034)

635, 636 SERIES ELAPSED TIME INDICATORS

635 series non-resettable indicators with induction motors for faster starts and stops. Large, six-digit readout. **636 series** resettable, with five-digit readout. Both models 115VAC, 60Hz. Case styles: **"E"** is 3.50" (88.90) round bezel; **"S"** 3.50" (88.90) square bezel; **"X"** 2.50" (63.50) round bezel; **"Y"** 2.50" (63.50) square bezel; **"G"** 2.50" (63.50) utility type round bezel; **"K"** 2.50" (63.50) utility type square bezel. UL recognized, CSA certified. All are 2.6" (66.0) deep.

635 SERIES SIX-DIGIT ETI'S

Stock No.	Type	Case Style	Total Count	1-9
55F4399	10055	E	99,999.9 Hours	**77.23**
55F3143	10063	S	99,999.9 Hours	**76.83**
55F3146	10069	G	99,999.9 Minutes	**62.89**
55F3148	10071	G	99,999.9 Hours	**62.89**
35F3803	10184	K	99,999.9 Minutes	**62.89**
35F3805	10186	K	99,999.9 Hours	**62.89**
636 SERIES FIVE-DIGIT				
55F4444	10072	X	9,999.9 Seconds	**130.51**
55F4447	10074	X	9,999.9 Minutes	**130.51**
55F4450	10075	X	9,999.9 Hours	**130.51**
55F4466	10079	E	9,999.9 Hours	**130.51**
55F4452	10080	Y	9,999.9 Seconds	**130.51**
55F4455	10082	Y	9,999.9 Minutes	**130.51**
55F4458	10083	Y	9,999.9 Hours	**130.51**
55F4471	10086	S	9,999.9 Minutes	**130.51**
55F4474	10087	S	9,999.9 Hours	**130.51**

(2681) (de00036)

561 SERIES PERCENTAGE CYCLE TIMERS

On or off time may be set at any portion of total cycle between 4% and 96%. Continuous repeating; repeat accuracy within 1%. Load switch rated 20A @ 115/220VAC resistive, 50/60 Hz. 3.750" diameter x 3.093" behind panel (95.25 x 78.56). UL recognized.

Stock No.	Type	Time Range	1-4
35F3818	10180	30 Seconds	**201.83**
35F3819	10181	60 Seconds	**201.83**

(2682) (de00037)

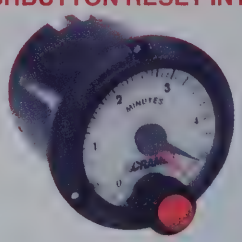
TYPE 105-1RPM SYNCHRONOUS MOTOR

Type 105-1RPM AC synchronous motor features unidirectional operation assured by ball and tooth no-back that permits rotation in desired direction only. For light and standard duty gear trains. 600 rpm rotor speed. 2.7W power input. Operating temperature: –20°C to +55°C. Speed: 1RPM. 1.31 x 2.13 x 2.40"(HxWxD).

97F9737 Type 105-1RPM(30546). **Each** **63.43**

(2755) (de03577)

241 SERIES PUSHBUTTON RESET INTERVAL TIMERS



- **High Visibility 300° Dial**
- **Silver-Cadmium Load Contacts**
- **Repeat Accuracy: ±0.25%**

Integral start button turns on load and starts timer. Silver-cadmium oxide snap-action load SPDT contacts rated 15A @ 115VAC, 60Hz; 10A @ 250V, non-inductive, 60Hz. Repeat accuracy: ±0.25% except 15 second time range ±0.5%. 3-hole mount 1.687" (42.84) radius. UL recognized, CSA certified.

Stock No.	Type	Time Range	Calibration	1-4
35F3800	10001	5 Minutes	5 Seconds	**234.09**
55F352	10002	15 Minutes	15 Seconds	**234.09**
55F378	20001	30 Minutes	30 Seconds	**234.09**
55F353	10003	60 Minutes	1 Minute	**234.09**
35F3801	10004	5 Hours	5 Minutes	**234.09**
55F4476	10005	24 Hours	30 Minutes	**234.09**

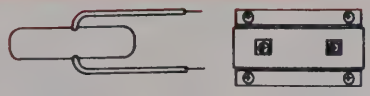
(2683) (de00038)

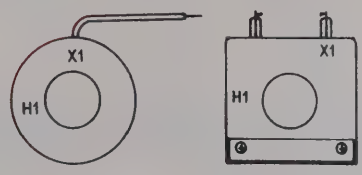
PERSONALIZED SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

NEW

TRANSFORMERS

AC CURRENT TRANSFORMERS





MADE IN USA

Designed to use with AC panel meters where external transformers are required. Secondary output signal: 0-5A for all units. Fully encapsulated rubber molded for indoor and outdoor applications. Insulation class: 0.6kV, 10kV BIL full wave. 50 to 400Hz. Linearity: ±1.5%. Thermal rating: 1.33VA at 30°C, 1.0VA at55°C. Square style have brass or aluminum. #8-32 UNC terminals. Round style have 24″-long 16 AWG flexible leads. UL recognized. Made in USA.

ROUND STYLE

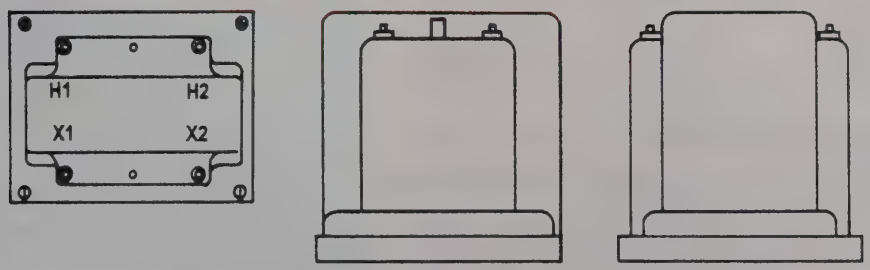
Stock No.	Type	Window Dimension	Outside Diameter	Current Ratio	Accuracy @ 60Hz	Burden VA @ 60Hz	1-4	5-9
50N189	SPC5095	1.0″	2.5″	50:5	±3%	2.0	**24.95**	**22.46**
50N190	SPC5096	1.0″	2.5″	60:5	±2%	2.0	**24.95**	**22.46**
50N191	SPC5097	1.0″	2.5″	75:5	±2%	2.0	**24.95**	**22.46**
50N192	SPC5098	1.0″	2.5″	80:5	±2%	2.0	**24.95**	**22.46**
50N193	SPC5099	1.0″	2.5″	100:5	±1%	2.0	**24.95**	**22.46**
50N194	SPC5100	1.0″	2.5″	120:5	±1%	2.5	**24.95**	**22.46**
50N195	SPC5101	1.0″	2.5″	125:5	±1%	2.5	**24.95**	**22.46**
50N196	SPC5102	1.0″	2.5″	150:5	±1%	4.0	**24.95**	**22.46**
50N197	SPC5103	1.0″	2.5″	200:5	±1%	4.0	**24.95**	**22.46**
50N198	SPC5104	1.0″	2.5″	250:5	±1%	6.0	**24.95**	**22.46**
50N199	SPC5105	1.0″	2.5″	300:5	±1%	8.0	**24.95**	**22.46**
50N200	SPC5106	1.5″	3.5″	400:5	±1%	12.5	**29.45**	**26.51**
50N201	SPC5107	1.5″	3.5″	500:5	±1%	12.5	**29.45**	**26.51**
50N202	SPC5108	2.5″	4.7″	800:5	±1%	35.0	**56.00**	**50.40**
50N203	SPC5109	2.5″	4.7″	1000:5	±1%	30.0	**75.00**	**67.50**

SQUARE STYLE WITH BASE

50N204	SPC5110	1.0″	2.5″	50:5	±3%	2.0	**25.50**	**22.95**
50N205	SPC5111	1.0″	2.5″	60:5	±2%	2.0	**25.50**	**22.95**
50N206	SPC5112	1.0″	2.5″	75:5	±2%	2.0	**25.50**	**22.95**
50N207	SPC5113	1.0″	2.5″	80:5	±2%	2.0	**25.50**	**22.95**
50N208	SPC5114	1.0″	2.5″	100:5	±1%	2.0	**25.50**	**22.95**
50N209	SPC5115	1.0″	2.5″	120:5	±1%	2.5	**25.50**	**22.95**
50N210	SPC5116	1.0″	2.5″	125:5	±1%	2.5	**25.50**	**22.95**
50N211	SPC5117	1.0″	2.5″	150:5	±1%	4.0	**25.50**	**22.95**
50N212	SPC5118	1.0″	2.5″	200:5	±1%	4.0	**25.50**	**22.95**
50N213	SPC5119	1.0″	2.5″	250:5	±1%	6.0	**25.50**	**22.95**
50N214	SPC5120	1.0″	2.5″	300:5	±1%	8.0	**25.50**	**22.95**
50N215	SPC5121	1.5″	3.5″	400:5	±1%	12.5	**29.95**	**26.96**
50N216	SPC5122	1.5″	3.5″	500:5	±1%	12.5	**29.95**	**26.96**
50N217	SPC5123	2.5″	4.7″	800:5	±1%	35.0	**40.00**	**36.00**
50N218	SPC5124	2.5″	4.7″	1000:5	±1%	30.0	**40.00**	**36.00**

(38571) (ne38571)

POTENTIAL TRANSFORMERS



MADE IN USA

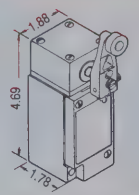
Designed for metering applications such as voltmeters, watt hour meters and power monitoring systems. Highly accurate instrument transformers. Fully encapsulated. Insulation class: 0.6kV, 10kV BIL full wave. Accuracy class: ±1%, at all burdens up to 5VA at 1.0 and 0.95% primary fuse. Compensated for ±0.5% at 5VA, 0.95% primary fuse. Thermal rating: 40VA at 30°C, 20VA at 55°C. UL recognized. Made in USA.

Stock No.	Type	Voltage Rating	Current Ratio	1-4	5-9
50N219	SPC5125	208:120	1.73:1	**139.99**	**126.00**
50N220	SPC5126	240:120	2:1	**139.99**	**126.00**
50N221	SPC5127	288:120	2.4:1	**139.99**	**126.00**
50N222	SPC5128	480:120	4:1	**139.99**	**126.00**

(38572) (ne38572)

LIMIT AND INTERLOCK SWITCHES

HEAVY-DUTY LIMIT SWITCHES



Limit Switch with Standard Side Rotary Actuator

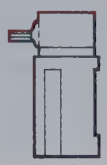


Fig. 1

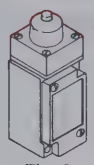


Fig. 2

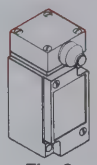


Fig. 3

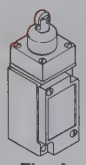


Fig. 4

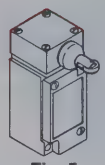


Fig. 5

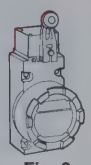


Fig. 6

Designed to withstand seismic shock. Side rotary limit switch heads can be field-adjusted in four positions and actuators can be field-adjusted for CW, CCW or both operations. Corrosion-resistant zinc head and body are epoxy-finished. Stainless steel side rotary shaft . Pilot duty (DC): 240VDC, 30 watts. 120 VDC, 0.25 inductive, 0.8 resistive; 240VDC, 0.015 inductive, 0.4 resistive. Pilot duty (AC): 600VAC, 720VA. 120VAC, 6A make, 60A break. 10A continuous carry. NEMA 1,3,4,4X, 6,6P,13. UL listed, CSA certified. *Order levers for rotary actuated switches separately on this page.* Manifold-mount, low temperature, fully-potted, preleaded, gravity-return stainless steel, quick connect, viton steel, wobble, and other limit switch versions available; *contact your local Newark sales office.*

Stock No.	Type	Fig.	Switch Description	Each	2-5
23F4784	LSA1A	1	Side Rotary; SPDT, Momentary, Plug-In; ½" Conduit	108.29	96.46
23F4790	LSA2B	1	Side Rotary; DPDT, Momentary, Plug-In; ¾" Conduit	131.52	117.15
23F4791	LSA3K	1	Side Rotary; SPDT, Momentary, Non-Plug-In; ½" Conduit	108.29	96.46
23F4794	LSA6B	1	Side Rotary; DPDT, Momentary, Plug-In; ½" Conduit	131.52	117.15
23F4798	LSC1A	2	Top Plunger; SPDT, Momentary, Plug-In; ½" Conduit	118.51	105.56
23F4810	LSH1A	1	Side Rotary; SPDT, Momentary, Low Differential Low Torque; Plug-In ½" Conduit	115.72	103.08
23F4822	LSM6D	1	Side Rotary; DPDT, Maintained, Center Neutral; Plug-In; ½" Conduit	138.49	123.36
23F4827	LSP1A	1	Side Rotary; SPDT, Momentary, Low Differential; Plug-In; ½" Conduit	115.72	103.08
23F4830	LSP3K	1	Side Rotary; SPDT, Momentary, Low Differential; Non-Plug-In; ½" Conduit	114.33	101.84
23F4805	LSE1A	3	Side Plunger; SPDT, Momentary, Plug-In; ½" Conduit	125.02	111.36
23F4823	LSM7N	1	Side Rotary; DPDT, Maintained, Center Neutral; Non-Plug-In; ½" Conduit	121.30	108.05
23F4795	LSA7L	1	Side Rotary; DPDT, Momentary, Non-Plug-In; ½" Conduit	115.72	103.08
23F4839	LSW1A	3	Adj. Side Plunger; SPDT, Momentary, Plug-In; ½" Conduit	131.52	117.15
23F4801	LSD1A	4	Top Roller Plunger; SPDT, Momentary, Plug-In; ½" Conduit	131.06	116.74
23F4796	LSB1A	1	Side Rotary; SPDT, Momentary, High Over-Travel; Plug-In; ½" Conduit	131.52	117.15
23F4824	LSN1A	1	Side Rotary; SPDT, Momentary, Plug-In; ½" Conduit	128.74	114.67
23F4807	LSF1A	5	Side Roller Plunger; SPDT, Momentary, Plug-In; ½" Conduit	138.49	123.36
23F4840	LSXA3K	6	Explosion Proof Side Rotary; SPDT, Momentary, Non-Plug-In; ½" Conduit	167.45	147.21
23F4793	LSA5A	1	Side Rotary; SPDT, Momentary, 120V Indicator Light; Plug-In; ½" Conduit	128.74	114.67

(3503) (ne01416)

LEVERS FOR ROTARY-ACTUATED SWITCHES

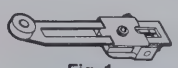


Fig. 1

Fig. 2

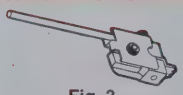


Fig. 3

Fig. 4

Fig. 5

Stock No.	Type	Fig.	Description	Radius	Mounting	Each	2-5
23F4870	LSZ52D	1	Adj. Radius, Steel Roller Lever (.75" dia.; .25" width)	1.5" - 3.5"	Front	16.83	16.13
23F4862	LSZ51B	4	Std. Steel Roller Lever (.75" dia.; .25" width)	1.5"	Front	10.40	9.96
23F4867	LSZ52A	1	Adj. Radius, Nylon Roller Lever (.75" dia.; .25" width)	1.5" - 3.5"	Back	16.83	16.13
23F4869	LSZ52C	1	Adj. Radius, Nylon Roller Lever (.75" dia.; .25" width)	1.5" - 3.5"	Front	16.83	16.13
23F4884	LSZ68	2	Delrin Rod with Spring (.25" dia.)	12"		23.26	22.31
23F4876	LSZ54N	3	Stainless Steel Rod Actuator	13"		16.83	16.13
23F4861	LSZ51A	4	Std. Nylon Roller Lever (.75" dia.; .25" width)	1.5"	Front	10.40	9.96
23F4868	LSZ52B	1	Adj. Radius, Steel Roller Lever (.75" dia.; .25" width)	1.5" - 3.5"	Back	16.83	16.13
23F4864	LSZ51D	4	Std. Steel Roller Lever (.75" dia.; .25" width)	1.5"	Back	10.40	9.96
23F4874	LSZ54	1	Adj. Radius Roller Lever (Hub Only)			13.37	12.81
23F4877	LSZ54R	3	Spring Wire Actuation Lever	12"		16.83	16.13
23F4872	LSZ52K	1	Adj. Radius, Nylon Roller Lever (1.5" dia.; .25" width)	1.5" - 3.5"	Front	23.26	22.31
23F4871	LSZ52J	1	Adj. Radius, Nylon Roller Lever (1.0" dia.; .25" width)	1.5" - 3.5"	Front	23.26	22.31
23F4875	LSZ54M	3	Aluminum Rod Actuation Lever	5.5"		16.83	16.13
23F4225	LSZ61	5	Flexible Nylon Loop	6"		16.83	16.13
23F4863	LSZ51C	4	Std. Nylon Roller Lever (.75" dia.; .25" width)	1.5"	Back	10.40	9.96

(3504) (ne01417)

GKM SERIES MINIATURE SAFETY KEY INTERLOCK SWITCH

- **Miniature Size to Fit in Spaces With Limited Access.**
- **Choice of Termination, Bottom or Side Exit.**
- **Available in 2 Key Styles.**
- **Reduced Wiring Allows Connection of Multiple Switches in Series (Daisy Chaining).**

Safety interlocks meet IEC947-5-1 and EN60947-5-1 and allow dual key interlocking for different access points around a machine with a daisy chain wiring scheme rather than wiring back to the control system. Dual direct-acting contacts provide a positive break for 10 amp ciruits. Normally closed circuit opens and turns off machine when a door is opened and key is removed. Mechanical life: 1 million operations. No detent. 2.76H x 0.63W x 1.34"D. UL listed, CSA certified, CE marked. Meets NEMA enclosure types 1,3,4,12 and 13. Meets IEC IP66 and IP67. 90° key provided. For straight key, replace **W2** suffix with **W1**. Key friction retained versions available, *contact your local Newark sales office.*

Stock No.	Type	Description	Each	2-5
83F5723	GKMA33W2	Side Exit Cable, 3M	81.89	78.54
83F5724	GKMB33W2	Bottom Exit Cable, 3M	81.89	78.54
83F5725	GKMC03W2	Side Exit Connector	91.85	88.09
83F5726	GKMD03W2	Bottom Exit Connector	91.85	88.09
83F5727	GKME03W2	Side and Bottom Exit Connector	117.81	104.94
83F5728	GKZ51M	Straight Key	22.14	21.23
83F5729	GKZ52M	90° Angle Key	22.14	21.23

(28877) (ne28877)

LIMIT AND INTERLOCK SWITCHES

AC SERIES DOOR SWITCHES

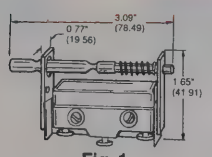


Fig. 1

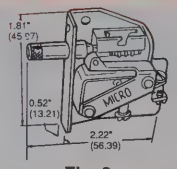


Fig. 2

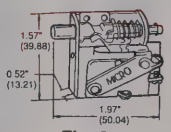


Fig. 3

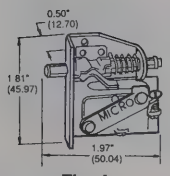


Fig. 4

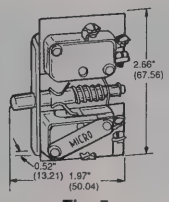


Fig. 5

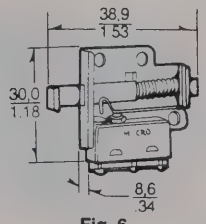


Fig. 6

Switches enable circuit testing with power on by manually pulling rod actuator to maintained-on position. Automatically cut power when service door or drawer is opened. Electrical rating: 15A, 125 or 250VAC; ½A, 125VDC ¼A, 250VDC; ⅓HP, 125 or 250VAC. **Type 1AC2** electrical rating is 15A, 125, 250 or 480VAC; ½A, 125VDC; ¼A, 250VDC; **Type 17AC** is 5A, 125 or 250VAC. All units are SPDT except (*) have two circuits. (*) Also indicates MIL-S-8805/56 qualified.

WITH STEEL ROD ACTUATORS

Stock No.	Type	Fig.	Free Position Max.	Operate. Position Max.	Depressed Position Max.
23F1821	1AC2	1	0.438″ (11.13)	0.250″ (6.35)	0.125″ (3.18)
23F1922	2AC6	2	0.375″ (9.53)	0.203″ (5.16)	0.125″ (3.18)
23F1995	3AC5	2	0.375″ (9.53)	0.203″ (5.16)	0.125″ (3.18)
23F2161	13AC1	2	0.625″ (15.88)	0.485″ (12.32)	0.263″ (6.68)
23F1923	2AC59	3	0.375″ (9.53)	0.203″ (5.16)	0.125″ (3.18)
23F1996	3AC6	3	0.375″ (9.53)	0.203″ (5.16)	0.125″ (3.18)
23F4186	17AC1-T	6	0.375″ (9.53)	0.220″ (5.59)	0.175″ (4.45)
23F2172	17AC18-T*	6	0.375″ (9.53)	0.220″ (5.59)	0.175″ (4.45)

WITH HIGH STRENGTH THERMOPLASTIC ROD ACTUATOR

23F2186	22AC1	3	0.375″ (9.53)	0.203″ (5.16)	0.125″ (3.18)
23F2187	22AC2	3	0.375″ (9.53)	0.203″ (5.16)	0.125″ (3.18)
23F2192	23AC1	4	0.375″ (9.53)	0.203″ (5.16)	0.125″ (3.18)
23F2193	23AC2	4	0.375″ (9.53)	0.203″ (5.16)	0.125″ (3.18)
23F2195	24AC1*	5	0.375″ (9.53)	0.187″ (4.75)	0.125″ (3.18)
23F2196	24AC2*	5	0.375″ (9.53)	0.187″ (4.75)	0.125″ (3.18)

Stock No.	Type	Each	2-5	6-10
23F1821	1AC2	38.82	36.22	33.96
23F1922	2AC6	24.07	22.46	21.06
23F1995	3AC5	22.52	21.01	19.70
23F2161	13AC1	33.55	31.31	29.35
23F1923	2AC59	28.67	26.75	25.08
23F1996	3AC6	25.01	23.34	21.88
23F4186	17AC1-T	15.84	14.78	13.86
23F2186	22AC1	19.30	18.01	16.88
23F2187	22AC2	19.80	18.48	17.32
23F2192	23AC1	19.24	17.96	16.83
23F2193	23AC2	19.80	18.48	17.32
23F2195	24AC1	42.09	39.28	36.82
23F2196	24AC2	43.20	40.31	37.79

(3488) (de51795)

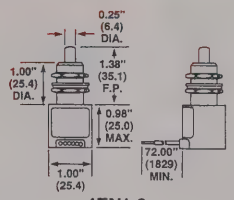
NEWARK CARRIES MORE MICRO SWITCH PRODUCTS THAN MEETS THE EYE!

NEWARK STOCKS BASIC, CABLE PULL LIMIT, DOOR, INTERLOCK, AND LIMIT SWITCHES. NEWARK ALSO CARRIES THE COMPLETE LINE OF MICRO SWITCH SENSING PRODUCTS, DESIGNED TO SUIT YOUR NEEDS.

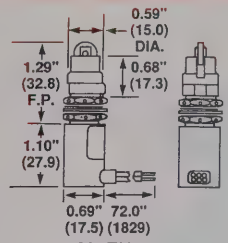
FOR MORE DETAILS ON MICRO SWITCH PRODUCTS AVAILABLE THROUGH NEWARK, CONTACT YOUR LOCAL NEWARK SALES OFFICE AT 1-800-4-NEWARK (1-800-463-9275).

(14528) (Microblurb)

EN SERIES ENVIRONMENT-PROOF LIMIT SWITCHES



1EN1-6



622EN1-6

Type EN limit switches offer environment-proof versatility for military, aerospace and commercial aircraft applications. Meet MIL-S-8805.

Stock No.	Type	Operating Force	Minimum Overtravel	Actuator Type	Each
23F1831	1EN1-6	6-12 lbs.	0.250" (6.35)	Plunger	120.67
23F2320	622EN1-6	6-12 lbs.	0.125" (3.18)	Roller pl.	192.62

(3411) (de02189)

LS SERIES COMPACT LIMIT SWITCHES

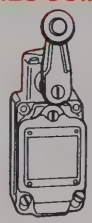


Fig. 1

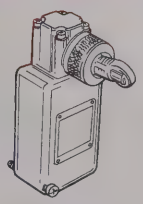


Fig. 2

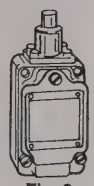


Fig. 3

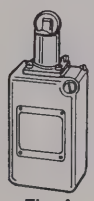


Fig. 4

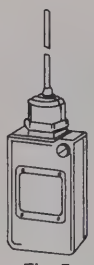


Fig. 5

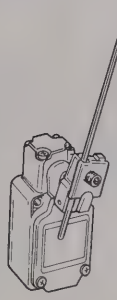


Fig. 6

Fig. 7

Meets NEMA enclosure types 1, 3, 4, 6, and 13. Units come complete with actuator and are 2-circuit, double-break. Electrical ratings: 10A at 120, 240, or 480VAC; ½ hp at 120VAC; ¾ hp at 240VAC. Resistive ratings: 0.8A at 115VDC; 0.1A at 550VDC. Pilot duty, 600VAC max.

Stock No.	Type	Fig.	Description	Operating Force	Pre-travel	Over-Travel	Each
23F4084	1LS1	1	Side Rotary	3 lbs.	20°	30°	123.62
23F2000	3LS1	2	Compact Steel Side Roller Plunger	9 lbs.	0.109″	0.219″	151.51
94F5379	2LS1	3	Top Plunger	7 lbs.	0.65″	0.250″	124.55
23F2019	5LS1	4	Top Roller Plunger	7 lbs.	0.65″	0.219″	132.92
23F4162	8LS1	5	Wobble Actuated Spring Cable	5 oz.	1.125″	...	124.09
23F1848	1LS19	1	Compact Side Rotary: Low PT	3 lbs.	5°	30°	131.52
23F2063	8LS3	5	Compact Comb. Spring Rod	5 oz.	1.125″	...	124.09
23F4492	1LS2	1	Compact Side Rotary with No Lever	4.5″/lb.	20°	30°	112.00
23F1852	1LS56	1	Compact Side Rotary: Low OT and OF	4.5″/lb.	5°	30°	120.37
23F2065	8LS152	5	Compact SS Coil Spring	5 oz.	1.125″	...	124.09
23F1847	1LS10	6	Compact 5″ Aluminum Rod	5 oz.	20°	30°	131.52
23F1844	1LS3	7	Adjustable Radius Lever	3 lbs.	20°	30°	136.17

(3409) (de01418)

GL SERIES GLOBAL LIMIT SWITCHES

GL Series

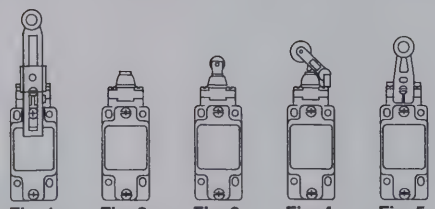


Fig. 1 Fig. 2 Fig. 3 Fig. 4 Fig. 5

Specially designed limit switches meet IEC standard for global application. Meets IEC IP67 enclosure classification and NEMA enclosure Type 4. 10A rated carry load, approximate mechanical life of 15,000,000 operations. Snap-action positive opening contacts. Contact configurations: 1 N.O., 1 N.C. ½″ NPT conduit opening in solid die-cast housing. 4.05(102.9)H x 1.65(41.9)W x 1.64″(41.7)D. Dimensions are inches and (mm). **Type GLB** plug-in body DIN style and **Types GLC, GLD, GLE** miniature DIN versions are also available. *Contact your local Newark sales office.* UL listed, CSA certified, and CE compliant.

Stock No.	Type	Fig.	Description	Each	2-5
95F9320	GLAA01A2B	1	Adj. Roller Lever, 1.5-3.6″ Radius*	84.31	80.87
95F9321	GLAA01B	2	Top Rod Plunger	67.84	65.07
95F9322	GLAA01C	3	Top Roller Plunger	77.53	74.36
95F9323	GLAA01D	4	Roller Lever on Plunger	72.69	69.71
95F9325	GLAA01A1A	5	Side Roller Lever, 1.5″ Radius*	78.02	74.83

* Steel rollers available
(3546) (ne07280)

CLS SERIES CABLE PULL LIMIT SWITCHES

CLS series cable pull limit switches provide a means to manually force disconnection of a normally closed control circuit by pulling on an attached cable. Feature choice of momentary or maintained (manual reset) designs, direct acting contacts for enhanced reliability, and tension indicator. Momentary versions are ideal for signaling (non-safety) applications. Maintained versions are ideal for emergency stop applications and have broken/slackened cable detection for added safety. Single-head versions feature compact size to fit into tight locations and cover up to 200 foot spans. Duplex versions can cover up to 400 foot spans (200′ each direction). All are sealed to NEMA 1, 3, 4, and 13. UL listed, CSA certified, and CE compliant. Available with indicators and high visibility pilot lights.

Stock No.	Type	Description	Each
52F7258	CLSB4B	Single Head, 1 NO-1 NC Direct Acting (Momentary), Blue Body w/ Black Head	159.86
48F2834	CLSB9T-B	Single Head, 1 NO-3 NC Direct Acting (Maintained Snap-Acting Head), Red Body w/ Black Head	222.55
48F3488	CLSB9T-BP	Single Head, 1 NO-3 NC Direct Acting (Maintained Snap-Acting Head), Red Body w/ Black Head	241.71
48F3489	CLSB4T	Single Head, 1 NO-1 NC Direct Acting (Maintained Snap-Acting Head), Blue Body w/ Black Head	195.19
48F3490	CLSB6T	Single Head, 1 NO-1 NC Direct Acting (Maintained Snap-Acting Head), Red Body w/ Black Head	214.34
48F3491	CLSB1T1A	Double Head, 2 Sets 1 NO-1 NC Direct Acting (Maintained Snap-Action Head Both Sides), 120V, 6W Red Pilot Light, Red Body w/ Black Head	487.97
52F4014	CLSZ00	Installation Kit Includes: 4 Thimbles, 8 Clamps, 1 Turnbuckle (w/Locknuts), 9 Eyebolts (w/Hardware), 1 End Spring, 1 Conduit Fitting, No Cable	51.54
48F3492	CLSZCZ	50′ Red Aircraft Cable	83.00

(3547) (ne07281)

GKL SERIES SOLENOID KEY-OPERATED SAFETY SWITCH

Designed to lock protective guards that prevent access so dangerous machine operations can only take place if the protective shield is closed and locked. Guard cannot be opened if hazardous motion is present. Separate switches monitor both the key position and whether the key is locked or unlocked. 2 NO and 2 NO monitor key and lock status. 90° key. Sealed to IP68, NEMA 1, 4, 6, 6P, 12, 13. UL listed, CSA certified, CE compliant.

Stock No.	Type	Head Mounting	Solenoid Volts	Each
48F3493	GKLA2L7A2	Left	24VDC	401.32
48F3494	GKLA2L7A4	Right	24VDC	419.56
48F3495	GKRA2L7A4	Left	120VAC	419.56
48F3496	GKRA2L7A2	Right	120VAC	401.32

LOCKOUT DEVICE

Stock No.	Type	Description	Each
48F2829	GKZL2	Prevents Key Insertion During Maintenance	44.27

(33999) (ne33999)

GK SERIES KEY-OPERATED SAFETY INTERLOCK SWITCHES

GK series heavy-duty key-operated safety interlock switches enhance operator safety when added to hinged or sliding guard doors, screens, and protective covers or enclosures. Feature side and top key entry with superior resistance to tampering. Door vibration or sag will not cause false actuation. Housing conduit size: ½″ NPT. Operating temperature: –25°C to +85°C. Rated NEMA 4 and IP67. Each unit includes the key indicated in the chart. Other versions available; *contact your local Newark sales office.* UL listed, CSA certified, and CE compliant.

Stock No.	Type	Description	Each
48F2825	GKBA16L6	1 NO-3 NC Direct-Acting Contacts, 90° Key	137.98
48F2826	GKBA16L7	1 NO-3 NC Direct-Acting Contacts, Straight Key	137.98
48F2827	GKBA16L8	1 NO-3 NC Direct-Acting Contacts, Left-Right Spring-Loaded Key	151.24
48F2828	GKBA16L9	1 NO-3 NC Direct-Acting Contacts, Up-Down Spring-Loaded Key	151.24

(3545) (ne07279)

INDUSTRIAL SWITCHES

E6/V6 COMPACT ENCLOSED SWITCHES

Fig. 1 Side Mount w/Seal Boot

Fig. 2 Side Mount w/o Seal Boot

Fig. 3 Side Mount Roller Plunger w/o Seal Boot

Fig. 4 Side Mount Roller Plunger w/Seal Boot

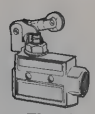


Fig. 5 Side Mount Roller Lever w/o Seal Boot

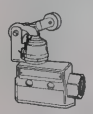


Fig. 6 Side Mount Roller Lever w/Seal Boot

Fig. 7 Flange Mount Roller Lever w/Seal Boot

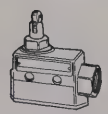


Fig. 8 Side Mount Cross Roller Plunger w/o Seal Boot

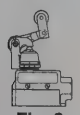


Fig. 9 Side Mount One-Way Roller w/Seal Boot

Fig. 10 Side Mount Coil Spring Wobble w/Seal Boot

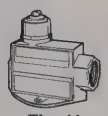


Fig. 11 Flange Mount w/Seal Boot

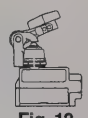


Fig. 12 Side Mount Manual w/Seal Boot

Type E6 side-mount and **type V6** flange-mount switches include seal boots along with a combination insulator-seal cemented inside the bottom enclosure. Both switch types have cast zinc housings. Field-adjustable 360° horizontally and 225° vertically, SPDT switches are 15A @ 125, 250, or 480VAC and 2A @ 600VAC; 0.5A @ 125VDC and 0.25A @ 250VDC. DPDT switches are rated 10A @ 125 and 250VAC; 0.3A @ 125VDC and 0.15A @ 250VDC. UL recognized, CSA certified. O.F. = operating force. O.T. = over travel. Switch body dimensions: 3.04L x 1.00W x 1.75″H. Epoxy filled preleaded versions available; *contact your local Newark sales office.*

Stock No.	Type	Circuit	O.F.(g)	O.T.	Fig.	Each
23F4039	BZE6-2RN	SPDT	257.1-685.7	.219″ (5.56)	1	49.19
23F4042	BZE6-2RQ	SPDT	257.1-371.4	.219″ (5.56)	2	40.99
23F4043	BZE6-2RQ8	SPDT	257.1-371.4	.140″ (3.55)	3	60.97
23F4216	BZE6-2RQ2	SPDT	285.7-514.3	.219″ (5.56)	5	60.97
23F4302	BZE6-2RQ9	SPDT	257.1-371.4	.140″ (3.55)	3	60.97
23F2443	BZE6-2RN80	SPDT	257.1-685.7	.219″ (5.56)	4	70.70
23F4040	BZE6-2RN2	SPDT	285.7-571.4	.219″ (5.56)	6	70.70
23F4219	BZV6-2RN2	SPDT	285.7-571.4	.219″ (5.56)	7	75.31
23F4217	BZE6-2RQ81	SPDT	257.1-371.4	.140″ (3.55)	8	60.97
23F4298	BZE6-2RN28	SPDT	228.6-371.4	.219″ (5.56)	9	85.05
23F4297	BZE6-2RN18	SPDT	200	UNL	10	76.34
23F4218	BZV6-2RN	SPDT	257.1-685.7	.219″ (5.56)	11	52.26
23F4296	BZE6-2RN7	SPDT	257.1-685.7	.219″ (5.56)	1*	52.26
23F4295	BZE6-2RN4	SPDT	285.7-571.4	.219″ (5.56)	12	78.39
23F4221	DTE6-2RN2	DPDT	285.7-857.1	.219″ (5.56)	6	125.72
23F4220	DTE6-2RN	DPDT	285.7-857.1	.219″ (5.56)	1	106.75

* 8 mounting screws

(2949) (de51750)

SL1 SERIES ENCLOSED SWITCHES

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

SL1 Series compact limit switches feature long-life, small size. Meets NEMA enclosure types 3, 4 and 13 and IEC enclosure IP67 classification. Ideal for machine or equipment miniaturization. Dimensions: 1.27H x 0.70W x 1.78″D (32.4 x 18 x 45.4). Features a rugged zinc diecast housing with a snap-in terminal enclosure to make mounting and wiring easy. Operating temperature range: –10°C to +70°C. SPDT. Electrical rating: 5A, 125/250VAC. Gold cross-point contacts are rated at .1 A, 125VAC/30VDC and are denoted by a "K" in type number suffix. Other actuation styles and UL and CSA apppproved versions are available; *contact your local Newark sales office.*

Stock No.	Type	Fig.	O.F.	O.T.	Each
16F3165	SL1-A2	1	1200g	3mm	82.49
16F3166	SL1-H2	2	1200g	3mm	64.56
99F6658	SL1-EK	1	1200g	3mm	96.83
99F3590	SL1-A	3	1200g	3mm	82.49
48F2820	SL1-H	2	1200g	3mm	63.00
48F2821	SL1-D	4	1200g	3mm	80.50
48F2822	SL1-KK	5	1200g	3mm	94.50
48F2823	SL1-P	6	400g	4mm	80.50
48F2824	SL1-P2	6	400g	4mm	80.50

(3053) (ne08171)

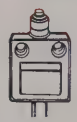
MINIATURE PRE-WIRED ENCLOSED SWITCHES

Plunger

Roller Plunger

Cross Roller

Side Rotary


Booted Plunger

With SJTO industrial cable. Cable connection, switch terminals encapsulated in epoxy compound. Elastomer seal between plunger and switch housing. Mounting screw holes with continuous walls keep liquids out of switch, SPDT. UL rating: 5 amps, 1/10HP, 125 or 250VAC. Zinc die-cast housing. Last digit in type number = cable length in ft. Min. overtravel 0.118″ (3.00), except **Type 914CE16-3**, 40°. Differential travel: 0.004″ (0.102), except **Type 914CE16-3** , 3°. **914CE16-3** side rotary uses **type LS** levers; *available separately on page 1472.* UL recognized, CSA certified. O.F. = operating force. Dimensions: 1.74H x 0.63W x 1.58″D. Connector termination versions are also available; *contact your local Newark sales office.*

Stock No.	Type	Actuator Type	NEMA	O.F. Kg.	Each
23F4240	914CE1-3	Plunger	1, 3	1.247	64.26
23F2346	914CE1-6	Plunger	1, 3	1.247	69.32
23F2347	914CE1-9	Plunger	1, 3	1.247	74.38
23F4241	914CE2-3	Roller Plunger	1, 3	1.247	74.38
23F2348	914CE2-6	Roller Plunger	1, 3	1.247	79.94
23F2349	914CE2-9	Roller Plunger	1, 3	1.247	85.51
23F2350	914CE3-3	Cross Roller	1, 3	1.247	74.38
23F2352	914CE3-9	Cross Roller	1, 3	1.247	85.51
23F2353	914CE16-3	Side Rotary	1, 3, 4, 6, 6P, 12, 13	1.361	90.57
94F5383	914CE16-6	Side Rotary	1, 3, 4, 6, 6P, 12, 13	1.361	96.13
23F2354	914CE18-3	Booted Plunger	1, 3, 4, 6, 6P, 12, 13	2.267	76.40
94F5384	914CE18-6	Booted Plunger	1, 3, 4, 6, 6P, 12, 13	2.267	81.97
99F7668	914CE18-9	Booted Plunger	1, 3, 4, 6, 6P, 12, 13	2.267	87.03
51F4047	914CE20-3	Spring Wire Wobble	1, 3, 4, 6, 6P, 12, 13	0.057	94.11

(2951) (de51751)

BAF1 HIGH CAPACITY ENCLOSED SWITCHES

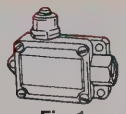


Fig. 1

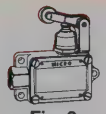


Fig. 2

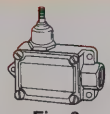


Fig. 3

Elastomer boot protects actuating mechanism and internal switch. Seal gasket between cover plate and the enclosures. Meet NEMA 1,3,4 and 13. Cast aluminum housing with 3-hole mounting. Actuator position is "right" (suffix **-RH**) or "left" (suffix **-LH**) when looking at name plate. UL recognized, CSA certified.

Stock No.	Type	Fig.	Action	Elec. Rating	Pre-Travel	Each
23F5036	BAF1-2RN-RH	1	SPDT	20 A	.094″ (2.38)	93.76
23F5035	BAF1-2RN-LH	1	SPDT	20 A	.094″ (2.38)	93.76
23F5038	BAF1-2RN2-RH	2	SPDT	20 A	.219″ (5.56)	120.78
23F5037	BAF1-2RN2-LH	2	SPDT	20 A	.219″ (5.56)	120.78
23F5070	DTF2-2RN-RH	1	DPDT	10 A	.141″ (3.58)	154.76
23F5072	DTF2-2RN2-RH	2	DPDT	10 A	.141″ (3.58)	173.81
23F5040	BAF1-2RN18-RH	3	SPDT	20 A	15° ...	135.94
23F5039	BAF1-2RN18-LH	3	SPDT	20 A	15° ...	135.94

(2952) (de51752)

EX AND OP ENCLOSED ROLLER LEVER SWITCHES

EX series explosion-proof switches have smallest UL listed housings for hazardous locations. Meet NEMA 1, 7 and 9. Housing mounts from 4 sides. Switches with **3 suffix** in type number have 0.91M (3-foot) lead wire. **OP series** snap action switches dimensionally interchangeable with **EX series** but sealed in a cast aluminum housing. **OP series** are sealed to NEMA 1, 3, 4 and 13. **Type EX** switches are UL listed, CSA certified. **Type OP** switches are UL recognized, CSA certified. O.F. = operating force. O.T. = over travel.

Stock No.	Type	Elect. Rating	Description	Action	O.F. Kg	O.T.	Each
23F5075	EX-AR	15A	Explosion-Proof	SPDT	0.227-0.567	90°	169.29
23F5084	EXD-AR-3	10A	Actuation	DPDT	0.227-0.680	25°	212.08
23F4926	OP-AR	15A	Enclosed	SPDT	0.227-0.567	9°	122.87

(2953) (de51753)

LIMIT SWITCHES

AZ4 SERIES QL SUBMINIATURE LIMIT SWITCHES

Compact, zinc die-cast limit switches feature exposed terminal design with L-socket or quick-disconnect option. Available with a wide variety of actuators (included). NO/NC (1 Form C). Contact ratings: 5A, 30VDC; and 0.4A, 115VDC. Operating temperature: –20°C to +60°C (no ice formation). Operating point precision: ±0.2mm. Mechanical life: more than 10 million operations. Electrical life: 300,000 operations. Meets IEC enclosure IP64 water spray classification and NEMA enclosure types 1, 3, 4, 6, 12 and 13. UL listed, CSA certified. **Note:** When adding cord and socket units are not CSA certified. *Order L-socket and cord and socket accessories on page 1477.* For actuator styles, *see limit switch selector chart on page 1477.*

Stock No.	Type	Actuator	Release/ Operate Force (oz.)	Pre-Travel (max.)
93F4775	AZ40019	Push Plunger	2.5/25	0.039″ (0.991)
93F4776	AZ40029	Roller Plunger	2.5/25	0.039″ (0.991)
93F4777	AZ40039	Cross Roller Plunger	2.5/25	0.039″ (0.991)
93F4778	AZ40049	Roller Arm	0.9/16	15° ±3
93F4779	AZ40079	Adjustable Rod	0.2-0.8/4-16	15° ±3
93F4780	AZ40089	Adjustable Roller Arm	0.4-0.9/7-16	15° ±3

Stock No.	Type	Each	2-5	6-10	11-15
93F4775	AZ40019	26.85	26.36	25.41	24.12
93F4776	AZ40029	28.99	28.47	27.44	26.04
93F4777	AZ40039	28.99	28.47	27.44	26.04
93F4778	AZ40049	33.29	32.68	31.51	29.91
93F4779	AZ40079	36.52	35.84	34.56	32.80
93F4780	AZ40089	39.74	39.00	37.61	35.70

(2714) (de02142)

AZ5 SERIES LIMIT SWITCHES

Aluminum die-cast, vertical two-circuit limit switches for industrial and general-purpose uses available with a choice of seven actuators. Double break/double make (1 Form Z). Oil-tight. Contact ratings: 10A, ½ hp at 125VAC; 6A, ½ hp at 250VAC; 0.8A, 125VDC. Operating temperature: –5°C to +80°C (no ice formation). Mechanical life: more than 10 million operations. Electrical life: more than 500,000 operations. Maximum operating speed: 120 cpm. Meets IEC enclosure IP67 temporary water immersion classification. For actuator styles, *see limit switch selector chart on page 1477.*

Stock No.	Type	Actuator Description	Release/ Operate Force (oz.)	Pre-Travel (max.)
93F4786	AZ51019	Push Plunger	32/96	0.067″ (1.70)
93F4787	AZ51029	Roller Plunger	32/96	0.067″ (1.70)
93F4788	AZ51049	Roller Arm	8/96	15° ± 5
93F4790	AZ51069	Flexible Rod	5	0.8" (20.32)
93F4791	AZ51079	Adjustable Rod	1/5	15° ± 5
93F4792	AZ51089	Adjustable Roller Arm	8/48	15° ± 5
93F4794	AZ51279	Adjustable Rod	0.5/8.6	25° ± 5
93F4795	AZ51289	Adjustable Roller Arm	1.8/32	25° ± 5

*Maintained contact

Stock No.	Type	Each	2-5	6-10	11-15
93F4786	AZ51019	38.66	37.95	36.59	34.73
93F4787	AZ51029	46.19	45.33	43.71	41.49
93F4788	AZ51049	59.03	57.96	55.93	52.26
93F4790	AZ51069	44.03	43.22	41.67	39.56
93F4791	AZ51079	53.76	52.79	50.94	47.59
93F4792	AZ51089	51.65	50.72	48.94	45.73
93F4794	AZ51279	53.76	52.79	50.94	47.59
93F4795	AZ51289	56.93	55.89	53.93	50.39

(2712) (de02140)

AZ66 SERIES LIMIT SWITCHES

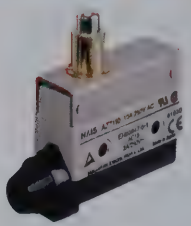
Aluminum die-cast limit switches with popular 1″ mounting centers, feature split housing for easy wiring and maintenance. Available with either push plunger or roller lever actuator in mounting styles: diagonal, side, and bottom mount. NO/NC (1 Form C). Contact ratings: 15A, ½ hp at 125VAC; 10A , ½ hp at 250VAC; and 0.4A at 125VDC. Operating temperature: –5°C to +80°C (no ice formation). Mechanical life: more than 1.5 million operations. Electrical life: more than 150,000 operations. Maximum operating speed: 120 cpm. Meets IEC enclosure IP64 water spray classification. UL listed, CSA certified.

Stock No.	Type	Mounting/ Actuator	Fig.	Release/ Operate Force (oz.)	Pre-Travel (max.)
93F4796	AZ660019	Diagonal/Plunger	1	8/32	0.079″
93F4798	AZ661019	Side/Plunger	2	8/32	0.079″
93F4797	AZ660049	Diagonal/Roller Lever	4	6/25	0.177″
93F4799	AZ661049	Side/Roller Lever	2	6/25	0.177″

Stock No.	Type	Each	2-5	6-10	11-15
93F4796	AZ660019	28.99	28.47	27.44	26.04
93F4798	AZ661019	28.99	28.47	27.44	26.04
93F4797	AZ660049	34.37	33.73	32.52	30.88
93F4799	AZ661049	34.37	33.73	32.52	30.88

(2713) (de02141)

ML SERIES LIMIT SWITCHES



Compact, screw terminal limit switches feature mounting compatibility with many heavy die-cast limit switches. Reversible base. NO/NC (1 Form C). Contact ratings: 10A, ½ hp at 125/250VAC; and 0.4A at 115VDC. Operating temperature: –20°C to +60°C. Mechanical life: 10 million operations. Electrical life: 200,000 operations. Maximum operating speed: 120 cpm. Meets IEC enclosure IP6 dust-tight classification. UL listed, CSA certified, CE compliant. For actuator styles, *see limit switch selector chart on page 1477.*

Stock No.	Type	Actuator	Release/ Operate Force (oz.)	Pre-Travel (max.)
93F4802	AZ7100	Compact Overtravel Plunger	3.5/21	0.079″
93F4803	AZ7110	Overtravel Plunger	3.5/21	0.079″
93F4804	AZ7120	Hinge Lever	1.4/5	0.531″
93F4805	AZ7121	Hinge Roller Lever	1.8/6	0.433″
93F4807	AZ7140	Hinge Short Lever	2.1/8	0.335″
93F4808	AZ7141	Hinge Short Roller Lever	2.8/8	0.256″
93F4806	AZ7124	One-Way Roller	2/7	0.433″
93F4809	AZ7144	One-Way Short Roller Lever	3.5/10	0.256″
93F4810	AZ7166	Flexible Rod	4	0.984″
93F4811	AZ7310	Panel Mount Plunger	3.5/21	0.079″
93F4812	AZ7311	Panel Mount Roller Plunger	3.5/21	0.079″
93F4813	AZ7312	Panel Mount Cross Roller Plunger	3.5/21	0.079″

Stock No.	Type	Each	2-5	6-10	11-15
93F4802	AZ7100	11.81	11.39	11.18	10.99
93F4803	AZ7110	12.89	12.42	12.20	11.98
93F4804	AZ7120	8.59	8.28	8.13	7.98
93F4805	AZ7121	9.66	9.32	9.14	8.99
93F4807	AZ7140	8.59	8.28	8.13	7.98
93F4808	AZ7141	9.66	9.32	9.14	8.99
93F4806	AZ7124	11.81	11.39	11.18	10.99
93F4809	AZ7144	11.81	11.39	11.18	10.99
93F4810	AZ7166	17.19	16.56	16.25	15.97
93F4811	AZ7310	15.03	14.49	14.24	13.98
93F4812	AZ7311	17.19	16.56	16.26	15.97
93F4813	AZ7312	17.19	16.56	16.26	15.97

(2943) (de51716)

LIMIT SWITCHES AND ACCESSORIES

VL-MINI SERIES LIMIT SWITCHES

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

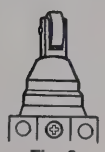


Fig. 6

Fig. 7

Fig. 8

VL-MINI SERIES limit switches feature compact body, rugged design. Gold clad, two circuit double-break (1 Form Z) contacts. Ratings: 5A, 125VAC; 5A, 250VAC; 0.4A 115VDC. Operating temperature: –20°C to 60°C (no ice). Mechanical life: 10 million operations. Electrical life: 5 million operations. Meets IEC enclosure IP64 water spray classification. UL listed, CSA certified, CE compliant; except **type AZ8181**. **Type AZ8801** conduit adapter allows direct connection with conduit tube.

Stock No.	Type	Actuator	Fig.	Release/ Operate Force (oz.)	Pre-Travel (max.)
93F4814	AZ8104	Roller Arm	1	1.8/21	20°
93F4815	AZ8107	Adjustable Rod	2	7/28	20°
93F4816	AZ8108	Adjustable Roller Arm	3	0.4-1.8/7-28	20°
93F4817	AZ8111	Plunger	4	5.3/32	0.059″
93F4818	AZ8112	Roller Plunger	5	5.3/32	0.059″
93F4819	AZ8122	Cross Roller Plunger	6	5.3/32	0.059″
93F4820	AZ8166	Flexible Rod	7	.../3	1.181″
93F4821	AZ8169	Spring Wire	8	.../1.2	1.181″

* Not UL listed, CSA certified.

Stock No.	Type	Each	2-5	6-10	11-15
93F4814	AZ8104	**30.07**	**29.51**	**28.47**	**27.02**
93F4815	AZ8107	**32.22**	**31.62**	**30.50**	**28.94**
93F4816	AZ8108	**34.37**	**33.73**	**32.52**	**30.88**
93F4817	AZ8111	**27.93**	**27.41**	**26.43**	**25.08**
93F4818	AZ8112	**33.29**	**32.68**	**31.51**	**29.91**
93F4819	AZ8122	**33.29**	**32.68**	**31.51**	**29.91**
93F4820	AZ8166	**25.78**	**25.30**	**24.40**	**23.16**
93F4821	AZ8169	**25.78**	**25.30**	**24.40**	**23.16**

(2945) (de51717)

ACCESSORIES FOR SL AND QL SERIES

Note: When adding socket and cord to **QL series** limit switches, the units are no longer CSA certified.

Stock No.	Type	Description	Fig.
93F4781	AZ3806	Four-Directional L-Socket	1
93F4782	AZ3807	Socket with 1-Meter Cord	2
93F4783	AZ3827	Socket with 2-Meter Cord	2

Stock No.	Type	Each	2-5	6-10	11-15
93F4781	AZ3806	**4.30**	**4.14**	**4.06**	**3.99**
93F4782	AZ3807	**6.44**	**6.21**	**6.10**	**5.99**
93F4783	AZ3827	**13.97**	**13.46**	**13.21**	**12.98**

(2715) (de02157)

VL-T SERIES COMPACT TOUCH LIMIT SWITCHES

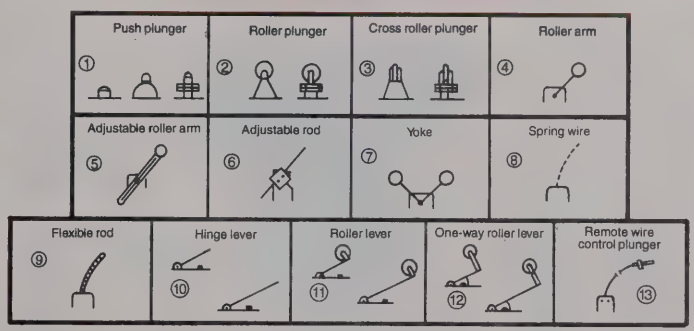
Compact limit switches activate at the slightest touch. Highly accurate position detection. Operating voltage: 12/24VDC. Operation indicator LED. Dimensions: 3.197H x 1.102W x 0.984″D (81.2 x 28 x 25). Meets IEC enclosure IP64 water splash classification.

Stock No.	Type	Description
93F4824	AZ8469	Spring Wire
93F4823	AZ8430	Free Attachment

Stock No.	Type	Each	2-5	6-10	11-15
93F4824	AZ8469	**103.31**	**101.43**	**97.87**	**91.46**
93F4823	AZ8430	**103.31**	**101.43**	**97.87**	**91.46**

(2947) (de51718)

LIMIT SWITCH FEATURE SELECTOR CHART



Series	AZ7	AZ66	AZ4	AZ8	AZ84	AZ5
Oper. Indicator (LED or Neon)	X		X	X	X	
Plastic Housing Diecast Housing	X	X	X	X	X	X
Environmental Rating:	IP64	IP66	IP64, IP65	IP64	IP64	IP67
Control Output AC Resistive	1 Form C, 10A	1 Form C, 15A	1 Form C, 5A	1 Form Z, 5A	Trans. 150mA	1 Form Z, 6A/10A
Available Actuators (See Illustrations)	1, 2, 3, 9, 10, 11, 12	1, 11	1, 2, 3, 4, 5, 6	1, 2, 3, 4, 5, 6, 8, 9, 13	8	1, 2, 4, 5, 6, 7, 9
Wiring Connections	Screw, Sealed-Terminal	Screw	Socket/ Cord, Solder/ Quick Con.	Screw	Screw	Screw
UL Listed	X	X	X	X		X
CSA Certified	X	X	X	X		
CE Compliant	X			X		
Low Cost	X					

(16426) (arofeat)

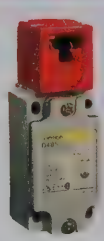
SAME-DAY SHIPMENT ON ORDERS PLACED BY 5:00 PM C.S.T.

OMRON

LIMIT, ENCLOSED AND SAFETY DOOR SWITCHES

D4DS

D4BL


D4BS

D4DH

ZE-N

D4B

D4D

D4C

(35474) (ne35474)

D4DS SERIES MINIATURE SAFETY DOOR SWITCHES

Compact and economical safety-door switches feature head that can be mounted in 4 directions for flexibility to fit special applications, positive opening mechanism and double-insulated structure that requires no grounding terminals. Dual entry points for operation key. Meets NEMA enclosure type 4 and IEC enclosure IP65(EN60529) classifications. Slow-acting contacts, rated load: 10A, 125/250VAC. For ½-14NPT conduit. UL listed and CSA certified.

Stock No.	Type	Description	Each
48F1123	D4DS-3AFS	2 N.C. Switch	**39.52**
48F1124	D4DS-35FS	1 N.C./1 N.O. Switch	**39.52**
48F1125	D4DS-K1	Horizontal Key	**5.20**
48F1126	D4DS-K2	Vertical Key	**5.20**
48F1127	D4DS-K3	Adjustable Horizontal Key	**15.60**

(34080) (ne34080)

SAFETY-DOOR SWITCHES

Type D4BS safety switches automatically shut down machinery when switches are opened. Positive action switching assures contact opening even if contact welding occurs. Rugged die-cast housing is environmentally rated to IP67 and offers 1 or 3 ½"-14 NPT conduit openings. Four-way adjustable head allows versatile mounting. Rated: 10 amps at 600VAC. Switch box conforms to CENELEC EN50041. Standard type dimensions: 4.4H × 1.57W × 1.6"D (112H × 63W × 41mmD). 3-conduit entrance type dimensions: 4.4H × 2.5W × 1.6"D (112H × 63W × 41mmD). UL recognized, CSA certified and CE compliant. Meets IEC IP67 Classification.

Stock No.	Type	Fig.	Description	½"-14 NPT Conduit Entry	Each
52F4230	D4BS-35FS	1	DPDB-1NC/1NO	Standard	**55.98**
52F4231	D4BS-3AFS	1	DPDB-2NC	Standard	**55.98**
52F4234	D4BS-K1	2	Latch, Horizontal	...	**6.73**
52F4235	D4BS-K2	3	Latch, Vertical	...	**7.54**
52F4236	D4BS-K3	4	Latch, Adjustable	...	**23.68**

(3031) (ne07345)

SAFETY-DOOR LOCK SWITCHES

Type D4BL lock access doors until machinery completely stops. Automatically lock when latch is engaged. Rugged die-cast housing with ½"-14 NPT horizontal or vertical conduit opening. Rated: 10 amps at 250VAC. Type with **-3CRA** suffix has a solenoid voltage of 24VDC. Type with **-3CRB** has a solenoid voltage of 110VAC. Side mounting body is 4.8H × 4.6W × 1.8"D (122H × 117W × 46mmD). Locking latches sold separately. **Suffix "-A" in type** = operation indicator versions. Meets IEC IP67 Classification. UL recognized, CSA certified, and CE compliant.

Stock No.	Type	Fig.	Description	Each
52F4237	D4BL-3CRA	1	DPDB-1NC/1NO + DPDB-1NC	**317.54**
52F4239	D4BL-3CRB	1	DPDB-1NC/1NO + DPDB-1NC	**317.54**

(3029) (ne07344)

D4DH SERIES HINGED SAFETY DOOR SWITCH

Switches feature head that can be mounted in 4 directions for flexibility to fit special applications. Contacts are slow-action with approved positive opening mechanism on NC contacts only. Available in shaft actuator type or arm lever type. Double-insulated structure requires no grounding terminals. Rated load: 10A, 125/250VAC. For ½-14NPT conduit. Operating temperature: +70°C to -30°C. UL listed. CE compliant.

Stock No.	Type	Description	Contacts	Each
48F1119	D4DH-3AAS	Shaft Actuator	2 N.C.	**56.16**
48F1120	D4DH-3ABC	Arm Lever Actuator	2 N.C.	**57.20**
48F1121	D4DH-35AS	Shaft Actuator	1 N.C./1 N.O.	**56.16**
48F1122	D4DH-35BC	Arm Lever Actuator	1 N.C./1 N.O.	**57.20**

(34079) (ne34079)

ENCLOSED LIMIT SWITCHES

Type ZE enclosed limit switches feature large switching capacity and long service life, with a mechanical life of 10 million operations minimum. Rated: 15 amps at 125 and 250VAC, and 10 amps at 480VAC. Sealed die-cast housing with side mounting design. Operating temperature range: –14°F to +176°F. Dimensions 3.4W × 1.0"D (86W × 25.4mmD); for height, *see table below.* Meets IEC IP65 Classification and NEMA enclosure types 1, 2, 3, 4, and 5. UL recognized, CSA certified.

Stock No.	Type	Fig.	Height	Actuator Type	O.F.*	Each
52F4216	ZE-N-2S	1	2.8" (71)	Pin Plunger	800g	**33.37**
52F4217	ZE-N22-2S	2	2.9" (74)	Roller Plunger	500g	**45.21**
52F4218	ZE-NA2-2S	3	2.9" (74)	Roller Lever	640g	**41.98**
52F4219	ZE-NJ-2S	4	4.0" (101)	Coil Spring	150g	**43.06**

* O.F. = Operating Force

(3033) (ne07346)

COMPACT PRE-WIRED ENCLOSED SWITCHES

Type D4C limit switches feature rugged die-cast housing and triple-sealed construction for harsh environments. Accept loads of up to 5 amps at 250VAC. Units come pre-wired with 9.8' (3M) of SJTO cable. Slim profile body: 1.96H × 1.57W × 0.62"D (50H × 40W × 16mmD) for easy gang-mounting. Mechanical life: 10 million cycles minimum. Meets IEC IP67 Classification and NEMA enclosure types 3, 4, and 13. UL recognized, CSA certified.

Stock No.	Type	Fig.	Actuator Type	Operating Force	Each
52F4220	D4C-1601	1	Pin Plunger	1.2kg	**55.98**
52F4221	D4C-1602	2	Roller Plunger	1.2kg	**55.98**
52F4222	D4C-1620	3	Roller Lever	580g	**67.82**

(3025) (ne07342)

DIRECT-OPENING SNAP ACTION LIMIT SWITCHES

Type D4B limit switches feature direct-opening mechanism. Positive action switching assures contact opening even if contact welding occurs. SPDT (1 NC, 1 NO) contact configuration rated 10 amps at 480VAC. Die-cast housing with 4-position head. Mechanical life: 30 million cycles minimum. ½" NPT conduit opening. Selectable operation: CW, CCW, and CW+CCW. Meet IEC IP67 and NEMA enclosure types 3, 4, 4x, 6P, and 13. UL recognized, CSA certified, VDE approved, and meets IEC standards.

Stock No.	Type	Fig.	Actuator Type	Operating Force	Each
52F4223	D4B-3111N	1	Roller Lever (.69" dia. Nylon)	960g	**72.12**
52F4224	D4B-3113N	2	Adj. Roller Lever (2" dia. Rubber)	740g	**66.74**
52F4225	D4B-3116N	3	Adj. Roller Lever (.69" dia. Nylon)	960g	**76.43**
52F4226	D4B-3117N	4	Adj. Rod Lever (5.9"L)	216g	**76.43**
52F4228	D4B-3171N	5	Roller Top Plunger	1900g	**71.05**
52F4229	D4B-3181N	6	Wobble Stick (Coil Spring 4.5"L)	150g	**68.89**

(3027) (ne07343)

D4D SERIES GENERAL-PURPOSE LIMIT SWITCH

Compact, economical, plastic-body switch features direct-opening action mechanism that forcibly opens contacts to assure accurate switching. 2 sets of DPDT contacts: NC for safety circuit and NO for control circuit. Meets NEMA enclosure types 3,4,6P and IEC enclosure IP65(EN60529) classifications. 4-position turret head for flexibility to fit special applications. Rated load: 10A, 125/250VAC. For ½-14NPT conduit. Operating temperature: +70°C to-30°C. UL listed. CSA certified, CSA compliant.

Stock No.	Type	Actuator	Each
48F1114	D4D-3120N	Roller Lever	**20.80**
48F1115	D4D-3121N	Adjustable Roller Lever	**23.92**
48F1116	D4D-3132N	Roller Plunger	**19.76**
48F1117	D4D-3162N	One-way Roller Arm Lever (Vert.)	**19.76**
48F1118	D4D-3172N	One-way Roller arm Lever (Horiz.)	**20.80**

(34090) (ne34090)

LIMIT SWITCHES

XCK-J LIMIT SWITCHES

Lever Operated XCK-J10511

Heavy duty switch features a four position indexing head and exceptional repeatability. Programmable CW and/or CCW lever. Captive saddle clamp terminals delivered in ready-to-use position feature Finger-Guard protection. Temperature range –25° to +70°C. Insulation voltage 300VAC. 10A thermal current. UL listed, CSA certified. Additional contact configurations and operators available. *Contact your local Newark sales office.*

Stock No.	Type	Description	Each
96F1928	XCK-J10511	SPDT, Non Plug-in, Lever NO NC	**97.82**
96F1930	XCK-J10541	SPDT, Non Plug-in, Adj. Lever	**97.82**
96F1931	XCK-J20541	2SPDT, Non Plug-in, Adj. Lever	**115.93**
96F1933	XCK-J167	SPDT, Non Plug-in, Roller Plunger	**96.61**

(2724) (de02561)

XCK INTERLOCKING SWITCHES AND KEYS

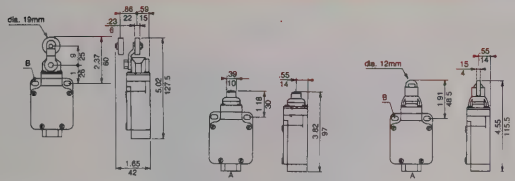
XCK-P591 with Perpendicular Key

Miniature safety interlocking switch is used in small guards, doors and screens to enhance operator safety. Key and switch are designed to be operated only by one of the dedicated operating keys. Rated 10A, 300VAC.

Stock No.	Type	Description	Each
96F1942	XCK-P591	Interlock Switch, Slim Plastic Body	**70.63**
96F1943	XCK-Y02	Perpendicular Key	**6.24**
96F1944	XCK-Y03	Adjustable Key	**40.08**

(2730) (de02564)

XCK-L COMPACT LIMIT SWITCHES



L115 **L110** **L102**

- **Captive Saddle Clamp Terminals**
- **Finger Guard Protection**
- **Omnidirectional**

General duty limit switches offer greater versatility in machine tool and machine handling applications. Programmable CW, CCW or CW and CCW lever operated rotary head. Captive screws and gaskets. Positive opening contact snap action SPDT (NO + NC). Temperature range -25° to +70°C. Contact resistance 25mΩ.

Stock No.	Type	Description	Each
96F1934	XCK-L115	SPDT, Delrin Roller Lever	**57.33**
96F1935	XCK-L10041	SPDT, Adjustable Roller Lever	**96.44**
96F1936	XCK-L110	SPDT, Rod Plunger	**52.97**
96F1937	XCK-L102	SPDT, Roller Plunger	**78.78**

(2726) (de02562)

XY2-CE CABLE PULL SWITCHES

XY2-CE1

Utilized in conveyor systems or large machinery, cable is stretched between the switch and anchor, providing a means of stopping a motor along any point of the cable. Temperature range -25° to +70°C. Mechanical life of 10,000 operations. Operates in all positions. Rated 10A, 300VAC. 2NO+2NC booted, left cable mount version available. *Contact your local Newark sales office.*

Stock No.	Type	Description	Each
96F1945	XY2-CE1A250	NO + NC, Booted, Right Cable Mount	**243.61**
96F1946	XY2-CE1A290	2NO + 2NC, Booted, Right Cable Mount	**272.20**
96F1947	XY2-CE2A250	NO + NC, Booted, Left Cable Mount	**232.17**

(2732) (de02565b)

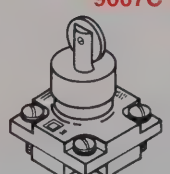
XCK-P MINIATURE LIMIT SWITCHES

Intended for medium duty applications such as packaging machinery, light material handling, printing presses and medical equipment. Plastic housing. Snap action opening contacts. Positive lever to shaft positionings ensure positive opening feature. Rated 10A, 300VAC. UL listed, CSA certified. Booted steel plunger version also available. *Contact your local Newark sales office.*

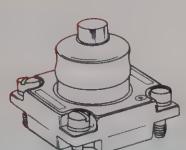
Stock No.	Type	Description	Each
96F1938	XCK-P118	SPDT, Delrin Roller Lever	**48.77**
96F1939	XCK-P145	SPDT, Adjustable Roller Lever	**51.62**
96F1941	XCK-P102	SPDT, Delrin Roller Plunger	**61.66**

(2728) (de02563)

9007C LIMIT SWITCHES



Roller Plunger Top



Straight Rod Plunger

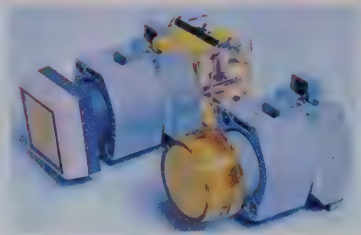
Heavy-duty switches are rugged and provide excellent repeatability. Plungers have a pre-travel of 0.08″ and a total travel of 0.25″.

Stock No.	Type	Description	Each
96F3437	9007C54D	1P, Roller Plunger Top	**138.32**
96F3438	9007C54E	1P, Straight Rod Plunger	**129.52**

(2734) (de02566)

SWITCHES AND ACCESSORIES

04 SERIES PUSHBUTTON ACTUATORS AND INDICATORS



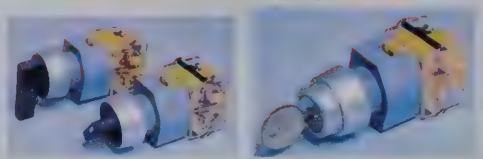
Square Lighted Pushbutton Round Indicator

Feature modular construction for easy assembly and screw-type terminations. Come with gray plastic bezel and are available in lighted, unlighted, and round or square bezels. Front panel replaceable lens or lamp. Mount in 22.5mm (0.875″) round hole. Use T-3¼ bayonet lamp, neon, or LED illuminating devices *(ordered separately; see lamp index)*. Meet NEMA 4 and 13 and IP 65 oil and watertight specifications. UL# 10A/600V, CSA 10A/300V, VDE 10A/500V, and SEV 10A/500V approved. Last digit in type number reflects lens color code: 2 = red, 4 = yellow, 5 = green, 7 = white. *Order contact blocks separately on this page.* ISO 9001 certified.

Stock No.	Type	Bezel Style	Description	1-24
50F7288	704 01 1692X	Round	Momentary Lighted	**14.61**
50F7289	704 01 1694X	Round	Momentary Lighted	**14.61**
50F7290	704 01 1695X	Round	Momentary Lighted	**14.61**
50F7291	704 02 1697X	Round	Momentary Unlighted	**8.71**
50F7293	704 01 5694X	Round	Maintained Lighted	**15.62**
50F7294	704 01 5695X	Round	Maintained Lighted	**15.62**
50F7298	704 03 1162X	Square	Momentary Lighted	**16.63**
50F7299	704 03 1164X	Square	Momentary Lighted	**16.63**
50F7300	704 03 1165X	Square	Momentary Lighted	**16.63**
50F7301	704 03 3067X	Square	Momentary Unlighted	**10.73**
50F7302	704 03 5162X	Square	Maintained Lighted	**17.46**
50F7303	704 03 5164X	Square	Maintained Lighted	**17.46**
50F7304	704 03 5165X	Square	Maintained Lighted	**17.46**
50F7306	704 0002X	Round	Indicator Lighted	**12.64**
50F7308	704 0005X	Round	Indicator Lighted	**12.64**
50F7309	704 2002X	Square	Indicator Lighted	**14.37**
50F7311	704 2005X	Square	Indicator Lighted	**14.37**

(5089) (de51537)

04 SERIES TWO AND THREE POSITION KEYLOCK AND ROTARY LEVER ACTUATORS



Ratings, approvals same as **04 series** pushbuttons. Keylock (KLK) and rotary selector actuators (SEL) come in round and square bezel styles. Keylocks include 2 keys and lever actuator is black. Key removable (Rmv) and position codes are left (L), center (C), and right (R). Mount in 22.5mm (0.875″) round hole. ISO 9001 certified. *Order contact blocks separately on this page.*

TWO-POSITION ACTUATORS

Stock No.	Type	Description	1-24
50F7325	704 1210X	Round KLK Maintained Key Rmv L	**33.11**
50F7326	704 3410X	Square KLK Maintained Key Rmv L	**33.11**
50F7327	704 4100X	Round SEL Maintained L/R	**15.39**
50F7328	704 5100X	Square SEL Maintained L/R	**15.39**
50F7329	704 1220X	Round KLK Maintained Key Rmv L/R	**33.11**

THREE-POSITION ACTUATORS

50F7331	704 1130X	Round KLK Maintained Key Rmv L/C/R	**33.11**
50F7332	704 3330X	Square KLK Maintained Key Rmv L/C/R	**33.11**
50F7333	704 4020X	Round SEL Maintained L/C/R	**15.39**
50F7334	704 5020X	Square SEL Maintained L/C/R	**15.39**
50F7335	704 1150X	Round KLK Momentary Key Rmv C	**33.11**
50F7336	704 4040X	Round SEL Momentary L/R	**15.39**
50F7337	704 1170X	Round KLK Maintained L/C Momentary R, Key Rmv L	**33.11**

(5091) (de51539)

04 SERIES CONTACT BLOCKS

Feature hard silver contacts; available in 10-amp snap action (SA) or slow make/slow break (SM) configurations. Offer screw terminations, and up to four contact blocks may be connected to any actuator. ISO 9001 certified. Gold and palladium contacts also available, *contact your local Newark sales office.*

Stock No.	Type	Contacts	Action	1-24
50F7315	704 9001	1 N.O.	SA	**5.59**
50F7316	704 9002	1 N.C.	SA	**5.59**
50F7317	704 9003	2 N.O.	SA	**8.17**
50F7318	704 9004	2 N.C.	SA	**8.17**
50F7319	704 9005	1 N.O./1 N.C.	SA	**8.17**
50F7323	704 9101	1 N.O.	SM	**5.59**
50F7324	704 9102	1 N.C.	SM	**5.59**
50F7320	704 9103	2 N.O.	SM	**8.17**
50F7321	704 9104	2 N.C.	SM	**8.17**
50F7322	704 9105	1 N.O./1 N.C.	SM	**8.17**

04 SERIES ACCESSORIES

Stock No.	Type	Description	1-24
50F7313	704 9607	Round Panel Plug	**2.24**
50F7314	704 9625	Legend Plate, 42 x 42mm	**1.95**
52F6443	704-963.6	Legend Plate, 60mm diameter	**6.23**
66F9750	704-9500	Lamp Holder, Screw Terminals	**5.38**

(5092) (de51540)

61 SERIES 16mm "FOOLPROOF" EMERGENCY STOP PUSHBUTTON SWITCH

Series 61 E-Stop pushbutton w/ legend plate

"Foolproof" E-Stop switches prevent the teasing of the pushbutton actuator. Stay in "off" maintained position when actuated and can only be released when turned in direction of arrows. Includes 6A/250VAC contact block. Mounts in 16mm (⅝″) round hole. **61 series** enclosures meet NEMA 4 and 13, EN418 Directive and IP65 specifications.

PUSHBUTTON SWITCHES

Stock No.	Type	Description	1-24
95F7140	61-344.0414-511LX	SPST, N.C. Contacts	**51.82**
95F7141	61-344-0415-511LX	DPST, N.C. Contacts	**55.80**

EMERGENCY STOP PUSHBUTTON ENCLOSURE

95F7142	61-948.04	Encl. 65 x 65 x 51mm	**11.41**
95F7143	61-948.18	Cable Connector	**1.69**

EMERGENCY STOP LEGEND PLATE

95F7144	61-997.02	Yellow, 43mm diameter	**6.22**

(5135) (ne02475)

04 SERIES 22.5mm E-STOP PUSHBUTTON SWITCH

Stays in "off" position when actuated and can only be released when twisted in direction of arrows. Includes red actuator cap. Mounts in 22.5mm round hole. Meets the EN418 Directive. *Order SM contact blocks on this page and legend plate separately below.*

Stock No.	Type	Description	1-24
52F6442	704-0642X	Twist release actuator, white arrows	**22.72**
01F948	704-944.33	Enclosure	**17.55**
95F7143	61-948.18	Cable Connector	**1.69**

SERIES 04 LEGEND PLATE

52F6443	704-963.6	60mm diameter	**6.23**

(5153) (ne07124)

"EMERGENCY STOP" PUSHBUTTON ACTUATOR

Actuators stay in "off" maintained position when actuated and can only be released when twisted in direction of arrows. Include red mushroom cap with arrows. **Type 704-0742LX** includes a yellow, "emergency stop" legend plate. Mount in 0.875″ (22.5) round hole. *To assure separation in an emergency, order slow make/break contact blocks above.* ISO 9001 certified.

Stock No.	Type	Shroud	1-24
98F9617	704-0742	Plastic	**18.03**
50F7339	704 0742LX	Plastic	**29.41**
98F9504	704-0752	Metal	**19.04**

(5090) (de51538)

16mm PUSHBUTTON SWITCHES

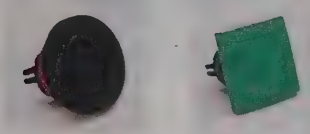
16mm SWITCH SUBASSEMBLY COMPONENTS

Nonilluminated Pushbutton Operators

Illuminated Pushbutton Operators

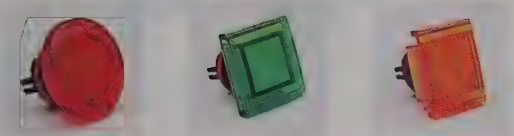
Pilot Light Operators

LED Lamp



Large Buttons

Standard Buttons



Large Lenses

Standard Lenses

DPDT, momentary action.

OPERATOR BASES

Stock No.	Type	Description	Each	2-5	6-10
96F4025	AB6M-M200	Nonilluminated, Round	7.86	7.74	7.50
96F4026	AB6Q-M200	Nonilluminated, Square	7.86	7.74	7.50
96F4027	AB6H-M200	Nonilluminated, Rectangular	7.86	7.74	7.50
96F4028	AL6M-M200	Illuminated, Round	6.74	6.64	6.43
96F4029	AL6Q-M200	Illuminated, Square	6.74	6.64	6.43
96F4030	AL6H-M200	Illuminated, Rectangular	6.74	6.64	6.43
96F4031	AL6M-P00	Pilot Light, Round	1.75	1.72	1.67
96F4032	AL6Q-P00	Pilot Light, Square	1.75	1.72	1.67
96F4033	AL6H-P00	Pilot Light, Rectangular	1.75	1.72	1.67

BUTTONS

Waterproof and oil-tight.

96F4034	AB6M-BK2-B	Std. Size, Black, Round	2.44	2.39	2.32
96F4035	AB6M-BK2-G	Std. Size, Green, Round	2.44	2.39	2.32
96F4036	AB6M-BK2-R	Std. Size, Red, Round	2.44	2.39	2.32
96F4037	AB6Q-BK2-B	Std. Size, Black, Square	2.44	2.39	2.32
96F4038	AB6Q-BK2-G	Std. Size, Green, Square	2.44	2.39	2.32
96F4039	AB6Q-BK2-R	Std. Size, Red, Square	2.44	2.39	2.32
96F4043	AB6M-BK2-MB	Lg. Size, Black, Round	3.91	3.84	3.73
96F4044	AB6M-BK2-MG	Lg. Size, Green, Round	3.91	3.84	3.73
96F4045	AB6M-BK2-MR	Lg. Size, Red, Round	3.91	3.84	3.73

CONTINUED

16mm SWITCH SUBASSEMBLY COMPONENTS (CONT.)

LENSES

For illuminated pushbuttons and pilot lights. Waterproof and oil-tight.

96F4052	AL6M-LK2-A	Std. Size PB, Amber, Round	2.41	2.36	2.29
96F4053	AL6M-LK2-GD	Std. Size PB, Green, Round	2.41	2.36	2.29
96F4054	AL6M-LK2-R	Std. Size PB, Red, Round	2.41	2.36	2.29
96F4055	AL6Q-LK2-A	Std. Size PB, Amber, Square	2.41	2.36	2.29
96F4056	AL6Q-LK2-GD	Std. Size PB, Green, Square	2.41	2.36	2.29
96F4057	AL6Q-LK2-R	Std. Size PB, Red, Square	2.41	2.36	2.29
96F4058	AL6H-LK2-A	Std. Size PB, Amber, Rectangular	2.41	2.36	2.29
96F4059	AL6H-LK2-GD	Std. Size PB, Green, Rectangular	2.41	2.36	2.29
96F4060	AL6H-LK2-R	Std. Size PB, Red, Rectangular	2.41	2.36	2.29
96F4063	AL6M-LK2-MR	Lg. Size PB, Red, Round	3.91	3.84	3.73
96F4070	AL6M-LK3-A	Std. Pilot Light, Amber, Round	2.41	2.36	2.29
96F4071	AL6M-LK3-GD	Std. Pilot Light, Green, Round	2.41	2.36	2.29
96F4072	AL6M-LK3-R	Std. Pilot Light, Red, Round	2.41	2.36	2.29
96F4073	AL6Q-LK3-A	Std. Pilot Light, Amber, Square	2.41	2.36	2.29
96F4075	AL6Q-LK3-R	Std. Pilot Light, Red, Square	2.41	2.36	2.29
96F4077	AL6H-LK3-GD	Std. Pilot Light, Green, Rectangular	2.41	2.36	2.29
96F4078	AL6H-LK3-R	Std. Pilot Light, Red, Rectangular	2.41	2.36	2.29

LED LAMPS

96F4079	LAPD-6A	6VDC, 30mA, Amber	2.72	2.67	2.59
96F4080	LAPD-6G	6VDC, 30mA, Green	2.72	2.67	2.59
96F4081	LAPD-6R	6VDC, 30mA, Red	2.72	2.67	2.59
96F4082	LAPD-1A	12VDC, 20mA, Amber	2.72	2.67	2.59
96F4083	LAPD-1G	12VDC, 20mA, Green	2.72	2.67	2.59
96F4084	LAPD-1R	12VDC, 20mA, Red	2.72	2.67	2.59
96F4085	LAPD-2A	24VDC, 10mA, Amber	2.72	2.67	2.59
96F4086	LAPD-2G	24VDC, 10mA, Green	2.72	2.67	2.59
96F4087	LAPD-2R	24VDC, 10mA, Red	2.72	2.67	2.59

(3412) (de02327)

16mm SELECTOR, KEYLOCK AND PUSHLOCK SWITCHES

Keylock Selector Switch

Selector Switch

Pushlock/Turn Reset Pushbutton

Compact units fit into 0.630″ (16.00) mounting holes and have back panel mounting depth of less than 1.25″ (31.75). Contacts can switch 1A maximum down to a low-level 1 mA AC/DC, 5V. Contacts: gold-clad silver. Meet IEC enclosure IP65 classification as waterproof and oil-tight. Solder tab terminals. All are DPDT. UL recognized, CSA certified.

SELECTOR SWITCHES

Stock No.	Type	Description	Each	2-5
96F4089	AS6M-2Y2P	90° 2-Pos. Round	17.69	17.41
96F4090	AS6M-3Y2P	45° 3-Pos. Round	17.69	17.41
96F4091	AS6Q-2Y2P	90° 2-Pos. Square	17.69	17.41
96F4093	AS6H-2Y2P	90° 2-Pos. Rectangular	17.69	17.41
96F4094	AS6H-3Y2P	45° 3-Pos. Rectangular	17.69	17.41

KEYLOCK SWITCHES

96F4095	AS6M-2K2PA	90° 2-Pos. Round	21.33	20.99
96F4096	AS6M-3K2PA	45° 3-Pos. Round	22.37	22.03
96F4097	AS6Q-2K2PA	90° 2-Pos. Square	21.33	20.99
96F4099	AS6H-2K2PA	90° 2-Pos. Rectangular	21.33	20.99
96F4100	AS6H-3K2PA	45° 3-Pos. Rectangular	22.37	22.03

PUSHLOCK/TURN RESET PUSHBUTTON

96F4088	AB6M-V2P-R	Round, Red	17.63	17.35

(3413) (de02328)

NEWARK CARRIES A WIDE RANGE OF IDEC PRODUCTS NOT LISTED HERE.
CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR ALL YOUR IDEC SWITCHING NEEDS.

(31690) (ne31690)

DOUBLE-INSULATED 22mm SWITCHES

22mm NON-ILLUMINATED OPERATORS

Flush Head

Extended Head

Round, plastic, black bezel pushbutton operators are available in a variety of styles and colors. NOTE: Complete assembly requires a contact block. *See "mounting Bases with Contact Blocks" on this page for configuration.* UL listed, CSA certified and CE compliant.

Stock No.	Type	Description	Each	2-5
96F3394	ZA2BA2	Flush Head, Black	7.95	7.65
96F3395	ZA2BA3	Flush Head, Green	7.95	7.65
96F3396	ZA2BA4	Flush Head, Red	7.95	7.65
96F3402	ZA2BL4	Extended Head, Red	7.95	7.65

(3432) (de02662)

22mm BOOTED HEAD OPERATORS

Silicon booted head operators are available in a variety of colors. *See "mounting Bases with Contact Blocks" on this page for configuration.* UL listed, CSA certified CE compliant.

Stock No.	Type	Description	Each	2-5
16F3940	ZA2-BP2	Silicon Booted Head, Black	19.77	18.72
16F3941	ZA2-BP3	Silicon Booted Head, Green	19.77	18.72
16F3942	ZA2-BP4	Silicon Booted Head, Red	19.77	18.72

(3573) (ne08071)

KEYLOCK SWITCH OPERATORS

Round, plastic, black bezel keylock switches are available in 2- or 3-position configurations. Action: Maintained with a variety of key withdrawal positions. NOTE: Complete assembly requires a contact block. *See "mounting Bases with Contact Blocks" on this page for configuration.* UL listed, CSA certified and CE compliant.

Stock No.	Type	Description	Each	2-5
96F3424	ZA2-BG2	2-Position, Key Removes Left	50.63	47.95
96F3425	ZA2-BG4	2-Position, Key Removes Lt. or Rt.	50.63	47.95
96F3426	ZA2-BG0	3-Position, Key Removes All Pos.	50.63	47.95
96F3427	ZA2-BG3	3-Position, Key Removes Center	50.63	47.95

(3435) (de02665)

MOUNTING BASES WITH CONTACT BLOCKS

Contact blocks are self-wiping with nickel-silver tips, rated 10A at 600VAC continuous. Temperature range: –25°C to +70°C. Screw and captive cable clamp terminals. UL listed, CSA certified and CE compliant.

Stock No.	Type	Description	Each	2-5
96F3410	ZA2-BZ101	1 Block, NO	13.40	12.88
96F3411	ZA2-BZ102	1 Block, NC	13.40	12.88
96F3412	ZA2-BZ103	2 Blocks, 2 NO	21.64	20.50
96F3413	ZA2-BZ104	2 Blocks, 2 NC	21.64	20.50
96F3414	ZA2-BZ105	2 Blocks, 1 NO, 1 NC	21.64	20.50
97F8348	ZB2-BE101	1 NO Add-On	9.98	9.60
97F8349	ZB2-BE102	1 NC Add-On	9.98	9.60

(3436) (de02666)

NEWARK STOCKS MORE PRODUCTS THAN ANY OTHER ELECTRONICS DISTRIBUTOR!

22mm MUSHROOM PUSHBUTTON OPERATORS

30mm

60mm

Round, plastic, black bezel mushroom operators are available with 30mm, 40mm, and 60mm diameter heads in red. Momentary and push/pull available. NOTE: Complete assembly requires a contact block. **Type ZA2-BS54** is turn-to-release. *See "mounting Bases with Contact Blocks" on this page for configuration.* UL listed, CSA certified and CE compliant.

Stock No.	Type	Description	Each	2-5
96F3415	ZA2BC44	30mm, Red	17.93	17.24
96F3417	ZA2BR4	60mm, Red	17.93	17.24
96F3418	ZA2BT4	40mm, Red, Push/Pull	22.22	21.04
96F3419	ZA2BX4	60mm, Red, Push/Pull	22.22	21.04
16F3945	ZA2-BS54	40mm, Red, Turn to Release	44.44	42.08

(3433) (de02663)

22mm SELECTOR SWITCHES

Round, plastic, black bezel selector switches are available in 2- or 3-position configurations, maintained or spring return. NOTE: Complete assembly requires a contact block. *See "mounting Bases with Contact Blocks" on this page for configuration.* UL listed, CSA certified and CE compliant.

Stock No.	Type	Description	Each	2-5
96F3420	ZA2BD2	2-Pos., Maintained	14.66	14.09
96F3422	ZA2BD3	3-Pos., Maintained	14.66	14.09
96F3423	ZA2BD5	3-Pos., Return to Center from Lt. or Rt.	17.93	17.24

(3434) (de02664)

22mm PILOT LIGHTS

Standard Lens

Bulb

Pilot lights have plastic lenses attached to round bezels. *Order individual pilot light heads, bulbs, and bezel adapter below.* NOTE: Complete assembly requires pilot light base with bulb included. **ZA2-BV6** is a pilot light base without a bulb. UL listed, CSA certified and CE compliant.

PILOT LIGHTS

Stock No.	Type	Description	Each	2-5
96F3387	ZA2BV01	Standard, White	4.68	4.50
96F3388	ZA2BV03	Standard, Green	4.68	4.50
96F3389	ZA2BV04	Standard, Red	4.68	4.50
96F3390	ZA2BV05	Standard, Amber	4.68	4.50
96F3391	ZA2BV06	Standard, Blue	4.68	4.50
96F3392	ZA2BV07	Standard, Clear	4.68	4.50
96F3434	ZA2BV6	Lamp Holder Block For Pilot Light	21.64	20.50

INCANDESCENT BULBS

96F3429	DL1CB006	6V, 1.5W	6.69	6.43
96F3430	DL1CE012	12V, 2.6W	6.69	6.43
96F3431	DL1CE024	24V, 2.6W	6.69	6.43
96F3433	DL1CE130	130, 2.6W	6.69	6.43

BEZEL ADAPTER

96F3428	ZA2BZ31	Square Bezel Adapter (Black)	1.06	1.02

*For use with round, black plastic bezel operators for square aspect.

(3437) (de02667)

LEGEND PLATES

Nameplates, 30 x 40 mm, white text on each.

Stock No.	Type	Description	Each	2-5
16F3946	ZA2B-Z32303	Black Field, "START"	2.03	1.95
16F3947	ZA2B-Z32304	Black Field, "STOP"	2.03	1.95
16F3948	ZA2B-Z32330	Red Field, "EMERGENCY STOP"	2.03	1.95

(3574) (ne08072)

22mm SWITCHES AND PILOT LIGHTS

22mm NON-ILLUMINATED OPERATORS

Flush Head

Extended Head

Guarded Head

Round chrome bezel pushbutton operators are available in a variety of head styles and colors. Complete assembly requires the purchase of contact blocks. See *"Mounting Base With Contact Block" on this page for contact configuration.* UL listed, CSA certified, CE compliant.

Stock No.	Type	Description	Each	2-5
96F3328	ZB2BA1	Flush Head, White	7.95	7.65
96F3329	ZB2BA2	Flush Head, Black	7.95	7.65
96F3330	ZB2BA3	Flush Head, Green	7.95	7.65
96F3331	ZB2BA4	Flush Head, Red	7.95	7.65
96F3332	ZB2BA5	Flush Head, Yellow	7.95	7.65
96F3334	ZB2BA333	Flush Head, Green-START	11.37	10.93
96F3336	ZB2BA434	Flush Head, Red-STOP	11.37	10.93
16F4034	ZB2-BP2	Silicone Booted Head, Black	19.77	18.72
16F4035	ZB2-BP3	Silicone Booted Head, Green	19.77	18.72
96F3342	ZB2BA16	Guarded Head, White	19.77	18.72
96F3343	ZB2BA26	Guarded Head, Black	19.77	18.72
96F3344	ZB2BA36	Guarded Head, Green	19.77	18.72
96F3345	ZB2BA46	Guarded Head, Red	19.77	18.72
96F3349	ZB2BL2	Extended Head, Black	7.95	7.65
96F3350	ZB2BL3	Extended Head, Green	7.95	7.65
96F3351	ZB2BL4	Extended Head, Red	7.95	7.65

(3419) (de02567)

22mm MUSHROOM OPERATORS

40mm

60mm

Round chrome bezel mushroom operators are available with 40mm or 60mm diameter heads in black or red. Momentary and push-pull available. Complete assembly requires the purchase of contact blocks. *See "Mounting Base With Contact Blocks" on this page for contact configuration.* UL listed, CSA certified, CE compliant.

Stock No.	Type	Description	Each	2-5
96F3361	ZB2-BC2	Spring Return, 40mm Black	17.93	17.24
96F3362	ZB2-BC4	Spring Return, 40mm Red	17.93	17.24
96F3363	ZB2-BR2	Spring Return, 60mm Black	19.77	18.72
96F3364	ZB2-BR4	Spring Return, 60mm Red	19.77	18.72
97F8014	ZB2-BS54	Turn to Release, 40mm Red	44.44	42.08
96F3365	ZB2-BT2	Push-Pull Maintained, 40mm Black	22.81	21.61
96F3366	ZB2-BT4	Push-Pull Maintained, 40mm Red	22.81	21.61
16F4039	ZB2-BT43	Push-Pull Maintained, 40mm Red*	30.86	29.23
96F3368	ZB2-BX4	Push-Pull Maintained, 60mm Red	25.96	24.58

* Marked: "Emergency Stop."
(3420) (de02568)

22mm SELECTOR SWITCH OPERATORS

Round chrome bezel selector switches are available in two- or three-position configurations, maintained or spring-return action. Complete assembly requires the purchase of contact blocks. *See "Mounting Base With Contact Blocks" on this page for contact configuration. Extended lever also available. Contact your local Newark sales office.* UL listed, CSA certified.

2-POSITION

Stock No.	Type	Description	Each	2-5
96F3369	ZB2BD2	Maintained	14.66	14.09
96F3370	ZB2BD4	Spring Return	17.93	17.24
		3-POSITION		
96F3371	ZB2BD3	Maintained	14.66	14.09
96F3372	ZB2BD5	Spring Return to Center	17.93	17.24
96F3373	ZB2BD8	Left Maintained, Right Return to Center	17.93	17.24

(3421) (de02569)

KEY SWITCH OPERATORS

Round chrome bezel available in maintained or spring-return action with a variety of key withdrawal positions. Complete assembly requires the purchase of contact blocks. *See "Mounting Base With Contact Blocks" on this page for contact configuration.* UL listed, CSA certified. *2-Position maintained **3-Position maintained.

Stock No.	Type	Description	Each	2-5
96F3375	ZB2-BG2	*Key Withdraws from Left	50.63	47.95
96F3376	ZB2-BG4	*Key Withdraws from Left or Right	50.63	47.95
96F3377	ZB2-BG3	**Key Withdraws from Center	50.63	47.95
96F3378	ZB2-BG5	**Key Withdraws from Left and Right	50.63	47.95
96F3379	ZB2-BG0	**Key Withdraws from All Positions	50.63	47.95

(3422) (de02570)

22mm PILOT LIGHT HEADS (LENS PLUS BEZEL)

Standard Lens

Pilot Light Base

Plastic lenses attached to round bezels. Complete assembly requires pilot light base with bulb included. *For individual bulbs, see "Bulbs" on this page.* UL listed, CSA certified, CE compliant.

Stock No.	Type	Description	Each	2-5
96F3381	ZB2-BV03	Green, Standard Lens	4.68	4.50
96F3382	ZB2-BV04	Red, Standard Lens	4.68	4.50
96F3383	ZB2-BV05	Yellow, Standard Lens	4.68	4.50
96F3384	ZB2-BV06	Blue, Standard Lens	4.68	4.50
96F3385	ZB2-BV07	Clear, Standard Lens	4.68	4.50
96F3386	ZB2-BV6	Base, w/screw, captive cable clamp*	21.64	20.50
97F8346	ZB2-BV6-120V	Base w/120V bulb	27.72	26.25
97F8347	ZB2-BV6-24V	Base w/24V bulb	27.72	26.25

*No bulb.
(3463) (de04418)

BULBS

Incandescent bulbs for use in **ZB2** series pilot lights *on this page.*

Stock No.	Type	Description	Each	2-5
96F3429	DL1CB006	6V, 1.5W	6.69	6.43
96F3431	DL1CE024	24V, 2.6W	6.69	6.43
96F3433	DL1CE130	130V, 2.6W	6.69	6.43

(3464) (de04419)

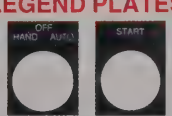
MOUNTING BASE WITH CONTACT BLOCKS

Self-wiping with nickel silver tips rated 10A at 600VAC continuous. Temperature range: –25°C to +70°C. Screw and captive cable clamp terminals. UL listed, CSA certified.

Stock No.	Type	Description	Each	2-5
96F3356	ZB2-BZ101	1 Contact Block, NO	13.40	12.88
96F3357	ZB2-BZ102	1 Contact Block, NC	13.40	12.88
96F3358	ZB2-BZ103	2 Contact Blocks, 2 NO	21.64	20.50
96F3359	ZB2-BZ104	2 Contact Blocks, 2 NC	21.64	20.50
96F3360	ZB2-BZ105	2 Contact Blocks, 1 NO 1 NC	21.64	20.50
		ADDITIONAL CONTACT BLOCKS		
97F8348	ZB2-BE101	1 NO Add-On	9.98	9.60
97F8349	ZB2-BE102	1 NC Add-On	9.98	9.60

(3423) (de02571)

LEGEND PLATES



Stock No.	Type	Description	Each	2-5
16F4040	ZB2BY2303	30 x 40 mm Blk. field, "START"	2.03	1.95
16F4041	ZB2BY2304	30 x 40 mm Blk. field, "STOP"	2.03	1.95
16F4042	ZB2BY2330	30 x 40 mm Blk. field, "EMERGENCY START"	2.03	1.95
16F4043	ZB2BY2366	30 x 40 mm Blk. field, "START STOP"	2.03	1.95
16F4044	ZB2BY2387	30 x 40 mm Blk. field, "HAND OFF AUTO"	2.03	1.95
16F4045	ZB2BY8330	90mm Dia., Yel. field "EMERGENCY STOP"	2.03	1.95

(3587) (ne08170)

22mm PCB SWITCHES AND PILOT LIGHTS

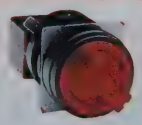
22mm PCB SELECTOR SWITCHES

Round PC board SPDT, DPDT, and 3PDT selector switches with gold contacts. UL recognized, CSA certified, and CE compliant.

Stock No.	Type	Position	Circuit	Each	2-5
16F5332	LW1S-2C1V	90°/2-Position	SPDT	37.94	35.67
16F5333	LW1S-2C2V	90°/2-Position	DPDT	45.16	42.46
16F5334	LW1S-2C3V	90°/2-Position	3PDT	52.36	49.23
16F5335	LW1S-3C2V	45°/3-Position	DPDT	45.16	42.46
16F5336	LW1S-3C3V	45°/3-Position	3PDT	52.36	49.23

(3599) (ne08814)

22mm ROUND ILLUMINATED PCB SELECTOR SWITCHES



SPDT, DPDT and 3PDT round illuminated switches with gold contacts. Choice of LED or incandescent lamped versions. Available in 6 lens colors, indicated by type number suffix: **R** = red, **GD** = green (LED), **GL** = green (incandescent), **A** = amber, **Y** = yellow, **W** = White. UL recognized, CSA certified, and CE compliant. *Order LED lamps separately on this page. Order incandescent lamps separately on this page.*

Stock No.	Type	Position	Circuit	Each	2-5
16F5390	LW1F-2C10VR	90° 2-position	SPDT	45.12	42.42
16F5391	LW1F-2C10VGD	90° 2-position	SPDT	45.12	42.42
16F5392	LW1F-2C10VGL	90° 2-position	SPDT	45.12	42.42
16F5393	LW1F-2C10VA	90° 2-position	SPDT	45.12	42.42
16F5394	LW1F-2C10VW	90° 2-position	SPDT	45.12	42.42
16F5399	LW1F-2C20VW	90° 2-position	DPDT	52.34	49.21
16F5404	LW1F-2C30VW	90° 2-position	3PDT	54.89	50.91
16F5409	LW1F-3C20VW	45° 3-position	DPDT	52.34	49.21

(3602) (ne08817)

22mm LED AND INCANDESCENT PCB PILOT LIGHTS

LW1P (Round)

LW1P (Square)

Available in round and square versions in a range of colors. UL recognized, CSA certified, and CE compliant.

Stock No.	Type	Style	Lens Color	Each	2-5
16F5350	LW1P-1C00VR	Round	Red	18.56	17.42
16F5351	LW1P-1C00VGD	Round	Green (LED)	18.56	17.42
16F5352	LW1P-1C00VGL	Round	Green (Incd.)	18.56	17.42
16F5353	LW1P-1C00VA	Round	Amber	18.56	17.42
16F5354	LW1P-1C00VW	Square	White	18.56	17.42
16F5355	LW2P-1C00VR	Square	Red	18.56	17.42
16F5356	LW2P-1C00VGD	Square	Green (LED)	18.56	17.42
16F5357	LW2P-1C00VGL	Square	Green (Incd.)	18.56	17.42
16F5358	LW2P-1C00VA	Square	Amber	18.56	17.42
16F5359	LW2P-1C00VW	Square	White	18.56	17.42

(3600) (ne08815)

LED LAMPS

Contains a current-limiting resistor and a protection diode. Available in 24V and 120V versions in a range of colors, indicated by type number suffix: **A** = amber, **G** = green, **R** = red, **W** = white, **Y** = yellow. Also available in blue, contact Newark.

Stock No.	Type	Description	Each	2-5
16F5345	LSPD-2A	24V AC/DC ±10%	5.73	5.48
16F288	LSPD2G	24V AC/DC ±10%	5.73	5.48
66F4216	LSPD-2R	24V AC/DC ±10%	5.73	5.48
66F4217	LSPD2-W	24V AC/DC ±10%	5.73	5.48
16F5349	LSPD-2Y	24V AC/DC ±10%	5.73	5.48
16F286	LSPD120A	120V AC ±10%	7.01	6.71
16F5341	LSPD-120G	120V AC ±10%	7.01	6.71
16F287	LSPD120R	120V AC ±10%	7.01	6.71
16F5343	LSPD-120W	120V AC ±10%	7.01	6.71
16F5344	LSPD-120Y	120V AC ±10%	7.01	6.71

(3604) (ne08819)

1 WATT INCANDESCENT LAMPS

Base BA9S/13. Available in 6V, 12V, and 24V versions.

Stock No.	Type	Description	Each	2-5
16F5337	IS-6	6V AC/DC ±5%	3.20	3.02
16F283	IS12	12V AC/DC ±10%	3.20	3.02
66F4214	IS-24	24V AC/DC ±10%	3.20	3.02

(3603) (ne08818)

22mm ROUND FLUSH PCB PUSHBUTTON SWITCHES

SPDT and 3PDT PC board round pushbutton switches with gold contacts, available in momentary and maintained versions in 6 colors. Color is indicated by type number suffix: **B** = black, **R** = red, **G** = green, **Y** = yellow, **S** = blue, **W** = white. UL recognized, CSA certified, and CE compliant. *Order LED lamps separately on this page. Order incandescent lamps separately on this page*

Stock No.	Type	Operation	Circuit	Each	2-5
16F5302	LW1B-M1C1VB	Momentary	SPDT	22.57	21.22
16F5303	LW1B-M1C1VG	Momentary	SPDT	22.57	21.22
16F5304	LW1B-M1C1VR	Momentary	SPDT	22.57	21.22
16F5305	LW1B-M1C1VW	Momentary	SPDT	22.57	21.22
16F5306	LW1B-M1C1VY	Momentary	SPDT	22.57	21.22
16F5312	LW1B-M1C3VB	Momentary	3PDT	36.99	34.78
16F5313	LW1B-M1C3VG	Momentary	3PDT	36.99	34.78
16F5314	LW1B-M1C3VR	Momentary	3PDT	36.99	34.78
16F5315	LW1B-M1C3VW	Momentary	3PDT	36.99	34.78
16F5316	LW1B-M1C3VY	Momentary	3PDT	36.99	34.78
16F5317	LW1B-A1C1VB	Maintained	SPDT	22.57	21.22
16F5318	LW1B-A1C1VG	Maintained	SPDT	22.57	21.22
16F5319	LW1B-A1C1VR	Maintained	SPDT	22.57	21.22
16F5320	LW1B-A1C1VW	Maintained	SPDT	22.57	21.22
16F5321	LW1B-A1C1VY	Maintained	SPDT	22.57	21.22
16F5327	LW1B-A1C3VB	Maintained	3PDT	40.45	38.03
16F5328	LW1B-A1C3VG	Maintained	3PDT	40.45	38.03
16F5329	LW1B-A1C3VR	Maintained	3PDT	40.45	38.03
16F5330	LW1B-A1C3VW	Maintained	3PDT	40.45	38.03
16F5331	LW1B-A1C3VY	Maintained	3PDT	40.45	38.03

(3598) (ne08813)

22mm ROUND ILLUMINATED PCB PUSHBUTTON SWITCHES

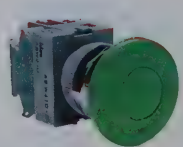
Round Illuminated SPDT and DPDT pushbutton switches feature momentary operation and gold contacts. Choice of LED or incandescent lamped versions. Lens color indicated by type number suffix : **R** = red, **GD** = green (LED), **GL** = green (Incandescent), **A** = amber, **Y** = yellow (LED only), **W** = white. UL recognized, CSA certified, and CE compliant. *Order LED lamps separately on this page or incandescent lamps separately on this page.*

Stock No.	Type	Circuit	Each	2-5
16F5360	LW1L-M1C10VR	SPDT	27.55	25.90
16F5361	LW1L-M1C10VGL	SPDT	27.55	25.90
16F5362	LW1L-M1C10VGD	SPDT	27.55	25.90
16F5363	LW1L-M1C10VA	SPDT	27.55	25.90
16F5364	LW1L-M1C10VW	SPDT	27.55	25.90
16F5368	LW1L-M1C20VA	DPDT	34.75	32.67

(3601) (ne08816)

22mm EMERGENCY STOP MUSHROOM SWITCHES

Turn Reset



Push Pull

Key Reset

Screw terminal units include button, operator, contact blocks. Caps included, Red only. UL listed, CSA certified, and CE compliant.

Stock No.	Type	Mushroom Style	Contacts	Each	2-5
96F3654	AVW410-R	Turn reset, 1.58″ red	1NO	52.98	49.86
96F3655	AVW401-R	Turn reset, 1.58″ red	1NC	52.98	49.86
96F3656	AVW411-R	Turn reset, 1.58″ red	1NO-1NC	62.42	58.75
96F3657	AYW410-R	Push-pull, 1.58″ red	1NO	49.23	46.33
96F3660	AYW401-R	Push-pull, 1.58″ red	1NC	49.23	46.33
96F3663	AYW411-R	Push-pull, 1.58″ red	1NO-1NC	57.48	54.09
96F3667	AXW401-R	Key reset, 1.58″ red	1NC	70.28	66.15
96F3668	AXW411-R	Key reset, 1.58″ red	1NO-1NC	78.92	74.28

(3428) (de02658)

22mm IEC STYLE SWITCHES

22mm NON-ILLUMINATED PUSHBUTTON SWITCHES

Round Flush Head

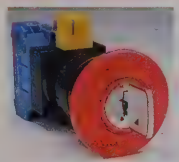
Square Extended Head

HW series 22mm non-illuminated pushbutton switches are rated 600VAC/DC, 10A. Operating temperature range: –25°C to +50°C. Mechanical life: 5,000,000 operations. All units listed are momentary action. Contact characteristics: slow break, 1 N.O. or 1 N.C. Meets IEC IP65 and NEMA 4/4x/13 ratings. Units listed are red. Also available in black, green, blue, white, yellow and mushroom head; *contact your local Newark sales office*. UL listed, CSA certified, CE compliant, and TUV approved.

Stock No.	Type	Description	Contact Arrangement	Each
91F5579	HW1B-M1F10-R	Round, Flush Head	1 N.O.	15.40
91F5580	HW1B-M1F11-R	Round, Flush Head	1 N.O.-1 N.C.	23.35
91F5581	HW1B-M2F10-R	Round, Extended Head	1 N.O.	15.14
91F5582	HW1B-M2F11-R	Round, Extended Head	1 N.O.-1 N.C.	23.35
91F5583	HW2B-M1F10-R	Square, Flush Head	1 N.O.	18.73
91F5584	HW2B-M1F11-R	Square, Flush Head	1 N.O.-1 N.C.	26.95
91F5585	HW2B-M2F10-R	Square, Extended Head	1 N.O.	19.08
91F5586	HW2B-M2F11-R	Square, Extended Head	1 N.O.-1 N.C.	27.30

(13028) (ne10344)

40mm EMERGENCY STOP SWITCHES



Pushlock Turn Reset

Pushlock Key Reset

HW series 40mm emergency stop switches have 40mm mushroom heads. Rated 600VAC/DC, 10A. Contact characteristics: slow break, 1 N.O. or 1 N.C. Meets IEC and NEMA 4/4x/13 ratings. UL listed, CSA certified; CE compliant, and TUV approved. IP65 Units with 1 N.O - N.C contact arrangement are also available; *contact your local Newark sales office.*

Stock No.	Type	Description	Contact Arrangement	Each
91F5639	HW1B-Y2F01-R	Push-Pull	1 N.C.	43.55
91F5640	HW1B-Y2F10-R	Push-Pull	1 N.O.	43.54
91F5642	HW1B-V4F01-R	Pushlock Turn Reset	1 N.C.	45.12
91F5643	HW1B-V4F10-R	Pushlock Turn Reset	1 N.O.	45.12
91F5645	HW1B-X4F01-R	Pushlock Key Reset	1 N.C.	62.82

(13235) (ne10345)

EMERGENCY STOP STATION SWITCHES

Features base mount contact block. Contact arrangement: 1 N.O.-1 N.C. Meets IEC IP65 and NEMA 4/4x/13 ratings.

Stock No.	Type	Description	Each
91F5648	HW1X-BV411-R	Pushlock Turn Reset	69.38
91F5649	HW1X-BY411-R	Push-Pull	69.38
91F5650	HW1X-BX411-R	Pushlock Key Reset	90.72

(13236) (ne10346)

22mm SELECTOR SWITCHES

Knob Operated

Key Operated

HW series selector switches are rated 600VAC/DC, 10A. Mechanical life: 500,000 operations. Contact arrangement: 2 N.O. All units listed are maintained action. Meets IEC IP65 and NEMA 4/4x/13 ratings. UL listed, CSA certified, CE compliant, and TUV approved.

Stock No.	Type	Description	Each
91F5651	HW1S-2TF20	2-Position, Knob Operated	28.50
91F5652	HW1S-3TF20	3-Position, Knob Operated	28.50
91F5653	HW1K-2AF20	2-Position, Key Operated	56.25
91F5654	HW1K--3AF20	3-Position, Key Operated	56.25

(13237) (ne10347)

22mm SWITCH ACCESSORIES

Stock No.	Type	Description	Each
91F5655	HWAV-27	Yellow Emergency Stop Name Plate	6.40
91F5657	HW9Z-KL1	Padlock Cover	19.21
91F5658	HW9Z-A30	22mm to 30mm Adapter	6.40

(15326) (ne10709)

22mm PILOT LIGHTS

Pilot Light w/ Transformer

Available in LED or incandescent versions with round flush, square flush, and domed lenses. Available colors: green, red, and amber. Meets IEC IP65 and NEMA 4/4x/13 ratings.

Stock No.	Type	Description	Each
LED			
91F5660	HW1P-1FQD-G-24V	Flush, Full Voltage 24VAC/DC, Green	25.62
91F5661	HW1P-1FQD-R-24V	Flush, Full Voltage 24VAC/DC, Red	25.62
91F5662	HW1P-1FQD-A-24V	Flush, Full Voltage 24VAC/DC, Amber	25.62
91F5663	HW1P-2FQD-G-24V	Dome, Full Voltage 24VAC/DC, Green	25.62
91F5664	HW1P-2FQD-R-24V	Dome, Full Voltage 24VAC/DC, Red	25.62
91F5665	HW1P-2FQD-A-24V	Dome, Full Voltage 24VAC/DC, Amber	25.62
91F5666	HW1P-1FH2D-G	Flush, 120VAC Transformer, Green	48.80
91F5667	HW1P-1FH2D-R	Flush, 120VAC Transformer, Red	48.80
91F5668	HW1P-1FH2D-A	Flush, 120VAC Transformer, Amber	48.80
91F5669	HW1P-2FH2D-G	Dome, 120VAC Transformer, Green	48.80
91F5670	HW1P-2FH2D-R	Dome, 120VAC Transformer, Red	48.80
91F5671	HW1P-2FH2D-A	Dome, 120VAC Transformer, Amber	48.80
INCANDESCENT			
91F5672	HW1P-1FQ-G-24V	Flush, Full Voltage 24VAC/DC, Green	21.60
91F5673	HW1P-1FQ-R-24V	Flush, Full Voltage 24VAC/DC, Red	21.60
91F5674	HW1P-1FQ-A-24V	Flush, Full Voltage 24VAC/DC, Amber	21.60
91F5675	HW1P-2FQ-G-24V	Dome, Full Voltage 24VAC/DC, Green	21.60
91F5676	HW1P-2FQ-R-24V	Dome, Full Voltage 24VAC/DC, Red	21.60
91F5677	HW1P-2FQ-A-24V	Dome, Full Voltage 24VAC/DC, Amber	21.60
91F5678	HW1P-1FH2-G	Flush, 120VAC Transformer, Green	44.83
91F5679	HW1P-1FH2-R	Flush, 120VAC Transformer, Red	44.83
91F5680	HW1P-1FH2-A	Flush, 120VAC Transformer, Amber	44.83
91F5681	HW1P-2FH2-G	Dome, 120VAC Transformer, Green	44.83
91F5682	HW1P-2FH2-R	Dome, 120VAC Transformer, Red	44.83
91F5683	HW1P-2FH2-A	Dome, 120VAC Transformer, Amber	44.83

(13242) (ne10348)

22mm ILLUMINATED PUSHBUTTON SWITCHES

Extended w/ Full Shroud

Square Head

Mushroom Head

HW series 22mm illuminated pushbutton switches are available with round, square, and mushroom heads in LED or incandescent lamp versions. Lamps rated 24VAC/DC full voltage. Operating temperature range: –25°C to +50°C. Mechanical life: 5,000,000 operations. All units listed are momentary action. Contacts arranged 1 N.O.-1 N.C. Contact characteristics: slow break, 1 N.O. or 1 N.C. Meets IEC IP65 and NEMA 4/4x/13 ratings. Units are UL listed, CSA certified, CE compliant, and TUV approved.

Stock No.	Type	Description	Each
91F5684	HW1L-M1F11QD-G-24	Round, Flush Head-Green LED	46.15
91F5685	HW1L-M1F11QD-R-24	Round, Flush Head-Red LED	46.15
91F5686	HW1L-M1F11QD-A-24	Round, Flush Head-Amber LED	46.15
91F5687	HW1L-M1F11Q-G-24V	Round, Flush Head-Green Incan.	42.14
91F5688	HW1L-M1F11Q-R-24V	Round, Flush Head-Red Incan.	42.14
91F5689	HW1L-M1F11Q-A-24V	Round, Flush Head-Amber Incan.	42.14
91F5690	HW1L-M2F11QD-G-24	Round, Ext. Head-Green LED	46.15
91F5691	HW1L-M2F11QD-R-24	Round, Ext. Head-Red LED	46.15
91F5692	HW1L-M2F11QD-A-24	Round, Ext. Head-Amber LED	46.15
91F5693	HW1L-M2F11Q-G-24V	Round, Ext. Head-Green Incan.	42.14
91F5694	HW1L-M2F11Q-R-24V	Round, Ext. Head-Red Incan.	42.14
91F5695	HW1L-M2F11Q-A-24V	Round, Ext. Head-Amber Incan.	42.14
91F5696	HW2L-M1F11QD-G-24	Square Head-Green LED	42.82
91F5697	HW2L-M1F11QD-R-24	Square Head-Red LED	42.82
91F5698	HW2L-M1F11QD-A-24	Square Head-Amber LED	42.82
91F5699	HW2L-M1F11Q-G-24V	Square Head-Green Incan.	38.85
91F5700	HW2L-M1F11Q-R-24V	Square Head-Red Incan.	38.85
91F5701	HW2L-M1F11Q-A-24V	Square Head-Amber Incan.	38.85
91F5702	HW1L-M4F11QD-G-24	Mushroom Head-Green LED	46.90
91F5703	HW1L-M4F11QD-R-24	Mushroom Head-Red LED	46.90
91F5704	HW1L-M4F11QD-A-24	Mushroom Head-Amber LED	46.90
91F5705	HW1L-M4F11Q-G-24V	Mushroom Head-Green Incan.	42.88
91F5706	HW1L-M4F11Q-R-24V	Mushroom Head-Red Incan.	42.88
91F5707	HW1L-M4F11Q-A-24V	Mushroom Head-Amber Incan.	42.88

(13247) (ne10349)

idec

22mm AND 30mm SWITCHES AND PILOT LIGHTS

TW SERIES 22mm PUSHBUTTON SWITCHES

Mushroom

Extended

Screw terminal units include button, operator, contact blocks. Mount 0.875″ (22.23) hole. Momentary action. Caps included (**R**=Red, **B**=Black, **G**=Green). UL listed, CSA certified, CE compliant. NEMA 1, 2, 3, 4, 4X, 5, 12, 13.

Stock No.	Type	Style	Contacts	Each	2-5
96F3627	ABW110B,G,R	Flush	1NO	18.41	17.32
96F3628	ABW101B,R,G	Flush	1NC	18.41	17.32
96F3629	ABW111B,R,G	Flush	1NO-1NC	27.04	25.44
96F3630	ABW210B,G,R	Extended	1NO	22.67	21.34
96F3631	ABW201B,G,R	Extended	1NC	18.41	17.32
96F3632	ABW211B,G,R	Extended	1NO-1NC	27.04	25.44
96F3633	ABW410-R	Mushroom	1NO	27.04	25.44
96F3634	ABW410-G	Mushroom	1NO	27.04	25.44
96F3636	ABW401-R	Mushroom	1NC	27.04	25.44
96F3639	ABW411-R	Mushroom	1NO-1NC	35.67	33.58

(3427) (de02657)

22mm PILOT LIGHTS

Dome-lens, screw terminal units include lens, lamp, operator, transformer (incandescent) or AC adaptor (LED, with **D** in type number). Lense color denoted by hyphenated letter in type number: **A** = amber; **R** = red; **G** = green. UL listed, CSA certified.

Stock No.	Type	Description	Each	2-5
96F3675	APW299-R-24	Full voltage, red 24V lamp	27.04	25.44
96F3677	APW299-A-24	Full voltage, amber 24V lamp	27.04	25.44
96F3681	APW299D-R-24	Full voltage, red 24V LED	31.05	29.22
96F3682	APW299D-G-24	Full voltage, green 24V LED	31.05	29.22
96F3683	APW299D-A-24	Full voltage, amber 24V LED	31.05	29.22
96F3684	APW299D-R-120	Full voltage, red 120V LED	32.64	30.71
96F3685	APW299D-G-120	Full voltage, green 120V LED	32.64	30.71
96F3686	APW299D-A-120	Full voltage, amber 120V LED	32.64	30.71

(3429) (de02659)

22mm ILLUMINATED PUSHBUTTONS

Transformer Type

Full Voltage Type

Screw terminal units include lens, lamp, operator, lamp holder, contact block, and transformer or direct voltage adapter. **ALW21** models are transformer type; **ALW29** models are direct type. Momentary action. Non-marking extended round lens. Rated NEMA 1, 2, 3, 3R, 4, 4X, 5, 12, 13; IP65. **D** in type number indicates LED. All others incandescent. Lens color is denoted by hyphenated letter in type number: **A** = amber; **R** = red; **G** = green. UL listed, CSA certified and CE compliant.

Stock No.	Type	Style	Contacts	Each	2-5
96F3688	ALW212611-G	120VAC	1NO-1NC	76.04	71.56
96F3706	ALW29911-G-24	24V lamp	1NO-1NC	50.10	47.15
96F3741	ALW29911D-R-120	120V LED	1NO-1NC	55.70	52.42
96F3742	ALW29911D-G-120	120V LED	1NO-1NC	55.70	52.42
96F3743	ALW29911D-A-120	120V LED	1NO-1NC	55.70	52.42

(3430) (de02660)

22mm SELECTOR SWITCHES

Screw terminal units include insert, handle, operator, contact blocks. Maintain position. Black knob, except **K** in type number indicates key operator (with 2 keys). Rated NEMA 1, 2, 3, 3R, 4, 4X, 5, 12, 13; IP65. Keylock only NEMA 1, 2, 3, 5, 13. UL listed, CSA certified.

Stock No.	Type	Description	Each	2-5
96F3750	ASW220	2-position, 2NO	32.79	30.87
96F3752	ASW320	3-position, 2NO	32.79	30.87

(3431) (de02661)

30mm PUSHBUTTON SWITCHES

2.56″ Mushroom

Standard size screw terminal units include button, operator, contact blocks. Mount 1.20″ (30.00) hole. Rated 600V/10A. Momentary action. Rated NEMA 1, 2, 3, 3R, 4, 4X, 5, 12, 13; IP65. UL listed, CSA certified and CE compliant.

Stock No.	Type	Description	Each	2-5
96F3756	ABD110NB,G,R	Flush, 1NO	26.87	25.30
96F3757	ABD101NB,G,R	Flush, 1NC	26.87	25.30
96F3758	ABD111NB,G,R	Flush, 1NO-1NC	36.49	34.33
96F3763	ABD310N-G	1.58″Mushroom, 1NO, Green	46.09	43.38
96F3765	ABD301N-R	1.58″Mushroom, 1NC, Red	46.09	43.38
96F3771	ABD410N-R	2.56″Mushroom, 1NO, Red	52.49	49.40
96F3772	ABD410N-G	2.56″Mushroom, 1NO, Green	52.49	49.40
96F3774	ABD401N-R	2.56″Mushroom, 1NC, Red	52.49	49.40

(3438) (de02673)

30mm SPECIAL FUNCTION SWITCHES

Pushlock Turn Reset

Push-pull

Screw terminal units include button, operator, contact blocks. Rated NEMA 1, 2, 3, 4, 4X, 5, 12, 13. Color: red. UL listed, CSA certified, and CE compliant.

Stock No.	Type	Description	Each	2-5
96F3781	AVD301N-R	Pushlock turn reset, 1NC	68.50	64.47
96F3782	AVD311N-R	Pushlock turn reset, 1NO-1NC	78.11	73.51
96F3786	AYD301N-R	Push-pull, 1NC	65.30	61.46
96F3789	AYD311N-R	Push-pull, 1NO-NC	74.91	70.50

(3439) (de02674)

30mm PILOT LIGHTS

Transformer Type

Full Voltage Type

Extended lens screw terminal units include lens, lamp, operator, plus transformer (incandescent) or AC adaptor (LED). Hyphenated letter in type number denotes color: **G** = green, **R** = red. Rated NEMA 1, 2, 3, 3R, 4, 4X, 5, 12, 13; IP65. UL listed, CSA certified, and CE compliant.

Stock No.	Type	Description	Each	2-5
96F3798	APD199N-R-24V	Inc., Full Voltage, 24V	55.70	52.42
96F3801	APD199N-R-120V	Inc., Full Voltage, 120V	55.70	52.42
96F3802	APD199N-G-120V	Inc., Full Voltage, 120V	55.70	52.42

(3440) (de02675)

30mm SELECTOR SWITCHES

Knob Operator

Key Operator

Standard size screw terminal units. Maintain position. Key operator comes with 2 keys. UL listed, CSA certified, CE compliant.

Stock No.	Type	Description	Each	2-5
96F3855	ASD220N	Knob Operator (Black), 2-position, 2N.O.	42.88	40.37
96F3856	ASD2K20N	Key Operator, 2-position, 2N.O.	81.31	76.53

(3441) (de02677)

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1-800-4-NEWARK

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ALCOSWITCH™ 20mm AND 30mm SWITCHES

22mm MOMENTARY PUSHBUTTON OPERATORS

QT012-01

Order contact block separately on this page.

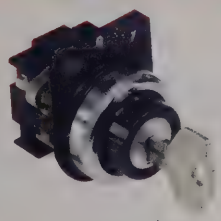
Stock No.	Type	Description
46F3095	QT012-01	Rect. dual, momentary, red (O), green (I)

Stock No.	Type	1-24	25-49	50-99	100-249
46F3095	QT012-01	12.07	10.96	10.46	9.76

(3471) (de51074)

30mm METAL BUSHING OIL-TIGHT SWITCHES

M2531-0



M6200

M6402-(G)

Key removal code: C = center, L = left. **M2531-0** requires 1 N.C. & 1 N.O. contact blocks. Fits 1.188″ (30.18) panel hole. *Order contact blocks separately on this page.*

Stock No.	Type	Description
44F1766	M2531-0	3-Position Joystick, Momentary
44F1768	M6010-(0)	Flush Guard, Momentary Blk
44F1770	M6057-2	Mushroom, Head, Momentary Red
44F1773	M6200	2-Position Key Select. Maintained, C
44F1776	M6402-(0)	2-Position Select. Maintained Blk

Stock No.	Type	1-24	25-49	50-99	100-249
44F1766	M2531-0	41.01	35.57	34.58	...
44F1768	M6010-(0)	13.18	12.30	11.84	11.39
44F1770	M6057-2	23.28	21.72	20.90	20.11
44F1773	M6200	27.62	25.77	24.80	23.86
44F1776	M6402-(0)	17.30	16.14	15.54	14.95

(3472) (de51075)

22mm OIL-TIGHT KEYLOCKS AND SELECTORS

RM200

RM310-0

CODE: Keylock switch key removal position: C = center, R = right, L = left. **RM200 series** keylocks include two keys. **RM300 series** selectors have black knobs. *Order contact blocks separately on this page.*

2 POSITION KEYLOCKS AND SELECTORS

Stock No.	Type	Description	1-24	25-49	50-99
46F3099	RM200	1 Cam, Maintained, Key., C	28.06	26.17	25.19
46F3100	RM201	1 Cam, Maintained, Key., C, R	28.06	26.17	25.19
87F6903	RM205	Maintained, Key., R, L	28.33	26.42	25.43
46F3111	RM304-0	1 Cam, Maintained, Sel.	16.50	15.39	14.81
87F6907	RM250	2 Pos., 1 Cam, Mom. Right, Key., C	28.33	26.42	25.43

3 POSITION KEYLOCKS AND SELECTORS

46F3103	RM270	2 Cam, Mom. 1 Side Key., C, L	28.06	26.17	25.19
87F6910	RM280	2 Cam, Mom. 2 Sides Key., C	28.06	26.17	25.19
46F3102	RM230	2 Cam, Maintained, Key., C, R, L	28.06	26.17	25.19
46F3112	RM310-0	2 Cam, Maintained, Sel.	16.50	15.39	14.81
87F6911	RM312-0	3 Cam, Maintained, Sel.	16.65	15.53	14.95
87F6915	RM380-0	2 Cam, Double Mom., Sel.	16.65	15.53	14.95

(3474) (de51079)

STANDARD CONTACT BLOCKS

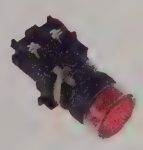
6A at 600VAC. **Type F** quick connect; **type V** screw terminal. *Order operators, switches and selectors separately on this page.*

Stock No.	Type	Stock No.	Type	Description
14F3106	VA0	14F3108	VAO	N.O. Early Make
...	...	14F3109	VRO	N.C. Late Break
65F434	V40	65F432	V40	N.C.
65F449	V50	65F447	V50	N.O.

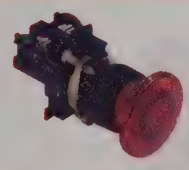
Stock No.	Type	1-24	25-49	50-99	100-249
14F3106	FA0	6.19	5.63	5.37	5.01
65F434	F40	6.14	5.57	5.32	4.96
65F449	F50	6.14	5.57	5.32	4.96
14F3108	VA0	6.14	5.57	5.32	4.96
14F3109	VR0	6.14	5.57	5.32	4.96
65F432	V40	6.14	5.57	5.32	4.96
65F447	V50	6.14	5.57	5.32	4.96

(3473) (de51078)

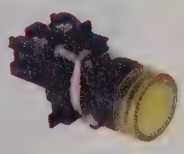
RELIANT SERIES 22mm ILLUMINATED OPERATORS



RM122



RM150



RM130

QM uses G3½ lamps; **RM** uses T3¼ or G3½ lamps. Fits ⅞″ hole *(see lamp index). Order contact blocks separately on this page.*

MOMENTARY CONTACT

Stock No.	Type	Description	1-24	25-49	50-99	100-249
46F3105	QM120-5	Sq. Extended, Green	21.65	20.19	19.44	18.70
46F3106	RM122-2	Round Flush, Red	20.08	18.73	18.03	17.35
46F3107	RM122-4	Round Flush, Yellow	20.08	18.73	18.03	17.35
46F3108	RM122-5	Round Flush, Green	20.08	18.73	18.03	17.35
46F3098	RM150-2	Mushroom, Red	20.45	19.08	18.37	17.67

MAINTAINED CONTACT

46F3109	RM130-2	Round Flush, Red	21.65	20.19	19.44	18.70
46F3110	RM130-4	Round Flush, Yellow	21.65	20.19	19.44	18.70
46F3097	RM130-5	Round Flush, Green	21.65	20.19	19.44	18.70

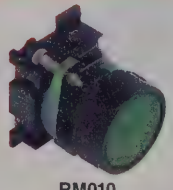
PUSH-PULL

94F3296	RM053-2 (RED)	Mushroom, Red	26.95	25.15	24.21	23.29

(3475) (de51080)

RELIANT SERIES 22mm PUSHBUTTON OPERATORS

RM065



RM010

RM050

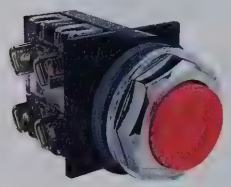
Type RM units have metal bushings; **RT** units have thermoplastic bushings. Fits 0.875″ (22.23) panel hole. All pushbuttons listed have momentary action except **type RM065-2**, which is push-to-lock. *Order contact blocks separately on this page.*

Stock No.	Type	Description	1-24	25-49	50-99	100-249
46F3076	RM010-0	Round Flush, Black	12.89	12.03	11.58	11.14
46F3077	RM010-2	Round Flush, Red	12.89	12.03	11.58	11.14
46F3078	RM010-5	Round Flush, Green	12.89	12.03	11.58	11.14
46F3079	RM020-2	Round Extend, Red	12.89	12.03	11.58	11.14
46F3082	RT010-0	Round Flush, Black	6.53	5.93	5.66	5.28
46F3083	RT010-2	Round Flush, Red	6.53	5.93	5.66	5.28
46F3084	RT010-5	Round Flush, Green	6.53	5.93	5.66	5.28
46F3085	RT020-2	Round Extend, Red	6.53	5.93	5.66	5.28
46F3080	RM050-2	Mushroom, Red	17.81	16.62	16.00	15.39
46F3081	RM065-2	Mushroom, Red	20.08	18.73	18.03	17.35
46F3086	RT050-2	Mushroom, Red	11.84	10.76	10.27	9.58

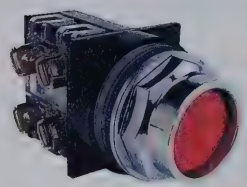
(3476) (de51081)

30mm PUSHBUTTON SWITCHES

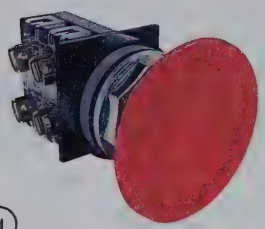
Flush Button



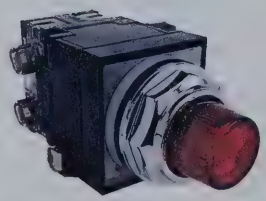
Extended Button



Recessed Button



Mushroom



Standard Illuminated Pushbutton

Guarded Illuminated Pushbutton

Lens

NON-ILLUMINATED NEMA TYPE 30mm PUSHBUTTON SWITCHES

Modular components allow the assembly of customized configurations for a wide range of applications. Operators mount in 1 13/64″ (30mm) diameter hole from the back and tighten assembly with octagonal ring. The locking ring in combination with spacers can adjust for panel thickness from 0.040″ to 0.250″. All pushbuttons comply with NEMA 1, 3, 3R, 4, 4X, 12, and 13 (watertight and oiltight applications). UL listed, CSA certified.

Complete assembly consists of operator, color cap or lens, and contact blocks: *order each component separately.*

STANDARD OPERATORS

Stock No.	Type	Description	1-9	10-49	50-99
96F2920	CR104PBG00U1	Flush with black, red, green, & yellow caps	13.26	11.28	10.14
96F2921	CR104PBG00U2	Extended with black, red, green, & yellow caps	13.26	11.28	10.14
96F2922	CR104PBG00U3	Recessed with black, red, green, & yellow caps	13.26	11.28	10.14

MUSHROOM HEAD OPERATORS

96F2939	CR104PTR20A0R	Push-to-latch with red cap	42.72	34.60	30.52
96F2938	CR104PBM00A6	Cap not included	23.08	19.62	17.65
96F2983	CR104PXM03R	1⅜″ red mushroom cap	4.91	4.18	3.76
96F2984	CR104PXM06R	2⅜″ red mushroom cap	4.91	4.18	3.76

(3597) (ne08589)

ILLUMINATED NEMA TYPE 30mm PUSHBUTTONS

Modular components allow the assembly of customized configurations for a wide range of applications. Operators mount in 1 13/64″ (30mm) diameter hole from the back and tighten assembly with octagonal ring. The locking ring in combination with spacers can adjust for panel thickness from 0.040″ to 0.250″. All pushbuttons comply with NEMA 1, 3, 3R, 4, 4X, 12, and 13 (watertight and oiltight applications). UL listed, CSA certified.

Complete assembly consists of operator, color cap or lens, and contact blocks: *order each component separately.*

ILLUMINATED FULL VOLTAGE

Stock No.	Type	Description	1-9	10-49	50-99
96F2924	CR104PBL00A1S2	120V(No. 120 PSB lamp)	50.43	42.88	38.56
96F2927	CR104PBL00A1S8	24V(No. 1819 lamp)	50.43	42.88	38.56

GUARDED ILLUMINATED FULL VOLTAGE

Stock No.	Type	Description	1-9	10-49	50-99
96F2928	CR104PBL00A3S2	120V(No. 120 PSB lamp)	56.73	45.95	40.52
96F2931	CR104PBL00A3S8	24V(No. 1819 lamp)	56.73	45.95	40.52

GUARDED ILLUMINATED TRANSFORMER

Stock No.	Type	Description	1-9	10-49	50-99
96F2935	CR104PBT00A3S2	120V(No. 755 lamp)	69.34	56.15	49.53

LENSES FOR ILLUMINATED PUSHBUTTON OPERATORS

Stock No.	Type	Description	1-9	10-49	50-99
96F2977	CR104PXL05G	Green	3.44	2.93	2.63
96F2978	CR104PXL05M	Amber	3.44	2.93	2.63
96F2979	CR104PXL05R	Red	3.44	2.93	2.63

GUARD FOR ILLUMINATED PUSHBUTTONS

Stock No.	Type	Description	1-9	10-49	50-99
96F2972	CR104PXG04	Open type	4.91	4.18	3.76

(3414) (de02482)

CALL NEWARK FOR FAST, DEPENDABLE SERVICE.

30mm SWITCHES AND INDICATORS

30mm HEAVY-DUTY INDICATING LIGHTS

Standard Indicating Light

Push-to-Test Indicating Light

CR104PLG Lens

CR104PLT Lens

30mm mounting indicating lights feature 600V maximum AC/DC, 10A continuous. Transformer types have 6V secondary. Suitable for use in NEMA 1, 3, 3R, 4, 4X, 12 and 13 applications. *Order lenses separately below and contact blocks separately on this page.*

FULL VOLTAGE

Stock No.	Type	Description	1-9	10-49	50-99
96F2942	CR104PLG18	24V(No. 1819 lamp)	42.72	36.32	32.66
96F2943	CR104PLG22	120V(No. 120 PSB lamp)	42.72	36.32	32.66

TRANSFORMER

Stock No.	Type	Description	1-4	5-9	10-24
96F2944	CR104PLG32	120V(No. 755 lamp)	52.54	42.55	37.53
96F2945	CR104PLG33	240V(No. 755 lamp)	52.54	42.55	37.53
96F2946	CR104PLG34	480V(No. 755 lamp)	52.54	42.55	37.53

LENS FOR CR104PLG INDICATING LIGHTS

Stock No.	Type	Description	1-9	10-49	50-99
96F2973	CR104PXL01G	Green	3.44	2.93	2.63
96F2974	CR104PXL01M	Amber	3.44	2.93	2.63
96F2975	CR104PXL01R	Red	3.44	2.93	2.63
96F2976	CR104PXL01W	White	3.44	2.93	2.63

PUSH-TO-TEST FULL VOLTAGE

Stock No.	Type	Description	1-4	5-9	10-24
96F2950	CR104PLT22	120V (No. 120 PSB Lamp)	57.45	46.53	41.04

PUSH-TO-TEST TRANSFORMER

Stock No.	Type	Description	1-4	5-9	10-24
96F2951	CR104PLT32	120V (No. 755 Lamp)	67.27	54.48	48.05
96F2952	CR104PLT33	240V (No. 755 Lamp)	67.27	54.48	48.05
96F2953	CR104PLT34	480V (No. 755 Lamp)	67.27	54.48	48.05

LENS FOR CR104PLT INDICATING LIGHTS

Stock No.	Type	Description	1-9	10-49	50-99
96F2981	CR104PXL07G	Green	3.44	2.93	2.63
96F2982	CR104PXL07R	Red	3.44	2.93	2.63

(3415) (de02483)

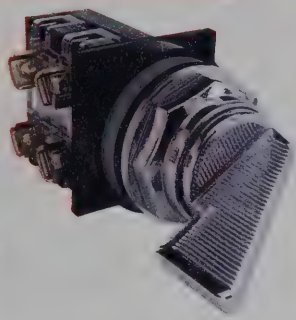
30mm PUSHBUTTON NAMEPLATES

Standard size, 1.98″(50.29)H x 1.93″(49.02)W. 600V maximum AC/DC. 10A continuous.

Stock No.	Type	Description	1-9	10-49	50-99
96F2985	CR104PXN1B	Black, Blank	6.39	5.43	4.88
96F2986	CR104PXN1BP037	Black, START	1.48	1.26	1.13
96F2989	CR104PXN1RP040	Red, STOP	1.48	1.26	1.13
96F2987	CR104PXN1BP057	Black, ON-OFF	1.48	1.26	1.13
96F2988	CR104PXN1BP070	Black, HAND-OFF-AUTO	1.48	1.26	1.13

(3418) (de02486)

30mm HEAVY-DUTY SELECTOR SWITCHES



Suitable for use in NEMA Type 1, 3, 3R, 4, 4X, 12 and 13 applications. *Order contact blocks separately on this page.* 4-position, maintained version is also available *contact your local Newark sales office.*

2-POSITION, MAINTAINED

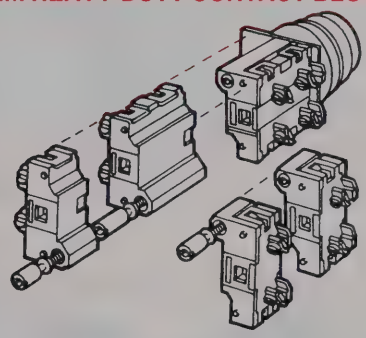
Stock No.	Type	Knob Type	Contacts	Config.	1-9	10-49	50-99
96F2954	CR104PSG21B	Black	NC NO	X O O X	18.17	15.45	13.89

3-POSITION, MAINTAINED

Stock No.	Type	Knob Type	Contacts	Config.	1-9	10-49	50-99
96F2955	CR104PSG32B	Black	NC NO	O X O X O O	23.33	19.83	17.83
96F2957	CR104PSG34B	Black	NC NO	X O O O O X	18.17	15.45	13.89

(3416) (de02484)

30mm HEAVY-DUTY CONTACT BLOCKS



600V maximum AC/DC, 10A continuous. Contact blocks mount with one screw and up to 8 sets of contacts can be added. Terminal screws have captive saddle clamps for positive terminations and feature clear lexan covers for visual inspection of contacts. For use with 30mm selector switches and pilot lights; *available separately on this page.*

Stock No.	Type	Description	1-9	10-49	50-99
96F2969	CR104PXC1	1NO	7.37	6.27	5.63
96F2967	CR104PXC01	1NC	7.37	6.27	5.63
96F2971	CR104PXC91	1NO-1NC	14.73	12.53	11.27
96F2968	CR104PXC01L	1NC, Late break	9.46	8.04	7.23

(3417) (de02485)

ORDER PRODUCTS 24 HOURS A DAY AT
http://www.newark.com

30mm SWITCHES AND PILOT LIGHTS

30mm NON-ILLUMINATED MOMENTARY PUSHBUTTONS

9001KR1

9001SKR

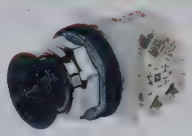
9001KR3

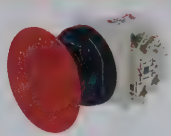
30mm round, chrome bezel pushbuttons are oiltight/watertight and meet NEMA 4, 13. Include one each black, red, green, yellow, orange, blue, white button inserts. *For complete assembly, see contact blocks on this page.* UL listed, CSA certified, CE compliant.

Stock No.	Type	Guard	Each	2-5
93F2969	9001KR1U	Full	24.19	22.34
97F9982	9001KR3U	None	24.19	22.34
97F9981	9001KR2U	Extended	24.19	22.34
NEMA 4X BLACK BEZEL (CORROSION RESISTANT)				
16F4046	9001SKR1U	Full	24.19	22.34
16F4047	9001SKR2U	Extended	24.19	22.34

(3392) (de00635)

30mm NON-ILLUMINATED MOMENTARY MUSHROOMS


90001KR4


9001KR5

Switches have same performance specifications as **9001KR** pushbuttons. All include red knob. *For complete assembly, see contact blocks on this page.* UL listed, CSA certified, CE compliant.

Stock	Type	Diameter	Each	2-5
97F9983	9001KR4R	1.375″(34.93)	51.06	47.13
97F9985	9001KR5R	2.250″(57.15)	51.06	47.13
NEMA 4X - BLACK BEZEL (CORROSION RESISTANT)				
91F9956	9001SKR4R	1.375″ (34.93)	51.06	47.13
16F4049	9001SKR5R	2.250″(57.15)	51.06	47.13

(3393) (de00636)

30mm NON-ILLUMINATED PUSH-PULL SWITCHES

Same as **9001KR** pushbuttons except maintained action and offers legend plate marked "Pull to Start", "Push to Stop". 1 N.O. & 1 N.C. contacts. Red knob. Contact blocks accept two 12-24AWG solid or stranded wires. NEMA A600 rated @ 120VAC, 60A make/6A break/10A continuous; @ 240VAC, 30A make/3A break/10A continuous. **Type 9001SKR** has NEMA 4X corrosion-resistant black bezel. UL listed, CSA certified, CE compliant.

Stock No.	Type	Each	2-5
50F4630	9001KR9RH13	107.50	99.24
16F4051	9001SKR9RH13	107.50	99.24

(3394) (de00637)

30mm ILLUMINATED MOMENTARY PUSHBUTTONS

Same as **9001KR series** pushbuttons except has green color cap, NEMA 4X corrosion-resistant black bezel. Input voltage: 24VAC 50/60Hz. For complete assembly, *order contact blocks on this page.* UL listed, CSA certified, CE compliant. Red color cap and chrome bezel versions are also available. *Contact your nearest Newark sales office.*

Stock No.	Type	Cap Color	Each	2-5
16F4052	9001SK1L35G	Green	82.85	76.49

(3588) (ne08172)

30mm NON-ILLUMINATED SELECTOR SWITCHES

9001KS

9001KXS

30mm round (**9001KS**), NEMA 4, 13, or square (**9001KX**) chrome bezel non-illuminated selector switches meet NEMA 4X and 13. 2 or 3 position. Black knobs. Contact blocks accept two 12-24AWG solid or stranded wires. NEMA A600 rated @ 120VAC, 60A make/6A break/10A continuous; @ 240VAC, 30A make/3A break/10A continuous. *For complete assembly, see contact blocks on this page* (**9001 KS** *only*). **9001KX** comes standard with the appropriate contact block.

Stock No.	Type	Position	Legend	Each	2-5
97F9987	9001KS11B	2	None	33.10	30.56
50F4658	9001KXSA125	2	"Off-On"	62.65	57.84
97F9988	9001KS43B	3	None	33.10	30.56
50F4659	9001KXSD126	3	"Hand-Off-Auto."	62.65	57.84

(3396) (de00639)

30mm PILOT LIGHTS

9001KP38

- **30mm Pilot Lights Include Modules with Lamps**

30mm round **9001KP** chrome bezel pilot lights feature choice of red or green fresnel cap. Input voltage 120VAC, 50/60Hz, 120VDC. Oiltight/ watertight units meet NEMA 4 and 13 standards. **KXPA** series square versions are also available. *Contact your local Newark sales office.*

Stock No.	Type	Style	Legend	Cap Color	Each	2-5
50F4654	9001KP38R31	Round	...	Red	77.79	71.81
50F4655	9001KP38G31	Round	...	Green	74.71	68.97

(3397) (de00640)

CONTACT BLOCKS

Contact blocks accept two 12-24AWG solid or stranded wires. NEMA A600 rated 120VA 60A make/6A break/10A continuous; @ 240VAC, 30A make/3A break/10A continuous. **9001KA** contact blocks are for use with all **9001K**, **9001SK** and **9001KX** pushbuttons and selector switches. Terminals are Fingersafe® (meet VDE 0106 part 100). Color-coded. **9001KA1** and **KA4** are clear. **9001KA2** and **KA6** are green. **9001KA3** is red. UL listed, CSA certified. CE compliant. *EC = Early Closing. Additional NO, EC version is available. *Contact your local Newark sales office.*

Stock No.	Type	Contacts	Each	2-5
93F2966	9001KA1	NO & NC**	26.87	24.80
93F2964	9001KA2	NO	14.66	13.72
93F2965	9001KA3	NC**	14.66	13.72
16F4057	9001KA4	NO EC* & NC	26.87	24.80

** Positive Opening

(3453) (de03586)

LIGHT MODULES

Light modules accept 12-24AWG solid or stranded wire. 9001KM light modules are for use on all **9001K, SK,** and **KX series** pushbuttons and selector switches. Terminals are FINGERSAFE® with a removable shroud for easier wiring. UL listed, CSA certified, and CE compliant. 24VAC/DC full voltage version is available. *Contact your local Newark sales office.*

Stock No.	Type	Voltage	Description	Each	2-5
16F4059	9001KM1	120V 50/60 Hz	Transformer	65.22	61.59
16F4060	9001KM38	120VAC/DC	Full Voltage	55.06	51.62

(3589) (ne08173)

NEW PRODUCTS ARE CONTINUALLY ADDED.
CALL NEWARK FOR CURRENT SELECTION.

LIMIT AND EMERGENCY STOP SWITCHES

MINIATURE POSITIVE BREAK AND LIMIT SWITCHES

83862301

83852501

831607C3/0

Units are fail-safe. Designed in accordance with EN 1088 (interlocking devices associated with gates) and IEC 947-5.1. Used to monitor the overtravel or the position of mechanical parts such as safety gates. All safety switches have positive opening contacts. UL listed, CE compliant. **Type 838** meets IEC enclosure IP66 classification. Other units are available; *contact your local Newark sales office.*

Stock No.	Type	Description	Body	No. of Safety Contacts	L x H x W	Each
91F5530	831607C3/0	Min. Pos. Break, 1/4" QC	Plastic	1 N.C. or 1 SPDT	1.09 x 0.62 x 0.39"	**6.41**
91F5531	83864001	Cable Pull Limit	Metal	2 N.C.	1.81 x 5.32 x 1.57"	**80.41**
91F5533	83852501	Positive Break Limit	Metal	1 N.O./ 1 N.C.	1.3 x 3.41 x 1.2"	**39.49**
91F5534	83862301	Positive Break Limit	Metal	1 N.O./ 1 N.C.	1.44 x 5.19 x 1.57"	**64.52**

(16840) (ne10708)

EMERGENCY STOP PUSHBUTTON SWITCHES

Units are fail-safe pushbuttons. Designed in accordance with EN 418 (standard for emergency stop equipment) and IEC 947-3. Units are E-stop, push-pull buttons and have positive mechanical action and positive opening contacts. Mushroom head is Ø 1.57" (40). **Type 79697002** is enclosed in an enclosure that meets IEC enclosure IP657 classification. UL listed, CE compliant.

Stock No.	Type	No. of Safety Contacts	L x H x W	Each
91F5528	79697001	2 N.C./1 N.O.	3.3 x 1.6 x 1.6"	**76.80**
91F5529	79697002	2 N.C./1 N.O.	3.5 x 2.8 x 4.2"	**156.24**

(16841) (ne10707)

NEWARK HAS WHAT YOU NEED.
WITH SO MUCH IN STOCK, YOU HAVE THE COMPONENTS YOU NEED AT YOUR FINGERTIPS.

EUROPEAN MACHINERY DIRECTIVE... DO YOUR MACHINES CONFORM?

The European Directive is a law aimed at guaranteeing the free movement of machines within the European Union (EU) and to define the essential health and safety requirements associated with their use.

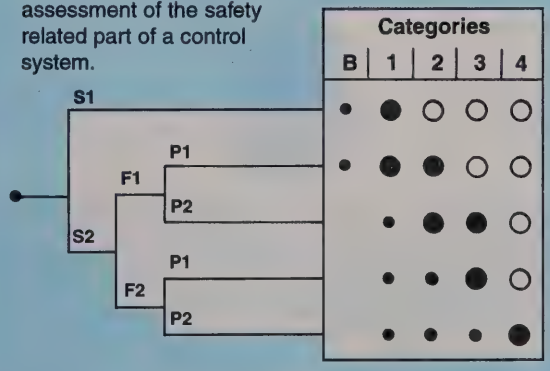
What is a machine? For the purposes of the European Machinery Directive, machinery is an assembly of linked parts or components, at least one of which moves, with the appropriate actuators, control and power circuits joined together for a specific application. A machine will be in conformity with the European Machinery Directive if the manufacturer is able to prove that its machine conforms to the related harmonized European safety standards (referenced EN...).

MAJOR HARMONIZED EUROPEAN STANDARDS FOR CONFORMITY:

- **EN60204-1 (Equivalent to IEC204-1): Electrical requirement for machines' general requirements**
- **EN418: Emergency stop equipment, functional aspects-principles for design**
- **EN1088: Interlocking devices associated with guards-principles for design and selection**
- **EN574: Two-hand control devices, functional aspects, principles for design**
- **PREN1050: Principles for risk assessment**
- **PREN954-1: Safety related parts for control system-general principles for design**

ASSESSING THE RISK IN THE EVENT OF FAULT AND SELECTING AN APPROPRIATE CATEGORY:

Starting point for the risk assessment of the safety related part of a control system.



S — **Severity of the injury**
S1 Minor injury
S2 Serious permanent injuries to one or more people or death of a person

F — **Frequency and duration of exposure**
F1 Seldom to fairly frequent
F2 Frequent to continuous

P — **Possibility of avoiding the dangerous situation**
P1 Possible under certain conditions
P2 Seldom possible

B. 1-4 : Categories for the safety related parts of a control system

● Normal category for the level of risk

○ Higher category than level of risk suggests

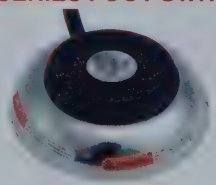
● Lower category may be considered by using other safeguard measures

(16842) (syblurb)

LINEMASTER

FOOT SWITCHES

GEM SERIES FOOT SWITCHES



Black actuating cap operates switch when pressure is applied in any direction. Momentary SPST wired normally open. **GEM-V3** is rated 10 amps, 125VAC. Supplied with a 6 ft. 18/3 cord and three-prong series plug. Green lead grounded. **GEM-V36** is rated 15 amps, 125-250VAC. Supplied with a 6 ft. 18/3 cord without plug. Green lead grounded. 3.81″ Dia. x 1.21″ D. UL listed and CSA certified.

Stock No.	Type	1-4	5-9
10F7449	GEM-V3	42.54	36.55
10F7450	GEM-V36	37.30	32.04

(3390) (de00520)

AQUILINE FOOT SWITCHES

Composed of engineered polymetric material to protect against rust and corrosion. 4 x 3 7/16 x 1 9/32″ accommodates cord sizes from 0.250 to 0.400 diameter. **Type 971-S** is momentary SPDT and **type 974-S** is momentary DPDT.

Stock No.	Type	1-4	5-9
92F834	CE971-S	11.49	9.90
92F835	974-S	20.88	18.00

(16735) (ne10542)

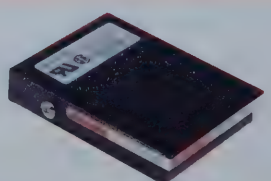
CLIPPER FOOT SWITCHES

4.500L x 3.500W x 1.500″H. All types are momentary except **type 632-D** which is maintained. features push-on/push-off action. **TWIN 632-S** is 4.500L x 8.375W x 1.500″H with strain relief connector in right side switch. **Types 632-S, 632-D,** and **TWIN 632-S** UL listed, CSA certified. **Type 632-SC3** pre-wired. Includes # 14/3 SJT cable with molded-on, three-prong series plug. Wired normally open with green lead grounded. UL listed, CSA certified. All types have SPDT circuits except **type 635-S** which is DPDT. UL recognized. *Order full foot switch guards separately on this page.*

Stock No.	Type	Ratings	1-4	5-9
24F170	632-S	20A, 125-250VAC	36.09	31.01
24F171	632-D	20A, 125-250VAC	57.15	49.10
81F1170	632S TWIN DIVIDER	20A, 125-250VAC	83.60	77.54
50F5381	632-SC3	15A, 125VAC	58.71	50.44
94F1879	635S	15A, 125VAC; 10A 250VAC	51.76	44.47

(3454) (de03670)

TREADLITE FOOT SWITCHES



Utilizes V3 snap switch with .187″ quick disconnect tab terminals. Foot switch with light-press treadle alleviates operator fatigue. Formed steel case has skid-proof base pad. **T-91-S** is a momentary SPDT unit. 15A, 125-250VAC. UL recognized. No cordset. **T-91-SC3** is a momentary SPST wired normally open unit. 10A, 125VAC. 6 ft. 18/3 cord and three-prong series plug. Green lead grounded. UL listed, CSA certified. **T-91-SC36** identical to **T-91-SC3** but rated 10A, 125-250VAC and supplied with 6 ft. 18/3 cord without plug. Green lead grounded. UL listed, CSA certified.

Stock No.	Type	1-4	5-9
96F2040	T-91-S	12.57	10.84
96F2042	T-91-SC3	21.98	18.89
96F2041	T-91-SC36	19.65	16.94

(3385) (de00514)

LEKTRO-LOK FOOT SWITCHES

Pressure on one side of **type L-2-S** Lektro-Lok momentary switch opens or closes line. Interlock prevents two circuits working at once. Metal housing has a black finish and a skid-proof base pad. Each side circuit: SPDT (**L-2-S**) and DPDT (**L-4-S**). 10 amp, 125VAC. 5.00L x 2.50W x 1.25″D. UL recognized.

Stock No.	Type	1-4	5-9
24F168	L-2-S Lektro-Lok	36.30	31.19
97F9099	L-4-S Lektro-Lok	66.29	56.95

(3389) (de00519)

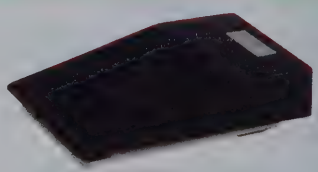
491 SERIES COMPACT FOOT SWITCHES

Steel housing with skid-proof base pad. 2.87L x 2.50W x 1.12″D. **491-S** is a momentary SPDT unit. 10 amps, 125-250VAC. UL recognized. **491-SC3** is a momentary SPST wired normally open unit. 10 amps, 125VAC. Includes 8 ft. 16/3 cord and three-prong series plug. Green lead grounded. UL listed and CSA certified. **491-SC36** is identical to **491-SC3** but 125-250VAC and has a 6 ft. 16/3 cord without a plug. Green lead grounded. UL listed and CSA certified. **491-D** is a maintained SPST unit. 10 amps, 125VAC. UL recognized. *Order full foot switch guards separately on this page.*

Stock No.	Type	1-4	5-9
24F165	491-S	18.35	15.82
24F154	491SC3	37.58	32.29
24F181	491-SC36	32.62	28.02
94F1875	491D	22.90	19.68

(3386) (de00515)

TYPE 121-S JUNIOR FOOT SWITCH



Momentary SPDT foot- or knee-operated switch. Adjustable strain relief clamp fits various cord sizes. Aluminum casting has skid-proof base pad. 5.50L x 3.25W x 1.25″D. 20 amps at 125-250VAC. UL listed. 15A, DPDT version is also available.

Stock No.	Type	1-4	5-9
24F161	121-S	43.11	37.04

(3384) (de00513)

POWER CORD SETS

Adapt equipment for use with foot switches. One end connnects to equipment with molded series plug. Fit any standard 3-prong 120VAC wall receptacle. Black.

Stock No.	Type	Description	1-4	5-9
97F7658	SF524-M	6′ cord, 18-3 SJT	13.22	11.40
97F7659	SF536-P	8′ cord, 16-3 SJT	16.26	14.01
97F7660	SF522-Q17	8′ cord, 14-3 SJT	21.27	18.28

(3592) (ne08332)

AIR-SEAL FOOT SWITCHES & FULL FOOT SWITCH GUARDS

Combines a foot operated air bulb mounted in a strong steel compact housing and a remotely located air operated electric snap switch. **Type 41SH12** is momentary SPDT and **Type 41DH12** is maintained SPDT. A 10 foot 1/8″ ID PVC tubing connects the foot pedal to the remote air switch, which is equipped with a 9/16″ UNF bulkhead mount. Pre-drilled switch guards come complete with hardware and instructions. Alert orange color. **Type 522-B14** is a full single guard which accepts Clipper, Compact, Treadlite and Executive foot switches. 6.00L x 6.00W x 4.50″D. **Type 522-B12** is a full twin guard which accepts Clipper Twin. 6.00L x 11.00W x 4.50″H.

Stock No.	Type	1-4	5-9
01F761	41SH12	55.73	47.88
01F762	41DH12	56.01	48.12
10F7453	522-B14	28.29	24.31
10F7454	522-B12	49.28	42.34

(3391) (de00521)

STARTERS AND MOTOR PROTECTORS

SELF-PROTECTED COMBINATION STARTERS

Stand-alone device requires no backup overcurrent protection up to its full interrupting rating, protects itself against damage under fault conditions for continuity of service. Adjustable thermal and magnetic trips, built-in phase loss differential trip. Electrical life: 1 million operations. UL listed, CSA certified, VDE approved, CE compliant.

BASIC STARTER

Stock No.	Type	Description	Each
48F3354	PKZS/SSP	120VAC Coil	539.00
48F3355	PKZ2/SSP	24V Coil	539.00

TRIP BLOCKS FOR PKZ2/SSP STARTERS

Stock No.	Type	Current Rating	Each
48F3356	ZM0.6PKZ2	0-0.6A	66.00
48F3357	ZM1PKZ2	0.6-1A	66.00
48F3358	ZM1.6PKZ2	1-1.6A	71.50
48F3359	ZM2.4PKZ2	1.6-2.4A	71.50
48F3360	ZM4PKZ2	2.4-4A	71.50
48F3361	ZM6PKZ2	4-6A	71.50
48F3362	ZM10PKZ2	6-10A	71.50
48F3363	ZM16PKZ2	10-16A	71.50
48F3364	ZM25PKZ2	16-25A	71.50
48F3365	ZM32PKZ2	25-32A	172.70
48F3366	ZM40PKZ2	32-40A	221.10

ACCESSORIES

Stock No.	Type	Description	Each
48F3367	NHI11PKZ2	Auxilliary Contacts (1NO+1NC)	47.30
48F3368	AGM11PKZ2	Auxilliary Contacts for Thermal/Magnetic Tripping (2SPDT)+Short Circuit Flag	115.50
48F3369	HPKZ2	Door-Mounted Handle, Black	62.70
48F3370	AHPKZ2	Shaft for Connecting **Type PKZ2** to **Type HPKZ2** Handle	15.40

(34508) (ne34508)

TYPE PKZM0 MOTOR PROTECTORS

Type PKZ0 is a 3-phase thermal magnetic motor protective device that incorporates adjustable bimetallic trips to de-energize the motor circuit in case of a short circuit. **Type PKZM0-.../SE00** is a combination of **type PKZM0** manual motor protector and **type SE00-...-PKZ0** magnetic contactor. **type PKZM0** and **type PKZM0-.../SE00** are UL listed and CSA certified Hp-rated motor controllers that provide overload protection and UL listed and CSA certified for group applications per NEC 430-53(c) and CEC part 1, rule 28-206. They can be combined under a single circuit short circuit and ground fault detection device for the maximum rating marked on each **type SE00-...-PKZ0** motor protector. Phase failure sensitive. Adjustable thermal trips to set motor FLC. Ambient compensated. Fixed magnetic trip set at 14 times rated current. 35mm or DIN rail mounting. UL listed, CSA certified, VDE approved.

MANUAL MOTOR PROTECTORS

Stock No.	Type	Thermal Range (Amps)	Magnetic Trip Setting (Amps)	Max. Hp 230VAC, 3Ph, 50-60Hz	Max. Hp 460VAC, 3Ph, 5-60Hz	Each
48F3325	PKZM00.16	0.1-0.16	2.2	...	...	99.00
48F3326	PKZM00.25	0.16-0.25	3.4	...	...	99.00
48F3327	PKZM00.4	0.25-0.4	5.6	...	...	99.00
48F3328	PKZM00.63	0.4-0.63	8.8	...	...	102.30
48F3329	PKZM01	0.63-1.0	14	...	0.5	113.30
48F3330	PK2M02.5	1.6-2.5	35	0.5	1	113.30
48F3331	PKZM04	2.5-4.0	56	1	2	113.30
48F3332	PKZM06.3	4.0-6.3	88	1.5	3	113.30
48F3333	PKZM010	6.3-10	140	3	5	130.90
48F3334	PKZM016	10-16	224	5	10	130.90
48F3335	PKZM020	16-20	280	5	15	130.90
48F3336	PKZM025	20-25	350	7.5	15	162.80

TYPE PKZM0 MOTOR PROTECTORS WITH TYPE SE00 MAGNETIC CONTACTOR (120V, 50/60Hz COIL)

48F3338	PKZM0.63/SE001112	0.4-0.63	8.8	...	...	137.50
48F3340	PKZM01/SE0011120	0.6-1.0	14	...	...	151.80
48F3342	PKZM01.6/SE001112	1.0-1.6	22	...	...	151.80
48F3344	PKZM02.5/SE001112	1.6-2.5	35	0.5	1	151.80
48F3346	PKZM04/SE0011120	2.5-4.0	56	1	2	151.80
48F3348	PKZM06.3/SE001112	4.0-6.3	88	1.5	3	151.80
48F3350	PKZM010/SE0011120	6.3-10	140	3	5	169.40

ACCESSORIES

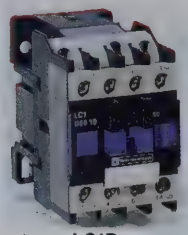
Stock No.	Type	Description	Each
48F3351	NHI11PKZ0	Auxilliary Contacts (1NO+1NC)	22.00
48F3352	NHI21PKZ0	Auxilliary Contacts (2NO+1NC)	33.00

(34504) (ne34504)

IEC CONTACTORS AND OVERLOADS

D-LINE IEC CONTACTORS

Contactor + Overload Relay = Motor Starter



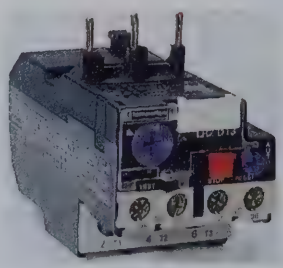
LC1D

60Hz contactors are 3-pole, AC coil, non-reversing. Designed to start and stop motors to 32 amps. Side- and top-mount auxiliary contact modules give more design flexibility. Snap-mount standard 35mm DIN rail. Mechanical life of up to 30 million operations. All coils have three leads to accommodate global wiring practices. Coil wire insulation is rated at 180°C. To create a motor starter, choose a contactor and an overload relay. UL listed, CSA certified, and CE compliant.

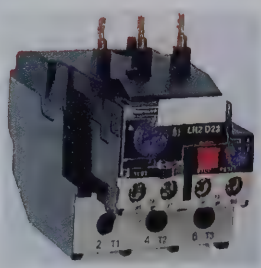
Stock No.	Type	A	Voltage	Contacts N.O.	Contacts N.C.	Each	2-5
96F1522	LC1D0910B6	9	24	1	0	119.67	113.34
96F1523	LC1D0910G6	9	120	1	0	119.67	113.34
96F1524	LC1D0910U6	9	240	1	0	119.67	113.34
96F1470	LC1D0901B6	9	24	0	1	119.67	113.34
96F1474	LC1D1201G6	12	120	0	1	151.22	143.22
96F1476	LC1D1210B6	12	24	1	0	151.22	143.22
96F1477	LC1D1210G6	12	120	1	0	151.22	143.22
96F1478	LC1D1210U6	12	240	1	0	151.22	143.22
96F1479	LC1D1810B6	18	24	1	0	172.27	163.15
96F1480	LC1D1810G6	18	120	1	0	172.27	163.15
96F1481	LC1D1810U6	18	240	1	0	172.27	163.15
96F1482	LC1D2510B6	25	24	1	0	191.99	181.83
96F1483	LC1D2510G6	25	120	1	0	191.99	181.83
96F1485	LC1D3210B6	32	24	1	0	206.74	193.19
96F1486	LC1D3210G6	32	120	1	0	206.74	193.19

(2364) (de02681)

IEC CLASS 10 OVERLOAD RELAYS



LR2D13



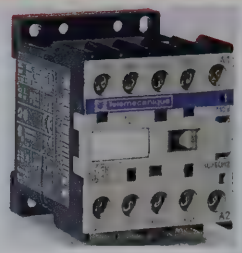
LR2D23

Thermal overload relays have selectable manual/auto reset. Separate "Stop" and "Reset" controls. Designed for direct mounting on underside of D-Line contactors. Terminals feature ready-to-wire screws. To create a motor starter, choose a contactor and an overload relay. UL listed, CSA certified, and CE compliant. Other versions available. *Contact your nearest Newark sales office.*

Stock No.	Type	For Use With	Adjustable Current Amps	Each	2-5
96F1505	LR2D1303	LC1D09 to D32	0.25 - 0.40	76.27	72.24
96F1507	LR2D1305	LC1D09 to D32	0.63 - 1.00	76.27	72.24
96F1508	LR2D1306	LC1D09 to D32	1.00 - 1.60	76.27	72.24
96F1509	LR2D13X6	LC1D09 to D32	1.25 - 2.00	76.27	72.24
96F1510	LR2D1307	LC1D09 to D32	1.60 - 2.50	76.27	72.24
96F1511	LR2D1308	LC1D09 to D32	2.50 - 4.00	76.27	72.24
96F1512	LR2D1310	LC1D09 to D32	4.00 - 6.00	76.27	72.24
96F1513	LR2D1312	LC1D09 to D32	5.50 - 8.00	78.90	74.72
96F1514	LR2D1314	LC1D09 to D32	7.00 - 10.00	78.90	74.72
96F1515	LR2D1316	LC1D12 to D32	9.00 - 13.00	78.90	74.72
96F1518	LR2D1321	LC1D12 to D32	12.00 - 18.00	78.90	74.72
96F1516	LR2D1322	LC1D25 to D32	17.00 - 25.00	78.90	74.72

(2366) (de02683)

K-LINE MINI IEC CONTACTORS

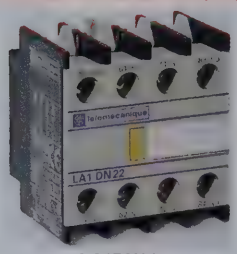


Ideal as non-reversing, AC control circuit contactors for lighting and motor circuit applications. UL listed, CSA certified for 600VAC with saddle clamp terminals. 6A 60Hz mini contactors. CE compliant.

Stock No.	Type	Voltage 50Hz	Voltage 60Hz	Contacts N.O.	Contacts N.C.	Each	2-5
92F5939	LC1K0610B7	24	24	1	0	72.32	68.50
92F5940	LC1K0610F7	100-110	100-120	1	0	72.32	68.50

(2365) (de02682)

AUXILIARY CONTACTS



LA1DN22

Standard auxiliary contact blocks with rated operational voltage of up to 660V. Rated thermal current: 10A. Mechanical durability: 30 million operating cycles. UL listed, CSA certified, and CE compliant.

FRONT SNAP-ON MOUNTING

Stock No.	Type	For Use With	Composition N.O.	Composition N.C.	Contacts	Each	2-5
96F1496	LA1DN11	LC1D09 to D32	1	1	2	26.30	24.91
96F1498	LA1DN22	LC1D09 to D32	2	2	4	49.97	47.33
96F1499	LA1DN31	LC1D09 to D32	3	1	4	52.74	49.94
96F1500	LA1DN40	LC1D09 to D32	4	0	4	52.74	49.94

SIDE SNAP-ON MOUNTING

96F1502	LA8DN11	LC1D09 to D32	1	1	2	26.30	24.91

(2367) (de02684)

GV2 SERIES MANUAL MOTOR STARTERS

GV2 series manual motor starters comprise a manual isolation switch, an overload relay, and an instantaneous magnetic trip mechanism in one compact device. Can be used alone for manual control of a single motor or wired in front of a contactor to provide remote operation. Snap onto 35mm DIN rails. Rated thermal current 25A. Rated voltage: 60 . Conform to IEC standards. Class 10 overload protection. Dimensions: 1.77H x 1.73W x 3.42"D. UL listed, CSA certified, and CE compliant. Order auxiliary contact blocks and enclosures separately. 1.00-1.60 and 9.00-14.00 current (A) models also available. *Contact your local Newark sales office.*

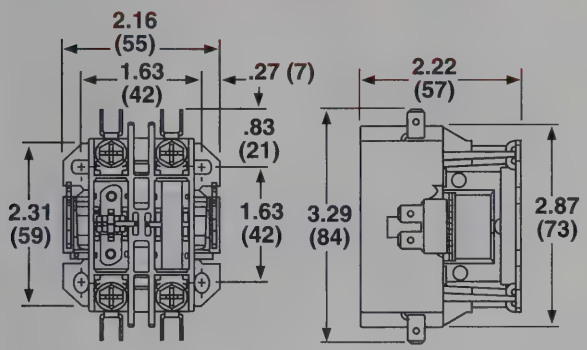
Stock No.	Type	Current (A)	Each	2-5
92F5217	GV2-M05	0.63-1.00	152.54	144.47
92F5219	GV2-M07	1.60-2.50	152.54	144.47
92F5220	GV2-M08	2.50-4.00	146.76	138.99
92F5221	GV2-M10	4.00-6.30	152.54	144.47
92F5222	GV2-M14	6.00-10.00	152.54	144.47

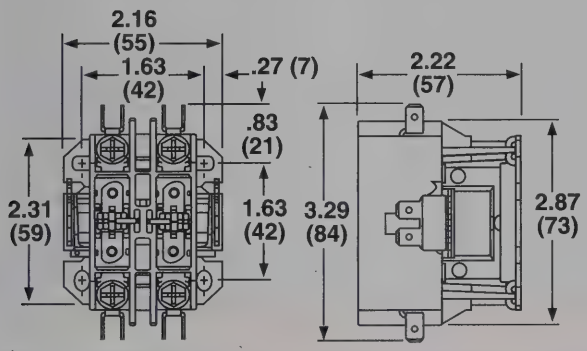
(2370) (de03207)

ALL PRODUCTS LISTED ARE STOCKED.

DEFINITE PURPOSE CONTACTORS

DP SERIES DEFINITE PURPOSE CONTACTORS





Definite purpose contactors are ideal for heating, air conditioning, refrigeration, data processing and food service equipment. Compact 1- and 2-pole contactors and standard size 2-, 3- and 4-pole devices are available. Double-break contact, N-O. All have quick-connect terminals and binder head screws for easy wiring. **8910DPA series** includes box lugs on 40A contactors and larger. Coils may also be changed on the **8910DPA** quickly without a tool. **Type 9999D** snap-on auxiliary contact modules for **8910DPA series** fasten on to either side of contactors; *ordered separately on this page.* Other versions available. *Contact your local Newark sales office.*

DP SERIES COMPACT 1-POLE CONTACTORS-300VAC

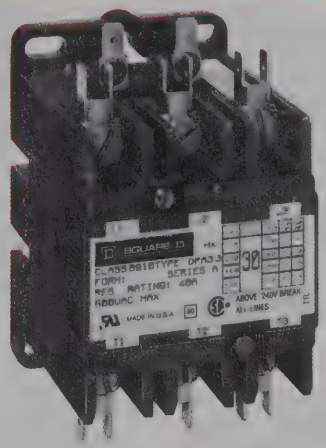
Stock No.	Type	Voltage 50Hz	Voltage 60Hz	Full Load	Resistive Load	Each	2-5
50F4259	8910DP11V02	110	120	20A	25A	26.61	24.95
50F4264	8910DP31V14	24	24	30A	30A	35.67	33.44

DP SERIES COMPACT 2-POLE CONTACTORS-600VAC

50F4268	8910DP12V02	110	120	20A	30A	30.98	29.04
50F4275	8910DP32V02	110	120	30A	40A	44.50	41.72

(2304) (de01255a)

DPA SERIES DEFINITE PURPOSE CONTACTORS



8910DPA33

Other versions available. *Contact your nearest Newark sales office.*

DPA SERIES STANDARD 2-POLE CONTACTORS-600 VAC

Stock No.	Type	Voltage 50Hz	Voltage 60Hz	Full Load	Resistive Load	Each	2-5
50F4278	8910DPA12V02	110	120	20A	25A	42.83	40.15
50F4296	8910DPA32V02	110	120	30A	40A	57.94	54.31
50F4305	8910DPA42V02	110	120	40A	50A	56.31	53.18
50F4304	8910DPA42V09	220	208-240	40A	50A	56.31	53.18
50F4320	8910DPA62V02	110	120	60A	75A	132.62	127.62

DPA SERIES STANDARD 3-POLE CONTACTORS-600VAC

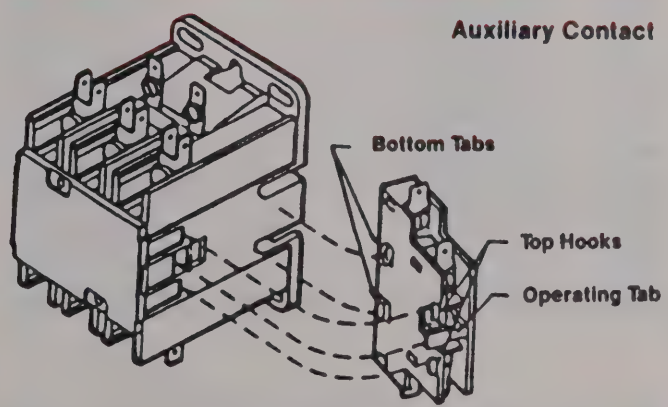
50F4281	8910DPA13V02	110	120	20A	25A	49.54	46.44
50F4297	8910DPA33V14	24	24	30A	40A	53.34	50.38
50F4299	8910DPA33V02	110	120	30A	40A	53.34	50.38
50F4298	8910DPA33V09	220	208-240	30A	40A	53.34	50.38
50F4306	8910DPA43V14	24	24	40A	50A	62.98	59.48
50F4308	8910DPA43V02	110	120	40A	50A	62.98	59.48
50F4315	8910DPA53V14	24	24	50A	62A	124.46	119.76
50F4317	8910DPA53V02	110	120	50A	62A	124.46	119.76
50F4323	8910DPA63V02	110	120	60A	75A	137.80	132.60
50F4335	8910DPA93V02	110	120	90A	120A	206.04	195.39
50F4334	8910DPA93V09	220	208-240	90A	120A	206.04	195.39

DPA SERIES STANDARD 4-POLE CONTACTORS-600VAC

50F4284	8910DPA14V02	110	120	20A	25A	54.09	51.09
50F4293	8910DPA24V02	110	120	25A	35A	61.50	58.08

(2305) (de01255b)

AUXILIARY CONTACTS FOR DPA SERIES CONTACTORS



9999D Auxiliary Contact Installation

Stock No.	Type	Contacts N.O.	Contacts N.C.	Each	2-5
50F4336	9999D10	1	0	13.89	12.99
50F4337	9999D01	0	1	13.89	12.99
50F4338	9999D11	1	1	25.04	23.40

(2306) (de01256)

CONVERSION TABLE

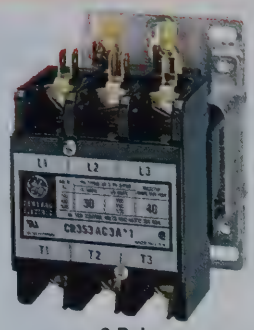
Metric to U.S.	U.S. to metric
1 centimeter = 0.39 inch	1 inch = 2.54 centimeters
1 millimeter = 0.039 inch	1 inch = 25.4 millimeters
1 meter = 3.28 feet	1 foot = 0.305 meter
1 gram = 0.035 ounce	1 ounce = 28.35 grams
1 kilogram = 2.2 pounds	1 pound = 454 grams
1 milliliter = 0.034 fl. ounce	1 pound = 0.45 kilogram
1 liter = 0.264 gallon	1 fl. ounce = 29.57 milliliters
	1 gallon = 3.79 liters

(38573) (Filler02)

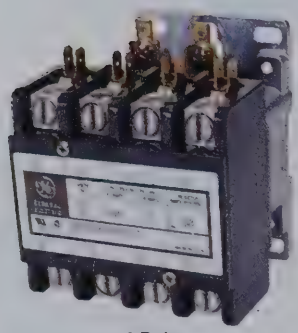
CONTACTORS AND PROGRAMMABLE RELAYS

CR353 SERIES DEFINITE PURPOSE CONTACTORS

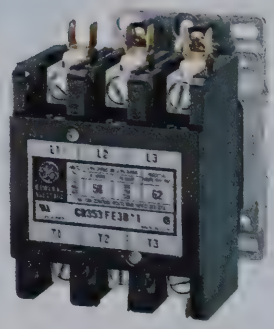
2-Pole
CR353A, CR353F



3-Pole
CR353A



4-Pole
CR353A



3-Pole
CR353F

Definite purpose contactors feature universal mounting plates to make them interchangeable with units from other manufacturers. Easy-to-read terminal markings and straight-through wiring for faster installation. Arc-confining cover protects against contaminants, except on **Type CR353C** compact models. Amperage in table is full-load, Coil Volts is at 60Hz.

CONTACTOR ELECTRICAL SPECIFICATIONS

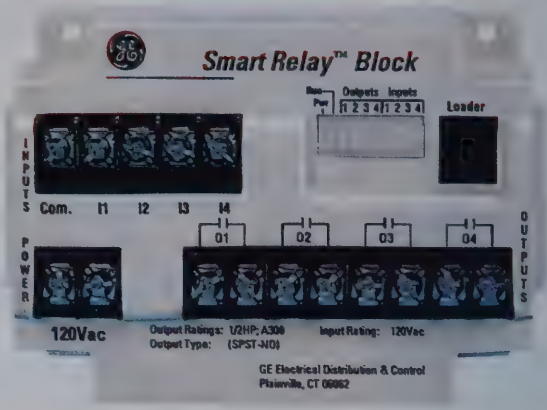
Motor Inductive Full Load Amps	Locked Rotor Amp 277V	480V	600V	Resistive Amps Per Pole
20	120	100	80	30
25	150	125	100	35
30 (2, 3 & 4 Pole)	180	150	120	40
35	180	150	120	50
40	240	200	160	50
50	300	250	200	62
60	360	300	240	70

Stock No.	Type	Poles	Coil Volts	Amps	1-4	5-9
96F3017	CR353CA2AA1	2	110	20	33.62	28.59
96F3021	CR353CB2AA1	2	110	25	22.70	19.30
96F3022	CRC353CB2AB1	2	208-240		42.03	35.73
96F2995	CR353AB3AH1	3	24		30.07	24.35
96F2994	CR353AB3AB1	3	208-240		30.07	24.35
96F2996	CR353AB4AA1	4	110-120		40.28	32.62
96F2993	CR353AB3AA1	4	110-120	25	30.07	24.35
96F2999	CR353AC2AA1	2	110-120	30	30.07	24.35
96F3002	CR353AC3AA1	3	110		33.47	27.11
96F3003	CR353AC3AB1	3	208-240		33.47	27.11
96F3032	CR353CD2AH1	2	24	35	26.10	22.19
96F3008	CR353AD2BA1	2	110	40	36.31	29.41
96F3011	CR353AD3BA1	3	110-120		40.28	32.62
96F3014	CR353AD4BA1	4	110-120		53.90	43.65
96F3033	CR353FE2BA1	2	110-120	50	67.63	54.78
96F3036	CR353FE3BA1	3	110-120		87.75	71.08
96F3042	CR353FF3BA1	3	110-120	60	87.75	71.08
96F3043	CR353FF3BB1	3	208-240	60	87.75	71.08

(2353) (de02495)

ONE-STOP SHOPPING . . . WITH ONE CALL AND ONE PURCHASE ORDER.

PROGRAMMABLE SMART RELAY



Each Smart Relay Block performs the function of up to 100 relays, counters, and timers. By replacing these conventional control devices, it reduces expensive panel space and wiring time, and eliminates the cost of multiple control products. The 10 amp pilot duty outputs allow each Smart Relay Block to directly control output loads, including pilot lights, large contactor coils, lighting loads, solenoids and even fractional horsepower single-phase motors. The Smart Relay Blocks are programmed by the Smart Relay Loader *(sold separately)* and have 4 input and 4 output terminals. The Smart Relay Loader can be used to monitor a circuit that is running or it can be disconnected to remotely build and store circuits (in the non-volatile memory) for additional Smart Relay Blocks. The Loader's memory will store up to 8 complete configurations, each containing up to 100 elements. Relay blocks are 4.92W x 3.63H x 3.54"D. Loaders are 7.50W x 4.00H x 1.12"D.

RELAY BLOCKS

Stock No.	Type	Description	Each
92F2152	SRBA120A10A	Relay Block, 120 VAC	270.81
92F2154	SRBA024D10A	Relay Block, 24 VAC	270.81

LOADER

92F2151	SRLA	Loader-works with all blocks	337.83

(2435) (ne03939)

MINIATURE IEC OPEN TYPE CONTROL DEVICES

Miniature contactors are for light to medium duty applications where motor jogging is not required. These full voltage, non-reversing contactors are open-type for DIN rail or surface mounting. They feature back-of-hand safe screw terminal with NEMA and international designations. An overload relay can be added to create a motor starter. Contactor dimensions: 1.89H x 1.77W x 2.2"D. Overload relay dimensions: 2H x 1.77W x 2.08"D. Starters = contactor + overload relay.

3-POLE CONTACTORS

Stock No.	Type	Coil Volts @ 60Hz	Amp Rating	Horse Power Rating 1 Phase 115V	1 Phase 230V	3 Phase 230V	3 Phase 460V	Each
92F2548	MC1A310ATJ	120	9.0	0.5	1.5	3.0	5.0	36.33
91F3943	MC0A310ATJ	120	6.0	0.33	1.5	1.5	3.0	42.03

OVERLOAD RELAYS

Stock No.	Type	Adj. Amp Range (Min.-Max.)	Each
92F2556	MT03M	5.50-8.00	33.03
92F2557	MT03N	7.50-10.50	33.03

10AMP CONTROL RELAY - 4-POLE

Stock No.	Type	Coil Volts @ 60Hz	Contact Configuration	Each
91F3944	MCRA031ATJ	120	3N.O.-1N.C.	31.38

(13055) (ne10017)

MOTOR CONTROLLERS

SOFT-START/SOFT-STOP MOTOR CONTROLLERS

TYPICAL APPLICATIONS:
- Compressors and Pumps
- Conveyor Belts
- Lifting Devices
- Blowers and Fans
- Mixers
- Palleting Devices
- Lift Doors
- Garage Doors

IN USE:
Protection of Motors and Driven Machines, Lower Maintenance Costs, Protects Against Pressure Surges in Pump and Compressor Applications, and Relieves the Power Supply Network by Reducing Starter In-Rush Current.

IN MOTOR AND INSTALLATION CONSTRUCTION:
Mechanical Dimensioning Can be Optimized, Simplifying Automation.

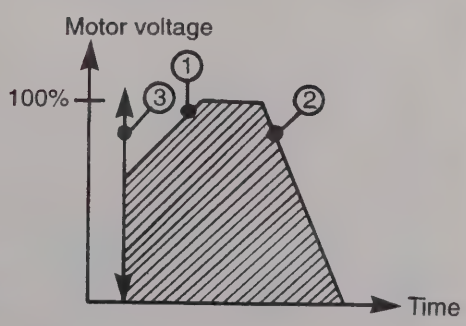
IN CONSTRUCTION AND INSTALLATION OF SWITCHING CABINETS:
Provides Flexibility in the Use of Equipment, Compact Design, Simple to Install and Connect, and Can Minimize Need to Stock Spare Parts.

(15837) (cgblurb2)

SOLID-STATE SOFT-START MOTOR CONTROLLERS

Independently Adjustable Settings Include (See "Motor Voltage" Diagram):
Ramp-Up Time: Time from Zero Load Voltage to Full Load Voltage
②Ramp-Down Time: Time from Full Load Voltage to Zero Load Current
③Initial Starting Torque: Voltage at Start of Ramp-Up Function

- Soft-Start and/or Soft-Stop of Induction Motors (up to 20 Hp)
- Compact DIN Rail Mount Housing Saves Valuable Space
- No Heat-Sink, Cooling or Bypass Contactor Required
- Competitively Priced
- Touch Safe Front Cover
- Diagnostic LEDs
- Built-In MOVs
- Optional Output for Overheating Alarm and End of Ramping
- Competitively Priced



DIN rail mount motor controllers for soft-starting and/or soft-stopping 3-phase motors with nominal load currents up to 3 or 12 amps. Ramp up and down times: 0.5 to 6.5 seconds. Torque: 0 to 85%. 3.62(92)H x1.77(45)W x 4.25"(108)D. UL recognized, CSA certified, CE compliant.

DIRECT ON-LINE OR 24-110VDC/24-480VAC CONTROL VOLTAGE

Type	Type	Line to Line Voltage	Nominal Hp Rating	Each
52F690	RSE2203-B	187-253 V	0.75 Hp @ 230 V	**249.37**
52F691	RSE2212-B	187-253 V	3.0 Hp @ 230 V	**284.99**
52F692	RSE4803-B	408-552 V	2.0 Hp @ 460 V	**259.55**
52F693	RSE4812-B	408-552 V	7.5 Hp @ 460 V	**300.26**
52F694	RSE6003-B	510-690 V	3.0 Hp @ 575 V	**290.08**
52F695	RSE6012-B	510-690 V	10.0 Hp @ 575 V	**320.62**

DIRECT ON-LINE OR 24-110VDC/24-600VAC CONTROL VOLTAGE

Similar to above, but for soft starting and/or stopping 3-phase motors with nominal load current up to 25A. Self-protection against overheating. 3.62(92)H x 3.54(90)W x 4.25"(108)D. Ramp up time: 0.5 to 10 sec. Ramp down time: 0.5 to 20 sec. Starting torque: 5 to 50%. Optional relay output for end of ram and overheating alarm is available. *Contact your local Newark sales office.* UL recognized, CSA certified, CE compliant.

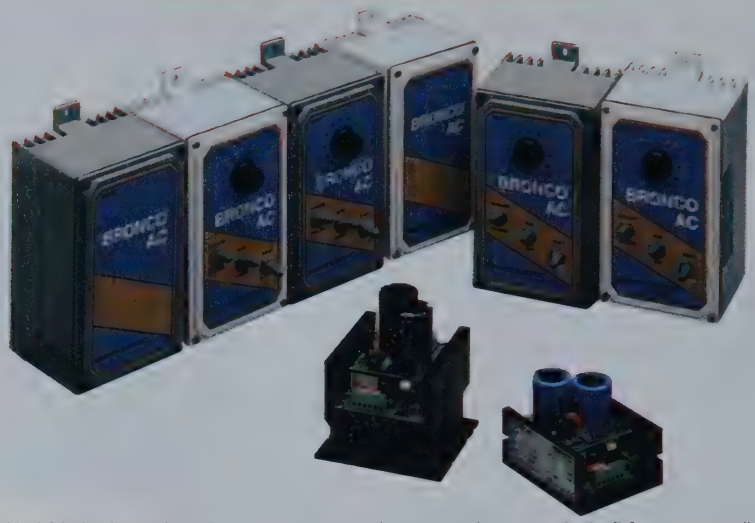
48F2026	RSE2225-C	188-253VAC	7.5 Hp @ 230 V	**333.27**
48F2027	RSE4825-C	408-552VAC	15.0 Hp @ 460 V	**342.80**
48F2028	RSE6025-C	510-690VAC	20.0 Hp @ 575 V	**361.84**

(2437) (ne06177)

FRIENDLY, QUALITY SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

MOTOR CONTROLLERS

BRONCO AC MOTOR CONTROLLERS



Motor controllers designed for 1/8 through 1Hp AC induction and synchronous motors or as low-cost replacements for for DC motor controllers. Industrially-hardened units are rugged volts-per-hertz drives ideally suited for conveyers, mixers, pumps, fans, and general machinery. Simple potentiometer controls make it easy to set user-defined adjustments, such as maximum/minimum speed, jog speed, acceleration and deceleration. Have 100% continuous duty output current rating and 150% rating for 60 sec. Immune to most EMI/RFI noise sources found on industrial AC incoming power lines. Dual voltage input is jumper selectable for either 115 or 230VAC, single-phase input to operate 230VAC, 3-phase AC motors. Smaller-than-average footprint, reversing capabilities and optimization for use with 3-phase motors make controllers ideal for new applications or retrofits. Special "boost" adjustment feature increases the drive torque capability to start heavy loads. "Slip compensation" feature helps maintain a constant speed by increasing the output frequency proportionately as the load increases. **Type BAC1695** and **Type BAC1695WD** have isolated signal followers.

NEMA 4/12 ENCLOSURES

	Type	AC Motor Output		Input	Operators	Each
		Hp	Current (A)			
48F3538	BAC1620	1/4-1.0*	3.2	230VAC	Remote	**314.34**
48F3539	BAC1621	1/4-1.0*	3.2	115/230VAC	Remote	**348.63**
48F3540	BAC1630	1/4-1.0*	3.2	230VAC	Local	**337.20**
48F3541	BAC1631	1/4-1.0*	3.2	115/230VAC	Local	**358.60**
48F3542	BAC1695	1/4-1.0*	3.2	115/230VAC	Local	**430.31**
	NEMA 4 FOOD-GRADE WASHDOWN					
48F3543	BAC1620WD	1/4-1.0*	3.2	230VAC	Remote	**375.15**
48F3544	BAC1621WD	1/4-1.0*	3.2	115/230VAC	Remote	**407.90**
48F3545	BAC1630WD	1/4-1.0*	3.2	230VAC	Local	**402.73**
48F3546	BAC1631WD	1/4-1.0*	3.2	115/230VAC	Local	**435.83**
48F3547	BAC1695WD	1/4-1.0*	3.2	115/230VAC	Local	**529.62**
	CHASSIS-MOUNT VERSION					
48F3548	BAC1610S	1/8-1/2	2.1	115/230VAC	Remote	**167.55**
48F3549	BAC1610H	1/4-1.0	4.2	115/230VAC	Remote	**200.04**

*1.0HP with high efficiency motors, otherwise 3/4HP max.

(33998) (ne33998)

MOTORS AND ACCESSORIES

ASSOCIATED MOTORS—NEMA FRAME 56C

Inverter duty, high efficiency TENV, "C" face foot mount

Stock No.	Type	Hp	Full-Load RPM	230V Full-Load Amps	Each
48F3554	MVM005	1/2	1750	1.6	**236.83**
48F3555	MVM01	1	1750	3.0	**282.98**
General-purpose, 10:1 constant torque TEFC, "C" face foot mount					
48F3556	MGP003	1/3	1725	1.6	**168.13**
48F3557	MGP005	1/2	1725	2.4	**182.18**
48F3558	MGP007	3/4	1725	3.0	**200.39**
48F3559	MGP01	1*	1730	3.6	**205.25**

*Use with BAC1610H only

ACCESSORIES

Stock No.	Type	Description	Each
48F3550	BAC1610SDIN	DIN Rail Mounting Kit for BAC1610S	**36.05**
48F3551	BACNSF	Isolated Signal Follower Kit for use with 1610S and BAC1610H	**106.68**
48F3552	BACFUSE	Line Fusing Kit for use with BAC1610S and BAC1610H	**54.35**
48F3553	BACOPS	Remote Operators Stattion for Chassis and BAC1620 Units	**167.55**

(35379) (ne35379)

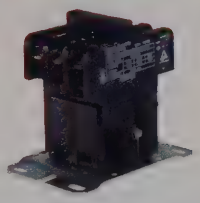
COMPACT, LOW COST SPEED CONTROLLER FAMILY

- **Available in Chassis Mount or Rugged NEMA 4/12 Enclosed Versions**
- **230VAC 3-Phase Output to 1 Hp, Jumper Selectable 115/230VAC Single-Phase Input**
- **Simple Setup — 7 Potentiometers and DIP Switch Eliminate Programming**
- **Easy Operation — Only Speed Potentiometer and 3 Toggle Switches, 3-Wire Start/Stop Control**
- **"Boost" Feature Increases Low-Speed Torque to Start Heavy Loads**
- **"Slip Compensation" Helps Maintain Constant Motor Speed with Varying Loads**
- **Surface Mount Electronics with Advanced Microprocessor and ASIC Technology**

(35380) (ne35380)

CONTACTORS AND SENSORS

P25 DEFINITE PURPOSE CONTACTORS



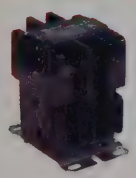
Switch 3-phase motor loads to 25 amps, 600VAC, and resistive loads to 30 amps, 600VAC. Field replaceable, silver-cadmium oxide contacts have 500,000-operation life expectancy. Main contact terminals arranged for straight-through wiring. Coil terminals are combination #8-32 screw terminals/.250″ quick connects. **P25P** models have no auxiliary switch. Attached universal mount plate **except P25P42A12** models which exclude mounting plate. Dimensions: 3.75L x 2.50W x 3.47″H. Suffix numbers indicate the input voltage value of the model. UL recognized, CSA certified.

AC COIL, CONTACT ARRANGEMENT 3PST NO DM

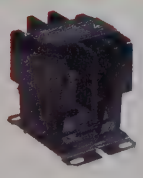
Stock No.	Type	1-24	25-49	50-99
10F7828	P25P42A12P1-120	54.37	50.57	45.50
10F7834	P25P42A22P1-120V	56.45	52.51	47.24
10F7835	P25P42A22P1-240	56.45	52.51	47.24
DC COIL, CONTACT ARRANGEMENT 3PST NO DM				
98F669	P25P42D22P1-12	49.73	46.26	41.62
90F7237	P25P42D22P1-24	49.73	46.26	41.62

(2403) (de50886)

P30 AND P40 DEFINITE PURPOSE CONTACTORS



4-Pole DC



3-Pole DC

P30 and **P40** are identical except **P30** switches motor loads to 30 amps, 600VAC, and resistive loads to 40 amps, 600VAC; **P40** switches to 40 amps, 600VAC and resistive loads to 50 amps, 600VAC. Main contact terminals arranged for straight thru wiring. 10-32 binding head screw for use with solid wire or wires terminated with ring or spade terminals. Universal mount plate. **P40C** models have SPDT auxiliary snap switch with 10-amp, 120-250VAC, silver contacts and 0.25″ (6.35) quick connect terminals; **P30P**, **P40P** models have no auxiliary switch. Dimensions: 3.600L x 3.800W x 3.420″H (AC coil); 2.550L x 3.250W x 3.975″H (DC coil). Suffix numbers indicate the input voltage of the model. UL recognized, CSA certified.

AC COIL, CONTACT ARRANGEMENT 3PST NO DM*

Stock No.	Type	1-24	25-49	50-99
10F7845	P30P42A12P1-120	68.76	63.96	57.55
10F7851	P30P47A12P1-120	77.51	72.09	64.86
10F7860	P40C42A12D1-120V	79.00	73.48	66.11
10F7856	P40P42A12P1-24V	71.70	66.68	60.00
10F7857	P40P42A12P1-120	71.70	66.68	60.00
10F7858	P40P42A12P1-240	71.70	66.68	60.00
DC COIL, CONTACT ARRANGEMENT 3PST NO DM				
90F7238	P30P42D12P1-24V	58.64	54.54	49.07
90F7239	P40P42D12P1-24	61.67	57.36	51.62

*Contact arrangement is 4PST NO DM for **type P30P47A12P1-120V**.
(2402) (de50885)

CSJ AND CSL SERIES SOLID STATE VOLTAGE SENSORS

Adjustable Pick-up and Drop-out

Sound alarms, turn off equipment, or trigger auxiliary power source with voltage sensors which energize and de-energize internal relay at predetermined voltages. Solid-state sensors available with voltage levels fixed or knob-adjustable. Can be used as over-voltage or under-voltage sensor. Contacts are 2 form C (DPDT), rated 10A at 28VDC resistive or 120VAC resistive. Temperature range: –10°C to +55°C. Enclosed in molded nylon dust cover. Dimensions: 2.406L x 1.781W x 2.937″H (61.11 x 42.24 x 76.60). Maximum voltage for **type CSJ38-70010** is 150VAC; for **type CSL38-30010** is 40VDC; for **type CSL38-60010** is 150VDC; for **type CSJ38-71010** is 140VAC; for **type CSL38-31010** is 40VDC. CSA certified. *Order socket separately; contact your local Newark sales office.*

ADJUSTABLE PICK-UP AND DROP-OUT

Stock No.	Type	Pick-Up Volts	Drop-Out Volts	Max. Volts	1-24	25-49	50-99
24F2952	CSJ-38-70010	92-140	90-138	150VAC	116.79	108.63	97.74
24F2953	CSL-38-30010	20-30	18-28	40VDC	116.79	108.63	97.74
67F1021	CSL-38-60010	92-140	90-138	150VDC	116.79	108.63	97.74
FIXED PICK-UP AND ADJUSTABLE DROP-OUT							
24F2954	CSJ-38-71010	105	90-103	140VAC	108.26	100.69	90.60
24F2955	CSL-38-31010	22	16-21	40VDC	108.26	100.69	90.60

8 PIN SOCKET FOR CSJ AND CSL SERIES

Stock No.	Type	1-24	25-49	50-99
57F3431	27E122	5.65	5.09	4.58

(2401) (de50884)

SDAS-01 SERIES AC CURRENT SENSORS

1.5 to 15 amp AC current sensor. Zero insertion loss. Inductive coupling to power line. Choice of modes-adjustable overcurrent sensor or adjustable undercurrent sensor. Solid state sensing circuit. 1 Form C (SPDT) or 2 Form C (DPDT) internal relay. Undercurrent sensor (indicated by **Type SDAS-01-7Y series**) detects a current in excess of determined value by potentiometer setting. Built-in time delay, 200ms, minimum, allows for normal starting and surge currents. Overcurrent sensor (indicated by **Type SDAS-01-8Y series**) reacts to complete loss of sense current, or any current of less than the potentiometer setting. Control voltage: 24VAC 50/60 Hz./DC±10%. Operating temperature range: –25°C to +70°C. Dimensions: 1.406L x 1.531W x 2.718″H (35.71 x 38.89 x 70.64). Both sensors are arranged DPDT, 2A DC/1A-AC.

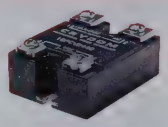
Stock No.	Type	1-24	25-49	50-99
95F8878	SDAS-017Y2S1024	105.98	98.57	88.69
95F8879	SDAS-018Y2S1024	105.98	98.57	88.69

(2313) (de01965)

NEED IT FAST? OVERNIGHT SHIPMENT IS AVAILABLE ANYWHERE, ANYTIME.
CONTACT YOUR LOCAL NEWARK SALES OFFICE.

PROPORTIONAL CONTROLLERS

PCV SERIES PROPORTIONAL CONTROLLERS



PCV

PCV series proportional controllers are self-contained power control modules integrating a complete phase fired logic control system and solid state relays in the same standards package. Control voltage range is 2-10VDC (4-7 mA typ). Output voltage range is 100-240VAC.

Stock No.	Type	Load Current (Arms)	1-Cycle Surge (Apk)	1-9	10-24
92F4721	10PCV2415	0.15-15	150	73.47	67.59
92F4722	10PCV2425	0.15-25	250	81.38	74.87
92F4723	10PCV2440	0.15-40	625	96.07	88.39
91F3086	10PCV2475	0.15-75	1000	117.92	108.49
91F3087	10PCV2490	0.15-90	1200	131.01	120.53

(2431) (ne03843)

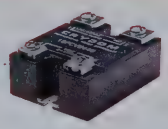
HPF SERIES 20-30-AMP DIN RAIL MOUNT RELAYS

HPF series solid-state relays utilize proprietary thermal management technology to provide a compact, efficient design with built-in DIN rail attachment, integral heat sink, and easy to use cage type terminals. All types have a 5-32VDC (5mA@5VDC) control and are available with zero-cross or random turn-on switching (suffix R).

Stock No.	Type	Load Current (Arms)	1-Cycle Surge (Apk)	1-9	10-24
91F2105	HPF240D20	0.15-20	250	50.20	46.19
91F2106	HPF240D20R	0.15-20	250	50.20	46.19
91F2107	HPF240D30	0.15-30	625	60.19	55.37
91F2108	HPF240D30R	0.15-30	625	60.19	55.37
83F4406	HPF480D20	0.15-20	250	55.42	50.99
83F4407	HPF480D20R	0.15-20	250	55.42	50.99
83F4408	HPF480D30	0.15-30	625	64.25	59.11
83F4409	HPF480D30R	0.15-30	625	64.25	59.11

(13927) (ne10406)

RPC SERIES PROPORTIONAL CONTROLLERS



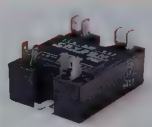
RPC

RPC series proportional controllers provide a stable yet economical method of controlling power. An inexpensive potentiometer connected to the input provides the proportional control. The **type RPC12** require potentiometer resistance of 150kΩ and potentiometer wattage 1W. **Types RPC24** and **RPC48** require a 1MΩ, ½W potentiometer.

Stock No.	Type	Load Current (Arms)	1-Cycle Surge (Apk)	1-9	10-24
92F4703	RPC1215	0.07-15	150	55.20	50.78
92F4704	RPC1225	0.08-25	250	71.40	65.69
92F4705	RPC1240	0.09-40	625	97.39	89.60
92F4708	RPC2440	0.09-40	625	103.89	95.58
92F4710	RPC4825	0.08-25	250	84.40	77.65
92F4711	RPC4840	0.09-40	625	113.60	104.51

(2430) (ne03842)

SOFT START MODULE



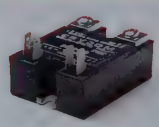
SST

Series SST soft start modules when used with a Series 1 random turn-on (-10) solid state relay will gradually (180 msec) apply power to the load when energized by the control voltage. Control voltage is 3.5-10Vdc (1.6mA@5Vdc) 4000 Volt isolation. UL certified.

Stock No.	Type	Description	1-9	10-24
70B015	SST120	Driver only, 120V	26.78	24.64
98F2714	SST-240	Driver only, 240V	27.29	25.10

(3697) (de52296)

1 SERIES 10-15 AMP TIME DELAY RELAYS



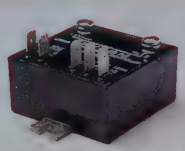
DSD

Series DSD 240 volt time delay relays feature a built-in time delay controlled by external resistor (0 to 1 Meg Ohm). Timing range: 0.1 to 8.3 seconds. Models available **(DLD)** with longer (1.6 to 133 seconds) delay times. UL certified.

Stock No.	Type	Load Current (Arms)	1-Cycle Surge (Apk)	1-9	10-24
87F089	DSD2410	10	120	37.27	34.29
87F090	DSD2425	25	250	38.47	35.40
87F091	DSD2450	50	625	40.58	37.33
87F086	DLD2410	10	120	37.27	34.29

(3695) (de52294)

LPCV SERIES PROPORTIONAL CONTROLLERS



LPCV Series linear proportional controllers control loads up to 110 amps. Changes in the input signal linearly vary the firing angle of the thyristor load control device. Control circuitry and power switch are in the same package. The **PS-120** and **PS-240** power supplies are designed to provide the 20Vac required in addition to the control voltage. Types **5LPCV** have a 0-5 Vdc control. Types **10LPCV** have a 0-10Vdc control.

Stock No.	Type	Load Current (Arms)	1-Cycle Surge (Apk)	1-9	10-24
92F4735	5LPCV2475	0.15-75	1000	318.54	293.05
92F4738	10LPCV2425	0.10-25	250	254.87	234.48

TRANSFORMERS FOR LPCV SERIES

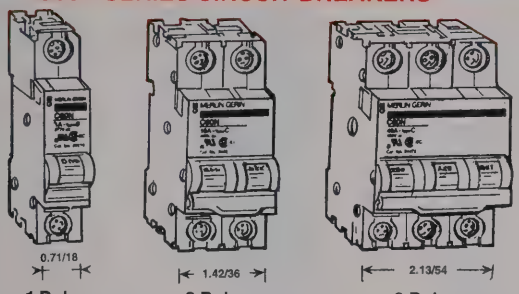
Stock No.	Type	Description	1-9	10-24
92F4730	PS-120	120V /Power Supply	46.91	43.16
92F4731	PS-240	240V /Power Supply	46.91	43.16

(2432) (ne03844)

FOR COMPLETE PRODUCT SPECIFICATIONS:
FAX-ON-DEMAND, CALL 888-267-9184 FOR INSTANT SPECS ON YOUR FAX
RPC SERIES - CODE 205, PCV SERIES - CODE 204
LPCV SERIES - CODE 207, HPF SERIES - CODE 155
SOFT START MODULE - CODE 202
TIME-DELAY RELAYS - CODE 201

(13536) (ne10407)

C60N SERIES CIRCUIT BREAKERS



1 Pole 2 Pole 3 Pole

These thermal magnetic circuit breakers provide supplemental overcurrent protection in a control panel in accordance with NEC specifications. Reduce effects of short circuit currents in an installation. Front panel or DIN rail mount. Withstand 6000V impulse. 1, 2 and 3 poles rated 240VAC, 1 pole rated 277VAC, 2 and 3 pole rated 480/277VAC. 1 pole rated 65VDC, 2 pole rated 125VDC. UL recognized, CSA certified, IEC947.2. 3-pole types are also available in 3A and 8A versions. *Contact your nearest Newark sales office.*

1-POLE

Stock No.	Type	Rating	Each	2-5
96F2007	MG24425	1A	**57.54**	**53.94**
96F2008	MG24426	2A	**57.54**	**53.94**
96F2009	MG24427	3A	**57.54**	**53.94**
96F2010	MG24428	4A	**57.54**	**53.94**
96F2011	MG24430	6A	**57.54**	**53.94**
96F2012	MG24431	8A	**57.54**	**53.94**
96F2013	MG24432	10A	**57.54**	**53.94**
96F2014	MG24433	13A	**57.54**	**53.94**

2-POLE

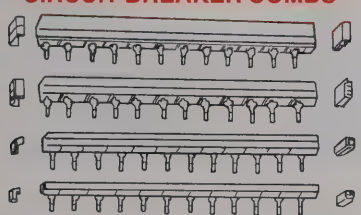
96F2015	MG24442	1A	**109.52**	**105.39**
96F2016	MG24443	2A	**109.52**	**105.39**
96F2017	MG24444	3A	**109.52**	**105.39**
96F2018	MG24445	4A	**109.52**	**105.39**
96F2019	MG24447	6A	**109.52**	**105.39**
96F2020	MG24448	8A	**109.52**	**105.39**
96F2021	MG24449	10A	**109.52**	**105.39**
96F2022	MG24450	13A	**109.52**	**105.39**

3-POLE

96F2024	MG24460	2A	**158.72**	**152.73**
96F2026	MG24462	4A	**158.72**	**152.73**
96F2027	MG24464	6A	**158.72**	**152.73**
96F2029	MG24466	10A	**158.72**	**152.73**
96F2030	MG24467	13A	**158.72**	**152.73**

(2360) (de02539)

CIRCUIT BREAKER COMBS



Groups your circuit breakers or relays together for ease of installing and space efficiency. Self extinguishing material. Cutting locations marked on copper and on insulation. Short-circuit withstand capability compatible with the breaking capacities of **Type C60N** circuit breakers *sold separately on this page.*

Stock No.	Type	Description	Each	2-5
96F2037	MG14881	1 Comb (12 1-Pole Breakers)	**18.93**	**17.69**

(2363) (de02542)

ELECTRICAL AUXILIARIES

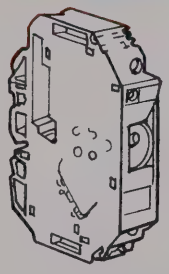
OF

Auxiliary switch acts as an indicating or control device to monitor the "ON" or "OFF" positions of the Merlin-Gerin Circuit Breaker. Easily clips onto the left hand side of Merlin-Gerin Circuit Breaker.

Stock No.	Type	Description	Each	2-5
96F2032	MG26925	OF Aux 1 Form C contact, NO-NC	**34.27**	**32.13**

(2362) (de02541)

ONE POLE THERMAL-MAGNETIC CIRCUIT BREAKER



Single pole thermal magnetic circuit breakers are rated 300VAC maximum "TC" protected finish. Ambient temperature range: –4 to +140°C mounted in open air. Mechanical life of 8,000 operations. UL recognized.

Stock No.	Type	Rating	Each	2-5
96F1997	GB2CB05	0.5A	**24.67**	**23.37**
96F1998	GB2CB06	1A	**24.67**	**23.37**
96F1999	GB2CB07	2A	**24.67**	**23.37**
96F2000	GB2CB08	3A	**24.67**	**23.37**
96F2002	GB2CB10	5A	**24.67**	**23.37**
96F2003	GB2CB12	6A	**24.67**	**23.37**
96F2004	GB2CB14	8A	**24.67**	**23.37**
96F2005	GB2CB16	10A	**24.67**	**23.37**
96F2006	GB2CB20	12A	**24.67**	**23.37**

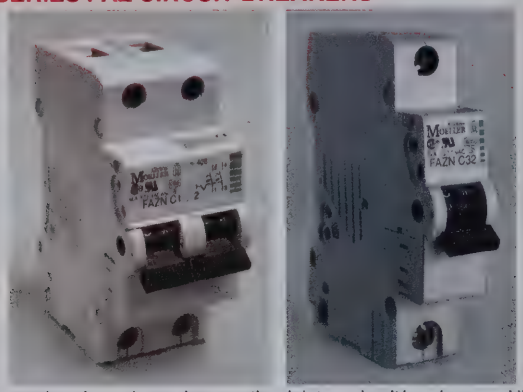
(2361) (de02540)

NEWARK MAKES IT EASY.

MORE PAYMENT OPTIONS! USE YOUR MAJOR CREDIT CARD, CORPORATE PURCHASING CARD, PUT IT ON YOUR ACCOUNT, OR PLACE A C.O.D. ORDER.

CIRCUIT BREAKERS AND PROGRAMMABLE RELAYS

SERIES FAZ CIRCUIT BREAKERS



Suitable for DIN rail mounting, these thermal-magnetic miniature circuit breakers are UL listed as supplementary protectors, UL 1077/CSA 235. Available in single or multiple pole versions and according to EN60898. CSA certified, CE compliant.

"B" TRIP CHARACTERISTIC

Instantaneous trip response 3-5 times current rating.

1-Pole, 277VAC max.

Stock No.	Type	Amps	Each
48F3379	FAZNB6	6	24.20
48F3380	FAZNB10	10	24.20
48F3381	FAZNB13	13	24.20
48F3382	FAZNB16	16	24.20
48F3383	FAZNB20	20	24.20
48F3384	FAZNB25	25	24.20
48F3385	FAZNB32	32	29.70
2-Pole, 277/480VAC Max.			
48F3386	FAZNB62	6	85.80
48F3387	FAZNB102	10	85.80
48F3388	FAZNB132	13	85.80
48F3389	FAZNB162	16	85.80
48F3390	FAZNB202	20	85.80
48F3391	FAZNB252	25	93.50
48F3392	FAZNB322	32	108.90
3-pole, 277/480VAC max.			
48F3393	FAZNB63	6	128.70
48F3394	FAZNB103	10	128.70
48F3395	FAZNB133	13	128.70
48F3396	FAZNB163	16	128.70
48F3397	FAZNB203	20	128.70
48F3398	FAZNB253	25	138.60
48F3399	FAZNB323	32	149.60

"S" TRIP CHARACTERISTIC

Instantaneous trip response time 13-17 times current rating.

1-Pole, 240VAC max.

Stock No.	Type	Amps	Each
48F3436	FAZNS1	1	139.70
48F3437	FAZNS2	2	24.20
48F3438	FAZNS3	3	24.20
48F3439	FAZNS4	4	24.20
48F3440	FAZNS6	6	24.20
48F3441	FAZNS10	10	24.20
48F3442	FAZNS16	16	24.20

"C" TRIP CHARACTERISTIC

Instantaneous trip response 5-10 times current rating.

1-Pole, 277VAC max.

Stock No.	Type	Amps	Each
48F3400	FAZNC0.5	0.5	36.30
48F3401	FAZNC1	1	36.30
48F3402	FAZNC2	2	36.30
48F3403	FAZNC3	3	36.30
48F3404	FAZNC4	4	36.30
48F3406	FAZNC6	6	36.30
48F3407	FAZNC10	10	34.10
48F3408	FAZNC13	13	34.10
48F3409	FAZNC16	16	34.10
48F3410	FAZNC20	20	34.10
48F3411	FAZNC25	25	39.60
48F3412	FAZNC32	32	40.70
2-Pole, 277/480VAC max.			
48F3413	FAZNC0.52	0.5	93.50
48F3414	FAZNC12	1	93.50
48F3415	FAZNC22	2	93.50
48F3416	FAZNC42	4	93.50
48F3418	FAZNC62	6	93.50
48F3419	FAZNC102	10	90.20

CONTINUED

SERIES FAZ CIRCUIT BREAKERS (CONT.)

2-Pole, 277/480VAC max. (CONT.)

Stock No.	Type	Amps	Each
48F3420	FAZNC132	13	90.20
48F3421	FAZNC162	16	90.20
48F3422	FAZNC202	20	90.20
48F3423	FAZNC252	25	93.50
48F3424	FAZNC322	32	94.60
3-Pole, 277/480VAC max.			
48F3425	FAZNC0.53	0.5	133.10
48F3426	FAZNC23	2	133.10
48F3427	FAZNC33	3	133.10
48F3428	FAZNC43	4	133.10
48F3429	FAZNC63	6	133.10
48F3430	FAZNC103	10	126.50
48F3431	FAZNC133	13	126.50
48F3432	FAZNC163	16	126.50
48F3433	FAZNC203	20	126.50
48F3434	FAXNC253	25	126.50
48F3435	FAZNC323	32	135.30

(38970) (ne38970)

PROGRAMMABLE RELAYS

Replace counters, timers and analog comparators. Construct ladder circuit diagrams using a 4-line screen and buttons and a cursor control located on the unit – no special software required . 8 inputs, 4 relay outputs. Optional software allows programing from a PC (requires optional cable and Windows 95). DIN rail mounting or 3 screws. AC model has 6 inputs rated 0.25mA@120VAC, 2 rated 2.0mA@120VAC. DC model has 6 inputs rated m.2mA@ 24VDC and 2 inputs rated 2.2mA@24VDC. Program memory: 120 contacts (41 lines). 3.67x2.92x2.17" (HxWxD). UL listed, CSA certified, CE compliant.

Stock No.	Type	Description	Each
48F3443	EASY412ACR	115/230VAC-Powered	228.00
48F3444	EASY412ACRC	AC-Powered with Real Time Clock	246.00
48F3445	EASY412DCR	24VDC-Powered	240.00
48F3446	EASY412DCRC	DC-Powered with Real-Time Clock	264.00
48F3447	EASYSOFT	PC-Based Software	56.40
48F3448	EASYPCCAB	6' Serial Cable	90.00
48F3449	EASYM8K	Separate Memory Module	33.60

(34503) (ne34503)

NEWARK MAKES ORDERING SIMPLE.
ONE CALL IS ALL IT TAKES TO GET
FAST, EFFICIENT DELIVERY.

INDICATING BANKS AND ACCESSORIES

XVAL SERIES SINGLE STAGE INDICATING BANKS

- **Perfect for Status Indication on Factory Floors Using JIT Methods**

XVAL series indicating banks are individual signaling units of an illuminated stackable modular system of signaling lights **(XVAC series)** that can be used for indicating the status of a machine and verifying that status from a distance and in all directions (360°). The modular system of lenses allows the unit to be constructed from any combination of 1 to 5 lenses. Constant, flashing and strobe units are available. *See* **XVAC series** *indicating banks on this page to order indicating banks of multiple stages.* Bank material: polycarbonate lenses and cover, polyamide base. Rated insulation voltage: 250V. Lamps: 7W maximum, length 1.66″. Wiring: captive terminal with screw saddle clamp; maximum capacity: 2 size, 12 wires. Available with green, red, orange, blue, or clear lens except strobe light (red only). Operating temperature: –13°F to +158°F. UL listed, CSA certified, CE approved. Meet NEMA 1 and 12 protection (indoor use only). Bulbs for steady light and flashing light indicating banks not included. *Order separately from accessories table on this page. Also order mounting accessories separately on this page.*

STEADY LIGHT (AC/DC)

Stock No.	Type	Voltage	Color	Each	2-5
93F8554	XVAL331	≤240VAC/VDC	Green	**87.47**	**82.84**
93F8555	XVAL341	≤240VAC/VDC	Red	**87.47**	**82.84**
93F8556	XVAL351	≤240VAC/VDC	Orange	**87.47**	**82.84**
93F8557	XVAL361	≤240VAC/VDC	Blue	**87.47**	**82.84**
93F8558	XVAL371	≤240VAC/VDC	Clear	**87.47**	**82.84**
FLASHING LIGHT (AC ONLY)					
93F8559	XVAL431	≤24-220VAC	Green	**149.76**	**141.84**
93F8560	XVAL441	≤24-220VAC	Red	**149.76**	**141.84**
93F8561	XVAL451	≤24-220VAC	Orange	**149.76**	**141.84**
93F8562	XVAL461	≤24-220VAC	Blue	**149.76**	**141.84**
STROBE LIGHT (AC OR DC)					
93F8564	XVAL74C024	24VDC	Red	**266.65**	**249.17**

(2750) (de03206)

XVAC SERIES COMPONENT INDICATING BANKS

- **Applications Include: Conveyor Systems, Automated Process Lines, Assembly Work Stations, and Machine Tools**

Component **XVAC series** indicating banks feature the same characteristics as **XVAL** banks but additionally offer the capability to stack up to 5 lenses directly on equipment or on to a 4-inch mounting tube. Only 1 strobe may be used on each bank and must be mounted in the top position. UL listed, CSA certified, and CE compliant. Bulbs for steady light and flashing light indicating banks not included. *Order separately from accessories table on this page. Also order mounting accessories separately on this page. Intermittent tone audible sounder also available separately on this page.* AC/DC strobe light is also available. *Contact your local Newark sales office*

INDICATING BANK COMPONENTS

Key	Description
A	Audible Signal 1-5 (max.) Stages
B	Indicating Bank 1-5 (max.) Stages
C	Common Base
D	Extension Tube
E	Tube Support/Tulip

DIMENSIONS

No. of Lenses	b	b1	b2
1	7.32″ (186)	2.5″ (63)	4.21″ (107)
2	9.25″ (238)	2.5″ (63)	6.25″ (159)
3	11.42″ (290)	2.5″ (63)	8.31″ (211)
4	13.46″ (342)	2.5″ (63)	10.35″ (263)
5	13.51″ (394)	2.5″ (63)	12.40″ (315)

Note: For strobe unit add 3.19″ (81) to total stack height.

STEADY LIGHT (AC/DC)

Stock No.	Type	Voltage	Color	Each	2-5
93F8534	XVAC331	≤240VAC/VDC	Green	**46.74**	**44.26**
93F8535	XVAC341	≤240VAC/VDC	Red	**46.74**	**44.26**
93F8536	XVAC351	≤240VAC/VDC	Orange	**46.74**	**44.26**
93F8537	XVAC361	≤240VAC/VDC	Blue	**46.74**	**44.26**
93F8538	XVAC371	≤240VAC/VDC	Clear	**46.74**	**44.26**
FLASHING LIGHT (AC ONLY)					
93F8539	XVAC431	≤24-220VAC	Green	**109.03**	**103.26**
93F8540	XVAC441	≤24-220VAC	Red	**109.03**	**103.26**
93F8541	XVAC451	≤24-220VAC	Orange	**109.03**	**103.26**
93F8542	XVAC461	≤24-220VAC	Blue	**109.03**	**103.26**

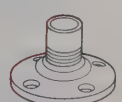
(2752) (de03208)

LET NEWARK CONNECT™ AUTOMATICALLY REPLENISH YOUR INVENTORY.
CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR DETAILS.

XVA SERIES ACCESSORIES

Type XVA94

Type XVAC02



Type XVAC11

Stock No.	Type	Description	Each
93F8546	XVAC94	Audible Sounder, 110-220VAC 90 db	**339.26**
93F8547	XVAC211	Cover/Base Unit Sub-Assembly	**46.74**
97F7525	XVAC01	Plastic Tube Support/Tulip	**13.46**
93F8548	XVAC02	3.9″ (100) Mounting Tube - Aluminum	**15.28**
16F2760	XVAC027	3.9″ Mounting Tube-Black Anodized Alum.	**18.90**
93F8549	XVAC11	Metallic Tube Support/Tulip	**20.19**
16F2761	XVAC12	Black Anodized Metal Wall Mounting Bracket	**37.38**
93F8552	DL1BA012	12VAC/VDC Bulb 5W	**6.73**
93F8550	DL1BL024	24VAC/VDC Bulb 6.5W	**6.73**
97F7527	DL1BA110	110VAC/VDC Bulb 7W	**6.73**
93F8551	DL1BL120	120VAC/VDC Bulb 7W	**6.73**

(2754) (de03209)

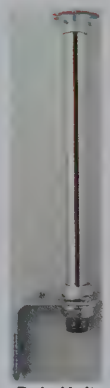
idec

INDICATING LIGHT TOWERS

SIGNALIGHT™ TOWERS

Base Mount Unit

Pole Mount Unit


Pole Unit

Lamps

Lens Cover

Pole/Mounting Base

LEDs

- **Provides 360° Illumination of Status or Alarm Conditions**
- **Units can be Either Base or Pole Mounted**
- **Flashing or Steady Lights**
- **Vibration-Resistant Bulbs, Up to 10W, Provide 2,000 Hours of Life**
- **Vibration and Shock Damping Base**
- **Bases are Available in Metal or Plastic**
- **Color-Coded Wires Make Assembly and Wiring Easy**
- **Heat and Shock-Resistant Polycarbonate Lenses**

SignaLight™ towers offer 360° of indication illumination for reporting the status of automated machinery. Easy to assemble and disassemble. Available in 120VAC or 24VAC/DC. Build Up to five tiers in five different color heat-and shock-resistant polycarbonate lenses (red, green, blue, yellow, and white). Choose from either steady or flashing lights and metallic or plastic bases. Lamp type: T-20; lamp base: BA15D. Prism-cut globe increases signal visibility. Built-in vibration/shock absorber, color-coded wires. Dimensions: each tier = 2.75H x 2.20″W (70 x 56). UL and cUL listed.

To build a complete SignaLight unit, pick: 1) Base unit + 2) Top cap + 3) Lenses + 4) Lamps + 5) Optional Pole unit for pole mounting and optional pole mounting base

BASE UNITS

1 tier = 6.7″ (170), 2 = 9.4″ (240), 3 = 12.2″ (310), 4 = 14.9″ (380), 5 = 17.7″ (450).

Stock No.	Type	Number of Tiers	Voltage	Lamp Type	Base Type	Each
52F7394	LT1A-0115M	1	120VAC	Steady 120V, 7W	Metallic	96.89
52F7395	LT1A-0125M	2	120VAC	Steady 120V, 7W	Metallic	101.78
52F7396	LT1A-0135M	3	120VAC	Steady 120V, 7W	Metallic	105.51
52F7398	LT1A-0155M	5	120VAC	Steady 120V, 7W	Metallic	123.33
52F7399	LT1A-0115P	1	120VAC	Steady 120V, 7W	Plastic	70.44
52F7401	LT1A-0135P	3	120VAC	Steady 120V, 7W	Plastic	79.06
52F7405	LT1D-0125M	2	120VAC	Flashing 120V, 7W	Metallic	143.35
52F7410	LT1D-0125P	2	120VAC	Flashing 120V, 7W	Plastic	132.83
52F7411	LT1D-0135P	3	120VAC	Flashing 120V, 7W	Plastic	140.01
52F7412	LT1D-0145P	4	120VAC	Flashing 120V, 7W	Plastic	140.76
52F7414	LT1A-0132M	3	24VAC/DC	Steady 30V, 10W	Metallic	105.51
52F7415	LT1D-0132P	3	24VAC/DC	Steady 30V, 10W	Plastic	140.01

TOP CAP

Stock No.	Description	Each
52F7416	Top Cap	8.05

LENSES

52F7417	Green lens	12.07
52F7418	Red lens	12.07
52F7419	Yellow lens	12.07
52F7420	White lens	12.07
52F7421	Blue lens	12.07

MOUNTING ACCESSORIES

52F7422	Pole unit	23.00
52F7423	Pole mounting base plate	34.50

LAMPS

52F7424	AC 120V, 7W	3.74
52F7425	AC/DC 24V, 10W	3.74

REPLACEMENT LEDs

Listed in red. Blue, yellow, green, and white also available; *contact your local Newark branch.*

91F5714	AC/DC 24V	46.00

(3035) (ne07354)

AUDIBLE/VISUAL WARNING SIGNALS

ADVERSE LOCATION ADAPTABEACON® LIGHTS

Feature NEMA 4X and marine-rated enclosure when asembled in acordance with installation instructions. UL listed for use in Class 1, Division 2, Groups A, B, C, and D, Class 2, Division 2, Groups F and G and Class 3 Hazardous Locations. Mounting options include pipe mount, outlet box and mounting bracket. 120VAC. UL listed and CSA certified, CE marked.

105PM

105BX 105MB

LIGHT MODULES

Stock No.	Type	Description	Color	Current (Amps)	Each	2-5
48F3794	105SLEDR-N5	Steady-on LED	Red	0.022	155.91	144.38
48F3795	105SLEDA-N5	Steady-on LED	Amber	0.022	162.51	150.49
48F3796	105FLEDR-N5	Flashing LED	Red	0.022	171.49	158.99
48F3797	105FLEDA-N5	Flashing LED	Amber	0.022	177.97	164.99
48F3798	105SINHR-N5	Steady-on Halogen	Red	0.2	124.61	117.43
48F3799	105SINHA-N5	Steady-on Halogen	Amber	0.2	124.61	117.43
48F3800	105FINHR-N5	Flashing Halogen	Red	0.2	139.83	129.49
48F3801	105FINHA-N5	Flashing Halogen	Amber	0.2	139.83	129.49
48F3802	105STR-N5	Strobe	Red	0.1	155.91	144.38
48F3803	105STA-N5	Strobe	Amber	0.1	155.91	144.38
48F3804	105HISTR-N5	High-intensity Strobe	Red	0.1	223.27	206.98
48F3805	105HISTA-N5	High-intensity Strobe	Amber	0.1	223.27	206.98

MOUNTING ATTACHMENTS

48F3806	105PM	Pipe Mount Attachment	18.58	16.89
48F3807	105BX	Outlet Box Attachment	21.55	20.17
48F3808	105MB	Mounting Bracket (Use with 105BX)	30.93	28.95

(33993) (ne33993)

ADAPTABEACON® FLASHING LIGHTS

Direct or ½" NPT conduit mounted, for indoor and outdoor use. Lens must face up when mounted in outdoor application. Dia. 6", height 6". Features halogen bulb. UL listed.

Stock No.	Type	Color	Voltage	Amps	Each	2-5
92F6439	50R-N5-40WH	Red	120VAC	0.30	149.86	138.78
92F6440	50A-N5-40WH	Amber	120VAC	0.30	149.86	138.78

(2968) (ne04077)

ADAPTALIGHT® ROTATING BEACON WITH LIGHT REFLECTOR

UL listed to 120 VAC, 60Hz. Direct or ½" NPT conduit mounted. Applications include: Protected areas outdoors - to alert passersby of a change of conditions inside. Noisy areas indoors - to warn or communicate. Bayonet socket for easy lamp replacement. Feature long-life halogen bulb. For indoor and outdoor use. Lens must face up when mounted in outdoor application. Dia. 6", height 8.5".

Series 52

Stock No.	Type	Color	Voltage	Each	2-5
92F6429	52R-N5-40WH	Red	120V, 60Hz	161.81	149.85
92F6430	52A-N5-40WH	Amber	120V, 60Hz	161.81	149.85
92F6433	52R-G5-20WH	Red	24V, 60Hz	161.81	149.85
92F6431	52A-G5-20WH	Amber	24V, 60Hz	161.81	149.85

(2962) (ne04074)

FLASHING ADAPTABEACON® WITH WARNING HORN

UL listed flashing visual signal. Direct or ½ NPT conduit mounted. Horn in base is rated at 85dB @ 10'. For indoor and outdoor use. Features halogen bulb. Note: Lens must face up when mounted in outdoor application. Dia. 6", height 7⅜". UL listed.

Series 51 and 95

Stock No.	Type	Color	Voltage	Amps	Each	2-5
92F6435	51R-G5-20WH	Red	24VAC	1.1	176.76	163.69
92F6436	51A-G5-20WH	Amber	24VAC	1.1	176.76	163.69
92F6437	51R-N5-40WH	Red	120VAC	.30	176.76	163.69
92F6438	51A-N5-40WH	Amber	120VAC	.30	176.76	163.69

(2964) (ne04075)

ADAPTABEACON® SINGLE FLASHING STROBES

Series 92: Light-duty, direct or ½" NPT conduit mounted. 120 VAC. UL listed. Dia. 6", height 6". Other colors available. *Contact your local Newark sales office.*

Series 50 and 92

SINGLE FLASHING STROBE

Stock No.	Type	Color	Amps	Each	2-5
92F6427	92A-N5	Amber	0.1	251.20	232.88
92F6428	92R-N5	Red	0.1	251.20	232.88

SINGLE FLASHING STROBE WITH HORN

92F6423	95A-N5	Amber	0.1	289.71	268.59
92F6424	95R-N5	Red	0.1	289.71	268.59

(2966) (ne04076)

CHECK NEWARK'S WEB SITE FOR PRODUCT NEWS AND INFORMATION.
http://www.newark.com

AUDIO/VISUAL WARNING DEVICES

102 SERIES TRILIPTICAL™ STACKABLE STATUS INDICATORS

102

Audible-visual signalling device can contain up to 5 light modules and an optional tone module in a single stack. Modules are stackable in any combination or color. Units are PLC compatible and can be wired directly to most programmable logic controllers without the use of a relay or drop resistor. All electrical units are 120VAC. Surface mount or ¾" NPT conduit mounting. For indoor and outdoor applications. Meets NEMA enclosure types 3R, 4X, and IEC enclosure IP65 classifications. UL listed, CSA certified, CE compliant..

BASE UNITS

Stock No.	Type	Description	Amps	Each	2-5
48F3761	102TBS-N5	Pipe Mount w/Cap Terminal Blocks and Signal Capacity	0.60	66.17	62.29
48F3761	102TBS-N5	Direct Mount Mini Base w/Cap Wire Leads	0.60	66.17	62.29
48F3762	102DMBS-N5	Pipe Mount Base w/Cap Wire Leads	0.60	47.28	44.50

LIGHT SOURCES

Stock No.	Type	Description	Color	Amps	Each	2-5
48F3764	102LS-SINH-N5	Steady-On Halogen	...	0.11	32.52	30.44
48F3765	102LS-SLEDR-N5	Steady-On LED	Red	0.022	106.09	99.98
48F3766	102LS-SLEDA-N5	Steady-On LED	Amber	0.022	106.09	99.98
48F3767	102LS-SLEDB-N5	Steady-On LED	Blue	0.022	130.35	120.71
48F3768	102LS-SLEDG-N5	Steady-On LED	Green	0.022	130.35	120.71
48F3769	102LS-FINH-N5	Flashing Halogen	...	0.08	55.86	52.58
48F3770	102LS-FLEDR-N5	Flashing LED	Red	0.022	109.46	103.16
48F3771	102LS-FLEDA-N5	Flashing LED	Amber	0.022	109.46	103.16
48F3772	102LS-FLEDB-N5	Flashing LED	Blue	0.022	135.29	125.29
48F3773	102LS-FLEDG-N5	Flashing LED	Green	0.022	135.29	125.29
48F3774	102LS-ST-N5	Flashing Strobe	...	0.12	97.67	92.04

BASE-MOUNTED SIGNAL MODULES

48F3775	102SIGST-N5	Single Tone	...	0.05	43.02	40.27
48F3776	102SIGMT-N5	Multi-Tone	...	0.05	54.67	51.46

LENS MODULES

Stock No.	Type	Color	Each	2-5
48F3777	102LM-R	Red	45.55	42.87
48F3778	102LM-A	Amber	45.55	42.87
48F3779	102LM-B	Blue	45.55	42.87
48F3780	102LM-G	Green	45.55	42.87
48F3781	102LM-C	Clear	45.55	42.87

(33992) (ne33992)

104 SERIES ADAPTABEACON® WITH NEMA 4X ENCLOSURE

104

Steady-on and flashing LED beacons feature NEMA 4X enclosures, 100,000-hour life for steady-on and flashing LED models. Strobe models provide up to 300,000 peak candela. Locknut panel mount or ½" conduit mounting. 120VAC. UL listed, CSA certified, CE compliant.

	Type	Description	Color	Amps	Each	2-5
48F3782	104FLEDR-N5	Flashing LED	Red	0.022	139.01	128.73
48F3783	104FLEDA-N5	Flashing LED	Amber	0.022	139.01	128.73
48F3784	104SLEDR-N5	Steady-On LED	Red	0.022	135.29	125.29
48F3785	104SLEDA-N5	Steady-On LED	Amber	0.022	135.29	125.29
48F3786	104FINHR-N5	Flashing Halogen Lamp	Red	0.25	109.03	102.75
48F3787	104FINHA-N5	Flashing Halogen Lamp	Amber	0.25	109.03	102.75
48F3788	104SINHR-N5	Steady-On Halogen Lamp	Red	0.25	107.34	101.16
48F3789	104SINHA-N5	Steady-On Halogen Lamp	Amber	0.25	107.34	101.16
48F3790	104STR-N5	Strobe	Red	0.12	117.44	110.68
48F3791	104STA-N5	Strobe	Amber	0.12	117.44	110.68

(33991) (ne33991)

92PLC SERIES ADAPTABEACON® FLASHING STROBES

92PLC

Single-flash strobes feature low inrush curent of 6A. Rated 120VAC, 0.1A. Xenon flash tube. For indoor and outdoor use. UL listed, CSA certified.

Stock No.	Type	Color	Each	2-5
48F3792	92PLCR-N5	Red	262.09	242.98
48F3793	92PLCA-N5	Amber	262.09	242.98

(33990) (ne33990)

EDWARDS
SIGNALING PRODUCTS

AUDIBLE/VISUAL WARNING SIGNALS

ADAPTABEL® VIBRATING BELLS

Universal adaptable mounting plate mounts directly on surface or fits any single-gang opening or any 3¼", 3½" or 4" octagon box or any plaster cover with mounting holes on 2¾" centers. 6" bells also mount on 4" square box. Permits quick, easy installation.

Stock No.	Type	Volts	Bell Dia.	Amps	DC Coil Res. (ohms)	dB @ 10 ft.	Each	2-5
92F6374	340-4N5	120V AC	4"	.062	1300	88	**91.94**	**86.65**
92F6375	340-4G5	24V AC	4"	.31	50	88	**91.94**	**86.65**
92F6376	340-6N5	120V AC	6"	.07	700	92	**109.81**	**103.48**

(2789) (de04071)

Series 340

ADAPTATONE® MULTI-TONE INDUSTRIAL SIGNAL

Signal is heavy-duty industrial, tone selectable, stand alone, signaling device capable of producing 19 selectable tones, up to 110 db @ 10', volume controlled, high decibel tones. Solid-state weatherproof design. Fully enclosed; heavy-duty zinc cast construction. 19 tones available; 110 db output.

Stock No.	Type	Volts AC/DC	Inputs	Outputs	Typ. Operating Current	Each	2-5
92F6364	5530B-AQ	24VAC/24-36DC	1	1	1.05/0.53/0.65	**547.91**	**509.20**
92F6365	5530B-Y6	120VAC	1	1	.262	**572.08**	**531.67**

(2787) (de04070)

Series 5530B

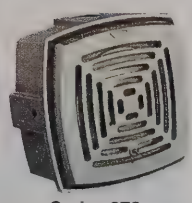
ADAPTAHORN® VIBRATING HORNS

Series 870 semi-flush, panel-mounting installation on 4" square box, weatherproof when installed with supplied gasket. 103dB at 10 ft. **Series 874** grille type, adaptable for mounting on signal gang, 3¼, 3½ or 4" octagon or square box. **Series 6** weatherproof grille type comes completely assembled in die-cast. Mounts on conduit flat surface. Top hole drilled and tapped for ¾" 14NPT. 103dB @ 10 ft. **Series 878EX** hazardous location vibrating horn is UL listed for use in Class 1, groups B, C & D; Class 2 Division 1 and Division 2, groups E, F & G. High-efficiency with low current drain. High decibel output. **Series 879EX** is D.C. model, 00dB @ 10 ft.

Stock No.	Type	Volts	Amps	VA	Each	2-5
92F6384	870P-N5	120VAC	0.13	15	**76.06**	**71.59**
92F6385	870P-G5	24VAC	0.63	15	**76.06**	**71.59**
92F6380	874-N5	120VAC	0.13	15	**80.51**	**75.78**
92F6381	874-G5	24VAC	0.63	15	**80.51**	**75.78**
92F6382	874-R5	240VAC	0.06	15	**84.16**	**79.21**
92F6383	876-N5	120VAC	0.13	15	**105.89**	**99.79**

(2785) (de04069)

Series 874



Series 876

LUMATONE® AND VISUAL/AUDIO ELECTRONIC SIGNALS

Solid-state construction gives a rated life of 5,000 hours. No arcing, sparking or noise. Sound output level can be varied by applied voltage (80 dB @ 1ft. with 12VDC typically). Non-irritating harmonic tone that demands attention in both quiet and noisy environments. Terminal connections.

Stock No.	Type	Description	VA Rating @12VDC	VA Rating @24VDC	Max Operating Current (MADC) @12VDC	Max Operating Current (MADC) @24VDC	Each	2-5
92F6370	E102A	Steady Audio Signal.	0.12	0.44	10	18	**21.74**	**20.35**
92F6371	E103A	Pulsating Audio Signal. Solid State Switching.	0.12	0.44	10	18	**39.40**	**36.88**
92F6372	E104A	Steady Visual/Audio Signal.	0.20	0.75	16	30	**23.19**	**21.71**
92F6373	E105A	Pulsating Visual/Audio Signal. Solid State Switching.	0.20	0.75	16	30	**40.85**	**38.24**

(2791) (de04072)

E102A

TYPE 7007-N5 STROBE BUZZER

Type 7007-N5 audible/visual signaling device designed for hospitals, public restrooms, handicapped areas and many other applications. Install in a simple gang box 2W X 4H" (51 x 102mm). Audible signal generates 82 dB, at 3 feet and high intensity 1.5 candela (strobe) visual signal.

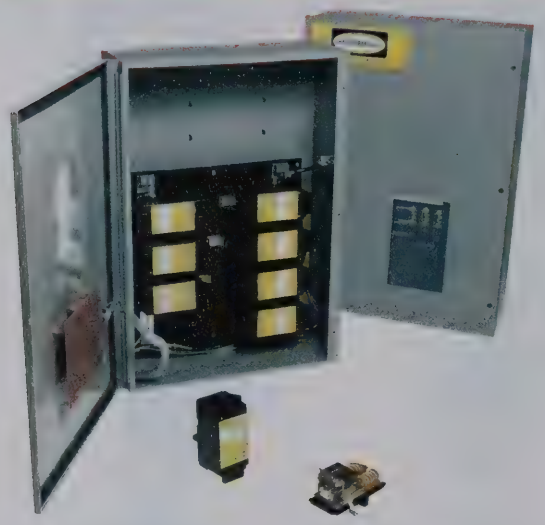
16F2459 Type 7007-N5. **Each** **53.38**
(3051) (ne08164)

7007-N5

OVERNIGHT SHIPMENT IS AVAILABLE WHEN YOU NEED IT.
CONTACT YOUR LOCAL NEWARK SALES OFFICE.

SURGE PROTECTION

SERVICE ENTRANCE SURGE PROTECTORS



Protects buildings from transients caused by lightning, utility grid switching, power line arcing, or electrical accidents. Peak current rating of 320kA exceeds worst case requirements for high-exposure environments. Thermal fuse remains functional to prevent MOVs from overheating when exposed to high current levels. LED and audible alarm status indicators. Dimensions: 25.25H x 16.45W x 6.32"D.

Stock No.	Type	Nominal Volts	1-5
83F5289	HBL4P320	120/208	**4769.04**
83F5290	HBL8P320	277/480	**5600.00**

(28375) (ne28375)

BRANCH PANEL SURGE SUPPRESSORS

Branch panel surge suppression for applications from 65kA to 160kA. Feed-through connection eliminates connecting leads and provides superior clamping performance. Thermal fuse remains functional to prevent MOVs from overheating when exposed to high current levels. Audible and visual status indicators. UL listed.

Stock No.	Type	Nom. Volts	Max. Surge	H x W x D	Each
83F5291	HBL4W100	120/208	100kA	10.6 x 4.75 x 2.6"	**514.41**
83F5292	HBL8W100	277/480	100kA	10.6 x 4.75 x 2.6"	**605.00**
83F5293	HBL3P100	120/240	100kA	16.2 x 10 x 4.7"	**923.90**
83F5294	HBL4P100	120/208	100kA	16.2 x 10 x 4.7"	**998.43**
83F5295	HBL4P160	120/208	160kA	16.2 x 10 x 4.7"	**2497.02**
83F5296	HBL3W65	120/240	65kA	4.28 x 2.99 x 2.25"	**195.86**

(28376) (ne28376)

SURGE SUPPRESSION DUPLEX RECEPTACLES

Feature indicator light and alarm. 210 joules/13000A per mode. UL listed, 15A versions are CSA certified.

Stock No.	Type	Color	Rating	NEMA	Each
87F1052	HBL5662S	Blue	15A/125V	5-15R	**63.77**
87F1053	HBL5262IS	Ivory	15A/125V	5-15R	**63.77**
91F2380	HBL5362S	Blue	20A/125V	5-20R	**64.70**
91F2381	HBL5362IS	Ivory	20A/125V	5-20R	**64.70**

(15245) (ne10576)

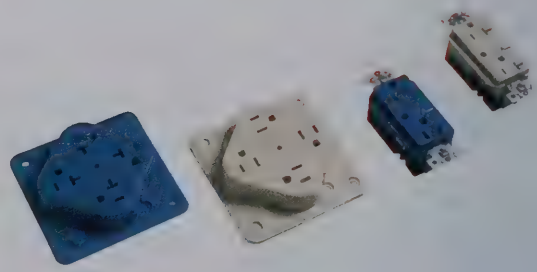
HARDWIRED SURGE SUPPRESSORS

Hardwired surge suppressors can be mounted inside equipment cabinets. Have 65,000-amp peak capacity and thermal fuse that remains functional to prevent MOV from overheating when exposed to high current levels. LED status indicator, diagnostic contact. DIN rail or terminal mounting. DIN rail units have audible alarm. Terminal mount unit accepts 12 AWG wire. UL recognized.

Stock No.	Type	Nom. Volts	Mtg.	H x W x D	1-5	6-10	11-15
83F5297	HBL1DR65	120	Term.	3.5 x 2.82 x 2.28"	**154.42**	**138.44**	**129.53**
83F5298	HBL2DR65	240	DIN	3.5 x 2.82 x 2.28"	**160.60**	**148.72**	**136.11**
83F5299	HBL1T65	120	DIN	6.82 x 3.55 x 2.07"	**154.42**	**138.44**	**129.53**

(28374) (ne28374)

SURGE SUPPRESSION RECEPTACLES



Contain four 18mm MOVs (two discs per package) to provide 210 joules of protection for each module. Power-on indicator light verifies that power is available and the suppression circuit is fully functional; light off means no power; flashing light indicates damaged surge protection circuit. Units with damage-alert audible alarm allow muting until unit is replaced. Rated 120VAC, 60Hz. Fit standard wall box. UL listed, CSA certified at 15A.

Stock No.	Type	Color	Amps	Description	1-5	6-10	11-15
DUPLEX							
83F5300	HBL5260S	Blue	15	LED Only	**51.43**	**44.09**	**40.01**
83F5301	HBL5260IS	Ivory	15	LED Only	**51.43**	**44.09**	**40.01**
83F5302	HBL5360S	Blue	20	LED Only	**58.81**	**50.42**	**45.75**
83F5303	HBL5360IS	Ivory	20	LED Only	**58.81**	**50.42**	**45.75**
83F5304	HBL5262WS	White	15	LED and Alarm	**61.61**	**54.63**	**49.91**
83F5305	HBL5362WS	White	20	LED and Alarm	**64.70**	**57.37**	**52.41**
DUPLEX – ISOLATED GROUND							
83F5306	IG5262OS	Orange	15	LED and Alarm	**68.31**	**60.58**	**55.34**
83F5307	IG5362OS	Orange	20	LED and Alarm	**70.87**	**62.84**	**57.41**
DUPLEX – HOSPITAL-GRADE							
83F5308	HBL8262S	Blue	15	LED and Alarm	**63.42**	**56.24**	**51.38**
83F5309	HBL8362S	Blue	20	LED and Alarm	**66.08**	**58.60**	**53.53**
4-PLEX							
83F5310	HBL415S	Blue	15	4-Plex Surge	**57.99**	**51.42**	**46.98**
83F5311	HBL415IS	Ivory	15	4-Plex Surge	**57.99**	**51.42**	**46.98**
83F5312	HBL420S	Blue	20	4-Plex Surge	**63.21**	**56.05**	**51.21**
83F5313	HBL420IS	Ivory	20	4-Plex Surge	**63.21**	**56.05**	**51.21**

(28373) (ne28373)

MOTION SENSORS, CABLE PROTECTION AND OUTLET BOXES

H-MOSS® MOTION SWITCHES

Wall Mount

Ceiling Mount

Passive infrared (PIR) motion switching systems are designed for automatic lighting control. Units are available in ceiling mount versions or choose from wide view or narrow hallway view wall mount versions. Control units power up to 15 sensors in any combination. Control units feature adjustable time delay from 30 seconds to 30 minutes.

CEILING MOUNT UNITS

Stock No.	Type	Operating Voltage	Description	Each
91F2330	HMC1DC	12VDC	For Use with **HMC** or **HMCCN** Control Units; 1000 Sq. Ft. Coverage	105.77
91F2331	HMC1AC	24VAC	For Use with Direct Digital Control Systems; 1000 Sq. Ft. Coverage	105.77
WALL MOUNT UNITS				
91F2332	HMW1DC	12VDC	Wide View: 40W x 40′D for Use with **HMC** or **HMCCN** Control Units	105.77
91F2333	HMHW1DC	12VDC	Hallway View: 10W x 75′D for Use with **HMC** or **HMCCN** Control Units	110.00
CONTROL UNITS				
91F2334	HMC	120/277/VAC	Control Units 1-15 Sensors	68.00
91F2335	HMCCN	347VAC	Control Units 1-15 Sensors	68.00

ADAPTER PLATE

Stock No.	Type	Description	Each
91F2336	HMCAP	For Use with **HMC1AC** and **HMC1DC**	3.66

(15246) (ne10575)

H-MOSS® MOTION SENSING SYSTEMS

OS120AL
Shown with lamps, not included

Motion Alert Outdoor Sensors offer:
- **Energy Savings**
- **Convenience and Security Through Automatic Lighting Control**
- **100° Field of View With 60′ (18m) Range**

Motion Alert outdoor sensors offer energy savings, convenience and security through automatic lighting control. H-Moss® passive infrared sensors switch lights on when you enter the room, and off when the room is empty. 100° field of view with 60′ (18m) range. For outdoor and indoor applications, and both fluorescent and incandescent lighting. UL listed, CSA certified.

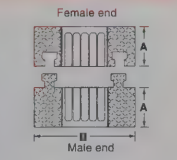
Stock No.	Type	Sensor Description	Coverage	Each
52F6744	OS120AL	H-Moss® Motion Alert™ Outdoor	3100 sq. ft.	95.53

(2982) (ne06265)

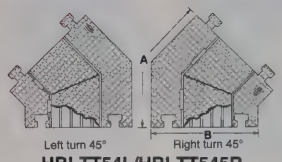
NEWARK ELECTRONICS® IS AN ISO 9002 COMPANY.

TRUCKTRAK™ AND TREDTRAK™ PROTECTION SYSTEMS

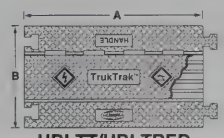
TredTrak™/TruckTrak™



End Cap



HBLTT54L/HBLTT545R



HBLTT/HBLTRED

TruckTrak™ system is designed to protect cables and cords from heavy trucks and fork lifts in industrial environments. Available in 3- (**types HBLTT3**) or 5-channel (**types HBLTT5**) and will protect cables up to 3.25″ (82.6) in diameter. Dimension B: 20.0″. TredTrak™ system is designed to support pedestrian and light vehicle traffic in public, institutional, and commercial applications. 5-channel system will protect cable diameters up to 1.28″ (32.5). Dimension B: 17.5″. Both TruckTrak™ and TredTrak™ systems comply with 1996 NEC® requirements for installing electrical cables and cords at carnivals, amusement parks, convention centers, and similar public areas. **Suffix EC** denotes that the unit is an end cap and is available in either male or female versions. **Suffix R** denotes unit that angles to the right. **Suffix L** denotes unit that angles to the left.

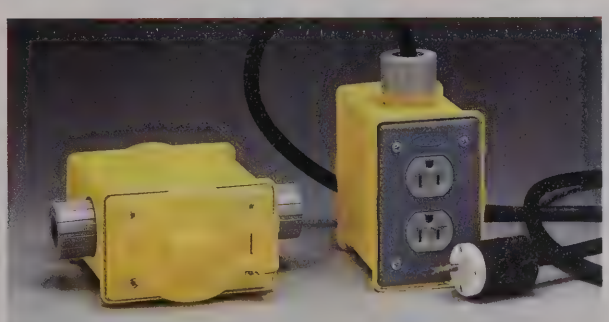
TRUCKTRAK™

Stock No.	Type	Dimensions A	C	D	E	Each
52F1642	HBLTT5	36.0″	2.31″	1.25″	1.25″	380.57
52F1643	HBLTT5EC*	5.25″(M) 7.50″(F)	2.31″	1.25″	1.25″	159.81
52F1644	HBLTT545R	25.0″	2.31″	1.25″	1.25″	201.73
52F1645	HBLTT545L	25.0″	2.31″	1.25″	1.25″	201.73
52F1646	HBLTT3	36.0″	3.05″	2.25″	2.25″	477.97
52F1647	HBLTT3EC*	6.00″ (M) 8.25″ (F)	3.05″	2.25″	2.25″	201.73
52F1648	HBLTT345R	25.0″	3.05″	2.25″	2.25″	353.74
52F1649	HBLTT345L	25.0″	3.05″	2.25″	2.25″	353.74
TREDTRACK™						
91F2378	HBLTRED5	36.0″	1.95″	1.30″	1.30″	249.99
91F2379	HBLTRED5EC	4.75″	1.95″	1.30″	1.30″	97.98

* Specify male or female version when ordering.

(14629) (ne06264)

PORTABLE OUTLET BOXES AND COVER PLATES

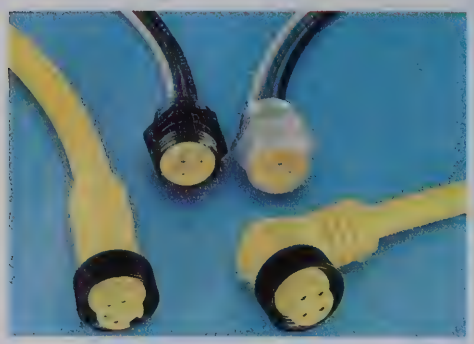


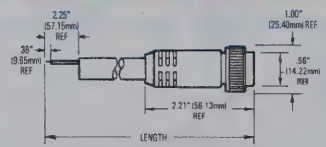
Designed to provide a rugged enclosure for a variety of wiring devices. Nonmetallic construction is impact resistant. The deep back-to-back design of the box accommodates devices which other outlet boxes cannot. All boxes are field wired. Devices and power cord are not included. The box includes a liquidtight design cord connector and three bushings for various cord diameters. Other weatherproof cover plates also available; *contact your local Newark sales office.* UL listed, CSA certified.

Stock No.	Type	Description	1-5	6-10
91F2337	HBLPOB1	Box	48.22	41.33
91F2338	HBLPOB1D	Box	57.03	48.89
91F2339	HBLP14FS	Cover Plate	4.88	4.45
91F2340	HBLP26FS	Cover Plate	5.25	4.78
91F2341	HBLP7FS	Cover Plate	4.88	4.45
91F2342	HBLP720FS	Cover Plate	4.88	4.45
91F2343	HBLP8FS	Cover Plate	5.25	4.78

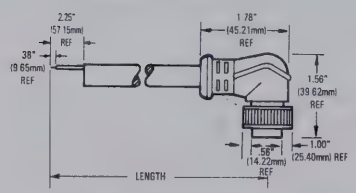
(14837) (ne10526)

QUICK-DISCONNECT SYSTEM

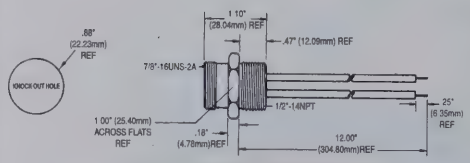




Straight Female Plug



90° Female Plug



Straight Male Receptacle

MINI-CHANGE® MOLDED CONNECTORS

Used with: 18mm and 30mm tubular proximity sensors, limit switches, rectangular proximity and photoelectric sensors, and solenoids. Applications include: sensors on conveyors, hydraulic valves, packing equipment, and material handling equipment. Quad-Beam® contact maintains constant pressure on the male pin to ensure optimum conductivity. High-performance, long-lasting gold over palladium-nickel plating on contact. An epoxy-coated coupling nut provides up to 500 hours of corrosion resistance and an anti-vibration guard. Plugs are straight or 90° and can be lighted. Rated 7-13A, 600V. Meets NEMA Enclosure Type 6P. Available through 12-pole configurations. UL recognized, CSA certified.

FEMALE 3-POLE, 10-AMP MOLDED PLUGS

Stock No.	Type	Cable Length	Style	Dimensions
96F4261	40902	6.00″ (1.83m)	Straight	1.00 x 2.21″ (25.40 x 56.10)
96F4262	40948	15.00″ (4.57m)	Straight	1.00 x 2.21″ (25.40 x 56.10)
96F4263	40902-90	6.00″ (1.83m)	90°	1.56 x 1.78″ (39.60 x 45.20)
96F4264	40948-90	15.00″ (4.57m)	90°	1.56 x 1.78″ (39.60 x 45.20)
FEMALE 4-POLE, 8-AMP MOLDED PLUGS				
96F4266	41108	6.00″ (1.83m)	Straight	1.00 x 2.21″ (25.40 x 56.10)
96F4267	41186	15.00″ (4.57m)	Straight	1.00 x 2.21″ (25.40 x 56.10)
96F4268	41108-90	6.00″ (1.83m)	90°	1.56 x 1.78″ (39.60 x 45.20)
96F4269	41186-90	15.00″ (4.57m)	90°	1.56 x 1.78″ (39.60 x 45.20)
FEMALE 5-POLE, 8-AMP MOLDED PLUGS				
96F4271	41307	6.00″ (1.83m)	Straight	1.00 x 2.21″ (25.40 x 56.10)
96F4272	41372	15.00″ (4.57m)	Straight	1.00 x 2.21″ (25.40 x 56.10)
96F4273	41307-90	6.00″ (1.83m)	90°	1.56 x 1.78″ (39.60 x 45.20)
96F4274	41372-90	15.00″ (4.57m)	90°	1.56 x 1.78″ (39.60 x 45.20)

STRAIGHT MALE RECEPTACLES WITH 12″ (304.80) PIGTAILS

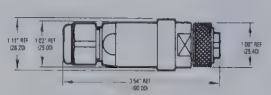
Stock No.	Type	Current Rating	Poles	Width
96F4265	40909	13A	3	1.00″ (25.40)
96F4270	41103	10A	4	1.00″ (25.40)
96F4275	41310	8A	5	1.00″ (25.40)

FEMALE 3-POLE, 10-AMP MOLDED PLUGS

Stock No.	Type	Each	2-5	6-10	11-15
96F4261	40902	17.77	17.19	16.15	15.91
96F4262	40948	25.97	25.13	23.61	23.24
96F4263	40902-90	17.77	17.19	16.15	15.91
96F4264	40948-90	25.97	25.13	23.61	23.24
FEMALE 4-POLE, 8-AMP MOLDED PLUGS					
96F4266	41108	23.12	22.37	21.02	20.70
96F4267	41186	35.42	34.27	32.20	31.71
96F4268	41108-90	23.12	22.37	21.02	20.70
96F4269	41186-90	35.42	34.27	32.20	31.71
FEMALE 5-POLE, 8-AMP MOLDED PLUGS					
96F4271	41307	27.57	26.67	25.06	24.67
96F4272	41372	43.97	41.87	39.35	38.23
96F4273	41307-90	27.57	26.67	25.06	24.67
96F4274	41372-90	43.97	41.87	39.35	38.23
STRAIGHT MALE RECEPTACLES WITH 12″ (304.80) PIGTAILS					
96F4265	40909	10.37	10.03	9.72	9.42
96F4270	41103	11.96	11.57	11.21	10.87
96F4275	41310	12.70	12.29	11.90	11.55

(2956) (ne02580)

Male



Female

MINI-CHANGE® ATTACHABLE CONNECTORS

Route cables through tight places where molded-on connectors won't fit. Replace damaged molded connectors quickly. Mini-Change® connectors enable quick-disconnect wiring on specialty cables and pre-wired control system devices. Meets IEC IP68 enclosure classification. Field-wireable with a screwdriver.

Stock No.	Type	Style	Poles	Current Rating @ 600V
52F6716	1A3006-34	Male	3	13A
52F6717	1A3000-34	Female	3	13A
52F6718	1A5006-34	Male	5	8A
52F6719	1A5000-34	Female	5	8A

Stock No.	Type	Each	2-5	6-10	11-15
52F6716	1A3006-34	21.07	20.39	19.16	18.86
52F6717	1A3000-34	21.07	20.39	19.16	18.86
52F6718	1A5006-34	23.92	23.14	21.75	21.41
52F6719	1A5000-34	23.92	23.14	21.75	21.41

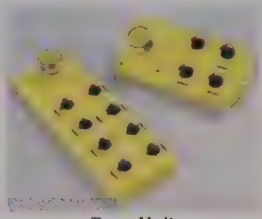
(3009) (ne07093)

NEW PRODUCTS ARE BEING ADDED TO OUR INVENTORY EVERY DAY.
CALL NEWARK FOR INFORMATION ON WHAT'S CURRENTLY IN STOCK.

MULTIPORT INTERCONNECT SYSTEM

MULTIPORT INTERCONNECT SYSTEM (MPIS)®

Female Straight/Male Straight
Female Straight/Male 90°



Base Unit

STEP 1: MICRO CHANGE® MPIS® TOP-MOUNT BASE UNIT CABLE CORDSETS

Top-mount multi-port system offers conection for either input or output devices. Consolidate wiring, conserve space and reduce time and expense associated with control system wiring installation and maintenance. Protect against moisture and contaminants. Features factory-wired and tested base unit in which the wiring from 4, 6 or 8 control components is joined into a single cable extending back to the control panel. LED display offers quick and easy troubleshooting and confirmation of sensor status at a glance. Single keyway base unit with PVC jacketed 1.64′ (0.5m) cable. Used in conjunction with 8, 12 and 18mm proximity sensors, miniature controls, limit switches and solenoids.

PNP FORMAT BASE UNIT CORDSETS

Stock No.	Type	Ports	Format	Each
99F8693	BTY401P-FBE-05	4	PFB	108.20
48F4275	BTY801PFBE05	8	PFB	175.68
48F4276	BTY401NFBE05	4	NFB	104.54
48F4277	BTY801NFBE05	8	NFB	175.68

STEP 2: MICRO CHANGE® SENSOR (ACTUATOR) TO MPIS® BASE UNIT CABLE CORDSETS

4-pole 3-wire DC M12X1 threads. 22 AWG gauge cables. 90° female assembly and 5-wire cables also available; *contact your local Newark sales office.*

FEMALE STRAIGHT/MALE STRAIGHT

Stock No.	Type	Length	Each
96F4308	883030D01M005	1.64′ (.5m)	26.53
96F4309	883030D01M010	3.28′ (1m)	26.78
96F4288	883030D01M020	6.56′ (2m)	28.02

FEMALE STRAIGHT/MALE 90°

99F3100	883032D01M005	1.64′ (.5m)	38.44
99F3097	883032D01M010	3.28′ (1m)	27.75
99F3098	883032D01M020	6.56′ (2m)	31.44

(3086) (ne09115)

INDUSTRIAL PLUGS AND CONNECTORS

1447

1547

Super-Safeway® plugs and connectors are constructed with NEOTEX® rubber for safety, yet can withstand the impact and abrasion of tough industrial service. *Plugs and connectors each ordered separately.* UL listed.

CONNECTORS

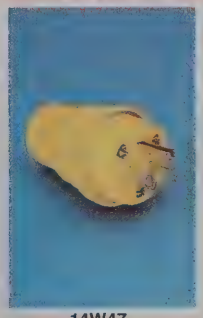
Stock No.	Type	NEMA Rating	Amps/Volts	Mating Industrial Plug	Each
92F4912	1547	5-15	15A/125V	1447	16.98
92F4914	2547	L5-15	15A/125V	2447	16.50
92F4916	1549	6-15	15A/250V	1449	19.71
92F4927	2549	L6-15	15A/277V	2449	16.98
92F4929	1533	5-20	20A/125V	1433	17.33
92F4931	2747	L5-20	20A/125V	2647	23.66
92F4933	1548	6-20	20A/250V	1448	21.23
92F4935	2748	L6-20	20A/250V	2648	23.66

PLUGS

92F4911	1447	5-15	15A/125V	1547	9.56
92F4913	2447	L5-15	15A/125V	2547	10.04
92F4915	1449	6-15	15A/250V	1549	10.67
92F4917	2449	L6-15	15A/277V	2549	10.04
92F4928	1433	5-20	20A/125V	1533	11.44
92F4930	2647	L5-20	20A/125V	2747	15.15
92F4932	1448	6-20	20A/250V	1548	13.34
92F4934	2648	L6-20	20A/250V	2748	15.15

(2800) (de04104)

WATERTITE® PLUGS & CONNECTORS



14W47

15W47

Watertite® plugs and connectors made specifically for moisture-resistant performance. They deliver power longer, more reliably, and more safely than devices with slip-on boots. When properly mated, they form an enclosure that meets the requirements of NEMA 4, 4X and 6, IP 65, 66 and 67, and resists high-pressure hose down up to 1000 psi. *Watertite plugs and connectors each ordered separately.* UL listed.

CONNECTORS

Stock No.	Type	NEMA Rating	Amps/Volts	Mating Watertite Plugs	Each
92F4889	15W47	5-15	15A/125V	14W47	23.85
92F4891	25W47	L5-15	15A/125V	24W47	24.43
92F4918	15W49	6-15	15A/250V	14W49	28.73
92F4920	25W49	L6-15	15A/250V	24W49	24.43
92F4922	15W33	5-20	20A/125V	14W33	26.23
92F4924	27W47	L5-20	20A/125V	26W47	36.98
92F4926	15W48	6-20	20A/250V	14W48	29.97
92F4910	27W48	L6-20	20A/250V	26W48	36.98

PLUGS

92F4888	14W47	5-15	15A/125V	15W47	16.27
92F4890	24W47	L5-15	15A/125V	25W47	16.05
92F4892	14W49	6-15	15A/250V	15W49	17.67
92F4919	24W49	L6-15	15A/250V	25W49	16.05
92F4921	14W33	5-20	20A/125V	15W33	18.10
92F4923	26W47	L5-20	20A/125V	27W47	24.76
92F4925	14W48	6-20	20A/250V	15W48	20.33
92F4909	26W48	L6-20	20A/250V	27W48	24.76

(2798) (de04103)

MAX-LOC™ MULTIHOLE CORD GRIPS

These cord sealing grips are used when multiple conductors are being fed into control cabinets and similar applications. Engineered membrane can be removed to expose the exact number of holes needed for the cable being fed into the cabinet. Requires only one cabinet hole when multiple conductors are being fed into a control cabinet. Protect against cord pull-out. NPT form size: ½″ (F2). Liquidtight, moisture, and corrosion resistant. UL listed, CSA certified.

STRAIGHT

Stock No.	Type	Cable Dia.	No. of Openings	Each	2-5
91F5125	5594-007	0.156″	2, 3, or 4*	5.74	5.56
91F5126	5594-003	0.187″	3	5.63	5.44
91F5127	5594-008	0.187″	2, 3, 4, 5, 6, or 7	5.74	5.56
91F5128	5594-004	0.225″	2, 3, or 4*	5.74	5.56
91F5129	5594-005	0.250″	2 or 3*	6.09	5.89
91F5130	5594-006	0.290″	2	5.74	5.56

STRAIGHT WITH O-RING

91F5131	5594-007W	0.156″	2, 3, or 4*	6.84	6.62
91F5132	5594-003W	0.187″	3	6.84	6.62
91F5133	5594-008W	0.187″	2, 3, 4, 5, 6, or 7	6.84	6.62
91F5134	5594-004W	0.225″	2, 3, or 4*	6.84	6.62
91F5135	5594-005W	0.250″	2 or 3*	6.84	6.62
91F5136	5594-006W	0.290″	2	6.84	6.62

*Membrane covers one or more holes; can be removed to expose additional holes when required.

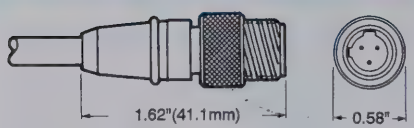
(12974) (ne10020)

QUICK-DISCONNECT SYSTEM

USED IN CONJUNCTION WITH:

Proximity Sensors • Limit Switches • Photo Controls • Solenoids • Small Motors

(3012) (ne07100)



MICRO-CHANGE® MOLDED CONNECTORS

Used with 12 and 18mm tubular proximity sensors, tubular photoelectric sensors, and modular controls. Applications include: hydraulic and pneumatic cylinders, conveyors, and "pick-'n'-place" robots. Provide quick and easy replacement of miniaturized switches and sensing devices. Mechanically-keyed mating parts eliminate mismating and subsequent damage to control equipment. Rated 4A, 300V. Oil-resistant, PVC jacketed cable. UL listed, CSA certified. Available up to six poles. Meets NEMA enclosure Type 6 and IEC enclosure IP68 classification.

DUAL KEYWAY CONNECTORS (AC)

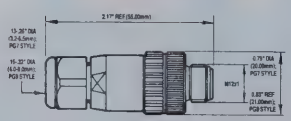
Stock No.	Type	Connector	Poles	Cable Length	Each	2-5	6-10
96F4276	703000D02F060	Female-Straight	3	6.00′ (1.83m)	15.72	15.21	14.73
96F4277	703000D02F120	Female-Straight	3	12.00′ (3.66m)	20.50	19.84	18.64
96F4278	703001D02F060	Female-90°	3	6.00′ (1.83m)	15.72	15.21	14.73
96F4279	703001D02F120	Female-90°	3	12.00′ (3.66m)	20.50	19.84	18.64

SINGLE KEYWAY CONNECTORS (DC)

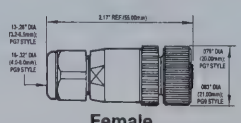
96F4280	803000D01M020	Female-Straight	3	6.56′ (2.00m)	17.09	16.53	16.01
96F4281	803000D01M050	Female-Straight	3	16.40′ (5.00m)	26.31	25.46	23.92
96F4282	803000A09M020	Female-Straight	3	6.56′ (2.00m)	13.44	13.01	12.60
96F4283	803000A09M050	Female-Straight	3	16.40′ (5.00m)	17.20	16.64	15.64
96F4284	803001D01M020	Female-90°	3	6.56′ (2.00m)	25.88	25.05	24.27
96F4285	803001D01M050	Female-90°	3	16.40′ (5.00m)	26.31	25.46	23.92
96F4286	803001A09M020	Female-90°	3	6.56′ (2.00m)	13.44	13.01	12.60
96F4287	803001A09M050	Female-90°	3	16.40′ (5.00m)	17.20	16.64	15.64
96F4292	804000D01M020	Female-Straight	4	6.56′ (2.00m)	19.71	19.07	17.91
96F4293	804000D01M050	Female-Straight	4	16.40′ (5.00m)	32.01	30.97	29.10
96F4294	804000A09M020	Female-Straight	4	6.56′ (2.00m)	15.04	14.55	14.09
96F4295	804000A09M050	Female-Straight	4	16.40′ (5.00m)	20.33	19.67	18.48
96F4296	804001D01M020	Female-90°	4	6.56′ (2.00m)	19.71	19.07	17.91
96F4297	804001D01M050	Female-90°	4	16.40′ (5.00m)	32.01	30.97	29.10
96F4298	804001A09M020	Female-90°	4	6.56′ (2.00m)	15.04	14.55	14.09
96F4299	804001A09M050	Female-90°	4	16.40′ (5.00m)	20.33	19.67	18.48

(2958) (ne02581)

Female Male



Male



Female

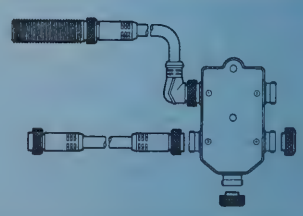
MICRO-CHANGE® ATTACHABLE CONNECTORS

Route cables through tight places where molded-on connectors won't fit. Replace damaged molded connectors quickly. Micro-Change® enables quick-disconnect wiring on specialty cables and pre-wired control system devices. Current rating: 4A. Meets IEC enclosure IP68 classification. Field wireable with a screwdriver.

Stock No.	Type	Connector	Poles	Cable Fitting	Each	2-5	6-10
52F6714	8A4006-32	Male	4	PG9	17.37	16.81	15.79
52F6715	8A4000-32	Female	4	PG9	17.37	16.81	15.79
83F1937	8A4007-31	Male (90°)	4	PG7	17.37	16.81	15.79
48F4280	8A4001-31	Female (90°)	4	PG7	16.79	16.24	15.26
48F4281	8A5006-31	Male	5	PG7	18.16	17.57	16.51
48F4282	8A5000-31	Female	5	PG7	18.16	17.57	16.51
48F4283	8A5007-31	Male (90°)	5	PG7	18.16	17.57	16.51
83F1938	8A5001-31	Female (90°)	5	PG7	18.80	18.19	17.09

(3010) (ne07094)

CONSOLIDATE WIRING, CONSERVE SPACE, AND REDUCE TIME ASSOCIATED WITH CONTROL SYSTEM WIRING AND MAINTENANCE. CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR BRAD HARRISON'S® MULTIPORT INTERCONNECTION SYSTEM (MPIS).®



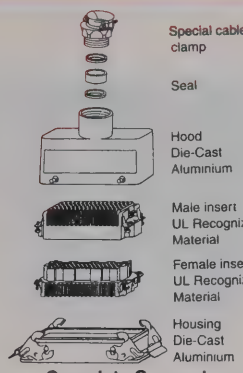
(15228) (blurb)

HEAVY-DUTY HAN® CONNECTOR PANEL MOUNT HOUSINGS

Constructed of die-cast aluminum. **Type 0930060302** has a thermoplastic spring cover. Protect against windblown dust and rain, splashing water, and hose directed water. Meets IEC 529 enclosure IP65 classification and NEMA enclosure type 4. Accept HAN® connector inserts; *order separately on this page.* For use in power utility, robotics, chemical plant, machine tool control, injection mold, industrial instrumentation, and conveyor equipment applications. Current rating: 16A. Voltage rating: UL/CSA 600V; VDE 400/6kV 3°C. Wire range: 12-26 AWG.

Stock No.	Type	Fig.	Accepts Inserts with	H x W x D	Housing Type	Levers	Each
91F9639	09300060301	1	6 Contacts	1.12 x 3.15 x 1.69″	HAN® 6E	1	**13.96**
91F9640	09300060302	2	6 Contacts	1.12 x 3.15 x 1.69″	HAN® 6E	1	**21.74**
91F9645	09300100301	3	10 Contacts	1.12 x 3.66 x 1.69″	HAN® 10E	2	**20.48**
91F9650	09300160301	3	16 Contacts	1.12 x 4.45 x 1.69″	HAN® 16E	2	**21.59**
91F9655	09300240301	3	24 Contacts	1.12 x 5.51 x 1.69″	HAN® 24E	2	**23.35**

(16847) (ne10367)



Complete Connector

HEAVY-DUTY HAN® CONNECTOR INSERTS

Feature screw termination. For use in power utility, robotics, chemical plant, machine tool control, injection mold, industrial instrumentation, and conveyor equipment applications. Fit in HAN® housings; *order separately on this page.* Current rating: 16A. Voltage: UL/CSA 600V; VDE 400/6kV 3°C. All inserts are integrated with ground clip. UL recognized, CSA certified.

Stock No.	Type	No. of Contacts	Description	Fits in Housing Type	Each
91F9635	09330062601	6	Male	HAN® 6 E	**10.81**
91F9636	09330062701	6	Female	HAN® 6 E	**11.16**
91F9641	09330102601	10	Male	HAN® 10 E	**13.77**
91F9642	09330102701	10	Female	HAN® 10 E	**14.20**
91F9646	09330162601	16	Male	HAN® 16 E	**15.16**
91F9647	09330162701	16	Female	HAN® 16 E	**16.40**
91F9651	09330242601	24	Male	HAN® 24 E	**20.56**
91F9652	09330242701	24	Female	HAN® 24 E	**22.24**

(16848) (ne10368)

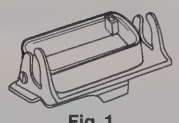


Fig. 1

Fig. 2

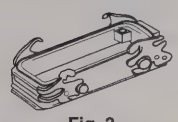


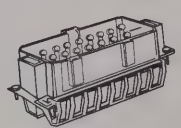
Fig. 3

HEAVY-DUTY HAN® CONNECTOR HOODS

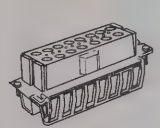
Constructed of die-cast aluminum. Protect against windblown dust and rain, splashing water, and hose-directed water. Meet IEC 529 enclosure IP65 classification and NEMA enclosure type 4. For use in power utility, robotics, chemical plant, machine tool control, injection mold, industrial instrumentation, and conveyor equipment applications.

Stock No.	Type	Wiring Entry	Accepts Inserts with	H x W x D	Levers	Each
91F9637	09300061541	Side	6 Contacts	1.69 x 2.36 x 1.69″	1	**13.00**
91F9638	09300061441	Top	6 Contacts	1.57 x 2.36 x 1.69″	1	**13.29**
91F9643	09300100522	Side	10 Contacts	2.05 x 2.87 x 1.69″	2	**21.51**
91F9644	09300100422	Top	10 Contacts	1.77 x 2.87 x 1.69″	2	**22.69**
91F9648	09300161520	Side	16 Contacts	2.36 x 3.68 x 1.69″	2	**16.87**
91F9649	09300161420	Top	16 Contacts	1.77 x 3.68 x 1.69″	2	**17.81**
91F9653	09300241520	Side	24 Contacts	2.36 x 4.72 x 1.69″	2	**18.94**
91F9654	09300241421	Top	24 Contacts	2.16 x 4.72 x 1.69″	2	**20.46**

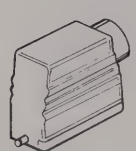
(16849) (ne10369)



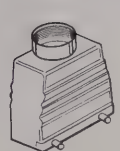
Male



Female



Single Lever, Side-Entry



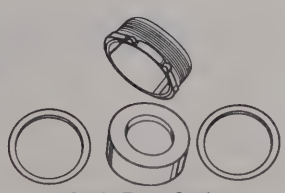
Double Lever, Top-Entry

CABLE ENTRY SEALING HARDWARE

Cable sealing metal with multiple seals for standard hoods and housings. *Order hoods separately on this page. Order housing separately on this page.*

Stock No.	Type	Spanner Wrench Size	Cable Diameter		Each
			Min.	Max.	
92F386	09000005013	18mm	0.295″ (7.5)	0.492″ (12.5)	**0.96**
92F387	09000005014	20mm	0.295″ (7.5)	0.492″ (12.5)	**1.10**
92F388	09000005015	22mm	0.295″ (7.5)	0.590″ (15)	**1.23**
92F389	09000005016	28mm	0.394″ (10)	0.748″ (19)	**1.89**
92F390	09000005017	37mm	0.709″ (18)	1.063″ (27)	**3.12**

(16850) (ne10717)

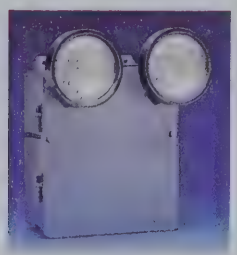


Cable Entry Seals

DUAL LITE

EMERGENCY LIGHTING UNITS

N4X SERIES INDUSTRIAL EMERGENCY LIGHTING UNITS



Compact sealed and gasketed emergency lighting units are corrosion and moisture resistant, capable of remote operation of 2 to 14 fixtures. Operating voltage: 120/277VAC. 7.2W heads. Feature fully automatic operation, pure lead maintenance-free battery, two glare-free sealed beam PAR-36 lamps, sealed and gasketed test switch and charge rate indicator light, silicone sealed lamp terminals, head and swivel, solid-state charger, automatic battery protection, and provisions for top conduit entry for power and remotes. 12V units are used to compensate for voltage drop when powering remote heads with long wiring runs. Constructed of injection-molded thermoplastic. Units can be wall or column mounted.

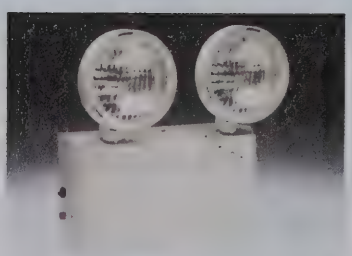
Stock No.	Type	Watts for 1½ Hrs.	Voltage	Each
91F9798	N4X46V,7.2W	31.2	6	426.42
91F9799	N4X7-12V6V,7.2W	50.4	12	496.80
91F9800	N4X14-12V 6V,7.2W	100	12	604.44

* Figures based on standard 7.2 watt glare-free sealed beam type lighting head

Stock No.	Type	Description	Each
48F2859	P5NXMP1006V72W	Remote Plastic Lighting Head w/Gasketed Round Mtg. Plate for 6V	36.04
48F2860	P5NXMP1012V25W	Remote Plastic Lighting Head w/Gasketed Round Mtg. Plate for 12V	36.04

(14934) (ne10564)

LUMENETTE® SERIES COMMERCIAL/INDUSTRIAL EMERGENCY LIGHTING UNITS



Compact, self-contained emergency lighting units combine efficiency and performance, provide reliable and consistent light for 1½ hours. Provides flexibility for powering system of 2-12 remote fixtures. Operating voltage: 120/277VAC. 12V units compensate for voltage drop when using remote heads with long wiring drops. 7.2W heads. Other wattages available. *Contact your local Newark sales office.* Wall mount to standard electrical boxes. AC-ON indicator, test switch, heads can be top or side mounted, all-metal chassis with white thermoplastic housing. UL 924 listed.

Stock No.	Type	Battery Type	Voltage	Maximum Wattage*			Each
				4 Hrs.	2 Hrs.	1½ Hrs.	
91F9789	EZ-2	Pure Lead	4	...	...	...	64.17
48F2850	MLW-2E	Pure Lead	6	...	...	16	109.12
48F2851	MLW-4E	Pure Lead	6	...	21.6	28.8	140.80
48F2852	MLW-7E	Pure Lead	6	21.6	36	50.4	187.00
48F2853	MLW-7E-12V	Lead-Calcium	12	21.6	36	50.4	197.00
48F2854	MLW-12E-12V	Lead-Calcium	12	28.8	57.6	87	268.00

*Determines number of remote heads that can be run.

REMOTE HEADS

Stock No.	Type	Description	Volts/Watts	Each
48F2855	P5SBMP986V72W	White Remote Plastic Lighting Head w/4" Round or Gang Mtg. Plate	6V/7.2W	36.04
48F2856	P5SBMP9812V72W	White Remote Plastic Lighting Head w/4" Round or Gang Mtg. Plate	12V/7.2W	36.04
48F2857	P5SBMP9812V25W	White Remote Plastic Lighting Head w/4" Round or Gang Mtg. Plate	12V/25W	36.04
48F2858	S5SBMP10312V25W	Remote Aluminum Lighting Head w/4" Round or Gang Mtg. Plate	12V/25W	36.04

(14926) (ne10562)

LITEFORMS™ NON-METALLIC EMERGENCY LIGHTING UNITS

Sleek styling in a low-profile silhouette that feature high-output halogen lamps and durable UV stable thermoplastic housing. 5W halogen lamps standard. **Type LZ2** and **LTURW** feature premium-grade pure lead battery. All others include lead-calcium battery. Wall-mount to standard electrical boxes. Provide relianble and consistent light fo a minimum of 1½ hours. High capacity units provide choice of system wattages to power remote fixtures. 12V units are used to compensate for voltage drop when using remote heads with long wire leads. Snap-together construction reduces installation time. 120/277VAC, 60Hz input voltage. Battery-operated models have lead calcium batteries. Color: white. Green lettering and black housings are available. *Contact your local Newark sales office.*

Stock No.	Type	Description	Each	2-5
83F5796	LZ2	2-Headed Lighting Unit	62.00	58.47
83F5797	LTURW	Tandem Unit/Universal Exit Sign	168.70	159.09
83F5798	LZ30	Std. Model, 6V. Max Watts: 34 for 1½ hrs.	134.90	127.21
83F5799	LZ65	Std. Model, 6V. Max Watts: 69 for 1½ hrs.	203.40	191.81
48F2849	LZ65-12V	Std. Model, 12V. Max Watts: 69 for 1½ hrs.	203.40	191.81
83F5800	LZR6V5W	Remote Single Lighting Head, 6V, 5 Watts	28.02	26.43
83F5801	LZTR6V5W	Remote Tandem Lighting Head, 6V, 5 Watts	56.04	52.85
48F2861	LZR12V5W	Remote Tandem Lighting Head, 12V	28.02	26.43

(28881) (ne28881)

CAN'T LOCATE A PARTICULAR PRODUCT?
NEWARK STOCKS THOUSANDS OF ITEMS NOT LISTED IN THIS CATALOG. CALL US TODAY!

DUAL LITE

EMERGENCY EXIT SIGNS

LITEFORMS® LX SERIES NON-METALLIC LED EXIT SIGNS

Long-life LED lamps provide 20 years of service and low maintenance. Compact, UV-stable thermoplastic housing has universal mounting for easy installation. Operating voltage: 120/277VAC, 60Hz. Emergency operation module is optional for AC models; *ordered separately below.* All units are single/double face with canopy. Emergency models have nickel-cadmium batteries with expected life of 10 years. Wall, ceiling or end-mount to standard electrical boxes. Meets 1998 UL standards for brightness and uniformity. UL 924 listed. EPA/DOE Energy Star® compliant.

Stock No.	Type	Letter Color	Stencil/ Housing Color	Description	Each
91F9784	LXURW	Red	White	AC Model	66.24
91F9785	LXURB	Red	Black	AC Model	72.45
91F9787	LXURWE	Red	White	Emergency Model	113.85
91F9788	LXURBE	Red	Black	Emergency Model	120.06

EMERGENCY MODULE

Stock No.	Type	Description	Each
91F9786	FX-E	Internally-Mounted Emergency Operation Module	47.61

(14930) (ne10560)

LITEFORMS® LN4X LED EXIT SIGNS

Corrosion-resistant, watertight, dust-tight UL 50 type 4X exit signs feature long-life LED lamp assemblies that last up to 20 years to reduce maintenance costs. Standard 120/277VAC input voltage. Emergency models utilize maintenance-free nickel-cadmium battery with expected life of 10 years, operate for a minimum of 2 hours, exceeding UL 1.5-hour requirement. Red letters with white housing. Grenn letters available. *Contact your local Newark sales office.* UL listed.

Stock No.	Type	Description	Each
48F2847	LN4XRW	AC Model	246.52
48F2848	LN4XRWE	Emergency Model	358.56

(14932) (ne10565)

LITEFORMS® SERIES CAST ALUMINUM COMMERCIAL/INDUSTRIAL LED EXIT SIGNS

Cast aluminum exit signs are available in AC and emergency exit models. Operating voltage: 120/277VAC. Feature energy-saving long-life LED lamp panels that provide 20 years of service and low maintenance. Wall, ceiling or end-mount to standard electrical boxes. Emergency models have nickel-cadmium battery with expected life of 10 years that operates for minimum or 2 hours. Meets NFPA-101 and UL 924 listed (includes damp location). EPA/DOE Energy Star® compliant. All models have red letters with black stencils.

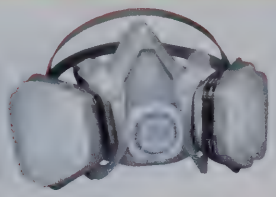
AC MODELS

Stock No.	Type	Housing Color	Face	Each
48F2839	LCSRW	White	Single	150.00
48F2840	LCDRW	White	Double	160.00
48F2841	LCSRB	Black	Single	156.00
48F2842	LCDRB	Black	Double	166.00
EMERGENCY MODELS (WITH BATTERY)				
48F2843	LCSRWE	White	Single	190.00
48F2844	LCDRWE	White	Double	200.00
48F2845	LCSRBE	Black	Single	196.00
48F2846	LCDRBE	Black	Double	206.00

(14929) (ne10563)

ACCESS THE LARGEST PARTS DATABASE IN THE INDUSTRY! VISIT OUR WEB SITE AT
http://www.newark.com

MAINTENANCE-FREE GAS AND VAPOR RESPIRATORS



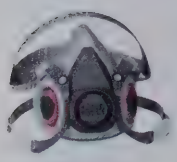
Respirator

5000 series preassembled respirators have no spare parts and require no maintenance, making it easier and more economical to protect workers' health. Lightweight, well-balanced design provides greater comfort. Features a low-profile facepiece/cartridge for a wider field of vision. NIOSH approved.

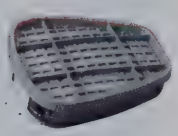
Stock No.	Type	Description	1-4
91F6076	5111	Small	20.71
91F6077	5211	Medium	20.71
91F6078	5311	Large	20.71

(14727) (ne10054)

LOW-MAINTENANCE RESPIRATORS



Facepiece



Filter

Respirator

6000 series lightweight half facepiece respirators are low maintenance—there are no parts to replace except cartridges and filters. Can be disassembled, cleaned, and reused many times; replace the cartridges/filters when they have been used to capacity. *Order replacement filters separately below.* **Types 6191, 6291,** and **6391** come with P100 filters, which are 99.97% effective against dusts, fumes, mists, pesticide dusts, radionuclides, radon daughters, and asbestos-containing dusts. **Type 504** respirator cleaning wipes are also available; *order separately below.* NIOSH approved.

FACEPIECES

Stock No.	Type	Size	1-4
91F6170	6100RESP	Small	10.16
91F6171	6200RESP	Medium	10.16
91F6172	6300RESP	Large	10.16

FILTERS FOR TYPES 6100, 6200, AND 6300 RESPIRATORS

Stock No.	Type	Description	1-4
91F6080	6001	Organic Vapors	10.10
91F6081	6003	Organic Vapors/Acid Gas	10.10
91F6082	6005	Formaldehyde/Organic Vapors	10.95

RESPIRATORS

Stock No.	Type	Size	1-4
48F1886	6191	Small	15.71
48F1887	6291	Medium	15.71
48F1888	6391	Large	15.71

RESPIRATOR CLEANING WIPES

Stock No.	Type	Package	1-4
00Z1884	504	100 Wipes per Box	0.32

(14729) (ne10055)

SORBENT SPILL PRODUCTS

C-SKFL5

Type C-SKFL5 spill kit is excellent for containing hazardous chemical spills in laboratories, police and fire work, etc. **Type M-PD-1520DD** sorbent pads are highly absorbent and nongranular. Designed to absorb nonaggressive liquids, making them ideal for plant maintenance.

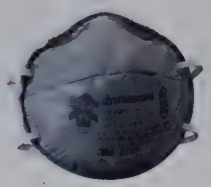
Stock No.	Type	Description	1-4
91F6088	C-SKFL5	5-Gallon Chemroll Spill Kit	98.14
91F6089	M-PD-1520DD	Sorbent Pads	97.37

(14731) (ne10057)

MAINTENANCE-FREE PARTICULATE RESPIRATORS

NEW

8210



8247

8212

8000 series particulate respirators feature a self-supporting filter and are recommended for use up to 10 times the permissible exposure limit (PEL) or applicable OSHA limits, whichever one is lower. Comfortable and easy-to-use one-piece respirators are low profile, providing good visibility. Nose clip conforms to a wide variety of face shapes and sizes. Easy to breath through. No maintenance, cleaning, or spare parts. NIOSH approved.

Stock No.	Type	Description	1-4
91F6073	8210	General Dust/Sanding	0.85
91F6074	8247	Dust/Mist/ Nuisance Level Organic Vapor	3.19
91F6075	8212	Dust/Mist/Welding Fumes	52.76

(14730) (ne10056)

PROTECTIVE GOGGLES AND GLASSES

NEW

Goggles

Glasses

Goggles provide superior comfort and tighter seal; the molded frame provides better impact resistance. Protective goggles and glasses include scratch-resistant lenses with improved field of vision. Meets ANSI Z87.1 standards for eye protection. SEI certified.

Stock No.	Type	Description	1-4
83F8425	8657ES	Goggles	7.29
83F8426	8683ES	Clear Glasses	16.35
83F8427	8684ES	Tinted Glasses	18.84

(32982) (ne32982)

HEARING PROTECTION PRODUCTS

1435

1110

Type 1435 ear muffs offer protection for most applications with a noise reduction rating of 23dB. Multiposition ear cup and lightweight design provide excellent comfort and fit. **Type 1110** ear plugs have a noise reduction rating of 29dB. Feature a tapered design to fit the ear canal and provide added comfort. Made of bright orange hypoallergenic material. Come with a soft braided cord for the worker who needs to take the ear plugs on and off.

Stock No.	Type	Description	1-4
91F6090	1435	Ear Muffs	12.95
91F6091	1110	Corded Ear Plugs	0.26

(14732) (ne10058)

LOCKOUT/TAGOUT PRODUCTS

MULTIPLE LOCKOUT DEVICES

PSL-MLD

Rugged construction offers durability, strength, added security, and corrosion resistance. Compact and easy to install. Immobilizes large and cumbersome devices. **Type PSL-MLD** can be used as a gate valve, disconnect switch lockout, or multilock adapter (and includes one 6′ vinyl coated galvanized steel cable. **Type PSL-MLDC** cable enables you to combine several cables to extend cable length. Accepts Panduit **PSL-3, PSL-5, PSL-11 series** locks; *contact your local Newark sales office.*

Stock No.	Type	Description	Each	2-4
91F7287	PSL-MLD	Combination Lockout	36.35	34.90
91F7288	PSL-MLDC	6′ Vinyl-Coated Galvanized Steel Cable with Loophole	10.49	10.01

(12732) (ne10309)

UNIVERSAL CIRCUIT BREAKER LOCKOUT

- For locking out electrical supply controlled by a circuit breaker
- Compact, universal design fits most circuit breakers
- Easily attached with no modifications to panel or circuit breaker
- Does not require hole in circuit breaker handle

Prevents inadvertent, accidental, or unintentional energization of electrical circuit for wide range of single-, double-, and triple-handle circuit breakers with 0.30″-0.60″ high and 0.25″-0.44″ thick switches. Permits individual circuit breakers to be locked in off position without locking out the entire panel. Lock and tag sold separately. *Contact your local Newark sales office for details.*

Stock No.	Type	Description	Each	2-4
92F8185	PSL-CB	Universal Circuit Breaker Lockout	23.03	21.96

(6634) (nec9340)

LOCKOUT HASPS

More than one worker can lock out the same energy source for added safety. Two styles available. Solid-steel construction. Heavy-duty hasps have tamperproof design. 6 padlocks maximum. **Sold in packages of 12.**

Stock No.	Type	Description	Max. No. Padlocks	Each	2-4
84F1721	PSL-1	1″ Diameter Jaw, Overlapping Tabs	6	96.84	90.15
84F1722	PSL-1.5	1.5″ Diameter Jaw, Overlapping Tabs	6	115.24	107.28
92F8126	PSL-1A	1″ Diameter Jaw	6	118.92	110.70
92F8127	PSL-1.5A	1.5″ Diameter Jaw	6	142.85	132.97
92F8182	PSL-HD1	Heavy-Duty w/1″ x 1″ Clearance	5	130.88	121.84
92F8183	PSL-HD3	Heavy-Duty w/1″ x 3″ Clearance	7	124.55	120.90

(6636) (nec9343)

LARGE CIRCUIT BREAKER LOCKOUT

Type PSL-CBL circuit breaker lockout designed for 3-phase circuit breakers 277V and above. Accommodates breaker handle dimensions up to 0.8″ thick x 3.00″ wide. Secures and prevents re-engaging of the breaker handle. Stainless steel and nylon construction.

Stock No.	Type	Description	Each	2-4
91F7289	PSL-CBL	Large Circuit Breaker Lockout	26.65	25.58

(12636) (ne10310)

WALL SWITCH LOCKOUT

- For locking out electrical supply controlled by ordinary toggle switches
- Compact, secure design fits most toggle switches
- Easily attached without removal of faceplate or screws
- Quick installation with standard screwdriver

Stock No.	Type	Description	Each	2-4
97F8843	PSL-WS	Wall Switch Lockout	18.43	17.58

(6635) (nec9341)

LOCKOUT KITS

MRO Kit

Electrician's Kit

Contractor's Kit

Separate MRO, contractor and electrician's kits are available. Provide fundamental lockout/tagout products conveniently stored in a sturdy plastic box or pouch for easy access. All kits include various quantities of the following: **type PSL-MLD** multiple lockout device, **type PSL-WS** wall switch lockout, **type PSL-CB** circuit breaker lockout, **type PSL-P** plug lockout, **type PSL-5RED-LS** long shackle padlocks; safety tags, screwdriver, lockout regulations booklet, and carrying case or pouch. MRO kit also includes: 5 x 2½″ gate valve lockouts, 3″ ball valve lockout, and 110V-cord lockout. Contractor kit also includes: **type PSL-1A** lockout hasp and type **PSL-5RED** standard shackle padlocks.

Stock No.	Type	Description	Each	2-4
66F3601	PSL-KT-MROA	MRO Kit	255.49	244.36
16F6319	PSL-KT-CONA	Contractor Kit	217.24	207.78
66F3602	PSL-PK-EA	Electrician's Kit	107.56	100.12

(6638) (nec9345)

ELECTRICAL LABELS—ELECTRICAL AND NATIONAL ELECTRIC CODE (NEC)

PLD-12

PLD-37

PLD-43

PLD-52

PLD-56

PLD-57
EIA

PLD-67
NEC110-31

PLD-74

PLD-75
NEC800

Sold in packages of 200. PLD-57 sold in packages of 300.

Stock No.	Type	L x H	Each	2-4	5-9
92F8205	PLD-12	1.5 x 1″	23.05	22.13	20.12
92F8208	PLD-37*	1.5 x 1″	23.05	22.13	20.12
84F1716	PLD-43	1.5 x 1″	23.05	22.13	20.12
92F8217	PLD-52	1.5 x 1″	23.05	22.13	20.12
92F8218	PLD-56	1.5 x 1″	23.05	22.13	20.12
92F8219	PLD-57	0.75″ Circle	21.87	21.00	19.09
84F1717	PLD-67	1 x 1.5″	23.05	22.13	20.12
92F8223	PLD-74	1.5 x 1″	23.05	22.13	20.12
92F8224	PLD-75	1.5 x 1″	23.05	22.13	20.12

* "CAUTION" signs with 120V, 240V, 440V, 460V, 208V, 230V, 277V, 277/480V, and 380V are also available; *contact your local Newark sales office.*
(6639)

(nec9346)

WARNING & CAUTION LABELS

Meet OSHA 1910.145. **PSSB-13** vinyl film safety sign in 10-pg. books, 3 signs per page. **Sold in books of 30.**

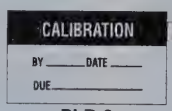
LABELS IN BOOKS (30 PER BOOK)

Stock No.	Type	Legend	Size (in.)	Color*	Each	2-4	5-9
94F3134	PSSB-13	"Danger High Voltage"	1.5 x 3.25	R,B on W	26.80	25.73	23.39

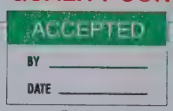
* R = Red, B = black, W = white.
(6468)

(ne01643)

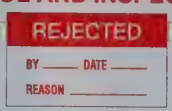
QUALITY CONTROL AND INSPECTION LABELS



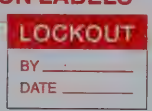
PLD-3



PLD-4



PLD-8



PLD-68

PLD-72

- Provide accurate tracking of quality action
- Enable employess to provide quality control
- All labels are 1.5L x 1″H.

Other quality control and inspection labels also available; *contact your local Newark sales office.* **Sold in packages of 200 labels per dispenser.**

Stock No.	Type	Legend	Each	2-4	5-9
92F8228	PLD-3	CALIBRATION	21.87	21.00	19.09
92F8229	PLD-4	ACCEPTED	23.05	22.13	20.12
92F8232	PLD-8	REJECTED	23.05	22.13	20.12
84F1732	PLD-68	LOCKOUT	23.05	22.13	20.12
83F7250	PLD-72	LOCKOUT CAUTION	27.06	25.98	23.62

Laminated Polyester, for indoor use
(6640)

(nec9347)

WRITE-ON SAFETY TAGS

PVT-41

PVT-98
(Back)

Safety tags are made of rigid vinyl with write-on surface; accepts pen, pencil, or marker pen. Feature a ⅜″ dia. brass grommet for greater strength. Can be attached with a lockout device or **type PLT2S** nylon tie (50-lb. loop tensile strength tie for OSHA compliance) supplied with each tag. Size: 3W x 5.75″H. **Sold in packages of 5 tags.**

Stock No.	Type	Legend (Front Side)	Each	2-4	5-9
92F8195	PVT-41	DO NOT OPERATE	9.92	9.46	9.03
84F1730	PVT-98	EQUIPMENT LOCKED OUT BY... (Back Side)	9.92	9.46	9.03

(6642)

(nec9361)

NEW

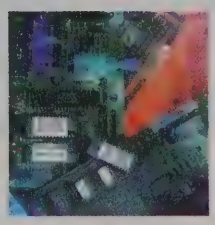
LABEL-PRINTING SYSTEMS

TLS2200™ THERMAL LABELING SYSTEM

Lightweight, hand-held thermal transfer printer prints labels up to 2″ wide. Ideal for printing labels for wire markers, patch panels, circuit boards, and much more. Handles bar coding and multiple material configurations. Custom True Type font. Adjustable for 6 different label widths. Maximum print width: 1.81″. 2-line LCD, 16 characters wide. Prints up to 500 labels per battery charge. 203 dpi thermal transfer print mechanism. FCC Class A approved. Includes ribbon, battery pack, charger, test labels, cleaning card, manual, and hard case.

48F5375 Type TLS2200 Thermal Labeling System. **Each** **795.00**
48F5380 Type R4310 Black Ribbon. **Each** **19.20**
48F5381 Type R6010 Black Ribbon. **Each** **19.20**
(39395) (ne39395)

COMPONENT AND GENERAL ID LABELS



Electronic application labels help identify components and tools. For use with **type TLS2200** thermal label printer. Color: white polyester. **Sold in rolls.**

POLYESTER

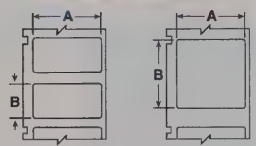
Stock No.	Type	Description	Style	Dimensions A	Dimensions B	Labels Per Roll	Each	2-4
48F5382	PTL-9-423*	Gloss White	A	0.65″	0.20″	750	30.00	28.50
48F5383	PTL-15-423*	Gloss White	A	1.00″	0.275″	750	36.10	34.30
48F5384	PTL-15-428**	Matte Silver	A	1.00″	0.275″	750	47.30	44.94
48F5385	PTL-19-423*	Gloss White	A	1.00″	1.00″	750	21.00	19.95
48F5386	PTL-28-423*	Gloss White	A	1.50″	0.25″	750	43.10	40.95
48F5387	PTL-32-423*	Gloss White	B	1.50″	1.50″	250	33.80	32.11

*Use with **Type R6010** ribbon; **Use with **Type R4310** ribbon

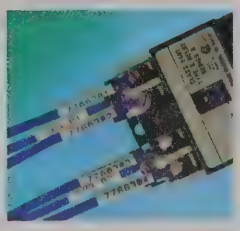
VINYL COTH LABELS

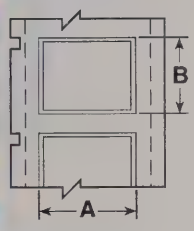
Stock No.	Type	Label Dimensions A	Label Dimensions B	Labels Per Rolls	Each	2-4
48F5395	PTL-15-400**	1.00″	0.275″	750	47.80	45.41
48F5396	PTL-16-400**	1.00″	0.375″	500	37.90	36.01
48F5397	PTL-17-400**	1.00″	0.50″	500	39.90	37.91

Use with **Type R4310 ribbon
(39396) (ne39396)



PERMASLEEVE™ CABLE-MARKING LABELS





White polyolefin markers have a 3:1 shrink ratio. **Sold in rolls of 100.**

Stock No.	Type	Sleeve Dimensions A	Sleeve Dimensions B	Wire Diameter Range Minimum	Wire Diameter Range Maximum	Labels Per Roll	AWG	Each	2-4
48F5388	PSPT-125-1W	1.015″	0.235″	0.046″	0.110″	100	22-16	34.10	32.40
48F5389	PSPT-187-1W	1.015″	0.335″	0.062″	0.150″	100	18-12	38.00	36.10
48F5390	PSPT-250-1W	1.015″	0.439″	0.094″	0.215″	100	16-10	46.10	43.80
48F5391	PSPT-375-1W	1.015″	0.645″	0.125″	0.320″	100	12-6	67.90	64.51

(39397) (ne39397)

WIRE AND CABLE MARKING LABELS

CABLE-MARKING LABELS

Material: vinyl.

Stock No.	Type	Label Dimensions A	Label Dimensions B	Label Dimensions C	Labels Per Roll	Each	2-4
48F5402	PTL-21-427	1.00″	2.50″	0.75″	100	19.30	18.34
48F5403	PTL-23-427	1.00″	4.00″	1.00″	100	23.00	21.85
48F5408	PTL-33-427	1.50″	4.00″	1.00″	100	31.20	29.64

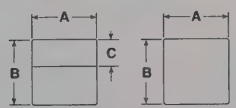
Wire Marking Labels

WIRE-MARKING LABELS

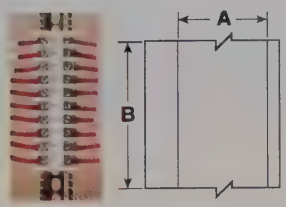
Stock No.	Type	AWG	Max. Dia.	Material	Label Dimensions A	Label Dimensions B	Label Dimensions C	Labels Per Roll	Each	2-4
48F5404	PTL-29-400	4-10	0.26″	Vinyl Cloth	0.50″	1.50″	...	500	35.30	33.54
48F5406	PTL-31-427	4-10	0.26″	Vinyl	1.00″	1.50″	0.50″	250	32.40	30.78
48F5405	PTL-31-400	4-10	0.26″	Vinyl Cloth	1.00″	1.50″	...	250	36.10	34.30
48F5407	PTL-32-427	4-10	0.26″	Vinyl	1.50″	1.50″	0.50″	250	33.30	31.64
48F5398	PTL-17-427	10-12	0.21″	Vinyl	0.50″	1.00″	0.375″	500	28.00	26.60
48F5399	PTL-18-400	10-12	0.21″	Vinyl Cloth	0.75″	1.00″	...	250	26.20	24.89
48F5400	PTL-18-427	10-12	0.21″	Vinyl	0.75″	1.00″	0.375″	250	22.90	21.76
48F5401	PTL-19-427	10-12	0.21″	Vinyl	1.00″	1.00″	0.375″	250	25.20	23.94
48F5393	PTL-11-400	10-16	0.16″	Vinyl Cloth	0.50″	0.75″	...	500	31.70	30.12
48F5394	PTL-11-427	10-16	0.16″	Vinyl	0.50″	0.75″	0.375″	500	26.30	24.99
48F5392	PTL-7-400	16-22	0.11″	Vinyl Cloth	0.50″	0.50″	...	500	34.70	32.97

(39399) (ne39399)

Cable Marking Labels



TERMINAL BLOCK MARKERS



Repositional vinyl cloth terminal block markers make identification easier. **Sold in rolls of 30′.**

Stock No.	Type	Dimensions A	Dimensions B	Roll Length	Each	2-4
48F5409	PTLTB-400-240	0.240″	Continuous	30′	30.00	28.50
48F5410	PTLTB-400-318	0.318″	Continuous	30′	30.80	29.26
48F5411	PTLTB-400-375	0.375″	Continuous	30′	31.30	29.74

(39400) (ne39400)

NEW CABLE/WIRE MARKING SYSTEMS AND ACCESSORIES

ID PRO™ PLUS PRINTER AND ACCESSORIES

- **Weight: 1.6 lbs.**
- **Shuttle Head Impact Printer**
- **2 Type Sizes with Normal and Bold Available**
- **Prints Up to 8 Variable Lines of Text**
- **2-Line Liquid Crystal Display (LCD)**
- **Prints Up to 250 Labels Between Battery Charges**
- **6-Month Warranty**

The smallest, most affordable method available to print wire, outlet, faceplate, and component labels on site. It can accommodate 3 different material widths from 0.59″ to 1.59″. The self-adjusting printhead accepts a wide variety of labeling materials including self-laminating and vinyl cloth, plus BradySleeve™ and PermaSleeve™ heat-shrink wire markers. *Order PermaSleeve™ wire marking separately on page 1521. Order PermaSleeve™ cable marking sleeves on page 1519.*

PRINTER

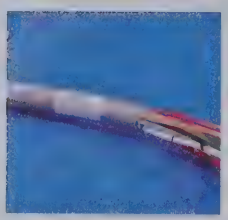
Stock No.	Type	Description	Each
48F5303	IDPRO-PLUS	Includes R5300 Ribbon, Battery Pack, User's Manual, Battery Charger, and Wrist/Belt Cord	389.00

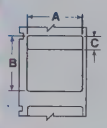
ACCESSORIES

48F5304	IDPRO-HC	Hard Side Carrying Case	43.60
48F5307	ID PRO-BC 12V	12-Volt Battery Charger (Plugs Into Auto Cigarette Lighter)	27.20
48F5308	IDPRO-BP	Battery Pack	43.60
48F5305	IDPRO-BC	Battery Charger	19.60
48F5306	R5300	Black High-Performance Ribbon for PermaSleeve™	8.20

(39384) (ne39384)

CABLE MARKING LABELS



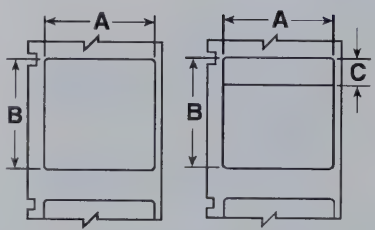


Print up to 8 different lines of text in wire and strip models. Repeat the full legend for the entire length of the label. Material: Self-laminating vinyl. Color: White/transparent. **Sold in rolls of 100 labels.**

Stock No.	Type	Label Dimensions A	Label Dimensions B	Vertical Repeat	Maximum Lines of Print	Each	2-4
48F5335	WML-511-292	1.00″	2.50″	0.75″	4	16.80	15.96
48F5338	WML-517-292	1.50″	2.50″	0.75″	4	21.10	20.05
48F5341	WML-711-292	1.00″	4.00″	1.0″	6	20.00	19.00
48F5344	WML-717-292	1.50″	4.00″	1.0″	6	27.10	25.75

(39386) (ne39386)

WIRE-MARKING LABELS



Use on components in control panels, electronic components and circuit boards, faceplates and electronic receptacles.Measurements based on THHN wire.

6 - 10 AWG — MAX. WIRE DIAMETER: 0.26″

Stock No.	Type	Label Material	Dimensions A	Dimensions B	Dimensions C	Lines of Print	Labels Per Roll	Each	2-4
48F5345	WML-905-502	Vinyl Cloth	0.50″	1.25″	N/A	8	250	22.00	20.90
48F5328	WML-305-292	Vinyl	0.50″	1.25″	0.50″	3	250	17.70	16.82
48F5346	WML-911-499	Nylon Cloth	1.00″	1.25″	N/A	8	250	27.10	25.75
48F5347	WML-911-502	Vinyl Cloth	1.00″	1.25″	N/A	8	250	26.20	24.89
48F5331	WML-311-292	Vinyl	1.00″	1.25″	N/A	3	250	23.80	22.61
48F5332	WML-317-292	Vinyl	1.50″	1.25″	0.50″	3	250	28.20	26.79

10 — 12 AWG — MAX. WIRE DIAMETER: 0.21″

48F5340	WML-705-499	Nylon Cloth	0.50″	1.00″	N/A	6	250	21.10	20.05
48F5339	WML-705-502	Vinyl Cloth	0.50″	1.00″	N/A	6	250	20.40	19.38
48F5324	WML-205-292-1	Vinyl	0.50″	1.00″	N/A	2	250	17.80	16.91
48F5342	WML-711-499	Nylon Cloth	1.00″	1.00″	0.375″	6	250	25.20	23.94
48F5343	WML-711-502	Vinyl Cloth	1.00″	1.00″	N/A	6	250	24.60	23.37
48F5326	WML-211-292-1	Vinyl	1.00″	1.00″	N/A	2	250	21.90	20.81

10 - 16 AWG — MAX. WIRE DIAMETER: 0.16″

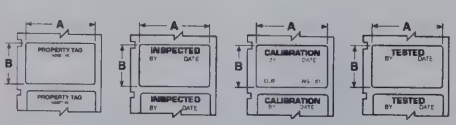
48F5333	WML-505-499	Nylon Cloth	0.50″	0.75″	N/A	4	250	19.50	18.53
48F5334	WML-505-502	Vinyl Cloth	0.50″	0.75″	N/A	4	250	18.90	17.96
48F5325	WML-205-292-75	Vinyl	0.50″	0.75″	0.375″	2	250	15.00	14.25
48F5336	WML-511-499	Nylon Cloth	1.00″	0.75″	N/A	4	250	23.30	22.14
48F5337	WML-511-502	Vinyl Cloth	1.00″	0.75″	N/A	4	250	22.60	21.47
48F5327	WML-211-292-75	Vinyl	1.00″	0.75″	N/A	2	250	19.90	18.91

16 - 22 AWG — MAX. WIRE DIAMETER: 0.11″

48F5329	WML-305-499	Nylon Cloth	0.50″	0.50″	N/A	3	500	30.90	29.36
48F5330	WML-306-502	Vinyl Cloth	0.50″	0.50″	N/A	3	500	30.00	28.50

(39387) (ne39387)

PRE-PRINTED LABELS



Label material: polyester. For use wth **type TLS2200** thermal transfer printer only; *ordered separately on page 1519.* **Sold in rolls of 250.**

Stock No.	Type	Label Dimensions A	Label Dimensions B	Legend	Color	Each	2-4
48F5412	PTL-30-423-CALI	1.50″	0.75″	CALIBRATION	Gloss White	27.00	25.65
48F5413	PTL-30-428-CALI	1.50″	0.75″	CALIBRATION	Matte Silver	43.00	40.85
48F5414	PTL-30-423-TEST	1.50″	0.75″	TESTED	Gloss White	27.00	25.65
48F5415	PTL-30-428-TEST	1.50″	0.75″	TESTED	Matte Silver	43.00	40.85
48F5416	PTL-30-423-INSP	1.50″	0.75″	INSPECTED BY	Gloss White	27.00	25.65
48F5417	PTL-30-428-INSP	1.50″	0.75″	INSPECTED BY	Matte Silver	43.00	40.85
48F5418	PTL-35-423-PROP	1.63″	0.75″	PROPERTY TAG	Gloss White	27.00	25.65
48F5419	PTL-35-428-PROP	1.63″	0.75″	PROPERTY TAG	Matte Silver	43.00	40.85

(39401) (ne39401)

NEW

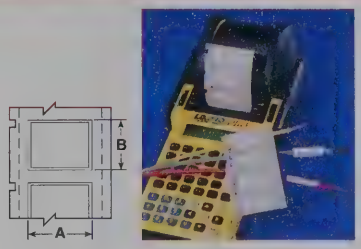
WIRE-MARKING PRODUCTS

PERMASLEEVE™ WIRE-MARKING SLEEVES

Material: heat-shrink polyelefin. Will repeat the full legend for the entire length of the label in wire and strip models. 1″ marker width. Color: white. **Sold in rolls of 100.**

Stock No.	Type	Wire Diameter Min.	Wire Diameter Max	AWG	Sleeve Dimensions A	Sleeve Dimensions B	Maximum Lines of Print	Each	2-4
48F5320	PSIDP-111-125	0.046″	0.110″	22-16	1.00″	0.235″	1	32.50	30.88
48F5321	PSIDP-111-187	0.062″	0.150″	18-12	1.00″	0.335″	1	36.20	34.39
48F5322	PSIDP-211-250	0.094″	0.215″	16-10	1.00″	0.439″	2	43.90	41.71
48F5323	PSIDP-311-375	0.125″	0.320″	12-6	1.00″	0.645″	3	64.70	61.47

(39388) (ne39388)



COMPONENT AND GENERAL IDENTIFICATION LABELS

For use on components in control panels, electronic components and circuit boards, faceplates, and electronic receptacles. **Sold in rolls of 500.**

Stock No.	Type	Label Material	Lable Dimensions A	Lable Dimensions B	Lines of Print	Each	2-4
48F5309	CL-105-619	Polyester	0.50″	0.275″	1	17.20	16.34
48F5310	CL-111-502	Vinyl Cloth	1.00″	0.275″	1	27.00	25.65
48F5315	CL-111-607	Tamperproof Vinyl	1.00″	0.275″	1	28.60	27.17
48F5311	CL-111-619	Polyester	1.00″	0.275″	1	20.90	19.86
48F5316	CL-111-969	Metallized Polyester	1.00″	0.275″	1	27.40	26.03
48F5312	CL-117-619	Polyester	1.50″	0.275″	1	23.60	22.42
48F5313	CL-311-502	Vinyl Cloth	1.00″	0.275″	3	33.60	31.92
48F5314	CL-311-619	Polyester	1.00″	0.50″	3	25.80	24.51
48F5317	CL-311-969	Metallized Polyester	1.00″	0.50″	3	34.50	32.78
48F5318	CL-317-619	Polyester	1.50″	0.50″	3	28.80	27.36
48F5319	CL-517-619*	Polyester	1.50″	0.75″	4	19.60	18.62

***Sold in rolls of 250**
(39389) (ne39389)

MULTIPLE-ACROSS WIRE-MARKING STRIPS

Will repeat the full legend for the entire length of the label in wire and strip modes. **Sold in rolls of 500 strips/250 sets.**

Stock No.	Type	Gauge	Sleeve Dimension A	Sleeve Dimension B	Write-On Area	Lines of Print	Each	2-4
48F5348	WML-205-292-2S*	10-14	0.50″	0.75″	0.40″	2	26.00	24.70
48F5349	WML-305-292-2S*	6-10	0.50″	1.25″	0.52″	3	29.80	28.31
48F5350	WML-505-499-2S†	10-14	0.50″	0.75″	...	4	28.20	26.79
48F5351	WML-505-502-2S‡	10-14	0.50″	0.75″	...	4	27.40	26.03

*White/transparent self-laminating vinyl; †Nylon cloth; ‡White vinyl cloth
(39390) (ne39390)

PORTA-PACK® WIRE MARKER BOOKS

Slim, lightweight, pocket-size book is easy to carry and easy to use. Includes terminal marker with each wire marker.

Stock No.	Type	Legend	No. Marker Each Legend	Each	2-4
48F5352	PWM-PK-1	0 thru 9	45	17.50	16.63
48F5353	PWM-PK-2	A thru Z, 0 thru 15, +, --, /	10	17.50	16.63
48F5354	PWM-PK-3	1 thru 45	10	17.50	16.63
48F5355	PWM-PK-8	1 thru 15 16 thru 90 A thru Z, +, --, /, 0	6 4 2	17.50	16.63
48F5356	PWM-LC-3	Load Center and Residential	5	17.50	16.63

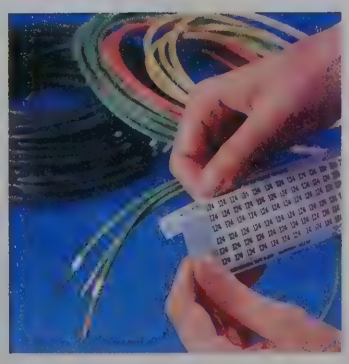
(39391) (ne39391)

WIRE MARKER CARDS

Exclusive ZipStrip release cards let you remove the markers you need, when you need them. Vinyl cloth. 1.50″ per marker.

Stock No.	Type	Legend	No. Marker Each Legend	Each	2-4
48F5357	WM-0	0	36	1.21	1.15
48F5358	WM-1	1	36	1.21	1.15
48F5359	WM-2	2	36	1.21	1.15
48F5360	WM-3	3	36	1.21	1.15
48F5361	WM-4	4	36	1.21	1.15
48F5362	WM-5	5	36	1.21	1.15
48F5363	WM-6	6	36	1.21	1.15
48F5364	WM-7	7	36	1.21	1.15
48F5365	WM-8	8	36	1.21	1.15
48F5366	WM-9	9	36	1.21	1.15
48F5367	WM-1-33	1 thru 33	33	1.21	1.15
48F5368	WM-34-66	34 thru 66	33	1.21	1.15
48F5369	WM-67-99	67 thru 99	33	1.21	1.15
48F5370	WM-100-124	100 thru 124	25	1.21	1.15
48F5371	WM-125-149	125 thru 149	25	1.21	1.15
48F5372	WM-A-Z	A thru Z	26	1.21	1.15
48F5373	WM-MIN	-	36	1.21	1.15
48F5374	WM-PLS	+	36	1.21	1.15

(39393) (ne39393)



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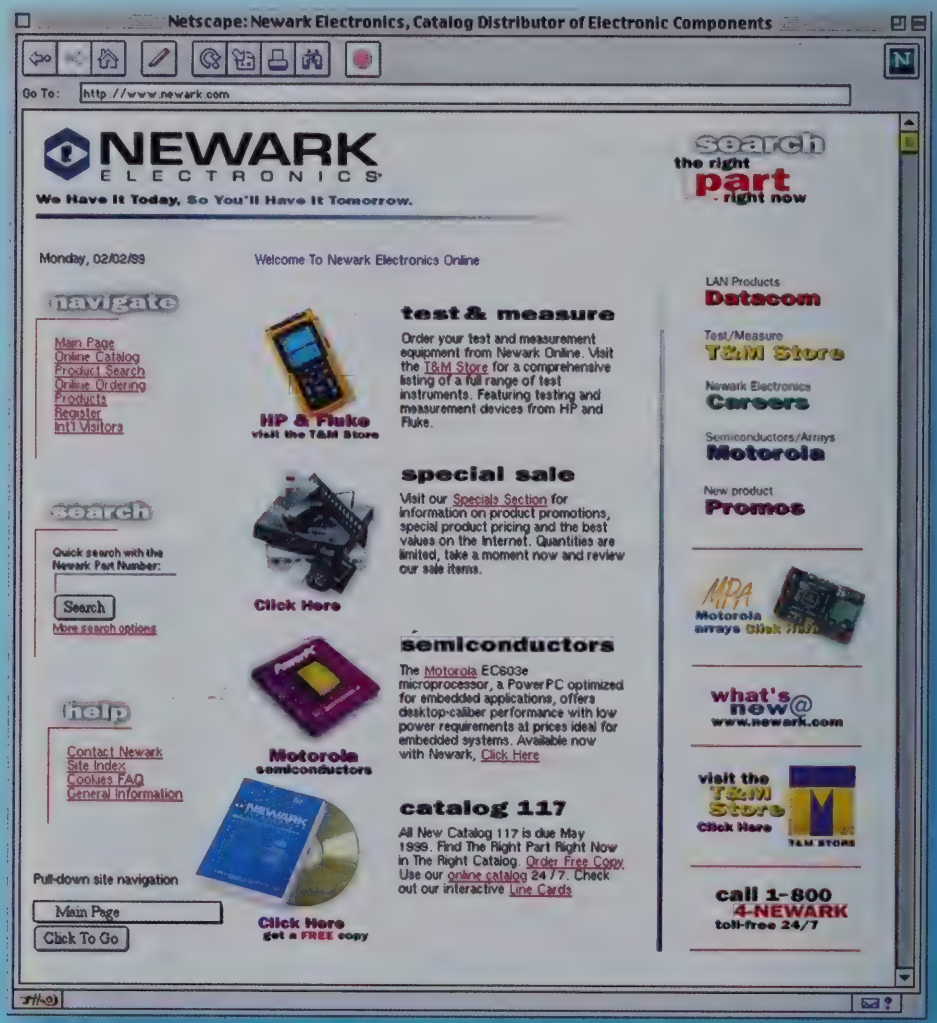
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Test Equipment, Tools & Soldering Products

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- F.W. Bell
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- Ceka
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- Crescent
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- Xcelite

Products include...

Test Equipment

- Clamp-On Meters
- Function Generators
- LAN Cable Testers
- Logic Analyzers
- Multimeters
- Oscilloscopes
- Power Supplies—Benchtop
- Temperature Meters
- Test Accessories
- Wire Tracers

Tools & Soldering Products

- Desoldering Braid
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- Drills
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- Measuring Tools
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Product Selection Guide—
Test Equipment, Tools & Soldering Products

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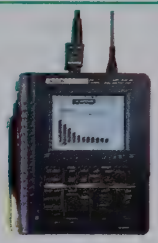

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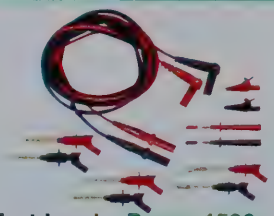

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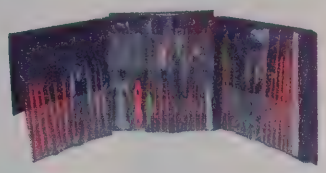

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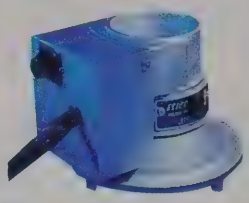

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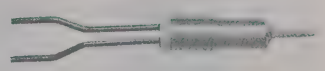

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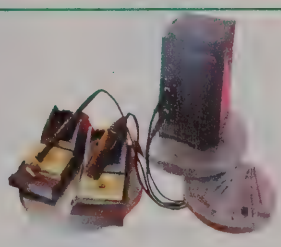

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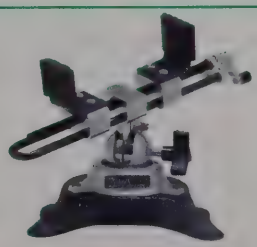

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FLUKE

DIGITAL MULTIMETERS

80 SERIES III ANALOG/DIGITAL MULTIMETERS

- +/-0.05% VDC Accuracy - Type 87, 87/E
- +/-0.08% VDC Accuracy - Type 85
- +/-0.1% VDC Accuracy - Type 83

Series III Features:
- IEC-1010-1 1000V CAT III Input Protection, Enhanced EMI Shielding
- True RMS Measurement (Types 85, 87 and 87/E)
- Brighter Backlit Display with 20% Larger Digits

Types 87 and 87/E Only:
- Backlit Display
- True RMS Measurements
- 1ms Peak Min/Max
- 4½-Digit Modes

87 87/E

80 Series III features: high accuracy; 3¾-digit 4000-count display; Touch Hold® and relative modes; autoranging; Input Alert™ monitors jack connections; frequency, duty cycle, capacitance, min, max, average record mode; splashproof, and dustproof case. Each meter includes TL-75 test leads with HardPoints™ and AC70A alligator clips (except 87/E which comes with TL24 test leads, TP1 test probes, and an AC20 alligator clip) C81Y protective holster, 9V battery and a multi-lingual manual. Lifetime warranty. *Additional accessories available separately on page 1530.*

92F1137 Type 87-III Series III. **Each** **349.00**
83F2777 Type 87/E III Series III. **Each** **369.00**
92F1136 Type 85-III Series III. **Each** **319.00**
92F1135 Type 83-III Series III. **Each** **279.00**

METERS WITH NIST CERT. OF CALIBRATION

91F6362 Type 87-3-W/CERT Cert. of Calibration. **Each** **415.80**
91F6361 Type 85-3-W/CERT Cert. of Calibration. **Each** **369.00**
91F6360 Type 83-3-W/CERT Cert. of Calibration. **Each** **329.00**

REPLACEMENT TEST LEADS

44F622 Type TL-75 Replacement Test Leads. **Each** **10.00**
50F9870 Type TL24 Replacement Test Leads (87/E). **Each** **18.00**

REPLACEMENT FUSES

52F4514 Type 943121 440mA/1000V Replacement Fuse. **Each** **6.50**
52F4513 Type 943118 11A/1000V Replacement Fuse. **Each** **9.00**

CARRYING CASE

44F7741 (r5508) Type C25 Soft Vinyl Case. **Each** **22.00** (ne00807)

26, 79 SERIES III TRUE-RMS DIGITAL MULTIMETERS

- ±0.3% VDC Accuracy
- ±1.9% VAC Accuracy
- 600V Cat. III And 1000V Cat. II Per IEC 1010
- Rugged Overmolded Case, Ergonomic Styling
- True RMS Measurements
- Frequency Counter
- Capacitance
- Low-Ohms Range With Zero Calibration
- Smoothing™ Mode
- Auto/Manual Ranging
- Automatic Touch Hold®
- *Lifetime Warranty*

79 Series III

High-resolution 4000/10,000-count display with 63-segment bar graph. VDC ranges: 10µV to 1000V. VAC ranges: 20mV to 1000V. Resistance: 10mΩ to 40.00MΩ. AC/DC current: 10A. Diode test. Audible continuity beeper. Sleep mode extends battery life. **Type 79** includes TL-75 test leads with HardPoints™. **Type 26** includes premium electricians test lead set with TL-24 test leads, one black AC-85A alligator clip and TPI test probes. Both models include 9V battery and manual. UL3111 listed, CSA and TUV approved. *See a selection of multimeter accessories on page 1530.*

91F7535 Type 79-III. **Each** **209.00**
91F7536 Type 26-III. **Each** **229.00**
91F6359 Type 79-3-W/CERT. **Each** **239.00**
91F6348 Type 26-3-W/CERT. **Each** **259.00**

REPLACEMENT TEST LEADS

44F622 Type TL-75 Replacement Test Leads for Type 79. **Each** **10.00**
50F9870 Type TL24 Replacement Test Leads for Type 26. **Each** **18.00**

REPLACEMENT FUSES

52F4514 Type 943121 440mA/1000V Replacement Fuse. **Each** **6.50**
52F4513 Type 943118 11A/1000V Replacement Fuse. **Each** **9.00**

CARRYING CASE

44F7741 (6510) Type C25 Soft Vinyl Case. **Each** **22.00** (ne53257)

27 SERIES INDUSTRIAL MULTIMETERS

- ±0.1% VDC Accuracy
- ±0.5% VAC Accuracy
- O-Ring Sealed Case
- EMI Shielding
- Autoranging
- Touch Hold® To Capture Readings
- -15°C to +55°C Operating Range
- MSHA Approval 2G-3665-0
- *Lifetime Warranty*

27

27 series analog and digital meters will withstand water, contaminants, chemicals, accidental drops, and several electrical overloads. Autoranging and manual range selection. Separately sealed battery/fuse door allows access without affecting primary case seal. Operates from –15°C to +55°C and in up to 95% relative humidity. High-resolution, 3200-count, 3½-digit analog display. Tests changing or stable signals. Includes TL-75 test leads, 2 insulated alligator clips, spare fuse, 9V battery, and manual. Features min-max mode to store highest and lowest readings and relative mode to display only changes in readings. Both types are UL 1244 listed. Meet MIL-STD-28800 for Style A, Class 2 instruments. *See a selection of multimeter accessories on page 1530.*

44F7739 Type 27 YEL. **Each** **299.00**
91F6347 Type 27-YEL-W/CERT Cert. Of Calibration. **Each** **329.00**

REPLACEMENT TEST LEADS

44F622 Type TL-75 Replacement Test Leads. **Each** **10.00**

REPLACEMENT FUSES

50F9894 Type 871173 630mA/250V Replacement Fuse. **Each** **6.00**
50F9898 Type 871202 3A/600V Replacement Fuse. **Each** **12.00**
50F9899 Type 892583 15A/600V Replacement Fuse. **Each** **6.50**

CARRYING CASE

44F7742 (6509) Type C20 Hard Case. **Each** **30.00** (ne53231)

8060 SERIES 4½-DIGIT MULTIMETERS

Type 8062A Type 8060A

- **Measure True-RMS AC Voltage & Current, DC Voltage & Current and Resistance**
- **Fast Audible-Visual Continuity Tests**
- **Relative Reference (offset)**
- **Low-Power Ohms on all Resistance Ranges**
- **Frequency, Db & Conductance Measurements (Type 8060A)**
- ***1-Year Warranty***

20,000-count digital display multimeters offer more measurement capabilities than many bench/portable meters. Both meters combine precision and accuracy with features for use in audio, video, telecom or computer technology. Basic DCV accuracy: **Type 8062A**: ±(0.05% + 2 digits), **Type 8060A**: ±(0.04% + 2 digits). **Type 8060A** measures frequency to 200kHz. UL 1244 listed. Meters include TL70A test leads, 9V battery, spare fuse and operator's manual.

44FX590 Type 8060A. **Each** **479.00**
91F6363 Type 8060A-W/CERT with NIST certificate of calibration. **Each** ... **529.00**
44FX591 Type 8062A. **Each** **389.00**
91F6364 Type 8062A-W/CERT with NIST certificate of calibration. **Each** ... **439.00**
50F6949 (5558) Type TL-70A Replacement Test Leads. **Each** **11.00** (ne53232)

FLUKE

LIFETIME WARRANTY DIGITAL MULTIMETERS

23 AND 77 SERIES III DELUXE MULTIMETERS

- **600V Cat. III And 1000V Cat. II Per IEC 1010**
- **Rugged Overmolded Case, Ergonomic Styling**
- **Lifetime Warranty**

Features: automatic Touch Hold®, diode test, sleep mode, auto/manual ranging, audible continuity beeper. High-resolution 3200-count/3½-digit display with 31-segment analog bar graph. ±0.3% VDC accuracy. ±2.0% VAC accuracy. Current range: 10µA to 10A. VDC range: 100mV to 1000V. VAC range: 1.0mV to 1000V. Resistance range: 100mΩ to 32MΩ. **Type 77** includes TL-75 test leads with HardPoints™. **Type 23** includes premium electricians test lead set with TL-24 test leads, one black AC85A alligator clip, TP1 test probe, 9V battery, and manual. *For multimeter accessories on page 1530.*

91F7534 Type 77-III. **Each** 185.00
91F7526 Type 23-III. **Each** 205.00
91F6343 Type 23-III-W/CERT Cert. of calibration **Each** 235.00
91F6358 Type 77-III-W/CERT Cert. of calibration **Each** 215.00
44F622 Type TL-75 Replacement Test Leads for Type 77. **Each** 10.00
50F9870 Type TL24 Replacement Test Leads for Type 23. **Each** 18.00
52F4514 Type 943121 440mA/1000V Replacement Fuse. **Each** 6.50
52F4513 Type 943118 11A/1000V Replacement Fuse. **Each** 9.00
44F7741 Type C25 Soft Vinyl Case. **Each** 22.00
(6599) (nec9192)

77 Series III

23 Series III

21 AND 75 SERIES III FULL-FEATURE MULTIMETERS

- **600V Cat. III Per IEC 1010**
- **Rugged Overmolded Case, Ergonomic Styling**
- **Lifetime Warranty**

Features: automatic Touch Hold®, audible continuity beeper, auto/manual ranging, diode test, and sleep mode. High-resolution 3200-count/3½-digit display with 31-segment analog bar graph. ±0.3% VDC accuracy. ±0.2% VAC accuracy. VDC range: 100µV to 600V. VAC range: 1mV to 600V. Current range: 10µA to 10A. Resistance range: 100mΩ to 32MΩ. **Type 75** includes TL-75 test leads with Hard Points™. **Type 21** includes premium electricians test lead set with TL-24 test leads, one black AC85A alligator clip, TP1 test probe, 9V battery, and manual. UL 3111 Listed, CSA certified, TUV approved. *For multimeter accessories on page 1530.*

91F7533 Type 75-III Series III. **Each** 165.00
91F7525 Type 21-III Series III. **Each** 185.00
91F6356 Type 75-III-W/CERT Cert. of calibration **Each** 195.00
91F6342 Type 21-III-W/CERT Cert. of calibration **Each** 215.00
44F622 Type TL-75 Replacement Test Leads for Type 75. **Each** 10.00
50F9870 Type TL24 Replacement Test Leads for Type 21. **Each** 18.00
52F4514 Type 943121 440mA/1000V Replacement Fuse. **Each** 6.50
52F4513 Type 943118 11A/1000V Replacement Fuse. **Each** 9.00
44F7741 Type C25 Soft Vinyl Case. **Each** 22.00
(6600) (nec9193)

75 Series III

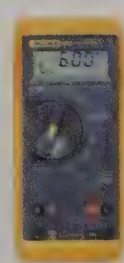
21 Series III

70 AND 73 SERIES III DIGITAL MULTIMETERS

- **600V Cat. III Per IEC 1010**
- **Lifetime Warranty**

Features: automatic Touch Hold®, audible continuity beeper, sleep mode, auto/manual ranging, and diode test. High-resolution 3200 count/3½ digit display with 31-segment analog bar graph. ±0.3% VDC accuracy. ±2.0% VAC accuracy. VDC range: 100µV to 600V. VAC range: 1mV to 600V. Resistance range: 100mΩ to 32MΩ. Current range: 10µA to 10A (**type 73** only, **type 70** requires a hall effect AC/DC clamp for current measurement). Both models include yellow protective holster with Flex-Stand™, TL-75 test leads with Hand Points™, 9V battery, and instruction sheet. UL3111 Listed, CSA certified, TUV approved. *For multimeter accessories on page 1530.*

91F7532 Type 73-III Series III. **Each** 135.00
91F7531 Type 70-III Series III. **Each** 109.00
91F6355 Type 73-III-W/CERT Cert. of calibration. **Each** 165.00
91F6354 Type 70-III-W/CERT Cert. of calibration. **Each** 139.00
44F622 Type TL-75 Replacement Test Leads. **Each** 10.00
50F9899 Type 892583 15A 600V Replacement Fuse Type 73. **Each** 6.50
44F7741 Type C25 Soft Vinyl Case. **Each** 22.00
(6601) (nec9194)


73 Series III

70 Series III

10 SERIES DIGITAL MULTIMETERS

- **Measures VAC/VDC/Ohms**
- **Capacitance to 9999µF (Types 11/12/12B)**

10 series compact digital multimeters are designed to support first-level electrical/electronic troubleshooting and provide quick checks around the house. User-friendly control panel and slide switch allow one-handed operation. Features: diode/continuity test, manual and autoranging, sleep mode, V Chek™ mode (**types 11/12/12B**), min/max record with relative time stamp (**types 12/12B**), Continuity Capture™ (**types 12/12B**), and input change alert (**types 12/12B**). 1.5% DC Accuracy (type 10). 0.9% DC Accuracy (types 11/12/12B). **Type 12B** has the same features as **type 12**, only it has an easy-to-use rotary dial. All models include 9V battery, test leads and manual. 2-year warranty. **Types 10-W/CERT, 11-W/CERT, 12-W/CERT,** and **12B-W/CERT** have NIST Certificate of Calibration. **Type C10** is a holster. **Type C12A** is a soft case. *For a complete selection of multimeter accessories, contact your local Newark sales office.* UL 1244 listed, and TUV approved.

50F9089 Type 10. **Each** 74.00
91F6338 Type 10-W/CERT. **Each** 104.00
50F9090 Type 11. **Each** 84.00
91F6339 Type 11-W/CERT. **Each** 114.00
50F9091 Type 12. **Each** 99.00
91F6340 Type 12-W/CERT. **Each** 129.00
52F8874 Type 12B. **Each** 99.00
91F6341 Type 12B-W/CERT. **Each** 129.00
93F1834 Type C-10. **Each** 11.00
44F622 Type TL-75 Replacement Test Leads. **Each** 10.00
93F1835 Type C-12A Soft Vinyl Case. **Each** 13.00
(5451) (de00808)

10

11

12

12B

FLUKE

MULTIMETERS AND TESTERS

TYPE 16 DIGITAL MULTIMETER WITH THERMOMETER

- ±0.9% VDC Accuracy
- Temperature and Microamp Measurements
- Millivolt Readings for Accessory Compatibility
- V-Check™ Auto Selection Features: Automatic Readings of AC and DC Voltage Ohms/Continuity Beeper
- Continuity Capture™
- Min/Max with Time Stamp
- Capacitance up to 10000µF

Type 16 digital multimeter has all the features of the **type 12** and adds temperature and microamp measurement capabilities. Includes **type C10** holster that can also be ordered separately as a replacement, **type 80AK** temperature adapter, **type 80PK-1** temperature probe, TL-75 test leads with Hard Points™, 9V battery, instruction manual, and 3-year warranty. **Type C12A** is a soft case; *ordered separately below.*

91F6071 Type 16. **Each** **129.00**
44F622 Type TL-75 Replacement Test Leads. **Each** **10.00**
93F1834 Type C-10 Replacement Holster. **Each** **11.00**
46F3517 Type 80PK-1 Replacement Bead Temperature Probe. **Each** **13.00**
93F1835 Type C-12A Soft Vinyl Case. **Each** **13.00**
48F4323 Type 80AK Replacement Temperature Adapter. **Each** **14.00**
(19029) (ne10732)

7 SERIES ELECTRICAL TESTERS

7-300

7-600

- ±1.5% DCV Accuracy
- ±2.9% ACV Accuracy
- 4000-Count Digital Display
- Auto Selection Features: Automatic Readings of AC and DC Voltage; 400 Ohm Range/Continuity Beeper
- TL-75 Test Leads Included
- High Visibility Yellow Plastic Housing

The economical **7 series** testers offer first-level electrical troubleshooting. The compact design and slide switch offer one-handed operation. Automatic readings of AC and DC volts (300V in **type 7-300**; 600V in **type 7-600**) and ohms. Includes **type TL-75** test leads with Hard Points™, 9V battery, instruction manual, and 2-year warranty. UL listed, CSA certified, TUV approved and CE compliant.

52F8872 Type 7-300. **Each** **54.95**
52F8873 Type 7-600. **Each** **69.00**
91F6336 Type 7-300-W/CERT. **Each** **84.95**
91F6337 Type 7-600-W/CERT. **Each** **99.95**
93F1834 Type C-10 Holster. **Each** **11.00**
93F1835 Type C-12A Soft Case. **Each** **13.00**
44F622 Type TL-75 Replacement Test Leads. **Each** **10.00**
(6533) (nec7500)

TYPE T2 VOLTAGE/CONTINUITY TESTER

- High-Resistance Voltage and Continuity Tester with LED and Audible Indicators
- One-Piece Unit with Attached Test Leads and Strain Relief
- Auto-On/Off Feature
- 1000V Maximum Operating Voltage

Type T2 voltage/continuity tester is a one-piece, pocket-sized unit with attached test leads that switches automatically between voltage and continuity modes. Tests for AC voltage to 600V and DC voltage to 220V. Unit will indicate continuity via beeper and LED when the impedance between the leads is less than 150kΩ. Unit comes with 2 AA batteries, instruction sheet, and 1-year warranty.

91F6068 Type T2. **Each** **44.95**
83F2779 Type H5 Holster. **Each** **14.95**
(ne10730)

T5 SERIES MULTI-TESTERS

T5-1000

- Measure AC or DC Voltage, AC Current, Resistance, and Continuity
- Voltage Indicator Lights when more than 30VAC or 60VDC is Present
- Display Hold/Automatic Power Down/Low Battery Indication

T5 series multi-testers provide a variety of measurements in one compact test unit. Leads are attached to unit with an integral strain relief. Measure up to 100A AC current and 1000 ohm resistance. **Type T5-600** measures AC or DC voltage to 600V. **Type T5-1000** measures AC or DC voltage to 1000V. Basic DCV accuracy: ±(1.0% + 1 digit). Units come with 2 AA batteries, instruction sheet, and 2-year warranty.

91F6069 Type T5-600. **Each** **89.95**
91F6070 Type T5-1000. **Each** **99.95**
83F2779 Type H5 Holster. **Each** **14.95**
(ne10731)

TYPE 30, 32, and 36 CLAMP METERS

36

30, 32

- Rugged, Easy-To-Use Meters
- Types 30 and 32 Measure ACV, Current, Resistance, and Continuity
- Type 36 Measures DCV and Current
- Types 32 and 36 Offer True-rms AC Measurements
- 600V Cat III per IEC 1010 Safety Rating
- *1-Year Warranty*

The **30 series** family are rugged, self-contained clamp meters for a variety of jobs. **Type 30** is excellent for troubleshooting commercial and residential electrical and HVAC systems with traditional linear loads to 400A/600V. **Type 32** is ideal for non-linear loads like adjustable frequency drives and HID lighting systems with a maximum reading of 600A/600V DC. **Type 36** adds max-hold for measuring in-rush current or maximum load on a circuit and can measure to 600A/600V AC; 1000A/600V DC. **Type 30** and **32** include C31 softcase, TL75 test leads, 9V battery and operator's manual. **Type 36** includes C36 soft case, TL75 test leads, 9V battery and operator's manual.

95F7233 Type 30 Average Sensing Clamp Meter. **Each** **109.00**
91F6349 Type 30-W/CERT Ave. Sens. Clamp Meter. **Each** **139.00**
66F790 Type 32 Clamp Meter. **Each** **155.00**
91F6351 Type 32-W/CERT Clamp Meter. **Each** **185.00**
52F7848 Type 36 Clamp Meter. **Each** **224.00**
91F6353 Type 36-W/CERT Clamp Meter. **Each** **274.00**
91F6063 Type C31 Replacement Soft Case (for Types 30 & 32). **Each** **16.00**
91F6064 Type C36 Replacement Soft Case (for Type 36). **Each** **16.00**
44F622 Type TL-75 Replacement Test Leads. **Each** **10.00**
(6530) (nec7497)

TYPE 31 AND 33 CLAMP METERS

- True-rms Readings for Traditional and Non-Linear Loads
- Measures AC Current to 400A and Frequency to 10kHz
- Auto & Manual Ranging
- Typical AC Accuracy: ±2% + 2 Digits
- UL 1244, CSA & VDE Approved
- *1-Year Warranty*

Type 31 and **33** clamp meters are rugged and reliable units for electrical toubleshooting. **Type 33** also features Smoothing™, min/max/average record and crest modes. Models include **C30** holster, 9V battery and operator's manual.

93F1139 Type 31 Clamp Meter. **Each** **239.00**
91F6350 Type 31-W/CERT Clamp Meter with NIST certificate. **Each** **289.00**
93F1140 Type 33 Clamp Meter. **Each** **279.00**
91F6352 Type 33-W/CERT with NIST certificate of calibration. **Each** **329.00**
93F3053 Type C-30 Replacement Holster. **Each** **15.00**
(5559) (ne53233)

VOLTALERT ™ VOLTAGE DETECTOR

- Fits in Shirt Pocket for Convenience
- All Outer Surfaces are Non-Conductive for Safety
- Operating Range:24- 90-6VAC (Type1LAC-A), 90-600 VAC (Type 1AC)
- Detects Voltage Without Metallic Contact

VoltAlert™ is a pocket-sized AC voltage detector. The detector is easy-to-use, simply touch an outlet or cord with the tip. When the outlet or cord glows red, there is voltage in the line. The probe is composed of injection-molded high-impact, non-flammable PVC and ABS. Electricians, maintenance, service, and safety personnel can quickly test for energized circuits and defective grounds. For use on the factory floor, in the shop or at home. Packaging is UL listed, CSA certified, TUV approved; product is UL listed and CSA certified.

52F8879 Type FLUKE-1AC-A1. **Each** **20.95**
83F2778 Type 1LAC-A. **Each** **21.95**
(6534) (nec7501)

TYPE 45 DUAL DISPLAY BENCHTOP/PORTABLE DIGITAL MULTIMETER AND ACCESSORIES

- **0.025% Basic VAC Accuracy**
- **True-RMS Voltage and Current Readings**
- **Includes RS-232 Interface**
- **Closed-Case Calibration**

Type 45 multimeter is equipped with a multifunctional vacuum-fluorescent display that allows more measurements to be taken from a single connection and a single instrument set-up than previously available. 5-digit, 100,000-count meter has additional user-selected resolutions of 30,000 and 3,000 counts and a built-in RS-232 interface. Measurement functions include: DC volts/amps, true-RMS AC volts/amps, AC + DC capability, and ohms. Additional measurement capacity covers frequency, dB, audio power and audio continuity, diode test and min/max modes. Touch-hold and relative modes. The compare function offers in-tolerance testing that shows a high/lo/pass evaluation of components or inputs. Optional **Quickstart 45** software, *ordered separately from table below,* allows automated communications via the RS-232 interface. An optional rechargeable battery and soft carrying case are ideal for precision field-service applications. This multimeter may also be used in IEEE systems when used with IEEE-488.2 interface and rackmount kit. Both the battery and IEEE options can be installed without sacrificing any standard features. Multimeter includes **TL-70A** test leads, line cord, quick reference guide and manual. *Order optional accessories separately below.* One year warranty.

89F1304 Type 45. **Each** **719.00**
91F6365 Type 45-W/CERT. **Each** **779.00**

ACCESSORIES FOR TYPE 45 MULTIMETER

Stock No.	Type	Description	Each
90F1434	45-01K	Rechargeable Battery Kit	**170.00**
90F1435	45-05K	IEEE-488.2 Interface Kit	**200.00**
90F1440	S-45	Quickstart 45 DOS Software	**95.00**
90F1438	RS-40	6′ (1.83M) RS-232 Terminal Cable	**30.00**
90F1439	RS-41	6′ (1.83M) RS-232 Modern Cable	**30.00**
90F1392	Y8021	Shielded IEEE Cable 3′ (0.914M)	**250.00**
90F1393	Y8022	Shielded IEEE Cable 6′ (1.83M)	**270.00**
90F1394	Y8023	Shielded IEEE Cable 9′ (2.74M)	**280.00**
90F1436	C40	C40 Soft Carrying Case	**50.00**
90F1437	M00-200-634	M00-200-634 Rack Mount Kit	**122.00**

(5441) (de00174)

860 SERIES GRAPHICAL™ MULTIMETERS

TUV Rheinland

863

867B

- **Measure True-RMS Volts and Current, Resistance, Capacitance, Frequency, Plus-Width, Period, and dB**
- **TrendGraph™-Electronic Chart Recorder for Plotting Readings for up to 30 Hours**
- **Min/Max/Average Recording with Time Stamp**
- **TouchHold® and Peak Hold**
- **Optically Isolated, RS-232 Interface Cable and Software Available for Printing or Transferring Data to Disk**
- **1000V Category III per IEC-1010, UL 3111 Listed**
- **3-Year Warranty**

32,000-count display Graphical™ multimeters combine the industry's most advanced capabilities with the visual power of trend graphing and waveform display together in one hand-held instrument. **Type 867B** also adds waveform memory, logic activity mode, component testing, and backlit display. **Type 863** basic DCV accuracy: ±(0.04% (+2 digits). **Type 867B** basic DCV accuracy: ±(0.025% +2 digits). **Types 863** includes TL-70A test leads, 6 AA batteries, and operator's manual. **Types 867B** include TL-70A test leads, rechargeable NiCad battery pack, and external line adapter. UL listed, CSA certified, VDE and TUV approved.

Stock No.	Type	Description	Each
92F5208	863E	Graphical Multimeter	**595.00**
91F6374	863-W/CERT	Graphical Multimeter w/NIST Cert. of Calibration	**655.00**
16F8228	867BE	Graphical Multimeter	**795.00**
91F6375	867BE-W/CERT	Graphical Multimeter w/NIST Cert. of Calibration	**855.00**
16F8229	SC860	Software and Cable	**245.00**
92F7017	C789	Soft Case	**80.00**
91F6072	C781	Compact Soft Case	**39.00**
92F7018	BC7210 120	Battery Charger	**109.00**
52F4512	BE860	Battery Eliminator	**65.00**
92F8581	BP7217	NiCad Battery Pack	**99.00**

(5519) (ne03810)

FLUKE 43 POWER QUALITY ANALYZER

- **Catch Intermittents with Monitoring Functions**
- **Sags and Swells**
- **True-RMS Voltage and Current**
- **Watts, Power Factor, Displacement Power Factor, VA, and VAR**
- **Voltage, Current, and Power Harmonics**

Combines capabilities of a power quality analyzer, multimeter, and scope. Measures power harmonics and catches intermittents. Volts/amps/hertz display shows voltage to 1250V, amps to 50.00kA, and frequency from 40.0 to 70.0Hz. Power display shows VA and VAR to 2.50MΩ, PF from 0.00 to 0.25, and DPF from 0.25 to 1.0. Harmonics display shows voltage, current, and power to 51st harmonic, line frequency between 40Hz and 70Hz fundamental, phase between 2nd to 51st harmonic, K-factor to 30.0. Minimum pulse width of transient capture is 200ns. Records sags and swells and 2 selectable parameters for up to 16 days. Also measures resistance, diode voltage drop, continuity, and capacitance.
Includes the following accessories: TL24 test leads, AC20 industrial test clips, AC85 large jaw alligator clips, TP1 flat-tipped slim-reach test probes, 80i-500s 500A AC current clamp, SW43W FlukeView® Power Quality Analyzer Software for Windows, and user manual, PM 9080/001 optically isolated RS232 interface adapter, BP120 rechargeable NiCad battery pack, PM 8907 line voltage adapter/battery charger, shielded banana-to-BNC adapter, user manual, application guide, and power quality video.

83F5083 Type FLUKE 43. **Each** **1995.00**
(28357) (ne28357)

TYPE 39 POWER METER AND TYPE 41B POWER HARMONICS ANALYZER

39

41B

- **Combines a Digital Multimeter, Oscilloscope, and Harmonic Analyzer in One Tool**
- **Troubleshooting for Three-Phase Systems or Non-Linear Loads**
- **Three Views of Each Reading: Waveform, Harmonic Bargraph, and Numeric Values**
- **Direct Three-Phase Readouts from a Single-Phase Measurement**
- **True RMS Voltage from 5.0V to 600V; True RMS Current from 1A to 500A**
- **Min/Max and Average Recording**
- **1 Year Warranty**

Type 39 is designed for electricians and electrical contractors who need instantaneous, straightforward measurements to evaluate power usage, troubleshoot electrical problems, and manage energy costs. Offers direct three-phase readings from a single-phase measurement. **Type 41B** provides plant maintenance engineers and power quality consultants the features they need to optimize power system performance and analyze harmonics. **Type 41B** includes data storage for eight complete measurement sets, an optically isolated RS-232 interface cable, and DOS or Windows compatible software. All include 4 'C' batteries, TL24 test leads, TP20 test probes, AC20 test clips and 80i-500s AC current probe and operator's manual.

Stock No.	Type	Description	Each
66F9996	39	Power Meter	**995.00**
91F6376	39-W/CERT	Power Meter w/NIST Cert. of Calibration	**1060.00**
66F9997	41B	Power Harmonics Analyzer	**1795.00**
91F6377	41B-W/CERT	Power Harmonics Analyzer w/NIST Cert. of Calibration	**1860.00**
92F7017	C789	Carrying Case	**80.00**

(5523) (ne06162)

FLUKE

DIGITAL MULTIMETERS ACCESSORIES

DIGITAL MULTIMETER ACCESSORIES

TEMPERATURE ACCESSORIES			MULTIMETERS													
Stock No.	Type	Description	7-300/ 7-600	10/11/12/ 12B/16	70	73	75/21	77/23	79/26	25/27	8060A/ 8062A	83	85/87/787	860 Series	45	31/33/ 30/32/36	Each
95F3641	80T-IR	Infrared Temperature Probe		1	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		159.00
91F6066	80T-IR/E	**80T-IR** w/Extended Range		1	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		195.00
46F8464	80TK	Thermocouple Module		1	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		70.00
87F1847	80T-150U	Temperature Probe		1	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		120.00
TEST LEADS			**MULTIMETERS**														
89F1306	TL20	Industrial Test Lead Set*	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆ *2	43.00
50F9869	TL22	Test Leads	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		18.00
50F9870	TL24	Test Lead*	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		18.00
50F9871	TL26	Test Lead Set*	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆ *2	35.00
98F4066	TL-28	Test Lead Set*	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆ *2	25.00
50F6949	TL-70A	Rt. Angle Test Lead Set*	◆	◆	◆	◆	◆	◆	◆	◆	●	◆	◆	●	●	◆ *2	11.00
83F5829	TL80	Test Lead Set** Basic Electronic	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆ *2	39.00
83F5830	TL81	Test Lead Set* Deluxe Electronic	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆ *2	99.00
44F604	Y8131	Test Lead Set*	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		15.00
44F605	Y8132	Test Lead Set*	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		15.00
44F606	Y8133	Test Lead Set	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		36.00
44F614	Y8134	Test Lead Set	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		37.00
44F615	Y8140A	Test Lead Set	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		27.00
44F622	TL-75	Test Lead Set	●	●	●	●	●	●	●	●	●	●	●	●	●	● *2	10.00
CURRENT CLAMPS			**MULTIMETERS**														
44F599	Y8101A	AC Current Clamp#				◆	◆	◆	4	◆	◆	◆	◆	◆	◆		79.00
44F8908	80I-400	AC Current Clamp#				◆	◆	◆	5	◆	◆	◆	◆	◆	◆		85.00
44F592	80I-600A	AC Current Clamp#				◆	◆	◆	6	◆	◆	◆	◆	◆	◆		119.00
01F006	I410	AC/DC Current Clamp		7	17	17	17	17	8	◆	10	◆	8	9	10		154.00
01F007	I1010	AC/DC Current Clamp		7	17	17	17	17	8	◆	10	◆	8	9	10		254.00
83F2786	I3000S	AC/DC Current Clamp				◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		395.00
83F5828	I2000FLEX	AC/DC Current Clamp				◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		249.00
SPECIALTY ACCESSORIES			**MULTIMETERS**														
44F608	80K-6	High-Voltage Probe#		11	◆	◆	◆	◆	◆	◆	◆	◆	◆	18	18		65.00
44F609	80K-40	High-Voltage Probe		11	◆	◆	◆	◆	◆	◆	◆	◆	◆	18	18		119.00
44F594	85RF	High-Frequency Probe#		◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		99.00
93F3050	PV-350	Pressure-Vacuum Module		12	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		269.00
46F8463	A81	Battery Eliminator°									◆				◆		32.00
52F8875	FOM	Fiber-Optic Meter			◆	◆	◆	◆	◆	◆	◆	◆	◆	◆			295.00
83F2780	FLUKE-CO-210	Carbon Monoxide Probe			◆	◆	◆	◆	◆	◆	◆	◆	◆	◆	◆		199.00
CASES			**MULTIMETERS**														
95F3638	C17Y	Carrying Case, Molded, Yellow		13	16	16											39.00
44F7741	C25	Ruggedized Soft Case			14	14	14	14	14	◆	14	◆	◆				22.00
95F3639	C28Y	Carrying Case, Molded, Yellow								◆		◆	◆				39.00
46F3526	C-50	Compact Soft Case			16	16											17.00
44F597	C-90	Soft Case			◆	◆	◆	◆	◆		◆	◆	◆				17.00
44F603	C-100	Hard Case			◆	◆	◆	◆	◆	◆	◆	◆	◆				30.00
50F9868	C800	Hard Storage Case			15	15	15	15	15		15	◆	◆				28.00

*Listed to UL Safety Standards UL 1244;** Listed to UL Safety Standards 3111; #Factory Mutual approved; °UL recognized
◆ = Optional and Recomended; ● = Included

1 Types 16, 12B and **10 series** DMMs will show 1° resolution, degree C or F
2 For Fluke **types 30, 32**, and **36** only
4 Types Y8101A: 1A resolution above 40A with **types 26** and **79**
5 Type 80i-400: 1A resolution above 40A with **types 26** and **79**
6 Type 80i-600A: 1A resolution above 40A with **types 26** and **79**
7 1A resolution
8 Minimum specified accuracy is 20A for AC current accuracy
9 Minimum specified accuracy is 30A for true RMS AC current measurements with **types 863** and **8678**. Low limit does not apply when doing average-sensing measurements
10 10A minimum AC specified accuracy
11 Types 80K-6 and **80K-40**: 1V resolution DC only with **10 series**
12 Types PV350: 1 psig/in Hg resolution
13 Type C17Y duracase will hold a **10 series** meter or 7 series in a **type C10** holster
14 loose fit
15 Type C800 hard case works with a variety of hand-held meters, but the fit will be loose
16 Without holster
17 1A resolution for AC current; 0.1A resolution for DC current
18 Compatible for DC only

(5426)

(ne53241)

COMPATIBILITY GUIDE: FLUKE PROBES AND CLIPS WITH TEST LEADS

Stock No.	Type	Description	TL20 Set	TL22/TL24 Leads	TL70A & TL75 Leads	TL81 Set	Y8132 Leads	Y8134 Leads	Each
83F2783	TP1	Flat Bladed Slim Reach Test Probes	◆	◆		◆	◆	◆	9.90
83F2784	TP2	Electronic SlimReach Test Probes	◆	◆		◆	◆	◆	9.90
50F9872	TP20	Industrial Test Probes	●	◆		◆	◆	◆	9.00
83F2781	TL-21	Test Lead Extension Set	◆	◆		◆	◆	◆	14.50
50F9863	AC20	Industrial Test Clips	●	◆		◆	◆	◆	23.00
44F8909	AC70A	Alligator Clips			◆	◆	◆	◆	8.00
98F4019	AC75	Banana Jack Alligator Clips	◆	◆		◆	◆	◆	9.00
50F9864	AC80	Hook-Style Test Clips	◆	◆		◆	◆	◆	18.00
50F9867	AC89	Insulated Piercing Clip	◆	◆		◆	◆	◆	23.00

◆Compatible and recommended; ●Included

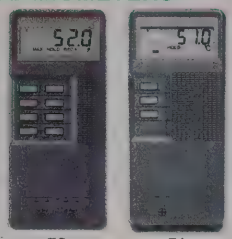
(18437)

(ne10728)

FLUKE

THERMOMETERS AND ACCESSORIES

50 SERIES HANDHELD DIGITAL THERMOMETERS



52 51

- **Work with K- or J-Type Thermocouples**
- **Select °C or °F Readout**
- **Simple Pushbutton Controls for All Functions**
- **Convenient HOLD Button**
- **Variety of Interchangeable Thermocouple Probes Available**
- **0.1°C (0.2°F) Resolution Over Entire Range of Instruments**
- **Dual Thermocouple Model (Type 52)**
- **Scan, Differential & Min/Max Recording Modes (Type 52)**

Types 51, 52 offer high accuracy and resolution, excellent repeatability. Accept any K- or J-type thermocouple with standard mini-connector plug. Include 9V battery, manual, one **80PK-1** probe; **type 52** has 2 probes. 3-year warranty. 0.1°C (0.2°F) resolution over entire range of instruments; select °C or °F readout.

Stock No.	Type	Accuracy ±(% of Reading + °C) K-Type	Accuracy ±(% of Reading + °C) J-Type	Each
46F3516	52	0.1% +0.7°C	0.1% +0.8°C	
	T_1T_2	0.1% +1.0°C	0.1% +0.8°C	205.00
46F3515	51	0.1% +0.7°C	0.1% +0.8°C	155.00

(5317) (de01477)

OPTIONAL ACCESSORIES FOR 50 SERIES

Stock No.	Type	Description	Each
91F6366	51-W/CERT	**Type 51** w/NIST Certificate of Calibration	205.00
91F6367	52-W/CERT	**Type 52** w/NIST Certificate of Calibration	255.00
46F3526	C-50	Soft Case	17.00
50F6948	C-70G	Gray Holster	17.00
50F6947	C-70Y	Yellow Holster	17.00

TYPE 80 TEMPERATURE PROBES AND MODULES

Stock No.	Type	Probe Type	Temperature Range	Each
46F3517	80PK-1	Bead	–40° to +260°C	13.00
46F3518	80PK-2A	Immersion	–196° to +1090°C	47.00
46F3519	80PK-3A	Surface	0° to +260°C	87.00
46F3520	80PK-4A	Air	–196° to +816°C	64.00
46F3521	80PK-5A	Piercing	–196° to +816°C	58.00
46F3524	80PK-6A	Exposed	–196° to +816°C	65.00
92F7015	80PK-7	Rugged Surface	–196° to +600°C	189.00
66F792	80PK-8	Pipe Clamp	–29° to +149°C	99.00
TEMPERATURE PROBES FOR USE W/MULTIMETERS				
87F1847	80T-150U	Temperature Probe	–50° to +150°C	120.00
THERMOCOUPLE MODULES FOR USE W/MULTIMETERS				
46F8464	80TK	Temperature Module w/**Type 80PK-1** Probe	–50° to +1000°C	70.00

(5348) (de03839)

80PK-IR INFRARED TEMPERATURE PROBE

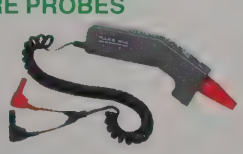
- **Compatible with Digital Thermometers with Type K Connector**
- **Non-Contact Measurement for Moving Subjects, Sterile Conditions, Electrically Live and Hard-to-Reach Objects**

Infrared probe withstands harsh and demanding conditions. Range: 0° to 500° (–18° to 260°C), accuracy ±3%. Use in a variety of temperature measurements, including predictive and preventive maintenance. Simple operation: plug into mini-connector input of a digital thermometer. Readings are taken by pointing the probe at the object. Temperature is shown on the thermometer's display.

92F3354 Type 80PK-IR. **Each** **159.00**

(5349) (de03840)

80T INFRARED TEMPERATURE PROBES



- **Compatible with Most DMMs**
- **Rugged, Ergonomic Design**
- **Non-Contact Measurement for Moving Subjects, Sterile Conditions, Electrically Live and Hard-to-Reach Objects**

Use in variety of temperature measurements, including predictive and preventive maintenance. Simple operation: plug into digital multimeter, set to mVDC and point probe at subject. Display temperature within 1 second. Include 9V battery, manual. **Type 80T-IR** has a range of 0° to 500°F (–18° to +260°C), accuracy ±3%, and is switch selectable °C or °F. **Type 80T-IR/E** is the same as **type 80T-IR** but with range of 32°F to 1000°F, measuring in °F only.

95F3641 Type 80T-IR. **Each** **159.00**
91F6066 Type 80T-IR/E. **Each** **195.00**

(5319) (de01479)

PV350 DIGITAL PRESSURE/VACUUM MODULE

- **Combination Pressure and Vacuum Gauge**
- **Compatible with Most DMMs**
- **Measures HVAC/R, Hydraulic, Pneumatic Pressures to 500 psig**
- **Vacuum Measurement to 29.9″ Hg**

Compact module plugs into standard banana jacks on most digital multimeters. Selectable display for English or Metric units. Solid-state transducer sealed in 316 stainless steel is compatible with most liquids and gases. Includes 8″, ¼″ diameter PVC cable, ¼″ male pipe thread connector, ¼″ female pipe thread to ¼″ flare male adapter, 9V battery, manual.

93F3050 Type PV-350. **Each** **269.00**

(5318) (de01478)

MULTIMETER SERVICE KIT

Kit 87-III

Fluke **type 87-III** service kit contains everything needed for use in a wide variety of mechanical and engineering fields. Kit includes a **type 87-III** digital multimeter with heavy-duty carrying case, TL20 test lead set, 80i-400 AC current clamp, and extensive training literature.

83F4178 Type KIT-87-3 SERVICE KIT. **Each** **484.00**

(5346) (de03811)

FIBER-OPTIC METER AND LIGHT SOURCES

FOM

FOS-850/1300

- **Input Connector: Fixed ST®**
- **Battery Life: 16 Hours Minimum; 8V Alkaline**
- **LED Low Battery Indicator**
- **Operating Temperature: 0°C to +40°C (+32°F to +104°F)**
- **Storage Temperature: –20°C to +70°C (–4°F to +158°F)**

Type FOM fiber-optic meter helps test and maintain fiber-optic cable without having to buy a whole new meter. Plugs directly into any DMM with an mV DC function and a 10MΩ input impedance, such as the Fluke **type 87**, *ordered separately on this page*. Quickly and accurately verifies fiber-optic cable system loss. Highly accurate readings mean less work and less repeated testing. A variety of light sources and patch cords, and an accessory coupler, *ordered separately below*, allows testing different cable types and lengths. UL listed, CSA certified, CE compliant.

Stock No.	Type	Description	Each
52F8875	FOM	Fiber-Optic Meter	295.00
52F8876	FOS-850	Fiber-Optic Source	195.00
52F8877	FOS-1300	Fiber-Optic Source	395.00
52F8878	FOS-850/1300	Fiber-Optic Source	495.00
91F6065	FOA-ST/ST	Accessory Coupling ST/ST	12.50
16F8502	FOC-ST/FC	Patch Cord ST to FC	49.00
16F8503	FOC-ST/SC	Patch Cord ST to SC	39.00
16F8501	FOC-ST/SMA	Patch Cord ST to SMA	55.00
16F8500	FOC-ST/ST	Patch Cord ST to ST	32.00

(6532) (nec7499)

FLUKE

SCOPEMETERS® AND ACCESSORIES

92B

96B

99B

105B

123

FLUKE SCOPEMETER® COMPARISON CHART

Fluke's ScopeMeter® test tools are the best hand-held scopes for rugged on-the-go applications. ScopeRecord™ provides 30K deep memory for extended waveform recording and a time-of-day (real-time) clock to pinpoint events. TrendPlot™ meter logging now has a time-of-day and date stamp. This versatile electronic chart recorder helps to better identify measurement peaks and valleys for up to 40 days. Full-function true-rms multimeter measures VDC, VAC, Hz, duty cycle, pulsewidth, ohms, and much more. With the Measure Menu feature, one button access allows the user to select a set-up from 40 commonly used measurements. Continuous autoset provides a stable, user measurement on virtually any signal. UL listed. *Order accessories separately on this page.* **3-year warranty**.

Features	105B	99B	96B	92B	123
Bandwidth	100	100	60	60	20
Maximum Repetitive Sample Rate	5GS/s	5GS/s	2.5GS/s	2.5GS/s	1.25GS/s
Maximum Time Resolution	200ps	200ps	400ps	400ps	800ps
Number of Channels	2	2	2	2	2
Continuous Autoset	•	•	•	•	•
Video Triggering, NTSC, PAL, SECAM & Hi Resolution Video (Line and Field Selectable)	•	•	•	•	•
ScopeRecord™ in 30K Memory	•	•	•		
Glitch Capture down to 40ns	•	•	•	•	•
Time/Division (5ns/div. to 60s/div.)	•	•			20ns-60s
Time/Division (10ns/div. to 60s/div.)			•	•	
Volts/Division (1mV/div. to 100V/div.)	•	•	5mV-100V	5mV-100V	5mV-500V
Pre- and Post-Trigger (–20 to +640 div.)	•	•	•	•	–10 to +10
Trigger Delay (Cycles, Event, Time, Zoom)	•	•	•	•	
Envelope Mode (Min/Max)	•	•	•	•	•
Gray Scale Waveform Display	•	•	•	•	
Cursor Measurements	•	•	•		
Waveform Math (Integrate, +, –, Filter)	•	•			
Screen Memory	10	10	5		2
Waveform Memory	20	20	10		
Set-up Memory	40	40	20		10
High-Contrast Backlight Display	•	•	•	•	•
Automatic Set-Up Measurements	40	40	40	28	26
Waveform and Screen Image Transfers to a PC and Remote Operation	•	•	•		•
Screen Image Transfers to a PC	•	•	•	•	•
PC software and PM9080/001 Cable	•	+	+		+
Hard Carrying Case	•	+	+	+	+

• = Standard Feature; + = Optional Feature

SCOPEMETER® SERIES

Stock No.	Type	Description	Each
52F7191	92B/003	92B ScopeMeter® - 60MHz	1495.00
52F7190	96B/003	96B ScopeMeter® - 60MHz	1795.00
52F7189	99B/003	99B ScopeMeter® - 100MHz	2195.00
52F7188	105B/003	105B ScopeMeter® - 100MHz	2595.00
16F6982	123/003	ScopeMeter® 123, 20MHz	1195.00
16F6983	123/003S	123 Opt. SCC	1490.00

SCOPEMETER® SERIES WITH CALIBRATION CERTIFICATE

Stock No.	Type	Description	Each
91F6378	92B-W/CERT	92B ScopeMeter® with Certificate of Calibration	1620.00
91F6379	96B-W/CERT	96B ScopeMeter® with Certificate of Calibration	1920.00
91F6380	99B-W/CERT	99B ScopeMeter® with Certificate of Calibration	2320.00
91F6381	105B-W/CERT	105B ScopeMeter® with Certificate of Calibration	2720.00
91F6382	123-W/CERT	Scopemeter® 123 with Certificate of Calibration	1285.00
91F6383	123S-W/CERT	Scopemeter® 123-S with Certificate of Calibration	1,480.00

(19030) (ne11136)

ACCESSORIES FOR SERIES B AND 123 SCOPEMETERS®

Stock No.	Type	Description	Each
92F6683	80I-110S	AC/DC Current Probe, 100 Amps	395.00
92F3353	80I-500S	AC Current Probe, 500 Amps	170.00
95F3640	80I-1000S	AC Current Probe, 1000 Amps	395.00
16F6989	AC120	Set of 3 Alligator Clips for STL-120 and TL-75 Leads	20.00
16F6990	HC120	Set of 2 Hook Clips for STL-120 and TL-75 Leads	30.00
16F6993	PAC91	Printer Adapter Cable	195.00
84F2125	PM8907/803	Power Adapter/Battery Charger	65.00
91F7431	PM8907/808	Universal Power Adapter/Battery Charger	75.00
88F1369	PM8918/001	10:1 Probe, Red Only, 5′	100.00
84F2134	PM8918/002	10:1 Probe Set, 5′	176.00
91F7432	PM8918/003	10:1 Probe, Gray Only, 5′	100.00
52F4515	PM8918/101	1:1 Probe Set, 5′	88.00
84F2135	PM8918/202	10:1 Probe Set, 8′	202.00
91F7433	PM8918/301	4kHz Low Pass Filter Probe	130.00
84F2131	PM9080/001	Optically Isolated RS-232 Adapter	145.00
84F2126	PM9081/001	Dual Banana Jack to Female BNC Adapter	27.00
84F2133	PM9082/001	Banana Jack to Male BNC Adapter	27.00
84F2136	PM9084/001	Industrial Alligator Clip for **PM8918** Probes	37.00
84F2137	PM9085/001	Hook Clip for **PM8918** Probes	37.00
84F2132	PM9087/002	Automotive Lighter Plug Charger/Adapter	95.00
84F2138	PM9090/001	Industrial Pin Grabber Clip for **PM8918** Probes	37.00
52F4516	PM9091/001	50Ω, 1.5M Coaxial BNC Cable	65.00
91F7434	PM9092/001	50Ω, 0.5M Coaxial BNC Cable	55.00
52F6021	PM9093/001	Male BNC to Dual Female BNC Adapter	37.00
52F4517	PM9094/001	Probe Accessory Set for **PM8918** Probes	65.00
91F7435	PM9094/101	Mini Test Hook Set for **PM8918** Probes	45.00
99F7803	PM9266/041	Multimeter Test Lead Set	45.00
16F6992	SW90W/012E	FlukeView Software for Windows	195.00
91F7436	SW90W/512	FlukeView Windows Upgrade Software	85.00
91F7437	SW90W/912	FlukeView Windows Multicopy	115.00

(19026) (ne10733)

FLUKE

CABLE TESTERS AND ACCESSORIES

TYPE DSP-4000 DIGITAL CABLEANALYZER™

NEW

DSP-4000

- **Exceeds All Specification Requirements for Category 5, 5E, and 6**
- **Accepts the New Manufacturer-Specific Category 6 Connectors**
- **Test High-Performance Cable to 350MHz**
- **Provides Extremely Fast Test Times: Performs a Complete Two-Way Auto Test in Approximately 10 Seconds**
- **Automatically Diagnoses Cabling Faults and Displays Results Graphically and in Test**
- **Monitors Network Traffic on 10Base-T and 100Base-T Ethernet Systems**
- **Shows Detailed Plots of NEXT, ELFEXT, PSNEXT, Attenuation, ACR, and Return Loss up to 350MHz**
- **Provides Built-In Talk Mode for Two-Way Voice Communication Between the Main and Remote Units**
- **Includes Tone Generator for Use with a Tone Probe, Such as Type 140, to Trace Wires and Identify Cable in LAN Installations**
- **Includes Free Windows®-Based DSP-Link Software**

Type DSP-4000 digital CableAnalyzer™ is designed for cable installers and network owners who need to certify high-speed copper and fiber, cabling to today's industry standards and tomorrow's emerging standards. Includes: cable analyzer, smart remote, display box, DSP-LINK software, quick-reference card, talk sets (2), AC adapter/chargers (2), instrument straps (2), Category 5E basic link adapters (2), Category 5E channel adapter, Category 5E channel/traffic adapter, coax patch cable (BNC), RJ-45 calibration cable, RS-232 serial cable, RJ-45 to BNC adapter cable, soft carrying case, and manual.

48F2922 Type DSP-4000. **Each** **5995.00**

ACCESSORIES

Type DSP-FTA410 is a fiber-optic test adapter that allows bi-directional testing of multimode fiber links at 850nm and 1300nm. Also measures optical power, loss, length, and propagation delay; provides pass/fail results based on common fiber test standards; and may be used with a separate source (**type LS-1310/1550**) to measure optical power and power loss of single-mode fiber at 1310nm and 1550nm. Includes: fiber test adapters (2), SC/ST patch cords (4), and ST/ST adapter.

48F2923 Type DSP-FTA410S. **Each** **3995.00**

Type DSP-FTK is a fiber-optic test kit that includes an optical power meter accessory (**type DSP-FOM**), a combination 850/1300nm fiber-optic source, patch cords, ST/ST adapter, and hard carrying case.

16F9098 Type DSP-FTK Fiber-Optic Test Kit. **Each** **995.00**

Type LS-1310/1550 includes a 1310/1550nm laser source, patch cords, ST/ST adapter, and hard carrying case.

48F2924 Type LS-1310/1550 Laser Source. **Each** **2995.00**

Type DSP-CMS is cable manager software that organizes cable test reports in a computer database.

01F097 Type DSP-CMS. **Each** **295.00**

Type 140 tone probe. Includes spare probe tip and 9V battery.

48F2925 Type FLUKE 140 Tone Probe. **Each** **150.00**

TYPE DSP-2000 DIGITAL CABLEANALYZER™

Includes DSP-2000 CableAnalyzer™, DSP-2000 smart remote, DSP-LINK software, PC serial interface cable, 2 AC adapter/chargers, hard carrying case, one coax patch cable, two 2 m UTP Category 5 shielded patch cables, one 10 inch calibration cable, one RJ45 to BNC adapter.

01F096 Type DSP-2000 120. **Each** **4595.00**
(34095) (ne34095)

620 LAN CABLEMETER®

Type 620 LAN CableMeter® allows one-person cable verification without a remote unit connected. Includes: cable identifier (#1), carrying case, one UTP category 5 patch cable (RJ45-RJ45, 3ft. length), reference card, and manual. *Order additional cable identifiers below.*

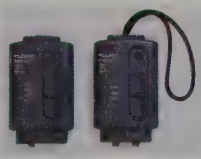
96F8722 Type 620. **Each** **595.00**
96F8723 Type N6201 #2-4 Identifiers. **Each** **90.00**
96F8724 Type N6202 #5-8 Identifiers. **Each** **120.00**
96F8725 Type N6203 STP Accessory Kit. **Each** **140.00**
(5387) (ne06118)

610 LAN CABLEMAPPER®

Type 610 LAN CableMapper® verifies UTP cables terminated to RJ-45 connectors—up to 400 feet. Includes: cable identifier (#1), soft carrying case, 9V battery, manual, and N6103 cable kit (one 24″ RJ-45 to RJ-45 patch cable, to RJ-45 to RJ-45 female couplers.)

95F8957 Type 610. **Each** **429.00**
95F8959 Type N6101 #2-4 Identifiers (For 610). **Each** **125.00**
95F8960 Type N6102 #5-8 Identifiers (For 610). **Each** **165.00**
95F8961 Type N6103 Cable Kit. **Each** **30.00**
(5386) (ne06117)

TYPE DSP-FTK FIBER-OPTIC TEST KIT AND ACCESSORIES



Adds optical power loss measurement to **types DSP-100**, **DSP-4000** and **DSP-2000** cable testers. A combination of power meter and optical source detects bad connections, broken fibers, plus loss of power from bends and fiber type mismatches. Test reports contain wavelength, measured loss, loss limit, test direction, and reference level. The fiber-optic meter and optical sources operate on 9V alkaline batteries (included) and have a minimum life of 16 hours. Units also include ST-to-ST patch cable and couplers.

FIBER-OPTIC TEST KIT

Stock No.	Type	Description	Each
16F9098	DSP-FTK	Contains **Type DSP-100** and **FOS-850/1300**	995.00

ACCESSORIES

01F099	DSP-FOM	Fiber-Optic Meter	495.00
52F8876	FOS-850	850nm ±30nm Fiber-Optic Source	195.00
52F8877	FOS-1300	1300nm –40/+50nm Fiber-Optic Source	395.00
52F8878	FOS-850/1300	850nm ±30nm/1300nm –40/+50nm Fiber-Optic Source	495.00
16F8500	FOC-ST/ST	ST-to-ST Fiber-Optic Patch Cable	32.00
16F8501	FOC-ST/SMA	ST-to-SMA Fiber-Optic Converter Cable	55.00
16F8502	FOC-ST/FC	ST-to-FC Fiber-Optic Converter Cable	49.00
16F8503	FOC-ST/SC	ST-to-SC Fiber-Optic Converter Cable	39.00

(19340) (ne11133)

DSP-CMS CABLE MANAGER SOFTWARE

Cable manager organizes cable test reports in a computer database. Find, edit, print, and save your cable information. Allows for simple PC to **types DSP-100**, **DSP-4000** and **DSP-2000** cable meter communication and downloading of autotest reports. Also capable of sort and searching through several fields, such as cable ID, site, pass/fail, and more. Features: quick sort allows choice of one sort criterion, such as pass/fail summary, and advanced sort allows choice of multiple sort criteria.

01F097 Type DSP-CMS. **Each** **295.00**
(19341) (ne11134)

DIGITAL PHOSPHOR OSCILLOSCOPES

DIGITAL PHOSPHOR OSCILLOSCOPES TDS3000 SERIES

- 500MHz, 300MHz, and 100MHz Bandwidths
- Sample Rates Up to 5GS/s
- 2 or 4 Channels
- Full VGA Color LCD On All Models
- Built-in Floppy Disk Drive for Easy Storage and Documentation
- Centronics Port Standard on All Models for Quick, Convenient Hardcopies
- 9-bit Vertical Resolution
- Multi-language User Interface
- QuickMenu User Interface for Quick, Easy Operation
- Optional Modules for:
  - RS-232, GPIB, or VGA Communication Ports
  - Video Applications - Custom Video Trigger, Line Count Trigger, NTSC, PAL, SECAM Display Graticules
- 4 Channel Models Standard Features:
  - Advanced Triggers - Glitch, Width, and Logic
  - FFT (Fast Fourier Transform) for Frequency and Harmonic Analysis
- Battery Power Option for Convenient Use in the Field or Away from the Bench (batteries not included)
- Support for Active Probes, Differential Probes, and Current Probes

TDS3000 series oscilloscopes are portable Digital Phosphor Oscilloscopes (DPOs). DPOs make dealing with complex signals simple. DPOs display, store and analyze in real-time three dimensions of signal information: amplitude, time and distribution of amplitude over time.
Benefits include: an intensity graded color display to provide frequency information of signal amplitudes and widths, to help locate and characterize elusive waveform anomalies; fast update rate makes it easier to capture and display infrequent waveforms or waveform variations.
Flexible features: optional communication and application modules enable the instrument to be configured for specific applications or upgraded without returning it to the manufacturer; the TekProbe® level II interface provides power to a range of application specific accessories.
Type TDS3000 series graphical user interface allows access to the main controls with a single button. It offers a new operating mode called quickmenu. It is quick to learn and quick to use, also an on-line tour disk gives an overview of the product's operation and capabilities. All models include probes, power cord, accessory tray, protective front cover, NIST - traceable certificate of calibration, 3-year warranty covering all labor and parts, excluding probes.
Types TDS3014, TDS3034, TDS3054 only include application modules **type TDS3FFT** and **TDS3TRG**.

TYPE TDS 3000 SERIES CHARACTERISTICS

Acquisition Modes: Peak Detect, Sample, Envelope, Average, Single Sequence
Trigger System: Main - Auto, Normal; B Trigger; Trigger after Time Range; Trigger after Events Range; External Trigger Input.
Trigger Types: Edge, Video, Logic (Standard on **types TDS30X4**, must purchase **type TDS3TRG** module for **TDS30X2**), Pulse (Standard on **types TDS30X4**, must purchase **type TDS3TRG** module for **TDS30X2**).
Measurement System: Automatic: Period, Frequency, +Width, -Width, Rise Time, Fall Time, +Duty Cycle, -Duty Cycle, +Overshoot, -Overshoot, High, Low, Max, Min, Pk-Pk, Amplitude, Mean, Cycle Mean, RMS, Cycle RMS, Burst Width, Thresholds, Gating
Waveform Processing: Deskew, Arithmetic Operators, Autoset
I/O Interface: Hardcopy Port (Standard - Centronics)
(See **types TDS3GM** and **TDS3VM** for optional I/O)
Hard Copy Capability: File Formats: img, TIF, PCX, BMP, EPS; Printer formats: Thinkjet, Deskjet, Laserjet, Epson (9&24 pin).
Electromagnetic compatibility: meets or exceeds EN55011 Class A Radiated and Conducted Emissions; EN50082-1; FCC 47 CFR, Part 15 Subpart B, Class A; Australian EMC Framework; Russian GOST EMC regulations
Safety: UL3111-1, CSA 22.2 No. 1010.1, EN 61010-1/A2:1995
Physical: 14.8 x 6.9 x 5.9" (375 x 176 x 149) W x H x D
Weight: 7 lbs (3.2); 11.5 lbs (5.2) w/battery

CONTINUED

DIGITAL PHOSPHOR OSCILLOSCOPES TDS3000 SERIES (CONT.)

TYPE TDS3000 SERIES ELECTRICAL CHARACTERISTICS

Stock No.	48F1558	48F1560	48F1562
Type	TDS3012	TDS3032	TDS3052
Bandwidth	100MHz	300MHz	500MHz
Channels	2	2	2
Sample Rate/channel	1.25GS/s	2.5GS/s	5GS/s
BW limit	20MHz	20, 150MHz	20, 150MHz
Time Base: Range/div Accuracy	4 ns - 10 s/div 200 ppm	2 ns - 10 s/div 200 ppm	1 ns - 10 s/div 200 ppm
Max. Record Length	10K points on all models		
Vertical Resolution	9-bits on all models		
Vertical Sensitivity/div	1mV-10V on all models		
Vertical Accuracy	+/-2% on all models		
Max. Input Voltage (1Mohm)	150V RMS CAT I on all models		
Position range	+/- 5 div on all models		
Input coupling	AC, DC, GND on all models		
Input Impedance selections	1 Mohm in parallel with 13pF, or 50Ohm		
Display Monitor	Color LCD		
Stock No.	**48F1559**	**48F1561**	**48F1563**
Type	TDS3014	TDS3034	TDS3054
Bandwidth	100MHz	300MHz	500MHz
Channels	4	4	4
Sample Rate/channel	1.25GS/s	2.5GS/s	5GS/s
BW limit	20MHz	20, 150MHz	20, 150 MHz
Time Base: Range/div Accuracy	4 ns - 10 s/div 200 ppm	2 ns - 10 s/div 200 ppm	1 ns - 10 s/div 200 ppm
Max. Record Length	10K points on all models		
Vertical Resolution	9-bits on all models		
Vertical Sensitivity/div	1mV-10V on all models		
Vertical Accuracy	+/-2% on all models		
Max. Input Voltage (1Mohm)	150V RMS CAT I on all models		
Position range	+/- 5 div on all models		
Input coupling	AC, DC, GND on all models		
Input Impedance selections	1 Mohm in parallel with 13pF, or 50Ohm		
Display Monitor	Color LCD		

48F1558 Type TDS3012 100 MHz, 2 Channel. **Each** **2995.00**
48F1560 Type TDS3032 300 MHz, 2 Channel. **Each** **3695.00**
48F1562 Type TDS3052 500 MHz, 2 Channel. **Each** **5995.00**
48F1559 Type TDS3014 100 MHz, 4 Channel. **Each** **4495.00**
48F1561 Type TDS3034 300 MHz, 4 Channel. **Each** **6595.00**
48F1563 Type TDS3054 4 Channel. **Each** **9995.00**

ACCESSORIES

48F1566 Type TDS3FFT FFT Application Module. **Each** **495.00**
48F1567 Type TDS3TRG Advanced Trigger Module. **Each** **495.00**
48F1568 Type TDS3VID Extended Trigger Module. **Each** **495.00**
48F1564 Type TDS3GM GPIB, RS232 Interfaces. **Each** **395.00**
48F1565 Type TDS3VM VGA Port, RS232 Interface. **Each** **395.00**
48F1569 Type TDS3BAT Battery Pack. **Each** **395.00**
48F1570 Type TDS3CHG Fast Charger. **Each** **95.00**
48F1571 Type AC3000 Soft Carrying Case. **Each** **160.00**
48F1572 Type RM3000 Rackmount Kit. **Each** **295.00**
48F1557 Type AD007 GPIB to LAN Adapter. **Each** **995.00**
48F1556 Type WSTRO Software for Oscilloscopes. **Each** **299.00**
(34093) (ne34093)

CONTACT NEWARK FOR LARGE-QUANTITY PRICING.

DIGITAL REAL-TIME OSCILLOSCOPES

TDS 540C SERIES INSTAVU™ ACQUISITION DIGITIZING OSCILLOSCOPE

- **500MHz Bandwidth**
- **Sample Rates to 2 GS/s**
- **4 Input Channels with 1mV to 10V/div. Sensitivity**
- **Floppy Disk Storage**

Type TDS 540C:GP digital storage oscilloscope has InstaVu™ acquisition, which lets you find infrequent glitches with a maximum waveform capture rate of 400,000 wfms/s. 29 built-in automatic measurements, waveform histograms, and measurement statistics to speed up circuit analysis. 4ms sample-rate window. Vertical resolution is 8 bits (256 levels over 10.25 div.), more than 13 bits with high resolution, 11 bits with averaging. Maximum input voltage is 300V CAT II ±400V peak. Main and delayed-time bases. Features InstaVu™, peak detect, sample, single-sequence, envelope, average, high-resolution, and FastFrame™ acquisition modes. Trigger system includes types edge, logic (pattern, state, setup/hold), pulse (glitch, runt, width, slew rate, timeout). Outputs include monochrome VGA display, GPIB interface, and GPIB, RS-232, and Centronics® ports. Power: 90 to 250V rms, 45 to 440Hz, 300W maximum. Weight: 31 lbs. UL 3111-1, CSA-22.2 No. 1010.1 safety certification. Includes 4 P6139A probes, front cover, user manual, quick reference guide, performance verification, NIST-traceable certificate of calibration, programmer's manual, US power cord. **Type TDS 540C:XL** includes option XL features: FFT and advanced math, and 500K max record length. 3-year warranty (1-year warranty on probes).

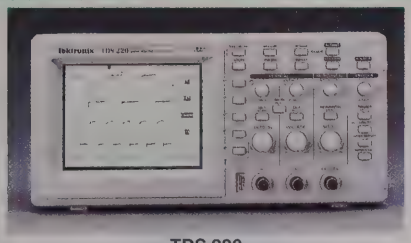
83F3797 Type TDS540C:GP. **Each** **14995.00**
83F3798 Type TDS540C:XL. **Each** **17,990.00**

TDS540 SERIES ACCESSORIES

Stock No.	Type	Description	Each
83F2218	P6139A	Repl. 500 MHz Passive Probe (TDS540 Series)	**295.00**
83F2202	ADA400A	Differential Probe Amplifier	**1025.00**
48F1556	WSTRO	Wavestar for Oscilloscopes	**299.00**
83F2203	K420	Scope Cart	**820.00**

(28362) (ne28362)

TDS200 SERIES DIGITAL REAL-TIME OSCILLOSCOPES AND ACCESSORIES



TDS 220

- **Maximum Sample Rate: 1 GS/s on Each Channel**
- **Sweep Speeds: 5 ns/div. to 5 s/div.**
- **Vertical Sensitivity: 10 mV/div. to 5 V/div. at Full Bandwidth; 2mV/div. to 5 mV/div. at 20MHz**
- **Record Length: 2500 Points per Channel**
- **2 Channels**

TDS series provides real-time acquisition to the full bandwidth. The waveform storage feature allows the user to save waveforms for later analysis, comparison, or printing. Cursors with readout, 2 reference waveforms, 5 setup memories, 5 automatic measurements, and autoset. Includes 2 **type P6112** passive probes; user manual, power cord, NIST-traceable certificate of calibration. **Type TDS210** has a 60MHz bandwidth; **Type TDS220** has a 100MHz bandwidth. *3-year warranty.*

Stock No.	Type	Bandwidth	Each
85F022	TDS 210	60 MHz	**1095.00**
85F023	TDS 220	100 MHz	**1795.00**

TDS 220 ACCESSORIES

Stock No.	Type	Description	Each
01F2424	P6112	100 MHz 10X Replacement Probe	**80.00**
85F014	TDS2HM	Centronics-Compatible Printer Interface	**175.00**
83F2022	TDS2MM	Measurement Module FFT Analysis	**495.00**
85F015	TDS2CM	Communications Module	**265.00**
83F2021	AC 220	Soft Carrying Case	**65.00**
83F2189	RM200	Rackmount Kit	**200.00**
83F3799	TR210	Tektronix Huntron Tracker	**995.00**
48F1557	AD007	LAN to GPIB Adapter	**995.00**

(14038) (ne10259)

TDS400 SERIES DIGITAL STORAGE OSCILLOSCOPES

TDS460A

TDS400 series feature 14 hardcopy formats, 25 automatic measurements, peak detect, roll mode (triggered and untriggered roll), pass/fail limit testing, advanced signal processing, and a floppy disk drive, 1ns/div - 20s/div sweep speeds, and 1mV to 10V/div vertical sensitivity. Vertical resolution: 8 bits (up to 12 bits w/hi-res). Record length: 120K/channel. Includes 1 probe per channel (**type P6138A**), video trigger, user manual, NIST-traceable certificate of calibration, power cord, and *3-year warranty.*

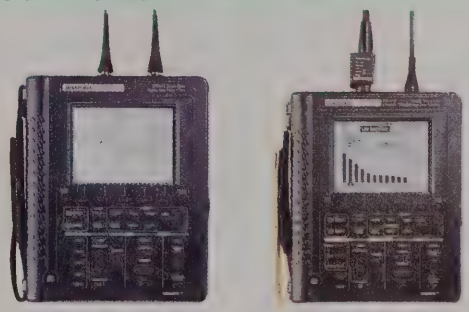
Stock No.	Type	Bandwidth	Max. Sample Rate	Channels	Each
01F2433	TDS430A	400MHz	100MS/s/Channel	2	**5,990.00**
01F2432	TDS420A	200MHz	100MS/s/Channel	4	**7,590.00**
01F2434	TDS460A	400MHz	100MS/s/Channel	4	**8,680.00**

TDS 400 SERIES ACCESSORIES

Stock No.	Type	Description	Each
01F2426	P6138A	Replacement Probe (TDS400 Series)	**235.00**
83F2203	K420	Instruction Cart	**820.00**

(14037) (ne10486)

THS 700 SERIES DIGITAL REAL-TIME OSCILLOSCOPES



THS 730A THS 720P

- **Safety: Isolated Channel Architecture**
- **Advanced Triggering: Video & Pulse-Width**
- **Vertical Sensitivity: 5mV–50V per Div.**
- **Glitch Capture: ≥ 8 ns**
- **2 Channels; 2 Digitizers**
- **Max. Record Length: 2500 Pts**

THS700 series are full-featured digital real-time oscilloscopes combined with true RMS DMMs. Cursors. Video trigger. Voltage and resistance measurements. Waveform storage. Scope and meter modes operate simultaneously and independently—on the same or separate channels. **Type THS720P** provides power measurements capability. Applications: Design, test, and service of high-speed electronic circuitry; medical imaging, industrial automation, process control, computers, variable speed drives, research and development; and data compression. Include 2 probes, user manual, standard meter lead set, NiCad rechargeable battery pack, AC power adapter, soft carrying case, cable and adapter for RS-232 interface, and NIST-traceable certificate of calibration. **Types THS710A, THS720A,** and **THS730A** come with 2 **type P6117** probes; **type THS720P** comes with 2 **type P6113B** probes. *Order replacement probes separately; contact your local Newark sales office.*

Stock No.	Type	Repetitive or Single-Shot Bandwidth	Max Sample Rate/Channel	Time/Div. Ranges	Each
85F010	THS710A	60MHz	250 MS/s	10 ns/div. - 50 s/div.	**2195.00**
85F011	THS720A	100MHz	500 MS/s	5 ns/div. - 50 s/div.	**2295.00**
85F012	THS730A	200MHz	1 GS/s	2 ns/div. - 50 s/div.	**3395.00**
85F013	THS720P	100MHz	500 MS/s	5 ns/div. - 50 s/div.	**3295.00**

THS700 SERIES ACCESSORIES

Stock No.	Type	Description	Each
83F2023	P6117	Replacement Probe Passive X10 (THS700 Series)	**105.00**
83F2180	P5102	Replacement Probe Passive X10 (THS720P)	**200.00**
85F007	THS7BAT	Rechargeable NiCad Battery Pack (replacement)	**75.00**
85F008	THS7CHG	Battery Charger	**225.00**
85F009	THS7HCA	Carrying Case (Hard Shell)	**225.00**
48F1556	WSTRO	Wavestar for Oscilloscopes	**299.00**

(14039) (ne10260)

DC-COUPLED CURRENT PROBE

NEW

When combined with a **TDS series** oscilloscope, **type TCP202** enables users to make direct readout DC and AC current measurements. Split core construction for easy circuit connection. DC to 5MHz bandwidth. 15 amps DC + peak AC current. 50 amps peak pulse current. Cable length: 7.2′ (2.2). For any Tektronix Probes/Accessories see quick reference chart, below.

85F021 Type TCP202. **Each** **1450.00**
(33697) (ne33697)

CURRENT PROBE

Type A600 series current probes are specifically designed for current measurements with **type THS series** oscilloscopes, available *on page 1535*. **Type A621** industrial-style clamp-on can measure AC currents from 100mA to 2000A peak over a frequency range of 5Hz to 50kHz. **Type A622** is a long-nose style clamp-on for AC/DC current measurements from 50mA to 100A peak over a frequency range of DC to 100kHz.

01F2438 Type A621. **Each** **400.00**
01F2474 Type A622. **Each** **430.00**
(33692) (ne33692)

CURRENT PROBE SYSTEM

NEW

Type AM503S consists of a current probe amplifier, **type A6302** current probe (50MHz/20A), a power module, and a plug-in toolbox. Provides simultaneous AC/DC measurements. DC up to 50MHz bandwidth. Supports different probes listed separately below. Continuous current amplitudes from mA up to 500A (peak up to 700A). High sensitivity. One-button auto-balance and probe degauss. No need to calibrate amplifier with specific probes.

Stock No.	Type	Description	Each
01F2475	AM503S	Current Probe System	**3350.00**
83F2190	A6302	50MHz/20A Probe	**920.00**
83F2191	A6302XL	17MHz/20A Probe	**1395.00**
83F2192	A6303	15MHz/100A Probe	**1850.00**
83F2193	A6303XL	10 MHz/100A Probe	**2295.00**
83F2194	A6304XL	2 MHz/500A Probe	**2395.00**

(33689) (ne33689)

HIGH-VOLTAGE PASSIVE PROBE

Type P5100 for use with **TDS200, 300, 400, 500, 600** and **700 series** oscilloscopes, available *on page 1535*. 2500V maximum input voltage. 250MHz bandwidth. 10MΩ input resistance. UL 1244 and IEC 1010 safety certified for 2500V (DC + peak). See Tektronix Probes/Accessories quick reference chart, below.

01F2422 Type P5100. **Each** **200.00**
(33698) (ne33698)

DIFFERENTIAL PREAMPLIFIER

NEW

Type ADA400A provides low-level single-acquisition capability to DSOs. 10uV/div sensitivity. Low-pass filter for 100Hz, 3kHz, 100kHz, and full (1MHz). Selectable gain: 100, 10, 1 or 0:1. Accurately measures signals as small as 5uV. Powered directly from **types TDS400, TDS500** and **TDS 600 series** oscilloscopes, available *on pages 1535-1536*. Can be used with other oscilloscopes when powered by a **type 1103** probe power supply. *See Tektronix Probes/Accessories Quick Reference Chart, below.*

Stock No.	Type	Description	Each
83F2202	ADA400A	Differential Preamplifier	**1025.00**
83F2213	P6101B	1X, 15MHz Passive Probe (Two Recommended)	**65.00**
83F2208	1103	TekProbe Power Supply	**995.00**

(33696) (ne33696)

GPIB-LAN ADAPTER

NEW

Type AD007 provides a physical, electrical and protocol interface to an Ethernet TCP/IP10 BaseT LAN for use with GPIB instrucments. Controls **TDS series** scopes and other instruments from any networked computer. Select and print to a networked printer from a **TDS series** scope, available *on page 1535*. Capture waveforms from **TDS series** scopes across a LAN by using WaveStar for Oscilloscopes software, *ordered separately, below.*

48F1557 Type AD007. **Each** **995.00**
(33694) (ne33694)

AC CURRENT PROBE

NEW

Type P6021 provides wide-band performance with all **TDS series** oscilloscopes, available below. Excellent low-frequency characteristics. Bandwidth: 120Hz to 60MHz, 15A peak, for 1MΩ inputs. Shielded probe head, AC only. Split core. For any Tektronix Probes/Accessories see quick reference chart.

83F2211 Type P6021. **Each** **700.00**
(33690) (ne33690)

HIGH-VOLTAGE DIFFERENTIAL PROBE

NEW

Type P5210 makes floating measurements with the scope grounded, resulting in safer, more accurate measurements for higher productivity. Maximum differential input voltage: 5600V (DC + peak AC) 4400V rms. 50MHz bandwidth. Used with all **TDS series** oscilloscopes, except **TDS200 series**, which requires **type 1103** tekprobe power supply. See Tektronix Probes/Accessories Quick Reference Chart, below.

83F2206 Type P5210. **Each** **1995.00**
(33691) (ne33691)

WAVESTAR SOFTWARE FOR OSCILLOSCOPES

NEW

Type WSTRO is a Windows 95/NT application bringing Tektronix oscilloscope measurement information to your computer. Enables remote access and control to **TDS** or **THS series** oscilloscopes on a PC, without the need for programming. Establish instrument links to automatically update new measurements. For the **TDS/THS series** oscilloscopes see *on page 1535*, and for Tektronix Probes/accessories quick reference chart, below.

48F1556 Type WSTRO. **Each** **299.00**
(33695) (ne33695)

WAVESTAR ELECTRONIC LAB NOTEBOOK SOFTWARE

NEW

Type WSTR31 is a Windows 3.1 application (operation has been verified under Windows 95) that can capture waveforms and/or screen shoots, related scope settings, and notes. For use with all **TDS** and **THS** series oscilloscopes, available *on page 1535*. For any Tektronix Probes/Accessories see quick reference chart, below.

01F2480 Type WSTR31. **Each** **345.00**
(33688) (ne33688)

TEKTRONIX PROBES/ACCESSORIES

QUICK REFERENCE CHART

Stock No.	Type	TDS200 Series	TDS400 Series	TDS500/600 Series	THS700 Series	TDS3000 Series
01F2475	AM503S	X	X	X		X
83F2202	ADA400A		X	X		X
85F021	TCP202		X	X		X
48F1557	AD007	X	X	X		X
48F1556	WSTRO	X	X	X	X	X
01F2480	WSTR31	X	X	X	X	X
83F2208	1103	X				
01F2438	A621				X	
01F2474	A622				X	

(33693) (ne33693)

DIGITAL HAND-HELD METERS AND ACCESSORIES

TX SERIES TRUE-RMS DIGITAL MULTIMETERS

NEW

TX1

TX3

- **4⅘ Digit/50,000 Count**
- **DCV Accuracy: ±(0.05%)**
- **True RMS**
- **Extra-Large, Dual Numeric Display with Backlight**
- **Built-in K-Type Digital Thermometer (Type TX3 only)**
- **Setup Menu for Custom User Defaults**
- **Optional Type WSTRM PC Interface Package**

Selectable display range: 50,000 and 5000 count; 4-4/5 and 3-4/5 digits; 1/s (50,000 count mode) and 4/s (5000 count mode). 20-segment analog bar graph has an update rate of 20/s. Peak hold: 1ms. Max. DC/AC voltage range: 1000V CAT III. **Type TX3 DC** accuracy: ±(0.05% + 1 ct.) and AC accuracy: ±(0.4% + 2 ct.). **Type TX1 DC** accuracy : ± (0.07% + 1 ct.) and AC accuracy ±(0.6% + 2 ct.). Best resolution: 10µV (50,000 count mode). DC/AC current ranges: 10.00A. DC accuracy ±(0.2% + 2 ct). AC accuracy ±(0.6% + 2 ct.) . Best resolution: 10nA (50,000 count mode). Resistance measured to 50.00MW. Capacitance measured to 50mF. Frequency range: 0.5 Hz to 1 MHz. MIN/MAX/AVG/MAX-MIN recording with time stamp. **Type TX3** also includes dBm and dB readings and 4-20mA process loop measurement with % readout. Measurements can be saved in memory and later downloaded to a PC using the optional **type WSTRM** PC interface package. Both models include boot with stand, ATL01 test leads, user manual, 2 AA batteries, and traceable calibration certificate. **Type TX3** also includes ATK01 K-type thermocouple adapter and ATP01 thermocouple-to-banana plug adapter. 3-year warranty.

83F4199 Type TX1. **Each** **275.00**
83F4200 Type TX3. **Each** **325.00**
83F4201 Type WSTRM Interface Software for TX3. **Each** **149.00**
01F2451 Type ATP01 (Replacement Temp. Bead Probe for TX3). **Each** **12.00**
01F2446 Type ATK01 (Replacement Probe Adapter for TX3). **Each** **14.00**
83F2179 Type ATL01 (Replacement Test Leads TX Series). **Each** **12.00**
01F2440 Type AC12 Large Nylon Soft Carrying Case. **Each** **38.00**
01F2450 Type ATLDX1 Deluxe Lead Set With Tip Accessories. **Each** **70.00**
(28361) (ne28361)

900 SERIES DMMs

DMM 916

- **Display Range: 40,000/4,000**
- **True RMS**
- **HI/LO Limits (Types DMM 914 and DMM 916)**
- **1ms Peak Hold (Type DMM 916 only)**
- **Auto-Off Adjustable Backlight (Type DMM 916 only)**
- **Temperature Range: 50°C - 980°C (Types DMM 914 and DMM 916)**
- ***Three-Year Warranty***

Stock No.	Type	Accuracy					Each
		DC Volts	AC Volts	DC Curr.	AC Curr.	Resist.	
01F2464	DMM912	0.20%	1.00%	0.50%	1.20%	0.50%	**219.00**
01F2476	DMM914	0.10%	0.80%	0.40%	0.90%	0.40%	**269.00**
01F2477	DMM916	0.06%	0.70%	0.30%	0.90%	0.30%	**315.00**

Order DMM accessories separately; see on this page.
(15247) (ne10261)

DMM100 AND DMM200 SERIES DMMs

The **DMM 100** and **200** series includes many useful features. These include: autoranging, diode test, tone continuity test, true RMS (**types DMM249** and **DMM254**), frequency ranges from 100Hz to 1 MHz (**types DMM150** and **DMM254**), and analog bargraph display (not **type DMM157**). **Type DMM157** features a capacitance range of 2µF to 200µF and **type DMM254** capacitance range of 4µF to 40µF. Meets IEC Enclosure 1010 Classifications. UL Listed, CSA certified. *Three-Year Warranty.*

Stock No.	Type	Display Range	DCV Acc.	ACV Acc.	DC Curr. Acc.	AC Curr. Acc.	Resistance Ranges	Each
01F2460	DMM150	3200	0.7%	1.7%	...	1.9%	300Ω to 30MΩ	**75.00**
01F2461	DMM157	2000	0.5%	1.5%	1.0%	2.9%	200Ω to 20MΩ	**109.00**
01F2462	DMM249	3200	0.3%	0.3%	1.2%	2.0%	300Ω to 30MΩ	**169.00**
01F2463	DMM254	4000	0.1%	1.0%	0.4%	0.6%	400Ω to 40MΩ	**219.00**

Order DMM accessories separately; see on this page.
(15249) (ne10263)

DMM ACCESSORIES

Test leads and clips are fully compliant with UL and IEC 1010 safety standards. **Types AC11, AC12,** and **AC13** soft cases offer shock-resistant, durable protection. UL recognized.

Stock No.	Type	Description	Each
01F2450	ATLDX1	Deluxe Lead Set with Tip Accessories	**70.00**
01F2447	ATL21	Shielded Banana Plug Lead Cables	**17.00**
01F2448	ATL22	Plug-On Test Lead Tips	**9.00**
01F2449	ATL23	Plug-On Sharp IC Test Lead Tips	**12.00**
01F2442	ACL21	Plug-On Safety Alligator Clips	**12.00**
01F2443	ACL22	Plug-On Hook-Tip Clips	**20.00**
01F2444	ACL23	Plug-On Wire Clamp Clips	**21.00**
01F2445	ACL24	Plug-On Jaw Clips	**25.00**
		TEMPERATURE ACCESSORIES	
01F2451	ATP01	Temperature Bead Probe, Type K, –40°C to 204°C	**12.00**
01F2446	ATK01	Temperature Probe, Adapter, Thermocouple-to-Banana	**14.00**
		CURRENT ACCESSORIES	
01F2438	A621	Current Probe	**400.00**
01F2474	A622	Current Probe	**430.00**
		CASES	
01F2439	AC11	Small Nylon Soft Case	**34.00**
01F2440	AC12	Large Nylon Soft Case	**38.00**
01F2441	AC13	Long Nylon Soft Case	**27.00**
		SPECIALTY ACCESSORIES	
85F016	HC411	Thermal Printer	**495.00**
01F2480	WSTR31	Windows Compatible Electronic Notebook Software (Used with type DS0's)	**345.00**

(15248) (ne10262)

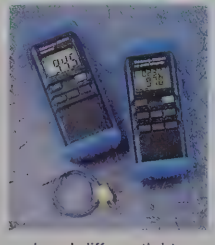
DCM SERIES CLAMP-ON METERS

- **4,000-Count Display**
- **Autoranging**
- **CE Compliant**

Stock No.	Type	True RMS	Measure Resistance, AC Voltage/ Current	Measure Frequency, AC & DC Current	Peak Hold	Data Hold	Auto Zero (DCA)	Each
01F2457	DCM300		•			•		**109.00**
01F2458	DCM320	•	•			•		**149.00**
01F2459	DCM910	•		•	•		•	**249.00**

(15250) (ne10264)

DIGITAL THERMOMETERS



Type DTM920 offers two-channel and differential temperature measurements over a wide temperature range with better accuracy. **Type DTM900** offers a single channel for basic, easy-to-use temperature measurement. Both units include 9V battery, user manual, holster, ATP01 bead probe (two with **type DTM920**), and a three year warranty.

Stock No.	Type	Temperature Range	Thermocouple	Each
01F2466	DTM920	–200°C to +1,370°C	J or K	**169.00**
01F2465	DTM900	–50°C to +1,300°C	K	**109.00**

(18936) (ne11135)

COUNTERS, FUNCTION GENERATORS AND POWER SUPPLIES

CMC251

COUNTERS AND FUNCTION GENERATORS

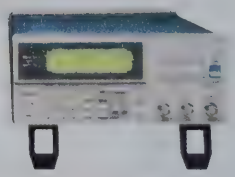
Type CMC251 frequency counter has a frequency range of 1-1.3GHz. Stability (+ or -): 1 ppm. Sensitivity (RMS): 5-35mV. **Types CFG253** and **CFG280** function generators have the following output capabilities: sine, square, triangle, and TTL pulse. **Type CFG253** frequency range: 0.03-3MHz; **type CFG280** frequency range: 0.01-11MHz.

Stock No.	Type	Description	Frequency Range	Each
01F2455	CMC251	Frequency Counter	1-1.3GHz	620.00
01F2453	CFG253	Function Generator	0.03-3MHz	420.00
01F2454	CFG280	Function Generator	0.01-11MHz	1030.00

(15327) (ne10265)

NEW

Type AFG310



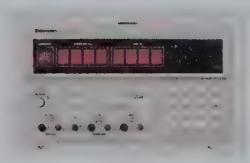
Type AFG320

16MHz ARBITRARY FUNCTION GENERATORS

Types AFG310 and **AFG320** are 16MHz function generators with built-in arbitary waveform capabilities. Support standard waveforms including sine, square, triangle, ramp, pulse, DC, and noise. With sweep function and 3 operating modes: continuous, triggered, and burst. Arbitary waveform features include a sampling rate of 16MS/s, 12-bit vertical resolution, and nonvolatile memory that holds up to four 16,384-point waveforms. Waveforms can be loaded directly from any Tektronix® digital oscilloscope via the GPIB interface. Output frequency: sine, square: 10MHz to 16MHz; triangle, ramp, pulse: 10MHz to 100kHz; noise (Gaussian): maximum 8MHz bandwidth. Output frequency of arbitrary waveform: repetition rate: 10mHz to 1.6MHz; resolution: 7 digits; accuracy: 50 ppm. Rise/fall time (10 to 90%) of square signal: ≤20ns, pulse signal is <100ms. Linear of logarithmic frequency sweep. Power: 90 to 132VAC, 180 to 250VAC. **Types AFG310** has 1 output channel; **type AFG320** has 2. All functions are accessible via the front panel. Includes user manual, programmer's manual, calibration certificate, power cord, and WaveWriter™ waveform editing software.

Stock No.	Type	Output Channels	Each
83F3800	AFG310	1	1895.00
83F3801	AFG320	2	2695.00

(28360) (ne28360)



PS2521G

PS280

TRIPLE-OUTPUT POWER SUPPLIES

Type PS2520G programmable power supply is a triple-output unit with one 0-6V, 0-3A section and two 0-36V, 0-1.5A sections. **Type PS2521G** programmable power supply is a triple-output unit with one 0-6V, 0-5Asection and two 0-20V, 0-2.5A sections. Both **types PS2520G** and **PS2521G** provide digital LED output indicator; SCPI compatible; 0.05% 5 mV +25mV. Voltage accuracy and 0.2% + 10mA current accuracy; constant voltage and constant voltage mode; and over-voltage and over-current protection. **Type CPS250** is a triple-output supply with two variable 0-20V, 0.5 sections and a fixed 5V, 2A section. The unit includes variable current limiting, and overload indicators. **Type PS280** is a triple output supply with two variable 0-30V, 2A sections and a fixed 5V, 2A section. The unit includes variable current limiting, selectable independent tracking mode, and dual tracking-variable 0-30V, 2.0A.

Stock No.	Type	Output (1)	Variable Output (2)	Voltage (2)	Maximum Current	Programmable	Each
01F2427	PS2520G	...	...	0-6V/0-36V	3A(6V)/1.5A(36V)	GPIB Panel	1395.00
01F2428	PS2521G	...	...	0-6V/10V	5A(6V)/2.5A(20V)	GPIB Panel	1395.00
01F2456	CPS250	5V Fixed/2A	0-20V/0.5A	...	...	...	495.00
85F018	PS280	5V Fixed/3A	0-30V/2A	...	...	...	725.00

(15328) (ne10266)

TFS3031

MINI-OPTICAL TIME DOMAIN REFLECTOMETER (OTDR)

Type TFS3031 mini-optical time domain reflectometer (OTDR) speeds fiber-optic cable installation and maintenance. Designed to withstand the rigors of on-site work, **type TFS3031** delivers precise measurements on both single-mode and multi-mode optical fiber networks. And the TekRanger mini-OTDR's patented IntelliTrace™ technology acts as an expert operator, so even the occasional user can completely and accurately document a fiber link. Applications: verifying splices, locating cable faults, checking overall cable loss, and documenting cable installing. Tektronix offers two pre-configured optional packages targeted at specific applications: installer configuration **type TFS3031AX** and LAN configuration option **type TFS3031AN**. **Type TFS3031AX** includes 850/1300 nm multimode optical module; 1310/1550 sm single mode optical module, disk drive, FMTAP software, hard case. **Type TFS3031AN** includes 850/1300 nm multimode optical module, disk drive, FMTAP software, hard case.

83F2024 Type TFS3031AN. **Each** **14985.00**
83F2025 Type TFS3031AX. **Each** **20930.00**
(15329) (ne10267)

TOP130, TOP160, TOP300

TOP SERIES HAND-HELD FIBER-OPTIC TOOLS

TOP series hand-held tools are compact, rugged and extremely reliable instruments for installing and maintaining fiber-optic networks. Products include both LED and laser sources, an optical power meter, and a visual fault finder.

Stock No.	Type	Description	Each
01F2468	TOP130	Dual LED Source (850/1300nm)	995.00
01F2469	TOP140	Laser Source (1310nm)	1255.00
01F2470	TOP150	Laser Source (1550nm)	1695.00
01F2471	TOP160	Dual Laser Source (1310/1550nm)	3400.00
01F2472	TOP200	Optical Power Meter	795.00
01F2473	TOP300	Visual Fault Finder	1445.00

(15330) (ne10484)

VISIT NEWARK'S WEB SITE AT www.newark.com

OSCILLOSCOPES AND ACCESSORIES

500MHz OSCILLOSCOPES AND ACCESSORIES

54616C

- **Resolution: 8 Bits**
- **250MHz Single-Shot Bandwidth with 1GSa/s (Type 54615B Only)**
- **500MHz Single-Shot Bandwidth with 2GSa/s (Types 54616B and 54616C Only)**
- **Peak Detect for Glitches as Narrow as 1 nanosecond (Type 54615B Only)**
- **Full-Color Display (Type 54616C only)**

Types 54615B, 54616B, and **54616C** 500MHz oscilloscopes handle the most demanding applications. **Type 54610B** is a low-cost 500MHz scope that gives ±0.1% horizontal accuracy and a maximum display update rate of 1.5 million points per second.
Type 54615B gives a sampling rate to 1GSa/s with a horizontal accuracy of ±0.005% and a horizontal resolution of 20 picoseconds.
Type 54616B samples at a rate of 2GSa/s with a single-shot bandwidth of 500MHz.
Type 54616C has all the features of **type 54616B** and includes a full-color display for ease of viewing. All models include peak detect, with **types 54615B, 54616B,** and **54616C** detecting glitches down to 1 nanosecond.

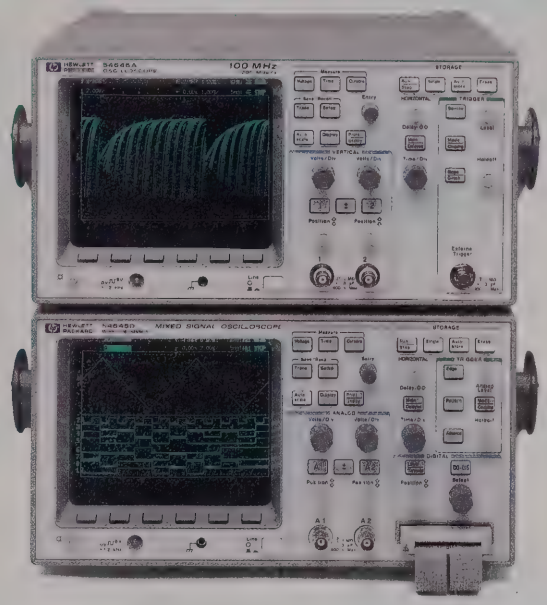
Stock No.	Type	Description	Each
91F3002	54610B/ABA	Oscilloscope	**4995.00**
91F3003	54615B/ABA	Oscilloscope	**5695.00**
91F3004	54616B/ABA	Oscilloscope	**6995.00**
91F3005	54616C/ABA	Oscilloscope	**7995.00**
91F3012	E2657A/ABA	Measurement/Connectivity Kit for HP-IB	**695.00**
91F3013	E2659A/ABA	Measurement/Connectivity Kit for RS-232	**695.00**
91F3020	10098A	Accessory Pouch and Front Panel Cover	**52.00**
91F3067	5062-7345	Rack Mount Kit	**250.00**
91F3060	34810B	BenchLink Scope Software for Windows®	**300.00**

Windows® is a U.S. trademark of Microsoft Corporation

Specifications	54610B	54615B	54616B/54616C
Bandwidth	DC Channel 1 & 2: 500MHz AC Coupled: 10Hz-500MHz		
Single-Shot Bandwidth	DC-2MHz	250MHz	500MHz
Number of Channels	2		
Max. Sampling Rate: Single-Shot Repetitive	20MSa/s 10GSa/s	1GSa/s 10GSa/s	2GSa/s 10GSa/s
Max. Display Update Rate	1,500,000 Points/s	500,000 Points/s	500,000 Points/s
Peak Detect	50ns	1ns	1ns
Sensitivity	2mV/div to 5V/div		
DC Gain Accuracy	±2%		
TimeBase Range	1ns/div to 5s/div		
Horizontal Accuracy	±0.01%	±0.005%	±0.005%
Horizontal Resolution	100ps	20ps	20ps
Input Coupling	DC, AC, or Ground		
Input Impedance	1MΩ, Approx. 9pF or 50Ω Selectable		
Max. Input	250V or 5Vrms in 50Ω Mode (DC + Peak AC)		
Power	Voltage: 100-240VAC, 48-440Hz, 300VA Max.		

(15242) (ne10498)

TYPE 54645A 100MHz OSCILLOSCOPE AND TYPE 54645D MIXED-SIGNAL SCOPE AND ACCESSORIES



- **2-Channel 100MHz Scopes Offer 200MSa/S Sampling and 1M Memory Behind Each Channel.**
- **Features MegaZoom Technology Which Allows Deep Memory Capture and a Responsive Display.**
- **Type 54645D Integrates 2 Scope Channels and 16 Logic Channels.**

Type 54645A 100MHz oscilloscope and **type 54645D** mixed-signal scope find the details buried in the most complex signals. **Type 54645A** gives the longer signal captures, sustained sampling, and a display update rate of 3 million points/s. The pan-and-zoom feature makes it easy to scroll through captured data to find points of interest. MegaZoom technology allows the user to catch two events separated by a long time delay, study signal variations leading up to a trigger condition, and measure high-speed and low-speed signals at the same time. **Type 54645D** mixed-signal oscilloscope combines the detailed signal analysis of a scope with the multichannel timing measurements of a logic analyzer and the benefits of deep memory. The combination of scope channels, logic channels, and MegaZoom deep memory provides new ways to solve digital- and mixed-signal problems.

Specifications	91F3006	91F3007
Channels	2	2
Bandwidth	100MHz	100MHz
Max. Sampling Rate	200MSa/s	200MSa/s
Memory Depth	1M Points/Channel	1M Points/Channel
Sensitivity	1mV/div to 5V/div	1mV/div to 5V/div
Peak Detect	5ns Minimum	5ns Minimum
Input Impedance	1MΩ, 13pF	1MΩ, 13pF
Max. Input	400V (DC + Peak AC)	400V(DC + Peak AC)
Logic Channels	...	16 (Two 8-Channel Pods)
Logic Sampling Rate	...	400MSa/s One Pod Only; 200MSa/s Both Pods
Logic Memory Depth	...	2M Points/Channel One Pod; 1M Points/Channel Both Pods
Logic Input R&C	...	100kΩ, 8pF
Timebase Range	2ns to 50s/div	5ns to 50s/div
Trigger Sources	Ch1, Ch2, External, Line	All Channels, Line

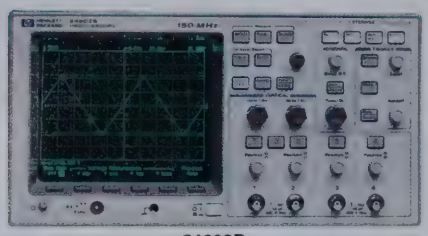
Stock No.	Type	Description	Each
91F3006	54645A/ABA	Oscilloscope	**3495.00**
91F3012	E2657A/ABA	Measurement/Connectivity Kit for **Type 54645A/ABA** HP-IB	**695.00**
91F3013	E2659A/ABA	Measurement/Connectivity Kit for **Type 54645A/ABA** RS-232	**695.00**
91F3007	54645D/ABA	Mixed-Signal Scope	**4995.00**
91F3008	54650A	HP-IB Interface Module	**295.00**
91F3009	54652B	RS-232 Parallel Interface Module for **Type 54645D**	**295.00**
91F3010	54657A/ABA	HP-IB Measurement/Storage Module for **Type 54645D**	**495.00**
91F3011	54659B/ABA	RS-232 Parallel Measurement/Storage Module for **Type 54645D**	**495.00**
		ACCESSORIES FOR TYPES 54645A/ABA AND 54645D/ABA	
91F3020	10098A	Accessory Pouch and Front Panel Cover	**52.00**
91F3067	5062-7345	Rack Mount Kit	**250.00**
91F3060	34810B	BenchLink Scope Software for Windows®	**300.00**

(15239) (ne10497)

HEWLETT® PACKARD

2 AND 4 CHANNEL OSCILLOSCOPES

TWO- AND FOUR-CHANNEL OSCILLOSCOPES AND ACCESSORIES



54602B

54600B

- **TimeBase Range from 2ns/div to 5s/div**
- **100MHz Bandwidth and 2 Input Channels (Type 54600B)**
- **150MHz Bandwidth and 4 Input Channels (2+2) (Type 54602B)**

Types 54600B and **54602B** oscilloscopes give digital viewing with the analog feel of an interactive display and analog controls. Display updates at a rate of 1,500,000 points/s with a maximum sampling rate of 20MSa/s for single-shot measurements.

Type 54600B oscilloscope is for product test, field service, and education applications. **Type 54602B** is a 150MHz oscilloscope with a 1mV/div sensitivity for applications past 100MHz.

Measurement/connectivity kits have everything needed to hook a scope to an APC, through HP-IB or RS-232 interface.

Stock No.	Type	Description	Each
91F3000	54600B/ABA	2-Channel 100mHz Oscilloscope	**2550.00**
91F3001	54602B/ABA	4-Channel 150MHz Oscilloscope	**3295.00**
91F3012	E2657A/ABA	Measurement/Connectivity Kit for HP-IB	**695.00**
91F3013	E2659A/ABA	Measurement/Connectivity Kit for RS-232	**695.00**
91F3020	10098A	Accessory Pouch and Front Panel Cover	**52.00**
91F3015	10071A	Additional 10:1 Probe	**79.00**
91F3067	5062-7345	Rack Mount Kit	**250.00**
91F3060	34810B	BenchLink Scope Software for Windows®	**300.00**

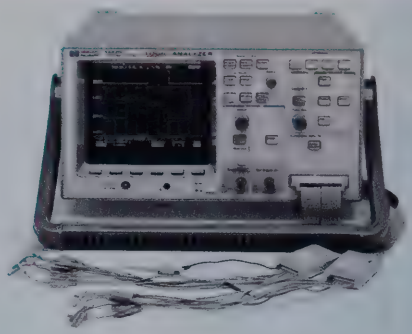
Windows® is a U.S. trademark of Microsoft Corporation

Specifications	54600B	54602B
Bandwidth: DC CH 1 & 2 AC Coupled DC CH 3 & 4	 100MHz 10Hz-100MHz ...	 150MHz* 10Hz-150MHz* 250MHz
Number of Channels	2	4 (2 + 2)
Max. Sampling Rate: Single-Shot Repetitive	20MSa/s 10GSa/s	20MSa/s 10GSa/s
Record Length (Max.) Single-Shot	4,000 Points 2,000 Points	4,000 Points 2,000 Points
Max. Display Update Rate	1,500,000 Points/s	1,500,000 Points/s
Sensitivity: CH 1 & 2 CH 3 & 4	 2mV/div to 5V/div ...	 1mV/div to 5V/div 0.1 and 0.5V/div
DC Gain Accuracy	±1.5%	
Timebase Range	2ns/div to 5s/div	
Horizontal Accuracy	±0.01%	
Horizontal Resolution	100ps	
Input Impedance	1MΩ, Approx. 13pF	
Max. Input	400V (DC + Peak AC)	
Resolution	8 Bits	
Power	Voltage: 100-240VAC, 48-440Hz, 300VA Max.	

*Maximum bandwidth on CH 1 & 2 is 100MHz at 1, 2, and 5mV/div

(15244) (ne10499)

TYPE E54620A/C LOGIC ANALYZER



54620C

- **16 Channels of Logic Analysis**
- **Timing Channels: 16 (Numbered 0-15)**
- **Timebase Range: 5ns/div to 1s/div**
- **Maximum Sampling Rate: 500MSa/s**
- **Minimum Detectable Glitch: 3.5ns**
- **Triggering Source: All Channels and External**

Types 54620A/ABA and **54620C/ABA** have 500MSa/s sampling rates, which give the power to catch glitches. On-button auto scales show results immediately. Include automatic measurements of frequency, period, duty cycle, width, delay, and hold time. **Type 54620C/ABA** includes a full-color, active matrix LCD hat highlights particular signals or group sets of signals by color. Compatible with **types 54650A**, **54651A**, and **54652B** interface modules and **type 34810B** BenchLink scope software.

Stock No.	Type	Description	Each
91F3027	54620A/ABA	Logic Analyzer	**3095.00**
91F3028	54620C/ABA	Logic Analyzer	**4095.00**
91F3020	10098A	Accessory Pouch and Front Panel Cover	**52.00**
91F3060	34810B	BenchLink Scope Software	**300.00**
91F3067	5062-7345	Rack Mount Kit	**250.00**

(14035) (ne10496)

LOGICDART ADVANCED LOGIC PROBE

E2310A

- **Logic Monitoring**
- **Timing Diagrams**
- **Voltage**
- **Frequency**
- **Continuity Information**
- **Audio and Visual Feedback**
- **Stores up to 10 Waveforms**

Type E2310A LogicDart is an advanced logic probe. Combines the convenience of a logic probe and the versatility of a multimeter with the measurement power of a timing analyzer. Captures up to 3 logic channels simultaneously to analyze signal timing. 2048-point signal acquisition at 100MSa/s (10ns resolution) on all 3 channels. Choose preset levels for TTL, CMOS, and ECL, or set your own thresholds. Triggering: edge, pattern, edge/pattern combination. DC voltage: ±35V. Frequency: 1Hz to 33.0MHz. Resistance: 0.01kΩ to 200kΩ. Real-time clock, user-selected format. Languages: English, Spanish, German, French, and Italian. Power: (3) 1.5V AA alkaline or lithium batteries; AC adapter included. LogicDart includes carrying case, probe kits, AC adapter, batteries, and certificate of calibration. *Order replacement probe and kit separately below.*

Stock No.	Type	Description	Each
91F3029	E2310A	LogicDart	**795.00**
91F3038	E2320A	Assembled Probe with Browser	**60.00**
91F3039	E2321A	Replacement Probe	**45.00**
91F3040	E2322A	Probe Accessory Kit	**75.00**

(14034) (ne10495)

HEWLETT® PACKARD

FUNCTION GENERATORS, COUNTERS AND POWER SUPPLIES

FUNCTION GENERATORS

33120A

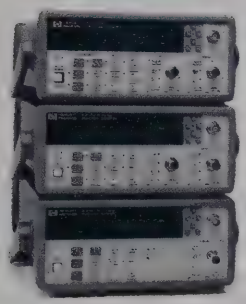
- **Waveforms with 40MSa/s Speed and Storage for Four 16,000-Point Waves**

10 Standard waveforms: sine and square to 15MHz; triangle, ramp, noise, sin(x)/x, exponential rise and fall, cardiac, DC volts. Sine and square waves from 100MHz-15MHz; triangle and ramp waves from 100µHz-100kHz. Sweep and modulation expand test options. Full programmability using standard commands for programmable instruments (SCPI) with standard HP-IB and RS-232. **Type 33120A/001/ABA** includes phase lock, TCXO timebase to increase frequency stability and create new system possibilities. **Type 3481A/ABA** benchlink ARB software allows the use of drawing tools and waveform library, or data generated in a spreadsheet or math program, to create a waveform which can be downloaded to the function generator. Power: 100V/120V/220V/240V.

Stock No.	Type	Description	Each
91F3041	33120A	Function Generator	1795.00
91F3042	33120A/001/ABA	Function Generator with Phase Lock TCXO Timebase	2198.00
91F3066	5063-9240	Rack Mount Kit	60.00
91F3034	34161A	Accessory Pouch	40.00
91F3061	34811A/ABA	Benchlink ARB Software	300.00

(15233) (ne10488)

COUNTERS



53131A, 53132A, 53181A

- **Resolution of 10 or 12 Digits/Second**
- **Frequency Ranges: Up to 3GHz**

Types 53131A and **53132A** measure frequency, frequency ratio, time interval, period, rise/fall time, positive/negative pulse width, duty cycle, phase (CH 1 to CH 2), totalize, peak voltage, time interval average and time interval delay. **Type 53181A** measures frequency, frequency ratio (with optional CH 2), period, and peak voltage. All types feature automated limit tests, math (scale and offset), statistics (minimum, maximum, mean, and standard deviation). Versatile test and analysis features help extract information from measurement data. Add graphics, archiving, and more statistical analysis with HP benchlink meter software for Windows®.

Type	53131A	53132A	53181A
Frequency Range	CH 1 & CH 2: 225MHz	CH 1 and CH 2: 225MHz	CH 1: 225MHz
Frequency Resolution	10 Digits/Second	12 Digits/Second	10 Digits/ Second
Measurement Speed	Up to 200 Meas./Second	Up to 200 Meas./ Second	Up to 200 Meas./Second
Interfaces	Standard HP-IB (IEEE 488.1 and 488.2) with SCPI-compatible language; talk-only RS-232		
Power	90-132VAC; 45-66Hz or 360-440Hz/198-264VAC;45-66Hz		

Stock No.	Type	Description	Each
91F3043	53131A/ABA	Universal Counter	1795.00
91F3044	53131A/030/ABA	Universal Counter with 3GHz Channel 3	2595.00
91F3045	53132A/ABA	Universal Counter	2795.00
91F3046	53132A/010/ABA	Universal Counter with High-Stability Timebase	3695.00
91F3068	53132A/010/030/AB	Universal Counter with High-Stability Time-Ease and 3GHz Channel 3	4495.00
91F3047	53181A/ABA	RF Counter	1575.00
91F3048	53181A/015/ABA	RF Counter with 1.5GHz Channel 2	2075.00
91F3062	34812A/ABA	Benchlink Meter Software for Windows®	300.00
91F3066	5063-9240	Rack-Mount Kit	60.00

(15232) (ne10487)

SINGLE- AND TRIPLE-OUTPUT POWER SUPPLIES

E3631A

Type E3631A:
- **Triple-Output Power Supply**
- **3 DC Outputs with 80W Total Power**
- **Programmable with HP-IB and RS-232 Standard**

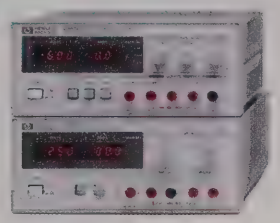
Type E3632A:
- **Single-Output Power Supply**
- **High-Output 120W**
- **Programmable with HP-IB and RS-232 Standard**
- **Dual Range: 0 to 15V, 7A; 0 to 30V, 4A**

Type E3631A features two 25V, 1A supplies and an isolated 6V, 5A supply. Load and line regulation: for voltage, <0.01% +2mV; for current, <0.01% +250µA, store and recall up to 3 power supply setups. Program and monitor both voltage and current through any computer with an IEEE488 card or RS-232.
Type E3632A is a single-output, dual-range power supply. Ranges: 0 to 15V, 7A; 0 to 30V, 4A. Load and line regulation: for voltage, <0.01% +2mV; for current, <0.01% +250µA. Store and recall up to 3 power supply setups. Program and monitor voltage and current through any computer with an IEEE 488 card or RS-232.

Stock No.	Type	Description	Each
91F3058	E3631A	Triple-Output Power Supply	1095.00
91F3059	E3632A	Single-Output Power Supply	995.00

(15237) (ne10491)

E3600 SERIES DC POWER SUPPLIES



E3630A, E3620A

- **Constant-Current (CC) and Constant-Voltage (CV) Modes**
- **Tight Linear Regulation, Low Ripple and Noise**
- **Line and Load Regulation: 0.01% +2mV**
- **Meter Accuracy: ± 0.5% +2 Counts at 25°C ±5°C**
- **10mA Meter Resolution Current (Types E3610A, E3611A, E3614A, E3615A, and E3630A)**
- **1mA Meter Resolution Current (Types E3612A, E3616A, E3617A, and E3620A)**

Nine models available, up to 120V, 6A. Isolation, 240VDC. **Types E3610A, E3611A,** and **E3612A** features: dual range, 10-turn pots, constant-voltage (CV), constant-current (CC) modes. **Types E3614A, E3615A, E3616A,** and **E3617A** features: adjustable overvoltage protection, voltage programming, remote sense, rear outputs, 10-turn pots, CV and CC modes, resistance programming; multiple supplies can be connected for tracking or higher power. **Type E3620A** features: dual outputs isolated, 10-turn pots, and CV and CL modes. **Type E3630A** features: tracking, common outputs, and CV and CL modes. Transient response time: <50µs following change in output current from full load to half load for output to recover to within 10mV (**types E3610A, E3611A,** and **E3612A**) and 15mV (**types E3614A, E3615A, E3616A, E3617A, E3620A**, and **E3630A**). Common mode current: <1µArms (**types E3620A** and **E3630A** only). Number of outputs: 1 (except **type E3620A** has 2 outputs; **type E3630A** has 3 outputs). 3-year warranty.

Type	Output Volts	Output Amps	Ripple and Noise Voltage	Meter Resolution Volts	Meter Resolution Amps
E3610A	8V or 15V	3A or 2A	<200µVrms, <2mVp-p	10mV	10mA
E3611A	20V or 35V	1.5A or 0.85A	<200µVrms, <2mVp-p	100mV	10mA
E3612A	60V or 120V	0.5A or 0.25A	<200µVrms, <2mVp-p	100mV	1mA
E3614A	8V	6A	<200µVrms, <1mVp-p	10mV	10mA
E3615A	20V	3A	<200µVrms, <1mVp-p	10mV (0-20V), 100mV (>20V)	10mA
E3616A	35V	1.7A	<200µVrms, <1mVp-p	10mV (0-20V), 100mV (>20V)	1mA
E3617A	60V	1A	<200µVrms, <1mVp-p	10mV (0-20V), 100mV (>20V)	1mA
E3620A	25V 25V	1A 1A	<350µVrms, <1.5mVp-p	10mV (0-20V), 100mV (>20V)	1mA
E3630A	+6V +20V –20V	2.5A 0.5A 0.5A	<350µVrms, <1.5mVp-p	10mV	10mA

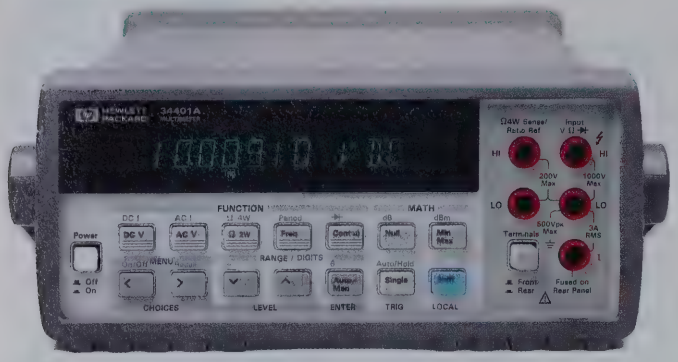
Stock No.	Type	Each
91F3049	E3610A	310.00
91F3050	E3611A	310.00
91F3051	E3612A	310.00
91F3052	E3614A	525.00
91F3053	E3615A	525.00
91F3054	E3616A	525.00
91F3055	E3617A	525.00
91F3056	E3620A	525.00
91F3057	E3630A	525.00

(15234) (ne10489)

HEWLETT® PACKARD

OSCILLOSCOPE AND MULTIMETER ACCESSORIES

BENCHTOP DIGITAL MULTIMETERS



34401A

- **6½-Digit Resolution**
- **HP-IB and RS-232 Interfaces Standard**
- **Store up to 512 Readings**

34000 series benchtop digital multimeters measure DC voltage up to 1000V across 5 ranges and true rms AC voltage up to 750V from 3Hz to 300kHz. Resistance measurement up to 100MΩ across 7 ranges. Other measurements include: AC/DC current, frequency and period to 300kHz, continuity, and diode test. Math functions include: null, min/max/avg., dBm, dB, and limit test. Standard commands for programmable instruments (SCPI) as well as types HP 3478A and Fluke types 8840/8842A command languages are built in. Power: 100/120/220/240V, 45-65Hz, 360-440Hz. Benchlink meter software allows graphing, basic statistics, and data storage.

Stock No.	Type	Description	Each
91F3030	34401A	Benchtop Digital Multimeter	**995.00**
91F3033	34130A	Deluxe Test Lead Set	**40.32**
91F3066	5063-9240	Rack Mount Kit	**60.00**
91F3034	34161A	Accessory Pouch	**40.00**
91F3062	34812A/ABA	Benchlink Meter Software	**300.00**

(15236) (ne10490)

OSCILLOSCOPE PROBES

Stock No.	Type	Bandwidth	Length	Division Ratio	Circuit Loading	Compatibility
91F3014	10070A	20MHz	1.5m	1:1	1MΩ, 70pF	54600 Series
91F3015	10071A	150MHz	1.5m	10:1	10MΩ, 15pF	54600/01/02
91F3017	10073A	500MHz	1.5m	10:1	1MΩ, 12pF	54610/15/16B
91F3018	10074B	150MHz	1.5m	10:1	10MΩ, 15pF	54645A/D
91F3022	10441A	500MHz	2m	10:1	1MΩ, 9pF	54610/15/16B
91F3023	10444A	500MHz	1.6m	10:1	1MΩ, 9pF	54610/15/16B
91F3021	10431A	500MHz	1m	10:1	1MΩ, 6.5pF	54610/15/16B

Stock No.	Type	Each
91F3014	10070A	**52.00**
91F3015	10071A	**79.00**
91F3017	10073A	**156.00**
91F3018	10074B	**84.00**
91F3022	10441A	**235.00**
91F3023	10444A	**263.20**
91F3021	10431A	**262.08**

Type 1137A high-voltage probe measures up to 5kVDC, 5kVAC up to 250kHz, and 2.5VAC from 250kHz to 1MHz. Compatible with any scope that has 1MΩ input resistance and input capacitance between 6 and 50pF.

91F3026 Type 1137A. **Each** **215.00**

PROBE KITS

Type 10072A SMT probe kit comes with 10 grabbers. Compatibility: **10070 series** probes.

91F3016 Type 10072A. **Each** **67.00**

Type 10450A probe kit comes with 10 grabbers. Compatibility: **10400 series** probes.

91F3024 Type 10450A. **Each** **85.00**

Type 10075A 0.5mm MicroGrabber accessory kit for **10070 series** probes.

91F3019 Type 10075A. **Each** **152.00**

Type 10467A 0.5mm MicroGrabber Accessory Kit for **10400 series** probes.

91F3025 Type 10467A. **Each** **152.00**

(18828) (ne10982)

SCOPE INTERFACE AND ENHANCEMENT MODULES FOR OSCILLOSCOPES

- **Measurement/Storage Modules Add FFT and Other Powerful Measurements**
- **Interface Modules Provide HP-IB, RS-232/Parallel Connections**

Types E2657A/ABA and **E2659A/ABA** measurement/connectivity kits provide the hardware and software needed to connect a scope to a PC: a measurement/storage module, an HP-IB or RS-232 cable and HP BenchLink Scope software.

Stock No.	Type	Description	Each
91F3008	54650A	HP-IB Interface Module	**295.00**
91F3009	54652B	RS-232 and Parallel Interface Module	**295.00**
91F3010	54657A/ABA	HP-IB Measurement/Storage Module	**495.00**
91F3011	54659B/ABA	RS-232 and Parallel Measurement/Storage Module	**495.00**
91F3012	E2657A/ABA	Measurement/Connectivity Kit for HP-IB	**695.00**
91F3013	E2659A/ABA	Measurement/Connectivity Kit for RS-232	**695.00**
91F3060	34810B	Benchlink Scope Software for Windows®	**300.00**

Windows® is a U.S. trademark of Microsoft Corporation.

(13626) (ne10492)

BENCHLINK SOFTWARE

Requirements: 486 or better AT-compatible computer, serial port or IEEE-488 card, 4MB or more of RAM, MS-DOS® 4.01 or later, Windows 3.1® or later (not supported under Windows NT), MS-compatible mouse, 3.5" high-density floppy drive, 2MB disk space for each application.

Stock No.	Type	Description	Each
91F3060	34810B	Benchlink Scope	**300.00**
91F3061	34811A/ABA	Benchlink Arb	**300.00**
91F3062	34812A/ABA	Benchlink Meter	**300.00**
91F3063	34820A/ABA	Benchlink Suite (Includes Benchlink Scope, Arb, and Meter)	**400.00**

(13627) (ne10493)

MULTIMETER ACCESSORIES

Type 34300A 40kV AC/DC high-voltage probe. 40kVDC, 40kVAC to 150Hz. 1000:1 division ratio. For any DMM with 10MΩ inputs.

91F3032 Type 34300A. **Each** **103.04**

Type 34130A deluxe test lead kit. Test leads are 47" (1.2) long with fixed sheath on banana plugs. For **type 34401A DMM.**

91F3033 Type 34130A. **Each** **40.32**

Type 34161A Cordura® accessory pouch. Holds leads and other accessories. Fits on top of **type 34401A DMM, 53100 series** counters and **type 33120A** function/arb generator.

91F3034 Type 34161A. **Each** **40.00**

Type 34301A 100kHz to 700MHz RF detector probe. Range: 50Vrms; Accuracy: ±2dB to 700MHz. 1VDC output for 1Vrms input. For any DMM with 10MΩ input.

91F3035 Type 34301A. **Each** **82.00**

Type 34330A 30A current shunt. 1mV/A output. 15A continuous, 30A for 15 minutes max. For use with any DMM.

91F3037 Type 34330A. **Each** **56.00**

Type 11060A surface mount device probe. Maximum input: 42V. For use with any DMM.

91F3031 Type 11060A. **Each** **25.00**

HP-IB CONNECTIVITY CABLE

Stock No.	Type	Description	Length	Each
91F7425	10833A	HP-IB Cable	3.3' (1)	**90.00**
91F7426	10833B	HP-IB Cable	6.6' (2)	**100.00**

RS-232 CONNECTIVITY CABLE

Stock No.	Type	Description	Length	Each
91F3064	34398A	9 pin(f) to 9 pin(f) plus 9 pin(m) to 25 pin(f) adapter	8.2' (2.5)	**20.00**

Type 34399A adapter kit comes with 4 adapters: 9 pin (m) to 25 pin (m) for use with PC or printer; 9 pin (m) to 25 pin (f) for use with PC or printer; 9 pin (m) to 25 pin (m) for use with modem; 9 pin (m) to 9 pin (m) for use with modem.

91F3065 Type 34399A. **Each** **27.00**

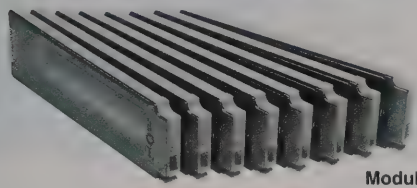
(13628) (ne10494)

AT NEWARK, THERE'S ALWAYS MORE THAN MEETS THE EYE!
CONTACT US FOR PRODUCTS NOT LISTED IN THIS CATALOG.

DATA LOGGER/SWITCH

DATA LOGGER/SWITCH AND ACCESSORIES

34970A



Modules

DATA LOGGER/SWITCH

- **6½-Digits (22-bits) of Resolution with 0.004% Basic One-Year DCV Accuracy**
- **11 Built-In Measurements Including DCV, ACV, Thermocouple, Thermistor and RTD Temperatures, and More**
- **Scan Rates Up to 250 Channels/Second Give the Speed and Accuracy to Get the Job Done Right**
- **3 Module Slots and a Choice of 8 Switch/Control Modules Allow Adapting Type 34970A to Meet Unique Needs**
- **Includes HP Benchlink Data Logger Software for Easy Analysis and Documentation**
- **Use HP Benchlink Software to Configure Tests, Transfer Data, Perform Real-Time Analysis and Archive Results**

The modular **type 34970A** combines the performance of a data acquisition system with the simplicity of a data logger. With **type 34970A**, the solution for unique needs is available. From 2 channels to 120 and a choice of modules, it can be used as a data logger, data acquisition system, or a switch box. If measurement needs change, reconfiguring the system is done by swapping modules in and out of 1 of the mainframe's 3 slots.

With a 20-channel relay multiplexer, **type 34970A** is a powerful data logger for quick tests in the lab or in the field. The user interface is easy to set up measurements and read results, and the non-volatile memory holds up to 50,000 time-stamped readings. HP Benchlink Data Logger software automates tests, process data and document measurements without having to program.

Measures any combination of temperature, volts, ohms, or frequency across any combination of input channels. Standard RS-232 and HP-IB interfaces, SCPI programming language and available drivers for Labview® software permits integrating **type 34970A** into an automated test system.

Configure **type 34970A** without the internal digital multimeter, and it is a high-quality switch system for automated testing with up to 120 single-ended channels or 96 matrix cross-points per frame. Choose from low-frequency and RF multiplexers, matrix, and general-purpose (form C) switching. Also, included is digital input/output, analog output and event counting all in a single module.

	Min Resolution	Best Accuracy	Input Resistance
DC Voltage 100mV to 300V	100nV	0.004%	10MΩ
AC Voltage True rms 100.0000mV to 300.0000V	100MHz	300MHz	1MΩ 100pF
Thermocouple -210°C to 1820°C	0.1°C	Probe + 0.6°C	B, E, J, K, N, R, S, T, Types J Type best accuracy
Resistance 100Ω to 100MΩ	100μΩ	0.010%	...
AC and DC Current	HP 34901 A channels 21 and 22 only. 10mA, 100mA and 1 A ranges		
Frequency and Period	3Hz (0.333 sec) to 400kHz (3.33 μsec)		
Memory	5000 Nonvolatile storage, including time stamp		
Other Features	Per channel: Mx+B scaling, alarming and Min./Max./Avg. Real time clock, HP-IB, RS-232, and SCPI programming standard		

DATA LOGGER/SWITCH

Stock No.	Type	Each
83F4190	34970A	**1290.00**

MEASUREMENT MODULES

- **From 1 to 120 Channels of Analog Input**
- **Measurements Include DCV, ACV, Thermocouple, Thermistor and RTD Temperature Measurements, 2- and 4-Wire Ohms, AC Current, Frequency, and Period**
- **50k Reading Non-Volatile Memory Including Timestamp**
- **Scaling and Alarms Available On Each Channel**
- **Full-Featured Front Panel for Stand-Alone Configuration, Troubleshooting, and Data Viewing**
- **Non-Volatile Storage for Five Complete Instrument States**

CONTINUED

DATA LOGGER/SWITCH AND ACCESSORIES (CONT.)

MEASUREMENT MODULES (CONT.)

	Type 34901A	Type 34902A	Type 34903A	Type 34904A
Description	20-Channel Multiplexer	16-Channel Multiplexer	20-Ch. Actuator/ GP Switch	4 x 8 Matrix (2-Wire)
Style	2-Wire Armature (4-Wire Selectable)	2-Wire Reed (4-Wire Selectable)	SPDT/form C	2-Wire Armature
Speed (Ch./Sec.)	60	250	120	120
Maximum Voltage	300V	300V	300V	300V
Maximum Current	1A	50mA	1A	1A
Bandwidth	10MHz	10MHz	10MHz	10MHz
Thermal Offset	<3μV	<6μV	<3μV	<3μV
Comments	Two Current channels, built-in cold junction reference	Built-in cold junction reference	...	...
Warranty	3 years	3 years	3 years	3 years

Stock No.	Type	Each
83F4191	34901A	**395.00**
83F4192	34902A	**395.00**
83F4193	34903A	**295.00**
83F4194	34904A	**395.00**

ACTUATOR/SWITCH MODULES

- **3-Slot Cardcage with 6½-Digit (22 Bits) Internal DMM**
- **0.004% Basic 1-Year DCV Accuracy; 0.06% ACV Accuracy**
- **Up to 120 Single-Ended Measurements of 96 Matrix Crosspoints in a 3½ High, Half-Rack Instrument**
- **8 Switch and Control Modules Include Low-Frequency and RF Multiplexers, Matrix and Actuation Switches, Digital Input and Output, Analog Output and Event Recording**
- **Scan Rates Up to 250 Channels/Second**
- **HP-IB and 115 kBaud RS-232 Interfaces Standard**
- **Software Drivers Available to Support HP VEE and National Instruments LabVIEW®**
- **Relay Maintenance Feature for System Maintenance**
- **3-Year Warranty**

	Type 34905A	Type 34906A	Type 34907A	Type 34908A
Description	Dual 4 Channel RF Mux, 50Ω	Dual 4 Channel RF Mux, 75Ω	Multifunction Module	40-channel Single-Ended Multiplexer
Style	Common Low (unterminated)	Common Low (unterminated)	Two 8-bit digital I/O ports 28-bit event counter Two 16 bit analog outputs	1-Wire Armature (common low)
Speed (ch./sec.)	60	250	120	120
Maximum Voltage	300V	300V	300V	300V
Maximum Current	1A	50mA	1A	1A
Bandwidth	10MHz	10MHz	10MHz	10MHz
Thermal Offset	<3μV	<6μV	<3μV	<3μV
Comments	1GHz Bandwidth Through BNC-to-SMB Adapter Cables	1GHz Bandwidth Through BNC-to-SMB Adapter Cables	Open Drain Selectable Input Threshold Max 40mA Total Output per Frame	Built-in cold junction reference No 4-wire measure.

Stock No.	Type	Each
83F4195	34905A	**495.00**
83F4196	34906A	**495.00**
83F4197	34907A	**295.00**
83F4198	34908A	**395.00**

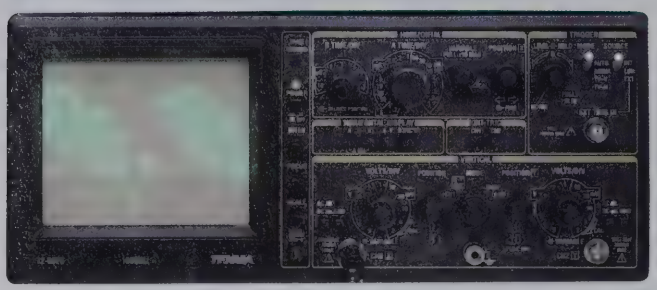
(36170) (ne36170)

TENMA®

OSCILLOSCOPES AND ADAPTERS

100MHz OSCILLOSCOPE

NEW



Features:
- **Dual Channel**
- **Dual Trace**
- **X-Y Operation**
- **Dual Time Base**
- **Auto Triggering**
- **Delayed Sweep**
- **TV Sync**
- **2-Year Limited Warranty**

Specifications:
Vertical deflection: bandwidth: DC (to 100MHz), AC (10MHz to 100MHz); sensitivity: 2mV/div. to 5V/div. (11 calibrated steps); rise time:<3.5ns; input voltage: 250 (DC + peak AC) max.; input impedance: 1 Mohm in parallel with 25pF. Horizontal deflection: time base A: 0.1µs/div. to 0.5s/div. (21.calibrated steps); time base B: 0.1µs/div. to 10µs/div. (7 calibrated steps); display modes: A, A int B, B, X-Y, B triggered. Trigger system: modes: auto, norm, TV-V, TV-H; source: INT, LINE, EXT. Coupling: AC. Slope: ±. Power requirements: AC voltage 100/120/220/240 (50/60Hz). Two 10:1 probes incl. Order **type 72-6025c** with calibration certificate; *contact your local Newark sales office.*

52F3959 Type 72-6025 **Each** **965.00**
(32194) (ne32194)

60MHz OSCILLOSCOPE

NEW

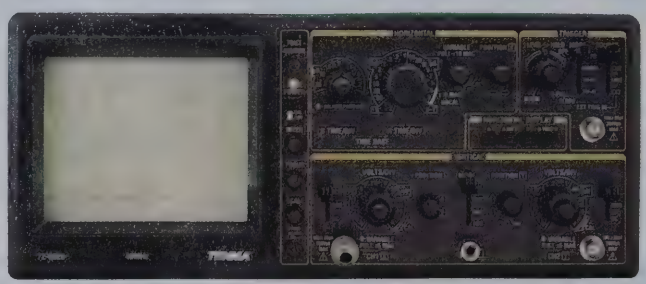
Features:
- **Dual Channel**
- **Dual Trace**
- **Dual Time Base**
- **Auto Triggering**
- **Delayed Sweep**
- **2-Year Limited Warranty**

Specifications:
Vertical deflection: bandwidth: DC (to 60MHz) AC (10MHz to 60MHz); sensitivity: 0.5mV/div to 5V/div; (10 steps); rise time: < 5.8ns;modes: CH1, CH2, ADD, Dual (CHOP, ALT); input voltage: 250 (DC + peak AC) maximum; input impedance: 1Mohm in parallel with 25pF. Horizontal deflection: time base A: 0.1µs/div. to .25s/div. (20 calibrated steps); time base B: 0.1µs/div. to 10µs/div. (7 calibrated steps). Trigger system: modes: auto, norm, TV-V, TV-H; source: CH-1,CH-2, Line, EXT. Coupling: AC. Slope: ±. Power requirements: AC voltage 100/120/220/240V 50/60Hz. Two 10:1 probes included. UL listed, CUL approved. Order **type 72-5025c** with calibration certificate; *contact your local Newark sales office.*

66F3583 Type 72-5025. **Each** **795.00**
(43370) (ne28365)

40MHz OSCILLOSCOPE

NEW



Features:
- **Dual Channel**
- **Dual Time Base**
- **Dual Trace**
- **Trigger Hold-off**
- **Delayed Sweep**
- **2-Year Warranty**

Specifications:
Vertical deflection: bandwidth: DC (to 40MHz), AC (10Hz to 40MHz); sensitivity: 5mV/div. to 5V/div. (10 calibrated steps); rise time: <8.8ns; modes: CH1, CH2, ADD, Dual (Chop, ALT); input voltage: 250 (DC + peak AC) maximum; input impedance 1Mohm in parallel with 25pF. Horizontal deflection: time base A: 0.2µs/div to 0.2sec/div (19 calibrated steps); time base B: 0.2µs/div to 20µs/div (7 calibrated steps); display modes: A, A int B, B, B triggered, X-Y. Trigger system: modes: auto, norm, TV-V, TV-H; source CH1, CH2, LINE, EXT. Coupling: AC. Slope ±. Power requirements: AC voltage 100/120/220/240 (50/60Hz). Two 10:1 probes included. Order **type 72-5020c** with calibration certificate; *contact your local Newark sales office.*

66F3584 Type 72-5020 **Each** **669.00**
(32195) (ne32195)

1GHz SPECTRUM ANALYZER ADAPTER

NEW

Features:
- **Frequency Range: 400KHz~1GHz**
- **250KHz Bandwidth with Variable Scan Width and Scan Speed**
- **High Accuracy (1.5dB Typical), Built-in Calibration Marker**
- **Wide Dynamic Range**
- **Digital Readout of Center Frequency**
- **1-Year Warranty**

Specifications:
Frequency range: 400KHz~1GHz. Center frequency adjust: 0MHz~1GHz. Bandwidth: 250KHz. Meter accuracy: 1%. Calibration marker: 50MHz (-30dBm±1dB) fundamental, harmonics to 1GHz. Frequency scan width: 1MHz~100MHz/div. Scan speed: 0.5msec~35msec/div. Input impedance: 50ohm. Applitude range: -70dBm~0dBm nominal. Amplitude scale: logarithmic, 10dB/div. Amplitude linearity: ±2dB. Amplitude flatness: ±1.5dB, 4MHz~1GHz. Maximum input level: ±10dBm. Power requirements 110/120V or 220/240VAC, 50/60Hz internally adjustable. Order **type 72-6600c** with calibration certificate; *contact your local Newark sales office.*
Converts almost any conventional oscilloscope into a highly cost effective spectrum analyzer. Requires an oscilloscope with X-Y mode, DC coupling, 0.5V/div and 5MHz minimum bandwidth.

84N2130 Type 72-6600 **Each** **879.00**
(32196) (ne32196)

TENMA®

OSCILLOSCOPES AND SPECTRUM ANALYZERS

20MHz OSCILLOSCOPE WITH EXTERNAL TRIGGERING

Features:
- **6″-High Brightness CRT with Internal Graticle**
- **2kV Accelerating Potential**
- **Auto Triggering**
- **Z-Axis Input**
- **X-Y Mode**
- **External Triggering**
- **Dual Channel, Dual Trace**
- **2-Year Warranty**

Specifications:
Vertical sensitivity: 5mV/div to 5V/div, 1mV/div to 1V/div in ten calibrated steps; Vertical rise time: 17.5nsec or less. Maximum input voltage: 250V(DC+peak AC). Modes: CH-1, CH-2, ADD, dual. Polarity inversion: CH-2 only. Horizontal sweep modes: A, X-Y. Delay sweep position: 1 div or less to 10 div or more. Horizontal sweep magnification: x10. Trigger modes: auto, norm, TV-V, TV-H. Source: CH-1, CH-2, Line, EXT. Coupling: AC, X-Y phase difference. 2-year limited warranty. UL listed. Order **type 72-3055c** with calibration certificate, *contact your local Newark sales office.*

66F3585 Type 72-3055. **Each** **439.00**
(5379) (ne07117)

1.25GHz PORTABLE SPECTRUM ANALYZER

NEW

Features:
- **Battery or Line Operated**
- **FM Audio Demodulator**
- **AM Detector**
- **Microprocessor Controlled Functions**
- **Digital Frequency Lock**
- **Sensitivity > -95dBm**
- **2-Year Warranty**

Specifications:
Frequency: 1MHz-1250MHz in one sweep. Bandwidth: automatically selectable by span control, 3MHz res B.W. (set span at 125MHz/div), 1MHz res B.W. (set span at 50MHz/div), 300kHz res B.W. (set span at 10MHz/div), 150kHz res B.W. (set span at 5MHz/div), 75kHz res B.W. (set span at 1 or 0.2MHz/div). Reference levels: +20, 0, –20, –40dBm/+69, +49, +29, +9dBmv. Frequency display: LCD frequency readout in 10ths of MHz. Power requirements: 115 VAC, 60Hz/12VDC, internal 12V Gelcell. Comes with batteries, carrying case, and owner's manual. Order **type 72-6552c** with calibration certificate, *contact your local Newark sales office.*

84N2129 Type 72-6552 **Each**..... **3499.00**
(6524) (nec7485)

60, 100 AND 200MHz OSCILLOSCOPE PROBE KITS

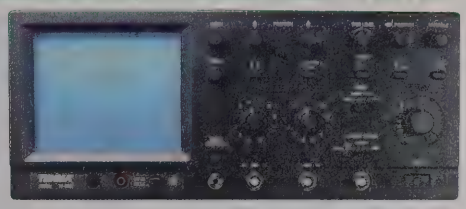
- **EN61010-2-031 CATI (IEC1010)**
- **600V (DC+AC Peak)**
- **Low Noise - Improved Compensation**
- **1.2m Cable Length**
- **10-35 pF Compensation Adjustment**
- **REF Position, Tip Disconnected and Scope Input Grounded (Types 76-102, 76-105 Only)**
- **Accessory Kit and Storage Pouch Included**

Type 76-109: 60MHz -3dB, x10 position, 10MΩ imped. (1MΩ input), 18pF capacitance, 5.8ns risetime. 15MHz -3dB, x1 position, 1MΩ imped. (scope input), 46pF capacitance, 27ns risetime. **Type 76-102**: 100MHz -3dB, x10 position, 10MΩ imped. (1MΩ input), 16pF capacitance, <3.5ns risetime. 6MHz @ -3dB, x1 position, 1MΩ impedance (scope input), 90pF capacitance, 58ns risetime. **Type 76-105**: 200MHz -3dB, x10 position, 10MΩ imped. (1MΩ input), 14pF capacitance, <1.8ns risetime. 10MHz @ -3dB, x1 position, 1MΩ imped. (scope input), 90pF capacitance, 35ns risetime.

Stock No.	Type	Description	Each
84N2151	76-109	60MHz Range	**24.99**
84N2144	76-102	100MHz Range	**34.99**
84N2147	76-105	200MHz Range	**39.99**
84N2152	76-110	Replacement Sprung Hook	**4.99**

(5923) (ne03106)

20MHz OSCILLOSCOPE WITH COMPONENT TESTER



Features:
- **Dual Channel, Dual Trace**
- **Component Tester Function Tests the V-I Characteristic Curve of Components Including: Open and Short Circuit Tests, Resistors, Capacitors, Forward and Reverse Characteristics of Rectifiers, Diodes and Zener Diodes, Transistors and Component Combinations**
- **X-Y Operation**
- **Auto Triggering**
- **External Triggering**
- **Alternate Trigger and Independent TV Synchronizing Signal Separator Circuit for Stable TV Signal Observation**
- **2-Year Warranty**

Specifications:
Vertical: sensitivity: 5mV/div~5V/div in 10 calibrated steps; bandwidth: DC to 20MHz (-3db), AC 10Hz to 20MHz (-3dB); rise time: 17.5nsec; maximum input voltage: 250V (DC + peak AC); Input Impedance: 1Mohm parallel with 25pF; modes: CH-1, CH-2, DUAL, and ADD; Input Coupling: AC-GND-DC; Polarity Inversion: CH-2 only. **Horizontal:** 0.2μsec/div to 0.2sec/div in 19 calibrated steps; sweep magnification: 10 times; accuracy: ±3%, magnified ±5%; Sweep Modes: norm, A-Y, X10, variable; Trigger Modes: auto, norm, TV-V, TV-H; source: VERT, CH-1, EXT, LINE; coupling: AC; external trigger input: 1Mohm in parallel with 30 pF. General: power requirements: 115V/230VAC, 50/60Hz, 42W. Component test lead and two 10:1 probes included. Order **type72-6547c** with calibration certificate, *contact your local Newark sales office.*

84N2127 Type 72-6547 **Each**..... **429.00**
(32191) (ne32191)

20 MHz OSCILLOSCOPE WITH FUNCTION GENERATOR

Features:
- **Dual Channel, Dual Trace**
- **Normal/Auto Trigger**
- **Built-in Function Generator up to 1 MHz**
- **Five Vertical Mode Selections: CH-1, CH-2, Dual, Add, Subtract (Using CH-2 Inverted)**
- **6″ High Brightness CRT**
- **2KV Accelerating Potential**
- **Trigger Hold-Off**
- **X-Y Phase Difference up to 50kHz**
- **2-Year Warranty**

Specifications:
Vertical: Sensitivity: 5mV/div to 5V/div in 10 calibrated steps. Bandwidth: DC to 20MHz, AC 10Hz to 20MHz. Rise time: 17.5 nsec. Maximum input voltage: 250V(DC to peak AC). Input impedance: 1Mμ parallel with 25pF. Modes: CH-1, CH-2, ADD, Dual. Polarity inversion: CH-2 only. Horizontal: Time base: 0.2msec to 0.2 sec/div in 19 calibrated steps. Display modes: X1, X10, X-Y. Sweep magnification: 10 times. Accuracy: ±3% magnified ±5%. Modes: AC, DC, TV-V, TV-H. X-Y mode. Source: CH-1, CH-2, Line, Ext. Coupling: AC. External trigger input: 1MΩ in parallel with 30pF. **Function Generator:** Frequency range: 0.1Hz to 1MHz. Output waveform: sine, triangle, square, TTL pulse. Output impedance: 50Ω ± 10%. **General:** Calibration voltage: 0.5V p-p at 1kHz. Two 10:1 probes included. Two-year limited warranty. UL listed. Order **type 72-6030c** with calibration certificate, *contact your local Newark sales office.*

92F5414 Type 72-3060. **Each** **513.00**
(5389) (ne08125)

TEST EQUIPMENT CART

Equipment cart features slanted top for convenient viewing angle. Adjustable back support with bumpers prevents damage to equipment. Heavy duty casters provide long life. Color: gray. Dimensions: 33.5H x 16W x 19″D.

92F5415 Type 21-1925 **Each** **86.95**
(32192) (ne32192)

OSCILLOSCOPE CASE

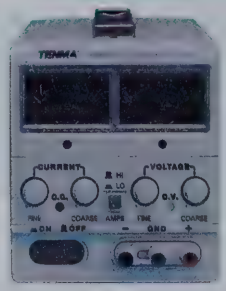
Case fits **types 72-6025, 72-5025, 72-5020, 72-3055, 72-3060,** and **72-6547.**

52F7946 Type 72-3095 **Each** **84.95**
(32193) (ne32193)

TENMA®

POWER SUPPLIES

DC LABORATORY POWER SUPPLIES



72-2010

72-2075

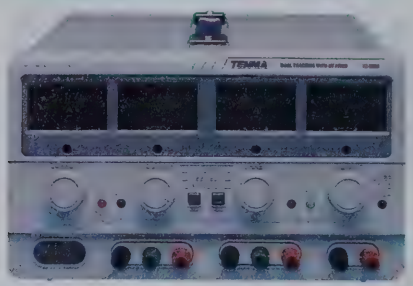
Feature adjustable output voltage. Current limiter adjustable. Separate voltage and current meters. Fine and coarse voltage adjustments for accurate voltage settings. Hi-Lo current scales. Series or parallel operation. Low ripple and noise. Overload and reverse polarity protection. Voltage line regulation: ≤ 0.1% + 3mV. Voltage load regulation: ≤ 0.01% + 3mV. Ripple and noise: ≤ 0.5mVrms, 1mVrms. Recovery time: ≤ 100ms. Constant current line regulation: ≤ 0.2% + 3mA. Constant current load regulation: ≤ 0.2% + 3mArms. Ripple current: ≤ 3mArms. Chassis and terminal insulation: > 20Mohm (500VDC). One-year limited warranty. To order with callibration certificate add "C" to the end of the type number, *contact your local Newark sales office.*

Stock No.	Type	Output Voltage	Output Current	Each
66F3558	72-2005	0-18VDC	0-3A	**159.95**
84N1414	72-6535*	0-18VDC	0-3A	**229.00**
66F3559	72-2010	0-30VDC	0-3A	**219.95**
66F3560	72-2015	0-60VDC	0-1A	**229.95**
66F3561	72-2075*	0-30VDC	0-3A	**249.00**
66F3563	72-2085	0-30VDC	0-6A	**349.95**
52F7506	72-6152	0-18VDC	0-5A	**230.00**
52F7507	72-6153	0-18VDC	0-10A	**419.00**

* Digital

(5380) (ne07130)

TRIPLE-OUTPUT POWER SUPPLY



Features triple-output, auto-tracking, auto-series, and parallel operation. Separate voltage and current meters for each supply. Low ripple and noise. Continuous/dynamic load can be selected. Two 0-30VDC supplies rated at 3A maximum each. Series: 60V, 3A. Parallel: 30V, 6A. Constant voltage and constant current operation. Overload and reverse polarity protection. Output voltage (each supply): 0-30VDC variable. Voltage line regulation: ≤ 0.01% + 3mV. Voltage load regulation: ≤ 0.01% + 3mV. Ripple and noise: ≤ 1mVrms. Constant current line regulation: ≤ 5mV. Constant current load regulation: ≤ 10mV. Ripple and noise: ≤ 2mVrms. Output current: 3A. 1-year limited warranty. Order **type 72-2080C** with calibration certificate, *contact your local Newark sales office.*

66F3562 Type 72-2080. **Each** **499.95**
(5381) (ne07131)

40A POWER SUPPLY

Input voltage: 115/230V. Output voltage: 1-15VDC variable. Output current: 40A max., 32A continuous. Voltage fluctuation: less than 1% (with rated output). Ripple voltage: less than 3mV (with rated output). Protection circuit: 42A. Fuse 115/230VAC: 10A/5A. Power consumption: 800W maximum. One-year limited warranty. Order **type 72-6180C** with calibration certificate, *contact your local Newark sales office.*

52F7509 Type 72-6180. **Each** **299.00**
(5429) (nec7486)

HEAVY-DUTY POWER SUPPLY

1-15V variable DC power supply capable of supplying up to 30A. Use for servicing or powering car stereo products. Features lighted cross needle meter which simultaneously displays voltage, current, and power. Cigarette lighter jack for powering automotive electronics products. Over-current protection automatically shuts off current flow when maximum output is exceeded (31A). Overload indicator. Multiterminal output. One set of high current output terminals (30A maximum) and two sets of low current output terminals (5A maximum). Output voltage 1-15VDC variable. Output current 30A one minute on, three minutes off; 24A continuous. Voltage fluctuation: less than 0.5% at rated output. Ripple voltage: less than 3mV at rated output. General power requirements: 110VAC, 60Hz. Dimensions: 6H x 8¾W x 9"D. Weight: 20 lbs. One-year limited warranty. Order **type 72-630C** with calibration certificate, *contact your local Newark sales office.*

92F5412 Type 72-630. **Each** **219.00**
(5383) (ne07133)

COMPACT TRIPLE-OUTPUT DC POWER SUPPLY

Features triple-output, analog voltage and current meters (each 0–24V supply), current adjustable with automatic recovery, independant/series/parallel mode, and overload indicator. Specifications for fixed 5V output: voltage: 5VDC ±0.1V fixed; current: 2.0A max.; load regulation: 0.1% + 5mV; line regulation: 0.1% + 5mV; ripple: 2mV RMS (5Hz–1MHz). Specifications for 0–24 output: voltage: 0–24VDC x 2, variable; current: 0–500mA variable; load regulation 0.01% + 3mV; line regulation: 2mV RMS (5Hz–1MHz). Meter specifications: voltage range: 0–25V, 0–600A; accuracy 2.5% of full scale, tracking error ±0.2%, ±20mV. Power requirements: AC 100V, 120V, 220V, 240V, and 50/60Hz. Power consumption : 175VA max. Comes complete with power cord, test leads, and manual. One-year limited warranty. Order **type 72-4045Ac** with calibration ceritficate; *contact your local Newark sales office.*

92N5938 Type 72-4045A **Each** **299.00**
(5382) (ne07132)

ISOLATED VARIABLE AC POWER SUPPLY

Features variable-isolated output 0–145VAC; 3A continuous, 4A intermittent output. Circuit breaker overload protection. Displays volts, amps, and line voltage. Voltage adjustment range: 0–145VAC with 120V input. Output isolation: leakage less than 0.1mA. Current range: 0–3A continuous, 4A intermittent (one minute). Meter: 3¼ display; accuracy: 5% of full scale. Power requirements: 120VAC ± 10%, 60Hz. 1-Year warranty. Order **type 72-1095C** with calibration certificate, *contact your local Newark sales office.*

66F3564 Type 72-1095 **Each** **274.50**
(32190) (ne32190)

TENMA®

TRANSFORMERS, TEST SYSTEMS AND RF GENERATOR

10A VARIABLE AUTOTRANSFORMER

NEW

Specifications:
- **Input 120VAC, 60Hz**
- **Output 0–130VAC**
- **Current: 10A 1.3KVA**
- **Fuse 10A AGC (Included)**
- **Non Isolated**
- **90 day Warranty.**

Fused design enables user to limit curret by changing fuse value (10A maximum). Three prong grounded cord and socket provide convenience and safety.

66F3591 Type 72-110 **Each** **99.95**
(32185) (ne32185)

10A REGULATED POWER SUPPLY

NEW

Features:
- **Fuse Protected**
- **Easily Accessible Fuse Holder**
- **Neon Indicator**
- **Heavy-duty Binding Posts**
- **Effective Heat Sinks for Better Dissipation**
- **90 Day Warranty**

Specifications:
Output: regulated 13.8VDC. Input: 120VAC. Output current: 10A; 7A continuous.

84N1417 Type 72-290 **Each** **63.95**
(32186) (ne32186)

ISOLATION TRANSFORMER

NEW UL

Features:
- **Fused 150VA Isolated Outlet**
- **Fused 500VA Direct Outlet**
- **Illuminated Power Switch**
- **90 Warranty**
- **UL Listed**

Specifications:
Input 120VAC, 60Hz. Isolated output 120VAC 1.5A maximum; direct output 120VAC 5A maximum. Isolation: less than 0.1mA leakage.

92F5413 Type 72-545 **Each** **49.95**
(32187) (ne32187)

UNIVERSAL TEST SYSTEM

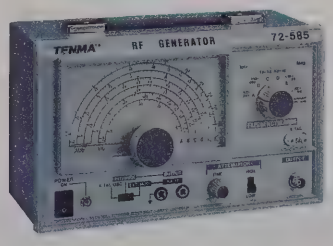
Features:
- **Triple Output Power Supply**
- **Full-function 3¾ Digit with Dual Display and Analog Bargraph**
- **2MHz Sweep Function Generator**
- **1GHz Frequency Counter**
- **1-Year Warranty**

Specifications:
Generator: waveform: sine, square, triangle, skewed line, ramp, pulse, TTL square wave; frequency: 0.2Hz-2MHz in seven ranges; VCF voltage level: 0-10VDC; internal sweep mode: linear, logarithmic. DMM: AC/DC voltage ranges: 400mV-1000V; AC/DC current range: 40mA-20A; resistance: 400ohm-40Mohm; capacitance: 4nF-400µF; Min/max/avg mode; relative offset; memory/memory recall; comparison mode; logic test. Frequency counter: range: 5Hz-1.3GHz; time base: 0.1sec, 1sec, 10sec selectable. Power supply: power supply 1: 0-30VDC variable; 0-2A; supply 2: 5VDC fixed; 2A fixed; power supply 3: 13.8VDC fixed; 3A fixed. Comes complete with DMM test leads and owner's manual. Order **type 72-5085C** with calibration certificate, *contact your local Newark sales office.*

66F3576 Type 72-5085. **Each** **592.92**
(18726) (nec7484)

RF GENERATOR

NEW



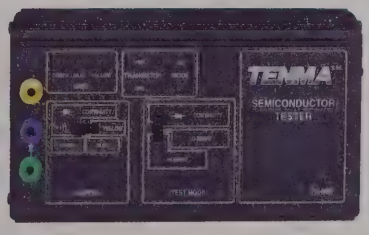
Features:
- **Solid-state Circuitry for High Stability**
- **Wide Frequency Range: 100KHz–450MHz**
- **Built-in 1KHz Oscillator**
- **1-Year Warranty**

Specifications:
Frequency range: (A) 100KHz–300KHz; (B) 300KHz–1000KHz; (C) 1MHz–3.2MHz; (D) 3.0MHz–10MHz; (E) 10MHz–30MHz; (F) 32MHz–150MHz (up to 450MHz on third-harmonics). Frequency accuracy: ±3%. RF output: 100mV RMS, approximately (up to 35MHz). Modulation: internal: 1KHz; external: 50Hz–20KHz, at less than 1V RMS. Power requirements: 110V/220VAC, 50/60Hz. Order **type 72-585C** with calibration certificate, *contact your local Newark sales office.*

66F3578 Type 72-585 **Each** **155.00**
(32188) (ne32188)

SEMICONDUCTOR TESTER

NEW



Features:
- **Auto Base or Gate Identifier**
- **Tests Transistors, FETs, SCRs, and Diodes**
- **Identifies NPN/PNP Transistors, N-channel/P-channel FETs, and Silicon/Germanuim Diodes**
- **Continuity Test: Audio Tone**

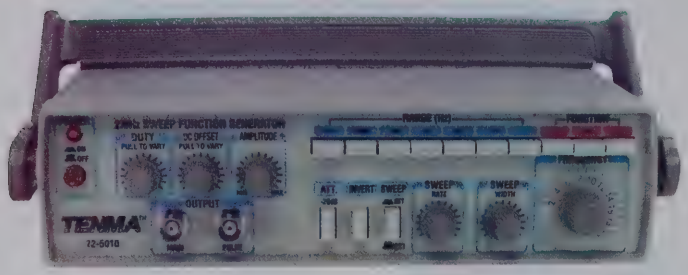
Specifications:
Test cycle: four quadrants. Maximum load: 15ohm. Audio tone: indicates less than 20ohm. AC adaptor supplied, 9V battery not included. 90 day warranty.

52F8014 Type 72-965 **Each** **99.95**
(32189) (ne32189)

TENMA®

FUNCTION GENERATORS AND FREQUENCY COUNTERS

2MHz SWEEP FUNCTION GENERATOR



Features:
- Produces Square, Triangle, Sine and TTL Pulse Sweep Outputs
- Variable DC Offset
- Variable Duty and Amplitude
- Adjustable Easel Stand
- Unique Stackable Case Design
- Internal/external Sweep Selection
- 1-Year Warranty

Specifications:
Input voltage controlled frequency (VCF). Frequency range: 0.2Hz~2MHz in seven ranges. Frequency multiplier: 0.2~2. Sweep Characteristics: Internal: linear; sweep rate: 0.5Hz~50Hz; sine wave distortion: <1% from 10Hz~100KHz; triangle linearity: <1% at 100Hz; square wave time symmetry: <3% at 100Hz; square wave rise and fall time: <100nsec at maximum output into 50ohm load; pulse output rise and fall time: <25nsec (20TTL loads); main output: >20V p-p (open circuit). Order **type 72-5010C** with calibration certificate, *contact your local Newark sales office.*

66F3590 Type 72-5010. **Each** **219.95**
(12440) (ne09885)

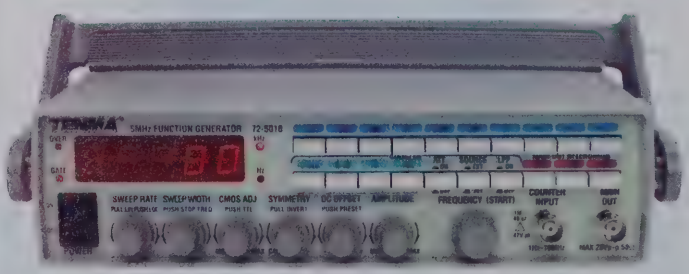
2MHz SWEEP FUNCTION GENERATOR WITH COUNTER

Features:
- Six-digit LED Display
- Built-in Frequency Counter
- Sine, Triangle, Square, TTL, CMOS, Pulse, Ramp and Sweep Outputs
- VCF inpu
- Variable DC Offset
- Switchable Attenuator
- Amplitude Control
- Unique Stackable Case Design
- 1-Year Warranty

Specifications:
Power consumption: 25VC maximum. Frequency ranges: 0.2Hz-2Hz at 1, .2MHz-2MHz at 1M. Sweep Characteristics: Internal: linear, log; sweep rate: continuously variable; main output: two ranges; frequency counter; time base: oscillation frequency 10MHz; gate time: 10 sec, 1 sec, 0.1 sec, 0.01 sec; frequency range: 5Hz-10MHz; maximum input voltage: 42V peak; input impedance: 1Mohm (–20dB). Order **type 72-5015C** with calibration certificate, *contact your local Newark sales office.*

66F3574 Type 72-5015. **Each** **299.95**
(12437) (ne09884)

5MHz SWEEP FUNCTION GENERATOR WITH COUNTER



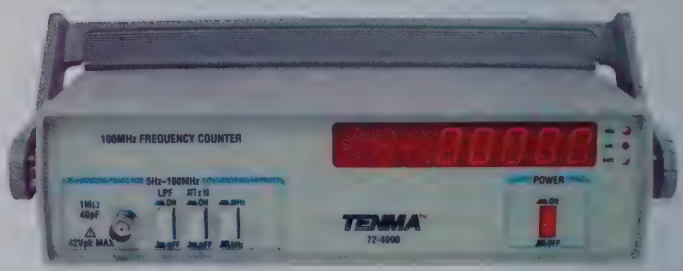
Features:
- Built-in Frequency Counter
- Produces Square, Triangle, Sine, Ramp, TTL, and CMOS Pulse Sweep Outputs
- Input: Voltage Controlled Generator (VCG)
- EXT Frequency Counter
- Frequency Range: 0.3Hz-5MHz in Seven Ranges
- 1-Year Warranty

Specifications:
Function generator power consumption: 25VA maximum. Voltage controlled sweep range: 1000:1. Sweep characteristics: internal: linear, log; sweep rate: 0.2Hz-100Hz continuously variable; sweep width: variable from 1:1 to 1000:1. Square wave amplitude: 5V-15V. Main output amplitude: two ranges: 100mV-10Vp-p, 200mV-20Vp-p open circuit; attentuator: 10dB, 20dB, -40dB; DC offset control variable. Frequency counter: 5 digit counting capacity; gate time: 10 sec, 1 sec, 0.1 sec, 0.01 sec; frequency range: 1Hz-10MHz. Order **type 72-5016C** with callibration certificate, *contact your local Newark sales office.*

52F7513 Type 72-5016. **Each** **349.95**
(12435) (nec7483)

NEW

100MHz FREQUENCY COUNTER



Features:
- Selectable Attenuation
- Low Pass Filter
- Selectable KHz/MHz
- Terminated BNC Type Input Connector
- Gate Indicator Light
- 8 Digit LED Display
- Unique Stackable Case Design
- 1-Year Warranty

Specifications:
Type 72-4090 range: 5Hz - 100MHz, AC coupled. Accuracy: ±1 time base accuracy ±1 count. Resolution: 1Hz @ KHz function, 10 HZ @ MHz function. Gate time: 1 second. Impedance: 1Mohm, shunted 40 pF. Sensitivity: 20mV (5Hz~10MHz @ KHz function), 20mV (5MHz~20MHz @ MHz function). Maximum input: 5Hz~100KHz=125V peak, 100KHz~10MHz=13.8V peak, 10MHz~100MHz=5.4V peak. Attenuator: x1, x120 switchable. Low pass filter: 100KHz nominal - 3dB cut off frequency. Time base characteristics. Type: crystal controlled oscillator. Frequency: 10MHz. Stability: less than ±10ppm, less than±1ppm (line voltage ±10%). Maximum aging rate: ±10ppm/year. Power requirements: 100V, 120V, 220V, 240VAC (±10%), 50/60Hz. Order **type 72-4090C** with calibration certificate, *contact your local Newark sales office.*

66F3587 Type 72-4090 **Each** **189.95**
(32385) (ne32385)

NEW PRODUCTS ARE BEING ADDED TO OUR INVENTORY EVERY DAY.
CALL NEWARK FOR INFORMATION ON WHAT'S CURRENTLY IN STOCK.

TENMA®

NEW

COUNTERS

175MHz UNIVERSAL COUNTER

Features:
- **8-Digit LED Display • Dual Input**
- **2-Position Attenuator (CH-A & B) • Selectable Trigger Slope (CH-A & B)**
- **Adjustable Trigger Level (CH-A) • Low Pass Filter (CH-A)**
- **External Time Base Input • Stackable Case**
- **1-Year Warranty**

Specifications:
Functions: frequency, period, period average, ratio, time interval, totalize, check (self test). Frequency A range: 5Hz~10MHz in KHz mode, 5MHz~175MHz in MHZ mode. Display: KHz or MHz with decimal point. Period A range: 0.5µsec~200,000µsec. Frequency range: 5Hz~2MHz sinewave. Resolution: 100psec~100nsec sinewave. Display: msec or µsec with decimal point. Minumum pulse width: 250nsec. Average 1, 10, 100, or 1000 cycles averaged. Ratio A/B. Range A: 5Hz~10MHz. Range B: 5Hz~2MHz. Time interval A to B range: 0.5µsec~200,000µsec. Frequency range: 5Hz~2MHz. Display: msec or µsec with decimal point. Average: 1, 10, 100, or 1000 intervals cycles averaged. Single event capability. Totalize A range: 5Hz~10MHz. Check (self test). Channel A input characteristics: bandwidth: 5Hz~175MHz, Ac coupled; sensitivity: at KHz mode 5Hz~10MHz, 20mV RMS, at MHz mode 5MHz~125MHz, 50mV RMS. 125MHz~150MHz, 100mV RMS, 150MHz~175MHz, 150mV RMS. Attenuator: x1, x10 switchable. Slope: ± switchable. Trigger level: preset or variable. LP filter: 10KHz. Max. input 42V peak. Channel B input characteristics: bandwidth: 5Hz~2MHz, AC coupled; sensitivity: 30mV RMS; impedance: 1Mohm,≤40pF; attenuator: x1, x10 switchable; slope: ± switchable; max. input: 42V peak; loading: 1 standard TTL gate; max. aging rate: ±10ppm/yr. Power requirements: 100V, 120V, 220V or 240VAC (±10%) selectable, 50/60Hz. Comes complete with owner's manual and power cord. Order **type 72-4095c** with calibration certificate, *contact your local Newark sales office.*

66F3588 Type 72-4095 **Each** **299.95**
(32181) (ne32181)

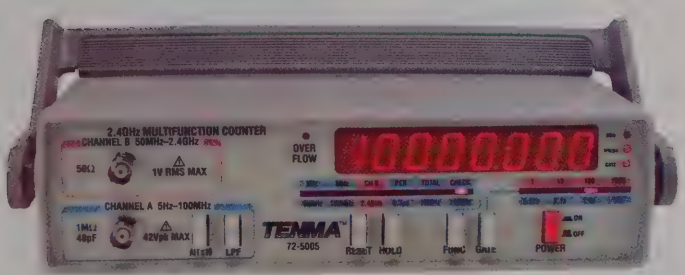
1.3GHz HAND-HELD COUNTER

Features:
- **5Hz to 1300MHz Frequency Range**
- **High Sensitivity at All Frequencies**
- **Large 8-Digit LCD Display with Full Range of Annunciators**
- **Frequency and Period Measurement, 0.0001MHz Resolution**
- **Reciprocal Counting Technique for Superior Accuracy**
- **Push-to-Measure Function with Auto Power-Down**
- **Selectable Low Pass Filter**
- **Hold Function**
- **1-Year Warranty**

Specifications:
Frequency: range 5Hz~25MHz (channel A), 20MHz~1.3GHz (channel B); resolution: 10-7Hz~10Hz (channel A), 1Hz~1KHZ (channel B); accuracy: ±(1digit + timebase error). Period: range: 5Hz~25MHz; resolution: 10-7nsec~1µsec; accuracy: ±(1digit + timebase error). Input: impedance: 1Mohm/25pF (channel A), 50ohm nominal (channel B). Sensitivity: 15mVRMS 10Hz~20MHz (channel A), 10mVRMS 20 MHz~700MHz, 50mVRMS to 1.3GHz (channel B). Maximum voltage: 200VDC; 250VRMS 50Hz~400Hz reducing to 1 VRMS above 1MHz (channel A), 250VDC; 250VRMS 50Hz~400Hz, 1VRMS 20MHz~1.3GHz (channel B). 9V battery not included. Order **type 72-6605C** with calibration certificate, *contact your local Newark sales office.*

84N2131 Type 72-6605 **Each** **195.00**
(32184) (ne32184)

2.4GHz MULTIFUNCTION COUNTER

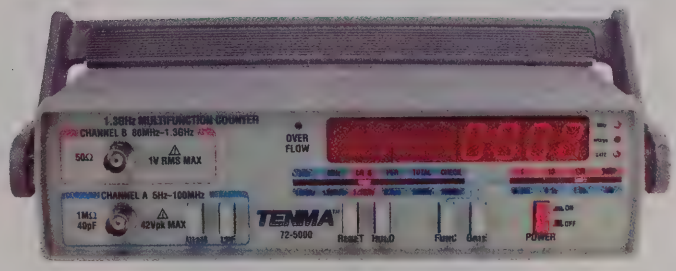


Features:
- **8 Digit LED Display • 2.4GHz Bandwidth**
- **Selectable Gate Times • Hold/Reset Function**
- **Switchable Attenuation • Low Pass Filter**
- **Period Average • Totalize • Self-test Mode**
- **Remote Start/Stop • Unique Stackable Case Design**
- **1-Year Warranty**

Specifications:
Channel A: 5Hz~100MHz sinewave, MHz mode; channel B: 50MHz~2.4GHz sinewave. Resolution: 0.1Hz~100Hz, KHz mode. Channel A: 1Hz~1000Hz, MHz mode; channel B: 10Hz~10KHz. Period characteristics: range 0.285µsec~200,000µsec; frequency range: 5Hz~3.5MHz sine wave; resolution: 100psec~100nsec; selectable in four decade steps. Totalize characteristics: range: 5Hz~10MHz sine wave; capacity: 0~99,999,999 plus overflow. LED Channel A input characteristics: 5Hz~100MHz input; sinewave: 20mV RMS, 5Hz~30MHz; attenuator: x1/x10, switch selectable; filter: low pass filter; impedance: 50ohm; sinewave: 10mV RMS, 50MHz~600MHz; sensitivity: 25mV RMS, 600MHz~1.3GHz, 50mV RMS, 1.3GHz~2.4GHz. Totalize start/stop input: logic levels: standard TTL levels; loading: One standard TTL gate; maximum input: 5VDC peak. Time base characteristics: type: crystal-controlled oscillator; frequency: 10MHz. Power requirements: 100V, 120V, 220V, 240VAC (±10%), 50/60Hz; 12W. Comes complete with owner's manual and power cord. Order **type 72-5005c** with calibration certificate, *contact your local Newark sales office.*

66F3589 Type 72-5005 **Each** **400.00**
(32183) (ne32183)

1.3GHz MULTIFUNCTION COUNTER



Features:
- **8-Digit LED Display • 1.3GHz Bandwidth**
- **Selectable Gate Times • Hold/Reset Function**
- **Switchable Attenuation • Low Pass Filter**
- **Period Average • Totalize**
- **Self Test Mode • Stackable Case Design**
- **1-Year Warranty**

Specifications:
Functions: frequency, 1.3GHz frequency prescaler. Channel A: 5Hz~100MHz sinewave MHz mode. Channel B: 80MHz~1.3GHz sinewave. Resolution:.1Hz~100Hz KHz mode. Channel A: 1Hz~1000Hz MHz mode. Channel B: 10Hz~10KHz. Gate time: 10sec, 1sec, 0.1sec, 0.01 sec. Range: 0.285µsec~200,000µsec. Frequency range: 5Hz~3.5MHz sinewave. Resolution: 100psec~100nsec. Gate (CH-A): 0.01sec, 0.1sec, 1sec, 10sec. Totalize characteristics: range: 5Hz~10Mhz sinewave; capacity: 0~99,999,999 plus overflow LED; control: manual reset. Prescale input characteristics: impedance: 50ohm; coupling: AC; sinewave 10mV RMS, 80MHz~600MHz. Totalize start/stop input: logic levels: standard TTL levels; loading: 1 standard TTL gate. Time base characteristics: type: crystal-controlled oscillator; frequency: 10MHz; stability: less than ±10ppm; max. aging rate: ±1ppm/yr. Time base characteristics: frequency: 10MHz; max. aging rate: ±1ppm/yr.; overflow indication; reset and hold switches. Power requirements: 100V, 120V, 220V, 240VAC (±10%), 50/60Hz, 12W. Comes complete with owner's manual and power cord. Order **type 72-5000C** with calibration certificate, *contact your local Newark sales office.*

52F7961 Type 72-5000 **Each** **349.95**
(32182) (ne32182)

TENMA®

CLAMP-ON METERS AND ADAPTERS

AC CLAMP-ON METER

NEW CE

Features:
- 3½-Digit
- 2000 Count LCD Display
- ACV, ACA, Ohms, and Audible Continuity
- Data Hold
- Overload Protection
- 1-Year Warranty

Specifications:
AC current range: 200A, 300A; accuracy: 1.0%. AC voltage range: 200V, 750V; accuracy: 1.0% Resistance range: 2000ohm; resolution: 1ohm; accuracy 1.0%. Jaw size: 28mm. Comes complete with test leads, carrying case, and owners manual. 9V battery not included.

84N2126 Type 72-6545 **Each** **59.95**
(32180) (ne32180)

AC/DC CURRENT CLAMP ADAPTER

Features:
- Connects to DMMs with 10Mohm Input Impedance
- Accommodates Conductors up to 1.18″(30mm)
- Zero Adjustment
- Power-On and Battery-Low LED Indicators
- 1-Year Warranty

Specifications:
Current Range (AC/DC): 0-600A. Load resistance: 10kohm typical. Rate output (AC/DC): 0-600mV for 0-600A. Frequency response: Up to 400Hz. Battery life is 100 hours typical with carbon-zinc.

52F7508 Type 72-6174. **Each** **49.95**
(6521) (nec7479)

HEAVY-DUTY AC/DC CLAMP-ON METER

Features:
- 3¾-digit LCD
- 40-segment Bargraph
- Over Range Indication
- Low Battery Indication
- Auto Power "Off"
- 1-Year Warranty

Specifications:
AC current range: 400A, 1000A. DC voltage range: 400mV, 4V, 40V, 400V, 1000V; input impedance: 10Mohm. AC voltage range: 4V, 40V, 400V, 750V; input impedance: 10Mohm. Response time: 3 sec. Frequency range (autorange for voltage): 100Hz, 1kHz, 10kHz, 100kHz, 800kHz. Frequency range (autorange for current): 100Hz-1kHz. Resistance range: 400ohm, 4kohm, 40kohm, 400kohm, 4Mohm, 40Mohm. Audible continuity beeper: ≤40ohm • ≤0.5V open circuit voltage. Diode test: 3V maximum open circuit voltage. Jaw opening: 46mm. Comes with carrying case, test leads, and manual. Order **type 72-6130C** with calibration certificate, *contact you local Newark sales office*

52F7504 Type 72-6130. **Each** **99.00**
(6519) (nec7477)

RUGGED MINI AC/DC CLAMP-ON METER

Features:
- 3¾-Digit LCD
- Analog bargraph
- Zero/relative mode
- Min/max
- Data hold
- AC/DC current
- Frequency
- Resistance
- Continuity
- 1-Year Limited Warranty

Specifications:
DC current ranges: 40A, 0-150A, 150-200A; AC current ranges: 40A, 0-150A, 150-200A. DC voltage: 400V. Resolution: 0.1V. AC voltage: 400V. Resolution: 0.1V. Resistance: 40ohm-400ohm. Continuity upon voltage: 0.4V. Maximum conductor size: 23mm. Power: 2 AA batteries (not included). Comes with carrying case, test leads, and manual. Order **type 72-6184C** with calibration certificate, *contact your local Newark sales office.*

52F7510 Type 72-6184. **Each** **139.95**
(6522) (nec7480)

HEAVY-DUTY MINI TRMS AC/DC CLAMP-ON METER

Features:
- TRMS
- AC/DC current
- Frequency
- Min/max
- Auto Zero
- Display Hold
- Overload Protection
- 3¾-Digit LCD with Bargraph
- Crest factor
- 1-Year Warranty

Specifications:
DC current range: 40A, 400A (0-150A), 400A (150-200A), 400A (200-400A); AC current (true rms, crest factor) range: 4A (0-500mA), 4A (500mA-4A), 40A, 100A (0-100A), 400A (100-200A), 400A (200-400A). Frequency range: 100-1000kHz. Conductor size: approximately 23mm maximum. Sampling rate: 2 times/sec (display), 20 times/sec (bargraph). Power: 2 AA batteries (not included). Comes with carrying case, test leads, and manual. Order **type 72-6185C** with calibration certificate, *contact your local Newark sales office.*

52F7511 Type 72-6185. **Each** **179.95**
(6523) (nec7481)

HEAVY-DUTY AC/DC TRMS CLAMP-ON METER

Features:
- 3¾-Digit LCD
- Analog Bargraph
- Resistance up to 40Mohm
- Audible Continuity
- DiodeTest
- Peak Hold
- Auto Power "Off"
- 1-Year Warranty

Specifications:
DC current (autorange and manual) range: 400A, 1000A; AC current (autorange and manual) range: 400A, 1000A. DC voltage (autorange and manual) range: 400mV, 4V, 40V, 400V, 1000V; AC voltage (autorange and manual) range: 4V, 40V, 400V, 750V. Frequency (autorange for voltage): 100Hz-800kHz; frequency (autorange for current): 100Hz, 1kHz. Resistance (autorange and manual) range: 400ohm, 4kohm, 40kohm, 400kohm, 4Mohm, 40Mohm. Audible continuity. Continuity beeper: ≤40ohm. Diode test: 3V maximum open circuit voltage. Peak hold AC voltage (manual range): 4V-750V; AC current (manual range): 400A, 1000A. Resolution: 0.1A, 1A. Jaw opening: 46mm. Power: one 9V battery (not included). Battery life: 100 hours. Comes with carrying case, test leads, and manual. Order **type 72-6131C** with calibration certificate, *contact your local Newark sales office.*

52F7503 Type 72-6131. **Each** **179.00**
(6520) (nec7478)

CALL NEWARK FOR FAST, DEPENDABLE SERVICE.

TENMA®

DIGITAL MULTIMETERS AND ACCESSORIES

TRUE RMS BENCHTOP DIGITAL MULTIMETER

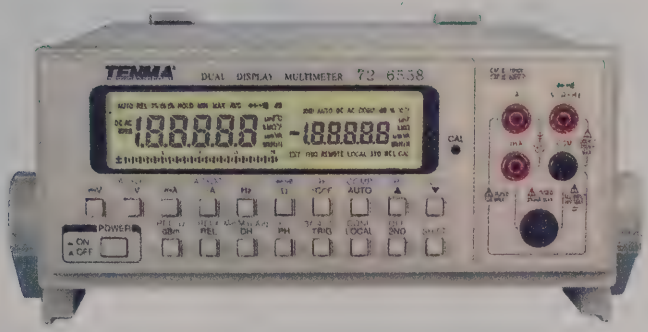
Features:
- 4½-digit
- 20,000-count
- TRMS audible continuity
- Frequency
- AC/DC current
- AC/DC voltage
- Resistance
- Transistor check
- Zero adjust
- Data hold

Specifications:
DC voltage: 200mV; AC voltage: 200mV, 750V. DC current: 2mA, 10A; AC current: 2mA, 2000mA, 10A. Resistance: 200ohm, 20Mohm. Frequency: 20KHz, 200KHz. HFE: base current: 3.5µA, VCE: 4.5V approx. Diode: test voltage: 4.5V approx., maximum test current: 1mA. Continuity: threshold: 200ohm or less. General power requirements: 115/230VAC; 50/60Hz. Comes complete with test leads and owner's manual. Order **type 72-410AC** with calibration certificate, *contact your local Newark sales office.*

91F2942 (12951) Type 72-410A. **Each** **249.00** (ne10251)

MULTI-DISPLAY BENCHTOP DIGITAL MULTIMETER

NEW CE



Features:
- Select 200,000/20,000/2,000 Counts
- True RMS (AC, AC+DC)
- RS-232 Interface
- Frequency Measurement Up to 1MHz
- Resistance Measurement Up to 200Mohm
- Capacitance Up to 200µF
- Temperature Measuring Range: –50°C to +1372°C
- Diode and Continuity Tests
- Direct dBm Readout
- Selectable Measurement Rate (80/sec. max.)
- 3-Year Warranty

Specifications:
Basic DCV accuracy: 0 .01%. Voltage ranges: DC (200mV to 1000V); AC (200mV to 750V). Current ranges: AC/DC (20mA to 10A). Measurement bandwidth: VAC (20Hz to 100kHz); IAC (20Hz to 10kHz). Meets CATIII 600V, CATII 1000V, IEC 1010. Comes complete with power cord, test leads, power fuse, protective fuse, and thermocouple probe/adapter. Power requirement: 110/120/220/240VAC, 50/60Hz. Order **type 72-6558C** with calibration certificate, *contact your local Newark sales office.*

84N1418 Type 72-6558. **Each** **579.00**
84N2122 (28364) Type 72-6559 IEEE-488 GPIB Interface Card **Each** **99.95** (ne28364)

DIGITAL MULTIMETERS

CE

Type 72-6203

Type 72-6202

Common Features:
- Full Isolation Optical RS-232 Communication (72-6251 Required)
- Primary Display 4,000 Count, Secondary 40,000 Count
- Capacitance Up to 9999µF
- dBM Measurement (20 Selectable Impedances)
- 1ms Peak Hold to Capture Glitch
- 3-Year Warranty

Type 72-6202 Exclusive Features:
- True RMS (AC or AC+DC) for Voltage and Current
- Frequency Counter (Up to 10MHz)
- Temperature measurement (–40°C to +1372°C) (72-6252, 72-6253 Required)
- Square Wave Output with Adjustable Duty Cycle
- Pulse Width Range (.1ms to 2000ms)
- Backlit Display

Specifications:
Basic DCV accuracy: 0 .06%. Voltage ranges: DC (40mV to 1000V); AC (40mv to 750V). Current ranges: AC/DC (400µA to 10A). Resistance ranges: 400ohm to 40Mohm. CAT III-600V, CAT II-1000V, IEC 1010-1. **Type 72-6202** exclusive specifications: conductance: 40ns/1000Gohm. Both come complete with 9V battery, test leads, holster, and manual. Order **type 72-6202C** and **72-6203C** with calibration certificate, *contact your local Newark sales office.*

16F9041 Type 72-6203. **Each** **179.00**
16F9040 Type 72-6202. **Each** **229.00**

K-TYPE MULTIMETER ACCESSORIES

84N2124 Type 72-6252 Transition Plug **Each** **9.95**
84N2125 Type 72-6253 Thermocouple **Each** **9.95**

COMMUNICATION PACKAGE

Package includes software (3.5" diskette) and RS-232 interface cable for use with Tenma **types 72-6202** and **72-6203** multimeters.

84N1410 (6562) Type 72-6251 **Each** **19.95** (nec9107)

HIGH TECH DMMs

CE

72-2035A

72-2040A

Features:
- 0.1 DCV Accuracy
- Capacitance
- Frequency
- Audible Continuity
- Min/Max/Avg
- 5000-Count
- Logic Test
- TRMS (Type 72-2040A only)
- dBm (Type 72-2040A only)
- Selectable Reference Impedance (Type 72-2040A only)
- 1-Year Warranty

Specifications:
Capacitance: 5nF-50mF. Frequency: 0-10MHz. AC/DC Current: 5000µA-10A. AC Voltage: 500mV-750V. DC Voltage: 500mV-1000V. Resistance up to 50mohm. Made for industrial applications. Order **types 72-2035AC** and **72-2040AC** with calibration certificate, *contact your local Newark sales office.*

84N1411 Type72-2035A. **Each** **129.00**
84N1412 (5404) Type72-2040A. **Each** **149.00** (ne08864)

TENMA®

DIGITAL MULTIMETERS

FULL-FUNCTION DMM WITH TEMPERATURE FUNCTION

NEW

Features:
- 3½ Digit LCD Display
- Three Phase Indicator
- Temperature
- Logic Test
- Frequency
- Capacitance
- Resistance
- AC/DC Voltage
- Diode Check
- 1-Year Warranty

Specifications:
AC/DC voltage: 200mV~600V. Resistance range: 200ohm~2000Mohm. Capacitance ranges: 20µF, 200µF, 2000µF, and 20mF; test frequency: 400Hz. Diode test: test current: 0.8mA±0.3mA; continuity: audible continuity less than 100ohm. Frequency (autoranging): range: 200Hz. Logic test: threshold: logic high (2.8±0.8V), logic low (0.8±0.5V). Indication: 40msec beep at logic low. Measurement rate: 2.5x per second. Comes complete with holster, test leads, and manual. 9V battery not included.

92F6213 Type 72-4030 **Each** **79.95**
(32178) (ne32178)

AUTORANGING TRUE RMS DMM

NEW CE

Features:
- 3½, 3200 Count LCD Display
- 34 Segment Bar Graph
- Automatic Polarity Indicator
- Over Range Indicator
- Auto/manual Range Selection
- Measuring Rate: 2 per second
- Diode Test
- Continuity Beeper
- Fused mA and A Overload Protection
- Meets IEC-1010 for 600V CAT III
- 1-Year Warranty

Specifications:
DC voltage: 600V maximum, 100µV resolution; AC voltage: 600V maximum, 1mV resolution. AC/DC current: 10A maximum, 0.1µV resolution. Resistance: 30Mohm maximum, 0.1ohm resolution. Comes complete with protective rubber holster with stand, test leads, and owner's manual. 9V battery not included.

84N2128 Type 72-6551 **Each** **79.95**
(32174) (ne32174)

AUTORANGING 3200-COUNT DMM

NEW

Features:
- 3½ Digit, 3200 Count Display
- Analog Bar Graph
- Diode Test
- Audible Continuity Check
- Data Hold
- Fuse Protected mA and 10A Inputs
- Meets IEC-1000 for 600V CAT III and 1000V CAT II
- 1-Year Warranty

Specifications:
DC voltage: 1000V maximum; 0.5% accuracy. AC voltage: 750V maximum. AC/DC current: 10A maximum. Resistance: 32Mohm maximum. Comes complete with protective rubber holster, test leads, and owner's manual. 9V battery not included.

84N1413 Type 72-6542 **Each** **79.95**
(32177) (ne32177)

AUTORANGING DIGITAL MULTIMETER

Features:
- 3½Digit LCD, 3200-count
- 34 Segment Bar Graph
- Auto Power Off
- Diode and Continuity Tests
- 1-Year Warranty

Specifications:
AC voltage ranges: 3.2 to 600V (1mV Resolution). DC voltage ranges: 320mV to 600V (100µV Resolution). AC/DC current ranges: 320µA, 3200µA, 32mA, 10A (0.1µA Resolution). Resistance ranges: 320 ohm, 3.2kohm, 32kohm, 3.2Mohm, 32Mohm (overload protection 500VDC). Measurement rate: 2x per Second. Comes complete with holster, manual, and test leads. 9V battery not included.

92F5407 Type 72-2050 **Each** **59.95**
(28366) (ne28366)

AUTOMOTIVE DMM

NEW

Features:
- 3½ Digit Display
- Switch Selectable for 4, 5, 6, and 8 Cylinder Engines
- Overload Protection
- Automatic Zero Adjust
- 1-Year Warranty

Specifications:
Tachometer: 10,000 RPM maximum, 10 RPM resolution. Dwell: 0.1° resolution. DC voltage: 200V maximum, 0.5% accuracy; AC voltage: 750V maximum. Resistance: 20Mohm maximum, 0.1ohm resolution. Diode check: displays approximate forward drop of diode. Comes complete with test leads and owners manual. 9V battery not included.

84N1415 Type 72-6544. **Each** **34.95**
(32176) (ne32176)

MANUAL RANGING DMM

NEW

Features:
- 3½ Digit LCD Display
- Over Range Indication
- Low Battery Indicator
- Transistor Test
- Battery Test
- 1-Year Warranty

Specifications:
AC voltage ranges: 200V, 500V. DC voltage ranges: 2V, 20V, 200V, 600V. DC current range: 2A, resolution: 1mA. Resistance ranges: 200ohm, 2Kohm, 20Kohm, 200Kohm, and 2000Kohm. Diode test current: 1.0mA. Transistor test: hFE: 0~1000hFE; VCE: 3.0VDC. Battery test: ranges: 1.5V, 9V; loaded current: 150mA (1.5V), 6mA (9V). Measurement rate: 2.5x per second. Comes complete with holster, test leads, and owner's manual. 9V battery not included.

92F5408 Type 72-2055 **Each** **34.95**
(32175) (ne32175)

TENMA®

DMMs, SOUND METERS AND THERMOMETERS

COMPACT DMM

NEW

Features:
- 3.5″ Digit LCD Display
- 1 Mohm Input Impedance
- 20A Scale
- Overload Protection
- Diode Test
- 1-Year Warranty

Specifications:
AC voltage ranges: 200V and 750V with an accuracy of ± 0.7%. DC voltage ranges: 200mV, 2V, 1000V. DC current ranges: 200µA, 2mA, 20mA, 200mA, and 2000mA with an accuracy of ± 1.2%. Resistance ranges: 200ohm, 2Kohm, 20Kohm, 200Kohm, and 2000Kohm with an accuracy of ± 1%. DC 20A resolution: 10mA with accuracy of ± 1.5%. Comes complete with test leads and owner's manual. 9V battery not included.

52F7976 Type 72-5095 **Each** **19.95**
(32170) (ne32170)

POCKET DMM WITH BARGRAPH

Features:
- 3½″ Digit LCD with Bargraph
- 3200-coun
- Over Range Indicator
- Auto Power Off
- Low Battery Indicator
- 450VDC/AC RMS Overload Protection
- 90-day warranty

Specifications:
Pocket DMM has a DC voltage range of 300mV-450V and an AC voltage range of 3V-450V. Resistance range is 300ohm-30Mohm. Continuity range is 300ohm. 0.6mA approximate diode test current.

66F1961 Type 72-4040. **Each**..... **22.95**
(5427) (nec7470)

PEN DMM WITH LOGIC FUNCTION

NEW CE

- 3¾-Digit, 3999-Count LCD Display
- Autoranging with Auto Polarity
- Auto Power-Off
- Data Hold
- TTL Logic Test
- AC/DC Voltage and Current Measurement
- Resistance with Continuity Beeper
- Fuse Protected Current
- Meets IEC-1010 Safety Standards 600V CAT II Applications
- 1-Year Warranty

Specifications:
AC/DC voltage: 600V max., 1mV resolution. AC/DC current: 400mA max., 1µA resolution. Resistance: 40MΩ max, 100mΩ resolution. Logic test: HI/LO LCD indicator. Continuity test: buzzer below 50Ω. **Type 72-6620** is used for troubleshooting complex circuits. Comes complete with 9V battery, ground lead, alligator clip, probe tip covers, and manual.

66F3571 Type 72-6620. **Each**..... **39.95**
(5392) (ne08128)

EXTENDED RANGE CAPACITANCE METER

NEW

Features:
- Measures Capacitance from 0.1pF ~ 2mF
- In-Circuit and Out-of-Circuit Measurements
- Crystal Oscillator Time Base
- Fuse Protected
- Low-Battery Indicator
- Zero Adjust
- 1-Year Warranty

Specifications:
Ranges: 200pF, 2nf, 20nF, 200nF, 2µF, 20µF, 200µF, 2mF, 20mF with accuracy of ≤20µF±0.5%, 200µF±1%, 2mF±2%. Measurement Rate: 2.5 per second. Comes complete with test leads, carrying case, and owner's manual. 9V battery not included.

66F3569 Type 72-040. **Each**..... **69.95**
(29485) (ne29485)

DIGITAL SOUND LEVEL METER

CE

Features:
- IEC 651 Type 2
- A and C Frequency Weightings
- 0.1dB Resolution
- Maximum Hold
- Internal Oscillation System (1kHz/Sine/94dB)
- AC/DC Signal Output
- Response Time Selector: Fast (Instantaneous)/ Slow (Averaging)
- 3½ Digit LCD Display
- 1-Year Warranty

Specifications:
Sound level ranges: low (30-100dB), high (65-135dB). Frequency range: 30Hz-12kHz. Accuracy: ±2dB @ 94dB. Dynamic range: 70dB. Microphone: ½″ electret condenser. Comes complete with instruction manual, carrying case, and screwdriver. 9V battery not included. Order **Type 72-860C** with callibration certificate; *contact your local Newark sales office.*

92F5411 Type 72-860. **Each**..... **169.00**
(29693) (ne29693)

SINGLE AND DUAL INPUT DIGITAL THERMOMETER

72-2060 72-2065

Common Features:
- 3½ Digit LCD Display
- Select °C or °F (Annunciators Displayed)
- K-Type Thermocouple (4′ Bead Probe Included)
- Reading Hold
- Maximum Record

Type 72-2065 Exclusive Features:
- Dual Thermocouple Input
- Differential Temperature T1, T2
- 2 K-Type Thermocouples
- 1-Year Warranty

Specifications:
Digital thermometers have a temperature measuring range of –50°C to +1300°C. Resolution is 1°C or 1°F. 2.5 readings per second. Comes complete with holster and manual. 9V battery not included.

92F5409 Type 72-2060. Single Input **Each**..... **79.95**
92F5410 Type 72-2065. Dual Input **Each**..... **89.95**

K-TYPE THERMOCOUPLE

84N2123 Type 72-2061 **Each** **9.95**
(28367) (ne28367)

ALL PRODUCTS LISTED ARE STOCKED

TENMA®

TEST LEADS AND OSCILLOSCOPE PROBES

GENERAL PURPOSE DMM KITS

76-103

76-104

Features:
- Rated to EN61010-2-031
- 1000V CAT III P2; 12A (Probes, Leads and Alligator Clips)
- 500V CAT I P2; 3A (Sprung Hooks)
- Flexible Silicone Jacketed 60″ leads with safety sheath plugs

Probes, leads, alligator clips, and sprung hooks come 1 red, 1 black.

84N2145 TypeFG76-103. **Each** **39.99**
84N2146 Type 76-104. **Each**..... **39.99**
(5924) (ne03107)

BASIC AND DELUXE TEST ACCESSORY KITS

76-082

Type 76-081 includes smooth body probes with replaceable tips: 4mm spring contact with IC tip protector and 0.080″ (2mm), in black and red. Also includes: safety pincer clips, in black and red; IEC leads, 4mm sheathed straight to right-angle plugs, PVC wire, 1m, in black and red. **Type 76-082** contains with everything in **76-081** but also includes fully-insulated IEC alligator clips, in black and red; insulated banana plug adapters in black and red: insulated spade lug adapters, in black and red; and spring-loaded tip probes, in black and red. Each kit comes with a plastic case.

Stock No.	Type	Description	Each
16F7740	76-081	Basic Test Accessory Kit	27.00
16F7741	76-082	Deluxe Test Accessory Kit	53.00

(5968) (ne08856)

250MHz OSCILLOSCOPE PROBES

- EN61010-2-031 CAT I (IEC1010)
- 600V (AC+DC Peak)
- Low Noise, Improved Compensation
- 1.2m Cable Length
- 10-35 pF Compensation Adjustment
- Accessory Kit and Storage Pouch Included
- Type 76-107 Includes Readout Actuator Pin

Switchable and fixed attenuation passive oscilloscope probes-250MHz range. **Type 76-106**: 250 MHz -3dB, x10 position, 10MΩ impedance (1MΩ scope input), 14pF capacitance, less than 1.4ns risetime. 10MHz @ -3 dB, x1 position, 1MΩ impedance (scope input), 90pF capacitance, 35ns risetime. REF position, tip disconnected and scope input grounded. **Type 76-107**: 250MHz @ -3dB, x10 fixed, 10MΩ impedance (1MΩ scope input), 14pF capacitance, less than 1.4ns rise time. Readout actuator pin on BNC connector. Probes for 60, 100, and 200MHz are located in the oscilloscope section.

84N2148 Type 76-106. **Each**..... **69.99**
84N2149 Type 76-107. **Each**..... **59.99**

REPLACEMENT SPRUNG HOOK

84N2152 Type 76-110. **Each**..... **4.99**
(5922) (ne03105)

TEST CLIP LEAD KIT

Set comprised of 8 patch cords: 2 black, 2 red, 1 green, 1 yellow, 1 blue and 1 white. Every patch cord has miniature hook clips on each end of 50cm long, PVC wire. 2A max. **Sold in sets of 8 cords.**

Stock No.	Type	Description	Each
16F7676	76-004	Test Clip Lead Kit	22.95

(5955) (ne08749)

RIGHT-ANGLE TEST LEAD KIT

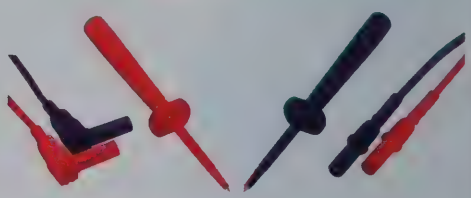
- 1000V CAT III P2; 12A (Probe Leads)
- 500V CAT I; 3A (Sprung Hooks)

Kit includes 1 red, 1 black 60″ silicone jacketed lead with sheathed right-angle DMM plugs and 4mm banana plug contact tip. Also includes 1 red, 1 black sprung hook probe adapter for improved testing.

84N2133 Type 76-091. **Each**..... **19.99**
(5925) (ne03108)

NEW PRODUCTS ARE CONTINUALLY ADDED.
CALL NEWARK FOR CURRENT SELECTION.

SURFACE MOUNT TEST LEAD SET



- 1000V CAT III P2; 36A
- Extra Sharp Stainless Steel Tips for Small Surface Mount Components
- IEC Compliant

Set includes: 1 red, 1 black test probe body, 1 red, 1 black 60″ silicone jacketed lead with 4mm sheathed, straight to right-angle plugs.

84N2132 Type 76-090. **Each**..... **19.99**
(32173) (ne32173)

CAN'T LOCATE A PARTICULAR PRODUCT?
NEWARK STOCKS THOUSANDS OF ITEMS NOT LISTED IN THIS CATALOG. CALL US TODAY!

TENMA®

TEST EQUIPMENT ACCESSORIES

PLUG-TO-JACK TEST LEAD

- **Rated for 750V; 12 Amps**
- **Resistance < 15 milliohms**

Stock No.	Type	Length	Color	Each
84N2140	76-098	9.84″	Black	**3.29**
84N2141	76-099	9.84″	Red	**3.29**
84N2142	76-100	19.68″	Black	**3.49**
84N2143	76-101	19.68″	Red	**3.49**
84N2155	76-116	39.37″	Black	**3.99**
84N2156	76-118	39.37″	Red	**3.99**

4mm in-line banana plug to banana jack patchcord. Flexible PVC jacketed wire. Nickel plated contacts.
(19631) (ne10858)

PLUG-TO-PLUG TEST LEADS

- **Rated for 750V; 12 Amps**
- **Resistance < 15milliohms**

4mm in-line banana plug patch cord. Flexible PVC jacketed wire. Nickel plated contacts.

Stock No.	Type	Length	Color	Each
84N2136	76-094	9.84″	Black	**2.79**
84N2137	76-095	9.84″	Red	**2.79**
84N2138	76-096	19.68″	Black	**2.99**
84N2139	76-097	19.68″	Red	**2.99**
84N2153	76-112	39.37″	Black	**3.29**
84N2154	76-114	39.37″	Red	**3.29**

(19632) (ne10859)

RETRACTABLE STACKING PLUG-TO-PLUG TEST LEADS

- **Rated for 750V; 12A**
- **Resistance is less than 15mohms**

4mm stacking banana plugs with clear retractable safety sheath. Flexible PVC jacketed wire. Nickel plated contacts.

Stock No.	Type	Length	Color	Each
84N2134	76-092	19.68″	Black	**4.99**
84N2135	76-093	19.68″	Red	**4.99**
84N2157	76-120	39.37″	Black	**5.99**
84N2158	76-122	39.37″	Red	**5.99**

(19633) (ne10860)

SILICONE PATCH CORDS

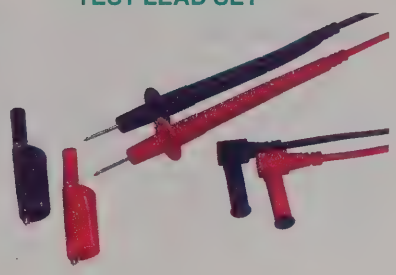
76-008

4mm stacking banana plugs on each end of highly flexible silicone-jacketed wire.

Stock No.	Type	Length	Color	Each
16F7680	76-008	40″	Red	**4.95**
16F7681	76-009	40″	Black	**4.95**
16F7682	76-010	60″	Red	**5.95**
16F7683	76-011	60″	Black	**5.95**

(5958) (ne08752)

TEST LEAD SET



- **1000V CAT II P2, 10A**
- **600V CAT III P2, 10A**

Flexible PVC jacketed wire measures 40″ long (1-black, 1-red). Right-angle sheathed DMM plugs and 0.080″ (2mm) diameter contact tips. Includes alligator clips.
84N2150 Type 76-108. **Each** **5.99**
(32172) (ne32172)

STRAIGHT TO RIGHT-ANGLE AND RIGHT-ANGLE PLUGS

76-018

76-022

Sheathed 4mm plugs with insulated tips on highly-flexible, silicone-jacketed wire. Lead to IEC1010 specifications, 1000V CAT III P2; 12 Amps.

STRAIGHT TO RIGHT-ANGLE

Stock No.	Type	Length	Color	Each
16F7689	76-018	40″	Red	**5.95**
16F7690	76-019	40″	Black	**5.95**
16F7691	76-020	60″	Red	**6.95**
16F7692	76-021	60″	Black	**6.95**

RIGHT-ANGLE

16F7693	76-022	40″	Red	**5.95**
16F7694	76-023	40″	Black	**5.95**
16F7695	76-024	60″	Red	**6.95**
16F7696	76-025	60″	Black	**6.95**

(5951) (ne08741)

MALE BNC ADAPTER-TO-BINDING POSTS

- **Rated for 500V, 3A**

BNC male connector to 4mm binding posts.
16F7677 Type 76-005 **Each** **6.95**
(32171) (ne32171)

TEST PROBE BODIES & SPRUNG HOOKS

76-030

76-032

Types 76-030 and **76-031** are extended-length probe bodies with sharp stainless-steel tips. Sheathed 4mm banana jack in handles (1000V CAT III P2; 20 Amps). **Types 76-032** and **76-033** are sprung attachments for probes with 4mm spring tips. 4mm hook opening (500V CAT I; 3 Amps).

Stock No.	Type	Color	Each
16F7701	76-030	Red	**4.95**
16F7702	76-031	Black	**4.95**
16F7703	76-032	Red	**5.95**
16F7704	76-033	Black	**5.95**

(5953) (ne08744)

SHEATHED STACKING BANANA PLUG

76-006

Fully-insulated plug and jack. Unit (when assembled) meets IEC1010 safety standards up to 1000V. Allen wrench required for assembly, *ordered separately.*

Stock No.	Type	Color	Each
16F7678	76-006	Red	**1.95**
16F7679	76-007	Black	**1.95**

(5957) (ne08751)

TWEEZER SET

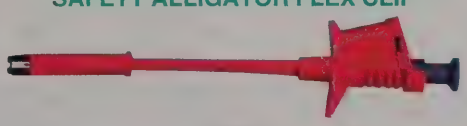
76-001

SMD component testing tweezers. Isolated contact tips in each leg connect to 4mm banana plugs, black and red; 1m cable length. Durable gold-plated beryllium copper contact tips grip small components during testing. Cable: RG174/U.

Stock No.	Type	Description	Each
16F7674	76-001	Tweezer Set	**16.95**

(5954) (ne08747)

SAFETY ALLIGATOR FLEX CLIP



76-062

Alligator-style contacts capable of grabbing terminals up to 0.50″ (12.7mm) in diameter. Flexible shaft bendable to ±90°.

Stock No.	Type	Color	Each
16F7729	76-062	Red	**8.95**
16F7730	76-063	Black	**8.95**

(5963) (ne08762)

BNC TO SHEATHED 4mm JACK ADAPTER

76-083

Insulated male BNC, body and jacks. Meets IEC1010 safety requirements to 500V, CAT I P2.
16F7742 Type 76-083. **Each** **9.95**
(5969) (ne08857)

NEW PRODUCTS ARE CONTINUALLY ADDED.
CALL NEWARK FOR CURRENT SELECTION.

TENMA®

CABLE TESTERS AND TEST TELEPHONES

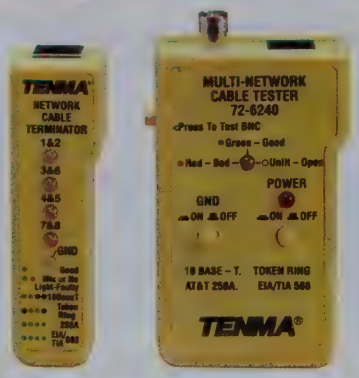
TEST TELEPHONE

Features:
- DTMF/Pulse Dialing
- Polarity LED Test
- Talk/Monitor Switch
- High-impedance Monitor Mode
- 10 Number Speed Dial Memory
- Flash, Mute and Redial Buttons
- Audible Ring Indication
- 1-Year Limited Warranty

Specifications:
Monitor impedance >50kohm. Electret microphone. Dynamic receiver. 10 Digits plus -, #, mem. store, mem. recall, and mute. Pulse dialing: 10 pps, break/make ratio 2:1, ID = 800ms. DTMF dialing: tone on 100ms minimum. New easy-to-hold shape. Perfect for professionals who require hardwired communications at remote locations and line testing. Comes complete with operation instructions. CE Mark.

92N5937 Type 72-6069A. **Each** **199.00**
(29692) (ne29692)

MULTINETWORK CABLE TESTER

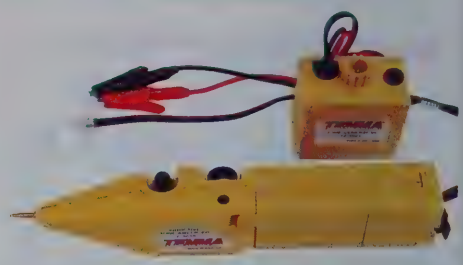


- **A Remote Terminator Allows For Cable Testing Before or After Cable II Installation**

Just plug in 2 wires. Now you can scan for continuity, miswiring and polarization in network cable, thin Ethernet (BNC)/10Base-T (UTP/STP)/356A/TIA-568/TIA-56B Token Ring. It also tests the ground of shielded twisted pairs cable. The tester is bright yellow so it is easy to see and find in the field. Comes in a zippered black leather case. 1 year warranty. 9V battery to be ordered separately; *contact your local Newark sales office.*

01F036 Type 72-6240. **Each** **55.00**
(18242) (ne11066)

TONE TEST KIT



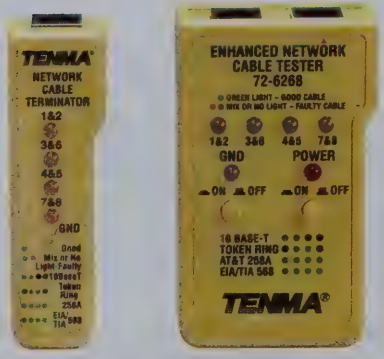
Type 72-6068 is designed to help identify the termination point of wires or to trace their paths. Built of high-impact plastic. Kit contains tone generator (**Type 72-6065**), inductive amplifier (**Type 72-6066**) and carrying case (**Type 72-6067**). The tone generator includes polarity, continuity and 1kHz warble or solid tone omission. A hanging strap minimizes strain on leads supporting the unit. The inductive amplifier offers features such as wrist wrap, low battery light and buttset connections with weather cover. It is crushproof up to 4000 lbs. One-year limited warranty. *Tone generator, inductive amplifier, and carrying case can also be ordered separately below.*

66F6719 Type 72-6068. **Each** **99.95**

Stock No.	Type	Description	Each
66F6716	72-6065	Tone Generator	**31.95**
66F6717	72-6066	Inductive Amplifier	**59.95**
66F6718	72-6067	Carrying Case	**14.24**

(5390) (ne08126)

ENHANCED II NETWORK CABLE TESTER



- **Remote Terminator Allows For Cable Testing Before or After Installation**
- **Tests the Ground of Shielded Twisted Pair Cable**

A tester that makes Ethernet and Token Ring cable checks speedy and simple. The Tenma Enhanced Network Cable Tester scans wire continuity and looks for miswiring and polarization in network cables, thin Ethernet (BNC)/10Base-T (UTP/STP)/356A/TIA-568/TIA56B Token Ring. A remote terminator allows for cable testing before or after cable installation. Comes in a zippered black leather case. 1 year warranty. 9V battery to be ordered separately; *contact your local Newark sales office.*

01F038 Type 72-6268. **Each** **55.00**
(18237) (ne11061)

COAXIAL CABLE TESTER

- **For Ethernet Network Installation Checks**

Here's the smart, fast tester needed at installation time. This test checks the coax cable (BNC, TNC) continuity and also tests for a short or open cable. Includes a terminator for testing previously installed cables. Handy size and bright yellow color make it easy to find and use. Comes in a zippered black leather case. 1 year warranty. 9V battery to be ordered separately; *contact your local Newark sales office.*

01F037 Type 72-6241. **Each** **45.00**
(18240) (ne11064)

MULTIMODULAR CABLE TESTER

- **Tester Autoscans Most Popular Modular Cables**

This user-friendly multi-modular cable tester checks USOC4/USOC6/USOC8 terminating with RJ-45, RJ-12 and RJ-11 modular plugs, wires continuity and miswiring. Also tests cable that is cross-pinned or wired straight through. Convenient portable size and bright yellow color make it the choice for modular job site testing. Comes in a zippered black leather case. 1 year warranty. 9V battery to be ordered separately; *contact your local Newark sales office.*

01F042 Type 72-6290. **Each** **49.95**
(18238) (ne11062)

IF YOU DON'T SEE THE PRODUCT YOU NEED LISTED HERE - CALL!
1-800-4-NEWARK
(1-800-463-9275)

DM-II & DM-I DIGIMATIC™ 3-PHASE CHARTLESS RECORDERS

- **AC Data Logger/Recorder (Type DM-II) Single- or Three-Phase Capable**
- **AC Voltage to 600V, AC Current to 1000A: All Readings are True RMS**
- **Three Channels for Voltage Measurements**
- **4 Channels for Current Measurements**
- **Power Measurements Include: Watts , VARS , VA, PF (Power Factor)**
- **Energy Measurements Include: KW-HR's and Demand or Non-Demand**
- **User Selectable Variable Length Recording Mode**
- **Autoranging; Real Time Clock, Multi-Languages Built-In**
- **Rugged ABS Plastic Case with a Weather Resistant Design**

The Digimatic II is an AC chartless datalogger/recorder in a stand alone configuration. Data can be viewed in the field via large self-contained back lit LCD. Type DM-II view software allows the data to be accessed and downloaded through a personal computer. Line operated (120/240V, 60/50 Hz). Battery back-up protects memory. Test leads: 4 flexible straight to safety sheath banana plugs, rated 1000 Vrms, 10A max. w/extra large jaw alligator clips. Current transducers: (included) type DM-CT 1 to 1000A. *Order replacement fuses, leads separately below.*

16F336 Type DM-II. **Each** **2295.85**
46F5210 Type DM-1. **Each** **1331.85**

Stock No.	Type	Description	Each
46F5212	DVL-1	Voltage Leads (Set of 4)	**35.85**

(5313) (de01229)

CIRCUIT TRACERS

AT-2000 wire-tracing systems let you trace circuits and find opens quickly. Choose from 4 upgradeable, fully protected tracing systems. All versions feature handheld, dual-function receiver with LED readout, 20-foot range, and 9V battery, plus instructions and rugged carrying case. **Type AT-2001** commercial circuit tracing system includes receiver and 9-300V AC/DC load signal generator. **Type AT-2002** industrial circuit tracing system comes with receiver and 9-600V AC/DC load signal generator. **Type AT-2004** industrial multi-purpose tracing system comes with receiver, 9-600V AC/DC load signal generator, 3-level transmitter and clamp-on accessory for transmitter testing without interrupting electrical circuit. **Type AT2005** battery pack and charger. **Type AT1000** advanced tracer traces energized lines up to 300VAC/DC includes receiver and transmitter. Operating frequency 17kHz. **Type CT-326B** current tracer for use on live circuits and perform without interrupting service. Operating frequency: 6.25kHz. Transmit for 0.164 second every 0.82 second. Frequency: 150dB @ 60Hz, 100dB @ 400Hz; except **type CT-326B**, 156dB to 20kA @ 50/60Hz. Include carrying case, 9V battery, transmitter, probe, pigtail connector, extra fuse. **Type CT-326B** includes power cord, adaptor, earphone, and voltage converter.

96F5469 Type AT2001. **Each** **555.85**
96F5470 Type AT2002. **Each** **631.85**
96F5472 Type AT2004. **Each** **882.85**
16F334 Type AT2005. **Each** **995.85**
89F1200 Type CT326B. **Each** **849.85**
16F9054 Type AT1000. **Each** **257.85**
(5347) (de03817)

HA-1000, HA-2000 HARMONIC/POWER ANALYZERS

HA-2000

Analyze building wiring to determine power factor and the extent of distortion generated by non-linear equipment. Help determine the source of nagging power quality problems. Record volt/amp signatures of equipment such as motors to aid in preventive maintenance. Displays: **type HA-2000** individual harmonics to the 31st w/THD; two cycles of the waveform; all power data (watts, vars, PF, etc.). **Type HA-2000** stores 21 waveforms in memory, downloads all data to your PC (software included). Voltage: 1-600Vrms AC/DC. Current: 1-1000 amps rms AC. Power: 0-600kW Frequency: 40-65Hz. First 19 odd harmonics plus THD. Memory: 21 non-volatile, user-addressable, protected locations. Powered by non-user serviceable lithium cell with expected life of 11 years.

96F9997 Type HA-2000. **Each** **989.85**
(5377) (ne06010)

OP-TACH™ DIGITAL TACHOMETER

- **Easy-to-Use, Non-Contact Operation**
- **"Last Measurement" Memory**

Type TMOT-220 kit includes **type OT-220** tachometer measures rpms by directing light source onto reflective marker on rotating object and counting light pulses reflected by each revolution. Range: 0-3′ (0.914m) from object–even through wire screens and transparent windows. Speed range: 50-20,000 rpm. Accuracy: ±1 rpm. 4½-digit, 0.4″ (10.16)H LCD readout–updates once per second. Includes 4 AA batteries, reflective tape, charger, case.

46F5208 Type TMOT-220. **Each** **542.85**
(5316) (de01261)

GP-1 EARTH GROUND RESISTANCE TESTER

GP-1

Type GP-1 is a rugged, battery-operated, earth ground resistance tester that automatically calculates resistivity and can download to a PC. 100 memory locations allow storage of 2-point, 3-point (fall of potential), and 4-point resistance/resistivity test results. Functions as a volt meter up to 600VAC. Voltage range: 0-600VRMS max ±2% of reading + 2 digits. Frequency response: 60Hz ±1%. Fuse: 5 x 20mm, 32mA @250V fast blow. Input power 4 "D" cells. Display: 3½-digit LCD ¾″ (H). Weight: 7.26 lbs. (3.3). Dimensions: 13.6 x 5.1 x 9.8″ (3.45 x 13 x 25). *50Hz models also available; contact your local Newark sales office.*

16F335 Type GP-1. **Each** **1985.85**
(5410) (ne08933)

BT-100 BREAKER TRACER

BT100

Type BT-100 identifies 120VAC circuit breaker or fuse supplying a receptacle or lighting fixture. Operating frequency: 47-63Hz. Maximum load: 18A (4mS) @ 120VAC, 200mW maximum @ 120VAC. Power: alkaline 9V battery. Audible tone and LED display confirm breaker identification. Adjustable sensitivity enables pinpoint accuracy. UL approved.

16F339 Type BT100. **Each** **39.85**
(5411) (ne08934)

MEGOHMMETERS AND RECORDERS

INSULATION TESTER

NEW

Type AMB-5D is a battery-operated insulation tester measuring up to 4000MΩ @ 1000V. Provides 3 test voltages 250V, 500V, and 1000V. Also acts as an 600VAC voltmeter, and continuity tester. 3¾-digit LCD, 4000-count display. Autorange 50-segment log scaled analog display. Easy to carry. Includes test leads, 8AA batteries and instruction manual. VDE approved.

83F7338 Type AMB-5D. **Each** **459.85**
(33687) (ne33687)

3½-DIGIT LCD MEGOHMMETER

- **Performs Dielectric Absorption Ratio Test**
- **Manual or Automatic Operation**
- **Audible & Visual Indicators**

Has built-in timer and signal for automatic dielectric-absorption-ratio testing, low-battery indicator, and auto shut-off. Includes test leads with screw-on alligator clips, carrying case. *Order 6 AA size batteries separately -- see Product Index for complete selection.*

Stock No.	Type	Range	Test Voltage	Accuracy (% of Reading)	Each
50F4911	AMB-4D	0-200Ω 0-200MΩ 0-200MΩ 0-2000MΩ	3VDC 250V ±12.5V 500V ±25V 1000V ±50V	±1% ±2LSD ±3% ±2LSD ±3% ±2LSD 0-1000MΩ ±3%, ±2LSD 1000MΩ-2000MΩ ±3.5%, 3LSD	**401.85**

(5310) (de01226)

BATTERY-POWERED ANALOG MEGOHMMETERS

AMB-2

- **Live Circuit 0-600VAC/DC Test Band**
- **Battery OK Test Band**
- **Rugged, Taut Band Meter**

Fuse-protected megohmmeters have 3-color scale plate. Include carrying case, test leads, adapter clips, 8AG-361 fast-blow fuse, manual. *Order 8 AA batteries separately—see Product Index for complete selection.*

Stock No.	Type	Range/Test Voltage	Accuracy (% of Reading)	Each
62F133	AMB-1A	0-100MΩ @ 500VDC (2.5MΩ Midscale) 0-100Ω @ 800mV (3Ω Midscale)	±5%, 0.1 to 10MΩ ±10% over 10MΩ ±3% of Arc	**312.85**
90F5705	AMB-2	0-100MΩ @ 500VDC (2.5MΩ Midscale) 0-50MΩ @ 250VDC (1.5MΩ Midscale) 0-100Ω @ 300mV (4Ω Midscale)	±5%, 0.1 to 10MΩ ±10% over 10MΩ Same as 0-100MΩ Range ±3% of Arc	**352.85**

(5311) (de01227)

HAND-CRANKED ANALOG MEGOHMMETERS

AMC-3

- **Require No Auxiliary Power**
- **Spring-Loaded Terminal Connections**
- **High-Impact Housing**

Hand-cranked, constant-voltage megohmmeters feature guard terminal to eliminate effect of surface leakage on readings. Include test lead set (2 clip, 1 probe), dual carrying cases for instrument and leads, applications manual.

Stock No.	Type	Range/Test Voltage	Accuracy (% of Reading)	Each
62F2659	AMC-2	2-100MΩ @ 500VDC (1MΩMidscale) 0-200Ω @ 6VDC (10Ω Midscale)	±5% from 0.1 to 50MΩ ±10% All Other Points ±10%	**541.85**
62F2660	AMC-3	0-500MΩ @ 1000VDC (5MΩMidscale) 0-200Ω @ 6VDC (10Ω Midscale)	±5%, 0.5 to 200MΩ ±10% All Other Points ±10%	**664.85**
62F2661	AMC-4	0-100MΩ @ 500VDC (3MΩMidscale) 0-500MΩ @ 1000 VDC (6MΩ Midscale) 0-200Ω @ 6VDC (10Ω Midscale)	±5%, 0.1 to 50MΩ ±10% All Other Points ±5%, 0.5 to 100MΩ ±10% All Other Points ±10%	**874.85**

(5312) (de01228)

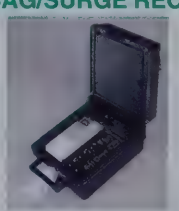
MEGOHMMETER

AMB-5KV

Type AMB-5KV is a battery-operated, high-voltage insulation resistance tester measuring up to 500Gohms of resistance. Provides 4 test voltages: 500V, 1kv, 2.5kv, and 5kv. Also acts as a AC/DC voltmeter. This feature insures that zero (0) voltage is present prior to making an insulation resistance test and will act as a capacitive discharge indicator. **Type AMB-5KV** can be used for checking motor windings, insulators and generator windings.

16F9052 Type AMB-5KV. **Each** **1995.85**
(14229) (ne10240)

SPIKE/SAG/SURGE RECORDER



- **Advanced, Solid State Circuitry**
- **Spike, Sag & Surge Appear on Same Chart**

Rugged, compact, easy-to-use strip chart recorder. Ranges: 0-220/440/880V, full scale, 50/60Hz. Voltage ranges are average-sensing, scaled rms; spike/sag/surge ranges peak-sensing, rms. Accuracy: volt ranges, ±3% full scale; sag/spike/surge modes, ±2% of reading based on sinusoidal waveforms. Input impedance: 220V range–387kΩ; 440V range–784kΩ, 880V range–1580kΩ; all ±1%/15pf. Chart speed: 12″ (304.80)/hour. Line fuse: 0.2 amp, 250V; *order* **type 3AG-313** *fuse separately with* **DM-1** *accessories on page 1557.* Line power: 120VAC, 60Hz, 9 watts. Battery power: two 9V alkaline batteries; *order separately–see Product Index for selection.* Comes with 1 red, 1 black test lead, power cord, 30′ (9.14M) roll of chart paper.

46F5209 Type LAS800-12. **Each** **1237.85**
(5314) (de01230)

AMPROBE

DIGITAL CLAMP-ON METERS

TRUE RMS AC + DC ADVANCED CLAMP-ON MULTIMETER

AC/DC3000

Type ACDC3000 combines true RMS measurements with frequency or duty cycle measurements. Features dual display, view current/frequency, current/duty cycle, voltage/frequency, voltage/duty cycle. Max, avg, or min recording. AC + DC true RMS current measurements to 1000A. VAC, 750V. VDC, 1000V. Resistance: 40MΩ maximum. Audible continuity and diode tests. Frequency: 10Hz to 200kHz. 3¾- or 4½-digit, 4,000/20,000-count LCD.
Type AC/DC-620T combines true RMS measurements with temperature and capacitance measurements. True RMS AC and DC current and voltage measurement to 1000A and 1000V. Capacitance measurement to 4000µF. Dual display of temperature in both C and F. Single, dual, and differential temperature measurement up to 2502°F (1372°C). (Requires optional adapters - **type DKTA-620** - dual input, **type TAC-DMM** - single input, and **type TPK-56** bead probe). Resistance to 4kΩ.

Type ACD330T similar to AC/DC3000 AC current measurement only. AC volt range 1000VAC. Resistance: 4kΩ. Frequency: to 1kHz. 4 digit, 4000 count LCD display. Dual display for frequency and current or frequency and voltage. Dynamic min/max/avg recording.
All are designed to conform to UL, Ulc, TUV, CE, IEC standards and include test leads, carrying case, battery, instruction manual.

16F9044 Type ACDC3000. **Each** **415.85**
83F7333 Type ACD330T. **Each** **199.85**
48F2237 Type AC/DC-620T. **Each** **262.85**
48F5520 Type DKTA-620. **Each** **18.85**
48F5519 Type TAC-DMM. **Each** **10.85**
48F5521 Type TPK-56. **Each** **13.85**
(6597) (nec9190)

TYPE ACD-10 SERIES SUPER DIGITAL CLAMP-ON MULTIMETERS

ACD-10H

Type ACD-10H features: ACA to 400A, ACV to 600V, resistance to 40kΩ, audible continuity, data hold, auto power off after 20 minutes, 3-¾ digit LCD display, 4000 counts, overload protection on all ranges.
Type ACD10 ULTRA and **ACD10 TRMS** features: teardrop jaw design, ACA to 400A, ACV to 600V, resistance to 40kΩ, continuity buzzer, auto ranging, true RMS measurement (**type ACD10 TRMS**). 3-¾ digit LCD display, 4000 counts, overload protection on all ranges.
All **Type ACD10** series include 9V battery, vinyl carrying case, test leads and instruction manual (**type ACD10H** includes holster).

16F9048 Type ACD-10H SUPER H. **Each** **109.85**
83F7330 Type ACD10 ULTRA. **Each** **99.85**
83F7332 Type ACD10 TRMS. **Each** **149.85**
(6594) (nec9187)

ACD-10, ACD-11, AND ACD-12 AC CLAMP-ON MULTIMETERS

ACD-11

ACD-12

- **Measure AC Amps, Volts, Resistance, Continuity**
- **Auto-Ranging**
- **Ohmmeter and Circuit Protection to 550VAC**
- **Data-Hold Button**
- **Over-Range and Low-Battery Indication**

AC clamp-on meters feature 3¾-digit LCD readout. Voltage ranges: 0-400/400-750VAC. Resistance: 200Ω to 40kΩ. **Type ACD-10** jaw size: 1.10″ (27.94), current range: 0-300A. **Type ACD-11** jaw: 2.14″ (54.36), current range: 0-400/400-1000A. **Type ACD-12** offers circuit protection for ohms continuity function protected to 550VAC. Include 9V battery, test leads, and case.

50F4922 Type ACD-10. **Each** **99.85**
93F6369 Type ACD-11. **Each** **138.85**
92F5921 TypeACD-12. **Each** **136.85**
(5302) (de01130)

DIGITAL AC/DC CLAMP-ON MULTIMETER

ACDC 1000

ACDC 610

Type ACDC 1000 measures AC/DC amps, ohms and voltage. Features hooded, fully-installed 2″ jaws; high-accuracy LCD readout; overrange and low-battery indicators. Auto ranging. Fused ohmmeter, 400V circuit protection. AC frequency: 40-400Hz; DC: 30-300Hz. AC/DC voltage and current ranges: 0-199.9/999 continuous, 1-999 peak. Includes test leads, replacement fuse, case. *Order 9V battery separately-see Product Index for complete selection.* **Type ACDC 610** measures AC/DC current and voltage, frequency and ohms/continuity. Features auto power shut-off, peak hold, data hold, over-range and low-battery indication, and continuity buzzer. Max. jaw opening: 1.65″. AC/DC volt ranges: 0-400/0-750VAC; 0-400/0-1000VDC. Includes 9V battery and instructions. **Type ACDC-600AT** is a true rms measuring instrument used for accurate measurement of loads with distorted waveforms or systems suspected of having harmonics. **Type ACDC-600A** is an average-sensing instrument calibrated to read out in rms. **Types ACDC-600AT** and **ACDC-600A** feature AC/DC current measurements to 600 amps, full annunciated LCD display, low-battery and over-range indicators, auto power off, and data hold. Jaw opening: 1.33″. Includes 9V battery, wrist strap, and SC-600 carrying case.

44F2654 Type ACDC1000A. **Each** **467.85**
96F7313 Type ACDC610. **Each** **312.85**
97F9002 Type ACDC-600AT. **Each** **223.85**
97F9003 Type ACDC-600A. **Each** **173.85**
(5301) (de01129)

AC/DC CLAMP-ON MULTIMETERS

ACD-2000, -9A

ACD-2001, - 7A/8A

Type ACD-2000 and **ACD-2001** are Multi-Sensing™ meters that permit user to select mode: true rms, average or peak-sensing. 3½-digit LCD readout. Ohmmeter fused to 600V. AC voltage range: 0.1-199.9/999; resistance: 0.1-199.9/1999Ω; frequency: 40-400Hz.
Type ACD-7A/8A/9A measure AC Amps, AC/DC volts and resistance. Feature 3½ digit LCD. Units are average sensing rms calibrated. **Type ACD8A** and **ACD-9A** are peak sensing rms calibrated when switched to peak mode; push button select high/low range. AC/DC voltage ranges: 0.1-199.99/999; resistance 0.1-199.99/1999 Ω; frequency: 40-400 Hz.
Jaw size: **type ACD-2000** and **type ACD-9A** - 2″(50.8), **type ACD-2001** and **type ACD-7A/8A** - 1″(25.4). **Type ACD-200X** and **ACD-XA series** include all-weather test leads, ohmmeter attachment, alligator clip adapter and case. Order 9V battery separately - see Product Index for selection.

Stock No.	Type	AC Amps	Each
50F4923	ACD2000	0.1-199.9/999	**323.85**
50F4924	ACD2001A	0.1-199.9/300	**298.85**
93F7486	ACD7A	0.1-199.9/300	**219.85**
93F7487	ACD8A	0.1-199.9/300C, 0-300P	**231.85**
93F7488	ACD9A	0.1-199.9/999C, 0-999P	**245.85**

(5304) (de01132)

LET NEWARK CONNECT™ AUTOMATICALLY REPLENISH YOUR INVENTORY.
CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR DETAILS.

MULTIMETERS AND TRANSDUCERS

DIGITAL MULTIMETERS

AM91

Types AM90 and **AM71** are average sensing. Frequency measured from 5Hz to 4MHz. 4,000/40,000-count +9,999 counts dual display. dBm and relative dB gain. Record max, min, max-min, avg with autoranging capability. Sort™ mode, max, min, max-min, avg with autoranging capability. AC/DC voltage to 750V. AC/DC current to 10A. Resistance to 40MΩ. **Type AM-91** features true RMS DC + AC and AC voltage with 20kHz bandwidth. Designed to meet UL 3111-1, CSA C22-2 No. 1010-1-92, and IEC1010-1 Category III.

16F9046 Type AM71. **Each** **209.85**
16F9045 Type AM90. **Each** **262.85**
66F5715 Type AM91. **Each** **299.85**
(6596) (nec9189)

AM-50 SERIES DIGITAL MULTIMETERS

Type AM-50 total functions: 17 ranges. ACV to 600V, DCV to 600V, Ω to 40MΩ, temperature: 0°F–932°F, auto-ranging, max & min, max-min, relative zero, hold, continuity, diode test, bar graph, average responding. **Type AM-53** total functions: 27 ranges. Same as **type AM-50** except true RMS, includes capacitance to 10mF, frequency to 50kHz. **Type AM-55** total functions 31 ranges. Same as **type AM-53** except average responding, includes ACA/DCA to 10A. **Type AM-56** total functions: 32 ranges. Same as **type AM-55** except true RMS. Includes harmonics index function (indication of harmonics).

Stock No.	Type	Description	Each
91F2910	AM-50	Digital Multimeter with 17 Ranges	89.85
91F2911	AM-53	Digital Multimeter with 27 Ranges	128.85
91F2912	AM-55	Digital Multimeter with 31 Ranges	134.85
91F2913	AM-56	Digital Multimeter with 32 Ranges	143.85

(13731) (ne10239)

AM-15, AM-16, AND AM-18 DIGITAL MULTIMETERS

AM-15, AM-16, AM-18

- **Auto and Manual Ranging**
- **Supplied with Battery and Test Leads**

Type AM-15 features direct measurement of AC/DC voltage, AC/DC current, resistance, and diode. Push button offset to automatically compensate for lead impedance. Data hold button. **Type AM-18** feature capacitance to 1000µF; choice of Lo or High power ohms; push button offset to compensate for lead impedance; auto power off. **Type AM-18** has an input jack alarm. Voltage ranges: 0-1.999/19.99/199.9/600VDC/AC (**type AM-15**), 200mV, 2V, 20V, 200V, 600VDC (**types AM-16, AM-18**); 2V, 20V, 200V, 600VAC (**types AM-16, AM-18**). Resistance ranges: 0-1.999/19.99/199.9kΩ (**type AM-15**); 200Ω, 2kΩ, 20kΩ, 200kΩ, 2MΩ, 20MΩ (**types AM-16, AM-18**). Current ranges: 0-199.9 AC/DC, 0-10A (**type AM-15**); 2mA, 200mA, 10A AC/DC (**type AM-18**).

93F6368 Type AM-15. **Each** **76.85**
92F5918 Type AM-16. **Each** **68.85**
92F5920 Type AM-18. **Each** **105.95**
(5423) (ne09220)

AM-12, AM-21 AND AM-22 3½-DIGIT MULTIMETERS

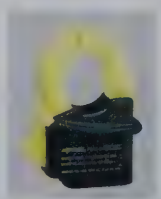
AM-22

- **Fuse Protected to 600V AC/DC**
- **Measures AC/DC Amps, Volts, Resistance**
- **10MΩ Input Impedance**

Voltage ranges: 0-1999.9/750VAC; 0-1.999/19.99/199.9/1000VDC; 0-1999mVDC. 15kV AC/DC can be added with high-voltage accessory probe HV-4 (not supplied). Resistance ranges: 0-199.9/1999K ohms; 019.99/199.9/1999KΩ. Current ranges: 0-1999µA DC; 0-19.99/199.9/1999mA AC/DC; 0-10A AC/DC. Battery: 9V alkaline; *see product index for battery selection.*

46F5215 Type AM-12. **Each** **57.85**
97F9005 Type AM-21. **Each** **43.85**
97F9006 Type AM-22. **Each** **53.85**
(5363) (de51857)

DIGITAL PEN MULTIMETER AND CLAMP-ON HEAD ADAPTER



PMM-C

PMM-1

Type PMM-1 multimeter features AC and DC current, ACV, DCV, resistance diode check, audible continuity check, 65-segment analog bar graph, data hold, auto power off; complete with test leads, carrying case, batteries, and manual. **Type PKT-2** is a dual-k type thermocouple. **Type PMM-C** adapter transforms **type PMM-1** into a one-piece clamp-on. 300A AC capability. UL listed. *Order additional adapters below.*

66F6669 Type PMM-1. **Each** **69.85**
66F6670 Type PMM-C. **Each** **49.85**
91F2914 Type PKT-2. **Each** **94.85**
91F2915 Type PRH-2 Relative Humidity. **Each** **95.85**
91F2916 Type PCAP-2 Capacitance. **Each**.... **75.85**
(6593) (nec9186)

TYPE CDM-1 CREDIT CARD SIZE DIGITAL MULTIMETER

Features:
• Autoranging for ACV, DCV, and ohms • 32-segment analog bar graph • 3¾-digit, 3200-count annunciated LCD • Auto power Off • Convenient carrying case with test lead storage • UL listed, CE compliant

Specifications:
• DC voltage range: 320mV, 3.2V, 32V, 320V, 450V • AC voltage range: 3.2V, 32V, 320V, 450V • Resistance range: 320Ω, 3.2kΩ, 32kΩ, 320kΩ, 3.2MΩ, 32MΩ • Dimensions: 4.3H x 2.1W x 0.5"D • Weight: 3.5 oz.

16F9051 Type CDM-1. **Each** **39.85**
(6592) (nec9185)

AC/DC CURRENT TRANSDUCER FOR DMMs

A1000

CT-600

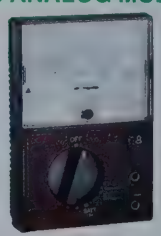
Type A1000 allows a non-true RMS digital multimeter to read true RMS current. Has waveform display capabilities when used with an oscilloscope. 2.00"(50.8) jaw capacity. Features AC and DC current ranges: 0-1000A; crest factor: >3:1; manual zero adjust. Includes 9V battery carrying case, test leads, and manual. Designed to meet IEC 1010-1 Category III, 300V, Pollution Degree.

16F9047 Type A1000. **Each** **199.85**

Type CT-600 features universal leads to measure AC and DC current up to 600 amps for all makes of digital multimeters. 1.33"(34) jaw capacity, AC current range: 0-100A, 40-400Hz with output voltage of 10mV/A; 0-600A, 40-400Hz with output voltage of 1mV/A. DC current range: 0-100A with output voltage of 10mV/A; 0-600A with output voltage of 1mV/A. Green flashing LED power ON indicator, red LED low battery indicator. Includes 9V battery and carrying case.

93F6372 Type CT-600. **Each** **126.85**
(5364) (de51859)

AM SERIES ANALOG MULTIMETERS



AM-2E

Type AM-2E ranges are fuse protected to 250V; can withstand misapplication to 220V. Voltage ranges: 0-10/50/125/250/1000VAC (10,000Ω/V); 0-0.5/2.5/10/25/125/250/1000VDC (30,000Ω/V). Resistance: 500Ω (20Ω midscale), 5kΩ (200Ω midscale), 1MΩ (10kΩ midscale). Current: 0-25/250mA, 0-50µA DC. Includes test leads, fast-blow fuse. *Order AA battery separately.* **Type AM-2EDP** rugged version withstands 5' drop.

81F9829 Type AM-2E. **Each** **57.85**
81F9830 Type AM-2EDP. **Each** **71.85**
(5308) (de01207)

ROTARY-SCALE AC CLAMP-ON MULTIMETERS

Type RS-1/300/300A measures current to 300A on up to 1″ (25.40) conductors. **Type RS-1000/1000S/1007S** measures current to 1000A on up to 2″ (50.80) conductors. Accuracy: ±3% full scale; ohmmeter: ±3% of scale length, based on sinusoidal waveform, 60Hz. All models include all-weather test leads, ohmmeter attachment (where applicable), and case. Meters with **A suffix** include extendo test leads, alligator clip, deluxe; **S suffix** includes surge-indicating capability. *Order AAA battery separately - see Product Index for selection.*

VOLT-AMP-OHMMETERS (25Ω MID-SCALE)

Stock No.	Type	AC Volts	Each
62FX708	RS-1000	0-150/300/600	125.85
62F964	RS-1000S	0-150/300/600	133.85
62F965	RS-1007S	0-150/300/750	140.85
VOLT-AMP METERS			
62FX659	RS-1	0-150/600	82.85
62F707	RS-300	0-150/300/600	93.85
62F944	RS-300A	0-150/300/600	103.85

(5306) (de01205)

RS SERIES AC CLAMP-ON MULTIMETERS WITH 600V FUSE PROTECTION

Jaws measure current on conductors to 1″ (25.40) diameter. All models measure ACV to 600V and ACA to 300A and include all-weather test leads, case, and ohmmeter battery adaptor where applicable. 600V fuse protection. Accuracy: ±3% full scale; ohmmeter ±3% of scale length, based on sinusoidal waveform, 60Hz. 600V high-energy fuse protection. **Type RS3 SUPER** offers 50-400Hz calibration and withstands 5-foot drop. **Type RS-3A** includes extendo test leads, alligator clip adapter, deluxe case. *Order AAA battery separately; see Product Index for complete selection.*

Stock No.	Type	Each
62FX658	RS-3	94.85
62FX943	RS-3A	104.85
93F5414	RS3 SUPER	99.85

(5353) (de04195)

FLAT SCALE AC VOLT-AMP-OHMMETERS

- **Pointer Lock for Tight Spaces**
- **Average-Sensing, RMS Calibrated**
- **Ohmmeter Fused to 250VAC**
- **Drop-Proof to 5′**
- **±3% Full-Scale Accuracy**

FS-3 series multimeters have flat-scale display and 1″ (25.40) jaws. Ranges: 0-150/300/600VAC; 0-6/15/40/100/300ACA; 50/60Hz. Resistance: Rx1, Rx100Ω (25Ω mid-scale). **FS-3L** includes carrying case. *Order AA battery separately–see Product Index for complete selection.*

87F1124 Type FS-3. **Each** **49.85**
87F1125 Type FS-3L. **Each** **54.85**
(5307) (de01206)

VOLTPROBE 440® AC VOLTAGE TESTER

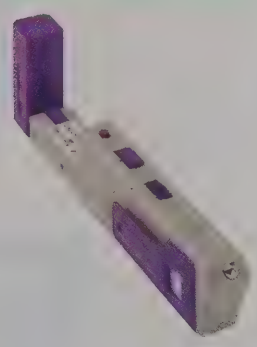
- **Rugged, Pocket-Sized Design**
- **Completely Insulated–No Exposed Metal Parts**
- **Voltage Range: 110-440VAC**
- **Locates Breaks in Cables**
- **Detects Energized Circuits**
- **Checks Circuit Breaker Functions**
- **Identifies Faulty In-Line Switches**
- **Distinguishes Between Live/Neutral Wires**

Compact voltage tester works without interrupting service. Does not require current flow to operate. 2 AAA batteries included.

93F6370 Type VP440. **Each** **17.85**
(5309) (de01208)

AC VOLTAGE TESTER

NEW



Type VCM-2 is a pocket-sized tester that indicates AC voltage using a noncontact method. Features: adjustable distance sensitivity and sensing arm (0-90°), continuity 0-5MΩ (with audible sound adjustment), verifies DC voltage/polarity check (2-36 VDC), AC voltage test - noncontact (70-600VAC), microwave leakage monitor, negative ions detector. Includes 4 LR44 1.5V batteries.

83F7334 Type VCM-2. **Each** **17.85**
(33683) (ne33683)

ALL-WEATHER TESTER

NEW

Type CVF-3 all weather tester will detect ACV (contact methods from 70-250VAC; noncontact method 70-600VAC), DCV 1.5 to 250VDC, polarity test, continuity test, and microwave leakage test. Includes battery.

83F7335 Type CVF-3. **Each** **9.85**
(33684) (ne33684)

LASER TEMPERATURE PROBE

NEW

Type LTP-1 probe provides noncontact optical method of measuring temperature. Simply point at the desired target and press the on button for a temperature reading. Response time of 1 second and a continuous reading feature for thermal scanning. Temperature range: 0°F-600°F or -18°C- 315°C.

83F7336 Type LTP-1. **Each** **299.95**
(33681) (ne33681)

PHASE SEQUENCE/MOTOR ROTATION TESTER

NEW

Type PRM-1 tester identifies phase sequence and motor rotation. Voltage range from 20 to 600Vrms. Frequency range: 50-400Hz. 4 bright LED indicators indicate normal (ABC), reverse (CBA), phase loss, and low-battery tests. Integrated test leads. Includes 9V battery.

83F7337 Type PRM-1. **Each** **89.85**
(33682) (ne33682)

BK PRECISION®

GENERATORS AND POWER SUPPLIES

FUNCTION AND SIGNAL GENERATORS

3001

4011

4017

4040

Types 4011 and **4017** function generators have frequency bandwidth of 5 and 10MHz, respectively. **Type 4040** function generator features 20MHz frequency bandwidth, AM, FM, sweep, burst, TTL, and CMOS outputs. **Type 3001** sine/square wave generator has a frequency range of 20Hz to 150kHz in 46 steps. Accuracy 20Hz to 100kHz (±3%); 120/150kHz (±5%). Output impedance: approximately 600Ω. Low distortion R-C oscillator, variable output control, low-battery indicator. Distortion: 200Hz-15kHz (0.05%); 50Hz-28kHz (0.1%); 20Hz-100kHz (0.3%). Weighs 7 oz. Includes 2 standard banana plug to insulated clip test leads, 9V battery, instructions.

Features	SWEEP/FUNCTION			AUDIO
	Type 4040	Type 4017	Type 4011	Type 3001
Frequency Range	0.2Hz to 20MHz	0.1Hz to 10MHz	0.2Hz to 5MHz	20Hz to 150kHz
Sine Waveform	•	•	•	•
Square Waveform	•	•	•	•
Triangle Waveform	•	•	•	
AM Waveform	Int./Ext.			
FM Waveform	Int./Ext.	Ext.	Ext.	
TTL Waveform	•	•	•	
CMOS Waveform	•	•	•	
Pulse Waveform	•	•	•	
Tone Burst Waveform	Int./Ext.			
Sinewave Distortion	1.0%	1.0%	1.0%	0.05%
Variable Symmetry	10:90:10	10:90:10	10:90:10	
Ext. Sweep/Mod. Input	0-10V	0-10V	0-10V	
Counter Digits	6	5	4	
Ext. Freq. Counter	•			
DC Offset	•	•	•	
Sweep Lin	100:1	100:1	100:1(Ext.)	
Sweep Log	100:1	100:1	100:1(Ext.)	
Sweep Start/Stop	•			
Sweep Time (Max.)	30 sec.	30 sec.		
Sweep Output	0-2V	0-2V		

92F3280 Type 4011. **Each** **315.00**
92F3281 Type 4017. **Each** **399.00**
92F3282 Type 4040. **Each** **545.00**
90F2312 Type 3001. **Each** **79.00**
(5299) (de00916)

VARIABLE ISOLATED AC POWER SUPPLIES

1655

1653

Types 1655 and **1653** have an isolated output voltage of 0-150VAC, and input voltage of ±120VAC 10%, 60Hz. **Type 1655** includes a leakage test and soldering iron temperature control.

Stock No.	Type	Output Current	Metering	Each
44F521	1655	4A Peak, 3A Cont	4½" Analog	**529.00**
44F520	1653	3A Peak, 2A Cont	3½" Analog	**319.00**

(5397) (ne08512)

SINGLE AND TRIPLE OUTPUT DC POWER SUPPLIES

1760

1651

1670FR

1746, 1743, 1740

1735, 1715, 1705

1710, 1711, 1730

1688, 1686FR

1682

1680

All power supplies are designed for continuous duty at maximum rated output. The designs protect the load, the power supply, and the user from accidental problems. Circuitry includes reverse polarity protection, thermal protection, short-circuit protection, and current limiting. Regulation is tight, and ripple is low, regardless of variations in the load or the input AC line voltage. All units are constant voltage and constant current except **types 1688, 1686, 1682,** and **1680** (which are constant voltage only). Ripple is ≤1mV rms for all models except **type 1651** (≤2mV rms); **1670** (≤5mV rms); **1688, 1686, 1682** (≤10mV rms); and **1680** (≤6mV rms). Line regulation is ≤0.01%+3mV for all models except **type 1670** (≤0.05%+10mV); **1743, 1746,** and **1740** (≤0.02%+2mV): **1688, 1686, 1682** (±0.8%); and **1680** (≤130mV). Load regulation is ≤0.01%+3mV for all models except **type 1670** (≤0.05%+10mV); **1743, 1746,** and **1740** (≤0.04%+2mV): **1688, 1686, 1682** (±0.8%); and **1680** (≤320mV).

Stock No.	Type	Output	Output Voltage	Output Current	Metering	Each
92F3528	1760	TRIPLE	0-30V(2) &4.5-6V(1)	0-2A(2)&5(1)	2 Digital	**650.00**
50F1563	1651	TRIPLE	0-24V(2) &Fixed 5V(1)	0-0.5A(2)& 4(1)	2 Analog	**435.00**
52F9254	1670FR	TRIPLE	0-30V(1), 12V(1), 5V(1)	0-2.5A, 0.5A, 0.5A	2 LCD	**199.00**
66F1972	1743	SINGLE	0-35V	0-6A	2 LED	**515.00**
92F3527	1746	SINGLE	0-16V	0-10A	2 Analog	**515.00**
92F3526	1740	SINGLE	0-60V	0-4A	2 Analog	**515.00**
92F3525	1735	SINGLE	0-30V	0-3A	2 LED	**389.00**
66F1971	1715	SINGLE	0-60V	0-2A	2 LED	**389.00**
92F3524	1730	SINGLE	0-30V	0-3A	2 Analog	**319.00**
92F3523	1711	SINGLE	0-60A	0-2A	2 Analog	**315.00**
92F3522	1710	SINGLE	0-30V	0-1A	2 Analog	**235.00**
92F3529	1688	SINGLE	3-14V	25A nominal. @ 13.8V	2 Analog	**299.00**
93F3751	1686FR	SINGLE	3-14V	12A @ 13.8V	2 Analog	**199.00**
52F554	1682	SINGLE	FIXED 13.8V	15A peak, 12A cont.	None	**99.00**
52F555	1680	SINGLE	FIXED 13.8V	6A peak, 4A cont.	None	**50.00**

(5300) (de00953)

B&K PRECISION®

OSCILLOSCOPES AND SPECTRUM ANALYZER

ANALOG AND DIGITAL STORAGE OSCILLOSCOPES

2190B

2160A

1541C

2125A

2120B

Description	ANALOG OSCILLOSCOPES					DIGITAL STORAGE
Stock No.	**90F7712**	**89F1094**	**92F3252**	**87F3297**	**46F8595**	**93F6560**
Type	2190B	2160A	1541C	2125A	2120B	2522B
Channels	3	2	2	2	2	2
Bandwidth @ x 5 MAG	100MHz 20MHz	60MHz 10MHz	40MHz 7MHz	20MHz 10MHz	20MHz 10MHz	20MHz 10MHz
Rise Time	3.5ns	5.8ns	8.8ns	17.5ns	17.5ns	17.5ns
Sensitivity	5mV/div to 5V/div (1mV/div to 1V/div @ X5 MAG)					
Vert Accuracy	±3% (±5% @ X5 MAG)					
Input Resistance	1MΩ ±2%					
Input Capacitance	22pF ± 3pF	25pF ± 10pF	25pF ± 10pF	25pF ± 10pF	25pF ± 10pF	25pF ± 10pF
Signal Delay	Yes	...	...	...	...	...
Y Axis Output	Yes	Yes	Yes	Yes	...	Yes
Sweep, Max	20ns/div	10ns/div	20ns/div	10ns/div	10ns/div	10ns/div
Sweep, Min	0.5s/div	2s/div	0.2/div	2s/div	2s/div	50s/div
Sweep Accuracy	± 3% (± 6% @ X10 MAG)					
Delayed Sweep	Yes	Yes	...	Yes	...	...
Trigger	Auto-Normal; CH1, CH2, (CH3: 2190A), ALT, EXT, LINE; AC, TVH, TVV					
Trig Int Sensitivity Ext	1.5div 600mV	1.5div 100mV	1.5div 1V	1.5div 100mV	1.5div 100mV	0.5div 500mV
X-Y Mode	Yes	Yes	Yes	Yes	Yes	Yes
Z Axis Input	Yes	Yes	...	Yes	...	...
Other Features	...	Component Tester	...	Component Tester	...	Analog Plotter Output
Digital Storage Specifications						Sampling 10Ms/s 8 bit x 2k/CH, Roll, Refresh, Hold, Pretrigger
Power	120/220/240VAC ± 10%, 50/60Hz					
Each	**1,599.00**	**1,099.00**	**799.00**	**646.00**	**549.00**	**1,099.00**

(5396) (ne08511)

SPECTRUM ANALYZER

- Frequency Range: 0.15MHz to 1050MHz
- 4½-Digit Display (Center and Marker Frequency: 0.1MHz Resolution)
- –100 to +13dBm Amplitude Range
- Dynamic Range: 80dB
- Level Accuracy: ±2dB
- 100kHz/div to 100MHz/div Spanwidth
- Frequency Accuracy: ±100kHz
- 4 x 10dB Attenuators
- Input Impedance: 50Ω
- AM/FM Demodulation
- 6″ CRT
- Tracking Generator
- TG Frequency: 0.15MHz to 1050MHz
- TG Level: –50dBm to +1dBm
- TG Attenuation: 0 to 40dB (4 x 10dB)
- TG Output Impedance: 50Ω

2630

52F6288 Type 2630. **Each** **2995.00**
(6515) (nec7038)

DIGITAL MULTIMETERS

SURVIVOR SERIES DIGITAL MULTIMETERS

2870

The SURVIVOR series feature ruggedized construction, 1500V rating, and a 5-year warranty. **Type 2870** features a 3¾-digit LCD display, 0.25% DCV accuracy, autoranging, and true rms. **Type 2860A** features a 3½-digit LCD display, 0.5% DCV accuracy, and manual range selection. Both meters include battery, test leads, rubber holster, and instruction manual.

52F6294 Type 2870. **Each** **155.00**
90F9679 Type 2860A. **Each** **99.00**
(5414) (ne08959)

TOOL KIT SERIES DIGITAL MULTIMETERS

2707A

The Tool Kit series are practical, compact, and inexpensive digital multimeters. They feature: 3½-digit LCD displays, 0.5% DCV accuracy, manual ranging, diode test, and 1000VDC/750VAC ranges. **Type 2703B** features Hz and basic functions DCV, ACV, DCA, and Ω. **Type 2704B** features basic functions plus ACA, C, and hFE. **Type 2706A** features all **type 2704B** functions plus Hz and temperature. **Type 2707A** features all **type 2704B** functions plus logic. All include test leads, battery, and instruction manual. (Thermocouple probe **type 2706A** only)

04F723 Type 2707A. **Each** **89.00**
04F722 Type 2706. **Each** **79.00**
04F721 Type 2704B. **Each** **59.00**
04F720 Type 2703B. **Each** **39.00**
(5417) (ne09075)

TYPE 350B CLAMP-ON METER

350B

Type 350B features: AC current to 1000A, ACV to 750V, DCV to 1000V, Ω to 30MΩ, 3¾-digit LCD display, analog bargraph, 2.24″ jaw opening, peak, data, and range hold. **Type 340B** features: AC current to 1000A, ACV to 750V, DCV to 1000V, Ω to 20MΩ, capacitance to 200uF, Hz to 40kHz, 2.24″ jaw opening, continuity buzzer, peak, data, and range hold. **Type 330B** features: AC current to 1000A, ACV to 750V, DCV to 1000V, Ω to 2000MΩ, 2.24″ jaw opening, continuity buzzer, data, and max hold.
All include: test leads, battery, instruction manual, and carrying case.

92F383 Type 350B. **Each** **155.00**
92F384 Type 340B. **Each** **115.00**
92F385 Type 330B. **Each** **95.00**
(6581) (nec9174)

TYPE 369B CLAMP-ON METER

369B

Type 369B features: true rms, ACV/DCV to 1000V, Hz to 400kHz, capacitance to 40uF, Ω to 40MΩ, AC/DC current to 1000A, autoranging, 3¾-digit LCD display, 2.24″ jaw opening, resistance to 40MΩ, min/max, relative and range hold. Includes test leads, battery, instruction manual, and carrying case.

92F382 Type 369B. **Each** **205.00**
(6571) (nec9164)

POCKET DIGITAL MULTIMETER

2700

The pocket digital multimeter includes a 3¾-digit LCD display with bargraph, autoranging, DCV, ACV, Ω, continuity and diode tests.

92F3256 Type 2700. **Each** **35.00**
(5415) (ne08960)

TEST BENCH SERIES DIGITAL MULTIMETERS

389

The Test Bench series are high quality, ruggedized multifunction digital multimeters. Features include: 3¾-digit LCD (4½ LCD for **type 391** only); accuracy: 0.05% DCV (**types 391** and **388A**), 0.1% DCV (**type 390**), 0.25% DCV (**type 389**); Autoranging: **types 390** and **389**, manual ranging: **types 391** and **388A**; 1000VDC and 750VAC ranges; min/max (**types 390** and **389**); temperature (**type 390**); logic, Hz (**type 391**); C, Hz (**types 390** and **389**); V, A, Ω, Hz, C, hFE, logic (**type 388A**); duty cycle (**type 391**), relative (**types 389** and **390**). All include test leads, battery, instruction manual, and rubber boot. (Thermocouple probe - **type 390** only).

93F3749 Type 391. **Each** **185.00**
93F3748 Type 390. **Each** **165.00**
93F3747 Type 389. **Each** **145.00**
89F862 Type 388A. **Each** **125.00**
(5416) (ne08961)

BENCH DIGITAL MULTIMETERS

2831A

Type 2831A features 3½-digit LED display, 0.1% DCV accuracy, 1200VDC, 1000VAC, 20A, manual ranging, 40KHz AC response, and high energy fused. Power requirements: 120/240VAC, 50/60Hz (5W). Includes test leads, spare fuses, and instruction manual.

60F2760 Type 2831A. **Each** **299.00**
(5419) (ne09077)

MINI-PRO SERIES DIGITAL MULTIMETERS

2407

The Mini-Pro series are professional quality multimeters at low cost. **Type 2405** includes DCV, ACV, CDA,Ω, hFE, manual range selection, 3½-digit LCD display, and 0.5% DCV accuracy. **Type 2407** includes all **type 2405** features (except hFE) plus autoranging and audible continuity. All include test leads, battery, and instruction manual.

52F6792 Type 2407. **Each** **55.00**
52F6291 Type 2405. **Each** **27.00**
(5418) (ne09076)

BK PRECISION®

COMPONENT TESTERS

CAPACITOR SORTING METER

NEW

Type 890 features large LCD with dual display, 5,000 count resolution and 9 automatically selected ranges with full scale value from 0.1pF to 50mF. Visible and audible alerts for fast sorting of capacitors against standard or user-programmed tolerances. Static recording for automatic calculation of max/min/avg values. Data hold. Computer interface (RS-232) for recording and comparison of test results.

83F7341 Type 890. **Each**..... **149.00**

Type AK-890 software available; order separately. Includes protective holster, test leads, 9V battery, and operation manual. Books, videos, and software are nonreturnable.

83F7339 Type AK-890 Software. **Each**..... **45.00**
(33279) (ne33279)

AUTORANGING CAPACITANCE METER

Type 830 measures up to 199.9mF with 0.2% accuracy. Features 3½ digit LCD and autoranging operation. Test method is DC. RC time. Uses 4 C-size NiCad or alkaline, or **type BC-28** AC adapter/charger available separately; *contact your local Newark sales office.*

60F2766 Type 830. **Each**..... **350.00**
62F549 Type BC-28 Adapter/Charger. **Each**... **23.00**
(33280) (ne33280)

MANUAL RANGING CAPACITANCE METER

Type 810B measures capacitance to 20mF. Basic accurance is 0.5%. Manual ranging. 3½ digit LCD. Test method: AC, X_C. Powered by 9V battery (included). **Type LC-29A** carrying case available; *order separately below.*

46F8204 Type 810B. **Each**..... **99.00**
89F863 Type LC-29A Carrying Case. **Each**.... **10.00**
(33274) (ne33274)

TYPE 878 DUAL DISPLAY LCR BRIDGE WITH STATISTICAL FUNCTIONS

- **8 Capacitance Ranges: 1000pF to 10mF**
- **7 Resistance Ranges: 10Ω to 10MΩ**
- **8 Inductance Ranges: 1mH to 10,000H**

Also measures capacitor dissipation factor and inductor Q factor. Simultaneously displays these values and remembers minimum and maximum. Keeps running average of tested component values. Relative mode displays difference between measured and reference values. Tolerance mode beeps to indicate component outside 1%, 5% or 10% reference value. Two test frequencies (120Hz, 1kHz) and auto or manual ranging. Uses one 9V battery or AC adapter. Includes test leads, adapter, instructions.

93F3750 Type 878. **Each**..... **275.00**
(5294) (de00886)

TYPE 875B 3½-DIGIT LCD LCR METER

- **8 Capacitance Ranges: 200pF to 20mF**
- **7 Resistance Ranges: 2Ω to 20MΩ**
- **7 Inductance Ranges: 200µH to 200H**

Rotary switch allows easy function/range selection. Measure dissipation factor of capacitors and 1/Q of inductors. Low battery and overload indicator. Overload: fuse-protected 250VAC, 100mA. Measurement rate: 2.5 per second, nominal. Includes test clips, 9V battery, spare fuse, instructions.

46F8205 Type 875B. **Each**..... **189.00**
(5293) (de00885)

COMPONENTS TESTER

Type 815 measures capacitance to 20mF, resistance to 20MΩ, diode test, transistor leakage, transistor gain, LED test, 2mA, 10mA battery test underload 9V, 1.5V, 1.55V. 3½ digit LCD. Powered by 9V battery (included). **Type LC-29A** carrying case available; *order separately below.*

50F434 Type 815. **Each**..... **99.00**
89F863 Type LC-29A Carrying Case. **Each**.... **10.00**
(33275) (ne33275)

2.7GHz MULTIFUNCTION COUNTER

NEW

Type 1856B benchtop multifunction counter measures frequency to 2.7GHz. Includes period, selectable gate time, min/max/avg, RS-232 data output. 8 digit display. Uses battery or AC power.

83F6854 Type 1856B. **Each**..... **469.00**
(33278) (ne33278)

1.25 AND 2.5GHz FREQUENCY COUNTER

NEW

Hand-held multifunction counters measure frequency, period, selectable gate time, and min/max/avg. RS-232 data output. 8-digit display. **Type 1870** measures frequency to 1.25GHz, has 2 channel input selection, and selectable sensitivity of 50-120mV rms. **Type 1875** measures frequency to 2.5GHz, has 3 Channel input selection, and selectable sensitivity of 50-120mV rms. Both types use battery (not included) or AC power.

83F6852 Type 1870. **Each**..... **209.00**
83F6853 Type 1875. **Each**..... **249.00**
(33276) (ne33276)

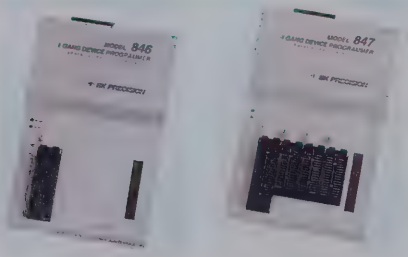
175MHz UNIVERSAL COUNTER

Type 1823 benchtop universal counter measures frequency to 175MHz. Includes period, period average, totalize, ratio, time interval, selectable gate time and min/max/avg. 8 digit LED. Sensitivity to 20mV rms. AC power: 100/120/220/240VAC, 50/60Hz.

50F3660 Type 1823. **Each**..... **399.00**
(33277) (ne33277)

EPROM PROGRAMMERS AND UNIVERSAL TESTERS

UNIVERSAL DEVICE PROGRAMMERS



846 847

Types 846 and **847** plug directly into printer port and programs FPGA's, GAL'S, PEEL'S, EPLD'S, EPROMS, EEPROM'S, micro's, and serial PROM's. Operates in conjunction with the full spectrum of IBM compatibles: PC, XT, AT, Pentium, PS/2, portables and clones. Over 50 different optional converters are available for device packages such as PLCC, SOP, TSOP, QFP and SDIP. **Type 846** includes 48 pin ZIFF socket. **Type 847** includes 48 pin ZIFF socket and (3) 32 pin ZIFF sockets. Both include software diskette, instruction manual, power transformer, and parallel printer cable.

91F2908 Type 846. **Each**..... **495.00**
(12530)
91F2909 Type 847. **Each**..... **595.00**
(ne09887)

SINGLE VOLTAGE ANALOG INSULATION TESTERS

305

Type 300 provides 1000V, 2000MΩ to insulation resistance; measures ACV to 600V; battery powered analog display. **Type 305** same as **type 300** except 500V, 1000MΩ. Both types include test leads, batteries, carrying case and instruction manual.

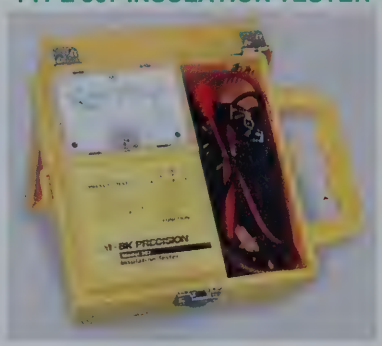
92F3257 Type 300. **Each**..... **135.00**
16F9058 Type 305. **Each**..... **135.00**
(6574) (nec9167)

UNIVERSAL CABLE/HARNESS TESTER

Type 205 detects opens, shorts, and miswires. RS-232 interface with an easy-to-read, 2 line x 16 character LCD display provides instant pass/fail or error messages. Test up to 128 points in fractions of a second. Stores up to 50 test programs. Adapter card accepts industry's most popular connector styles (connectors not included with adapter card). Includes single wire test probe.

83F7340 Type 205. **Each**..... **895.00**
(37472) (ne37472)

TYPE 307 INSULATION TESTER



307

Type 307 provides multiple voltage testing with 250V/50MΩ, 500V/100MΩ, or 1000V/200MΩ ranges. Analog display. Battery operated. Low resistance test. Includes batteries, integral carrying case w/strap, test leads, and instruction manual.

16F9057 Type 307. **Each**..... **195.00**
(6573) (nec9166)

EPROM PROGRAMMERS

Type 840 programs EPROMS, EEPROM'S Flash, PROM. Library contains over 500 devices. Includes 32 pin ZIFF socket, software diskette, 40 pin ribbon, and instruction manual. **Type 843** programs PAL's, GAL's, EPROMS, EEPROMS, micro's and bipolar PROM. Library contains over 1800 devices. Test TTL and CMOS logic IC's. Includes 48 pin socket. Test chips up to 246 MB. Plugs directly into printer port. Includes 32 pin ZIFF socket, software diskette, 40 pin printer cable, and instruction manual.

52F6286 Type 840 Device Programmer. **Each** **205.00**
52F6290 Type 843 Parallel Port Version. **Each** **795.00**
(6516) (nec7039)

TYPE 308 INSULATION TESTER

308

Type 308 provides multiple voltage testing of 250V, 500V or 1000V with resistance to 2000MΩ. 3½ digit LCD. Battery Operated. Low resisance test. Includes batteries, integral carrying case w/strap, test leads, and instruction manual.

16F9056 Type 308. **Each**..... **265.00**
(6572) (nec9165)

TYPE 1280 COMPUTER MONITOR PATTERN GENERATOR

1280

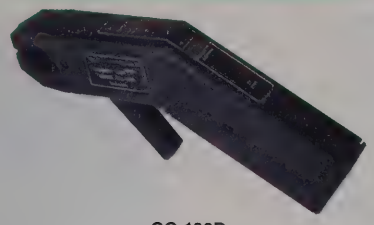
Generates RGB test patterns for most computer monitors, CGA, EGA, VGA, SVGA, and MACII. Color bars, crosshatch, grayscale and solid color raster, red, green, blue or white. Connects directly to 9-pin or 15-pin D connector or BNCs. H sync and V sync or sync on green. Power: supplied AC adapter for 120VAC ±10%, 60Hz; external DC, 7.5-12V; or 9V battery.

52F552 Type 1280. **Each**..... **429.00**
(5405) (ne08880)

NEED IT FAST?
OVERNIGHT SHIPMENT IS AVAILABLE ANYWHERE, ANYTIME.
CONTACT YOUR LOCAL NEWARK SALES OFFICE.

GAUSSMETERS AND TEST EQUIPMENT

CURRENT METERS/PROBES



CG-100D

- **Non-contact measurements**
- **For conductors up to ¾″ diameter**

Types CG-100A and **CG-120A** current probes work with any multimeter, scope, or recorder. Frequency: DC to 1kHz. **Type CG-100D** current meter features 3½-digit LCD and analog output.

Stock No.	Type	AC/DC Range	Each
93F9846	CG-100D	±200A	**385.25**
93F9847	CG-100A	±10A, ±100A	**306.00**
93F9848	CG-120A	±50A, ±500A	**198.00**

(6575) (nec9168)

NON-CONTACT CLAMP-ON MILLIAMMETER, DC/AC TRUE RMS

Non-contact measurements of very low DC or AC currents from 1mA to 2000mA, with resolution as low as 0.1mA. Frequency range: DC to 100kHz in 2 ranges: DC to 200Hz and 200Hz to 100kHz. Basic accuracy: 1% of reading. Aperture: 0.21″. Easy-to-read 3½-digit LCD displays DC or true RMS AC currents in milliamps. Analog output through BNC connector for scopes or recorders. Detachable probe. Lightweight, battery operated.

92F6663 Type MA-2000. **Each** **625.07**
(6577) (nec9170)

5000 SERIES GAUSSMETERS

5080

Test, sort, and classify magnets, test AC and DC motors, check residual and stray fields. Meters feature readings in Gauss or Tesla on easy-to-read, built-in LCD. Standard transverse probe, zeroing chamber, batteries, and hard carrying case included. **Type 5060** DC only, 4% accuracy. **Type 5070** DC to 10kHz, peak hold, 2% accuracy. **Type 5080** DC to 20kHz, 1% accuracy, peak hold, RS-232 and analog outputs.

Stock No.	Type	Ranges	Each
16F9078	5060	2kG, 20kG	**520.01**
16F9079	5070	200G, 2kG, 20kG	**730.12**
16F9080	5080	300G, 3kG, 30kG	**1045.28**

(6578) (nec9171)

6000 SERIES HALL EFFECT GAUSSMETER

Type 6010 hall-effect gauss/tesla meter represents the latest innovations and state-of-the-art design. F.W. Bell's exclusive Dynamic Probe Correction feature, along with temperature compensation, allows measurements up to 300kG with a basic correction of 0.025%. Features include: peak hold, min./max. hold, auto zero, auto range, relative mode, and temperature measurement. Measurement range (depending on probe option): 1mG (0.1μT) to 300kG (30T). Frequency response: dc to 20kHz. Temperature measurement (requires optional temperature compensated probes): –40°C to +100°C. Display: large alpha-numeric LCD with dual 3¾-digit readout. Measuring units: gauss, tesla, amperes/meter. Includes a zero gauss chamber, accessory hard case, built-in rechargable battery, quick-reference card, and instruction manual.

83F9146 Type 6010 Hall-Effect Gaussmeter. **Each** **1923.43**
(41770) (ne41770)

CURRENT/POWER PROBES

UM-7700

- **For Conductors up to 2⅜″ Diameter**
- **Measure AC And DC Currents up to 1000A**
- **Type UM-7700 Measures AC Power up to 330kW**
- **Analog Output Connects to Multimeter or Recorder**

Type UM-1000 measures DC current: 1-1000A, 1.5%; AC current: 1-1000A, 2.5%. Output is 1mV/A. **Type UM-7700** measures DC current: 1-1000A, 1.5%; AC current 1-1000A, 1.5%. Output is 1mV/A. Actual power: 1-330kW, 3%. Output is 1mVDC/kW. Comes with hard case and battery.

99F3376 Type UM-1000. **Each** **479.25**
99F5274 Type UM-7700(131956. **Each** **630.50**
(10525) (ne09873)

ELF MAGNETIC FIELD METERS

4070 4080 4090

Measure extremely low frequency magnetic fields from AC power lines, appliances, and electrical equipment. Large 3½-digit display. Battery and instructions included. Simple one-switch operation. **Type 4070** is a single-axis meter. **Type 4080** and **4090** feature 3 axis measurements to eliminate errors caused by improper alignment. **Type 4090** is most accurate (±1% of reading).

16F9075 Type 4070. **Each** **136.52**
16F9076 Type 4080. **Each** **209.58**
16F9077 Type 4090. **Each** **414.96**
(6580) (nec9173)

MULTIMETERS, SOUND METER KITS AND ACCESSORIES

260 SERIES ANALOG VOM

260-8 AND 260-8XI

The **260 series** is for monitoring fluctuating trends and rates. Large color-coded dial with mirrored scale to eliminate parallax error. More than 20 measuring ranges for DC voltage, AC voltage, DC current, resistance, and dB level. Also measures AC current up to 250A with **Type 150-2** amp clamp accessory, *ordered separately; contact your local Newark sales office.* **Types 260-8P** and **260-8PRT** also feature overload protection and audible continuity check. **Types 260-8RT** and **260-8PRT** include roll-top case. All models include batteries, test leads with alligator clips, and manual. *Carrying cases and other accessories sold separately; see below.*

62F300 Type 12388 (260-8). **Each** **194.07**
62F303 Type 12389 (260-8RT). **Each** **232.88**
62F1191 Type 12391 (260-8P). **Each** **258.75**
62F2270 Type 12392 (260-8PRT). **Each** **296.79**

Types 260-8Xi, 260-8XPi offer the same features in a highly-visible yellow, durable ABS plastic housing designed for the toughest environments. **Type 260-6XLM** has special low power ohms. **Type 260-6XLMP** also features overload protection.

50F3533 Type 260-8Xi. **Each** **209.59**
50F3534 Type 260-8XPi. **Each** **274.28**
98F3358 Type 260-6XLM. **Each** **257.72**
16F2246 Type 260-6XLMP. **Each** **294.99**
(5320) (de01487)

TYPE 270-5 HIGH-ACCURACY VOM

270-5

Extra-high accuracy VOM for applications requiring critical measurements: ±1.25% f.s. DC volt accuracy, ±2% f.s. AC volt accuracy. Large color-coded dial with mirrored scale to eliminate parallax errors. Self-shielding meter movement. More than 20 measuring ranges for DC voltage, AC voltage, DC current, resistance, and dB level. Also measures AC current with **type 150-2** amp clamp accessory, *order separately; contact your local Newark sales office.* Both models include test leads with alligator clips, batteries, and manual. **Type 270-5RT** comes with roll-top case. *Order other accessories separately; contact your local Newark sales office.*

62F380 Type 12226 (270-5). **Each** **220.46**
16F2247 Type 270-5RT Roll-Top Case. **Each** . **246.83**
(5321) (de01488)

TYPE 160 COMPACT ANALOG VOM

160

Compact, lightweight VOM with the same reliable performance of the Simpson 260. High immunity to voltage transients and RF interference. More than 20 measuring ranges for DC voltage, AC voltage, DC current, resistance and dB level. Includes batteries and test leads with probe tip. *Carrying cases and other accessories sold separately; see below.*

62F1723 Type 12271 (160). **Each** **191.48**
62F1682 Type 02225 CASE. **Each**..... **48.98**
62F1686 Type 02055 LEADS. **Each** **18.66**
(5322) (de01489)

228 AC/DC & 229-2 CURRENT LEAKAGE TESTERS

228

229-2

Type 228 AC/DC is designed to mimic the human body's sensitivity to electrical shock (Let-Go, reaction, and burn hazard). **Type 229-2** detects small leakage currents in appliances, motors, and other equipment. **Type 228** complies with UL, IEC, and ANSI guidelines. **Type 229-2** checks both 120 and 240 VAC equipment. Both include test leads, battery, and manual. *Carrying cases and other accessories ordered separately, see below.*

93F6825 Type 228. **Each**..... **553.73**
62F324 Type 229-2. **Each**..... **294.98**
(13528) (ne09876)

TYPE 380-2 MICROWAVE LEAKAGE TESTER

380-2

Type 380-2 microwave leakage tester measures energy radiated by ovens, heaters, and other equipment generating high power at microwave frequencies of 2450MHz. Nonpolarized probe allows selection of 4 ranges for power-density measurements: 0-2.5-10-25-100mW/cm^2. High-impact case electrically shielded. Calibration frequency: 2459MHz ±10MHz. Response time: fast, 1.2 sec. max.; slow, 3.0 sec. max. Power: one 9V battery (included). Also includes probe, foam spacer, manual, durable case.

92F4076 Type 380-2. **Each**..... **879.75**
(13535) (ne09878)

INSULATION TESTER AND GUARD CABLE

Measures insulation resistances up to 1Tohm(10^{15}) with 8 test voltages up to 5000V and battery self test. AC/DC voltmeter to 2000V AC/DC with automatic discharge feature. Includes padded case, 2 test probes, 2 alligator clips, and a plug-in battery module (D size batteries are included). **Type 45065**, optional guard cable, minimizes surface leakage errors.

83F7552 Type 505. **Each** **2068.97**
83F8111 Type 45065. **Each** **102.47**
(33281) (ne33281)

MICRO-OHMMETER

Type 444 micro-ohmmeter uses test voltage of 100µV max. to avoid punch-through of contamination or corrosion. Ideal for testing antenna grounding systems, conductive coatings, high power fuses, or aircraft skin bonding. 4½-digit, 20,000 count LCD display. 20mΩ, 200mΩ, 2Ω, 20Ω ranges. AC pulse and DC polarity switching measurement methods. 120VAC power. Includes test leads and nicad battery for field use. *240VAC version also available; contact your local Newark sales office.*

89F2214 Type 12681 (444). **Each** **1509.12**
(13168) (ne09875)

SOUND NOISE MEASURING SYSTEMS

Type 12646 (SMS-2 Kit) dosimeter sound measuring system computes dosage and records up to 31 hours at 1 minute intervals, perfect for performing accurate noise surveys for OSHA and IEC requirements. Can be calibrated in the field with **type 12648** calibrator. General purpose **types 886-2 and 899** sound level meters are full-function, type 2 instruments used for taking quick, accurate sound level measurements in industrial, laboratory and other environments. All models include carrying case, batteries, and manual.

Stock No.	Type	Each
92F4071	12646(SMS-2 Kit)	**1221.82**
92F4072	12648(887-2)	**314.64**
81F110	40007(886-2/890-2)	**833.44**
81FX000	40004 (886-2)	**578.05**
92F4066	40015(899)*	**1437.62**

*Includes 899 SML/896 Calibrator/898 Band Filter
(5323) (de01490)

TEST EQUIPMENT ACCESSORIES

Stock No.	Type	Description	Each
50F3535	00832	Nylon Carrying Case-Yellow*	**56.41**
50F8971	00834	Nylon Carrying Case-Black*	**56.41**
62F302	00805 CASE	Ever-Ready Vinyl Case*	**70.65**
62F204	00248	Roll-Top Carrying Case (260-8, 8P & 270-5)	**56.13**
62F3012	00043	Probe Leads w/Screw Clips (260-8, 8P and 270-5)	**17.06**
62F2834	00125 TEST LEADS	Probe Leads w/Alligator Clips (260-6XLM, 6XLMP, 8Xi, 8XPi, and 228)	**17.06**
81F4923	05577(UNIV TL)	14 Pc Test Lead Kit (UNIV TL)	**79.03**
62F2377	00545	150-2 AC Amp-Clamp (260-8, 8P and 270-5)	**100.74**

*For use with **types** 260-8, 8P, 8Xi, 8XPi, 6XLM, 6XLMP, 270-5, 228, 229-2
(5376) (de53380)

TRIPLETT

MULTIMETERS AND TESTERS

VISUALEYEZER HEADS-UP DIGITAL VOM

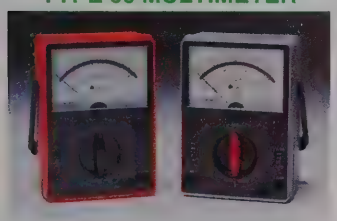
MADE IN USA

- View Measuring Points and Reading Simultaneously
- Reduces Chance of Accidental Probe Slippage
- High Energy Fuse in Each Probe Tip
- All Ranges and Functions Protected to 600VAC RMS
- 4 DCV Ranges to 600V, Autopolarity
- 3 ACV Ranges to 600V RMS (True RMS, 20Hz to 20kHz)
- 5 Resistance Ranges to 4000kΩ
- True Continuity Beeper with Loudness Control
- Decibel Function (True RMS, 20Hz to 20kHz)
- Relative Mode Including Relative dB
- Auto and Manual Range Selection
- 2-Year Warranty, 1-Year Calibration

Type 3250 includes hard-sided foam-lined carrying case, 60″ fused test leads with screw-on alligator clips, beltpack with adjustable strap, AC power pack, eyepiece assembly, and manual. Uses 4 alkaline C-cell batteries not included.

01F158 Type 3250. **Each**..... **369.00**
(19335) (ne10992)

TYPE 60 MULTIMETER



- Case Withstands 5′ Drop
- Accuracy: ±1.5% DC, ±3% AC
- Mirrored Scale, Polarity Reversing Switch
- 3-Year Warranty
- 5 Ohm Ranges to 10MΩ

28 ranges up to 1000VAC or DC: 8 DC 6 AC volt ranges, 4 DC current ranges, 5 decibel ranges. 3-fuse arrangement overload protection. Includes: 48″ leads, alligator clips, batteries, fuses, instructions.

62FX170 Type 60(3145). **Each**..... **199.00**
(5357) (de50617)

ANALOG MULTIMETERS & VOM'S

Type 630 features: 25 ranges up to 600VAC/DC, glass meter window for added chemical resistance, 2 input jacks, ACV frequency response to 40kHz, resistance measurement of 30V/100M on R x 100k range for testing insulation. Includes: test leads, screw-on alligator clips, batteries, fuses, and manual.

62F212 Type 630 (3030). **Each** **189.00**

Type 630-PLK features: 28 ranges up to 1000VAC/DC, AC voltage frequency response to 40kHz, output voltage measurement (DC block), current measurement to 10A (no external shunt required), overload relay provides resettable protection, polarity reversing switch, large durable plastic window for easy viewing, resistance measurement of 30V/100M on R x 100k range for testing insulation. Includes: 48″ test leads, screw-on alligator clips, batteries, fuses, and manual.

62F1775 Type 630-PLK (3055). **Each**..... **289.00**

Type 666-R is a compact and portable VOM. Features: 14 ranges to 1000VAC or DC, 4 DC and AC volt ranges, 3 DC current ranges and 3 ohm ranges to 3MΩ. Includes 48″ leads, alligator clips, batteries and instructions. 3-year warranty.

62FX209 Type 666-R. **Each** **135.00**
(5356) (de50616)

TRUE-RMS CLAMP-ON METERS

NEW

- Meets IEC 1010 Category III 600V
- 3-Year Warranty
- Clamps Fit One 750 MCM Cable or Two 350 MCM Cables
- Rugged - Designed to MIL-T-28800 for Class II Instruments
- Includes Vinyl Carrying Case, Test Leads, Screw-On Alligator Clips, 9V Battery and Manual
- CE Compliant

Type 9300 is a basic ACA clamp-on meter. 3½ LCD with max. reading of 1999, AC/DC voltage measurement to 600V, AC current measurement to 600A, resistance measurement to 200Ω, average AC responding measurements, continuity test, manual ranging, and data hold features.

48F4012 Type 9300. **Each**..... **79.00**

Type 9310 is an AC/DC clamp-on meter. 3¾ LCD with maximum reading of 3999, AC/DC voltage measurement to 600V, AC/DC current measurement to 1000A, resistance measurement to 400Ω, frequency measurement to 4MHz, average AC responding, DCA zero-adjust knob, continuity test, manual ranging, and peak hold features.

48F4013 Type 9310. **Each**..... **99.00**

Type 9320 is same as **type 9310** except that it has true rms, autoranging, and diode testing capabilities.

48F4014 Type 9320. **Each** **119.00**
(34099) (ne34099)

TYPES 9000 AND 9030 DIGITAL MULTIMETERS

- 3½-Digit LCD
- 5 DCV Ranges to 1000V
- 5 ACV Ranges to 750V
- 6 DC and 5 AC Current Ranges to 10A
- 6 Resistance Ranges to 20MΩ
- Diode Test
- Continuity Test
- Transistor Test
- 3-Year Warranty

Type 9000 multimeter also tests batteries and temperature. Rugged case design. Red rubber boot. **Type 9030** multimeter has same features as above except temperature test. Also features dual display, bargraph, frequency, capacitance, data hold, auto hold, min/max, relative mode, and stop watch.

91F3081 Type 9000. **Each**..... **49.00**
91F3084 Type 9030. **Each**..... **79.00**
(19336) (ne10994)

TYPE 310 MULTIMETER

- High-Impact Thermoplastic Case
- 5 AC/DC Voltage Ranges
- 4 DC Current Ranges
- 4 Resistance Ranges to 20MΩ
- Accuracy: ±3% DC, ±4% AC
- 3-Year Warranty

Diode overload protection and fused ohm range. Includes 42″ leads, alligator clips, batteries and instructions.

62FX230 Type 310 (3018). **Each** **86.00**

TYPE 310-C MULTIMETER

Same as **type 310** except 18 ranges to 600VAC and DC polarity reversing switch.

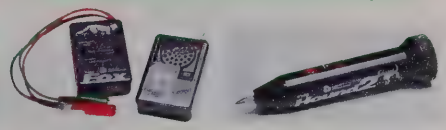
62FX292 Type 310-C. **Each** **112.00**
(5354) (de50614)

MULTIMETER MAINTENANCE KITS

Type 100 maintenance kit includes **type 310** multimeter, **type 10** clamp-on AC ampmeter, **type 101** line separator, 42″ separating leads and carrying case. **Type 100-C** same as above except with **type 310-C** multimeter.

62FX249 Type 100(3014). **Each**..... **199.00**
62FX252 Type 100-C. **Each** **229.00**
(5355) (de50615)

FOX AND HOUND WIRE TRACER



Fox (tone generator) and Hound (inductive tracer) locate hard-to-find wires easily. Fox generates 3 distinct tones for wire tracing. LED indicator for continuity. Hound has hi-gain, hi-impedance amplifier. Can identify Fox's tone up to 12″ away from testing wire through various surfaces. Moisture-resistant Mylar cone speaker. Locate wire without piercing insulation. Uses 9V alkaline battery; *ordered separately on page 4.* LAN Fox also available for LAN Cable tracing.

90F9691 Type 3385-FOX/HOUND. **Each**..... **69.00**
98F6066 Type 3380-FOX. **Each**..... **27.00**
92F6146 Type 3390-HOUND. **Each**..... **47.00**
92F4094 Type 3236-HOUND2. **Each** **47.00**
92F6147 Type 3245-FOX/HOUND 2. **Each** **69.00**
92F6148 Type 10-3983 Case. **Each**..... **17.50**
16F8187 Type 3243 LAN Fox. **Each**..... **29.00**
16F8188 Type 3249 LAN Fox/Hound. **Each** ... **71.00**
16F8189 Type 3248 LAN Fox/Hound 2. **Each**.. **71.00**
(5331) (de01945)

LAN CABLE TESTERS

WIREMASTER RJ-45 LAN CABLE TESTER

Verifies point-to-point wiring of RJ-45 patch cables. 8 LEDs identify the destination of each conductor in cable. Checks for continuity in straight-through wiring. 1-year warranty. For cable types: AT&T 258A, EIA/TIA T568A or T568B, TP-PMD and any RJ-45 cable.

52F9724 Type 3251WMRJ-45. **Each**..... **35.00**

WIREMASTER XR

Verifies point-to-point wiring of twisted pair LAN cables. Checks for continuity in straight-through wiring. 8 LEDs identify the source and destination of each conductor. Direct connection of 8-pin RJ-45 or 6-pin RJ-11 cables. Generates 2 district tones usable for cable tracing. Allows remote testing of cable runs up to 1000 ft. Carrying case included. 1-year warranty. For cable types: RJ-45 8-pin, RJ-11 6-pin 6 conductor, RJ-11 6-pin 4 conductor, straight-through or reverse wiring.

52F9723 Type 3254WMXR. **Each** **99.00**
(37276) (ne37275)

"SNIFF-IT" CIRCUIT BREAKER LOCATOR

UL NEW

Type 9650 locates circuits without turning off breakers. No adjustments necessary. Audible/visual indicators. Impact-resistant rubberized case. Magnetically attached to panel. Exclusive probe design for improved sensitivity. Uses 9V battery (not included). UL listed. 5-year warranty.

48F3891 Type 9650. **Each**..... **46.00**
(34097) (ne34097)

TYPE 9600 "SNIFF-IT" AC VOLTAGE DETECTOR

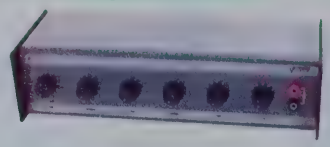
NEW UL

Type 9600 provides an easy and economical way to check for AC voltage. Safe, noncontact. Check 50- to 600VAC. Visual and audible alerts when AC voltage is present. UL listed. 5-year warranty.

48F4015 Type 9600. **Each**..... **16.00**
(34098) (ne34098)

DECADES, POWER SUPPLIES AND MULTIMETERS

DECADE BOXES



WR-418

Decades have precision switches with 12 self-wiping contacts, 10 steps/range and 5-year accuracy stability. **WR series** resistance decades offer accuracy to 0.03%. Additional models available; *contact your local Newark sales office.*

WR SERIES RESISTANCE DECADES

Stock No.	Type	Max. Ohms	Ohms Ranges	Accuracy	Each
97F8341	WR-415	1,111,111.1	100K, 10K, 1K, 100, 10, 1, 0.1, 0.01	0.1%	1363.73
97F8343	WR-417	111,111.1	10K, 1K, 100, 10, 1, 0.1,	0.1%	760.76
97F8344	WR-418	1,111,110	100K, 10K, 1K, 100, 10, 1	1.0%	344.32
97F8345	WR-419	11,111,111	1MOhm, 100K, 10K, 1K, 100, 10, 1, 0.1	0.03%	2855.99

(5341) (de03475)

WP SERIES ISOLATED AC POWER SOURCES

WP-32

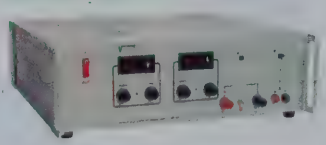
Designed to isolate equipment and circuits from the AC power line. Useful for safe servicing in the school, lab or shop. And to help service transformerless AC-operated equipment and devices with intermittent troubles and hazardous equipment. Maximum VA continuous is 1050. Maximum leakage is 0.01mA. **WP29B, WP30** and **WP32** feature variable and fixed isolated AC outputs, leakage of less than 0.2mA, audible leakage test, and adjustable current limiting. 105/130VAC, 50/60Hz for all models.

Stock No.	Type	Output	Ratings	Each
55F5354	WP29B	Single	0-150VAC @ 0-3A	489.58
46F5200	WP-30	Double	0-150VAC @ 0-5A	783.75
46F5199	WP-32	Double	0-150VAC @ 0-10A	1018.88

(5367) (de52261)

DC POWER SUPPLIES

WP-75



WP-718

Type WP-75 is a DC single output regulated power supply. Features include CC/CV operation, automatic overload protection circuit, very low output ripple, SCR prereg-ulator technique for high efficiency, floating ground and rack mountability. **WP-76** same except dual outputs. **WP-718** high-power, single-output, digital CC/CV laboratory power supply. High-performance design provides precision DC voltage and current.

Stock No.	Type	Output	Rating	Each
93F6868	WP-75	Single	0-50V @ 0-2A	531.91
93F6869	WP-76	Dual	0-50V @ 0-2A	1222.65
93F6871	WP-718	Single	0-36V @ 0-20A	1713.80

(5369) (de52263)

POWER LINE MONITORS

WV-120D

- **High Accuracy**
- **Easy-to-Read LED Display**
- **Reveals Voltage Fluctuations**
- **Indicates Brown-Outs**
- **50 to 60Hz Frequency**
- **Large, 3-Color Scale**
- **True RMS Readings Even on Distorted Sine Waves**
- **Fast Meter Action Shows Bounces and Fluctuations in Line Voltage**
- **25 to 400Hz Frequency**

AC current: 0 to 8A maximum. Size: 4 x 5 x 3″. Weight: 1.5 lbs.

Stock No.	Type	Voltage Range	Accuracy	Each
62F1657	WV-120D	100-140VAC	±2%	198.14
98F6211	WD-121A	100-150VAC	+1% @ 117V	245.26

(5334) (de03074)

WP700 SERIES LAB AND INDUSTRIAL REGULATED DC POWER SUPPLIES

WP-707B

WP700 series DC power supplies feature constant current, constant voltage (CC/CV) regulated supplies that range from 0-20VDC to 0-64VDC. Ideal for laboratory, industrial, school and hospital applications. Output voltage and current values are displayed on a 3-digit DPM with ±0.1% resolution. All DC power supplies can be converted to 220/240VAC; *contact your local Newark sales office.*

Stock No.	Type	Output	Rating	Each
55F4983	WP-705B	Single	0-64V @ 0-2.5A	600.88
55F4984	WP-706B	Single	0-32V @ 0-5A	658.35
55F4985	WP-707B	Dual	0-32V @ 0-5A	992.75
93F6870	WP-78A	Triple	0-30V @ 5A (2) & 5V @ 3A (1)	679.25
44F1069	WP-713B	Dual	0-32V @ 0-1A	522.50

WP700 SERIES ANALOG DC POWER SUPPLIES

Stock No.	Type	Output	Description	Each
62F003	WP-704A	Single	0-40V @ 0-0.25A	290.52
62F000	WP-702B	Dual	0-20V @ 0-0.2A	349.70

(5365) (de52259)

AUTOMATIC CC/CV POWER SUPPLIES

WP773B

Constant current/constant voltage power supplies include fully variable voltage and current, with both coarse and fine adjustments for voltage. Suited for use in circuit breadboarding, production line testing, labs, schools, service centers, and repair facilities. Complete with test leads with dual banana plugs and complete instruction manual.

Stock No.	Type	Description	Each
89F1172	WP773B	0-30V @ 0-3A	295.00
98F3798	WP775B	0-30V @ 0-5A	365.00
50F2724	WP-710	0-16V @ 0-10A	480.00

(5366) (de52260)

DIGITAL WATTMETERS

WD767
WD-768

Designed to provide quick, accurate, and direct measurement of true rms voltage, rms current, and power. Operate from 120VAC line, and line voltage can be measured up to 150V. All units indicate when power over range occurs. Front and rear outlets allow for more flexibility. **Type WD-766A** features 1KW, 10A, 3-digit 0.56″ (14.22) LED display. Measures to 999W. Accuracy volts: ±1% ± 1 digit. Resolution volts: 1V. **Type WD767** features 2KW, 20A, 3.5-digit 0.56″ (14.22) LED display. Measures to 1999W. **Type WD-767E** is the same as **type WD767**, but operates from 220/240VAC; *contact your local Newark sales office.* Accuracy volts: ±0.75% ± 1 digit. Resolution volts: 0.1V. **Type WD-768** features simultaneous data outputs (4-20mA) for volts, amps, and watts.

44F1075 Type WD-766A. **Each** **484.20**
89F1173 Type WD767. **Each** **585.20**
93F6872 Type WD-768. **Each** **804.65**
(5368) (de52262)

WAVETEK

DIGITAL MULTIMETERS

POCKET-SIZED METER AND COUNTERS

AM8, DM7, DM9

Type AM8 analog meter features voltage range: VDC 10/500V, VAC 10/500V. DC current range is 500µA-250mA. Resistance: Rx1kΩ/1MΩ. Battery tester: 1.5V, 9V. Dimensions: 5.1 x 2.6 x 1.7″. Weight: 6.7 oz.

16F3261 Type AM8. **Each** **16.95**

Type DM7 is a digital meter with 2,000-count. Voltage range: DC 2/600V, AC 200/600V. DC current: 200mA. Resistance: 2000Ω/2MΩ. Battery tester: 1.5V, 9V. Dimensions: 5.5 x 3.1 x 1.6″. Weight: 8.2 oz.

16F3262 Type DM7. **Each** **25.33**

Type DM9 is a compact autoranging digital multimeter with 4,000-count display. Ideal for field service. 600V AC/DC, 400mA AC and DC current, resistance to 40Mohm, diodes, batteries and continuity.

16F3263 Type DM9. **Each** **45.63**
(5408) (ne06886)

POCKET SERIES 3½–DIGIT MULTIMETERS

DM2

15XL

- **Compact, Easy-to-Use**
- **Rugged Construction**
- **Fused Current Inputs**
- **User Safety Features**
- **DC Voltage to 1000VDC**
- **CE Compliant, Except Type DM2**

Type DM2 compact DMM measures voltage to 1000VDC/500VAC, DC current to 200mA (fused) and resistance to 2MΩ. Diode testing. Includes 9V battery, test leads, spare fuse and manual.

95F3650 Type DM2. **Each** **33.45**

Type DM5XL. Full-function, pocket-size meter is ideal for shop or classroom. Large, easy-to-read LCD with 17 ranges to measure AC/DC volts, DC current to 200mA and resistance to 2MΩ. Diode testing and a continuity beeper. Includes 9V battery, test leads and manual.

50F4976 Type DM5XL. **Each** **42.58**

Type DM10XL. This pocket-size meter provides 21 ranges, measuring AC/DC volts, DC current to 10A (fully fused) and resistance to 20MΩ. Diode testing and a continuity beeper. Built-in Safety Tester™ quickly indicates live voltage levels with LEDs (12, 24, 50, 110 and 220V). Includes 9V battery, test leads and manual. *Order carrying cases and accessories separately; contact your local Newark sales office for details.*

82F9921 Type DM10XL. **Each** **52.73**

Type DM15XL. Ideal for testing digital equipment, this pocket-size meter features a built-in 20MHz TTL logic detector and 28 measurement ranges, including AC/DC volts, AC/DC current to 10A (fused) and resistance to 2000MΩ. Diode testing and a continuity beeper. Includes 9V battery, test leads and manual. *Order carrying cases and accessories separately; contact your local Newark sales office for details.*

44FX567 Type DM15XL. **Each** **62.88**

Type DM16XL Pocket-size meter with all the features of **type DM15XL** plus TTL logic detector, capacitance to 20µF frequency to 15Mhz and transistor hFe.

16F3251 Type DM16XL. **Each** **81.15**

Type H10Y Protective Holster, blue for XL DMMs. Combination protective rubber holster and tilt stand. Allows user to place meter in backwards for protection during storage.

Type VC30 Padded soft carrying case comfortably fits meter when in holster. Storage pocket inside for test leads and operators manual.

96F6749 Type H10Y. **Each** **10.60**
99F4595 Type VC30. **Each** **15.93**
(5424) (ne53030)

XT SERIES HIGH-PERFORMANCE MULTIMETERS

28XT

27XT

- **Full Featured DMMs + Component Testing**
- **Built-in LCR, Type 27XT**
- **Built-in CR, Type 25XT**
- **Temperature Test, 23XT & 28XT**
- **Large 3.5-Digit Display, 2000-Count**
- **Volt Ranges to 1000VDC/750VAC**
- **0.5% VDC Accuracy**
- **Resistance to 2000MΩ**
- **Audible Continuity Check + Diode Test**
- **CMOS & TTL Logic Test**
- **Input Warning Beeper**
- **Fused Current Inputs**
- **28XT Ideal for HVAC/R, Computer Rooms, Field Service**
- **CE Compliant**

Type 23XT mid-sized, full functioning DMM measures ACV/DCV to 750/1000V, current to 10A, fully fused, resistance to 2000MΩ, diode and continuity tests, transistor hFE, TTL and CMOS logic and temperature from 1400°F (750°C) and data hold, 550VAC safety tester. Units shipped with K-type beaded wire thermocouple, test leads, multilingual operator manuals and spare fuse.

16F8165 Type 23XT. **Each** **97.93**

Type 25XT mid-sized, full functioning DMM with built-in capacitance/resistance measures ACV/DCV to 750/100V, AC/DC current to 10A, fully fused, resistance to 20MΩ, capacitance to 20mF (full capacitance meter with zero adjust cap slots), frequency to 40kHz, TTL and CMOS logic and transistor hFe, data hold, test leads, multilingual operator manuals and spare fuse.

16F8166 Type 25XT. **Each** **108.58**

Type 27XT mid-sized, full functioning DMM with built-in inductance/capacitance/resistance measures AC/DCV to 7500/1000V, AC/DC current to 20A, fully fused, resistance to 2000MΩ, frequency to 20Mhz, capacitance to 2000µF, inductance to 20H, both CMOS and TTL logic, diode and continuity tests. Multilingual operator manuals and spare fuse.

16F8167 Type 27XT. **Each** **129.33**

Type 28XT field service multimeter includes temperature to 2000°F (1300°C), capacitance to 20mF, frequency to 20kHz, resistance to 20MΩ, TTL and CMOS logic, continuity and diode tests. Includes beaded type K thermocouple probe, test leads, multilingual manual and spare fuse.

16F8168 Type 28XT. **Each** **129.33**

Type H30Y protective holster, blue for XT DMMs. Combination protective rubber holster and tilt stand. Allows user to place meter in backwards for protection during storage.

Type VC231 padded soft carry case. Comfortably fits meter when in holster. Storage pocket inside for test leads and operations manual.

52F5889 Type H30Y. **Each** **12.13**
99F3205 Type VC231. **Each** **16.99**
(5425) (ne53033)

CREDIT CARD SIZE AND PEN-STYLE DIGITAL MULTIMETERS

CE

DM78A

DM73A

- **3.5 Digit Display**
- **Autoranging**
- **Diode Test (Type DM78A)**
- **Audible Continuity Test**
- **One-Hand Operation**
- **Data Hold (Type DM73A)**
- **CE Compliant**

Type DM78A is highly functional and powerful, yet fits in shirt pocket or toolbox. Nickel-plated test leads. DC ranges: 5/200mV, 2V, 20V, 200V, 450V. AC ranges: 4/2V, 20V, 200V, 250V, 450V. Resistance ranges: 6/200Ω, 2k, 20k, 200k, 2MΩ, 20MΩ. Includes carrying case and batteries. Dimensions: 4.25″H x 2.1″W x 0.4″D (108 x 54 x11).

Type DM73A is a pen-style DMM that allows one-hand measuring in tight spots. It has 13 measurement ranges, and 0.5% basic VDC accuracy. DC ranges: 4/2V, 20V, 200V, 450V. AC ranges: 4/2V, 20V, 200V, 450V. Resistance ranges: 7/200Ω, 2K, 20K, 200K, 2MΩ, 20MΩ. Dimensions: 5.2″H x 1.1″W x 0.7″D (165 x 28 x 19). Includes batteries.

66F1958 Type DM73A. **Each** **73.03**
66F1957 Type DM78A. **Each** **38.52**
46F8159 Type AL73A/AL73 Opt. Clip Grd. Lead. **Each** .. **14.86**
(5365) (ne07167)

WAVETEK

DIGITAL MULTIMETERS

HIGH ACCURACY, TRUE RMS, 4½-DIGIT DMM

- True RMS, 20,000 Count
- ACV/DCV to 750/1000V
- AC/DC current to 20A
- Resistance to 20MΩ
- Frequency to 200kHz
- Duty Cycle
- Diode and Continuity Tests
- Auto Power Off

85XT

Type 85XT has high resolution, 20,000-count, 0.05 basic DC accuracy and true rms. ACV/DCV to 750/1000V, AC/DC current to 20A. Dimensions: 7.2 x 3.1 x 1.5″. Weight: 11 oz. CE compliant.

16F3258 Type 85XT. **Each** **198.50**
52F5889 Type H30Y Protective Holster. **Each** .. **12.13**
(5422) (ne09200)

TYPES 2005 AND 2015 DIGITAL MULTIMETERS

2015

- Professional DMMs, 0.25% Basic Accuracy
- Easy-to-use Menu Control
- Capacitance, Frequency Measurements
- Autoranging
- 42-Segment Bargraph, 4,000 Count Display
- Fused Current Inputs
- Audible Continuity Check
- Diode Test
- Data Hold, Min/Max and Relative Measuring Modes
- True RMS (Type 2015 only)

Types 2005 and **2015** are high-resolution multimeters with digital/analog display and 4000-count. AC & DC voltage range: 1000VDC/750AC. AC & DC current: 4ma/20A. Resistance: 40MΩ. Capacitance: 40µF. Frequency counter range: 400KHz. Overrange indication: MSD blinks. Measurement rate: 2/sec. nominal; 1/sec. in capacitance and frequency mode; 20/sec. analog display. Operating environment: 0°C to +50°C at ≤80% RH. Includes holster, test leads, one 9V battery, and multilingual manual. **Type 2015** has true rms for measuring noisy signals. CE compliant.

52F6712 Type 2005. **Each** **167.43**
52F6713 Type 2015. **Each** **187.73**
(5384) (ne07166)

320B PROFESSIONAL MULTIMETER

- Large 0.8″ Display
- Voltage Ranges: 1500VDC/1000VAC
- AC/DC Current to 10A
- Resistance to 20MΩ
- Audible Continuity Test

Designed for heavy-duty use: will withstand a 6-foot fall and continue to operate. Recessed display and single rotary switch prevent damage in most situations. 22 megohm impedance. Voltage ranges are protected to 1500V with 6KV transient protection. In-circuit diode/transistor test function allows accurate measurement of forward voltage drops across diode and transistor junction with 5mA test current. Semiconductors can be measured while in-circuit with a shunt as low as 200 ohms. Test leads, spare fuse and 9V-NEDA 1604 battery included. Meets MIL-T-28800 specifications.

Stock No.	Type	Description	Each
81FX017	320B	0.1% DCV Accuracy, Audible Continuity	202.95

(5374) (de53016)

SERIES 200, T-SHAPE DMMs WITH DIGO-GLO™

220 RMS225A 235

- Digi-Glo™ Backlight, Industry's Best
- Easy-to-Use Push Button Menu Operation
- Professional, Autoranging, 0.25% Basic Accuracy
- Probe Hold, Auto MiniMax™
- Auto Power Off with Disable Button
- CE, E61010 Safety Approved, CAT III
- True RMS, 10,000 Count (Type RMS225A)
- RS232C Output, Capacitance, Frequency (Type 235)

Type 220 full featured yet low cost professional DMM, AC/DC volts to 750/1000V, AC/DC current to 10A fused, resistance to 43MΩ, continuity, diode and TTL logic test.

Type RMS225A true rms measuring, 10,000 count display for highest resolution, 41 segment bargraph display, AC/DC volts to 750/1000V, AC/DC current to 10A fused, resistance to 40MΩ, continuity and diode test.

Type 235 has RS232C serial computer output, capacitance to 40mF, frequency to 40Mhz, temperature to 1300°C/2372°F, AC/DC volts to 750/1000V, AC/DC current to 10A fused, resistance to 40MΩ, continuity and diode test. Shipped with serial cable and Windows 95/98, NT software.

83F7327 Type 220. **Each**..... **152.20**
51F3911 Type RMS225A. **Each**..... **192.80**
83F7328 Type 235. **Each**..... **213.10**
(5373) (de53015)

HD160 HEAVY-DUTY TRUE RMS MULTIMETER

- True RMS
- 41-Segment Analog Bargraph
- High-Energy 10kV Transient Protection
- 4-Digit Display 10,000 Count
- Autoranging
- Contamination-Proof
- Auto Min Max™
- AC/DC Current to 20A
- Voltage to 1000VAC/DC
- Drop-Proof Case
- Probe Hold™
- Test Lead Set
- Durable, Electrical Test Lead Set

Type HD160 true rms heavy-duty multimeter is waterproof and designed for rugged industrial conditions. 41-segment analog bargraph and extended operating temperature range (–20 to +55°C) operating range for use in extremely cold conditions. Designed for rugged applications in utilities, plant and facility maintenance, and HV AC/R companies. Includes holster, 9V-NEDA 1604 battery, test leads and manual.

50F4975 Type HD160. **Each**..... **228.32**
96F6741 Type VC221A Soft Carry Case **Each** . **16.99**
(5371) (de52971)

TYPES HD110B AND HD115B TRUE HEAVY-DUTY DMMs

HD110B HD115B

- Unparalleled Ruggedness, Reliability and Safety
- Digi-Glo™ Backlight, Worlds Brightest (TypeHD115B)
- Large Shock Mounted LCD, with 0.70″ (18mm) High Digits
- Waterproof and Dustproof Enclosure
- Highest Input Protection for Industrial Applications
- Fully Fused Current Inputs
- Backlit LCD on HD115B
- Tech Preferred™ Probe Hold, Min/Max, and Peak Hold Features on HD115B
- Most Rugged Case Withstands 10′ Drops
- Extra Protective Rubber Holster with Tilt-Stand and Flex-Strap™

Types HD110B and **HD115B** are the true heavy-duty DMMs from Wavetek. They have added input protection and expanded measurement ranges for safer measurements on voltages up to 1500VDC and 1000VAC where transient of greater than 6kV may occur. Shrouded safety test leads help prevent accidents as well as the input jack safety blocker that prevents voltage measurements when the leads are in the current input jacks. Surpass the most stringent UL and EN standards for overvoltage protection (EN61010-1 Cat. III). **Type HD115B** comes equipped with capacitance and backlight. CE compliant.

91F1751 Type HD110B. **Each** **152.20**
91F1752 Type HD115B. **Each** **192.80**
96F6741 Type VC221A. **Each**..... **16.99**
62F2942 Type DC-205 Deluxe Case. **Each** **35.10**
44F574 Type DC-207 Clamp Case. **Each**..... **42.55**
(13537) (ne10241)

HD110T SERIES HEAVY-DUTY MULTIMETERS

- Measure Temperature from -4°F to +1999°F
- Resistance to 20MΩ
- New Large Display
- Completely Sealed, Waterproof and Environment Proof
- Extra Overload Protection
- Voltage Ranges to 1500VDC/1000VAC
- AC/DC Current Ranges to 10A

This drop-proof, contamination-proof multimeter is designed for rugged industrial conditions. Fire-retardant thermoplastic, with all sensitive components shock-mounted. Voltage ranges can withstand transients up to 6kV. Current ranges are protected by a 2A/600V fuse and a 15A/600V high-energy fuse. Includes K-type thermocouple wire probe, test lead set, spare fuse, and battery.

44F3802 Type HD110T. **Each** **253.70**
(5370) (de52969)

VISIT NEWARK'S WEB SITE AT www.newark.com

WAVETEK
TEST INSTRUMENTS

DIGITAL COMPONENT TESTERS

CE

CR50 LCR55

Type CR50, dedicated capacitance and resistance meter with front panel adjustment control to zero out stray capacitance or resistance. Resistance has 7 ranges from 20Ω to 20MΩ. 9 capacitance ranges from 200pF to 20mF. Diode and continuity tests. Dual zero-adjust plots. Dimensions: 6.1 x 2.8 x 1.3″. Weight: 6.0 oz. CE compliant.

16F3259 Type CR50. **Each** **74.05**

Type LCR55 is a 3½-digit LCR meter with front panel control to adjust out stray resistance in 20Ω range. Measures resistance, capacitance, inductance, and transistor hFe. Includes continuity and diode tests. 7 resistance ranges to 20MΩ, 8 capacitance ranges to 2000μF, 7 inductance ranges to 200H. Dimensions: 7.2 x 3.1 x 1.5″. Weight: 11 oz. Designed to IEC-1010-1, Cat.II, UL3111. CE compliant.

16F3260 Type LCR55. **Each** **192.80**
(10014) (de03145)

FUNCTION GENERATORS

FG2A

FG3B

FG2A SERIES 2MHz FUNCTION GENERATOR

FG2A general purpose signal source has five different outputs that can be modified with variable duty cycle and DC offset controls. The VCF input allows the frequency output to be controlled by DC voltage. 7 frequency ranges: 0.2Hz to 2MHz. Output: square wave, triangle wave, sine wave and TTL pulse. Power consumption: 15VA max. at 117VAC. Includes 2 BNC test cables, AC power cord, spare fuse and manual.

44F3855 Type FG2A. **Each** **270.66**

FG3B SERIES 2MHz SWEEP/FUNCTION GENERATOR

FG3B generator provides five different outputs that can be modified with the variable duty cycle and DC offset controls. 7 frequency ranges: 0.2Hz to 2MHz. Output: sine wave, square wave, triangle wave, TTL pulse, and CMOS pulse. Also provides sweep of any signal output, AM/FM modulation with internal or external signals, and a 100MHz frequency counter. Power: 117VAC or 234VAC; 50Hz or 60Hz ≤20VAC. Sensitivity: ≤25mV rms. Includes 2 coaxial BNC test cables, AC power cord, spare fuse and manual.

89F2454 Type FG3B. **Each** **521.46**
(5335) (de03142)

BENCHTOP DMM

BDM40

Type BDM40 measures voltage from 10μV to 1200VDC and to 1000VAC, current from 10μA to 20A, resistance from 10mΩ to 20MΩ, and provides diode testing on the 2kΩ range. 4½-digit (20,000 count) digital multimeter features true RMS (AC or AC+DC coupling) measurement capabilities to assure accuracy. Includes test lead set, power cord, and operator's manual.

92F1996 Type BDM40. **Each** **476.04**
(5412) (ne08940)

LOGIC AND PULSE PROBES

Type LP-10A pen-sized logic probe with LED indicators is ideal for analyzing digital logic circuits. Detects pulses as narrow as 30nsec at up to 17MHz. Selects TTL or CMOS operation. Power input is overload protected ±20VDC. Signal input is protected to ±220VAC/VDC. Powers from circuit under 4V-18V.

44F3857 Type LP-10A. **Each** **21.90**

Type LP-25A pen-sized logic probe with LED and audible tone indication measures TTL, DTL, RTL, CMOS, NMOS and MOS logic levels at speeds up to 25MHz. Detects pulses as short as 30nsec. Bright LEDs indicate measured logic state, high versus low. Plus memory captures fast pulses. Overload protected to 200VAC/VDC.

82F9924 Type LP-25A. **Each** **43.84**
(5339) (de03146)

COUNTERS

FC-130A

UC-10A

FC-130A SERIES HIGH FREQUENCY COUNTER

FC-130A microprocessor-controlled frequency counter measures signals 0.01Hz to 1.3GHz with up to 10mV sensitivity. Capable of monitoring transmitter output frequencies with a simple whip antenna. Large 8-digit LED display. Power: 117VAC or 234VAC, 50 or 60Hz. Also measures period and rate per minute. Channel A (AC range): 30Hz to 120MHz; DC range, 0.01Hz to 120MHz. Channel B (frequency range): 50MHz to 1.3GHz. 10mV sensitivity. Includes 2 test cables, spare fuse power cord and manual.

89F2455 Type FC-130A. **Each** **657.31**

UC-10A SERIES UNIVERSAL COUNTER

UC-10A counter has 6 measurement functions and 4 gate time selections for a wide variety of applications. Functions: frequency, period, frequency ratio, time interval, unit count, check. Large 8-digit LED display indicators: kHz, S, OVER GATE, 6 functions, 4 gate times. Frequency input: low range is 5Hz to 10MHz; high range is 50Hz to 100MHz. Count capacity: 99,999,999. Power consumption: 15VA max. at 117VAC. Includes 2 BNC test cables, spare fuse, AC power cord, and manual.

44F3854 Type UC-10A. **Each** **416.96**
(36070) (ne36070)

PROFESSIONAL CLAMP-ON METERS

CE

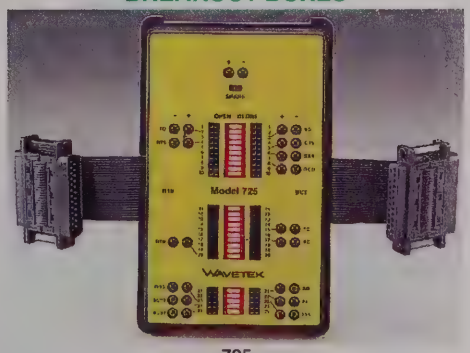
AD15 AC38 AC68

These clamp-on meters are designed for electrical contractors, electricians, HVACR installers/servicers, as well as commercial building and industrial plant maintenance personnel.

	AD15	AC38	AC68
AC Current	20/200A	200/400A	400/600A
AC Voltage	...	750V	600V
DC Current	...	...	600A
DC Voltage	...	...	600V
Resistance	...	...	4kΩ
Frequency	...	...	20kHz
Continuity	...	Yes	Yes
Diode Test	...	...	Yes
Max. Conductor	1.3″	1.0″	1.6″

48F1574 Type AD15. **Each** **52.20**
48F1575 Type AC38. **Each** **73.10**
48F1576 Type AC68. **Each** **208.95**
(5421) (ne09159)

BREAKOUT BOXES



725

Isolate and identify problems in RS232C interfaces. Equipped with dual-gender cable and sturdy, high-visibility yellow flip-top cases. 8V- and 9V-NEDA 1604 batteries are included with **types 735 & 775**. Cable test feature on **type 785** to confirm cable integrity.

Stock No.	Type	Description	Each
46F851	725	Line-Powered 49, Probe Points, 12 Primary Pair	**101.45**
46F850	735	Transient Pulse Trapping, Dual-Gender Connectors	**233.40**
46F848	775	Monitors All 25 Incoming & Outgoing RS232C	**314.60**
89F2446	785	Automatic Line-By-Line or One Step Control	**355.20**

(5336) (de03143)

CABLE TESTERS AND DMM ACCESSORIES

LAN CABLE TESTERS

NEW

These testers are the basic verifying tools that every cable installer and on-site network hardware staff should carry. They are simple, low-cost solutions to test for correct continuity and connector wire-up of various LAN cables. With their 2-piece design, they can be used before or after cable installation.

Type CV20 is the most popular, low-cost, pair continuity tester for LAN cables. Tests shorts, opens, and crosses on cables with RJ-45 connectors. Has an additional, separate mode which will also verify continuity of USOC telephone wire pairs terminating in an RJ-45 connector.

48F1580 Type CV20. **Each** **81.15**

Type CV25 provides more comprehensive testing than **type CV20**. Performs full tests on pairs and individual wires, including split detection. For use with 10Base-T, T568 cables terminating in RJ-45 connectors. Tests shorts, opens, crosses, and split-pairs.

48F1583 Type CV25. **Each** **152.20**

Type CV22 is used with thinnet (10Base-2) LAN cabling installations. Tests for continuity, shorts, opens, and good terminators.

48F1581 Type CV22. **Each** **101.45**

Type CV32 is a dual-function LAN tester that includes both RJ-45 and BNC connections to test both 10Base-T/T568 and thinnet with the same unit. It performs all of the functional LAN cable tests of **types CV20** and **CV22** in a single unit.

48F1584 Type CV32. **Each** **202.95**

Type CV34 is for use with token ring cabling. Will test Type 1 IBM and DE9 token ring cables. All 4 wires and the shield are tested. Tests for opens, shorts, swaps, and even shorting bars. Internal beeper also provides an audible indication when any error is detected.

48F1585 Type CV34. **Each** **202.95**

Type CV35 is an extended-feature 10Base-T, T568 LAN cable tester. Has cable test and traffic detection modes. Checks for opens, shorts, reverses and will detect split pairs. Traffic mode will indicate an active hub or the presence of network traffic.

48F1586 Type CV35. **Each** **233.40**
(33772) (ne33772)

CATV CABLE TESTERS

NEW

Type CV23 is dedicated to quick, low-cost and easy verification of 75ohms CATV cabling or any cabling with "F" type connectors. Performs 4 tests: live cable, cable OK, open cable and shorted cable. Results are indicated on 5 LEDs. Powered by 5 9V battery. Test cables up to 650' (200).

48F1582 Type CV23. **Each** **101.45**
(33773) (ne33773)

UNIVERSAL LAN CABLE TESTERS

Type CV50 tests 10Base-T, T568 via RJ-45 connector and Thinnet via BNC connection.

48F1587 Type CV50. **Each** **502.43**

Type CV51 is identical to **type CV50** and adds token ring, type 1 testing.

48F1588 Type CV51. **Each** **603.93**

Type CV52 verifies 10Base-T, T568, Thinnet, and token ring. 8 different modes are selectable via the tester's front panel rotary knob. For 10Base-T, T568, select continuity test, split-pair detection and traffic. For Thinnet and token ring, verify continuity and traffic. The LCD display will read out messages concerning the condition of the cable or traffic.

48F1589 Type CV52. **Each** **806.93**
(33774) (ne33774)

SHORT FINDER BRUSH

NEW

Type SF10 allows electronics manufacturing personnel to quickly sweep over multiple test points and instantaneously find the approximate location of continuity. Unique brush design improves overall manufacturing productivity by eliminating the need to check each test point individually. Also has a built-in search probe to conduct a point-to-point search within the area previously identified by the brush. Includes two AAA batteries.

48F2502 Type SF10. **Each** **40.55**
(33770) (ne33770)

VISUAL FAULT FINDER

NEW

Type VFF5 finds breaks, faulty splices, and crimps, poor components or connections in fiber-optic cable. Low-cost, basic fiber-optic test tool. Rugged metal housing. Unit is a hand-held, battery-operated device that projects a highly-visible, 670nm red, Class 2 laser light into the fiber-optic cable. Switch-selectable continuous or modulated mode. Useful over a distance of 3 miles (5km). Standard ST connector termination. Includes carrying case, lens cap, batteries, lanyard, and instruction sheet.

83F7329 Type VFF5. **Each** **400.93**
(33771) (ne33771)

ACCESSORY-TO-MULTIMETER REFERENCE GUIDE

Meter Legend:
1 = 23XT, 25XT, 27XT, 28XT, 85XT **2** = LCR55 **3** = 5XL **4** = 10XL, 15XL, 16XL, 30XL, 35XL **5** = CR50 **6** = 2005, 2015 **7** = RMS225A, 220, 235 **8** = HD160 **9** = HD110B, HD115B **10** = DM2 **11** = DM73A **12** = BDM35, BDM40 **13** = ST75 **14** = TM45 **15** = HD110T

Accessories			Multimeters (See Legend Above for Types)														
Stock No.	Type	Description	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Each
62F2945	CT231A	200 Amp AC Current Clamp	x			D		x	A	A	x			x			x	91.54
62F2944	HV231-22	1000 Amp AC Current Clamp	x			D		x	A	A	x			x			x	111.78
83F2097	CT235	1000 Amp DC/AC Current Clamp	x		x	x		x	A	A	x	x		x	x		x	186.25
48F5621	CT237	200 Amp DC/AC Current Clamp	x		x	x		x	x	x	x	x		x	x		x	253.70
48F1573	TL35A	Standard Test Leads	B	B	x	x	B	x	x	x	x			x			x	16.99
96F6743	TL244	Standard, Electrican's Ever Sharp Test Leads		x	x	x		x	x	B	x			x			x	13.80
96F6744	AL244	Screw on Alligator Clips for TL244(C)		x	x	x		x	x	B	x			x			x	4.21
76F1003	TL-245	Standard (D)	B	x	B	B	x	B	B		B		x	B			B	11.67
44F3860	TL246B	Leads with Large Alligator Clips(D)	x	x	x	x	x	x	x	x	x	x	x	x			x	19.12
76F1004	DL243C	Basic Test Lead Kit	x	x	x	x	x	x	x	x	x	x	x	x			x	37.23
44F3861	DL248B	Deluxe Test Lead Kit	x	x	x	x	x	x	x	x	x	x	x	x			x	58.53
98F3091	HV231-10	40kVDC, 10 MW	x			x		x	x	x	x			x			x	111.78
44F575	TC253A	Temperature Converter	C		x	x		x	C	x	x			x			C	85.15

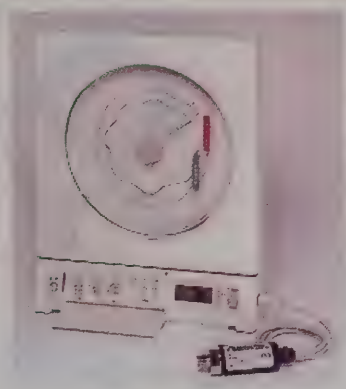
Notes:
(A) Not compatible with some software features. Consult factory with specific applications.
(B) Originally supplied with instrument.
(C) CT253A not needed (for HD110T, 23XT, 28XT or 235).
(D) Not compatible with Model XL.

(10022) (de53060)

CHART RECORDERS AND INFRARED THERMOMETERS

MICROPROCESSOR-BASED PRESSURE/TEMPERATURE RECORDER

- **Temperature Range to 120°F (49°C); Pressure to 100 psi**
- **Double-Sided Circular Charts: 1, 7, 32 Day Records**
- **Convenient Front Panel Programming**
- **Benchtop or Wall Mounting**
- **Operates on Battery or Wall Socket Power**
- **Alarm Contact Standard**
- **Calibration Lockout Kit**



Completely self-contained recorder is microprocessor-based for accurate indication of temperature and pressure, along with the current time and storage of peak values (max. and min.). Each function is easily accessible from the front panel. The user may select 1, 7, or 32 day operation on the large 8″ (200) chart, and may program the digital display for PSIG, °F, or °C indication. Units come with detachable solid-state pressure/temperature transducer with 6′ of cable, additional 6′ extension cable, voltage signal input adapter, 100 double-sided charts, 2 pressure and 2 temperature pens, wall mount template and hardware, 110VAC power adapter, chart lights, 4 "D" alkaline batteries, and operator's manual.

Stock No.	Type	Description	Each
91F9169	CT585B-110V-W-AL	White	**735.37**
91F9170	CT585B-110V-G-AL	Gray	**735.37**

(15626) (ne10571)

MICROPROCESSOR-BASED TEMPERATURE/RELATIVE HUMIDITY RECORDER

CE

- **Versatile remote mounting sensor**
- **Fully electronic microprocessor control**
- **CE compliant**

Has convenient front panel programming. 8″ chart for 1-, 7-, or 32-day recording. Comes with 120 assorted double-size charts, 2 sets of pens, 6″ remote sensor cable, wall-mounting kit, cal-lock kit, batteries, and charger. Temperature recorder range: –17°C to +49°C. Accuracy: ±1°C. Sensor: solid-state. Response time: 5 minutes for 63% step change. Display resolution: 1°C. Humidity recorder range: 2% to 98% RH. Accuracy: ±3% @ 25°C, between 20% and 90% of range (±5% below 20% and above 90% @ 25°C). Sensor: resistive polymer. Response time: 5 minutes for a 30% to 80% step change. Display resolution: 1% RH.

Stock No.	Type	Description	Each
93F9238	CT-485B-110V-W-AL	White, 110VAC, with Alarms and Relay Contacts	**682.85**

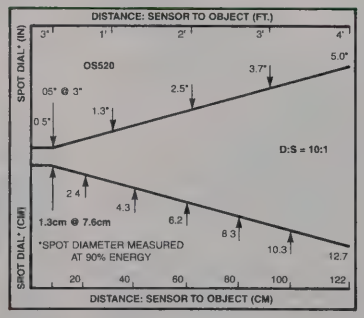
ACCESSORIES

Stock No.	Type	Description	Each
93F9240	CT485-PS/N	Pen Set, Red and Blue	**11.60**
92F6586	CT485-PS-6/N	6-Pack Pen Sets	**60.12**
92F6587	CT485-CDF/N	100 Double-Sided Charts, 1-Day °F	**21.97**
92F6588	CT485-CDC/N	100 Double-Sided Charts, 1-Day °C	**21.97**
92F6589	CT485-CWF/N	100 Double-Sided Charts, 7-Day °F	**21.97**
92F6590	CT485-CWC/N	100 Double-Sided Charts, 7-Day °C	**21.97**
93F9241	CT485-CMF/N	100 Double-Sided Charts, 32-Day °F	**22.03**
92F6591	CT485-CMC/N	100 Double-Sided Charts, 32-Day °C	**21.97**

(6608) (nec9228)

OS520 SERIES INFRARED THERMOMETER

CE



- **Rugged, high-performance design**
- **CE compliant**

Offer solutions for many non-contact temperature measurement applications. Emissivity adjustable from 0.1 to 1.00 in 0.01 steps. Accuracy: ±2% of reading or 3°F, whichever is greater. Backlit LCD. Dual digital display of both current and min./max. temperatures simultaneously. Celsius and Farhenheit selectable. Analog output standard. **Type OS521** and **type OS522** have RS232 output. Audible and visible alarm. Includes two laser modules from which to choose. 1mV per degree analog output allows interfacing with data acquisition equipment, including chart recorders, data loggers, and computers. Electronic trigger lock standard. Integral tripod mount included.

Stock No.	Type	Description	Each
92F6580	OS520/N	Thermometer, 0-750°F Range, 10:1 Spot Ratio	**362.44**
91F9172	OS521	Thermometer, 0-1000°F Range, 20:1 Spot Ratio	**940.22**
91F9173	OS522	Thermometer, 0-1600°F Range, 30:1 Spot Ratio	**1360.43**
16F9295	LS-120/N	Single-Dot Laser Sight for OS520/N	**211.14**
91F9174	LS-121	Single-Dot Laser Sight for OS520	**210.11**

(6609) (nec9229)

Pomona®

DMM KITS

DMM TEST LEAD KITS

TYPE 5904 DELUXE ELECTRICAL DMM TEST LEAD KIT

Type 5904 contains two each (black/red): probe handles, right angle to straight plug silicone test leads, Maxigrabber® test clips with hook tip, Maigrabber® test clips with pincer tip, Maxigrabber® test clips with jaws, and extra large alligator clips. Supplied with a nylon pouch. Fits most Fluke, Tektronix, HP and Wavetek meters.

Stock No.	Type	1-4
95F1288	5904	110.85

TYPE 5903 AUTOMOTIVE DMM TEST LEAD KIT

Type 5903 contains two each (black/red): probe handles, right angle to straight plug silicone test leads, Maxigrabber® test clips with pincer tip, insulation piercing Maxigrabber® test clips, and extra large alligator clips. Supplied with a nylon pouch. Fits most Fluke, Tektronix, HP and Wavetek meters.

Stock No.	Type	1-4
95F1290	5903	95.73

TYPE 5899 GENERAL USE DMM TEST LEAD KIT

Type 5899 contains two each (black/red): probe handles, right angle to straight plug silicone test leads, Maxigrabber® test clips with pincer tip, and Medium alligator clips. Supplied with a nylon pouch. Fits most Fluke, Tektronix, HP and Wavetek meters.

Stock No.	Type	1-4
95F1289	5899	61.72

PROBE LEAD SETS

Type 5898 contains set of two 48″ long silicone insulated leads, one black and one red. Features stainless steel tip, excellent for penetrating oxidation or conformal coating. Fits most Fluke, Tektronix, HP and Wavetek Meters.

Stock No.	Type	1-24
95F1303	5898	13.57

TYPE 5906A TEST PROBE HANDLE SET

Type 5906A set contains test probe handle with brass caged banana plug tip and sheathed 0.158″ (4) banana jack in handle. Set contains one black, one red probe rated 1000VRMS, 10 amps. **Type 6232** similar to type 5906A except .080 notch tip.

Stock No.	Type	1-24
95F1302	5906A	10.86

FLEXIBLE TEST LEAD SETS

Sets fit Fluke HP, Tektronix, and Wavetek brand multimeters. Rated 1000VRMS, 10 amps. One black, one red lead. 48″ long high-temperature silicone wire. **Type 5907A** right angle sheathed banana plug to straight sheathed banana plug. **Type 5908A** straight sheathed banana plug each end. **Type 5909A** right angle sheathed banana plug each end.

Stock No.	Type	1-9
95F1291	5907A	13.03
95F1292	5908	13.03
95F1293	5909-A	13.03

TYPE 5900 INDUSTRIAL TEST LEAD KIT

Type 5900 kit contains 2 each: probe handles, right angle to straight plug test leads and Maxigrabber® grip clips, one black and one red.

Stock No.	Type	1-4
16F1590	5900	55.43

TYPE 5901 DELUXE BENCH METER DMM KIT

Type 5901 contains 2 each (black/red), probe handles, straight to straight plug silicone test leads, Maxigrabber™ test clips with pincer tip, and Medium alligator clips. Supplied with a nylon pouch. Fits most Fluke, Tektronix, HP and Wavetek meters.

Stock No.	Type	1-4
16F1591	5901-A	40.18

(5328) (de01829)

DMM KITS

MULTIMETER TEST LEAD SETS

Each set contains 2 PVC insulated leads, one black and one red. Type 5517A fits meter types Simpson 260-7,-8. Type 5519A fits meter types Fluke, HP, Tektronix, and Wavetek, and newer Amprobe.

90F2362 Type 5517A. **Each** **17.14**
90F2354 Type 5519A. **Each** **13.44**

TYPE 5677A POP JACK MAXI-KIT

Type 5677A kit contains 2 each, one black and one red: extendable tip probe leads, replaceable tip probe handle, pop jack leads and couplers, medium alligator clips, heavy-duty large alligator clips, Minigrabber® leads, Minipincer® leads, and slide-on IC tips. Kit also includes 2 each spade lugs, dog-leg micro-tips, needle tips, shouldered micro-tips and 4 each standard brass tips. All supplied in a nylon storage pouch.

50F845 Type 5677A. **Each** **119.67**

TYPE 5673B ELECTRICAL TEST LEADS KIT

Type 5673B contains 2 each (black/red), Probe Handles, Extra Large Alligator Clips, Slide-on Extended Tips, Pop Jack Silicone Leads, Medium Alligator Clips and Couplers, and two spade lugs. Supplied with a nylon pouch. Fits most Fluke, Tektronix, HP and Wavetek Meters.

95F1300 Type 5673-B. **Each** **55.43**

TYPE 5543A MULTI-USE POP JACK KIT FOR ELECTRONICS

Type 5543B kit contains 2 each, one black and one red: probe handles, pop jack silicone leads. Kit also includes 1 each: medium alligator clip, spade lug, Minigrabber® leads, extended slide-on tip and nylon storage pouch.

95F1301 Type 5543B. **Each** **48.37**

TYPE 5672A BASIC ELECTRONIC DMM TEST LEAD KIT

Type 5672Acontains 2 each (black/red), Test Probes with silicone insulated leads (Banana Plugs on meter end have no sleeve), Slide-on Extended Tips and Alligator Clips. Supplied in a reusuable plastic case. Fits most multimeters and other equipment with banana jacks.

50F847 Type 5672. **Each** **30.36**

TYPE 5674B DELUXE KIT FOR ELECTRONICS

Type 5674B contains 2 each (black/red), Probe Handles, Medium Alligator Clips, Minigrabber® Leads, Slide-On IC Tips, Slide-on Extended Tips and Pop Jack Silicone Leads. Also included are 2 Spade Lugs. Supplied with a nylon pouch. Fits most Fluke, Tektronix, HP and Wavetek meters.

50F846 Type 5674-B. **Each** **107.07**

(5329) (de01832)

MAXIGRABBER® TEST CLIP SETS

Sets have 0.16″ (4) sheathed receptacle to accept shrouded banana plugs, flexible test leads or Fluke brand multimeter leads. Rated 1000 V, 10 amps. Sets contain one black and one red clip. **Type 5910A** flexible Maxigrabber® has pincer-type tip. **Type 5911A** Maxigrabber® has hook tip. **Type 5912A** Maxigrabber® has grip teeth. **Type 5913** Maxigrabber® pierces cable insulation up to 0.14″ (3.5) without damaging wire.

Stock No.	Type	1-9
95F1296	5910A	22.16
96F2159	5911A	18.64
95F1294	5912A	25.80
95F1295	5913	34.64

(42174) (ne42174)

FULLY INSULATED ALLIGATOR CLIP SETS

Sets have sheathed 0.16″ (4) receptacle to accept banana plugs, flexible test leads or Fluke brand multimeter leads. Sets contain one black, one red clip. **Type 5916A** medium alligator clips are fully insulated with 0.30″ jaw opening. **Type 6041A** heavy duty alligator clips are fully insulated, with 1″ jaw opening.

95F1299 Type 5916A. **Each** **9.71**
16F1592 Type 6041A. **Each** **11.94**

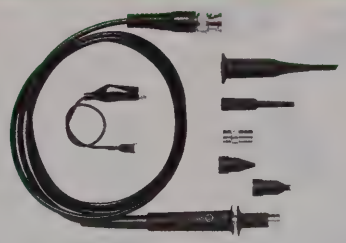
(5393) (ne08196)

OVERNIGHT SHIPMENT IS AVAILABLE WHEN YOU NEED IT.
CONTACT YOUR LOCAL NEWARK SALES OFFICE.

Pomona®

OSCILLOSCOPE PROBES AND TEST LEADS

PASSIVE OSCILLOSCOPE PROBES

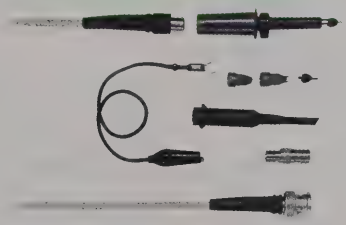


These general purpose probes feature high performance for greater flexibility. Complete accessory kit included. All probes are rated 300V (DC + Peak AC) per IEC1010-2-03. Cat I, cables are 1.2 meters except **Type 5827A**, which is 2.0 meters.

Stock No.	Type	Attenuation	System Bandwidth (-3dB) MHz	System Risetime ns	System Input Resistance* Mohm	Capacitance* pF	Compensation Range (pF)	Readout Actuator	Ground Reference	1-4
93F2889	5800A	X1	30	11.66	1	57	NA			**56.69**
90F2365	5795A	X10	100	3.5	10	9.5	10-60			**48.50**
93F2888	4550-B	X1/X10	15/100	23.33/3.5	1/10	64/10.5	NA/10-60		X	**59.20**
16F4656	6101A	X10	150	2.33	10	10.5	10-30	X		**59.20**
98F5200	5803A	X10	200	1.75	10	10	10-60			**62.98**
98F5150	5806A	X1/X10	20/200	17.5/1.75	1/10	77/11.5	NA/10-60			**68.02**
93F2949	5827A	X100	200	1.75	10	5.5	15-50		X	**110.85**
16F4658	6069A	X10	250	1.4	10	10	10-30			**62.98**
16F4659	6102A	X10	250	1.4	10	10	10-30	X		**68.02**
90F2359	5809A	X10	300	1.17	10	17	10-60			**109.59**
90F2361	5812A	X10	300	1.17	10	17	10-60	X		**115.89**

*Measurements based on 1 MΩ, 20pF oscilloscope.
(10016) (de03727)

RF DETECTOR PROBE



For scopes with 10 Megohm input. Kits include ground lead, sprung hook, BNC adapter, gold-plated tip, stainless steel tip, IC tip and insulating tip.

Stock No.	Type	Diode Voltage	Cable Length(m)	Input C(pF)	Band Width	Peak AC Input	DC Isolation V	Plug Type	1-4	5-9	10-24
93F2948	5815	200	1.2	5	100KHz-800MHz±3dB	50	200	BNC Plug	**104.55**	**98.37**	**91.15**

(5345) (de03729)

INSULATED SCOPE PROBES

6006

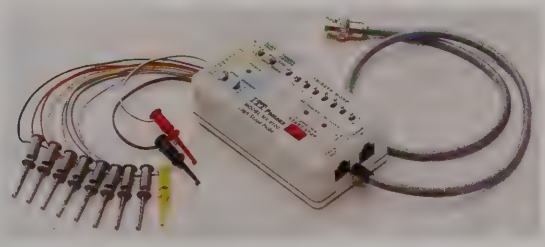
Replacement probes for Fluke brand ScopeMeter™ 90 series, Leader brand model 300 and Hitachi brand model 5025. **Types 6006** and **6035** include 1 insulated scope probe and 1 each of the following accessories: sprung hook, trimmer tool, IC tip, replacement tip, ground lead, BNC adapter and banana plug adapter. **Type 6033** includes paired insulated scope probes plus 2 each of the accessories listed above. All probes are overvoltage protected to 360VRMS, 200MHz rated.

Stock No.	Type	Scope Probe	1-4	5-9	10-24
96F9738	6006-2 RED†	1 Red X10	**96.99**	**91.25**	**84.56**
96F9742	6006-8 GREY†	1 Grey X10	**96.99**	**91.25**	**84.56**
96F9739	6035-2 RED*	1 Red X1/X10	**132.26**	**124.44**	**115.31**
96F9743	6035-8 GREY*	1 Grey X1/X10	**132.26**	**124.44**	**115.31**
95F7903	6033†	1 Red & 1 Grey X10	**173.83**	**163.54**	**151.55**

Scope Probe: *=Switchable †=Non-Switchable
(5340) (de03457)

LOGIC SCOPE PROBE KIT FOR ANALOG OSCILLOSCOPES

NEW



Type 6004 logic scope probe kit features a pocket-size MX9100 logic scope probe that turns an analog scope into a logic analyzer. 3-mode operation: logic analyzer, trigger probe, multiplexer (MUX). 20 MHz bandwidth covers most microcontroller frequencies. 8 ns minimum data setup and data hold time. 100 kΩ/5pF input impedance. 800 kHz (approx.) internal clock frequency. min/max input levels: low - 0.5- to 0.8V, high - 2.4- to 6.5V. 4.75- to 7V with 190 mA max. supply current. Includes BNC scope interface and 11 test leads with Micrograbber® test clips.

48F1173 Type 6004. **Each** **468.55**
(40170) (ne40170)

AT NEWARK, YOUR ORDER IS OUR FIRST PRIORITY.

1-800-4-NEWARK (1-800-463-9275)

Pomona®

DMM TEST LEAD KITS

LARGE TEST COMPANION™ TEST KITS

These Test Companion™ test kits are designed to hold and protect Fluke, Hewlett-Packard, or Tektronix meters and include Pomona test leads, probes, grabbers, and clips organized in a large, briefcase-style Cordura carrying case with shoulder strap. The case is designed to be weather resistant, with extra padding to protect instruments and a variety of Velcro®- hook-and-eye-and zipper-fastened pockets in which to store manuals, tools, batteries, and other equipment. Meters and scopes not included.

FLUKE 80 SERIES DMM TEST COMPANION™ BRIEFCASE TEST KIT

Includes briefcase, DMM test lead set, probe bodies with banana plug tips, flexible Grabber® test clips, large safety alligator clips, medium alligator clips, modular electronic probes, and splices.

Stock No.	Type	Each
66F9772	6112	233.03

HEWLETT-PACKARD HP970A SERIES DMM TEST COMPANION™ BRIEFCASE TEST KIT

Includes briefcase, DMM test lead set, probe bodies with banana plug tips, flexible Grabber® test clips, large safety alligator clips, medium alligator clips, modular electronic probes, and splices.

Stock No.	Type	Each
16F4668	6113	233.03

FLUKE 860 SERIES GRAPHICAL MULTIMETER TEST COMPANION™ BRIEFCASE TEST KIT

Includes briefcase, test lead set, probe bodies with banana plug tips, flexible Pincer test clips, grip clips, large safety alligator clips, medium alligator clips, and modular electronic probes.

Stock No.	Type	Each
16F4665	6118	270.82

FLUKE SCOPEMETER® SERIES I & II TEST COMPANION™ BRIEFCASE TEST KIT

Includes briefcase, test lead set, probe bodies with 0.080″ dia. tips, flexible Pincer test clips, grip clips large safety alligator clips, medium alligator clips, and fully insulated oscilloscope probes (X1/X10 switchable).

Stock No.	Type	Each
16F4666	6120	472.35

TEKTRONIX TEK DMM250 SERIES TEST COMPANION™ BRIEFCASE TEST KIT

Includes briefcase, DMM test lead set, probe bodies with banana plug tips, flexible Pincer test clips, large safety alligator clips, medium alligator clips, modular electronic probes, and splices.

Stock No.	Type	Each
16F4667	6133	233.03

TEKTRONIX TEKSCOPE™ THS 700 SERIES TEST COMPANION™ BRIEFCASE TEST KIT

Includes briefcase, test lead set, probe bodies with 0.080″ dia. tips, flexible Pincer test clips, grip clips, large safety alligator clips, modular electronic probes, and oscilloscope probes (X10, 150 MHz).

Stock No.	Type	Each
66F9775	6134	472.35

(5399) (ne08551)

FLUKE 80 SERIES DMM TEST COMPANION™ II SHOULDER BAG TEST KIT

Type 6175 includes shoulder-pack style Cordura carrying case and the following test accessories: medium alligator clip set, flexible test lead set, Minigrabber® test clip, extended tip, IC test tip adapter, assorted replacement tips, Minipincer® test clip set, spade lug with jack, Micrograbber® test clip-to-pop jack, SMD grabber test clip-to-pop jack, SMD test tweezer-to-sheathed banana plugs, and test probes with replaceable tip.

Stock No.	Type	Each
48F1175	6175	174.04

Type 6174 includes shoulder-pack style Cordura carrying case and the following test accessories: medium alligator clip set, flexible test lead set, Minigrabber® test set, extended tip, IC test tip adapter, spade lug with jack, Micrograbber® test clip-to-pop jack, SMD Grabber® test clip-to-pop jack, and SMD test tweezer-to-sheathed banana plugs.

Stock No.	Type	Each
48F1174	6174	144.83

Type 6172 includes shoulder-pack style Cordura carrying case and the following test accessories: test probe handle set with banana plug tip, flexible test lead set (right angle to straight banana plug), medium alligator clip set, insulated spade lug set, Maxigrabber™ test clip set with pincer tip, Maxigrabber™ test clip set with hook tip, and extra-durable probe lead set.

Stock No.	Type	Each
88F4672	6172	144.82

(5394) (ne08216)

IC TEST TWEEZER™ LEADS

Ideal for testing surface mount devices. Tweezer™ clip on 48″ (1.219m) long shielded coaxial RG 174/U cable to sleeved banana plugs. Durable gold-plated beryllium copper test tweezer with black and red glass-filled nylon insulation, is rated 400 VRMS, 3 amps. Brass banana plug with nickel-plated beryllium copper spring and flexible PVC insulation.

Stock No.	Type	1-9
50F850	5678-K-48	19.87

(5330) (de01833)

PERSONALIZED SERVICE FROM YOUR LOCAL NEWARK SALES OFFICE.

Pomona®

PROBES AND PATCH CORDS

ALLIGATOR TEST CLIP-TO-MULTI-STACKING BANANA PLUG PATCH CORD

NEW

Stock No.	Type	Length	Color	1-24	25-49	50-99
77B1874	1166-24-0	24″	Black	5.55	5.08	4.61
77B1875	1166-24-2	24″	Red	5.75	5.25	4.87
77B1876	1166-36-0	36″	Black	5.75	5.25	4.87
30F1422	1166-36-2	36″	Red	5.75	5.25	4.87
77B1877	166-48-0	48″	Black	6.02	5.51	5.01
30F1420	1166-48-2	48″	Red	6.02	5.51	5.01
77B1878	1166-60-0	60″	Black	6.02	5.51	5.01
77B1879	1166-60-2	60″	Red	6.23	5.70	5.29

(42570) (ne42570)

TEST PROBES

Fig. 1

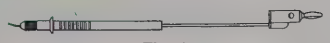


Fig. 2

DO-IT-YOURSELF MINIATURE TEST PROBES

Standard 0.50″ (12.70) stainless steel tip connects on end of test lead with maximum 0.115″ (2.92) outer diameter, 22-18AWG. Feed stripped wire thru probe and solder or crimp to small end of tip. Insert tip into probe and tighten chuck nut. Rated 1500VAC/DC, 10 amps, +80°C.

Stock No.	Type	Fig.	Color	1-24	25-49	50-99
89F416	5432-0	1	Black	4.06	3.72	3.44
89F417	5432-2	1	Red	4.06	3.72	3.44

SMD MICROTIP™ TEST PROBES

Replaceable, stainless steel SMD microtip probe on one end, stacking banana plug on the other end.48″ (1.2M) long. 20AWG 0.087″(2.21) outer diameter PVC insulated wire. Rated 1200 VAC/DC, 5 amps, +55°C.

46F930	5144-48-0	2	Black	13.10	11.27	10.31
46F931	5144-48-2	2	Red	13.10	11.27	10.31
94F1518	5309A	2	Pair Black, Red	14.53	12.85	12.21

(8972) (de01618)

SMD TEST TWEEZERS® LEADS

Fig. 1

Fig. 2

Gold-plated tweezer clip is connected to shielded coaxial cable, RG174/U, 0.100 (2.54) outer diameter, 48″ (1.2M) long. Rated 400 VRMS, 3 amps, +50°C.

Stock No.	Type	Fig.	Plug Type	1-9	10-24	25-49
46F929	5143-K-48	1	Single Stacking Banana Plugs	26.91	23.79	22.62
46F928	5142-K-48	2	BNC Male Connector	26.91	23.79	22.62

(8973) (de01619)

MOLDED BREAKOUTS

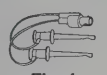


Fig. 1

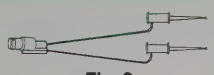


Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

Fig. 7

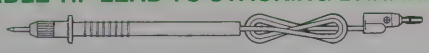
Fig. 8

Breakouts convert coaxial cable with BNC male or female connectors to test cable with choice of one black and one red clips or plugs. Tarnish-resistant, plated-brass BNC with gold-plated copper contact. Rated 500 V_{rms}, +55°C. 7″ (177.80) long.

Stock No.	Type	Fig.	Description	1-24	25-49	50-99
35F1061	3788	1	Female BNC to 2 Minigrabber™ Clips	11.13	9.57	8.76
35F975	3789	1	Male BNC to 2 Minigrabber™ Clips	13.71	11.80	10.79
46F2415	5305	2	Female BNC to 2 SMD Grabber Clips	14.60	12.91	12.27
34F964	2630	3	Female BNC to 2 Alligator Clips	11.54	9.93	9.08
34F965	2631	3	Female BNC to 2 Minigator Clips	11.54	9.93	9.08
44F5339	3221	4	Female BNC to Stacking Pin Tip Plugs	12.42	10.68	9.78
44F5338	3073	5	Female BNC to Stacking Banana Plugs	10.72	9.23	8.44
94F1506	4969	6	Female BNC with 20 AWG leads	7.53	6.48	5.93
94F1507	4970	6	Male BNC with 20 AWG leads	10.38	8.94	8.18
94F1581	3957	7	Male BNC to Multistacking Banana Plug	14.92	13.19	12.55
90F1316	5188	8	Female BNC to Micrograbber™ Clips	14.14	12.50	11.89

(8975) (de01622)

REPLACEABLE TIP LEAD TO STACKING BANANA PLUG KIT



Kit 5325-48 contains two each test probe leads and alligator clips, one black, one red. Also includes two pieces of dogleg micro tips. Supplied in a reusable plastic pouch.

Stock No.	Type	1-9
94F1526	5325A	26.00

(9154) (ne08400)

BANANA PLUG PATCH CORDS

NEW

Colors: **suffix-0** in type number = black; **suffix 2** = red.

MINIATURE STACKING BANANA PLUG

Stock No.	Type	Length	1-24	25-49	50-99
78B1650	1081-8-0	8″	7.08	6.47	6.00
78B1651	1081-8-2	8″	7.08	6.47	6.00
34F894	1081-12-0	12″	6.62	5.70	5.12
83F8101	1081-12-2	12″	6.62	5.70	5.12
29F3054	1081-24-0	24″	6.62	5.70	5.12
34F895	1081-24-2	24″	6.62	5.70	5.12
29F3055	1081-36-0	36″	6.62	5.70	5.12
34F897	1081-36-2	36″	6.62	5.70	5.12
BANANA PLUG					
83F8103	1440-36-0	36″	7.28	6.26	5.62
83F8104	1440-36-2	36″	7.28	6.26	5.62
94F1562	1440-48-0	48″	7.28	6.26	5.62
94F1563	1440-48-2	48″	7.28	6.26	5.62
99F6463	1440-60-0	60″	7.28	6.26	5.62
99F6802	1440-60-2	60″	7.28	6.26	5.62
RETRACTABLE SHEATH BANANA PLUG					
77B2811	4911-36-0	36″	11.61	9.99	8.96
83F8105	4911-36-2	36″	11.61	9.99	8.96
88F3823	4911-48-0	48″	13.41	12.09	11.00
88F3755	4911-48-2	48″	13.41	12.09	11.00
83F8106	4911-60-0	60″	11.61	9.99	8.96
83F8107	4911-60-2	60″	11.61	9.99	8.96
BANANA-PLUG-TO-PIN TIP PLUG					
83F8102	1126-12-0	12″	5.89	5.38	4.90
94F291	1126-12-2	12″	5.89	5.38	4.90
78B1656	1126-36-0	36″	5.89	5.38	4.90
78B1657	1126-36-2	36″	5.89	5.38	4.90
77B1904	1126-48-0	48″	6.16	5.62	5.12
77B1905	1126-48-2	48″	6.16	5.62	5.12
77B1906	1126-60-0 BLACK	60″	6.16	5.62	5.12
78B1658	1126-60-2	60″	6.16	5.62	5.12

(42571) (ne42571)

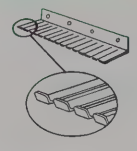
0.025″ (0.635) SQUARE PIN RECEPTACLE PATCH CORD

Colors: 0 suffix in type number = black, 2 suffix = red.

Stock No.	Type	Length	1-24	25-49	50-99
78B1752	4741-6-0	6″	4.81	4.39	4.00
78B1753	4741-6-2	6″	4.81	4.39	4.00
35F1693	4741-12-0	12″	4.81	4.39	4.00
48F1143	4741-12-2	12″	4.81	4.39	4.00
48F1144	4741-24-0	24″	4.81	4.39	4.00
48F1145	4741-24-2	24″	4.81	4.39	4.00

(8974) (de01620)

TEST LEAD ACCESSORIES



File patch cords and cable assemblies for easy selection. Mount on any vertical surface. Cold rolled steel with baked enamel finish.

Stock No.	Type	Color	Fits Cable	1-24	25-49	50-99
34F956	1508	Orange	0.210″	7.94	6.83	6.25
34F957	2708	Blue	0.450″	7.94	6.83	6.25
34F1017	4408	Black	0.320″	7.94	6.83	6.25

(8976) (de01623)

KELVIN CLIPS

Accurate four wire measurements. 24″ (0.65) long cable features two gold-plated Kelvin clips for low contact resistance, and four color-coded gold-plated banana plugs. Minigator to banana plug lead is included for grounding or guarding. Rated: 50V, 5 amps maximum.

Stock No.	Type	1-4
95F1364	5940	166.27

(8984) (de01789)

Pomona®

TEST CLIP PATCH CORDS

MINIGRABBER® TEST CLIPS

NEW

Color: **suffix-0** in type number indicates black, **suffix-2** indicates red. L = Length in table.

Stock No.	Type	Test Clip	L	1-24	25-49
48F1146	6244-48-0	To Right Angle Plug	48″	9.84	8.47
48F1147	6244-48-2	To Right Angle Plug	48″	9.84	8.47
48F1148	6245-48-0	To Straight Plug	48″	9.84	8.47
48F1149	6245-48-2	To Straight Plug	48″	9.84	8.47
48F1150	6246-12-0	Patch Cord	12″	5.42	4.95
48F1151	6246-12-2	Patch Cord	12″	5.42	4.95
48F1152	6246-24-0	Patch Cord	24″	5.42	4.95
48F1153	6246-24-2	Patch Cord	24″	5.42	4.95
48F1154	6247-48-0	One End Only	48″	4.40	4.02
48F1155	6247-48-2	One End Only	48″	4.40	4.02
48F1156	6248-12-0	To Banana Jack	12″	10.49	9.03
48F1157	6248-12-2	To Banana Jack	12″	10.49	9.03
48F1158	6249-12-0	To Multi Stack. Banana Plug	12″	5.42	4.95
48F1159	6249-12-2	To Multi Stack. Banana Plug	12″	5.42	4.95
48F1160	6249-24-0	To Multi Stack. Banana Plug	24″	5.42	4.95
48F1161	6249-24-2	To Multi Stack. Banana Plug	24″	5.42	4.95
48F1162	6250-12-0	To Retr. Sheath Banana Plug	12″	10.49	9.03
48F1163	6250-12-2	To Retr. Sheath Banana Plug	12″	10.49	9.03
48F1164	6251-12-0	To Straight Plug	12″	7.87	6.77
48F1165	6251-12-2	To Straight Plug	12″	7.87	6.77

(42376) (ne42376)

STACKING BANANA PLUG PATCH CORDS

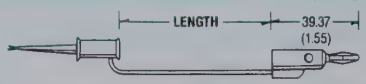
TYPE 3782 MINIGRABBER® PATCH CORD

Test clip connected to standard stacking banana plug by PVC insulated 20AWG wire. 3000 WVDC, 5A, +55°C.

Stock No.	Type	Length	1-24	25-49	50-99	100-249
35F1051	3782-12-0 BLACK	12″ (0.305M)	4.77	4.35	4.04	3.49
35F1046	3782-12-2 RED	12″ (0.305M)	4.77	4.35	4.04	3.49
35F1052	3782-24-0 BLACK	24″ (0.610M)	4.77	4.35	4.04	3.49
35F1047	3782-24-2 RED	24″ (0.610M)	4.77	4.35	4.04	3.49
35F1053	3782-36-0 BLACK	36″ (0.914M)	4.55	4.16	3.86	3.39
35F1048	3782-36-2 RED	36″ (0.914M)	4.77	4.35	4.04	3.49
35F1054	3782-48-0 BLACK	48″ (1.219M)	5.19	4.74	4.39	3.81
35F1049	3782-48-2 RED	48″ (1.219M)	5.19	4.74	4.39	3.81
35F1055	3782-60-0 BLACK	60″ (1.524M)	5.19	4.74	4.39	3.81
35F1050	3782-60-2 RED	60″ (1.524M)	5.19	4.74	4.39	3.81

(9036) (de50226)

TYPE 5302 SMD GRABBER® PATCH CORDS



Test clip connected to standard stacking banana plug by PVC insulated 22AWG wire. 1000 WVDC, 0.5A, +55°C.

Stock No.	Type	Length	Color	1-24	25-49	50-99	100-249
46F2397	5302-12-0	12″ (0.305M)	Black	7.40	6.37	5.83	5.34
46F2398	5302-12-2	12″ (0.305M)	Red	7.40	6.37	5.83	5.34
46F2399	5302-24-0	24″ (0.610M)	Black	7.40	6.37	5.83	5.34
46F2400	5302-24-2	24″ (0.610M)	Red	7.40	6.37	5.83	5.34
46F2401	5302-36-0	36″ (0.914M)	Black	7.40	6.37	5.83	5.34
46F2402	5302-36-2	36″ (0.914M)	Red	7.40	6.37	5.83	5.34

(9037) (de50227)

PATCH CORDS–TEST CLIP ONE END

Type 3780: Minigrabber® clip 1 end connected to PVC insulated 20AWG wire. Cut wire to desired length.

Stock No.	Type	Wire Length	1-24	25-49	50-99	100-249
35F1031	3780-60-0 BLACK	60″ (1.524M)	3.71	3.40	3.15	2.72
35F1025	3780-60-2 RED	60″ (1.524M)	3.71	3.40	3.15	2.72

(9041) (de50231)

TEST CLIP-TO-TEST CLIP PATCH CORD KITS

Each kit contains ten patch cords, 24″ (0.610M) long, with grabber test clips on each end of patch cord. Patch cords available in ten colors: black, red, brown, orange, yellow, green, blue, violet, gray and white.

Stock No.	Type	Description	1-4	5-9	10-24
90F2175	5523	Minigrabber® Type 3781-24	37.98	35.73	33.11
90F2173	5525	Micrograbber® Type 4613-24	61.72	58.07	53.81
90F2333	5521	SMD Grabber® Type 5301-24	66.76	62.81	58.21

(9039) (de50229)

PATCH CORDS WITH TEST CLIPS TO BNC MALE CONNECTOR

Two test clips on one end connected to BNC male by PVC insulated cable. Test clips are 1.50″ long to red test clip and 8.00″ long to black test clip. BNC male connector is 50 ohms. 500 Vrms, +50°C.

TYPE 3787 BNC MALE TO MINIGRABBER® TEST CLIPS

Stock No.	Type	Length	RG/U	1-9	10-24	25-49	50-99
35F1056	3787-C-18	18″ (0.457M)	58C	22.29	19.70	18.74	16.90
35F1057	3787-C-24	24″ (0.610M)	58C	22.29	19.70	18.74	16.90
35F1058	3787-C-36	36″ (0.914M)	58C	22.29	19.70	18.74	16.90
35F1059	3787-C-48	48″ (1.219M)	58C	24.11	21.31	20.27	18.29
35F1060	3787-C-60	60″ (1.524M)	58C	24.11	21.31	20.27	18.29

TYPE 5187 BNC MALE WITH BOOT/MINIGRABBER® TEST CLIPS

Stock No.	Type	Length	RG/U	1-9	10-24	25-49	50-99
89F322	5187-C-24	24″ (0.610M)	58C	18.90	16.71	15.89	14.33
89F325	5187-K-24	24″ (0.610M)	174	26.26	23.21	22.07	19.92
89F323	5187-C-36	36″ (0.914M)	58C	18.90	16.71	15.89	14.33
89F326	5187-K-36	36″ (0.914M)	174	26.26	23.21	22.07	19.92
89F324	5187-C-48	48″ (1.219M)	58C	18.90	16.71	15.89	14.33
89F327	5187-K-48	48″ (1.219M)	174	26.26	23.21	22.07	19.92

TYPE 4777 BNC MALE WITH BOOT/MICROGRABBER® TEST CLIPS

Stock No.	Type	Length	RG/U	1-9	10-24	25-49	50-99
44F5322	4777K-24	24″ (0.610M)	174	29.45	26.04	24.76	22.34
44F5324	4777K-36	36″ (0.914M)	174	29.45	26.04	24.76	22.34

TYPE 5304 BNC MALE WITH BOOT/SMD GRABBER® TEST CLIPS

Stock No.	Type	Length	RG/U	1-9	10-24	25-49	50-99
46F2413	5304-K-24	24″ (0.610M)	174	26.78	23.68	22.51	20.32
46F2414	5304-K-36	36″ (0.914M)	174	26.78	23.68	22.51	20.32

(9038) (de50228)

TEST CLIP-TO-TEST CLIP PATCH CORDS

TYPE 3781 MINIGRABBER® PATCH CORD

Test clips with PVC insulated 20AWG wire. 3000 WVDC, 5A, +102°C.

Stock No.	Type	Length	1-24	25-49	50-99	100-249
35F1039	3781-8-0 BLACK	8″ (0.203M)	4.77	4.35	4.04	3.49
35F1032	3781-8-2 RED	8″ (0.203M)	4.77	4.35	4.04	3.49
35F1040	3781-12-0 BLACK	12″ (0.305M)	4.77	4.35	4.04	3.49
35F1033	3781-12-2 RED	12″ (0.305M)	4.77	4.35	4.04	3.49
35F1041	3781-18-0 BLACK	18″ (0.457M)	4.77	4.35	4.04	3.49
35F1034	3781-18-2 RED	18″ (0.457M)	4.77	4.35	4.04	3.49
35F1042	3781-24-0 BLACK	24″ (0.610M)	4.77	4.35	4.04	3.49
35F1035	3781-24-2 RED	24″ (0.610M)	4.77	4.35	4.04	3.49
35F1043	3781-36-0 BLACK	36″ (0.914M)	4.77	4.35	4.04	3.49
35F1036	3781-36-2 RED	36″ (0.914M)	4.77	4.35	4.04	3.49
35F1044	3781-48-0 BLACK	48″ (1.219M)	5.19	4.74	4.39	3.81
35F1037	3781-48-2 RED	48″ (1.219M)	5.19	4.74	4.39	3.81
35F1045	3781-60-0 BLACK	60″ (1.524M)	5.19	4.74	4.39	3.81
35F1038	3781-60-2 RED	60″ (1.524M)	5.19	4.74	4.39	3.81

TYPE 4613 MICROGRABBER® PATCH CORD

Test clips with PVC insulated 20AWG wire. 1000 WVDC, 3A, +102°C. Type nos. with **0** suffix are black, **2** suffix are red.

Stock No.	Type	Length	1-24	25-49	50-99	100-249
44F2639	4613-12-0 BLK	12″ (0.305M)	7.40	6.37	5.83	5.34
44F2637	4613-12-2 RED	12″ (0.305M)	7.40	6.37	5.83	5.34
44F5367	4613-24-0 BLK	24″ (0.610M)	7.40	6.37	5.83	5.34
44F5368	4613-24-2 RED	24″ (0.610M)	7.40	6.37	5.83	5.34
44F5358	4613-36-0	36″ (0.914M)	7.40	6.37	5.83	5.34
44F5359	4613-36-2	36″ (0.914M)	7.40	6.37	5.83	5.34

TYPE 5301 SMD GRABBER® PATCH CORD

Test clips with PVC insulated 22AWG wire, 1000 WVDC, 0.5A, +102°C. Type nos. with **0** suffix are black, **2** suffix are red.

Stock No.	Type	Length	1-24	25-49	50-99	100-249
46F2389	5301-6-0	6″ (0.152M)	7.87	6.77	6.20	5.69
46F2390	5301-6-2	6″ (0.152M)	7.87	6.77	6.20	5.69
46F2391	5301-12-0	12″ (0.305M)	7.87	6.77	6.20	5.69
46F2392	5301-12-2	12″ (0.305M)	7.87	6.77	6.20	5.69
46F2393	5301-24-0	24″ (0.610M)	7.87	6.77	6.20	5.69
46F2394	5301-24-2	24″ (0.610M)	7.87	6.77	6.20	5.69
46F2395	5301-36-0	36″ (0.914M)	7.87	6.77	6.20	5.69
46F2396	5301-36-2	36″ (0.914M)	7.87	6.77	6.20	5.69

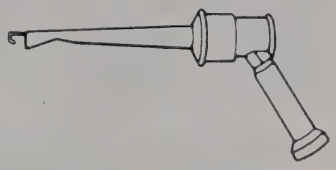
(9040) (de50230)

Pomona®

TEST CLIPS AND KITS

MINIGRABBER® TEST CLIPS AND KITS

3925



4011 4723

Feature plunger-action clip with gold-plate contact hook that attaches to component leads, terminals. No sharp teeth to damage wires. Fingertip operation. 0.625″ (15.88) diameter. +102°C.

TYPES 3925 AND 4555 MINIGRABBER TEST CLIPS

Rated 3000WVDC, 12A, 2.54″ (64.52)L, +102°C.

Stock No.	Type	Color	Wire O.D.	1-24	25-49	50-99	100-249
35F1001	3925-0	Black	0.090″ (2.29)	1.89	1.73	1.61	1.39
35F1002	3925-2	Red	0.090″ (2.29)	1.89	1.73	1.61	1.39
35F1685	4555-0	Black	0.144″ (3.66)	1.89	1.73	1.61	1.39
35F1686	4555-2	Red	0.144″ (3.66)	1.89	1.73	1.61	1.39

TYPE 3925 MINIGRABBER TEST CLIP KITS

Stock No.	Type	Description	1-24	25-49	50-99	100-249
46F2201	4176-02	1 Black, 1 Red **3925** Clip	4.27	3.91	3.63	3.13
90F2174	5522	10 **3925** Clips; 1 each: Black, Red, Brown, Orange, Yellow, Green, Blue, Violet, Gray, White	15.77	13.94	13.26	11.96

TYPE 4011 MINIGRABBER TEST CLIPS WITH 6-32 THREAD

Rated 45VAC, 5A. Connect to oscilloscope lead equipped with 6-32 screw. **Type 4311** nickel-plate brass, screw-on tip mates with test clip; crimps or solders to wire. Includes shrink sleeving. +102°C.

Stock No.	Type	Description	1-24	25-49	50-99	100-249
35F998	4011-0	Black Test Clip	4.41	4.03	3.75	3.24
35F999	4011-2	Red Test Clip	4.41	4.03	3.75	3.24
35F1000	4311	6-32 Screw-On Tip	3.43	3.14	2.92	2.52

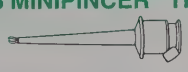
TYPE 4723 MINIGRABBER TEST CLIP WITH BANANA JACK

Nickel-plate brass standard banana jack in plunger directly connects test clip to banana plug patch cord. 45VAC, 5A. +102°C.

Stock No.	Type	Color	1-24	25-49	50-99	100-249
46F2380	4723-0	Black	5.75	5.25	4.87	4.22
46F2381	4723-2	Red	5.75	5.25	4.87	4.22

(8964) (de01558)

TYPE 5418 MINIPINCER® TEST CLIPS

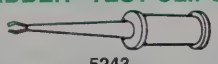


Snap-on cap and solder contact provide reliable connections. Pincer-type action suits testing standard DIP packages. 0.12″ (3.05) maximum wire O.D. 45VAC, 5A, +80°C.

Stock No.	Type	Color	1-24	25-49	50-99	100-249
89F389	5418-0 (BLACK)	Black	2.31	2.12	1.97	1.69
90F2176	5418-2 (RED)	Red	2.31	2.12	1.97	1.69

(8965) (de01559)

SMD GRABBER® TEST CLIPS AND KIT



5243

Ideal for testing surface mount devices such as SOIC, SOJ and PLCC. Centers as small as 0.030″ (0.762). Pincer contact grasps individual legs of SMDs. 1.71″ (43.43)L. **Type 5243** has 0.090″ (2.29) wire O.D. **5360** clip has square pin and 0.15″ (3.81) wire O.D. 45VAC, 0.5A. +102°C. Kit contains 1 each: black, red, brown, orange, yellow, green, blue, violet, gray and white.

TYPE 5243 SMD GRABBER TEST CLIPS AND KIT

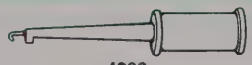
Stock No.	Type	Description	1-24	25-49	50-99	100-249
46F2387	5243-0	Black Test Clip	2.52	2.31	2.14	1.85
46F2388	5243-2	Red Test Clip	2.52	2.31	2.14	1.85
90F2332	5520	10-Pc. **5243** Clip Kit	21.31	18.84	17.91	16.17

TYPE 5360 SMD GRABBER TEST CLIP WITH SQUARE PIN

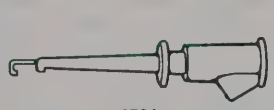
87F028	5360-0	Black	3.08	2.82	2.61	2.26

(8968) (de01562)

MICROGRABBER® TEST CLIPS AND KIT



4233



4521 5790

TYPE 4233 MICROGRABBER TEST CLIPS AND KIT

Rated 1000WVDC, 3A, +102°C. Accept 0.090″ (2.29) maximum wire O.D. 1.71″ (43.43)L.

Stock No.	Type	Description	1-24	25-49	50-99	100-249
35F996	4233-0	Black Test Clip	1.96	1.79	1.66	1.44
35F997	4233-2	Red Test Clip	1.96	1.79	1.66	1.44
90F2172	5524	10-Pc. Clip Kit, 1 each: Black, Red, Brown, Orange, Yellow, Green, Violet, Gray, White, Blue	15.77	13.94	13.26	11.96

TYPE 4521 MICROGRABBER TEST CLIPS WITH 0.025″ SQUARE PIN

Have 0.025″ (0.635) square pin within 0.15″ (3.81) square access hole. 1.73″ (43.94) long. Rated 45VAC, 3A, +102°C.

Stock No.	Type	Description	1-24	25-49	50-99	100-249
35F1691	4521-0 BLACK	Black Test Clip	3.50	3.21	2.97	2.58
35F1692	4521-2 RED	Red Test Clip	3.50	3.21	2.97	2.58

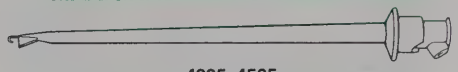
TYPE 5790 ROTATING MICROGRABBER TEST CLIPS

Ideal for testing surface mount devices. High-density leads have 0.050″ (1.27) spacing and 0.004″ (0.101) gauge wires. 2 access entries with 0.025″ (0.635) square pins.

Stock No.	Type	Description	1-24	25-49	50-99	100-249
95F1351	5790-0	Black Test Clip	7.57	6.91	6.41	5.55
95F1352	5790-2	Red Test Clip	7.57	6.91	6.41	5.55

(8966) (de01560)

MAXIGRABBER® 6″ TEST CLIPS



4225, 4565

For high-rise packaging of components where test point depth is key factor. Fit 0.25″ (6.35) diameter entry holes. 45VAC, 5A. +102°C. **Type 4225** has 0.090″ (2.29) wire O.D. **4565** has 0.144″ (3.66) wire O.D. **5830** has easy-access rotating pincer contact and standard banana jack and screw for direct wire termination.

TYPES 4225 AND 4565 MAXIGRABBER CLIPS

Stock No.	Type	Color	1-24	25-49	50-99	100-249
35F994	4225-0	Black	5.04	4.61	4.27	3.70
35F995	4225-2	Red	5.04	4.61	4.27	3.70
35F1687	4565-0	Black	5.04	4.61	4.27	3.70
35F1688	4565-2	Red	5.04	4.61	4.27	3.70

TYPE 5830 FLEXIBLE, ROTATING MAXIGRABBER CLIPS

93F3465	5830-0	Black	10.11	8.70	7.96	7.30
93F4138	5830-2	Red	10.11	8.70	7.96	7.30

(8967) (de01561)

MINIATURE ALLIGATOR CLIPS

Plastic insulated with miniature 2mm banana jack. Overall length: 1.57″ (40).

Stock No.	Type	Color	1-24	25-49	50-99	100-249
93F3468	5788-0	Black	2.31	2.12	1.97	1.69
93F4141	5788-2	Red	2.31	2.12	1.97	1.69

(9164) (ne08398)

INSULATED MINIGATOR CLIP TO PIN JACKS

Alligator clip has 0.187″ (4.7) max. jaw opening.

Stock No.	Type	Color	1-24	25-49	50-99	100-249
77B2384	3491-0	Black	4.13	3.77	3.51	3.04
77B5917	3491-2	Red	4.13	3.77	3.51	3.04

(9153) (ne08399)

PATCH CORDS AND CABLE ASSEMBLIES

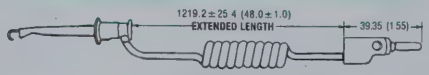
TYPE 5053 MICROGRABBER® PATCH CORDS

Test clip/standard stacking banana plug. 1000WVDC, 3A, +55°C.

Stock No.	Type	Color	L	1-24	25-49	50-99	100-499
44F5369	5053-24-0	Black	24″	7.26	6.24	5.72	5.25
44F5362	5053-24-2	Red	24″	7.26	6.24	5.72	5.25
44F5363	5053-36-0	Black	36″	7.26	6.24	5.72	5.25
44F5364	5053-36-2	Red	36″	7.26	6.24	5.72	5.25
44F5365	5053-48-0	Black	48″	7.67	6.60	6.04	5.54
44F5366	5053-48-2	Red	48″	7.67	6.60	6.04	5.54

(8901) (de00550)

MINIGRABBER® PATCH CORDS

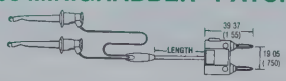


Type 4538 test clip/standard banana plug. 3000VDC intermittent, 270VDC, 90VAC continuous duty, 5A, +55°C. **Type 3784** mini banana plug, cord not coiled.

Stock No.	Type	Color	L	1-24	25-49	50-99	100-499
46F1326	4538-0	Black	48±1″	13.44	11.56	10.57	9.71
46F1327	4538-2	Red	48±1″	13.44	11.56	10.57	9.71
35F950	3784-12-0 BLACK	Black	12″	5.75	5.25	4.87	4.22
35F955	3784-12-2 RED	Red	12″	5.75	5.25	4.87	4.22
35F951	3784-24-0 BLACK	Black	24″	5.75	5.25	4.87	4.22
35F956	3784-24-2 RED	Red	24″	5.75	5.25	4.87	4.22
35F952	3784-36-0 BLACK	Black	36″	5.75	5.25	4.87	4.22
35F957	3784-36-2 RED	Red	36″	5.75	5.25	4.87	4.22
35F953	3784-48-0 BLACK	Black	48″	6.38	5.82	5.41	4.68
35F958	3784-48-2 RED	Red	48″	6.38	5.82	5.41	4.68
35F954	3784-60-0 BLACK	Black	60″	6.38	5.82	5.41	4.68
35F959	3784-60-2 RED	Red	60″	6.38	5.82	5.41	4.68

(8902) (de00551)

TYPE 3786 MINIGRABBER® PATCH CORDS



2 test clips connected to black 8.00″ (203.20) and red 1.50″ (38.10) lead wires connected to dual banana plug. 1400Vrms, +50°C.

Stock No.	Type	L	1-9	10-24	25-49	50-99
35F970	3786-C-18	18″	17.79	15.73	14.96	13.50
35F971	3786-C-24	24″	17.79	15.73	14.96	13.50
35F972	3786-C-36	36″	17.79	15.73	14.96	13.50
35F973	3786-C-48	48″	19.16	16.94	16.11	14.53
35F974	3786-C-60	60″	19.16	16.94	16.11	14.53

(8904) (de00554)

STANDARD DOUBLE PLUG EACH END

2BA: 2 conductor twisted pair 0.250″ (6.35) O.D. cable; **2BB:** shielded microphone cable 0.195″ (4.95) O.D. cable; **2BC:** shielded coaxial RG 58C/U 0.195″ (4.95) O.D. cable.

Stock No.	Type	L	1-9	10-24	25-49	50-99
34F801	2BA-36	36″	17.92	15.84	15.06	13.60
34F803	2BB-36	36″	15.77	13.94	13.26	11.96
34F805	2BC-36	36″	16.81	14.86	14.14	12.75

(8907) (de00558)

BNC MALE EACH END CABLE ASSEMBLIES

Molded stress relief boot. **2249-C:** RG58C/U, 50Ω; **2249-E:** RG59B/U, 75Ω; **2249-M:** RG62A/U, 93Ω; **4964:** Belden 9223, 50Ω.

Stock No.	Type	L	1-9	10-24	25-49	50-99
35F1072	2249-C-12	12″	15.31	13.54	12.87	11.62
35F1073	2249-C-24	24″	15.31	13.54	12.87	11.62
35F1074	2249-C-36	36″	15.31	13.54	12.87	11.62
35F1075	2249-C-48	48″	19.09	16.88	16.05	14.49
35F1076	2249-C-60	60″	19.09	16.88	16.05	14.49
89F333	2249-C-72	72″	19.09	16.88	16.05	14.49
89F332	2249-C-120	120″	22.94	20.28	19.28	17.40
89F331	2249-C-180	180″	27.69	24.48	23.28	21.01
35F1077	2249-E-12	12″	16.29	14.40	13.70	12.36
35F1078	2249-E-24	24″	16.29	14.40	13.70	12.36
35F1079	2249-E-36	36″	16.29	14.40	13.70	12.36
35F1080	2249-E-48	48″	19.16	16.94	16.11	14.53
35F1081	2249-E-60	60″	19.16	16.94	16.11	14.53
50F1471	2249-E-72	72″	19.16	16.94	16.11	14.53
35F1086	2249-M-60	60″	19.16	16.94	16.11	14.53
89F334	4964-SS-24	24″	20.53	18.15	17.25	15.57
89F328	4964-SS-36	36″	20.53	18.15	17.25	15.57
89F329	4964-SS-48	48″	24.76	21.89	20.81	18.78
89F330	4964-SS-60	60″	24.76	21.89	20.81	18.78

(8905) (de00555)

BNC MALE 50-OHM CABLE ASSEMBLIES WITH INSULATED PUSH-ON CONNECTORS

NEW

Locking feature allows secure retention with the convenience of a push-on connector. Cable type: RG58C/U, 50.Ω; 0.195″ O.D.

Stock No.	Type	Length	1-24	25-49	50-99
83F8108	6253-C-12	12″	34.69	32.64	29.67
83F8109	6253-C-24	24″	34.69	32.64	29.67
83F8110	6253-C-36	36″	34.69	32.64	29.67

(42572) (ne42572)

BNC MALE CABLE ASSEMBLIES W/MOLDED STRAIN RELIEF TO MULTI-STACKING DOUBLE BANANA PLUG

NEW

Cable type: RG-58C/U; 0.195″ O.D. Rating: 500Vrms max.

Stock No.	Type	Length	1-24	25-49	50-99
94F934	4530-C-18	18″	16.81	14.86	13.86
77B2566	4530-C-24	24″	16.81	14.86	13.86
77B2567	4530-C-36	36″	17.40	15.38	14.62
77B2568	4530-C-48	48″	18.64	16.48	15.37
77B2569	4530-C-60	60″	19.29	17.05	16.21

(42573) (ne42573)

BNC MALE CABLE ASSEMBLIES

BNC-C Series

BNC male/BNC male. 50Ω. 500Vrms, +80°C. (*)Economy style.

Stock No.	Type	L	1-24	25-49	50-99	100-499
30F1417	BNC-C-18	18″	17.53	15.50	14.74	13.30
34F842	BNC-C-24	24″	17.53	15.50	14.74	13.30
34F843	BNC-C-36	36″	17.53	15.50	14.74	13.30
44F2636	BNC-C-48	48″	19.87	17.57	16.71	15.08
44F2638	BNC-C-60	60″	19.87	17.57	16.71	15.08
50F1529	5697-12	12″	8.55	7.36	6.73	6.18
50F1530	5697-24	24″	8.55	7.36	6.73	6.18
50F1531	5697-36	36″	8.55	7.36	6.73	6.18
50F1532	5697-48	48″	12.42	10.68	9.78	8.97
50F1533	5697-60	60″	12.42	10.68	9.78	8.97
50F1534	5697-72	72″	12.42	10.68	9.78	8.97
50F1535	5697-120	120″	14.40	12.73	12.11	10.93

(8906) (de00557)

ALLIGATOR CLIPS/DOUBLE BANANA PLUG

Type 2BA-AL-36 2 conductor twisted pair cable; **type 2BC-AL-36** RG58C/U cable.

Stock No.	Type	L	1-9	10-24	25-49	50-99
34F807	2BA-AL-36	36″	25.35	22.41	21.31	19.23
34F811	2BC-AL-36	36″	21.24	18.78	17.86	16.11

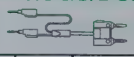
(8908) (de00559)

BNC MALE TO DOUBLE BANANA PLUG

Stock No.	Type	L	1-24	25-49	50-99	100-499
34F815	2BC-BNC-36	36″	19.16	16.94	16.11	14.53

(8909) (de00560)

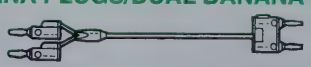
STACKING PIN TIP PLUGS/DUAL BANANA PLUG



Stock No.	Type	L	1-9	10-24	25-49	50-99
34F821	2BC-PP-36	36″	24.31	21.49	20.43	18.44

(8910) (de00561)

BANANA PLUGS/DUAL BANANA PLUG



Stock No.	Type	L	1-9	10-24	25-49	50-99
89F401	1368-A-18	18″	27.89	24.66	23.44	21.15
89F340	1368-A-36	36″	27.89	24.66	23.44	21.15
89F403	1368-A-48	48″	29.26	25.86	24.60	22.20
94F294	1368-A-60	60″	29.26	25.86	24.60	22.20

(8912) (de00563)

Pomona®

PATCH CORDS AND TEST PROBES

CABLE ASSEMBLIES

Fig. 1

Fig. 2

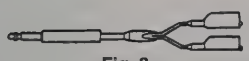


Fig. 3

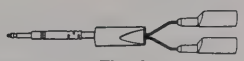


Fig. 4

Fig. 5

Fig. 6

Fig. 7

Fig. 8

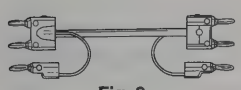


Fig. 9

Fig. 10

BNC MALE TO SMA MALE INSULATED CABLE — FIG. 1

Stock No.	Type	Cable Length	1-9	10-24	25-49
77B4084	4935-BB-24	24″	44.03	41.42	38.38
77B4085	4935-BB-48	48″	44.03	41.42	38.38
94F5420	4935-BB-60	60″	44.03	41.42	38.38

SMA MALE EACH END 50 OHM CABLE — FIG. 2

77B2762	4846-K-24	24″	43.27	40.71	37.72
77B2763	4846-K-48	48″	43.27	40.71	37.72
96F7089	4846-K-60	60″	43.27	40.71	37.72
77B2768	4846-BB-24	24″	48.43	45.57	42.23
99F3399	4846-BB-48	48″	48.43	45.57	42.23
91F3474	4846-BB-60	60″	48.43	45.57	41.43
77B2765	4846-X-24	24″	64.24	60.44	56.01
77B2766	4846-X-48	48″	64.24	60.44	56.01
77B2767	4846-X-60	60″	64.24	60.44	56.01

PJ-051 TELEPHONE PLUG TO ALLIGATOR CLIP — FIG. 3

2-conductor twisted pair 0.250″ (6.35) O.D. cable.

89F338	3352-A-36	36″	40.63	38.22	35.42
94F753	3352-A-60	60″	40.63	38.22	35.42
94F1551	3352-A-84	84″	41.57	39.11	36.24

MINIATURE TELEPHONE PLUG TO ALLIGATOR CLIPS — FIG. 4

2-conductor shielded 0.180″ (4.57) O.D. cable.

50F1469	5026-60	60″	37.73	35.50	32.89

MINIATURE TELEPHONE PLUG EACH END — FIG. 5

2-conductor shielded 0.180″ (4.57) O.D. cable.

89F418	4279-24	24″	32.45	28.69	27.28
89F350	4279-36	36″	32.45	28.69	27.28
89F409	4279-48	48″	34.60	30.59	29.08

MINIATURE TELEPHONE PLUG TO PJ-051 TELEPHONE PLUG — FIG. 6

2-conductor shielded 0.180″ (4.57) O.D. cable.

89F335	4280-48	48″	73.06	68.74	63.70
50F1470	4280-60	60″	73.06	68.74	63.70

TYPE 'N' MALE, EACH END 50 OHM CABLE — FIG. 7

Stock No.	Type	Cable Length	1-4	25-49	50-99
88F4443	1658-T-180	18″	127.06	115.51	106.27
77B2157	1658-T-24	24″	48.68	45.80	41.64
77B2158	1658-T-36	36″	50.39	47.41	43.93
77B2159	1658-T-48	48″	74.24	69.85	63.51
77B2160	1658-T-60	60″	74.24	69.85	63.51

MULTI-STACKING DOUBLE BANANA PLUG, ONE END ONLY - FIG 8

96F7101	1326-A-60	60″	14.48	12.80	11.95

TWO CONDUCTOR SHIELDED BALANCED LINE — FIG 9

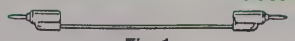
77B1881	1167-24	24″	33.90	31.89	29.00
77B1883	1167-36	36″	35.08	33.01	30.59
77B1885	1167-60	60″	35.42	33.32	30.30

TRIAXIAL 3 LUG MALE TRIAXIAL CABLE — FIG 10

94F5207	5223-36	36″	90.06	84.73	77.04
94F5208	5223-60	60″	94.93	89.31	81.20

(8969) (de01573)

PATCH CORDS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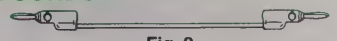


Fig. 2

Fig. 3

Fig. 4

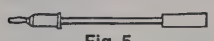


Fig. 5

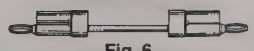


Fig. 6

STACKING PIN TIP PLUG EACH END — FIG. 1

0.080″ (2.03) O.D. pin tip. 20AWG. 3000 WVDC, 5A, +55°C.

Stock No.	Type	L	Color	1-24	25-49	50-99	100-249
81F4668	P-4-0	4″	Black	6.23	5.70	5.29	4.57
81F4669	P-4-2	4″	Red	6.23	5.70	5.29	4.57
81F4670	P-8-0	8″	Black	6.23	5.70	5.29	4.57
81F4671	P-8-2	8″	Red	6.23	5.70	5.29	4.57
81F4672	P-12-0	12″	Black	6.23	5.70	5.29	4.57
81F4673	P-12-2	12″	Red	6.23	5.70	5.29	4.57
81F4674	P-18-0	18″	Black	6.23	5.70	5.29	4.57
81F4675	P-18-2	18″	Red	6.23	5.70	5.29	4.57
81F4676	P-24-0	24″	Black	6.23	5.70	5.29	4.57
81F4677	P-24-2	24″	Red	6.23	5.70	5.29	4.57
81F4678	P-36-0	36″	Black	6.23	5.70	5.29	4.57
81F4679	P-36-2	36″	Red	6.23	5.70	5.29	4.57

STACKING STANDARD BANANA PLUG EACH END — FIG. 2

18AWG. 5000 WVDC, 15A, +55°C.

34F876	B-4-0 BLACK	4″	Black	5.19	4.74	4.39	3.81
34F875	B-4-2 RED	4″	Red	5.19	4.74	4.39	3.81
34F878	B-8-0 BLACK	8″	Black	5.19	4.74	4.39	3.81
34F877	B-8-2 RED	8″	Red	5.19	4.74	4.39	3.81
34F880	B-12-0 BLACK	12″	Black	5.19	4.74	4.39	3.81
34F879	B-12-2 RED	12″	Red	5.19	4.74	4.39	3.81
34F882	B-18-0 BLACK	18″	Black	5.19	4.74	4.39	3.81
34F881	B-18-2 RED	18″	Red	5.19	4.74	4.39	3.81
34F849	B-24-0 BLACK	24″	Black	5.19	4.74	4.39	3.81
34F848	B-24-2 RED	24″	Red	5.19	4.74	4.39	3.81
34F851	B-36-0 BLACK	36″	Black	5.19	4.74	4.39	3.81
34F850	B-36-2 RED	36″	Red	5.19	4.74	4.39	3.81

INSULATED ALLIGATOR CLIP EACH END — FIG. 3

18AWG. 5000WVDC, 5A, +50°C.

81F4680	AL-B-12-0	12″	Black	5.75	5.25	4.87	4.22
81F4681	AL-B-12-2	12″	Red	5.75	5.25	4.87	4.22
81F4682	AL-B-24-0	24″	Black	5.75	5.25	4.87	4.22
81F4683	AL-B-24-2	24″	Red	5.75	5.25	4.87	4.22
81F4684	AL-B-36-0	36″	Black	5.75	5.25	4.87	4.22
81F4685	AL-B-36-2	36″	Red	5.75	5.25	4.87	4.22

MINIGATOR CLIP TO STACKING BANANA PLUG — FIG. 4

20AWG. 3000WVDC, 5A, +50°C.

81F4659	3220-36-0	36″	Black	5.54	5.05	4.69	4.06
81F4660	3220-36-2	36″	Red	5.54	5.05	4.69	4.06

BANANA PLUG TO IN-LINE BANANA JACK — FIG. 5

18 AWG. 5000WVDC, 15A, +55°C.

89F346	4702-24-0	24″	Black	6.94	6.33	5.88	5.09
89F347	4702-24-2 (RED)	24″	Red	6.94	6.33	5.88	5.09
89F348	4702-36-0	36″	Black	6.94	6.33	5.88	5.09
89F349	4702-36-2 (RED)	36″	Red	6.94	6.33	5.88	5.09

EXTENSION STACKING BANANA PLUG EACH END — FIG. 6

Insulates hot leads. 18AWG, 0.144″ (3.66) O.D. 5000WVDC, 15A, +55°C. *Other sizes available, contact your local Newark branch.*

81F4621	HB-36-0	36″	Black	7.94	6.83	6.25	5.73
81F4622	HB-36-2	36″	Red	7.94	6.83	6.25	5.73

(8971) (de01575)

TEST PROBE SETS

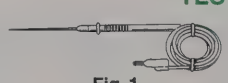


Fig. 1

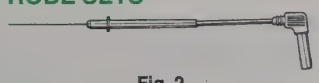


Fig. 2

Fig. 3

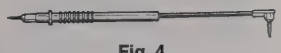


Fig. 4

Types 5952, 5953 probes have tip that extends to 3.00″ (76.20) for hard-to-reach points. **Types 5950, 5951** probes have replaceable .080″ (2.03) O.D. stainless steel tip. Probes connected by 48″ (1.22M) 18AWG, 0.144″ (3.66) O.D. PVC wire. 1 black, 1 red probe.

EXTENDABLE TIP PROBES

Stock No.	Type	Fig.	Plug Type	1-24	25-49	50-99	100-249
95F1358	5952	1	Stacking Banana	21.50	19.01	18.08	16.31
95F1359	5953	2	Multimeter	21.50	19.01	18.08	16.31

REPLACEABLE TIP PROBES TO BANANA PLUG

95F1356	5950	3	In-Line Banana	14.18	12.20	11.16	10.24
95F1357	5951	4	Right-Angle Banana	14.18	12.20	11.16	10.24

(8970) (de01574)

TEST LEADS AND SCOPE PROBES

GENERAL-PURPOSE TEST PRODS AND KITS

Multifeature test prods offer flexibility and adaptability to meet a wide range of test lead requirements. There is a test lead for every popular multimeter, handheld and VOM. 4″ prod handles made of ABS feature anti-slip ribs and shock guard collar. Stainless steel needle tip with 8-32 threaded insert accepts a wide range of accessories. Hook-up wire is 18AWG (65x36AWG), 90°C PVC, 48″ long. Kits consist of a pair of test leads and two each: **type BU-60TBO** clips, **BU-207** plungers, **BU-225** spade lugs, **BU-230** insulator covers, **BU-62** clip insulators. Both test leads only and complete kits are sold in pairs, one each: red and black.

Stock No.	Type	Description	1-24	25-49
93F9806	110007	Prod to Shielded Banana	**12.38**	**11.64**
93F9807	110009	Prod to Shielded Banana, Right-Angle	**13.19**	**12.40**
50F2941	110011	Prod to Unshielded Banana	**12.29**	**10.98**
93F9809	110013	Prod to Unshielded Banana, Right-Angle	**13.19**	**12.40**
89F490	110006	Type 110007 with Accessory Kit	**16.96**	**15.94**
89F488	110004	Type 110009 with Accessory Kit	**16.96**	**15.94**
89F489	110005	Type 110011 with Accessory Kit	**16.96**	**15.94**
89F487	110003	Type 110013 with Accessory Kit	**16.96**	**15.94**

(5868) (de50897)

NEW

BU-00287

INSULATED ALLIGATOR AND MINI-ALLIGATOR LEAD KITS

Econo-Line lead kits offer skin-tight flexible insulator. All kits have multiple colors to simplify identification. **Types BU-00285** and **BU-00287** include 2 each of black, red, yellow, green, and white. **Type BU-00286** includes 1 each of black, red, yellow, green and white. 22 AWG for all kits.

Stock No.	Type	Description	Length	1-24	25-49
83F8069	BU-00286	Alligator	12″	**2.57**	**2.41**
83F8070	BU-00287	Alligator	18″	**5.11**	**4.81**
83F8068	BU-00285	Mini-Alligator	18″	**4.28**	**4.02**

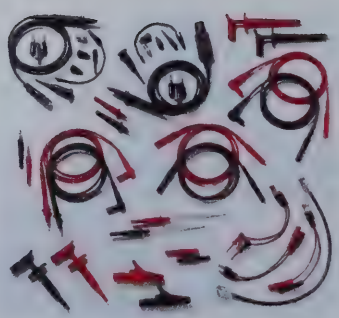
(39470) (ne39470)

VARIABLE LENGTH TEST PRODS

For applications needing a thin, streamlined test prod. The extendable tip permits testing of SMD, SOT, and other electronic components that may not easily be reached with a standard set of test leads. The probe may be extended to 2.5″. Stainless steel probe is Teflon® insulated. Sold in pairs, one each: red and black. Length: 48″ (1.22m).

Stock No.	Type	Description	1-24	25-49
93F9802	110008	Prod w/Shielded Banana Plug	**14.27**	**13.41**
93F9803	110010	Prod w/Shielded Right-Angle Plug	**15.34**	**14.42**
93F9804	110012	Prod w/Unshielded Banana Plug	**12.79**	**12.02**
93F9805	110014	Prod w/Unshielded Right-Angle Plug	**14.13**	**13.28**

(5869) (de50898)



MONOLITHIC OSCILLOSCOPE PROBE KIT

This kit is designed for all major brands of oscilloscopes. Kit comes with 6″ ground clip and insulator, plunger clip, probe tip shield, BNC male-to-probe adapter, screwdriver and IC test clip (not modular), and instruction manuals. Max. input: 600V. Compensation range: 15-75pF. Comply with MIL-I-45602A. Other style kits available, *contact your local Newark sales office.*

Stock No.	Type	Description	Attenuation	BW (MHz)	Cap. (pF)	1-24	25-49
50F3632	090004	Monolithic	x100	100	65	**90.69**	**85.25**

(5870) (de50899)

400001

TEST KITS

DELUXE AUTOMOTIVE KIT

14-piece flexible test lead set includes prods, clamp-on probes, banana couplings, insulated banana jack to standard banana plug adapters, and safety alligator clips.

Stock No.	Type	1-9
16F3585	400000	**87.85**

GENERAL-PURPOSE TEST KIT

11-piece test kit includes banana plug to safety test prods, insulated jack to standard banana plug adapters, insulators, and threaded barrel steel alligator clips and plunger clips for hands-free testing.

16F3586	400001	**19.78**

DELUXE ELECTRICAL KIT

13-piece flexible kit includes plug-on prods, probes, safety alligator clips, plunger jaw clips, insulated banana jack to standard banana plug adapters, and spade lugs.

16F3587	400002	**76.10**

ELECTRONICS LAB TEST KIT

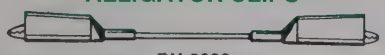
21-piece kit includes a variety of test leads, plug-on prods, plunger jaw clips, adapters, and monolithic oscilloscope probe kit.

16F3588	400003	**103.51**

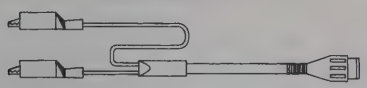
(5945) (ne08197)

TEST LEADS

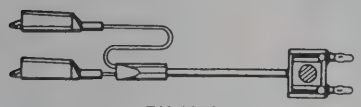
ALLIGATOR CLIPS



BU-3030

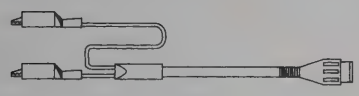


BU-3056

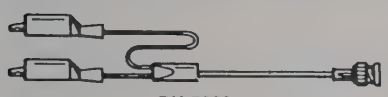


BU-3070

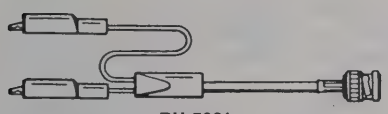
BU-3131



BU-3156



BU-5030



BU-5031

Type BU-3030 insulated alligator clip both ends.

Type BU-3056 nickel-plated steel, insulated alligator clips with 2″ (51mm) positive lead and 7″ (178mm) negative lead. With molded Y-block to insulated BNC Male.

Type BU-3070 insulated alligator clips, positive and negative with 3″ (76.2mm) and 8″ (203.2mm), respectively lead wires with molded Y-block to stackable double banana plug.

Type BU-3131 insulated mini-alligator clip, both ends.

Type BU-3156 nickel-plated steel, insulated mini-alligator clips with 2″ (51mm) positive lead and 7″ (178mm) negative lead. With molded Y-block to insulated BNC Male.

Type BU-5030 insulated alligator clips, positive and negative with 3″ (76.2mm and 8″ (203.2mm), respectively lead wires with molded Y-block to BNC Male.

Type BU-5031 insulated mini-alligator clips, positive and negative with 3″ (76.2mm) and 8″ (203.2mm), respectively lead wires with molded Y-block to BNC Male.

Types ending with -0 are black, -2 are red.

12″ LENGTH

Stock No.	Type	1-24	25-49	50-99
89F461	BU-3030-A-12-0	4.05	3.65	3.28
89F462	BU-3030-A-12-2	4.05	3.65	3.28
89F465	BU-3131-A-12-0	4.47	4.03	3.62
89F466	BU-3131-A-12-2	4.47	4.03	3.62
24″ LENGTH				
89F463	BU-3030-A-24-0	4.22	3.80	3.42
89F464	BU-3030A-24-2	4.22	3.80	3.42
89F467	BU-3131-A-24-0	4.74	4.27	3.84
89F468	BU-3131-A-24-2	4.74	4.27	3.84
16F3573	BU-3056-C-24-0	22.61	20.19	19.56
90F5728	BU-3070-C-24-0	22.27	20.05	18.04
16F3574	BU-3156-C-24-0	23.88	21.33	20.66
90F5770	BU-5030-C-24-0	25.06	22.55	20.29
90F5771	BU-5031-C-24-0	25.06	22.55	20.29
36″ LENGTH				
16F3542	BU-3030-A-36-0	3.04	2.77	2.70
16F3543	BU-3030-A-36-2	3.04	2.77	2.70
90F5765	BU-3070-C-36-0	22.95	20.65	18.58
16F3575	BU-3131-A-36-0	3.57	3.36	3.17
16F3576	BU-3131-A-36-2	3.57	3.36	3.17
90F5772	BU-5031-C-36-0	25.31	22.78	20.50

(9047) (de50602)

BNC & BANANA INTERCONNECTS

BU-5050

BU-5070

BU-7070

BU-5656 & BU-5659

Type BU-5050 has BNC male connectors at both ends. **Type BU-5656** is the same except features fully insulated BNC male connectors. **Type BU-5659** is a BNC Male-Female coaxial cable. **Type BU-5070** is a BNC to banana cable assembly. **Type BU-7070** has dual banana plugs 0.75″ OC on coax. All on RG-58 (50Ω) cable. Types ending with "0" are black, "2" are red.

Stock No.	Type	L	1-24	25-49	50-99
89F470	BU-5050-B-12-0	12″	11.04	10.37	9.08
89F471	BU-5050-B-24-0	24″	11.58	10.88	9.52
93F9739	BU-5050-B-36-0	36″	11.98	11.26	9.85
16F3544	BU-5050-B-60-0	60″	15.14	14.13	12.11
93F9740	BU-5656-B-12-0	12″	30.75	28.90	25.28
93F9742	BU-5656-B-36-0	36″	31.62	29.73	26.00
50F2947	BU-5659-B-36-0	36″	31.62	29.73	26.00
89F478	BU-7070-B-12-0	12″	14.67	13.79	12.06
89F480	BU-7070-B-24-0	24″	14.87	13.98	12.23
89F481	BU-7070-B-24-2	24″	14.87	13.98	12.23
93F9743	BU-7070-B-36-0	36″	15.75	14.80	12.95
93F9744	BU-7070-B-36-2	36″	15.75	14.80	12.95
93F9757	BU-5070-B-12-0	12″	15.75	14.80	12.95
90F5773	BU-5070-B-24-0	24″	16.22	15.24	13.34
93F9758	BU-5070-B-36-0	36″	16.69	15.69	13.72

(9045) (de50600)

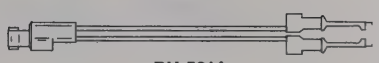
BNC BREAKOUTS

BU-5100/5200

BU-5131/5231

BU-5114

BU-5120



BU-5214

BU-5220

Type BU-5100 BNC male breakouts and **Type BU-5200** BNC female breakouts feature tarnish resistant plated brass body, gold-plated center contact. **Types BU-5100/5200** are BNC Male/Female to tinned end wires. **Types BU-5131/5231** feature BNC to alligator clips. **Type BU-5214** has BNC female breakout style connects to mini-micro-clippers. **Type BU-5220** has BNC female to stackable single banana plug styling. **Types BU-5114** has BNC male to mini-micro-clippers. **Type BU-5120** has BNC to stackable single banana plug. All breakouts are four inches (4″) long. Wires and terminaticns are color coded red and black for easy identification.

Stock No.	Type	1-24	25-49	50-99
89F472	BU-5100-A-4-0	12.18	11.45	10.02
89F473	BU-5114-A-4-0	18.71	17.58	15.38
89F474	BU-5120-A-4-0	16.55	15.56	13.61
89F476	BU-5131-A-4-0	16.42	15.43	13.50
90F5756	BU-5200-A-4-0	8.88	8.35	7.31
16F3545	BU-5214-A-4-0	12.81	11.44	11.09
16F3546	BU-5220-A-4-0	11.65	10.41	10.08
90F5758	BU-5231-A-4-0	12.67	11.91	10.42

(9048) (de50603)

UNSHROUDED STACKABLE BANANA PLUGS

NEW

Test leads with stackable banana plug on both ends. Allows multiple lead connection to one source. 18 AWG wire is UL listed to a maximum working voltage of 3000V. 22-amp rating. Length: 39″. Type number ending with **suffix-0** is black; type number ending with **suffix-2** is red. Other lengths available; *contact your local Newark sales office.*

Stock No.	Type	1-24	25-49
83F8059	BU-2929-M-39-0	8.58	8.07
83F8071	BU-2929-M-39-2	8.58	8.07

(42373) (ne42373)

SILICONE INSULATED TEST LEAD WIRE

Superior performance, flexibility and long service life are assured with laboratory-grade silicone test lead wire. **Types 180000, 180002, 180004** are black. **Types 180001, 180003, 180005** are red. Stranding: 412 x 44AWG. Copper conductor. Overall diameter: 0.141″ (3.58). Maximum operating voltage: 3000V.Temperature range: –80° to +150°C. **Sold in 10′ packs.**

Stock No.	Type	AWG	1-24	25-49
16F7113	180000-BLK	18	11.02	9.84
16F7114	180001-RED	18	11.02	9.84
91F3145	180002	20	16.23	14.49
91F3146	180003	20	16.23	14.49
91F3147	180004	22	16.70	14.91
91F3148	180005	22	16.70	14.91

(8991) (de01948)

SQUARE PIN RECEPTACLE PATCH CORDS

Type BU-8080-E series are patch cords for PC boards with 0.025″ (0.635) square pins. Length: 12″. Types ending with "0" are black, "2" are red.

Stock No.	Type	1-24	25-49	50-99
89F454	BU-8080-E-12-0	5.91	5.32	4.79
89F485	BU-8080-E-12-2	5.57	5.01	4.51

(9046) (de50601)

NEWARK STOCKS MORE PRODUCTS THAN ANY OTHER ELECTRONICS DISTRIBUTOR!

1-800-4-NEWARK (1-800-463-9275)

5-AMP ALLIGATOR CLIPS

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Plated steel except **"C" suffix** burnished copper. **BU-30, 30C** for #20 wire or smaller. **BU-30BL** barrel tail; solder or crimp connection. **BU-30TBO** threaded barrel tail; connects to 6-32 threaded male test prod. **BU-34, BU-34C** for #20 wire or smaller; solder connection.

Stock No.	Type	Fig.	Clip Length	1-24	25-49	50-99	100-499
28F528	BU-30	2	1 3/32"	0.34	0.31	0.28	0.25
28F529	BU-30C	2	1 3/32"	0.43	0.38	0.35	0.31
46F3810	BU-30BL	4	1 1/4"	0.34	0.31	0.28	0.25
87F3721	BU-30TB0	3	1 1/2"	0.68	0.61	0.55	0.50
28F496	BU-34	1	1 3/32"	0.66	0.60	0.54	0.49
28F497	BU-34C	1	1 3/32"	0.68	0.61	0.55	0.50

(9064) (de50909)

10-AMP ALLIGATOR CLIPS

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

Plated steel except **BU-60CHS, BU-63C, BU-60CS, BU-85C** burnished copper, and BU-65 plated brass. **BU-60CHS, BU-60HS** have insulated sleeve, 6-40 screw. **BU-60HPR** has 0.080" I.D. barrel; insulated acetate handle. **BU-63, BU-63C** have 2-piece flexible vinyl insulation; barrel takes wire or banana plug. **BU-60** has lip for soldering. **BU-60S, BU-60CS** same as **BU-60** except have 6-40 screw. **BU-85, BU-85C** 10-amp crocodile clips. Jaws open to 5/16". Insulated, plug-on crocodile clips **BU-65** 34-amp. **Type BU-65-2** and **BU-65-0** (UL listed) jaws open to 3/4". **BU-60X** same as **BU-60** except solid stainless steel. **Suffix 0** in type number = black, **suffix 2** = red. *Other colors available.*

Stock No.	Type	Fig.	Clip Length	1-24	25-49	50-99	100-499
28F505	BU-60CHS-2	1	2 11/32"	1.05	0.94	0.85	0.77
28F506	BU-60CHS-0	1	2 11/32"	1.05	0.94	0.85	0.77
28F503	BU-60HS-2	1	2 11/32"	0.78	0.70	0.63	0.58
28F504	BU-60HS-0	1	2 11/32"	0.78	0.70	0.63	0.58
16F6684	BU-60HPR-0	2	2 15/64"	0.62	0.57	0.54	0.52
16F6685	BU-60HPR-2	2	2 15/64"	0.62	0.57	0.54	0.52
28F500	BU-60	4	1 31/32"	0.44	0.40	0.36	0.33
28F501	BU-60S	4	1 31/32"	0.53	0.47	0.43	0.39
28F502	BU-60CS	4	1 31/32"	0.88	0.79	0.71	0.65
28F464	BU-60PR-2	2	1 31/32"	0.70	0.63	0.56	0.51
28F533	BU-63-0	3	2 1/4"	1.29	1.16	1.04	0.95
28F534	BU-63-2	3	2 1/4"	1.29	1.16	1.04	0.95
28F535	BU-63C-0	3	2 1/4"	1.40	1.26	1.14	1.03
28F536	BU-63C-2	3	2 1/4"	1.40	1.26	1.14	1.03
28F507	BU-85	5	2 1/8"	0.64	0.58	0.52	0.48
28F508	BU-85C	5	2 1/8"	1.18	1.07	0.96	0.87
93F9831	BU-65-2	6	3 1/4"	7.17	6.46	5.81	5.29
93F9833	BU-65-0	6	3 1/4"	7.17	6.46	5.81	5.29
83F8060	BU-60X	4	1 31/32"	1.29	1.21	1.06	0.96

(9065) (de50910)

GENERAL-PURPOSE 10-AMP "PEE-WEE" CLIPS

BU-45

BU-45 plated steel finish. **BU-45C** burnished copper finish. Clip length: 1 17/32".

Stock No.	Type	Jaws Open	1-24	25-49	50-99	100-499
28F513	BU-45	5/16"	0.63	0.56	0.51	0.46
28F514	BU-45C	5/16"	0.91	0.82	0.74	0.67

20-AMP ALLIGATOR SOLID COPPER CLIPS

BU-50C beryllium copper piercing needle in top jaw; 6-32 brass screw. **BU-51C** same, but no needle; 6-32 steel screw. Clip length: 2 9/32".

28F510	BU-50C	1/2"	2.10	1.89	1.70	1.55
28F511	BU-51C	1/2"	1.45	1.31	1.18	1.07

(9066) (de50911)

KELVIN CLIPS

Fig. 1

Fig. 2

Used for 4-wire resistance measurement systems. Jaws are electrically isolated when open, shorted when closed. **BU-75K** silver/gold tip contacts, 18 AWG wire. **BU-78K** gold contacts, 20 AWG wire.

Stock No.	Type	Fig.	Clip Length	Jaws Open	1-24	25-49	50-99	100-499
90F1604	BU-75K	1	1 5/8"	5/16"	12.99	11.69	10.52	9.57
84F764	BU-78K	2	2.28"	1/2"	55.00	49.50	44.54	40.53

(9583) (de50915)

HEAVY-DUTY TEST AND BATTERY CLIPS

Fig. 1

Fig. 2

Fig. 3

Fig. 4

Copper shunt except **BU-25A. Suffix "A"** in type number = steel; **suffix "C"** = burnished copper.

Stock No.	Type	Fig.	Amps	Clip Length	Jaws Open	1-24	25-49	50-99	100-499
16F6674	BU-11APN	1	100	6"	1 5/8"	4.92	4.49	4.36	4.06
16F6675	BU-11APS	1	100	6"	1 5/8"	4.92	4.49	4.28	4.06
16F6676	BU-11CPN	1	200	6"	1 5/8"	6.81	6.22	5.92	5.63
16F6677	BU-11CPS	1	200	6"	1 5/8"	6.81	6.22	5.92	5.63
16F6678	BU-21APN	2	50	4 7/64"	1 1/16"	1.90	1.73	1.68	1.57
16F6679	BU-21APS	2	50	4 7/64"	1 1/16"	1.90	1.73	1.68	1.57
16F6680	BU-21CPN	2	100	4 7/64"	1 1/16"	3.86	3.53	3.42	3.19
16F6681	BU-21CPS	2	100	4 7/64"	1 1/16"	3.86	3.53	3.42	3.19
16F6682	BU-24APN	3	25	2 27/32"	3/4"	1.02	0.93	0.90	0.84
16F6683	BU-24APS	3	25	2 27/32"	3/4"	1.02	0.93	0.90	0.86
90F2011	BU-25	4	40	3"	3/4"	1.25	1.13	1.01	0.92
28F519	BU-25C	4	75	3"	3/4"	2.28	2.05	1.85	1.68
28F522	BU-33C	1	300	7 3/4"	1 13/16"	20.03	18.03	16.22	14.76

GENERAL PURPOSE CLIPS

BU-27, BU-48B steel; **BU-27C, BU-48C** burnished copper.

28F523	BU-27	4	20	2 7/16"	5/8"	0.93	0.84	0.76	0.69
28F524	BU-27C	4	40	2 7/16"	5/8"	1.29	1.16	1.04	0.95
28F515	BU-48B	4	10	2"	1/2"	0.81	0.73	0.66	0.60
28F538	BU-48C	4	20	2"	1/2"	1.00	0.90	0.81	0.74

(9067) (de50913)

PLIER-TYPE BATTERY CLIPS

Fig. 1

Fig. 2

BU-41 lock on both side and top terminal batteries, 9/16" ID lug for #2AWG wire. **BU-46** for trickle chargers and timing lights. **"A"** in type number indicates copper-plated steel; **"C"** indicates burnished solid copper. All have vinyl insulating sleeves. Type numbers with **suffix 0** = black, **suffix 2** = red . *Other colors are available.*

Stock No.	Type	Fig.	Amps	Jaws Open	1-24	25-49	50-99	100-499
28F465	BU-41A-2	1*	200	1 9/16"	3.85	3.47	3.12	2.84
28F466	BU-41A-0	1*	200	1 9/16"	3.85	3.47	3.12	2.84
90F1267	BU-41C-2	1*	400	1 9/16"	9.11	8.20	7.38	6.72
87F3651	BU-41C-0	1*	400	1 9/16"	9.11	8.20	7.38	6.72
28F468	BU-46A-2	2†	50	1 1/8"	1.27	1.14	1.03	0.94
28F467	BU-46A-0	2†	50	1 1/8"	1.27	1.14	1.03	0.94
46F3812	BU-46C-2	2†	75	1 1/8"	2.03	1.83	1.64	1.50
46F3811	BU-46C-0	2†	75	1 1/8"	2.03	1.83	1.64	1.50

*Clip length 6", † Clip length 3 7/8".

(9068) (de50914)

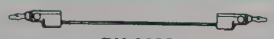
FLEXIBLE VINYL INSULATORS FOR CLIPS

Configurations of insulators vary slightly. Type numbers with **suffix 0** = black, **suffix 2** = red. *Other colors available,* contact your local newark sales office.

Stock No.	Type	For Clips	1-24	25-49	50-99	100-499
28F488	BU-13-2	BU-11-A, BU-11-C	3.21	2.89	2.60	2.36
28F489	BU-13-0	BU-11-A, BU-11-C	3.21	2.89	2.60	2.36
28F484	BU-23-2	BU-21-A, BU-21-C	1.52	1.37	1.23	1.12
28F485	BU-23-0	BU-21-A, BU-21-C	1.52	1.37	1.23	1.12
28F482	BU-26-2	BU-24-A, BU-25, BU-25-C	1.18	1.07	0.96	0.87
28F483	BU-26-0	BU-24-A, BU-25, BU-25-C	1.18	1.07	0.96	0.87
28F486	BU-29-2	BU-27, BU-27-C	0.76	0.69	0.62	0.56
28F487	BU-29-0	BU-27, BU-27-C	0.76	0.69	0.62	0.56
87F3718	BU-31-2	BU-30-BL, BU-30-TBO	0.26	0.23	0.21	0.19
87F3719	BU-31-0	BU-30-BL, BU-30-TBO	0.26	0.23	0.21	0.19
28F472	BU-32-2	BU-30, BU-30-C	0.26	0.23	0.21	0.19
28F473	BU-32-0	BU-30, BU-30-C	0.26	0.23	0.21	0.19
28F480	BU-35-2	BU-33-C	8.35	7.52	6.77	6.16
28F481	BU-35-0	BU-33-C	8.35	7.52	6.77	6.16
28F499	BU-36-2	BU-34, BU-34-C	0.26	0.23	0.21	0.19
28F498	BU-36-0	BU-34, BU-34-C	0.26	0.23	0.21	0.19
28F476	BU-47-2	BU-45, BU-45-C	0.34	0.31	0.28	0.25
28F477	BU-47-0	BU-45, BU-45-C	0.34	0.31	0.28	0.25
28F478	BU-49-2	BU-48-B, BU-48-C	0.68	0.61	0.55	0.50
28F479	BU-49-0	BU-48-B, BU-48-C	0.68	0.61	0.55	0.50
28F492	BU-62-2	All BU-60 Series	0.26	0.23	0.21	0.19
28F493	BU-62-0	All BU-60 Series	0.26	0.23	0.21	0.19
28F490	BU-87-2	BU-85, BU-85-C	0.43	0.38	0.35	0.31
28F491	BU-87-0	BU-85, BU-85-C	0.43	0.38	0.35	0.31

(9070) (de50916)

BANANA AND PIN PLUGS



BU-2020

BU-2030

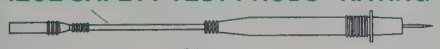
BU-2031

Type BU-2020 test leads have stackable single banana plugs both ends. **BU-2030** insulated alligator clip to stackable banana plug. **BU-2031** stackable single banana plug to insulated mini-alligator clip. Type numbers with **suffix 0** = black, **suffix 2** = red.

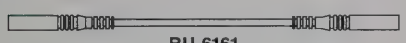
Stock No.	Type	Length	1-24	25-49	50-99	100-249
89F449	BU-2020-A-12-0	12″	4.92	4.62	4.04	3.64
89F450	BU-2020-A-12-2	12″	4.92	4.62	4.04	3.64
89F451	BU-2020-A-24-0	24″	5.05	4.75	4.15	3.74
89F452	BU-2020-A-24-2	24″	5.05	4.75	4.15	3.74
93F9829	BU-2020-A-36-0	36″	5.12	4.81	4.21	3.79
93F9830	BU-2020-A-36-2	36″	5.12	4.81	4.21	3.79
90F5721	BU-2030-A-24-0	24″	4.85	4.56	3.99	3.59
90F5776	BU-2030-A-24-2	24″	4.85	4.56	3.99	3.59
90F5722	BU-2030-A-36-0	36″	4.98	4.68	4.10	3.69
90F5775	BU-2030-A-36-2	36″	4.98	4.68	4.10	3.69
89F453	BU-2031-A-12-0	12″	4.71	4.43	3.88	3.49
89F454	BU-2031-A-12-2	12″	5.91	5.32	4.79	4.35
89F455	BU-2031-A-24-0	24″	4.85	4.56	3.99	3.59
89F456	BU-2031-A-24-2	24″	4.85	4.56	3.99	3.59

(9054) (de50626)

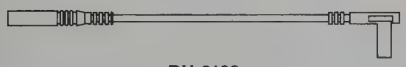
ONE-PIECE SAFETY TEST PRODS - RATING 1000V



BU-4061



BU-6161



BU-6162

Features finely stranded 18 AWG silicone test lead wire. Premium cage spring assembly for long life and consistent insertion/extraction force. **Type BU-4061** and **BU-4062** test leads instrument end features a nine-lead cage spring 4mm shielded banana plug. Probe end has a stainless steel tip. 18 AWG wire (M = Sillicone, N = PVC). Use **Type BU-6161** or **BU-6162** test lead interconnects as mating assemblies. UL listed. Type with suffix 0 = black, 2 = red. Length: 39″.

Stock No.	Type*	1-24	25-49	50-99	100-249
93F9748	BU-4061-M-39-0	11.10	10.44	9.13	8.22
93F9749	BU-4061-M-39-2	11.10	10.44	9.13	8.22
93F9750	BU-4062-M-39-0	18.38	17.28	15.12	13.60
93F9751	BU-4062-M-39-2	11.45	10.76	9.41	8.47
16F3579	BU-4061-N-39-0	7.86	7.38	6.97	6.49
16F3577	BU-6161-N-39-0	7.20	6.77	6.39	5.95
16F3578	BU-6162-N-39-0	7.50	7.05	6.65	6.20
93F9769	BU-6161-M-39-0	9.05	8.24	7.83	7.41
93F9770	BU-6161-M-39-2	10.50	9.87	8.63	7.77
93F9771	BU-6162-M-39-0	13.91	12.76	11.84	11.18
93F9772	BU-6162-M-39-2	10.77	10.12	8.86	7.97

*Type numbers with suffix 0 = black, 2 = red.

(5867) (de50896)

SAFETY TEST CLIPS

BU-1121

BU-1156/1456

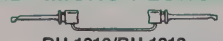
BU-3056/3156

Type BU-1121 test leads consist of a plunger to shielded banana plug. **Types BU-3056** and **BU-3156** have dual alligator clips and mini-alligator clips, respectively to completely shielded BNCs. **Types BU-1156** and **BU-1456** have clippers and mini-clippers, respectively to completely shielded BNCs. Type numbers with **suffix 0** = black, **suffix 2** = red.

Stock No.	Type	Length	1-24	25-49	50-99	100-249
93F9723	BU-1121-A-12-0	12″	5.66	5.32	4.65	4.19
93F9724	BU-1121-A-12-2	12″	5.66	5.32	4.65	4.19
93F9721	BU-1121-A-36-0	36″	5.92	5.57	4.87	4.38
93F9722	BU-1121-A-36-2	36″	5.92	5.57	4.87	4.38
93F9729	BU-1156-C-36-0	36″	26.44	24.86	21.74	19.57
93F9730	BU-1456-C-36-0	36″	27.72	26.06	22.80	20.51
93F9731	BU-3056-C-36-0	36″	26.64	25.05	21.91	19.72
93F9732	BU-3156-C-36-0	36″	28.39	26.69	23.35	21.01

(9055) (de50627)

"PLUNGER" AND "MICRO-PLUNGER" TEST CLIPS



BU-1010/BU-1212

BU-1031

BU-1080

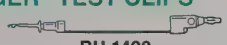
Type BU-1010 Micro-Plunger and **type BU-1212** Plunger test leads make difficult IC connections fast and easy. Spring-loaded beryllium copper conductor attaches to component leads and terminals. **Type BU-1031** test clip to insulated mini-alligator clip. **Type BU-1080** test clip to 0.025″(0.635) square pin receptacle. Type numbers with **suffix 0** = black, **suffix 2** = red.

Stock No.	Type	Length	1-24	25-49	50-99	100-249
89F423	BU-1010-A-24-2	24″	5.86	5.51	4.82	4.33
89F424	BU-1010-A-24-0	24″	5.86	5.51	4.82	4.33
89F425	BU-1010-A-36-0	36″	5.92	5.57	4.87	4.38
89F426	BU-1010-A-36-2	36″	5.92	5.57	4.87	4.38
89F427	BU-1031-A-24-0	24″	5.25	4.94	4.32	3.89
89F428	BU-1031-A-24-2	24″	5.25	4.94	4.32	3.89
93F9827	BU-1031-A-36-0	36″	5.39	5.06	4.43	3.99
93F9828	BU-1031-A-36-2	36″	5.39	5.06	4.43	3.99
89F430	BU-1080-E-12-0	12″	4.92	4.62	4.04	3.64
89F429	BU-1080-E-12-2	12″	4.92	4.62	4.04	3.64
16F3547	BU-1080-E-36-0	36″	4.53	4.25	4.02	3.81
16F3548	BU-1080-E-36-2	36″	4.53	4.25	4.02	3.81
16F3551	BU-1212-A-24-0	24″	4.82	4.53	4.28	3.99
16F3552	BU-1212-A-24-2	24″	4.82	4.53	4.28	3.99
16F3553	BU-1212-A-36-0	36″	4.88	4.59	4.33	4.04
16F3554	BU-1212-A-36-2	36″	4.88	4.59	4.33	4.04

(9051) (de50623)

"MINI-MICRO PLUNGER" TEST CLIPS

BU-1414



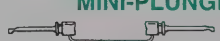
BU-1420

These test leads have the smallest clips of the "plunger" series. **Type BU-1414** to 0.025″ (0.635) diameter and smaller leads. **Type BU-1420** to stackable banana plug. Type numbers with **suffix 0** = black, **suffix 2** = red.

Stock No.	Type	Length	1-24	25-49	50-99	100-249
89F435	BU-1414-E-12-0	12″	6.93	6.52	5.70	5.13
89F436	BU-1414-E-12-2	12″	6.93	6.52	5.70	5.13
89F437	BU-1414-E-24-0	24″	7.00	6.58	5.76	5.18
89F438	BU-1414-E-24-2	24″	7.00	6.58	5.76	5.18
89F439	BU-1420-A-12-0	12″	6.87	6.45	5.65	5.08
89F440	BU-1420-A-12-2	12″	6.87	6.45	5.65	5.08
89F441	BU-1420-A-24-0	24″	7.00	6.58	5.76	5.18
89F442	BU-1420-A-24-2	24″	7.00	6.58	5.76	5.18

(9053) (de50625)

"MINI-PLUNGER" TEST CLIPS



BU-1111

BU-1120

BU-1150

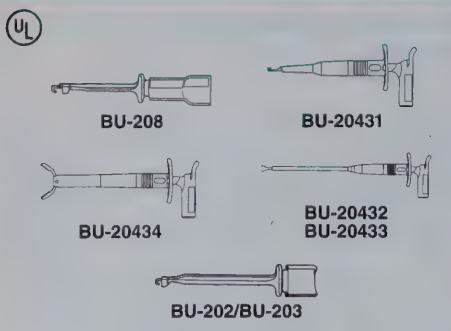
BU-1170

Type BU-1111 mini-plunger test leads make difficult connections easy. Spring-loaded beryllium copper conductor attaches to component leads and terminals. **Type BU-1120** attach to delicate component leads and terminals. Stackable banana plug terminates the other end of test lead. **Type BU-1150** positive and negative with 3″ and 8″ leads with molded "Y" block to BNC male. **Type BU-1170** positive and negative with 3″ and 8″ lead wires with molded "Y" block to stackable double banana plug. Type numbers with **suffix 0** = black, **suffix 2** = red.

Stock No.	Type	Length	1-24	25-49	50-99	100-249
16F3580	BU-1111-A-24-0	24″	4.88	4.59	4.33	4.04
16F3549	BU-1111-A-24-2	24″	4.88	4.59	4.33	4.04
98F5867	BU-1111-A-36-0	36″	5.00	4.57	4.44	4.22
16F3550	BU-1111-A-36-2	36″	5.00	4.70	4.44	4.13
89F431	BU-1120-A-24-0	24″	7.27	6.83	5.98	5.38
89F432	BU-1120-A-24-2	24″	7.27	6.83	5.98	5.38
89F433	BU-1120-A-36-0	36″	7.34	6.90	6.03	5.43
89F434	BU-1120-A-36-2	36″	7.34	6.90	6.03	5.43
90F5754	BU-1150-C-24-0	24″	18.50	17.39	15.22	13.69
90F2010	BU-1150-C-36-0	36″	18.84	17.71	15.49	13.94
90F5755	BU-1170-C-24-0	24″	20.12	18.91	16.54	14.89
90F5729	BU-1170-C-36-0	36″	20.46	19.23	16.82	15.14

(9052) (de50624)

INSULATED TEST LEAD ACCESSORIES

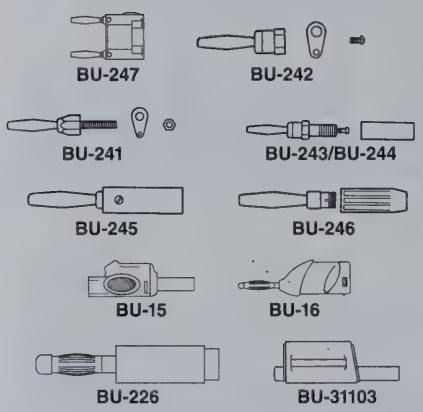


PLUNGER-TYPE TEST CLIPS

Type BU-20431 insulated plunger hook clips with spring-loaded rigid hook for connection to terminals up to 0.059″ (1.5). **Type BU-20432** insulated hook clips with two fine steel wire hooks for connection to small circuitry. Flexible shaft. **Type BU-20434** insulated plunger jaw clips feature steel alligator clip type jaw that opens up to 0.78″ (19.91) when plunger is depressed. **Type BU-20431, BU-20432** and **BU-20433** are UL listed. **BU-00208** is small and extremely lightweight. Shorting between DIP legs is prevented by plastic barrier. Connect to component leads up to 0.025″ (0.6). BeCu contacts. MIL Spec G45204. **BU-00202** and **BU-00203** spring loaded hook attaches to fragile components leads and terminals. Design for connection to components up to 0.060″ (1.5). BeCu contacts. Suffix 1 = black, suffix 2 = red.

Stock No.	Black Type	Stock No.	Red Type	Length	1-24	25-49
93F9781	BU-20431-0	93F9782	BU-20431-2	4.6″ (117.5)	5.68	5.08
93F9783	BU-20432-0	93F9784	BU-20432-2	5.3″ (133.4)	8.29	7.40
93F9785	BU-20434-0	93F9786	BU-20434-2	5.3″ (133.4)	11.25	10.04
16F3557	BU-20433-0	16F3558	BU-20433-2	7.3″ (184.1)	8.41	7.51
50F2938	BU-00208-0	50F2952	BU-00208-2	1.8″ (44)	2.92	2.63
50F2936	BU-00202-0	50F2950	BU-00202-2	2.5″ (63)	3.04	2.74
50F2937	BU-00203-0	50F2951	BU-00203-2	3.5″ (88)	2.87	2.58

(9062) (de50856)

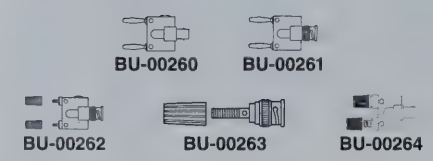


GENERAL PURPOSE BANANA PLUGS

Feature nickel-plated brass with phosphor-bronze springs. Durable nylon or ABS construction. Mate with 0.16″(4) banana jacks and binding posts, *ordered separately.* Current rating: 15 amps. Maximum AWG: 18/stranded. Type numbers with **suffix 0** = black, **suffix 2** = red.

Stock No.	Type	Description	1-24	25-49
16F3560	BU-00226-0	Banana Plug 8-32 Thread	1.37	1.25
16F3561	BU-00226-2	Banana Plug 8-32 Thread	1.37	1.25
93F9708	BU-00242	Banana Plug with Screw and Solder Lug	0.74	0.70
93F9709	BU-00241	Threaded Banana Plug with Nut and Lug	0.78	0.74
93F9710	BU-00247-0	Dual Banana Plug with Strain Relief	2.45	2.31
83F8067	BU-00247-2	Dual Banana Plug with Strain Relief	2.37	2.23
93F9714	BU-00244-0	Solderless Banana Plug, Hex Design	1.00	0.94
93F9715	BU-00244-2	Solderless Banana Plug, Hex Design	1.00	0.94
93F9716	BU-00243-0	Solderless Banana Plug	0.95	0.89
93F9717	BU-00243-2	Solderless Banana Plug	0.95	0.89
93F9718	BU-00245-0	Solderless Banana Plug with Set Screw	1.01	0.95
93F9719	BU-00245-2	Solderless Banana Plug with Set Screw	1.01	0.95
93F9720	BU-00246-0	Solderless Banana Plug with Tapered Handle	1.01	0.95
93F9711	BU-00246-2	Solderless Banana Plug with Tapered Handle	1.01	0.95
83F8065	BU-31103-0	Parallel, Stackable Safety Plug	4.29	4.04
83F8066	BU-31103-2	Parallel, Stackable Safety Plug	4.29	4.04
83F8061	BU15-0	45° Stackable Safety Banana Plug	2.77	2.61
83F8063	BU15-2	45° Stackable Safety Banana Plug	2.77	2.61
83F8062	BU16-0	Stackable Banana Plug	1.69	1.59
83F8064	BU16-2	Stackable Banana Plug	1.69	1.59

(8986) (de01939)

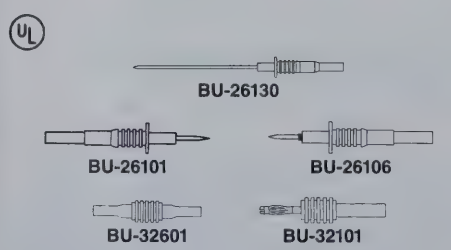


GENERAL PURPOSE BNC TO BANANA ADAPTERS

Nickel-plated brass with premium beryllium copper cage springs. Adapter body: black nylon. Plugs/sockets: industry standard 0.16″(4). BNC connectors: gold-plated center conductor/nickel-plated brass bodies. Color coded polarity.

Stock No.	Type	Description	Length	1-24	25-49
89F486	BU-00260	BNC Female to Banana Plug Adapter	2.06″ (52.32)	6.33	5.95
90F1603	BU-00261	BNC Male to Banana Plug Adapter	2.06″ (52.32)	9.15	8.60
93F9820	BU-00262-0	BNC Male to Double Binding Post	2.32″ (58.93)	7.81	7.34
93F9821	BU-00263-0	BNC Male to Banana Jack Adapter	1.40″ (35.56)	4.51	4.24
91F3144	BU-00264-0	BNC Female to Double Binding Post	2.36″ (59.94)	3.93	3.59

(8990) (de01947)



INSULATED TEST ACCESSORIES

Type BU-26130 test prods accept both safety and uninsulated 4mm banana plugs. Clear Kynar insulated sleeve for easy testing in confined areas. **Type BU-26101** and **BU-26106** accept both safety and uninsulated 4mm banana plugs. Tip is 0.08″ (2mm) stainless steel. **Type BU-26106** has 8-32 thread to accept accessories, and accepts 4mm banana plugs at both ends. **Type BU-32601** convenient coupler to extend test leads. **Type BU-32101** adapter allows use of insulated banana plugs with equipment having standard banana jacks. UL listed.

Stock No.	Black Type	Stock No.	Red Type	Length	Rating	1-24	25-49
93F9759	BU-26130-0	93F9760	BU-26130-2	6.2″ (157.5)	1000V	3.46	3.16
93F9761	BU-26101-0	93F9762	BU-26101-2	3.2″ (81.3)	1000V	3.34	3.05
16F3555	BU-26106-0	16F3556	BU-26106-2	3.375″ (85.7)	1000V	3.57	3.36
96F6199	BU-32101-0	96F6200	BU-32101-2	2.6″ (67)	1000V	3.28	2.91
96F6197	BU-32601-0	96F6198	BU-32601-2	2.4″ (60.96)	1000V	3.34	3.14

(9061) (de50855)

GENERAL PURPOSE BANANA JACKS AND BINDING POSTS

Feature nickel-plated brass with phosphor-bronze springs. Nylon, brass or ABS construction. Banana jacks mate with 0.16″(4) banana plugs, *ordered separately.* Current rating: 15 amps. Type number suffix **0** = black, suffix **2** = red.

Stock No.	Type	Description	Material	Includes	1-24	25-49
93F9817	BU-00234-0	Phone-Tip Banana Jack	ABS	Nut & Washer	0.77	0.72
93F9818	BU-00234-2	Phone-Tip Banana Jack	ABS	Nut & Washer	0.77	0.72
93F9819	BU-00233-0	Insulated Banana Jack	Nylon	Nut & Lug	0.74	0.70
93F9703	BU-00233-2	Insulated Banana Jack	Nylon	Nut & Lug	0.74	0.70
93F9704	BU-00232	Threaded Banana Jack	Brass	Nut & Lug	0.66	0.62
93F9813	BU-00281-0	Five-Way Binding Post	Nylon	Nut & Washer	1.62	1.52
93F9814	BU-00281-2	Five-Way Binding Post	Nylon	Nut & Washer	1.62	1.52
93F9815	BU-00282-0	Five-Way Binding Post	Nylon	2 Nuts & Washer	2.16	2.03
93F9816	BU-00282-2	Five-Way Binding Post	Nylon	2 Nuts & Washer	2.16	2.03
95F4767	BU-00283	Dual Five-Way Binding Post	Nylon	2 Nuts & 2 Washers	3.57	3.36
93F9706	BU-00284-0	Slim-Line Binding Post	Nylon	Nut & Washer	1.62	1.52
93F9707	BU-00284-2	Slim-Line Binding Post	Nylon	Nut & Washer	1.62	1.52

(8985) (de01938)

Weller®

SOLDERING STATIONS

SILVER SERIES SOLDER STATIONS

WSD130

WCB1

WS80

WSD80

Silver series soldering stations maximize work space and provide 80 watts of power. The combination of a silver heating element and the tip configuration in the **type WSP80** soldering iron gives immediate heat. These soldering stations are ESD safe. Compatible with existing Weller tools

80-WATT ANALOG SOLDER STATION

Dial control temperature settings from 300°F to 850°F. **Type WSP80** soldering pencil and a soldering tool holder included.

83F4095 Type WS80. **Each** **287.34**

80-WATT DIGITAL SOLDER STATION

Actual and preset soldering tempertures are displayed digitally. Temperature adjusted from 100°F to 850°F via buttons. **Type WSP80** soldering pencil and a soldering tool holder included.

83F4096 Type WSD80. **Each** **387.08**

80-WATT DUAL DIGITAL SOLDERING STATION

Type WSD130 accepts one 80-watt iron plus any other 50-watt accessory. Digital display for both channels shows pre-set and read temperatures. Antistatic housing. 2 independent, adjustable temperature controls from 150°F to 850°F. Automatic tool recognition. May be connected by programming time (setback), locking functions (lock-out), and calibration. Accuracy ±2% of final value.

48F4018 Type WSD130. **Each** **418.14**

CALIBRATION BOX

For **type WSD80** silver series solder station, **type WCB1** features temperature lock-out and set-back capabilities to extend the life of the tips. Temperature lock-out ensures that the temperature can't be altered. The set-back feature automatically reduces the temperature of the iron when not in use.

83F4099 Type WCB1. **Each** **245.92**
(28343) (ne28343)

WLC 100 SOLDERING STATION

Type WLC 100 soldering station features on/off switch with "power-on" indicator light. Safety guard iron holder. Natural sponge tip cleaning pad. Variable power control (5 to 40 watts). Replaceable heating element. Cushioned foam grip.

Stock No.	Type	1-4	5-9
92F5084	WLC100	58.50	56.16

(5855) (de06430)

MICROTOUCHPLUS SOLDERING STATION

MT1500

The **MicroTOUCHplus** has a large LED readout display. Includes the Touch feature, which lowers the temperature of the iron when not in use, extends tip life and reduces heat loss. Tips can be interchanged within seconds. More than 50 styles and sizes of tips are available for use with the **MicroTOUCHplus.** Includes ESD safe soldering stand. *Contact your local Newark sales office for a complete line of accessories.*

66F7804 Type MT1500. **Each** **619.11**

MT1500 TIPS

Stock No.	Type	Description	Each
66F7805	MT202	Conical 0.030″ sz 1.00″ Reach	42.85
66F7809	MT211	Screwdriver 0.045″ sz 1.00″ Reach	49.40
66F7812	MT301	Screwdriver 0.047″ sz 0.020″ Reach	51.01
66F7813	MT302	Conical 0.015″ sz 0.020″ Reach	51.01
66F7816	MT601	Screwdriver 0.070″ sz 0.385″ Reach	51.01
66F7818	MT607	Bevel 0.020″ sz 0.53″ Reach	51.01

(5932) (ne06421)

DEC1001 DUAL-IRON ESD SOLDERING STATION

Combines two temperature-controlled units in one housing to minimize bench space. Features ESD construction and dual temperature dials, each with 350°F - 850°F (177°C - 437°C) range. Use with two 40, 20 or 42W **EC series** soldering irons. Comes with two tool stands. Power: 120V/60Hz. Power output: 24VAC. UL listed. Meets MIL-S-45743, DOD-STD-2000, MIL-S-2000, WS6536, WS570, and DOD-STD-1686. *Order* **EC series** *soldering irons sold separately on page 1590.*

84F1072 Type DEC-1001. **Each** **269.95**
(5997) (ne53271)

NEWARK ELECTRONICS® IS AN ISO 9002 COMPANY.

Weller®

SOLDERING STATIONS

WCC-100 ELECTRONICALLY CONTROLLED SOLDERING STATION

Type WCC-100 is a compact, electronically controlled soldering station. Includes a 40-watt soldering pencil (**type WCC101**) with **ETA** tip.

Features zero voltage circuit to protect sensitive components, lighted on/off switch, adjustable temperature: 350°F - 850°F (177°C - 437°C), 3-wire grounded power cord. UL listed. *Order additional* **ETA series** *tips separately; contact your local Newark sales office.*

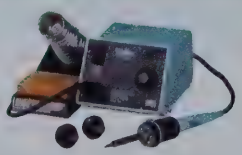
50F1817 Type WCC-100. **Each** **134.01**
(5908) (de53307)

921ZX1 AND 921ZX3 SOLDERING STATIONS

Types 921ZX1 and **921ZX3** have long-lived ceramic heating elements that can be easily changed without using tools. The new elements plug in. Lightweight, cool handle for greater handheld comfort. 24V handpiece with isolated transformer. Electrically controlled, fully adjustable temperature range. External fuse and calibration access. Spike-free, ESD-safe. **Type 921ZX3** comes with macro iron. One-year warranty. *Order tips separately on page 1598.*

92F5086 Type 921ZX1. **Each** **159.82**
91F2845 Type 921ZX3 Solder Station with Macro Iron. **Each** **172.76**
(5928) (ne04299)

WTL-1000 THERMOLOCK® ESD SOLDERING STATIONS



WTL-1000 series ESD stations feature Thermolock® keys for precision tip temperature control. Interchangeable keys maintain preset temperature within ±10°F. Zero voltage circuit protects voltage-sensitive components. Units include iron, three Thermolock® keys (700°, 750°, 800°F), and detachable tool stand with sponge. Power: 120V/60Hz/60W. UL listed. Meet DOD-STD-2000, MIL-S-2000, MIL-S-45743, WS-6536, WS-570 and DOD-STD-1686. *Additional Thermolock® keys are available; contact your local Newark sales office.*

WTL1000 SERIES SOLDERING STATIONS

Stock No.	Type	Description	Each
84F1076	WTL-1000-1	Station w/**EC1201A** 40W Gen. Purpose Iron & Tip	272.32
84F1077	WTL-1000-2	Station w/**EC1302A** 20W Micro Iron & Tip	272.32
84F1078	WTL-1000-3	Station w/**EC1503A** 42W Heavy-Duty Iron Tip	289.63

(5907) (de53306)

WTCPT CONTROLLED-OUTPUT SOLDERING STATION

- **Rugged, 120V/60Hz Station**
- **Lightweight, 42W Soldering Iron**
- **Closed-Loop Precision Tip Temperature Control**
- **Grounded Station Housing and Three-Wire Iron**

Type WTCPT soldering station comes with low-voltage, temperature-controlled iron, 700°F 1/16" screwdriver tip, detachable ESD iron stand and sponge. Features closed-loop tip temperature control for heat-sensitive components and quick-disconnect plug for iron. Select 600°, 700°, or 800°F tip temperature by changing iron tips. *Order tips separately on page 1597.*

Stock No.	Type	1-4	5-9
35F3309	WTCPT	132.02	127.86

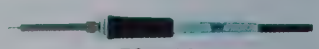
WTCPT REPLACEMENT PARTS AND ACCESSORIES

Stock No.	Type	Description	1-4	5-9
35F2522	TC201T	42W Soldering Iron w/**PTA7** 700°F Tip	87.57	84.06
95F3797	PH1201ESD	ESD Iron Stand Assembly	25.40	24.39
34F1030	TC205	Replacement Sponge	1.89	1.82

(5994) (ne53267)

SILVER SERIES AND EC SERIES ESD SOLDERING IRONS & STANDS

EC1201A



EC1302A

WT-50

EC1503A

WSP80

ESD irons feature impact-resistant handle and stainless steel heater element. *Contact your local Newark sales office for additional soldering tips.*

Stock No.	Type	Description	1-4	5-9
93F2826	EC1201A	40W General-Purpose Iron w/ETA Tip	114.53	109.95
84F1073	EC1302A	20W Micro-Soldering Iron w/EPH101 Tip	114.53	109.95
84F1074	EC1503A	42W Heavy-Duty Iron w/EMA Tip	127.62	122.52
66F7827	WT50	Thermal Tweezers	288.48	277.99
83F4097	WSP80	80 Watt Iron	122.07	117.63

ESD SOLDERING IRON STANDS

Anti-static tool stand with base, sponge and receptacle.

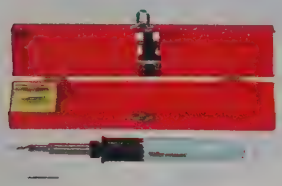
95F3797	PH1201ESD	For **EC1201A**, **EC1201P**, **TC201T** Irons	25.40	24.39
95F3798	PH1301ESD	For **EC1301A**, **EC1302A** Irons	25.70	24.67
95F3799	PH1503	For **EC1503**, **EC1503A** Irons	31.14	29.89
66F7828	AK50	For **WT50**	119.54	114.76
83F4098	WPH	For **WSP80** Iron	22.68	21.78

(5996) (ne53270)

Weller®

SOLDERING IRONS AND ACCESSORIES

CORDLESS PYROPEN®

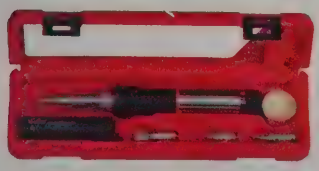


Type WSTA3 butane gas-operated soldering, brazing, and hot air tool. Adjustable temperature controlled by varying gas flow. Metal carrying case complete with 3.3mm soldering tip plus a 5.7mm hot air tip, torch ejector, spanner, tool support clip, cleaning sponge and operating manual. Runs for 3 hours, ready to solder in 30 seconds. Temperature control: 200°C to 500°C. **Type WST-2** Pyropen® Jr. is pocket-sized. **Type WPA-2** is self-igniting Pyropen®.

Stock No.	Type	1-4	5-9
89F3425	WSTA3	126.05	121.01
50F802	WST-2	105.60	101.38
50F801	WPA-2	137.73	132.22

(5901) (de53142)

PORTASOL® SELF-IGNITING SOLDERING TOOL KIT

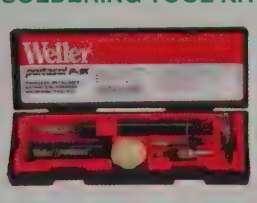


Cordless, self-igniting butane soldering iron can solder, heat-shrink, cut rope, perform other open-flame operations. Will run for up to two hours on a single refill. **Type PSI100K** kit includes four tips: hot blower, hot knife, 2.4mm and 4.8mm double flat. Also comes with cleaning sponge and rugged storage case. Fuel not included.

Stock No.	Type	Desc.	1-4	5-9
92F5085	PSI100K	Kit	99.85	95.85
92F7651	PSI100	Iron Only	75.37	72.35

(5853) (de04325)

PORTASOL® CORDLESS SOLDERING TOOL KIT



Pocket-size butane soldering iron, blow torch and miniature heat gun. In addition to soldering, interchangeable tips add a heat gun for shrink-tubing and a blow torch for heavy-duty soldering. A hot knife tip is included for cutting plastics, and cutting and cauterizing nylon rope. *Order replacement tips separately. Contact your local Newark sales office.*

Stock No.	Type	1-4	5-9
90F8848	P1KC	65.73	63.10
90F8849	P1C	35.87	34.44

(5902) (de53143)

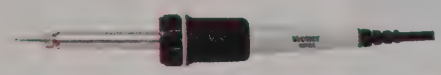
WM120 SOLDERING IRON AND STAND

Type WM120 is 7″ (178mm) long, pencil-thin soldering iron with a break-resistant stay-cool handle. Develops tip temperature 800°F (427°C). 12W, 120V, 50/60Hz.

Stock No.	Type	1-4	5-9
33F350	WM120	45.67	43.85
STAND FOR TYPE WM120 SOLDERING IRON			
81F5414	PHM-120	23.85	22.90

(5898) (de53139)

INDUSTRIAL SOLDERING IRONS



Type WP25 high-efficiency, pencil-style 7⅞″ L iron develops 750°F temperature. 25 watts. Fitted with **type ST3** ⅛″ D screwdriver tip. **Type WP35** is the same as **type WP25**, but 35 watts with **type ST3** ⅛″ D screwdriver tip. Both types are 120V, 50/80Hz. UL listed.

Stock No.	Type	1-10
33F175	WP25	39.72
34F1023	WP35	49.99

(5899) (de53140)

SOLDERING TOOL STANDS

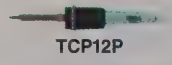
Types PH60 and **PH100** bench tool stands feature sturdy metal base, sponge, and spring funnel non heat-sinking tool holder. **Type PH25** economy tool stand can be either free-standing or mounted. Aluminum base plate with spring funnel tool holder. **Type SFA60** side rail spring funnel stand attaches to wall or bench.

Stock No.	Type	For Irons	Barrel Dia.	1-4
35F3347	PH60	W60, WP25, WP40	15⁄32″	23.85
35F3345	PH100	W100	19⁄32″	26.91
33F106	PH25	WP25, WP40	15⁄32″	18.40
35F3349	SFA60	W60	15⁄32″	9.01
REPLACEMENT SPONGE				
Stock No.	Type	Description		Each
35F3319	SP-60	For Types PH50 & PH100		2.08

(5903) (de53144)

CONTROLLED-OUTPUT SOLDERING IRONS

W60P



TCP12P

Portable soldering tools for production work feature output and temperature control. Plug-in heating element barrel assembly makes replacement easy. Temperature selection 600°F, 700°F or 800°F by changing tips. **W60P series** irons include a 700°F 1⁄16″ screwdriver blade tip. **W100P series** irons include a 700°F ⅜″ screwdriver blade tip. Both come with a 6′ cord. Use with **PH** or **SF series** soldering tool stands, *sold separately on this page*, to create a complete soldering station. **Type TCP12P** is a 12- to 14-volt soldering tool for field servicing. Operates from suitable batteries or low-voltage power source. Includes 700°F 3⁄16″ screwdriver blade tip, battery clips and 12′ power cord. UL listed. *Order Weller® tips on page 1596 and desoldering tools separately; contact your local Newark sales office.*

Stock No.	Type	W	Voltage	1-4	5-9
33F348	W60P	60	120V	75.93	72.89
35F3320	W60P-3*	60	120V	88.93	85.37
33F349	W100PG	100	120V	73.44	70.51
35F3330	W100P-3*	100	120V	88.93	85.37
34F1033	TCP12P	–	12-14V	110.69	106.26

*Complete with 3-wire cord.

(5900) (de53141)

TEMPERATURE-REGULATED SOLDERING IRONS

Designed for electronic applications requiring accurate temperature regulation. Include handle, thick-film ceramic heater, and **type 9012** screwdriver tip. **Type 9370** static-safe model is equipped with **type 9058** Thermal Thrust tips for high capacity soldering applications. UL listed. *Order extra tips separately on page 1598.*

Stock No.	Type	Description	Each
81F4024	9370	Comp. Iron w/700°F Heater	77.01
51F1340	9357	700°F Heater	19.74
81F4025	9380	Comp. Iron w/800°F Heater	77.01
51F1341	9358	800°F Heater	19.74

(5663) (de50481)

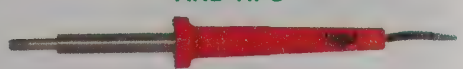
SP-23K SOLDERING IRON KIT AND IRONS

Kit contains featherweight **type SP-23** soldering iron. Pencil handle and replaceable tip. Designed for hobbies, kits, and radios. Iron length: 8¼″ (210mm). Kit also includes 3 different pre-tinned ⅛″ (3mm) diameter tips of nickel-plated copper. 40/60 rosin-core solder and soldering aid tool. Helpful hints and instructions on back of box. 25W, 120V, and 50/60Hz. UL listed. *For replacement tips on page 1596.*

Stock No.	Type	1-4	5-9
33F183	SP-23K	20.63	19.81
SP-23 SOLDERING IRON ONLY			
33F801	SP-23	14.76	14.17
SP-12 SOLDERING IRON ONLY			
7″ long, 12-watt iron without tip. UL listed.			
46F2584	SP-12	15.21	14.60

(5894) (de53135)

SP-40 PENCIL SOLDERING IRON AND TIPS



Type SP-40 iron is 8¼″ (210mm) long. Lightweight pencil iron for hobby and electronic work. ¼″ (6mm) diameter tip develops 900°F (482°C). 40W, 120V, and 50/60Hz. *Order replacement chisel tips for soldering iron separately on this page.*

Stock No.	Type	Description	1-4	5-9
33F802	SP-40	40-Watt Iron	19.71	18.93
33F997	MT10	Chisel Tips(2)	8.05	7.73

(5895) (de53136)

SP-80 MEDIUM-DUTY SOLDERING IRON

Type SP-80 iron is 9¾″ (247mm) long, medium-duty pencil iron for hobby work, stained glass and minor repairs. Includes soldering iron rest. ⅜″ (10mm) diameter tip develops 900°C (482°C). 80W, 120V, 50/60Hz. *Order replacement tip separately below.*

Stock No.	Type	Description	1-4	5-9
33F803	SP-80	80-Watt Iron	31.70	30.43
33F998	MTG-20	Chisel Tip	6.71	6.38

(5896) (de53137)

HEAVY-DUTY SOLDERING IRONS

Type SP120 iron is 11¾″ (289mm) long, heavy-duty iron for greater output. Ideal for home workshop and repairs, stained glass and hobbies. Includes iron rest. ½″ (13mm) diameter long-life iron-plated tip develops 900°F (482°C). 120W 120V. 50/60Hz. UL listed. **Type SP175** is 12½″ (318mm) long, extra heavy-duty iron for demanding jobs such as sheet metal work. Includes iron rest. 5⁄8″ (16mm) diameter long-life iron-plated tip develops 900°F (482°C). 120W, 120V, 50/60Hz. *Order replacement tips separately below.*

Stock No.	Type	Tip	1-4	5-9
33F113	SP120	MTG30	55.70	53.47
33F114	SP175	MTG40	67.84	65.13
REPLACEMENT TIPS				
Stock No.	Type	Description	1-4	5-9
33F115	MTG30	½″ Chisel	11.50	11.04
33F116	MTG40	5⁄8″ Chisel	19.64	18.85

(5897) (de53138)

Weller®

MODULAR SOLDERING TOOLS

STANDARD LINE SOLDERING HANDLES AND HEATING ELEMENTS

7500

Heater for ¼" Thread-on Tips
Typical length-3.43", dia.-.364"

Ideal for soldering electronic devices, printed circuit boards and heavy wiring. Custom design the exact soldering iron to meet your application by choosing from the variety of handles, heaters and interchangeable tips. Durable, balanced handles all feature cool, "soft touch" acid and flux resistant grips and accept the full range of heaters and integral heater tips shown below. All handles and heaters are interchangeable with the **SL series** of complete soldering irons.

SOLDERING IRON HANDLES

Stock No.	Type	Description	1-4	5-9
32F978	7500	3-wire, Burn Resistant Cord	35.03	33.63
87F1628	7400	3-wire, Standard Cord	24.19	23.22
33F030	7770	All Purpose, 2-wire, Blue	16.91	16.23
33F071	7760	All Purpose, 2-wire, Red	16.91	16.23

INTERCHANGEABLE HEATING ELEMENTS INTEGRAL HEATER/TIPS

Stock No.	Type	Description	1-4	5-9
33F647	533-S	Long Taper Chisel, 23W, 800°F, Copper	20.53	19.71
33F646	1233-S	Long Taper Chisel, 33W, 900°F, Copper	23.95	22.99
33F086	4033-S	Long Taper Chisel, 45W, 1000°F, Iron Clad	32.53	31.23
90F1355	33	Long Taper Chisel, 50W, 1100°F, Iron Clad	41.55	39.89

HEATERS FOR ¼" THREAD-ON TIPS

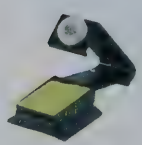
32F977	537-S	23W, 700°F	20.72	19.89
33F678	1237-S	33W, 800°F	22.61	21.70
33F677	4037-S	45W, 900°F	26.37	25.32
90F1356	37BK	50W, 1000°F	35.25	33.84

HEATERS FOR ⅛" THREAD-IN TIPS

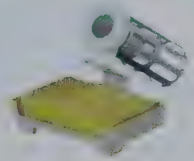
33F081	535-S	23W, 700°F	23.28	22.35
33F085	1235-S	33W, 800°F	23.28	22.35
33F089	4035-S	45W, 900°F	26.19	25.14

(5888) (de52881)

SOLDERING IRON HOLDERS



8800



9800

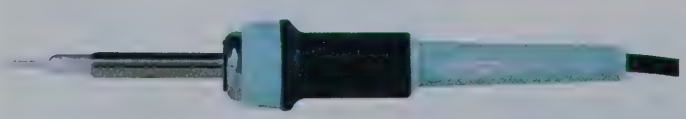
8000

Type 8800 deluxe iron holder with non-charring ceramic mouthpiece and non-skid tray. For use with Standard, Imperial®, 3-Wire and DI® series irons. **Type 9800** holder with ceramic mouthpiece and cast metal tray for micro-size irons. **Type 8000** holder attaches to bench or other surfaces.

Stock No.	Type	1-4	5-9
33F1840	8800	36.71	35.24
32F1014	9800	27.39	26.29
33F687	8000	18.06	17.34

(5836) (de03124)

COMPLETE IRONS FOR ELECTRONICS WORK



SL325

These ready-to-use professional soldering irons feature interchangeable handles, heaters and tips for custom applications and easy maintenance. Handles are 3-wire grounded with cool, "soft touch" acid and flux resistant grips. UL Listed. *Order additional tips separately; contact your local Newark sales office.*

Stock No.	Type	Description	1-4	5-9
87F1625	SL325	23W, 700°F	39.79	38.19
87F1626	SL335	33W, 800°F	42.26	40.57
87F1627	SL345	45W, 900°F	44.78	42.99

(5886) (de52877)

PRO PLUS™ SERIES SOLDERING IRONS

WP40S

WP60H

Production soldering irons with quick and easy-to-change heating elements, reducing downtime. Cushioned grip handle stays cooler and reduces fatigue. Replaceable iron-plated tips. 3-wire grounded plug. UL listed. *Order tips separately, contact your local Newark sales office.*

PRO PLUS™ SOLDERING IRONS

Stock No.	Description	Each
66F1222	40W Iron Without Tip-Straight	44.59
66F1223	60W Iron Without Tip-Straight	45.64
66F1224	60W Iron Without Tip-Hatchet	54.81

PRO PLUS™ HEATING ELEMENTS

66F1226	Straight 40W Heater	24.62
66F1227	Straight 60W Heater	26.60
66F1228	Hatchet 60W Heater	28.09

(5971) (ne08865)

SOLDERING IRONS FOR TECHNICIANS AND HOBBYISTS

3125

Soldering irons combine economy with performance for all types of soldering jobs. Tips are replaceable and the full range of Ungar accessory tips may be used with the **3125** and **3140** irons. An iron holder is included with each unit and all models are UL listed. *Order additional tips separately; contact your local Newark sales office.*

Stock No.	Type	Description	1-4	5-9
87F1636	3125	25W, 700°F	20.53	19.71
87F1637	3140	40W, 900°F	26.01	24.97

(5887) (de52878)

DOUBLE INSULATED (DI®) SOLDERING IRON

Dielectric value of **type 5550** handle is more than twice that required of standard listed. UL listed. *Order* **type 5550** *handle below;* **types 360, 361, 362** *or* **363** *heating elements below; and tips separately. Contact your local Newark sales office.*

DI® HANDLE

Cool "soft touch" grip with flexible 2-wire cord.

Stock No.	Type	Description	1-4	5-9
33F1304	5550	Double Insulated Handle	21.69	20.82

DI® HEATING ELEMENTS

Stock No.	Type	Description	1-4	5-9
33F1300	360	27W 700°F	28.69	27.55
33F1301	361	35W 800°F	28.69	27.55
33F1302	362	45W 900°F	28.69	27.55
33F1303	363*	45W 1000°F	34.10	32.73

* Integral Heater/Tip (Chisel). *Order tips separately; contact your local Newark sales office.*

(5664) (de50482)

Weller®

DESOLDERING STATIONS AND ACCESSORIES

DS200 ESD DESOLDER/SOLDER STATION

- **Dual Iron Controls in Single Housing**
- **Uses Shop Air for Maximum Vacuum**
- **Foot-Switch for Fast Response**
- **High Wattage for Quick Thermal Recovery**

Type DS200 ESD station includes **type DS1201A** high-mass 54W desoldering iron, **type EC1201A** 40W soldering iron with ETA tip, foot-switch, and tool stands. Power: 120V/60W/60Hz. Meets DOD-STD-2000, MIL-S-2000, MIL-S-45743, WS-6536, WS-570, and DOD-STD-1686.

95F3808 Type DS200. **Each**..... **740.41**
(5998) (ne53346)

DS200K ESD DESOLDERING KIT

- **Desoldering Upgrade for any Weller® Station**
- **High-Mass Desoldering Iron**
- **Foot-Switch Controls Shop Air**

Type DS200K desoldering kit for use with **types EC1002, EC2002, WTL1000, DEC1001** soldering stations. Includes **type DS1201A** 54W desoldering iron, foot-switch, and stand. Meets DOD-STD-2000-1, DOD-STD-1686.

95F3809 Type DS200K. **Each** **473.18**
(5999) (ne53347)

DS600 PORTABLE DESOLDERING STATION

- **Self-Contained Vacuum System**
- **800°F Temperature-Controlled Desolder Head**
- **Vacuum Pulse Control in Handpiece**
- **Built-In Iron Holder and Cord Storage**

Type DS600 portable desoldering system includes ergonomic handpiece for left-/right-hand use and grounded tip to protect sensitive components. *Order threaded-mount tips separately on this page.*

Stock No.	Type	Description	Each
81F5412	DS600	Portable Station w/Desoldering Iron	**845.61**
81F5413	DS601P	Desoldering Iron w/800°F Head	**220.03**
33F1271	DS103	Replacement Collector Tube w/Gasket & Filter	**10.21**
33F1272	DS104	Clean-Out Tool	**10.21**

(5910) (de53350)

TIPLETS FOR TYPES DS100, DS500E & DS600

DS110

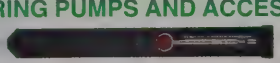
DS115

DS117

Stock No.	Type	O.D.	I.D.	L	1-4	5-9
33F1278	DS110	0.06″ (1.52)	0.02″ (0.63)	0.50″ (12.7)	**15.43**	**14.81**
33F1282	DS114	0.12″ (3.25)	0.07″ (1.80)	0.50″ (12.7)	**15.43**	**14.81**
44F2054	DS117	0.09″ (2.28)	0.02″ (0.63)	0.75″ (19.0)	**15.43**	**14.81**

A full line of tips are available; *call your local Newark sales office.*
(5909) (de53349)

DESOLDERING PUMPS AND ACCESSORIES



Pumps remove solder manually. Lightweight, easy to operate.

Stock No.	Type	Description	1-4	5-9
87F681	WDP-07	Desolder Pump, 0.07″ Tip	**23.13**	**22.20**
87F682	WDP-07A	Desolder Pump, 0.07″ Tip, Antistatic	**34.58**	**33.20**
87F683	WDP-12	Desolder Pump, 0.12″ Tip	**23.13**	**22.20**
87F684	WDP-12A	Desolder Pump, 0.12″ Tip, Antistatic	**34.58**	**33.20**
87F685	WDT-07	Replacement Tip, 0.07″	**5.36**	**5.14**
87F686	WDT-07A	Replacement Tip, 0.07″, Antistatic	**9.34**	**8.97**
87F687	WDT-12	Replacement Tip, 0.12″	**5.36**	**5.14**
87F678	WDT-12A	Replacement Tip, 0.12″, Antistatic	**9.34**	**8.97**
87F679	WDP-SPK07	Spare Parts Kit for Pump with 0.07″ Tip	**7.79**	**7.48**
87F680	WDP-SPK12	Spare Parts Kit for Pump with 0.12″ Tip	**7.79**	**7.48**

(5911) (de53352)

TYPE DS700M SELF-CONTAINED DESOLDERING STATION

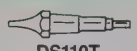
- **ESD Construction**
- **Internal Vacuum Pump**
- **Fingertip Vacuum Control**
- **Hot Air Output for Other Applications**

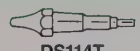
Type DS700M self-contained unit with precision-tip temperature control (400° to 800°F). Features dual air filters: large-capacity filter in power unit; small filter in handpiece. Includes **type DS1201ESD** desoldering iron, 4 tiplets **(types DS110, DS112, DS114, DS116)** and tip-cleaning tool. Meets DOD-STD-2000-1. *For replacement tips on this page.*

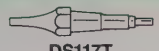
Stock No.	Type	Description	Each
87F706	DS700M	Complete Station, 120V/60W/60Hz	**740.64**
87F703	DS1201	42W Desoldering Iron	**247.48**

(5841) (de03230)

REPLACEMENT TIPS FOR TYPES DS700M AND DS2000ESD


DS110T

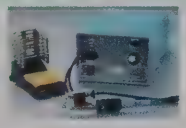

DS114T


DS117T

Stock No.	Type	Outside Diameter	Inside Diameter	Length	1-4	5-9
44F2047	DS110T	0.060″ (1.58)	0.025″ (0.70)	0.500″ (13)	**15.43**	**14.81**
44F2048	DS111T	0.090″ (2.37)	0.025″ (0.70)	0.500″ (13)	**15.43**	**14.81**
44F2049	DS112T	0.076″ (1.98)	0.036″ (0.82)	0.500″ (13)	**15.43**	**14.81**
44F2050	DS113T	0.098″ (2.45)	0.046″ (1.19)	0.500″ (13)	**15.43**	**14.81**
44F2051	DS114T	0.125″ (3.17)	0.071″ (1.80)	0.750″ (19)	**15.43**	**14.81**
44F2052	DS115T	0.060″ (1.58)	0.025″ (0.70)	0.750″ (19)	**15.43**	**14.81**
44F2053	DS116T	0.098″ (2.45)	0.045″ (1.17)	0.750″ (19)	**15.43**	**14.81**
87F3265	DS117T	0.090″ (2.37)	0.025″ (0.70)	0.750″ (19)	**15.43**	**14.81**

(5842) (de03231)

TYPE DS-800 HIGH-MASS ESD DESOLDERING STATION



Type DS-800 features internal rotary vane pump. No external air required. Use with any threaded tiplets. ESD construction. Full-range temperature selection (350° to 850°F) electronically controlled. Includes **type DS1203** desoldering iron, stand, sponge and 5 high-mass tiplets. Ideal for multilayered boards. Meets DOD-STD-2000, MIL-S-45743 WS-6536, WS-570, DOD-STD-1686, DOD-HDB-263. UL listed.

Stock No.	Type	Description	Each
84F1097	DS-800	Complete Station, 120V/150W/60Hz	**997.97**
34F1030	TC205	Replacement Sponge	**1.89**

DS800 HIGH-MASS REPLACEMENT TIPS

Stock No.	Type	Outside Diameter	Inside Diameter	Length	1-4	5-9
95F6948	DSH110	0.06″ (1.52)	0.02″ (0.63)	0.75″ (19)	**15.80**	**15.17**
95F6949	DSH111	0.09″ (2.28)	0.02″ (0.63)	0.75″ (19)	**15.80**	**15.17**
95F6950	DSH112	0.07″ (1.93)	0.03″ (0.91)	0.75″ (19)	**15.80**	**15.17**
95F6951	DSH113	0.09″ (2.28)	0.04″ (1.14)	0.75″ (19)	**15.80**	**15.17**
95F6952	DSH114	0.12″ (3.17)	0.07″ (1.80)	0.75″ (19)	**15.80**	**15.17**

(5843) (de03232)

DESOLDERING PUMPS

Type 7880 standard desoldering pump features spring-loaded vacuum. Tips are heat resistant Teflon*. **Type 7881** ESD desoldering pump same as **7880** except made with static dissipative material. **Type 7874B** desoldering pump has one hand operation with spring-loaded piston that provides ESD vacuum. Self-cleaning, non-clogging, static-free tip.

Stock No.	Type	Description	1-4	5-9
90F5881	7880	Standard Desoldering Pump	**23.84**	**22.88**
90F5882	7881	ESD Desoldering Pump	**32.67**	**31.36**
32F1008	7874B	Desoldering Pump	**22.81**	**21.89**
32F1009	7875B	Replacement Tip for **7874B**	**4.85**	**4.65**
90F5884	7883	Replacement Tip for **7881**	**8.50**	**8.16**

* TM DuPont
(5745) (de53279)

7805 DESOLDERING BULB

Tip made of heat-resistant material which will not scratch PC boards.

32F975 Type 7805. **Each**..... **9.99**
(5912) (de53353)

Weller®

HEAT GUNS AND SOLDERING GUNS

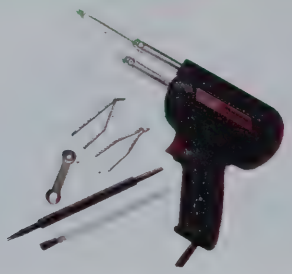
HIGH-POWER SOLDERING GUN

Type D650 high-power industrial gun has 300 watts in high-trigger position and 200 watts in low. Features nickel-plated copper secondary, a heat-resistant thermoplastic housing, and a heavy-duty grounded cord.

Stock No.	Type	Description	1-4	5-9
92F7641	D650	Soldering Gun	75.93	72.89

(5917) (de91076)

HEAVY-DUTY SOLDERING GUN KIT



Type D550PK kit contains **type D550** soldering gun with 2-position trigger selection of dual heats. Tin-plated copper tip heats up in 6 seconds. Twin lights to illuminate work. Kit comes with 1 sealing tip, flux brush, soldering aid tool, 40/60 rosin-core solder, plastic carrying case, and booklet. 260/200W, 120V, 50/60Hz. UL listed. *Order extra tips separately below.* .

Stock No.	Type	Description	1-4	5-9
33F132	D550PK	Soldering Gun Kit	65.36	62.74
33F129	D550	Soldering Gun	56.18	53.93
33F125	7250	2 Copper Soldering Tips	4.84	4.64
33F141	7250N	Solder Tip with Nuts	4.84	4.64
33F137	6130	Cutting Tip with Nuts	4.84	4.64
33F138	6140	Smoothing Tip with Nuts	4.84	4.64
33F163	7324	Switch for Dual Heat Models	10.88	10.45

(5856) (de08033)

MEDIUM-DUTY SOLDERING GUN KIT

Type 8200PK 8-piece soldering kit contains **type 8200** all-purpose gun with trigger selection of high or low output. Gun heats up in 6 seconds. High-efficiency tip of tin-plated pure copper. Light illuminates work. Compact, balanced pistol-grip design. 2-wire cord. Kit also includes 1 soldering tip, 1 sealing tip, 1 cutting tip, flux brush, soldering aid tool, coil of 40/60 rosin-core solder, sturdy plastic carrying case, and soldering hints booklet. 140/100W, 120V, 50/60Hz. UL listed. *Order extra tips separately below.*

Stock No.	Type	Description	1-4	5-9
33F158	8200PK	Soldering Gun Kit	48.18	46.25
33F148	8200	Soldering Gun	41.35	39.70
33F135	6110	2 Cutting Tips, Nickel-Plated Copper	4.84	4.64
33F136	6120	2 Smoothing Tips, Nickel-Plated Copper	4.84	4.64
33F149	8125	2 Premium Iron and Tin-Plated Tips	4.84	4.64
33F139	8125N	Solder Tip with Nuts	4.84	4.64
33F124	7135	2 Copper Soldering Tips	4.84	4.64
33F140	7135N	Solder Tip with Nuts	4.84	4.64

(5857) (de08034)

TYPE 1095 GENERAL-PURPOSE HEAT GUN

Rugged design and high- and low-temperature settings. 1000 watts (maximum), 120VAC, 60Hz, 3-wire grounded. Temperature range: 790°F to 1200°F. *Order accessories separately below.*

Stock No.	Type	Description	Each
87F3433	1095	General-Purpose Heat Gun	61.92
87F1629	1080	Reducer for Concentrating Heat	7.26
87F1630	1081	Scraper for Paint Stripping	7.26
87F1631	1082	Reflector for Heat Shrink	7.26

(5889) (de52944)

TYPE 6966C GENERAL-PURPOSE HEAT GUN

Type 6966C delivers heated or ambient air. Comes complete with 4 attachments for applying heat-shrink tubing (**types 6956** and **6957**), concentrating (**type 6958**) and focusing (**type 6964**) heated air. 120VAC, 2.2 amps, 3-wire grounded plug. 6′ cord, 750°F-800°F, 60Hz, weighs 13 oz. *Order accessories separately below.*

Stock No.	Type	Description	Each
35F3074	6966C	Heat Gun with 4 Attachments	147.25
87F1633	6956	½″ Reflector	2.69
87F1634	6957	1½″ Reflector	2.82
87F1635	6958	Reducing Baffle	5.00
87F1632	6964	0.20″ Precision Reflector	9.90
35F3075	6965A	Heat Gun Stand	22.98

(5890) (de52945)

TYPE 6970 INDUSTRIAL HEAT GUN

Type 6970 two speed/two heat settings for heavy-duty jobs and constant use. 120VAC, 3-wire grounded plug, 6′ cord, 700°F and 1000°F, 750 watts. Via **type 6959** attachment adapter, gun takes all accessories used with **types 1095** heat gun (*order separately on this page*) and **6966C** heat gun (*order separately on this page*).

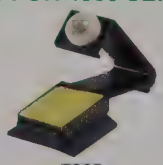
Stock No.	Type	Description	Each
46F3182	6970	Industrial Heat Gun	141.32
32F999	6959	Adapter for **Type 6966C** Attachments	12.88

(5891) (de52946)

Weller®

DESOLDERING/REWORK SYSTEMS AND TIPS

ACCESSORIES FOR 4000 SERIES SYSTEMS



8800

Stock No.	Type	Description	1-4	5-9
33F1840	8800	Free-standing Holder	36.71	35.24
34F1079	2002	Desoldering Tip Cleaning Tool	15.73	15.10
		5088AS REPLACEMENT COMPONENTS		
87F1659	4080	Heater Assembly	114.43	109.85
87F1660	4082	Glass Solder Chamber	30.92	29.68
87F1661	4083	Felt Filter	8.13	7.80
		5098AS REPLACEMENT COMPONENTS		
52F2835	5027	Glass Solder Chamber	24.43	23.46
52F2836	5028	Handle Filter	11.93	11.45
52F2837	5033	Solder Delivery Tube	5.99	5.75
52F2838	5032	Heater Assembly	60.84	58.40

ACCESSORY PACK FOR 4924P SERVICE CENTER

Includes: grinding, milling, polishing and drilling tools, resistance soldering tweezers, thermal wire stripper, foot pedal on/off switch, Trac-Aid PC repair kit, and desoldering tip assortment for **5098AS** pistol-syle handle.

46F3179 Type 4375. **Each** **969.06**
(5892) (de52948)

ESD SERVICE CENTERS

4624P

4024P

4924P

The **4000 series (types 2024P, 4024P, 4624P** and **4924P)** are compact, ESD-protected stations with multiple functions for rework and repair of PC boards. All units can power 24VAC desoldering irons and either micro or macro soldering irons. Variable temperature settings are controlled electronically by a closed-loop feedback system that provides rapid heat up and quick response. Meet MIL-STD-2000, DOD-STD-2000-1B, WS-6536E, and MIL-S-45743E. 120VAC, 60 Hz, 3-wire grounded. UL listed.

Type 4924P service center powers soldering iron and desoldering iron or two soldering irons concurrently and has added power supply for optional tools such as thermal wire strippers and resistance soldering tweezers. Vacuum switches positive heated air flow for heat gun applications. Equipped with **5098AS** ESD desoldering pistol **9931AS** ESD macro soldering iron, **9911AS** micro soldering iron, machine center motor for milling, drilling and grinding, and **8800** deluxe iron holder. Soldering temperature: 550°F to 850°F. Desoldering: 500°F to 1000°F. *Order accessory pack separately on this page.*

46F3178 Type 4924P. **Each** **1669.84**

Type 4624P has self-contained vacuum system to operate soldering and desoldering irons concurrently or two soldering irons. Equipped with **5098AS** ESD desoldering iron and **9931AS** macro ESD soldering iron. Soldering temperature: 550°F to 850°F. Desoldering: 500°F to 1000°F.

92F8116 Type 4624P. **Each** **811.27**

Type 4624IL same as **4624P** except with **5088AS** desoldering pencil.

92F8115 Type 4624IL. **Each** **811.27**

Type 4024P has self-contained vacuum system to operate desoldering pencils. Equipped with **type 5098AS** desoldering pistol. Temperature: 500°F to 850°F. **Type 4024IL** same as **type 4024P** except with **type 5088AS** pencil style desoldering iron.

66F3493 Type 4024P. **Each** **620.63**
66F3494 Type 4024IL. **Each** **620.63**

Type 2024P powered by 60-65 psi shop air, and equipped with **5098AS** ESD desoldering pistol and cleaning tool. **Type 2024IL** same as **type 2024P** except with **type 5088AS** pencil style desoldering iron.

92F5987 Type 2024P. **Each** **580.67**
92F5988 Type 2024IL. **Each** **580.67**
(5993) (ne52947)

SELF-CONTAINED DESOLDERING GUN

NEW

Disposable Collector Tubes

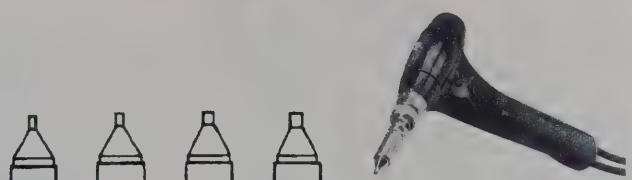
Economical and effective tool for field desoldering. Built-in pump draws solder into the disposable collector tube. Three different tip sizes are available.

Stock No.	Type	Description	Each
83F4316	SCD100	Desoldering Gun	237.46
83F4317	SCD112	0.9mm Desoldering Tip	20.37
83F4318	SCD113	1.2mm Desoldering Tip	20.37
83F4319	SCD114	1.8mm Desoldering Tip	20.37
83F4320	SCD201	Disposable Collector Tube	9.75

(33272) (ne33272)

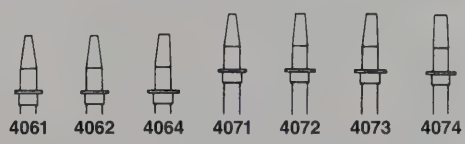
ESD DESOLDERING IRONS & TIPS

5088AS



4005 4006 4007 4008

5098AS



4061 4062 4064 4071 4072 4073 4074

ESD-protected desoldering irons for use with PCBs, heavy ground planes and other sensitive components. Use with all Ungar power bases. **Type 5098AS** 24V desoldering pistol features "pop out" tube for easy cleaning, increased thermal capacity and lightweight, ergonomic design. **Type 5088AS** 24V in-line desoldering pencil has high thermal capacity for tough jobs. *Order tips for both models below.*

96F8252 Type 5098AS (Pistol). **Each** 231.54
87F1621 Type 5088AS (Pencil). **Each** 242.06

TIPS FOR TYPES 5088AS AND 5098AS DESOLDERING IRONS

Stock No.	Type	Outside Diameter	Inside Diameter	1-4	5-9
96F8253	4005	0.060″	0.032″	18.47	17.73
96F8254	4006	0.080″	0.040″	18.47	17.73
96F8255	4007	0.100″	0.062″	18.47	17.73
96F8256	4008	0.120″	0.089″	18.47	17.73

1″ TIPS FOR TYPES 5088AS AND 5098AS DESOLDERING IRONS

Stock No.	Type	Outside Diameter	Inside Diameter	1-4	5-9
89F248	4061	0.060″	0.025″	4.54	4.36
89F249	4062	0.080″	0.040″	4.54	4.36
89F251	4064	0.100″	0.060″	4.54	4.36

2″ TIPS FOR TYPES 5088AS AND 5098AS DESOLDERING IRONS

Stock No.	Type	Outside Diameter	Inside Diameter	1-4	5-9
87F5217	4071	0.060″	0.025″	5.69	5.46
87F5218	4072	0.080″	0.035″	5.69	5.46
87F5219	4073	0.090″	0.050″	5.69	5.46
87F5220	4074	0.100″	0.060″	5.69	5.46
90F1360	4079	Assortment 1 Each of Above Types		30.95	29.72

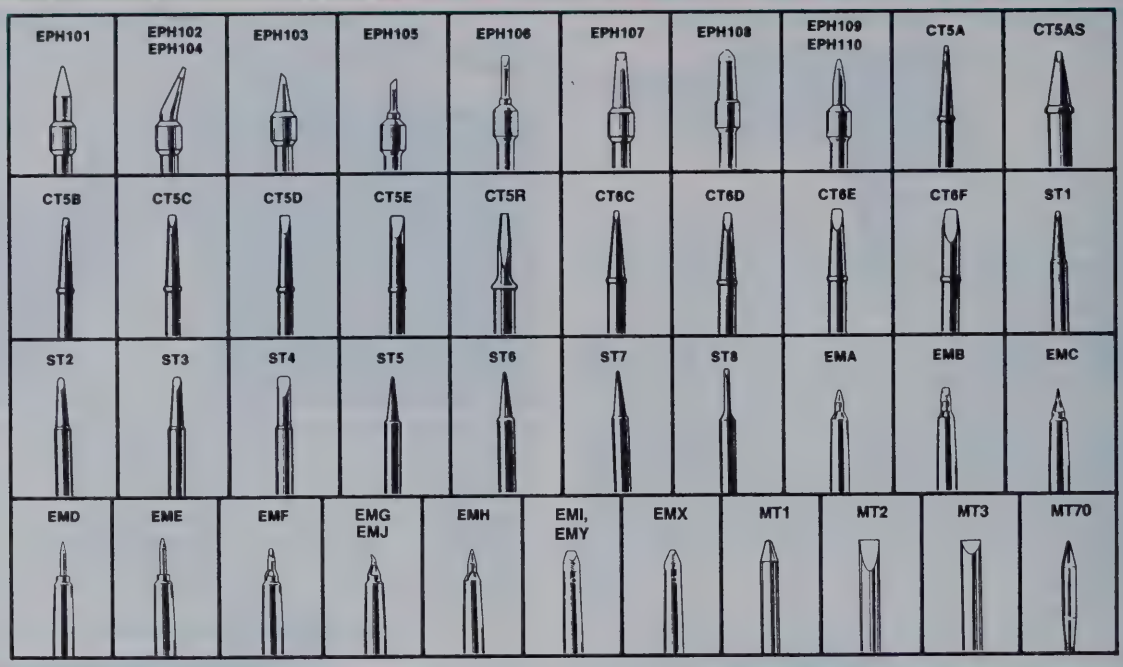
ADAPTERS FOR 1″ AND 2″ TIPS

Stock No.	Type	Description	1-4	5-9
52F5664	5045	5088AS Pencil Style Desoldering Iron	34.36	32.98
52F9028	5039	5098AS Pistol Style Desoldering Iron	17.26	16.57

(5893) (de52949)

Weller®

SOLDERING TIPS



EM SERIES TIPS FOR EC1503A IRONS

Taper fit matches heater sheath to provide maximum heat transfer from heater to tip.

Stock No.	Type	Tip Size	Description	1-4	5-9
50F1822	EMA	0.063″ (1.60)	Screwdriver	12.94	12.29
50F1823	EMB	0.094″ (2.39)	Screwdriver	12.94	12.29
50F7535	EMC	0.016″ (0.41)	Conical	12.94	12.29
50F7536	EMD	0.016″ (0.41)	Conical	12.94	12.29
50F7537	EME	0.031″ (0.79)	Conical	12.94	12.29
50F7538	EMF	0.047″ (1.19)	Screwdriver	12.94	12.29
50F7539	EMG	0.016″ (0.41)	Conical-Bent	12.94	12.29
50F1824	EMH	0.031″ (0.79)	Screwdriver	12.94	12.29
95F3729	EMI	0.200″ (5.23)	Chisel	12.94	12.29
95F3730	EMJ	0.040″ (1.06)	Conical-Bent	12.94	12.29
50F1825	EMX	0.063″ (1.60)	Chisel	12.94	12.29
50F1826	EMY	0.125″ (3.18)	Chisel	12.94	12.29

EPH SERIES TIPS FOR EC1302A IRONS

Stock No.	Type	Tip Size	Description	1-4	5-9
81F2380	EPH101	0.016″ (0.41)	Micropoint	5.71	5.42
90F8302	EPH110	0.062″ (1.60)	Conical	5.71	5.42
81F2383	EPH108	0.125″ (3.18)	Bluntpoint	5.71	5.42
98F1280	EPH109	0.031″ (0.79)	Conical	5.71	5.42
81F2381	EPH102	0.031″ (0.79)	Conical Bent	5.71	5.42
81F2382	EPH104	0.047″ (1.19)	Conical Bent	5.71	5.42
81F2384	EPH107	0.078″ (1.98)	Chisel	5.71	5.42
81F2385	EPH106	0.063″ (1.60)	Screwdriver	5.71	5.42
81F2386	EPH103	0.031″ (0.79)	Single Flat	5.71	5.42
81F2387	EPH105	0.047″ (1.19)	Single Flat	5.71	5.42
95F3731	EPH111	0.625″ (16.76)	Screwdriver	5.71	5.42
95F3732	EPH112	0.015″ (0.40)	Long Micropoint	5.99	5.69

ST SERIES TIPS FOR WP25, WP30 AND WP35

Stock No.	Type	Tip Size	Description	1-4	5-9
33F176	ST-1	0.063″ (1.60)	Screwdriver	5.12	4.86
33F177	ST-2	0.094″ (2.39)	Screwdriver	5.12	4.86
33F178	ST-3	0.125″ (3.18)	Screwdriver	5.12	4.86
34F1025	ST-4	0.188″ (4.78)	Screwdriver	5.12	4.86
34F1026	ST-5	0.031″ (0.79)	Single Flat	5.12	4.86
34F1027	ST-6	0.031″ (0.79)	Screwdriver	5.12	4.86
34F1028	ST-7	0.031″ (0.79)	Conical	5.12	4.86
34F1029	ST-8	0.063″ (1.60)	Narrow Screwdriver	5.12	4.86

MT SERIES TIPS FOR SP23, SP25D & SP12 IRONS

Nickel-plated copper tips. Packaged 2 per card. Tip size: 0.125″ (3.18).

Stock No.	Type	For Series	Description	1-4	5-9
33F993	MT1	SP23/SP25D	Cone Shaped	4.40	4.22
33F994	MT2	SP23/SP25D	Screwdriver	4.40	4.22
33F995	MT3	SP23/SP25D	Chisel	4.40	4.22
46F2585	MT70	SP12	Cone Shaped	4.40	4.22

CT SERIES TIPS

TIPS FOR W60P, W60P-3 SOLDERING IRONS

All are screwdriver-type tips.

Stock No.	Type	Temp. (F)	Tip Size	1-9	10-24
35F2564	CT5A6	600°	0.063″ (1.60)	6.46	6.14
35F2565	CT5A7	700°		6.46	6.14
35F2566	CT5A8	800°		6.46	6.14
35F2567	CT5B6	600°	0.094″ (2.39)	6.46	6.14
35F2568	CT5B7	700°		6.46	6.14
35F2569	CT5B8	800°		6.46	6.14
35F2570	CT5C6	600°	0.125″ (3.18)	6.46	6.14
35F2571	CT5C7	700°		6.46	6.14
35F2572	CT5C8	700°		6.46	6.14
35F2573	CT5D6	600°	0.188″ (4.78)	6.46	6.14
35F2574	CT5D7	700°		6.46	6.14
35F2575	CT5D8	700°		6.46	6.14
35F2576	CT5E6	600°	0.250″ (6.35)	6.46	6.14
35F2577	CT5E7	700°		6.46	6.14
35F2578	CT5E8	700°		6.46	6.14
95F3733	CT5AS6	600°	0.06″ (1.58)	6.46	6.14
95F3734	CT5AS7	700°		6.46	6.14
95F3735	CT5AS8	800°		6.46	6.14
95F3805	CT5R6	600°	0.06″ (1.58)	6.46	6.14
95F3806	CT5R7	700°		6.46	6.14
95F3807	CT5R8	800°		6.46	6.14

TIPS FOR W100PG AND W100PG-3 SOLDERING IRONS

All are screwdriver-type tips.

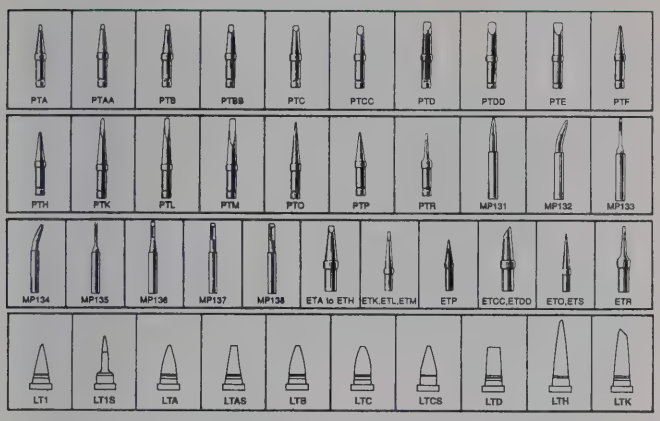
35F2579	CT6C6	600°	0.125″ (3.18)	9.25	8.78
35F2580	CT6C7	700°		9.25	8.78
35F2581	CT6C8	800°		9.25	8.78
35F2582	CT6D6	600°	0.188″ (4.78)	9.25	8.78
35F2583	CT6D7	700°		9.25	8.78
35F2584	CT6D8	800°		9.25	8.78
35F2585	CT6E6	600°	0.250″ (6.35)	9.25	8.78
35F2586	CT6E7	700°		9.25	8.78
35F2587	CT6E8	800°		9.25	8.78
35F2588	CT6F6	600°	0.375″ (9.53)	9.25	8.78
35F3331	CT6F7	700°		9.25	8.78
35F3332	CT6F8	800°		9.25	8.78

(5915) (de91070)

Weller®

SOLDERING TIPS

SOLDERING TIPS



PT SERIES TIPS FOR WTCPT STATIONS

Stock No.	Type	Temp.	Tip Size	Description	1-4	5-9
35F2525	PTA6	600°F	0.063″ (1.5)	Screwdriver	5.77	5.48
35F2526	PTA7	700°F			5.77	5.48
35F2527	PTA8	800°F			5.77	5.48
35F3311	PTAA6	600°F	0.063″ (1.5)	Single Flat	5.77	5.48
35F3312	PTAA7	700°F			5.77	5.48
35F3357	PTAA8	800°F			5.77	5.48
35F2529	PTB6	600°F	0.094″ (2.4)	Screwdriver	5.77	5.48
35F2530	PTB7	700°F			5.77	5.48
35F2531	PTB8	800°F			5.77	5.48
35F2553	PTBB6	600°F	0.094″ (2.4)	Single Flat	5.77	5.48
35F2554	PTBB7	700°F			5.77	5.48
35F2555	PTBB8	800°F			5.77	5.48
35F2533	PTC6	600°F	0.125″ (3.0)	Screwdriver	5.77	5.48
35F2534	PTC7	700°F			5.77	5.48
35F2535	PTC8	800°F			5.77	5.48
35F2557	PTCC6	600°F	0.125″ (3.0)	Single Flat	5.77	5.48
35F2558	PTCC7	700°F			5.77	5.48
35F2559	PTCC8	800°F			5.77	5.48
35F2537	PTD6	600°F	0.188″ (4.7)	Screwdriver	5.77	5.48
35F2538	PTD7	700°F			5.77	5.48
35F2539	PTD8	800°F			5.77	5.48
35F3351	PTDD6	600°F	0.188″ (4.7)	Single Flat	5.77	5.48
35F3352	PTDD7	700°F			5.77	5.48
35F3353	PTDD8	800°F			5.77	5.48
35F3361	PTE6	600°F	0.234″ (6.0)	Screwdriver	5.77	5.48
35F3362	PTE7	700°F			5.77	5.48
35F3363	PTE8	800°F			5.77	5.48
35F3358	PTF6	600°F	0.031″ (0.8)	Conical Flat	5.77	5.48
35F3359	PTF7	700°F			5.77	5.48
35F3360	PTF8	800°F			5.77	5.48
35F2541	PTH6	600°F	0.031″ (0.8)	Screwdriver	5.77	5.48
35F2542	PTH7	700°F			5.77	5.48
35F2543	PTH8	800°F			5.77	5.48
35F2545	PTK6	600°F	0.047″ (1.2)	Long Screwdriver	5.77	5.48
35F2546	PTK7	700°F			5.77	5.48
35F2547	PTK8	800°F			5.77	5.48
35F2549	PTL6	600°F	0.078″ (2.0)	Long Screwdriver	5.77	5.48
35F2550	PTL7	700°F			5.77	5.48
35F2551	PTL8	800°F			5.77	5.48
35F3313	PTM6	600°F	0.125″ (3.0)	Long Screwdriver	5.77	5.48
35F3314	PTM7	700°F			5.77	5.48
35F3364	PTM8	800°F			5.77	5.48
51F3534	PTO6	600°F	0.031″ (0.8)	Long Conical	5.77	5.48
51F3535	PTO7	700°F			5.77	5.48
98F789	PT08	800°F			5.77	5.48
35F3354	PTP6	600°F	0.031″ (0.8)	Conical	5.77	5.48
35F3355	PTP7	700°F			5.77	5.48
35F3356	PTP8	800°F			5.77	5.48
90F8303	PTR6	600°F	0.063″ (1.5)	Narrow Screwdriver	5.77	5.48
98F003	PTR7	700°F			5.77	5.48
90F8304	PTR8	800°F			5.77	5.48
90F8305	PTS6	600°F	0.016″ (0.4)	Long Conical	5.77	5.48
90F8306	PTS7	700°F			5.77	5.48
90F8307	PTS8	800°F			5.77	5.48

CONTINUED

SOLDERING TIPS (CONT.)

ET SERIES TIPS FOR EC1201/1201AFE IRONS

Stock No.	Type	Tip Size	Description	1-4	5-9
33F1818	ETA	0.063″ (1.5)	Screwdriver	5.44	5.17
33F1819	ETB	0.094″ (2.4)	Screwdriver	5.44	5.17
33F1820	ETC	0.125″ (3.0)	Screwdriver	5.44	5.17
33F1821	ETD	0.188″ (4.7)	Screwdriver	5.44	5.17
33F1822	ETH	0.031″ (0.8)	Screwdriver	5.44	5.17
33F1826	ETP	0.031″ (0.8)	Conical	5.44	5.17
90F8308	ETCC	0.125″ (3.0)	Single Flat	5.44	5.17
90F8309	ETDD	0.188″ (4.7)	Single Flat	5.44	5.17
33F1825	ETO	0.031″ (0.8)	Long Conical	5.44	5.17
51F3536	ETS	0.016″ (0.4)	Long Conical	5.44	5.17
33F1823	ETK	0.047″ (1.2)	Long Screwdriver	5.44	5.17
33F1824	ETL	0.078″ (2.0)	Long Screwdriver	5.44	5.17
90F8310	ETM	0.125″ (3.0)	Long Screwdriver	5.44	5.17
98F1025	ETR	0.063″ (1.5)	Narrow Screwdriver	5.44	5.17

MP SERIES TIPS FOR WM120 SOLDERING IRON

33F1656	MP131	0.016″ (0.4)	Conical	6.79	6.51
33F1657	MP132	0.031″ (0.8)	Bent Conical	6.79	6.51
33F1658	MP133	0.031″ (0.8)	Single Flat 40°	6.79	6.51
33F1659	MP134	0.047″ (1.2)	Bent Conical	6.79	6.51
33F1660	MP135	0.047″ (1.2)	Single Flat 40°	6.79	6.51
33F1661	MP136	0.063″ (1.5)	Narrow Screwdriver	6.79	6.51
33F1662	MP137	0.078″ (2.0)	Screwdriver	6.79	6.51
33F1663	MP138	0.109″ (2.7)	Chisel	6.79	6.51

SURFACE MOUNT TIPS FOR EC1201A, EC1302A, EC1503A, TC201T and 4618 IRONS

Order required adapters separately below.

Stock No.	Type	Fits Chip Sizes	1-4	5-9
90F8293	SMT0504A	0.040 × 0.050 × 0.040″ 0.050 × 0.040 × 0.040″ 0.050 × 0.050 × 0.040″	17.67	16.96
90F8294	SMT0805B	0.070 × 0.050 × 0.040″ 0.080 × 0.050 × 0.050″	17.67	16.96
90F8295	SMT1005C	0.100 × 0.050 × 0.050″	17.67	16.96
90F8296	SMT1206D	0.120 × 0.060 × 0.060″ 0.120 × 0.100 × 0.065″	17.67	16.96
90F8297	SMT1505E	0.150 × 0.050 × 0.065″	17.67	16.96
90F8298	SMT1808F	0.180 × 0.050 × 0.065″ 0.180 × 0.080 × 0.065″ 0.180 × 0.120 × 0.065″	17.67	16.96
90F8299	SMT1825G	0.180 × 0.120 × 0.065″	17.67	16.96
50F9046	SMT80H	MELF SOD80	41.88	31.60
52F9033	SMT23I	S.O.T. SOT23, SOT143	26.50	25.44
52F9034	SMT89J	S.O.T. SOT89	26.50	25.44
52F9035	SMT8K	S.O.I.C. S08	26.50	25.44
52F9036	SMT14L	S.O.I.C. S014	26.50	25.44

ADAPTERS FOR SMT TIPS

Stock No.	Type	For Irons	1-4	5-9
90F8300	SMTA	**EC1201** Series Iron	14.04	13.48
90F8301	SMTA-6	600°F For TC201	14.04	13.48
90F8311	SMTA-7	700°F For TC201	14.04	13.48
90F8312	SMTA-8	800°F For TC201	14.04	13.48
52F9037	SMTA-EM	**EC1503A**	14.04	13.48
52F9030	4618	9211	7.74	7.43

TIPS FOR TYPE WSP80 SOLDERING PENCIL

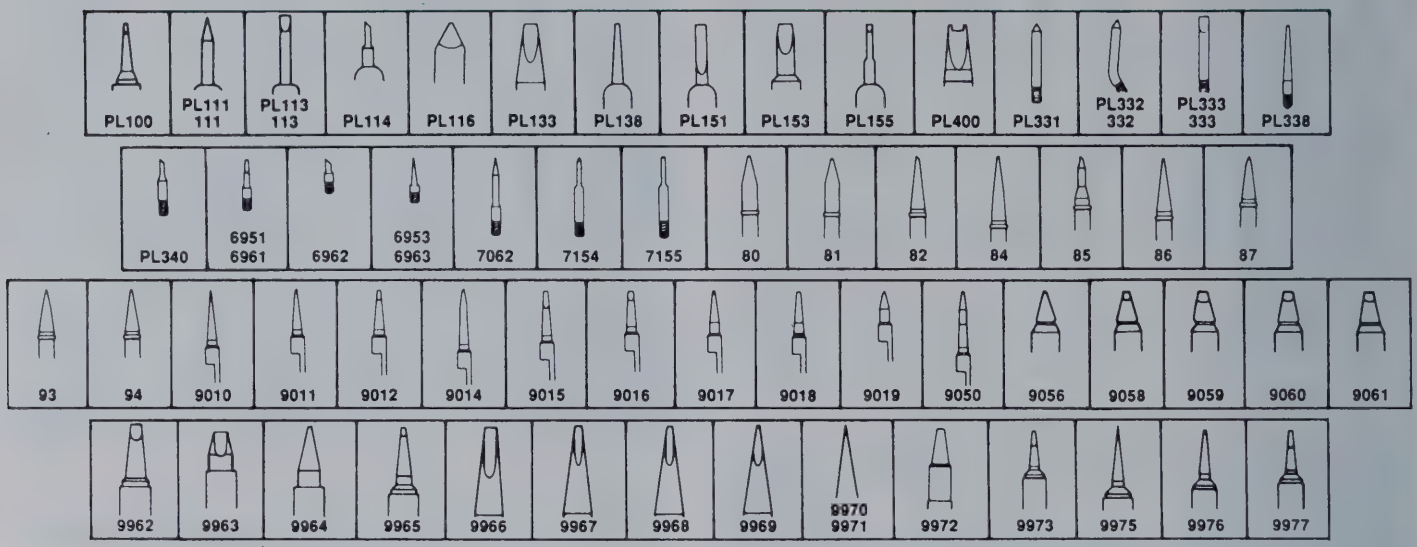
Stock No.	Type	Description	Each
83F4100	LT1	0.25mm Conical	6.52
83F4101	LT1S	0.25mm Long Conical	6.52
83F4106	LTCS	3.2mm Conical Screwdriver Tip	6.52
83F4102	LTA	1.6mm Chisel	6.52
83F4103	LTAS	1.6mm Conical	6.52
83F4104	LTB	2.4mm Chisel	6.52
83F4105	LTC	3.2mm Chisel	6.52
83F4107	LTD	4.6mm Chisel	6.52
83F4108	LTGW	4.6mm Chisel	6.52
83F4109	LTH	0.8mm Chisel	6.52
83F4110	LTK	1.2mm Chisel	6.52

(5916) (de91071)

Weller®

SOLDERING TIPS

SOLDERING TIPS



0.250″ (6.35) THREAD-ON TIPS FOR USE WITH SL SERIES, DI AND STANDARD LINE HEATERS 3125, 3140, UTC100

Iron-clad except (*) unplated copper.

Stock No.	Type	Description	Tip Size In. (mm)	Each
87F4279	PL100	Precision Electronic	0.05″ (1.27)	5.84
33F679	PL111	Pencil	0.03″ (0.76)	6.14
33F680	111*	Pencil	0.02″ (0.51)	3.25
33F681	PL113	Chisel	0.13″ (3.30)	6.14
33F682	113	Chisel	0.12″ (3.05)	3.25
33F692	PL114	Micro Spade	0.05″ (1.27)	6.14
33F693	PL116	Pyramid	Cone	7.05
33F672	PL-133	Long Taper	0.15″ (3.81)	6.96
33F673	PL-138	Tapered Needle	0.05″ (1.27)	6.23
87F4257	PL151	Screwdriver	0.13″ (3.30)	6.23
87F4281	PL153	Chisel	0.20″ (5.08)	7.49
87F4258	PL155	Stepped Chisel	0.07″ (1.78)	6.23
87F4306	PL400	Fork	0.19″ (4.83)	9.23

TIPS FOR 8300, 9200, 9921 AND UNGARmatic

Iron-clad, chrome-immunized and pre-tinned.

30F154	81	Screwdriver	0.23″ (5.84)	9.36
30F159	82	Spade	0.03″ (0.76)	8.50
30F152	8J	Long Screwdriver	0.08″ (2.03)	9.36
30F158	85	Stepped Spade	0.05″ (1.27)	9.36
30F153	87	Screwdriver	0.06″ (1.52)	9.36
34F1070	93	Screwdriver	0.03″ (0.76)	5.51
34F1071	94	Short Conical	0.03″ (0.76)	8.19

IRONCLAD THERMAL THRUST HIGH CAPACITY TIPS FOR 2110, 9911HC, UTC200HC, 9370AS, 9380AS AND 921ZX1

Tips feature extra mass and heat capacity for heavy ground planes and heat inks. Use with **9000, 9911, UTC200, 9370** and **9380**. *Tips require* **type 9919** *tip retainer, which is ordered separately.*

50F3995	9056UG	Conical	0.02″ (0.50)	8.42
50F3997	9058	Screwdriver	0.05″ (1.27)	9.62
50F3999	9060	Screwdriver	0.10″ (2.54)	9.62
50F4000	9061	Screwdriver	0.13″ (3.30)	9.62
50F4001	9919	Tip Retainer	...	19.60
87F4278	9977	Screwdriver	0.05″ (1.27)	9.62

0.125″ (3.18) THREAD-IN TIPLETS FOR USE WITH STANDARD LINE UTC100 AND PRINCESS HEATERS

Iron-clad except (*) unplated copper.

Stock No.	Type	Description	Tip Size In. (mm)	Each
33F093	PL-331	Pencil	Cone	4.91
33F094	PL-332	Offset Pencil	Cone	4.91
33F083	332UG	Offset Pencil	Cone	2.75
33F095	PL-333	Chisel	0.13″ (3.30)	4.91
33F084	333*	Chisel	0.12″ (3.05)	2.75
33F686	PL338	Tapered Needle	0.05″ (1.27)	4.91
33F685	PL340	Micro Spade	0.06″ (1.52)	4.91
32F892	6951*	Screwdriver	0.06″ (1.52)	2.98
32F888	6961	Screwdriver	0.06″ (1.52)	5.69
32F890	6953*	Precision Point	Cone	5.17
32F886	6963	Precision Point	Cone	9.36
33F038	7062	Precision Point	Cone	8.54
33F689	7154	Pencil	Cone	6.04
33F690	7155	Chisel	0.06″ (1.52)	6.04

TIPS FOR 9000, 9100, 9300, 9911, UTC200 AND 921ZX1

Iron-clad, chrome-immunized and pre-tinned.

81F4018	9010	Precision Point	0.01″ (0.25)	11.13
81F4019	9011	Spade	0.03″ (0.76)	9.62
81F4020	9012	Screwdriver	0.05″ (1.27)	9.62
32F1012	9014	Spade	0.02″ (0.50)	9.62
81F4021	9015	Screwdriver	0.07″ (1.78)	9.62
81F4022	9016UG/9016	Screwdriver	0.09″ (2.29)	8.95
32F1013	9017	Screwdriver	0.03″ (0.76)	9.62
87F4282	9018	Screwdriver	0.05″ (1.27)	9.62
32F1002	9050	Conical	0.02″ (0.50)	9.62

TIPS FOR 9931AS, 9941AS AND UTC330 SOLDERING IRONS

Iron-clad, chrome-immunized and pre-tinned. **Types 9962** thru **9969** not recommended for **9941** iron. HD = Heavy Duty; MD = Medium Duty

87F4285	9962UG	Bus Spade	0.13″ (3.30)	8.57
87F4286	9963UG	Heavy Spade	0.19″ (4.82)	8.57
87F4287	9964UG	Heavy Probe	0.03″ (0.76)	8.57
87F4288	9965UG	Stub Spade	0.06″ (1.52)	8.57
89F242	9966UG	Long Screwdriver, HD	0.13″ (3.30)	8.57
89F243	9967UG	Long Screwdriver, MD	0.07″ (1.77)	8.57
89F244	9968UG	Long Screwdriver, MD	0.05″ (1.27)	8.57
89F245	9969UG	Long Screwdriver	0.03″ (0.76)	8.57
89F246	9970	Precision Point, HD	0.01″ (0.25)	11.13
89F247	9971	Precision Point, MD	0.01″ (0.25)	11.13
87F4277	9976	Spade	0.03″ (0.76)	9.62
87F4278	9977	Screwdriver	0.05″ (1.27)	9.62

(5918) (de91078)

Weller®

HOT AIR REWORK SYSTEMS

WHA 2000 HOT AIR REWORK SYSTEM

WHA 2000

Type WHA 2000 has been developed for easier repair or replacement of large SMD ICs. It is self-contained and controlled electronically. Temperature and volume of the hot air is continuously adjustable. The vacuum for pick up of components is generated by a pump and activated by a foot pedal or remote control. A standby function can be used for preheating the nozzles. ESD safe. Specifications: 820W power consumption; vacuum: –0.6bar (17.7 inches of Mercury); power supply: 120V, 50/60Hz.

Stock No.	Type	Description	Each
66F9477	WHA 2000	Hot Air Rework System	**2045.35**
66F7834	58736804	1.021″ x 1.021″ Nozzle	**171.53**
66F7835	58736814	0.707″ x 0.707″ Nozzle	**171.53**
66F7836	58736837	0.604″ x 0.510″ Nozzle	**167.35**
66F7837	58736838	0.569″ x 0.393″ Nozzle	**167.35**
66F7838	58736839	0.432″ x 0.432″ Nozzle	**167.35**
66F7839	58736843	0.393″ x 0.314″ Nozzle	**167.35**

(5933) (ne06422)

TYPE WLSK1000 QFP LEAD REPAIR KIT

Designed for precise repair of bent or deformed leads on gull wing QFP components. Kit includes patented precision alignment templates, lab-grade true flat granite surface plate, 2 lead-straightening probes, precision tweezers, vacuum pick-up tool, Kapton® tape, rugged storage box, and instruction manual.

91F2849 Type WLSK1000. **Each**..... **563.56**
(19646) (ne11139)

TYPE WHP300 PREHEAT AND REFLOW SYSTEM

Type WHP300 is a preheat and reflow system suitable for soldering and desoldering work with hybrids. This system's base material heats evenly and precisely to the required temperature to provide high-quality soldering without the risk of heat damage. The wide temperature rage, continuously adjustable between 120°F and 575°F, allows for reflow soldering as well. Heat plate dimensions: 4″ x 6¼″.

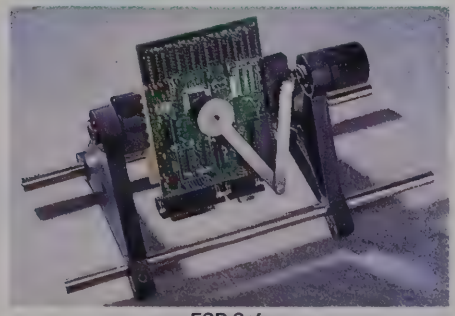
91F2851 Type WHP300. **Each**..... **1303.22**
(19629) (ne11141)

TYPE WHA300 HOT AIR REWORK SYSTEM

Type WHA300 rework system is a low-cost, self-contained hot air station that generates 700W of heating power. Temperature and air flow are controlled on highly visible front panel. Extremely compact size uses less space on the bench. Air flow can be activated by a finger switch on the hand piece or with optional foot switch. A full range of nozzles are available; *contact your local Newark sales office.*

91F2840 Type WHA300. **Each**..... **985.84**
(19427) (ne11137)

ESF 120 ESD CIRCUIT BOARD VISE



ESD Safe

Type ESF 120 ESD circuit board vise has the same design as the **type ESF** vise but is ESD safe. Complete work center for placing, soldering, and desoldering printed circuit boards. Allows boards to be rotated 360 degrees. Adjusts to handle circuit boards up to 6¼″ x 9⅛″ (160 x 235).

66F7803 Type ESF-120ESD. **Each**..... **106.97**
(19430) (ne11114)

Weller®

REWORK AND REPAIR SYSTEMS

WRS4000, WRS5000 AND WRS7000 REWORK STATIONS

WRS7000

- **Self-Contained Desoldering and Hot Air**
- **Lock-Out Equipped**
- **Temperature Set Back**
- **ESD Safe**
- **Temperature Range: 350°F to 850°F**
- **Static-Free Hot Air System**

Type WRS7000 rework and repair system comes with **type EC1204** 54-watt soldering iron, **type DS58** 60-watt in-line desoldering pencil, **type HAP1** 100-watt hot air pencil, **type WT50** SMD tweezers, Erem® vacuum pick-up pen for component handling, dispenser for solder paste or adhesive, and a built-in 700-watt hot air pencil with vacuum pick-up and static-free air flow capable of removing or replacing the largest of components.
Type WRS4000 rework and repair system comes with **type EC1204** 54-watt soldering iron, **type DS58** 60-watt in-line desoldering pencil, **type HAP1** 100-watt hot air pencil, and **type WT50** SMD tweezers.
Type WRS5000 rework and repair system comes with **type EC1204** 54-watt soldering iron, **type DS58** 60-watt in-line desoldering pencil, **type HAP1** 100-watt hot air pencil, **type WT50** SMD tweezers, Erem® vacuum pick-up pen, and dispenser for solder paste or adhesive. Shop air is required for dispensing and vacuum pick-up pen. A full range of tips and nozzles for rework and repair are available for all rework stations; *contact your local Newark sales office.*

Stock No.	Type	Description	Each
91F2846	WRS7000	Rework and Repair System	5534.67
91F2847	WRS5000	Rework and Repair System	4191.75
91F2848	WRS4000	Rework and Repair System	2755.69
92F7646	DS58	60-Watt In-Line Desoldering Pencil	268.29
92F7645	HAP1	100-Watt Hot Air Pencil	250.14
66F7827	WT50	SMD Tweezers	288.48

(13727) (ne10238)

WRS1000 AND WRS2000 REWORK STATIONS AND ACCESSORIES

WRS2000

A self-contained, ESD-safe station designed to handle a variety of rework and repair tasks. Selector switch allows user to choose either solder or desolder tools compatible with the Weller® WRS systems or the **type HAP1** 100W hot air pencil, which is supplied. **Type WRS 2000** is a versatile rework system combining a solder paste dispenser, the Erem® vacuum pick-and-place tool and **type HAP1** hot air pencil for solder paste reflow. *Contact your local Newark sales office for replacement nozzles.*

Stock No.	Type	Description	Each
92F7643	WRS1000	Rework/Repair System	938.82
52F6558	WRS2000	Rework System	2461.00
92F7645	HAP1	Hot Air Pencil and Stand	250.14
92F7647	DS59	24V Desoldering Pistol and Stand	268.29
66F1204	EC1201AP	40W Soldering Iron with ETA Tip and Stand	131.91
66F9478	WSS1	Stand System	40.24
66F7827	WT50	Thermal Tweezer	288.48

(6603) (nec9196)

WRS-3000S REWORK STATION AND ACCESSORIES

WRS-3000S

- **Latest Multipurpose Rework System for Soldering/Desoldering and SMT Applications**
- **Simultaneous Control of 3 Tools, Internal Pump, and Air Supply**
- **Compatible with Weller® Solder/Desolder Tools or New Inline and Pistol-Style Tools**
- **Auto Soldering Iron Temperature Setback**
- **Operator Lockout Protection**

The **WRS-3000S** is designed to handle all rework and repair of mixed technology boards. Includes built-in microprocessor that provides simultaneous controlled desoldering, soldering, and hot air functions. Temperature, hot air time, and automatic temperature set-back can be programmed. Includes its own internal pump—eliminating the need for shop air. ESD safe. The **WRS-3000S** comes complete with **type EC1201A** 40W soldering iron, **type DS58** desoldering pencil, **type HAP1** 100W hot air pencil, and **type WSS1** stand system, which holds 3 irons. The **WRS3000** rework station is a base unit only and does not include tools.

16F8989 Type WRS-3000S. **Each** **2102.74**
92F7644 Type WRS3000. **Each** **1446.56**
(6527) (nec7489)

SOLDER FUME EXTRACTORS

WFE2P

- **Efficient Four-Stage, Replaceable Filter System**
- **Silent-Running, Maintenance-Free Pump**
- **For Use with FE Series Soldering Irons**

Types WFE2P and **WFE20** fume extractors are bench-top filtration units that reduce harmful soldering emissions by extracting 99.99% of the fumes before they can be released into the environment. **Type WFE20** accommodates up to 20 users.

Stock No.	Type	Description	Each
52F6559	WFE2P	Solder Fume Extractor, Up to 2 Operators, Internal Pump	716.95
52F6560	WFE20	Solder Fume Extractor, Up to 20 Operators, Arm Extraction Option	3468.05

(6528) (nec7491)

Weller®

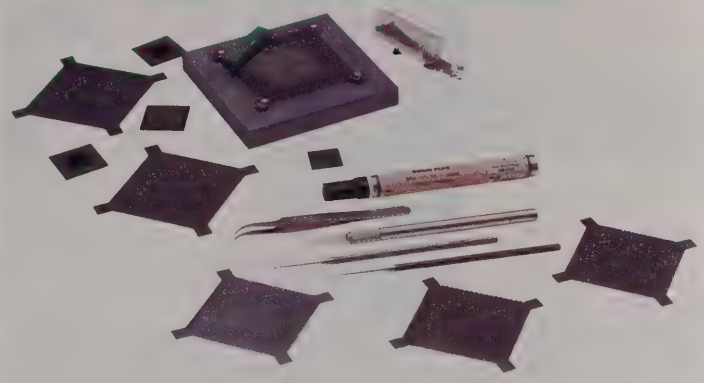
HOT AIR REWORK SYSTEMS

TYPE WQB2000 BGA/SMT REWORK SYSTEM

Capable of removal of BGA or fine pitch SMT devices without thermal or physical damage, precisely replacing a component in the proper position and reflowing the solder joints for a complete repair. Hot air temperature profiling is controlled by either programmed or custom routines from a microprocessor-based BGA time control module. The BGA time control module stores the following four parameters: 1) hot gas temperature, 2) hot gas flow rate, 3) preheat time, and 4) reflow time. Special BGA nozzles with external sensor in the nozzle body provide homogeneous temperature inside nozzles.

91F2843 Type WQB2000. **Each** **7760.95**
(19428) (ne11143)

TYPE WPRB1000 BGA REBALLING KIT



Precise reballing kit for plastic BGA components. Kit includes 6 templates, vile of 10,000 eutectic solder balls, straight probe, bent probe, precision tweezers, spatula, screwdriver, flux pen, Kapton® tape, dummy BGA components, and instruction manual.

91F2852 Type WPRB1000. **Each** **596.01**
(19429) (ne11144)

TYPE WAAB1000 ALIGN-A-BALL DEVICE

Provides low-cost alignment of BGA components in rework/repair situations. Proprietary positioning template strips allow simple locating of BGA components on circuit boards during rework/repair operations. NOTE: A hot air rework tool (not included) should be used in conjunction with this kit. *Order hot air rework tool separately; contact your local Newark sales office.* Includes 10 template positioning strips.

91F2850 Type WAAB1000. **Each** **177.35**
(19645) (ne11140)

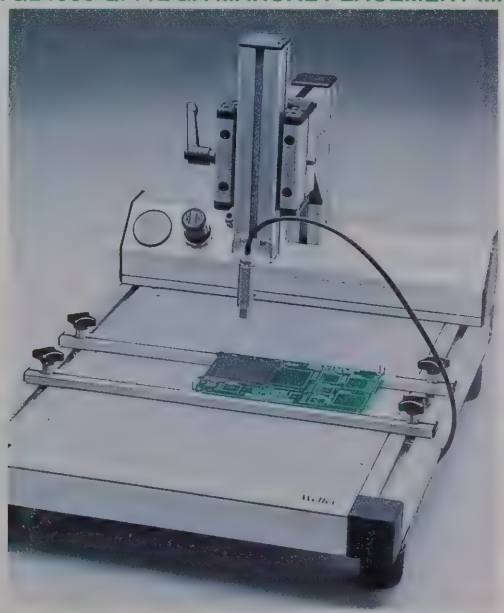
QFP/BGA PRINT MACHINE

NEW

Two-vacuum-head modular design with pushbutton release for optimal printing and placing. Fast and accurate setup with placement to 0.005″ accuracy. Features stable base, precision ball-slide heads, and easy vacuum release operation. Ideal for working with boards that have a small amount of BGA components, contract houses, OEMs, prototyping, and small production runs. Patented stencils and locating templates allow for versatility and quick setup. Comes with an easy-to-follow illustrated manual. Includes: 6 index pins, training kit with 2 clear boards, 1 BGA alignment square, spatula handle with interchangeable spatula sizes and knife blade, spacers, 2 different size vacuum nozzles, Kapton® tape, extra O-rings, and extra rubber vacuum heads.

48F2400 Type WQB1500. **Each** **3748.50**
(34770) (ne34770)

TYPE WQB1000 QFP/BGA MANUAL PLACEMENT MACHINE



Provides low-cost placement of fine pitch quad flat pack (QFP) components or BGA components on circuit boards. Much more accurate and repeatable than hand placement. Ideal for prototyping, small production runs, or contract work. The system allows for flexibility in board and component size. Allows users to place accurately to 0.0005″ accuracy and reduce rework. Includes flat accurate, rugged table base, templates for QFP and BGA, and vacuum pickup tool. Uses shop air.

91F2844 Type WQB1000. **Each** **2327.20**
(19647) (ne11138)

Weller®

FLUX DISPENSERS, SPONGES AND WIRE WRAPPING TOOLS

SCRUB-IT™ SOLVENT DISPENSERS

Distribute solvent through brush. **Type SD-74** has nylon bristles; **type SD74H** has horsehair bristles for anti-static applications.

50F177 Type SD-74. **Each** **9.92**
50F3994 Type SD74H. **Each** **9.92**
(5743) (de53276)

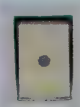
FLUX DISPENSERS

2 oz. squeeze-bottle flux dispensers have stainless steel needles.

Stock No.	Type	Description	1-4
50F176	FD-2	Dispenser w/.020″ x 1.0″ Needle	**2.94**
50F3989	FD21	Dispenser w/.008″ x 1.0″ Needle	**2.94**
50F3990	FD22	Dispenser w/.050″ x 1.0″ Needle	**2.94**
50F3977	FD3	Dispenser w/.008″, .020″ and .050″ x 1.0″ Needles	**3.32**
50F3978	FD2N	Pkg. 10 Needles; .020″ x 1.0″	**5.99**
50F3980	FD22N	Pkg. 10 Needles; .050″ x 1.0″	**5.99**
50F3981	FD2D	ESD Dispenser w/.020 x 1.0″ Needle	**3.75**
50F3982	FD21D	ESD Dispenser w/.008 x 1.0″ Needle	**3.75**
50F3983	FD22D	ESD Dispenser w/.050 x 1.0″ Needle	**3.75**

(5742) (de53275)

KLEEN-TIP™ SPONGE AND TRAY



TYPE 400

Type 400 sponge and tray used to clean soldering tips. Phenolic tray fastens to bench. *Order* **type 455** *replacement sponge separately.*

33F683 Type 400. **Each** **9.17**
33F684 Type 455. **Each** **3.57**
(5744) (de53277)

Wire-Wrap® WIRE WRAPPING TOOL

- **Easily Wraps and Unwraps Wire**
- **Recharges in 1 Hour**
- **Operator-Adjustable Indexing**
- **Complete with Battery Cell + Charger**

Type 27600AE6 is a battery-powered wire wrap/unwrap tool which features slim design to lessen strain and fatigue for operator. Makes 1100 connections with one charge. Comes complete with 1-hour battery recharger and battery cell. Also has operator adjustable indexing, self-aligning gearing system and snap-action switch. Operates on 120 volts, 60Hz, with speed of 3000 RPM. Wraps wire sizes 22-32 AWG and accepts all standard bits and sleeves for wrapping 22-34 AWG wire. *Bits and sleeves are available. Contact your local Newark sales office.*

89F283 Type 27600AE6. **Each** **351.77**
(5882) (de52578)

Wire-Wrap® HAND OPERATED WRAPPING TOOL

Type 28000AC1 is for telephone installers, electronic technicians, and servicemen. Strong, light-weight plastic housing. Universal collet handles all wrapping bits and sleeves. Ten revolutions of wrapping per squeeze. Precision construction, heat treated gearing, adjustable pivot, and ball bearing mechanism. Right hand rotation. For 22 to 32 AWG wire. *Bits and sleeves are available. Contact your local Newark sales office.*

44F1795 Type 28000AC1. **Each** **120.16**
(5884) (de52581)

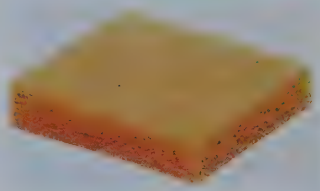
WICK

Woven copper for absorbing heated solder. Use in confined areas in place of desoldering tool. Contains rosin-core flux.

Stock No.	Type	Size	1-4	5-9
90F1370	5011	0.025″ x 5′	**4.50**	**4.32**
90F1371	5012	0.050″ x 5′	**4.50**	**4.32**
90F1372	5013	0.075″ x 5′	**4.50**	**4.32**
90F1375	5014	0.100″ x 5′	**4.50**	**4.32**

(5788) (ne08733)

SOLDER TIP SPONGES



TC205 **EC305**

34F1030 Type TC205. **Each** **1.89**
66F9479 Type EC305. **Each** **1.89**
(19431) (ne11115)

PORTABLE SOLDERING IRON ANALYZER

Type WA-2000 tests soldering stations for compliance with DOD-2000 specification. Tests either tip temperature stability or absolute temperature when measured with a thermocouple. Also tests tip-to-ground resistance (iron tip-to-ground post on plug) and tip-to-ground noise (mVrms). Battery life: 50 hours.

50F1821 Type WA-2000. **Each** **659.78**
(5995) (ne53269)

Wire-Wrap® WIRE WRAPPING TOOLS

Types 27160AB6 and **27170AB5** are heavy-duty, easy-to-operate electric wire wrap tools. Designed for production, installation, and service uses. Features include powerful motor for steady performance, high starting torque, rapid acceleration, and high impact-resistant plastic housing. **Type 27160AB6** accepts bits for wire sizes 18-32 AWG. **Type 27170AB5** accepts bits for wire sizes 24-32 AWG. Free speed is 4500 RPM. Right hand rotation. Both models are double insulated. Other features include planetary gear reduction drive, insulated collet and collet nut, light trigger pull, and two wire, 8-ft. cord. Only **Type 27170AB7** has back force feature. Both types have 120VAC. *Bits and sleeves are available. Contact your local Newark sales office.*

44F1796 Type 27160AB6. **Each** **383.67**
46F4204 Type 27170AB5/27170AB7. **Each** **394.60**
(5885) (de52582)

Wire-Wrap® ERGONOMIC WRAPPING TOOL

Type 27300AC6 is an easy-to-operate, two-finger wrapping tool for service work and medium production. Offers greater comfort and helps avoid carpal tunnel syndrome. Lighter trigger pressure relieves stress on hand and wrist. Shorter trigger travel reduces motion required for activation. Slim, lightweight design. 6-position indexing for operator preference. Double-insulated with two-wire cord. *Bits and sleeves are available. Contact your local Newark sales office.*

46F4202 Type 27300AC6. **Each** **258.39**
(5883) (de52579)

SOLDERING ACCESSORIES

SOLDERING TIP CARTRIDGES FOR TYPE SP200-11 SOLDERING SYSTEM

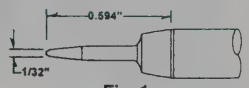


Fig. 1

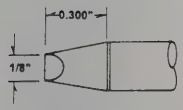


Fig. 2

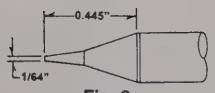


Fig. 3

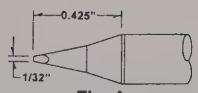


Fig. 4

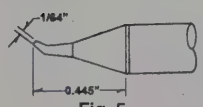


Fig. 5

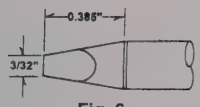


Fig. 6

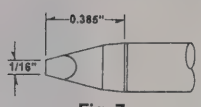


Fig. 7

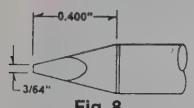


Fig. 8

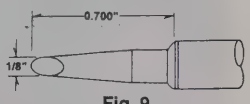


Fig. 9

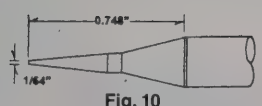


Fig. 10

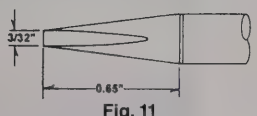


Fig. 11

Soldering tips designed for high-power delivery. Permits soldering 100°F or more below conventional irons. *Order* **type SP2000-11** soldering system separately *on this page.*

Stock No.	Type	Fig.	Each
48F3823	SSC-513A	2	18.65
48F3837	SSC-613A	2	18.65
48F3851	SSC-713A	2	18.65
48F3828	SSC-536A	6	18.65
48F3842	SSC-636A	6	18.65
48F3856	SSC-736A	6	18.65
48F3829	SSC-537A	7	18.65
48F3843	SSC-637A	7	18.65
48F3857	SSC-737A	7	18.65
48F3830	SSC-538A	8	18.65
48F3844	SSC-638A	8	18.65
48F3858	SSC-738A	8	18.65
48F3826	SSC-525A	4	21.95
48F3840	SSC-625A	4	21.95
48F3854	SSC-725A	4	21.95
48F3822	SSC-501A	1	21.95
48F3836	SSC-601A	1	21.95
48F3850	SSC-701A	1	21.95
48F3834	SSC-546A	11	18.65
48F3848	SSC-646A	11	18.65
48F3862	SSC-746A	11	18.65
48F3825	SSC-522A	3	21.95
48F3839	SSC-622A	3	21.95
48F3853	SSC-722A	3	21.95
48F3827	SSC-526A	5	21.95
48F3841	SSC-626A	5	21.95
48F3855	SSC-726A	5	21.95
48F3833	SSC-545A	10	21.95
48F3847	SSC-645A	10	21.95
48F3861	SSC-745A	10	21.95
48F3831	SSC-539A	9	35.20
48F3845	SSC-639A	9	35.20
48F3859	SSC-739A	9	35.20

(37170) (ne37170)

SP200-11 SOLDERING SYSTEM

NEW

Type SP200-11 soldering system is an ideal choice for thru-hole soldering and surface mount touch-up benches. No calibration is required. 115VAC. Includes power supply with power cord, handpiece with cord, workstand with sponge, and cartridge removal pad. *Order soldering tips for* **type SP200-11** *separately on this page.*

48F3820 (34274) Type SP200-11. **Each** 313.95 (ne34274)

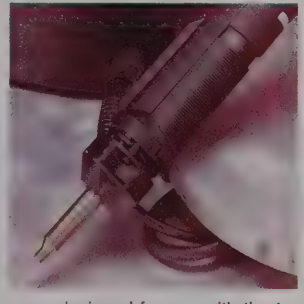
SP440-11 DESOLDERING SYSTEM

NEW

Type SP440-11 desoldering system is designed for production thru-hole rework. Delivers high-watt density power at low temperatures. 50-watt power is ideal for heavy-load desoldering of components on heavy ground plane and multi-layer PC boards. Whisper-quiet, self-contained vacuum pump delivers a powerful vacuum and is portable. Lightweight, ergonomic pencil grip is designed to maximize control and comfort. Cable and vacuum tubing are burn-resistant. Solder collection chamber has no glass tubes, allowing easy cleaning. Features automatic time-out to extend tip life. 120VAC. Include: power supply with power cord, desolder tool assembly with front seal, filter pack, desolder workstand with sponge, cartridge removal pad, and tip cleaners. *Order desoldering tips for* **type SP440-11** separately *on this page.*

48F3821 (34273) Type SP440-11. **Each** 682.50 (ne34273)

SDC SERIES DESOLDERING TIP CARTRIDGES



SDC series tip cartridges are designed for use with the **type SP440-11** desoldering system; *order separately on this page.* **600 series** desoldering tip cartridges are also available, *contact your local Newark sales office.*

Stock No.	Type	Tip Size	Each
92F205	SDE-702	0.025″ I.D., 0.055″ O.D.	34.10
92F206	SDC-703	0.030″ I.D., 0.060″ O.D.	34.10
92F207	SDC-704	0.040″ I.D., 0.070″ O.D.	34.10
92F208	SDC-705	0.050″ I.D., 0.080″ O.D.	34.10
92F209	SDC-706	0.060″ I.D., 0.090″ O.D.	34.10
92F210	SDC-707	0.095″ I.D., 0.125″ O.D.	34.10

(19826) (ne10998)

SMARTHEAT SOLDERING AND DESOLDERING STATIONS

MX SERIES TIP CARTRIDGES

TYPE STTC SOLDERING/SMT TIP CARTRIDGES

Stock No.	Type	Description	Series	Each
92F166	STTC-017	13/64″ Ex. Lg. Chisel	600	24.99
92F167	STTC-117	13/64″ Ex. Lg. Chisel	700	24.99
92F169	STTC-037	1/16″ 30° Chisel	600	24.99
92F170	STTC-138	3/64″ 30° Chisel	700	24.99
92F172	STTC-025	1/32″ 30° Chisel	600	24.99
92F173	STTC-125	1/32″ 30° Chisel	700	24.99
92F175	STTC-022	1/64″ Conical Sharp	600	24.99
92F176	STTC-122	1/64″ Conical Sharp	700	24.99
92F178	STTC-026	1/64″ Sharp (Bent 30°)	600	24.99
92F179	STTC-126	1/64″ Sharp (Bent 30°)	700	24.99
92F181	STTC-045	1/64″ 60° Bevel	600	24.99
92F182	STTC-145	1/64″ 60° Bevel	700	24.99
92F184	STTC-042	1/16″ 60° Chisel	600	24.99
92F185	STTC-142	1/16″ 60° Chisel	700	24.99
92F187	STTC-012	1/16″ Conical	600	24.99
92F188	STTC-112	1/16″ Conical	700	24.99
92F190	STTC-035	1/16″ 30° Bevel	600	24.99
92F191	STTC-135	1/16″ 30° Bevel	700	24.99
92F193	STTC-001	1/32″ Conical Sharp	600	24.99
92F194	STTC-101	1/32″ Conical Sharp	700	24.99
92F196	STTC-124	1/32″ 30° Bevel	700	24.99
92F198	STTC-047	1/32″ 60° Bevel	600	24.99
92F200	STTC-006	1/64″ Conical Sharp	600	24.99
92F201	STTC-106	1/64″ Conical Sharp	700	24.99
92F203	STTC-014	1/64″ 60° Bevel	600	24.99
92F204	STTC-114	1/64″ 60° Bevel	700	24.99

Selected 500 series available, *contact your local Newark sales office.*

TYPE SMTC SOLDERING/SMT TIP CARTRIDGES

Stock No.	Type	Series	Description	Application	Each
91F5877	SMTC-0147	600	Hoof	Drag Soldering	56.87
83F2263	SMTC-1147	700	Hoof	Drag Soldering	56.87
91F5878	SMTC-0167	600	Mini-Hoof	Drag Soldering	56.87
83F2266	SMTC-1167	700	Mini-Hoof	Drag Soldering	56.87
91F5879	SMTC-0161	700	Knife	Drag Soldering	56.87
91F5880	SMTC-060	600	0.410″ Blade	Pad Cleaning	92.17
83F2252	SMTC-160	700	0.410″ Blade	Pad Cleaning	92.17
91F5881	SMTC-061	600	0.620″ Blade	Pad Cleaning	92.17
83F2253	SMTC-161	700	0.620″ Blade	Pad Cleaning	92.17
91F5882	SMTC-062	600	0.870″ Blade	Pad Cleaning	92.17
83F2254	SMTC-162	700	0.870″ Blade	Pad Cleaning	92.17
91F5883	SMTC-0110	600	1.550″ Dual Blade	Pad Cleaning	139.73
83F2259	SMTC-1110	700	1.550″ Dual Blade	Pad Cleaning	139.73
91F5884	SMTC-096	600	Chip Removal	0402, 0603 Chips	40.42
83F2257	SMTC-196	700	Chip Removal	0402, 0603 Chips	40.42
91F5885	SMTC-001	600	Chip Removal	0805 Chips	40.42
83F2238	SMTC-101	700	Chip Removal	0805 Chips	40.42
91F5886	SMTC-002	600	Chip Removal	1206, 1210 Chips	40.42
83F2239	SMTC-102	700	Chip Removal	1206, 1210 Chips	40.42
91F5887	SMTC-003	600	Chip Removal	1808, 1812 Chips	40.42
83F2240	SMTC-103	700	Chip Removal	1808, 1812 Chips	40.42
91F5888	SMTC-005	600	SMD Removal	SOT-23	40.42
83F2241	SMTC-105	700	SMD Removal	SOT-23	40.42
91F5889	SMTC-006	600	Tunnel Cartridge	SOIC-14, -16	46.11
83F2242	SMTC-106	700	Tunnel Cartridge	SOIC-14, -16	46.11
91F5890	SMTC-008	600	SMD Removal	SOT-89	40.42
83F2243	SMTC-108	700	SMD Removal	SOT-89	40.42
91F5891	SMTC-009	600	Tunnel Cartridge	SOIC-24	46.11
83F2244	SMTC-109	700	Tunnel Cartridge	SOIC-24	46.11
91F5892	SMTC-010	600	Tunnel Cartridge	SOIC-20	46.11
83F2245	SMTC-110	700	Tunnel Cartridge	SOIC-20	46.11
91F5893	SMTC-042	600	Tunnel Cartridge	SOIC-32	46.11
83F2251	SMTC-142	700	Tunnel Cartridge	SOIC-32	46.11
91F5894	SMTC-026	600	Tunnel Cartridge	SOJ-28, SOM-36	46.11
83F2249	SMTC-126	700	Tunnel Cartridge	SOJ-28, SOM-36	46.11
91F5895	SMTC-0140	600	Tunnel Cartridge	SOJ-32, SOJ-34	46.11
83F2261	SMTC-1140	700	Tunnel Cartridge	SOJ-32, SOJ-34	46.11
91F5896	SMTC-095	600	Tunnel Cartridge	TSOP-28	46.11
83F2255	SMTC-195	700	Tunnel Cartridge	TSOP-28	46.11
91F5897	SMTC-0154	600	Tunnel Cartridge	TSOP-40	101.90
83F2264	SMTC-1154	700	Tunnel Cartridge	TSOP-40	101.90
91F5898	SMTC-012	600	Quad Cartridge	PLCC-20	72.30
83F2246	SMTC-112	700	Quad Cartridge	PLCC-20	72.30
91F5899	SMTC-0103	600	Quad Cartridge	PLCC-28	72.30
83F2258	SMTC-1103	700	Quad Cartridge	PLCC-28	72.30
91F5900	SMTC-016	600	Quad Cartridge	PLCC-32	72.30
83F2248	SMTC-116	700	Quad Cartridge	PLCC-32	72.30
91F5901	SMTC-014	600	Quad Cartridge	PLCC-44	72.30
83F2247	SMTC-114	700	Quad Cartridge	PLCC-44	72.30
91F5902	SMTC-118	700	Dual Quad	PLCC-68	107.59
91F5903	SMTC-029	600	Dual Quad	PLCC-84	139.73
83F2250	SMTC-129	700	Dual Quad	PLCC-84	139.73
91F5904	SMTC-115	700	Quad Cartridge	QFP-64, -80	107.59
91F5905	SMTC-086	600	Quad Cartridge	QFP-132	107.59
83F2256	SMTC-186	700	Quad Cartridge	QFP-132	107.59
91F5906	SMTC-0118	600	Quad Cartridge	PLCC-44 Socket	72.30
83F2260	SMTC-1118	700	Quad Cartridge	PLCC-44 Socket	72.30
91F5907	SMTC-0145	600	Quad Cartridge	PLCC-84 Socket	139.73
83F2262	SMTC-1145	700	Quad Cartridge	PLCC-84 Socket	139.73

CONTINUED

MX SERIES TIP CARTRIDGES (CONT.)

TYPE TATC TALON TIP CARTRIDGES

Stock No.	Type	Description	Tip Size	Each
91F5908	TATC-501	500°F Talon Cartridge	0.015″ Tip	113.85
91F5909	TATC-601	600°F Talon Cartridge	0.015″ Tip	113.85
91F5910	TATC-502	500°F Talon Cartridge	0.25 x 0.39″ Tip	113.85
91F5911	TATC-602	600°F Talon Cartridge	0.25 x 0.39″ Tip	113.85
91F5912	TATC-503	500°F Talon Cartridge	0.62 x 0.33″ Tip	113.85
91F5913	TATC-603	600°F Talon Cartridge	0.62 x 0.33″ Tip	113.85
91F5914	TATC-504	500°F Talon Cartridge	0.81 x 0.33″ Tip	113.85
91F5915	TATC-604	600°F Talon Cartridge	0.81 x 0.33″ Tip	113.85

(19828) (ne10997)

MX SERIES SMARTHEAT SOLDERING/SMT REWORK STATIONS AND ACCESSORIES

MX-500S

MX-500TS

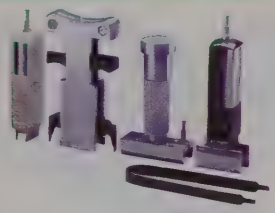
MX series soldering and desoldering rework stations utilize a patented heating technology which provides accurate, instantaneous tip temperatures and rapid thermal recovery with high mass boards. Heat is delivered to the tip through a pencil-like, ergonomic handpiece with a minimal tip-to-grip distance. The tip cartridge combines heating and sensing capabilities into a self-regulating cartridge with no electronics to calibrate. Tip cartridges provide continuous temperature control with no maintenance, providing high soldering throughput at low temperatures for easy, fast, safe soldering and desoldering.

Stock No.	Type	Description	Each
91F5868	MX-500S-11	Soldering/SMT Rework System	672.75
91F5869	MX-500TS-11	Talon/Soldering/SMT Rework System	1003.95
91F5874	MX-500P-11	2-Port Switchable Power Supply	574.43
91F5870	MX-RM3E	Handpiece with Cord for **MX-500S**	96.78
91F5875	MX-TALON	Handpiece with Cord (Tweezers) for **MX-500TS**	274.28
91F5871	MX-WS4	Workstand for **MX-500S** Rework System	56.36
91F5876	MX-WS5	Workstand for **MX-500TS** Rework System	56.36
91F5872	AC-YS3-P	Sponge (Pk 50)	42.70
91F5873	AC-CP2	Cartridge Removal Pad	6.84

(19827) (ne10996)

PC BOARD AND SOLDERING EQUIPMENT

WK-7 INSERTION/EXTRACTION TOOL KIT



Type WK-7 DIP insertion and extraction kit contains all tools listed in the table below. These range from inserters and extractors for DIPs, from 14 to 40 pins. Tools engaging conductive surfaces are CMOS safe. Grounding lugs included where needed.

10F7495 Type WK-7. **Each** **83.20**
(5987)

CONTENTS OF WK-7 KIT

Stock No.	Type	Function	1-4	5-9
10F7547	EX-1	14-16 Pin Extractor	3.46	3.32
10F7494	EX-2	24-40 Pin Extractor	25.95	24.91
10F7498	MOS-1416	14-16 Pin Inserter	22.62	21.71
10F7497	MOS-2428	24-28 Pin Inserter	22.62	21.71
10F7496	MOS-40	36-40 Pin Inserter	25.59	24.57

(ne52297)

ESD HOT AIR SOLDERING IRON AND HOTPLATE

SMT 1160 Series

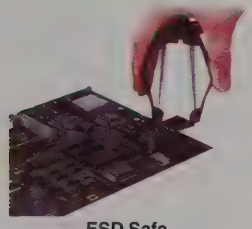
- **For Surface Mount Applications**
- **Self-Contained Air Pump**

60W heater produces temperatures 486°-840°F. Airflow: 1-6 liters/minute. Nitrogen input facility. Includes tool holder, 3 nozzles (round, oval, angled). 115VAC. **Type SA-751** ESD hotplate can be used as preheater for soldering on multilayer boards or while reworking with hot air. Hinged hood creates oven-like environment. Temperature range: 150°-500°F. *2-year warranty. A complete line of nozzles is available; contact your local Newark sales office.*

Stock No.	Type	Description	Each
95F3901	SMT-1161-V	Variable Temperature Station	817.34

(6000) (de52332)

UNIVERSAL PLCC EXTRACTION TOOL

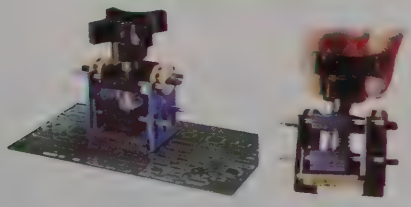


ESD Safe

Type EX-5 extracts 20-84 pin PLCC's from any socket without damaging chips. Spring-loaded, one hand design requires no pulling. Squeeze handles and lift chip from sockets. ESD handles for use on static sensitive components.

50F5444 Type EX-5. **Each** **23.69**
(5929) (ne06305)

PGA-X EXTRACTOR



Type PGA-X extractor provides a means for extraction and insertion of PGAs. Adjustability for 9 x 9 to 26 x 26 pin sizes eliminates the need for fixed-size tools. Includes heavy-duty storage case.

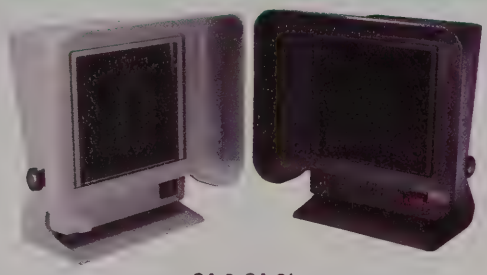
96F5459 Type PGA-X. **Each** **213.94**
(5989) (ne52301)

PORTABLE DESOLDERING IRON/PUMP

Type SA-6-115 electric desoldering iron is a compact, lightweight hand-held pump which features high performance with low maintenance. The convenient 115VAC, 50/60Hz powered tool features one-hand desoldering, eliminating the need for a separate soldering iron and desoldering pump. Self-contained heating element and suction power—no factory air is required. 3-wire cord. *For a complete* **SA-6** *nozzle selection, contact your local Newark sales office.*

44F1657 Type SA-6-115. **Each** **64.28**
(5879) (de52300)

SA-9/SA-91 BENCHTOP FUME ABSORBERS



SA-9, SA-91

SA-9 and **SA-91 series** fume absorbers feature aerodynamic hood design that effectively draws soldering fumes away from work area. Carbon-impregnated filters trap flux fumes. Compact size and adjustable stand allow placement 6-8″ from work area. **SA-91** units have articulating arm to allow positioning and to save bench space. Include bench-mounting clamp and 3 filters.

Stock No.	Type	Description	Each
50F5445	SA9-115	Benchtop Fume Absorber, 115V	115.20
50F5446	SA9-E-115	ESD Fume Absorber, 115V	148.11
95F3919	SA-91	Fume Absorber w/Articulating Arm, 115V	246.85
95F3920	SA-91E	ESD Fume Absorber w/Articulating Arm, 115V	274.28

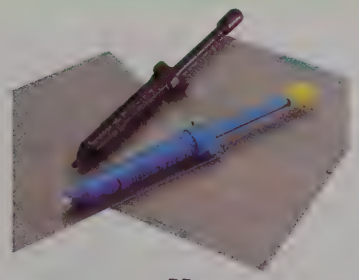
(5988) (ne52299)

HIGH-POWER SOLDERING STATION

Type SA571 externally-fused soldering station features powerful 70W ceramic heating iron and closed loop, variable temperature control. Exceptional heat recovery for demanding multilayer PC board applications. User-selectable temperature range of 600°F (316°C) to 800°F (427°C) ±10°F temperature repeatability. Grounded tip. Zero voltage heater switching. External calibration ports. Includes lightweight soldering iron and non-burn silicon cord. 115VAC.

51F3443 Type SA571. **Each** **137.14**
(5992) (ne52888)

DP SERIES DESOLDERING PUMPS



DP

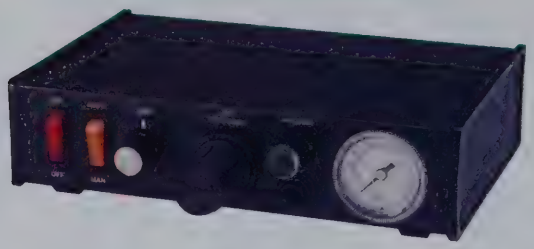
Specially engineered to high specifications. Provide precise repeatable operation. Fitted with Teflon® tip. Feature durable corrosion-resistant plastic construction, self-cleaning precision metal plunger, and corrosion-treated springs.

Stock No.	Type	Description	1-4	5-9
16F043	DP-100	High Vacuum Desoldering Pump	22.50	21.60
16F044	DP-200	High Vacuum Desoldering Pump, ESD	28.45	27.31
16F045	DPT-100	1 Tip, DP-100	3.46	3.32
16F046	DPT-200	1 Tip, DP-200	5.84	5.60

(5970) (ne06863)

DISPENSING SYSTEM AND ACCESSORIES

TYPE TS9151 DISPENSER



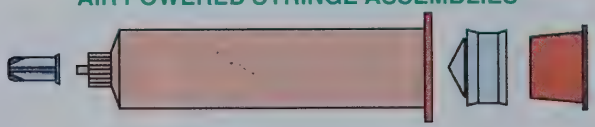
TS9151

Type TS9151 is a precision fluid dispensing system with vacuum control of all viscosities of fluids using air powered disposable syringes. Solid state digital integrated circuitry timer. Lighted function switches, adjustable vacuum feature for controlling drip, microaction foot switch. *10-year warranty.*

Input voltage:	115VAC 60Hz (**TS9150**)
Operating pressure:	1 to 100 psi (0.1 - 7 bar)
Timer:	Programmable from 0.01 to 30 sec, ± 5%
Cycle actuation:	Manual or timer mode
Minimum deposit size:	0.01 ml

52F9939 Type TS9151. **Each**..... **543.07**
(5943) (ne08017)

AIR POWERED SYRINGE ASSEMBLIES



OKA6-20

Air powered syringe assemblies are available in three sizes: 6cc (**type OKA6-20**), 10cc (**type OKA10-15**) and 35cc (**type OKA35-10**). Include syringe barrel, stopper, tip cap and plug. Syringe barrels and tip caps are molded from polypropylene; stoppers and plugs are molded in polyethylene. Combined with dispenser (**type OK9151**), these syringe assemblies produce a low cost method of applying all types of fluids.

Stock No.	Type	Capacity	Pkg. Qty.	Per Pkg.
52F9941	OKA6-20	5cc-6cc	20	**12.38**
52F9942	OKA10-15	10cc-12cc	15	**11.61**
52F9943	OKA35-10	30cc-35cc	10	**12.38**

(5941) (ne08015)

SE SERIES DISPENSING TIPS

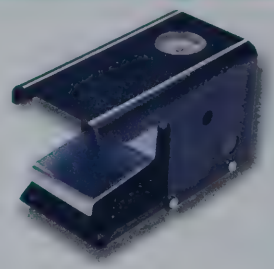
SE

These stainless blunt tips are the finest general purpose dispensing tips available. Stainless steel tubing is precision cut to precise lengths and ground to be burr free. Cut tubing is epoxy bonded into polyethylene hubs molded on colors that correspond to gauge size. All OK International tips secure to OK International syringe barrels, correspond to the Luer Lock specification, and are produced in a silicone-free environment. **Sold in packages of 50.**

Stock No.	Type	Hub Color	Gauge	I.D. Inches (mm)	Length Inches (mm)	Per Pkg.
52F9944	SE18-1/2-50	Green	18	0.033 (0.84)	½ (12.7)	**7.62**
52F9945	SE18-1-50	Green	18	0.033 (0.84)	1 (25.4)	**7.62**
52F9946	SE19-1/2-50	Black	19	0.027 (0.69)	½ (12.7)	**7.62**
52F9947	SE20-1/2-50	Pink	20	0.024 (0.61)	½ (12.7)	**7.62**
16F8268	SE20-1-50	Pink	20	0.024 (0.61)	1 (25.4)	**7.62**
52F9948	SE21-1/2-50	Purple	21	0.020 (0.50)	½ (12.7)	**7.62**
52F9949	SE22-1/2-50	Blue	22	0.016 (0.40)	½ (12.7)	**7.62**
52F9950	SE23-1/2-50	Orange	23	0.013 (0.33)	½ (12.7)	**7.62**
52F9951	SE25-1/2-50	Red	25	0.010 (0.25)	½ (12.7)	**7.62**
52F9952	SE26-1/2-50	Beige	26	0.010 (0.25)	½ (12.7)	**7.62**
16F8269	SE27-1/4-50	Clear	27	0.008 (0.20)	¼ (6.35)	**8.81**
52F9953	SE27-1/2-50	Clear	27	0.008 (0.20)	½ (12.7)	**8.81**
52F9954	SE30-1/4-50	Lavender	30	0.006 (0.15)	¼ (6.35)	**8.81**
52F9955	SE30-1/2-50	Lavender	30	0.006 (0.15)	½ (12.7)	**8.81**

*Crimped hub construction.
(5940) (ne08014)

TYPE OK924 FOOT VALVE DISPENSER



OK924

Type OK924 offers the best of both worlds: increased production combined with dispenser economy. Floor-mounted, has a built-in pressure regulator, pressure gauge and a unique fast-dump 3-way air valve. Output rate and shot size are operator controlled. **Type OK924** is the ideal basic dispensing unit for most general applications of adhesives, sealants, coatings and compounds. Connects to any OK syringe adapter. Input pressure: 100 psi max. Operating pressure: 20-100 psi max. *10-year warranty.*

Stock No.	Type	Description	Each
52F9956	OK924	Foot Valve Dispenser	**213.94**

(5942) (ne08016)

STARTER KIT FOR TYPES OK924 AND OK9151

OKD-KT

Type OKD-KT includes 3 barrels (6cc, 10cc & 35cc), 3 air stoppers (6cc, 10cc & 35cc), 3 tip caps, 3 syringe adapters (6cc, 10cc & 35cc), 50 tips (2 each size), in-line filter, shop air filter and syringe stand.

52F9940 Type OKD-KT. **Each**..... **115.20**
(5939) (ne08013)

MANUAL SYRINGE ASSEMBLIES

OKM6-20

Manual syringe assemblies are available in three sizes: 6cc (**type OKM6-20**), 10cc (**type OKM10-15**) and 35cc (**type OKM35-10**). Include syringe barrel, stopper, manual plunger and tip cap. Syringe barrels, manual plungers and tip caps are molded from polypropylene; stoppers are molded from polyethylene. The manual plunger locks to the stopper for smooth, controlled manual dispensing.

Stock No.	Type	Capacity	Pkg. Qty.	Per Pkg.
52F9932	OKM6-20	5cc - 6cc	20	**11.97**
52F9938	OKM10-15	10cc - 12cc	15	**11.19**
52F9933	OKM35-10	30cc - 35cc	10	**12.44**

(5938) (ne08012)

TT SERIES DISPENSING TIPS

These tips are molded in high density polyethylene to include a Luer Lock hub and a taper tip. Color coding indicates tip orifice inside diameter (I.D.) which corresponds to gauge size. Easily cut by user when shorter tip is required. Ideal for solder paste dispensing. **Sold in packages of 50.**

Stock No.	Type	Hub Color	Gauge	I.D. Inches (mm)	Length Inches (mm)	Per Pkg.
52F9934	TT14-50	Tan	14	0.063 (1.60)	1¼ (31.75)	**7.62**
52F9935	TT16-50	Grey	16	0.047 (1.19)	1¼ (31.75)	**7.62**
16F8258	TT18-50	Green	18	0.033 (0.84)	1¼ (31.75)	**7.62**
52F9936	TT20-50	Pink	20	0.024 (0.61)	1¼ (31.75)	**7.62**
16F8259	TT22-50	Blue	22	0.016 (0.40)	1¼ (31.75)	**7.62**

(5937) (ne08011)

SOLDER, SOLDERING TOOLS AND ACCESSORIES

DESOLDERING BRAID

Desoldering braid eliminates shorts caused by solder bridging, corrects poor solder conditions, removes components, and removes solder from flat surfaces. **Type 1664** combines solder with desolder in one package called perfect pair.

Stock No.	Type	Width	Spool Length	1-9	10-24
			PERFECT PAIR		
92N3516	1664	0.100″	25 ft.	4.99	4.25
			DESOLDERING BRAID		
92N3458	1606	0.025″	5 ft.	2.26	1.92
92N3459	1607	0.050″	5 ft.	2.26	1.92
92N3460	1608	0.075″	5 ft.	2.26	1.92
92N3461	1609	0.100″	5 ft.	2.48	2.11
92N3462	1610	0.125″	5 ft.	2.90	2.47
92N3463	1611	0.025″	25 ft.	9.87	8.39
92N3464	1612	0.050″	25 ft.	9.87	8.39
92N3465	1613	0.075″	25 ft.	9.87	8.39
92N3466	1614	0.100″	25 ft.	10.44	8.87
92N3467	1615	0.125″	25 ft.	12.28	10.44
92N3468	1616	0.025″	100 ft.	36.77	31.25
92N3469	1617	0.050″	100 ft.	36.77	31.25
92N3470	1618	0.075″	100 ft.	36.77	31.25
92N3471	3325	0.100″	100 ft.	41.74	35.48
92N3472	1620	0.125″	100 ft.	47.40	40.29
			ANTISTATIC DESOLDERING BRAID		
92N3473	1621	0.025″	5 ft.	2.31	1.97
92N3474	1622	0.025″	10 ft.	4.00	3.40
92N3475	1623	0.050″	5 ft.	2.31	1.97
92N3476	1624	0.050″	10 ft.	4.00	3.40
92N3477	1625	0.075″	5 ft.	2.31	1.97
92N3478	1626	0.075″	10 ft.	4.00	3.40
92N3479	1627	0.100″	5 ft.	2.90	2.47
92N3480	1628	0.100″	10 ft.	4.58	3.89
92N3481	1629	0.125″	5 ft.	2.91	2.48
92N3482	3326	0.125″	10 ft.	5.21	4.43
			NO-CLEAN ANTISTATIC DESOLDERING BRAID		
92N3483	1631	0.025″	5 ft.	2.49	2.12
92N3484	1632	0.025″	10 ft.	4.41	3.75
92N3485	1633	0.050″	5 ft.	2.49	2.12
92N3486	1634	0.050″	10 ft.	4.41	3.75
92N3487	1635	0.075″	5 ft.	2.49	2.12
92N3488	1636	0.075″	10 ft.	4.41	3.75
92N3489	1637	0.100″	5 ft.	2.82	2.40
92N3490	1638	0.100″	10 ft.	5.10	4.33
92N3491	1639	0.125″	5 ft.	3.16	2.69
92N3492	1640	0.125″	10 ft.	6.25	5.31
			NO-CLEAN DESOLDERING BRAID		
92N3493	1641	0.025″	25 ft.	17.31	14.71
92N3494	1642	0.050″	25 ft.	17.31	14.71
92N3495	1643	0.075″	25 ft.	17.31	14.71
92N3496	1644	0.100″	25 ft.	20.17	17.14
92N3497	1645	0.125″	25 ft.	23.11	19.64
			PERFECT PAIR		
92N3516	1664	0.100″	25 ft.	4.99	4.25

(19332) (ne11102)

SOLDER SPONGES

Type 1646 dimensions: 1.55 x 2.55″. **Types 1647, 1648, and 1649** dimensions: 2.2 x 3.5″. **Types 1650, 1651, and 1652** dimensions: 2.6 x 2.6″. **Type 1653** dimensions: 3.2 x 1.9″. **Type 1654** dimensions: 4.0 x 1.7″. **Type 1655** dimensions: 8.5 x 1.7″. **Sold in packs of 10.**

Stock No.	Type	Use with	1-9	10-24
92N3498	1646	Ungar 9901	12.01	10.21
92N3499	1647	Weller DS-100, EC-1000, EC-2000	16.81	14.29
92N3500	1648	Weller DS-100, EC-1000, EC-2000	16.36	13.90
92N3501	1649	Weller DS-100, EC-1000, EC-2000	16.36	13.90
92N3502	1650	Weller WTCP, EC-3000, EC-4000, TC205	16.81	14.29
92N3503	1651	Weller WTCP, EC-3000, EC-4000, TC205	16.15	13.73
92N3504	1652	Weller WTCP, EC-3000, EC-4000, TC205	16.15	13.73
92N3505	1653	Metcal, Plato CS-46	13.79	11.72
92N3506	1654	Hakko 926, Plato CS-43	16.98	14.43
92N3507	1655	Sponge Sheet	25.72	21.87

(28573) (ne28573)

ROSIN ACTIVATED SOLDER

Rosin activated solder offers the most effective form where wetting action is completely non-corrosive and electrically non-conductive. Water-soluble is more effective and heat stable than rosin fluxes. Residue can be completely removed with water. Mildly active solder has high mobility, fast spreading action that meets military specification QQ-SS-571. No-clean solder is environmentally safe, it leaves low amounts of residue which doesn't require cleaning.

Stock No.	Type	Gauge	Diameter	Weight	1-9	10-24
00Z1885	1554	21	0.032″	1 # 60/40	12.50	10.62
00Z1886	1555	16	0.062″	1 # 60/40	11.63	9.88
00Z1887	1556	21	0.032″	1 # 60/37	12.87	10.94
00Z1888	1557	18	0.050″	1 # 60/40	11.80	10.03
00Z1889	1558	13	0.093″	1 # 40/60	8.87	7.54
00Z1890	1559	23	0.025″	1 # 60/40	14.05	11.94
00Z1893	1562	19	0.040″	1 # 60/40	12.14	10.32
00Z1894	1563	13	0.093″	1 # 60/37	11.29	9.59
00Z1895	1564	25	0.020″	1 # 60/37	18.56	15.78
00Z1896	1565	23	0.025″	1 # 60/37	14.42	12.26
00Z1897	1566	19	0.040″	1 # 60/37	12.53	10.65
00Z1899	1568	16	0.062″	1 # 60/37	12.01	10.21
00Z1901	1570	21	0.032″	1/2 # 60/40	8.23	7.00
00Z1902	1571	21	0.025″	1/2 # 63/37	9.99	8.49
00Z1903	1572	23	0.025″	1/2 # 60/40	8.77	7.45
00Z1904	1573	18	0.050″	1 # 60/40	12.50	10.62
00Z1905	1574	18	0.050″	1 # 63/37	13.41	11.40
00Z1906	1575	18	0.050″	1 # 60/40	13.87	11.79
			WATER SOLUBLE SOLDER			
00Z1892	1561	21	0.032″	1 # 63/37	12.87	10.94
00Z1906	1575	21	0.032″	1 # 60/40	13.87	11.79
			MILD ACTIVE SOLDER			
00Z1900	1569	21	0.032″	1 # 63/37	12.87	10.94
			NO-CLEAN SOLDER			
00Z1891	1560	21	0.032″	1 # 63/37	12.87	10.94
00Z1898	1567	21	0.032″	1 # 63/37	18.56	15.78
00Z1904	1573	21	0.032″	1 # 60/40	12.50	10.62

(19328) (ne11098)

TIP TINNER

This lead-free tip tinner has been formulated to prolong tip life from the harsh soldering environments of rosin, no-clean and water soluble fluxes.

Stock No.	Type	Size	Each
10N694	1471	½ oz.,1″ Dia.	4.95
10N695	1472	1½ oz., 2″ Dia.	10.15

(19348) (ne11089)

30 AND 40 WATT SOLDERING IRONS

Compact, light weight, smart design permit fatigue-free work even during continuous soldering operation. **Type 2788** has a specially designed handle with heat-resisting ring for low thermal efficiency. Super quick heat-up and heat recovery qualities for work efficiency. Simple tip replacement. Long tip life. ABS handle. Voltage: 110V.

Stock No.	Type	Description	Power Cons.	Tip Temp.	1-9	10-24
92N5320	2789	Soldering Iron	30W	380°C	16.51	14.04
92N5325	2794	Replacement Tip	...	...	4.40	3.74
92N5321	2790	Soldering Iron	40W	420°C	18.62	15.83
92N5326	2795	Replacement Tip	...	...	4.40	3.74
92N5319	2788	Soldering Iron	30W	380°C	33.38	28.38
92N5324	2793	Replacement Tip	...	...	6.73	5.72

(19331) (ne11101)

SOLDERING TOOLS AND ACCESSORIES

ADJUSTABLE TEMPERATURE-CONTROLLED SOLDERING STATION

NEW CE TUV Rheinland

Digital display for temperature control. Adjustment range from 320°F-900°F (160°C-480°C). Temperature control can also be set for accurate operation. Features voltage of 110/120VAC or 220/240VAC, power consumption of 48W, heater operation voltage of 24VAC. CE compliant, TUV approved.

84N1044 Type 4004. **Each** **99.99**
(32970) (ne32970)

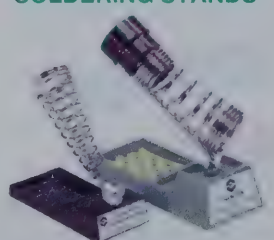
SOLDER SUCKER

NEW

Easy to operate. Cleans solder instantly. Made of aluminum and plated with a special metal. Tip is replaceable.

84N1045 Type 4005. **Each** **6.99**
(32971) (ne31971)

SOLDERING STANDS



Low central design for user's safety and protection against burns. Spring holder prevents damaging soldering irons. Tip cleaner makes it possible to solder under clean environments. Sponge included.

Stock No.	Type	1-9	10-24
92N5322	2791	20.69	17.59
92N5323	2792	40.36	34.30

(19333) (ne11103)

STATIC-DISSIPATIVE BOTTLES

ESD safe bottles are non-static generating. Regular plastic bottles can generate a 10,000V charge that will cause damage in static sensitive areas. These bottles offer an average surface resistivity of 10^9 to 10^{10} ohms and can dissipate a charge of ±5000V in less than 2 seconds at 40% relative humidity. The bottles do not chemically react with TCE or alcohol. In tests, it was found that after a seven-day period, the pH of de-ionized water solutionns in these bottles remained stable. **Type 1466** has a pump and **type 1465** does not.

Stock No.	Type	Description	Each
10N685	1462	2 oz. Flux Bottle, 26 Gauge	5.33
10N686	1463	2 oz. Flux Bottle, 20 Gauge	5.33
10N687	1464	2 oz. Flux Bottle, 16 Gauge	5.33
10N688	1465	6 oz. Solvent Container	17.96
10N689	1466	6 oz. Solvent Container	19.67
10N690	1467	8 oz. Water Bottle/ESD Safe	6.37
10N691	1468	32 oz. Water Bottle/ESD Safe	11.29
10N692	1469	16 oz. Catch-All Container	5.13
10N693	1470	16 oz. Spray Bottle	11.29

(19350) (ne11086)

STATIC-DISSIPATIVE HAND LOTIONS

Blue lotion is enriched with aloe vera and vitamins A, D, and E. These natural moisturizers help achieve healthier, softer, younger looking hands and nails. This non-acidic lotion relieves chapping, skin flaking, irritation, and skin sensitivity caused by regular use of latex gloves and finger cots. Non-petroleum, non-contaminating, greaseless formula contains no glycerin, mineral oil, silicones or lanolin. Absorbs immediately into the skin without interfering with grip or dexterity.

Stock No.	Type	Size	Each
10N670	1447	10 oz.	1.92
10N671	1448	8 oz.	3.89
10N672	1449	16 oz.	11.65
10N673	1450	32 oz.	15.01
10N674	1451	Gallon	48.96

(19351) (ne11085)

IF YOU DON'T SEE THE PRODUCT YOU NEED LISTED HERE - CALL!
1-800-4-NEWARK
(1-800-463-9275)

HAND CLEANERS

A neutral, mildly cationic hand cleaner formulated especially for electronic/cleanroom evnvironments. Regular hand cleaners contain soaps, which are derivatives of animal and vegetable fats. These fatty materials along with the silicone, lanolin, and mineral oil can cause contamination. This advanced formula softens and protects your skin yet effectively removes soils and other contaminants. White lotion is the same formula as the static-dissipative hand lotion, but without perfumes or dyes. Meets rigorous requirements of Class 1 to 10,000 cleanroom environments. Ion <50ppm.

Stock No.	Type	Size	Each
10N678	1455	Gallon White Lotion	48.96
10N679	1456	32 oz.	11.39
10N680	1457	Gallon	33.33

(19352) (ne11088)

SPRAY CLEANERS

Spray cleaner is both biodegradable and odorless. Contains no alcohol, ammonia, amines, and silicones. Contains less than 100ppm of alkali, bromides, chlorides, sodium, aluminum, calcium, and magnesium. A low-ionic general-purpose cleaner fomulated for electronic/cleanroom environments. This unique formula is mildly cationic to neutralize static charge. Spray cleaner can be used to remove the everyday flux residues, oil, dirt and grime found around assembly areas. Meets SARA Title 3 and T.S.C.A.

Stock No.	Type	Size	Each
10N681	1458	2 oz.	3.16
10N682	1459	16 oz. ESD Safe	11.65
10N683	3321	24 oz.	6.21
10N684	1461	Gallon	21.89

(19349) (ne11087)

SOLDER/DESOLDER STATIONS AND TOOLS

TYPES 951SX AND 952SX LONER® SOLDERING STATIONS

951SX

952SX

120-volt, 60Hz, 70 watts per tool. Temperature range of 400° to 800°F, with temperature regulation of ±6°F. Feature solid-state control, ESD construction, and a ceramic PTC element for fast heat up. **Type 951SX** is single station for one-temperature operation. **Type 952SX** is a dual station with two temperature dials which independently control two separate soldering tools. Both stations accept a variety of soldering tips; *order separately on this page.* Comply with MIL-S- 45743E, DOD-STD-2000-1B, WS-6536E and ESD SPEC DOD-STD-1686, DOD-HDBK-263.

Stock No.	Type	Description	1-9
92F8585	951SX	Single Soldering Station	**151.06**
92F8586	952SX	Dual Soldering Station	**273.87**

(5839) (de03135)

LONER® SOLDERING TIPS

LT376

LT375

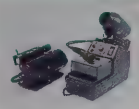
LT395

Stock No.	Type	Description	1-9	10-24
87F1860	LT375	Standard Spade Tip	**6.04**	**5.71**
87F1861	LT376	Short Stubby Spade Tip	**6.04**	**5.71**
87F1848	LT395	Mid-Length Stubby Spade Tip	**6.04**	**5.71**

(5838) (de03134)

971 SERIES SMT/SOLDER & DESOLDER EQUIPMENT

971


971FX

971HA

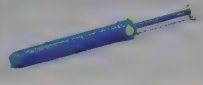
Type 971 soldering station offers versatility for delicate and heavy-duty work. Direct tip-heater configuration results in quick heat recovery at the tip. Provides precise temperature control and calibration. Accepts a variety of general-purpose tips. **Type 971FX** fume extractor removes flux fumes from the work place at the soldering tip. A three-stage filtration system pulls fumes into a contained vacuum chamber, activated when the soldering tool is removed from the holder. Collar assembly features an adjustable collection tube that works with most tip lengths and shapes. **Type 971HA** hot air/SMT station is designed for using either hot air or traditional rework techniques. Runs on shop air or nitrogen. Air flow is activated by an automatic switch in the holder. Accepts a wide variety of tips and nozzles to accommodate most component sizes and shapes. Graduated flow regulator monitors air flow in SCFH.

Stock No.	Type	Description	Each
91F1935	971	Soldering Station	**186.51**
91F1936	971FX	Fume Extractor	**516.57**
91F1937	971HA	Hot Air/SMT Station	**626.75**

(19436) (ne11112)

SOLDAPULLT® PORTABLE DESOLDERING TOOLS

DS017


PT109

SS750

Type AS196 is a heavy-duty spring-loaded tool with push-button trigger and chrome-plated barrel for better static dissipation. **Type DS017** is the same as **type AS196** but is not ESD. **Type DS017LS** same as **type DS017** but constructed from low static material for charge-sensitive applications. **Type PT109** is lightweight, spring-loaded tool for routine desoldering. **Type SS750** is ergonomically designed tool with precision-threaded, 1-piece barrel and full stroke plunger. **Type SS750LS** same but constructed from low static material. Each tool includes self-cleaning Teflon™ tip and O-ring. **Types SS750** and **SS750LS** also include tiplet. Replacement O-rings available; *contact your local Newark sales office.*

Stock No.	Type	Description	1-9	10-24
90F1567	AS196	Deluxe Low-Static Heavy-Duty Tool	**30.31**	**28.74**
87F1880	DS017	Deluxe Heavy-Duty Tool	**20.83**	**19.75**
87F1881	DS017LS	Low-Static Heavy-Duty Tool	**23.44**	**22.23**
87F1882	SS750LS	Std. Metric Challenger Tool	**8.25**	**7.80**
87F1890	SS750LS	Low-Static Std. Metric Challenger Tool	**8.13**	**7.69**
59F950	PT109	Lightweight Spring-Loaded Tool	**15.53**	**14.73**
59F951	SRT12	Standard Tip	**3.53**	**3.34**
87F1883	LS197	Low-Static Tip for **AS196** & **DS017LS**	**5.92**	**5.60**
87F1884	SRT751	Tiplet for **SS750**	**1.44**	**1.36**
87F1885	LS751	Tiplet for **SS750LS**	**2.10**	**1.98**

(5837) (de03132)

HOT-AIR SOLDERING/REWORK AND SOLDERING/DESOLDERING STATIONS

1036DX

1036

ZD905V

Versatile stations use hot-air or contact tips and feature lightweight, compact handle, precise air control, 400-800°F adjustable range and ESD construction. **Type 1036DX** deluxe SMD workstation is self contained (built-in air source) and comes with **LP250** vacuum pickup tool. Both stations include **ST800** SMD helper tool, tip wrench, tip-bender wrench, medium hot-air tip and spade-type solder tip. Power: 120V, 60Hz. UL listed. Meet DOD-STD-2000-1B, MIL-STD-2000, WS-6536E, DOD-STD-1686, DOD-HDBK-263.

97F7622 Type 1036DX. **Each** **993.47**

Type 1036 Atmoscope®. Self-contained hot-air station for SMD soldering and desoldering. Features separate temperature control and air output control. Vacuum to 22″ of mercury. Power: 120V, 150W, 60Hz. Adjustable temperature range, 400°F-800°F enables easy removal of DIP and flat pack ICs. Max. air pressure, 18 psi. **Type 1032** is similar except uses external shop air and has pressure regulator and pressure indicator on front panel. UL listed. *Order accessories separately on this page.*

87F1867 Type 1036. **Each** **943.51**
95F9889 Type 1032. **Each** **685.79**

Type ZD905V soldering/desoldering station provides temperature-controlled soldering and desoldering in the same space as one station. Available with **type LST10** or **LST11** soldering tools.

96F8231 Type ZD905V. **Each** **746.17**
(5847) (de03487)

ACCESSORIES FOR ATMOSCOPE® STATIONS

LT427

LT426

Stock No.	Type	Description	1-9	10-24
87F1879	RS199	Replacement Sponge for **SH230**	**1.92**	**1.81**
87F1870	LT427	Jet Tip for Hot Air Tools	**11.75**	**10.60**
87F1873	LT426	0.180″W Fan Tip-Hot Air Tools	**20.94**	**18.87**

(5840) (de03487)

ATMOSCOPE® FUME EXTRACTION FANS

FXF11

Compact, high-efficiency 2-stage charcoal impregnated filtration system. Low static and ESD safe. Adjustable, 180° tilt. Powerful silent motor. Front (green) and rear (yellow) LEDs indicate air flow direction. Safe, universal 12VDC power system. Quick filter replacement and stackable multi-stage filtering. Internal safety fan grills.

91F1938 Type FXF11. **Each** **129.74**
91F1939 Type FXF12. **Each** **139.99**
(19437) (ne11111)

SOLDERING TOOLS

CL1080

IR089

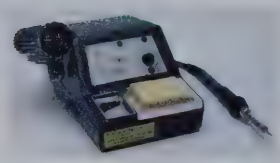
Low static construction **type CL1080** soldering tool is temperature controlled from 400°-800°F, with regulation of ±6°F. 70W, 120V. **Type CL1481** is 30W, 120V non-temperature controlled soldering tool. Both UL listed. **Type IR089** collapsible portable tool base for use with **CL1481** and **CL1080** permits carrying tool while it is hot. Includes solder and sponge.

95F9895 Type CL1080. **Each** **110.85**
95F9894 Type CL1481. **Each** **44.88**
95F9896 Type IR089. **Each** **29.96**
(5831) (de02800)

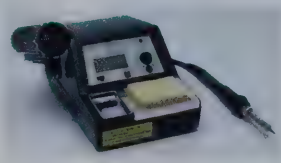
SOLDERING TOOLS AND HARDWARE

60W SOLDERING STATIONS

NEW



XY-136ESD



XY-137ESD

New ergonomic design for prolonged comfort. Ceramic technology provides better heat stability and faster recovery (less than 45s). Spike-free circuitry is employed with a fully grounded tip that gives zero-voltage switching for protection of electrosensitive devices. Tip leakage: <0.4m or 0.5ohms resistance. Temperature range: 400°F to 900°F (200°C to 480°C) ±3°. The lockout feature permits setting and locking the stations at a specific temperature. **Type XY-136** is an analog station, while **type XY-137ESD** is a digital station. The **ESD** types are both static-free stations.

48F2055 Type XY-136. **Each** **136.45**
48F2056 Type XY-136ESD. **Each** **178.45**
48F2057 Type XY-137ESD. **Each** **262.49**
(35671) (ne35671)

SOLDER REMOVAL TOOLS

12-2157

12-2105

Type 12-2157 Solder Popper combines snap-vacuum solder removal tool with a soldering iron for one-hand operation. Removable reservoir stores solder. Long-life tip unscrews for easy replacement. UL listed. 3-wire grounded. *Order* **12-2160** *replacement tip below.*

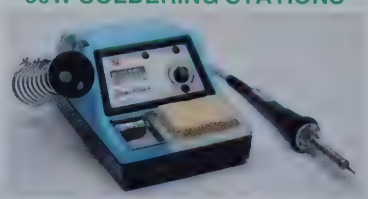
46F1980 Type 12-2157. **Each** **37.69**
46F1981 Type 12-2160. **Each** **4.37**

Type 12-2105 solder removal tool with large vacuum chamber. Dual O-rings enhance pulling power. Conductive tip assures ESD free operation when used by grounded operator.

95F2285 Type 12-2105. **Each** **12.37**
95F2286 Type 12-2106 O-Rings. **Each** **3.22**
95F2282 Type 12-2107 Tip. **Each** **4.11**
(5833) (de03035)

60W SOLDERING STATIONS

UL

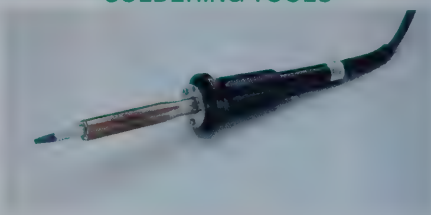


XY9-60A

Types XY9-60A and **XY9-60D** soldering station incorporate temperature readouts to allow monitoring for the proper application of heat. Specially insulated nichrome wire heating elements are compressed between 2 layers of stainless steel and located at the end of the barrels for instant heat-up and recovery. Temperature can be adjusted from 150°C to 450°C without changing the tip or heating element. Lockout feature allows supervisors to set and lock stations at specific temperatures. Meet all military specifications regarding electrostatic-sensitive devices. **Type XY9-60A** has an analog read-out. **Type XY9-60D** has a digital read-out. UL listed. Replacement tips are available; *contact your local Newark sales office for details.*

16F8977 Type XY9-60A. **Each** **126.07**
16F8980 Type XY9-60-D. **Each** **178.08**
(6554) (nec9099)

SOLDERING TOOLS



200PHG-40W

Type 200GX-25W is a thermally balanced iron with 3-wire cord. C-MOS safe. **Type 200PHG-40W** and **200PHG-60W** are high performance irons with nichrome heating elements. **Type 258** has a 500-800°F heat range.

Stock No.	Type	Description	Each
16F8981	200GX-25W	25W Soldering Iron	**15.45**
16F8962	200PHG-40W	40W Soldering Iron, Grounded	**13.08**
16F8963	200PHG-60W	60W Soldering Iron, Grounded	**13.95**
16F8964	258	Variable Temperature Soldering Iron	**21.34**

(6557) (nec9102)

SOLDERING WICK

GC Wick is free of oxygen and oil, and coated with pure water white rosin flux, which will clean the area thoroughly to ensure future solderability.

Stock No.	Type	Description	Length	Each
16F460	12-205	No. 2, Yellow	5′	**2.21**
16F470	12-225	No. 2, Yellow	25′	**9.13**
16F471	12-305	No. 3, Green	5′	**2.21**
16F472	12-325	No. 3, Green	25′	**9.13**
16F473	12-405	No. 4, Blue	5′	**2.21**
16F474	12-425	No. 4, Blue	25′	**10.21**

SOLDER/BRAID PAIR

1 spool of 0.031″ 20 ft. 60/40 rosin core solder and 1 spool of size 3 (0.075″) GC braid. Spools snap together to make one unit.

16F459 Type 12-5001. **Each** **3.16**
(5950) (ne08496)

SOLDERING-DESOLDERING AIDS/DENTAL PROBES

Stainless steel probe kit can be used either as dental tools or as soldering/desoldering aids in SMD assemblies. Noncontaminating, static-free, and will not solder. Needle points and hex handles. Set of three 5½ probes: straight, hooked, and curved.

90F8866 Type 12-2270 Kit. **Each** **10.10**
(5866) (de08802)

AUTO-TEMP 369 HIGH-INSULATION CERAMIC SOLDERING STATION

Offers the ultimate in temperature-controlled hand soldering. A highly insulated ceramic heating element provides rapid heat-up and instant heat recovery. Temperature is adjustable from 250°C to 430°C. Heater insulation exceeds 100MΩ. Input rating: 100-120VAC, 60Hz; 3-wire grounded, 220-240VAC, 50Hz. Zero voltage switching and fully grounded design.

16F8973 Type 369. **Each** **71.43**
(6551) (nec9096)

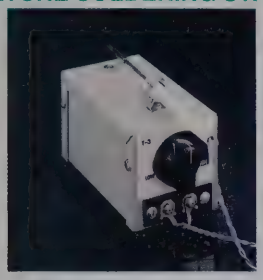
HEAT SINKS

Protect heat-sensitive components while soldering or desoldering. **H3-388** will absorb maximum heat. **9077-1** will fit short leads mounted close to PC board.

95F2280 Type H3-388 Pkg. of 2. **Each** **2.74**
95F2281 Type #9077-1 Heat Sink. **Each** **1.38**
(5832) (de03034)

Assembly Technologies INTERNATIONAL, INC.™ MINIATURE SOLDERING STATION

NEW



Provides the user with a precision soldering system. Unique element design isolates the heat within the soldering tip, protecting components adjacent to the solder joint from excessive heat. Features: output at 6.3VAC, operating temperature range from 150°F to 625°F, 5 nickle-plated tips to use, iron weighs only ½ ounce, and ready to solder in 28 seconds. Kit includes: T-3 120 power unit, T3 02-MS medium spade micro-tip, T3 03PP precision point micro-tip (*for additional tips, contact your local Newark sales office*), and 5′ spool of drywick. Made in the U.S.A.

48F3696 Type T3 N KIT. **Each** **119.57**
(35372) (ne35372)

Assembly Technologies INTERNATIONAL, INC.™ SOLDERING POT

Types 300 and **600** soldering pots have removable dross skimmers. Power: 120VAC/60Hz. 3-wire cord and NEMA plug. **Types 300** and **600** have temperature controls on their sides. **Type 300** temperature range: 325°-850°F; solder capacity: 1 lb. **Type 600** temperature range: 350° - 850°F; solder capacity: 2½ lbs. **Type 675** has remote temperature control with close tolerance (±10°F). Temperature range: 400°-800°F. Solder capacity: 2.75 lbs. **Type 675** meets DOD-2001-B.

95F3812 Type 675. **Each** **1020.70**
98F9591 Type 300. **Each**..... **317.08**
98F3372 Type 600. **Each**..... **325.07**
(5860) (de08721)

Assembly Technologies INTERNATIONAL, INC.™ ULTRASONIC CLEANERS

Solid-state, self-contained units clean small parts without rubbing or disassembly: PC boards, potentiometers, bearing assemblies, brushes, intricate tubing. No moving parts or RFI. 120VAC, 60Hz. Includes tank cover and 3-wire NEMA plug.

Stock No.	Type	Cleaning Power	Tank Capacity	Each
98F1344	S-3300	50W	½ Gal.	**621.27**
35F139	S5500-120	100W	¾ Gal.	**744.56**
35F140	S7700	150W	1½ Gal.	**1417.50**
32F1381	S-80	200W	2¾ Gal.	**2225.26**

(5858) (de08719)

Assembly Technologies INTERNATIONAL, INC.™ HEAVY-DUTY SOLDERING IRONS AND TIPS

Feature long-life element, steel core with nickel-chrome plating, seamless steel casing, pull-proof cord clamps and 3-wire NEMA cord with plug. Tested to 1,100 volts. Include plug-type tip.

Stock No.	Type	Description	Each
32F980	3125	60W, ¼″ Tip, 850°F	**77.11**
33F001	3138	100W, ⅜″ Tip, 855°F	**98.09**
32F986	3138	150W, ⅜″ Tip, 1010°F	**98.09**
33F002	3158	200W, ⅝″ Tip, 1000°F	**124.33**
33F004	3178	300W, ⅞″ Tip, 1000°F	**180.33**
REPLACEMENT TIPS FOR TYPE 3138			
32F1387	43C	⅜″ Chisel Tip	**12.55**
32F1388	43D	⅜″ Diamond Tip	**12.55**

Call your local Newark sales office for additional tips.
(5859) (de08720)

Assembly Technologies INTERNATIONAL, INC.™ LITTLE DANDY MINIATURE SOLDERING IRONS

Little Dandy miniature soldering irons have ESD handles and heat up in 2 minutes. Includes: 3-wire cord, NEMA plug, flat tip, and a ni-chrome wound heating element for long life.

Stock No.	Type	Description	Each
35F110	3108	20W Iron, 805-970°F	**53.27**
35F111	501	⅛″ Chisel Tip for **3108**	**7.08**
32F987	3110	25W Iron, 835-940°F	**54.29**
95F3810	618	3⁄16″ Tapered Tip for **3110**	**7.99**
35F126	3112	40W Iron, 950-1130°F	**66.61**
95F3811	720	¼″ Tapered Tip for **3112**	**9.01**

Call your local Newark sales office for additional tips.
(5919) (de91087)

ESICO INC. PTH RESISTANCE SOLDERING TOOL

Lightweight tool features instantaneous heat cycle and integral switch to control power cycle. Unique plier action and carbon electrode tips enable user to direct heat only at areas to be soldered/desoldered. Includes 115V power pack transformer and alternative, chrome-alloy tips, which can be shaped to reach tight spots.

50F4767 Type 23803. **Each** **242.91**

Extra pair of carbon tips and wire tips.

48F3864 Type 23802. **Each** **205.36**
(5864) (de08725)

ESICO INC. TEMPERATURE CONTROL UNIT

ESICONTROL provides manual temperature adjustment of soldering iron tip or solder pot, with automatic correction for voltage fluctuations. Ideal for military testing applications. Can be used with any standard soldering pot *that is not thermostatically controlled.* Controls up to 75% of full wattage of the heating element. Permits operation without control at 100% of full wattage. Handles any 120VAC heater load to 840W. Fuse controls have pilot light to indicate cycling.

94F7563 Type EC-6. **Each**..... **95.43**
(5865) (de08726)

Assembly Technologies INTERNATIONAL, INC.™ ULTRA-HIGH PERFORMANCE SOLDERING & WIRE-STRIPPING SYSTEM

105A3 105A12

For heat-sensitive components. **Type 105A3** power unit provides controlled, concentrated heat for light/medium work. **Type 105A12** power unit provides medium power with a range of 0-250W, 0.8-2.8V. Powers soldering and wire-stripping handpieces; *both ordered separately below.* Infinitely variable control: 0-100W, 0-3.2V. *Footswitch controller available below.*

Stock No.	Type	Description	Each
98F2052	105A3	Control Unit, 120VAC	**245.11**
98F6310	105A12	Control Unit, 120VAC	**348.68**
95F3819	10519	Footswitch Controller	**47.79**
SOLDERING HANDPIECES, 15-100W			
95F3813	105133	Micro Tweezer, to 22-Ga.	**122.04**
95F3814	10541	Reg. Tweezer, to 3⁄16″	**97.75**
95F3815	10515	Single-Carbon Iron	**54.18**
WIRE STRIPPING HANDPIECES, 15-50W			
95F3816	105131	Micro Tweezer, to 24-Ga.	**141.66**
95F3817	10517	Reg. Tweezer, to 18-Ga.	**135.05**
95F3818	10591	Small V-Notch, to No. 12	**108.59**

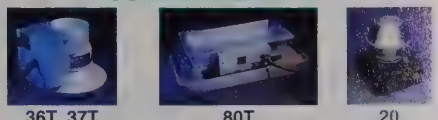
Call your local Newark sales office for additional tips.
(5861) (de06722)

Assembly Technologies INTERNATIONAL, INC.™ DRI-WICK ECONOMY DISPENSER

- **8′ of 3⁄32″ Dia. Pure Copper Braid**
- **Safe from Contaminants**
- **Prevents Operator Burns**
- **Disposable**

01F676 Type 485-8C. **Each**..... **4.14**
(19232) (ne[illegible])

ESICO INC. SOLDERING POTS



36T, 37T 80T 20

Types 36T, 37T, 75T, 80T feature adjustable thermostat for selecting the optimum temperature. **Type 80T** can simulate a wave-soldering unit. *NOTE: do not use thermostatically controlled pots with* **EC-6** *temp. control unit.* **Types 12, 20, 36, 37** do not feature temperature control. Use with **EC-6** temperature control unit; *ordered separately on this page.* All models use 120V power, and include 3-conductor cord set.

Stock No.	Type	Watts	Temp.	Solder Capacity	Each
33F324	36T	250	625°F	2.25 lb	**197.61**
33F326	37T	650	650°F	5.00 lb	**282.33**
33F320	75T	650	650°F	11.75 lb	**296.41**
50F169	80T	1200	650°F	33.00 lb	**655.47**
33F321	12	200	750°F	0.75 lb	**125.65**
50F168	20	250	1200°F	1.25 lb	**318.10**
33F323	36	250	750°F	1.25 lb	**128.59**
33F325	37	650	800°F	5.00 lb	**167.73**

(5863) (de06724)

SOLDER, FLUXES AND CHEMICALS

"44"® SERIES RA ROSIN-CORE SOLDER

Rosin-core solder offers wetting action and is completely non-corrosive and electrically non-conductive. **Sold in spools sizes listed in table below.**

Stock No.	Type	Alloy Tin	Alloy Lead	Dia.	AWG	Spool Wt.	1-4
00Z506	24-4060-0066 1LB	40	60	0.093″	13	1 lb.	10.08
00Z509	24-6040-0066 1LB	60	40	0.093″	13	1 lb.	12.53
00Z510	24-4060-0061 1LB	40	60	0.062″	16	1 lb.	10.93
00Z513	24-6040-0061 1LB	60	40	0.062″	16	1 lb.	13.38
00Z514	26-6040-0061 5LB	60	40	0.062″	16	5 lb.	64.57
00Z516	24-6040-0053 1LB	60	40	0.050″	18	1 lb.	14.00
00Z518	24-6337-0053 1LB	63	37	0.050″	18	1 lb.	14.68
00Z519	24-6040-0039 1LB	60	40	0.040″	19	1 lb.	14.63
00Z520	24-6337-0039 1LB	63	37	0.040″	19	1 lb.	13.43
00Z521	24-6040-0027 1LB	60	40	0.031″	21	1 lb.	14.85
00Z522	25-6040-0027 4LB	60	40	0.031″	21	4 lb.	54.95
00Z523	24-6337-0027 1LB	63	37	0.031″	21	1 lb.	15.18
00Z1344	23-6040-0027	60	40	0.031″	21	½ lb.	9.11
00Z1347	23-6337-0027	63	37	0.031″	21	½ lb.	9.11
00Z1345	23-6040-0018	60	40	0.025″	23	½ lb.	8.90
00Z1348	23-6337-0018	63	37	0.025″	23	½ lb.	10.10
00Z524	24-6040-0018 1LB	60	40	0.025″	23	1 lb.	16.69
00Z525	24-6337-0018 1LB	63	37	0.025″	23	1 lb.	16.22
00Z1349	23-6337-0007	63	37	0.015″	28	½ lb.	16.59

RA SOLDERING FLUXES

Stock No.	Type	Description	1-4
00Z1923	62-0000-1588	1 Qt. 20% Solids Rosin Flux	17.56
00Z1922	62-0000-4662	1 Qt. 108 Thinner for 1588 Rosin Flux	10.49

POCKET-PAK ROSIN-CORE SOLDER

Clip for carrying in shirt pocket. Alloy is 60%-tin/40%-lead rosin core.

00Z740 Type 83-4000-0000. **Each** **1.32**

"331" ORGANIC WATER-SOLUBLE CORE SOLDER

More effective and heat stable than rosin fluxes in soldering difficult metals. Residue can be completely removed with a simple water rinse. 1 lb. units.

Stock No.	Type	Alloy Tin	Alloy Lead	Dia.	AWG	1-4
00Z876	24-6040-6411	60	40	0.062″	16	14.86
00Z878	24-6040-6403	60	40	0.031″	21	15.89
00Z879	24-6337-6403	63	37	0.031″	21	15.18

WATER SOLUBLE SOLDERING FLUXES

Stock No.	Type	Description	1-4
00Z1110	62-0097-2331	1 Qt. 2331-ZX Flux	19.12
00Z1921	62-0025-2224	Organic Water Sol Flux	16.88
00Z1922	62-0000-4662	Thinner For 2331 & 2224 Sol Flux	10.49

ELECTRONIC SILVER SOLDER

Stock No.	Type	Alloy Silver	Alloy Tin	Alloy Lead	Dia.	AWG	1-4
00Z870	24-0062-0018	2	62	36	0.25″	22	46.57
00Z871	24-0062-0053	2	62	36	0.050″	18	38.69
00Z774	83-7145-0415	Electronic Silver Solder					2.22

"SIL-STRONG" SILVER BEARING FLUX-CORE SOLDER

Used in HVAC, plumbing, and food service. Meets all requirements for food-handling equipment. Melting temperature: 430°F (221°C).

Stock No.	Type	Alloy Tin	Alloy Lead	Dia.	AWG	1-4
00Z739	24-7050-2437	4	96	0.125″	11	32.52

COMPUTER/ELECTRONIC SOLDER AND FLUXES

60%-tin/40%-lead alloy, rosin flux. For electronics. 1 oz. spool.

Stock No.	Type	Description	Each
00Z738	83-0000-5055	Computer/Electronic Solder	1.91
00Z775	83-0000-0144/SP44	SP-44 Paste Flux	1.42

FLUX RESIDUE REMOVERS

Stock No.	Type	Description	Each
00Z1927	62-0000-5768	1 Qt. 5768 Bio Clean Saponifier	23.49
00Z1928	62-0000-5315	1 Qt. 5315 Residue Remover	13.46

TEMPORARY SOLDER MASK

Produced in two different types, either peelable or water-soluble. Any assembly process which, ultimately leads to an aqueous cleaning stage, would be appropriate for the water-soluble mask. Solvent clean or non-clean processes would be ideal candidates for a peelable mask.

Stock No.	Type	Description	Shelf Life	Each
00Z1929	53-4000-0534	TC 534 Peelable Faster Drying	6 months	11.45
00Z1930	53-4001-0534	Latex Mold Seal and Solder Mask		19.16
00Z1931	53-4000-0564	TC 564-1 Water-soluble Solder	6 months	12.57
00Z1932	53-4001-0564	Mask for Hand or Auto-Dispensing		21.41

ULTRAPURE TIP TINNER

Formulated with lead-free solder and special fluxing agents, which replenish the original coating while removing excess oxides. Extends the left of a soldering iron tip.

00Z1938 Type 83-4000-4010 10 Cans (0.7 oz.) Ultrapure Tip Tinner. **Each** ... **4.62**

CONTINUED

"44"® SERIES RA ROSIN-CORE SOLDER (CONT.)

REFLOW SOLDER FLUXES

Designed to hold components in place, aid in soldering, and re-flow assembly.

Stock No.	Type	Description	Shelf Life	Each
00Z1939	57-0000-4025	10 cc. RF Flux No-Clean 740	6 mo.	9.12
00Z1940	57-0000-4125	10 cc. RF Flux Water Soluble 770	6 mo.	9.12

(5913) (de53448)

285 RMA FLUX CORE SOLDER

Conforms to Type RMA of QQ-SS-571 and is on the qualified products list. Has high mobility, fast-spreading action comparable to RA fluxes. 1 lb.

Stock No.	Type	Alloy Tin	Alloy Lead	Dia.	AWG	1-4
00Z872	24-6040-9711	60	40	0.062″	16	15.89
00Z874	24-6040-9710	60	40	0.031″	21	15.89
00Z875	24-6337-9710	63	37	0.031″	21	15.89

CHEMICALS FOR "285" SOLDER

Stock No.	Type	Description	1-4
00Z1919	62-0000-0186	1 Qt. 186 RMA Flux	27.14
00Z1920	62-0000-0120	120 Thinner for 186 RMA Flux	10.95

"245" NO-CLEAN FLUX-CORE SOLDER

Leaves a low amount of residue which is visually acceptable and does not require cleaning. CFC solvents not needed. Environmentally safe.

Stock No.	Type	Alloy Tin	Alloy Lead	Dia.	AWG	1-4
00Z1115	24-6040-8817-1LB	60	40	0.062″	16	13.57
00Z1119	24-6040-8813-1LB	60	40	0.040″	19	14.28
00Z1120	24-6337-8813-1LB	63	37	0.040″	19	15.68
00Z1121	24-6040-8800-1LB	60	40	0.031″	21	14.52
00Z1122	24-6337-8800-1LB	63	37	0.031″	21	15.18
00Z1221	24-6040-8807	60	40	0.020″	25	14.21
00Z1222	24-6337-8807	63	37	0.020″	25	21.22
00Z1350	23-6040-8806	60	40	0.015″	28	16.60
00Z1351	23-6337-8806	63	37	0.015″	28	16.85
00Z1350	23-6040-8806	60	40	0.031″	...	16.60
00Z1824	23-6337-8800-1/2	63	37	0.031″	...	7.01

NO-CLEAN SOLDER FLUXES

No-clean, resin-free flux.

Stock No.	Type	Description	1-4
00Z1354	62-0000-0951-QT	951 2% No Clean Flux	16.52
00Z1820	62-0002-0970-1 QT	1 Qt. 970S VOC-Free Low Solids No-Clean Flux	20.70
00Z1924	62-0000-0958	1 Qt. 958 2.7% Solids No-Clean Flux	18.02
00Z1823	62-0000-0110-1 QT	1 Qt. 110 Thinner for 951 Flux	12.51
00Z1925	62-0000-0973	1 Qt. 973 VOC Free Foaming Flux	26.45
00Z1926	62-0024-4662	1 Qt. 4226 Thinner For 958 Flux	11.63

1 LB. EXTRUDED-BAR SOLDER

Extrusion process assures uniform, high-purity virgin tin and lead. Quality requirements.

Stock No.	Type	Alloy Tin	Alloy Lead	1-4
00Z534	04-4060-0000 1LB	40	60	6.89
00Z535	04-5050-0000 1LB	50	50	7.98
00Z536	04-6040-0000 1LB	60	40	9.04
00Z537	04-6337-0000 1LB	63	37	9.35

SOLDER-WIRE SOLDER

Sold in 1-lb. spools.

Stock No.	Type	Alloy Tin	Alloy Lead	Dia.	AWG	1-4
00Z526	14-4060-0125 1LB	40	60	0.125″	11	10.08
00Z529	14-5050-0125 1LB	50	50	0.125″	11	11.31
00Z1220	14-6040-0125	60	40	0.125″	11	12.53

LEAD-FREE "44" ®ROSIN-CORE SOLDER

Stock No.	Type	Alloy Tin	Alloy Antimony	Alloy Silver	Dia.	AWG	1-4
00Z1218	24-0001-0027	95	5	...	0.031″	21	20.20
00Z1219	24-7016-0027	98	...	2	0.031″	21	23.31

FLUX PENS

Stock No.	Type	Description	1-4	5-9
00Z1356	83-1097-2331	Water-Soluble	4.11	3.68
00Z1227	83-1000-0951	No-Clean	4.23	3.78
00Z1123	83-1000-0186	RMA Rosin	4.23	3.78

LIQUID FLUX

4 oz. liquid flux.

00Z591 Type 84-0000-1429. **Each** **1.67**

(5914) (de53449)

SOLDER AND ACCESSORIES

SOLDER

ADVANTAGES OF 5-CORE SOLDER

Flux is peripherally arranged for fast action. Wetting is fast, complete, and uniform, requiring less heat to joint area. Eliminates flux voids. On QLP of Federal Spec QQ-S-571E and applicable IPC/J standards.

5-CORE 60/40 Sn/Pb ALLOYS, ROSIN (RA)

For high-performance electronics.

Stock No.	Type	Quantity	Diameter	1-4	5-9
00Z903	SN60-16GA 1LB	1 LB. SPOOL	0.063″	15.04	14.38
00Z905	SN60-18GA 1LB	1 LB. SPOOL	0.050″	15.24	14.56
00Z908	SN60-20GA 1LB	1 LB. SPOOL	0.036″	15.80	15.10
00Z910	SN60-21GA 1LB	1 LB. SPOOL	0.032″	17.59	16.81
00Z911	SN60-22GA 1LB	1 LB. SPOOL	0.028″	17.89	17.10
00Z1942	SN6024GA1LB	1 LB. SPOOL	0.022″	15.12	14.45
00Z1943	SN6022GA1/2LB	1/2 LB. SPOOL	0.028″	8.10	7.74
00Z912*	SN60-24GA-1/2LB	1/2 LB. SPOOL	0.022″	12.50	11.95
00Z913*	SN60-28GA-1/2LB	1/2 LB. SPOOL	0.015″	18.27	17.47
00Z914*	SN60-32GA-1/2LB	1/2 LB. SPOOL	0.010″	30.44	29.09

5-CORE 63/37 Sn/Pb ROSIN (RA)

00Z922	SN63-20GA 1LB	1 LB. SPOOL	0.036″	18.32	17.51
00Z923	SN63-21GA 1LB	1 LB. SPOOL	0.032″	18.47	17.66
00Z924	SN63-22GA 1LB	1 LB. SPOOL	0.028″	18.74	17.90
00Z1861	SN6324GA-1LB	1 LB. SPOOL	0.022″	25.30	24.18

NO-CLEAN CORED SOLDER—X39B FLUX

Halide-free, non-corrosive, minimal residue.

00Z1328	SN63X39B18-1	1 LB.	0.050″	19.29	18.44
00Z1330	SN63X39B21-1	1 LB.	0.032″	18.47	17.66
00Z1331	SN63X39B.028"1	1 LB.	0.028″	22.47	21.48
00Z1332	SN63X39B.022"1	1 LB.	0.022″	22.06	21.09
00Z1333*	SN63X39B9015".5	1/2 LB. REEL	0.015″	22.61	21.61

NO-CLEAN CRYSTAL 502 3% CLEAR RESIDUE

Meets MIL P-28809 without removal.

00Z1839	SN60CR5023%.050"1	1 LB.	0.050″	17.67	16.88
00Z1840	SN60CR5023%.032"1	1 LB.	0.032″	20.19	19.29
00Z1841	SN60CR5023%.028"1	1 LB.	0.028″	21.56	20.60
00Z1842*	SN60CR5023%.022.5	1/2 LB. REEL	0.022″	24.30	23.22
00Z1843*	SN60CR5023%.015.5	1/2 LB. REEL	0.015″	20.96	20.03

NO-CLEAN CRYSTAL 500 2% CLEAR RESIDUE

"RMA" type meets Mil-P-28809 without removal.

00Z1844	SN63CR5002%.032"1	1 LB.	0.032″	21.18	20.24

HYDRO-X WATER SOLUBLE CORE SOLDERS

For electronics requiring water wash.

00Z909	SN60-21 HYDRO-X	...	0.032″	17.59	16.81
00Z1335	SN63 HYDRO-X 21-1	...	0.032″	18.47	17.66

SAVBIT

Reduces wear, erosion of copper/film. With activated rosin. Tin/lead/copper.

00Z891	SAVBIT-16GA 1LB	1 LB.	0.063″	15.07	14.40
00Z892	SAVBIT-18GA 1LB	1 LB.	0.050″	15.16	14.49
00Z894	SAVBIT-22GA 1LB	1 LB.	0.028″	18.71	17.88

SN62 5-CORE LOW MELTING POINT SOLDER

Futectic: 354°F. 2% silver. Suppresses leaching of noble metals from ceramics.

00Z916	SN62-18GA 1LB	1 LB.	0.050″	27.68	26.46
00Z917	SN62-20GA 1LB	1 LB.	0.036″	34.80	33.26
00Z918	SN62-22GA 1LB	1 LB.	0.028″	30.47	29.13
00Z1859	SN62 ROSIN 21-1	1 LB.	0.032″	34.17	32.65
00Z1860	SN62 ROSIN 28-2OZ	2 OZ.	0.015″	11.33	10.82
00Z1336	SN62X39B21-1	1 LB.	0.032″	31.52	30.13

SN62 NO-CLEAN CORE SOLDER

00Z1336	SN62X39B21-1	1 LB.	0.032″	31.52	30.13

NO-CLEAN CRYSTAL 502 3% CLEAR RESIDUE

"RA" type meets Mil-P-28809 without removal

00Z1374	PROZONE-AEROSOL	18 GAL. 1 LB.	0.050″	14.19	13.56

RMA ROSIN MILDLY ACTIVATED

Meets requirements for QQS-571.

00Z1337	SN63RMA21-1	1 LB.	0.032″	18.47	17.66

HMP HIGH MELTING POINT SOLDER (574°F)

5% tin, 93.5% lead, 1.5% silver with activated rosin.

00Z889	HMP-18GA 1LB	1 LB.	0.050″	19.11	18.27
00Z890	HMP-22GA 1LB	1 LB.	0.028″	21.90	20.93

When lead is not acceptable, use the following lead-free solders.

SN96 WITH ROSIN ACTIVATED FLUX

96% tin, 4% silver. High-strength and electrical conductivity (Eutectic 430°F).

00Z1341*	SN96RA 22-1/2	1/2 LB.	0.028″	26.63	25.45

EXTRUSOL™ HIGH-PURITY BAR SOLDER

Extruded vacuum process assures oxide-free, ultra-high quality for soldering.

00Z919	SN63 MULTPURE BAR	1 LB. MULTIPURE BAR	11.14	10.64
00Z901	SN60 MULTPURE BAR	1 LB. MULTIPURE BAR	10.68	10.20
00Z906	PURE TIN BAR	1 LB. TIN BAR	16.88	16.13

CONTINUED

SOLDER (CONT.)

PELLETS

¼″ x ½″ for small pots and start-up of large pots.

00Z1367	SN63 PELLETS	5 LB. BAG	11.71	11.19
00Z1949	SN60 PELLETS	5 LB. BAG	42.14	40.27

RODS ¼″ x 12″

Stock No.	Type	Description	Each
00Z1366	SAVB1T	SAVBIT Reduces Copper Erosion	233.89
00Z1950	45D RODS	45D For Soldering Aluminum	11.77
00Z1951	SN62 RODS	SN62 Low Melting Point	15.60

(10020) (de04092)

SOLDER ACCESSORIES

TIP TINNER/CLEANER

Cleans, tins soldering iron tips at same time.

Stock No.	Type	Description	Each
00Z1441	TTC-1	15 g. can	5.23

ANTI-OXIDANT PELLETS

Tin/lead pellets plus an anti-oxidant that dissolves in solder pot. Keeps surface of pot clean and shiny. Reduces oxidation, dross. 50 pellets/jar (250 grams).

00Z1369	ANTI-OXY PELLETS	1 Jar	25.82

DROSS-X

Liquid anti-oxidant for dross reduction in solder pots.

00Z1368	DROSS-X	1 qt.	26.71

MINI-FLUXER/MINI-CLEANER

Touch-up, rework, assembly made simple. Pen/marker containing no-clean flux and Prozone non-CFC cleaner.

00Z1370	MF-X3210I	No-Clean Fluxer	4.27
00Z1371	MF-X33S07I	No-Clean Fluxer	4.27
00Z1944	MF-6381	RMA Fluxer	4.25
00Z1847	MF-NR3S-04	No-Clean Water-Based	6.44
00Z1945	MF-HYDRO-X-20	Water Soluble	4.36
00Z1372	MC-PV-01	Prozone Cleaner	4.50
00Z1862	MC-SC-02	Stencil Cleaner	6.23

PROZONE NON-CFC CLEANER

For cleaning circuit boards, components, metal parts, and removing flux residue.

00Z1373	PROZONE-PUMP	500ml	16.56
00Z1848	SC-01 SPRAY BOTTL	500ml	17.87
00Z1375	PROZONE-WIPES	50 pop-up	21.13
00Z1377	PROZONE-PEN	50 pop-up	17.75
00Z1849	SC-01 WIPES STENC	50 pop-up	24.30

SPOT-ON

Temporary, peelable resist, and water soluble. No residue or stains. Squeeze bottle

00Z1378	SPOT-ON	250ml	10.89
00Z968	SN60-18 5LB	8 oz.	79.34

MULTITAK

Flux medium holds component in place. Aids in soldering and reflow assembly. 10 syringe.

00Z1383	MULTITAK-92	No-Clean Resin	10.69
00Z1382	MULTITAK-12	Water-Washable	10.69

SMD ADHESIVES

00Z1947	RF10	75 gm	71.12

ACTIVATED ROSIN ALL-PURPOSE FLUX PASTE

00Z1853	SA-35 HIGH STRENG	10cc Cartridge	14.96
00Z1854	SA-33 PS FOR WIDE	10cc Cartridge	37.35
00Z1948	SA-33P2	10cc Cartridge	32.01

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COPPERSET® THROUGH-HOLE PLATING KIT

Manual soldering system allows plain holes in PCBs to be through-plated, where top soldering is impossible. Contains tools and materials necessary to form rough-plated holes in standard PCBs with a thickness of 0.062″ (1.6). Kit contents: bail bars and material to convert 500 holes in each of 3 sizes, 0.8, 1.0, and 1.2mm; automatic punch with alternative nose-pieces to match the 3 hole sizes; 3 sets of reamers and feeder tubes; anvil base with 5mm and 8mm anvils; 38swg connecting wire; dispensers of solder wire and desoldering wick. **Replacement bail bars are sold in quantities of 500.**

Stock No.	Type	Description	Dimensions	Each
00Z1186	CSS001	Copperset® Through-Hole Plating Kit	...	313.82
00Z1856	CSS032-BAR	Replacement Bail Bars	0.039″ (1.0)	78.51
00Z1857	CSS033-BAR	Replacement Bail Bars	0.047″ (1.2)	78.51
00Z1858	CSS031-BAR	Replacement Bail Bars	0.031″ (0.8)	65.21

(5854) (de04327)

DESOLDERING BRAID AND STATIC DISSIPATIVE PRODUCTS

DESOLDERING BRAID

Soder-Wick®, the world's leading brand of desoldering braid, is the fastest, cleanest and safest braid in the industry. It significantly reduces rework/repair time and minimizes the risk of heat damage to the board. Its geometrically precise weave design allows for maximum capillary action and solder capacity. Soder-Wick® Desoldering Braid optimizes heat transfer through the braid and into the solder joint, resulting in faster wicking action than any other competitive braid. Minimal flux residue on the board speeds up the cleaning process, or eliminates it entirely.
Soder-Wick® Desoldering Braid is available in the most comprehensive variety of widths, lengths and flux types. Application-specific sizes allow for precision solder removal in a flash. Wicking speed and board safety are maximized by matching the size of the braid to the soldering iron tip and the area to be desoldered.

SODER-WICK® BGA

The most effective, economical way to safely and completely remove solder from BGA pads and chips.

- **Sized and Designed Specifically for BGA Pad and Chip Rework/Repair**
- **Entire BGA Pads Cleaned in 3 to 4 Passes**
- **Available in Rosin (80) and No-Clean (60) Fluxes, or Unfluxed (75)**
- **Packaged in ESD-Safe Static Dissipative Bobbins**
- **Meets MIL-F-14256EF Type R**

Stock No.	Type	Width	Length	Each
01F195	80-BGA-5	BGA	5′	3.83
01F196	60-BGA-5	BGA	5′	4.23
48F2109	75-BGA-5	BGA	5′	3.41

SODER-WICK® SMT

The finest widths of braid available, specifically designed for cleaning fine-pitch circuitry, SMT pads and micro-circuits.

- **Fits Spaces No Other Braid Can Reach**
- **Available in Rosin (90) and No-Clean (60) Fluxes**
- **Packaged in ESD-Safe Static Dissipative Bobbins**
- **Meets MIL-F-14256EF Type R**

Stock No.	Type	Width	Length	Each
95F6256	90-00-5	0.022″	5′	3.05
95F6257	90-01-5	0.045″	5′	2.96
95F6258	90-02-5	0.055″	5′	2.85
48F2110	60-00-5	0.022″	5′	3.41
48F2111	60-01-5	0.045″	5′	3.33
48F2112	60-02-5	0.055″	5′	3.33

SODER-WICK® ROSIN 80 SD

The Fastest, safest rosin flux desoldering braid packaged in static dissipative bobbins.

- **Minimizes the Risk of Damage Associated with Static Electricity**
- **Non-Corrosive Type R Rosin Flux**
- **Leaves No Ionic Contamination on Boards**
- **Meets MIL-F-14256EF Type R.**

Stock No.	Type	Width	Length	Each
95F6234	80-1-5	0.030″	5′	2.45
95F6235	80-2-5	0.060″	5′	2.45
95F6236	80-3-5	0.080″	5′	2.65
95F6237	80-4-5	0.110″	5′	2.85
95F6238	80-5-5	0.145″	5′	3.13
95F6239	80-6-5	0.210″	5′	3.33
95F6240	80-1-10	0.030″	10′	4.31
95F6241	80-2-10	0.060″	10′	4.31
95F6242	80-3-10	0.080″	10′	4.60
95F6243	80-4-10	0.110″	10′	5.09
95F6244	80-5-10	0.145″	10′	5.69

SODER-WICK® NO-CLEAN SD

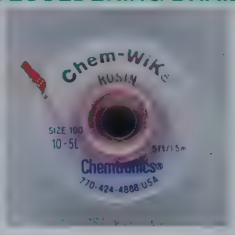
The fastest, cleanest no-clean flux desoldering braid packaged in static dissapative bobbins.

- **Patented Non-Corrosive, Halide Free, Organic No-Clean Flux System**
- **Desolders Up To 40% Faster than Competitive No-Clean Braids and Leaves Boards Cleaner**
- **Meets MIL-F-14256EF, IPC SF-818, and Bellcore TR-NWT-000078**

Stock No.	Type	Width	Length	Each
95F6245	60-1-5	0.030″	5′	3.45
95F6246	60-2-5	0.060″	5′	2.65
95F6247	60-3-5	0.080″	5′	2.74
95F6248	60-4-5	0.110″	5′	3.13
95F6249	60-5-5	0.145″	5′	3.45
95F6250	60-6-5	0.210″	5′	3.73
95F6251	60-1-10	0.030″	10′	6.83
95F6252	60-2-10	0.060″	10′	5.78
95F6253	60-3-10	0.080″	10′	5.09
95F6254	60-4-10	0.110″	10′	5.69
95F6255	60-5-10	0.145″	10′	6.28

(5852) (de04289)

CHEM-WIK® ROSIN AND CHEM-WIK® ROSIN SD DESOLDERING BRAID



As the industry standard desoldering braid for service and repair, Chem-Wik® Desoldering Braid ensures fast and safe desoldering. The ultra-pure, oxygen free copper braid quickly and completely removes solder from circuit boards and components. Its fast wicking action protects components from harmful heat damage.

CHEM-WIK® ROSIN

The fast, safe rosin flux desoldering braid for removing solder from leads and components.

- **Coated with Ultra High Purity Rosin**
- **Non-Corrosive Type R Rosin Flux**
- **Meets DOD-STD-1686B, DOD-HDB-263, MIL-F-14256F, MIL-B-81705C and MIL-STD-2000A**

Stock No.	Type	Width	Length	Each
93F6336	2-5L	0.030″ (0.76)	5′ (1.52M)	2.55
93F6337	2-25L	0.030″ (0.76)	25′ (7.62M)	11.14
93F6335	5-5L	0.050″ (1.27)	5′ (1.52M)	2.55
93F9157	5-25L	0.050″ (1.27)	25′ (7.62M)	11.14
93F6334	5-50L	0.050″ (1.27)	50′ (15.24M)	20.22
48F2107	5-100L	0.050″ (1.27)	100′ (30.48M)	36.42
93F9153	7-5L	0.075″ (1.91)	5′ (1.52M)	2.66
97F7574	7-25L	0.075″ (1.91)	25′ (7.62M)	9.11
96F6876	7-50L	0.075″ (1.91)	50′ (15.24M)	21.15
48F2108	7-100L	0.075″ (1.91)	100′ (30.48M)	37.78
93F9154	10-5L	0.100″ (2.54)	5′ (1.52M)	2.81
93F6333	10-25L	0.100″ (2.54)	25′ (7.62M)	11.33
98F6616	10-50L	0.100″ (2.54)	50′ (15.24M)	22.77
93F9160	10-100L	0.100″ (2.54)	100′ (30.48M)	45.44
93F9155	15-5L	0.150″ (3.81)	5′ (1.52M)	3.23
93F9158	15-25L	0.150″ (3.81)	25′ (7.62M)	13.37
93F9156	19-5L	0.190″ (4.83)	5′ (1.52M)	3.46
93F9159	19-25L	0.190″ (4.83)	25′ (7.62M)	14.29

CHEM-WIK® ROSIN SD

The fast, safe rosin flux desoldering braid for removing solder from leads and components.

- **Coated with Ultra High Purity Rosin**
- **Non-Corrosive Type R Rosin Flux**
- **Meets DOD-STD-1686B, DOD-HDB-263, MIL-F-14256F, MIL-B-81705C and MIL-STD-2000A**

Stock No.	Type	Width	Length	Each
98F6748	5-10SD	0.050″ (1.27)	10′ (3.05M)	4.56
97F7575	2-5SD	0.030″ (0.76)	5′ (1.52M)	2.55
97F7576	5-5SD	0.050″ (1.27)	5′ (1.52M)	2.66
98F6748	5-10SD	0.050″ (1.27)	10′ (3.05M)	4.56
97F7577	7-5SD	0.075″ (1.91)	5′ (1.52M)	2.91
97F7578	10-5SD	0.100″ (2.54)	5′ (1.52M)	3.02
97F7579	15-5SD	0.150″ (3.81)	5′ (1.52M)	3.56

(7540) (ne02999)

STATIC DISSIPATIVE PRODUCTS

ES1668

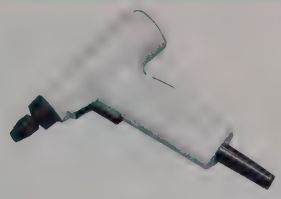
Static Free™ products are engineered to protect electronic equipment and work spaces from static buildup while cleaning and reconditioning. They prevent and eliminate electrostatic point sources on nonporous surfaces.

Stock No.	Type	Description	Each
00Z1296	ES1668	16 oz. Aerosol Static Free™ Plast-N-Glas™ Non-Streaking Cleaner for Transparent Surfaces	10.64
00Z1297	ES1664T	16 oz. Trigger Spray Static Free™ Mat & Benchtop Reconditioner Cleans ESD Mats	14.67
50F9497	C805	8 oz. Pump Bottle Static Free™ Hand Guard™ Lotion Electrostatic Protective Hand Lotion	6.82

(36775) (ne36775)

WIRE WRAPPING AND STRIPPING TOOLS

TYPE OK-21 ERGONOMIC WIRE-WRAPPING TOOLS



Type OK-21 electric-powered wire-wrapping tool offers a two-finger extended trigger, longer handle and light weight for improved ergonomics. High-speed 4200 rpm motor and gear drive is ideal for all wire sizes from 18 to 30 AWG. Available with back force to prevent overwrapping and unwrapping. *Order bits and sleeves separately.*

Stock No.	Type	Description	Price
95F3280	OK-21	Tool w/out Back-force	224.91
93F6308	OK-21-BF	Tool w/Back-force	235.88

(5828) (de02408)

BATTERY-POWERED WIRE-WRAPPING TOOLS

Type BW-928 battery-powered unit accepts standard bits and sleeves for 24-30 AWG wire. Feature positive indexing, LEXAN® housing, 8-ounce weight. Reversible for unwrapping by turning batteries over. Available with or without back force to prevent overwrapping. Wrapping speed 3000 rpm. Uses 2 standard "C" rechargeable NiCad batteries; *order separately.* **Type BW-520** industrial duty battery-powered tool accommodates 22-30 AWG wire. Wrapping speed 3000 rpm. Rechargeable NiCad batteries included.

Stock No.	Type	Back Force	Reversible	Each
10F7490	BW-928-BF	Yes	Yes	202.97
10F7492	BW-520-BF	Yes	No	235.88
10F7673	BW-520-BF-U	Yes	Yes	360.88

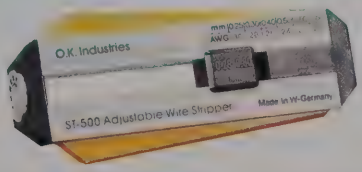
(5873) (de52070)

MANUAL WIRE-WRAPPING TOOLS WITH CHUCK-TYPE NOSE

Type G100/R3278 aluminum housing tool with chuck nose enables use of full line of bits and sleeves made for power tools. 22-32 AWG wire sizes. Provides 10 turns maximum. **Type G200/R3278** same except has LEXAN® housing. *Order bits and sleeves separately.*

10F7585 Type G100/R3278. **Each** **141.53**
10F7586 Type G200/R3278. **Each** **111.29**
(5872) (de52069)

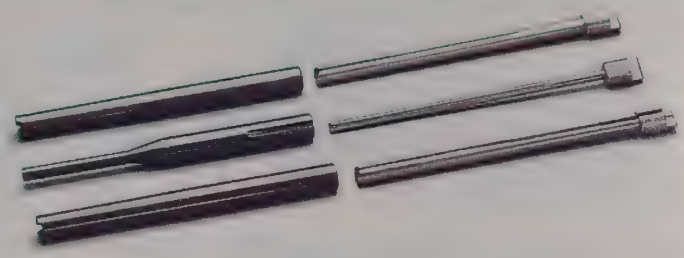
ADJUSTABLE PRECISION WIRE STRIPPERS



Feature adjustment dial for six settings. Calibrated wire stop adjustable for desired insulation strip length. Operator squeezes tool and pulls in one motion, allowing 4 hardened steel blades to cleanly cut wire insulation. Pocket-size and lightweight, less than 1 oz. Calibrated strip length is 2". ABS housing. **Type ST-500** strips 20-30 AWG wire; **type ST-550** strips 18-28 AWG wire.

90F1767 Type ST-500. **Each** **59.46**
90F1768 Type ST-550. **Each** **59.46**
(5871) (de52068)

WIRE-WRAPPING BITS AND SLEEVES



Bit & Sleeve

BITS

Stock No.	Bit Type	Use Sleeve	1-4	5-9
10F7512	KB22	P2224	47.61	45.71
10F7513	KB224		37.50	36.00
10F7514	KB24	P2426	42.85	41.14
10F7515	KB26		47.61	45.71
10F7516	WB26SM	P26LN	48.95	46.99
10F7517	WB28SHM	P3032	48.95	46.99
10F7518	SB30MSH-B		47.32	45.42

SLEEVES

Stock No.	Type	AWG	Insul. Dia.	Terminal Dia.	Terminal Depth	Term. Dia. Min.	Term. Dia. Max.	1-4	5-9
10F7519	P2224	22	...	.075"	.750"	.054"	.073"	18.45	17.71
		22-24	...	.075"	.807"	.054"	.073"		
10F7520	P2426	24	...	.075"	.750"	.055"	.074"	18.45	17.71
		26	...	.075"	1.000"	.058"	.073"		
10F7521	P26LN	26	.031"	.040"	.750"	.023"	.038"	29.17	28.00
10F7522	P3032	28	.030"	.036"	.750"	.031"	.034"	29.17	28.00
		30	.027"	.036"	.750"	.031"	.034"		

(5874) (de52073)

WIRE BIT AND SLEEVE SETS

Type CSW26M-4026* fits 26 AWG modified wrap; **type CSW30M-3619*** fits 30 AWG modified wrap. (*) indicates manufacturer's recommendation for 0.025" terminals in 0.100" centers. **Type CSW26M-4026*** = **87F6020** & **Type CSW30M-3619*** = **87F6021**

Stock No.	Terminal Diagonal Max.	Terminal Diagonal Min.	Terminal Hole Diameter	Terminal Hole Depth	Wire Insulation Diameter Max.	Wire Insulation Diameter Min.	Each
87F6020	.035"	.031"	.040"	0.75"	.030"	.026"	258.34
87F6021	.035"	.031"	.036"	0.75"	.021"	.019"	258.34

(5875) (de52071)

WSU SERIES HAND WRAPPING, STRIPPING AND UNWRAPPING TOOLS

WSU-2224, WSU-30M, WSU-30

Stock No.	Type	Use With:	Each
10F7534	WSU-2224	22-24 AWG on standard .03 x .06" and .045" square posts	40.47
10F7535	WSU-30M	Modified wrap for 30 AWG on .025" square posts	26.19
10F7536	WSU-30	Regular wrap for 30 AWG on .025" square posts	25.00

(5829) (de02409)

WIRE AND WRAPPING TOOLS

KYNAR™ WIRE-WRAPPING WIRE CUT/STRIP/WRAP WIRE-WRAPPING WIRE

Kynar™ insulated, silver-plated copper wire. **Type 30W** 30 AWG insulation diameter: 0.0195″; strip-off length: 1″. UL listed. Sold in packages of 500 wires.

KYNAR™ PRE-CUT/PRE-STRIPPED WIRE, 30 AWG

Insulation Length	Stock No. Blue	Stock No. White	Stock No. Yellow	Stock No. Red	Per Pkg.
1.0″	10F7667	10F7640	10F7622	10F7649	13.74
1.5″	10F7668	10F7641	10F7623	10F7650	14.58
2.0″	10F7669	10F7642	10F7624	10F7651	15.85
2.5″	10F7670	10F7643	10F7625	10F7652	16.91
3.0″	10F7671	10F7644	10F7626	10F7653	17.61
3.5″	10F7636	10F7645	10F7627	10F7618	19.01
4.0″	10F7637	10F7646	10F7628	10F7619	20.14
4.5″	10F7638	10F7647	10F7629	10F7620	20.84
5.0″	10F7639	10F7648	10F7630	10F7621	21.69

KYNAR™ WIRE ROLLS, 30 AWG

Roll Size	Stock No. Blue	Stock No. White	Stock No. Yellow	Stock No. Red	Per Roll
100′	10F7567	10F7570	10F7601	10F7604	10.92

KYNAR™ WIRE ROLLS, 28 AWG

100′	10F7607	...	10F7610	...	12.32

INSULATED WIRE ROLLS, 24 AWG

Roll Size	Stock No. Blue	Stock No. Yellow	Stock No. White	Each
100′	87F6009	87F6012	87F6015	21.13

INSULATED WIRE ROLLS, 26 AWG

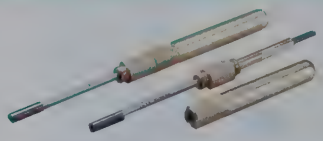
100′	87F6004	87F6007	87F6017	16.67

INSULATED WIRE ROLLS, 30 AWG

100′	87F6374	87F6377	87F6380	14.08
1000′	87F6376	87F6379	87F6381	84.51

(5920) (ne02432)

HAND WRAPPING/UNWRAPPING TOOLS



One tool does the work of two. Switch from wire wrapping to unwrapping in only seconds by changing cap from one end to the other. Compact, convenient tools for use where occasional wraps are required.

REGULAR WRAPPING TYPE

Stock No.	Type	Wrap Dia.	Wrap Terminal Depth	Unwrap Dia.	Unwrap Terminal Depth	1-4	5-9
10F7523	HW-UW18-19	0.075″	1.000″	0.075″	1.000″	100.58	96.56
10F7524	HW-UW-20	0.075″	1.000″	0.070″	1.000″	86.00	82.56
10F7525	HW-UW-224	0.075″	0.807″	0.070″	1.000″	86.00	82.56
10F7526	HW-UW-26	0.075″	1.000″	0.070″	1.000″	86.00	82.56

MODIFIED WRAPPING TYPE

10F7527	HW-UW-26SM	0.040″	0.750″	0.038″	1.000″	100.58	96.56
10F7528	HW-UW-30	0.036″	0.750″	0.038″	1.000″	100.58	96.56

(5921) (ne02433)

HAND WRAPPING TOOLS

Compact, convenient for use where occasional wraps are required and where power wrapping tools are not practical. *A complete line of hand wrapping tools are available; contact your local Newark sales office.*

REGULAR WRAPPING TYPE

Stock No.	Type	AWG	Terminal Dia. / Depth	Each
10F7654	HW-20	20	0.075″ x 1.000″	62.49
10F7655	HW-224	22-24	0.075″ x 0.807″	62.49

MODIFIED WRAPPING TYPE

10F7657	HW-26	26	0.075″ x 1.000″	62.49
10F7658	HW-26SM	26	0.040″ x 0.750″	65.47
10F7659	HW-30	30	0.036″ x 0.750″	65.47

(5830) (de02434)

HAND UNWRAPPING TOOLS

Fig. 1

Fig. 2

Fig. 3

Used to easily remove solderless wrapped connections.

Stock No.	Type	AWG	Fig.	Hand	Terminal Dia. x Depth	Each
10F7660	UW-1	20-26	1	Left	.070 x 1.000″	20.24
10F7661	UW-2	20-26	3	Left, Right	.070 x 1.000″	26.19
10F7662	UW-4	20-26	2	Left	.070 x 2.360″	26.49
10F7664	UW-093R	24-32	1	Left	.038 x 1.000″	16.07
10F7665	UWD-93-93	24-32	3	Left, Right	.038 x 1.000″	26.19
10F7666	UW-2832C	28-32	2	Left	.038 x 0.750″	26.19

(5877) (de52088)

WIRE CUT-AND-STRIP TOOLS

For easy, clean stripping of wires for wire wrapping. Place up to four wires in the stripping slot with ends extended beyond the hardened steel cutting blades, press tool, and pull to cut wires to perfect wire-wrapping length.

Stock No.	Type	AWG	Adjustable	Blade	Each
10F7573	ST-100	22-24	1 5/16″ — 1 9/16″	Double	39.88
10F7574	ST-100-24	24	1 5/16″ — 1 9/16″	Single	39.88
10F7575	ST-100-26	26	1 5/16″ — 1 11/16″	Single	39.88
10F7576	ST-100-28	28	7/8″ — 1 1/8″	Single	39.88
10F7577	ST-100-30	30	7/8″ — 1 1/8″	Single	39.88

(5878) (de52089)

TELECOM WIRE WRAP KIT

NEW

A complete field service wire wrap tool kit. Produces wire-wrapped connections merely by squeezing the trigger. Use the ST-100 22 to 24 AWG wire cut-and-strip tool for easy, clean wire stripping with 1 5/16″ to 1 9/16″ adjustable strip-off length; place up to 4 wires in the stripping slot. The hand wrap-unwrap tool (22 to 24 AWG) does the work of 2 tools in one by changing the cap from one end to the other. Kit includes: 22 to 24 AWG bit, 22 to 24 AWG sleeve, and leather tool holster.

48F1705 Type WWK-1. **Each** **291.50**
(35475) (ne35475)

AT NEWARK, THERE'S ALWAYS MORE THAN MEETS THE EYE!
CONTACT US FOR PRODUCTS NOT LISTED IN THIS CATALOG.

HAND AND BENCH WIRE STRIPPERS

WIRE AND CABLE STRIPPERS

45-315

45-260

T®-Strippers have looping holes, cushioned plastic grips, and form-ground knife-type blades. **Premium T®-Strippers** have custom-cushion grips and versatile plier-type nose. **Super T® Strippers** also feature 6-32 and 8-32 bolt cutters and locking paw. **T®-Cutter** features hardened-steel, shear-type blades. **V-Notch Stripper** strips and cuts solid and stranded copper and aluminum wire ranging in size from 10 to 28 AWG.

T®-STRIPPERS

Stock No.	Type	Wire Range	Each
58F586	45-120	10-18 AWG Solid	**11.01**
58F587	45-121	16-26 AWG Stranded	**12.62**
59F1103	45-125	22-30 AWG Solid	**12.62**
84F506	45-124	8-16 AWG Stranded	**12.86**

PREMIUM T®-STRIPPERS

90F2399	45-215	10-18 AWG Solid	**17.02**
90F8760	45-216	16-26 AWG Stranded	**17.26**
90F8761	45-217	22-30 AWG Solid	**17.26**
90F8762	45-218	8-16 AWG Stranded	**17.26**

SUPER T®-STRIPPERS

52F9074	45-315	8-16 AWG Solid	**27.62**
52F9077	45-318	8-16 AWG Stranded	**27.62**
52F9075	45-316	18-26 AWG Stranded	**27.62**
52F9076	45-317	22-30 AWG Solid	**27.62**

T®-CUTTER

58F885	45-123	Up to 0.5″ O.D./ 10 AWG Solid	**12.86**
50F3144	45-260	T®-Cutter Lite 30-12 AWG	**13.31**

V-NOTCH STRIPPERS

01F2585	45-100	10-28 AWG Solid or Stranded With Spring	**7.74**
01F2584	45-101	10-28 AWG Solid or Stranded Without Spring	**7.98**

(5691) (de52265)

STRIPMASTER™ LITE WIRE STRIPPERS

45-671

50% lighter than Stripmaster™, 33% less effort needed to operate and ¾ the size. Same knife-type blade design.

Stock No.	Type	AWG	Each
93F8755	45-671	16-22	**41.14**
93F8756	45-672	24-30	**41.14**

(7425) (de02516)

COAX CABLE STRIPPERS

45-520

Adjustable coax wire strippers allow blade adjustment for 2- or 3-step stripping of RG-58, RG-59/RG-62, Belden® 8281®, Twinax or RG-6 coaxial cable. Specific adjustments needed for each size.

Stock No.	Type	Description	Each
93F6621	45-520	3-Step	**29.70**
52F9338	45-526	2-Step	**29.70**
52F9339	45-527	2-Step	**29.70**
52F9340	45-528	3-Step	**29.70**

(7852) (ne08878)

STRIPMASTER™ WIRE STRIPPERS

45-092

Single-squeeze operation and automatic feature that holds jaw open for removing wire without crushing end. Ideal for lighter PVC, THHN and similar insulations. Knife-type stripping blades, die-cast body and frame, cushioned hand grips.

Stock No.	Type	AWG	Each
84F505	45-092	10-22	**32.85**
58F553	45-093	14-22	**32.85**
58F554	45-097	16-26	**32.85**
58F555	45-098	20-30	**32.85**

(7442) (de02885)

7-IN-1 WIRE STRIPPER

Type 45-777 stripper performs seven functions: wire stripping on 6 to 16 AWG solid wire, crimping, bolt cutting, wire gauging, wire looping, conduit reaming, and cuts stranded, solid, Romex, and U.F. wire up to 6 gauge. Locking pawl keeps jaws closed when not in use. Cushioned grips.

50F3154 Type 45-777. **Each** **29.40**
(7437) (de02879)

CRIMP TOOLS

30-433

30-428

Type 30-433 coax strip and crimp tool. Cuts, strips and crimps RG-59 and RG-6 cable/F connectors. Separate stripping holes for inner and outer insulation. **Type 30-429** multi-crimp tool for easy crimping/cutting—even in close quarters. Crimp bare or insulated terminals and wire splices (22 to 10 AWG). **Type 30-428** combo tool for wire stripping/cutting, bolt cutting and crimping. **Type 30-430** 9″ Linemen plier, cuts ASCR crimp die. Knife-to-anvil blade extends cutting life. **Type 30-426** service tool crimps stamped, D-Sub, Double-D, high density, and miniature contacts.

Stock No.	Type	Description	Each
46F3691	30-433	Coax Strip & Crimp Tool	**46.11**
59F1119	30-429	Multi-Crimp Tool	**36.60**
59F1118	30-428	Combo Tool	**32.14**
52F9073	30-430	Side Cut Lineman's Plier	**43.45**
01F2587	30-426	D-Sub/Double-D Tool	**44.59**

(5637) (de03429)

COAXIAL/UTP CABLE STRIPPERS

45-165

With adjustable blades that can be set to any depth to help assure nick-free strips. Each stripper comes with 2 straight and 1 round blade.

CABLE STRIPPERS

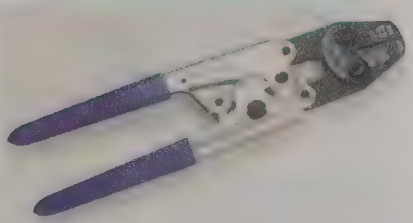
Stock No.	Type	Description	Each
20F970	45-162	up to ⅛″ O.D.	**21.90**
20F971	45-163	⅛″ to 7⁄32″ O.D.	**21.49**
20F972	45-164	¼″ to 9⁄16″ O.D.	**36.54**
81F2815	45-165	3⁄16″ to 5⁄16″ O.D./UTP	**21.90**

REPLACEMENT BLADE SETS

20F973	L-9225	For 45-162, 45-163 and 45-165	**5.24**
20F974	L-9226	For 45-164	**7.24**

(7426) (de02517)

RATCHET CRIMP TOOL



Precision tool crimps insulated or bare terminals and wire splices (22 to 10 AWG). To assure uniform crimps, ratchet action prevents release prior to crimp connection.

98F9589 Type 83-001 **Each** **130.83**
(5636) (de02...

CUSTOM STRIPMASTER™ WIRE STRIPPERS

45-186

Incorporate die-type blade design with counter-bored hole sized to insulation and inner cutting hole sized to conductor. Counterbore compresses insulation slightly to center the conductor and prevent blade cutting surface from contacting conductor surface. Die-cast body and frame, cushioned hand grips, adjustable wire stop, shot-stop latch. For MIL-W-16878 Type E 600V Teflon® wire.

Stock No.	Type	AWG	Each
58F550	45-186	10-14	**141.42**
58F551	45-187	16-26	**141.42**
58F552	45-188	26-30	**141.42**

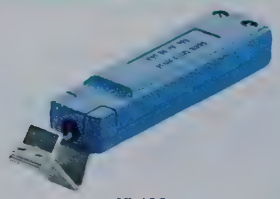
REPLACEMENT BLADES (PAIR)

94F4853	L-5560	16-26	**64.83**

(7441) (de02884)

WIRE STRIPPERS AND CUTTERS

SWIVEL-BLADE® CABLE STRIPPERS



45-128

45-129

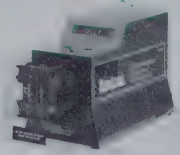
For both end or center stripping of coaxial and power cables. Strip insulation up to 0.156″ thick including PVC, rubber, Neoprene, Teflon®, polyethylene, nylon, Kapton, and fiberglass.

Stock No.	Type	Description	Each
35F2461	45-128	0.25-0.75″ O.D.	26.72
59F1117	45-129	0.75-1.50″ O.D.	33.59
01F2586	45-144	0.125-1.75″ O.D.	47.93

(5692) (de52266)

STRIPMASTER® WIRE STRIPPER

CE NEW



Automatically strips insulation from #30 to #8 AWG for commercial and military stripping specifications. Accurate, adjustable strip length control allows strips from 0.06″ to 1″ (1.5mm-25mm), and can be set for partial strips. Electronic cycle control with LCD display monitors strip settings of blade opening and strip length in metric measurement. Permanent and resettable cycle counter allows for monitoring production lot qualities and total strips performed. Guiding and gripping mechanism minimizes operator dependency. Clear front cover provides for safe operation and retains slugs. Internal automatic trigger provides accurate, repeatable strip lengths. Small footprint, lightweight. Small breakout, ½″ plus strip length, allows stripping of short leads. Specifications: 12VDC required, 60-100 psi (4-7 bar), 2,200 pieces/hour. Dimensions: 5.8H x 4.4W x 12.9″D (147 x 112 x 328 mm), 8 lbs (3.64 kg). CE compliant.

48F1326 Type 45-940. **Each**..... **3084.30**
(33876) (ne33876)

WIRE PREPPER® WIRE CUTTER SYSTEMS

NEW

45-725

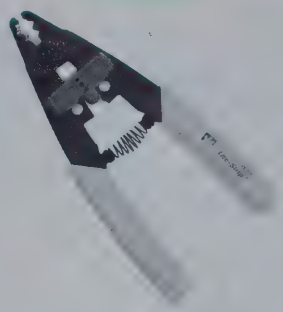
Type 45-725 automatic measure, cut, and count wire processor handles tubing and heat-shrinkable tubing, #10 stranded to #30 AWG wire, and up to 5⁄16″ multi-conductor and semi-rigid cable. Weighs less than 20 lbs. **Type 45-700** wire cutter is equipped to cut different materials including 5⁄16″ diameter tubing, heat-shrink tubing, 10 to 30 AWG wire, and up to ⅜″ diameter multi-conductor, semi-rigid, and ¾″ ribbon cable.

Stock No.	Type	Description	Each
01F2593	45-725	Lite Wire Cutter	2734.42
93F8751	45-700	Wire Cutter II	4892.71

(18633) (ne11025)

LITE-STRIP™ OPTICAL FIBER STRIPPER

NEW



Strips outer cable jacket insulations, tight buffer tube insulations, and mechanically strippable coatings. Built-in blade guides positioning of optical fiber in the proper stripper hole. Plastic grips provide for comfort and handling ease. Fiber capacity of 125µ/250µ and 140µ/250µ.

48F1316 Type 45-350. **Each**..... **113.80**
(33874) (ne33874)

TELE T®-STRIPPER

NEW

Easily cuts and strips flat telephone cable. This multi-function hand-held tool cuts outer insulation without nicking inner conductors. Built-in stripping guide allows user to strip proper lengths for 8-position or 6-position modular plugs. Spring opening returns handles to place after every application. Comfort grip handles make tool applications easier on hands.

48F1317 Type 45-076. **Each**..... **28.70**
(33873) (ne33873)

DATA T®-CUTTER

NEW

Cuts round communication cable and maintains cable geometry for better performance. Cuts multipair cable up to 0.5″ (12.7 mm) and coaxial cable up to RG-9/U. Blades are suitable for soft cables (not ACSR). Steel-reinforced center conductors can be trimmed with bolt-cutting holes. Designed for RG-58 and RG-6 coaxial cable. Comfort grip increases handling ease. Locking latch keeps tool closed in pouch.

48F1307 Type 45-074. **Each**..... **17.20**
(33872) (ne33782)

BATTERY-POWERED CABLE CUTTER

NEW

Faster, more reliable cuts without stress or strain to the user. Able to cut 750 MCM hard-drawn copper cables before needing a recharge. Capable of cutting up to 1,000 MCM copper and aluminum. Compact design fits easily into tight places. Dimensions: 4.5″W x 19.25″H. Hardened steel blades provide consistent cuts and long blade life. Tough ABS 70 housing withstands rugged use. Resists oil and solvents. 3-way switch moves blades to forward, reverse, and neutral positions for partial cuts, adjustments, or backing off cable. Carrying case contains space for an extra battery. Perfectly suited for large jobs and utility applications.

Stock No.	Type	Description	Each
01F2595	35-064	Cable Cutter	1032.42
01F2596	35-065	Battery Only	107.08

(33875) (ne33875)

GRIP-N-STRIP™ END STRIPPER

Features self-adjusting stripping blades. Just insert wire in the end, squeeze hand and release. Tapered nose allows stripping in confined spaces. Strips 12 AWG solid through 20 AWG stranded. Built-in wire cutter.

Stock No.	Type	Description	Each
87F2743	45-227	Grip-N-Strip™	37.14

(7438) (de02880)

THIS NEWARK CATALOG IS AVAILABLE ON CD-ROM!
CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR DETAILS.

TOOL BAGS, WIRE STRIPPERS AND ACCESSORIES

TOOLS AND PARTS BAGS

35-665

35-655

35-533

Type 35-665 BucketBag™ tool carrier fits perfectly over the rim of a standard 5-gallon bucket. Has 43 pockets, 36 pleated outside pockets and 7 inside pockets. Rugged nylon polyester construction.

52F9078 Type 35-665. **Each** **28.69**

Type 35-655 Divider Pouch™ small parts bag has 6 internally divided pockets, each 5″ in depth. An outside drawstring closes the pouch.

52F9079 Type 35-655. **Each** **16.79**

Type 35-533 Tool Carrier™ natural canvas bag has 18 stitched, outer pockets. 12 pockets are 2⅓W x 5⅞″D, 6 pockets are 4⅔W x 7⅜″D. Velcro® closure.

52F9080 Type 35-533. **Each** **41.31**
(5789) (ne08875)

BAGBUCKET™ TOOL CARRIER AND MECHANIC'S TOOL BAG

35-668

35-535

BagBucket™ is a durable, lightweight tool bag. Free standing, and does not require a bucket to be used. Adjustable carrying handle for hand-held, over-the-shoulder, or on-the-back use. Large inside capacity, and 8 outer pockets provide plenty of room for tools.

48F1320 Type 35-668. **Each** **42.21**

The **mechanic's tool bag** has a large capacity, zippered main storage area. 8 interior pockets keep small tools easy to find. Two 10″ x 4″ exterior, snap-closure pockets hold larger tools or loose items.

48F1323 Type 35-535. **Each** **22.89**
(34670) (ne34670)

HEAVY-DUTY ROUND CABLE AND WIRE CUTTER

NEW

Yellow vinyl grips. High carbon steel construction, drop-forged, hardened, and tempered. 2 rounded cutting surfaces for a wide cutting range. Cutting blade nearest pivot places cable in best position for cutting or stripping. Handles can be turned inside out for easier stripping. For use on solid or stranded wire up to No. 8 AWG or 9mm diameter cable. Strips No. 14 through No. 2 wire. Cuts RG-6, RG-8U, RG-9U, RG-58, RG-59 coaxial cable; multiple conductor cable up to 0.5″ (12.7 mm), 24 AWG 4-pair twisted cable; cutting capacities for soft cables (not ACSR).

48F1327 Type 35-050. **Each** **32.89**
(33871) (ne33871)

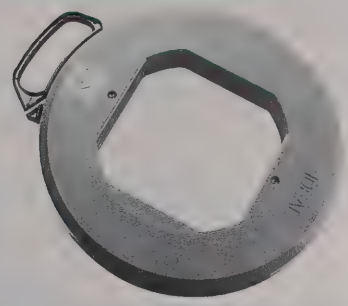
LEVER STRIPPERS

Strips parallel cable, ribbon cable, and cable up to 1⅛″ (2.86) diameter with many insulations: rubber, plastics (including PVC and polyethylene), fiberglass, and fabric. Long lever swings 2 knife-type blades, cutting insulation, and removing slug. Round blades will strip down to finest wire provided sufficient insulation thickness. Strips multiple wires of same gauge with one stroke using parallel flat blades. *Order blades separately; contact your local Newark sales office.*

Stock No.	Type	Description	Each
52F9337	45-065	Large-Lever	657.44
01F2594	45-665	Stranded-Lever	3105.42

(7850) (ne08876)

WIRING FISH TAPES



S-Class™ non-conductive fish tapes constructed of nylon-coated fiberglass cores. All have **Tape-Pak®** reel and 5-year limited warranty on tape-to-leader connection and leader-to-eyelet connection. **Types 31-151** and **31-153** include flexible leader. Steel **Tape-Pak®** fish tapes have a tough, high-impact plastic reel with large grips and grained non-slip surface. Built-in winder. **Type 31-126** also has a footage counter. **Rapid-Pak®** fish tape has rotating center hub with reversible winding knob for left or right hand use. **Type 31-081** is steel; **type 31-189** is S-Class™ with eyelet. **Powr-Fish®** pull line is a continuous-fiber polyline that can be blown directly into conduit and left for future use.

S-CLASS™ FISH TAPES

Stock No.	Type	Length	Width	Each
93F8746	31-151	50′	...	118.45
93F8747	31-153	100′	...	163.48
93F8749	31-163	100′	...	151.23

STEEL TAPE-PAK® FISH TAPES

59F1120	31-020	40′	⅛″	32.28
59F1122	31-024	100′	⅛″	54.69
59F1123	31-025	200′	⅛″	78.56
59F1121	31-033	50′	⅛″	39.13
93F8745	31-126	100′	⅛″	76.98

RAPID-PAK® FISH TAPE

01F2590	31-081	100′	⅛″	78.05
01F2591	31-189	100′	...	167.51

POWR-FISH® PULL LINE

01F2592	31-340	6,500″	...	58.01
91F1975	31-341	3,250″	...	31.90

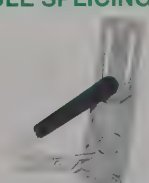
(5606)

POWER STRIPMASTER™ WIRE STRIPPER

Accurately and effortlessly strips a medium to high volume of 8-30 AWG wire. Utilizes pneumatic power with foot pedal actuation. Uses same blades as Stripmaster® and Custom Stripmaster® wire strippers. Includes foot pedal, hookup kit, and air blast slug ejector.

90F2428 Type 45-146. **Each** **828.72**
(7440) (de02883)

CABLE SPLICING KIT



High-quality kit keeps notched scissors and cable-splicing knife in convenient leather holder.

48F1324 Type 35-093. **Each** **35.60**
(33870) (ne33870)

ELECTRIC ENGRAVING TOOL

For metal, glass, stone, ceramics, plastics, hard rubber, wood, and other hard materials. 7200 strokes per minute. With carbide-tipped point.

58F583 Type 11-111. **Each** 65.01
(5694)

CRIMPERS AND STRIPPERS

STRIPAX® & SURESTRIP® WIRE STRIPPERS/CUTTERS

1101

904893

Strip and cut solid and fine stranded conductors with all grades of PVC insulation hardness. Automatic opening after stripping. Wear-free gripping jaws. Self-adjusting cable cutter. Includes one blade; *order replacement blades below.* **Types 904893 and 1101** come with cleaning brush. Lifetime warranty.

Stock No.	Type	Description	1-9	10-24
90F6878	904893	Stripax, 20-12 AWG	71.66	69.58
50F6338	2101	Replacement blade	31.25	30.34
50F6337	1101	Professional Stripax, strips 28-10 AWG	83.28	80.86
90F6843	2131	Replacement blade	31.14	30.23
90F6879	1115P	Mini-Stripax plus, strips 28-18 AWG, Teflon or Silicon insulation 32-18 AWG	81.51	79.13
50F6340	2108	PVC blade 28-18 AWG	20.36	19.77
50F6320	2141	Repl. blade, Teflon AWG 20	39.89	38.73
50F6342	2143	Repl. blade, Teflon AWG 28-26	39.89	38.73
50F6341	2144	Repl. blade, Teflon AWG 32-30	39.89	38.73

(5747) (de53512)

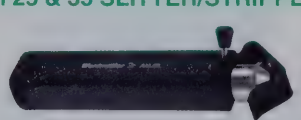
TELEPHONE CABLE STRIPPER/CUTTER

Adjustable ergonomic cable stripper/cutter for round cables (diameters of 0.08 to 0.5″), shielded and unshielded, twisted-pair (STP/UTP) telephone and data cables, and other flexible cables. Length gauge for repeated cutting/stripping accuracy. Cuts round, flexible cables to AWG 12.

Stock No.	Type	Description	1-9	10-24
48F2031	1112	Telephone cable cutter & stripper	21.27	20.65

(5748) (de53513)

AM 25 & 35 SLITTER/STRIPPERS



Slits and strips round cables. Adjustable cutting depth for insulation up to 0.18″ with swivel blade for circular, longitudeinal and spiral cuts. Cable-holding clip with integrated edge for removing slit insulations. Spare blade in handle. **Type 1820** for 0.18-1.0″ diameter cables. **Type 1821** for 1.0-1.4″ diameter cables.

Stock No.	Type	Description	1-9	10-24
90F6873	1820	AM 25 Slitter	38.93	37.80
48F2032	1821	AM 35 Slitter	53.28	51.73
50F6322	2109	Repl. blade	12.15	11.81

(5749) (de53514)

1300 SERIES UNIVERSAL CRIMPING TOOLS

1307

For use with coaxial connectors, fiber-optic connectors, open and closed barrel contacts, solderless terminals, modular telephone plugs, wire ferrules. Tool features fully ratcheting cycle, manual ratchet release, EZI-CHANGE™ die set screws, and adjustable crimp tension. Dies are fully interchangeable and hardened for long life. Includes one die. 5-year warranty.

Stock No.	Type	Description	1-9	10-24
50F6302	1305	Insulated terminals; AWG 22-10	55.15	53.54
92F2631	1307	RJ45 mod plugs WE/SS-style	55.15	53.54
50F6306	1317	RG58/59/62AU 3 Piece BNC/TNC	55.15	53.54
50F6296	1328	CATV "F", RG6, Belden 8281	55.15	53.54
92F2632	1340	RJ11/RJ12 6-position WE/SS-style	55.15	53.54

(5746) (de53511)

D-SUBMINIATURE CRIMPERS

1440

Four-way indent crimping tool for crimping screw machine pins and socket contacts to MIL-C-22520 requirements. Crimps D-subminiature contacts for RS 232 interface connectors. Built-in contact locator (for **type 1440** only), full ratchet cycle. **Type 1440**: 26-20 AWG. **Type 1441**: 20-12 AWG.

Stock No.	Type	Description	1-9	10-24
93F7838	1440	4-indent crimper; AWG 26-20	36.77	35.70
93F7839	1441	4-indent crimper; AWG 20-12	36.77	35.70

(5627) (de02803)

RATCHETING, ALL-IN-ONE TELPHONE TOOLS

1530R

Fully-ratcheting, all-in-one telephone tools cut, strip and crimp 4- and 6- position RJ11/RJ12 and 8-position RJ45 modular telephone plugs. AWG 28-24. WE/SS-style. Complete ratchet cycle and durable steel frame with ergonomic, thumb-stop handles. 5-year warranty.

Stock No.	Type	Description	1-9	10-24
90F6851	1530R	All-in-one telephone tool	132.38	128.53
48F2033	1545	Economy model	40.78	39.59
48F2034	901016	Advanced ratchet design & aluminum head	142.13	138.00

(5655) (de04328)

CABLE TIE GUN

Cable tie gun has adjustable tension and automatic cutoff. Can be used with cable ties up to 0.250″ wide.

Stock No.	Type	1-9	10-24
92F2630	1828.1	55.15	53.54

(5656) (de04329)

TELEPHONE TERMINATION KIT

Includes 7 crimp die sets:
- **RJ11, RJ11 AMP & RJ11 DEC**
- **Handset**
- **RJ45 & RJ45 AMP**
- **RJ50 10-position**

For cable and termination panel networking applications. Includes crimp tool frame with 7 dies (see above), impact punch-down tool with 66 & 110 blades, and a stripax®. Professional wire stripper in a lined case.

Stock No.	Type	1-9	10-24
93F7833	1582	265.16	257.45

(5657) (de04330)

CATEGORY 5 CRIMP & TEST KIT

For Category 5, 10-Base T Ethemet and AT&T network cabling. Includes 1307 RJ45 (WE/SS-style) crimper, precision, ergonomic cable cutter, Patch-Check® tester and 50 Category 5 modular plugs in a lined case.

Stock No.	Type	Description	1-9	10-24
48F2035	1588	Crimp/test kit	202.52	196.63

(5659) (de04332)

NON-CONDUCTIVE SCREWDRIVERS

2901, 2905, 2914

Self-insulated, composite-shaft screwdrivers prevent electricity traveling to the hand. Nicks, cuts or chips to shaft won't compromise the safety barrier because bit extends only 5/8 inch into shaft. Rated to 1000V AC, 1500V DC VDE per IEC 900 & ASTM-1505-94. Meets OSHA safety requirements. Lightweight and balanced. 1-year warranty.

Stock No.	Type	Description	1-9	10-24
48F2036	2901	Slotted, 1/8 x 3.5 for recessed terminal blocks	18.12	17.59
48F2037	2902	Slotted, 3/16 x 5	20.96	20.35
48F2038	2905	Slotted, 1/4 x 4.5	22.06	21.42
48F2039	2913	Phillips, #2 x 4.5	21.31	20.69
48F2040	2914	Phillips #3 x 6	24.51	23.80
48F2041	2918	Square bit (Robertson), #2 x 4.5	21.31	20.69

(5658) (de04331)

MASTER APPLIANCE

HEAT GUNS AND ACCESSORIES

MASTER® HEAT GUNS

HG

Fig. 1

Fig. 2

Fig. 3

Fig 4

Production line quality heat guns for high volume heat. Average air velocity: 3000FPM. Feature double-jacketed heater housing to protect mica-insulated ceramic heat element, and die-cast aluminum housing to protect motor assembly. Adjustable air intake. Heavy-duty, oil-resistant 3-wire cordset with molded on grounded 3-prong plug. 120V models are UL listed, CSA certified. 8″Lx5.25″Wx9.5″H (203.20x133.35x241.30). 3½ lbs. *Order additional heat elements and optional attachments separately below.*

Stock No.	Type	Amps	Watts	Temp °F	Each
37F1442	HG-201A	5	600	200/300	104.48
37F1437	HG-301A	12	1440	300/500	104.48
37F415	HG-501A	14	1680	500/750	104.48
37F422	HG-751B	14.5	1740	750/1000	104.48

HEAT ELEMENTS FOR MASTER® HEAT GUNS

Stock No.	Type	Description	Each
37F1767	HAS-042K	For HG201A	21.69
37F1769	HAS-041K	For HG301A	21.69
37F1772	HAS-011K	For HG501A	21.69
37F1774	HAS-043K	For HG751B	21.69

ATTACHMENTS FOR MASTER® HEAT GUNS

Stock No.	Type	Fig.	Description	Each
37F427	51309	1	0.250″ (5.08) Pinpoint Heat Attachment	20.87
37F425	A-160-HG	2	Baffle for Tubing to 0.750″ (19.05) O.D.	12.49
37F426	A-170-HG	3	Baffle for Tubing 0.750″ (19.05) to 2″ (50.8) O.D.	15.06
37F428	A-203-HG	4	8″ Wide Baffle for Tubing to 0.750″ (19.05) O.D.	39.60

(5724) (de52890)

TYPE PH-1100 PROHEAT® HEAT GUN

PH-100

Fig. 5

Fig. 6

Fig. 7

Fig. 8

Fig. 9

Fig. 10

Lightweight, industrial heat gun provides the user with two heat settings of 570°F and 1050°F. Lexan® housing for high impact durability. Three-position with rocker switch; no cool down required.

93F7822 Type PH-1100. **Each** 78.60

ATTACHMENTS FOR PROHEAT® HEAT GUN

Stock No.	Type	Fig.	Description	Each
93F7824	35017	5	Shrink Attachment	12.18
93F7825	35016	6	Spreader Attachment	17.85
93F7826	50379	7	Reducer Attachment*	19.97
93F7827	51598	8	Specialty Connector*	16.52
93F7828	35026	9	Nozzle Shield	10.93
93F7829	35027	10	Spec. Con. & Red. Attach.*	35.59

* For model PH-1200 only.

(5625) (de02669)

POCKET-SIZE ULTRATORCH® CORDLESS HEAT TOOL

Compact torch features a wind-resistant flame and waterproof electronic ignition with safety lock. Max. flame temperature: 1300°C. Powered by various standard disposable butane lighters. Has childproof light.

00Z1496 Type MT-10. **Each** 30.06

(5662) (de08731)

VARITEMP® HEAT GUNS

VT750C

PH-1200

Type VT750C allows you to dial temperature from ambient to 1000°F– locks in place for continuous production use. 120V. Reinforced ceramic heat element has double-jacket housing for protection. Die-cast aluminum housing protects motor assembly. 3-wire, oil-resistant cordset. UL listed. *Order additional heat element* **HAS043K** *separately.*

87F2611 Type VT-750C. **Each** 149.65

37F1774 Type HAS-043K. **Each** 21.69

The Varitemp® **type PH-1200** heat gun features an infinitely variable temperature control, which permits the user to dial-in just the right temperature for any heating job. 120V unit weighs about 1 lbs. 10 oz. UL listed, CSA certified. *Attachments for* **type PH-1200** *sold separately on this page.*

93F7823 Type PH-1200. **Each** 142.11

(5725) (de52691)

MASTER-MITE® HEAT GUN

High-impact plastic housing withstands hard knocks. Brushless, shaded pole contir uous-duty motor. 3-wire grounded cordset. Slip-on pinpoint heat-shrink attachment stand and 650°F element standard. Air velocity right for benchtop use; won't blow smal components around work area. 120V. UL listed, CSA certified. *Order additional he elements separately below.*

Stock No.	Type	Amps	Temp °F	Each
37F1450	10008	4.0	650	74.69

HEAT ELEMENTS FOR MASTER-MITE® GUN

Stock No.	Type	Color Code	Temp °F	Watts	Each
37F2901	20013	Silver	650	475	23.54
37F2902	20014	Black	800	525	23.54

(5726)

ULTRATORCH® SELF-IGNITING CORDLESS HEAT TOOLS

UT-200SI

Self-igniting, butane-powered tools include heat-shrink attachment, soldering/heat tip, soldering ejector, and two wrenches. No torch mode. **Type UT100SI** Standard Ultratorch®. Maximum temperature: 250-500°C solder tip; 650°C heat tip. **UT-200 SI** Jumbo Ultratorch® with variable temperature control. Temperature: 250-530°C solder tip; 700°C heat tip.

93F7820 Type UT-100SI. **Each** 114.61

93F7821 Type UT-200SI. **Each** 149.18

(5660) (de08729)

PEN-SIZED ULTRATORCH® CORDLESS HEAT TOOL

- **Torch, Heat Tool, and Soldering Iron**

Mini Ultratorch® fits in your shirt pocket. Butane powered. Comes with soldering tip, heat tip. Temperature: 200-450°C with soldering tip; 430°C with heat tip; 1260° C in torch mode.

94F7813 Type UT-50. **Each** 88.25

(5661) (de08730)

HAND TOOLS AND SCISSORS

CRESCENT® TYPE CP LOCKING PLIERS

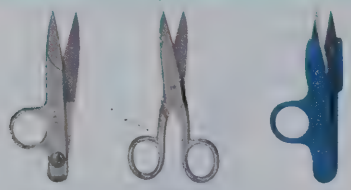
Type CP5S Type CP6L

Plated locking pliers feature quick, convenient release lever for one-handed operation.

Stock No.	Type	Description	1-4	5-9
50F1830	CP5C	5″ Curve Jaw w/Cutter	14.73	14.14
50F1831	CP5S	5″ Straight Jaw	14.73	14.14
50F1832	CP6L	6″ Long Nose w/Cutter	16.70	16.03
50F1833	CP7C	7″ Curve Jaw w/Cutter	16.10	15.46
50F1834	CP7S	7″ Straight Jaw	15.11	14.50
50F1835	CP10C	10″ Curve Jaw w/Cutter	17.24	16.55
50F1836	CP10S	10″ Straight Jaw	16.27	15.62

(19648) (ne11117)

WISS® THREAD CLIPS, SHEARS AND SCISSORS



TC-1 175E-5 1570-B

TC-1. Industrial thread clips. Hot drop-forged cutlery steel, nickel plated. Self-opening spring action.

34F1000 Type TC-1. **Each** **12.62**

175E-5. Electrician's scissors. Hot drop-forged. Fully nickel plated. Double stripping notch for 19 gauge, 23 gauge wire. Scraper and file on back edge of blade full drop run. Blade 1⅞″ long.

46F2593 Type 175E-5. **Each** **15.47**

175-E. Electrician's scissors. Hot drop-forged. Fully nickel plated. Scraper and file on back edge of blade. Blade 1⅞″ long.

34F1003 Type 175-E. **Each** **15.47**

1570-B. Quick-clip speed cutters. Stainless steel replaceable blades. Positive spring action. Heavy-duty contour frames. Blade 1″ long.

46F2594 Type 1570-B. **Each** **7.73**
(20236) (ne11118)

Xcelite® SLIP JOINT PLIERS

Stock No.	Type	Description	1-4	5-9
35F253	76C	6″, Chrome Plated for General Use	10.06	9.66
35F254	78C	8″, Chrome Plated for Heavy Use	12.06	11.58

(20235) (ne11119)

WISS® MULTIPURPOSE LONG CUT COMPOUND ACTION SNIP

NEW

The Wiss® Multimaster™ is great for making long, fast cuts in several types of material including paper, plastic, sheet metal, aluminum, vinyl siding,screening and many others. The long cut of tinner's snips is combined with the strength of compund action. The compound action mutilpies the force of the hand by 5 times. Cuts up to 20-guage steel. Features: non-slip, serrated jaws and non-slip textured grips.

83F4117 Type M300 Multipurpose Long Cut Compound Action Snip. **Each** .. **23.88**
(35985) (ne35985)

TOOLZALL™ PRO MULTIPURPOSE TOOL

TZ1D TZ3 TZ-2

- **Consists of 12 of the Most Popular Tools Available**
- **Built from Stainless Steel for Longer Life**
- **Ideal for the Professional and the Handyman**
- ***Limited Lifetime Warranty***

Type TZ-2 ToolZall™ Pro includes needle-nose/regular pliers, wire cutter, 2 flat-head screwdrivers, Phillips screwdriver, drop-point knife blade, serrated sheep-foot knife blade, metric/English ruler, lanyard ring, metal/wood file, and ballistic sheath. **Type TZ1D** ToolZall™ multi-purpose tool with comfort grip. Tools include: needle nose pliers with wire cutter, 3 flat head screwdrivers, Phillips screwdriver blade, metric/English ruler, awl, can/bottle opener, metal/wood file, knife, and ballistic sheath. **Type TZ3** ToolZall™ Pro XL multi-purpose tool with large plier head, wire cutter, wire crimper, knife blade, large slotted screwdriver, medium slotted screwdriver, and small slotted screwdriver, #1 Phillips screwdriver blade, awl, lanyard, saw, can/bottle opener, metal/wood file, metric/English measures, and ballistic sheath.

16F8991 Type TZ-2. **Each** **62.29**
83F4114 Type TZ1D. **Each** **43.19**
83F4115 Type TZ3. **Each** **70.80**
(6544) (nec9086)

XCELITE® ELECTRICIAN'S KNIFE

Stock No.	Type	Description	Each
35F251	K22	Knife and Screwdriver. Utility Tool	23.06

(20234) (ne11120)

WISS® RETRACTABLE BLADE KNIFE

All purpose knife. Includes blade.

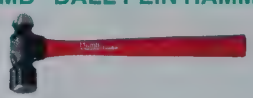
89F3426 Type WK-1V. **Each** **7.90**

REPLACEMENT BLADE

General purpose blade. Fits **WK-1V**, **WK-3V**, and **WK-4V** Wiss® knives.

89F3421 Type RWK-12V. **Each** **6.40**
(20233) (ne11116)

PLUMB® BALL PEIN HAMMERS



Hickory handle. Black ground head. Polished peins and smooth ground cheeks.

Stock No.	Type	Length	Weight	Each
90F7216	11-496	11.25″	8 oz.	17.79
90F7217	11-497	11.25″	12 oz.	18.27
90F7218	11-498	12.75″	16 oz.	19.19

(20232) (ne11121)

CRESCENT® INTERCHANGEABLE BIT SCREWDRIVER AND T-HANDLE DRIVER

NEW

CMB6CDP CMB6TCDP

Type CMB4CDP 4-in-1 screwdriver includes: 3⁄16″ slotted, 9⁄32″ slotted, #1 Phillips, and #2 Phillips.

83F4111 Type CMB4CDP. **Each** **4.72**

Type CMB6CDP 6-in-1 screwdriver includes: 3⁄16″ slotted, 9⁄32″ slotted, #1 Phillips, #2 Phillips, ¼″ nut driver, and 5⁄16″ nut driver.

83F4112 Type CMB6CDP. **Each** **5.12**

T-Handle Driver

Type CMB6TCDP 6-in-1 T-handle driver includes: 3⁄16″ slotted, 9⁄32″ slotted, ¼″ slotted, #1 Phillips, #2 Phillips, and #3 Phillips.

83F4113 Type CMB6TCDP. **Each** **6.71**
(28338) (ne28338)

Xcelite® BOX JOINT PLIERS

BT10CV

Type BT10CV is made of drop-forged chrome vanadium steel for strong loads. Self-gripping jaws are designed for non-slip on round, hexagonal and square work pieces. Seven-position box joint for variable adjustments and work piece sizes. The box joint ensures the tool adjustment does not slip under load. Hand-and-joint design prevents operator's fingers from being squeezed. Plastisol handle improves grip and comfort. Thin jaws allow access to tight work areas.

52F9058 Type BT10CV **Each** **19.63**
(5801) (ne09211)

CRESCENT DURA-PLYERS™

NEW

American-made tool with laminated and riveted construction gives it strength for the toughest jobs. Multi-position jaw has a box joint design for execellent joint engagement. Large double cushioned grips provide comfort and less chance of slippage. Dura-Plyers™ meet ANSI standards for load carrying capabilities.

Stock No.	Type	Description	Each
48F2402	LB8	8″ Laminate Box-Joint Plier	9.58
48F2403	LB10	10″ Laminate Box-Joint Plier	10.78
48F2404	LB12	12″ Laminate Box-Joint Plier	12.60
48F2405	LB810	8″ and 10″ Laminate Box-Joint Plier Set	20.36

(33273) (ne33273)

Crescent® AC ADJUSTABLE WRENCHES

Drop-forged alloy steel and heat-treated for toughness and durability. Tension spring under knurl helps prevent jaw opening from changing adjustment. Regular handle. Polished head. Heavy chromium plating to resist corrosion.

Stock No.	Type	Length	Jaw Opening	1-4	5-9
52F9056	AC16	6″	¾″	16.65	15.98
52F9057	AC18	8″	15⁄16″	17.28	16.59
90F7202	AC-110V	10″	1⅛″	28.59	27.45
90F7203	AC-112V	12″	1 5⁄16″	41.21	39.56

(5703) (de52539)

Xcelite® PLIERS AND SHEARS

59CG 50CG 50-8CV

For extra working comfort all models have permanent, red plastic-coated cushion grip handles. These pliers and cutters are constructed of forged alloy steel, precision machining, and scientific proportioning. Handles are designed to fit the hand comfortably and to provide maximum leverage. Cleanly machined and aligned jaws grip tightly and surely for easy cutting.

CHAIN NOSE PLIERS

Stock No.	Type	Description	1-4	5-9
35F227	59CG	8″ Serrated Jaws Electrician's Pliers	25.79	24.76

SIDE CUTTING PLIERS

90F7210	50-8CV	8″Leverage for Heavy Wire Cutting	31.65	30.38

SHEARS

35F250	86CGBK	6½″ Coil Spring Opens Blades, Close Latch	25.08	24.08

UTILITY PLIERS

35F231	50CG	5″ Midget Slip Joint. Opening Adjusts ½″	16.85	16.17
35F232	53CG	7″ All Purpose. Maximum Opening 1⅛″	13.60	13.06
35F233	R210C(V)	10″ Rib Lock. Maximum Opening 1½″	20.47	19.65

(5697) (de52380)

Xcelite® STAINLESS STEEL "SEIZERS"

Stock No.	Type	Description	1-4	5-9
34F370	42H	6″ Straight Nose Seizer, Serrated Jaws	14.71	14.12
34F371	43H SEIZER	6″ Curved Nose Seizer, Serrated Jaws	14.71	14.12
34F373	32H	5″ Straight Nose Seizer, Smooth Jaws	14.71	14.12

(5699) (de52390)

Lufkin® POWER RETURN TAPES

Chrome-plated case. Triple-rivet, long-lasting end hook. Toggle lock holds blade in position. 3″ base for easy inside measurements. Removable belt clip.

Stock No.	Type	Dimensions	1-4	5-9
50F803	2125	1″x 25′	33.19	31.86
50F1827	2312	¾″x12′	22.83	21.92
50F1828	2316	¾″x16′	28.30	27.16
		HI-VI2 TAPES —ORANGE CASE		
52F9061	HV1316	¾″x16′	14.65	14.06
52F9062	HV1312	¾″x12′	12.37	11.88
52F9063	HV1010	½″x10′	7.88	7.56

(5701) (de52537)

Crescent® SCREWDRIVERS

Type LCC1006 screwdrivers feature industrial strength blades and molded handles. For work on appliances, automobiles, bicycles, lamps and many other general uses. Set contains one of each: 3⁄16″ x 3″ electrician's round, ¼″ x 4″ mechanics round, #1 point x 4″ Phillips, #2 point x 4″ Phillips, 3⁄16″ x 6″ electricians' round and ¼″ x 6″ mechanics' round.

52F9059 Type LCC1006. **Each** **6.84**

Type LCC1010 set includes one of each: 3⁄16″ x 3″, ¼″ x 4″, ¼″ x 6″, #1 x 4″, 3⁄16″ x 6″, ¼″ x 1-½″, ⅛″ x 2″ blades, #1 x 4″, #2 x 1 ½″, #0 x 2″ Phillips.

83F4116 Type LCC1010. **Each** **11.85**
(5802) (ne09212)

Crescent® CTK-11 TOOL KIT

11-tool kit contains: ¼″ x 4″ round shaft blade screwdriver; ⅛″ x 4″ round shaft blade; #1 Phillips x 3″; ¼″ hex nutdriver; #0 Phillips x 2″; 6″ long nose pliers with side cutter; 6″ adjustable wrench; ¼″ x 1¼″ stubby square shaft blade; wire stripper and cutter; ½″ x 10′ metric/English tape rule; 6″ combination pliers.

90F7220 Type CTK-11. **Each** **120.08**
(5700) (de52536)

Crescent® 379K 9-PIECE NUTDRIVER KIT

Solid steel shafts with drilled clearance holes. Precision-machined sockets, bright plated finish. Contoured handles. Includes one each 3⁄16″ black; 7⁄32″ brown; ¼″ red; 9⁄32″ orange; 5⁄16″ amber; 11⁄32″ green; ⅜″ blue; 7⁄16″ brown; ½″ red.

50F1829 Type 379K. **Each** **40.82**
(5702) (de52538)

Crescent® PL4 FOUR-PIECE PLIERS KIT

Drop forged steel with cushion grips. Includes: 7″ lineman's pliers; 5″ diagonal cutting; 6″ slip joint; 6″ needle nose.

89F3412 Type PL-4. **Each** **82.62**
(5704) (de52540)

Nicholson® 4-PIECE FILE PACK

Contains: 8″ mill bastard; 8″ four-in-hand; 6″ slim taper and 6″ round bastard. Plastic pouch.

89F3405 Type 22017. **Each** **29.49**
(5705) (de52541)

Nicholson® 12-PIECE FILE ASSORTMENTS

4″ round handle needle files have knurled handles. Supplied in plastic pouch.

Stock No.	Type	Cut	1-4	5-9	10-24
90F7213	37029	0	162.83	156.32	156.32
90F7214	37035	2	162.83	156.32	156.32

(5706) (de52547)

NEW

Erem® HIGH-PRECISION DIAGONAL CUTTERS

Erem® **N series** diagonal cutters are made with superior-grade steel. Have integrated, unbreakable springs for a constant, free-opening force. Feature ergonomic, ESD-safe cushion grips.

Stock No.	Type	Description	Each
91F2835	612N	4″ Small Oval Head, Semi-Flush	**56.90**
91F2837	622N	4″ Small Oval Head, Full-Flush	**59.01**
83F4083	632N	4″ Small Oval Head, Super Full-Flush	**55.72**
91F2836	512N	5″ Medium Oval head, Semi-Flush	**60.17**
91F2838	522N	5″ Medium Oval Head, Full-Flush	**62.86**
83F4082	532N	5″ Medium Oval Head, Super Full-Flush	**59.14**

(36374) (ne36374)

NEW

2211

Erem® ERGONOMIC CUTTERS AND PLIERS

Have less fatigue since gripping pressure is distributed over the full palm area for less effort. Fingers and thumb self-position to optimize user comfort. Feature internal springs and ESD-safe cushion grips.

Type 2212E is a 5″ universal side cutter, semi-flush with an ergonomic handle.
83F4084 Type 2212E. **Each** **53.16**

Type 2222E is a 5″ universal side cutter, full-flush with an ergonomic handle.
83F4085 Type 2222E. **Each** **53.98**

Type 2232E is a 5″ universal side cutter, super full-flush with an ergonomic handle.
83F4086 Type 2232E. **Each** **54.81**

Type 2211 is a 6½″ very fine needle-nose pliers for microelectronics with an ergonomic handle.
83F4087 Type 2211. **Each** **51.62**

Erem® CARBIDE CUTTER AND MICRO STRIPPER

Type 576TX is a 4″ tungsten carbide cutter for wires in medical electronics manufacturing. Cuts wires up to 0.20mm diameter and axially round or flat wires. Features integrated, unbreakable opening springs and soft, comfortable ESD safe grips. **Type 552S** is a unique high-precision stripping tool for fiber optics. Adjusts to wire sizes 30 to 40 AWG, including stranded wires. Strips any type of insulation, fiber optics, Teflon® and Tefzel®, without scratching the cores.

83F4089 Type 576TX Wire Cutter. **Each** **128.62**
83F4090 Type 552S Micro Stripper. **Each** **111.98**
(36277) (ne36277)

Erem® MICRO TOOL KIT FOR FIBER OPTICS

This versatile kit includes: a **type 552S** stripping tool, **type 646** micro bending/holding plier, **type 2ASA** soft, rounded-tip tweezers, **type 32ASA** 2mm tweezers, **type 599F0** Kevlar® silk cutter, **type 510E** outer plastic insulation stripper, **type 512EF0** side cutter for cutting cable insulations, cable, ribbons, fibers, and Kevlar®.

83F4088 Type V200F0. **Each** **495.40**
(28344) (ne28344)

503E 582E 570E

Erem® TIP CUTTERS

Choose by size, form, and cutting style: semi-flush blade for general use, flush blade for accessibility, super full flush for precision cutting of soft wires.

Stock No.	Type	Description	Blade Length	1-4	5-9
96F9439	503E	4¼″ angled head; oblique nipper; full flush	.394″ (10mm)	**109.06**	**104.70**
96F9418	555E	4¾″ angled tip; full flush	.256″ (6.5mm)	**102.27**	**98.18**
96F9434	570E	4¾″;tapered head for cutting extreme tips; full flush	.157″ (4mm)	**91.61**	**87.95**
96F9413	573E	4½″; vertical tip cutting for fine wires; full flush	.138″ (3.5mm)	**88.74**	**85.19**
96F9429	575E	4¼″ miniature cutter for delicate work; full flush	.157″ (4mm)	**89.94**	**86.34**
96F9433	582E	4½″; ideal for working on PCBs, cutting component leads operates at 90° or 180°; full flush	.276″ (7mm)	**73.70**	**70.76**

(5754) (ne04370)

543, 547 593-AE

Erem® PLIERS AND IC TOOLS

PLIERS

Stock No.	Type	Description	Jaw Length	1-4	5-9
96F9449	543	4¾″; round nose with smooth, fine jaws	0.906″ (23)	**79.70**	**76.51**
96F9448	547	4¾″; needle nose with smooth jaws	0.906″ (23)	**77.27**	**74.18**
52F6595	2111P	5½″; fine tip for smd and micro electronics		**48.80**	**46.85**
96F9454	2142	5¾″; precision long, flat tips; conductive handles	1.26″ (32)	**45.37**	**43.56**
96F9455	E2142	Ergonomic version of **type 2142-CP**	1.26″ (32)	**49.45**	**47.47**

IC TOOLS

96F9447	505C	For 14-16 pins; width: 0.300″	...	**138.98**	**133.42**
96F9442	593AE	4¾″; cuts DIP leads from rear; cuts pins on dense PCBs; angled tip; full flush	0.787″ (20)	**106.07**	**101.83**

(5755) (ne04372)

1500B

1549E 1599E

Erem® PNEUMATIC CUTTERS

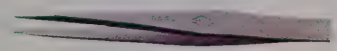
Type 1500B is a small precision pneumatic cutter hand piece for cutting conventional components and ductile or plastic parts. Choose from a variety of cutters. *Order cutters separately below.*

Stock No.	Type	Description	1-4	5-9
52F6585	1500B	Small Precision Pneumatic Cutter for Cutting Conventional Components	**335.63**	**323.43**
52F6586	1503E	Angled Head; Oblique Nipper; sf; Fits **Type 1500B** 4¼″	**159.21**	**152.84**
52F6587	1512E	Side Cutter for Tough Cutting; sf; Fits **Type 1500B** 4½″	**166.44**	**159.78**
52F6588	1530E	Transverse Anti-Shock Shear Cutter; Cut-off 0.040; Fits **Type 1500B** 4¾″	**168.67**	**161.93**
52F6589	1549E	Oblique End Shear Cutter, Cut off at 0.040; Fits **Type 1500B** 4½″	**183.42**	**176.08**
52F6590	1576E	Side Cutter for Fine Wires; ff; Fits **Type 1500B** 4″	**147.44**	**141.54**
52F6591	1582E	Tips Cutter; 45°; Cutting Component Leads on PCBs; Fits **Type 1500B** 4½″	**150.90**	**144.87**
52F6592	1595E	Side Cutter; Straight Head; ff; Fits **Type 1500B** 4¼″	**137.97**	**132.45**
52F6593	1597E	Side Cutter for Soft and Small Hard Wires; sf; Fits **Type 1500B** 4½″	**150.90**	**144.87**
52F6594	1599E	Side Cutter; ff; Fits **Type 1500B** 4¼″	**148.15**	**142.23**
91F2839	2697EPC	Cutter for Cutting Apart PCB Board Attachments	**159.75**	**153.36**

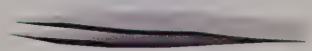
sf=semi-flush; ff=full-flush
(5758) (ne07200)

TWEEZERS

Erem®
FINE TIP ITALIAN TWEEZERS



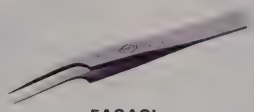
AA-SA
EROPAASA



OO-SA
EROPOOSA

OC-SA

3SASL
EROP3SA



5ASASL
5A-SA
EROP5ASA

7SASL
EROP7SA

5SASL
5-SA
EROP5SA

Stock No.	Type	Description	Size	Each
52F9065	1SASL	General Purpose, Fine Points	4½″	11.82
52F9066	3SASL	For Micro Electronics, Fine Points	4¼″	10.62
52F9067	4SA	Very Fine Points	4½″	27.32
52F9068	5ASASL	Very Fine, Die Attaching	4½″	14.39
52F9069	5SASL	Super Fine Points. Handing Very Fine Wires, Miniature Components.	4½″	12.77
52F9070	7SASL	Curved for Easy Manipulation in Confined Areas	4½″	14.15
52F9071	ACSASL	For Precision Bending and Handing, Serrated Grip	4¼″	14.08
52F9072	SSSASL	Narrow Handles. Low Tension. Extra Long for Use Near Heat	5½″	9.69

SWISS HIGH-PRECISION, FINE-TIP TWEEZERS

Stock No.	Type	Description	Size	Each
96F9427	AA	Nickel-Plated; for electronics assembly	4¾″	12.46
96F9421	AA-SA	Fine, but Strong Points	4¾″	14.63
96F9437	AC-SA	For Precision Bending and Handling; Serrated Grip	4¼″	22.50
96F9426	OO-SA	Flat Inside Edges; Resistant; For Electronics Assembly	4¾″	18.51
96F9432	OC-SA	Smaller Version of **OO-SA**; for Small, General Purpose Work	4¼″	14.39
96F9431	OOD-SA	Same as **OO-SA** Plus Interior and Exterior Serrations; Carbon Steel	4½″	21.13
96F9443	RR	Large, Very Strong, Stainless Steel	5½″	17.55
96F9423	2A-SA	Flat, Round Points	4½″	21.27
96F9446	3C-SA	Excellent for Microelectronics	4¼″	18.14
96F9428	5-SA	Fine Points, Special Shaping for Very Small Wires and Components	4½″	31.23
96F9451	5A-SA	Very Fine, for Die Attaching	4½″	30.45
96F9419	7	Curved for Easy Manipulation in Confined Areas	4½″	3.87
96F9440	15A-SW	Cutting Tweezers, Oblique Head, for Small Wires; Max. Diameter: 0.0098″ (0.25mm)	4½″	35.27
96F9438	249-SA	Synthetic Tips, Good Acid and Heat Resistance (250°C); 16W sq. cm; serrated	5″	48.32

(19347)

Erem®
EROP TWEEZERS

Stock No.	Type	Description	Description	Each
48F2388	DG2C-B1RA	Tweezer, Fine Pt., Anti Mag.	4 ¾″	5.64
48F2389	EROP2ASA	Tweezer, Broad Tip, Anti Mag.	4 ½″	5.60
48F2390	EROP3CSA	Tweezer, Ultra Fine Pt., Short, Anti Mag.	4 ½″	5.64
48F2391	EROP3SA	Tweezer, Ultra Fine Pt., Anti Mag.	4 ½″	5.64
48F2392	EROP4SA	Tweezer, Micro Fine Pt., Anti Mag.	4 ½″	5.64
48F2393	EROP5ASA	Tweezer, Micro Fine Pt., Anti Mag.	4 ½″	5.64
48F2394	EROP5SA	Tweezer, Micro Fine Pt., Anti Mag.	4 ½″	5.64
48F2395	EROP7SA	Tweezer, Micro Fine Pt., Anti Mag.	4 ½″	5.64
48F2396	EROPAASA	Tweezer, Gen. Use, Straight Pt., Anti Mag.	4 ¾″	5.60
48F2397	EROPACSA	Tweezer, Gen. Use, Short, Straight Pt., Anti Mag.	4 ¼″	6.69
48F2398	EROPMMSA	Tweezer, Gen. Use, Long, Straight Pt., Anti Mag.	5″	5.60
48F2399	EROPSSSA	Tweezer, Extra Long, Ultra Fine Pt., Anti Mag.	5 ½″	5.60

(34094)

NEWARK MAKES IT EASY.

MORE PAYMENT OPTIONS! USE YOUR MAJOR CREDIT CARD, CORPORATE PURCHASING CARD, PUT IT ON YOUR ACCOUNT, OR PLACE A C.O.D. ORDER.

PRECISION CUTTERS AND PLIERS

DIAGONAL CUTTING PLIERS

MS54 MS549J GA54J

These cutting pliers are constructed of forged alloy steel, precision machining and scientific proportioning. Handles are designed to fit the hand comfortably and to provide maximum leverage. Cleanly machined and aligned jaw grip tightly and securely for easy cutting. Featured in both cushion and puffy grip.

OVAL HEAD

Stock No.	Type	Description	1-4	5-9
52F9064	MS54	4″; General Purpose, Semi Flush	15.12	14.51
52F9047	MS54J	4″; General Use, Flush	17.03	16.35
35F219	54CG	4″; For Close Areas	19.64	18.85
35F238	64CG	4″; For Fine Wires, Semi Flush	24.89	23.90
52F5680	S54S	4½″; Heavy Duty Cutting, Puffy Grip	17.13	16.45
35F220	55CG	5″ For Most Cutting Applications	20.04	19.24
35F221	66CG	6″; Heavy Duty Cutting	21.02	20.18

TAPERED HEAD; FLUSH CUT

52F9049	MS549J	4″; For Restricted Areas	16.66	15.99
96F8873	S47-5CJS	5″; For Restricted Areas	17.26	16.57

RELIEVED TAPERED HEAD; FLUSH CUT

52F9050	MS543J	4″; For Use Between Closely Spaced Components	17.18	16.49

SLIM LINE TAPERED HEAD

96F8895	MS545	4″; Semi Flush	16.14	15.49

RELIEVED HEAD; FLUSH CUT

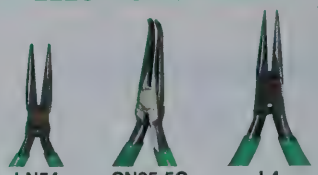
96F8897	S42-4JS	4″; For Use in Limited Access Areas	21.97	21.10

END CUTTERS

52F9051	GA54J	4″; For Cutting Directly Above Work; Flush	27.01	25.92
52F9052	EC54J	4½″; For Vertical Cutting in Tight Spaces	20.41	19.59

(5984) (ne09214)

ELECTRONIC PLIERS



LN54 CN25-5C L4

These small, lightweight pliers are designed for holding, bending and cutting fine wires in electronics, radio, TV, electrical and jewelry work. Featured in both cushion grip and puffy grips, coil spring and polished head.

THIN LONG NOSE

Stock No.	Type	Description	1-4	5-9
52F9053	LN54	5″; General Purpose, Serrated Jaws	16.54	15.87
52F9054	LN54-G	5″; General Purpose, Smooth Jaws	16.66	15.99
96F8881	LN55C	5½″; General Purpose, Fine Serrated Jaws	17.54	16.84
96F8883	LN775512	5½″; General Purpose, Serrated	19.33	18.56
35F230	57CG	5 1/16″; Standard Plier	21.76	20.89
96F8884	NN54G	5″; Needle Nose, Smooth Jaws	19.59	18.81
96F8889	NN7776	6″; Needle Nose, Serrated	18.55	17.80

LONG NOSE SIDE CUTTING

52F9055	SN55	5½″; General Wire Applications	18.56	17.82
35F224	51CG	6″; Firm Gripping and Looping Wire	20.82	19.99

WIRE PLIERS WITH TIP CUTTER

96F8872	TC55C	5½″; For Cutting and Forming Wire	23.52	22.57

CURVED LONG NOSE PLIER WITH SMOOTH JAWS

52F9039	CN54-G	5″; Curved 60 deg.; For Confined Areas	18.58	17.84
52F9040	CN55-G	5½″; Curved 45 deg.; For Confined Areas	22.06	21.18
96F8679	CN25-5C	5″; Curved Thin Tip	21.47	20.61

ROUND NOSE PLIERS

96F8892	RN54	4½″ Round Nose	17.76	17.05

FLAT NOSE PLIERS

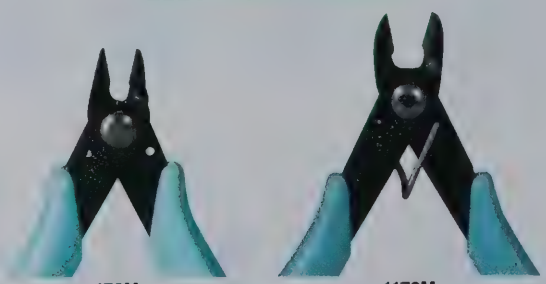
96F8891	DN54G	5″; Holding and Forming Wire and Small Parts	15.12	14.51

MINIATURE NEEDLE NOSE

96F8887	L4	4″; For Fine Wire; Serrated Jaws	15.06	14.45

(5985) (ne09215)

ELECTRONIC SHEARS



170M 170D 1178M 2178M

Carbon steel flush cutting shears with easy-grip molded blue handles. Designed to cut with less effort. 5″ models flush cut soft wire up to 20 AWG. 6″ models flush cut wire up to 14 AWG. **Types 175M** and **2178M** feature Klip-Grip to help prevent flying leads.

Stock No.	Type	Description	1-4	5-9
50F172	170M (B)	5″ For General Use	6.10	5.86
50F4002	175M	5″ w/Klip-Grip	7.48	7.18
96F8902	1178M	6″ Heavy Duty	10.98	10.54
50F4003	2178M	6″ w/Klip-Grip	13.11	12.58

ELECTROSTATIC DISSIPATIVE (ESD) ELECTRONIC SHEARS

Same as above but with ESD grips.

92F6157	170D	5″ For General Use ESD	13.49	12.95
52F5705	175-D	5″ w/Klip-Grip	14.93	14.34
96F8900	1178D	6″ Heavy-Duty ESD	17.63	16.92
66F2965	2178D	6″ w/Klip-Grip ESD	18.11	17.39

(5990) (ne52384)

ESD SAFE ELECTRONIC PLIERS

378M 378D

Long nose 5.5″ pliers available in regular smooth or serrated jaw (easy-grip molded blue handles) and ESD smooth or serrated jaw (easy-grip molded black handles).

Stock No.	Type	Description	1-4	5-9
50F4005	378SMM	Smooth Jaw	10.35	9.94
96F8901	378SMD	Smooth Jaw, ESD	14.93	14.34
96F8903	378M	Serrated Jaw	10.05	9.65
96F8904	378D	Serrated Jaw, ESD	14.93	14.34

(5991) (ne52385)

ESD-SAFE ELECTRONIC PLIERS

5.5″ long-nose pliers with serrated jaws and 5″ flush-cutting shears have easy-grip, molded blue handles. Cutting shears are made from carbon steel and are designed to cut soft wire up to 20 AWG with less effort.

83F4093 Type S2K. **Each** 15.24

(33271) (ne33271)

NEWARK SAVES YOU TIME.
A SIMPLE PHONE CALL CAN GET YOU OVERNIGHT DELIVERY ANYTIME, ANYWHERE.

Xcelite®

SCREWDRIVERS

SLOTTED SCREWDRIVERS

Stubby

Square Blade

Blades are AISI 6150 chrome vanadium steel finished in bright nickel chrome with amber plastic handles (*) with pocket clip. (†) stubby handles.

SQUARE BLADES

Stock No.	Type	Blade Size	1-4	5-9
34F276	S-141†	1/4″ × 1 1/4″	5.10	4.89
34F203	S-3163	3/16″ × 3″	4.77	4.58
34F204	S-3164	3/16″ × 4″	5.33	5.12
34F205	S-3166	3/16″ × 6″	5.88	5.64
34F206	S-3168	3/16″ × 8″	6.71	6.44
34F209	S-144	1/4″ × 4″	7.07	6.79
34F210	S-146	1/4″ × 6″	7.33	7.04
35F1426	S-5164	5/16″ × 4″	7.15	6.86
34F213	S-5166	5/16″ × 6″	9.57	9.18
34F217	S-388	3/8″ × 8″	10.57	10.15
34F275	S-3161†	3/16″ × 1 1/4″	3.73	3.58
34F211	S-148	1/4″ × 8″	7.70	7.40
34F214	S-5168	5/16″ × 8″	9.94	9.54
34F218	S-3812	3/8″ × 12″	13.45	12.92

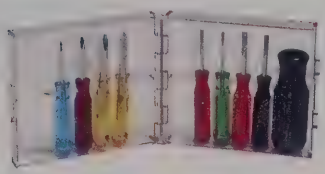
ROUND BLADES

34F250	R-3322*	3/32″ × 2″	2.35	2.26
34F251	R-3323*	3/32″ × 3″	2.60	2.50
34F252	R-3324*	3/32″ × 4″	2.76	2.65
34F254	R-182	1/8″ × 2″	2.76	2.65
34F253	R-183*	1/8″ × 3″	2.76	2.65
34F255	R-184	1/8″ × 4″	3.61	3.46
34F256	R-186	1/8″ × 6″	3.88	3.72
34F257	R-188	1/8″ × 8″	4.20	4.03
34F258	R-1810	1/8″ × 10″	4.59	4.40
34F259	R-5323	5/32″ × 3″	3.38	3.25
34F260	R-5324	5/32″ × 4″	3.38	3.25
34F261	R-5325	5/32″ × 5″	3.72	3.57
34F263	R-3163	3/16″ × 3″	4.51	4.33
34F264	R-3164	3/16″ × 4″	5.21	5.00
34F265	R-3166	3/16″ × 6″	5.67	5.44
34F266	R-3168	3/16″ × 8″	6.10	5.86
34F267	R-31610	3/16″ × 10″	7.01	6.73
34F269	R-144	1/4″ × 4″	5.97	5.73
34F270	R-146	1/4″ × 6″	6.66	6.39
34F271	R-148	1/4″ × 8″	7.26	6.97
34F272	R-1410	1/4″ × 10″	7.64	7.34
34F273	R-5166	5/16″ × 6″	7.37	7.07
34F274	R-5168	5/16″ × 8″	8.16	7.84
34F277	R-181*	1/8″ × 2″	2.26	2.17

(5727) (de52927)

SCREWDRIVER SETS

XL-70



PS-88

XL-75 M-60

Type XL70. 19-piece midget reversible ratchet screwdriver set. Ideal for all work involving Allen hex head type, Phillips and slotted screws. Driver bits 1/4″ hex shank. Allen hex sizes: 0.050, 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4, 5/16″. Phillips screw bits: #1, #2, 3/16″, 1/4″ slotted screw bit. Adapter bit, reversible ratchet, spinner-extension and plastic case. Hot drop forged cutlery steel.

Stock No.	Type	1-4
35F200	XL-70	70.56

Type XL-75. 5-piece offset ratchet screwdriver set. 3/16″ and 1/4″ slotted screw bits. #1 and #2 Phillips screw bits. Reversible ratchet. 1/4″ hex shank on driver bits. Plastic pouch. Hot drop forged cutlery steel.

Stock No.	Type	1-4
35F1436	XL-75	21.84

Types PS-88 and **M-60** compact midget screwdriver sets come with "piggyback" torque amplifier handle **TA2** that slips over drivers for better gripping. **PS-88** has 3 Phillips and 5 slotted drivers with blade diameters from 3/32″ to 1/4″. **M-60** consists of 5 jeweler's blades and 1 Phillips blade for detailed work.

34F375 Type PS-88. **Each** **29.76**
35F206 Type M-60. **Each** **14.39**
(5731) (de52931)

CORDLESS DRIVER KIT

NEW

Ideal for driving and removing all types of fasteners. Includes driver, 3.6V NiCad battery, charger, 1 slotted bit, 2 Phillips bits, and a 99PA adapter for **99® series** bits. **Type XP1B** 3.6V NiCad battery sold separately.

83F4091 Type XP1 Cordless Driver Kit. **Each** . **139.31**
83F4092 Type XP1B 3.6V NiCad Bty. **Each** **31.39**
(28342) (ne28342)

TOOL KIT FOR CORDLESS SCREWDRIVERS

Type 99-PA-50. 12-piece tool kit for use with cordless rechargeable screwdrivers features **99 Series** screwdrivers and nutdrivers. Includes cordless screwdriver adapter and pouch.

TYPE 99-PA-50 KIT CONTAINS:

(1) 3/16″ Stubby Nutdriver
(1) 7/32″ Stubby Nutdriver
(1) 1/4″ Stubby Nutdriver
(1) 9/32″ Stubby Nutdriver
(1) 5/16″ Stubby Nutdriver
(1) 11/32″ Stubby Nutdriver
(1) 3/8″ Stubby Nutdriver
(1) 3/16″ Stubby Slotted Screwdriver
(1) 1/4″ Stubby Slotted Screwdriver
(1) #1 Stubby Phillips Screwdriver
(1) 2 Stubby Phillips Screwdriver
(1) Cordless Screwdriver Adapter

50F1844 Type 99PA50. **Each** **24.0**
(5734) (de52

DUAL-PURPOSE DRIVERS

Reversible blades. **Type CR1** is for 3/16″ and No. 1 Phillips screws. **CR2** 1/4″ and No. 2 Phillips.

Stock No.	Type	Length	1-4	5-9
34F298	CR-1	7 1/4″	10.25	9.84
34F299	CR-2	7 1/4″	10.25	9.84

(5729) (de52929)

4-WAY POCKET TOOL

Type 600. Double-sided handle serves both as two-size nutdriver (7/16″ and 1/4″) and screwdriver (special **SB1** blade fits slotted or Phillips head screws.) Especially handy for removing backs of TV sets and installing antennas.

35F1421 Type 600. **Each** **10.80**
(5733) (de52933)

TORX® SCREWDRIVERS

Stock No.	Type	Blade Length	Tip Size	1-4	5-9
33F1800	XTD-10	3″	T-10	5.11	4.90
33F1801	XTD-15	3″	T-15	5.11	4.90
33F1802	XTD-20	3″	T-20	5.11	4.90
33F1803	XTD-25	3″	T-25	5.11	4.90
33F1804	XTD-27	4 1/2″	T-27	5.67	5.44
33F1805	XTD-30	4 1/2″	T-30	5.67	5.44
TAMPER PROOF TORX®					
52F9043	XTD-8TP	4″	T-8	5.82	5.58
52F9045	XTD-15TP	4″	T-15	5.82	5.58

(5730) (de52930)

SCREWDRIVER SETS

SDX-22 CK23

Type SDR-11. 5 round blade slotted screwdrivers: 1/8″, 5/32″, 3/16″, 1/4″, 5/16″. Plastic case.

46F2586 Type SDR-11. **Each** 25.63

Type SDS-44. 5 square-blade slotted screwdrivers, sizes 1/4″ stubby and 3/16″, 1/4″, 5/16″, 3/8″ regular. Clear plastic case

46F2587 Type SDS-44. **Each** **37.62**

CK3 or **CK23. Type 25** handle with 3 reversible blades: #1, 2 and 3 Phillips and 3/16″, 1/4″ and 5/16″ slotted blades.

Type CK3. Pocket roll-up case.
46F2591 Type CK-3. **Each** 22.31

Type CK23. Clear plastic case.
35F1424 Type CK-23. **Each** 22.31

Type SDX-22. 5 Phillips screwdrivers: #0, #1, #2, #3 regular, and #2 stubby. Clear plastic case.

46F2590 Type SDX22. **Each** **27.87**
(5732) (de52932)

Xcelite®

STRIPPERS AND CUTTERS

COAXIAL WIRE STRIPPERS

Strip cable in two or three steps by revolving the closed cassette around the cable. Remove dielectric, braid and outside insulation simultaneously or separately. Note: 3-step models are not recommended for cable with hollow (RG 62) or foam dielectrics; 2-step model should be used instead. **CSK series** full kits come with four V-blocks to handle cable sizes from 0.10-0.30″ (2.54 - 7.62) (RG 178 to RG6). Along with cassette indicated, include hex wrench to adjust cable size and instructions for most applications. **CS series** pre-adjusted models are designed for cables 0.19-0.25″ (4.83 - 6.35) (2-step: RG 58, 59, 62; 3-step: RG 58 and 59 only). Come with hex wrench to adjust to other size cables. *Order replacement cassettes below.*

CS SERIES PRE-ADJUSTED MODELS

2 STEP

Stock No.	Type	Cassette Type/Color	Blade Spacing	Each
46F4195	2CS5962-R	2C-R/Red	0.240″ (6.10)	**69.27**
46F4193	2CS5962-B	2C-B/Blue	0.270″ (6.86)	**69.27**
46F4197	2CS5962-Y	2C-Y/Yellow	0.470″ (11.94)	**69.27**
		3-STEP		
46F4199	3CS5859-GN	3C-GN/Green	0.235″ (5.97)	**73.92**
89F296	3CS5859-BR	3C-BR/Brown	0.328″ (8.33)	**73.92**

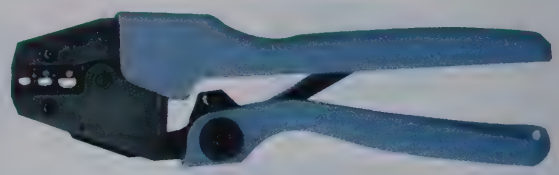
CSK SERIES FULL KITS

2-STEP

46F4184	2CSK-R	2C-R Red	0.240″ (6.10)	**76.60**
46F4185	2-CSK-B	2C-B Blue	0.270″ (6.86)	**76.60**
46F4186	2-CSK-Y	2C-Y Yellow	0.470″ (11.94)	**76.60**
		3-STEP		
46F4187	3CSK-GN	3C-GN Green	0.235″ (5.97)	**81.38**

(5709) (de52554)

ERGONOMIC CRIMPERS



ECP100

Type EC000 ErgoCrimp® ergonomic crimper features a patented design for greater mechanical gain. The benefit of increased mechanical gain is significantly lower handle force, which results in elevated productivity and fewer work-related injuries, such as carpal tunnel syndrome. **Type ECP000** ErgoCrimp Plus® is the same, with 12-20% greater mechanical gain than **type EC000**. ErgoCrimp® and ErgoCrimp Plus® are available in the following frame/die set combinations:

Stock No.	Type	Description	Each
92F2617	ECP100	ECP000 Frame & D-100 Die Set for 22-100 AWG Red, Blue, Yellow Insulated Terminals	**172.19**
92F2618	EC102	EC000 Frame & D-102 Die Set for RG58, RG59/62 AU BNC/TNC Coaxial Connectors	**157.19**
92F2619	EC108	EC000 Frame & D-108 Die Set for 30-20 AWG Open-Barrel and D-Sub Contacts	**157.19**
92F2620	ECK1T	Crimping Tool Kit Includes EC000-D102/RG58-59, 3CS Coaxial Wirestripper, ESP-4 lamp Cutters, 20 pc. Amphenol Quick-Crimp BNC Connectors, Plastic Case	**323.54**

(5651) (de04094)

BNC TERMINATION KIT

Kit contains **MIC-Series** coax crimping tools, **type 3CS** coaxial wirestripper, and **type ESP-4** cable cutter, all in a plastic case. Plus, 20 pieces Amphenol Quick-Crimp BNC connectors.

Stock No.	Type	Description	Each
46F4191	5859KC	RG 58 and 59 BNC Kit.	**324.33**

(5708) (de52552)

CABLE WIRE STRIPPING TOOL

Type 2CSK-CATV does cutting and stripping in one operation. Ideal for the cable TV installer, homeowner or hobbyist. Prepares RG59 or RG6 CATV coaxial cable for CATV "F" connectors. Replaceable cassette cutter lasts for 1,000 to 2,000 strips. Comes with built-in belt clip and wire strip gauge.

66F9481 Type 2CSK-CATV. **Each** **9.54**
(5757) (ne06225)

COAXIAL CRIMPERS

MAC-8259 crimps BNC/TNC coaxial connectors for both Belden 8281 and RG 59 coaxial cables. Ideal for audio, video and broadcast applications. 50,000 cycle guaranteed life span.

50F1816 Type MAC-8259. **Each** **158.01**
(5710) (de52555)

FLAT CABLE CUTTER

Cuts across all conductors up to 64 positions. Built-in guide for square cuts. Aluminum inlay in anvil eliminates need for anvil replacement. Single-piece solid blade. Length of cut: 3.2″ (81.28). Overall length: 10″ (254.00). Cuts undercarpet electrical cable up to 4 positions.

46F4182 Type 64-FCC. **Each** **138.22**
(5707) (de52551)

MAXI-CRIMPERS

Mechanical crimping tools have straight jaws. Handle spread at gripping points: 4½″. **Type MAC-2210** crimps insulated terminals 22-10 AWG.

Stock No.	Type	Description	Each
46F4190	MAC-2210	Insulated Terminals 22-10 AWG	**119.05**

(5711) (de52556)

ADJUSTABLE WIRE STRIPPERS

100-X, 101-S

103-S

Cushion grips. Cut two strips both solid and stranded wire.

Stock No.	Type	Description	Each
35F246	100-X	Adjustable Screw Stop	**7.94**
35F247	101-S	Spring Handles	**10.14**
35F248	103-S	Cam Stop Adjustable	**12.36**

(5698) (de52386)

HARD WIRE CUTTERS

Types 134CG and **134CGV** are made from hardened steel and are ideal for cutting spring or hardened wire. Shear cutting action for square cuts. Patented hold-down mechanism captures wire on both sides of the cut. Cuts up to 0.062″ music wire and 1/16″ stranded wire.

66F7823 Type 134CG. **Each** **38.74**
(5756) (ne06224)

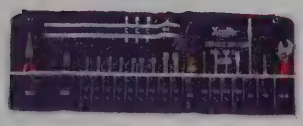
Xcelite®

HAND TOOLS AND SETS

99 SERIES TOOL SERVICE KITS

99SMW

99MP



99SM

99SMX

99 Series screwdrivers, nutdrivers, blades and handles are all interchangeable. Handles feature spring devices which hold blades firmly and permit quick, easy insertion.

Type 99SMW 26-piece kits contain: 1 **Type WP25** soldering iron, ⅛″ screwdriver, regular screwdriver handle, stubby screwdriver handle, 9 regular nutdrivers, 3 stubby nutdrivers. 2 slotted screwdrivers, 2 phillips screwdrivers, reamer, extension, long nose 6″ pliers, 5″ diagonal pliers, 6″ adjustable wrench and wire stripper/cutter.

34F1005 Type 99-SMW (Canvas Case). **Each** **215.89**

Types 99MP or **99MPX** 39-piece multi-purpose kits contain: regular screwdriver handle, Tee screwdriver handle, ¼″ magnetic nutdriver, 9 regular nutdrivers, 9 Allen hex screwdrivers, 9 Bristol multi-spline screwdrivers, 4 slotted screwdrivers, 3 phillips screwdrivers, reamer and extension.

34F223 Type 99MP (Plastic Case). **Each**..... **191.18**

Type 99SM or **99SMX** 23-piece kits contain: regular screwdriver handle, stubby screwdriver handle, 9 regular nutdrivers, 3 stubby nutdrivers. 2 slotted screwdrivers, 2 phillips screwdrivers, reamer, extension, long nose 6″ pliers, 5″ diagonal pliers, 6″ adjustable wrench and wire stripper/cutter.

34F388 Type 99 SM (Canvas Case). **Each** **164.82**
87F714 Type 99SMX (Hard Case). **Each**..... **164.82**

Type 99PS-60 11-piece Bristol multiple-spline socket screwdriver set. Contains handle, extension and 9 4″ 6-flute Bristol blades: 0.048″, 0.060″, 0.069″ (4-flute), 0.072″, 0.076″ (4-flute), 0.096″, 0.111″, 0.145″, 0.183″, clear plastic case.

34F340 Type 99-PS-60. **Each** **46.32**
(5735) (de53100)

TOOL KITS AND CASES FOR TECHNICIANS, SERVICEMEN AND FIELD ENGINEERS

TCS-100/ST

TCA-100/ST

86-piece kits contain 53 tools—including pliers, wrenches, snips, screw and nutdrivers—plus 31 **Series 99** interchangeable screw and nutdrivers, reamers, handles and two sets of specialized screw and nutdrivers.

Tools are mounted in pockets on removable vinyl-covered pallets and trays. Cases provide room for additional tools, parts and literature. **Type TC** cases are attractive durable brown Marvelon vinyl featuring solid brass hardware plus padded handle with anodized aluminum divider in bottom. **Type TCA** cases are high-tech aluminum with keyless combination lock and chrome-plated latches. Tightly seal out dirt and water. **Type CS** cases are soft-sided leather Cordura with dual heavy duty zippers, leather wrapped handles and three pockets.

35F216 Type TC-100/MT. Marvelon Case Only. **Each**..... **273.55**
50F1837 Type TCA100/ST. Aluminum Kit. **Each** **904.48**
50F1842 Type TCS100/ST. Cordura Kit. **Each** **686.76**
50F1838 Type TCA150/ST. Aluminum Kit. **Each** **705.30**
(5736) (de53101)

XCELITE® 8-IN-1 INTERCHANGEABLE BIT SCREWDRIVER

NEW

Includes: 3⁄16″ slotted, 9⁄32″ slotted, #1 Phillips, #2 Phillips, T15 Torx®, T20 Torx®, #1 square socket, #2 square socket bits.

83F4094 Type 8SD1DP. **Each** **8.72**
(42870) (ne42870)

99 SERIES INTERCHANGEABLE BLADES, SHANKS & HANDLES

99-1

99-4-R

INTERCHANGEABLE HANDLES

Stock No.	Type	Description	1-4	5-9
34F398	99-1	1 3⁄16 Dia. x 4⅛″ L Amber Handle	4.55	4.37
35F3111	99-3	1 3⁄16″ Dia. x 2″ L Stubby Amber Handle	4.35	4.18
33F1150	99-1-R HANDLE	1 3⁄16″ Dia. x 5¼″ L Reversible Ratchet	27.49	26.39
33F1151	994RHANDLE	3½″ Dia. x 2″ L Tee Reversible Ratchet	30.74	29.51

INTERCHANGEABLE NUTDRIVER SHANKS

Stock No.	Type	Dia.	Length	1-4	5-9
35F3112	99-6	3⁄16″	3 5⁄8″	4.35	4.18
35F3113	99-7	7⁄32″	3 5⁄8″	4.35	4.18
35F3114	99-8	¼″	3 5⁄8″	4.35	4.18
35F3117	99-10	5⁄16″	3 5⁄8″	4.35	4.18
35F3119	99-11	11⁄32″	3 5⁄8″	4.54	4.36
35F3120	99-12	3⁄8″	3 5⁄8″	4.54	4.36
35F3122	99-14	7⁄16″	4″	5.80	5.57
35F3123	99-16	½″	4″	5.80	5.57

INTERCHANGEABLE ALLEN HEX SOCKET TYPE SCREWDRIVER BLADES

35F3124	99-20	.050″	4″	3.88	3.72
35F3125	99-21	1⁄16″	4″	3.88	3.72
35F3126	99-22	5⁄64″	4″	3.88	3.72
35F3127	99-23	3⁄32″	4″	3.88	3.72
35F3128	99-764	7⁄64″	4″	3.88	3.72
35F3129	99-24	⅛″	4″	3.88	3.72
35F3130	99-964	9⁄64″	4″	3.88	3.72
35F3131	99-25	5⁄32″	4″	3.88	3.72
35F3132	99-26	3⁄16″	4″	3.88	3.72

INTERCHANGEABLE REAMER

35F3133	99-38	⅛″ x ⅜″	4″	11.11	10.66

INTERCHANGEABLE SLOTTED SCREWDRIVER BLADES

35F3135	99-250	¼″	4″	4.35	4.18
35F3136	99-811	3⁄16″	4″	4.35	4.18

INTERCHANGEABLE PHILLIPS SCREWDRIVER BLADES

35F3137	99-821	#1	4″	4.35	4.18
35F3138	99-822	#2	4″	4.35	4.18

INTERCHANGEABLE EXTENSIONS

35F3139	99-X5	4″	4″	5.93	5.69
35F3140	99-X10	7″	7″	6.44	6.18

(5737) (de53102)

FIXED HANDLE NUTDRIVERS

Type 14, HS-14

Type 11, HS-11

FIXED HANDLE HOLLOW SHAFT NUTDRIVERS

Ideal for use where nuts must be installed or removed over protruding bolts. Finely tempered and finished steel.

Stock No.	Type	Nut Size	Handle	1-4	5-9
34F318	HS-6	3⁄16″	Black	5.74	5.51
34F319	HS-8	¼″	Red	5.74	5.51
34F320	HS-10	5⁄16″	Amber	5.74	5.51
34F321	HS-11	11⁄32″	Green	6.10	5.86
34F322	HS-12	3⁄8″	Blue	6.10	5.86
34F323	HS-14	7⁄16″	Brown	7.85	7.54
34F324	HS-16	½″	Red	7.85	7.54

FIXED HANDLE DRILLED SHAFT NUTDRIVERS

Most popular sizes. 6″ long.

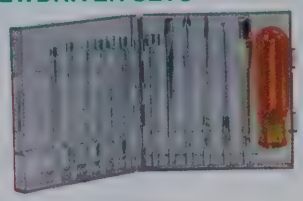
34F300	6 XCEL NUT DRI	3⁄16″	Black	4.40	4.22
34F301	7	7⁄32″	Brown	5.06	4.86

(5738) (de53104)

TOOL KITS AND SCREWDRIVERS

NUTDRIVER/SCREWDRIVER SETS

99PR



99PS-50

Type PS130 nutdriver and screwdriver set contains 5 color-coded plastic-handle nutdriver shafts, sizes 3⁄16″, 1⁄4″, 5⁄16″, 11⁄32″, 3⁄8″. Has torque amplifier handle. Also 5 color-coded plastic handle screwdrivers, sizes #1 Phillips, #2 Phillips, 1⁄8″, 3⁄16″, 1⁄4″ slotted. In clear, hard plastic stand-up case.

35F207 Type PS-130. **Each** **38.83**

Type 99PS-50 screwdriver and nutdriver set contains one regular handle; one extension; seven regular nutdrivers, sizes 3⁄16″, 7⁄32″, 1⁄4″, 9⁄32″, 5⁄16″, 11⁄32″, 3⁄8″; two slotted screwdriver shafts, sizes 3⁄16″, 1⁄4″; and two Phillips screwdriver shafts, sizes #1, #2. In clear, hard plastic stand-up case.

34F341 Type 99-PS-50. **Each** **58.45**

Type 99PR kit contains handle, 3⁄16″, 7⁄32″, 1⁄4″, 9⁄32″, 5⁄16″, 11⁄32″, 3⁄8″, 7⁄16″, 1⁄2″ nutdrivers, 3⁄16″, 1⁄4″ slotted screwdrivers #1 and #2 point Phillips in a roll up pouch.

34F395 Type 99PR. **Each** **74.82**
(5740) (de53148)

METRIC-SIZE HAND TOOL SETS

99PS51MM

PS121MM

Type 4-13MM is a 10-piece set of metric-size, plastic-handle nutdrivers, size 4-8mm, 10mm, 11mm, 13mm. All have 31.35mm deep shaft hole. Sturdy molded plastic carrying case.

34F189 Type 4-13MM. **Each** **65.42**

Type 99PS-51MM is a 12-piece nutdriver set containing 1 regular handle; 1 extension; and 10 shafts, sizes 4mm, 4.5mm, 5mm, 5.5mm, 6mm, 7mm, 8mm, 9mm, 10mm, 11mm. In clear, hard plastic stand-up case.

35F209 Type 99-PS-51MM. **Each** **62.94**

Type PS-121MM compact convertible nutdriver kit contains 10 plastic-handle shafts, sizes 3mm, 3.5mm, 4mm, 4.5mm, 5mm, 5.5mm, 6mm, 7mm, 8mm, 10mm. Also includes torque amplifier handle in clear, hard plastic stand-up case.

34F624 Type PS-121MM. **Each** **46.32**

Types 99PS-41MM Standard Allen Hex Socket and **99PS-41MMBP** Ballpoint Allen Hex Socket contain one regular handle, one extension and seven shafts. Sizes: 1.27mm, 1.5mm, 2mm, 2.5mm, 3mm, 4mm, 5mm. In clear, hard plastic stand-up case.

34F621 Type 99PS-41MM. **Each** **45.71**
34F622 Type 99PS-41MMBP. **Each** **56.85**
(5741) (de53149)

XCELITE PLUS PRECISION ELECTRONIC SCREWDRIVERS

Stock No.	Type	Description	1-4	5-9
52F6448	XP700	7-Piece Precision Electronic Screwdriver Set, Carded	30.43	29.22
52F6449	XP400	4-Piece Precision Electronic Screwdriver Set, Carded	16.88	16.21
52F6450	XP2575	Screwdriver, Slotted, 2.5 × 75mm, Carded	3.84	3.69
52F6451	XP2065	Screwdriver, Slotted, 2.0 × 65mm, Carded	4.14	3.97
52F6452	XPPH0	Screwdriver, Phillips, Size #0, 60mm, Carded	4.14	3.97
52F6453	XP30100	Screwdriver, Slotted, 3.0 × 100mm, Carded	4.36	4.19
52F6454	XPPH1	Screwdriver, Phillips, Size #1, 80mm, Carded	4.62	4.44
52F6455	XPPH00	Screwdriver, Phillips, Size #00, 60mm, Carded	4.76	4.57
52F6456	XP1550	Screwdriver, Slotted, 1.5 × 50mm, Carded	4.55	4.37

(5759) (ne07201)

SCREWDRIVER & NUTDRIVER SETS

PS-89

HS6-18

SOCKET TYPE SCREWDRIVER SETS

Types 99PS-40 and **99PS-40BP** contain one regular handle (99-1), one extension (99-X5) and nine blades: 0.050″, 1⁄16″, 5⁄64″, 3⁄32″, 7⁄64″, 1⁄8″, 9⁄64″, 5⁄32″, 3⁄16″. In clear plastic stand-up case.

34F339 Type 99-PS-40. Standard Allen Hex Socket. **Each** **46.32**
35F208 Type 99-PS-40BP. Ballpoint Allen Hex Socket. **Each** **69.79**

Type PS-89 is a screwdriver set for hex socket screws. Plastic-handle shafts come in sizes 0.028″, 0.035″, 0.050″, 1⁄16″, 5⁄64″, 3⁄32″, 7⁄64″, 1⁄8″. Also includes torque amplifier handle in a clear, hard plastic stand-up case.

35F1432 Type PS-89. **Each** **27.84**

COLOR-CODED NUTDRIVER SETS

Type HS6-18. Ten hollow shaft nutdrivers with color-coded plastic handles and hex openings 3⁄16″, 7⁄32″, 1⁄4″, 9⁄32″, 5⁄16″, 11⁄32″, 3⁄8″, 7⁄16″, 1⁄2″, 9⁄16″. In sturdy, hard plastic case.

34F376 Type HS-6-18. **Each** **63.57**

Type 157. Seven solid shaft nutdrivers with color-coded plastic handles and case-hardened sockets. Sizes: 3⁄16″, 1⁄4″, 5⁄16″, 11⁄32″, 3⁄8″, 7⁄16″, 1⁄2″. In plastic zipper case.

46F2588 Type 157. **Each** **38.90**
(5806) (ne53105a)

SCREWDRIVER & NUTDRIVER SETS

PS-120

Type 127TB. Seven solid shaft nutdrivers with color-coded plastic handles and case-hardened sockets. Sizes: 3⁄16″, 7⁄32″, 1⁄4″, 9⁄32″, 5⁄16″, 11⁄32″, 3⁄8″. In hard plastic, black molded tray.

34F366 Type 127-TB. **Each** **35.31**

Type PS-120 nutdriver set contains 10 color-coded plastic-handle shafts, sizes 3⁄32″, 1⁄8″, 5⁄32″, 3⁄16″, 7⁄32″, 1⁄4″, 9⁄32″, 5⁄16″, 11⁄32″, 3⁄8″. Also contains a torque amplifier handle in a clear, hard plastic stand-up case.

34F336 TypePS-120. **Each** **37.56**
(5807) (ne53105b)

PERSONAL COMPUTER REPAIR KIT

Type 99-SPC. 13-piece kit for making PC repairs features anti-static tools to protect chips from damage due to electrostatic discharge. Fits securely in a roll-up pouch.

TYPE 99-SPC KIT CONTENTS

Description	Type
(1) #0 Phillips	99-820
(1) #1 Phillips	99-821
(1) 3⁄16″ Slotted	99-811
(1) #10 Torx®	99-10XTD
(1) #15 Torx®	99-15XTD
(1) 3⁄16″ Nutdriver	99-6
(1) 1⁄4″ Nutdriver	99-8
(1) Screwdriver Handle	99-1
(1) Three-Prong Chip Retriever / Extractor—antistatic	99-R1
(1) Chip Tweezer—antistatic	99-T1
(1) Chip Inserter—antistatic	99-E1
(1) Chip Extractor—antistatic	99-X1
(1) Vinyl Case	

50F1845 Type 99SPC. **Each** **47.36**
(5739) (de53148)

ELECTRONIC SERVICE TOOL KITS

SPC DELUXE TECHNICIANS KIT

NEW

- **72-Piece Kit**
- **Shown with Optional Multimeter, Order Separately** ***on page 1551***
- **Black Cordura Case with Sholder Strap**

SPC deluxe technicians kit includes: soldering iron, solder, microwick, flashlight, 3-pc. alignment tools, 6-pc. solder aid kit, needle file flat, 10-pc. hex key set, precision knife blade, nutdriver blades: ¼", 5⁄16", 3⁄8"; slotted screwdriver blades: 3⁄16", ¼", 5⁄16"; phillips screwdriver blades: #1 and #2, screwdriver handle, phillips screwdriver #0 x 2½", slotted screwdriver 3⁄32 x 2", wire stripper/cutter, 6" adjustable wrench, 6" stainless steel rule, 4½" stainless steel smooth jaw plier, 4½" stainless steel cutter, 5" stainless steel needle nose plier, 6" long nose plier with cutter, 6" vise grip plier, desoldering pump, IC insertion tool, IC extraction tool, 5" hemostat, electrician's scissors, 13-pc. ¼" drive socket drive, and a spring hook tool.

Stock No.	Type	Description	Each
50N419	SPC5136	SPC Deluxe Technicians Kit	**219.99**
50N420	SPC5137	Case Only	**49.99**
16F9041	72-6203	Tenma Multimeter	**179.00**

(38372) (ne38372)

ELECTRONICS MASTER KIT

- **74-Piece Set**
- **Get the Convenience and Security of a Complete Locking Tool Kit**

Kit includes: 30W ceramic soldering iron, 3-pc. soldering aid kit, soldering iron stand, solder core, desoldering pump, 5" side cutters, pliers (5" long-nose, 4.5" bent-nose, 4.5" flat-nose, 8" lineman's), 9.5" crimping tool, 6-pc. precision screwdriver set, PRO-SOFT duplex color screwdrivers (Phillips: 3 x 75, 5 x 75, 6 x 100, 6 x 38mm; slotted: 3 x 75, 5 x 75, 6 x 100, 6 x 38, 5 x 150, 6 x 200mm; nut: 5mm, 6mm), 10-pc. minature combination wrench, 6" stainless scissors, 5-pc. file set, 6" adjustable wrench, 6" tweezers, IC extractor, 7-pc. folding type hex key wrench, super drill set, hobby vise, anti-static strap, digital multimeter, mini vacuum cleaner, electrical test screwdriver, utility knife, brush, PVC insulated tape, 3-prong holder, flashlight, utility component storage box, cleaning solution (60cc), head cleaning fluid (18cc), 3m/10ft. measuring ruler, 2-pc. removable pallets and carrying case with combination lock.

84N638 Type 3588. **Each** **239.99**
(29782) (ne29782)

SPC COMPACT TECHNICIANS KIT

NEW

- **49-Piece Kit**
- **Shown with Optional Multimeter; Find Tenma Multimeters Starting** ***on page 1552*** **Sold Separately**

Kit includes: soldering iron, solder, microwick, flashlight, 3-pc. alignment tools, 6-pc. solder aid kit, needle file flat, 10-pc. hex key set, knife precision blade, nutdrivers blades: ¼, 5⁄16, and ¼", slotted screwdriver blades: 3⁄16, ¼, and 5⁄16", phillips screwdriver blades: #1 and #2, screwdriver handle, 6-pc. jewelers phillips and slotted screwdriver set, wire stripper/cutter, 4" adjustable wrench, 6" stainless steel rule, 4½" stainless steel pliers with smooth jaws, 4½" stainless steel cutter, 5" stainless steel needle nose plier, 6" long nose plier with cutter, 6" slip joint plier, and desoldering pump.

Stock No.	Type	Description	Each
50N425	SPC5142	Kit	**179.99**
50N426	SPC5143	Case Only	**49.99**

(38274) (ne38274)

TECHNICIAN'S TOOL KIT

- **62-Piece Kit**
- **A Complete Selection of the Tools You Need in a Convenient Zippered Carrying Bag**

Kit includes: 30W ceramic soldering iron, 3-pc. soldering aid kit, solder core, deluxe desoldering pump, heat sink, 5-pc. file set, PLCC extraction tool, tweezers (4.5 and 6" 6-pc. precision screwdriver set, 7-in-1 tool, screwdriver handle, 5-pc. double blade (175mm), 6-pc. mini-hammer set, 3-pc. PRO-SOFT duplex color screwdrivers (Phillips: 5 x 75; slotted: 5 x 75; nut: 5mm), 7-pc. folding type hex wrench (1.2, 1.4, 2.0, 2.5, 3.0, 4.0, 5.0mm), pliers (5" cutting, 5" long-nose, 4.5" flat nose, 4.5" bent nose, 8" lineman's), 3-prong holder, 8" adjustable wrench, utility knife (with snap-off blade), brush, flashlight, and zippered soft side carrying bag with anti-static strap.

84N637 Type 3587. **Each** **199.99**
(29783) (ne29783)

BASIC ELECTRONICS TOOL KIT

- **21-Piece Kit**
- **Handy Kit is Perfect for Everyday Maintenance**

Kit includes: 5" side cutter, 6" long nose plier, 6" combination plier, PRO-SOFT duplex color screwdrivers (Phillips: #0 x 75, #1 x 75, #2 x 100, #2 x 200mm; slotted: 3 x 75, 5 x 75, 6 x 100mm; nut: 5mm, 6mm), alignment, screwdriver, stainless steel tweezer, needle file set (round and flat), PVC insulated tape, 6" adjustable wrench, desoldering pump, solder wick, solder core, 30W ceramic soldering iron, and zippered carrying case.

84N635 Type 3585. **Each** **59.99**
(29781) (ne29781)

CALL NEWARK FOR FAST, DEPENDABLE SERVICE.

ELECTRONIC SERVICE TOOL KITS

SPC NETWORKING TOOL KIT

NEW

- 52-Piece Kit
- Black Cordura Case with Shoulder Strap
- Shown with Optional Multimeter, Test Telephone and Cable Tester
- Find Optional Tenma Items Starting *on page 1556*

SPC networking tool kit includes: soldering iron, solder, cable cutter, 16 to 26 AWG wire stripper, electrician scissors, crimping tool, 9-pc. hex key set, flashlight, mirror/magnetic retriever, 6″ adjustable wrench, 4¾″ serrated jaw, long nose plier, 4½″ side cutter, modular crimp tool, punch down tool with blades, receptacle analyzer, screwdriver handle, 4″ extension, slotted screwdriver blades: ⅛, ¼,and 3⁄16″; phillips screwdriver blades: #0, #1, and #2; nutdriver blades: 3⁄16, ¼,and 5⁄16″; torx blades: T10, T15, and T20, 2.0mm and #0 phillips precision screwdrivers, 3⁄32″slotted pocket screwdriver with clip, #0 phillips pocket screwdriver, precision knife, alignment tool, RJ45 adapter cable, 25 modular plugs (4 pos), 25 modular plugs (8 pos), RS 232 gender changer M/M and F/F, RS 232 to RJ12/45 converter, and a plastic parts box.

Stock No.	Type	Description	Each
50N414	SPC5131	Case Only	99.99
50N413	SPC5130	Tool Kit	329.99
92N5937	72-6069A	Tenma Test Telephone	199.00
01F041	72-6289	Tenma Cable Tester	56.26
92F5407	72-2050	Tenma Multimeter	59.95

(38374) (ne38374)

3.6V CORDLESS SCREWDRIVER KIT

- 3.6 V, 170 rpm Motor Has 6 Adjustable Torque Settings
- Removable Battery Recharges in just 3 Hours
- Powerful Driver Torques to 21 in.-lbs.

Versatile set includes 14 6-12mm, 3⁄16-½″ sockets. 26-piece driver bits including 3 flat, 3 Phillips, 5 Tork, 3 Robertson, and 12 hex bits. Set also includes a bit holder, socket adapter, charge adapter, and durable blow-molded case.

Stock No.	Type	Description	Each
10N153	1201	3.6V Cordless Screwdriver Kit	89.99
10N158	1206	3.6V Quick Charge Battery	21.99
10N163	1211	3.6V Battery Charger	9.99

(19266) (ne11081)

SPC FIELD SERVICE TOOL KIT

NEW

- 89-Piece Tool Kit
- Black Cordura Case

CONTINUED

SPC FIELD SERVICE TOOL KIT (CONT.)

SPC field service kit includes: soldering iron, solder, microwick, DIP IC extractor, DIP IC insertor, desoldering pump, 3-pc. needle files, 4oz. ball-peen hammer, 6″ stainless steel ruler, feeler guage, 1⁄16″ and ⅛″ punch pins, metal scribe, 13-pc. socket set with ¼″ drive, solder aid kit, electrician scissors, 5″ hemostat, 8-pc. BP hex key set, flashlight, mirror/magnetic retriever, screwdriver handle, nutdriver blades: 3⁄16, 7⁄32, ¼, 9⁄32, 5⁄16, 11⁄32, ⅜, 7⁄16, and½″; slotted screwdrivers: 3⁄32 x 2″, ⅛ x 6″, 3⁄16 x 8″, and ¼ x 4″; phillips screwdrivers: #0 x 2″, #1 x 6″, and #2 x 4″; safety torx screwdrivers: T10, T15, and T20; 3⁄16″ stubby slotted screwdriver, #1 phillips stubby screwdriver, 6-pc. slotted and phillips jewelers screwdriver set, 4½″side cutter pliers, 4½″ serrated chain nose pliers, 5″ needle nose pliers, 6″ long nose pliers with side cutter, 6″ slip joint pliers, spring tool comboination, tape measure, AA-SA tweezer, 4½ cross lock tweezer, wire strpper (16-26AWG), 6″ adjustable wrench, and a 8-pc. mini-ignition wrench set (13⁄64-⅜″.

Stock No.	Type	Description	Each
50N423	SPC5140	Complete Kit	349.99
50N424	SPC5141	Case Only	99.99

(38771) (ne38771)

SPC SERVICE ENGINEER'S TOOL KIT

NEW

- 66-Piece Kit
- Black Cordura Case

SPC service engineer's kit includes: soldering iron, solder, microwick, alignment tool, wire stripper, 4½″ stainless steel chain nose pliers with serrated jaws, 5″ stainless steel needle nose pliers, 4½″ stainless steel wire cutter, 6″ long nose pliers with wire cutter, 6″ slip joint pliers, solder aid kit, 5″ hemostat, electrician scissors, flashlight, 9-pc fold-up hex key set (0.050-3⁄16″), 7-pc. fold-up torx key set (T6-T20), precision knife, 6″ stainless steel ruler, 6″ adjustable wrench, screwdriver handle, 4″ extension, nutdriver blades: 3⁄16, 7⁄32, ¼, 9⁄32, 5⁄16, 11⁄32, ⅜, 7⁄16, and ½″; phillips screwdriver blades: #0, #1, and #2; slotted screwdriver blades: ⅛, 3⁄16, and ¼″; slotted screwdriver: 3⁄32 x 2″; phillips screwdriver: #0 x 2″; 6-pc. jewelers screwdriver set, metal scribe, prong holder, 6″ cross lock tweezers, 2-pc. needle files, and a desoldering pump.

Stock No.	Type	Description	Each
50N421	SPC5138	Complete Kit	265.99
50N422	SPC5139	Case Only	99.99

(38770) (ne38770)

SPC GENERAL ELECTRONIC TOOL KIT

NEW

- 58-Piece Kit
- Black Cordura Case

SPC general electronic tool kit includes: soldering iron, microwick, solder, 9-pc. fold up hex key set, snap blade knife, 4½″ stainless steel diagonal cutter, 4½″ stainless steel long nose pliers with cutter, 6″ long nose pliers with cutter, 6″ slip joint pliers, 6″ stainless steel ruler, electrician scissors, 6-pc.jewelers phillips or slotted screwdriver, brush, flashlight, plastic parts box, slotted screwdrivers: ⅛ x 4″, 3⁄16 x 4″, ¼ x 4″; phillips screwsdriver: #0 x 2″, #1 x 3″, #2 x 4″; 13-pc. ¼″ drive (3⁄16-¼″, 12′/3m tape measure, 7-pc fold-up torx (T6-T20), wire stripper/cutter, and a 6″ adjustable wrench.

Stock No.	Type	Description	Each
50N417	SPC5134	Complete Kit	179.99
50N418	SPC5135	Case Only	49.99

(38470) (ne38470)

4-IN-1 SCREWDRIVER

Industrial-grade, highly polished, chrome-plated tube. Square handle design for extra comfort. Tip sizes: #1 Phillips, #2 Phillips, 3/16″ standard, and 1/4″ standard.

10N260 Type 1406. **Each** **5.99**
(19254) (ne11092)

5-PIECE CUSHION SCREWDRIVER SET

NEW

Screwdriver blades are milled from chrome vanadium steel for strength and durability. Blades are securely anchored deep into the handle. Cushion grip handle reduces fatigue. Cushion material covers acetate handles and resists most chemicals and temperatures. Set includes phillips head #2 x 4″, square blade 1/4″ x 4″, round cabinet blade 3/16″ x 6″, round cabinet blade 1/4″ x 6″, standard blade 5/16″ x 6″.

84N2627 Type SPC4593. **Each** **29.99**
(32784) (ne32784)

6-PIECE CERAMIC ADJUSTER SET

Allows correct adjustment of capacity without changing the Q factor even in high-frequency range, low dielectric loss and fine turnability. Will not cause any electromagnetic induction or eddy current loss in high frequency. Excellent heat and electric insulation. Nonmagnetic, nonstatic and nonrusting blades. Suitable for use in clean rooms as blades are contamination-free. Highly resistant to strong acids except hydrofluoric. Total heat resistance up to 1000°C. Extremely low thermal conductivity. Solder and silver cannot adhere to surface. Sizes (tip x blade length): Ø 0.9 x 15mm, 1.3 x 15mm, 1.8 x 15mm, 2.6 x 15mm, PHO x 15mm, PH 1.7 x 15mm.

92N3665 Type 1384. **Each** **64.12**
(19255) (ne11093)

SCREWDRIVERS

8545-0915

Screwdrivers feature large, rounded grip handles. Blades are cross-ground chrome vanadium steel. Meet federal specification GGG-S-121E. **Type 1404** includes all sizes except 1/4″ x 1 1/2″ *Lifetime warranty.*

Stock No.	Type	Description	Size	Each
16N7641	8545-0915	Slotted	1/8″ x 3″	**2.35**
16N7642	8545-0916	Slotted	3/16″ x 4″	**4.41**
10N261	1407	Slotted	1/4″ x 1 1/2″	**4.13**
10N262	1408	Slotted	1/4″ x 6″	**5.17**
10N263	1409	Slotted	1/4″ x 4″	**4.86**
16N7643	8545-0917	Phillips	#0 x 2.5″	**2.57**
16N7644	8545-0918	Phillips	#1 x 3″	**3.82**
16N7645	8545-0919	Phillips	#2 x 4″	**5.11**
16N7646	8545-0920	Phillips	#2 x 8″	**7.24**
10N258	1404	8 pc. kit	...	**31.04**

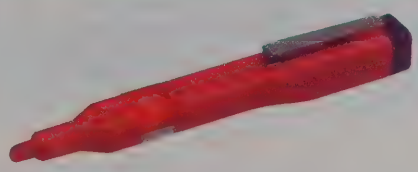
(5784) (ne08716)

6-PIECE PRECISION SCREWDRIVERS SET

Ergonomically-designed handle with large swivel head for greater control. Rubberized bicomponent handle design for rapid rotation, greater comfort and control. Imprinted sizes on handle for easy selection. Chrome vanadium steel blade. Sizes: (slotted) 1.5 x 50mm, 2.0 x 50mm, 2.5 x 50mm, and 3.0 x 50mm, (Phillips) 0 x 50mm and 1 x 75mm

92N3659 Type 1378. **Each** **66.19**
(19256) (ne11093)

CIRCUIT ALERT™ AC VOLTAGE TESTER



Non-contact voltage tester detects AC voltage through a fully insulated probe tip without the risk of contacting live electrical wires. Dual audible (beeping) and visual (flashing) indicators signal the presence of AC voltage. Tests from 50-600VAC. Ideal for locating breaks in wires and voltage at receptacles, switches, and motors. Quickly locates the hot and neutral terminals in any receptacle. Built-in "safe-test" feature indicates tester and batteries are operating properly. UL listed.

92N4750 Type 2557. **Each** **14.98**
(16531) (ne10138)

NUT DRIVER SET

8545-0921

Nut drivers have large, striped easy-grip handle in industry standardized colors. SAE set features sizes: 3⁄16″, 1⁄4″, 5⁄16″, 11⁄32″, 3⁄8″, 7⁄16″, and 1⁄2″. Metric set features sizes: 5, 6, 7, 8, 9, 10, and 11mm. Both sets come in durable vinyl pouch. *Lifetime warranty.*

Stock No.	Type	Description	Size	Each
16N7647	8545-0921	7-Piece SAE Set	3⁄16″-1⁄2″	35.18
16N7648	8545-0922	7-Piece Metric Set	5-11mm	35.18

(5785) (ne08717)

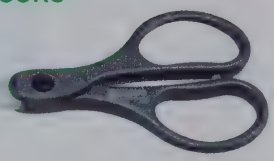
SAE NUT DRIVERS AND METRIC NUT DRIVERS

Nut drivers feature a hollow shaft from socket to handle, allowing for maximum stud clearance. Cushion grip reduces fatigue. Cushion material covers acetate handles and resists most chemicals and temperatures. Color coded for easy size identification.

Stock No.	Type	Nut Size	Each
84N2632	SPC4598	3⁄16″	4.99
84N2633	SPC4599	1⁄4″	4.99
84N2634	SPC4600	5⁄16″	4.99
84N2635	SPC4601	11⁄32″	4.99
84N2636	SPC4602	3⁄8″	4.99
84N2637	SPC4603	7⁄16″	5.99
84N2638	SPC4604	1⁄2″	5.99
84N2639	SPC4605	5mm	4.99
84N2640	SPC4606	6mm	4.99
84N2641	SPC4607	7mm	4.99
84N2642	SPC4608	8mm	4.99
84N2643	SPC4609	9mm	5.99
84N2644	SPC4610	10mm	5.99
84N2645	SPC4611	11mm	5.99

(32771) (ne32771)

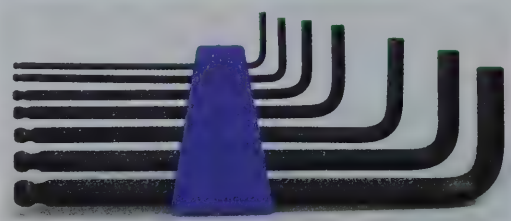
5″ CERAMIC SCISSORS



Designed for detailed precision cuts and even able to cut Kevlar. The durable zirconia blade insert even works with magnetic materials. Plastic handles are carbon fiber reinforced.

92N3664 Type 3320. **Each** **57.91**
(19252) (ne11075)

BALL-POINT HEX KEY SET



Ball end allows for use at up to a 25° angle without bending the key. Long arm type keys. Hard-chrome plated. Made of chrome-vandium. **Type SPC4154** contains the following sizes: 2.5, 3.0, 4.0, 5.0, 6.0, 8.0, and 10.0mm. **Type SPC4155** contains the following sizes:1.5, 2.0, 2.5, 3.0, 4.0, 5.0, and 6.0mm. **Type SPC4156** contains the following sizes: 3⁄32, 1⁄8, 5⁄32, 3⁄16, 1⁄4, 5⁄16, and 3⁄8″. **Type SPC4157** contains the following sizes: 1⁄16, 5⁄64, 3⁄32, 1⁄8, 5⁄32, 3⁄16, and 1⁄4″.

Stock No.	Type	Each
84N1395	SPC4154	8.99
84N1396	SPC4155	5.99
84N1397	SPC4156	8.99
84N1398	SPC4157	5.99

(38273) (ne38273)

13-PIECE MULTIDRIVER SET

8545-0923

Multidriver set contains 7 nut driver blades from 3⁄16″ through 3⁄8″, 3⁄16″ and 1⁄4″ slotted and #1 and #2 Phillips screwdriver blades, 5″ extension bar, heavy duty handle, and convenient plastic case. *Lifetime warranty.*

Stock No.	Type	Description	Size	Each
16N7649	8545-0923	13-Piece set	-	40.36

(5786) (ne08718)

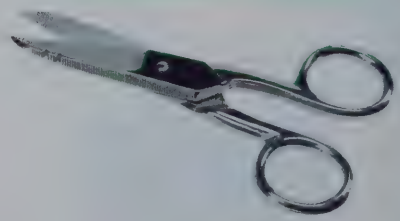
7-PIECE CUSHION NUT DRIVER SET

NEW

Nut drivers feature a hollow shaft from socket to handle, allowing for maximum stud clearance. Cushion grip handle reduces fatigue. Cushion material covers acetate handles and resists most chemicals and temperatures. Set includes sizes, 3⁄16″ x 3″, 1⁄4″ x 3″, 5⁄16″ x 3″, 11⁄32″ x 3″, 3⁄8″ x 3″, 7⁄16″ x 4″, 1⁄2″ x 4″.

84N2626 Type SPC4592. **Each** **34.99**
(32770) (ne32770)

5″ ELECTRICIAN'S SCISSORS



Heavy-duty, general-purpose scissors with serrated outside blade and two notches for 19 AWG and 23 AWG wire. Blade length: 2″.

10N313 Type 1331. **Each** **9.10**
(19250) (ne11073)

FOLDING HEX KEY SETS

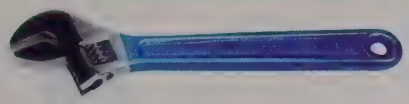
Type SPC4620 contains the following hex key sizes: 1.5, 2, 2.5, 3, 4, 5, and 6mm. **Type SPC4621** contains the following hex key sizes: 5⁄64, 3⁄32, 7⁄64, 1⁄8, 9⁄64, 5⁄32, 3⁄16, 7⁄32, and 1⁄4″.

Stock No.	Type	Description	Each
84N2654	SPC4620	7 Pc. mm Folding Hex Key Set	5.99
84N2655	SPC4621	9 Pc. SAE Folding Hex Key Set	5.99

(38272) (ne38272)

HAND TOOLS

ADJUSTABLE WRENCHES



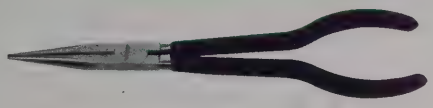
Adjustable wrenches are made from drop-forged chrome vanadium steel. Jaws are precision machined for dependable performance. Meet federal specification GGG-W-631B. *Lifetime warranty.*

Stock No.	Type	Description	Size	Each
16N7626	8545-0900	Standard-Jaw Adjustable Wrench	4″	**15.68**
16N7627	8545-0901	Standard-Jaw Adjustable Wrench	6″	**16.25**
16N7628	8545-0902	Standard-Jaw Adjustable Wrench	8″	**17.91**
16N7629	8545-0903	Standard-Jaw Adjustable Wrench	10″	**23.43**
16N7630	8545-0904	Standard-Jaw Adjustable Wrench	12″	**33.36**
84N2628	SPC4594	Wide-Jaw with Cushion Grip	6″	**13.99**
84N2629	SPC4595	Wide-Jaw with Cushion Grip	8″	**14.99**
84N2630	SPC4596	Wide-Jaw with Cushion Grip	10″	**21.99**
84N2631	SPC4597	Wide-Jaw with Cushion Grip	12″	**26.99**

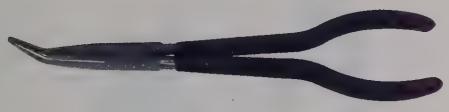
(5783) (ne08715)

11″ LONG REACH PLIERS

NEW



SPC4613



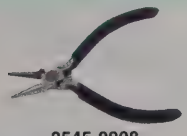
SPC4614

Forged from quality alloy steel for dependable use. Extended length permits access into small confined areas. Great for automotive and HVAC/R service work. Available in straight, 45° bent nose and as a set. Lifetime warranty.

Stock No.	Type	Description	Each
84N2647	SPC4613	11″ Straight Nose	**19.99**
84N2648	SPC4614	11″ 45° Bent Nose	**19.99**
84N2649	SPC4615	2-Piece Set	**36.99**

(32775) (ne32775)

MINIATURE PLIERS



8545-0908

8545-0909

8545-0913

Precision pliers for general electrical and electronic applications, and for use in tight spaces. Polished heads, heat-treated cutting edges, cushioned grips, spring loaded and individually blister packaged. Meet federal specifications GGG-P-0471C, GGG-P-648A. *Lifetime warranty.*

Stock No.	Type	Description	Size	Each
16N7631	8545-0905	Long Nose with Cutter	4¾″	**14.11**
16N7634	8545-0908	Flat Nose	4½″	**18.38**
16N7635	8545-0909	Bent Nose with Cutter	5½″	**20.65**
16N7636	8545-0910	Mini Flush Cut	4½″	**18.83**
16N7639	8545-0913	End Cut	4½″	**18.83**

(5782) (ne08714)

LOCKING GRIP PLIERS

NEW

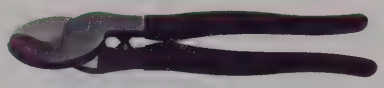
Jaws are crafted from heat treated chrome vanadium steel then nickel plated. Jaw capacity of ¾″, 7″ long. Serrations on upper and lower jaws hold material without slipping. One hand quick-release lever for easy unclamping. Adjusting knurl with lock nut for jaw tightening and loosening makes repetitive use easier. Lifetime warranty.

10N257 Type 1403 **Each** **17.59**

(32773) (ne32773)

CABLE CUTTERS

NEW



Cut cable easily with 9½″ cable cutters. High-leverage design allows for significant cutting capability. Cable gripping, shear-type jaws cut up to 4/0 aluminum (not ACSR), 2/0 soft copper, and 100-pair/24 AWG communication cable. Lifetime warranty.

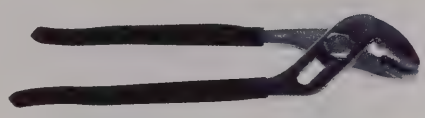
84N2652 Type SPC4618 **Each** **24.99**

(32772) (ne32772)

ADJUSTABLE PLIERS

NEW

8545-0914



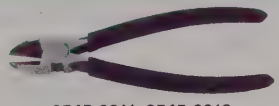
1402

Drop forged chrome vanadium steel contruction for maximum strength. Precision machined for smooth, dependable performance. **Types 1402, SPC4588** patented spring load design improves control, comfort, and reduces fatigue. Nickel chrome plating resists rust and corrosion. Textured safe grip handles provide comfort and non-slip performance. Lifetime warranty.

Stock No.	Type	Description	Each
16N7640	8545-0914	5″ Slip Joint Pliers	**14.24**
84N2622	SPC4588	6½ Spring Loaded Slip Joint Pliers	**12.99**
84N2623	SPC4589	10″ Tongue and Groove Pliers	**15.99**
10N256	1402	10″ Spring Loaded Tongue and Groove Pliers	**24.83**

(32774) (ne32774)

DIAGONAL AND LONG NOSE PLIERS



8545-0911, 8545-0912

8545-0906, 8545-9097

For electrical, electronic, and general applications. Perfect for cutting and stripping wire. Heat-treated, high-carbon steel head and cutting edges. Cushioned grips for comfort. Meet federal specifications GGG-P-0471C, GGG-P-648A. *Lifetime warranty.*

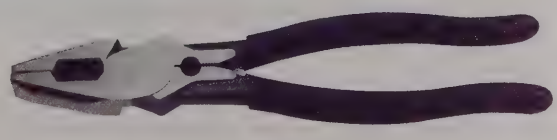
Stock No.	Type	Description	Size	Each
16N7637	8545-0911	Diagonal	6½″	**17.74**
16N7638	8545-0912	Diagonal	7½″	**19.39**
16N7632	8545-0906	Long Nose with Cutter	6½″	**17.58**
16N7633	8545-0907	Long Nose with Cutter	7½″	**19.49**

(5781) (ne5781)

LINEMAN PLIERS

NEW

1401



2891

Drop forged chrome vanadium steel for maximum strength and durability. Precision machined for smooth, dependable performance. Textured safe grip handles for comfort and non-slip performance. **Types 2891, 2892** can crimp ground wire for non-insulated terminals. Lifetime warranty.

Stock No.	Type	Description	Each
10N255	1401	7″ Lineman Pliers	**22.76**
92N3406	2891	9¼″ High Leverage Lineman Pliers	**32.08**
92N3407	2892	9″ High Leverage Universal Pliers	**31.04**

(32776) (ne32776)

MAGNETIC SOCKET INSERTS

High-strength magnet composed of 3 materials, boron, neodymium, and iron. This combination makes a durable, long-lasting magnet. To resist rust and corrosion, each magnet is nickel plated. Specially designed plastic cover allows insert to fit securely into any 6- or 12-point hex socket. Magnet never touches the socket, so it never magnetizes the socket or work area. SAE 9-piece set includes: 3⁄8″, 7⁄16″, 1⁄2″, 9⁄16″, 5⁄8″, 11⁄16″, 3⁄4″, 13⁄16″, 7⁄8″. Metric 10-piece set includes: 10, 11, 12, 13, 14, 15, 16, 17, 18, and 19mm.

Stock No.	Type	Description	Each
84N2624	SPC4590	9-Piece SAE Set	12.99
84N2625	SPC4591	10-Piece Metric Set	12.99

(32783) (ne32783)

CRIMP TOOL

Features cushioned-grip handles, wire cutter, and thin nose for use in confined spaces. Designed for insulated and uninsulated connectors (10-22 AWG).

84N2646 Type SPC4612. **Each** **19.99**
(32781) (ne32781)

ADJUSTABLE WIRE STRIPPER

This wire stripper and cutter is suitable for all commonly used insulated wires. All cutting surfaces are ground to provide smooth shearing action. Adjusting stop on gripping handles permits adjustments for wire sizes.

84N1038 Type 3613. **Each** **3.05**
(32778) (ne32778)

CABLE STRIPPER

Used for both end-or center-stripping of coaxial and power cables from 1⁄4″ through 3⁄4″, O.D. Strips insulation up to 5⁄32″ thick, including PVC, rubber, neoprene, Teflon®, polyethylene, nylon, kapton, fiberglass, fabric, and others.

92N3780 Type 2042. **Each** **27.43**
(32779) (ne32779)

6-PIECE 1⁄4″ SPLINE DRIVE MULTIANGLE RATCHET SET

6 piece 1⁄4″ spline drive multiangle ratchet set performs an infinite number of adjustable configurations at different angles to reach anywhere. Flexible handle allows for 180° rotational positions. Rigid extensions allow maximum torque and extended reach without adding operating depth to the wrench. Precision milled from chrome vanadium steel; nickel chrome plated for protection against corrosion. Easy to clean. Set includes: 1⁄4″ drive reversible ratchet head, 8 1⁄2″ flex handle, 2″ extension, spline drive adapter, and 2 uniquely designed reversible offset joints (2 1⁄4″ and 4″). Lifetime warranty.

84N2653 Type SPC4619. **Each** **79.99**
(32782) (ne32782)

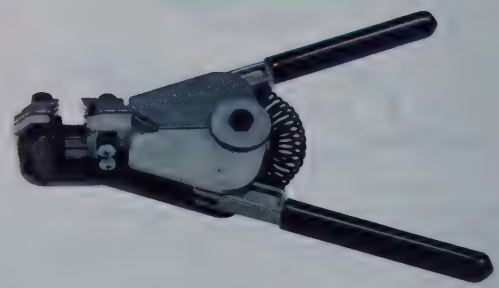
WIRE STRIPPERS

Designed for greater comfort. Features precision form-ground, knife-type blades and easy-to-see painted wire-gauge markings. These strippers also have a versatile plier-type nose and custom-cushioned grips.

Stock No.	Type	Description	Each
92N3777	2039	8-16 AWG Stranded	13.45
92N3781	2043	10-20 AWG Stranded	11.39
92N3776	2038	16-26 AWG Stranded	13.45

(32777) (ne32777)

WIRE STRIPPER



Designed to handle a wide range of stripping requirements. Suited for industrial, commercial, residential, branch circuit wiring, automotive, radio, telephone, and instrumentation applications. Cast of 100% zinc to be corrosion resistant, lightweight, and durable. Sturdy die-cast frame provides long, trouble-free life. One-step stripping action for increased productivity. Spring-action mechanical advantage increases leverage and reduces operator fatigue.

92N3782 Type 2044 **Each** **30.02**
(32780) (ne32780)

NEWARK HAS WHAT YOU NEED.
WITH SO MUCH IN STOCK, YOU HAVE THE COMPONENTS YOU NEED AT YOUR FINGERTIPS.

VACUUMS AND TOOLS

STATIC CONTROL VACUUMS

2033

2335

Omega vacuums are statically controlled with conductive construction to prevent shocks to operators and damage to sensitive electronic components. Disposable 0.3-micron filter canister is for use on toner, developer, dirt, dust, mold, pollen, soot, paint pigments, and other dry materials. Water lift: 30″ open and 50″ sealed. **Type 2033** is UL listed, CSA certified; **type 2035** is TUV approved, CE compliant. Junior vacuums are lightweight and compact and are designed to control electrostatic discharge. Feature two 0.3-micron filtration systems: a disposable anti-dump canister filter and a new bag and shell filter combination. Water lift: 10″ open and 14″ sealed. Replacement filters, designed with 0.3-micron concentrated weave for removing small particles, are perfect for use on laser printer toner and sensitive equipment such as disk drives. 3-year warranty.

VACUUMS

Stock No.	Type	Description	cfm	Amps	hp	Each
92N4349	2033	Omega 120VAC	92.8	6.83	1	**219.99**
92N4351	2035	Junior 110VAC	52	3.5	½	**189.99**
92N4353	2343	Omega 220/240VAC	92.8	6.83	1	**249.99**

REPLACEMENT FILTERS—PKG. OF 2

Stock No.	Type	Description	Each
92N4350	2034	Replacement Filter for Omega Vacuums	**29.95**
92N4352	2036	Replacement Filter for Junior Vacuums	**24.95**

(18041) (ne10184)

PRECISION CUTTERS

NEW

Precision-ground cutting edges. Static-dissipative handles are ergonomically designed to offer a safe and comfortable grip in any working condition. A high pressure joint provides smooth operation. Antiglare black oxidation surface treatment for better vision. Available in semiflush and full flush configuration. Length: 5″. **Types 1371-1374** rated for 1 million cuts.

Stock No.	Type	Cutter	Cutting Capacity	Each
92N3652	1371	Semiflush	2.0mm (12 AWG) soft wire	**50.67**
92N3653	1372	Full flush	1.6mm (14 AWG) soft wire	**50.67**
92N3654	1373	Full flush	1.3mm (16 AWG) copper wire	**50.67**
92N3655	1374	Semiflush	0.5mm (24 AWG) steel wire 2.5mm (10 AWG) soft wire	**50.67**
50N046	SPC4794	Full flush	1.30mm (16 AWG) soft wire	**19.50**
50N047	SPC4795	Full flush	0.81mm (20 AWG) soft wire	**21.50**
50N048	SPC4796	Full flush	0.81mm (20 AWG)	**21.50**
50N048	SPC4796	Semiflush	0.64mm (22 AWG)	**21.50**

(19249) (ne11072)

PREFORMING TOOLS

Professional tool specially designed for the preforming of components at 90°. Maximum diameter 1.3mm 16 AWG. Length 5¾″. Handles are dissipative.

92N3656 Type 1375. **Each** **55.84**

Professional tool specially designed for step preforming of components. Length 5¾″.

92N3657 Type 1376. **Each** **55.84**

Professional tool specially designed for preforming and cutting of components in a single operation. Variable length by means of an adjustable stop. Maximum diameter 1mm 18AWG.

92N3658 Type 1377. **Each** **55.84**

(19251) (ne11074)

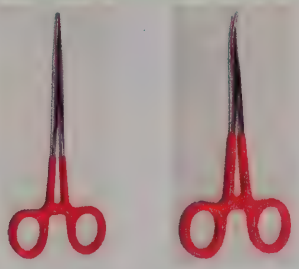
PROBE SET

Scalpel sharp for fine probing. Useful for cold solder probing, hand inspection, micro-positioning, and lead adjusting.

50N045 Type SPC4793 **Each** 11.99

(32975) (ne32975)

STAINLESS STEEL FORCEPS



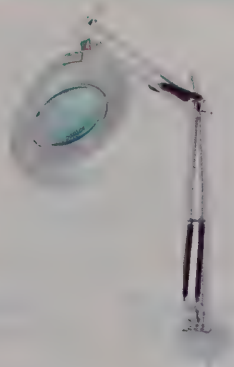
SPC4790 SPC4789

The most versatile tool. Use as clamps, heat sinks, and third hands while soldering. Has a 3-position locking device. Serrated jaws. Plastic coated handles.

Stock No.	Type	Length	Tip	Each
50N040	SPC4788	5″	Straight	**5.99**
50N042	SPC4790	6″	Straight	**6.99**
50N041	SPC4789	5″	Curved	**5.99**
50N043	SPC4791	6″	Curved	**6.99**

(32974) (ne3297...

FLUORESCENT LIGHT WITH MAGNIFIER LENS



45″ extension arm. New wire clip design allows for quick installation and fluorescent tube removal. Shade with handle makes moving light easy. Includes 3 diopter lens and 22W circline tube. Color: ivory.

50N044 Type SPC4792 **Each** 99.99

(32973) (ne...

NEWARK MAKES ORDERING SIMPLE.
ONE CALL IS ALL IT TAKES TO GET FAST, EFFICIENT DELIVERY.

TWEEZERS

GENERAL-PURPOSE TWEEZERS

Designed for bending, separating, soldering, and removing small items and wafer components. Stainless steel.

Stock No.	Type	Description	Each
92N3648	1367	7″ Solder Utility, Curved Tips/Finger Serrations	5.13
92N3649	1368	7″ General-Purpose, Straight Tips/Finger Serrations	5.13
92N3650	1369	6½″ Self-Locking, Straight Narrow Tips	5.13
92N3651	1370	4½″ Self-Locking, Straight Narrow Tips	5.13

(19126) (ne11067)

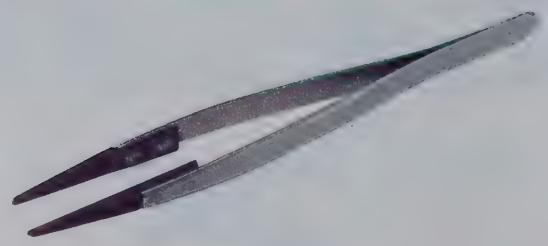
CERAMIC TWEEZERS

Ceramic tweezers are lightweight and feature zirconia ceramic tips attached to an aluminum body. Solder does not adhere to their surface. Six times harder than stainless steel. Free from all metallic contamination, and can be subjected to microwaves for sterilization.

Stock No.	Type	Length	Each
92N3619	1338	5¼″ Body, Tip length 1¼″	118.98
92N3620	1339	5⅜″ Body, Tip length 1⅝″	118.98

(19127) (ne11068)

SOFT TIP TWEEZERS



Antimagnetic, antiacid stainless steel grips, with Carbofib tips. Fully ESD safe, yet nonscratching. Conductive synthetic fiber tips are ideally suited to handle delicate and fragile components when extreme care and ESD safety are an absolute necessity. Every tweezer is manually finished and tested for maximum precision. Temperature resistant up to 520°F (270°C).

Stock No.	Type	Description	Tip	Each
92N3617	1336	5″ (130), Carofib tweezer	Sharp/Fine	46.53
92N3618	1337	5″ (130), Carofib tweezer	2mm Wide	44.46

(19128) (ne11069)

PLASTIC STATIC DISSIPATIVE TWEEZERS

1351 1352

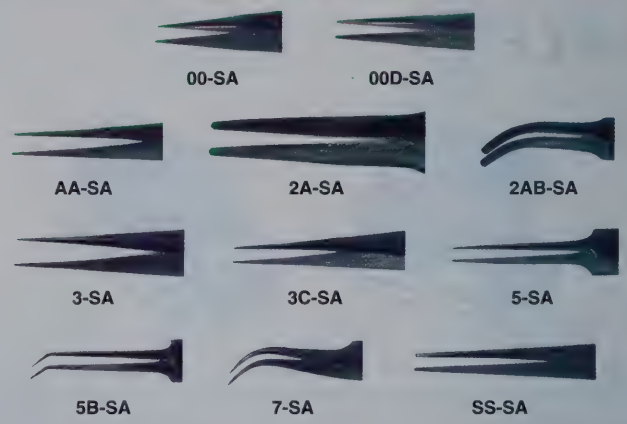
1353 1354 1355

Ideal for handling semiconductors, silicone chips and delicate wafers. Static dissipative and conductive tweezers are ideal for use with sensitive components where ESD damage is a concern. Overall length: 4½″/(115). Heat resistant up to 428°F (220°C). Tips do not spread under pressure. Acid-resistant. Nonmagnetic. No contamination. Black. Surface resistivity: 3 to 4.5 x 10^5 OHM/SQ (static), 1.5 to 4.5 x 10^2 OHM/SQ (conductive). Transversal resistivity: 1.5 to 2.5 x 10^5 OHM/SQ (static), 1.5 to 6 x 10^2 OHM/SQ (conductive).

Stock No.	Type	Description	Style	Each
92N3632	1351	4½″ Static-Dissipative	P2AB-STD	6.16
92N3633	1352	4½″ Static-Dissipative	P2AB-STD	6.16
92N3634	1353	4½″ Static-Dissipative	P3C-STD	6.16
92N3635	1354	4½ ″ Static-Dissipative	P7-STD	6.16
92N3636	1355	4½″ Static-Dissipative	P35-ESD	6.16

(19131) (ne11084)

STAINLESS STEEL TWEEZERS



Good balance, fine points and light tension make these tweezer ideal for semiconductor electronics and computer/microelectronics. Antiacid, antimagnetic stainless steel. Precision tweezers also have anti-glaze finish.

Stock No.	Type	Description	Style	Each
92N3637	1356	4¾″ Economy Stainless Steel	OO-SA	9.27
92N3638	1357	4¾″ Economy Stainless Steel	OOD-SA	9.27
92N3639	1358	5″ Economy Stainless Steel	AA-SA	9.27
92N3640	1359	4½″ Economy Stainless Steel	2A-SA	9.27
92N3641	1360	4½″ Economy Stainless Steel	2AB-SA	9.27
92N3642	1361	4¾″ Economy Stainless Steel	3-SA	9.27
92N3643	1362	4¼″ Economy Stainless Steel	3C-SA	9.27
92N3644	1363	4½″ Economy Stainless Steel	5-SA	9.27
92N3645	1364	4¼″ Economy Stainless Steel	5B-SA	9.27
92N3646	1365	4½″ Economy Stainless Steel	7-SA	9.27
92N3647	1366	5½″ Economy Stainless Steel	SS-SA	9.27
92N3621	1340	4¾ Deluxe Stainless Steel	OO-SA	15.99
92N3622	1341	4¾ Deluxe Stainless Steel	OOD-SA	12.99
92N3623	1342	4⅞ Deluxe Stainless Steel	AA-SA	18.99
92N3624	1343	4¾ Deluxe Stainless Steel	2A-SA	16.99
92N3625	1344	4¾ Deluxe Stainless Steel	2AB-SA	14.99
92N3626	1345	4¾ Deluxe Stainless Steel	3-SA	24.99
92N3627	1346	4⅜ Deluxe Stainless Steel	3C-SA	19.99
92N3628	1347	4⅜ Deluxe Stainless Steel	5-SA	17.99
92N3629	1348	4⅝ Deluxe Stainless Steel	5B-SA	23.99
92N3630	1349	4⅜ Deluxe Stainless Steel	7S-SA	23.99
92N3631	1350	4¾ Deluxe Stainless Steel	SS-SA	21.99

(19130) (ne11071)

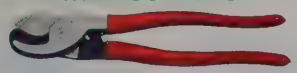
GENERAL-PURPOSE TWEEZER SETS

Stock No.	Type	Description	Each
92N3666	1385	6-Piece General-Use Tweezer Set	21.69
92N3667	1386	5-Piece Stainless Steel Tweezer Set	20.65
92N3668	1387	6-Piece Electrical Tweezer Set	39.99

Type 1385 kit includes: 7″ curved solder utility, 6″ blunt tip with serrated points, 4½″ solder utility with sharp points, 7″ wide point with lock, 7″ wide point cross locking, and 7″ solder utility straight tweezers. **Type 1386** includes: 4¼″ curved with serrated tips, 4¼″ smooth spade tip, 4¼″ wide point with serrated tips, 4¼″ indented shank with smooth tips, and 4¼″ solder utility with sharp points tweezers. **Type 1387** includes: 5″ precise tip, 4¾″ fine straight precision point, 4¼″ straight precision tip, 4¼″ curved tip, 4¾″ fine straight point with interior tip and finger serration tweezers.

(19129) (ne11070)

WIRE CUTTERS



63050

Type 63050 wire cutter cuts up to 4/0 aluminum (not steel or ACSR), 2/0 soft copper, and 100-pair 24-gauge communications cable. Cable-gripping shear-type jaws. Makes clean and efficient cuts. Plastic-dipped handles. Overall length: 9½″.

94F5796 Type 63050. **Each** **31.32**
(5799) (ne08958)

CRIMPING TOOLS

19730

1005

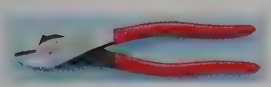
Type 19730. Wire Plier® crimps insulated and noninsulated solderless terminals, 22 to 8 gauge wire, 7 and 8mm ignition terminals. Cuts bolts. Stripping dies for 22 to 6 gauge cable. Measuring guides for length. Nose-mounted wire cutter. Cushion grip. **Type 1005** forged crimp tool for insulated and noninsulated terminals and connectors. Thin nose for tight spaces. Accommodates 10-22 AWG wire. Wire cutter. Red plastic-coated handles.

Stock No.	Type	Description	1-4	5-9
47F2095	19730	Nose-Mounted	29.60	28.25
98F1875	1005	Thin-Nosed	31.22	29.79

(5723) (de52855)

PLIERS

D302-6



D248-8

All tools have plastic-dipped or slip-on plastic handles. **Types D321, D322** have midget slim noses where **type D321** has knurled jaws and **type D322** has smooth jaws. **Type D307** has a long slim nose with knurled jaws. **Type D301** has a long nose and knurled jaws. **Type D310** has a long tapered nose with knurled jaws. **Type D302** has a 70° curved nose with knurled jaws. **Types D203** have standard long noses with side cutters. **Type D318** has a long needle nose with knurled jaws. **Type D248** are high-leverage, diagonal cutters with an angled head. Type numbers with suffix **C** indicate coil spring handle.

Stock No.	Type	Description	1-4	5-9
34F095	D321 4 1/2C	4¾″	21.39	20.42
34F113	D322 41/2C	4¾″	22.71	21.67
34F025	D307-5 1/2C	5⁹⁄₁₆″	22.25	21.23
34F009	D301 6C	6⅝″	21.25	20.28
34F128	D310 6C	6⅝″	22.78	21.74
34F016	D302 6	6¼″	28.14	26.86
34F011	D203 5C	5⁹⁄₁₆″	24.60	23.48
34F012	D203 6C	6⅝″	24.91	23.77
34F123	D318 5 1/2C	5¹³⁄₃₂″	23.77	22.69
52F6447	D248-8	5¹³⁄₃₂″	25.99	24.81

(5719) (de52850)

PUMP PLIERS

D-502

Jaws lock to desired size by engaging tongue in proper groove.

Stock No.	Type	Length	Max. Cap.	Each
34F235	D502 6	6″	1″	18.82
34F097	D502 10	10″	1¾″	24.49
34F098	D502 12	12″	2⅛″	32.18

(5721) (de52853)

TOOL KITS

1305-33A

1305-4

SEVEN-TOOL KIT

Type 1305-33A white canvas roll-up pouch contains: side-cutting pliers, long-nose pliers, diagonal-cut pliers, electrician's knife, 4″ file and handle, 5″ electrician's tweezers, 6⅝″ screwdriver.

34F047 Type 1305 33A. **Each**..... **117.39**

FOUR-PLIER KIT

Type 1305-4 midget plier set. Fold-up canvas case contains: diagonal-cut, long-nose, end-cutting and flat-nose pliers.

34F127 Type 1305 4. **Each** **90.60**

ZIPPER TOOL BAG

Type 5139 white canvas, 7 x 12″ bag with zipper.

94F5772 Type 5139. **Each**..... **10.92**
(5750) (de53665)

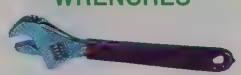
HI-VIZ TOOL BOX

54700

Type 54700 offers capacity and organization for parts, hand tools, and power tools. Size: 16¼L x 9D x 12½″H. HI-Viz color makes it easy to see on job sites.

52F9176 Type 54700. **Each** **34.27**
(5771) (ne08143)

HEAVY-DUTY ADJUSTABLE WRENCHES



D507-6

Drop-forged, chrome-plated, with yellow handle.

Stock No.	Type	Length	Max. Cap.	Each
34F129	D506-4	4″	½″	24.12
Jaws open 3⁄16″ wider than **type 506**. Ideal for HVAC applications.				
50F7342	D507-6	6″	1⁵⁄₁₆″	25.48
50F7343	D507-8	8″	1⅛″	27.61
50F7344	D507-10	10″	1⁵⁄₁₆″	34.05
50F7345	D507-12	12″	1½″	48.84

(5722) (de52854)

WIRE-BENDING SCREWDRIVERS

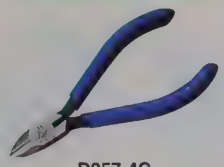
NEW

The wire-bending screwdriver offers an easy way to bend, loop, and connect solid wire. A metal stud on grip makes it easy to bend a loop in No. 10, 12, and 14 AWG solid wire (**type 603-3B** bends only 12 and 14 AWG). Features: black oxide Phillips or cabinet-tip, heat-treated and chrome-plated steel blade, a cushion-grip to resist slippage and greater torque with maximum user comfort. Tip-Ident® at top of shaft identifies screwdriver tip and metal stud.

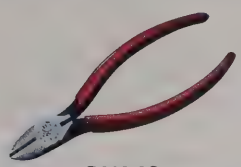
Stock No.	Type	Description	Length	Each
48F3698	603-3B	Round-Shank, #1 Phillips	6 ¾″ (171)	9.03
48F3699	603-4B	Round-Shank, #2 Phillips	8 5⁄16″ (211)	9.61
48F3700	605-4B	Heavy-Duty Round-Shank, Cabinet-Tip	8 11⁄32″ (212)	10.50
48F3701	605-6B	Heavy-Duty Round-Shank, Cabinet-Tip	10 11⁄32″ (263)	10.84
48F3702	5708	Tool Belt	...	11.42

(35371) (ne35371)

WIRE CUTTERS



D257-4C



D202-6C

All tools have plastic-dipped or slip-on plastic handles. **Types D202, D257** are standard cutters with a standard tapered nose, except **type D257** with a semi-flush cutter. **Type D210** is a standard semi-flush diagonal cutter. **Types D209, D244, D259** have midget pointed noses and diagonal cutters, but **type D244** has a narrow jaw and **type D259** has extra narrow jaws. **Type D295** has a midget tapered nose with a midget jaw. **Type D228** has a tapered nose with high leverage handles. **Type D209** has a pointed nose and semi-flush cutters. **Type D230** has a midget pointed nose with high hardness. **Type D275** has a flush cutter which cuts up to 14 AWG*. Type numbers with suffix **C** indicate coil spring handle.

Stock No.	Type	Description	1-4	5-9
34F018	D202-5C	5½″	26.25	25.05
34F019	D202-6C	6⅛″	25.16	24.01
34F093	D257-4C	4⅜″	26.15	24.96
34F021	D210-5C	5½″	26.62	25.40
34F028	D209-5C	5″	25.74	24.56
84F2090	D244-5C	5″	28.42	27.12
94F5748	D259-4C	4⅜″	29.74	28.38
94F5749	D295-4C	4⅜″	28.00	26.73
34F117	D228-8	8″	25.14	23.99
34F231	D209-4C	4⅜″	24.79	23.66
50F7346	D230-4C	4⅜″	28.93	27.61
34F045	D275-5	5″	11.45	10.96

*Has steel hold-open spring
(5720) (de5...

COAXIAL CABLE CUTTER

NEW

Offers precision and capacity for shearing and preparing up to 0.75″ trunk and feeder cable. With one-hand shearing action, cable-gripping jaws quickly score the jacket and insulation, and easily cut through the inner conductor. The blades will cut up to 0.75″ aluminum and copper coaxial cable without compression and frayed ends. Features a forged body with heat-treated and precision-ground steel blades to withstand frequent cutting. The hot-riveted design requires no adjustment while maintaining a smooth, precise operation. Compact 8¼″ (216) and lightweight design. Plastic-coated handles for comfort and gripping power.

48F2506 Type 63028. **Each** 35.22
(35470)

GENERAL PURPOSE TWIN-LEAD TESTER

NEW

Tests voltage in 90-250V range, AC or DC. Neon lamp glows indicating live circuit. The 5″ (127mm) test leads have probes on the ends. Has handy pocket clip.

98F8351 Type 69168-116. **Each**..... 1.35
(35472)

4-IN-1 SCREWDRIVER

NEW

Versatile screwdriver with interchangeable, snap-in blades. Tool supplied with four different tips on two reversible blades that fit snugly into hex-shaped machined shaft. Shaft snaps into full-size handle, so all four tip sizes are contained in a single screwdriver. Overall length with blade installed is 7 ⅞″ (194mm).

98F6083 Type 32460. **Each** **37.76**
(35471) (ne35471)

HAND TOOLS AND KITS

TOOL KITS

70260

70390

Type 70260 47-piece precision kit includes: 7 hollow-shaft nutdrivers, wire stripper/cutter, crimping tool, continuity tester, RF tester, test leads, 32 assorted screwdrivers and pliers, folding hex key set, tapping tool, spring tool. Two pallets fit into black, simulated-leather molded attache case.

34F352 Type 70260. **Each** **677.59**

Type 70390 36-piece professional kit includes: 7 hollow-shaft nutdrivers, 1 full-sized handle with 10″ extension and 20 snap-in blades, slotted and Phillips offset drivers, 2 screw-holding drivers, #0 Phillips driver, 6 pliers, 4″ adjustable wrench, wire stripper/cutter, crimping tool, continuity tester, zippered vinyl case.

65F1111 Type 70390. **Each** **417.50**
(5712) (de52772)

INSULATED TOOL KITS

33527

33526

Heavy-duty tools feature double-layer, 1000V insulation. All have large, impact resistant, bright-orange handles with integral hand guards. Comply with IEC 900 insulate tool standard.

33527 GENERAL-PURPOSE TOOL KIT

Comprehensive, 22-piece insulated assortment includes: 7 cutting pliers, 9 screwdrivers, 2 pump pliers, a wire stripper/cutter, cable cutter, lineman's skinning knife and crimping tool. Rugged, bright-yellow case has 2 pallets, combination lock and 2 key-locked latches.

97F8337 Type 33527. **Each** **1417.62**

33526 BASIC TOOL KIT

Versatile, 8-piece insulated kit contains: 3 cutting pliers, 3 screwdrivers, cable cutter, wire stripper/cutter. Durable, black Cordura® zipper case.

97F8336 Type 33526. **Each** **541.19**
(5643) (de03490)

LET NEWARK CONNECT™ AUTOMATICALLY REPLENISH YOUR INVENTORY.
CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR DETAILS.

TERMINAL SERVICE KIT

69125

70427

Deluxe insulated electronic service kit includes: crimp tool with bolt slicer and 440 insulated, single grip terminals in 20 styles. Heavy-duty case.

35F1266 Type 4900-63. **Each**..... **123.57**

CIRCUIT TESTER

Use on 80-300V circuits, AC or DC. Lamp indicates hot side. Fits into receptacles.

47F2163 Type 69125. **Each**..... **3.53**

MAGNETIC TORX® DRIVERS

Type 70427 set includes 5 magnetic bits: T15, T20, T25, T27, T30 Torx®. Comfordome handle stores bits inside.

81F1323 Type 70427. **Each** **20.14**
(5713) (de52773)

7-PIECE CUSHION-GRIP SCREWDRIVER SET

NEW

Convenient selection of popular screwdrivers featuring cushion-grip design and construction. Set is provided in reclosable seal-tight vinyl pouch. Includes: square-shank, keystone-tip, 8 11/32″L (212); round-shank, keystone-tip, 10 15/16″ (278); round-shank, cabinet-tip, 6 3/4″L (171); round-shank, cabinet-tip, 9 3/4″L (248); round-shank, cabinet-tip 8 11/32″L (202); round-shank, #1 Phillips-tip, 6 3/4″L (171); round-shank, #2 Phillips-tip, 8 5/16″L (211).

48F2505 Type B85076. **Each** **54.57**
(35283) (ne35283)

VACO® HEX KEY SETS

70152

10-pc. T-handle hex key set. Sizes: 3/32″, 7/64″, 1/8″, 9/64″, 5/32″, 3/16″, 7/32″, 1/4″, 5/16″, 3/8″. Available with 6″ or 9″ blade. Complete with wallmount metal stand.

81F9201 Type 70152. 6″ Blade. **Each**..... **52.48**
90F5848 Type 70153. 9″ Blade. **Each**..... **56.71**

Type BLK-12. 12-pc. ball end hex key caddy set. Sizes: 1/20″, 1/16″, 5/64″, 3/32″, 7/64″, 1/8″, 9/64″, 5/32″, 3/16″, 7/32″, 1/4″, 5/16″.

81F1329 Type BLK12. **Each**..... **34.69**

10-pc. metric ball end hex key caddy set. Sizes: 1.27mm, 1.5mm, 2mm, 2.5mm, 3mm, 4mm, 5mm, 6mm, 8mm, 10mm.

81F1327 Type BLMK10. **Each** **31.69**
(5714) (de52774)

VACOMBO® HEX KEY SCREWDRIVER KITS

90900

90040

Type 90900 Set of 9 interchangeable blades and grip-tite handle (was no. 99900 kit.)

34F348 Type 90900 (99900). **Each** **46.25**

Type 90040 Kit contains 9 assorted blades with unique "Odd Ball" tip plus grip-tite handle.

81F1326 Type 90040. **Each** **70.68**
(5718) (de52780)

VACOMBO® SCREWDRIVER/ NUTDRIVER KIT

13 interchangeable screwdriver and nutdriver blades plus grip-tite handle. (was no. 99000 kit)

34F354 Type 90000. **Each**..... **65.60**
(5717) (de52779)

PHILLIPS HOLDING DRIVER

K-14

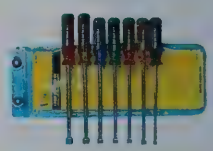
Holds, starts, retrieves any cross slot screw.

Stock No.	Type	Length	1-4	5-9
47F2162	K-14	5″*	11.50	11.01
35F1260	K-16	7″	11.86	11.36
35F1261	K-19	9″	12.18	11.66

*Pocket clip
(5715) (de52776)

DRIVER SETS

85075



89904

Type 85075 5-piece cushion-grip screwdriver set includes 1 square-shank, keystone-tip (length: 8 11/32″); 1 round-shank, cabinet-tip (length: 9 3/4″); 1 round-shank, keystone-tip (length: 10 15/16″); 1 round-shank, no. 2 Phillips-tip (length: 8 5/16″); 1 round-shank, cabinet-tip (length: 10 11/32″). Contained in a reclosable seal-tight vinyl pouch.

52F9175 Type 85075. **Each** **47.67**

Type 89904 7-piece, 6″ shaft, nut-driver set includes drivers with following hex sizes: 3/16″, 1/4″, 5/16″, 11/32″, 3/8″, 7/16″, and 1/2″. Contained in a reclosable vinyl seal-tight pouch.

52F9174 Type 89904. **Each** **60.71**
(5770) (ne08142)

5-PIECE GRIP-IT® SCREWDRIVER SET

NEW

Basic selection of the most frequently used Grip-It® screwdrivers featuring a handle surface which resists slippage and allows the transfer of more torque. Set is provided in reclosable seal-tight vinyl pouch. Includes: round-shank, cabinet-tip, 7 11/16″L (195); round-shank with bolster, keystone-tip, 8″L (205); round-shank with bolster, keystone-tip, 11″L (275); round-shank, #1 Phillips-tip, 6 7/8″L (175); round-shank, #2 Phillips-tip, 8 1/16″L (205).

48F2504 Type 85090. **Each** **58.27**
(34681) (ne34681)

WIRE AND CABLE TOOLS

D'versiBIT® FLEXIBLE SHAFT DRILL BITS

A SERIES B SERIES C SERIES

D'versiBIT® drill bits come in a variety of sizes and 3 different styles: auger bits (**A series**); combination bits with screw points (**B series**); and combination bits (**C series**). **A series** auger wood-type bits with screw points pull themselves through wood and avoid walking or skidding. For drilling soft woods or through thin sections. **B series** combination bits with screw points can be used in many applications. Screw points are for easy starting and pulling through wood. With screw point removed, these bits can be ground to function like a standard combination bit. **C series** combination bits are for drilling in wood and light sheet metal. Designed for installing wire or cable inside existing walls. *For information on the D'versiBIT® placement tool on this page.*

A SERIES AUGER BITS

Stock No.	Type	Size	Each
91F1944	06-03-54A	⅜″ x 54″	**40.83**
91F1947	06-03-72A	⅜″ x 72″	**42.48**
91F1950	08-03-54A	½″ x 54″	**41.93**
91F1951	09-03-54A	9⁄16″ x 54″	**44.14**
91F1953	12-04-54A	¾″ x 54″	**46.34**
91F1955	12-04-72A	¾″ x 72″	**49.10**
91F1956	16-04-54A	1″ x 54″	**47.45**
B SERIES COMBINATION BITS w/SCREW POINTS			
91F1945	06-03-54B	⅜″ x 54″	**35.31**
91F1948	06-03-72B	⅜″ x 72″	**38.62**
91F1952	09-03-54B	9⁄16″ x 54″	**38.07**
C SERIES COMBINATION BITS			
91F1943	04-03-54C	¼″ x 54″	**30.90**
91F1946	06-03-54C	⅜″ x 54″	**34.21**
91F1949	06-03-72C	⅜″ x 72″	**37.52**
91F1954	12-04-54C	¾″ x 54″	**38.62**

(15251) (ne10247)

PLACEMENT TOOL AND ABRASION SHIELD

Type38350 D'versiBIT® placement tool allows placement of the drill bit at any point in the wall. *For information on D'versiBIT® drill bits on this page.*

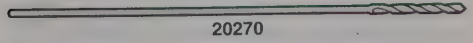
98F3380 Type 38350. **Each** **129.09**

Type 606AS abrasion shield protects hand and bit shaft while drilling. Tube fits both shaft sizes. Prevents insulation from wrapping around bit shaft. Protects shaft of masonry bits as they turn against masonry walls. Protects hand holding shaft during drilling.

91F1960 Type 606AS. **Each** **4.09**
(15253) (ne10249)

POWER BELLHANGER DRILL BITS

NEW



20270

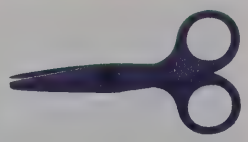
Bits for longer reach when installing small wires for computer, security, sound systems, telephone, video, etc. Convenient hole in head of bit for easy pulling of wire.

Stock No.	Type	Hole Diameter	Length	Each
48F2190	20270	¼″ (6.4)	18″ (45.72)	**14.13**
48F2191	20272	⅜″ (9.5)	18″ (5.72)	**17.33**
48F2192	20281	¼″ (6.4)	24″ (61.0)	**19.19**
48F2193	20283	⅜″ (9.5)	24″ (61.0)	**20.26**

(36971) (ne36971)

KEVLAR® CUTTER

NEW



Ceramic Kevlar® cutter easily trims the Kevlar® strength member in fiber-optic cable. Cuts Kevlar® quickly and precisely.

48F2199 Type 45085. **Each** **35.18**
(36874) (ne36874)

FLAT TELEPHONE CABLE CUTTER/ STRIPPER

NEW

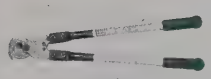
Built-in cable stop/guide for consistent strip length. 2-to 10-conductor capacity. High-carbon tool steel heat-treated for long life. Cushioned vinyl grips.

48F2200 Type 45480. **Each** **10.61**
(36876) (ne36876)

CABLE CUTTERS

727

718



704

45483

Type 727 cable cutters have forged steel blades for cutting up to 2/0 aluminum or copper cable. High-leverage handles are plastic covered for extra comfort and grip. **Type 718** cable cutters are lightweight and compact. Steel handles have rubber grips for greater leverage and comfort. Cut up to 350MCM copper; not for use with steel cable, ACSR or live circuits. 18″ length. **Type 704** feature replaceable forged, heat-treated and precision-ground blades and fiberglass handles. Cut up to 500MCM aluminum and 350MCM copper. 21″ length.

50F6971 Type 727. **Each** **26.48**
89F2780 Type 718. **Each** **62.34**
50F6972 Type 704. **Each** **114.75**

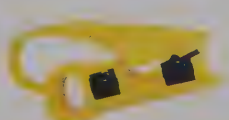
Type 45483 cable cutter is designed to cut solid stranded wire up to 8 AWG and multiconductor cable up to ½″ in diameter.

48F2198 Type 45483 **Each** **47.92**
(5683) (de52152)

CATV AND TWISTED PAIR CABLE STRIPPERS

NEW

MADE IN USA



45578

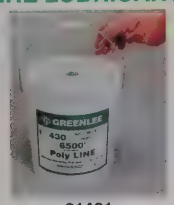
45579

Type 45578 is designed for high volume. Strips cable jacket and dielectric up to 0.25″. Uses replaceable stripping cartridges with spare holder built into tool. Replacement cartridges available separately below. **Type 45580** and **type 45581** replacement cartridges included with tool. **Type 45579** is for trimming the jacket from twisted pair cable without damaging the individual wires. Also trims flat satin cable. Blade depth adjustment for precise cutting depth. Blade penetration controlled by tension loop. Both tools made in the USA.

48F2201 Type 45578 Cable Stripper. **Each** **21.27**
48F2202 Type 45580 RG-6/RG-59 Repl. **Each** .. **6.35**
48F2203 Type 45581 RG-11/RG-7 Repl. **Each** .. **6.35**
48F2204 Type 45579 Twisted Pair. **Each** **15.46**
(36877) (ne36877)

WIRE LUBRICANTS

NEW



21481

Makes pulling faster and easier. Compatible with all cable insulation types. Will not break down or separate after exposure to heat or cold. Environmentally safe and non-hazardous. Cleans up quickly and easily.
Polyline is for use with power fishing systems directly from the handy reusable plastic container. Resists tangling, rot, and mildew. Use to pull rope through conduit. Not for pulling wire or cable. 210 lbs. average breaking strength.

Stock No.	Type	Description	Each
48F2177	35207	1-Qt. Cable Cream	**5.39**
48F2178	35211	1-Qt. Cable Gel	**5.28**
48F2179	02040	1-Qt. Fiber Optic Gel	**5.87**
48F2196	21481	Polyline	**54.37**

(36973) (ne36973)

D'versiGRIP® WIRE AND CABLE PULLING GRIPS

D'versiGRIP® pulling grips have clips that attach to holes in a bit and a mesh basket which holds wire or cable during recovery. Swivel design reduces twisting. For use with bit ⅜″ (9.5mm) diameter or larger. A variety of sizes for pulling wire and cable. **Type 125** is for pulling single wire with ⅜″ to ½″ (9.5mm to 127mm) bits. **Type 150** is for pulling ½″ (127mm) 00 wire with ½″ to 9⁄16″ (127mm to 143mm) bits. Type 168 is for pulling ¾″ (191mm) 00 wire with ¾″ to 1″ (192 to 254mm) bits.

Stock No.	Type	Description	Each
91F1957	125	⅜″-½″ Grip	**9.93**
91F1958	150	½″-9⁄16″ Grip	**12.14**
91F1959	168	¾″-1″ Grip	**14.62**

(15252) (ne1024

PUNCH DOWN TOOLS

NEW

Features preferred by installers. Bayonet-style blade locking mechanism. Neoprene pad for shock absorption. Spare blade storage in handle.

48F2205 Type 46021 With 66 Blade. **Each**..... **59.6**
48F2206 Type 46023 With 110 Blade. **Each** ... **59.6**
(36970) (ne3697

COMPACT RATCHET CABLE CUTTER

45207

Compact ratchet cable cutters with two-speed ratchet mechanism adjusts for light or heavy cutting. Simple, one hand operation.

Type 45206 has 1 7⁄16″ jaw opening for up to 600 MCM A1 and Cu.

48F2197 Type 45206. **Each** **261.17**

Type 45207 for larger capacity with 2″ jaw opening for yp to 1000 MCM A1 and 750 MCM Cu.

52F8911 Type 45207 **Each** **310.03**
(5768) (ne08140)

TOOLS AND PUNCHES

STANDARD ROUND PUNCH SET

NEW

MADE IN USA

Cuts up to 10-gauge mild steel, aluminum, fiberglass, and plastic. Use with manual, ratchet, or hydraulic drivers. Includes ½" - 1¼" conduit size standard round punches, dies, 2 draw studs, and rugged plastic case.

48F2184 Type 19973. **Each** **116.20**
(36271) (ne36271)

COBALT STEEL BI-METAL HOLE SAW KIT

MADE IN USA

Variable pitch hole saw kit for ½-2" conduit. Includes ⅞", 1⅛", 1⅜", 1¾", 2", 2½" hole saws, plus 37157, 37155, and 37156 arbors with pilot drills in plastic case.

95F3612 Type 830/19192. **Each** **119.16**
(5620) (de02438)

KWIK STEPPER™ STEP BIT SET

MADE IN USA

Two fluted design step bits for fast, cooler cutting of 10-gauge mild steel plus copper, brass, wood, plastics and laminates. Self-starting tips resist walking or skidding. Multi-hole bits make a broad range of holes with each bit. Three-bit set (34401, 34403 and 36413) for multiple holes from ⅛" through 1⅛". In case.

50F6960 Type 35884. **Each** **120.26**
(5678) (de52094)

ELECTRONIC CONNECTOR PANEL PUNCHES

Drill one 7⁄16" hole. Punch 3 holes for front or rear mount 25-pin D-subminiature connectors (Cinch, ITT Cannon DB-25P and DB-25S or equivalent). Manual or hydraulic operation. 22-16 gauge mild steel and 0.125" aluminum.

Stock No.	Type	No. of Pins	Each
87F2607	229	9	393.89
87F2608	231	15	393.89
46F5197	RS-232	25	393.89
87F2609	234	37	424.78
87F2610	238	50	424.78

(5623) (de02441)

INDUSTRIAL PUNCH SET

NEW

Cuts up to 10-gauge mild steel, aluminum, fiberglass, and plastic. Use with manual, ratchet, or hydraulic drivers. Includes: ¾" - 2" actual hole size standard round punches, dies, 3 draw studs, and rugged steel case.

48F2180 Type 39860. **Each** **216.40**
(36273) (ne36273)

SLUGSPLITTER® PUNCH SET

NEW

Unique slug-splitting design, these heavy-duty punches punch stainless steel. Heavy-duty dies and stainless steel draw studs for longer life. Cuts up to 10-gauge stainless steel, heavy gauge mild steel, fiberglass, and plastic. Use with hydraulic driver. Includes: ½" - 1¼" conduit size Slug-Splitter® punches, dies, 2 draw studs, and rugged metal case. *Order individual punches separately below.*

Stock No.	Type	Description	Each
48F2183	29619	½ - 1¼" Conduit Sizes Set	430.67
48F2181	29560	Punches with ⅞" Hole Size	119.40

(36272) (ne36272)

ROUND KNOCKOUT PUNCHES

Type 730. Punch round openings in 10-gauge mild steel. With manual drive draw studs.

Stock No.	Descrip.	Each	Stock No.	Size	Each
33F760	½"	24.28	33F769	1¼"	33.10
33F754	9⁄16"	28.14	33F755	1 5⁄16"	33.76
33F761	⅝"	28.14	33F770	1⅜"	45.24
33F775	11⁄16"	29.24	33F771	1½"	51.86
33F762	¾"	29.24	33F756	1⅝"	57.93
33F776	13⁄16"	29.24	33F757	1¾"	62.89
33F736	15⁄16"	32.07	48F2185	1⅞"	76.76
33F764	1"	33.10	48F2186	2"	78.89
33F765	1 1⁄16"	33.10	33F977	2⅛"	82.20
94F6537	1⅛"	35.31	33F772	2¼"	89.37
			34F978	2½"	131.30

Type 60246. 1 7⁄32" punch for control units.

33F778 Type 60246. **Each**..... **54.07**
(5677) (de52093)

720 KEYWAY PUNCH

Cuts 0.125" and 0.375" wide keyways in up to 10-gauge mild steel. Also cuts 0.125" or 0.187" keyways in pre-drilled or pre-punched hole 0.750" diameter or larger. Eliminates tedious hand sawing and filing when making keyways for oil-tight pushbutton switches.

89F2781 Type 720. **Each**..... **184.26**
(5622) (de02440)

P AND B RELAY SOCKET PUNCHES

Type 60037 makes clean, accurate, finished holes for Potter and Brumfield KHP miniature relay sockets. KHP hole 1.018 x 0.861".

33F797 Type 60037. **Each** **227.29**
(5621) (de02439)

"D" PUNCHES

Dimensions: **type 60077** is 0.500" x .0469", **type 60080** is 0.625" x 0.594", **type 60098** is 1.375" x 1.125".

Stock No.	Type	Description	Each
70B4198	60077	½" D	156.67
94F6804	60080	⅝" D	166.60
94F6805	60098	1⅜" Double-D	238.32

(36171) (ne36171)

SLUG-BUSTER® PUNCH SETS

7238SB

Innovative design splits slug in half so it falls freely without effort. Works to 10-gauge mild steel. Punches uniform holes in plastic and fiberglass as well. Use with manual, ratchet or hydraulic drivers. **Type 7238SB** includes ratchet.

Stock No.	Type	Conduit Size	Each
46F5186	7211BB-1/2	0.50"	30.90
46F5187	7211BB-3/4	0.75"	44.14
89F2775	7235BB	0.50-1.25"	141.23
89F2777	7238SB	0.50-2.0"	274.73

(5679) (de52095)

SQUARE PUNCHES

Square punches cut precise holes in 10-gauge mild steel. Use with wrench or hydraulic driver.

Stock No.	Type	Size	Each
33F779	60001	0.500" (12.70)	156.67
33F780	60004	0.625" (15.88)	156.67
33F781	60007	0.750" (19.05)	164.40
33F788	60259	0.882" (22.40)	177.64
33F782	60016	1.000" (25.40)	215.15

(5624) (de02442)

HYDRAULIC PUNCH DRIVER

7804SB

7904SB

½-2" conduit size. Ideal for fast, straight-on front panel punching. Step-saver adapter converts standard Greenlee knockout punches through 1¼" conduit sizes to use 7⁄16" draw stud for one-step punching. Includes driver, 3 draw studs, 2 adapters, 1 spacer, and rugged case. **Types 7804SB/7806SB** are straight drivers. **7904SB/7906SB** are right-angle drivers with heads that rotate through 180 degrees.

46F5185 Type 7804SB. **Each**..... **567.11**
98F1335 Type 7806SB. **Each**..... **727.09**
52F8910 Type 7904SB/33794 **Each** **634.41**
48F2187 Type 7906SB **Each** **847.47**
(5619) (de02437)

OILTIGHT PUNCHES

Punch holes for switches, panels, and instruments in enclosures. Punch up to 10-gauge mild steel. Use with manual, ratchet, or hydraulic drivers.

Stock No.	Type	Description	Each
48F2182	29563	1 7⁄32"	179.09
48F2189	60242	With Notches	237.72
48F2188	60238	Mini With Notches	222.80

(36270) (ne36270)

STEEL AND FIBERGLASS FISH TAPES

Enclosed in a high-impact, break-resistant case. Steel tapes are designed for extended pushing and pulling. Non-conductive fiberglass fish tapes are designed to be flexible and work with multiple bends or in flex conduit.

Stock No.	Type	Description	Each
52F8913	438-5	Steel, 50'	35.31
52F8914	438-10	Steel, 100'	55.17
52F8915	438-20	Steel, 200'	76.13
99F4608	540-50	Fiberglass, 50'	127.99
50F6958	540-100	Fiberglass, 100'	190.88

(5769) (ne08141)

PRECISION SPECIALTY TOOLS

MULTI-PURPOSE HOLDERS

H201

H205

54.025

Type H201 Twin Grip. 2 alligator clamps mounted to ball joints. Cross-bar and clamps can be removed and replaced by cross-lock tweezer. Heavy, nickel-plated base.
33F1806 Type H201. **Each** **20.96**

Type H205 Twin Grip with magnifier. 2X magnification. Ball joints permit positioning at any angle.
93F7802 Type H205. **Each** **21.79**

Type 54.025 solder/assembly station. 12 x 9.5″ work area. Includes 2 multi-position adjustable clamps, and 3x magnifier. For soldering directly on board, use **type 54.211** asbestos free soldering board (not shown), *sold separately.*
83F7128 Type 54.025 Solder Station. **Each** **87.97**
83F7129 Type 54.211 Soldering Board. **Each** .. **21.31** (de51002)
(5673)

TWEEZER KITS

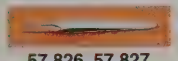
All-Purpose Set

All-Purpose Tweezer Set. Contains 4½″ sharp-pointed, 4¾″ stamp, 6″ retrieving, 6″ solder-utility, 6½″ self-closing.
81F5803 Type H-521. **Each**..... **21.52**

Solder Utility Tweezer Set. Contains 4¾″ self-closing sharp, 6½″ self-closing blunt, 4¾″, 6¾″, 7″ utility-solder types.
93F7801 Type 57.937. **Each** **23.01** (de51003)
(5674)

PRECISION TWEEZERS

57.816, 57.817


57.826, 57.827

57.835, 57.836

57.866

Dumont style.

Stock No.	Type	Description	Each
93F7803	57.816	(3C), Stainless	11.28
93F7804	57.817	Sharp, Anti-Acid/Mag SS	10.41
93F7805	57.826	(5), Stainless	9.19
93F7806	57.827	Needle, Anti-Acid/Mag SS	9.38
93F7807	57.835	(7), Stainless	11.56
93F7811	57.866	Boley (MM), Nickel-Plated	6.41

(5675) (de51004)

STAINLESS STEEL FORCEPS

Use as clamp or heat sink when soldering. 3-position lock and box-joint pivot. Cushion grips. Lgth. 5¾″; Jaws 1⅜″.
93F6312 Type H-340 (Straight). **Each**..... **9.14**
93F6313 Type H-341 (Curved). **Each** **9.14** (de51005)
(5676)

12-PIECE SWISS FILE SETS

33-908/33-909

GROBET-SWISS FILE SETS

12-piece chrome-alloy steel needle file sets. Round handles. Size: 6¼″ length 3″ cut. Sets contain 1 each: Barrette, Crossing, Equalling, Half-Round, Round-Edge, Joint, Knife, Marking, Round, Slitting, Square, Three-Square and Warding, plus case.
93F7798 Type 31.679-0CUT (0 Cut). **Each** ... **103.01**
93F7799 Type 31.680-2CUT (2 Cut). **Each** ... **103.01**

TELL-SWISS ECONOMY FILE SETS

12-piece Tell® needle file sets feature chrome-alloy steel. 5½″ length, 3″ cut. Plastic pouch. Medium or fine cut.
93F6310 Type 33.908 (Medium). **Each** **39.10**
93F6311 Type 33.909 (Fine). **Each** **42.69** (de50996)
(5668)

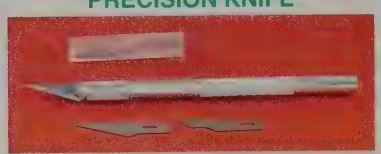
20-PIECE DRILL BIT SET

Miniature carbon steel twist drills, #61 (0.013″) to #80 (0.039″).
44F3036 Type H177. **Each** **30.80** (de50998)
(5669)

DELUXE KNIFE & TOOL SET

Aluminum mitre box, sander, #1, #2 and #5 knives with 20 assorted blades, razor saw, screwdriver, pinpoint stylus.
81F5804 Type H-866. **Each**..... **42.75** (de50999)
(5670)

PRECISION KNIFE


H111

Lightweight knife with 3 blades. Lock grip collet.
34F1286 Type H-111. **Each**..... **5.55**

8 assorted refill blades, nos. 11 & 16.
34F1287 Type H-111A. **Each** **4.62** (de51000)
(5671)

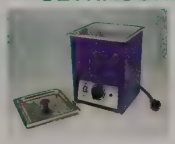
SPECIALTY KNIVES

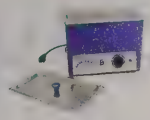
H-110

Type H110 mini utility knife. 3½″ long. 3-position double-end blade slides into handle for safe carry. Uses **type H110A** blades.
34F1284 Type H-110. **Each**..... **4.39**

Type H110A mini utility knife blades. Five double-end replacement blades for the **type H110** mini utility knife.
34F1285 Type H-110A. **Each** **3.01** (ne32077)
(32077)

ULTRASONIC CLEANERS


23 586


23 587

- **Stainless Steel Tank**
- **Automatic Shutoff Function**

Hi-frequency sound waves scrub away dirt and grease, reaching into deep recesses. Have 140°F heater and cover. Come with 8 oz. concentrate. 100W cleaning power except **type 23.586** which is 50W. 2-year unlimited warranty.

Stock No.	Type	Capacity	Tank Dimensions	Each
50F7359	23 586	½ gal.	5.5x5.0x4.0″	276.38
50F7360	23 587	¾ gal.	9.5x5.0x4.0″	546.33

(5667) (de50995)

VACUUM PICK-UP TWEEZER SYSTEM

57-650

Type 57-650 handles delicate miniature objects without scratching, breaking or pinching. Vacuum created at tip by placing finger over the control hole. Adjustable vacuum pressure: 1″ to 15″Hg. Air flow: 125 cubic inches/minute. Noiseless operation. Power: 115 VAC. System includes vacuum generator, anodized aluminum cylindrical probe, in-line filter, 4′ length of tubing, 5 stainless steel probe tips. *Order accessory set and replacement filter separately below.* Replacement probe tips are available; *contact your local Newark sales office to order.*
50F7351 Type 57.650 (System). **Each** ..... **102.**
50F7352 Type 57.651 (Filter). **Each**..... **6.5**

ACCESSORY SET FOR TYPE 57-650

Contains 8 neoprene vacuum cups which fit on probe tip to help pick up larger items. Cup diameters 3⁄16 to 5⁄8″ by 16 t
50F7358 Type 57.660. **Each**..... **23.9**
(5665)

PRECISION VIEWING PRODUCTS

H910 Binocular Magnifier. 3-dimensional viewing. Magnification: 2.5X at 11″.
81F5728 Type H910. **Each** **20.42**

Type H999 lighter headband magnifier. Work/directed lights on both sides. 3-lens system produces 4 magnifications: 2.3x, 3.7x, 4.8x. Requires 4 AAA batteries.
83F7130 Type H999 **Each**..... **41.39**
(5672)

NEWARK ACCEPTS MAJOR CREDIT CARDS.
CONTACT YOUR LOCAL NEWARK SALES OFFICE FOR DETAILS.

10-PIECE MINI-SCREWDRIVER SET

NEW

Chrome-plated vanadium steel blades with hardened tips and shafts. Ergonomically designed for rapid rotation and comfort. Set includes 3⁄64″, 1⁄16″, 5⁄64″, 3⁄32″ slotted blades; #000, #00, #0 cross points; T-6, T-7, T-8 Torx drivers. Fitted plastic case. Overall length: 4⅝″.

83F7633 Type 690. **Each** **20.67**
(32384) (ne32384)

SCREWDRIVERS AND SCREW/NUT STARTERS

S607

8081, 8082, 8083

Type S607 7-piece jeweler's screwdriver set. Nickel-plate body with screw chuck, tempered-steel blades: 0.100″, 0.080″, 0.070″, 0.055″, 0.040″, 0.025″, No. 0 cross point blade. Plastic case.

87F1157 Type S-607. **Each** **24.13**

Type 8081 Nut starter for hard-to-reach spaces. Spring-loaded chuck holds 3⁄32″ to 5⁄16″ nut sizes. 5″ knurled aluminum handle.

50F9067 Type 8081. **Each** **7.79**

Type 8082 Slotted screw starter. Spring chuck holds No. 3 to 7⁄16″ screws. 5″ handle.

50F9068 Type 8082. **Each** **8.37**

Type 8083 Cross point screw starter. Same as **type 8082** except fits no. 6 to ¼″ cross point screws.

50F9069 Type 8083. **Each** **7.79**
(5588) (de00604)

PRECISION SCRIBERS

80

83

88CM

Type 80 scriber with 2 hardened ground steel points. Knurled body. 8½″L. **Type 83** pocket scriber with reversible hardened, centerless ground point. ¼″ diameter body. **Type 88CM** tungsten carbide point scriber with magnet. Reversible point. 6″L.

93F9968 Type 80. **Each** **3.50**
34F560 Type 83. **Each** **4.02**
93F9964 Type 83P Replacement Point. **Each** ... **0.87**
93F9965 Type 88CM. **Each** **6.70**
93F9966 Type 88P Replacement Point. **Each** ... **2.81**
(5584) (de00600)

SAME-DAY SHIPMENT ON ORDERS PLACED BY 5:00 PM C.S.T.

TUBING CUTTER AND T-HANDLE REAMER

120

RW121/2

Type 120 tubing cutter makes precise cuts on copper, aluminum, and thin wall tubing. Comes with hardened steel reamer, which retracts for safety, and replaceable cutting wheel. ⅛ to 1⅛″ capacity. **Type RW121/2** replacement cutter wheels for **type 120** cutter. 1 pair of hardened alloy steel wheels.

52F9309 Type 120. **Each** **10.46**
52F9310 Type RW12 1/2. **Each** **4.48**
(5778) (ne08500)

PIN VISES AND CIRCUIT TRACE CUTTERS

92

79-CT

Type 92 swivel head pin vise. Hardened steel. 2 double-end reversible collets: 0.10 to 0.125″ and 0.10 to 3.17mm. **Type 79-CT** automatic circuit trace cutter. Adjustable depth. Chisel point.

34F580 Type 92. **Each** **9.57**
87F1155 Type 79-CT. **Each** **25.85**
87F1156 Type 79-CTP. Replacement Point **Each** **5.31**
(5586) (de00602)

NICKEL-PLATED TWEEZERS

Stock No.	Type	Points	Size	Each
93F9971	401AA	Strong, Bevel	5″	6.96
93F9972	403	Blunt, Serrated	6″	5.81
93F9960	408	Sharp, Bent	4¼″	5.24
93F9961	412	Slide-Lock, Blunt	6½″	6.18
93F9962	415	Curved	6½″	5.68

(5591) (de00608)

NEEDLE-FILE AND PROBE SETS

S475

862

Type S475 12-piece needle file set. Double-cut Swiss pattern. Plastic case. **Type 862** 3-piece probe set. Heat-treated high-carbon steel points. Knurled body. 6½″L.

93F9969 Type S475. **Each** **25.35**
93F9970 Type 862. **Each** **7.94**
(5590) (de00607)

RATCHET SCREWDRIVERS AND TAP WRENCHES

8071

160R, 161R, 162R

Type 8071 5-piece ratchet offset screwdriver set. For tight spaces. Includes ¼″ and ⅜″ hardened tempered straight blades and No. 1 and 2 cross point blades. Ratchet adjusts for right- or left-hand use.

50F9072 Type 8071. **Each** **12.63**

Types 160R, 161R, and **162R** are reversible ratchet tap wrenches with hardened, tempered steel jaws. Tap capacity: **type 160R,** No. 0 to No. 8 (1.6 to 4mm). **Type 161R,** 0 to ¼″. **Type 162R,** 12 to ½″.

34F579 Type 160R. **Each** **30.52**
87F1153 Type 161-R. **Each** **31.17**
87F1154 Type 162-R **Each** **39.61**
(5585) (de00601)

INSPECTION MIRRORS AND MAGNIFIERS

555
558
560

565 531

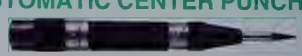
Type 555 1¼″ diameter mirror. Plated holder. Knurled handle has ball-and-socket joints. 8″L. **Type 558** oval 1 x 2″ mirror. 9″L. **Type 560** oblong 3½ x 2″ telescoping mirror. 11½″L; extends to 16″.

50F9084 Type 555 **Each** **6.94**
34F443 Type 558. **Each** **7.72**
87F1158 Type 560. **Each** **10.50**

Type 565 oblong illuminated magnifier. 2 x 4″ shatterproof 2.5 power lens. Includes 5 power bifocal insert, bulb, batteries. **Type 531** 2.5 power pocket magnifier folds into storage case.

87F1161 Type 565. **Each** **31.39**
93F9967 Type 531. **Each** **9.37**
(5589) (de00605)

AUTOMATIC CENTER PUNCHES



79

87

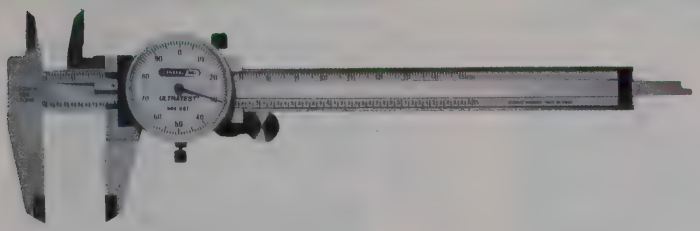
Type 79 automatic center punch. Threaded steel point and shaft. Adjustable tension.

34F565 Type 79. **Each** **23.33**
34F566 Type 79PRepl. Point. **Each** **3.00**

Type 87 pocket automatic center punch. Pencil-thin aluminum body. Alloy steel point. Adjusts for light or heavy markings.

50F9074 Type 87. **Each** **14.15**
50F9075 Type 87P Repl. Point. **Each** **2.87**
(5587) (de00603)

ULTRATEST® 6″ DIAL CALIPER

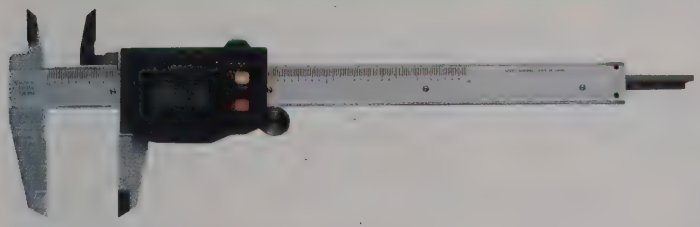


- **Accuracy: 0.001″ (0.025)**
- **Chrome Scale with 1/10 Inch/mm Graduations**
- **High-Quality Stainless Steel Body**

Covered rack protects mechanism from dirt and debris. Case included.

50F9073 Type MG-JDC6. **Each** **163.23**
(5568) (de00277)

ULTRATEST® ELECTRONIC DIGITAL CALIPER

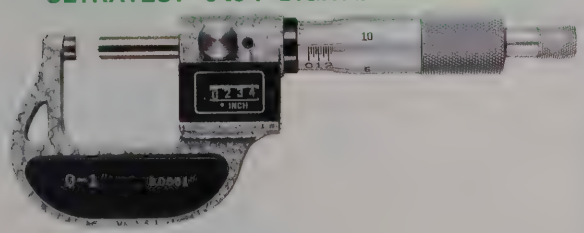


- **Inside, Outside & Depth Measurements**
- **0 to 6″ (0-152.40) Range**
- **True Inch/mm Conversion Without Rezeroing**
- **Accuracy: 0.001″ (0.025)**
- **Hardened Stainless Steel, Satin Chrome Finish**

Floating Zero function checks deviation from reference size--eliminating recalibration. Comes with fitted case and batteries. Compatible with **type MG9214** printer/calculator-*order separately.*

50F9063 Type MG8206. **Each** **384.17**
(5569) (de00278)

ULTRATEST® 0 to 1″ DIGITAL MICROMETER



- **Direct Counter for Quick, Accurate Readings**
- **Spanner Wrench & Fitted Case Included**

Carbide measuring faces microlapped to 0.0003″ flatness; 0.0005″ parallelism. Counter numerals read to 0.001″; sleeve numerals to 0.0001″.

50F9062 Type MG1010C. **Each** **204.92**
(5570) (de00280)

ULTRATEST® PLUNGER DIAL INDICATOR

- **Large 2½″ Diameter Dial**
- **Full 1″ Travel**
- **Continuous Dial Rotates–Set at Any Point**
- **Revolution Accumulator Counter**

Precision indicator offers direct–decimal two way readings left and right, and adjustable limit indicators. Lug mount is standard.

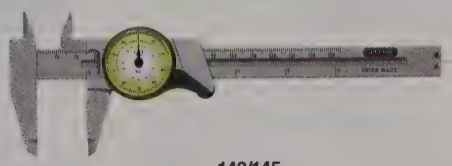
93F9957 Type MG1780. **Each** **75.25**
(5571) (de00283)

ELECTRONIC DIGITAL CALIPER

Type 143 6″ digital caliper with accurate measurements in inches and metric. Swiss precision crafted of fiberglass reinforced super polymid. Direct reading 0.001″/0.1mm. Measures outside, inside, depth, and step.

52F4957 Type 143. **Each** **89.60**
(5804) (ne09218)

DIAL CALIPERS



142/145

Type 142 reinforced plastic, 6″ dial caliper. Color-code dial in 0.01 and 64ths, mm on bar, inside/outside depth/step readings. Conversion table on back. **Type 145** same except measures in 0.001. **Type 144mm** is metric. Capacity: 0 to 150mm by 0.1mm.

87F1159 Type 142. **Each** **35.04**
87F1160 Type 145. **Each** **40.95**
52F9290 Type 144MM. **Each** **36.76**
(5751) (ne00609)

ULTRATEST® 6″ SATIN CHROME TEMPERED STEEL RULES

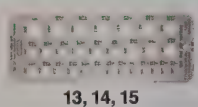
Ultratest® 6″ steel rules meet or exceed federal government's specifications for accuracy. Ultra-fine black graduations against hard satin chrome finish.

FLEXIBLE RULES

Stock No.	Type	Graduation			Width	Each
		Type	Side 1	Side 2		
52F9296	CF644	4R	8, 16	32, 64	½″	**8.76**
52F9297	CF645	5R	10, 100	32, 64	½″	**8.76**
52F9298	CF646	16R	32, 64	50, 100	½″	**8.76**
RIGID RULES						
52F9287	CF665	5R	10, 100	32, 64	¾″	**9.39**
52F9288	CF667ME	...	32, 64	mm, 0.5mm	¾″	**9.39**

(5803) (ne09...)

PRECISION GAUGES AND RULES



13, 14, 15

20

310

300/1

Heavy gauge steel drill gauges, machined and ground to close tolerances. Decima equivalent on back. **Type 13** drill sizes: 61 to 80. **Type 14** drill sizes 1/16 to ½ x 64ths. Type 15 sizes 1 to 60.

50F9081 Type 13. **Each** **14.50**
50F9082 Type 14. **Each** **12.95**
34F561 Type 15. **Each** **13.11**

Type 20 American standard wire gauge: 0 to 36. Chrome finish. Tempered steel. Decimal equivalent on back.

50F9079 Type 20. **Each** **23.89**

Type 310 Rule/wire gauge combination. 32 to 64 graduation with B & S wire gauge on reverse.

34F563 Type 310. **Each** **3.76**

Type 300/1 Stainless steel rule. 32 to 64 graduation. Decimal equivalent on reverse side

50F9077 Type 300/1. **Each** **2.55**
(5583) (de00594)

ULTRATEST® HIGH-POWERED MAGNETIC BASE

- **Rare-Earth Triple Magnet–90 lb. Pull**
- **No Residual Magnetism when Turned Off**
- **Holds Most Dial Indicators & Other Fixtures**

Industrial magnetic base features On/Off switch that energizes only when in use on work surface. Base L x W x H: 2¾ x 2 x 2⅛″ (69.85 x 50.8 x 54.10); overall height: 9¾″.

93F9958 Type MG1758/MG1759. **Each** **71.01**
(5572) (de00284)

BONDHUS® GORILLA GRIP™ FOLD-UP TOOL SETS

- For Hex and Torx® Screws
- No Loose Tools
- Precision-Fit Tip

- High Torque
- Marked for Size
- Color-Coded For Easy Set Identification

Stock No.	Type	No. of Pieces	Size	Each
52F6706	12591	9	.050″ 3⁄16″	4.56
52F6707	12589	9	5⁄64″ - 1⁄4″	5.81
52F6708	12592	7	1.5-6mm	4.73
52F6709	12587	7	2-8mm	6.27
52F6710	12632	8	T6-T25	11.28
91F1984	12585	5	3⁄16″ - 3⁄8″	8.20
91F1985	12595	6	3-10mm	8.71
91F1986	12634	8	T9, T10, T15, T20, T25, T27, T30, T40	11.28
91F1987	12550	12	1.5, 2, 2.5, 3, 4, 5 mm / 5⁄64, 3⁄32, 7⁄64, 1⁄8, 9⁄64, 5⁄32 inch	7.96
91F1988	12894	5	3⁄16, 7⁄32, 1⁄4, 5⁄16, 3⁄8 inch	12.52
91F1989	12897	5	5, 6, 7, 8, 10 mm	12.52

(5760) (ne07282)

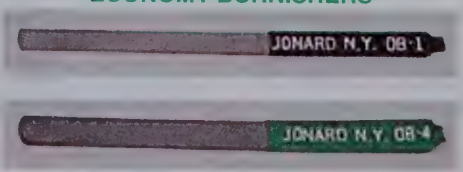
JONARD INDUSTRIES CORP. CONTACT INSERTION/REMOVAL KITS

KR-260

Insert/remove sizes 12, 16, 20. **Type KA-260** 3-piece insertion. **Type KR-260** 3-piece removal.

35F1148 Type KA-260. **Each** **314.90**
35F1149 Type KR-260. **Each** **345.75**
(5594) (de00679)

JONARD INDUSTRIES CORP. ECONOMY BURNISHERS



Type OB-1 for fine contacts: 0.188″ (4.78) W, 0.007″ (0.178) thick. **Type OB-2** for extra-sensitive points: 0.25″ (6.35) W, 0.007″ (0.178) thick. **Type OB-3** general-purpose contacts: 0.25″ (6.35) W, 0.010″ (0.254) thick. **Type OB-4** industrial uses: 0.25″ (6.35) W, 0.020″ (0.508) thick. **Sold in package of 12.**

35F2219 Type OB-1. **Per Package** **36.69**
35F2220 Type OB-2. **Per Package** **46.39**
35F2221 Type OB-3. **Per Package** **79.00**
35F2222 Type OB-4. **Per Package** **98.32**
(5596) (de00683)

BONDHUS® BALLDRIVER® L-WRENCH COMBOS

Type 20199

Type 14132

Type 20199 double pack contains BLX 13 inch Balldriver® L-wrench set and BLX 9 metric Balldriver® L-wrench set. **Type 14132** triple pack contains BLX 13 inch and BLX 9 metric L-wrench sets, and the 12632 GorillaGrip® fold-up Torx® set.

83F6330 Type 20199 **Each** **27.49**
83F6331 Type 14132 **Each** **38.34**
(29679) (ne29679)

BONDHUS® BALLDRIVER® L-WRENCHES

Type 10936 12-piece inch set contains sizes: 0.050″, 1⁄16″, 5⁄64″, 3⁄32″, 7⁄64″, 1⁄8″, 9⁄64″, 5⁄32″, 3⁄16″, 7⁄32″, 1⁄4″, 5⁄16″. Bondhex® case.

90F7782 Type 10936 (BLX12). **Each** **13.21**

Type 10937 13-piece inch set contains sizes: 0.050″, 1⁄16″, 5⁄64″, 3⁄32″, 7⁄64″, 1⁄8″, 9⁄64″, 5⁄32″, 3⁄16″, 7⁄32″, 1⁄4″, 5⁄16″, 3⁄8″. Bondhex® case.

90F7784 Type 10937 (BLX13). **Each** **18.50**
(5752) (ne03186)

JONARD INDUSTRIES CORP. ELECTRONIC SERVICE KIT

Type K-600 31-piece kit includes 3 pliers, 3 screwdrivers, tweezer, pocket and finger burnishers, IC extractor, spudger and trimpot tool, soldering iron/aids, penlight, 4 spring hooks, inspection mirror, and 2 alignment tools in leather case.

35F1137 Type K-600. **Each** **276.42**
(5597) (de00684)

JONARD INDUSTRIES CORP. DIAMOND CLEANER-BURNISHERS

K-234

Abrasive diamond particles clean relay contacts with minimal pressure. Nominal material removal won't alter normal contact gap. **Type K-234** 3-piece kit contains: coarse 0.019″ thick (0.483); medium 0.017″ thick (0.432); fine 0.011″ thick (0.279).

35F1100 Type K-234 (Kit). **Each** **186.79**
(5599) (de00687)

BONDHUS® BALLDRIVER® HEX TOOL SETS

Type 10699 9-piece metric set contains hex tools in twist lock case. Sizes: 1.5mm, 2mm, 2.5mm, 3mm, 4mm, 5mm, 6mm, 8mm, 10mm.

90F7790 Type 10699 (BSX9MM). **Each** **37.63**

Type 10637 13-piece inch set contains hex tools in twist lock case. Sizes: 0.050″, 1⁄16″, 5⁄64″, 3⁄32″, 7⁄64″, 1⁄8″, 9⁄64″, 5⁄32″, 3⁄16″, 7⁄32″, 1⁄4″, 5⁄16″, 3⁄8″.

90F7788 Type 10637 (BSX13). **Each** **47.76**

Type 10632 8-piece inch set contains hex tools in vinyl pouch. Sizes: 0.050″, 1⁄16″, 5⁄64″, 3⁄32″, 7⁄64″, 1⁄8″, 9⁄64″, 5⁄32″.

90F7787 Type 10632 (BSX8S). **Each** **19.86**
(5629) (de03187)

JONARD INDUSTRIES CORP. POCKET TYPE BURNISHERS

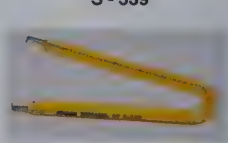
Clean general-purpose contacts. 4.5″L x 0.375″ diameter (114.30 x 9.53) plastic pen for dielectric use. Includes 6 non-residual abrasive 0.188″W x 1.5″L (4.78 x 38.10) blades stored in pen barrel. Rods ball-ended: 1.25″L x 0.020″ diameter (31.75 x 0.508). Replacement blades available: contact your local Newark sales office.

Stock No.	Type	Description	Each
50F5447	PB-3	Pen/6 Blades, 0.0035″ Thick	40.09
50F5448	PB-3R	Same as PB-3 Plus 6 Abrasive Rods	45.13
50F5449	PB-7	Pen/6 Blades, 0.0007″ Thick	40.09

(5598) (de00686)

JONARD INDUSTRIES CORP. PRECISION EXTRACTION TOOLS

S - 339



S - 340

Type S-339 miniature lamp extractor. 0.25″ (6.35) I.D., 4″ (101.60) L. **Type S-340** 4″ (101.60) tweezer extractor for 8-24 pin LSI, MSI, SSI devices.

84F877 Type S-339. **Each** **40.09**
95F4040 Type S-340. **Each** **21.06**
(5595) (de00682)

PRECISION TOOL SETS

WIHA® PRECISION SCREWDRIVER SETS

Hardened and plated tool steel blades. Exact fit precision tips. Comfort tapered handle molded to blade. Finger rotation control cup.

Type 26190 7-piece set contains 4 slotted sizes: 1.5, 2.0, 2.5. 3mm. Phillips sizes: #00, #0, #1.
90F7777 Type 26190. **Each** **34.14**

Type 26090 6-piece slotted set contains sizes: 1.5, 2.0, 2.5, 3.0, 3.5, 4.0mm.
90F7776 Type 26090. **Each** **28.92**

Type 26390 7-piece metric hex set contains sizes: 0.71, .89, 1.3, 1.5, 2.0, 2.5, 3.0mm.
90F7778 Type 26390. **Each** **33.82**

Type 26391 8-piece inch hex set contains sizes: 0.028″, 0.035″, 0.050″, 1/16″, 5/64″, 3/32″, 7/64″, 1/8″.
90F7781 Type 26391. **Each** **37.80**

Type 26490 8-piece inch ballpoint hex set contains sizes: 0.050″, 1/16″, 5/64″, 3/32″, 7/64″, 1/8″, 9/64″, 5/32″.
90F7792 Type 26490. **Each** **44.41**

Type 26790 6-piece Torx® driver set contains sizes: T6, T7, T8, T9, T10, T15.
90F7780 Type 26790. **Each** **41.22**

Type 26591 8-piece inch nut drivers contains sizes: 3/32″, 7/64″, 1/8″, 9/64″, 5/32″, 3/16″, 7/32″, 1/4″. All shanks are 60mm long.
90F7791 Type 26591. **Each** **53.40**

Type 26590 8-piece metric nut driver set contains sizes: 2.5, 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0. All shanks are 60mm long.
90F7779 Type 26590. **Each** **53.86**
(5774) (ne08489)

ERGONOMIC CUSHION-GRIP NUT DRIVER AND SCREWDRIVER SETS

- **Ergonomic Handle Shape**
- **Molded-On Cushion Grips**
- **Chrome-Vanadium-Molybdenum Tool Steel Blades**
- **Added Chrome Finish Protects Tips from Rust**

Type 30294 6-piece screwdriver set contains 4 slotted in sizes 4.0″, 6.5″, 8.0″, and 4.0″ stubby, and Phillips #1 and #2.
83F6424 Type 30294. **Each** **40.15**

Type 36291 6-piece screwdriver set contains 6 Torx® in sizes T6, T7, T8, T9, T10, and T15.
83F6425 Type 36291. **Each** **25.74**

Type 34792 6-piece heavy-duty nut driver set contains sizes 3/16″, 1/4″, 5/16″, 3/8″, 7/16″, 1/2″.
83F6426 Type 34792. **Each** **67.98**

Type 34791 5-piece heavy-duty nut driver set contains sizes 5.0, 6.0, 8.0, 10.0, and 11.0mm.
83F6427 Type 34791. **Each** **52.25**
(29477) (ne29477)

WIHA® PRECISION ANTI-STATIC HANDLE/INTERCHANGEABLE BLADE SETS

26997

Type 26992 10-blade combo set (20 tips) contains slotted sizes: 1.5 & 3.0, 2.0 & 3.5, 2.5 & 4.0mm. Phillips sizes: #000 & 00, #0 & 1. Hex/ballpoint sizes: 1.3, 1.5, 2.0, 2.5, 3.0. Anti-Static adjustable collet type handle in roll-up pouch.
93F6584 Type 26992. **Each** **86.51**

Type 26997 8-blade combo set (16 tips) contains slotted sizes: 1.5 & 3.0, 2.0 & 3.5, 2.5 & 4.0mm. Phillips sizes: #000 & 00, #0 & 1. Torx® sizes: T6 & T8, T7 & T9, T10, T15. Anti-Static adjustable collet type handle in fold-out box.
92F8113 Type 26997. **Each** **60.80**
(5775) (ne08490)

SYSTEM 6 SCREWDRIVER AND NUT DRIVER SETS

- **Ergonomic Handles with Nonslip Grip**
- **Interchangeable Chrome-Vanadium-Molybdenum Tool Steel Blades**
- **Microfinish Nonslip Surface**
- **Blades of Heavy-Duty Hex Material**
- **Narrow Profile Handle for Access and Visibility**

Type 10191 8-piece screwdriver set contains 4 slotted in sizes 3.0″, 4.0″, 6.0″, and 8.0″, and Phillips #0, #1, and #2. With handle.
83F6428 Type 10191. **Each** **37.90**

Type 10391 8-piece screwdriver set contains 7 hex blades in sizes 3/32″, 7/64″, 1/8″, 9/64″, 5/32″, 3/16″, and 7/32″. With handle.
83F6429 Type 10391. **Each** **37.90**

Type 10591 10-piece nut driver set contains sizes 3/16″, 7/32″, 1/4″, 9/32″, 5/16″, 11/32″, 3/8″, 7/16″, and 1/2″. With handle.
83F6430 Type 10591. **Each** **49.01**

Type 10691 5-piece nut driver set contains sizes 4.0, 4.5, 5.0, 6.0, 7.0, 8.0, 9.0, 10.0, and 11.0mm. With handle.
83F6431 Type 10691. **Each** **52.69**
(29478) (ne29478)

PRECISION TOOLS WITH ESD-SAFE HANDLE AND INTERCHANGEABLE BLADES

- **ESD-Safe Precision Handles**
- **Antistatic Storage Pouches**
- **Chrome-Vanadium-Molybdenum Tool Steel Blades**
- **Tips Machined to Exact Fit**
- **Rotating Finger Control Cap**
- **Compact and Lightweight**

Type 28096 9-piece slotted and Phillips head screwdriver set contains handle; 4 slotted tips in sizes 1.5″, 2.0″, 3.0″, 3.5″; and 4 Phillips tips: #000, #00, #0, and #1.
83F6432 Type 28096. **Each** **35.09**

Type 28087 11-piece Torx® driver set contains handle and Torx® tips in sizes: T3, T4, T5, T6, T7, T8, T9, T10, T15, and T20.
83F6433 Type 28087. **Each** **41.80**

Type 28083 13-piece driver set contains handle; metric ball-hex single-ended drivers: 1.3, 1.5, 2.0, 2.5, 3.0, and 4.0mm; slotted blades: 2.0, 3.0, 4.0; and Phillips blades #00, #0, #1.
83F6434 Type 28083. **Each** **40.68**

Type 28084 14-piece driver set contains handle; incl ball-hex single-ended drivers in sizes: 0.50″, 1/16″, 5/6 3/32″, 7/64″, 1/8″, 9/64″, 5/32″; slotted blades in sizes: 2.0″, 3.0″ and 4.0″; and Phillips blades in sizes: #00, #0, #1.
83F6435 Type 28084. **Each** 43.9
(29479) (ne2

WIHA® INSULATED SCREWDRIVER SET

VDE approved. Meets IEC 900 and ASTM F -1505 standards. Individually tested.

Type 32090 4-piece set slotted sizes: 5/64, 3/16. Phillips sizes: #1, #2.
90F7775 Type 32090. **Each** 24.7
(5776)

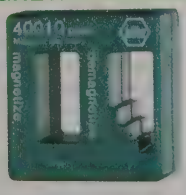
WIHA® PRECISION CHIP LIFTER

Angled fork end for pulling chips. Blade length: 50mm
93F6583 Type 26810. **Each**..... 6.72
(5626) (de0370

WIHA® 1/4″ MAGNETIC BIT HOLDER

1/4″ insulated magnetic hex drive. Chambered handle with six 1″ bits. Snap-lock rotable cap. Slotted: 3/16″, 1/4″, 5/16″ Phillips: #1, #2, #3.
90F7774 Type 38006. **Each** 20.27
(5630)

WIHA® MAGNETIZER/DEMAGNETIZER



Pocket-size magnetizer/demagnetizer. Magnetize steel tools and small parts on the job. Allows easy and precise handling in confined spaces. Collects metal items from inaccessible places.
93F1826 Type 40010. **Each** 10.14
(5762)

VISES, PRESSES AND PC BOARD HOLDERS

PC BOARD WORKSTATION COMBINATIONS

324

333

372

Type 324 combines **type 315** circuit board holder, **type 371** solder station with nib soldering iron sponges, **type 300** base and **312** tray base mount.

75F027 Type 324. **Each** **89.01**

Type 333 board holder has 8-position rotating adjustment and 6 positive lock positions in vertical plane. Offers tilt angle and height adjustment, board rotation. NOTE: Not compatible with other PanaVise® models.

75F028 Type 333. **Each** **75.14**

Type 372 combines **type 300** standard base with **type 315** board holder.

75F021 Type 372. **Each** **54.33** (5810) (de00189)

INTERCHANGEABLE HEADS FOR TYPES 300, 305, AND 380 WORKSTATION BASES

303

366

304

376

315

385 & 391

Type 303 standard head with nylon jaws, satin finish. 2.5″ (63.50) wide jaws open to 2.25″ (57.15). Fits **types 300, 305, 380** bases.

75F019 Type 303. **Each** **28.98**

Type 304 low-profile head same as **type 303** except stem is cast into rear of head to allow close positioning to work surface.

81F1160 Type 304. **Each** **35.83**

Type 315 circuit board holder accommodates boards from 0.125″ (3.18) to 12″ (304.80) wide. Fits **types 300, 305, 380** bases.

75F022 Type 315. **Each** **34.67**

Type 366 wide-opening head opens to 6″ (152.40). Molded, deep-ribbed neoprene jaw pads. Fits **types 300, 305** bases.

50F2655 Type 366. **Each** **35.83**

Type 376 self-centering, extra wide-opening head opens to 9″ (228.60); has reversible jaw pads. Fits **types 300, 305** bases.

75F031 Type 376. **Each** **48.55**

Type 385 micrometer holder with gentle delrin contact pads and ABS plastic knob. Made of die-cast aluminum body. Maximum opening between pads is 0.5″ (12.7), throat depth is 0.95″ (41.7), and post diameter is 0.625″ (16). Compatible with **types 300, 305, 376** bases.

Type 391 combines **type 385** micrometer holder and **type 305** stand.

83F7677 Type 385. **Each** **25.62**

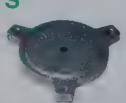
83F7678 Type 391. **Each** **44.63** (5812) (de00191)

WORKSTATION BASE MOUNTS

308

311

312


335

Type 308 cast-iron, weighted base mount weighs 5 lbs. (2.3 kg.). Includes mounting hardware, neoprene pads. Holds **types 300, 305** bases.

75F020 Type 308. **Each** **32.36**

Type 311 bench clamp base mount fits surfaces to 3.5″ (88.90) thick. Includes mounting screws, neoprene pads. Holds **types 300, 305** bases.

90F2064 Type 311. **Each** **45.08**

Type 312 base mount has 6 trays for holding small parts and tools. Includes mounting screws, neoprene pads. Holds **types 300, 305** bases.

75F026 Type 312. **Each** **24.15**

Type 335 magnetic base mount to attach vises to any metal surface. Includes 3 mounting screws to attach to compatible Panavise bases. Can hold up to 5 lbs. and is 0.4″ (10) thick. Not recommended for use around electronic equipment.

48F1706 Type 335. **Each** **20.31** (5814) (de00193)

MULTI-PURPOSE WORKSTATION COMBINATIONS

PV201

301

381

350

309

334

396

302

Type PV201 compact PVjr. workstation turns, rotates and swivels for soldering, drilling, painting, assembly. Die cast zinc base. Thermal plastic alloy jaws open to 2⅞″ (73.025) wide. Overall height: 6¾″ (171.45).

97F8324 Type PV201. **Each** **26.52**

Type 301 combines **type 303** head with **type 300** multi-position base.

75F017 Type 301. **Each** **49.70**

Type 381 combines **type 380** vacuum base with **type 303** head.

75F032 Type 381. **Each** **63.58**

Type 350 multi-purpose work center combines **type 376** wide-opening head, **type 312** tray base mount and **type 300** base.

75F030 Type 350. **Each** **86.70**

Type 309 combines **type 366** wide-opening head, **type 305** low-profile base and **type 308** weighted base mount. Includes reversible jaw pads.

75F024 Type 309. **Each** **80.92**

Type 334 combines **type 376** head, **305** base, and **308** base mount.

75F023 Type 334(PV808). **Each** **92.48**

Type 396 wide-opening vise combines **type 300** base with **type 366** head.

50F2993 Type 396. **Each** **53.17**

Type 302 combines **type 366** and **type 303** standard heads with **300** base.

50F2656 Type TYPE 302. **Each** **83.23** (5809) (de00188)

WORKSTATION BASES

300

305

380

Type 300 base holds **300 series** heads and board holders. Tilts, turns, rotates to position work. Mounting holes provided. 3.75″ H (95.25).

75F016 Type 300. **Each** **24.15**

Type 305 low-profile base same as **type 300**, except 2.5″H (63.50).

44F1306 Type 305. **Each** **24.15**

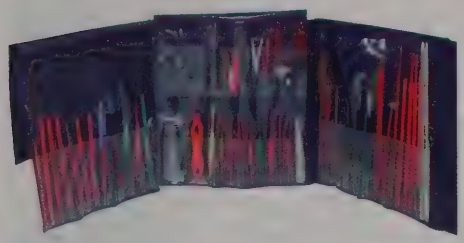
Type 380 vacuum base attaches to nonporous, smooth surfaces via a lever arm and suction pad. Same features as **type 300** base.

75F018 Type 380. **Each** **36.99** (5811) (de00190)

VISIT NEWARK'S WEB SITE AT www.newark.com

PRECISION TOOLS

46-PIECE ALIGNMENT SPECIALTY TOOL KIT



Wire stripper, screwdrivers, inspection mirror, neo-lite tool, low volt tester, fuse puller, tweezers, capacitor tool, oiler, heat sink, transistor tool, wrench kit and other alignment tools.

34F1171 Type 5050. **Each** **115.64**
(5632) (de03244)

ALIGNMENT TOOL KITS

MASTER DELUXE TOOL KIT

25 TV-FM tuning, K-tran neutralizing, long aligning and tel-a-turn tools. Core, duplex, universal, shorty, 2-in-1 and screwdriver aligners.

35F650 Type 8283. **Each**..... **45.42**
(5631) (de03243)

RATCHETING COAXIAL TOOL KIT

This kit includes all tools needed to cut, strip and install RG-58, RG-59, RG-6 and RG-62 coaxial cable. Includes carrying case.

92F4988 Type 12-459. **Each**..... **67.36**
(5647) (de03954)

NIBBLING TOOL

Heavy spring and removable stripper bracket.

Stock No.	Type	Description	1-4	5-9
30F1340	806	Nibbling Tool	16.79	15.96

(5634) (de03250)

PROFESSIONAL ADJUSTABLE WRIST STRAP KIT

Extra wide, soft elastic material with nonallergenic stainless steel and nylon strap impregnated with silver for superior conductivity. Adjustable size. No exposed conductive tail for added safety. Complete kit includes: 10′ coil cord, 4mm snap stud, and alligator clip. *Order* **type 12-8020** *6′ coil cord separately below.*

Stock No.	Type	Description	Each
52F9895	12-8012	Kit	22.01
52F9896	12-8013	Wrist Strap Only	13.11
52F9898	12-8022	10′ Coil Cord Only	12.12
52F9897	12-8020	6′ Coil Cord	11.80

(5764) (ne08135)

5-PIECE PRECISION PLIER SET

Type 12-7070 contains 5 precision stainless steel-construction pliers: micro-flat nose for work where blade thickness must be minimal. Snub-nose micro-cutting nippers trim components and soft, copper wire. Micro-round nose pliers snip tiny wires and trim solder connections. Long-nose pliers with razor-sharp blades for trimming film, insulation and plastic chassis boxes. Micro-bent nose style for multiple design, repair and micro-assembly applications. Spring-loaded handles are extra-cushioned for added comfort. Overall length 4″.

92F4986 Type 12-7070. **Each**..... **22.25**
(5646) (de03952)

SAE AND METRIC SOCKET SETS

NEW

Type 31612/ 41612 is a 12-piece SAE and metric 6 point socket sets. **Type 31120/41120** is a 20-piece SAE and a 20-piece metric socket set. Both sets come with a 5″ extension, spin disc, 8″ reversible ratchet, 13⁄16″ 6 pt. spark-plug socket, and a metal tool kit. **Type 31612/41612** sockets include: SAE 3⁄8″, 7⁄16″, 1⁄2″, 9⁄16″, 5⁄8″, 11⁄16″, and 3⁄4″. Metric 9, 10, 12, 13, 14, 17, and 19mm. **Type 31120/41120** sockets include: SAE 3⁄8″, 7⁄16″, 1⁄2″, 9⁄16″, 5⁄8″, 11⁄16″, 3⁄4″, and 7⁄8″. Metric 9, 10, 12, 13, 14, 17, and 19mm. **Type 31120/41120** deep sockets include: 3⁄8″, 7⁄16″, 1⁄2″, 9⁄16″, 5⁄8″, 11⁄16″, and 3⁄4″. Metric 10, 12, 13, 14, 17, and 19mm.

48F2053 Type 31120. **Each** **48.81**
48F2052 Type 31612. **Each** **27.15**
(33677) (ne33677)

17-PIECE MINI HOME HANDY KIT

NEW

Type 33716 mini home handy kit is made from drop-forged alloy steel with triple chrome plating for greater rust resistance. Kit includes: bit driver handle with 10 bits and holder; #1, #2, #3 Phillips; 1⁄8″, 3⁄16″, 1⁄4″ slotted, T-10, T-15, T-20, T-25 Torx®; 6″ adjustable wrench, 5″ long-nose pliers, 4½″ diagonal cutting pliers; snap-blade utility knife; and a fastener kit. ½″; case for convenient storage. Lifetime warranty.

48F2045 Type 33716. **Each** **26.03**
(33678) (ne33676)

26-PIECE MINI HOME & HOBBY KIT

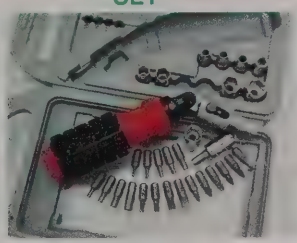
NEW

Type 33726 tool kit comes in a compact case for convenient storage. The set includes: 4½″ long nose pliers, 4½″ diagonal cutting pliers, tweezers, drive handle; #1, #2 Phillips bits; #1, #2 Posibits; 3⁄16″, 1⁄4″ slotted bits precision screwdrivers. T-10, T-15, T-20 Torx® bits; hex to 1⁄4″ drive adapter in bit organizer; 3″ extension for 1⁄4″ drive; 1⁄4″ drive sockets 3⁄8″, 1⁄4″, 11⁄32″, 3⁄16″; #3 slotted, and #2 Phillips. Lifetime warranty.

48F2046 Type 33726. **Each** **26.42**
(33680) (ne33680)

32-PIECE SUPER-TORQUE SOCKET/BIT SET

NEW



Type 33731 flexible socket and bit set includes a high-torque ratchet driver, 10 socketbits, 20 screwdriver bits and compact case for convenient storage. The bit retention system is made of chrome vanadium steel. The set includes: 10, 6-point sockets consisting of 5⁄32″, 3⁄16″, 7⁄32″, 1⁄4″, 9⁄32″, 5⁄16″, 11⁄32″, 3⁄8″, 7⁄16″, 1⁄2″; 20 bits: 1⁄8″, 3⁄16″, 1⁄4″, 5⁄16″ slotted, #1, #2, #3 Phillips; 1⁄16″, 1⁄8″, 3⁄16″, 1⁄4″ hex; T-10, T-15, T-25, T-27, T-30 Torx®; #1, #2, #3 Pozi bits; and an adapter. Lifetime warranty.

48F2048 Type 33731. **Each** **26.03**
(33679) (ne...)

8-PIECE SCREWDRIVER/PICK-UP TOOL

NEW

Type 56288D screwdriver features a palm-filling handle with thumb-stop to provide positive grip and high torque control. Also features a telescoping pick-up tool that stretches to 17½″ long for hard-to-reach places. The bits are made of chrome vanadium for long life. Includes: #1, #2, #3 Phillips; 3⁄16″, 1⁄4″ slotted; T-15 and T-20 Torx® bits. Lifetime warranty.

48F2050 Type 56288D. **Each** 13.98
(33678)

6-IN-1 CUSHION GRIP SCREWDRIVER

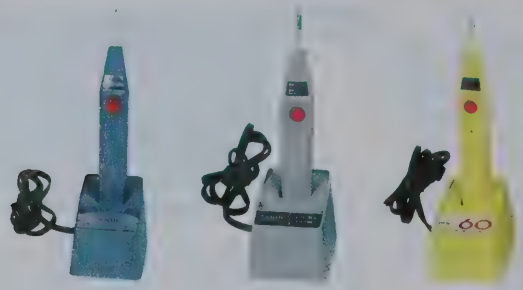
NEW

Contour design and cushion grip makes for easy operation. Includes: 4 screwdriver bits; 1⁄4″ and 5⁄16″ nut drivers. Bits store in double-ended shaft. Lifetime warranty.

48F2049 Type 56236D. **Each** **10.58**
(33675) (ne33675)

SOLDERING IRONS AND SPECIALTY TOOLS

SOLDERING IRONS AND SPECIALTY TOOLS



7904 7700 7800

All Iso-Tip rechargeable soldering irons offer: isolated tip, ground free, and low-voltage to eliminate electrical leaks and damage. Use Ni-Cad battery pack. Units heat up in 5-10 seconds, have built-in work light, lock-off switch, and tip performance to 25W or constant tip temperature of 900°F.

TYPE 7800 PRO-CHARGE (ISO-TIP 60)

Type 7800 NiCad battery-operated iron recharges in 1 hour. Automatically changes to an energy-saving trickle charging rate when battery becomes full. Also offers built-in worklight and "lock off" switch. Solders up to 125 electronic joints per charge, 20 minutes continuous. Quick recovery rate when set back into stand between uses. Kit contains iron, recharge stand, **type 7833** battery, **types 7577, 7545** snap-in tips.

Stock No.	Type	Description	Each
44F6635	7800/7840	Pro Charge (Iso-Tip 60) Kit	72.39
44F6637	7850	Iron Only	54.92
44F6638	7828-100	Recharging Stand	18.06
83F3365	7833	Battery	19.28

TYPE 7904 POWER PRO SOLDERING IRON

Type 7904 solders more than 200 joints per recharge, and works 30 minutes continuously. Recharges in 3-4 hours. Tip reaches temperature in 5 seconds. LED charging indicator light. Includes iron, recharge stand, **type 7933** battery, **types 7577, 7545** high-efficiency tips.

Stock No.	Type	Description	Each
96F6869	7904	Power Pro Kit	72.39
52F9314	7952-100	Iron Only	57.98
52F9319	7933	Battery	19.28

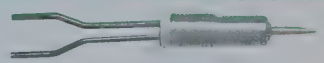
TYPE 7700 QUICK CHARGE SOLDERING IRON

Type 7700 recharges in 3 to 4 hours. Solders up to 125 joints per recharge, or 20 minutes of continuous use. **Type 7700** contains iron, recharge stand, **type 7733** battery, **type 7545** fine tip, and **type 7546** heavy duty tip.

Stock No.	Type	Description	Each
44F6636	7700	Iron Kit	54.87
44F6646	7750	Iron Only	37.98
44F6645	7728-100	Recharger	18.06
52F9315	7928	Recharger Stand	18.06
66F1221	7733	Battery	15.24

(5816) (de01547)

TIPS FOR 7700/7800/7904 SERIES



7566

7545 7546

Interchangeable, snap-in tips. Suited for applications from delicate electronic circuits to #12 wire. **7400 series** iron-nickel-chrome-tinned tips withstand higher volumes of soldering. Same features as standard Iso-Tip. Recommended for persons that solder numerous connections (Use with FingerTip Soldering Iron and Iso-Tip rechargeable soldering irons).

Stock No.	Type	Description	1-3	4-11
52F9316	7482	½ Mil Pitch Tip	9.29	8.94
52F9317	7483	Fine Tip	9.29	8.94
52F9318	7484	Micro Tip	9.29	8.94
44F6647	7571	Beveled 1/16″ (1.6)	5.26	5.06
44F6648	7579*	Beveled 3/32″ (2.4)	5.26	5.06
44F6649	7593	Beveled 3/16″ (4.8)	5.26	5.06
44F6650	7566*	Micro 1/64″ (0.4)	5.26	5.06
44F6651	7577*	Chisel 5/32″ (4.0)	5.26	5.06
44F6652	7535*	Regular 5/32″ (4.0)	5.26	5.06
44F6653	7545*	Fine 1/16″ (1.6)	5.26	5.06
44F6654	7546	Heavy Duty 3/16″ (4.8)	5.26	5.06
44F6655	7596	Knife 1/32″ (0.8)	5.26	5.06

*High-efficiency Tips

(5817) (de01552)

GRIPPERS

Used as heat sink while soldering. In 6¼″ or 10⅜″ lengths, locking, coated handles.

Stock No.	Type	Description	1-3	4-11
97F8329	6530	Long Nose	17.47	16.81
97F8330	6531	Short Nose	9.29	8.94
97F8331	6535	Curved Long Nose	17.47	16.81
97F8332	6536	Curved Short Nose	9.64	9.28

(5848) (de03511)

PEN-VAC AND PEN-VAC JUNIOR VACUUM HANDLING TOOLS

The PenVac replaces tweezers for handling many electronic and mechanical parts. The PenVac can be used on any item with a flat surface. Ideal for handling and manipulating various objects during assembly or placement operations. The ergonomically designed PenVac tool is a low cost alternative to other vacuum handling systems. Weighs less than 21g, and lifts more than 500g. Self-contained vacuum requires no hoses or batteries. PenVac is ESD safe. Two styles to choose from. Quick-change vacuum probes available separately; *contact your local Newark sales office.*

Stock No.	Type	Description	Each
52F7172	7433	PenVac Vacuum Handling Tool with 6 Attachments and Storage. ESD Safe, 5¾″ Long.	60.71
52F7173	7434	PenVac Jr. Vacuum Handling Tool with 4 Attachments. ESD Safe, 4¼″ Long.	51.36

(5934) (ne07288)

BEND-A-LIGHT®

Put light where you need it. Flexible alloy shaft with light bulb. 11″ version has 2 AAA batteries; 16″ version, 2 AA batteries. No glare.

Stock No.	Type	Description	Each
97F8327	6511	11″	18.64
97F8328	6516	16″	27.99

(5850) (de03513)

BRIGHTEYES HEADLIGHTS™

Two lights shine wherever you look, hands free. Wear them like glasses. Lights come on when you put them on. Lightweight. Includes 4-AAA batteries.

97F8326 Type 6525. **Each** **16.30**

(5849) (de03512)

PRECISION MINIDRILL

- **Variable Speed: 10,000-21,000 RPM**
- **Lightweight, Low Vibration**
- **Rugged, High-Impact Housing**
- **Includes 20 Accessories**

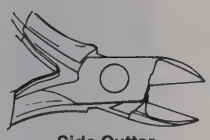
Type 6636 minidrill has permanently lubricated sleeve bearings, male plug, wall plug transformer. Includes union nut with 4 collets. Order bits, accessories separately; *contact your local Newark sales office.*

87F626 Type 6636. **Each** **84.02**

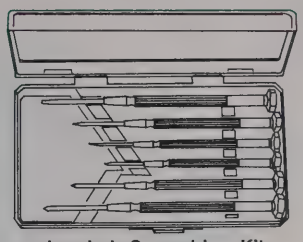
(5818) (de01553)

HAND TOOLS — CEKA

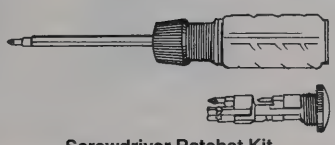
NEW



Side Cutter



Jeweler's Screwdriver Kit



Screwdriver Ratchet Kit

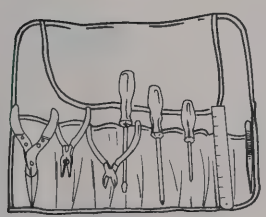
A selection of hand tools is available. Additional CEKA tools available separately; *contact your local Newark sales office.*

Stock No.	Type	Description	1-3	4-19
08WX1608	124P	Needle File, CV Steel	21.10	19.04
08WX1635	3774S	Side Cutter	19.50	18.75
08WX1737	4741M	6-Pc. Insulated Screwdriver Kit	30.54	27.48
46WX3650	T4742	8-Pc. Insulated Screwdriver Kit	40.83	36.74
08WX1606	T4850P	Jeweler's Screwdriver Kit	6.76	6.08
08WX1738	4826B	46-Pc. ¼" Hex Drive Socket Kit	43.92	39.54
08WX1605	T4829B	Screwdriver Ratchet Kit	20.44	19.79

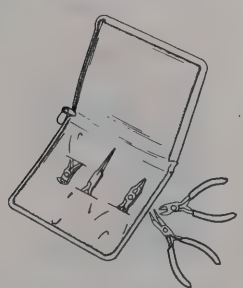
(42370) (ne42370)

HAND TOOLS — DRAPER

NEW



Mini Electronic Tool Kit



Stainless Steel Plier Kit

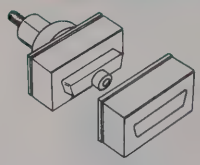
A wide selection of hand tools is available. Additional Draper tools and tool kits available separately; *contact your local Newark sales office.*

Stock No.	Type	Description	1-3	4-19
08WX4996	80280	Side Cutters	50.26	44.38
08WX4849	13160	Strip/Cut/Crimp Pliers	35.72	31.54
08WX4970	34395	Mini Electronic Tool Kit	26.98	25.14
08WX4951	31872	39-Pc. Wrench and Socket Kit	86.37	83.56
08WX4975	37323	Stainless Steel Plier Kit	52.01	49.41
Stock No.	**Type**	**Description**	**1-2**	**3-5**
08WX4831	SD80AM	80-Pc. Wrench and Socket Kit	130.95	124.33

(42274) (ne42274)

D-SUB CONNECTOR PANEL PUNCHES — DELTRON

NEW



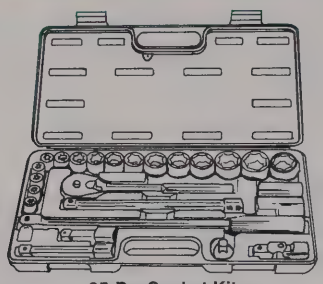
D-Sub connector panel punches for use on mild steel up to 1.6mm and aluminum up to 2mm. Available to fit either front/rear or through mounting of the connectors. Additional Deltron panel punches and tools available separately; *contact your local Newark sales office.*

Stock No.	Type	Positions	Mounting	1-2	3-9
09WX4322	975-0010	9	Through	132.87	118.56
09WX4327	976-0010	9	Front/Rear	133.34	123.71
09WX4328	976-0020	15	Front/Rear	159.92	143.94
09WX4329	976-0030	25	Front/Rear	150.12	136.08
09WX4330	976-0040	37	Front/Rear	156.60	143.64

(42275) (ne42275)

METRINCH® WRENCH AND SOCKET KITS — METRINCH

NEW



25-Pc. Socket Kit

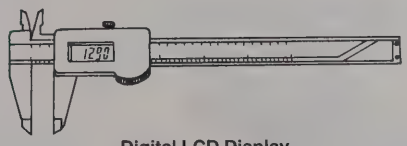
A selection of additional Metrinch® wrench and socket kits is available separately *contact your local Newark sales office.*

Stock No.	Type	Description	1-2	3-9
10WX2459	MET0405	25-Pc. Wrench Socket Kit	204.59	180.69
10WX2462	MET0650	50-Pc. Wrench Socket Kit	232.87	210.42
Stock No.	**Type**	**Description**	**1-3**	**4-19**
10WX2458	MET0120	8-Pc. Wrench Kit	55.01	49.45

(42372)

CALIPERS — MITUTOYO

NEW



Digital LCD Display

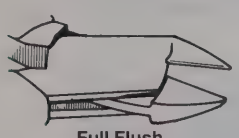
Precision digital calipers for external, internal, depth, and step measurements. Additional Mitutoyo measuring instruments available separately; *contact your local Newark sales office.*

Stock No.	Type	Description	1-2	3-5
06WX1304	500-191U	Caliper, Digital LCD Display	169.67	164.17
06WX1305	500-171U	Caliper, Digital	242.60	218.34

(42272) (ne4227

SIDE CUTTERS — SANDVIK LINDSTROM

NEW



Full Flush

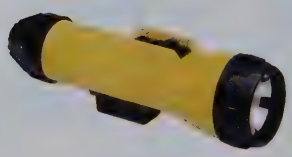
A selection of additional side cutters and other Sandvik Lindstrom tools is available separately; *contact your local Newark sales office.*

Stock No.	Type	Description	1-3	4-19
08WX0036	L7191	Side Cutter/Full Flush	49.85	45.01
08WX0054	L8150	Side Cutter/Semi-Flush	61.69	55.60
08WX0055	L8160	Side Cutter/Semi-Flush	62.92	56.68

(42371) (ne42371

DURACELL®
PROCELL MEDICAL/INDUSTRIAL FLASHLIGHTS

ML901-F

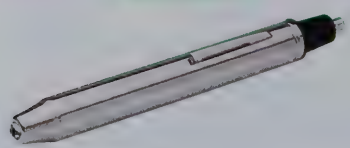


ML902-FM

ML900 series are high quality flashlights for various medical and industrial applications. 3V flashlights feature heavy-duty switches and switch guards. Made of high density polypropylene/polystyrene cases that resist corrosion, oil, grease, gasoline, and impact. **Type ML901-F** has a convenient hanging ring. **Type ML902-FM** has a magnet for easy storage.

87F2772 Type ML901-F **Each** **4.31**
46F5938 Type ML902-FM **Each** **13.02**
(37971) (ne37971)

DURACELL®
PROCELL MEDICAL/INDUSTRIAL FLASHLIGHTS



Type ML820-P is a high quality flashlight for a variety of medical and industrial applications. This 3V flashlight has a heavy duty switch and a chrome plated body.

46F5944 Type ML820P **Each** **7.92**
(37973) (ne37973)

DURACELL®
PROCELL MEDICAL FLASHLIGHTS

Type PC100-W flashlight provides light for various medical applications. This 3V flashlight features a heavy duty switch and switch guard. Made of high impapct white plastic.

95F4742 Type PC100-W **Each** **2.75**
(37974) (ne37974)

DURACELL®
DURABEAM® FLASHLIGHTS

Type DFF includes 2 D alkaline batteries. **Type DFC** is a compact light that includes 2 AA batteries.

44F1297 Type DFF **Each** **13.59**
44F1299 Type DFC **Each** **6.36**
(37975) (ne37975)

EVEREADY®
EVEREADY® FLASHLIGHTS

E250Y

2 D-cell flashlights include easy to slide switch and anti-roll feature. **Type E250Y** has a ring for storage, **type E251Y** has a magnet.

48F4016 Type E250Y **Each** **3.09**
48F4017 Type E251Y **Each** **3.91**
(38072) (ne38072)

EVEREADY®
EVEREADY® FLASHLIGHTS

Type 1259, 2 D-cell flashlight, can withstand a 5′ drop to concrete. The durable polypropylene housing resists grease, oil, and gasoline. Lens is shatterproof. Wide switch is easy to use with gloved hand. UL/MSHA approved.

46F5353 Type 1259 **Each** **7.98**
(38073) (ne38073)

EVEREADY®
EVEREADY® FLASHLIGHTS

Type 459, 6V lantern flashlight, has a durable construction that can withstand a 5′ drop to concrete. The polypropylene housing resists grease, oil, and gasoline. Shatterproof lens, it floats, and has a wide switch for easy use with gloved hands. UL/MSHA approved.

90F3343 Type 459 **Each** **14.04**
(38080) (ne38080)

EVEREADY®
FLASHLIGHTS

Type 1151, 2 AA flashlight, has a durable construction that can withstand a 5′ drop to concrete. The polypropylene housing resists grease, oil, and gasoline. Lens is shatterproof. Wide switch allows use with gloved hands. Flip-up hanger ring provides easy storage.

92F1651 Type 1151 **Each** **4.83**
(38081) (ne38081)

RAYOVAC®
RAYOVAC SPECIALTY FLASHLIGHTS

BR2D-B

V2AAA-B

- **Krypton Beam - 200% Brighter and Whiter than Ordinary Flashlights**
- **Super Durable**

Type BR2D-B includes 2 D-cell heavy duty batteries. Color: Black. **Type V2AAA-B** includes 2 AAA-cell heavy duty batteries.

Stock No.	Type	Description	Each
48F2117	BR2D-B	2 D-cell Flashlight	8.73
48F2118	V2AAA-B	2 AAA-cell Penlight	3.39

(38171) (ne38171)

RAYOVAC®
RAYOVAC INDUSTRIAL™ FLASHLIGHTS

IN2

ISL2D-B

16V-B

ISD2AA-B

- **Number 1 Selling Industrial Flashlight Series**
- **Contractor Grade Construction**
- **Lifetime Warranty**

Type ISL2D-B includes 2 heavy-duty D-cell batteries. **Type 16V-B** has a krypton bulb and included a heavy-duty lantern battery. **Type ISD2AA-B** includes 4 hardened steel screwdriver bits and 2 heavy-duty AA-cell batteries.

Stock No.	Type	Description	Each
48F2113	IN2	2 D-cell Flashlight	5.66
48F2114	ISL2D-B	2 D-cell Swivel Lite	12.15
48F2115	I6V-B	6V Lantern	13.02
48F2116	ISD2AA-B	2 AA-cell Screwdriver	10.46

(38170) (ne38170)

LUXO

MAGNIFIERS AND LAMPS

FLUORESCENT TASK LAMP

All-metal shade and two 15W fluorescent tubes provide wide distribution of light. 3-conductor cord. 45″ L-arm and bracket. Light gray.

99F1107 Type FL-1/A-LT GREY. **Each**..... **231.12**
(5617) (de02081)

STAR INCANDESCENT LAMP

Economy lamp with porcelain socket rated for 100W bulb; *order separately; contact your local Newark sales office.* Features 34″ arm, dial on/off switch, clamp and 2-wire cord.

95F4344 Type L336-WHITE-STAR. **Each** **34.85**
95F4345 Type L336-BLACK-STAR. **Each** **34.85**
(5612) (de02074)

FUME EXTRACTION LIGHT

Shielded, 5-blade exhaust fan lamps deliver 100 CFM @ 2900 rpm. Includes replaceable filter which absorbs fumes and odors. Feature 3-position "instant-on" lamp/fan switch. High-efficiency, 22W fluorescent bulb. Adjustable K-arm with 45″ reach for total flexibility. Light gray. UL listed.

81F9075 Type 16159 LT GREY. **Each** **378.19**
(5614) (de02078)

INCANDESCENT WORK LAMPS

LB-1A

LS-1A3C

All-angle lamps have L-arms that raise/lower/tilt/turn in 45″ radius and 360° sweep. Come with dual-cool shade, porcelain socket, mounting bracket, 3-wire cord. **Type LB-1A** includes 4⅝″ dia. bullet shade and 60W bulb. **LS-1A3C** has 8″ dia. flared shade and 100W bulb. Light gray.

99F1111 Type LB-1/A LT GREY. **Each**..... **149.18**
99F1108 Type LS-1/A 3C LT GREY. **Each**.... **149.18**
(5615) (de02079)

KFM ILLUMINATED MAGNIFIERS

Feature "instant-on" switch and adjustable K-arm for total flexibility. Fluorescent light and 5″ precision ground lens. Include bracket and grounded line cord, except **type KFM-2FE-3D** has weighted base. Light gray. UL listed. **3D suffix:** 3-diopter 1.75x magnification; **5D suffix:** 5-diopter 2.25x magnification. *Order snap-on lenses below.*

Stock No.	Type	Desc.	Each
99F1100	KFM-1/A-30/17113	45″ Arm	**283.65**
99F1133	KFM-2/FE-3D/17253	30″ Arm*	**362.44**
89F2766	KFM-2/A-3D/17213	30″ Arm	**283.65**
89F5027	KFM-1/A-5D/17115	45″ Arm	**299.40**
89F2767	KFM-2/A5D/17215BK	30″ Arm	**299.40**
	SNAP-ON LENSES		
99F1102	50201/LENS ATTACH	4-Diopter	**54.63**
99F1103	50202/LENS ATTACH	8-Diopter	**60.93**

*with weighted base
(5610) (de02071)

IM12D TASKMASTER ILLUMINATED MAGNIFIERS

Economy fluorescent magnifier comes on 42″ reach arm. Select 3- or 5-diopter lens. Convenient power outlet in base. Includes 22W bulb, mounting bracket, 3-wire cord. White.

Stock No.	Type	Lens	Each
97F9755	IM12D.3D-WHITE	3-Diopter	**173.34**
97F9756	IM12D.5D-WHITE	5-Diopter	**189.10**

(5644) (de03508)

IM296A ILLUMINATED MAGNIFIERS

Feature 3-diopter, 4″ dia. lens with 1.75x magnification. 33″ arm, mounting clamp, 2-wire cord. Use 60W bulb; *order separately; contact your local Newark sales office.*

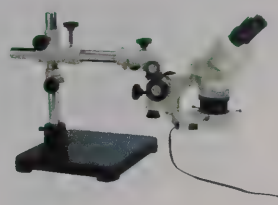
95F4346 Type L296 BLACK. **Each**..... **55.08**
95F4347 Type L296 SAND. **Each**..... **55.08**
(5611) (de02073)

UV INSPECTION LAMP

Dual switching for "fault finder" and normal inspection modes. Two 4W ultraviolet bulbs for precise inspection; two 4W fluorescent bulbs for normal. 3-diopter, 4 x 2″ lens with 1.75x magnification. Gray thermoplastic. UL listed.

44F1260 Type 16401. **Each** **309.91**
(5613) (de02077)

TYPE 18412 SYSTEM 200-FL MICROSCOPE



Binocular stereo-zoom microscope enables inspectors and technicians to achieve the exact magnification needed for QC, soldering fine leads, and rework operations. Achromatic lenses with anti-reflective coating. Boom-stand mount, fluorescent ring light.

83F6423 Type 18412. **Each** **1923.43**
(29673) (ne29673)

WAVE+PLUS MAGNIFIERS AND ACCESSORIES

WAVE+Plus

The **WAVE+Plus series** has 6.75″x 4.5″ viewing area. 2 x 13-watt bulb for greater light output and improved viewing of small components. 3.5 diopter magnifying lens. 4-diopter and 8-diopter auxiliary lenses, 10-diopter swing-away lens add 2.5X magnifiers for quick inspection. Optional anti-reflective lens eliminates glare from overhead lights.

Stock No.	Type	Description	Each
52F8881	17845LG	K1A Light Gray	456.98
52F8883	17847LG	K2FE Light Gray	520.01
52F8884	17841LG	A/R, K1A Light Gray	677.59
52F8885	17842LG	A/R, K2A Light Gray	677.59
52F8886	17843LG	A/R, K2FE Light Gray	740.62
	ACCESSORY LENSES		
52F8887	50074LG	4-Diopter WAVE+Plus	56.72
52F8888	50078LG	8-Diopter WAVE+Plus	61.90
52F8889	50206	10-Diopter Swing-Away Lens	122.32

(5800) (ne0919

LEDU TASKMASTER HALOGEN WORKLIGHT

L554

Features an all metal shade that houses the 100W (line voltage, 120V) halogen bulb, which is positioned behind a protective glass filter. A 42″ arm with external springs is mounted in a clamp-style bracket. 2-conductor cord. Available in matte black. UL listed.

52F8880 Type L554. **Each** 159.68
(5794)

BRACKETS

A B C

Stock No.	Type	Style	Each
99F1112	A BRACKET LT GREY	A*-Horz.	14.62
99F1113	B BRACKET-LT GREY	B**-Vert.	14.62
99F1114	C BRACKET-LT GREY	C**-Horz.	14.62

*Screw clamp **Screw mount
(5618) (de020821)

TOOL, EQUIPMENT AND PC BOARD CASES

ATTACHE-STYLE TOOL CASES

600T, 600T-GH

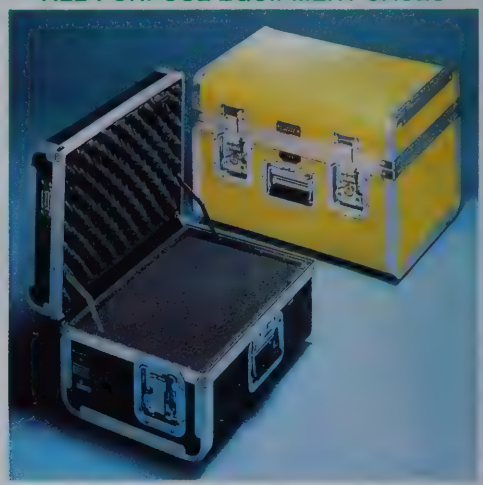
- **Your Choice: Molded or Sewn Pallets**
- **Ideal for Field-Service Use**
- **Tools Not Included**

All cases are black. **Type 600T** has a durable ribbed outer shell, cushioned handle and chrome-plated key locks. **Type 928T** has heavy-duty frame with sealing gasket and golf-grip handle. **Type 978T** has ribbed shell, black anodized frame, golf-grip handle, combination lock, and 2 key locks.

Tool Case with 2 Molded Pallets		Tool Case with 2 Sewn Pallets		Tool Case Material	Exterior W x D x H	Each
Stock No.	Type	Stock No.	Type			
87F3577	600T	90F1628	600T-GH	Polyethylene	18 x 13 x 6″	159.69
87F3595	800T-CB	90F1631	800T-GH	Polypropylene	18 x 13 x 6″	187.75
87F3581	928T-CB	90F1634	928T-GH	Polyethylene	18 x 13 x 8″	216.88
90F1634		83F7705	369TH-SGSH	Polyethylene	18 x 15x 9″	
97F9759	978T	...	...	Polyethylene	18 x 13 x 8″	252.49
91F2013	777TH-SGSH	...	...	Polyethylene	19 x 15 x 10″	517.92

(5564) (de00132)

ALL-PURPOSE EQUIPMENT CASES



- **Transport and Display Delicate Items**
- **ATA 300 Rated (Type 1012F, 1013F, 1016F, and 1018F)**
- **For Computer, Medical, and Audio/ Visual Equipment**

"Customize your case" for a variety of products: computers, test equipment, audio/visual components, tools, measuring instruments, other sensitive items. 3 styles: For carrying only, a molded ABS thermoplastic exterior in scuff-resistant black grain finish with steel core handle, positive-closure drawbolt key locks and aluminum frame. For carrying and light shipping, a polyethylene exterior with scratch-resistant black finish, golf-grip handle, cast-chrome key locks, full-length piano hinge and heavy-duty frame with sealing gasket. For shipping and demanding use, a fabricated black polyethylene exterior with industrial aluminum frame, combination lock, spring-loaded handle and security-type locks; all recessed for durability. Top and body on all cases lined with high-density foam plus solid filler foam.

Stock No.	Type	Material	Exterior W x D x H	Body Depth	Each
97F9760	1410	ABS	10 x 7 x 5″	3″	57.73
87F3584	1412	ABS	12 x 9 x 5″	3″	64.74
87F3585	1416	ABS	16 x 12 x 5″	3″	77.69
87F3586	1425	ABS	19 x 13 x 7″	4″	105.74
90F1642	201407	ABS	20 x 14 x 7″	4″	170.48
87F3588	181307	Polyethylene	18 x 13 x 7″	4″	151.06
87F3589	221609	Polyethylene	22 x 16 x 9″	5″	198.54
97F9761	241809	Polyethylene	24 x 18 x 9″	5″	202.85
97F9762	282007	Polyethylene	28 x 20 x 7″	4″	254.65
90F1645	1013F	ATA Fab. Poly	19 x 13 x 10″	6″	388.44
90F1646	1012F	ATA Fab. Poly	18 x 12 x 18″	13″	411.10
50F1908	1016F	ATA Fab. Poly	22 x 16 x 14″	10″	492.02
97F9763	1018F	ATA Fab. Poly	26 x 18 x 18″	14″	606.93
16F088	201407H	Polyethylene	24 x 14 x 7″	5″	265.97
16F089	221609H	Polyethylene	22 x 16 x 9″	5″	284.86
99F7413	241811H	Polyethylene	22 x 18 x 11″	5½″	295.50
16F090	282011H	Polyethylene	28 x 20 x 11″	5½″	354.45

(5566) (de00134)

ZIPPER-STYLE TOOL CASES

670ZT

- **Ideal for Service Applications**
- **Tools Not Included**
- **3 Colors Available**

Constructed of abrasion-, puncture- and tear-resistant DuPont Cordura nylon. **Types 601ZT** and **602ZT** have one interior pouch. **Type 602ZT** also has 3 exterior pockets. **Type 660ZT** has two meter pockets and one document pocket on the exterior. The interior holds one meter pouch. **Type 669ZT** has two meter pouches and a document pocket on the outside. **Type 670ZT** has two exterior meter pockets and one document pocket. The interior has one pouch and a magnet board to hold small parts. **Type 641ZT** has an interior pallet designed for office machine and copier repair. **Type 642ZT** features an interior pallet designed to hold tools for computer repair. **Type 689ZT** has a padded pocket for a notebook computer.

Stock No.	Type	Exterior W x D x H	Interior Tool Pockets	Color	Each
90F1636	601ZT	10 x 7 x 2″	14	Black	50.72
97F9766	602ZT	10 x 7 x 2″	14	Black	77.69
87F3582	660ZT	12½ x 9½ x 2″	29	Black	92.80
66F1485	669ZT	15 x 11 x 2″	47	Black	131.64
87F5999	670ZT	18 x 13 x 3″	22	Black	123.01
90F1639	641ZT	18 x 13 x 3″	45	Black	148.90
90F1640	642ZT	18 x 13 x 3″	60	Black	151.06
83F7706	689ZT	18 x 13 x 3″	60	Black	168.89

(5565) (de00133)

ANTI-STATIC, CUSHIONED CIRCUIT BOARD CASES

- **Eliminate "Zapped" and Broken PC Boards**
- **Adjustable Dividers**

Protect PC boards from electrostatic discharge (ESD), vibration, degradation and other damage. Exterior construction: lightweight, static-free black cotton duck with anti-static end-shells and sturdy aluminum frame. Interior: static-free cushioned materials that meet or exceed MIL-B-81705, Type II and PPP-C-1842A, Type III. Also features two convenient outside pockets, comfortable golf-grip handle and dual safety key locks.

90F1641 Type 12PCB 12 x 12 x 8″ Case. **Each** **198.54**
87F3593 Type 21PCB 21 x 12 x 8″ Case. **Each** **252.49**

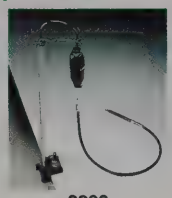
(5567) (de00135)

DREMEL®

ROTARY TOOLS AND ACCESSORIES

HEAVY-DUTY FLEX-SHAFT ROTARY TOOL KIT

7360



2222

Type 7360 flex-shaft kit for high-speed cutting, grinding, smoothing, polishing and sanding. Includes flex-shaft ⅛H.P. 0-20,000 rpm motor, foot pedal controller for precise speed regulation and **type 236** heavy-duty 1″ dia. handpiece with ¼″ and ⅛″ collets. Also includes hanging bracket, wrench and lock pin. Accepts most quick-disconnect handpieces.

Stock No.	Type	Description	Each
97F8170	7360	Flex-Shaft Kit	314.66

FLEX-SHAFT ACCESSORIES

Type 2222 tool stand suspends flex-craft tools above workbench. Adjustable height: 12 to 42″. Clamps to table or bench. *Contact your local Newark sales office for handpiece accessories.*

Stock No.	Type	Description	Each
97F7528	2222	Tool Stand	31.30

(5642) (de03451)

HIGH-SPEED CUTTER SET

115 194 134

196 192 125

Type 326 6-piece, ⅛″ shank set. Carve, shape, hollow most woods, metals, plastics. Size: **type 115** 5⁄16″, **194** ⅛″, **134** 5⁄16″, **196** 7⁄32″, **192** 3⁄16″, **125** ¼″.

96F6904 Type 326. **Each** **29.12**
(5640) (de03449)

SILICON CARBIDE GRINDING STONE SET

83142 85422 84922

83322 85622 83702

Type 306 6-piece, ⅛″ shank set for hard steel, ceramics, glass. Sizes: **Type 83142** 9⁄32″, **85422** 25⁄32″, **84922** 3⁄16″, **83322** ⅛″, **85622** ½″, **83702** ⅛″.

96F6902 Type 306. **Each** **14.70**
(5641) (de03450)

RUBBER POLISHING POINT SET

6-piece set includes: 3 general polishing points for most metals, stones, glass; 3 fine polishing points for non-metals, stones, ceramics, and 3⁄32″ shank.

96F6901 Type 303. **Each** **14.70**
(5639) (de03448)

50-PIECE GENERAL BIT SET

Set includes: 3 grinding stones, 1 dressing stone, 1 wire brush, 1 felt polishing wheel, 2 high-speed cutters, 1 drum sander, 1 coarse sander band, 2 fine sander bands, 2 mandrels, and 36 cut-off wheels.

50F9128 Type 627. **Each** **25.10**
(5577) (de00303)

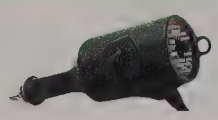
MULTIPRO® 2-SPEED CORDLESS ROTARY TOOL

NEW

Type 7700 multipurpose cordless tool has 2 speeds (7500/15,000 rpm). 7.2V. Ball-bearing drive shaft with shaft lock for easy bit changes. Comfortable tapered housing. Removable battery pack, 3-hour charger. Includes ⅛″ collet nut, storage case, 25-pc. accessory set.

66F4207 Type 7700. **Each** **88.12**
(32677) (ne32677)

ELECTRIC ENGRAVER



Versatile, high-speed tool engraves metal, glass, plastic, ceramics, wood and leather. Adjustment dial regulates depth from fine lines to deep grooves. 115V motor. Includes carbide steel engraver point. *Order* **type 9924** *carbide and* **type 9929** *diamond replacement points separately below.*

50F9096 Type 290 Engraver. **Each** **24.38**
50F9114 Type 9924 Carbide. **Each** **7.61**
50F9115 Type 9929 Diamond. **Each** **23.48**
(5579) (de00305)

⅛″ SHANK BRASS AND STEEL BRUSHES

428 443

535 537

Type 428 ¾″ wide and **type 443** ⅛″ wide steel brushes polish metal surfaces and remove rust. NOTE: Do not run in excess of 15,000 rpm. **Type 535** ¾″ wide and **type 537** ⅛″ wide brass brushes are non-sparking and softer than steel. They will not scratch softer metals. Use on gold, copper, brass, and other precious metals.

Stock No.	Type	1-9	10-24
50F9112	428	3.30	3.00
50F9113	443	3.30	3.00
01F376	535	4.39	3.98
01F377	537	4.36	3.96

(5581) (de00311)

ROTARY TOOL ACCESSORIES

402 409 481 407

Type 409 emery wheel for slicing metal and plastic. 15⁄16″ diameter, 0.25″ thick. Use with **type 402** mandrel; *order separately below.* **Type 407** 60 grit sanding drum for rough-shaping wood and smoothing fiberglass. Includes sanding band and ⅛″ shank. **Type 432** replacement sanding bands are 120 grit and **sold in pkg. of 6.**

Stock No.	Type	Description	Each
50F9118	409	Cut-Off Wheels, 36 Per Vial	6.60
50F9119	402	Mandrel	3.30
50F9120	481	3⁄32″ Collet	3.30
50F9116	407	Sanding Drum	4.48
50F9117	432	Sanding Bands	3.30

(5582) (de00312)

PROFESSIONAL HIGH-SPEED ROTARY TOOL KIT

NEW

Type 3981 kit has variable speed tool with LCD speed readout and soft-start for gradual speed buildup. Electronic feedback controller enhances torque at low and mid-range speeds. Unique fan design improves airflow for cooler running. Ball-bearing universal motor. Includes ⅛″ collet nut, storage case, 10-pc. accessory set.

83F8136 Type 3981. **Each** **175.47**
(32676) (ne32676)

MULTI PRO® ROTARY TOOLS

Type 3955 variable speed (5,000 to 30,000 rpm) for every application. Tapered housing for comfort, finger-tip control. Ball-bearing motor. Quick-change collet nut for bits to ⅛″ shank. Includes 72 accessories. 120VAC, 50/60H; 1.15A. **Type 2850** 2-speed (15,000/28,000 rpm), lubricated bronze-sleeve bearing motor, 30 accessories. **Type 275** single-speed (28,000 rpm) and 5 bits. Attachments availabe, *contact your local Newark sales office.*

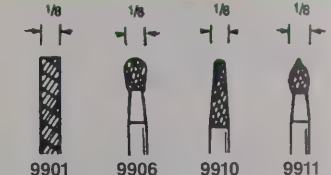
66F4205 Type 3955(Variable). **Each** **150.2**
50F9093 Type 2850(2-speed). **Each** **93.5**
50F9092 Type 275(1-Speed). **Each** **59.4**
(5573) (de0029

SANDING/GRINDING BIT SET

44-pc. set incl.: 8 grinding stones, 1 dressing stone, 1 drum sander, 1 coarse sander band, 1 mandrel, 2 fine sander bands, and 10 coarse, 10 medium, 10 fine sanding discs.

50F9127 Type 626. **Each** **25.1**
(5576) (de00

TUNGSTEN CARBIDE CUTTERS



9901 9906 9910 9911

For hardened steel, fired ceramics and other extremely hard materials. ⅛″ shank.

Stock No.	Type	1-9	10-24
50F9108	9901	12.19	11.06
50F9110	9906	12.19	11.06
50F9109	9910	12.19	11.06
50F9111	9911	12.19	11.06

5-PIECE TUNGSTEN CARBIDE CUTTER SET

96F8945 Type 9925. **Each** **51.81**
(5580) (de0

ROUTER BIT SET

6-piece bit set includes: 3⁄16″ piloted cove, ⅛″ piloted rabbet, ⅛″ piloted corner-rounding, ⅛″ straight, ¼″ straight, and ¼″ beading.

96F6958 Type 602. **Each** **52.71**
(5638) (de0344

HEAVY-DUTY ELECTRIC TOOLS

HI-TORQUE CORDLESS DRIVER/DRILL KIT

- 3⁄8″ Capacity, Reversible
- 6-Position Clutch Adjusts to 156 Inch-lbs Torque
- Variable, 2-Speed: 0-350 and 0-1000 RPM
- ½-Hour 120V Super Charger and 12V Battery
- Rugged Steel Carrying Case

Contact your local Newark sales office for a complete selection of bits and accessories.

95F4214 Type 0407-6. **Each** 371.89
(5822) (de01974)

CORDLESS 3⁄8″ DRIVER/DRILL KIT

- Keyless Chuck Holds Bits or Accessories
- 3⁄8″ Capacity, Reversible
- Variable, 2-Speed: 0-350 and 0-1000 RPM
- 6-Position Clutch Adjusts to 143 Inch-lbs Torque
- ½-Hour Super Charger

Heavy-duty driver/drill comes with 9.6V battery pack, 120V charger, high-impact carrying case. *Contact your local Newark sales office for bits and accessories.*

16F8221 Type 0406-6. **Each** 330.92
(5821) (de01973)

12V CORDLESS 3⁄8″ DRIVER/DRILL KIT WITH WORK LIGHT

NEW

Driver/drill includes: 3⁄8″ keyless chuck work light with hanging hook, two 1.4Ah NiCad battery packs, charger, and impact-resistant carrying case. Features anti-slip handle grip to absorb vibration and to reduce hand fatigue. Contact your local Newark sales office for bits and accessories.

83F7688 Type 0407-22 Driver/Drill Kit. **Each** . 359.31
83F7689 Type 48-11-1950 Battery. **Each** 76.13
(32572) (ne32572)

MAGNUM ½″ HEAVY-DUTY HOLE-SHOOTER

- Quick-Change Brush Cartridge System
- 5.4 Amp Motor, 0-850 RPM
- Quik-Lok Easy Cord Detachment
- Trigger Speed Control, Reversing

Contact your local Newark sales office for a complete selection of bits.

95F4210 Type 0234-6. **Each** 267.89
(5819) (de01970)

14.4V CORDLESS ½″ DRIVER/DRILL KIT

NEW

Driver/drill includes ½″ keyless chuck, two 1.7Ah NiCad battery packs, 1- hour charger, and impact-resistant carrying case. Features soft grip T-handle for superior balance to reduce hand fatigue. 14.4V NiCad battery pack delivers 24.5 watthours of power. Contact your local Newark sales office for bits and accessories.

83F7686 Type 0512-21 Driver/Drill Kit. **Each** . 398.90
83F7690 Type 48-11-1000 Battery Pack. **Each** 85.26
(32573) (ne32573)

HEAVY-DUTY CORDLESS SCREWDRIVER KITS

6540-1

- Adjustable Swivel Handle for Tight Spaces
- 6-Position Adjustable Clutch, Reversing
- 2.4V Battery Pack
- 1-Hour Fast Charge

Type 6546-1 two-speed cordless screwdriver (400 & 200 RPM) comes with battery pack and 120V charger. **Type 6547-1** 2.4-volt screwdriver kit includes **type 6546-6** battery pack, charger, chuck attachment, **type 48-30-0101** driver/drill bet set, and carrying case. **Type 6540-1** kit includes **type 6539-1** one-speed cordless screwdriver, chuck attachment, driver/drill bit set, battery pack, charger, high-impact case. *Contact your local Newark sales office for accessories.*

95F4216 Type 6546-6. **Each** 157.58
52F1359 Type 6547-1. **Each** 194.35
95F4215 Type 6540-1. **Each** 183.85
(5823) (de01975)

CORDLESS 2.4-VOLT CAULKING GUN

Type 6550-20 caulking gun has a variable speed dial which controls caulk flow. Rapid plunger release. Caulking tube volume gauge. Designed for standard 11 oz. caulking tubes. Expels up to 10 tubes of caulk with on fully-charged battery (at room temperature). Overload clutch.

91F1976 Type 6550-20. **Each** 325.95
(13541) (ne10243)

12V CORDLESS DRIVER/DRILL KIT

NEW

Driver/drill includes 3⁄8″ keyless chuck, two 1.4Ah battery packs, fast charger, and impact-resistant carrying case. Features T-handle grip for superior balance during extended use applications. Contact your local Newark sales office for bits and accessories.

83F7685 Type 0502-23 Driver/Drill Kit. **Each** . 361.34
83F7689 Type 48-11-1950 Battery. **Each** 76.13
(32571) (ne32571)

AT NEWARK, YOUR ORDER IS OUR FIRST PRIORITY.

18V CORDLESS ½″ DRIVER/DRILL KIT

NEW

Driver/drill includes ½″ keyless chuck, 2.0Ah battery pack, fast charger, and impact-resistant carrying case. Ergonomically designed T-handle grip for superior balance during extended use. Soft grip handle pad reduces pressure points and provides a hand-conforming, nonslip gripping surface. *Contact your local Newark sales office for bits and accessories.*

83F7687 Type 0522-21 Driver/Drill Kit. **Each** . 446.60
83F7691 Type 48-11-2200 Battery. **Each** 116.73
(32570) (ne32570)

HEAVY-DUTY TOOL ACCESSORIES

HEAVY-DUTY COMPACT PRO-VAC VACUUM CLEANER AND ACCESSORIES

Type 8934-6 has a 6.2A motor with pick-up power. Includes large disposable filter bag, convenient carrying handle, wall-mounting bracket, 3′ hose, utility nozzle, and crevice tool. Weight: 5 lbs.

52F8939 Type 8934-6. **Each** 127.12

8934-6

ACCESSORIES

Stock No.	Type	Description	Each
52F8940	49-90-0095	Replacement Plastic Hose 3′ x 1¼″ I.D.	15.34
52F8941	49-90-0100	Replacement Plastic Hose 6′ x 1¼″ I.D.	27.53
52F8942	49-90-0305	Disposable Paper Filter Bags 3 Per Pack	7.04
52F8943	49-90-0255	Cloth Filter Bag	22.07
52F8944	49-90-1755	Replacement Plastic Utility Nozzle (Fits **types 49-90-0095** and **49-90-0100**)	5.31
52F8945	49-90-1745	Replacement Crevice Tool (Fits **types 49-90-0095** and **49-90-0100**)	4.99

(5946) (ne08478)

OFF-SET SCREWDRIVER POWER HEAD

NEW

Type 48-32-2100 off-set screwdriver power head is ideal for tight applications. ¼″ magnetic bit receprion for standard insert bits. 360° adjustable thumb flange. Maximum 100in./lbs. torque, 400rpm.

91F1977 Type 48-32-2100. **Each** 36.09

(13526) (ne10244)

THUNDERBOLT JOBBERS LENGTH TWIST DRILL BITS

Type 48-89-1086 Thunderbolt barrel-case is a 21-piece set with bits 1⁄16″ through ⅜″. Thunderbolt Jobbers Length Drill Bits are available in diameters from 1⁄16″ to ½″ by 64ths. Black and bronze jobbers length drill bits feature friction-reducing black and bronze color oxide surface treatment. Improved chip ejection and reduced power requirements. *Order individual bits separately; contact your local Newark sales office.*

48-89-1086

Stock No.	Type	Description	Each
91F1978	48-89-1086	Thunderbolt Barrel-Case 21-Piece Bit Set	64.45

(13529) (ne10245)

CORDLESS TOOL REPLACEMENT BATTERIES

48-11-0140

Stock No.	Type	Description	Each
95F4200	48-11-0140	12V NiCad Replacement Battery	79.84
95F4201	48-11-0080	9.6V NiCad Replacement Battery	75.64
95F4203	48-11-0100	2.4V NiCad Replacement Battery	36.77
91F1982	48-11-0300	12V, 2.5 Amps per Hour Replacement Battery	114.51

(5825) (de01989)

HIGH-SPEED DRILL BITS AND ASSORTMENTS

Twist Drill Bits

JOBBERS LENGTH TWIST DRILL SETS

Stock No.	type	Description	Each
95F4196	48-89-0010	29-Piece Steel: 1⁄16 to ½″ by 64ths	117.40
95F4197	48-89-0015	21-Piece Steel: 1⁄16 to ⅜″ by 64ths	58.73
95F4198	48-89-0020	15-Piece Steel: 1⁄16 to ½″ by 32nds	64.30
95F4181	48-89-0030	13-Piece Steel: 1⁄16 to ¼″ by 64ths	22.43
95F4185	48-89-0025	15-Piece Cobalt: 1⁄16 to ½″ by 32nds	107.84
52F8950	48-89-1920	7-Piece ¼″ Hex-Shank Twist Bit Set	28.37

STEEL HEAVY-DUTY STEP DRILL BITS

95F4188	48-89-9100	Self-Starting Multi-Hole, 13 Sizes, ¼″ Shank	24.80
95F4189	48-89-9105	Self-Starting Multi-Hole, 9 Sizes, ⅜″ Shank	40.97
95F4172	48-89-9110	Hole-Enlarging Bit, 9 Sizes, ⅜″ Shank	43.23
95F4173	48-89-9115	Self-Starting ⅞″ Knockout, ⅜″ Shank	43.23
95F4175	48-89-9125	Self-Starting ½″ Knockout, ¼″ Shank	22.38
95F4176	48-89-9130	Self-Starting Multi-Hole, 12 Sizes, ⅜″ Shank	56.26
95F4177	48-89-9135	Self-Starting/Knockout Combo, 3 Sizes, ⅜″ Shank	68.66
95F4187	48-89-9050	2-Piece Set: Types 48-89-9100, 48-89-9110	60.46

(5826) (de01990)

CORDLESS SCREWDRIVER AND DRIVER/DRILL BITS

48-30-0200

Stock No.	Type	Description	Each
91F1979	48-55-0711	Carrying Case for Pistol Drills and Screw Shooters	41.60
95F4207	48-30-0100	7-Piece Screwdriver Bit Set, ¼″ Hex Shank	27.00
95F4190	48-30-0101	8-Piece Driver/Drill Bit Set, ¼″ Hex Shank	13.92
95F4191	49-66-3005	3-Piece Hex Socket Set: ¼, 5⁄16, ⅜″ Bits	23.12
95F4182	48-03-0005	Quick-Change Chuck: Converts 3-Jaw Chuck to Accept ¼″ Hex Shank Bits	14.13
95F4183	48-30-0105	8-Piece Screwdriver Bit Set w/Quick-Change Chuck	28.79
95F4184	48-30-0200	28-Piece Screwdriver Bit Set: 4 Phillips, 5 Slotted, 5 Hex, 4 Square Recess, 6 Torx®, 2 Pozidriv® Bits, ¼″ Magnetic Bit Holder, ¼″ Hex Driver	62.93
95F4193	48-32-1033	#1 Phillips Insert Bits, 10-Pack	7.09
95F4194	48-32-1053	#2 Phillips Insert Bits, 10-Pack	7.09
95F4195	48-32-1073	#3 Phillips Insert Bits, 10-Pack	7.09

(5827) (de01991)

WORK LIGHT AND REPLACEMENT BULB

Type 49-24-0100 work light is equipped with a 120° pivoting head. Trigger-style on-off switch. Provides up to 3 hours of illumination per charge. High-output krypton bulb included. *Order replacement bulb separately below.* Accepts 9.6V battery (**type 48-11-0080**) or 12V battery (**type 48-11-0140**).

49-24-0100

Stock No.	Type	Description	Each
91F1980	49-24-0100	Work Light	51.48
91F1981	49-81-0010	Replacement Bulb	6.04
95F4201	48-11-0080	9.6V battery	75.64
95F4200	48-11-0140	12V battery	79.84

(13530) (ne10246)

Electronic Terms and Measurements

Resistance

Opposition to current flow. Basic unit is the ohm (Ω).

1 kilohm — kΩ	1,000 or $1x10^3$ ohms
1 Megohm — MΩ	1,000,000 or $1x10^6$ ohms

Voltage

Electromotive force. Basic unit is the volt (V).

1 millivolt — mV	1/1,000 or $1x10^{-3}$ volt
1microvolt — µV	1/1,000,000 or $1x10^{-6}$ volt

Current

Movement of electricity. Basic unit is the ampere (A).

1 milliampere — mA	1/1,000 or $1x10^{-3}$ ampere
1 microampere — µA	1/1,000,000 or $1x10^{-6}$ ampere

Frequency

Number of cycles per second. Basic unit is the hertz (Hz).

1 kilohertz — kHz	1,000 or $1x10^3$ hertz
1 Megahertz — MHz	1,000,000 or $1x10^6$ hertz
1 Gigahertz — GHz	1,000,000,000 or $1x10^9$ hertz

Time

Basic unit is the second (s).

1 millisecond — ms	1/1,000 or $1x10^{-3}$ second
1 microsecond — µs	1/1,000,000 or $1x10^{-6}$ second
1 nanosecond — ns	1/1,000,000,000 or $1x10^{-9}$ second

Temperature Conversion

°C	°F
100	212
80	175
60	140
40	105
35	95
30	85
25	75
20	70
15	60
10	50
5	40
0	32

Conversion Table

Metric to U.S.	U. S. to metric
1 centimeter = 0.39 inch	1 inch = 2.54 centimeters
1 millimeter = 0.039 inch	1 inch = 25.4 millimeters
1 meter = 3.28 feet	1 foot = 0.305 meter
1 gram = 0.035 ounce	1 ounce = 28.35 grams
1 kilogram = 2.2 pounds	1 pound = 454 grams
1 milliliter = 0.034 fl. ounce	1 pound = 0.45 kilogram
1 liter = 0.264 gallon	1 fl. ounce = 29.57 milliliters
	1 gallon = 3.79 liters

Operating Life for Capacitors

Where operating life is given at a certain temperature, for every drop of 10°C life expectancy will double.

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and double again to 4,000 hours at 85°C

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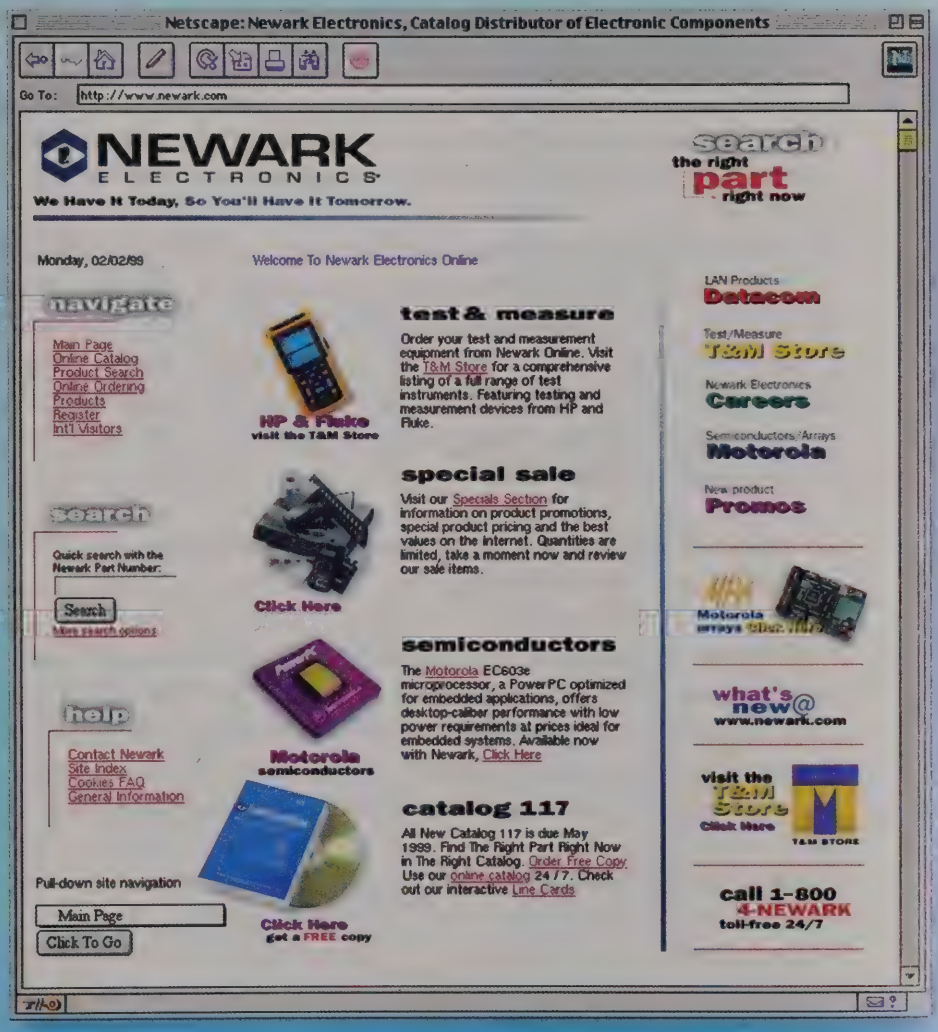
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"Year 2000 Readiness Disclosure"

Newark Electronics® Year 2000 Project

The Year 2000 is fast approaching and we, at Newark Electronics®, are actively working on all aspects of the Year 2000 challenge. The Year 2000 issue goes far beyond a mere computer systems problem: It is a question of serving our customers' needs.

We began to address the issue of our computer system Year 2000 compliance in the fall of 1996. At that time, we formed a Year 2000 systems team of dedicated personnel led by our Chief Information Officer. This team has the full support of our CEO and Board of Directors. In 1998, we expanded our effort to include 20 project teams to support each major function of our business and to identify and solve century date risks in our computer systems. The Year 2000 teams are in the process of upgrading our computer systems to be compliant and to continue to provide superior customer service.

We expect to successfully complete our plans before the end of 1999 without any material adverse effect on our customers.

With respect to products purchased from Newark Electronics®, and without limiting the effect of any disclaimer contained in the Newark Electronics® Terms and Conditions of Sale, we will continue to pass through to our customers the warranties extended by product manufacturers. However, as a distributor of products manufactured by other suppliers, we cannot and do not provide any additional warranties, including warranties as to Year 2000 compliance.

Further inquiries on our Year 2000 project may be sent to:

William Coole
Vice President
Newark Electronics®
4801 North Ravenswood Avenue
Chicago, IL 60640
E-mail: bcoole@newark.com

Terms of Sale

CATALOG LISTINGS

Everything listed in this catalog is available, and all specifications and descriptions are current, as of the time of publication. Product listings, specifications, availability, and pricing are subject to change without notice. Where trade literature is provided to customers, it is considered to be for reference only. Exact product specifications can be obtained from suppliers upon request. For the most current information, call 1-800-4-NEWARK (1-800-463-9275).

SPECIAL ORDERS

If an item you want is not in the catalog, we'll do our best to locate it for you. Non-catalog items may be subject to minimum quantities and/or special handling charges. Shipment will be made as quickly as deliveries are received from our suppliers. Special order products are sold on a non-cancellable, non-returnable basis. Prices are subject to change without notice.

TO PLACE AN ORDER

Call your local Newark sales office (see listing on pages A6-A7), or call 1-800-4-NEWARK (1-800-463-9275). Contact us by fax, phone, mail, or Internet e-mail. There is no minimum order amount. However, any order under $25.00 will be subject to a $5.00 service charge.

METHOD OF PAYMENT

We will take your order on an open account, C.O.D., or credit card.

Open Accounts

If your business, institution, or government agency wishes to open an account with us, call your local Newark sales office. Open account status is normally granted to well-rated organizations with three appropriate credit references and a banking history. Terms of payment are net 30 days. Please allow 24 hours to process open account applications. There will be a $20.00 service charge on all returned checks.

C.O.D.s

If your C.O.D. order total is over $1000, you must pay with certified funds (certified check, money order, or cashier's check). Please be aware that most carriers will not accept cash and require payment by check for all C.O.D. orders, regardless of the order total. If you wish to pay cash for your C.O.D. order of $1000 or less, please contact your Newark sales representative to determine whether your shipment is being delivered by a carrier who will accept cash.

Credit Cards

Newark accepts American Express®, Discover® Card, MasterCard®, and VISA®, including all MasterCard®, VISA®, and American Express® purchasing cards.

HANDLING

Newark and carrier handling charges will apply, depending on dimensional weight, size, order amount, and whether the product is a restricted article.

SALES TAX

We are required by law to charge and collect state and local sales tax. Because laws vary from state to state, please remit the correct percentage for your locality. If you wish to avoid state sales tax charges, you must have a state sales tax exemption certificate on file with Newark Electronics®. Sales tax will always be charged unless otherwise indicated. If you are using a restricted sales tax exemption certificate (per purchase order), you must submit a confirming purchase order referencing the state sales tax exemption number for all orders exempt from sales tax.

RETURNS

Returns must be made within 90 days of the original invoice date and must be accompanied by a Return Materials Authorization. Authorization may be obtained by calling your local Newark sales office. Returns without this authorization may not be accepted. Returns may also be subject to a minimum 15% restocking charge.

PRICING

Every effort has been made to be sure the prices in this catalog reflect the latest information available at the time the catalog was published. However, all prices in the catalog are subject to change without notice. For current pricing, contact your local Newark sales office at 1-800-4-NEWARK (1-800-463-9275). Prices in this catalog are in U.S. dollars.

LARGE QUANTITY QUOTATIONS OR BIDS

If you want quantities larger than the maximum amounts shown in the catalog, we will quote on them. Contact your local Newark sales office for current prices and delivery.

(Continued on following page)

Terms of Sale

SHIPMENT DAMAGE

Our merchandise is carefully packed for shipment by our distribution centers, or is prepackaged by our suppliers in compliance with carrier requirements. In the event an item is damaged in shipment, you must submit a claim to the carrier within 15 days of delivery. We advise that you unpack and inspect all merchandise immediately upon receiving it. If damage does not become apparent until the shipment is unpacked, make a request within 72 hours for inspection by the carrier's agent and file with the carrier. Any external evidence of loss or damage must be noted on the freight bill or carrier's receipt and signed by the carrier's agent. Failure to do this will result in the carrier refusing to honor the claim. For your protection, our billings include insurance for damage or loss in transit.

DELIVERY

Items are generally shipped F.O.B. shipping point. You can choose from a variety of shipment methods. For details, contact your local Newark sales office.

SHIPMENT

Same Day Shipment
In most cases, orders received by 5 p.m. CST are shipped out the same day.

48-Hour Delivery
Parcels are normally delivered within 48 hours of shipment.

Newark Now
"Newark Now" service is available for customers within 50 miles of our distribution center located in Chicago, IL, and within 100 miles of our distribution center located in Gaffney, SC. When you place an order for product currently in stock through Newark Now (Monday through Friday between 8 a.m. and 5 p.m. CST), in most cases your order will be delivered to you within 3 hours of order placement. For details, call 1-800-4-NEWARK (1-800-463-9275).

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Truck
For heavy shipments, common carrier truck is most economical. Charges are F.O.B. shipping point.

APO AND FPO SHIPMENTS:

For orders being shipped to APO and FPO destinations, call your local Newark sales office (see our sales office listing on pages A6 and A7). For all other export orders, see the international ordering information on page A8.

PRECIOUS METAL SURCHARGE

Because of the volatile price fluctuation of precious metals used in many electronic devices, a surcharge may apply on selected products. Contact your local Newark sales office for current prices.

WARRANTY AND DISCLAIMER

Since the Seller, Newark Electronics®, does not control the use of its products, there are no express warranties that extend beyond the description contained herein. **SELLER DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR ANY PARTICULAR PURPOSE. SINCE SELLER CANNOT CONTROL THE MANNER OF USE OF ITS PRODUCTS AFTER THEIR SALE, SELLER WILL NOT BE RESPONSIBLE FOR ANY CONSEQUENTIAL OR INDIRECT DAMAGES**. Since Seller is acting only as a distributor of products manufactured by other companies, Seller expressly limits its liabilities to any guarantees extended by the manufacturer, which guarantees Seller will pass through to the customer. No warranty will apply if its products are in any way altered or modified after delivery by Seller. Seller's products are not recommended or authorized for life support or surgical implant applications, and Buyer assumes all risk and liability in use for such applications. Buyer agrees to indemnify Seller for all damages which may be incurred due to use of Seller's products in life support and surgical implant applications.

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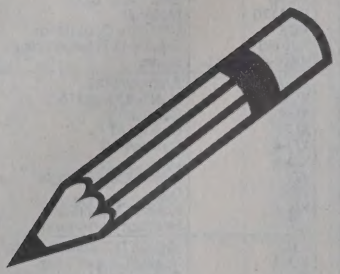

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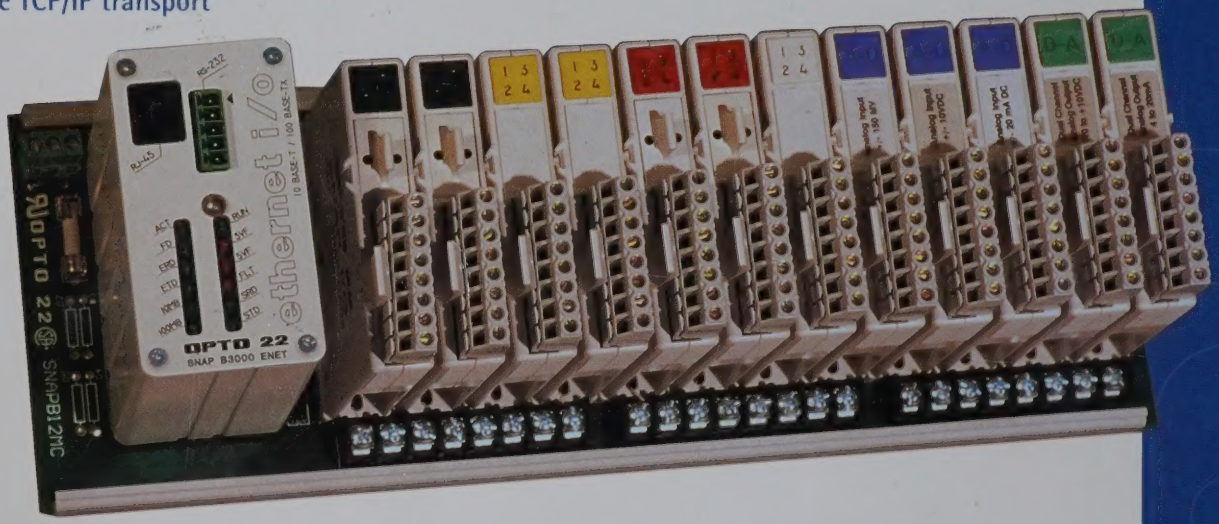

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